

# ***XENTIS***®

**I N F O R M A T I O N   S Y S T E M**

## ***XENTIS V5.0***

### ***Reference Manual***



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# Welcome to XENTIS

XENTIS is the total information management system for OpenVMS systems. At the heart of XENTIS is a powerful, flexible, yet simple report generator. XENTIS is simple enough that non-technical end-users can quickly develop their own reports. At the same time, XENTIS is so powerful, that the majority of reports previously created using complicated programming languages can be replaced with easily maintained XENTIS reports. In addition, XENTIS provides all of the major building blocks required of an information management system.

Within its complement of modules, XENTIS provides:

- Access to all major databases available on OpenVMS systems, including RMS, Rdb, Oracle, Ingres, and Sybase.
- The ability to easily integrate your corporate data with popular analytical applications such as Lotus 123, Excel, and 20/20.
- Interfaces with all major word processing packages such as WordPerfect and Word for Windows.
- A unique columnar reporting capability. Most common reports list data elements across the page, and individual records vertically. With XENTIS /CReport, you can list records across a page and data elements vertically.
- Formatted screen updates. XENTIS allows you to create screens to perform record maintenance for any RMS file.
- Updates *en masse*. XENTIS provides an updating tool, XENTIS/Update that allows you to modify the contents of files, as needed.
- Creation of new files. XENTIS/File can create new files from old to facilitate data consolidations and archiving, data extraction and segregation.
- Complete data dictionary support. XENTIS conveniently uses the data dictionaries built within the databases you use. In the case of RMS, however, if you are not using the Oracle Common Data Dictionary, you can use XENTIS/Dictionary.

## XENTIS/Report, an Overview

The reporting features within XENTIS are extensive. A few of the features available in XENTIS/Report are:

### *Sorting on sub-totals*

XENTIS allows you to rank performance with its built-in ability to summarize data, then display the data sorted by the summarized values.

### *Selecting on sub-totals*

XENTIS allows you to select data based upon summarized values, including average, minimum, maximum, variance, standard deviation, and count.

### *HTML Output*

Creating reports that can be viewed with a web browser is something that all report writers should be able to do. With XENTIS, reports viewed with a web browser look exactly like the reports printed on paper.

### *Capacity Planning*

With XENTIS' History File feature, which reports are produced and how much resources they use can be tracked.

## *Welcome*

## *Calculations*

XENTIS allows you to create complex, compound and conditional calculations.

## *Selection logic*

Selection of data to be displayed can be as simple or complex as needed.

## *Windowed*

XENTIS provides three windows during report creation: a full report design window, a "button" window that lists allowable entries (file names, fields, calculations, input options), and a dialogue window.

## *Automatic Report Formatting*

XENTIS makes report development simple. It automatically formats your report for you, creating headings, columns and totals. You merely specify the information you want displayed, and in minutes you have created a report.

## *Views*

XENTIS supports pre-defined file relationships, or views, stored in its dictionary. Views can simplify multiple file access and enhance data security.

## *Multi-database access*

XENTIS provides simultaneous access to all of the data structures supported. You can develop reports that integrate data from a diverse set of applications.

## *Modes of operation*

XENTIS provides a number of mechanisms for report writing. The 3-window DISPLAY mode incorporates the windows described above with a "guide menu" to lead you through the steps of writing reports.

## *Pointer Files*

XENTIS allows you to develop reports that select data from your files, and store "pointers" to the data. Subsequent reports can then access only the pre-selected data, without re-reading all of the data in the selected files. The result is faster report execution.

## *Help*

XENTIS provides on-line, prompt-sensitive help at all times. Need more information? Merely highlight any of the related topics listed on your terminal and a wealth of information is at your fingertips.

## *Variable Setup*

XENTIS incorporates a number of methods used to tailor the system to suit your individual needs. Included with XENTIS is a setup file that contains variables that can be set, either system-wide or user-specific, for your own reporting environment. In addition, individual options can be stored with each report to make XENTIS even more flexible.

## ***Array Processing***

XENTIS provides the most powerful mechanism available for processing arrays within records. You may select, sort, and manipulate individual entries as though they reside in secondary files.

## ***Label Printing***

XENTIS makes the process of developing mailing labels, with 1 to 20 columns across a page, as simple as writing a simple 1-column report.

## ***Output Options***

XENTIS allows you to create output on your terminal, to a printer attached to your terminal, directly to a system printer, to any valid printer device, or to a text file.

## ***Browse***

Any of the reports you create with XENTIS can be accessed from your terminal. You may view wide or narrow reports and take advantage of full forwards/backwards scrolling, page jumping, and text search capabilities.

## ***Multi-pass reporting***

XENTIS simplifies the process of complex, multi-pass reporting by use of the XENTIS/File module. You can create temporary files that allow several reporting steps to be processed before the final report is complete.

## ***Prompting for Data***

XENTIS simplifies the process of creating reports that allow user-entries at run-time to control how they appear. This is accomplished using the Prompted Literal feature or the Command File Substitution feature.

## ***About this Manual***

### ***XENTIS Reporting***

The manual begins with an overview of the XENTIS reporting module including information about the dialogue, the reporting (Display) screen, key strokes and reporting commands. The overview is followed by a section describing the process of developing a report including the prompts you see in each dialogue section with valid responses. This section is followed by features and techniques used when creating reports, then a description of and information about each option on the /Report Menu.

### ***Data Structures***

The next section contains information about the way data is stored in your system and how XENTIS interfaces with different methods of data storage. The discussion includes are XENTIS database interfaces and flat file structures.

### ***Other XENTIS Modules***

This section covers the other XENTIS modules including /File, /Model, /Word, /CReport, /Update, and /Edit.

## Welcome

## XENTIS/Dictionary

This section covers the XENTIS data dictionary module, /Dictionary, including a list of prompts that are issued and valid responses that may be entered.

## System Utilities

The System Utilities section provides information on the update and maintenance of the XENTIS reporting environment on your system.

## Appendices

The appendices provide detailed information on some of the technical aspects of XENTIS.

## Notation Conventions

Throughout this manual, you are provided with sample entries and allowed values for questions asked by XENTIS. The type conventions used here are:

<b>BOLD UPPER-CASE</b>	text is used where you are to enter exactly what is printed.
<i>lower-case italics</i>	appear where you are to substitute a valid value for what is printed.
<code>courier type</code>	appears to represent example input and output from your system.

In some areas, you are referred to other sections of the manual. These references appear as:

---

*Refer to (manual section) for more information on (subject).*

---

## Your Suggestions are Welcome

The Technical Publications department welcomes corrections and comments on its documentation. If you identify any typographical, formatting, or factual errors in any XENTIS manual, send marked-up pages to us and we will send you a free replacement copy of the manual. Marked-up pages should be sent to the address listed in the front of this manual.

# Getting Around ...

## The XENTIS Menu System

The XENTIS reporting and data management system can be accessed in a variety of ways. They may be accessed by the menu system provided with XENTIS, directly from DCL, or they may be called by programs you write. The XENTIS menu system gives you immediate access to each of the XENTIS functions. The menu system can be used to access program from other systems you use and can be tailored to suit your individual needs, as described in the appendix.

This section shows each menu in the XENTIS menu system and provides information on how to use the menu system.

### Invoking The Menu

The XENTIS menu system is accessed by use of a command procedure provided with the XENTIS software. This command file is delivered with XENTIS and is located in the same directory as the other XENTIS data files. To invoke the XENTIS menu system, execute XENTIS1.COM by entering:

**@XENTISnn\$COMFILES:XENTIS1.COM**

where **nn** indicates the version (50 for version 5.0) of the XENTIS software.

Normally, a short-cut method defined by your system manager is used to invoke the menu. See your System Manager for instructions on how to access the menu at your site. Once started, first menu to appear, the Main Menu, is displayed as shown below. From this menu you may access all other menus as well as all XENTIS functions.

NO	DESCRIPTION	NAME
01	Report menu ...	REPORT
02	Dictionary menu ...	DICTIONARY
03	Label Maker menu ...	LABELMAKER
04	Edit - Maintain individual records	EDIT
05	File - Store records in a file	FILE
06	Update - Modify/Delete data globally	UPDATE
07	Model - Interface to spreadsheet, WP, & graphs	MODEL
08	Word - Interface to DEC word processing	WORD
09	On-Line Demonstration menu ...	DEMO
10	XENTIS System Utility menu ...	UTILITY

Enter <Return>, function number/name, \ to backup, or EXIT:

The standard XENTIS menu system is comprised of a main menu and sub-menus. As mentioned above, each of these menus may be modified. If your menu does not appear as shown, contact your System Manager with questions about modifications.

## ***Menu Content***

Each menu contains heading information at the top, a menu body, and an area at the bottom to enter your selections. Within the body of the menu you will find the menu items that may be selected. The items listed may be XENTIS functions, sub-menus, or other programs added by your system manager. For each item, the item number, item description, and the item name appear in columns across the screen.

The menu system is organized as a tree structure, where each menu can branch to other menus. Where items allow access to other menus, the item descriptions end with "..." to indicate that more can be displayed. Where you do not see the "...", the items directly access XENTIS functions.

## ***Selecting Items From Displayed Menus***

To select a function from a XENTIS visible menu, use one of the following methods.

- Highlight the option using the cursor keys, then press either <Return>, <PF4>, or <SELECT>.
- Enter the menu item number and press <Return>.
- Enter the menu item name and press <Return>.

Menu item names may be abbreviated. Abbreviations must include enough characters to make your entry unambiguous. Entering a full name runs its menu function, even if another choice begins with the same text.

## ***Selecting Menu Items From Menus not Displayed***

You may access an item on a different menu that is not currently visible on your terminal. Do so by entering the menu item name without going back through the menu hierarchy. As mentioned, your entry can be abbreviated.

This mechanism can be used to display other menus, as well. You merely have to enter the menu name to jump from a menu to any other menu. For example, to return to the main menu, enter MAIN.

## ***Backing Up***

Enter \, E, or O, then press <Return> to back up one menu level. If you back up from the MAIN menu, you will exit the menu system.

## ***Exiting the Menu***

Enter EXIT or Q, then press <Return> to exit from XENTIS.

## ***Sub-Menus***

Five of the items on the main menu take you to sub-menus. Each sub-menu contains a list of related XENTIS functions, as shown below.

## Report Menu

The Report menu contains the XENTIS functions that allow you to create, modify, clone, display and delete reports and queries. In addition, it provides access to both browsing and printing reports you have previously created.

```

PARK SOFTWARE, INC.                                DISK8:[INHOUSE]INHOUSE_U30.DIC
XENTIS/Report
NO      DESCRIPTION                                NAME
31 Create a new report                            NEWREPORT
02 Create a new query                             NEWQUERY
03 CREPORT - Reversed row/column report           CREPORT
04 Run an existing report                         RUN
05 Modify an existing report                     MODIFY
06 Display a directory of report definitions      DIRECTORY
07 Delete a report definition                     DELETE
08 Copy a report definition                       COPYDEF
09 Print report output                           PRINTREPORT
10 Print a report definition                       PRINTDEF
11 Browse a report                               BROWSEREP
12 Browse a report definition                     BROUSEDEF

Enter <Return>, function number/name, \ to backup, or EXIT:

```

## Dictionary Menu

The Dictionary menu gives you access to the functions of the XENTIS dictionary. The XENTIS dictionary allows you to define new databases as well as modify definitions for existing RMS databases. You may not need the XENTIS dictionary, depending on the databases you use. XENTIS uses the data dictionaries built into most databases.

```

PARK SOFTWARE, INC.                                [XEN40.DEMO]XDEM_DEMO.DIC
XENTIS/Dictionary
NO      DESCRIPTION                                NAME
31 Edit a dictionary                            EDITDICT
02 Brief listing of dictionary                   BRIEFLIST
03 Full listing of dictionary                     FULLLIST
04 Create a new dictionary                       NEWDICT
05 Change the default dictionary                 DEFDICT
06 Copy a XENTIS file description                 COPYFILE
07 Dump a file description to a text file         DUMPFIL
08 Load a file description from a text file       LOADFIL
09 Copy a CDD or COBOL file description to XENTIS COPYCDD
10 Create a new, empty data file                 NEWFILE

Enter <Return>, function number/name, \ to backup, or EXIT:

```

### Label Maker Menu

The Label Maker menu provides you with the functions necessary to easily create labels. The two-step process allows you to design individual labels, then format the label page. You can produce labels in up to 20 columns across a page.

PARK SOFTWARE, INC. DISKID: [XEN40.DEMO]XDEM\_DEMO.DIC

### XENTIS Label Maker

NO	DESCRIPTION	NAME
01	Design label output	NEWLABELS
02	Reformat Labels	FORMATLABELS

Enter <Return>, function number/name, \ to backup, or EXIT: \_\_\_\_\_

### On-Line Demonstration Menu

On-line demonstrations provide an overview of the process of report development and examples of screens designed with XENTIS Edit. The sample reports step you through the process of creating simple reports. Each one emphasizes different XENTIS capabilities.

PARK SOFTWARE, INC. DISKID: [XEN40.DEMO]XDEM\_DEMO.DIC

### On-Line Demonstrations

NO	DESCRIPTION	NAME
01	Read me first - How to run demonstration reports	DEMOHOWTO
02	Tell me about the demonstrations	DEMOINTRO
03	One-file report	DEM01
04	Two-file report	DEM02
05	Two-file report with selection and calculations	DEM03
06	Two-file report with breaks and accumulation	DEM04
07	Edit Part-master file	DEM05
08	Edit Inventory file	DEM06

Enter <Return>, function number/name, \ to backup, or EXIT: \_\_\_\_\_



## System Utilities Menu

XENTIS incorporates system utilities, each displayed on the System Utility menu. These utilities are typically used by your system manager to tailor XENTIS to meet your exacting needs.

NO	DESCRIPTION	NAME
01	Menu file maintenance menu ...	MENU
02	Create a DCL command file from a report def'n	CREATECOM
03	Setup file compilation	SETUP
04	Info window file creation	INFOFILE
05	Audit trail management	AUDITMAN

Enter <Return>, function number/name, \ to backup, or EXIT:

## Menu Maintenance Menu

The XENTIS menu system can be changed using the functions listed on the Menu Maintenance Menu. You may add and delete individual menu items or whole menus. You may also integrate software from other systems into the XENTIS menu. In fact, the menu is a general purpose tool that can be used to develop menus for entirely non-XENTIS applications.

NO	DESCRIPTION	NAME
01	Create or maintain a menu title	MENUSCREEN
02	Create or maintain menu line items	MENULINE
03	Generate a menu file report	MENULIST

Enter <Return>, function number/name, \ to backup, or EXIT:

This page intentionally left blank.

# XENTIS Dialogue Overview

XENTIS employs a simple dialogue approach to let you easily tell your computer how to create the report you want. The dialogue is broken into logical sections, each section relating to a major element of a report. This easy-to-learn dialogue guides you through report creation. In addition, the same process is used for other XENTIS data management tools.

To help us describe the process of developing a report for use in your business, consider developing a report without using a computer. If you wanted one of your team members to develop a report for you, you would have to describe for them exactly what you want. You would have to tell them:

<i>Subject</i>	<i>Example</i>
Where to get the data from	Use the customer and salesman files
What the relationship of the various files they are to use should be	Use the salesman listed in each customer folder to look up the salesman's file.
Any calculations that should be performed	Calculate the commission amount by multiplying the salesman's commission rate times the customer's sales amount.
What sequence to display the report in	Sort the file by Salesman's name
What should be displayed	From left-to-right, display the following columns: salesman name, customer name, sales amount, and commission amount
What to total	Total the commission amount
When to print totals	Print a total for each salesman
etc.	

XENTIS works in much the same way as a dialogue you may have with a coworker. It asks questions about what you want, and you provide the answers. However, there are several major advantages to the way XENTIS handles the dialogue.

- XENTIS walks you through all of the necessary questions, you don't have to remember all of the steps.
- XENTIS provides answers to most of the questions. If you like the answers (default values) it provides, all you have to do is press <Return>.
- You can override any of the default values XENTIS provides, to make your report work just the way you want it to.
- XENTIS formats your report automatically. With very few report specifications, you can develop meaningful reports.

The XENTIS dialogue, the series of prompts and responses that make up one report definition, is similar whether you are developing a Report, a Query, an Update, or a new File. The XENTIS dialogue is broken into major sections. When developing new reports, XENTIS takes you to each section in turn. You may, however, jump from section to section in any order you wish. This is especially useful when changing existing reports. To facilitate this movement, the XENTIS Guide Menu provides a list of sections available to you.

The XENTIS dialogue is broken into major sections. The functions of each of these sections are:

## Function

Because the XENTIS dialogue is consistent across the XENTIS tool set, once you enter the dialogue, you can determine what function you wish to perform. Normally, you will use the default function provided by XENTIS.

## Files and Keys

Within this section you select the databases, dictionaries, tables or files, and keys to be used when creating your report.

## *Calculations*

Here you define any calculations you wish XENTIS to perform. Calculations allow you to create new data elements from those stored in your databases. Calculations allow you to modify numbers, dates, and text. You may also use a wide array of functions provided within XENTIS.

## *Fields*

Here you select the items to be displayed on your report. You can determine the length, position and format of each item.

## *Calculations on Subtotals*

Complex calculations performed at the time subtotals are printed are defined in this section.

## *Selections*

You can determine exactly how data is to be selected from your database using the XENTIS selection logic.

## *Sorts*

You can define the sequence in which your data is to be displayed, sorting on a variety of fields in simple or complex, ascending or descending sequences.

## *Breaks*

In this section you can determine positions within your report to skip to a new page, skip lines, and print sub-totals.

## *Format*

In this section you exercise a variety of formatting options to make your report look exactly like you want. For example, the same report can be summary or detail, double spaced or single.

## *Pointer*

XENTIS allows you to select a group of records from a database, then use just this group in a number of reports and processes. The result is much faster overall execution of your reports. This section allows you to create a pointer file, which contains record pointers (RFAs from RMS files) for this purpose.

## *Command File and Execute*

Here you can save the design of your report, in a variety of formats, for future use, and you have an opportunity to run the report you've just created.

## *Execute*

Here you have an opportunity to run the report you've just created, either on-line, or in the background (batch).

# The XENTIS Display

## XENTIS Options

XENTIS has been constructed on a foundation of options that let you tailor the system to operate the way you want. These options are stored in a file we call the System Setup File. Among the options in the setup file are those that set standard dialogue defaults, run-time parameters, and other optional settings.

The system setup file is usually maintained by your system manager and should reflect the standards needed for a typical XENTIS user in your company. If allowed by the system manager, you can create a user setup file to adjust parameter values to your individual needs.

---

*Refer to Appendix A for more information on the setup file and setup parameters..*

---

As we proceed, we will present XENTIS as it was delivered to you. Options employed in the standard version include the use of DISPLAY mode and its formatted screen, and use of the Guide Menu. If, when running XENTIS, you notice that your terminal does not look like those portrayed in this manual, check with your system manager regarding changes made to your setup file.

## The Display Screen

When using XENTIS for development of reports and most of the other design functions offered in XENTIS, the XENTIS "DISPLAY" screen will appear. The display screen gets its name from the command (DISPLAY) that advanced users can use to switch from the unformatted screen mode of using XENTIS (NODISPLAY mode) to the formatted screen mode.

The display screen provides a familiar link between most of the design functions within XENTIS. The DISPLAY screen is similar whether you are designing reports using XENTIS/Report, performing data extraction with XENTIS/Model, or using any of the other optional XENTIS modules. The only difference between the display screen in any of these modes is the size of the report window.

NOTE: When you first invoke XENTIS, whether you begin in DISPLAY mode or NODISPLAY mode is controlled in the setup file.

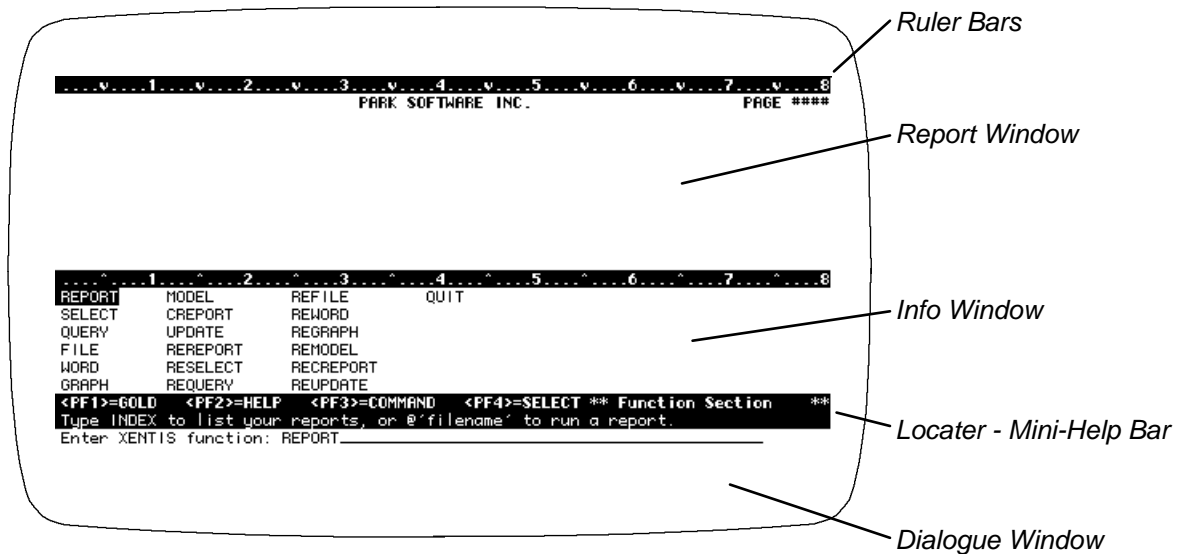
---

*Refer to the Reporting Commands section for more information on DISPLAY / NODISPLAY.*

---

## Display Screen

The display mode screen, when creating a report or query, appears as:



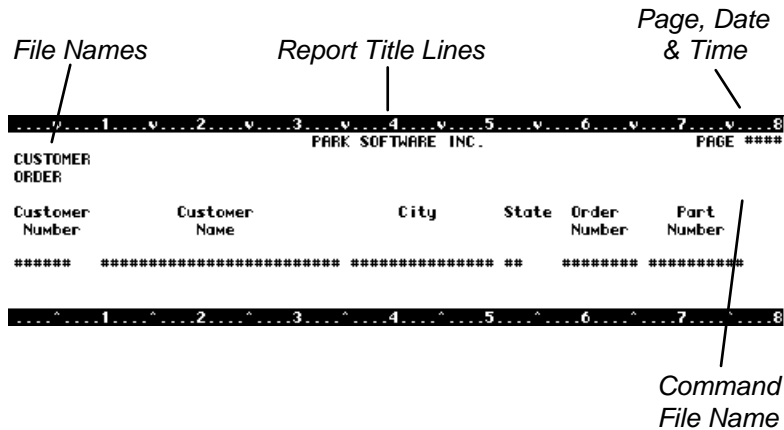
## Display Windows

XENTIS uses a multi-windowed screen to simplify the design process. On the screen at all times are three different windows. Each window serves a different purpose. One allows you to see your report at all times. Another serves as your command console through which you tell XENTIS what to do. A third provides you with a list of valid choices and actions at every point in the report design process.

### Report Window

At the top of the screen is the "Report Window". When creating or modifying a report, XENTIS displays a picture of your report as you build it. The image presented is a true What-You-See-Is-What-You-Get, WYSIWYG, display. When you need help with XENTIS, the on-line help text also appears in this window.

In the upper left-hand corner of the report window, the product, the version number, and the names of the files used in the report normally display. In the upper center of the report window you will see your report's title lines. In the upper right-hand corner of the report window, the page number, the date, and the name of the command file normally display. Please note that the layout described here is the default layout, which may be changed by your system manager.



When help is requested, a help message replaces the report until you press <Return> to return to the report display.

```

1 2 3 4 5 6 7 8
XENTIS/REPORT allows you to specify up to 100 fields that are to be
included in the XENTIS/REPORT output. The field specification of a field
that you wish to appear in the report should be entered at this
prompt. The field can be from any file that has been specified as an input
file. When no additional data fields are desired, enter NONE.

To determine the fields available enter:  LIST FILES

[END OF TOPIC]
1 2 3 4 5 6 7 8

```

---

Refer to 'Key Strokes' and HELP in the 'Reporting Commands' section for more information on working with help.

---

## Ruler Bars

Two ruler bars are provided you help you position fields on your report. Both make it easy for you to see exactly where items will print on your report. The middle ruler bar can be moved up or down, to provide more or less space for the report window and the Info window below the report window.

---

Refer to 'Key Strokes' for information on moving the middle ruler bar.

---

## Info Window

As you work on your report, a running dialogue gives you the opportunity to tell XENTIS what to do. At any point in this process, the middle window displays response choices available to you. For example; when XENTIS asks for files to use in a report, available files are displayed. When XENTIS asks for the fields to display on a report, available fields are displayed. When in Help, XENTIS presents a list of related topics that you may wish to see.

Within the info window, a highlighter bar covers the currently selected value. If that is the value you wish to select, you merely press the <SELECT> key (or other keys detailed in the section on the XENTIS key strokes).

## Display Screen

```
.....1.....2.....3.....4.....5.....6.....7.....8
A: CUSTOMER_NO      A: PURCHASES_MTD    B: QUANTITY_ORDERED
A: CUSTOMER_NAME    A: PURCHASES_YTD    B: UNIT_PRICE
A: ADDRESS_LINE_1   A: FED_SALES_TAX_NO B: ORDER_DISC_PCT
A: ADDRESS_LINE_2   A: DATE_ADDED       B: QUANTITY_SHIPPED
A: CITY             A: DATE_CHANGED     B: SHIP_DATE
A: STATE            B: ORDER_NO         B: SHIP_COMPLETE
<PF1>=GOLD  <PF2>=HELP  <PF3>=COMMAND  <PF4>=SELECT ** Field Section **
Choose a field to be included on the report.
```

---

Refer to 'Key Strokes' for more information on highlighting and selecting a choice from the Info window.

---

### Locator / Mini-Help Bar

The locator / mini-help bar displays a summary of the <PF> key functions and a mini-help message about the current prompt. The right-hand side of this bar indicates the dialogue "section" you are currently in.

PF key functions

Dialogue section

```
<PF1>=GOLD  <PF2>=HELP  <PF3>=COMMAND  <PF4>=SELECT ** Field Section **
Choose a field to be included on the report.
```

Mini-help message

---

Refer to 'Key Strokes' and 'Reporting Commands' for more information.

---

### Dialogue Window

The bottom window displays dialogue prompts, response lines (used to enter a response) and default responses provided by XENTIS.

```
<PF1>=GOLD  <PF2>=HELP  <PF3>=COMMAND  <PF4>=SELECT ** Field Section **
Choose a field to be included on the report.
Field ? number/name/literal : NONE
Print frequency : _____ Print line : _____
Column heading : _____ Print position : _____
Justify heading : _ Print mask : _____ Accumulate level : _____
```

## Display Mode vs. No Display Mode

The DISPLAY screen, described above, appears in DISPLAY mode. You may also use NODISPLAY mode. In NODISPLAY mode, windows are not used; only the prompts, defaults (in angle brackets), and response areas are visible.

---

Refer to DISPLAY and NODISPLAY in the 'Reporting Commands' section for more information.

---



```
Enter XENTIS function<REPORT>?

Primary file/view<CUSTOMER>?
    Exclusive, Protected, or Shared access<S>?
Second file<ORDER>?
    Exclusive, Protected, or Shared access<S>?
Third file<NONE>?

Key to access primary file by<1>?
    First key to read<First record>?
    Last key to read<Last record>?

ORDER has 3 keys

Key number to access B:ORDER by<3>?
    Field 1 to build key<R:CUSTOMER_NO>?
    Field 2 to build key<NONE>?
    Does this key have multiple records<Y>?
    Replace missing data with zeros/nulls<Y>?

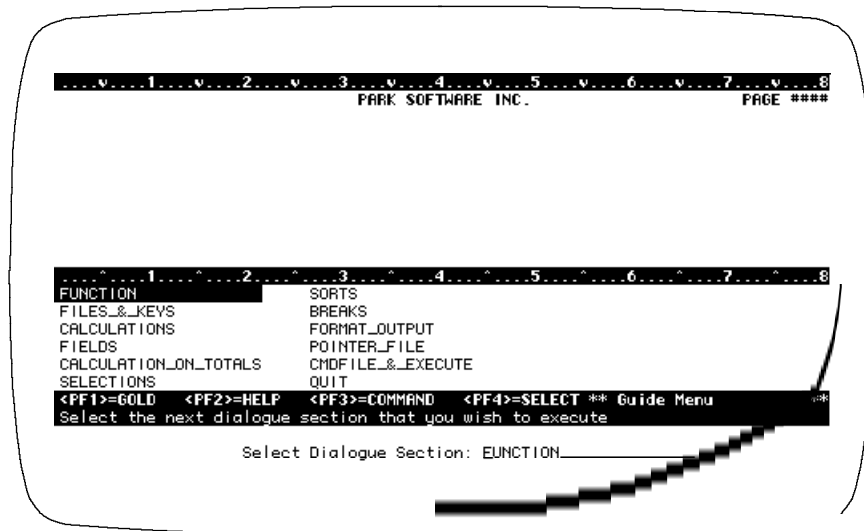
Do you wish to have calculations<N>? _
```

# Guide Menu

As you develop reports and perform other functions using the XENTIS Dialogue, you transition from one section of the dialogue to another. The dialogue sections correspond to activities such as file selection and sort definition. To lead you through this process, XENTIS provides you with a Guide Menu. The guide menu helps you navigate from one dialogue section to another. The Guide Menu presents you with a list of dialogue sections and allows you to select the one you wish to use. To further simplify developing new reports, the Guide Menu will automatically select the next section for you to visit. To develop a new report, all you have to do is to let the Guide Menu guide you through the process.

## How Guide Menu Works

Guide Menu uses the XENTIS display mode screen by providing a list of valid dialogue sections in the Info (center) window. In the Dialogue (bottom) window it asks you for the next section to visit. The Guide Menu provides the next section in the standard dialogue as a default. When first entering the XENTIS dialogue, you will see the following screen.



The Guide menu prompt appears as **Select Dialogue Section**. You can take the default, by pressing <Return>, or select your own dialogue section by highlighting the appropriate one in the Info window and pressing <Return>. When a destination is entered, XENTIS skips to the first prompt in the selected section. After proceeding through the selected dialogue section, you are asked for the next dialogue destination, and so on.

You may skip dialogue sections IF all the prompts in that section are assigned default values by XENTIS. If not, then the section may not be skipped.

## Guide Menu Availability

Normally, XENTIS begins using the Guide menu. The Guide menu is only available in DISPLAY mode. When using NODISPLAY mode, you can step from section-to-section using the GOTO command.

Guide menu is used with /Report, and all other XENTIS functions that use the XENTIS dialogue. However, depending on the function you are performing, all dialogue sections may not be available. Note: You may turn guide menu off by changing the value assigned to the setup parameter GUIDE-MENU from 'Y' to 'N'.

# Key Strokes

XENTIS provides a wealth of shortcuts to speed the process of developing reports. By the use of just a few keys, you can get help, modify the way your screen looks, edit entries you make, and even invoke custom commands you have defined.

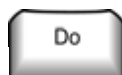
The use of keys and key combinations varies depending on the XENTIS mode you are in. All the key strokes listed below are valid in the XENTIS full-screen mode, DISPLAY mode. Those that are not valid or are different in NODISPLAY mode, the XENTIS line-at-a-time mode, are noted.

## Command Keys

The following keys issue commands to XENTIS.



Displays a help message about current prompt. DISPLAY mode only. The <PF2> key is a synonym.



Invokes the command prompt. DISPLAY mode only. The <PF3> key is a synonym.



Copies what is highlighted in the Info window to the response line. If the setup parameter SELECT-IS-RETURN is assigned a value of 'Y', then the <Return> key is automatically pressed for most prompts. DISPLAY mode only.



Backs up one prompt in the dialogue.



The BACKSLASH key (\) entered in the first character position on a response line moves back one prompt in the dialogue. \ must be followed by <Return>.

## DISPLAY Control Key Strokes

The following keys control the terminal display in DISPLAY mode.



Moves the highlighter bar up in the Info window (the middle window of the screen).



Moves the highlighter bar down in the Info window (the middle window of the screen).



Moves the highlighter bar to the right in the Info window (the middle window of the screen) or moves cursor if Info window is empty.



Moves the highlighter bar to the left in the Info window (the middle window of the screen) or moves cursor if Info window is empty.



Scrolls report window display up one line. <PF1> <up-arrow> is a synonym.

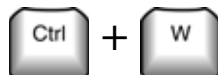


Scrolls report window display down one line. <PF1> <down-arrow> is a synonym.



Finds a character string in the Info window. <PF1>F is a synonym.

## Display Screen



Refreshes the DISPLAY screen. (VMS standard) DISPLAY mode only.

PF keys are used only in DISPLAY mode. These keys are invoked pressing and releasing the PF1 key followed by the associated key.



**SHIFT RIGHT:** Shifts the report window to the right.



**SHIFT LEFT:** Shifts the report window to the left.



**TOP:** Highlights the first button in the Info window.



**BOTTOM:** Highlights the last button in the first column of the Info window.



**NEXT:** Moves the highlighter down one screen in the Info window.



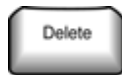
**PREVIOUS:** Moves the highlighter up one screen in the Info window.

## Editing Keys

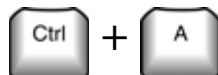
Most CONTROL (CTRL) keys move the cursor around on the response line to edit responses. They are the same as those used to edit VMS/DCL lines. CTRL keys are invoked by pressing the CTRL key down, holding it down, pressing and releasing the associated key, and releasing the CTRL key. The CTRL key operates like the SHIFT key operates.



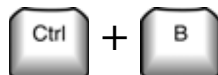
Toggles between insert and overstrike mode. CTRL/A is a synonym. (VMS standard)



The DELETE key deletes one character to the left of the cursor.



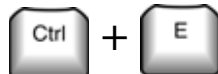
Toggles between insert and overstrike mode. This is a synonym for the <F14> key. (VMS standard)



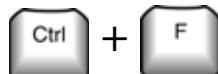
Recalls previous responses (up to 10 in DISPLAY mode). (VMS standard)



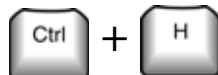
Moves the cursor to the left one character. (VMS standard)



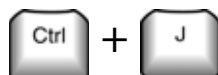
Moves the cursor to the end of the field. (VMS standard)



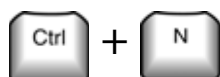
Moves the cursor to the right one character. (VMS standard)



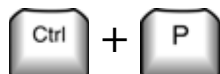
Moves the cursor to the beginning of the field. This is a synonym for the <F12> key. (VMS standard)



Erases the word to the left of the cursor. This is a synonym for the <F13> key. (VMS standard)



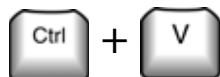
Erases from the cursor to the end of the line. See Appendix A for more information on the DISCARD-AFTER-RET setup parameter. DISPLAY mode only.



Deletes the character that the cursor is currently positioned upon.



Erases from the cursor to the left end of the line. (VMS standard)



Indicates that the following character is data rather than a command. For example: CTRL/V followed by CTRL/J says that the CTRL/J character is data, not a command to erase the previous word.

In NODISPLAY mode, the arrow keys serve editing functions:



In NODISPLAY mode, moves the cursor one character position to the right on the response line.



In NODISPLAY mode, moves the cursor one character position to the left on the response line.



In NODISPLAY mode, recalls previous entries.



In NODISPLAY mode, recalls previous entries.

## VT100 Key Strokes

The VT100 key strokes listed below are synonyms for key strokes listed above. They exist for users that do not have access to a VT200, VT300, or VT400 compatible terminal with a compatible keyboard.



The LINE FEED key erases the word to the left of the cursor. This is a synonym for the <F13> and CTRL/J keys.



The BACKSPACE key moves the cursor to the beginning of the response line. This is a synonym for the <F12> and the CTRL/H keys.

PF keys are used only in DISPLAY mode. PF keys are invoked pressing and releasing the PF1 key followed by the associated key.



Provides help information for your current activity. This is a synonym for the <HELP> key.



Displays the command line and issues the **Command:** prompt used to enter reporting commands. This is a synonym for the <DO> key.



Copies what is highlighted in the Info window on the response line. This is a synonym for the <SELECT> key.

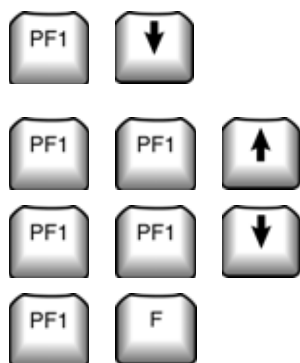


Advances to the next field in the field dialogue. This is a synonym for the <F17> key.



Scrolls the HELP window display up one screen, or scrolls report window display up one line. This is a synonym for the <PREV> key.

## Display Screen



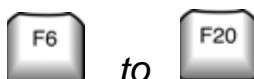
Scrolls the HELP window display up one screen, or scrolls report window display up one line. This is a synonym for the <NEXT> key.

Moves the ruler bar up one line (increases Info window). This is a synonym for the <PF1><F19> key.

Moves the ruler bar down one line (decreases Info window). This is a synonym for the <F19> key.

**FIND:** Finds and highlights an entry in the Info window that contains a text string you enter. This is a synonym for the <FIND> key.

## Programmable Keys



XENTIS allows you to customize the definition of the F6 through F20 function keys (excluding F12, F13, and F14). Each can be defined so that when pressed, they perform XENTIS commands. Typically, after developing experience with XENTIS, you may wish to customize the definition of these keys. Function keys can be defined for each user or globally, for all users. The key definitions that follow are provided with the standard XENTIS installation. For additional information on commands, see the Reporting Commands following this section.



### When pressed alone

Same as BACKSLASH (\) (backs up one prompt in a dialogue).

Same as WIDE command. Places VT-compatible terminals in 132 column mode.

Same as NORECALC command. Disables automatic setting of default field positions.

Same as DELETE command. Deletes a previously defined field.

Same as LIST command. Lists existing dialogue specifications.

Same as NODISPLAY command. Invokes line-at-a-time NODISPLAY mode.

Positions the cursor to the beginning of a field. (VMS standard)

Deletes the previous word. (VMS standard)

Toggles between insert and delete modes. (VMS standard)

Same as HELP command. Accesses XENTIS on-line help utility.

Same as DO key. Invokes the COMMAND prompt.

Same as GOTO NEXT command or PF1-PF4 key combination. Proceeds to next field in dialogue.

### When preceded by

QUIT

Same as NARROW command. Places VT-compatible terminals in 80 column mode.

Same as RECALC command. Enables automatic setting of default field positions.

Same as INSERT command. Inserts a field between two existing fields.

Same as DIR command. Lists files in a directory.

Same as DISPLAY command. Erases the screen and re-displays it.

Same as HELP HELP command. Lists all available help topics.

Same as GOTO CMDFILE command. Proceeds to the Command File dialogue section.

Same as GOTO SELECT command. Proceeds to Selection Logic dialogue section.



Same as GOTO EXECUTE command. Proceeds to the Execute dialogue prompt.

Same as GOTO FUNCTION command. Proceeds to the Function dialogue prompt.



Same as RULERDOWN command. Moves the center ruler down 1 line.

Same as RULERUP command. Moves the center ruler up 1 line.



Same as MAXIMIZE command. Enlarges the top display window.

Same as MINIMIZE command. Shrinks the top display window.

### *Technical Information on Programming Keys*

To do so, define VMS logicals outside of XENTIS using a DCL command. If the last character in the value assigned to the logical name is a vertical bar (|), then it is translated into a <Return>.

The VMS logicals are in the form 'XENTIS\$KEY\_keyname' where *keyname* is the name of the defined function key. 'XENTIS\$KEY\_PF1\_keyname' is also valid. This form is used when the PF1 key is pressed, then the defined function key.

Examples:       \$ DEFINE XENTIS\$KEY\_F20 "GOTO FIELD-199| "  
                   \$ DEFINE XENTIS\$KEY\_PF1\_F6 "INSERT| "

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# Reporting Commands

During the definition and maintenance of a report, XENTIS allows you to exercise special commands, called reporting commands. These reporting commands allow you to perform a wide variety of activities both inside and outside of XENTIS. Using reporting commands, you can control whether you are in DISPLAY or NODISPLAY mode. You can list various elements of your report. You can control your terminal display. Using reporting commands can both simplify the operation of XENTIS as well as provide additional capabilities to the XENTIS dialogue.

Most reporting commands can be used from anywhere in the XENTIS dialogue. Except as noted, reporting commands are available regardless of the XENTIS function being performed.

## Entering Reporting Commands

The entry of reporting commands varies, depending on whether you are in DISPLAY mode or NODISPLAY mode.

### NODISPLAY Mode

To enter a reporting command in NODISPLAY mode, type NODISPLAY at any prompt.

### DISPLAY Mode

To enter a reporting command in DISPLAY mode, press <DO> and type the command on the command line. You can also enter reporting commands on any response line that is long enough. After pressing <DO>, XENTIS displays the command line (located in the mini-help bar) and issues the **Command:** prompt. All valid reporting commands are displayed in the Info window. The default reporting command is HELP. To accept the default command, Press <Return>. To use another command, either type the command, or highlight the command in the Info window, then select it with the <Return> key.

---

*Refer to Appendix A - Setup Parameters for more information on options that affect these and other reporting commands.*

---

## Command Details

### ATTACH (ATTACH process\_name)

Switches current process control to another existing VMS process within your VMS job. The ATTACH command behaves similar to the DCL ATTACH command. Operation of this command is controlled by the ALLOW-SPAWN setup parameter.

---

*Refer to the VMS documentation for more information.*

---

### BELL/HUSH

Determines whether a beep is sounded when a keying error is made or an invalid response is entered. BELL sounds a beep, HUSH turns it off.

**CREATEVIEW (CREATEVIEW viewname output-filename)**

Creates a text file containing XENTIS/Dictionary view descriptions in a format that is suitable for loading with the XENTIS/Dictionary Load utility. The name of the view created is determined by the *viewname* specified. The name of the output file created is determined by the *output-filename* specified. The command should be used only after all input files and key joining relationships are specified. If no *viewname* or *output-filename* is specified, XENTIS will use XENTIS\_VIEW.

**DELETE**

Deletes a field that is already defined in a report. The DELETE command can be used in the CALC, FIELD, SORT, WORD, MODEL, SELECTION, and BREAK dialogue sections.

Move to the expression, field (name/number/literal), or sort/break prompt for the field you want to delete and enter DELETE (either on the response line or on the command line). XENTIS removes the field from the report and automatically renumbers the subsequent fields. When deleting a field in the FIELD section, XENTIS automatically re-calculates the print positions of subsequent fields if the POS-RECALC setup parameter is set to N.

---

*Refer to Appendix A - Setup Parameters for more information on POS-RECALC setup parameter and the RECALC reporting command.*

---

**DIR (DIR file\_spec)**

Displays a listing of files in a directory. See Appendix A for more information on the ALLOW-DIR setup parameter. There are several directory commands:

<b>DIR</b>	Displays all XENTIS command files (.XCF) in the device and directory indicated by the DFLT-CMD-LOC setup parameter.
<b>DIR file_spec</b>	Displays files according to any valid DCL file specification.

**DISPLAY / NODISPLAY**

Establishes whether the current XENTIS session is to be in DISPLAY mode or NODISPLAY mode. DISPLAY mode shows the three-window screen, NODISPLAY mode shows prompts and responses only. You may enter and exit DISPLAY and NODISPLAY mode at any time. NODISPLAY mode is useful when using a slow terminal, such as one communicating over a modem.

**ERASE**

Returns to the first prompt issued in the current dialogue session without saving any responses entered in the current dialogue.

**GOTO (GOTO destination)**

Skips to a specific destination (dialogue section) without displaying the connecting prompts. Available destinations are:

FUNCTION	CALC	WORD	SORT	EXECUTE	WEBPAGE
FILE	FIELD	CLT	BREAK	POINTER	
KEY	MODEL	SELECT	FORMAT	CMDFILE	

Additional functionality for the GOTO command:

- Any valid destination can be abbreviated if the setup parameter AMBIG-GOTO is set to Y. Abbreviation entries need to be long enough for XENTIS to determine which destination is desired.
- GOTO section-n**  
where *n* is blank or a non-negative whole number.

GOTO *section* (without an *n* value entered) moves you to the first prompt in that section of the dialogue if *n* is blank or zero.

GOTO *section-n* moves you to the *nth* field or expression specified in the dialogue if *n* is greater than zero. When *n* is larger than the number of fields or expressions specified in the dialogue, GOTO *section-n* moves you to the next available field or expression. GOTO *section-n* available only with CALC, FIELD, BREAK, SORT, SELECT, WORD, and MODEL sections.

- GOTO destinations are different in each of the /Report options because the dialogue sections vary.

## HELP (HELP topic)

Invokes the on-line help utility. In NODISPLAY mode, the help message is shown on the screen. If the message uses more than one screen, XENTIS shows the first screen. To view the next screen, press <Return> at **Press RETURN for more.**

In DISPLAY mode, the help message is shown in the report window. XENTIS positions the ruler bar to create more room in the report window (to show more of the help message) or in the Info window (to show more topics). At any time, exit help by pressing <Return>. Scroll the help message up and down using <PREV SCR> and <NEXT SCR>.

Any valid help topic can be abbreviated. If abbreviations do not include enough characters to make the topic unambiguous, then XENTIS shows the first topic in the help utility that matches the characters entered. For example, HELP WIN is the same as entering HELP WINDOWS (because no other topics begin with WIN). HELP W shows a help message about WIDE because it is the first topic in the help utility that begins with W.

<b>HELP</b>	Displays a help message about the current prompt. 'Related' help topics are displayed in the Info window. To show the help message about one of the 'related' topics, highlight the topic using the arrow keys, then press <SELECT>. Continue to choose 'related' topics or exit help by pressing <Return>.
<b>HELP HELP</b>	Displays a list of all help topics. The help topics are displayed in the Info window. Exercise related help topics as described, above, under HELP.
<b>HELP topic</b>	Displays a help message about a topic. 'Related' help topics are displayed in the Info window. Exercise related help topics as described, above, under HELP.

## HUSH

See BELL / HUSH

## INDEX

Displays a catalogue listing of all command files (.XCF) in the XENTIS catalogue file and in the device and directory indicated by the DFLT-CMD-LOC setup parameter. Once INDEX is entered on the command line, the **Command:** prompt is replaced by the **INDEX command:** prompt. At the **INDEX command:** prompt, you can enter @*file-name* or @*number* to modify an existing report. To exit INDEX, type \<Return>.

## INSERT

Inserts a field, selection expression, calculation, sort, word, model, or break between two fields that have been previously defined in a report. The INSERT command can be used in the CALC, FIELD, SORT, WORD, MODEL, SELECTION, and BREAK dialogue sections.

To use INSERT, move to an expression, field (name/number/literal), or sort/break prompt. Then, enter INSERT. XENTIS prompts you for the field specifications and automatically renumbers the subsequent fields. The inserted item appears immediately before the field or expression highlighted before you entered INSERT. If the POS-RECALC setup parameter is set to Y then XENTIS will automatically recalculate the default print position for subsequent fields.

### *LIST (LIST topic =search-string)*

Operates identical to the **LIST** command below except that only those lines containing the search string are displayed. The search string must begin with the equal sign character, (=), but it is not part of the search string. Trailing spaces are ignored, however spaces between the equal sign and the search string are significant.

For example, to list the current value of all setup parameters that contain the string HTML, enter:

```
LIST SETUP =HTML
```

### *LIST (LIST topic output-file)*

Displays a list of what has already been specified in a dialogue. **LIST** can be used to list any individual section of a dialogue. **LIST**, entered by itself, displays a list of everything specified in a dialogue. Entering an optional output file name directs output to that file instead of your terminal.

<b>LIST</b>	Lists everything specified in a dialogue.
<b>LIST ALL</b>	Lists everything specified in a dialogue.
<b>LIST BREAK</b>	Lists break fields.
<b>LIST CALC</b>	Lists calculation expressions.
<b>LIST DICTIONARY</b>	Lists all views, files with actual file names in the default dictionary.
<b>LIST FIELDS</b>	Lists fields specified in the report.
<b>LIST FILES</b>	Lists all files specified in the report with full field information.
<b>LIST FILE-A to R</b>	Lists one file specified in the report (A = primary file, B = second file, etc.)
<b>LIST FORMAT</b>	Lists all prompts and responses in the format section.
<b>LIST HELP</b>	Lists all help topics available for LIST.
<b>LIST INDEX</b>	Lists all indexes of all input files.
<b>LIST KEYS</b>	Lists keys for data files used in the report.
<b>LIST MODEL</b>	Lists /Model information.
<b>LIST OUTPUT</b>	Lists all prompts and responses in the output section.
<b>LIST SORT</b>	Lists the sort fields in the report.
<b>LIST SELECT</b>	Lists the selection expressions in the report.
<b>LIST SETUP</b>	Lists the current setup parameter values.
<b>LIST SUPPORT</b>	Lists internal information useful for customer support.
<b>LIST WEBPAGE</b>	Lists Webpage function information.
<b>LIST WORD</b>	Lists /Word information.

### *MAXIMIZE*

Causes the upper Display-Mode window to enlarge to its largest size, displaying only 2 lines of the Info window.

### *MINIMIZE*

Causes the upper Display-Mode window to shrink to it's smallest size, displaying only 2 lines of your report.

**NARROW**

See WIDE / NARROW.

**NODISPLAY**

See DISPLAY / NODISPLAY.

**NORECALC**

See RECALC / NORECALC.

**QUIT**

Returns to the /Report menu without saving any responses given in the current dialogue session as defaults.

**RECALC / NORECALC**

Controls whether or not field print positions are automatically altered. The RECALC command is a short-cut method for setting the POS-RECALC setup parameter to Y. The NORECALC command is a short-cut method for setting the POS-RECALC setup parameter to N. The SET command replaces the RECALC / NORECALC commands.

---

*Refer to Appendix A for more information on this setup parameter and to the SET command in this chapter.*

---

**RESTART**

Returns to the Function prompt saving all responses given to that point in the current dialogue session as defaults.

**RULERDOWN**

Moves the middle ruler down 1 line, enlarging the Report Window and shrinking the Info Window.

**RULERUP**

Moves the middle ruler up 1 line, enlarging the Info Window and shrinking the Report Window.

**SET**

Allows the user to change a setup parameter for an individual report. To use the SET command, enter:

**SET** *parameter parameter\_value*

where *parameter* is the setup parameter and *parameter\_value* is the new value you wish to use.

XENTIS saves the SET command in a report definition only if the setup parameter WRITE-SET-CMDS is assigned a value of 'Y'. Otherwise, XENTIS uses the SET command in the current report run but does not save it in the report definition. Only parameters that can be changed in a user setup file may be changed with the SET command.

**SHLEFT (SHLEFT characters)**

The SHLEFT command shifts the report window to the left. The number of characters shifted is controlled by the SHIFT-SIZE setup file parameter unless a number of characters is specified following the SHLEFT command.

### **SHRIGHT (SHRIGHT characters)**

The SHRIGHT command shifts the report window to the left. The number of characters shifted is controlled by the SHIFT-SIZE setup file parameter unless a number of characters is specified following the SHRIGHT command.

### **SPAWN**

The SPAWN command creates a subprocess and transfers control to it. This command is disabled if the ALLOW-SPAWN setup parameter is set to N.

---

*Refer to VMS documentation for more information on spawned subprocesses.*

---

### **SPREAD (SPREAD margin) (SPREAD -blanks)**

The SPREAD command will spread the layout of a report by changing the print positions of the fields on the report so that the last field is flush with the current right margin or the margin that was specified with the command. If a negative margin is specified, then the SPREAD command will instead separate each report column by the specified number of blanks. For example:

**SPREAD -4**

will change the print position of each column so that there are exactly 4 blanks between each column.

The RIGHT-MARGIN setup file parameter affects SPREAD command when no argument is used.

### **SQLWHERE**

The SQLWHERE command allows users reporting from databases that support SQL access to provide a 'where' clause used when accessing the database. To use this command enter:

**SQLWHERE** *SQL-where-clause*

where *SQL-where-clause* is a valid SQL WHERE clause without the WHERE word.

---

*Refer to 'Database Interfaces' for more information on SQLWHERE.*

---

An example of this command might be:

```
SQLWHERE COMPANY_NAME <= 'BOSTON'
```

### **WIDE / NARROW**

WIDE changes the terminal from 80-column mode to 132-column mode. NARROW changes the terminal from 132-column mode to 80-column mode.

### **XCOMMENT**

Adds a comment line to the XENTIS Command File (.XCF) created or modified during the XENTIS dialogue.

# Specifying Fields

Throughout the XENTIS Dialogue, you are asked to provide a data field to process. Fields are entered to define what is to print on a report, how to sort a report, in calculation and selection expressions, as well as in many other areas. The most common mechanism for telling XENTIS what field to use is to highlight the field name in the Info window and press an appropriate select key.

However, XENTIS provides a variety of ways to indicate fields to be used. As you become more familiar with XENTIS, many of these will provide time-saving shortcuts. Your options for selecting fields to be used are described below.

## Field Name

Enter the name of a field from any file you are using in the report or a calculation result name. Field names are displayed at appropriate prompts in the Info window in DISPLAY mode. If the field name appears in more than one file, use the file designator (A:, B:, C:, etc.) in front of the field name to specify the file. If a file designator is not used, then the field is selected from the first file it occurs in.

## Field Number

Enter the number of a field from any file you are using in the report. Each field is assigned a number in its file description. Determine field numbers using the LIST FILES reporting command; the field number is listed in the left-hand column. To use the field number, enter #ZN where Z is the file designator (A, B, etc.) and N is the field number. Example: #A4, #C7, #B3, #G8.

## Calculation Expression Number

Enter the expression number of a field created by a calculation by typing #Xn where n is the calculation expression number. For example: #X3, #X8, #X1.

## Fields with Multiple Occurrences

If a field has multiple occurrences defined in its FIELD description, specify the occurrence you want to print by appending a subscript after the field name or field number. A subscript is the occurrence number surrounded by parentheses. For example: if a field called MONTHLY\_AMOUNT has twelve occurrences (one for each month), print the monthly amount for March on the report by typing MONTHLY\_AMOUNT(3). Fields with multiple occurrences display in the Info window with parentheses.

XENTIS supports up to two levels of occurrences. When two subscripts are used, separate them with a comma. Subscript values must be a numeric literal, use the ARRYx functions to specify a variable subscript value.

## Partial Text Fields

Use a part of a text field in a dialogue by appending /S-E after the field name where S is the field position of the first character and E is the field position of the last character. Use partial field syntax with field names or field numbers with or without multiple occurrences. Partial field syntax can be used with calculated fields.

### Partial Field Examples

```
CUSTOMER_NUMBER/1-5
#B7/3-4
B:PART_NUMBER/9-10
#A9(3)/3-5
```

## Literals

Literals are constant values and can be used throughout a XENTIS dialogue. There are three basic types of literals: text, numeric and date.

### Text

Text literals must always be surrounded by quotes (") and can contain any character string. An apostrophe (') works just like a quote. Whether you are using quotes or apostrophes to surround a text literal, you must have a matching pair. If you need to use a text literal that contains a quote, use apostrophes to surround the text literal. If you need to use a text literal that contains an apostrophe, use quotes to surround the text literal.

#### Text Literals

```
"A TEXT LITERAL"  
'Another text literal'  
" )))975662"
```

### Numeric

Numeric literals are not surrounded by quotes and can contain only number characters, decimal points, and minus signs. If a numeric literal is identical to a date literal as defined in your operating system, then XENTIS assumes it is a date literal. When this occurs, place a decimal point on the end signifying a non-date numeric literal. For standard VMS, a numeric literal 6 digits in length is assumed to be a date literal. For example: 113096 is assumed to be 30-NOV-1996. 113096. is assumed to be the number 113096.

#### Numeric Literals

```
0.0  
-62.55  
010196.
```

### Date

Date literals are not surrounded by quotes and can contain a date or a date and a time value. Date literals may be any standard VMS date-time literal or user defined VMS date-time literal.

Date-time literals that include time cannot be specified in a calculation expression or in a selection expression. This is because the XENTIS parser stops when it encounters the space between the date and the time. To specify a date-time literal that includes a time value, enter a calculation similar to:

```
NEWDATE = DATE("31-JAN-1996 14:10:00")
```

---

*Refer to VMS documentation for user defined date-time literals.*

---

Setup file parameters that influence how date and date-time literals are interpreted include the IGNORE-TIME parameter and the CENTURY-ADJUST parameter.

Date literals are summarized below for standard VMS. In addition to the formats allowed below, XENTIS supports the format specified by the VMS LIB\$DT\_INPUT\_FORMAT logical.



***Date Literals*****General Date Literal Format:**

<u>Format</u>	<u>Example</u>	<u>Explanation</u>
MMDDYY	013196	6 numeric characters (not recommended)
MM-DD-YY	01-31-96	6 numeric characters separated by dashes
DD-MON-YYYY	31-JAN-1996	VMS date format
DD-MON-YYYY HH:MM:SS	31-JAN-1996 14:10:00	VMS date-time format

**Special Date Literals:**

<u>Literal</u>	<u>Explanation</u>
TODAY	The current VMS date stored in the computer (VMS standard)
TOMORROW	The day after TODAY (VMS standard)
YESTERDAY	The day before TODAY (VMS standard)
FIRST	The first day of the month in TODAY
LAST	The last day of the month in TODAY
BEGIN	The first day of the month before month in TODAY
END	The last day of the month before month in TODAY

***TOLAS\_DATE\_FORMAT***

XENTIS supports the TOLAS\_DATE\_FORMAT logical used by the TOLAS application software package. When defined correctly XENTIS will accept and format dates according to the code established with this logical.

---

*Refer to TOLAS software documentation for information on the TOLAS\_DATE\_FORMAT logical.*

---

# Data Dictionaries

A data dictionary is a repository for descriptions of data. Data dictionaries are used to store file, field, and other types of data descriptions. In order to create a report using a data file (or database) with XENTIS, both the actual data file (or database) and an accurate data description must exist.

## Types of Data Dictionaries

Different application packages can use different data dictionaries to store data descriptions. Some data dictionaries are created, maintained and used by a specific application package and are designed to work with proprietary file structures (for example: SYBASE). Some data dictionaries are created and maintained by a specific application package but can be used by many different application packages (for example; Oracle's CDD) and are usually designed to work with more generic file structures (for example: RMS).

XENTIS can use several different types of data dictionaries; the data description must reside in one of these. You may access only those dictionaries for which you are licensed.

---

*Refer to 'Database Interfaces' and 'RMS File Structures' for more information on data dictionaries and data structures.*

---

## Default Dictionary

A default dictionary is the dictionary automatically used by XENTIS to retrieve data descriptions. When entering file names at the FILE prompts, the default dictionary is used unless overridden.

The default dictionary and password are determined by the symbols XENTIS\$DICT and XENTIS\$PASSWD. These symbols can be set outside of XENTIS or in the LOGIN.COM file. If XENTIS\$DICT is not set, you are prompted for **Dictionary**. If XENTIS\$PASSWD is not set, you are prompted for **Password**.

## Changing the Default Dictionary

When using the XENTIS menus, change the default dictionary by selecting 'Change the Default Dictionary' from the /Dictionary menu.

---

*Refer to the /Dictionary section for more information.*

---

When running XENTIS without the XENTIS menu system, the default dictionary can be changed by resetting XENTIS\$DICT and XENTIS\$PASSWD outside of XENTIS.

# Defaults

XENTIS simplifies report creation by providing logical defaults to questions it asks. A default is a response XENTIS automatically uses for a prompt.

## Source of Defaults

XENTIS determines a default for a prompt in one of several ways.

### Previous Response

When running an existing report or backing up in a dialogue, your previous response is saved as the default.

### Setup File Default

Many defaults are established in the setup file. For example, almost all of the yes/no prompt defaults are determined by setup parameters.

---

*Refer to Appendix A for more information.*

---

### Calculated Default

XENTIS determines some defaults during a report session. For example, XENTIS supplies defaults in the KEYS section of the dialogue if matching field names are found in the files being linked.

### Standard Default

Some prompts have 'standard' responses that are used in XENTIS as defaults. For example, the standard response and default to the **First key to read** prompt is always "**First record**".

### Dictionary Default

Some defaults are established in the dictionary. For example, default column headings for fields are stored in some data dictionaries.

## Working with Defaults

When the default provided by XENTIS is appropriate, all you have to do is accept it by pressing <Return>. When the default is not appropriate you can simply type in a new response. Your entry will be processed instead of the default provided by XENTIS.

When you are in DISPLAY mode, you may need to erase characters left over from the default.

---

*Refer to Appendix A for more information on the DISCARD-AFTER-RET setup parameter and the AUTO-ERASE setup parameter.*

---

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## *XENTIS/Report Dialogue*

The discussions that follow describe the XENTIS Report Dialogue. XENTIS/Report is the main module in the XENTIS data management system. XENTIS uses a question and answer format to simplify the process of defining reports. The XENTIS dialogue is the series of questions asked by XENTIS and the answers provided by you. The XENTIS dialogue, except for minor differences, is the same for the following XENTIS modules:

Report	Report design
Query	Query design
File	Writes records to an output file rather than a report
Model	Spreadsheet, graphics, and word processing interfaces
Update	Mass data base update
Webpage	Produces output suitable for displaying on the World Wide Web.
Word	Word Processing (DEC Compatible) interface

---

*Refer to the sections on /Query, /File, /Model, /Word, and /Update for more information.*

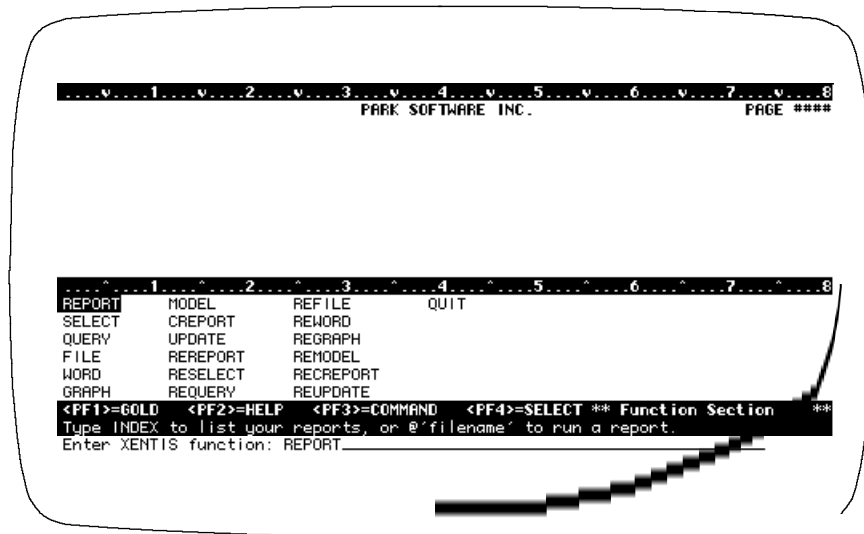
---

# Function Section

Guide Menu selection:      FUNCTION

When you first enter, you are asked to confirm that the function you selected from the XENTIS menu is the appropriate one. Because XENTIS uses a consistent interface for its reporting and updating tools, selecting a different tool is as easy as selecting a different function.

The FUNCTION section of the dialogue provides you with the opportunity to accept the default function (the one you selected from the menu) or to select another function. In addition, the FUNCTION section allows you to run existing reports and command files from within the XENTIS dialogue. The following screen appears when you begin XENTIS Report in DISPLAY mode.



## Prompt:      Enter Function

Default:                  Shipped as REPORT, can be changed in the Setup File.

### Allowed Values:

<i>function</i>	Executes a XENTIS function *
<b>RE-function</b>	Executes a XENTIS RE-function *
<b>@file-name</b>	Executes a standard command file
<b>^file-name</b>	Executes a compiled command file

### Allowed Options:

<b>/TODAY=date</b>	Changes the value of TODAY, not usable with '@' and '^'.
<b>/GO</b>	Usable with '@file-name' or with '^file-name'
<b>/SHOW</b>	Usable with '@file-name'
<b>/BATCH</b>	Like /GO except runs in batch
<b>/NIGHT</b>	Like /GO except runs in night batch

\* can be disallowed using setup parameters

To execute a XENTIS function, choose one of the following:

### ***REPORT***

The REPORT function is used to create reports from existing data files. The full dialogue is issued in REPORT.

### ***SELECT***

The SELECT function is used to create a pointer file without creating a report. The SELECT dialogue prompts for file, key, calculations, selection specifications, pointer file name, and command file name. See also the Command File section.

### ***QUERY***

The QUERY function is the same as /Report but with fewer prompts. Prompts to be issued in a QUERY are determined by Setup File parameters as described in the section on QUERY.

### ***FILE***

Use the FILE function to output records to a data file not a report. See /File for more information.

### ***WORD***

The WORD function is used to output records to a file that can then be used in certain word processing merge operations. See /Word for more information.

### ***GRAPH***

The GRAPH function is used to output records to a file that can then be used in certain graphics software packages. See /Model & /Graphics for more information.

### ***MODEL***

The MODEL function is used to output records to a file that can then be used in certain spread sheet software packages. See /Model & /Graphics for more information.

### ***CREPORT***

The CREPORT function is used to create columnar reports; reports on a horizontal axis rather than on a vertical axis. In other words, a record is now a column of data rather than a row of data, with headings down the left side instead of across the top. See /CReport for more information.

### ***UPDATE***

The UPDATE function is used to globally update fields or delete records in data files. See /Update for more information.

### ***WEBPAGE***

The WEBPAGE function produces tabular output which in turn can be viewed by a web browser.

## Prompt: *Enter Pointer filename*

Default: NONE.

### *Allowed Values:*

Any valid pointer filename.

This prompt is issued when a RE-function is used, such as REREPORT, REFILE, REMODEL, etc. Pointer files are created by a previous run that chose to save record pointers into a pointer file.

## *Additional Tasks*

In addition to selecting a standard XENTIS function, you can perform additional tasks. Some are selected by appending qualifiers onto the function name (e.g. modifying today's date). Other tasks include running previously created reports and commands, as listed below.

### *function/TODAY=date*

The XENTIS date literal TODAY is set using the current VMS date stored in the computer. You can optionally change the value of TODAY by appending */TODAY=date* where *date* is the new date. The date literal TODAY will use the new date assigned each time this report is run.

### *RE-functions*

Choose an RE-function when you want to use a pointer file to create a report. A pointer file contains the names of the files used to create the report and pointers to the records in the files that make up each detail line of the report.

### *@file-name*

Use *@file-name* to run an existing standard command file (.XCF). You may append */SHOW*, */GO*, */BATCH*, or */NIGHT*. If */SHOW* is appended, then the prompts and the responses are displayed on the terminal as the command file is being processed. If */GO* is appended, the command file will be executed as if 'Run an Existing Report' had been chosen from the menu. If */BATCH* is appended, the command file will be run in batch immediately. If */NIGHT* is appended, the command file will be run in overnight batch.

---

*Refer to 'Run an Existing Report' and 'Modify an Existing Report' for complete information..*

---

### *@number*

Works just like *@file-name* and all of its variations but uses the catalogue number of the command file. Find the catalogue number by using the **INDEX** reporting command.

### *^file-name*

Use *^file-name* to run an existing compiled command file (.XCC). You may append */GO*, */BATCH*, or */NIGHT*.

---

*Refer to the COMMAND FILE section for more information.*

---



## ***REGISTRY FILE***

Whenever an existing or newly created XENTIS Command File is used, XENTIS will write the date, time, and the name of the file to the Registry File. This allows the system manager to keep track of which reports are being executed.

## ***HISTORY FILE***

The History File is a log of resources used during a XENTIS session. XENTIS keeps track of system resources, data files used, records selected, process specific information, and write this data to the History File whenever XENTIS exits. See the appropriate appendix for more information.

## FILE Section

Guide Menu selection: FILES\_&\_KEYS

The FILE section is where you select the files and databases you'll be using to create your report. XENTIS incorporates a variety of sophisticated data access capabilities, including:

- Simultaneous access to a variety of data bases
- Simultaneous access to a variety of data dictionaries
- Use of multiple primary files. This is exceptionally useful when reporting from monthly files or data files that have been archived over a number of years
- Use of a large number of "secondary" files
- The ability to do outer joins

```

      1      2      3      4      5      6      7      8
CUSTOMER ORDER
PART_MASTER
CUST_ORD_INV_PART_v
ORD_INV_PART_v
CUSTOMER INVENTORY
ORDER
<PF1>=GOLD <PF2>=HELP <PF3>=COMMAND <PF4>=SELECT ** Files Section
Choose the Third file used in creating your report.
Primary file/view: CUSTOMER
Second file: ORDER
Third file: NONE
Access allowed: S
Access allowed: S
```

*Refer to 'Info Window File Creation' for information on speeding up the display of available file names.*

**Prompt: Primary file/view**

Default: No default

**Allowed Values:**

Any valid file name or series of file names.. See discussion below.

**Allowed Options:**

<b>/DICT=</b> <i>dictionary-name</i>	A valid data dictionary name *
<b>/DICT=TEMP</b>	Specifying a temporary dictionary will be used
<b>/PASS=</b> <i>password</i>	A valid password *
<b>/MULTIPLE=</b> <i>text-file</i>	A text file containing multiple primary file names. *
	* May be disabled by the system manager

The primary file is the first file or table read while XENTIS is creating your report. For RMS file systems the primary file organization can be indexed, relative, or sequential.

XENTIS processes files and records as follows: a record is read in the primary file. Using the specified key relationships, XENTIS looks for 'matching' records in the auxiliary files. Once all related records have been found, a "detail" is created for further processing.

Your selection of appropriate primary and secondary files will vary depending on the function of the report you're developing and the organization of your data. Selection of the appropriate primary file and database can affect the results.

The examples below illustrate valid entries for RMS files.

---

*Refer to 'Database Interfaces' for information on different data structures*

---

**File Entry Examples**

When a file description is stored in your default dictionary, use the following syntax.

<i>Default Dictionary</i>	<i>Enter</i>	<i>Examples</i>
XENTIS	<i>generic file-name</i>	CUSTOMER
	<i>actual file-name/generic file-name*</i>	DUB0 : [ DEMO ] CUSTOMER . DAT / CUSTOMER
	<i>view-name</i>	CUSTOMER_SALES_VIEW
CDD	<i>actual file-name/path_rec</i>	CUSTOMER . DAT / _CDD\$TOP . LIVE . CUST_REC
	<i>path_domain</i>	_CDD\$TOP . LIVE . CUST_FILE
MAXCIM	<i>generic file-name</i>	ZZPOMS POOMS
	<i>generic file-name.ext *</i>	ZZPOMS . OLD POOMS . OLD
	<i>actual file-name/generic file-name *</i>	DUB0 : [ MAXCIM . DEMO ] ZZPOMS . NCA / ZZPOMS DUB0 : [ MAXCIM . DEMO ] POOMS . NCA / POOMS

\* can be disallowed using a Setup File parameter.

When a file description **is not** stored in the default dictionary, specify the dictionary to use by appending '**/DICT=***dictionary*/**PASS=***password*' on the end of the file name.

<i>Description in</i>	<i>Append to one of the valid responses above</i>	<i>Examples</i>
XENTIS	<b>/DICT=</b> <i>dictionary</i> <b>/PASS=</b> <i>password</i> *	(not valid when using a VIEW) CUSTOMER/DICT=DUA0:[XENDICT]INHOUSE .DIC/PASS=BANANA
CDD	<b>/DICT=CDD</b> *	DUA0:[LIVE.DATA]CUSTOMER.DAT/_CDD\$TOP.LIVE.CUST_REC/DICT=CDD
MAXCIM	<b>/DICT=</b> <i>dbname</i> <b>/PASS=</b> <i>password</i> *	ZZPOMS/DICT=USADIVISION/PASS=APPLE POOMS/DICT=V60PO_LIVE/PASS=PEACH
TEMPORARY	<i>actual file-name</i> <b>/DICT=TEMP</b>	DUA0:[LIVE.DATA]CUSTOMER.SEQ/DICT=TEMP

\* can be disallowed by a Setup File parameter.

## Using CDD

In order to specify a file using CDD, use the syntax shown above. You can either:

- enter the actual file name, then the full path record starting with CDD\$TOP. For example:  
DISK0:[LIVE.DATA]CUSTOMER.DAT/\_CDD\$TOP.LIVE.CUST\_REC
- or select down through the directories to the directory that contains the record (or file description) that you wish to use. Enter the actual file name, then the record name. For example:  
DISK0:[LIVE.DATA]CUSTOMER.DAT/CUST\_REC  
You need not enter the FULL path record. XENTIS automatically stores the nodes in the record path when you save a command file.
- Enter a Datatrieve simple domain. A simple domain associates a single data file with a record description.

---

Refer to 'RMS File Structures' for more information.

---

## Multiple Primary Files (Method 1)

Use multiple primary files when sequentially processing several structurally identical files that contain different data. For example, specify multiple primary files when creating a report that uses two identical files but one contains data for June and the other for July. Multiple primary files must adhere to the following rules:

- All multiple primary files must have the same file organization and identical field names, lengths and positions. If the file organization is indexed, the key fields must be identical and the files must be accessed by the same key number.
- List all multiple primary files on one line at the **Primary file/view** prompt. Separate each multiple primary file with a comma; do not use spaces.
- Use either of the following syntax:

*Generic-file-name-1,.....,Generic-file-name-n*

*Actual-file-name-1,.....,Actual-file-name-n/Generic-file-name*

where: *Actual-file-name* is the actual name of the data file and *Generic-file-name* is the generic name associated with any one of the actual data files.

- Enter multiple primary files in the order that you want the records processed, XENTIS processes records in the first file listed, then the second file listed, etc.
- The **First key to read** and **Last key to read** specified in the dialogue are used when reading each multiple primary file.
- A pointer file can be created using multiple primary files. Multiple primary files are included in pointer files.

## Multiple Primary Files (Method 2)

The second method of using multiple primary files works similar to the first method except for the following:

- The names of the actual filenames are found in a text file, rather than specified as a response.
- There is no limit as to the number of multiple primary files allowed.
- The response to the **Primary file/view** prompt should be:  
`Generic-file-name/MULTIPLE=text-file`
- Each line in *text-file* should be the name of a primary file. No additional information should be on that line.

## Views

A view is a pre-defined list of files that are grouped together. Within a view, the relationships between the files and data selection logic are also defined. The advantage to using a view is that you can more easily develop reports that use multiple files.

A view is created using XENTIS /Dictionary and contains file and key specifications that can be used in any report dialogue. A view can optionally contain selection specifications.

When a view name is entered at the Primary file/view prompt, the dialogue uses the responses to the file and key prompts contained in the view and skips to the CALCULATIONS section of the dialogue. /Dictionary security assigned to the view is used to access the files contained in the view, not the /Dictionary security assigned to the individual files.

If the view contains selection specifications, then the selection expressions contained in the view are not displayed in the SELECTION section of the dialogue and the user is prompted for selection logic as usual. Both the selection logic contained in the view and the selection logic entered by the user are applied to the report run. Views must adhere to the following rules:

- A view and the descriptions for all the files specified in the view must be stored in your default dictionary.
- DO NOT use '/DICT=dictionary/PASS=password' syntax with a view.

## Multiple Dictionary Reporting

Use multiple dictionary reporting when you wish to use more than one file in a report and the data descriptions are stored in more than one dictionary. To do so, enter a file-name and append its appropriate dictionary and password. When XENTIS encounters this syntax, it uses the specified dictionary and password to retrieve the data description rather than the current default dictionary.

This feature is only available when the Setup File parameter ALLOW-MULTI-DICT is set to Y.

The proper syntax is: '*file-name*/DICT=*dictionary*/PASS=*password*' where *file-name* is the generic (or actual/generic) name of the file you wish to specify, *dictionary* is the name of the dictionary that contains a valid data description for the file, and *password* is a valid password for the dictionary. Examples are shown in the box above. Proper syntax for dictionary names and passwords is shown in the 'Change the default dictionary' /Dictionary Menu option.

Multiple dictionary reporting adheres to the following rules:

- '/DICT=*dictionary*' and '/PASS=*password*' qualifiers are independent of one another. One or the other or both can be specified. If both are specified, then '/DICT=*dictionary*' must be entered first.
- If '/DICT=*dictionary*' is appended without '/PASS=*password*', then XENTIS uses the current default password. If the default password exists in the specified dictionary, then access to the file is granted.
- If '/PASS=*password*' is appended without '/DICT=*dictionary*', then XENTIS uses the current default dictionary. If the new password exists in the default dictionary, then access to the file is granted.

## Temporary Dictionaries

When using XENTIS/File, you can create a new output files using a temporary dictionary. Using a temporary dictionary simplifies output file creation when the output files are to be used as interim steps in a multi-pass process. If you have created a temporary dictionary and output file using the /File module, you may use it as an input file in a subsequent XENTIS dialogue. To do so, enter *actual\_file*/DICT=TEMP where *actual\_file* includes the device and directory, file-name and extension. If a device and directory are not included, then XENTIS uses the current default.

Temporary dictionaries do not use passwords. When created, the temporary file is either a sequential file or an indexed file.

A temporary dictionary may also be created manually with a text editor. Temporary dictionaries must exist in the same directory as the data file they describe.

---

*Refer to XENTIS/File and Appendix E for complete information.*

---

## Comma Separated and Tab Separated Files

XENTIS provides support for sequential files imported from personal computers that are in Comma Separated Value (CSV) format or a Tab Separated Value (TSV) format. These file formats are only supported using a XENTIS data dictionary or a Temporary data dictionary. In both a XENTIS data dictionary and a Temporary data dictionary, the Record Format should be set to a C, for CSV files, or a T, for TSV files. The field length for each field in a CSV or TSV file should be set to the maximum length that you expect to encounter in the corresponding CSV or TSV file.

When using these files only the following data types are allowed: T, ZT, STR, or YN for text fields; GN for numeric fields; and TDA, MDY, DMY, or PRD for date fields. GN data type fields will ignore currency symbols, digit separators, spaces, etc. If your date is not one of these valid data types, then define them to be a T data type, and then use the DATE() function or the CVTD function in a calculation expression.

## Prompt: Access allowed

Default: Shipped as S, can be changed in the Setup File.

### Allowed Values:

<b>S</b>	Shared Access
<b>P</b>	Protected Access
<b>E</b>	Exclusive Access

Note: each can be disallowed by a Setup File parameter.

Specifies whether other users can read or read/write to the primary file specified in your report while your report is being created. Note: You will almost always want to use shared access. Otherwise, other users on your system will be prohibited from accessing the files you are using with XENTIS.

Shared access specifies that others can read or write to the primary file while your report is being created. Protected access specifies that others can read but cannot write to the primary file while your report is being created. Exclusive access specifies that others cannot read or write to the primary file while your report is being created.

This prompt has no effect when using relational databases.

**Prompt:**     *Second file*

Default:            NONE

**Allowed Values:**

As described for the **Primary file/view** or  
**NONE**

An auxiliary file is any file specified in a report dialogue that is not the primary file. Auxiliary file organization can be indexed or relative, not sequential.

**Prompt:**     *Access allowed*

Default:            Shipped as S, can be changed in the Setup File.

**Allowed Values:**

<b>S</b>	Shared Access
<b>P</b>	Protected Access
<b>E</b>	Exclusive Access

Note: each can be disallowed by a Setup File parameter.

Specifies the allowed access for each auxiliary file used in your report dialogue.

**Prompt:**     *Access auxiliary files simultaneously*

This prompt appears only if you specify two or more auxiliary files.

Default:            Shipped as N, can be changed in the Setup File.

**Allowed Values:**

<b>N</b>	Use hierarchical access
<b>Y</b>	Use simultaneous access

**Hierarchical Access**

When accessing auxiliary file records using hierarchical access, a detail is created for all hierarchical record combinations for all of the files. With three files, hierarchical access works as follows:

- A record is read in the primary file. A 'match' is found in the second file. A detail is created for each 'match' found in the third file.
- The next 'match' is found in the second file. A detail is created for each 'match' found in the third file using the original primary file record and the new second file record. This process continues for each 'matching' record in the second file.
- When no more 'matches' exist in the second file, the next record is read in the primary file. This process continues for each selected primary file record.

## Simultaneous Access

When accessing auxiliary file records using simultaneous access, an auxiliary file record is used in one and only one detail. When using simultaneous access, all fields used to build keys in all the auxiliary files must be from the primary file. With three files, simultaneous access works as follows:

- A record is read in the primary file. A 'match' is found in the second file and the third file. A detail is created.
- The next 'match' is found in the second file. The next 'match' is found in the third file. A detail is created. This process continues for each 'matching' record in the second and third files.
- When no more 'matches' exist in the second and third files, the next record is read in the primary file. This process continues for each selected primary file record.

## Choosing Auxiliary File Access

Hierarchical access is the most commonly used access method. If you are not sure about the access method to use for a report, select hierarchical. Simultaneous access is most often used when:

- There are multiple records in all the auxiliary files.
- All key relationships can be built to the primary file (you can assume that there is no relationship between a record in the second file and a record in the third file, and so on).
- You do not wish to see duplication in your report.
- You are accumulating a field in an outer auxiliary file.

### Example database for following file-access examples

#### File A EMPLOYEE FILE

EMPL\_NO   EMPL\_NAME

1001   Ryan, John  
1002   Comstock, Kay  
1003   Gooden, Peter

Key 1:   EMPL\_NO

Key 2:   EMPL\_NAME

#### File B COURSES\_TAKEN FILE

EMPL\_NO   COURSE\_NO

1001   Acctg 101  
1001   Acctg 102  
1001   Acctg 207  
1002   Engl 310  
1002   Am Lit 360  
1003   Math 480

Key1:   EMPL\_NO +  
         COURSE\_NO

#### File C COURSES\_REC FILE

EMPL\_NO   COURSE\_NO

1001   Acctg 208  
1001   Fin 101  
1002   Psych 101  
1002   Soc 200  
1003   Comp Sci 300  
1003   Comp Sci 301

Key 1:   EMPL\_NO  
         COURSE\_NO

### Keys used to develop reports

Key to access  
primary file by: 1

First key to read: First record  
Last key to read: Last record

Key to access  
COURSES\_TAKEN by: 1

Field 1 to bld key:   A: EMPL\_NO  
Field 2 to bld key:   NONE  
Multiple records:   Y  
Replace missing data: \*

Key to access  
COURSES\_REC by: 1

Field 1 to bld key:   A: EMPL\_NO  
Field 2 to bld key:   NONE  
Multiple records:   Y  
Replace missing data: \*



*Report example using hierarchical access*

\* Replace missing data with nulls/zeros: Y or N

A:EMPL_NO	A:EMPL_NAME	B:COURSE_NO	C:COURSE_NO
1001	Ryan, John	Acctg 101	Acctg 208
1001	Ryan, John	Acctg 101	Fin 101
1001	Ryan, John	Acctg 102	Acctg 208
1001	Ryan, John	Acctg 102	Fin 101
1001	Ryan, John	Acctg 207	Acctg 208
1001	Ryan, John	Acctg 207	Fin 101
1002	Comstock, Kay	Engl 310	Psych 101
1002	Comstock, Kay	Engl 310	Soc 200
1002	Comstock, Kay	Am Lit 360	Psych 101
1002	Comstock, Kay	Am Lit 360	Soc 200
1003	Gooden, Peter	Math 480	Comp Sci 300
1003	Gooden, Peter	Math 480	Comp Sci 301

*Report example using simultaneous access*

\* Replace missing data with nulls/zeros: Y

A:EMPL_NO	A:EMPL_NAME	B:COURSE_NO	C:COURSE_NO
1001	Ryan, John	Acctg 101	Acctg 208
1001	Ryan, John	Acctg 102	Fin 101
1001	Ryan, John	Acctg 207	
1002	Comstock, Kay	Engl 310	Psych 101
1002	Comstock, Kay	Am Lit 360	Soc 200
1003	Gooden, Peter	Math 480	Comp Sci 300
1003	Gooden, Peter		Comp Sci 301
:			

*Report example using simultaneous access*

\* Replace missing data with nulls/zeros: N

A:EMPL_NO	A:EMPL_NAME	B:COURSE_NO	C:COURSE_NO
1001	Ryan, John	Acctg 101	Acctg 208
1001	Ryan, John	Acctg 102	Fin 101
1002	Comstock, Kay	Engl 310	Psych 101
1002	Comstock, Kay	Am Lit 360	Soc 200
1003	Gooden, Peter	Math 480	Comp Sci 300
:			

# KEY Section

The KEY section of the XENTIS dialogue allows you to perform several important functions when processing non-relational file systems such as RMS. The first is to select the sequence in which to read the primary file. The second is to limit the scope of records read from the primary file. The third is to define the relationships between the primary file and all other secondary files to be used in your report.

---

*The prompts for SQL databases are different for the Key Section. Please refer to the chapter regarding databases for additional information.*

---

## Primary Key Selection

Once files or tables have been selected for use in a report, you must define the sequence in which the primary file is to be read. Often you won't care what the sequence of reading is. In this case, you only have to accept the default value provided by XENTIS. This default value is always the primary key. Conveniently, the primary key is the most efficient means of accessing the primary file.

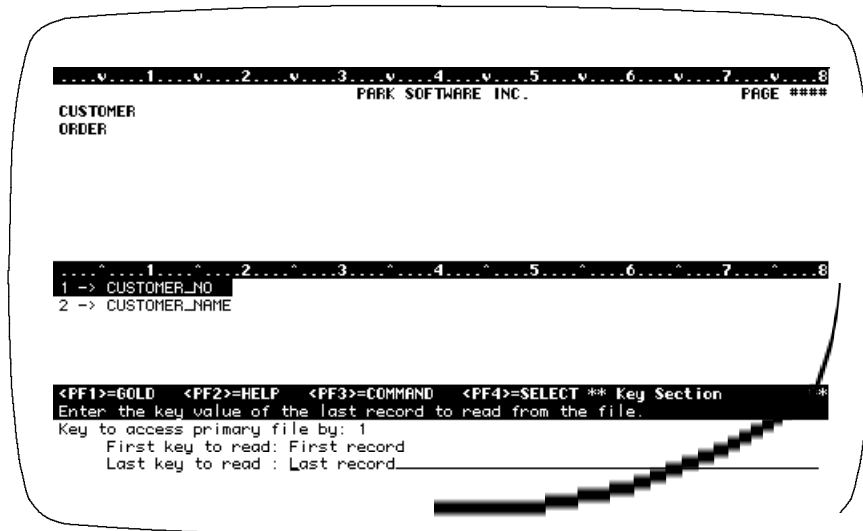
You may also select an alternate key to be used when reading the primary file. This causes the records of the primary file to be accessed in the sequence defined by the alternate key.

You would select an alternate key for one of the following reasons:

- You are not planning on sorting the report, and want it to be presented in the sequence of the selected key.
- You are planning on making the report run faster by selecting a range of values in the selected key.

## Secondary Key Selection

If you entered a view name at the **Primary file/view** prompt, the KEYS section prompts are skipped because the view tells XENTIS which keys to use.



**Prompt:**     *Key to access primary file by*

Default:            1

*Allowed Values:*

<i>integer</i>	Any integer from 1 to the maximum key allowed on the file.
<i>key-name</i>	Any key name defined for the file.

This prompt is issued only if the primary file is indexed. Enter the number or name of the key you wish to use to read the primary file. The key used to access the primary file determines the order in which records are encountered. Key 1 is the fastest and most efficient key to use if the entire file is to be read, although any defined key in the primary file can be used. If no sort is specified, the resulting report will be in the order of the specified key.

When using multiple primary files, all indexed multiple primary files are accessed by the same key number. All relative and sequential multiple primary files are read sequentially.

**Prompt:**     *First key to read (Indexed Files)*  
                   *First record to read (Relative or Sequential Files)*

Default:            First record (indexed files) or 1 (relative or sequential files)

*Allowed Values:*

<b>FIRST RECORD</b>	
<i>data value</i>	for indexed files
<i>data value,data value,...</i>	for indexed files a series of values that correspond to multiple key segments.
<i>data value,...;data value,...;...</i>	multiple ranges of a series of values
<i>record number</i>	for relative or sequential files

**Prompt:**     *Last key to read (Indexed Files)*  
                   *Last record to read (Relative or Sequential Files)*

Default:            Last record

*Allowed Values:*

<b>LAST RECORD</b>	
<i>data value</i>	for indexed files
<i>data value,data value,...</i>	for indexed files a series of values that correspond to multiple key segments.
<i>data value,...;data value,...;...</i>	multiple ranges of a series of values
<i>record number</i>	for relative or sequential files

**First/Last key to read** determines the range of primary file records to be read and processed in your report. **First record** and **Last record** are special XENTIS parameters; **First record** is synonymous with the first record in the file and **Last record** with the last record in the file. The following table summarizes the first/last record values allowed:

<i>Primary File type</i>	<i>First key to read options</i>	<i>Last key to read options</i>
Indexed	<b>FIRST RECORD</b> or <i>data value,...;...</i>	<b>LAST RECORD</b> or <i>data value,...;...</i>
Relative	<i>record number</i>	<b>LAST RECORD</b> or <i>record number</i>
Sequential	<i>record number</i>	<b>LAST RECORD</b> or <i>record number</i>

When using multiple data values, separate each value with a delimiter (controlled by a Setup File parameter). If multiple data values are used, XENTIS will adjust each value automatically to match the data type and length of each segment defined for the chosen key, except that it does not adjust the length of the last data value entered (to allow for a partial key). This capability is designed for indexes that have multiple fields in the index.

Using multiple ranges of values, each separated by a delimiter (controlled by a Setup File parameter), allows you to have multiple sets of **First/Last key to read**. The delimiter used here must be different than the delimiter used with multiple data values. This capability allows you to start and stop reading the primary file at multiple locations.

### *Indexed Files*

XENTIS reads the records in the primary file using the key chosen to access the primary file.

**First/Last key to read** determines the range of data values to read in the key.

If you enter **First record** and **Last record**, all the records in the file are read and processed. If you enter a data value, XENTIS processes all records in that range.

Most keys are created in ascending order. If you are working with a descending key, then you may not use **First/Last key to read** to specify a range of primary file records to read; use **First record** and **Last record** only.

**First/Last key to read** must adhere to the following rules:

- For text fields in the primary file access key: enter any portion of a segment or segments but all characters must be entered consecutively starting from the left-most character position of the first segment.
- For non-text fields in the primary file access key: enter data values for the entire first segment only; you may not use multiple segments. The data type is automatically converted.
- If a segmented primary file access key contains both text fields and non-text fields: enter a range starting with the first segment. If the first segment is text, follow rule 1; enter any portion of the key up to the non-text segment. If the first segment is non-text, follow rule 2; enter only the first segment.

<i>First/Last Key to Read Example</i>			
File A: <b>ORDERS</b>		Order Number	Customer Number
Key 1:	ORDER_NUMBER + CUSTOMER_NUMBER	A89100	001
		A89101	005
		A89102	003
Key 2:	CUSTOMER_NUMBER	A89103	099
		A89104	010
		etc.	etc.
Key to access primary file by: 1		Key to access primary file by: 2	
First key to read: A89		First key to read: 005	
Last key to read: A89		Last key to read: 025	

### *Relative and Sequential Files*

With a relative or sequential primary file, XENTIS reads records sequentially. Specify a range of primary file record numbers to read and process. You must enter a record number at the **First key to read** prompt; **First record** is not a valid response. To specify the first record in the file, enter 1. You can enter either a record number or **Last record** at the **Last key to read** prompt.

### *Multiple Ranges for Primary Files*

This feature allows you to specify multiple ranges to read at the **First/Last key to read** prompt. For example, suppose you have a file that is indexed on a date field and you want to produce a report consisting of all records whose date field was the first 15 days of January, February, and March. You would enter the following at the **First/Last key to read** prompts:

```
01-JAN-1997;01-FEB-1997;01-MAR-1997
15-JAN-1997;15-FEB-1997;15-MAR-1997
```

The semicolon is the delimiter that is controlled by the FIRST-KEY-RANGE-DEL Setup parameter. You may use multiple segments with each range, however, the number of segments should correspond with the same number of segments for the other ranges used.

## *Keys for Indexed Auxiliary Files*

**Prompt:**     *Key number to access (auxiliary file-name) by*

Default:         Determined by XENTIS

#### *Allowed Values:*

Any integer from 1 to the maximum key allowed on the file.  
Any key name defined for the file.

#### *Allowed Options*

**/CACHE=*n***                         where *n* specifies the number of records to keep in a cache.

## Dialogue - Key Section

This prompt is issued for each indexed auxiliary file. See KEYS FOR RELATIVE FILES for relative files. When selecting a key to access an auxiliary file, the following rule must be satisfied: Choose a key that is made up of a field(s) that exists in a previous file.

Enter the number or name of the key you wish to use to read the auxiliary file. The key used to access the auxiliary file specifies the order in which records are read in the auxiliary file and the key that will be used to link the files together. XENTIS determines the default value by comparing the auxiliary file key field names with field names in the previous files, then selecting the best match.

Using the /CACHE option overrides the DFLT-CACHE setup file parameter. Caching can improve performance if the report accesses the same record many times, but not consecutively. An example where a cache will improve performance would be a file where a description for a code is being kept, such as a terms code or a deduction code.

### Prompt: *Field 1 to build key*

Default:           Determined by XENTIS

#### Allowed Values:

*literal-value*

*field-name*

a field name from any previously selected file.

### Prompt: *Field n to build key*

Default:           Determined by XENTIS

#### Allowed Values:

**NONE**

*literal-value*

*field-name*

a field name from any previously selected file.

These prompts are issued for each indexed auxiliary file. See KEYS FOR RELATIVE FILES for relative files. Enter the field(s) from a previous file that matches the field(s) in the auxiliary file access key. XENTIS determines the default value by comparing the auxiliary file key field names with field names in the previous files, then selecting the best match. XENTIS continues to issue **Field to build key** prompts until NONE is entered. When XENTIS detects that no more fields are needed to build the key, NONE is the default.

*Key Building Example*

File A

**BRANCH**

BRANCH\_NUMBER  
 BRANCH\_LOCATION  
 AREA\_CODE  
 PHONE\_NUMBER  
 etc.

Key 1: BRANCH\_NUMBER

Key 2: BRANCH\_NUMBER + AREA\_CODE

File B

**EMPLOYEE**

EMPLOYEE\_NUMBER  
 BRANCH\_NUMBER  
 AREA\_CODE  
 DATE\_HIRED  
 etc.

Key 1: EMPLOYEE\_NUMBER

Key 2: BRANCH\_NUMBER + AREA\_CODE

*Key Definition Dialogue*

Key to Access Primary File by?

1

First Key to Read:

First record

Last Key to Read:

Last record

Key to Access B:EMPLOYEE by:

2

Field 1 to build key:

A: BRANCH\_NUMBER

Field 2 to build key:

A: AREA\_CODE

Field 3 to build key:

NONE

Does this key have multiple records?

Y

Replace missing data with nulls and zeros?

N

*Partial Keys*

You may use a partial auxiliary file key when building relationships between files by matching only a portion of the key to a field(s) in a previous file. Partial keys can be built for non-segmented as well as segmented auxiliary file keys.

To do so, enter a field from a previous file that matches the first segment (or field) in the key at the **Field 1 to build key** prompt. Continue to enter fields from a previous file that match subsequent segments. At any point, enter NONE at the next **Field n to build key** prompt.

XENTIS does not offer NONE as a default response to the **Field n to build key** prompts until a full key is built. When building a partial key, you must enter NONE. If you choose to use a partial key, you should usually respond **Y** to the **Does this key have multiple records** prompt.

*Using Literals to Build Keys*

You may use a literal to build a key or a portion of a key for a text field. To do so, enter the text value at a **Field n to build key** prompt. Enclose the text value in quotes (").

*Rules for Building Keys*

- If the setup parameter CONVERT-SEGMENTS is assigned a value of 'Y', then for each segment in a key, the data type of the key field must be the same data class, Text, Date, or Numeric, as the field matched to it in the **Field n to build key** prompt. For example, you may match a key made up of one numeric-type to a field made up of a different numeric-type. To use this feature, each segment in the key must be matched to a field in a previous file.
- If the setup parameter CONVERT-SEGMENTS is assigned a value of 'N', then for each segment in a key, the data type of the key field must be the same as the data type of the field matched to it in the **Field n to build key** prompt.

- Build keys using fields or field combinations from any previous file. Specify the file with the alphabetic file designation before the field name.
- When more than one auxiliary file is specified and you plan to access the auxiliary files *simultaneously*, all keys must be built using fields from the primary file.
- Text literals may be used to build all or part of a key.
- To use a partial key to link files, specify the segment(s) of the key to match, then enter NONE at the next **Field to build key** prompt.
- For text fields: specify a portion of a segment by appending /S-E after the field name where S is the field position of the first character and E is the field position of the last character.
- For non-text fields: use only an entire segment when building keys. The data type of the key segment must exactly match the data type of the field specified to build the key.



**Key Building Examples***File A* (All fields are text fields)

<i>Key to Access</i>	<i>Field name</i>	<i>Length</i>
Key 1, Field 1	WHOUSE_NO	5
Non-key Field	BIN_NO	5
Non-key Field	ITEM_NO	10

*File B* (All are text fields and PROD\_CODE is the concatenation of WHOUSE\_NO+BIN\_NO+ITEM\_NO)

<i>Key to Access</i>	<i>Field name</i>	<i>Length</i>
Key 1, Field 1	PROD_CODE	20
Key 1, Field 2	BRANCH	2

Field 1 to Build Key:	A : WHOUSE_NO
Field 2 to Build Key	A : BIN_NO
Field 3 to Build Key	A : ITEM_NO
Field 4 to Build Key	" 01 "
Field 5 to Build Key	NONE

By specifying a literal value in Field 4 to Build Key, only records where the BRANCH field in File B = 01 are read and processed.

*File C* (All fields are text fields and ACCTG\_NO = the concatenation of the first 8 characters of PROD\_CODE + ITEM\_NO)

<i>Key to Access</i>	<i>Field name</i>	<i>Length</i>
Key 1, Field 1	ACCTG_NO	18

Field 1 to Build Key:	B : PROD_CODE / 1-8
Field 2 to Build Key	A : ITEM_NO
Field 3 to Build Key	NONE

By appending /1-8 on the end of product code, only the first eight characters are used to build the key.

*File D* (All fields are text fields)

<i>Key to Access</i>	<i>Field name</i>	<i>Length</i>
Key 2, Field 1	WHOUSE_NO	5
Key 2, Field 2	EMP_NAME	20

Field 1 to Build Key	A : WHOUSE_NO
Field 2 to Build Key	NONE

This example shows how to build a partial key in File D.

## Prompt: Does this key have multiple records

Default: Determined by XENTIS. If using a partial key, default is Y. If using a full key, default is N.

### Allowed Values:

<b>Y</b>	Look for Multiple Records
<b>N</b>	Do Not Look for Multiple Records

This prompt tells XENTIS whether to look for more than one 'matching' record in an auxiliary file. If you respond Y, then XENTIS looks for more than one 'matching' record. If you respond N, then XENTIS looks for one and only one 'matching' record.

If your auxiliary file has multiple records, but you respond N at this prompt, XENTIS finds the first 'matching' record in the auxiliary file, then stops. Additional 'matching' records are not included in the report.

If you are unsure whether or not your auxiliary file contains multiple records, respond Y at this prompt. Although slightly less efficient if there are not multiple records, XENTIS processes all records.

When building partial keys, you should generally respond Y to this prompt.

## Prompt: Replace missing data with zeros/nulls

Default: Shipped as N, can be changed in the Setup File.

### Allowed Values:

<b>Y</b>	Replace Missing Records
<b>N</b>	Do Not Replace Missing Records

This prompt tells XENTIS what to do if a 'matching' record is not found in an auxiliary file.

If you respond Y to this prompt and a 'matching' record is not found, then the detail appears on the report. Fields from the auxiliary file are replaced with zeros for numeric-type field, nulls for text-type fields, and null dates for date-type fields. This capability is sometimes called an outer join. If you respond N to this prompt and a 'matching' record is not found in the auxiliary file, then the detail is discarded.

## Join Suggestion File

The Join Suggestion File provides an alternative method for joining data files together. This method allows a knowledgeable user to define, in an external text file, the manner of how the currently specified data file will be joined to the previously specified data files. The location of the Join Suggestion File is controlled by the JOIN-SUGGEST-LOC Setup File parameter. The name of the Join Suggestion File is of the form *PARENT\_CHILD*.JOIN, where *CHILD* is the current data file and *PARENT* is a previous data file.

Do not use file designators, such as 'A:', 'B:', etc., as a prefix to a field name.

For example, if you have a report that has a CUSTOMER file, an ORDER file, and an ORDDDET file, then XENTIS would use two join files, CUSTOMER\_ORDER.JOIN and ORDER\_ORDDDET.JOIN. The first Join Suggestion File contains the dialogue responses to join the ORDER file to the CUSTOMER file. The second Join Suggestion File contains the dialogue responses to join the ORDDDET file to the ORDER file. The contents of the ORDER\_ORDDDET.JOIN file may look like:

2	!Key to access file by
CUSTOMER_NUMBER	!First field to build key
ORDER_NUMBER	!Second field to build key
NONE	!No more fields
Y	!Key has multiple records
N	!Don't replace missing records with zeros

### Replace Missing Data with Nulls and Zeroes Examples

#### Sample Record Layout:

##### File A: CUSTOMER

CUSTOMER\_NUMBER  
CUSTOMER\_NAME

##### File B: ORDERS

ORDER\_NUMBER  
CUSTOMER\_NUMBER

Key 1: ORDER\_NUMBER  
Key 2: CUSTOMER\_NUMBER

Key to access B:ORDERS by:

Field 1 to build key:

Field 2 to build key:

Does this key have multiple records:

2

A:CUSTOMER\_NUMBER

NONE

Y

#### Sample Data:

##### CUSTOMER

Cust No.

Cust Name

##### ORDERS

Order No.

Cust No.

001	Hill Construction
002	Sand Point Gravel
003	Mercer Island Pipe

A101	001
A201	001
A301	003

#### Sample Reports:

Replace missing data with nulls and zeros: **Y**

<u>Cust No</u>	<u>Cust Name</u>	<u>Order No</u>
001	Hill Construction	A101
001	Hill Construction	A201
002	Sand Point Gravel	
003	Mercer Island Pipe	A301

Replace missing data with nulls and zeros: **N**

<u>Cust No</u>	<u>Cust Name</u>	<u>Order No</u>
001	Hill Construction	A101
001	Hill Construction	A201
003	Mercer Island Pipe	A301

## Keys for Relative Auxiliary Files

### Prompt: *Field to build key*

Default: No default.

#### Allowed Values:

<i>field-name</i>	a field name from any previously selected file.
-------------------	---

This prompt is issued for each relative auxiliary file. The only field allowed to build a key in a relative auxiliary file is a field from a previous file that contains record numbers pointing to 'matching' records in the relative file. If a previous file does not have a field that contains record numbers, a key cannot be built.

### Prompt: *Multiple record method*

Default: Shipped as N, can be changed in the Setup File.

#### Allowed Values:

<b>N</b>	No Multiple Records
<b>C</b>	Count Method
<b>R</b>	Range Method
<b>L</b>	Link Method

This prompt is issued for each relative auxiliary file. Specifies whether multiple records exist in the relative auxiliary file. Multiple records in relative files can be implemented in one of three ways. If there are multiple records, first determine how they are implemented in the file. Then, choose the correct method in XENTIS.

#### *No (N)*

Respond N to this prompt if there are no multiple records in the file or you do not want to allow multiple records in your report. If you enter N, XENTIS finds only the record with the matching record number from the built key field.

#### *Count (C)*

Respond C to this prompt only if a previous file contains both a record number field and a count field. The record number field points to the first 'matching' record in the relative file. The count field contains a numeric value that is the number of records from the first to the last consecutive 'matching' record in the relative file.

If you enter C, the **Field to use as count** prompt is issued. Respond with the field name of the count field in the form *X:Field\_name*.

When using C, XENTIS finds the first 'matching' record and processes a detail. Using the count field, XENTIS counts and processes a detail for each additional 'matching' record in the auxiliary file.

### Range (R)

Respond R to this prompt only if a previous file contains both a record number field and a range field. The record number field points to the first 'matching' record in the relative file. The range field contains the record number of the last consecutive 'matching' record in the range.

If you enter R, the **Field to use as range** prompt is issued. Respond with the field name of the range field in the form *X:Field\_name*.

When using R, XENTIS finds the first 'matching' record and processes a detail. Using the range field, XENTIS processes a detail for each additional 'matching' record in the auxiliary file up to the record number contained in the range field.

### Link (L)

Respond L to this prompt only if the relative auxiliary file contains a field that points to the next record to process. The link method works the same as a 'linked list'. The record number field in a previous file points to the record number of the first record in the chain.

If you enter L, the **Field to use as link** prompt is issued. Respond with the field name of the pointer field in the relative file. The value in the pointer field of the last record in the chain must be 0 to indicate the last record in the chain.

When using L, XENTIS finds the first 'matching' record and processes a detail. Using the link field, XENTIS processes a detail for each record in the linked list until the last record is encountered.

### Prompt: *Replace missing data with zeros/nulls*

Default: Shipped as N, can be changed in the Setup File

#### *Allowed Values:*

As described in the Indexed file section.

## Calculation Section

Guide Menu selection:

CALCULATIONS

The CALCULATION section of the dialogue is where you create new fields in your report. Calculations allow you to extract and modify data from your data files, to generate new fields that you can use to print on your report, to select data, or to sort your report.

Calculations can be used with numeric fields, if desired. However, calculations are also used to create new text and date fields. Text fields can be segmented, combined, and modified. Date fields can be added and subtracted and they can have their component parts extracted for further use in your reports.

The calculated fields you create can be used in any subsequent calculation expression or dialogue section. As a result, you can build compound calculations where the result of one is used by the next. In addition to simple, single statement calculations, XENTIS allows you to build compound calculations.

Calculated fields are only used in reports. Calculated fields are re-initialized to null or zero at the start of each report. Calculated fields are re-initialized to null or zero at the start of each report.

Refer to

Calculations are performed.

Enter the formula. Press RETURN or ENTER to accept the expression.

Do you wish to have calculations: Y

Enter calculation expression 1: REVENUE = B:UNIT\_PRICE \* B:QUANTITY\_SHIPPED

Enter calculation expression 2: TAX = REVENUE \* .082

Enter calculation expression 3: COST = B:UNIT\_COST \* B:QUANTITY\_SHIPPED

**Prompt:** Do you wish to have calculations

Default: Shipped as N, can be changed in the Setup File.

Allowed Values:

N  
Y

Do not prompt for calculation expressions  
Prompt for calculation expressions

**Prompt:**     *Calculation expression n*

Default:                No default for expression 1, then NONE.

**Allowed Values:**

<i>result = expression</i>	for calculations that result in numeric or date values
<i>result;n = expression</i>	for calculations the result in text values
<b>NONE</b>	when no more calculation entries are needed

**Allowed Options:**

(Applies to the result name not the expression.)

<b>/NORESET</b>	Specifies to not reset this calculation for each detail
<b>/ACCUM=n</b>	Specifies to accumulate this calculation as if it belonged to file n.

Calculation expressions can contain fields, literals, operations or functions. A field created by a calculation can be used more than once in any subsequent expression or dialogue section. In DISPLAY mode, the names of the new fields created by calculations appear in the Info window in subsequent dialogue sections. Type NONE when you are done entering calculation expressions.

**Expression Syntax**

There are three basic types of calculation expressions: numeric, date, and text. Calculation expressions must be homogeneous: numeric, date, and text-type operations and functions cannot be mixed together (except in 'IF' clauses).

Numeric and date calculation expressions must be in the following form:

*result/option = expression*

Text calculation expressions must be in the following form:

*result;n/option = expression*

where n is the length (number of characters) of the new field. If you do not include the length of the new field and you are performing text calculations, an error message is displayed.

**Result**

*Result* is the name of the new field where the calculated value is stored. The new field does not have to be named *Result*; the new field can be named any valid field name but must be different from any field name that exists in the files you are using to create the report or any reserved XENTIS word. A valid field name is 1 to 32 alpha-numeric characters including A-Z, 0-9, dollar sign (\$), and underscore (\_). The first character must be alphabetic.

XENTIS automatically assigns the data type of the new field. For numeric calculations, the data type is D-Float (D), for text calculations, the data type is Text (T), and for date calculations, the data type is a VMS Date (DA). For date calculations, the result contains the date or date and time, depending on the options you've selected using XENTIS setup parameters.

**Options**

XENTIS provides the ability for the user to control how the calculation is performed. The available options are:

**/NORESET**

Whenever a calculation is performed, the calculation result is reset to an initial value. For date calculations the initial value is a null date, for numeric calculations it is a zero, and for text calculations it is spaces. By specifying /NORESET the calculation will not be reset to its initial value. This option is generally only useful if an 'IF' clause is used in the calculation.

**/ACCUM=n**

The /ACCUM=n options controls how a calculation will be accumulated if it is accumulated in a report. Using this option gives the user the ability to specify that this particular calculation will be performed as if it belonged to a particular data file where 'n' designates the data file number. If this option is not used, then the calculation will be accumulated as if it belonged to the most detail file of the report. For example:

```
AMT/ACCUM=3 = C:PRICE * C:ORDER_QUANTITY
```

will cause the AMT calculation result to accumulate as if it belonged to the third input file.

**Expression**

*Expression* is the calculation expression itself. A calculation expression is a series of field names, literals, operations and/or functions. See EXAMPLES below for more information. Separate each item in the calculation expression with a space.

An equal sign (=) must always separate *Result* from *Expression*. Include spaces on both sides of the equal sign.

**Fields and Literals**

Calculation expressions can contain fields from any file you are using in the report, a field created by a previous calculation expression, or a literal. A field created by a previous calculation expression can be used more than once in subsequent expressions. A field used in a calculation expression is not required to be listed as a field on your report.

Fields and literals are referenced as documented in the /REPORT Introduction section, SPECIFYING FIELDS; field name, field number, literal, partial field, or multiple occurrence subscripted fields are all valid.

**Functions Using Delimiting Characters**

The TABLE, MEMBR, and ELEM functions use arguments whose value includes a delimiting character. These delimiting characters can be all non-alphanumeric characters on the Digital keyboard except quotation marks(") and the tilde(~), but including the tab character.

**Operations and Functions**

Numeric, date and text operations and functions can be performed in calculation expressions. A full list of operations and functions appears below. See EXAMPLES below for more information.

*For calculations yielding a DATE-TIME result:*

**Operations**

D+      Date Addition

**Functions**

DABLD	Builds a date from days and seconds
NOTIM	Removes time from date-time field
FIRST	Returns first day of month
LAST	Returns last day of month
MADD	Adds/subtracts months to/from date
DATE	Converts text to date
ARRAYD	Uses field from an array
PREVD	Uses field from previous select record.
PRERD	Uses field from previously read record.
CURDT	Retrieves current date and time.
CVTD	Convert Text to a date-time field.
JBLD	Builds a date from year and day of year
NEXTD	Uses field from next record.
D1 - D6	Converts date to OpenVMS format
USERD	Converts user-defined date to



OpenVMS format

For calculations yielding a NUMERIC result:

Operations

\* Multiplication  
/ Division  
+ Addition  
- Subtraction  
^ Exponentiation  
BAN Bitwise AND  
BOR Bitwise OR  
NOT Bitwise NOT  
D- Date difference

Functions

HOUR extract hour from time  
MIN extract minutes from time  
SEC extract secs from time  
MOD modulo function  
RAND returns a random number  
ARRAYN field from an array  
PREVN uses data from prev rec  
LEN length of a text field  
INCR Increments a counter  
CVTN Converts text to numeric  
DYOWK Day of week.  
FV Future value  
FVSB Future value of stream  
FVSE Future value of stream  
PV Present value  
PVSB Present value of stream  
PVSE Present value of stream  
EOG Forces end of group  
USERN User-defined function

Functions

ABS Absolute Value  
ASC Converts first byte of text to a number  
ATN Arc Tangent  
COS Cosine  
FIX Truncate  
INT Integer  
LOG Natural Logarithm  
LOG10 Base 10 Logarithm  
ROU Round  
SIN Sine  
SQR Square Root  
VAL Convert Text to Numeric  
POS Position of text within larger text  
DAY Extract two digit Day from date  
MON Extract two digit Month from date  
YR Extract two digit Year from date  
YEAR Extract four digit Year from date  
ELAPS Computes elapsed time  
ELEM Scans delimited text for element  
DACVT Converts ASCII date to days and seconds  
DAEXT Extracts date from a date/time field  
TICVT Converts ASCII date to seconds since midnight  
TIEXT Extracts time from a date/time field  
BLDDA Builds date from year, month and day  
BLDTI Builds time from hour, minute, and sec  
PRERN Uses data from previous read record  
JLEXT Extracts day of year from date field  
NEXTN Uses data from next record  
ODD Next highest odd number  
EVEN Next highest even number

For calculations yielding a TEXT result:

Operations

+ Concatenation

Functions

ATOE Cvt's ASCII to EBCDIC  
 ETOA Cvt's EBCDIC to ASCII  
 ELAPT Returns elapsed time  
 SEG Segment of string  
 STR Convert Numeric to Text  
 EDIT Edits text  
 PREVT Use data from prev rec  
 HEXT Produces hexadecimal  
 HEXN Cvt's. numeric to hex  
 CVTT Converts text to text  
 PRERT Use data from prev record  
 NEXTT Use data from next record  
 SOUND Soundex algorithm

Functions

CHR Converts a number to ASCII  
 OVRLY Overlays text on top of text  
 FMTNM Formats a number to a text  
 FMTST Formats a text to a text using a mask  
 FMTDT Formats a date to a text  
 LOWER Converts a text to lower case  
 REMOV Remove a text string from a text string  
 WKDAY Day of week  
 TABLE Perform table substitution  
 MEMBR Returns member from table  
 ARRYT Uses field from an array  
 SUBSA Substitutes text for text globally  
 SUBS1 Substitutes text for text  
 RFA Return RMS RFA pointer  
 CAP Capitalize words  
 CLEAN Remove non-printable characters  
 USERT User-defined function

In addition to type-specific operations and functions, there are comparison and logical operations that are, for the most part, not type-specific.

For calculations using Comparison or Logical operations:

Operations (Comparison)

EQ or = Equals  
 NE or <> Not Equals  
 GT or > Greater than  
 GE or >= Greater than or Equals  
 LT or < Less than  
 LE or <= Less than or Equals  
 CN Contains \*  
 NC Does not contain \*  
 WE Wild card Equals \*  
 WN Wild card does not equal \*  
 = = Approximately equals \*\* (no space)

Operations (Logical)

AND Both must be true  
 OR Either must be true  
 IMP First true, second false  
 EQV Both must be the same  
 XOR Only one is true

\* Valid for text fields only; numeric and date fields not allowed.

\*\* Valid for numeric fields only, text and date fields not allowed.

## Calculation Details

### Order of Precedence

The order of precedence is the order in which operations and functions are performed. Use parentheses to override or change the order of precedence.

The following is the order of precedence beginning with operations performed first and ending with operations performed last. For operations with the same precedence, computations are performed left to right.

<b>Order of Precedence</b>		
<b>Condition Operations ('IF' Clauses)</b>		
Example:	NEW_AMOUNT = DOLLARS + 100 IF DOLLARS GT 1000	
<b>Parenthetical Expressions</b>		
When parentheses are nested, the expression in the innermost parenthesis is computed first. The expression in the next level of nested parenthesis is computed second, and so on.		
Example:	2 * (3 + (2 * (4 - 5)))	yields 2
<b>Functions</b>		
Example:	2 * (1 + ROU(2.569,0))	yields 6
<b>Exponentiation</b>		
Example:	(2^3 * 4) + 2	yields 34
<b>Multiplication and Division</b>		
Example:	2 + 3 * 4 / 2	yields 8
	(2 + 3) * 4 + 2	yields 22
<b>Addition and Subtraction</b>		
Example:	3 + 2 - 1 + 4	yields 8
	works like: ((3 + 2) - 1) + 4	
<b>Comparison Operations</b>		
Example:	1 + 7 = 7 + 2	yields 0
	works like: (1 + 7) = (7 + 2)	
<b>Logical Operations (AND before OR)</b>		
Example:	STATE = "OR" OR STATE = "WA"	
	works like: (STATE = "OR") OR (STATE = "WA")	
<b>Bitwise Operations (NOT before AND before OR)</b>		
Example:	2 BOR NOT -1	yields 2
	works like: 2 BOR (NOT -1)	

## 'IF' Clauses or Conditional Operations

A calculation expression can optionally include an 'IF' clause. Use an 'IF' clause to add a condition to the main body of the expression. If the condition is true, then the calculation in the main body of the expression is performed. If the condition is not true, then the calculation is not performed and the calculated value remains unchanged; either null or zero or the value from a previous calculation.

The syntax for an 'IF' clause is: *result = expression IF clause* the main body of the expression must use the same type fields, literals, operations, and functions. The 'IF' clause can contain different types from the main body expression and within itself.

### 'IF' Clause Examples

```
TAX = A:QUANTITY_ORDERED * B:PRICE * 0.065 IF A:STATE = "WA"
```

If the state is WA, then the calculation is performed. If the state is anything else, the calculation is not performed and tax remains 0 for that detail.

```
INTEREST = B:AMOUNT_OWED * 0.15 IF B:DATE_DUE < TODAY
```

If the payment is overdue, charge 15 percent interest on the amount owed.  
If the payment is not overdue, do not charge interest.

```
COMMISSION = A:AMOUNT_SOLD * 0.25 IF B:SALESMAN = "PS" AND A:AMOUNT_SOLD > 2500.
```

If the salesman is PS and the amount sold is over 2500 dollars, then commission rate is 25%

## Date Operations

Addition is used to determine a date, future or past. Addition is useful when you want to know the answer to a "when" or "what date" question. For example, what will the date be 30 days after the invoice date.

Subtraction is useful to determine the time span between two dates. This subtraction always yields a number of days. This is particularly useful when developing aging or similar reports.

## Comparison Operations

If a calculation expression consists only of a comparison operation, the result of the calculation is 1 if the comparison is true and 0 if the comparison is false. In the examples below, an 'item' can be a field, a literal, or an expression itself.

<b>Operator</b>	<b>Syntax</b> and Example	<b>Description</b> and Example Result
<b>EQ</b> or <b>=</b>	<i>item1 = item2</i> STATUS EQ "AC"	True if items are equal.
<b>NE</b> or <b>&lt;&gt;</b>	<i>item1 &lt;&gt; item2</i> STATE NE "CA"	True if items are not equal.
<b>GT</b> or <b>&gt;</b>	<i>item1 &gt; item2</i> TERRITORY GT 5	True if item on the left is larger than item on the right.
<b>GE</b> or <b>&gt;=</b>	<i>item1 &gt;= item2</i> AMOUNT GE 100.00	True if item on the left is larger than or equal to item on the right.
<b>LT</b> or <b>&lt;</b>	<i>item1 &lt; item2</i> AMOUNT LT 1000.00	True if item on the left is less than the item on the right.
<b>LE</b> or <b>&lt;=</b>	<i>item1 &lt;= item2</i> COMMISSION LE 25	True if item on the left is less than or equal to item on the right.

<b>CN *</b>	<i>item</i> CN "char_string" COMMENTS CN "CUSTOMER"	True if item on the left contains the character string on the right. Leading zeros must be included with ZT-type fields.
<b>NC *</b>	<i>item</i> NC "char_string" DESCRIPTION NC "EXPIRED"	True if item on the left does not contain the character string on the right. Leading zeros must be included with ZT-type fields.
<b>WE ***</b>	<i>item</i> WE "char_string"  CUST_NUMBER WE "???12???"	True if item on the left equals the item on the right. Number of characters in both items may be different. Use a question mark character, ?, to designate a wildcard character.
<b>WN ***</b>	<i>item</i> WN "char_string"  CUST_NUMBER WN "???12???"	True if item on the left does not equal the item on the right. Number of characters in both items may be different. Use a question mark character, ?, to designate a wildcard character.
<b>== **</b>	<i>item 1 == item 2</i>	True if item on the left is approximately equal to the item on the right. The items must be exactly equal to 6 decimal places.

- \* Valid for text fields only; numeric and date fields not allowed.  
 \*\* Valid for numeric fields only; text and date fields not allowed.  
 \*\*\* Valid for text fields only; see ENHANCED-WILDCARD parameter.

## Logical Operators

Logical operations allow you to combine other statements into compound comparisons. Use of the logical operators connect individual expressions.

<b>Operator</b>	<b>Syntax</b> and Example	<b>Description</b> and Example Result
<b>AND</b>	<i>expression1 AND expression2</i>	True if <i>expression1</i> and <i>expression2</i> are true.
<b>OR</b>	<i>expression1 OR expression2</i>	True if <i>expression1</i> and/or <i>expression2</i> is true.
<b>IMP</b>	<i>expression1 IMP expression2</i>	True if <i>expression1</i> is true and <i>expression2</i> is false.
<b>EQV</b>	<i>expression1 EQV expression2</i>	True if <i>expression1</i> is the same as <i>expression2</i> .
<b>XOR</b>	<i>expression1 XOR expression2</i>	True if either <i>expression1</i> or <i>expression2</i> is true but <b>not both</b> .

## Complex Calculations

Complex calculations are calculations that use a series of single-line calculations with conditional or 'IF' clauses to vary the value of a calculated field. When processing a complex calculation, XENTIS first checks the 'IF' clause to see if the condition is true. If true, the calculation is performed. If false, the calculation is not performed and RESULT remains null or zero unless the /NORESET options is used.

When a subsequent calculation expression uses the same RESULT, the value of the RESULT is set to the value computed in the expression above. Thus, RESULT may start as either zero or a computed value. XENTIS checks the 'IF' clause to determine whether or not the condition is true. If true, the calculation is performed. If false, the calculation is not performed and the RESULT remains either zero or the computed value from the expression above.

Calculations are performed for each detail created. After the detail is processed, calculation buffers are re-initialized to null or zero unless the /NORESET options is specified.

### Complex Calculation Example:

Calculate a commission for each salesman when the commission rate is different for each salesman.

```
Expression 1:      AMOUNT = A:PRICE * A:QUANTITY_ORDERED
Expression 2:      COMMISSION = AMOUNT * .15 IF A:SALESMAN = "RP"
Expression 3:      COMMISSION = AMOUNT * .12 IF A:SALESMAN = "JH"
Expression 4:      COMMISSION = AMOUNT * .20 IF A:SALESMAN = "DH"
Expression 5:      COMMISSION = AMOUNT * .14 IF A:SALESMAN = "TR"
```

The report created using these complex calculation expressions might look like:

<u>PRICE</u>	<u>QUANTITY</u>	<u>AMOUNT</u>	<u>SALESMAN</u>	<u>COMMISSION</u>
15.00	6	90.00	DH	18.00
10.00	5	50.00	RP	7.50
25.00	4	100.00	TR	14.00
9.00	10	90.00	PS	0.00
100.00	5	500.00	JH	60.00

## Operations Resulting in Numeric Fields

<b>Operation</b>	<b>Syntax</b> and Example	<b>Description</b> and Example Result
Addition  +	<i>number + number</i>  ABC = B:ORDER_QTY + 5.	Adds two numeric fields.  30
Subtraction  -	<i>number - number</i>  ABC = B:ORDER_QTY - 3	Subtracts the second numeric field from the first numeric field. 23
Multiplication  *	<i>number * number</i>  ABC = B:ORDER_QTY * UNIT_PRICE	Multiplies two numeric fields.  125
Division  /	<i>number / number</i>  ABC = B:ORDER_QTY / 2.0	Divides the first numeric field by the second numeric field. Result will be zero if the second field is zero. 12.5
Exponentiation  ^	<i>number ^ number</i>  ABC = 2.0 ^ 3.0	Raises the first numeric field to the power indicated in the second numeric field. Result will be zero if the second field is less than zero. 8.0

Date Subtraction	<i>date</i> <b>D-</b> <i>date</i>	Compares two dates resulting in the number of days between the two dates. 1
<b>D-</b>	ABC = DATE_SHIPPED D- DATE_ORDERED	
Bitwise AND	<i>number</i> <b>BAN</b> <i>number</i>	The result is the bitwise AND of two numeric fields. Both numeric fields are converted to a 32 bit integers before the operation is performed. 8
<b>BAN</b>	ABC = 255 BAN 8	
Bitwise OR	<i>number</i> <b>BOR</b> <i>number</i>	The result is the bitwise OR of two numeric fields. Both numeric fields are converted to a 32 bit integers before the operation is performed. 15
<b>BOR</b>	ABC = 7 BOR 10	
Bitwise NOT	<b>NOT</b> <i>number</i>	The result is the bitwise NOT of one numeric field. The numeric field is converted to a 32 bit integer before the operation is performed. -2
<b>NOT</b>	ABC = NOT 1	

## Operations Resulting in Date Fields

<b>Operation</b>	<b>Syntax</b> and Example	<b>Description</b> and Example Result
Date Addition	<i>date</i> <b>D+</b> <i>number</i>	Add a number of days to a date field resulting in another date field. <i>number</i> can be positive or negative.
<b>D+</b>	ABC = DATE_SHIPPED D+ 30	03-DEC-1996

## Operations Resulting in Text Fields

<b>Operation</b>	<b>Syntax</b> and Example	<b>Description</b> and Example Result
String Concatenation	<i>text</i> + <i>text</i>	Concatenates the second text field to the end of first text field yielding a new text field.
<b>+</b>	ABC;12 = STATE + ZIP ABC;13 = STATE + " " + ZIP	"MS39440       " "MS 39440       "

## Functions Resulting in Numeric Fields

<b>Operation</b>	<b>Syntax</b> and Example	<b>Description</b> and Example Result
Absolute value	<b>ABS</b> ( <i>number</i> , <i>number</i> )	Returns the absolute value of the first numeric field, rounded according the to value of the second numeric field. See ROU function below.
<b>ABS</b>	ABC = ABS(66.4,1.) ABC = ABS(-5.33,2.) ABC = ABS(-254.65,0.)	66.4 5.33 255

ASCII Value  <b>ASC</b>	<b>ASC</b> ( <i>text</i> )  ABC = ASC ( "ABC" ) ABC = ASC ( CUST_NAME )	Returns the ASCII value of the first character of the text field. This is the inverse of the CHR function. 65 70
Array Extract Numeric  <b>ARRAYN</b>	<b>ARRAYN</b> ( <i>number,number,number</i> )  BAL = ARRAYN ( C:GL_BALANCE , YEAR , MONTH )	Extracts an element from a numeric array. The first numeric field is the array to use. The second and third numeric field are the subscripts, which may be fields, calculations, or literals. This function is the only way to use an array element whose subscripts are calculated. For single dimension array, specify a value of one for the third numeric field. 654.66
Arc Tangent  <b>ATN</b>	<b>ATN</b> ( <i>number</i> )  ABC = ATN ( 0.5 )	Returns the Arc Tangent of the numeric field. 0.463648
Days since base date  <b>BLDDA</b>	<b>BLDDA</b> ( <i>number,number,number</i> )  ELAPSED_DAYS = BLDDA ( 1858 , 11 , 20 ) ELAPSED_DAYS = BLDDA ( YEAR , MONTH , DAY )	Returns the number of days since 17-NOV-1858. The first argument is a four digit year, the second is a month, and the third is a day. 3 2000
Seconds since midnight  <b>BLDTI</b>	<b>BLDTI</b> ( <i>number,number,number</i> )  ELAPSED_SECONDS = BLDTI ( 1 , 0 , 0 ) ELAPSED_SECONDS = BLDTI ( HOUR , MIN , SEC )	Returns number of seconds since midnight. The first argument is hours, the second is minutes, and the third is seconds. 3600 14000
Cosine  <b>COS</b>	<b>COS</b> ( <i>number</i> )  ABC = COS ( 0.5 )	Returns the Cosine of the numeric field. 0.877583
Convert Text to Numeric  <b>CVTN</b>	<b>CVTN</b> ( <i>text, text</i> )  CODE = CVTN ( B:FILLER , "WU" )	Converts a field that is defined in the data dictionary as a text class field to a numeric field, without altering the bit pattern of the bytes. The second argument is a text field that contains the data type abbreviation listed in the appendix, which must be for a numeric data type. 365
Day of Month  <b>DAY</b>	<b>DAY</b> ( <i>date-time</i> )  ABC = DAY ( DATE_DUE ) ABC = DAY ( 31-DEC-1996 )	Returns the day of the month of the date field. 15 31
Date Convert  <b>DACVT</b>	<b>DACVT</b> ( <i>text</i> )  ABC = DACVT ( "15-FEB-1996" )	Returns the days since 17-Nov-1858 of a text field containing an ASCII date-time value. The text field contains a date as the user would enter it from a keyboard, usually in the format DD-MON-YYYY. 49033



Date Extract	<b>DAEXT</b> ( <i>date-time</i> )	Returns the days since 17-Nov-1858 of a date-time field. 48941 49033
<b>DAEXT</b>	ABC = DAEXT( DATE_DUE ) ABC = DAEXT( 15-FEB-1996 )	
Day of Week	<b>DYOWK</b> ( <i>date-time</i> )	Returns the day of the week of a date-time field. Result is 1-7 where Monday is 1 and Sunday is 7. 1 3
<b>DYOWK</b>	ABC = DYOWK( 08-FEB-1996 ) ABC = DYOWK( 10-FEB-1996 )	
Elapsed Time	<b>ELAPS</b> ( <i>date-time,date-time,number</i> )	Computes the elapsed time between two date-time fields by subtracting the second date-time field from the first date-time field. The unit of measure of the result is controlled by the numeric field according to the following table: 1 seconds 2 minutes 3 hours 4 days 6 years 22.25
<b>ELAPS</b>	HRS = ELAPS( ORDER_TIME, SHIP_TIME, 3 )	
Element number	<b>ELEM</b> ( <i>text,text-list</i> )	Searches a delimited list for a string and returns the element number. The list must begin and end with the delimiting character. The first argument is the string to search for. The second argument is the delimited list. 3 2
<b>ELEM</b>	ABC = ELEM( "C" , " , AB, CC, C, ZERO, " ) ABC = ELEM( B:DEPT, " , ADMIN, MKTG, DEV, " )	
Force End-Of-Group on next read	<b>EOG</b> ( <i>Text or Numeric</i> )	Alters the internal processing by forcing an end-of-group error on the next sequential read on the file containing the field used as the argument. This function is designed to be used in conditional calculation expressions. <i>An end-of-group error will occur on file D for the next sequential read of that file.</i>
<b>EOG</b>	JUNK = EOG( #D1 )	
Erase Record	<b>ERASE</b> ( <i>text or number</i> )	Erases the record designated by the text or numeric argument. All numeric fields are set to zero, dates set to null, and text fields set to spaces. The record in the data file is not affected, only the data in the report. This function is normally used in conjunction with an <b>IF</b> clause to selectively erase data. This function always returns a numeric value of one. 1
<b>ERASE</b>	DUMMY = ERASE( B:ORDNUM )	

Even	<b>EVEN</b> (Numeric)	If the argument passed is positive, the next highest even number is returned. If the argument passed is negative, the next lowest even number is returned.
<b>EVEN</b>	JUNK = EVEN(CASES_PER_PALLET)	22
Truncate	<b>FIX</b> (number)	Returns the nearest whole number that is closer to zero of a numeric field.
<b>FIX</b>	ABC = FIX(99.99) ABC = FIX(-33.77) ABC = FIX(-11.11)	99 -33 -11
Future Value	<b>FV</b> (number,number,number,)	Returns the compounded future value of a current value, given an interest rate and number of compounding periods. The first argument is the current value. The second argument is the interest rate per period expressed as a fractional value, The third argument is the number of compounding periods.
<b>FV</b>	VALUE = FV(100, .06 / 12, 24)	112.72
Future Value of a Stream of Payments (Interest at beginning of period)	<b>FVSB</b> (number,number,number,)	Returns the compounded future value of a stream of payments, given an interest rate and number of compounding periods. The interest is compounded at the beginning of each period. The first argument is the current value. The second argument is the interest rate per period expressed as a fractional value, The third argument is the number of compounding periods.
<b>FVSB</b>	VALUE = FVSB(100, .06 / 12, 24)	2555.91
Future Value of a Stream of Payments (Interest at end of period)	<b>FVSE</b> (number,number,number,)	Returns the compounded future value of a stream of payments, given an interest rate and number of compounding periods. The interest is compounded at the end of each period. The first argument is the current value. The second argument is the interest rate per period expressed as a fractional value, The third argument is the number of compounding periods.
<b>FVSE</b>	VALUE = FVSE(100, .06 / 12, 24)	2543.20
Hour	<b>HOUR</b> (date-time)	Returns the hour of a date-time field.
<b>HOUR</b>	NEW_HOUR = HOUR(C:DATE_ADDED)	14 where C:DATE_ADDED is 17-MAR-1996 14:22:37
Increment	<b>INCR</b> (Numeric, Numeric, Text or Numeric)	The first time the function is executed, the result will be the first numeric argument. Each subsequent execution will add the second numeric argument to the result. The frequency of execution is controlled by the third argument.
<b>INCR</b>	SEQUENCE = INCR(100., 10., #D1)	110.

Integer	<b>INT</b> ( <i>number</i> )	Returns the nearest whole number that has a lower value of a numeric field.
<b>INT</b>	ABC = INT(99.99) ABC = INT(-33.77) ABC = INT(-11.11)	99 -34 -12
Extract Julian day from date-time	<b>JLEXT</b> ( <i>Date-time</i> )	Extracts the day of the year, 1 to 366, from a date-time field.
<b>JLEXT</b>	DAY = JLEXT(A:ORDER_DATE)	253
Length of field	<b>LEN</b> ( <i>text</i> )	Returns the length of a text field.
<b>LEN</b>	LENGTH = LEN("HARVEY") LENGTH = LEN(A:LAST_NAME) LENGTH = LEN(EDIT(A:LAST_NAME,128))	6 15 8
Natural Logarithm	<b>LOG</b> ( <i>number</i> )	Returns the natural logarithm (base e) of a numeric field.
<b>LOG</b>	ABC = LOG(100)	4.60517
Common Logarithm	<b>LOG10</b> ( <i>number</i> )	Returns the common logarithm (base 10) of a numeric field.
<b>LOG10</b>	ABC = LOG10(100)	2
Minutes	<b>MIN</b> ( <i>date-time</i> )	Returns the minute of a date-time field.
<b>MIN</b>	NEW_MIN = MIN(C:DATE_CHANGED)	22 where C:DATE_ADDED is 17-MAR-1996 14:22:37
Remainder	<b>MOD</b> ( <i>number,number</i> )	Performs the modulo, or remainder function. The first argument is the divisor and the second argument is the dividend.
<b>MOD</b>	EXCESS = MOD(A:HOURS,160) EXCESS = MOD(3,4) EXCESS = MOD(4,3)	4 3 1
Month of Year	<b>MON</b> ( <i>date-time</i> )	Returns the month of the year of a date-time field.
<b>MON</b>	ABC = MON(DATE_SHIPPED) ABC = MON(15-FEB-1996)	11 2
Next Record (Numeric)	<b>NEXTN</b> ( <i>number</i> )	Returns from the next record in the file, the value of the specified field. A numeric argument is required and a numeric is returned.
<b>NEXTN</b>	NEXT_AMOUNT = NEXTN(B:AMOUNT)	343
Odd	<b>ODD</b> ( <i>Number</i> )	If the argument passed is positive, the next highest odd number is returned. If the argument passed is negative, the next lowest odd number is returned.
<b>ODD</b>	JUNK = ODD(CASES_PER_PALLET)	21
Position of Text	<b>POS</b> ( <i>text,text,number</i> )	Returns the position of the second text field within the first text field starting at the character position indicated by the numeric field. The first character is in position one. Zero is returned if it is not found.
<b>POS</b>	ABC = POS(CUST_NAME,"Comp",1.) ABC = POS("ABCDEF","DE",1.) ABC = POS("ABCDEF","C",4.) ABC = POS("ABCDEF","XYZ",1.)	9 4 0 0

Previous selected record Previous read record  <b>PREVN</b> <b>PRERN</b>	<b>PREVN</b> (number) <b>PRERN</b> (number)  PREV_CUSTNUM = PREVN(B:CUSTNUM) PREV_CUSTNUM = PRERN(B:CUSTNUM)	Uses the value of the numeric field from the previous selected record, PREVN, or previous read record, PRERN, rather than the current record.  48872 48870
Present Value      <b>PV</b>	<b>PV</b> (number,number,number,)      VALUE = PV(100, .06 / 12, 24)	Returns the compounded present value of a future value, given an interest rate and number of compounding periods. The first argument is the future value. The second argument is the interest rate per period expressed as a fractional value, The third argument is the number of compounding periods. 88.72
Present Value of a Stream of Payments (Interest at beginning of period)      <b>PVSB</b>	<b>PVSB</b> (number,number,number,)      VALUE = PVSB(100, .06 / 12, 24)	Returns the compounded present value of a stream of payments, given an interest rate and number of compounding periods. The interest is compounded at the beginning of each period. The first argument is the current value. The second argument is the interest rate per period expressed as a fractional value, The third argument is the number of compounding periods. 2267.57
Present Value of a Stream of Payments (Interest at end of period)      <b>PVSE</b>	<b>PVSE</b> (number,number,number,)      VALUE = PVSE(100, .06 / 12, 24)	Returns the compounded present value of a stream of payments, given an interest rate and number of compounding periods. The interest is compounded at the end of each period. The first argument is the current value. The second argument is the interest rate per period expressed as a fractional value, The third argument is the number of compounding periods. 2256.29
Random number      <b>RAND</b>	<b>RAND</b> (number)      RANDOM = RAND(1) RANDOM = RAND(X)	Produces a random number evenly distributed between 0.0 and 1.0. If the argument is zero , then the same series of random numbers will always be generated. If it is non-zero, a unique series of random numbers will be generated each time the report is run. .578142 .914567
Round      <b>ROU</b>	<b>ROU</b> (number,number)      ABC = ROU(-234.567,2.) ABC = ROU(-234.567,-2.) ABC = ROU(234.567,2.) ABC = ROU(234.567,-2.)	Returns the rounded value of the first numeric field, rounded according to the number of places past the radix point specified by the second numeric field. -234.57 -200 234.57 200

Second  <b>SEC</b>	<b>SEC</b> ( <i>date-time</i> )  NEW_SECOND = SEC(C:DATE_ADDED)	Returns the second of a date-time field. 37 where C:DATE_ADDED is 17-MAR-1996 14:22:37
Sine  <b>SIN</b>	<b>SIN</b> ( <i>number</i> )  ABC = SIN(0.5)	Returns the Sine of the numeric field. 0.479426
Square Root  <b>SQR</b>	<b>SQR</b> ( <i>number</i> )  ABC = SQR(ORDER_QTY) ABC = SQR(81.)	Returns the square root of the numeric field. 5 9
Time Convert  <b>TICVT</b>	<b>TICVT</b> ( <i>text</i> )  ABC = TICVT("15-FEB-1996 02:04:06")	Returns the seconds since midnight of the text field containing an ASCII date-time field. 7446
Time Extract  <b>TIEXT</b>	<b>TIEXT</b> ( <i>date-time</i> )  ABC = TIEXT(DATE_SHIPPED)	Returns the seconds since midnight of the date-time field. 28800
User Numeric  <b>USERN</b>	<b>USERN</b> ( <i>text-literal,number</i> )  ABC = USERN("EVENODD",5.) ABC = USERN("MYNUMFUNC",ORDER_QTY)	Returns a numeric value from a user-written function whose name is determined by the text literal. 1 44
Value of text  <b>VAL</b>	<b>VAL</b> ( <i>text,number</i> )  ABC = VAL("-234.56",2.) ABC = VAL("XYZ",0.)	Returns the numeric value of the text field rounded according the numeric field. This is the inverse of the STR function. -234.56 0
Wildcard Matching  <b>WILD</b>	<b>WILD</b> ( <i>text,text</i> )  MATCH = WILD(A:PROD_CODE,"%%XA*HN")	Performs an OpenVMS wildcard match. This routine calls the VMS STR\$MATCH_WILD routine. The first argument is a data text field, and the second argument is a wildcard text field. It returns a numeric value of one if there is a match, or a zero if there is no match. See VMS documentation on STR\$MATCH_WILD for more information. 1
Year  <b>YEAR</b>	<b>YEAR</b> ( <i>date-time</i> )  ABC = YEAR(DATE_SHIPPED) ABC = YEAR(11-JUL-1955)	Returns the four digit year of the date field. 1996 1955
Year of Century  <b>YR</b>	<b>YR</b> ( <i>date-time</i> )  ABC = YR(DATE_SHIPPED) ABC = YR(11-JUL-1955)	Returns the year of the century of the date field. 96 55

## Functions Resulting in Date-Time Fields

<b>Operation</b>	<b>Syntax</b> and Example	<b>Description</b> and Example Result
Array Extract Date  <b>ARRAYD</b>	<b>ARRAYD</b> (date-time,number,number)  RETIRE = ARRAYD (B:DEDUCT_START,SUBS1,1)	Extracts an element from a date-time array. The date-time field is the array to use. The first and second numeric fields are the subscripts, which may be fields, calculations, or literals. This function is the only way to use an array element whose subscripts are calculated. For single dimension array, specify a value of one for the last numeric field. 15-MAY-1996
Current Date and Time  <b>CURDT</b>	<b>CURDT</b> (Numeric or Text)  CURRENT_DATE_TIME = CURDT(C:CUSTOMER)	Retrieves the current date and time from the computer system at the time the function is being executed. The argument, a text or numeric field, controls the frequency of execution. 14-JAN-1996 12:37:22
Convert Text to Date  <b>CVTD</b>	<b>CVTD</b> (text, text)  ORDER_DATE = CVTD(A:ORDERNUM,"YMD")	Converts a field that is defined in the data dictionary as a text class field to a date field, without altering the bit pattern of the bytes. The second argument is a text field that contains the data type abbreviation listed in the appendix, which must be for a date data type. 15-OCT-1995
Date Build  <b>DABLD</b>	<b>DABLD</b> (number,number)  ABC = DABLD(49033,7446) ABC = DABLD(DACVT("15-FEB-1996", TICVT("02:04:06")))	Returns a date-time value where the first numeric field contains the number of days since 17-Nov-1858 and the second numeric field contains the number of seconds since midnight. 15-FEB-1996 02:04:06 15-FEB-1996 02:04:06
Text to date  <b>DATE</b>	<b>DATE</b> (text)  NEWDATE = DATE("08-JAN-1996 10:12:14")	Converts a text field that is acceptable to XENTIS as a date-time literal into a date-time field. 8-JAN-1996 10:12:14
Date Conversion 1  <b>D1</b>	<b>D1</b> (text or number)  ABC = D1("021596")	Returns a date-time value of a text field in the format of MMDDYY or a numeric field in the same format 15-FEB-1996
Date Conversion 2  <b>D2</b>	<b>D2</b> (text or number)  ABC = D2("02151996")	Returns a date-time value of a text field in the format of MMDDYYYY or a numeric field in the same format 15-FEB-1996

Date Conversion 3  <b>D3</b>	<b>D3</b> (text or number)  ABC = D3("150296")	Returns a date-time value of a text field in the format of DDMMYY or a numeric field in the same format 15-FEB-1996
Date Conversion 4  <b>D4</b>	<b>D4</b> (text or number)  ABC = D4("15021996")	Returns a date-time value of a text field in the format of DDMMYYYY or a numeric field in the same format 15-FEB-1996
Date Conversion 5  <b>D5</b>	<b>D5</b> (text or number)  ABC = D5("960215")	Returns a date-time value of a text field in the format of YYMMDD or a numeric field in the same format 15-FEB-1996
Date Conversion 6  <b>D6</b>	<b>D6</b> (text or number)  ABC = D6("19960215")	Returns a date-time value of a text field in the format of YYYYMMDD or a numeric field in the same format 15-FEB-1996
First day of month  <b>FIRST</b>	<b>FIRST</b> (number,number)  F_DAY = FIRST(B:EXP_MONTH,B:EXP_YEAR) F_DAY = FIRST(11,1996)	Returns the first day of a month. The first argument is a numeric month. The second argument is a four digit numeric year. 1-JAN-1996 1-NOV-1996
Build date-time using Julian day  <b>JLBLD</b>	<b>JLBLD</b> (Numeric , Numeric, Numeric)  NEW_DATE = JLBLD(YEAR,DAY,SECONDS)	Builds a date-time field using three arguments. The first argument is a 4 digit year, the second is the day of the year, and the third is the number of seconds since midnight. 14-JAN-1996 12:37:22
Last day of month  <b>LAST</b>	<b>LAST</b> (number,number)  L_DAY = LAST(B:EXP_MONTH,B:EXP_YEAR) L_DAY = LAST(11,1996)	Returns the last day of a month. The first argument is a numeric month. The second argument is a four digit numeric year. 31-JAN-1996 30-NOV-1996
Month Addition  <b>MADD</b>	<b>MADD</b> (date-time,number)  EXPIRES = MADD(15-JAN-1996,18) BACKDATE = MADD(START_DATE, -1)	Adds the number of months specified in the numeric field to the date-time field. If the numeric field is negative, then a subtraction is performed. 15-JUL-1997 01-DEC-1996
Next Record (Date-Time)  <b>NEXTD</b>	<b>NEXTD</b> (date-time)  NEXT_EXPIRE = NEXTD(B:EXPIRE_DATE)	Returns from the next record in the file, the value of the specified field. A date-time argument is required and a date-time is returned. 13-NOV-1997
Remove time  <b>NOTIM</b>	<b>NOTIM</b> (date-time)  ADD_DATE = NOTIM(C:DATE_ADDED)	Removes time from a date-time field. 23-MAR-1996
Previous selected record Previous read record  <b>PREVD</b> <b>PRERD</b>	<b>PREVD</b> (date-time) <b>PRERD</b> (date-time)  PREV_ORDDATE = PREVD(B:ORDER_DATE) PREV_ORDDATE = PRERD(B:ORDER_DATE)	Uses the value of the date-time field from the previous selected record, PREVD, or previous read record, PRERD, rather than the current record. 12-DEC-1996 05-NOV-1996

User Date	<b>USERD</b> ( <i>text-literal,date-time</i> )	Returns a date-time value from a user-written function whose name is determined by the text literal.
<b>USERD</b>	ABC = USERD("NEXTMON",26-JAN-1996) ABC = USERD("NEXTMON",DATE_SHIPPED)	26-FEB-1996 03-DEC-1996 08:00:00

## Functions Resulting in Text Fields

Operation	Syntax and Example	Description and Example Result
Array Extract Text	<b>ARRYT</b> ( <i>date-time,number,number</i> )	Extracts an element from a text array. The text field is the array to use. The first and second numeric fields are the subscripts, which may be fields, calculations, or literals. This function is the only way to use an array element whose subscripts are calculated. For single dimension array, specify a value of one for the last numeric field.
<b>ARRYT</b>	LIFE_INS;2 = ARRYT(B:DED_CODE,SUBS1,1)	"02"
ASCII to EBCDIC	<b>ATOE</b> ( <i>text</i> )	Converts ASCII characters to EBCDIC characters.
<b>ATOE</b>	EBCDIC;8 = ATOE(A:DEC_ACCOUNT_NUMBER)	
Capitalize	<b>CAP</b> ( <i>text,text</i> )	Capitalizes each word in a text string. The first character of each word will be set to upper case, while all other characters of the word will be set to lower case. The first argument is the text field to capitalize. The second argument contains a list of word delimiters. Each character in the second argument is considered a word delimiter.
<b>CAP</b>	FULL_NAME;30 = CAP(NAME," ,./?-&%\$")	"Maxwell James Headroom"
Character	<b>CHR</b> ( <i>number</i> )	Returns a single character show ASCII value is the value of the numeric field, the inverse of the ASC function.
<b>CHR</b>	ABC;1 = CHR(65) ABC;1 = CHR(45)	"A" "- "
Clean text field of unprintable characters	<b>CLEAN</b> ( <i>text</i> )	Removes unprintable characters from a text field. The characters removed have ASCII decimal values of 0 through 31, 127 through 160, and 255.
<b>CLEAN</b>	NEW_DESCR;30 = CLEAN(B:DESCRIPTION)	".5kg steel rollers"



Convert Text to Text	<b>CVTT</b> (text, text)	Converts a field that is defined in the data dictionary as a text class field to a text field, without altering the bit pattern of the bytes. The second argument is a text field that contains the data type abbreviation listed in the appendix, which must be for a text data type.
<b>CVTT</b>	ORDER_DATE = CVTT(A:FILLER, "YMD")	"MASTER"
Edit Text	<b>EDIT</b> (text,number)	Returns a text field that has been converted according the following table:  1 Discard bit 7 of each char. 2 Discard all spaces/tabs. 4 Discard CR, LF, FF, DEL, ESC, and NUL characters. 8 Discard leading spaces/tabs. 16 Compress multiple space/tabs to one space 32 Convert lower case to upper. 64 Convert [ ] to ( ). 128 Discard trailing spaces/tabs. 256 Suppress edit for data within quotes (") or apostrophes (').
<b>EDIT</b>	ABC;35 = EDIT(FIRST_NAME,128) + " " + LAST_NAME ABC;10 = EDIT(" abc DE ",2) ABC;10 = EDIT(" abc DE ",8) ABC;10 = EDIT(" abc DE ",16) ABC;10 = EDIT(" abc DE ",128) ABC;13 = EDIT(" abc DE ",32) ABC;10 = EDIT(" abc DE ",32+128+8)	"Homer Simpson "abcDE " "abc DE " " abc DE " " abc DE " " abc DE " " ABC DE " "ABC DE "
Elapsed Time	<b>ELAPT</b> (date-time,date-time)	Computes the elapsed time between the two date-time fields and returns a printable text field of the form DDDD HH:MM:SS where DDDD is days, HH is hours, MM is minutes, and SS is seconds. The difference between the two date fields cannot exceed 9999 days.
<b>ELAPT</b>	TTS;13 = ELAPT(ORDER_DATE,SHIP_DATE)	"0010 04:15:22"
EBCDIC to ASCII	<b>ETOA</b> (text)	Converts EBCDIC characters to ASCII characters.
<b>ETOA</b>	ASCII;8 = ETOA(A:IBM_ACCOUNT_NUMBER)	
Format Date	<b>FMTDT</b> (date-time,mask)	Returns the date-time field formatted according to the text print mask.
<b>FMTDT</b>	ABC;11 = FMTDT(TODAY,"#####") ABC;17 = FMTDT( DATE_SHIPPED,PRMASK) AB;16 = FMTDT(TODAY,"Date=#####")	"12-JAN-1996" "03-NOV-1996 08:00" "Date=12-JAN-1996"

Format Date 2	<b>FMTD2</b> ( <i>date-time,date-make,time-mask</i> )	Returns the date-time field formatted according to the rules specified by the LIB\$FORMAT_DATE system library routine. Use per cent (%) rather than exclamation (!) in the format mask. "12.01.2000:08:14"
<b>FMTD2</b>	ABC;16 = FMTDT(CDATE,"%D0.%MN0.%Y4","%H02:%MN")	
Format Number	<b>FMTNM</b> ( <i>number,mask</i> )	Returns the numeric field formatted according to the text print mask. "234.57CR" "\$235" "234.12" "Value: 66.440"
<b>FMTNM</b>	ABC;8 = FMTNM(-234.567,"###.##CR") ABC;9 = FMTNM(234.567,"\$\$###,###-") ABC;9 = FMTNM(234.123,"#####.##") ABC;16 = FMTNM(66.44,"Value:###.###")	
Format Text	<b>FMTST</b> ( <i>text,mask</i> )	Returns the first text field formatted according to the second text print mask. "(206) 343-0447" "236-45-8978"
<b>FMTST</b>	ABC;14 = FMTST(PHONE,"(###) ###-####") ABC;11 = FMTST(SSNUM,"###-##-####")	
Convert Text to Hexadecimal	<b>HEXT</b> ( <i>text</i> )	Converts a field that is defined in the data dictionary as a text class field to a text field that contains the hexadecimal representation of the text argument. The resultant field will be twice as long as the argument. "414243"
<b>HEXT</b>	STATUS_HEX;6 = HEXT(A:STATUS)	
Convert Numeric to Hexadecimal	<b>HEXN</b> ( <i>Numeric</i> )	Converts a field that is defined in the data dictionary as a numeric class field to a text field that contains the hexadecimal representation of the numeric argument, after the argument is converted to a long integer. The resultant field will be eight characters long. "00002A3D"
<b>HEXN</b>	ORDNUM_HEX;8 = HEXN(A:ORDERNUM)	
Lower Case	<b>LOWER</b> ( <i>text</i> )	Returns the text field with alphabetic characters converted to lower case. "friendly computers"
<b>LOWER</b>	ABC;18 = LOWER("FRIENDLY COMPUTERS")	
Retrieve from list	<b>MEMBR</b> ( <i>text-list,number</i> )	Retrieves an element from a delimited text list. The list must begin and end with the delimiting character. The first argument is the delimited text list. The second argument is the element number to retrieve from the list. YY DEV
<b>MEMBR</b>	X;3 = MEMBR(";W;YY;ZZ; ",2) DEPT;5 = MEMBR(" ;ADMIN;MKT;DEV; ",DEPNO)	
Next Record (Text)	<b>NEXTT</b> ( <i>Text</i> )	Returns from the next record in the file, the value of the specified field. A text argument is required and a text is returned. "John Paul Jones"
<b>NEXTT</b>	NEXT_NAME;30 = NEXTT(B:NAME)	

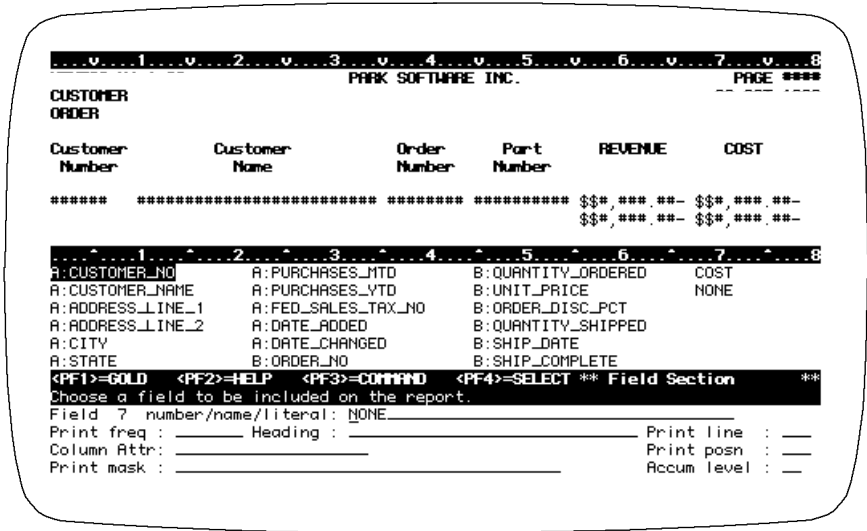
Overlay	<b>OVRLY</b> (text,text,numeric)	Overlays one text field on another text field. The first argument is the text field to be overlaid. The second argument is the text field to be placed on top of the first. The third argument indicates where the overlay will begin. HARVEY PHILADELPHIOVER ABCDEFXXX
Previous selected record Previous read record	<b>PREVT</b> (text) <b>PRERT</b> (text)  <b>PREVT</b> <b>PRERT</b>	Uses the value of the text field from the previous selected record, PREVT, or previous read record, PRERT, rather than the current record. "Acme Electric Company" "Jordan Pumped Balls"
Remove text	<b>REMOV</b> (text,text,number)	Removes from the first text field the second text field. The number field controls how many iterations are performed. "12MAY1996"
Return RFA of current RMS record	<b>RFA</b> (Text or Numeric)	Returns a six byte binary value containing the RFA of the record containing the field used as the argument. The HEXT or CVTN functions should be used in conjunction with the RFA function. The resultant data type is a string. Useful only with RMS files. <i>Does not return printable data</i>
Text Segment	<b>SEG</b> (text,number,number)	Returns a segment of the text field, starting with the position indicated by the first numeric field, and ending with the position indicated by the second numeric field. "DEF " "ABC " " "
Soundex	<b>SOUND</b> (text)	Returns a 4 character text field according to the Soundex algorithm of the text field. "K516"
String	<b>STR</b> (number)	Returns a text field containing ASCII characters whose value is the numeric field. This is the inverse of the VAL function. "454.62 " "-123."
Substitute All	<b>SUBSA</b> (Text, Text, Text)	Searches the first text argument, for all occurrences of the second text argument, and replaces them with the third text argument. "(360) 329-8810"

Substitute One	<b>SUBSA</b> ( <i>Text, Text, Text</i> )	Searches the first text argument, for the first occurrence of the second text argument, and replaces it with the third text argument. "( 360 ) 329-8810"
<b>SUBS1</b>	NEW_PHONE;15 = SUBSA( PHONE, " 206 ", " 360 " )	
Retrieve from list and substitute	<b>TABLE</b> ( <i>text,text-list,text-list</i> )	Searches a delimited text list for a string and returns the corresponding element in the second delimited text list. Both lists must begin and end with the delimiting character. The first argument is the string to search for. The second argument is the list to conduct the search in. The third argument is the substitution list.
<b>TABLE</b>	X:3 = TABLE( "D" , "-A-D-" , "=ADM=DEV=" ) X:5 = TABLE( B:PC , "=S=M=" , "-SALES-MKT-" )	DEV SALES
User Text	<b>USERT</b> ( <i>text-literal,text</i> )	Returns a text value from a user-written function whose name is determined by the text literal.
<b>USERT</b>	ABC;18 = USERT( "CAPITAL" , COMP_NAME ) ABC;15 = USERT( "CAPITAL" , "abc DEF ghi "	"Friendly Computers" "Abc Def Ghi "
Day of week	<b>WKDAY</b> ( <i>date</i> )	Returns an alphabetic day of the week.
<b>WKDAY</b>	DAY;10 = WKDAY( 4-JUL-1996 ) DAY;10 = WKDAY( C:DATE_ADDED )	Sunday Wednesday

# FIELD Section

Guide Menu selection:      **FIELDS**

The FIELD section is where you select the fields to print on your report. The fields you select may be from a database, a literal, or the result of calculations you have defined. Along with your selection of fields, you have the opportunity to define their positions and attributes.



Prompt:      *Field n number/name/literal*

Default:              No default for field 1, then **NONE**.

<b>Allowed Values:</b>	
<i>field name</i>	From a selected file.
<i>calculation result</i>	Defined in the calculations dialogue section.
<i>literal</i>	Using valid literal syntax.
<b>DUMP</b>	To automatically format on multiple lines and display all fields from the selected files. DUMP is only valid as the <i>first</i> field entry.
<b>NONE</b>	When all fields have been entered.

Fields and literals can be referenced as documented in 'Specifying Fields' in the 'Report Introduction' section; field name, field number, literal, partial field, or multiple occurrence subscripted fields are all valid. When you enter a literal as a field to print on the report, the same value prints in the same position for each detail line of the report. Literals are commonly used to print text within the body of the report. In DISPLAY mode, fields appear in the Report window as they are entered. If the report goes beyond 80 characters wide, then the screen is automatically set to 132 character width.

## Prompt: *Print frequency*

Default: Shipped as D, can be changed in the Setup File.

### *Allowed Values:*

<b>D</b>	Print on all detail lines
<b>F</b>	Print the first time a different data value occurs and on the first detail line at the top of each page and after each break.
<b>H</b>	Print the first time a different data value occurs, at the top of each page, and when another field with frequency H on the same print line changes.
<b>U</b>	Print the first time a new record is read from the file that contains the field.
<b>T</b>	Print at all subtotal breaks and grand total.
<b>S</b>	Print at all subtotal breaks but not grand total.
<b>0</b>	Same as T, print at all subtotal breaks and grand total.
<b>1</b>	Same as S, print at all subtotal breaks.
<b>2</b>	Print at the entered break level and all with higher numbers
<b>:</b>	:
<b>9</b>	:
<b>AT x,y,z</b>	Print at selective print frequencies x,y,z. See below.

Print frequency determines how often and where the field prints on your report. Print frequency is directly related to sort and break fields for the report and the accumulate level you choose for the field. To select the appropriate print frequency, coordinate all these factors. See Accumulate Level below and the SORT and BREAK sections for more information.

### *Detail Lines - Print Frequency D*

Fields printing with frequency D print on every detail line of the report. A detail line is made up of one record from each file used to create the report. A record is read in the primary file, then based on the keys used to access the auxiliary files and the fields used to build keys, XENTIS finds 'matching' records in the auxiliary files. Once a 'matching' record is found in each auxiliary file, a detail is created. Each detail becomes one line on the report.

### *First and Headings - Print Frequency F and H*

Fields printing with frequency F and H print when a different data value occurs. A different data value is determined by comparing the value in the previous detail with the value in the current detail. If the values are different, the current value prints on the detail line.

In addition to printing when a different data value occurs, frequency F prints on the first detail line at the top of each page and after every break. Frequency H prints on the first detail line at the top of each page and whenever another field printing on the same print line and with frequency H prints.

### *Unique - Print Frequency U*

Fields printing with frequency U print when a new record is read in the file containing the field. XENTIS determines if a new record is being read by comparing the record pointer of the records used in the previous and current details.

Because XENTIS uses record pointers, U cannot be used with literals and calculated fields as these do not have record pointers associated with them.

## Detail and Subtotal Sections of a Report - T, S, and 0 through 9

A report can contain a detail section, a subtotal section, or both. Subtotals are created by sort and break fields. Fields can print in either section or both.

---

*Refer to SORT and BREAK for more information*

---

For a text- or date-type field or a numeric-type field that is not accumulated, frequencies D, F, H, and U print in the detail section of the report. Frequencies S, T and 0 through 9 print the value in the subtotal and/or grand total section of the report.

For numeric-type fields that are accumulated, what prints and where it prints depends on the chosen accumulate level.

---

*Refer to Accumulate Level for more information.*

---

## Accumulating a Field without Printing

If you wish to accumulate a field to use in a calculation-on-total but do not want the field to print, use print frequency 9. This works if you are using eight break fields or less in your report.

## Selective Print Frequencies

One print frequency (a single entry print frequency) may be entered as a valid response to the **Print frequency** prompt. For T, S, and 0 through 9, single entry print frequencies tell XENTIS to print at that break and all breaks within.

Selective print frequencies are also valid responses. For T, S, and 0 through 9, selective print frequencies tell XENTIS to print only at specific breaks.

- Selective print frequencies work as follows: the print frequency prompt allows more than one character. At **Print frequency**, type **AT** followed by a space, then by the print frequencies you wish to use for the field. The print frequencies you enter are not order-dependent.

For example, **AT D235** prints a value on each detail line and break lines 2, 3, and 5 (but not break lines 0, 1, or 4).

- All single entry print frequencies are valid with selective print frequencies: D, F, H, U, T, S, and 0 through 9.

Print frequencies that affect printing on the details lines are D, F, U, and H. XENTIS allows you to select one of these in a selective print frequency statement. For example, **AT D1** is a valid entry while **AT DF1** is not.

Print frequencies that affect printing on break lines are T, S, and 0 through 9.

0 through 9 print at that selected break line. For example, 0 prints at only the grand total (break line 0), 1 prints at only break field 1, and so on. XENTIS allows you to select any combination of these in a selective print frequency statement.

- The value that is printed on the break line depends on the field type and, for numeric-type fields, the accumulate level you choose. Accumulate levels affect selective print frequencies the same way they affect single entry print frequencies; no total is accumulated for print frequencies less than the accumulate level specified.

For a text- or date-type field or a numeric-type field that is not accumulated, frequencies D, F, H, and U print in the detail section of the report. Frequencies S, T and 0 through 9 print the value in the last detail encountered in the subtotal and/or grand total section of the report.

For numeric-type fields that are accumulated, what prints and where depends on the accumulate level chosen for the field. If you are planning on using selective print frequencies, then **Accumulate level** should be 0, T, or R0.

## Prompt: Heading

Default: The field name or as specified in the dictionary.

### Allowed Values:

Any character string.  
**NONE**

The column heading is the character string that displays over the field at the top of each page. If you do not want a column heading, enter NONE.

The column heading for each field displays on the same column heading print line as its field print line. See Print Line below.

Each column heading can use up to three lines; each column heading line is separated by a delimiting character. The delimiting character is shipped as a slash (/) and can be changed in the Setup File. The ENHANCE-HEADING setup file parameter can modify the default heading to improve its appearance.

## Prompt: Column Attr (attributes)

Default: Shipped as C, can be changed in the Setup File.

### Allowed Values:

*alignment*

where *alignment* can be:

<b>C</b>	Center column heading over data field
<b>L</b>	Left-justify column heading over data field
<b>R</b>	Right-justify column heading over data field
<b>W</b>	For text fields only, wrap the data on multiple print lines

### Allowed Options:

<b>/ATTR=print_attribute</b>	where <i>print_attribute</i> has been previously defined as a valid attribute
<b>/ATTR=BARCODE</b>	if the Bar Code module or the X-BAR product is licensed.

The relationship of column headings, heading justification, and data fields is shown in the example below. Whenever the column heading is larger than the data field, the column heading is always left-justified regardless of what is entered at the COLUMN ATTR prompt.

The word wrap feature is allowed for text-type fields only. When using word wrap, the column heading is always centered over the print mask. If the data in the field extends beyond the length of the print mask, the field wraps to the next line. The MAX-WRAP setup parameter determines the maximum number of print lines allowed.

---

*Refer to 'Word Wrap' for complete information on word wrapping and 'Print Attributes' for information on using print attributes to highlight fields.*

---

### Column Heading Justification Example

CUSTOMER\_NUMBER is a numeric field 10 digits long.

Justify:	<u>Left</u>	<u>Right</u>	<u>Center</u>
Heading:	CUST #	CUST #	CUST #
Mask:	#####	#####	#####
Data:	001	001	001



Heading:	CUST NUMBER	CUST NUMBER	CUST NUMBER
Mask:	#####	#####	#####
Data:	001	001	001
CUSTOMER_NAME is a text field 10 digits long.			
Justify:	<u>Left</u>	<u>Right</u>	<u>Center</u>
Heading:	NAME	NAME	NAME
Mask:	#####	#####	#####
Data:	SMITH	SMITH	SMITH
Heading:	CUSTOMER NAME	CUSTOMER NAME	CUSTOMER NAME
Mask:	#####	#####	#####
Data:	SMITH	SMITH	SMITH

**Prompt: Print mask**

Default: As specified in the dictionary, by a Setup File parameter, or by the number of characters in the field.

**Allowed Values:**

See *Print Masks* in the *Techniques* section for valid print masks.

The print mask is used to print data in specific format. Use print masks to print literals with text fields, special characters with numeric fields, or to control the size of date fields. Print masks contain one pound sign (#) for each character position in the data field. Print literals on your report using special characters in the print mask as documented in the Techniques section of this manual.

**Print Masks for Text Fields Using Word Wrap**

Enter a mask containing the number of pound signs (#) equal to the number of characters you wish to print on one line. If the data in the field extends beyond the length of the mask, the field wraps to the next line.

---

*Refer to 'Word Wrap' for complete information.*

---

**Print Masks for Numeric Fields**

If the data in a numeric-type field includes more decimal places than included in the print mask, then the value is rounded to the number of decimal places in the mask.

**Print Masks for Printing Date and Time**

To print the time with date in a date-time field, lengthen the print mask to 20 # characters.

**Prompt: Print line (1-n)**

Default: 1 or the print line from the previous field.

**Allowed Values:**

1 to *n*

*n* is controlled by the setup file

## Dialogue - Field Section

The field print line is the vertical position the field prints in the detail and subtotal area of your report. If the INCREMENT-LINE setup parameter is set to Y and this field would extend the report beyond the right margin, then the default print line will be incremented from the print line of the previous field.

### Detail and Subtotal Areas

If you add breaks to your report, then the subtotal area contains the same number of print lines as the detail area. The print line and print position for a field are reserved in both areas.

### Prompt: *Print position*

Default: Controlled by the POS-CALC and the POS-RECALC setup file parameters.

#### Allowed Values:

1 to *n* *n* is the maximum allowed print position.

The field print position is the horizontal position the first character of the field prints in the detail and subtotal section of your report. See Print Line above.

### Overlapping Fields

You cannot overlap fields entered in the FIELD section even if a field is not printing in that area. For example: if a field is a text field and is printing with print frequency D, the same space is reserved in the subtotal area as in the detail area even though the field is not printing in the subtotal area. You may not specify another field printing with frequency 0-9 in the same position.

### Prompt: *Accumulate level*

Default: Shipped as N, can be changed in the Setup File.

#### Allowed Values:

<b>N</b>	Do not accumulate (part numbers, customer numbers, etc.).
<b>0</b>	Accumulates grand total and all subtotals.
<b>1</b>	Accumulates all subtotals but not the grand total.
<b>2</b>	Accumulates subtotals except at breaks with lower numbers.
<b>:</b>	<b>:</b>
<b>:</b>	<b>:</b>
<b>9</b>	<b>:</b>
<b>R0</b>	Running total accumulation, accumulator not reset.
<b>R1</b>	Running total accumulation, reset at the break number entered.
<b>:</b>	<b>:</b>
<b>R9</b>	<b>:</b>

#### Allowed Options:

(not allowed with running total accumulations)

<b>/AVE</b>	Performs an average accumulation type.
<b>/STD</b>	Performs a standard deviation accumulation type.
<b>/VAR</b>	Performs a variance accumulation type.
<b>/MIN</b>	Performs a minimum accumulation type.
<b>/MAX</b>	Performs a maximum accumulation type.
<b>/COU</b>	Performs a count accumulation type.

Accumulate level displays only when the field is a numeric data type. This prompt tells XENTIS whether or not to total a column, the type of total, and when to reset accumulators. Accumulate level is directly related to sort and break fields for the report and the print frequency you choose for the field. To select the appropriate accumulate level, coordinate all these factors. See Print Frequency above.

### Accumulate Options

The accumulate options allow the user to specify a different type of accumulation other than totaling. Like totaling, the accumulate options apply to all values of this field since the last break of a corresponding break level on the report. Accumulation options may not be used with running totals. The accumulation options that are available are:

#### /AVE

Use the /AVE accumulate option to specify that the accumulation value that is printed on the report should be an average value rather than a total value.

#### /STD

Use the /STD accumulate option to specify that the accumulation value that is printed on the report should be a standard deviation value rather than a total value.

#### /VAR

Use the /VAR accumulate option to specify that the accumulation value that is printed on the report should be a variance value rather than a total value.

#### /MIN

Use the /MIN accumulate option to specify that the accumulation value that is printed on the report should be the minimum value rather than a total value.

#### /MAX

Use the /MAX accumulate option to specify that the accumulation value that is printed on the report should be a maximum value rather than a total value.

#### /COU

Use the /COU accumulate option to specify that the accumulation value that is printed on the report should be a count value rather than a total value.

---

*Refer to SORT and BREAK and to Print Frequency for complete information.*

---

### Accumulate Levels 0 through 9, Without Running Totals

1. When using single print frequency D, F, U, or H, the 'detail' values print in the detail section of the report (according to the print frequency rules) and the accumulated values print in the 'total' section of the report as specified by the accumulate level and the break fields.
2. When using selective print frequency D, F, U, or H, the 'detail' values print in the detail section of the report (according to the print frequency rules). Accumulated values print only if specified in the selective print frequency statement.
3. When using single or selective print frequency 0-9, T, or S, only the accumulated values print in the 'total' section of the report as specified by the accumulate level and the break fields.

Accumulated values print only when both print frequency and accumulate level are less than or the same as the number of break fields specified. For example: if two break fields are entered, then both print frequency and accumulate level must be 0, 1, or 2 in order for accumulated values to print.

<i>Effect of Print Frequency and Accumulate Level</i>
---

Sort field 1: Sort field 2:		Vendor_No Order_No	Break field 1: Break field 2:	Vendor_No Order_No		
Vendor No PF=F	Order No PF=F	Quantity PF=D AL=0	Quantity PF=1 AL=1	Quantity PF=2 AL=2	Quantity PF=AT F1 AL=0	Quantity PF=AT 02 AL=0
1001	9035	100 25 50			100 25 50	
Total for Order 9035		175	175	175		175
1001	9089	250 50			250 50	
Total for Order 9089		300	300			300
* Vendor 1001 Total		475	475	475	475	
1002	9003	75 175 100			75 175 100	
Total for Order 9003		350	350			350
* Vendor 1002 Total		350	350	350	350	
Grand Total		825				825

### Running Total Accumulate Levels R0 through R9

- The numbers following R, 0 through 9, represent the level at which the running total accumulator is reset.  
For example, when accumulation level R0 is selected for a numeric field, the field value is added to an accumulator for each new record. Since the accumulate level is R0, the accumulator is not reset and continues to accumulate the field to the grand total. When accumulation level R2 is selected for a numeric field, the field value is added to an accumulator for each new record. Since the accumulate level is R2, the accumulator is reset at the second break.
- The accumulator is reset only when a break level is specified.  
For example, when accumulation level R2 is selected, the accumulator is reset only if two break levels are specified.
- When using single or selective print frequency D, F, U, or H, the 'running total' values print in the detail section of the report (according to the print frequency rules). Values do not print in the 'total' section of the report.
- When using single or selective print frequency 0-9, T, or S, the 'running total' values print only in the 'total' section of the report as specified by the accumulate level and the break fields.
- Running totals never print on the grand total line.

#### Effect of Running Total Accumulators

Sort field 1: Sort field 2:		Vendor_No Order_No	Break field 1:Vendor_No Break field 2:Order_No			
Vendor No	Order No	Quantity	Quantity	Quantity	Quantity	Quantity

PF=F	PF=F	PF=D AL=0	PF=D AL=R0	PF=1 AL=R1	PF=AT F1 AL=R2	PF=AT 02 AL=R0
1001	9035	100 25 50	100 125 175		100 125 175	
Total for Order 9035		175		175		175
1001	9089	250 50	425 475		250 300	
Total for Order 9089		300		475		475
* Vendor 1001 Total		475		475	300	
1002	9003	75 175 100	550 725 825		75 250 350	
Total for Order 9003		350		350		825
* Vendor 1002 Total		350		350	350	
Grand Total		825				

## Calculations-On-Totals Section

Guide Menu Section

CALCULATION\_ON\_TOTALS

The CALCULATIONSONTOTALS section specifies calculation expressions used to create new fields in your report with values in the subtotal section of the report. These calculations are performed using only accumulated numeric fields, numeric fields printing with print frequency 0 to 9, S or T, and numeric literals. XENTIS computes calculation-on-totals (Calc-on-Tot) expressions after all detail lines are processed and totals are accumulated.

```
<PF1>=GOLD <PF2>=HELP <PF3>=COMMAND <PF4>=SELECT ** Calc-On-Tot Section **
Enter the starting column in which to print this field.
Enter calc-on-total expr 1 : MARGIN = REVENUE - COST
Print frequency : 0
Print mask      : $$, ###.##
Print line      : 3   Print position : 16_
```

**Prompt:** *Do you wish to have calculations on totals*

Default: Shipped as N, can be changed in the Setup File.

Allowed Values:

<b>N</b>	Do not prompt for calculations-on-totals
<b>Y</b>	Prompt for calculations-on-totals

**Prompt:** *Enter calc on total expression n*

Default: No default or **NONE**.

Allowed Values:

<i>result = expression</i>	A valid calculation on total expression (see below)
<b>NONE</b>	When all expressions have been entered.

CLT expressions can contain any accumulated numeric field, numeric fields printing with a print frequency of 0 to 9, S, or T, numeric literals, operations or functions. A field created by a CLT can be used more than once in any subsequent CLT expression. Enter **NONE** when you are done entering CLT expressions.

### Expression Syntax

CLT expression syntax is the same as numeric calculation expression syntax. CLTs must be in the following form: *result = expression*

---

*Refer to CALCULATIONS for more information.*

---

### Result

*RESULT* is the name of the new field where the calculated value is stored. The new field does not have to be named *RESULT*; the new field can be named any valid field name but must be different from any field name that exists in the files you are using to create the report or any reserved XENTIS word. A valid field name is 1 to 32 alpha-numeric characters including A-Z, 0-9, dollar sign (\$), and underscore (\_). The first character must be alphabetic. XENTIS automatically assigns a data type of D-Float (D) to the new field.

### Expression

*EXPRESSION* is the CLT expression itself. A CLT expression is a series of field names, literals, operations and/or functions. Separate each item in the calculation expression with a space. Each CLT expression can contain as many fields as you wish. An equal sign (=) with a space on each side must always separate *RESULT* from *EXPRESSION*.

### Fields or Literals

CLT expressions can contain any accumulated numeric field, numeric fields printing with print frequency of 0 to 9, T, or S, or a numeric literal. A field used in a CLT is not required to print on your report but must be a field specified in your report. Text and date fields cannot be used in CLT expressions.

Enter fields or literals just as you would in a normal calculation expression. XENTIS determines that the accumulated value, not the value of the last record read, should be used in the calculation.

If you are specifying a numeric field more than once in the FIELDS section of your report, the value in the first occurrence of the field (the field positioned first) is used in the CLT. Be sure the first occurrence is accumulated.

### Operations and Functions

Operations and functions valid in CLTs are:

- All arithmetic operations are valid: +, -, \*, /, ^

All bitwise operations are valid: BAN, BOR, NOT

The following numeric functions are valid: ABS, ROU, SQR, VAL, LOG, FIX, INT, ATN, COS, SIN, LOG10, RAND, MOD, EVEN, ODD, FV, FVSB, FVSE, PV, PVSB, PVSE

- Text and date calculations are not allowed.
- 'IF' clauses are allowed but can only contain fields valid in a CLT expression; text and date fields are not allowed.

## Prompt: Print frequency

Default: 0

### Allowed Values:

<b>N</b>	Never print
<b>0</b>	Print at all subtotal breaks and grand total.
<b>1</b>	Print at all subtotal breaks but not the grand total.
<b>2</b>	Print at subtotal breaks except breaks with lower numbers than this one.
<b>:</b>	:
<b>9</b>	:
<b>AT x,y,z</b>	Print at selective print frequencies x, y, z. See below.

Print frequency determines how often the CLT prints in the subtotal section of your report. Print frequency is directly related to sort and break fields for the report. To select the appropriate print frequency, coordinate all these factors.

---

*Refer to the SORT and BREAK for more information.*

---

### Selective Print Frequencies

One print frequency (a single entry print frequency) may be entered as a valid response to the **Print frequency** prompt. 0 through 9 single entry print frequencies tell XENTIS to print at that break and all breaks within.

Selective print frequencies are also valid responses. For 0 through 9, selective print frequencies tell XENTIS to print only at specific breaks.

- Selective print frequencies work as follows: the print frequency prompt allows more than one character. At **Print frequency**, type **AT** followed by a space, then by the print frequencies you wish to use for the field. The print frequencies you enter are not order-dependent.  
For example, **AT 235** prints a value on break lines 2, 3, and 5 (but not break lines 0, 1, or 4).
- All single entry print frequencies are valid with selective print frequencies: 0 through 9.

## Prompt: Print mask

Default: Shipped as ##,###,###.##, can be changed in the Setup File.

### Allowed Values:

See *Print Masks* in the *Techniques* section for valid print masks.

The print mask is used to print data in specific format. Use print masks to print special characters with numeric fields. Print masks contain one pound sign (#) for each character position in the data field.

## Prompt: Print line (1-n)

Default: 1

### Allowed Values:

1 to n n is controlled by the setup file



The CLT print line is the vertical position the CLT prints in the subtotal section of your report. For information on overlapping fields with CLTs, see Positioning CLTs below.

**Prompt:     *Print position***

Default:                Shipped as follows: Calculated first available space on the print line starting from position 1, can be changed in the Setup File.

***Allowed Values:***

**1 to *n***

*n* is the maximum allowed print position

The CLT print position is the horizontal position the first character of the field prints in the subtotal section of your report.

***Positioning CLTs***

Use Print Line and Position to specify where a CLT prints in the subtotal section of the report.

The field positions specified in the detail section of the report are reserved in the subtotal section for fields that are using print frequency 0-9, T, or S or fields that are being accumulated. If a field is specified with print frequency 0-9, T, or S or assigned an accumulate level, then you cannot position a CLT over the reserved space in the subtotal section of the report. If a field is printing only in the detail section of the report (print frequency D, F, H, U) and is not being accumulated, you can position a CLT over that space in the subtotal section of the report.

The above rules apply only to the space reserved for data fields, the area represented by a print mask, not column headings. If a column heading extends beyond the data field and there is enough room to print the CLT between the data field and the next field specified on the report, then you can position the CLT in that space.

## Dialogue - Selection Section

# SELECTION Section

Guide Menu selection:	SELECTIONS
-----------------------	------------

The SELECTION section defines criteria for choosing records to print on your report. Each detail is compared to the selection criteria. If all criteria are met, then the detail appears on your report. If criteria are not met, then the detail is discarded and does not appear on your report.

Refer to Appendix E, Internal Operation, for more information on when selection logic is applied.

```

<PF1>=GOLD <PF2>=HELP <PF3>=COMMAND <PF4>=SELECT ** Selection Section **
Enter selection criteria condition. Press RETURN or ENTER to accept it.

Do you wish to have selection logic: Y
Selection will be AND, OR, or COMPLEX: A
Enter selection expression 1 : A:STATE = "WA" OR A:STATE = "OR"
Enter selection expression 2 : A:PURCHASES_YTD GE 20000
  
```

**Prompt:** Do you wish to have selection logic

Default: Shipped as N, can be changed in the Setup File.

Allowed Values:

<b>N</b>	Do not prompt for selection logic
<b>Y</b>	Prompt for selection logic

**Prompt:** Selection will be AND, OR, or COMPLEX

Default: Shipped as A, can be changed in the Setup File.

Allowed Values:

<b>A</b>	Use <b>AND</b> type selection logic
<b>O</b>	Use <b>OR</b> type selection logic
<b>C</b>	Use <b>COMPLEX</b> type selection logic

The type of selection tells XENTIS how to relate the selection expressions to one another regardless of what is contained in each individual expression.

AND selection means that all expressions must be true for a detail to be selected. OR selection means that any expression must be true for a detail to be selected. COMPLEX selection means that you specify the relationship between expressions. See AND, OR and COMPLEX examples below.

## Prompt: Selection expression *n*

Default: No default for expression 1, then NONE.

### Allowed Values:

<i>expression</i>	A valid selection expression
<b>NONE</b>	

Selection expressions can contain fields from any file you are using in the report or a field created by a calculation. Type NONE when you are done entering selection expressions.

## Expression Syntax

Selection expressions must be homogeneous; text, numeric and date type fields. Simple selection expressions usually appear in the following form:

*field* <COMPARISON-OPERATION> *field*

*field* is a field name, a literal, or a calculation result name, <COMPARISON-OPERATION> is a comparison operation (i.e.: EQ, NE, GT and so on).

A field used in a selection expression is not required to print on your report. Fields can be referenced as documented in the '/Report Introduction' section: 'Specifying Fields'; field name, field number, literal, partial field, or multiple occurrence subscripted fields are all valid.

## Operations

Any of the comparison or logical operations valid in the CALCULATION section are also valid in selection expressions. Selection expressions themselves can contain numeric operations.

## Order of Precedence

Details are compared to selection expressions in the order the expressions are entered. For expressions containing more than one operation, the operations are performed in the order specified in the CALCULATION section, Order of Precedence. Use parentheses to specify the order of precedence.

## Prompt: Number of records to select/read

Default: ALL

### Allowed Values:

<i>n1</i>	where <i>n1</i> is the number of records to select
<b>ALL</b>	where <b>ALL</b> means to select all records read

### Allowed Options:

<i>In2</i>	where <i>n2</i> is the number of records to read
------------	--

As XENTIS processes your report, records are read in the primary file, then details are created and compared to the selection criteria. **Number of records to select/read** allows you to limit the number of details processed and, therefore, the processing time. This feature is useful for report test runs.

If you enter 'ALL', XENTIS processes all the details for a full report. If you enter '*n1/n2*', when the number of selected details equals *n1* (the number of records to select) or when the number of primary file records read equals *n2* (the number of records to read), whichever comes first, XENTIS stops processing. If *n1* is 'ALL', then the report is limited by the number of records to read.

## *AND and OR Selection Logic*

The following are AND and OR selection logic examples:

### *AND Selection Examples*

#### *AND Example 1:*

Select customers in the state of WA with orders of \$100,000.00 or more.

Selection will be AND OR or COMPLEX?      A  
Expression 1:                    STATE EQ "WA"  
Expression 2:                    ORD\_AMT GE 100000.  
Expression 3:                    NONE

#### *AND Example 2:*

Select customers in the state of WA, OR, or CA with orders of \$10,000.00 or more.

Selection will be AND OR or COMPLEX?      A  
Expression 1:                    STATE EQ "WA" OR STATE EQ "OR" OR STATE EQ "CA"  
Expression 2:                    ORD\_AMT GE 100000.  
Expression 3:                    NONE

#### *AND Example 3:*

Select customers in the state of WA, OR or CA with orders of \$100,000.00 or more. Exclude customers with a customer type of 6 or order numbers greater than 90000.

Selection will be AND OR or COMPLEX?      A  
Expression 1:                    STATE EQ "WA" OR STATE EQ "OR" OR STATE EQ "CA"  
Expression 2:                    ORD\_AMT GE 100000.  
Expression 3:                    CUST\_TYPE NE "6" OR ORDER\_NO GE "90000"  
Expression 4:                    NONE

*OR Selection Examples**OR Example 1:*

Select customers in the state of WA with orders of \$100,000.00 or more.

Selection will be AND OR or COMPLEX? ☐

Expression 1: STATE EQ "WA" AND ORD\_AMT GE 100000.

Expression 2: NONE

*OR Example 2:*

Select customers in the state of WA, OR, or CA with orders of \$100,000.00 or more.

Selection will be AND OR or COMPLEX? ☐

Expression 1: STATE EQ "WA" AND ORD\_AMT GE 100000.

Expression 2: STATE EQ "OR" AND ORD\_AMT GE 100000.

Expression 3: STATE EQ "CA" AND ORD\_AMT GE 100000.

Expression 4: NONE

*OR Example 3:*

Select customers in the state of WA, OR or CA with orders of \$100,000.00 or more. Exclude customers with a customer type of 6 or order numbers greater than 90000.

Selection will be AND OR or COMPLEX? ☐

Expression 1: STATE EQ "WA" AND ORD\_AMT GE 100000 AND (CUST\_TYPE NE "6" OR ORDER\_NO GE "90000")

Expression 2: STATE EQ "CA" AND ORD\_AMT GE 100000 AND (CUST\_TYPE NE "6" OR ORDER\_NO GE "90000")

Expression 3: STATE EQ "OR" AND ORD\_AMT GE 100000 AND (CUST\_TYPE NE "6" OR ORDER\_NO GE "90000")

Expression 4: NONE

## Complex Selection Logic

COMPLEX selection means that you specify the relationship between selection expressions. In other words, XENTIS does not assume the relationship between expressions, as it does when you select AND or OR selection logic.

To develop complex selection logic, first write out your criteria, breaking down each into simple expressions (one comparison operation per expression). Enter each as a selection expression in the dialogue. Then, specify the relationship between the expressions using #Sn syntax (where #Sn refers to a previous expression number).

*COMPLEX Example 1:*

Select customers in the state of WA with orders of \$100,000.00 or more.

Selection will be AND OR or COMPLEX? ☐

Expression 1: STATE EQ "WA"

Expression 2: ORD\_AMT GE 100000.

Expression 3: #S1 AND #S2

Expression 4: NONE

**COMPLEX Example 2:**

Select customers in the state of WA, OR, or CA with orders of \$100,000.00 or more.

Selection will be AND OR or COMPLEX? ☒ C

Expression 1:            STATE EQ "WA"  
Expression 2:            STATE EQ "OR"  
Expression 3:            STATE EQ "CA"  
Expression 4:            ORD\_AMT GE 100000.  
Expression 5:            #S1 OR #S2  
Expression 6:            #S3 OR #S5  
Expression 7:            #S4 AND #S6  
Expression 8:            NONE

**COMPLEX Example 3:**

Select customers in the state of WA, OR or CA with orders of \$100,000.00 or more. Exclude customers with a customer type of 6 or order numbers greater than 90000.

Selection will be AND OR or COMPLEX? ☒ C

Expression 1:            STATE EQ "WA" OR STATE EQ "OR" OR STATE EQ "CA"  
Expression 2:            ORD\_AMT GE 100000.  
Expression 3:            CUST\_TYPE NE "6"  
Expression 4:            ORDER\_NO GE "90000"  
Expression 5:            #S3 OR #S4  
Expression 6:            #S1 AND #S2 AND #S5  
Expression 7:            NONE

# SORT Section

Guide Menu selection:      SORTS

The SORT section allows you to specify the sequence in which the information on your report will appear. You may select a variety of fields to sort your report on. Each field may be independently sorted in ascending or descending sequence.

If you choose not to specify sort fields, your report will be sorted by the key used to access the primary file. XENTIS uses the VMS sort utility. Characters are sorted using the standard ASCII sort sequence unless specified otherwise by the SORT-ORDER Setup File parameter.

```

      1 2 3 4 5 6 7 8
CUSTOMER
ORDER

Customer      Customer      Order      Part      Revenue      Cost
Number        Name          Number     Number

*****
$$$$,###.##-  $$,###.##-
$$$$,###.##-  $$,###.##-

      1 2 3 4 5 6 7 8
A:CUSTOMER_NO      A:PURCHASES_MTD      B:QUANTITY_ORDERED      TAX
A:CUSTOMER_NAME    A:PURCHASES_VTD      B:UNIT_PRICE            COST
A:ADDRESS_LINE_1   A:FED_SALES_TAX_NO   B:ORDER_DISC_PCT        NONE
A:ADDRESS_LINE_2   A:DATE_ADDED         B:QUANTITY_SHIPPED
A:CITY             A:DATE_CHANGED       B:SHIP_DATE
A:STATE            B:ORDER_NO          B:SHIP_COMPLETE

<PF1>=GOLD  <PF2>=HELP  <PF3>=COMMAND  <PF4>=SELECT ** Sort Section **
Enter a field by which the report should be sorted.
Do you wish to have a sort : Y
Sort field 1 : A:CUSTOMER_NO
CUSTOMER_NO Will be Ascending or Descending : A
Sort field 2 : B:ORDER_NO

```

## How Sorts Work

### Break Fields, Sort Fields, Print Frequency and Accumulate Level

Sort fields are directly related to break fields, the print frequency and accumulate level you have chosen for fields printing on your report.

---

*Refer to FIELDS and BREAK sections and the example below for more information.*

---

### Sort Nesting

Sorts are 'nested' within each other. The report is sorted by sort field 1. Details with the same data value in sort field 1 are sorted by sort field 2. And so on.

In the example below, the report is sorted by Vendor\_Number. Within each Vendor\_Number, the report is sorted by Order\_Number. Within each Order\_Number, the report is sorted by Line\_Number.

#### Sorting Example

```
Sort Field 1: Vendor_Number
Sort Field 2: Order_Number
```

## Dialogue - Sort Section

Sort Field 3: Line_Number				
<u>Vendor</u> <u>Number</u>	<u>Order</u> <u>Number</u>	<u>Line</u> <u>Number</u>	<u>Part</u> <u>Number</u>	
00100	10	1	03	
00100	10	2	26	
00100	10	3	13	
00100	20	1	21	
00100	20	2	04	
00100	30	1	56	
00200	15	1	13	
00200	15	2	21	
00200	15	3	04	
00200	18	1	67	

**Prompt:**     *Do you wish to have a sort*

Default:                Shipped as N, can be changed in the Setup File.

*Allowed Values:*

<b>N</b>	Do not prompt for sort fields
<b>Y</b>	Prompt for sort fields

**Prompt:**     *Sort field n*

Default:                No default for sort field 1, then NONE.

*Allowed Values:*

<i>field-name</i>	
<i>calculation-result-name</i>	
<b>NONE</b>	When all fields have been entered.

*Allowed Options:*

<b>/TOTAL</b>	May be specified on only one sort field to induce 'Sort on Totals'
---------------	--

A sort field can be a field from any file you are using in the report or a field created by a calculation. A sort field is not required to print on your report. Fields can be referenced as documented in 'Specifying Fields' in the '/Report Introduction' section; field name, field number, partial field, or multiple occurrence subscripted fields are all valid.

When sorting by a date-time field, the report is sorted by the date and the time.

---

Sort fields are normally entered in the same order as the break fields. If you enter sort fields in a different order than break fields, you may get invalid subtotals.

---

Type **NONE** when you are done entering sort fields.



**Prompt:**     *<field name> will be Ascending or Descending (A, D)*

Default:            A

**Allowed Values:**

<b>A</b>	Sort in ascending order (A to Z, 0 to 9)
<b>D</b>	Sort in descending order (Z to A, 0 to 9)

### Sorting on Subtotals

To sort on subtotals, append '/TOTAL' to a sort field name. In XENTIS/Report, XENTIS/Model, or XENTIS/File you are allowed to sort by one, and only one, 'sort on subtotal' field. The 'sort on subtotal' field must be accumulated (it must be specified in the FIELD section and given a valid accumulate level). Sort fields may be entered in any sequence before or after the 'sort on subtotal' field.

You must include at least one break field to use the 'sort on subtotal' feature. The subtotals to be sorted on are accumulated according to the break fields(s) you select. If you have selected more than one break field, the subtotals will be calculated for ANY break encountered. For example, if you are breaking on state identifier only, XENTIS will accumulate values across a whole state. However, if you are breaking on state identifier, then customer number, XENTIS will accumulate values for the lowest break level (customer in this example).

To sort on subtotals:

- Determine the field used to group the accumulated sort values together. For example: if you want to rank customers, you may choose a field like CUST\_NUMBER to group records.
- Determine the field to use as the 'sort on subtotal' field. For example: if you want to rank customers by SALES\_AMT, then SALES\_AMT must be specified in the FIELD section and must have a valid accumulate level assigned.
- In the SORT section, specify the sort fields in the following sequence: the 'sort on subtotal' field followed by the 'group' field. For example: sort field 1 is 'SALES\_AMT/TOTAL', sort field 2 is 'CUST\_NUMBER'. You may use additional sort fields that can be specified before or after the 'sort on subtotal' and the 'group' fields. A 'sort on subtotal' field should ALWAYS be followed by a 'group' sort field.
- In the BREAK section, specify the break fields to include the 'group' field. For example: break field 1 is 'CUST\_NUMBER'. Sort and break fields should be entered in the same order.

If you choose to include break logic after entering sort fields, XENTIS uses the sort fields as the defaults to the break field prompts (the default for **Break field 1** is **Sort field 1**, and so on). When using a 'sort on subtotal' field, the default break fields do not include the 'sort on subtotal' field; the 'sort on subtotal' field is skipped. For example: the default for break field 1 is 'CUST\_NUMBER' since the 'sort on subtotal' field, SALES\_AMT, is skipped.

# BREAK Section

Guide Menu selection:      BREAKS

The BREAK section specifies fields to use to break your report into sections. When the data value in the break field changes, a break is inserted in the report. A break divides the detail from the subtotal section of the report and allows you to print the subtotals of accumulated fields and calculations-on-totals if you are using these features. You may also specify selection on subtotaled fields in the BREAK section.

```

.....v.....1.....v.....2.....v.....3.....v.....4.....v.....5.....v.....6.....v.....7.....v.....8
CUSTOMER
ORDER

Customer      Customer      Order      Part      Revenue      Cost
Number        Name          Number     Number

*****
$$$$,###.##-  $$,###.##-
$$$$,###.##-  $$,###.##-

.....1.....2.....3.....4.....5.....6.....7.....8
A: CUSTOMER_NO      A: PURCHASES_MTD      B: QUANTITY_ORDERED      TAX
A: CUSTOMER_NAME    A: PURCHASES_YTD      B: UNIT_PRICE            COST
A: ADDRESS_LINE_1    A: FED_SALES_TAX_NO    B: ORDER_DISC_PCT        NONE
A: ADDRESS_LINE_2    A: DATE_ADDED          B: QUANTITY_SHIPPED
A: CITY              A: DATE_CHANGED        B: SHIP_DATE
A: STATE             B: ORDER_NO           B: SHIP_COMPLETE

<PF1>=GOLD <PF2>=HELP <PF3>=COMMAND <PF4>=SELECT ** Break Section **
Enter the number of blank lines that should follow this break.
Break field 1 : A: CUSTOMER_NO Lines to skip before : 1
Break description : Total for CUSTOMER_NO = ***** after : 1
Break description print line : 1 Skip to top of page : N
Break description print position : 1 Reset page counter : _

```

## How Breaks Work

### Detail and Subtotal Sections of a Report

The detail section of the report contains data from the detail lines created during the report run. Detail lines may or may not be printed on the report. A subtotal section of the report is created after a break or at the grand total. Subtotal lines may or may not be printed on the report.

A subtotal section contains the same number of print lines as the detail section. A field prints on the same line and in the same position in both sections of the report. Whether a field prints in the detail section, the subtotal section, or both depends on the print frequency and accumulate level specified.

### Break Fields, Sort Fields, Print Frequency and Accumulate Level

Break fields are directly related to sort fields and the print frequency and accumulate level you have chosen for fields printing on your report.

### What Prints in the Subtotal Section of a Report

In addition to the break description, you can print either the data value in the last detail encountered (print frequency 0-9 and no accumulate level), an accumulated value, or a calculation-on-total.

---

Refer to *FIELDS* and *SORT* sections and the example below for more information.

---

### Break Nesting

Breaks are 'nested' within each other just as sorts. In the example below, the report has a grand total. Within the grand total, the report breaks by Vendor\_Number. Within each Vendor\_Number, the report breaks by Order\_Number.

Using print frequency and accumulate level 0, a field is summed and the total value is printed at break 0, break 1 and break 2. Using print frequency and accumulate level 1, a field is summed and the total value is printed at break 1 and break 2. Using print frequency and accumulate level 2, a field is summed and the total value is printed at break 2.

#### Sort and Break Example

Sort Field 1: Vendor\_Number  
Sort Field 2: Order\_Number  
Sort Field 3: Line\_Number

Break Field 1: Vendor\_Number  
Break Field 2: Order\_Number

<u>Vendor Number</u>	<u>Order Number</u>	<u>Line Number</u>	<u>Part Number</u>
00100	10	1	03
00100	10	2	26
00100	10	3	13
00100	10	4	29
00100	10	5	09
<b>Order Number break - Level 2</b>			
00100	20	1	21
00100	20	2	04
00100	20	3	33
<b>Order Number break - Level 2</b>			
00100	30	1	56
<b>Order Number break - Level 2</b>			
<b>Vendor Number break - Level 1</b>			
00200	15	1	13
00200	15	2	21
00200	15	3	04
<b>Order Number break - Level 2</b>			
00200	18	1	67
<b>Order Number break - Level 2</b>			
00200	25	1	09
00200	25	2	26
00200	25	3	13
<b>Order Number break - Level 2</b>			
<b>Vendor Number break - Level 1</b>			
<b>Grand Total break - Level 0</b>			

**Prompt:**     *Do you wish to have break logic*

Default:                Shipped as N, can be changed in the Setup File.

**Allowed Values:**

<b>Y</b>	Prompt for break fields
<b>N</b>	Do not prompt for break fields
<b>S</b>	Prompt for break fields and for selection on a subtotal.

**Prompt:**     *Break field n*

Default:                Sort field name or **NONE**

**Allowed Values:**

*field-name*  
*calculation-result-name.*

A break field can be a field from any file you are using in the report or a field created by a calculation. A break field is not required to print on your report. Fields can be referenced as documented in the /Report Introduction section, Specifying Fields; field name, field number, partial field, or multiple occurrence subscripted fields are all valid.

---

Break fields are normally the same or parallel to the sort fields. If you enter break fields in a different order than sort fields, you may get invalid subtotals.

---

Type **NONE** when you are done entering break fields.

**Prompt:**     *Break description*

Default:                Total for *field name* = #####

where *field name* is the name of the break field and ##### is the field's default print mask. The default value can be changed in the Setup File.

**Allowed Values:**

<i>character string</i>	Any character string.
<b>NONE</b>	

The break description is the character string that displays in the subtotal section of your report when a break for the break field is encountered. If you do not want a break description at this break, enter **NONE**. '\$\$' and '\*\*' are valid print mask characters for numeric-type fields. To avoid break data value printing incorrectly, do not enter '\$\$' or '\*\*' before the print mask in the break description for numeric-type fields. See Grand Total Break Description below for more information on the grand total break description.

**Prompt:**     *Break description print line*

Default:            1

**Allowed Values:**

1 to *n*                                    *n* is controlled by the setup file.

The break description print line is the vertical position the break description prints in the subtotal section of your report. Each break description is allowed only one print line.

**Prompt:**     *Break description print position*

Default:            Controlled by the POS-CALC and POS-RECALC setup file parameters.

**Allowed Values:**

1 to *n*                                    *n* is the maximum allowed print position.

The break description print position is the horizontal position the first character of the break description prints in the subtotal section of your report. See Print Line, above.

***Overlapping the Break Description with Fields***

When printing a field on the same print line and print position in the detail section of the report but NOT at this break, you can position the break description over where the field would print if you were printing it at this break. If the field is printing at this break, XENTIS will not allow you to position the break description over the field.

**Prompt:**     *Lines to skip before break*

Default:            1

**Allowed Values:**

*Any integer*

Enter the number of lines to skip between the detail section of the report and the subtotal section of the report for this break.

**Prompt:**     *Skip to top of page*

Default:            N

**Allowed Values:**

<b>N</b>	Do not skip to the top of the next page after this break
<b>Y</b>	Skip to the top of the next page after this break
<b>O</b>	Skip to the top of the next odd numbered page after this break.

**Prompt:**     *Reset page counter*

Default:            N

*Allowed Values:*

**N**

Number the next page with the next sequential number

**Y**

Number the next page 1

**Prompt:**     *Lines to skip after the break*

Default:            1

*Allowed Values:*

*Any integer*

Enter the number of lines to skip after the break. The blank lines are inserted between the subtotal section created by this break and the next detail section.

**Prompt:**     *Enter Sel-on-Subtot expr*

Default:            NONE

*Allowed Values:*

*FIELD comparison-operation LITERAL*

Enter a binary expression where *FIELD* is a reporting field specified in the report that is being accumulated, including fields with alternative accumulate options, where *comparison-operation* is any valid comparison operation, and where *LITERAL* is any valid numeric literal. Only one operation is allowed per expression, however you may enter multiple expressions. If multiple expressions are entered, all expressions must be true in order to select the group of records.

For example, if ORDER\_AMOUNT is a field that is being accumulated and you wish to select only those groups of records where the accumulated value of ORDER\_AMOUNT is greater than 1000, the you would enter an expression similar to: ORDER\_AMOUNT > 1000.

If Select-on-Subtotal expressions are entered for multiple break levels, XENTIS will compute the subtotals and evaluate the Select-on-Subtotal expression for the inner most break levels first.

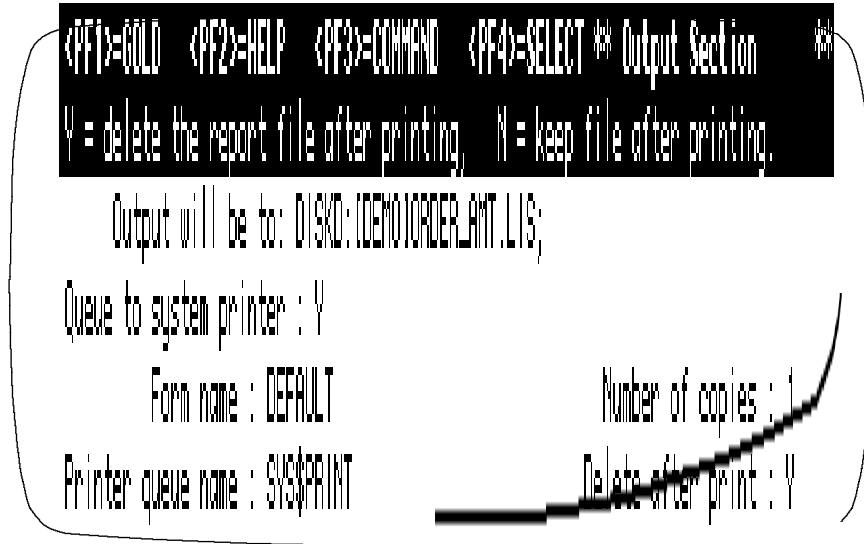
**Grand Total Break Description**

The grand total description is controlled by the GT-DESC-1 and the GT-DESC-2 setup file parameters. If the description contained by GT-DESC-1 will fit on a grand total line, then it is placed on the line. If it won't fit, then the description contained by GT-DESC-2 will be used. If neither will fit on the line, then no grand total description will appear on the report.

# FORMAT Section

Guide Menu selection:      FORMAT\_OUTPUT

The FORMAT section specifies where to store or display report output and provides you with control over report formatting.



## Prompt:      Output File/Device

Default:              Shipped as SYSSDISK:XENTIS.LIS, can be changed in the Setup File.

### Allowed Values:

<b>TT:</b>	Display output on terminal (screen or hard copy terminal)
<b>PRINTER PORT</b>	Output to terminal printer port
<i>device-name</i>	Output to printer device or terminal device
<i>file-name</i>	Output to a disk file

To display a report on your terminal, enter TT: or a terminal device. To print a report on a terminal printer port, enter PRINTER PORT. Printing directly on a printing device is discouraged. It is better to print to a disk file and queue the output to a print queue.

When **Output file/device** is PRINTER PORT, then the Setup File parameter FF-OR-COUNT may have to be modified. Also, your terminal must be set for 'printer port'. To do so, use the SET TERM/PRINTER command at the DCL prompt.

### Default File Name

The default file name is determined by the DFLT-OUTPUT parameter in the Setup File. You can specify any portion of the output file name; any part that is omitted is determined from the default in the Setup File.

---

Refer to Appendix A for more information.

---



---

Refer to Prompted Literals in the Techniques section.

---

**Sample Output File names**

DFLT-OUTPUT parameter is set to: DUA0:[OUTPUT]XENTIS.LIS

Output File/Device:

Output File is:

REPORT  
DUA1:REPORT  
.TEXT  
[XEN.RPT]  
DUA1:.TEXT

DUA0:[OUTPUT]REPORT.LIS  
DUA1:[OUTPUT]REPORT.LIS  
DUA0:[OUTPUT]XENTIS.TEXT  
DUA0:[XEN.RPT]XENTIS.LIS  
DUA1:[OUTPUT]XENTIS.TEXT

**Prompt: Queue to system printer**

Default: Shipped as N, can be changed in the Setup File.

**Allowed Values:**

<b>N</b>	Does not queue to the printer
<b>Y</b>	Queues to the printer
<b>H</b>	Produce preformatted HTML output file for web browsers.

If you do not choose to queue to the printer, then the prompts about printing are skipped; the next prompt is **Lines to print on page**. If you choose **H** the next prompt is **HTML Document Title**.

**Prompt: Form name**

Default: Shipped as DEFAULT, can be changed in the Setup File.

**Allowed Values:**

<i>form-name</i>	Any valid form name or form number.
------------------	-------------------------------------

Form name or number is the name or number of the print form you want to use on the printer. Valid form names and numbers are set up by the System Manager.

**Prompt: Printer queue name**

Default: Shipped as SYSS\$PRINT, can be changed in the Setup File.

**Allowed Values:**

<i>print-queue</i>	Any valid print queue
--------------------	-----------------------

Printer queue name is the queue name assigned to a printer. There may be several printer queues set up for your use. Valid printer queue names are set up by the System Manager.



**Prompt:**     *Number of copies*

Default:            1

*Allowed Values:*

*Any integer*

Enter the number of copies to print.

**Prompt:**     *Delete after printing*

Default:            N, can be changed in the Setup File.

*Allowed Values:*

<b>N</b>	Do not delete after printing
<b>Y</b>	Delete after printing

Determines whether the output file is deleted or saved after printing. If N, the output file is saved after printing. If Y, the output file is deleted after printing.

**Prompt:**     *HTML Document Title*

Default:            NONE

*Allowed Values:*

Document Title	Any descriptive text
----------------	----------------------

Controls the title of the HTML document that is displayed with a web browser. This value will become the default value for the second title line.

**Prompt:**     *Enter into catalogue*

Default:            Shipped as N, can be changed in the Setup File.

*Allowed Values:*

<b>Y</b>	Enter this report into the HTML document catalog file.
<b>N</b>	Do not enter this report into the HTML document catalog file.

Controls whether or not a link to this HTML output file is inserted into an HTML catalog file.

## Prompt: Pages per HTML document

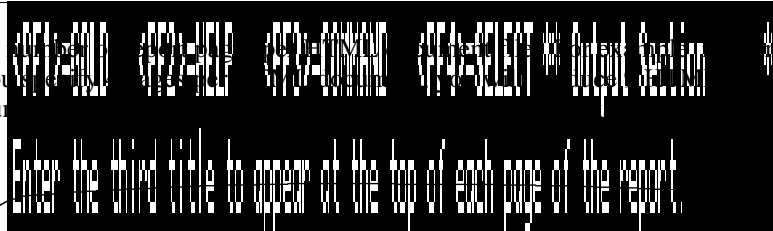
Default: Shipped as 1, can be changed in the Setup File.

### Allowed Values:

1 through 999

The number of report pages per HTML document

Controls the number of pages long, and you can have multiple HTML documents.



A report is 36 pages long, and you can have multiple document files, plus one document file.

Lines to print on page: 60 Page size: 66 Width: \_ Skip between lines: \_  
 First report title line : PARK SOFTWARE INC.  
 Second report title line : Order Amounts  
 Third report title line : Showing Simple Profit Margin

## Prompt: Lines to print on page

Default: Determined by XENTIS (can be changed in the Setup File).

### Allowed Values:

1 to 255

This prompt sets the number of lines printed on each page in the output file.

If Output file/device is a terminal device:

- The default is determined by your screen size.
- XENTIS displays one screen, then **Press <Return> to continue.** Press <Return> to display the next screen.
- If you enter a number of lines greater than can fit on one screen, the report displays the number of lines specified (it scrolls) before pausing.

If Output file/device is anything other than a terminal device:

- The default is determined by the Setup File parameters LINES-TO-PRINT and DFLT-PAGE-SIZE. If LINES-TO-PRINT is assigned a value greater than 0, then the default is that value. If LINES-TO-PRINT is '0', then the default is the value assigned to DFLT-PAGE-SIZE minus 6. If LINES-TO-

PRINT is '-1', then the default is the value of the highest print line specified in the report.

- The shipped value of 60 is set for normal 11 inch printer paper. At 6 print lines per inch, there is a total of 66 lines per page. Printing 60 lines per page allows a top and a bottom margin.
- If you enter a number of lines greater than can fit on one page, the results are unpredictable.

If the Setup File parameter FF-OR-COUNT is set to F or T, then Page size has no bearing on the output. If the Setup File parameter FF-OR-COUNT is set to C, then the number of lines between pages is determined by Page size.

### Prompt: Page size

Default: 66, can be changed in the Setup File.

*Allowed Values:*

**1 to 255**

This prompt determines the number of lines to count between pages when the Setup File parameter FF-OR-COUNT is set to C. If FF-OR-COUNT is set to F or T, then the number of lines printing per page is determined solely by Lines to print on page. Page size must always be greater than or equal to Lines to Print on page.

If **Output file/device** is a terminal device, then the default is the response to Lines to print on page plus two. If **Output file/device** is anything other than TT: or a terminal device, then the default is determined by the value assigned to DFLT-PAGE-SIZE.

### Prompt: First report title line

Default: Your company name. Can be changed in the Setup File.

*Allowed Values:*

<i>report title</i>	Any character string
<b>NONE</b>	For no title line.

*Allowed Options:*

<b>/ATTR=attribute</b>	A valid print attribute.
<b>/DATA=field-spec</b>	A valid field specification

Data from the report may be included in the titles. This is accomplished by appending **/DATA=field-spec** to the report title. When this is done, be sure to include some formatting characters like those used in a print mask.

---

*Refer to the Print Attributes section for more information.  
Refer to the Prompted Literals section for more information.*

---

**Prompt:**     *Second report title line*

Default:            None.

<i>Allowed Values:</i>	
<i>report title</i>	Any character string
<b>NONE</b>	For no title line.
<i>Allowed Options:</i>	
<b>/ATTR=attribute</b>	A valid print attribute.
<b>/DATA=field-spec</b>	A valid field specification

**Prompt:**     *Third report title line*

Default:            None.

<i>Allowed Values:</i>	
<i>report title</i>	Any character string
<b>NONE</b>	For no title line.
<i>Allowed Options:</i>	
<b>/ATTR=attribute</b>	A valid print attribute.
<b>/DATA=field-spec</b>	A valid field specification

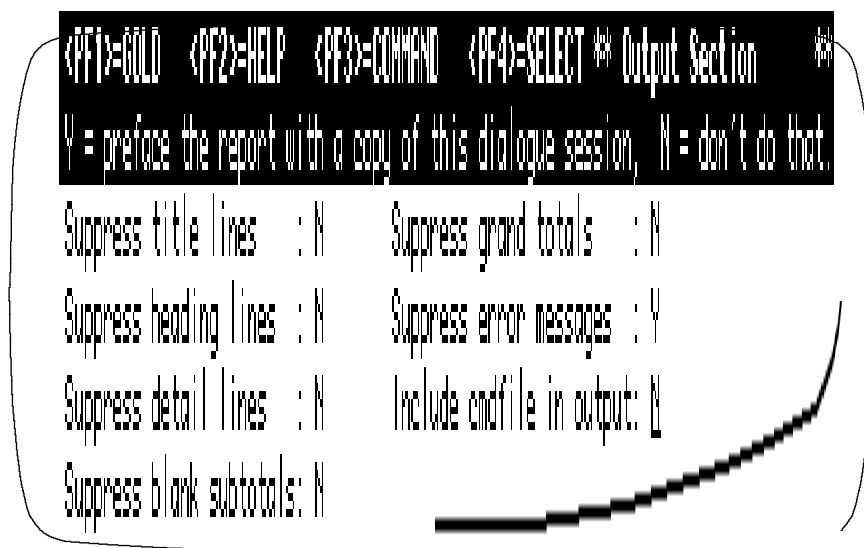
XENTIS prompts for three title lines. The first line contains a default set by a parameter in the Setup File. The second and third title lines contain a default of NONE. If you do not want any one of the title lines to contain any character string, enter NONE.

**Prompt:**     *Skip lines between details*

Default:            0

<i>Allowed Values:</i>	
<i>Any integer</i>	

The number of lines to skip between each detail line on the report.



**Prompt:**     *Suppress title lines*

Default:                Shipped as N, can be changed in the Setup File.

*Allowed Values:*

<b>N</b>	Title lines appear on the report
<b>Y</b>	Title lines do not appear on the report

When printing labels, title lines and heading lines should be suppressed. If the FF-OR-COUNT parameter is set to a value of T in the Setup File, suppressing title lines tells XENTIS to suppress the form feed.

**Prompt:**     *Suppress heading lines*

Default:                Shipped as N, can be changed in the Setup File.

*Allowed Values:*

<b>N</b>	Column headings appear on the report
<b>Y</b>	Column headings do not appear on the report

**Prompt:**     *Suppress detail lines (Yes, No, Blank)*

Default:                Shipped as N, can be changed in the Setup File.

*Allowed Values:*

<b>N</b>	All detail lines print on the report
<b>Y</b>	Detail lines do not print on the report
<b>B</b>	Blank details lines do not print on the report, all other detail lines print

It may be desirable to suppress blank detail lines when using print frequency F, H, or U while using multiple print lines per detail.

**Prompt: Suppress blank subtotal lines**

Default: Shipped as N, can be changed in the Setup File.

<i>Allowed Values:</i>	
<b>N</b>	Blank subtotal lines print on the report
<b>Y</b>	Blank subtotal line do not print on the report

You may want to suppress blank subtotal lines when you are using multiple print lines in a report.

**Prompt: Suppress grand totals**

Default: N

<i>Allowed Values:</i>	
<b>N</b>	Grand total lines print on the report
<b>Y</b>	Grand total lines do not print on the report

**Prompt: Suppress error messages**

Default: Y, can be changed in the Setup File.

<i>Allowed Values:</i>	
<b>N</b>	Error messages display during selection
<b>Y</b>	Error messages do not display during selection

An informational error message is displayed when a 'matching' record is not found in an auxiliary file whether or not you have responded Y or N to the **Replace missing data with nulls or zeroes?** prompt. At times the error messages are unimportant and need not be displayed. At other times, you may want to know when 'matching' records are not found.

**Prompt: Include command file in output**

Default: N

<i>Allowed Values:</i>	
<b>N</b>	A copy of the command file is not printed with the report
<b>Y</b>	A copy of the command file is printed with the report

# Pointer File Section

Guide Menu selection:      POINTER\_FILE

The screenshot shows a terminal window with a report header and a menu screen. The report header includes 'PARK SOFTWARE INC.', 'Order Amounts', and 'Showing Simple Profit Margin'. It lists columns for Customer Number, Customer Name, Order Number, Part Number, Revenue, and Cost. A total line is shown for CUSTOMER\_NO = \*\*\*\*\*. Below the report is a menu screen with function key shortcuts: <PF1>=GOLD, <PF2>=HELP, <PF3>=COMMAND, and <PF4>=SELECT. It prompts the user to enter a file name for saving pointers and shows the filename ORDER\_AMT.XEN.

```

...v...1...v...2...v...3...v...4...v...5...v...6...v...7...v...8
PARK SOFTWARE INC.                                     PAGE ####
CUSTOMER
ORDER                                         Order Amounts
                                           Showing Simple Profit Margin

Customer      Customer      Order      Part      Revenue      Cost
Number        Name          Number    Number
*****
Total for CUSTOMER_NO = *****                $$,###.##-  $$,###.##-
...1...2...3...4...5...6...7...8

<PF1>=GOLD  <PF2>=HELP  <PF3>=COMMAND  <PF4>=SELECT ** Pointer-File Sect: ,:**
Enter name of a file to create, into which records' pointers will be save:
Save selection records' pointers into a file: Y
Enter your POINTER output filename : ORDER_AMT.XEN
  
```

## Pointer File

Pointer files are used only with RMS files.

Pointer files offer a way to accelerate report execution for groups of reports that use similar sets of data. You can create a pointer file when you run a report or other XENTIS process. By using that pointer file in subsequent reports, you eliminate the need to read through entire files to find the data you need.

Use pointer files when you are creating a group of reports from one set of files and selection criteria and you are selecting only about 25% or less of all possible details.

A pointer file contains the names of the files used to create the report and pointers to the records in the files that make up each detail line of the report.

---

*Refer to Appendix E for more information about pointer file structure.*

---

## Using Pointer Files

Once a pointer file is created, it can be used with any of the 'RE' functions. The pointers stored in the file are used to retrieve only those records selected in the report run when the pointer file was created. Since XENTIS uses the pointer file to directly retrieve the records that make up each detail, your report will run much faster since the selection phase is omitted.

When using an 'RE' function, you can add files to the pointer file and additional selection logic.

### ***Pointer File Validity***

Your pointer file is valid only as long as the files used to create the pointer file remain unchanged. Create a new pointer when files have been re-organized with a VMS CONVERT command or records have been added, changed, or deleted and you want the modifications reflected in the pointer file.

Beginning with version 4.6, XENTIS keeps track of the creation date of the data files and issues a warning message if the creation date of the data file is different from the creation date stored in the pointer file.

**Prompt:**     *Do you wish to save selection records' pointers into a file*

Default:            N

***Allowed Values:***

<b>N</b>	Do not save a pointer file with the report
<b>Y</b>	Save a pointer file with the report

**Prompt:**     *Enter your Pointer output file name*

Default:            File name same as output file name, default extension shipped as .XEN, can be changed in the Setup File. If the report output is not to a disk file, then default file name is the product name.

***Allowed Values:***

<i>file-name</i>	Any valid VMS file name.
------------------	--------------------------



# Command File Section

Guide Menu selection:      CMDFILE_&_EXECUTE
--

The COMMAND FILE section specifies whether or not to save a command file and how to save, compile and/or run your report.

## Command File

A command file is a file that contains the commands used to generate this report. A command file can be used to regenerate the report without having to re-enter the commands again.

```

(PP1)=GOLD (PP2)=HELP (PP3)=COMMAND (PP4)=SELECT ** Command Section **
Enter a short description of the command file, for reference purposes.

```

Write these responses to a command file: Y

Command file will be: ORDER\_AMT.XCF

Save a compiled version: Y Catalogue this command file: Y

Description: Order Amounts; Showing Single Profit Margin

**Prompt:**      *Write these responses into a command file*

Default:              Shipped as Y, can be changed in the Setup File.

**Allowed Values:**

**N**  
**Y**

Do not save a command file with the report  
Save a command file with the report

**Prompt:**      *Enter your command file name*

Default:              See below. Default extension shipped as .XCF, can be changed in the Setup File.

**Allowed Values:**

*file-name*

Standard operating system file names.

### Default Command File name

For new reports, the default device and directory is determined by the DFLT-CMD-NEW parameter in the Setup File. The default file name is determined by the file name entered at the **Output File/Device:** prompt. If the output is to a device then the default file name is the product name. The default extension is determined by the DFLT-CMD-TYPE Setup File parameter. When a new version of an existing command file is being saved, the default command file name is the name previously given to the command file.

**Prompt:**     *Do you want to compile this command file*

Default:                Shipped as N, can be changed in the Setup File.

#### Allowed Values:

<b>N</b>	Do not save a compiled command file
<b>Y</b>	Save a compiled command file
<b>G</b>	Save a compiled command file with /GO

### Compiled Command Files

You may save a compiled command file only if you first save an uncompiled, or standard, command file. The differences between standard and compiled command files are that the compiled version is translated and stored in binary format and all calc and select expressions are 'pre-verified'. This means that compiled command files load faster. However, both standard and compiled command files take the same amount of time to run the report (create and select details).

After loading a compiled command file, you can modify the report dialogue. You must save a new compiled version to save any changes in the compiled version. If you change the report dialogue, translation and calculation and selection expression verification must be done again (just as if you are running a standard command file).

Use compiled command files when you have a production report that runs without changes or for a report dialogue that contains a large number of calculation and/or selection expressions.

### Compiled Command Files with /GO

When you respond G to this prompt, XENTIS saves a compiled version of the command file with a /GO. When the command file is executed using MODIFY AN EXISTING REPORT or CREATE A NEW REPORT, XENTIS runs the report as if using RUN AN EXISTING REPORT and does not prompt **Change selection logic** or **Execute**.

### File name for Compiled Command Files

A compiled command file has the same file name as the uncompiled, or standard, command file. The default extension is determined by DFLT-COMP-TYPE setup parameter. The parameter value is shipped as .XCC.

**Prompt:**     *Do you want to catalogue this command file*

Default:                Shipped as N, can be changed in the Setup File.

#### Allowed Values:

<b>N</b>	Do not catalogue the command file
<b>Y</b>	Catalogue the command file

## Prompt: Description:

Default: Miscellaneous Standard Command Files or an existing entry for the same command file name found in the catalogue file.

### Allowed Values:

<i>description</i>	Any character string.
--------------------	-----------------------

## Catalogued Command Files

When a command file is catalogued, the file is listed under a 'heading' in the command file directory. The command file directory is displayed with most /Report Menu options and the INDEX reporting commands.

Cataloguing allows users to categorize command files to facilitate 'looking up' an existing command file. If a command file is not catalogued, it is listed in the directory under the headings Miscellaneous Standard Command Files or Miscellaneous Compiled Command Files.

## Default Catalogue Description

For a command file name that has not yet been catalogued, the default catalogue description is Miscellaneous Standard Command Files. For a command file name that exists in the catalogue file, the default is the same as the catalogue description in the catalogue file.

## The Catalogue File, XENTIS.XDX

When a command file is catalogued, XENTIS adds the command file name and the catalogue description to a file named XENTIS.XDX in the user's default directory. The catalogue file name is determined by a Setup File parameter; check the value of the parameter for the catalogue file name. XENTIS.XDX is a simple text file containing two lines for each catalogued command file in the following form:

```
Command File name
Catalogue Description
```

## How Cataloguing Works

When a command file is initially created and then catalogued, the default catalogue description is Miscellaneous Standard Command Files. If the default is changed, the command file name is displayed under the new catalogue description. When a new version of a command file with the same command file name is catalogued with the same catalogue description as the previous version, the most recent version is displayed under the catalogue heading while the earlier versions are displayed under Miscellaneous Standard Command Files.

If a different command file is catalogued with the same catalogue description as another command file, the catalogue description displays twice, with each of the command file names, when the catalogue is displayed.

## Editing the Catalogue File

XENTIS.XDX may be edited with any text editor (like EDT). Each command file entry remains permanently in XENTIS.XDX unless deleted. To display more than one command file under the same catalogue description, delete all entries but one in the XENTIS.XDX file and insert a wild card (\*) in one of the file names. See the example below for details.

<i>Command Files in the Default Directory</i>
---

```
COMPANY_ABBR.XCF;1
COMPANY_CODES.XCF;1
COMPANY_LIST.XCF;1
CONTRACT.XCF;1
CONTRACT.XCF;2
DATA_LIST.XCF;1
DATA_LIST.XCF;2
TEST.XCF;1
TEST.XCF;2
TEST_LIST.XCF;1
```

***XENTIS.XDX File***

```
COMP*.XCF;*
COMPANY REPORTS
TEST.XCF;1
TEST FILES
TEST.XCF;2
TEST FILES
TEST_LIST.XCF;1
TEST FILES
DATA_LIST.XCF;*
DATA LIST FILES
CONTRACT.XCF;
CONTRACT INFO
```

***Catalogue Display***

```
COMPANY REPORTS
1. COMPANY_ABBR.XCF;1
2. COMPANY_CODES.XCF;1
3. COMPANY_LIST.XCF;1

TEST FILES
4. TEST.XCF;1

TEST FILES
5. TEST.XCF;2

TEST FILES
6. TEST_LIST.XCF;1

DATA LIST FILES
7. DATA_LIST.XCF;2
8. DATA_LIST.XCF;1

CONTRACT INFO
9. CONTRACT.XCF;1

MISCELLANEOUS STANDARD CMD FILES
10. CONTRACT.XCF;1
```

## Prompt: *Execute*

Default: Shipped as Y, can be changed in the Setup File.

### Allowed Values:

<b>Y</b>	Run the report and create command files requested *
<b>N</b>	Do not run the report but create command files requested *
<b>B</b>	Submit the report to batch now and create the command files requested *
<b>O</b>	Submit the report to overnight batch and create the command files requested *
<b>C</b>	Do not run the report but create a .COM file using the saved command file *

\* can be disallowed by a Setup File parameter.

### Allowed Options:

<b>/STATS</b>	Display additional statistics after the report has been run
<b>/NOERR</b>	Suppress certain error messages during run.
<b>/SELECT = n</b>	Select only <i>n</i> records when reporting.
<b>/READ = n</b>	Read only <i>n</i> records from the primary data file.

Command qualifiers can be added to any of the Execute commands, above.

## Executing Interactively

When you execute with Y, your request is run interactively. Interactive execution means that any command files requested are created and your report is run immediately in your current XENTIS session at your terminal.

## Executing in Batch

When you execute with B or O, your request is run in batch. Batch execution means that any command files requested and a batch control file are created in your current XENTIS session but your report is run in another process. Thus, your terminal is free to perform other functions while your report is being run. Options entered will be passed on to batch.

---

*Refer to Appendix E for more information on executing in batch.*

---

## Creating a DCL Command File

When you execute with C, XENTIS creates a DCL command file (.COM) using the saved XENTIS command file (.XCF). Use DCL command files to submit a report to batch outside of XENTIS. The name of the .COM file is *file-name.COM* where *file-name* is the name of the saved .XCF file.

---

*Refer to 'Create a DCL command file from a report definition on the XENTIS Systems Utilities Menu' for more information.*

---

## Execute Response Qualifiers

You may optionally append a qualifier on the response at the **Execute** prompt. Use a response qualifier to specify three report run parameters; display performance statistics (/STATS), suppress error messages (/NOERR), and specify the number of records to select (/SELECT=n). Response qualifiers are entered at the **Execute** prompt in the form: *Response/Qualifier*.

Examples: Y/STATS, O/NOERR, B/SELECT=25

**Prompt:**    *Press <Return> to continue*

Default:            No default

*Allowed Values:*

<b>&lt;Return&gt;</b>	Displays next screen on the terminal
<b>\ (or /E)</b>	Jumps to <b>Press &lt;Return&gt; to exit</b>
<b>QUIT</b>	Jumps to <b>Press &lt;Return&gt; to exit</b>
<b>SKIP</b>	Continues display of report without prompting again
<b>GOTO destination</b>	Returns to a specific dialogue section
<b>RESELECT</b>	Re-issues selection prompts, then reruns report
<b>REDISPLAY</b>	Runs the report again starting with the first screen
<b>NODETAIL</b>	Suppresses the printing of detail records
<b>DETAIL</b>	Unsuppresses the printing of detail records
<b>GRAND</b>	Suppress all output until grand totals are reached.

This prompt only displays if **Output File/Device:** is TT: or to the terminal.

**RESELECT and GOTO destination**

RESELECT and GOTO are directly affected by the type of command file executed and how the command file was executed.

Cmd File Type	/GO used?	RESELECT	GOTO
.XCF (command file)	No	Allowed	Allowed
.XCF	Yes	Not Allowed	Not Allowed
.XCC (compiled .XCF)	No	Allowed	Allowed
.XCC	Yes	Not Allowed	Not Allowed
.XCS (partial .XCF)	Yes	Reruns .XCS	Not Allowed

**Prompt:**    *Press <RETURN> to exit*

Default:            No default

*Allowed Values:*

**<Return>**

After a report is executed, press <Return> to return to the menu.

This page intentionally left blank





# Prompted Literals

'Prompted literals' is a feature that allows you to enter an input prompt anywhere you normally enter a literal in a XENTIS dialogue. When you do so, during processing, XENTIS prompts you for an input value to be used for the literal value wherever the prompted literal was entered.

## Format

A prompted literal replaces a normal literal anywhere literals are allowed in a XENTIS dialogue. Instead of entering the literal value, enter the prompted literal using the following syntax:

***"/PROMPT/ class / prompt / default / minimum / maximum / table /"***

<b><i>" "</i></b>	The enclosure character. Valid entries: quotes ( " ) or apostrophes ( ' ). The entire prompted literal must be surrounded by either quotes ( " ) or apostrophes ( ' ). The enclosure character cannot be used in the text within a section of the prompted literal. There is an exception: do not use enclosure characters for prompted literals used in report title lines.
<b><i>/</i></b>	The delimiting character. Valid entries: forward slash ( / ), backward slash ( \ ), carat ( ^ ). Each section must be separated by a delimiting character. The entire prompted literal must begin and end with the delimiting character. The delimiting character cannot be used in the text within a section of the prompted literal. You must use the same delimiting character throughout each prompted literal.
<b><i>PROMPT</i></b>	The keyword that signals a prompted literal follows. Valid entry: PROMPT
<b><i>class</i></b>	The data class of the literal. Valid entries: T (for text), N (for numeric), D (for date), F (for file). Text literals can include a minimum length by appending the minimum number of character positions.
<b><i>prompt</i></b>	The prompt that is issued during processing. Valid entries: any character string excluding the delimiting character or the enclosure character.
<b><i>default</i></b>	The default value issued with the prompt during processing. Valid entries: any appropriate value. The default is always valid regardless of minimum, maximum, or table entries.
<b><i>minimum</i></b>	The minimum value allowed. Valid entries: any appropriate value.
<b><i>maximum</i></b>	The maximum value allowed. Valid entries: any appropriate value.
<b><i>table</i></b>	List of allowed values. Valid entries: a list of appropriate values. Each value must be separated by the delimiting character.

## Examples

In a selection expression:

A:STATE = "/PROMPT/T2/Enter State ( 2 characters )/WA/"

## Prompted Literals

Where: the data class is text with a minimum length of 2 characters. The default value is 'WA'.

In a selection expression:

```
B:TRANS_DATE GE '\PROMPT\D\Start date\TODAY\010192\123192\'
```

Where: the data class is date. The default value is 'TODAY'. The minimum allowed is January 1, 1992 and the maximum allowed is December 31, 1992.

In a calculation expression:

```
NAME;5 = "EAST" IF A:CODE EQ "^PROMPT^N^Division Code^^^^1^3^5^"
```

Where: the data class is numeric. A default, minimum and maximum value are not specified. Valid responses are 1, 3, or 5.

In a report title:

```
/PROMPT/T1/Enter Report Title/
```

Where the data class is text with a minimum length of 1 character. There is no default.

## Rules

- You may use an unlimited number of prompted literals in one report definition.
- Prompted literals are allowed anywhere literals are allowed. They may not be used for responses that are not literals. There is an exception: prompted literals may be used in report title lines (but not column headings) and they may be used at the output file.
- The F class is available only when used at the output file prompt.
- If a prompted literal is used at the output file prompt, only a class of F is allowed.
- When an F class is used, the minimum, maximum, and table validations are not allowed, and the delimiter must be a slash.
- The prompts are issued each time the report is run.
- If there are multiple prompted literals, the user may back up to a previous prompt by entering '\<Return>' or '/E <RTN>'.
- Backing up from the first prompt exits the report run.
- If a prompted literal includes a default value and if there are multiple prompted literals, backing up, then moving forward always resets the response to the default value.
- The prompts are issued after the report definition phase but before the execution phase.
- When changing a prompted literal that was already entered, the original prompted literal entry will be issued in the current run (but not subsequent runs).
- When using prompted literals in report titles, DO NOT enclose the prompted literal in quotation marks or apostrophes, and be sure to use the slash character as the delimiter.
- If, when you develop your report using the XENTIS dialogue, you have two absolutely identical prompted literals (everything between the quotation marks is the same), XENTIS will prompt you only once and use your entered value for all occurrences of the prompt in your report. If you want multiple prompts that appear the same, you must make them differ by modifying the prompt text, the default value, etc.
- The PROMPT-LIT-INPUT Setup File parameter controls whether prompted literals will get their input from SY\$\$INPUT: or SY\$\$COMMAND:.. This is useful if a XENTIS Command File is going to be executed from a DCL Command Procedure.
- The carat, ^, delimiter and the backslash, \, delimiter cannot be used at the output file prompt or at the title lines prompt. They can only be used where the prompted literal is surrounded by quotes.

# Print Masks

A print mask is used to print data in a specific format. The default print mask for a field is determined by the default stored in the dictionary, a setup parameter, or the number of characters in the field.

---

*Refer to the FIELDS section, Print Mask, and Appendix C, Default Print Masks or XENTIS/Dictionary for more information.*

---

## Print Masks for Text Fields

Print masks for text fields contain one pound sign (#) for each character position in the data field. Any character other than a # will print as a literal embedded in the data.

### Print Masks for Text Fields Using Word Wrap

Enter a print mask containing the number of pound signs (#) equal to the number of characters you wish to print on one line. If the data in the field extends beyond the length of the mask, the field wraps to the next line. See 'Word Wrap' in this section for complete information.

#### Print Mask Examples for Text Fields

Field Type	Data	Field Name	Print Mask	Prints As
Text 10 chars PHONE	2063430447	A: PHONE	#####	2063430447
			(###)###-####	(206)343-0447
			###-###-####	206 343-0447
Text 6 chars CODE	123456	A: CODE	###	123456
			Code:#####	Code:123456
		A: CODE	Code:##	Code:12
			##	12
			###	345
		A: CODE/3-6	#####	3456 (2 spaces)

## Print Masks for Date-Time Fields

Dates print according to the standard operating system format. The format of the date can be changed using the LIB\$DT\_FORMAT logical.

---

*Refer to VMS documentation for further information.*

---

The standard date-time value prints in the form DD-MMM-YYYY HH:MM:SS and consumes 20 character positions. The typical date-time print mask is only 11 characters. This means that it prints only the date portion of a date-time field.

The time portion of a date-time field may not be available for printing. Time can be disabled by setting the IGNORE-TIME setup parameter to Y. The time portion of a VMS date field can always be printed. The software does not handle time in increments smaller than a full second.

---

*Refer to Appendix A for more information regarding IGNORE-TIME setup parameter.*

---

### Shortened Print Masks

Shortening the print mask prints the number of characters in the date-time field equal to the number of pound signs. There is one exception; when the print mask contains 9 pound signs, the date always prints in the form DD-MMM-YY regardless of the operating system format.

## Suppressing Null Dates

Suppress the null date (00-XXX-0000) by replacing one of the pound signs with an ampersand.

### Print Mask Examples for VMS Date Fields

<i>Data</i>	<i>Print Mask</i>	<i>Prints As</i>
00-XXX-0000	#####	00-XXX-0000
00-XXX-0000	&#####	
01-JAN-1989	#####	01-JAN-1989
01-JAN-1989	#####	01-JAN
01-JAN-1989	#####	01-JAN-89
01-JAN-1989	#####	01-JAN-1989 00:00:00
01-JAN-1989 02:30:30	#####	01-JAN-1989 02:30:30
01-JAN-1989 02:30:30	#####	01-JAN-1989 02:30
01-JAN-1989	Date is: #####	Date is: 01-JAN-1989

## Print Masks for Numeric Fields

Print masks for numeric fields contain one pound sign (#) for each character position in the data field. Replace two pound signs with special characters or insert or append other characters to print literals with the data. Print masks must contain at least one pound sign (#). See the examples below for additional information on printing literals in print masks.

The VMS logicals that control the radix point and the digit separator are supported for numeric print masks.

If the data in a numeric field includes more decimal places to the right of the decimal point than included in the print mask, then the value is rounded to the number of decimal places in the print mask.

### Print Mask Rules

- Negative numbers will display with a leading minus sign unless one of the alternate methods of displaying negative numbers is used.
  - A trailing DB in the print mask will cause a trailing DB to be printed if the value of the data is negative.
  - A trailing CR in the print mask will cause a trailing CR to be printed if the value of the data is negative.
  - A trailing minus sign in the print mask will cause a trailing minus sign to be printed if the value of the data is negative.
  - A leading left parentheses and a trailing right parentheses will cause the value to be printed inside of parentheses if the value of the data is negative. If the FLOAT-LEFT-PAREN Setup File parameter is set to Y, then the left parentheses will move adjacent to the left most character being printed.
- Two leading dollar signs will cause a floating dollar sign inserted prior to the first non-space character. Use of this feature requires a trailing minus sign.
- Two leading asterisks will cause any leading zeros to be replaced with an asterisk character. Use of this feature requires a trailing minus sign.
- Leading zeros will not be displayed unless two zero characters, (00), are the first two characters of the print mask.
- Blanks will be displayed for the entire print mask if at least one pound sign is replaced with an ampersand, (&), and the data value is zero. If the data value is close to zero, but not zero, zero may be printed instead of blanks. This can occur if the print mask causes the data value to be rounded.

6. Text literals may be specified with a print mask, but they must precede, follow, or surround the print mask. They may not be embedded in the print mask. The special formatting characters specified above may not be used as a text literal.

*Print Mask Examples for Numeric Fields*

<i>Data Value:</i>	<i>Print Mask:</i>	<i>Prints As:</i>
<i>Blank When Zero:</i>		
00.00	&##.##	
00.001	&##.##	0.00
<i>Leading zeroes</i>		
1000.50	00####.##	001000.50
1000.50	00##.##	1000.50
<i>Positive numbers</i>		
1000.50	#####	1001
1000.50	#####.##	1000.50
1000.50	\$\$#,###.##-	\$1,000.50
1000.50	**#,###.##-	**1,000.50
1000.50	*#####.##-	***1,000.50
1000.50	###,###.##CR	1,000.50
1000.50	###,###.##DB	1,000.50
1000.50	(###,###.##)	1,000.50
<i>Negative numbers</i>		
-1000.50	#####	-1001
-1000.50	#####.##-	1000.50-
-1000.50	#####.##	-1000.50
-1000.50	\$\$#,###.##-	\$1,000.50-
-1000.50	**#,###.##-	**1,000.50-
-1000.50	###,###.##CR	1,000.50CR
-1000.50	###,###.##DB	1,000.50DB
-1000.50	(###,###.##)	( 1,000.50)
<i>Imbedded Text Literals</i>		
1000.50	AA####	AA1001
1000.50	#####BB	1001BB
1000.50	AA#####BB	AA 1001BB
-1000.50	AA#####	AA-1001
-1000.50	#####BB	-1001BB
-1000.50	AA#####BB	AA -1001BB

# Sub-record Processing

'Sub-record processing' is a feature that allows you to access fields with multiple occurrences, or arrays, as if they were individual records in a separate file. When using this feature, each occurrence is a part of a separate 'detail' allowing you to select, sort, break, etc., just as a field without multiple occurrences. Sub-record processing works with single-dimensional (occurrences) or multi-dimensional (occurrences within occurrences) arrays.

Without sub-record processing, reporting on fields with multiple occurrences is done by specifying each occurrence separately. For example, when selecting on a field with multiple occurrences, you must include a separate simple expression for each individual occurrence of the field to test the selection condition.

In the following discussion, a parent record refers to the record containing fields with multiple occurrences. A child record refers to each individual occurrence of the field or group of fields in the parent record.

## Format

At a file prompt in the FILE section of the dialogue, enter a file that contains a field or group of fields with multiple occurrences. At a subsequent file prompt, enter either of the following:

### Sub-record Dialogue

**/SUB=*n*/BEGIN=*b*/END=*e*/MAX=*m***

**/SUB=*n*/GROUP=*g,g,g*/MAX=*m***

*n*: the file number that contains the parent record.

*b*: the beginning field name.

*e*: the ending field name.

*g*: the name of the field(s) with multiple occurrences. You may enter either a single field or a series of fields separated by commas. A series of field names may be provided when files contain related, multiply-occurring fields that are not structured as a single group (structure).

*m*: the maximum number of child occurrences to read. You may enter either a numeric value or a field name. If a field is entered, then XENTIS uses the value stored in the field to determine the maximum number of children occurrences to read.

The **Access allowed** prompt is omitted when a sub-record is entered at a file prompt. The sub-record inherits the access mode specified for the parent file. XENTIS omits KEY section prompts for sub-records, also. The LIST FILES reporting command displays the fields contained in the sub-records. Reference fields from the sub-record as you would from any other file.

## Examples

Consider the following abbreviated COBOL record description. Assume that the file name is DEDUCTIONS. In this example, there can be 10 children (DED\_CODE) with each parent (DEDUCTION\_RECORD).

01	DEDUCTION_RECORD.	
03	EMPLOYEE_NO	PIC X(09).
03	EMPLOYEE_NAME.	
05	LAST_NAME	PIC X(20).
05	FIRST_NAME	PIC X(10).
03	GROUP	PIC X(10).
03	DED_CODE	PIC X(10) OCCURS 10 TIMES.

In a XENTIS dialogue, enter:

Primary file/view: EMPLOYEE\_MASTER  
 Second file: DEDUCTIONS  
 Third file: /SUB=2/GROUP=DED\_CODE

The field from the third file is DED\_CODE. In this example, the '/MAX=' qualifier is not needed since the children occur at the end of the record.

Consider the following abbreviated COBOL record description. Assume that the file name is INVOICE. In this example, there can be 30 children (INVOICE-DETAIL) with each parent (INVOICE-HEADER). In addition, there are 3 children (COMMENT) within each child (INVOICE-DETAIL).

01	INVOICE-RECORD.	
03	INVOICE-HEADER.	
05	INVOICE-KEY	PIC X(08).
05	INVOICE-DATE	PIC X(08).
05	CUSTOMER-NUMBER	PIC X(12).
05	DETAIL-COUNT	PIC S99999 USAGE COMP.
03	INVOICE-DETAIL	OCCURS 30 TIMES DEPENDING UPON DETAIL-COUNT.
05	PART-NUMBER	PIC X(12).
05	DESCRIPTION	PIC X(30).
05	QUANTITY	PIC 99999 USAGE COMP.
05	PRICE	PIC 999999V99 USAGE COMP.
05	COMMENT	PIC X(20) OCCURS 3 TIMES.

In a XENTIS dialogue, enter:

Primary file/view: INVOICE  
 Second file: /SUB=1/BEGIN=PART-  
 NUMBER/END=COMMENT/MAX=DETAIL\_COUNT  
 - or -  
 /SUB=1/GROUP=INVOICE-DETAIL/MAX=30  
 Third file: /SUB=2/GROUP=COMMENT/MAX=2

The fields from the second file are PART-NUMBER, DESCRIPTION, QUANTITY, PRICE, and COMMENT. The field from the third file is COMMENT. '/MAX=2' is appended specifying on the first two occurrences, the third occurrence is ignored.

## Rules

- The file containing the parent and children records must be entered before the sub-record in the FILE section of the dialogue.
- XENTIS assumes a one-to-many relationship between parent and children records.
- Missing records are ignored since there cannot be any missing records.
- The children must exist consecutively in the record.
- The children must be fixed in size, but not in count.
- If the children vary in count, then the children must exist at the end of the record.
- If the children are fixed in count, then there may be additional parent fields after the children. You must use the '/MAX=m' qualifier to limit the number of children for each parent.
- If the '/MAX=m' qualifier is not included, then the size of the data record determines the number of children present.
- Blank children can be excluded using selection logic.
- The setup parameter ACCUM-IF-UNIQUE works with sub-record processing. If set to Y, a field in a child is accumulated only when a different child is read.
- A sub-record can reference another sub-record but to only two levels.

### ***Sub-record Processing***

- Two sub-records can reference the same parent record. Be sure each sub-record references a different part of the parent record and includes the '/MAX=m' qualifier .
- Pointer files are not allowed with sub-record processing.



# Symbol Substitution

XENTIS symbol substitution allows you to enter a defined symbol in response to any prompt in a dialogue. When the command file is then run, XENTIS prompts for a value and substitutes the value assigned to the symbol into the dialogue.

To use symbol substitution, the parameter AMBIG-SYMBOLS must be set to Y in either the System Setup File or in a User Setup File. If this parameter is set to N, then XENTIS does not allow symbol substitution.

Begin by creating a logical name table, XEN\$SYMBOLS. XENTIS symbols are defined as VMS logicals in the table. When initiated, XENTIS looks for XEN\$SYMBOLS.

Any XENTIS symbol used in a dialogue:

- may be defined as any item that could be used in a response to a dialogue prompt. For example: reporting commands, file names (actual, generic, actual/generic, multiple primary files, multiple dictionaries, CDD paths, etc.), calculation expressions, selection expressions, variables to use in column headings or title lines, field names, and so on.
- may be used as many times as you wish in one report dialogue.
- must be defined outside of XENTIS and reside in the XEN\$SYMBOLS logical name table.

Once a XENTIS symbol is defined, use it in response to any prompt in a subsequent dialogue.

## Creating a Logical Name Table & XENTIS Symbols

Before using symbol substitution in a dialogue, the logical name table XEN\$SYMBOLS must exist and any symbol you wish to use must be defined as a VMS logical in it.

When invoked, XENTIS looks for a logical name table called XEN\$SYMBOLS. If XENTIS is unable to locate XEN\$SYMBOLS, then symbol substitution cannot be used.

---

*Refer to the VMS HELP utility or your VMS manual for information on the CREATE/NAME and DEFINE/TABLE commands.*

---

The example below illustrates how to create a logical name table at the process level.

1. Ensure the Setup File parameter AMBIG-SYMBOLS is set to Y.

2. Create a logical name table by entering:

```
$ CREATE/NAME_TABLE XEN$SYMBOLS
```

3. Define each symbol separately in the logical name table by entering:

```
$ DEFINE/TABLE=XEN$SYMBOLS symbol "definition"
```

where *symbol* is the XENTIS symbol being defined and *definition* is what the symbol is being defined as.

For example, if you want to define the symbol GEX as the reporting command GOTO EXECUTE, then enter:

```
$ DEFINE/TABLE=XEN$SYMBOLS GEX "GOTO EXECUTE"
```

More examples:

```
$ DEFINE/TABLE=XEN$SYMBOLS APFILE -
  "DISK0:[DATA]APFILE.DAT/_CDD$TOP.AP.DATA.APFILE_REC"
```

```
$ DEFINE/TABLE=XEN$SYMBOLS NAMECALC -
  "NAME;25 = EDIT(FIRST,128) + " " " " + LAST"
```

```
$ DEFINE/TABLE=XEN$SYMBOLS SAVE "GOTO CMDFILE"
```

4. List the symbols defined in the logical name table by entering:

```
$ SHOW LOGICAL/TABLE=XEN$SYMBOLS
```

5. The limitations and restrictions for symbol substitution are:

- *symbol* can be any VMS logical name except as listed below.

## Symbol Substitution

- *symbol* cannot be a reserved XENTIS word, a file name, a field name, a response in a XENTIS dialogue, or any character string defined as something else. For example; if you define a symbol D to be equal to DISPLAY, then if you enter print frequency D, XENTIS substitutes DISPLAY and print frequency D cannot be used.
- *definition* can be any valid response used in a report dialogue with a maximum of the number of characters allowed on the response line.
- If *definition* contains quotes ("), then enclose the quotes with another set of quotes. For example, if *definition* contains the selection expression STATE = "WA", then enter the text literal as ""WA"".  

```
$ DEFINE/TABLE=XEN$SYMBOLS SELECTWA "STATE = ""WA"" "
```
- The limit on the number of symbols that may be defined is controlled by VMS.

## Using XENTIS Symbols in a Dialogue

When creating or modifying a report, enter XENTIS symbols as responses (or parts of responses) to any prompt in the dialogue. XENTIS substitutes the value assigned to the symbol in the logical name table. The translated value is saved in command files.

In the example above, where GEX is defined as the reporting command GOTO EXECUTE, when GEX is entered in a dialogue, then the GOTO EXECUTE reporting command is performed.

# Word Wrap

'Word wrap' allows you to print data contained in a text-type field on more than one print line. With 'word wrap' you can easily print lengthy text fields on multiple print lines. 'Word wrap' is allowed for /Report and QUERY only.

## Format

Specify word wrap for a text field printing on your report in the FIELD section of the dialogue. At the **Column Attributes** prompt, enter 'W'. At the **Print mask** prompt, enter a mask containing the number of pound signs (#) equal to the number of characters you wish to print on one line. If the data in the field extends beyond the length of the mask, the field wraps to the next line.

When using 'word wrap' for a field, the column heading is centered over the print mask. The MAX-WRAP setup parameter determines the maximum number of print lines allowed. The data is displayed left-justified on each 'wrapped' line.

## Examples

Assume the file you are using to create a report contains a text field called COMMENTS that is 30 characters in length. For one of the records in the file, data contained in the field is:

SPOKE TO MR. SMITH ON 1/28

<i>MAX-WRAP</i>	<i>Justify heading and Print mask</i>	<i>Prints as:</i>
3	Column attribute: W Print Mask: #####	SPOKE TO MR. SMITH ON 1/28
2	Column Attribute: W Print Mask: #####	SPOKE TO MR. SMITH
5	Column Attribute: W Print Mask: #####	SPOKE TO MR. SMITH ON 1/28

## Rules

- 'Word wrap' is allowed for text fields only.
- The maximum number of print lines for a word wrapped field is determined by the MAX-WRAP setup parameter. If the print mask and the MAX-WRAP parameter do not allow enough space to print all the data contained in a field, then the data is truncated.
- Page breaks are determined by the MAX-WRAP setup parameter and the data contained in the field. If a field is word wrapped, then the entire detail must fit on one page. If only a portion of the detail fits, then the detail is printed at the top of the next page.
- Word delimiters are the space, tab, and dash characters.
- The data in field using 'word wrap' is displayed left-justified on each 'wrapped' line.
- 'Word wrap' is available in /Report and QUERY only. If 'W' is entered at a **Column Attributes** prompt for any other function, it is converted to 'C'.
- You are allowed to place another field on the print line below a word wrapped field. If not enough space is allowed (the fields are not separated by enough print lines), then one of the two fields may not print correctly.

# Print Attributes

The XENTIS Print Attributes feature allows you to control how your printer displays fields and headings when printing XENTIS reports.

Most printers provided flexibility to allow characters to be printed with special characteristics such as bolding, underlining, and italicizing. To utilize these capabilities, a program must send special codes to the printer that precedes the characters to be highlighted. These codes tell the printer that what follows is to be printed in a particular way. Once the text to be highlighted has been printed, additional codes must be sent to tell the printer to cease the special printing and return to normal for subsequent text.

You can view this process by turning on a print attribute, printing text with it on, then turning the attribute off.

## Procedure

XENTIS allows you to establish special names for each of the attributes you wish to use. These “attribute names” are defined by your System Manager and stored in a text file. Once these attributes names have been defined, you may highlight fields and headings in your reports by associating an attribute name with a field. Then, when preparing a report for printing, XENTIS includes the appropriate codes to turn on and turn off the attributes you’ve selected.

The setup parameter ATTR-FILE tells XENTIS the name and location of the print attributes file. Documentation for your System Manager can be found in the XENTIS\_ATTRIBUTES.DAT file provided with the XENTIS software.

## Syntax

To assign attribute names to fields to be printed, when prompted for the Column Attributes, append “/ATTR=” followed by the appropriate attribute name.

For example, if your system manager has created a BOLD column attribute to print a column as bold text, you may enter:

C /ATTR=BOLD

in response to the Column Attr prompt. This would tell XENTIS that you want the heading centered (C) and you want the column, including the heading and totals, printed using the Bold attribute.

Similarly, if you want a report title printed using bold characters, you would enter the report title text, in response to the Report Title prompt, followed by “/ATTR=BOLD”.

---

*Refer to the FIELD section or the FORMAT section for more information on the syntax for Print Attribute entry.*

---

## Rules

- Your system manager must define attributes that correspond with the printers you own.
- Attributes may not be associated with a word-wrapped field.
- Use of attributes that vary the width or height of characters may cause misalignment problems on your printed report.
- Attributes assigned to a report DO NOT affect report output to your terminal.
- Both attribute-on and attribute-off printer code sequences must be defined for each attribute to be used.

# HTML OUTPUT

HTML output is a special type of output file that can be viewed with a web browser. The type of HTML output that XENTIS produces is called pre-formatted text. This means that a XENTIS report viewed with a web browser will look exactly like a report displayed on your character cell terminal screen or on your printer. XENTIS controls the formatting of the report, not the web browser.

It is very easy to produce an HTML output file with XENTIS. The steps are as follows:

- Design your report as you normally would.
- At the “Output File/Device” prompt, enter any disk filename.
- At the “Que to system printer” prompt, enter an H.
- You will now receive three additional prompts:
  - “HTML Document Title”. Enter the title you wish to give the resulting HTML document. This can be different from your report title. This will be displayed on the title bar of your web browser.
  - “Enter into catalogue”. Enter a Y or N. The controls whether this report is inserted into an HTML catalog file. The default response is controlled by a setup file parameter.
  - “Pages per HTML document”. Some reports may be only a few pages while other reports may be thousands of pages. It is wise to break long reports into several HTML documents. Your web browser would perform slowly if it had to read a thousand pages in a single document.

Here is how the creation of HTML output file actually works in XENTIS.

- After the dialogue phase has been completed and you have chosen to produce an HTML output file, XENTIS completes the selection phase, and the sort phase just as if it were producing regular output.
- During the output phase, at the top of the each page, XENTIS determines if the number of pages printed since it opened the current output file exceeds the value specified in the response to the “Pages per HTML document” prompt. If it does exceed it, XENTIS closes that output file, appends a sequence number to the filename, renames the file so that it has a filetype (extension) that matches the HTML-OUTPUT-TYPE setup parameter, and then opens an additional output file.
- The previous step is repeated until the entire report is produced. This can result in many output files. For example, if your report is 450 pages long, and you are producing 20 pages per HTML document, you will have 23 HTML document files.
- Upon completion of the report, if more than one HTML document file is created, XENTIS will create an HTML Index file. This Index file will have a name identical to what was specified at the “Output File/Device” prompt, except that its filetype (extension) will match the value of the HTML-OUTPUT-TYPE setup parameter, and it will contain HTML links to all the pages of the report. If only one HTML document file is created, then no index document is created. The format of this index file is controlled by a template file whose name is specified by the HTML-PRE-INDEX setup parameter.
- If the response to the “Enter into catalogue” prompt is Y, then XENTIS inserts an entry into the HTML catalog file. This catalog file must already exist, as XENTIS does not create it. An empty catalog file is supplied with XENTIS. The name of this catalog file is controlled by a setup parameter.
- It should also be noted that each HTML document file has a prefix section and a postfix section. The contents of these sections are found in the files controlled by the HTML-PRE-PREFIX and the HTML-PRE-POSTFIX setup parameters. They help control the display of the report by the web browser.
- To view the resulting report with your web browser, do the following:
  - If you chose to enter the output file into a catalog, then in the URL or Address window of your web browser, enter the filename of the catalog file and select the newly created report.
  - If you chose to not enter the output file into a catalog, then in the URL or Address window of your web browser, enter the filename of the HTML output file.

# Label Maker

Menu Selection: 'Label Maker Menu' from the Main Menu.

Label Maker is a tool used to create and format labels. Label Maker is a variation of /Report that uses specific parameters designed to simplify creating and formatting labels. Generating labels with Label Maker does not require any special adjustments of setup parameters.

NO	DESCRIPTION	NAME
01	Design label output	NEWLABELS
02	Reformat Labels	FORMATLABELS

Enter <Return>, function number/name, \ to backup, or EXIT:

Label-style files are created in Label Maker in two steps. First, create the label output using the 'Design label output' option. Next, format the label output using the 'Reformat labels' option. You cannot use one without the other and get correct results. Once the label file is generated, print the labels on the proper label forms using the 'Print a report' /Report Menu option or VMS commands.

# Design Label Output

Menu Selection:	'Design Label Output' from the Label Maker menu.
-----------------	--

Designing label output works just like developing a report. Label design uses the DISPLAY screen. Respond to the dialogue prompts as you would for a report or use the defaults provided. The following discussions lists the prompts that differ between normal report and label design.

The label output file created by this process must be formatted before printing using the 'Format labels' option.

## *Prompt: Print frequency*

Enter 'D' since each label is a separate 'detail'.

## *Prompt: Print line*

Format print lines as though each label is a page of a report. Print each field or group of fields on its own print line. The print line must correspond with the position of the field in the label.

## *Prompt: Do you wish to have break logic*

Normally, enter 'N'. Break fields can be used to print special labels between groups of labels. For example, you could have a blank label between mailing labels grouped by zip code.

## *Prompt: Output file/device*

Enter an output file at the **Output file/device** prompt.

## *Prompt: Queue to system printer*

Enter 'N'. Labels must be formatted after they are created using the 'Reformat labels' option before printing.

## *Prompt: Lines to print on page*

Use the defaults provided. The lines printing on each label is determined when the output file is formatted.

## *Prompt: Page size*

Use the defaults provided. The label size is determined when the output file is formatted.

## *Output*

During executing, XENTIS creates the output file using the specifications entered in the dialogue. Once the output file is created, then format it into a printable form using the 'Reformat Labels' option on the Label Maker menu. The same file can be formatted for printing more than once.

# Reformat Labels

Menu Selection:	'Format Labels' from the Label Maker menu.
-----------------	--

Use this option to format the label output file. The format option properly formats output files created using the 'Design label output' option. XENTIS issues prompts. Respond to the prompts as described below.

**Prompt:**     *Enter input file name*

Enter the label output file (output file created by the 'Design label output' option). If a device and directory are not included, XENTIS uses the current default location. If an extension is not included, XENTIS uses .LIS.

**Prompt:**     *Enter output file name <input file name>*

Enter the file name for the formatted label output file. If an extension is not included, XENTIS uses .LIS.

**Prompt:**     *Number of labels across page (1 - 20) <1>*

Enter the number of horizontal label columns.

**Prompt:**     *Label width in characters (1 - 132) <35>*

Enter the label width (number of characters).

**Prompt:**     *Lines per label (1 - 66) <n>*

Enter the number of lines on each label. Standard labels contain 6 lines per label. The default is the number of lines per label in the label output file.

**Prompt:**     *Repeat count <1>*

Enter the number of times to repeat each label. You may enter the string 'VARIABLE'. If you do, the first line of each label should contain a number indicating the repeat count for that label. This extra line will be removed during processing.

**Prompt:**     *Include form feed in output <N>*

Enter 'Y' to insert a form feed before each label. Enter 'N' to not insert a form feed before each label. When printing labels with bar codes, enter 'Y'.

**Prompt:**     *Suppress blank lines <Y>*

Enter 'Y' to suppress blank lines in the label output file. Enter 'N' to leave blank lines in the label



output file.

## ***Printing***

After executing, XENTIS formats the output file using the specifications entered at the prompts. Once the output file is formatted, then print it on the proper label form.

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# Create a New Report

Guide Menu Selection:    'Create a new report' from the /Report Menu.
---

Use this option to create new reports, run any of the /Report modules, or modify an existing report. 'Create a new report', the reporting screen appears (in DISPLAY mode only). When creating a new report or running any of the /Report modules, XENTIS issues a series of prompts, and default responses where possible, to which you respond. A dialogue is the series of prompts and responses that go into one reporting session. The dialogue is broken into sections; each section contains one or more related prompts. For /Report, the dialogue sections are as follows.

## *Function*

Specifies the XENTIS function for the current dialogue session. For /Report, function is REPORT.

## *Files*

Specifies the files you'll be using to create your report.

## *Keys*

Specifies the keys you'll be using to 'link' the files together.

## *Calculations*

Specifies calculation expressions used to create new fields in your report.

## *Fields*

Specifies the fields to print on your report.

## *Calculations on Totals*

Specifies calculation-on-total expressions. Creates new fields in your report with accumulated values.

## *Selection*

Defines criteria for choosing records to print on your report.

## *Sort*

Specifies fields to use to sort your report.

## *Break*

Specifies fields to use to break your report.

## *Format*

Specifies where to store or display report output and report formatting information.

## *Command File*

Specifies whether or not to save a command file and how to execute the dialogue.

# Create a New Query

Guide Menu Selection: 'Create a new query' from the /Report Menu.
---

A query dialogue is the same as a report dialogue except that in QUERY, only a selected portion of the REPORT dialogue prompts are issued. Remaining prompts use the standard defaults; these defaults cannot be changed. For the prompts that are issued, use the defaults or enter your own responses to create a new report definition. Using QUERY does not speed up the processing of your report; QUERY only abbreviates the dialogue session. The selecting, sorting, and printing phases are identical to those in REPORT.

## How Query Works

The prompts that are issued in a query dialogue are determined by Setup File parameters. There is one Setup File parameter for each optional prompt issued in a /Report dialogue. Choose which prompts appear in a query dialogue by setting these parameter values to Y (to issue the prompt in a QUERY) or N (to omit that prompt from the QUERY dialogue).

Each individual user may choose which prompts to issue in a query dialogue by adding these parameters to their own SETUP.DAT file.

Any prompt that is not issued in a query dialogue uses the standard default assigned in /Report; these defaults cannot be changed.

Once a report is created with the QUERY function, you may change the response at **Enter XENTIS function** (by modifying an existing report) to REPORT. In doing so, the user can access all the report dialogue prompts without having to recreate the command file.

To invoke a query dialogue, from the /Report Menu, choose either 'Create a new query' or 'Create a new report' and enter QUERY at **Enter XENTIS function**. REQUERY is also available if you wish to use a pointer file.

To save a query dialogue, save a command file just as you would for a report dialogue. The dialogue will be saved in an .XCF file that can be compiled, catalogued, listed and accessed as any .XCF created using REPORT. Run or modify an existing query dialogue just as you would for a report dialogue.

## Why Use Query

Because QUERY is an abbreviated dialogue session, it is useful when:

- you wish to define a report quickly without responding to all the prompts that are a part of a full report dialogue.
- you do not need the extensive capabilities available in a full report dialogue.
- you wish to view data quickly without regard to report format.
- you want to introduce novice users to XENTIS or provide a tool for beginning XENTIS report writers.

# CReport - Reversed Row/Column Report

Guide Menu Selection:    '/Creport - reversed Row/Column Report' from the /Report Menu.

XENTIS/CReport is a variation of XENTIS/Report; its purpose is to create reports on a horizontal, rather than vertical, axis. With /CReport, input files are read and details are created the same way as in /Report. The difference between /CReport and /Report is the format of the report; field values are displayed in rows instead of in columns. The following is an example of a columnar report created using /CReport. Note that the information from a detail appears in a column, with field names in the left-most column.

## Columnar Report Example

XENTIS V4.1	ACME ELECTRIC INC.	PAGE    1
CUSTOMER	Sales Lead List	date
		SALES_LEAD.XCF
Customer Name: A-1 AUTO	AL'S AUTO SUPPLY	AL'S AUTO SUPPLY
Address: 24 THIRD AVE. SW	7800 AURORA AVE. N	1415 LENOX BOULEVARD
City: STOCKTON	SEATTLE	PORTLAND
State: CA	WA	OR
Contact: JAMES R. HALL	ALBERT RIPLEY	JOSEPH INGLEWOOD
Telephone: (916)426-1711	(206)723-8611	(503)767-1122
Customer Name: CENTRAL DISTRIBUTORS	CENTRAL DISTRIBUTORS	CREST, INC
Address: 305 BRIDGE ST	829 PHILLIPS RD.	77 EASTLAKE AVE
City: CARSON CITY	OMAHA	TUSCON
State: NV	NE	AZ
Contact: JOAN WATERSON	JAY EARLY	JIM WHITTAKER
Telephone: (702)323-2211	(402)327-3343	(602)773-1898
Customer Name: DISCOUNT AUTO PARTS	DISCOUNT AUTO PARTS	ED'S DISCOUNT AUTO SUPPL
Address: 890 RIDGE ROAD	1711 WILSHIRE BLVD.	325 NORTH ST
City: COLUMBUS	LOS ANGELES	ALBUQUERQUE
State: OH	CA	NM
Contact: ROBERT M. STEVENS	HELEN STUTGART	NICHOLAS LISI
Telephone: (614)829-2676	(213)429-1723	(505)926-8837
Customer Name: HEMMINGS, LTD.	HENDRICK'S AUTO SUPPLY	JACKSON AUTOMOTIVE
Address: 48 BOOKER ST.	325 32ND AVE. NW	731 SOUTH ST.
City: VANCOUVER	MINNEAPOLIS	CHEYENNE
State: BC	MN	WY
Contact: JACK SIMPSON	LUKE ANDERSON	KEMPER CUSHMAN
Telephone: (604)729-6850	(612)754-8956	(307)222-4116

## The /CReport Dialogue

The /CReport dialogue uses the same reporting commands and keystrokes as /Report. See the /Report Introduction for more information.

## **CReport**

Most of the /CReport dialogue is identical to /Report. You are prompted for files, key relationships, calculations, fields, calculations on totals, selection logic, sort fields, break fields, output and format. For these dialogue sections, use the allowed values and explanations in the '/Report Dialogue' section of the XENTIS Reference Manual.

---

*Refer to /Report Introduction for more information.*

---

### **Prompt:    *Enter XENTIS Function***

Enter CREPORT to initiate the /CReport dialogue. You may also enter RECREPORT to initiate the /CReport dialogue using a pointer file.

---

*Refer to 'Pointer File' section for more information about pointer files and 'RE' functions.*

---

### **Prompt:    *Print frequency***

Equivalent to Print frequency in the /Report dialogue. All /Report print frequencies are valid except H (heading).

### **Prompt:    *Field title***

Equivalent to Column heading in the /Report dialogue. The field title displays down the left-hand side of the report.

### **Prompt:    *Page width***

Number of character position across the page. Valid responses are 1 to 255.

### **Prompt:    *Skip spaces between columns***

Number of spaces to insert between data values in a row. Valid response are 0 to 9.

### **Prompt:    *Suppress field titles***

Equivalent to Suppress title lines in the /Report dialogue.

# Run an Existing Report

Guide Menu Selection: 'Run an existing report' from the /Report Menu.

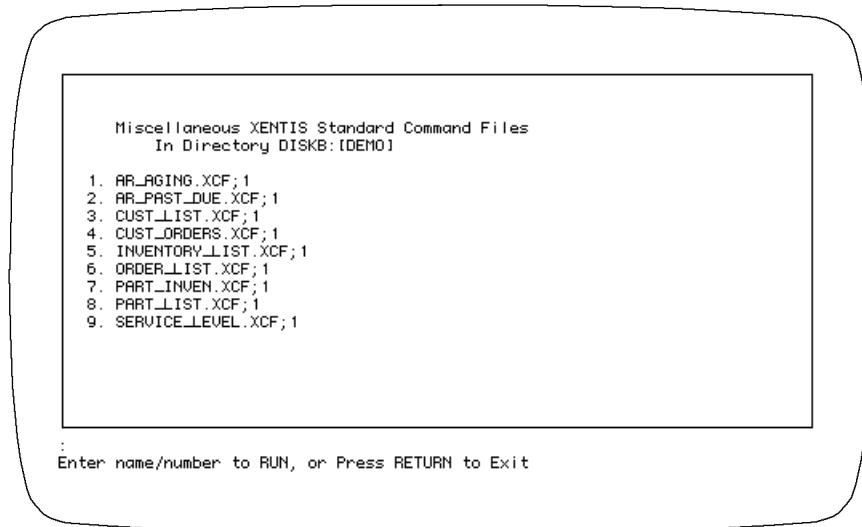
'Run an existing report' re-runs a report that you have defined and saved in a command file. When using this option, XENTIS runs the report without allowing any changes. XENTIS issues the following prompt:

**Prompt:** *Enter name or number to RUN, or  
Press RETURN for more, or Type 'V' to Quit:*

**Allowed Values:**

<i>file-name</i>	Run the entered file.
<i>file-number</i>	Run the entered file.
<b>&lt;Return&gt;</b>	Return to the menu.

XENTIS displays a listing of command files consisting of: catalogue headings, a command file number that displays on the left-hand side of the screen, and the command file name.



The list includes any command file:

- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.
- that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If a command file is catalogued, it appears under its catalogue heading. If a command file is not catalogued, it appears under the heading 'Miscellaneous XENTIS Standard Command Files' or 'Miscellaneous XENTIS Compiled Command Files'.

Continue to view the listing by pressing <Return>. When all screens have displayed, XENTIS issues the following prompt:

**Prompt:**     *Enter name or number to RUN, or  
Press RETURN to Exit:*

*Allowed Values:*

<i>file-name</i>	Run the entered file.
<i>file-number</i>	Run the entered file.
<b>&lt;Return&gt;</b>	Return to the menu.

***file-name***

Enter the name of the command file you wish to run, then press <Return>.

If the command file is located in the device and directory determined by the Setup File parameter DFLT-CMD-LOC, then you do not need to include a device and directory. If you wish to run a command file in a different location, include the device and directory on the front of the command file name. If the command file uses the file extension assigned to the Setup File parameter DFLT-CMD-TYPE (shipped as .XCF), then you need not include an extension.

***file-number***

Enter the number of the command file (displayed on the left-hand side of the screen in the catalogue listing) you wish to run, then press <Return>.

Once a name or number is entered, XENTIS initiates a new dialogue, loads the saved responses into the new dialogue session, then executes without pausing.

**\**

Enter \, then press <Return> to return to the Menu.



# Run an Existing Report in Batch

Guide Menu Selection: 'Run an existing report in Batch' from the /Report Menu.

'Run an existing report in batch' runs a report that you have defined and saved in a command file, much as the 'Run an existing report' does. The difference between the two is that this menu selection allows you to submit the report to the VMS batch queue for processing, freeing your terminal for other uses.

XENTIS issues the following prompts:

**Prompt:** *Submit to current batch (B) or overnight batch (N):*

*Allowed Values:*

<b>B</b>	Run in batch now.
<b>N</b>	Run in batch overnight, beginning execution as defined in the setup file.

***B***

XENTIS submits the command file you are about to run to the VMS batch queue system for execution. No delay in execution is created by XENTIS.

***N***

XENTIS submits the command file you are about to run to the VMS batch queue system for overnight execution. The command file will not begin running until after the time your system manager has specified in the XENTIS Setup file for overnight execution.

Once you have responded to the above prompt, the remainder of the 'Run an existing report in batch' command works in exactly the same fashion as the command to run a report immediately.

# Modify an Existing Report

Guide Menu Selection: 'Modify an existing report' from the /Report Menu.

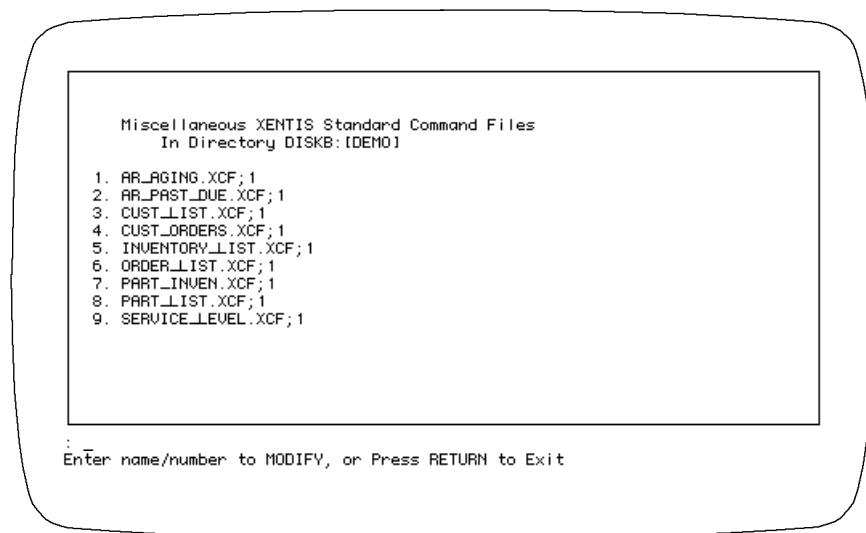
'Modify an existing report' modifies a report that you have defined and saved in a command file before re-running the report. When using this option, XENTIS loads the saved responses into a new dialogue session. You may change any portion of the dialogue, save a new command file, then re-run the report. XENTIS issues the following prompt:

**Prompt:** *Enter name or number to MODIFY, or  
Press RETURN for more, or Type 'V' to Quit:*

**Allowed Values:**

<i>file-name</i>	Modify the entered file.
<i>file-number</i>	Modify the entered file listed on the screen.
<b>&lt;Return&gt;</b>	Return to the menu.

XENTIS displays a listing of command files consisting of: catalogue headings, a command file number that displays on the left-hand side of the screen, and the command file name.



The list includes any command file:

- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.
- that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If a command file is catalogued, it appears under its catalogue heading. If a command file is not catalogued, it appears under the heading 'Miscellaneous XENTIS Standard Command Files' or 'Miscellaneous XENTIS Compiled Command Files'.

Continue to view the listing by pressing <Return>. When all screens have displayed, XENTIS prompts for a file name or number:

### *file-name*

Enter the name of the command file you wish to modify, then press <Return>.

If the command file is located in the device and directory determined by the Setup File parameter DFLT-CMD-LOC, then you do not need to include a device and directory. If you wish to run a command file in a different location, include the device and directory on the front of the command file name. If the command file uses the file extension assigned to the Setup File parameter DFLT-CMD-TYPE (shipped as .XCF), then you need not include an extension. If you wish to use a command file that has a different extension (for example: .XCC), then include the extension on the end of the name.

### *file-number*

Enter the number of the command file (displayed on the left-hand side of the screen in the catalogue listing) you wish to modify, then press <Return>.

### *To Quit and Return to Menu*

Enter \, then press <Return> to return to the Menu.

Once a name or number is entered, XENTIS displays a list of options available at **Change selection logic**, initiates a new dialogue, and loads the saved responses into the new session. The saved responses become the defaults in the new dialogue session.

## *Prompt: Change selection logic*

### *Allowed Values:*

<b>N</b>	Begins the dialogue at the Execute prompt.
<b>Y</b>	Begin the dialogue with the Do You Wish Selection Logic prompt.
<b>\</b>	Begin the dialogue with the Enter Function prompt.
<b>DISPLAY</b>	Switches to DISPLAY mode.
<b>RESTART</b>	Begin the dialogue with the Enter Function prompt
<b>GOTO</b> <i>destination</i>	Begins the dialogue at the <i>destination</i> entered.
<i>command</i>	Any valid reporting command or keystroke

### */*

Puts you into the dialogue at **Do you wish to have selection logic**. Once you have responded to the last prompt in the SELECTION section, **Number of records to select**, XENTIS skips to **Execute**.

### *Any valid reporting command or keystroke*

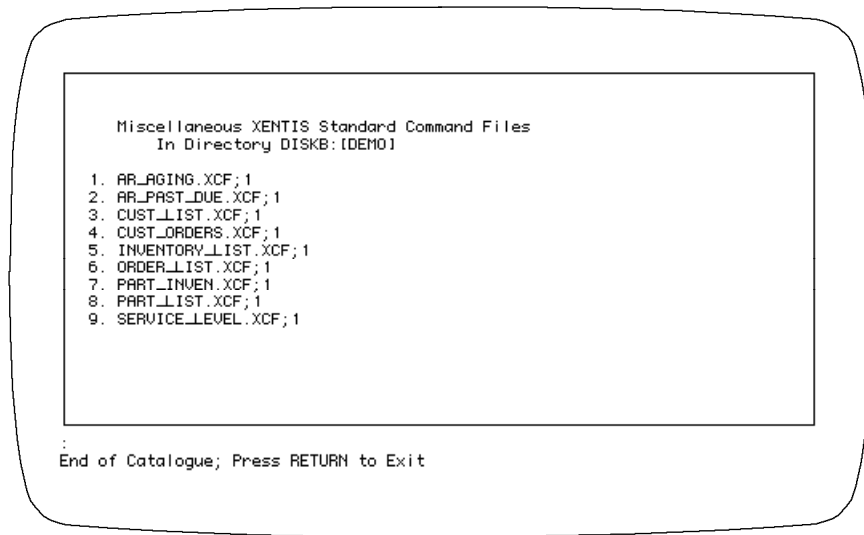
At any prompt, you may change the default response, press <Return> to accept the default response, or move to other parts of the dialogue using reporting commands and keystrokes.

# Display a Directory of Report Definitions

Guide Menu Selection: 'Display a directory of report definitions' from the /Report menu.

'Display a directory of report definitions' displays a list of command files stored in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.

XENTIS displays a catalogue listing of command files consisting of: catalogue headings, a command file number that displays on the left-hand side of the screen, and the command file name.



The list includes any command file:

- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.
- that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If a command file is catalogued, it appears under its catalogue heading. If a command file is not catalogued, it appears under the heading 'Miscellaneous XENTIS Standard Command Files' or 'Miscellaneous XENTIS Compiled Command Files'.

XENTIS issues the following prompt:

**Prompt:** *Press RETURN for more, or Type 'V' to Quit:*

Allowed Values:

<Return>  
V

If there are more, display the next screen of files.  
Return to the menu.

# Delete a Report Definition

Guide Menu Selection: 'Delete a report definition' from the /Report menu.

'Delete a report definition' deletes any saved command file you no longer need. XENTIS issues the following prompt:

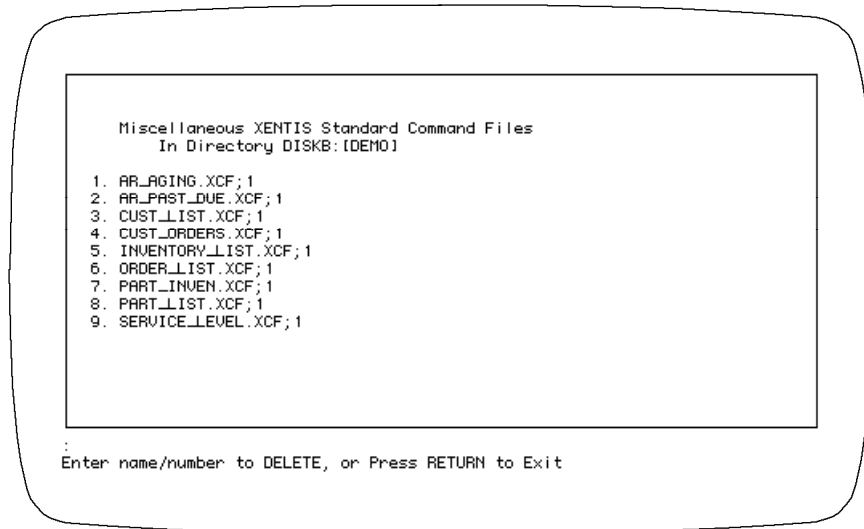
**Prompt:** *Enter name or number to DELETE, or  
Press RETURN for more, or Type 'V' to Quit:*

*Allowed Values:*

<b>&lt;Return&gt;</b>	Display command file listing.
<b>\</b>	Return to the menu.

**<Return>**

XENTIS displays a listing of command files consisting of: catalogue headings, a command file number that displays on the left-hand side of the screen, and the command file name.



The list includes any command file:

- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.
- that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If a command file is catalogued, it appears under its catalogue heading. If a command file is not catalogued, it appears under the heading 'Miscellaneous XENTIS Standard Command Files' or 'Miscellaneous XENTIS Compiled Command Files'.

## Delete a Report Definition

Continue to view the listing by pressing <Return>. When all screens have displayed, XENTIS issues the following prompt:

**Prompt:**     *Enter name or number to DELETE, or  
Press RETURN to Exit:*

### Allowed Values:

<i>file-name</i>	Delete the entered command file.
<i>file-number</i>	Delete the entered command file listed on the screen.
<i>\</i>	Return to the menu.

Enter the name or number of the command file you wish to delete, or press <Return> to return to the Menu.

### *file-name*

Enter the name of the command file you wish to delete, then press <Return>.

If the command file is located in the device and directory determined by the Setup File parameter DFLT-CMD-LOC, then you do not need to include a device and directory. If you wish to delete a command file in a different location, include the device and directory on the front of the command file name. If the command file uses the file extension assigned to the Setup File parameter DFLT-CMD-TYPE (shipped as .XCF), then you need not include an extension. If you wish to use a command file that has a different extension (for example; .XCC), then include the extension on the end of the name. If there are multiple versions of the command file, XENTIS selects the highest version. If you want to specify a version number, include the extension and version number.

### *file-number*

Enter the number of the command file (displayed on the left-hand side of the screen in the catalogue listing) you wish to delete, then press <Return>.

### *To Quit and Return to Menu*

Enter \, then press <Return> to return to the Menu.

If you enter a name or number to delete, XENTIS issues the following prompt:

**Prompt:**     *Really delete report definition command file name <N>?*

### Allowed Values:

<b>N</b>	Don't delete, and return to the Menu.
<b>&lt;Return&gt;</b>	Don't delete, and return to the Menu.
<b>\</b>	Don't delete, and return to the Menu.
<b>Y</b>	Delete the file and return to the Menu.

# Copy a Report Definition

Guide Menu Selection: 'Copy a report definition' from the /Report menu.

'Copy a report definition' creates a copy of a saved command file. Use the copy to make changes to a saved dialogue (for example; create a partial command file or add command file substitution). XENTIS issues the following prompts:

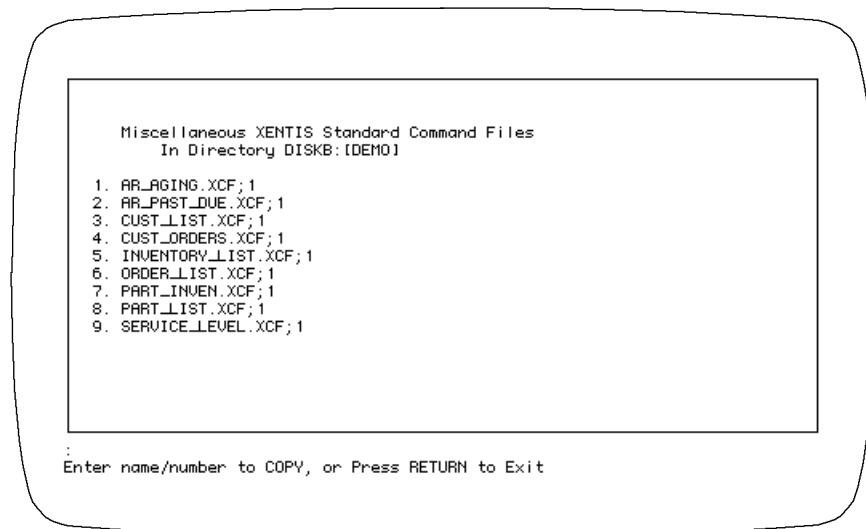
**Prompt:** *Enter name or number to COPY, or  
Press RETURN for more, or Type 'V' to Quit:*

*Allowed Values:*

<b>&lt;Return&gt;</b>	Display a list of command files.
<b>\</b>	Return to the Menu.

**<Return>**

XENTIS displays a listing of command files consisting of: catalogue headings, a command file number that displays on the left-hand side of the screen, and the command file name.



The list includes any command file:

- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.
- that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If a command file is catalogued, it appears under its catalogue heading. If a command file is not catalogued, it appears under the heading 'Miscellaneous XENTIS Standard Command Files' or 'Miscellaneous XENTIS Compiled Command Files'.

## Copy a Report Definition

Continue to view the listing by pressing <Return>. When all screens have displayed, XENTIS issues the following prompt:

**Prompt:**     *Enter name or number to COPY, or  
Press RETURN to Exit:*

### Allowed Values:

<i>file-name</i>	Copy the entered file.
<i>file-number</i>	Copy the entered file.
<i>\</i>	Return to the Menu.

Enter the name or number of the command file you wish to copy, or press <Return> to return to the Menu.

### *file-name*

Enter the name of the command file you wish to copy, then press <Return>.

If the command file is located in the device and directory determined by the Setup File parameter DFLT-CMD-LOC, then you do not need to include a device and directory. If you wish to run a command file in a different location, include the device and directory on the front of the command file name. If the command file uses the file extension assigned to the Setup File parameter DFLT-CMD-TYPE (shipped as .XCF), then you need not include an extension. If you wish to use a command file that has a different extension (for example: .XCC), then include the extension on the end of the name.

### *file-number*

Enter the number of the command file (displayed on the left-hand side of the screen in the catalogue listing) you wish to copy, then press <Return>.

**Prompt:**     *Copy command file name to:*

### Allowed Values:

<i>file-name</i>	Copy to the entered file name.
<i>\</i>	Return to the Menu.

### *file-name*

Enter the name that you wish to copy to, then press <Return>.

The command file name must conform to operating system standards and cannot exceed 39 characters excluding device, directory and extension or 131 characters including device, directory and extension.

If you want the command file copy to be located in the device and directory determined by the Setup File parameter DFLT-CMD-LOC, then you do not need to include a device and directory. If you want the command file copy to be stored in a different location, include the device and directory on the front of the command file name. If you want the command file copy to use the file extension assigned to the Setup File parameter DFLT-CMD-TYPE (shipped as .XCF), then do not include an extension. If you want the command file copy to use a different extension, then include the extension on the end of the name.



# Print Report Output

Guide Menu Selection: 'Print report output' from the /Report menu.

'Print report output' prints a report output file (.LIS file) created in a report run.

Before using this option, verify:

- the name of the output file you wish to print. The output file name is what you enter at the **Output/file device** prompt in a /Report dialogue.
- the name of the queue you wish to use to print the report. Normally, SYS\$PRINT is a valid queue name. If you are unsure, check with your System Manager.
- the name of the form you wish to use to print the report. Normally, DEFAULT is a valid form name. If you are unsure, check with your System Manager.

### BROWSE A REPORT

NO	REPORT FILE NAME	DATE/TIME	BLOCKS
1	CUST_LIST.LIS; 1	17-FEB-1992 14:51	3
2	CUST_ORDERS.LIS; 1	17-FEB-1992 14:52	3
3	INVENTORY_LIST.LIS; 1	17-FEB-1992 14:52	3
4	ORDER_LIST.LIS; 1	17-FEB-1992 14:52	3
5	PART_INVEN.LIS; 1	17-FEB-1992 14:52	3
6	PART_LIST.LIS; 1	17-FEB-1992 14:52	3

Enter file number or name (or EXIT):

If the list of reports requires more than one screen, press <Return> to display the next screen. When all screens have displayed, press <Return> to re-display starting with the first screen. XENTIS issues the following prompts.

**Prompt:** *Print to Queue:*

*Allowed Values:*

*queue-name*  
**<Return>**  
 \

Print to the entered queue name.  
 Use the default print queue.  
 Return to the **Report to Print** prompt.

The default response is determined by the symbol XENTIS\$DFLT\_QUEUE. If this symbol is not set, the default is determined by the Setup File parameter DFLT-QUE-PRT. Valid responses to this prompt are:

*queue-name*

Enter the name of the queue you wish to use, then press <Return>. Normally, SYSS\$PRINT is a valid queue name. If you are unsure, check with your System Manager.

**Prompt:**     **Form Name:**

*Allowed Values:*

*form-name*

Print using the entered form name.

**<Return>**

Use the default form queue.

**\**

Return to the **Print to Queue** prompt.

The default response is determined by the symbol XENTIS\$DFLT\_FORM. If this symbol is not set, the default is determined by the Setup File parameter DFLT-QUE-FORM. Valid responses to this prompt are:

*form-name*

Enter the name of the form you wish to use, then press <Return>. Normally, DEFAULT is a valid form name. If you are unsure, check with your System Manager.

# Print a Report Definition

Guide Menu Selection:	'Print a report definition' from the /Report menu.
-----------------------	--

'Print a report definition' prints a dialogue saved in a command file.

Before using this option, verify:

- the name of the queue you wish to use to print the command file. Normally, SYSS\$PRINT is a valid queue name. If you are unsure, check with your System Manager.
- the name of the form you wish to use to print the command file. Normally, DEFAULT is a valid form name. If you are unsure, check with your System Manager.

XENTIS issues the following prompts:

**Prompt:**     *Enter name or number to PRINT, or  
Press RETURN for more, or Type '\ ' to Quit:*

*Allowed Values:*

<i>file-name</i>	Print the entered file name.
<b>&lt;Return&gt;</b>	Display a list of files.
<b>\</b>	Return to the Menu.

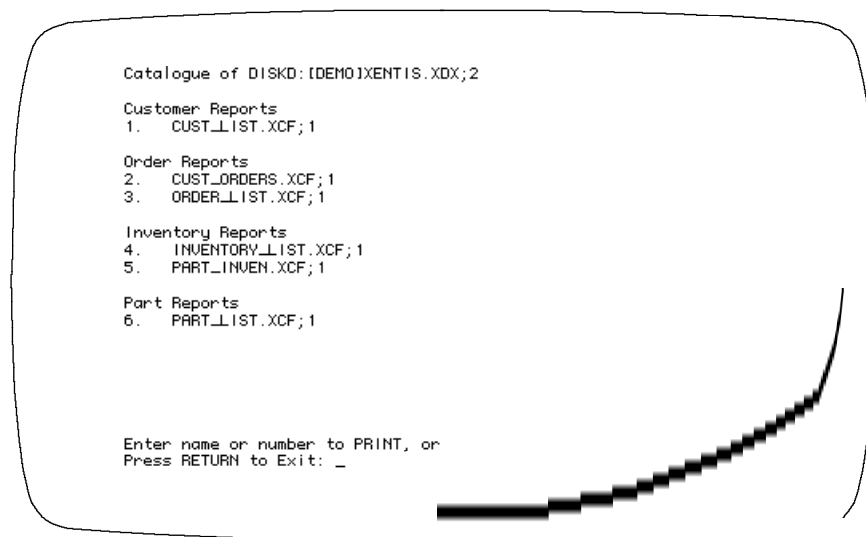
**<Return>**

XENTIS displays a listing of command files consisting of: catalogue headings, a command file number that displays on the left-hand side of the screen, and the command file name.

The list includes any command file:

- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.
- that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If a command file is catalogued, it appears under its catalogue heading. If a command file is not catalogued, it appears under the heading 'Miscellaneous XENTIS Standard Command Files' or 'Miscellaneous XENTIS Compiled Command Files'.



Continue to view the listing by pressing <Return>. When all screens have displayed, XENTIS issues the following prompt:

**Prompt:**     *Enter name or number to PRINT, or  
Press RETURN to Exit:*

**Allowed Values:**

<i>file-name</i>	Print the entered file name.
<i>file-number</i>	Print the entered file listed on the screen.
<i>\</i>	Return to the Menu.

Enter the name or number of the command file you wish to print, or press <Return> to return to the Menu.

***file-name***

Enter the name of the command file you wish to print, then press <Return>.

If the command file is located in the device and directory determined by the Setup File parameter DFLT-CMD-LOC, then you do not need to include a device and directory. If you wish to run a command file in a different location, include the device and directory on the front of the command file name. If the command file uses the file extension assigned to the Setup File parameter DFLT-CMD-TYPE (shipped as .XCF), then you need not include an extension. If you wish to use a command file that has a different extension (for example: .XCC), then include the extension on the end of the name.

***file-number***

Enter the number of the command file (displayed on the left-hand side of the screen in the catalogue listing) you wish to print, then press <Return>.

Prompt:     *Print to Queue:*

<i>Allowed Values:</i>	
<b>&lt;Return&gt;</b>	Use the default print queue.
<i>queue-name</i>	Use the entered queue.
<b>\</b>	Return to the <b>Report to Print</b> prompt.

The default response is determined by the symbol XENTIS\$DFLT\_QUEUE. If this symbol is not set, the default is determined by the Setup File parameter DFLT-QUE-PRT. Valid responses to this prompt are:

*queue-name*

Enter the name of the queue you wish to use, then press <Return>. Normally, SYSS\$PRINT is a valid queue name. If you are unsure, check with your System Manager.

Prompt:     *Form Name:*

<i>Allowed Values:</i>	
<b>&lt;Return&gt;</b>	Use the default form name.
<i>form-name</i>	Use the entered form name.
<b>\</b>	Return to the <b>Print to Queue</b> prompt.

The default response is determined by the symbol XENTIS\$DFLT\_FORM. If this symbol is not set, the default is determined by the Setup File parameter DFLT-QUE-FORM. Valid responses to this prompt are:

*form-name*

Enter the name of the form you wish to use, then press <Return>. Normally, DEFAULT is a valid form name. If you are unsure, check with your System Manager.

# Browse a Report

Guide Menu Selection: 'Browse a report' from the /Report Menu.

'Browse a report' allows you to view a report output file previously created in a report run. XENTIS displays a listing of command files consisting of: the report number, the report file name, the date and time the report was created, and the number of blocks (size) of the report.



If the list of reports requires more than one screen, press <Return> to display the next screen. When all screens have displayed, press <Return> to re-display starting with the first screen. XENTIS issues the following prompt:

**Prompt:** *Enter file number or name (or EXIT):*

**Allowed Values:**

<i>file-name</i>	Browse the entered file name.
<i>file-number</i>	Browse the entered file number.
<b>EXIT</b>	Return to the Menu.
<b>\</b>	Return to the Menu.
<b>Q</b>	Return to the Menu.

Once a report is selected, XENTIS initiates an edit session displaying the report. In the edit session, you may use keystrokes such as 'next screen' and 'previous screen' to view the report.

Terminate the edit session and return to the list of report to view by pressing <Return> or <CTRL> Z.

## Notes

- The EDT session is controlled by a special EDT command file. This file is located using the XENTISnn\$REPORT\$DATA logical, where 'nn' is the version, and is named XRPBROWSE.EDT.

- The EDT command file, as shipped, allows READ ONLY viewing. Key strokes allowed in the Browse session are controlled by entries in the EDT command file.
- The file types (extension) that this functions searches for is controlled by the XENTISnn\$BROWSE\_FILES logical. For example, to have the 'Browse' routines search for files with .LIS, .RPT, .LOG, and .TXT extensions, enter the following DCL command prior to starting XENTIS:

```
$DEFINE XENTISnn$BROWSE_FILES LIS,RPT,LOG,TXT
```

where **nn** is the version (50 for version 5.0) being used.

## Key Strokes

The following keys and key combinations allow you to view any portion of a report. You may not change a report with the browse function, however.

<ARROW KEYS>    

The arrow keys allow you to move the cursor one position in the direction of the arrow. When using <Up-arrow> or <Down-arrow>, the screen will scroll.

## Other Key Strokes

The <PF> and <ARROW> keys control the position and characteristics of your display window.



Goes to the top of the report.



Goes to the bottom of the report.



Sets your terminal to view 80 columns across the screen.



Sets your terminal to view 132 columns across the screen.



Scrolls the report up 1 screen.



Scrolls the report down 1 screen



Returns you to the Browse menu.



Moves your view window to the beginning of the next report page.



Moves your view window one screen-full forward (or in the direction last specified by the 4 or 5 keys).

## ***Browse a Report***



Searches for text you enter. You are prompted for the text to find. Searches forward or in the direction last specified by the 4 or 5 keys. The <PF1><PF3> combination is a synonym.



Search again for the text last entered (in the direction last specified).



Sets the movement direction forward (toward the end of the document).



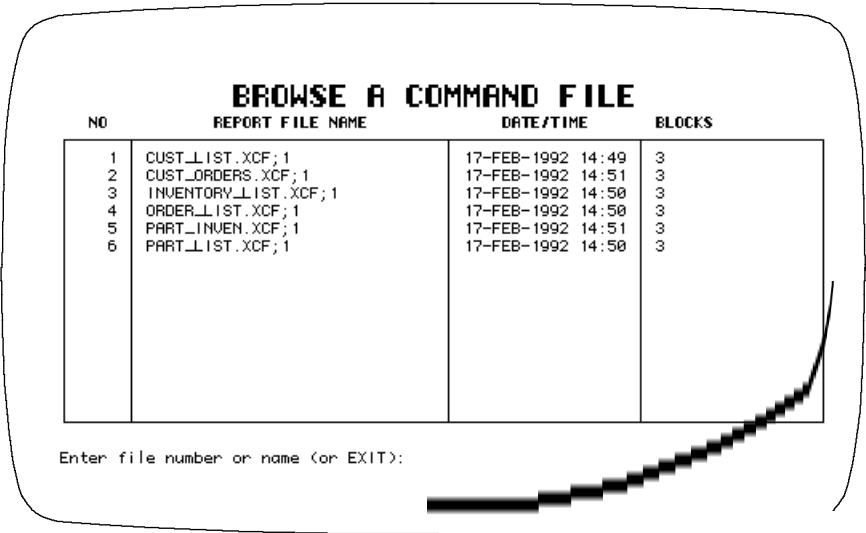
Sets the movement direction backwards (toward the beginning of the document).



# Browse a Report Definition

Guide Menu Selection: 'Browse a report definition' from the /Report Menu.

'Browse a report definition' allows you to view a report dialogue previously saved in a command file. XENTIS displays a listing of command files consisting of: the report number, the report definition file name, the date and time the report definition was created, and the number of blocks (size) of the report definition.



- The list includes any command file:
- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.
  - that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If the list of report definitions requires more than one screen, press <Return> to display the next screen. When all screens have displayed, press <Return> to re-display starting with the first screen. XENTIS issues the following prompt:

Prompt: Enter file number or name (or EXIT):

Allowed Values:	
file-name	Browse the entered file name.
file-number	Browse the entered file number.
EXIT	Return to the Menu.
\	Return to the Menu.
Q	Return to the Menu.

Enter the report number or name you wish to view or EXIT, \, E, or Q to return to the Menu. The file need not be visible on the screen in order for you to select it.

## ***Browse a Report Definition***

Once a report definition is selected, XENTIS initiates an edit session displaying the report definition. In the edit session, you may use keystrokes such as next screen and previous screen to view the report definition. Terminate the edit session and return to the list of report definitions to view by pressing <Return>.

## ***Notes***

- The EDT session is controlled by a special EDT command file. This file is located using the XENTISnn\$REPORT\$DATA logical, where 'nn' is the version, and is named XRPBROWSE.EDT.
- The EDT command file, as shipped, allows READ ONLY viewing. Key strokes allowed in the Browse session are controlled by entries in the EDT command file.

## ***Key Strokes***

---

*Refer to the Key Strokes discussion in 'Browse a Report'.*

---

# Database Interfaces

XENTIS operates with the following database products: Ingres, Oracle, Rdb, Progress, and Sybase. If you are using one of these database products and you have licensed the interface in XENTIS, then you may create reports from the data stored in a database with XENTIS. The difference between using XENTIS with RMS files and one of these database products is described in this chapter.

Ingres, Oracle, Rdb, Progress, and Sybase are relational databases and are described in the 'Relational Databases' section of this chapter.

## Database Terminology

Database terminology differs from RMS file terminology. When using XENTIS and the XENTIS Reference Manual with a database, adjust the database terminology according to the following table.

<i>Product</i>	<i>Terms ...</i>				
<b>XENTIS</b>	<b>Dictionary</b>	<b>File</b>	<b>Record</b>	<b>Field</b>	<b>Key</b>
Ingres	Database	Table	Row	Column	Index
Oracle	Database	Table	Row	Column	Index
Progress	Database	Table	Row	Column	Index
Rdb	Database	Table or Relation	Row or Record	Column or Field	Index
Sybase	Database	Table	Row	Column	Index

# Relational Databases

## Data Descriptions (Data Dictionary)

XENTIS retrieves data descriptions from the data dictionaries (system tables) stored in the database. A data dictionary is a repository for descriptions of data. Each database element accessed by XENTIS must have an accompanying data description stored in a data dictionary.

### Default Dictionary

The default dictionary is the database that XENTIS automatically uses to retrieve data descriptions. To set the default dictionary to a database, enter the dictionary name (by setting the symbol XENTIS\$DICT outside of XENTIS or by changing the default dictionary) according to the table below.

<i>Database</i>	<i>Dictionary Name</i>	<i>Password</i>	<i>Notes</i>
Ingres	<b>INGRES:</b> <i>database</i> where <i>database</i> is the name of the database you wish to use.		Ingres databases do not use passwords. XENTIS\$PASSWD, the password prompt, and '/PASS=' used with multiple dictionary reporting are ignored.
Oracle	<b>ORACLE:</b> <i>database</i> Where <i>database</i> is the name of the database you wish to use.	<i>username/password</i> See technical notes.	<i>username</i> is the Oracle username and <i>password</i> is the Oracle password.
Progress	<b>PROGRESS:</b> <i>dev:[dir]database</i>	<i>username/password</i>	<i>username</i> is the Progress username and <i>password</i> is the Progress password.
Rdb	<b>RDB:</b> <i>dev:[dir]database</i> where <i>dev:[dir]</i> is the location of the database on your system and <i>database</i> is the name of the database.		Rdb databases do not use passwords. XENTIS\$PASSWD, the password prompt, and '/PASS=' used with multiple dictionary reporting are ignored.
Sybase	<b>SYBASE:</b> <i>database</i> where <i>database</i> is the name of the database you wish to use.	<i>username/password</i> where <i>username</i> is the Sybase username and <i>password</i> is the Sybase password.	If a username is not entered, then XENTIS automatically uses the VMS username. When username is omitted, the slash (/) that separates username and password may be entered but is not required.

## XENTIS Dialogue

When using a relational database with XENTIS, a report is defined by responding to prompts in a dialogue just as with RMS files. The dialogue is, for the most part, the same as when using RMS files. Differences and additional information are noted here.

### File Section

Tables are specified in the XENTIS File Section of the dialogue in the same manner that files are specified. A table name is highlighted in the info window and it is selected.

---

*Refer to 'Multiple Dictionary Reporting' later in this chapter for more information on how to use more than one database in a report.*

---

Database views are supported in all relational database interfaces. The **Access allowed** and **Access auxiliary files simultaneously** prompts are issued but ignored. This allows users to conveniently upgrade from RMS files to a relational database.

### Table and View Names

Enter a table or view name the same as would be entered when using the relational database's interactive SQL. You may prefix your table or view name with an owner name if the chosen database supports the concept.

View names will be displayed with a '\_ \_v' appended to them to distinguish them from table names.

### Key Section

KEY section prompt for the primary file:

XENTIS issues a series of prompts used to limit the records retrieved from the primary file.

**Initial/Final expr n for table A <NONE>**

Responses are in the form:

*FIELD comparison\_operation LITERAL or FIELD*

XENTIS assumes an 'and' relationship between the expressions. All valid XENTIS comparison operations may be used. When using wild card equals (WE) or wild card not equals (WN) operations, XENTIS does not append a wild card on the end of the literal.

XENTIS continues to prompt for expressions until 'NONE' is entered. Only one comparison operation is allowed.

KEY section prompts for auxiliary files:

XENTIS issues a series of prompts used to join the tables. A default response is provided if a matching field name is found in a previous table.

**Join expr n for table B <B:field comp\_oper A: field>**

Responses are in the form:

*FIELD comparison\_operation FIELD or LITERAL*

XENTIS assumes an 'and' relationship between the expressions. All valid XENTIS comparison operations may be used. When using wild card equals (WE) or wild card not equals (WN) operations, XENTIS does not append a wild card on the end of the literal.

Sybase and Oracle users may use the '=\*' or '\*=' comparison operations to designate an outer join. Ingres and Progress do not support outer joins. XENTIS does not support the Rdb method of outer joins.

XENTIS continues to prompt for expressions until **NONE** is entered. Only one comparison operation is allowed.

---

*Refer to Technical Information for a complete list of data type supported by XENTIS.*

---

## File Dialogue Examples

Use the table below as examples of valid responses to any of the file prompts in the FILE section.

<i>Datab ase</i>	<i>If your default dictionary is: example</i>	<i>At a file prompt, enter: example</i>
Ingres	An Ingres Database INGRES:PERSONNEL	<i>table</i> JOB_HISTORY
	Another Dictionary (or Database) DISKB:[ACCTG.DATA]ACCTG.DIC	<i>table/DICT=INGRES:db_name</i> JOB_HISTORY/DICT=INGRES:PERSONNEL
Oracle	An Oracle Database ORACLE	<i>table</i> JOB_HISTORY
	Another Dictionary (or Database) DISKB:[ACCTG.DATA]ACCTG.DIC	<i>table/DICT=ORACLE/PASS=username</i> /password JOB_HISTORY/DICT=ORACLE /PASS=acctg/sonics
Rdb	An Rdb Database RDB:DISKB:[HR.DATA] PERSONNEL.RDB	<i>table</i> JOB_HISTORY
	Another Rdb Database RDB:DISKB:[ACCTG.DATA]ACCTG.RDB -or- Another Dictionary (or Database) DISKB:[ACCTG.DATA]ACCTG.DIC	<i>table/DICT=RDB:db_name.RDB</i> JOB_HISTORY/DICT=RDB:DISKB: [HR.DATA]PERSONNEL.RDB
Sybase	A Sybase Database SYBASE:personnel	<i>table</i> job_history
	Another Sybase database SYBASE:ACCTG -or- Another Dictionary (or Database) DISKB:[ACCTG.DATA]ACCTG.DIC	<i>table/DICT=SYBASE:db_name/PASS=</i> <i>username/password</i> JOB_HISTORY/DICT=SYBASE:PERSONNEL /PASS=ACCTG/SONICS

## XENTIS Modules

### /Report, /Model, /Word, /CReport, /File

These modules are supported with Ingres, Oracle, Rdb, Progress, and Sybase databases.

#### /File

XENTIS/File is supported with Ingres, Oracle, Rdb, Progress and Sybase databases as both input and output files in the /File dialogue. If you plan on using a table as the output file, then the table must be described in the database. When output to a sequential file is chosen, output is to a sequential RMS file.

### /Update, /Dictionary, /Edit

These modules are not supported with relational databases.

## Technical Information

### Data Types

All relational database data types are fully supported in XENTIS with the following exceptions:

<i>Database</i>	<i>Data type</i>	<i>Notes</i>
Ingres, Oracle, Rdb, Sybase	VARCHAR	Supported. Padded with spaces to the maximum field size.
Rdb	SEGMENTED STRING	Not supported.
Progress	RECID LOGICAL	Not supported. Used as a byte integer, formats are not supported. Value will print a zero or a one.
Sybase	BINARY IMAGE TEXT VARBINARY TIME STAMP	Limited to 512 bytes. Limited to 512 bytes. Limited to 512 bytes. Limited to 512 bytes. Not supported.

### Null Values

XENTIS handles reading NULL values in relational databases as follows: NULL values in numeric fields are converted to zeros. NULL values in text fields are converted to spaces. NULL values in date fields are converted to the null date (00-XXX-0000).

XENTIS can write NULL values under the following circumstances. The SQL-FILE-WRITE setup parameter must be set to Y. The NULL-NUMERIC and NULL-TEXT setup parameters must be assigned a value. If a numeric field has a value equal to the value of the NULL-NUMERIC setup parameter, then a NULL will be written to the database. If a text field has a value equal to the value of the NULL-TEXT setup parameter, then a NULL will be written to the database. If a date field has a null value, 00-XXX-0000, then a NULL value will be written to the database, regardless of the value of the SQL-FILE-WRITE setup parameter.

### Record Pointers

Record pointers are not used in Ingres, Oracle, Progress, and Sybase. Therefore, pointer files, 'RE' functions, print frequency 'U', and the setup parameter ACCUM-IF-UNIQUE cannot be used with these tables.

### SQLWHERE command

SQLWHERE allows you to enter a 'WHERE' clause for SQL-based databases. Proper use of this command can reduce the number of records returned to XENTIS by the database engine. The SQLWHERE command may be entered in response to any dialogue prompt, in the format of:

**SQLWHERE** *SQL\_where\_statement*

XENTIS does not perform syntax validation on the statement you enter. It is passed without modification, except for the removal of SQLWHERE, to the SQL database engine. If any join expressions or initial/final expressions have been entered, then the statement is appended to the expressions with an AND clause.

## Oracle Technical Notes

- Oracle synonyms do not appear in the Info window. You may use any synonym in XENTIS that you are allowed to use in Oracle.
- If the Oracle database administrator has created an Oracle username of the form OPS\$*username*, where *username* is your VMS username, then it is not necessary to enter your Oracle username. In this case you should use a slash followed by your Oracle password.
- When using Oracle, the SQL-JOIN parameter is forced to a value of **Y**.
- Beginning with Oracle8 and XENTIS version 4.8, users may specify a database name. See above documentation. Use of the [Username/Password@database](#) syntax
- Floating point on Alpha systems is different when compared with VAX systems. The ORACLE-GFLOAT setup parameter should normally be set to **Y** on Alpha systems and to **N** on VAX systems.
- XENTIS passes the *Username/Password* directly on to Oracle.
- Column names and table names are not case sensitive, but are normally upper case.

## Rdb Technical Notes

- EDIT STRING clauses are mostly supported in XENTIS. If an EDIT STRING clause exists for a field, then XENTIS uses it to determine the default print mask. XENTIS does not support every feature available in an Rdb EDIT STRING clause.
- Hashed indexes will appear at the end of the index list and have **\_HASH** appended to their index names.
- The RDB-USE-ATTACH setup parameter should be set to **Y** if you are using Rdb V4.1 or later. Otherwise set it to **N**.
- XENTIS requires the Rdb version logicals be set prior to using the Rdb interface. Setting these logicals is accomplished with the SYS\$SHARE:RDBVMS\_SETVER.COM procedure. If the logical is not present, you will get a **%RDB-F-WRONG\_ODS** error message.
- Column names and table names are not case sensitive, but are normally upper case.
- Outer joins are not supported.

## Sybase Technical Notes

- The database name, the username, and the passwords are case sensitive. When entering these values be sure to enter them using the correct case.
- If a Sybase username is not entered, the VMS username (upper case) will be used.
- If the logical SYBASE\$LOCASE\_USER is set to **Y**, the Sybase username is forced to lower case.
- Before invoking XENTIS, the logical SYBASE\$TEMP\_PROC must be defined for each user. This logical must contain the name of a SYBASE database in which the user can create a SYBASE procedure.
- XENTIS creates procedures when a table is opened, then deletes them when the table is closed. The procedures are created in, stored in, then deleted from the database assigned to the logical SYBASE\$TEMP\_PROC. If this logical is not defined, then XENTIS fails during the selection phase.
- If XENTIS aborts during processing, then temporary procedures may not be deleted from the database assigned to the logical SYBASE\$TEMP\_PROC. The names of the procedures begin with the characters 'qryio' followed by numbers interspersed with underscores.
- Column names in Sybase are case sensitive. XENTIS ignores the case for column names.
- XENTIS doesn't inspect table/column security. This means it is possible to define a report yet not be able to execute it. If a user doesn't have access to a table or a column, an error will occur at run time.
- Users may access multiple Sybase databases by using the *database.owner.table* syntax native to Sybase when specifying a table name.



## Ingres Technical Notes

- Only one Ingres database can be accessed at one time.
- XENTIS doesn't inspect table/column security. This means it is possible to define a report yet not be able to execute it. If a user doesn't have access to a table or a column, an error may occur at run time.
- Ingres group IDs used by the Knowledge Management Extension are supported. When a database type of Ingres is specified, a password prompt will be issued. At this prompt enter a group ID value or return if no group ID is desired.
- Column names and table names are not case sensitive, but are normally lower case.

## Progress Technical Notes

- Only one Progress database may be accessed at one time.
- When using Progress, the SQL-JOIN parameter is forced to a value of **Y**.
- XENTIS uses the Progress HLI interface to access Progress Database. If XENTIS is relinked on your systems, you must have HLI installed and activated prior to the relink.
- The HLI interface requires the SYSLOCK privilege. XENTIS will install its images with this privilege when the system is initialized.
- Character fields will be one byte larger than what is defined in the Progress database. This is because HLI adds an additional byte to every text field.
- The Progress Format String is converted to a XENTIS Print Mask. Most, but not all features of the Format String are translated to the XENTIS Print Mask.
- Date fields will use the standard VMS printing format, not the Progress printing format. To print dates in the same manner that Progress prints them, the VMS User Defined Date Format feature must be used. See VMS documentation for more information.
- Progress views are not yet supported.
- Array fields are supported.
- The TEXT-IS-STRING setup parameter will be set to **N** when Progress is used.

## Troubleshooting SQL Databases

- Reconfirm the usage of the database name, the database username, and the database password. These items vary from database to database. These names in Sybase are case sensitive.
- If you get the **%RMS-E-ENV** error, then either the database interface is not in the license key, or when XENTIS was started during system startup, it did not find the database. Try shutting down XENTIS and starting it up again. Examine the logicals that your database creates. If the translation of any of them contains **XENTIS**, then you may need to shut down and restart the database also.
- Do not use display mode as it might erase a low level error message.
- Turn on various debug logicals. Create the SQL\$DEBUG, SQL\$DEBUG2, and *database*\$DEBUG logicals and give them a value of **Y**.
- Enter the **LIST DICTIONARY** command at the "Enter Function" prompt. If the debug flags are turned on you will see the SQL statements used to connect to the database and to retrieve the system table information that XENTIS needs. Errors can occur during database connection.
- Rdb, Sybase, and Ingres can be used in /NOSQL mode. This is automatic if one of these is an auxiliary table, but a prior table or file is from a different database or dictionary. In /NOSQL mode, XENTIS treats the database table as if it were an RMS indexed file.
- Every database product has its own unique interactive SQL utility. To troubleshoot, you may need to take the SQL statements that XENTIS generates, and enter them into the database's SQL utility.
- Review the technical notes documented above for your chosen database.

- Review, and possibly change, the setup parameters that relate to SQL and to your database.

## Multiple Dictionary Reporting

XENTIS supports the ability to retrieve data from multiple dictionaries and databases, with restrictions. Because the database engines do not normally support retrieval of data from more than one database at a time (Sybase excepted), XENTIS must perform the joins rather than allowing the database engine to perform them.

### File Section Dialogue

Multiple Dictionary Reporting for Relational Databases is implemented by the user by entering a slightly different response at the **Primary file/view**, **Secondary file**, etc. prompts. The difference involves appending `/DICT=database/PASS=user/password` to the entered table name, where *database* is your second database, and *user/password* is the database username and password, if one exists. This concept is essentially identical to the Multiple Dictionary Reporting concept explained earlier.

The example below illustrates the file section dialogue using three dictionaries, where the default dictionary is an Oracle database, and the other dictionaries are Ingres and Sybase:

Primary File/View?	CUSTOMER
Secondary File?	ORDER_HEADER/DICT=INGRES:ORDERMAN
Tertiary File?	ORDER_DETAIL/DICT=INGRES:ORDERMAN
Fourth File?	terms/dict=sybase:lookup/pass=/secret

### SQL-JOIN Setup Parameter

The SQL-JOIN parameter controls whether the database engine should join tables or XENTIS should join tables. The recommended setting of this parameter is Y, and indicates the database engine will join tables. A value of N, which indicates that XENTIS will join tables, is supported for the purpose of executing reports that were defined prior to XENTIS V4.0. The value of this parameter can be overridden by appending `/NOSQL` or `/SQL` to your response at the **Primary file/view** prompt.

When this parameter is set to N, XENTIS joins the tables and attempts to have the database behave as if it were a set of RMS files. This can result in table joins that are powerful, but have poor performance. Reports defined prior to V4.0 operated as if this parameter is set to N, and should be converted so that the database performs the join. Read the V4.0 release notes for more information on how to convert previously defined reports.

### Multiple Dictionary Reporting Restrictions

- Tables from an Oracle or Progress database are allowed only if they start with the primary table and are grouped together in the report. This means if you use 3 Oracle or Progress tables, they must be the first, second, and third tables in the report.
- Significant performance degradation should be expected.
- Ingres and Rdb do not support passwords or database user names. If the `/PASS=` qualifier is used, it will be ignored.

# RMS File Structures

RMS files are the standard file structure used with the VMS operating system software. All major 3GL programming languages, except C, support RMS files.

## Data Structure

RMS data files are created using the FDL (file definition language) utility in the VMS operating system software.

### File Descriptions (Data dictionary)

A data dictionary is a repository for descriptions of data. Each RMS file that you wish to use with XENTIS must have an accompanying data description stored in a data dictionary. XENTIS operates with different types of data dictionaries including XENTIS/Dictionary, CDD, and MAXCIM.

#### XENTIS/Dictionary

XENTIS has its own data dictionary software, XENTIS/Dictionary, to create, maintain, and store RMS file descriptions and other dictionary elements.

---

*Refer to the /Dictionary section for more information.*

---

#### MAXCIM ECB Data Dictionary

The MAXCIM ECB data dictionary is used by the MAXCIM application software from Computer Associates.

#### CDD (Oracle's Common Data Dictionary)

Oracle's Common Data Dictionary can be used to store RMS file descriptions. XENTIS accesses record descriptions and one-file Datatrieve domains in the CDD.

#### Fields

If a key in a file is not described as a field in the CDD record layout, XENTIS automatically creates an additional field with the name KEY\_n1\_SEGMENT\_n2 where n1 and n2 are sequential numbers. KEY\_n1\_SEGMENT\_n2 is available for use in creating reports.

You can optionally include structure level fields when using CDD file descriptions by setting the CDD-INCLUDE-STR setup parameter to Y.

---

*Refer to Appendix A for more information.*

---

#### CDD Directories

In DISPLAY mode, the directory, record and domain names are displayed in the Info Window at the FILE prompts.

Directory names are followed by ' \_\_d' and record names are followed by ' \_\_r'. Domain names display without a suffix. View names are followed by ' \_\_v' and are not valid entries at a file prompt.

The CDD is set up as a 'tree' structure. The top directory in the structure is CDD\$TOP. When you initiate a dialogue session, all second level directories (directly below CDD\$TOP) are displayed in the Info window at the FILE prompts.

In XENTIS, you may move through the CDD directories by selecting a sub-directory (either by entering the sub-directory name at any of the file prompts or using the <SELECT> to select the highlighted entry in the Info window), then pressing <Return>. In the Info window, XENTIS displays all sub-directories beneath the one selected.

When you move down in the structure, CDD\$TOP displays in the upper left-hand corner of the Info window. To move back to the top directory, select (or enter) CDD\$TOP at any of the FILE prompts and press <Return>.

If the logical CDD\$DEFAULT is set, the user is automatically placed in that CDD sub-directory. You may access other directories based on your privilege level and the privilege settings of CDD entries.

In order to specify a file to use in the FILE section of a dialogue, use the syntax shown in the FILE section of the Reference Manual. You can either:

- enter the actual file name, then the full path record starting with CDD\$TOP. For example:  
DISK0:[LIVE.DATA]CUSTOMER.DAT/\_CDD\$TOP.LIVE.CUST\_REC
- or, in DISPLAY mode, select down through the directories to the directory that contains the record (or file description) that you wish to use. Enter the actual file name, then the record name. For example:

DISK0:[LIVE.DATA]CUSTOMER.DAT/CUST\_REC

You need not enter the full path record. XENTIS automatically stores the nodes in the record path when you save a command file.

# XML Formatted Data

XML is an acronym for eXtensible Markup Language. XML allows computer software systems to describe data that is independent of the software that is processing it and the computer system that it is residing on. Due to its nature, data that is formatted using the XML constructs is easily interchanged between dissimilar computer software. As a result it has become a standard for computer data interchange. XENTIS supports reading and writing of XML data in a limited fashion. This section describes how XENTIS interacts with XML formatted data and how the user instructs XENTIS to process XML formatted data. It is assumed that the reader understand the basics of XML formatted data.

## Writing XML Data

Writing XML formatted data is done with the XENTIS/Model module. The process is no different from any other usage of XENTIS/Model except that a different control file is selected. Be sure to choose the XML.DAT control file when you want to write XML formatted data.

## Reading XML Data

XENTIS reads XML data from two different sources; a sequential text file and an HTTP server. Both methods require the user to create data dictionary entries first.

## Data Dictionary Considerations

Prior to reading XML data, data dictionary entries must be established. A File description must be created along with Fields for each item of data that is to be processed. The data dictionary entries that are unique to processing XML formatted data are summarized as follows:

Dictionary Entry	Description
Generic Filename	This entry must match the XML tag that comprises the desired record. Case is not significant.
Actual Filename	For XML data in a text file, this entry contains the name of the text file. For XML data from an HTTP (Web) server, this entry contains the Intranet or Internet URL that will server the data. If using record format <b>W</b> , be sure to start your entry with HTTP:// to prevent file name syntax checking. Also, with record format <b>W</b> , placeholders may be specified.
Record Format	Use a value of <b>X</b> for XML data stored in a text file. Use a value of <b>W</b> for XML data provided by an HTTP (Web) server.
Url-1 ... Url-6	If the Actual Filename entry is too long to fit in the available space, place the overflow value into these entries.
Field name	The field name in the data dictionary must match a tag in the XML data. Case is not significant.
Field type	Because XML data is always character data, a limited number of field types are valid. A list of the valid field types can be found in Appendix C.

## Reading XML data from a text file

XML data residing in a text file should be in an RMS sequential file. The processing of records from this file will be almost identical to the processing of an RMS sequential file. The user should not notice any difference in the dialogue. When using XML data from a text file, the XML text file must be the primary file in a report.

## Reading XML data from an HTTP server

XENTIS can read XML formatted data from multiple simultaneous HTTP servers. Through proper usage of placeholders and CGI scripts, very elegant reporting can occur. When using XML data from an HTTP server, the XML data can be used as a primary file or as an auxiliary file. Using placeholders can effectively act as join instructions or key information to the CGI script being processed by the HTTP server.

Placeholders are used to pass parameters to a CGI routine on the HTTP server. Placeholders look like ~P-1~ through ~P-8~. The beginning tilde, the ending tilde, the capital P, and the dash are required. The numerical digit may be from 1 through 8. A special zero parameter, ~P-0~, is reserved for the insertion of the OpenVMS username.

When placeholders are used, the XENTIS report definition dialogue is changed. If a placeholder is used for a **primary** file, the “Key to access...”, “First key to read”, and “Last key to read” prompts are replaced by a sequence of “Parameter literal (P-*n*) for primary file” prompts. Only string literals are allowed.

When placeholders are used for an **auxiliary** file, the “Key number to access...” and “Field *n* to build key” prompts are replaced with a sequence of “Parameter literal (P-*n*)...” prompts. String literals and fields from a previous file are allowed.

Before passing the URL to the HTTP server, XENTIS will substitute the parameter values entered by the user into the placeholders found in the URL.

An example of a URL with placeholders might be:

<http://venus.graysoft.com/test-cgi/custlist.pl?first-cust=~P-1~&last-cust=~P-2~>

In this example, the CGI script might produce a customer list, allowing the user to specify a starting customer and an ending customer.

## Processing Structured XML Data (Qualified Tags)

Sometimes XML data will be created in a structured fashion such as:

```
<CustomerName>Acme Electric</CustomerName>
<Address>
  <BillTo>
    <City>Seattle</City>
    <Zip>98101</Zip>
  </BillTo>
  <ShipTo>
    <City>Seattle</City>
    <Zip>98101</Zip>
  </ShipTo>
</Address>
```

In this situation, the City and Zip tags are found twice within the Address tag. To differentiate the City and Zip data belonging to the BillTo tag from the City and Zip belonging to the ShipTo tag, the field names in the data dictionary should be defined as follows:

BillTo\$City	or	Address\$BillTo\$City
BillTo\$Zip	or	Address\$BillTo\$Zip
ShipTo\$City	or	Address\$ShipTo\$City
ShipTo\$Zip	or	Address\$ShipTo\$Zip

This will allow XENTIS to distinguish between the two structures

## *Technical Considerations*

- The Generic File in the data dictionary must match a record start tag in the XML data stream.
- The Generic File in the data dictionary should not be the same as the root tag in the XML data stream.
- A Pointer File cannot be used when XML data is read.
- A number of setup file parameters control some of the processing, See Appendix A.
- XML tags that do not match either the generic file name or one of the associated fields names in the data dictionary will be ignored.
- Data fields that are defined in the data dictionary for the chosen file but not found in the XML stream will have spaces assigned to them.
- If a full URL does not fit into the space allocated for the actual file dictionary entry, then the overflow can be placed in the Url-1 through the Url-6 entries. Trailing spaces will be ignored.
- Abbreviated end tags, “/>”, are not supported by the parser.
- If a parsing error is encountered, no more processing of data will occur.
- Prompting literals may be entered by the user when responding to “Parameter Literal” prompts when defining a report.





# /Update

XENTIS/Update is a variation of XENTIS/Report; its purpose is to globally (in the entire file) modify or delete records in a data file. With /Update, files are processed in the same way as in /Report but no output is generated. Instead, records in the data files are modified or deleted as they are being retrieved.

## Why Use /Update

/Update is primarily used as a data management tool to assist in file maintenance to:

- Delete obsolete or invalid records from a data file  
As an example, a file stores information about active customers. A history file stores information about inactive customers. Once inactive customers are added to the history file, delete them from the active file using /Update.
- Modify records in a data file  
As an example, each time a customer makes a transaction, a record is added to the monthly transaction file. At the end of each month, the monthly information is consolidated and stored in a YTD file and the monthly file is erased so that the transactions for next month can begin to accumulate. Sum the monthly transactions and add the total to the YTD file using /Update.

## Who Should Use /Update

The ability to use /Update should be given only to those who are very familiar with the data that will be used with /Update and with XENTIS/Update itself. See Technical Considerations for more information on how to disallow UPDATE.

## Before Initiating /Update

Before initiating /Update, carefully read the Technical Considerations section and develop a methodology for performing an update. An example of a methodology follows.

- Create a report with the files that will be used with /Update. In the /Report dialogue, enter the files, the keys, the calculations, and selection logic just as they will be entered in the /Update dialogue. In the report, print all key fields, calculated fields, fields used in selection logic, and fields that will be modified.
- Check the report to ensure that details are created and selected as expected.
- Ensure the Setup File parameter REQ-ACTIVITY-FILE is set correctly. Allowed values are Y (to require an activity file), L (to require a log file), B (to require both), and N (to require neither). It is desirable to set this parameter to L or B so that a log file is created and can be checked. The 'Activity File' is also known as an 'Audit Trail File'.
- Backup the data files that will be updated.
- Perform the update.
- Rerun the report created in the first step. Check the details on the report against the log file to ensure records were updated correctly.

## The /Update Dialogue

The /Update dialogue uses the same reporting commands and keystrokes as /Report.

---

*Refer to /Report Introduction for more information.*

---

The first part of the /Update dialogue is identical to /Report. You are prompted for input files, key relationships, calculations, and selection logic. For these dialogue sections, use the allowed values and explanations in the /Report section of the XENTIS Reference Manual. In the discussion that follows, only the prompts that are

A:PHONE	B:ORDER DATE
A:CONTACT	B:QUANTITY ORDERED
A:CUSTOMER TYPE	B:UNIT PRICE
A:QUANTITY SHIPPED	B:ORDER IN STOCK
A:PURCHASES_YTD	B:QUANTITY SHIPPED

**Update**

different from the standard /Report dialog box is presented.

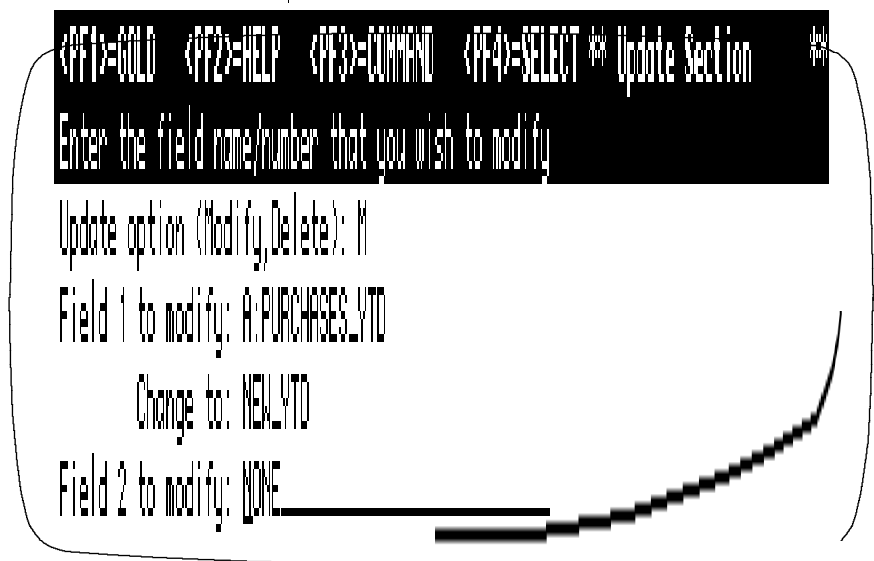
**Prompt: Enter XENTIS Function**

Enter UPDATE to initiate the /Update dialog box. You may also enter REUPDATE to initiate the /Update dialog box using a pointer file.

---

*Refer to the Pointer File section for more information about pointer files and 'RE' function.*

---



**Prompt: Update option (Modify, Delete)**

Default: Shipped as M, can be changed in the Setup File.

**Allowed Values**

<b>M</b>	Modify records
<b>D</b>	Delete records

Tells XENTIS whether to modify or delete records in the data files. If M, XENTIS modifies records. If D, XENTIS deletes records.

**Prompt:**     *Record to delete (A-J)*

Default:            No default (for the first entry) or NONE

**Allowed Values:**

<b>A</b>	Delete records from the primary file (file A)
<b>B</b>	Delete records from the second file (file B)
<b>C</b>	Delete records from the third file (file C)
<b>D</b>	Delete records from the fourth file (file D)
<b>E</b>	Delete records from the fifth file (file E)
<b>F</b>	Delete records from the sixth file (file F)
<b>G</b>	Delete records from the seventh file (file G)
<b>H</b>	Delete records from the eighth file (file H)
<b>I</b>	Delete records from the ninth file (file I)
<b>J</b>	Delete records from the tenth file (file J)

This prompt is issued if you enter D at the Update option prompt.

Specifies the file to delete records from. Any record in the file that matches the selection logic is deleted during the /Update run. XENTIS continues to issue this prompt until NONE is entered.

**Prompt:**     *Field n to modify*

Default:            No default (for the first entry) or NONE

**Allowed Values:**

<i>field-name</i>	A valid field name.
<i>field-number</i>	A valid field-number.

This prompts are issued if you enter M at the Update option prompt.

Enter the name of the field to modify. The field can be from any of the files specified in the file section of the dialogue. Although a field name is entered at this prompt, it is the data value in the field that is modified. See the Technical Considerations section for more information on selecting appropriate fields to modify. XENTIS continues to issue this prompt until NONE is entered.

**Prompt:**     *Change to:*

Default:            No default

**Allowed Values:**

<i>field-name</i>	Set the field to the value in the named field.
<i>field-number</i>	Set the field to the value in the numbered field.
<i>calculation-result</i>	Set the field equal to the calculation result.
<i>literal</i>	Change the field to the entered value.
<b>/ENTRY</b>	Prompt for value for each record.

Enter the field name, number, calculation result name or literal to update the field to modify. Although a field name is entered at this prompt, it is the data value stored in the field that is used to replace the value in the field to modify. You may enter /ENTRY when you are executing the update interactively. /ENTRY tells XENTIS to prompt the user for a new data value for each selected record.

## Technical Considerations

### Internal Operation of /Update

XENTIS/Update is designed to update records in a deliberate and specific manner. When deciding the order of the files in the /Update dialogue and the fields that will be modified, consider the following points.

#### General

- When updating a data file, the user must have VMS READ and WRITE access to that file. EXECUTE and DELETE access are not necessary.
- If a locked record is encountered, XENTIS pauses for one second, then tries again. This sequence continues indefinitely until the record is successfully read.

#### External Reference Checks (XENTIS or MAXCIM data dictionaries)

- For each detail encountered during a multiple file update, external reference checks are performed on all files before any file is updated. If any reference check fails, then that detail is not updated.
- When modifying fields with /Update, external reference checks are performed only on fields being modified in the update run.

#### Activity File and Log File

- If the activity file is enabled, then updating files described in multiple dictionaries is not permitted.
- If both the log file and the activity file are enabled, XENTIS tries to write to the log file first. If it is successful, XENTIS then performs the update. If the update fails, XENTIS writes a failure message in the log file. XENTIS writes to the activity file only after the update is successful.
- The log file records the value of the primary key, if available, along with the before image and after image of each field modified.
- When using /ENTRY, the data value of the key used to access the file is displayed.

#### Updating Key Fields

- Modifying key fields is not recommended. The process is subject to a significant number of errors that cannot be controlled by XENTIS. Using the REUPDATE function can reduce these errors.
- A key field can be entered as a **Field to modify** in an /Update dialogue only when the Setup File parameter ALLOW-KEYS-UPD is set to Y.
- If a key field is being modified, then data file key attributes (specified in the FDL) CHANGES and DUPLICATES affect the update run.
- If a key field is being modified and key changes are not allowed in the data file (CHANGES is set to NO), then XENTIS attempts to add a record containing the new data value in the key field, then delete the old record. A record is deleted only after the record is successfully added. When successfully adding, then deleting a record during an update run, the record is deleted regardless of whether the user has dictionary DELETE access to the file.
- If a key field is being modified and duplicates are not allowed in the data file in any key (DUPLICATES is set to NO), then when XENTIS attempts to add a record containing the new data value in the key, a duplicate key value may be encountered.

If any key in the file does not allow duplicates, and a key field is being modified that does not allow changes (CHANGES set to NO), then a duplicate key value will be encountered, causing an error.

If any key does not allow duplicates and you are modifying another key field that also does not allow duplicates, then you may encounter a duplicate key.

When a duplicate key occurs, XENTIS prints an error message in the log and the add/delete cycle is not completed (the record is not updated). Each occurrence is added in the FAILURES DUE TO DUPLICATE KEYS statistic printed at the end of the run.

- If duplicates are allowed (DUPLICATES is set to YES) in a key that you are using to access the file being modified, then results are unpredictable. As data values are changed in the key, the same record may be accessed again because it is in the file index in a different position. Under these conditions, actual results may be different than desired results and can lead to other problems (for example: causing an infinite loop in the update program).

### *Multiple File Updates*

- When updating fewer files than being read, XENTIS opens the files that will be updated with READ, WRITE, UPDATE, and DELETE access and the files that will only be read with READ access.
- If an error occurs when multiple files are being modified during the same run, the results are unpredictable (some files may be updated while others are not).
- If you are using a one-to-many file relationship in an /Update run and you are updating a field in the header file, then a header file record is updated only once using the first 'matching' record encountered in the second file regardless of how you respond to **Does this key have multiple records**.
- If you are using a one-to-many file relationship in an /Update run and you are updating a field in the detail file: If you respond **Y** to **Does this key have multiple records**, then every 'matching' record in the detail file is updated with the value specified. If you respond **N** to **Does this key have multiple records**, then the first 'matching' record encountered in the detail file is updated with the value specified.
- If you are using the same data file more than once in a multiple file /Update run, then neither file may be modified or deleted. Use SELECT, then REUPDATE.

### *Using SELECT Followed by REUPDATE*

Using the SELECT function to select records and save the pointers in a pointer file, then using REUPDATE to perform the update with the pointer file, is recommended (or required) in the following cases:

- Modifying or deleting records in more than one file at the same time.
- Modifying fields that are segments of a key.
- Modifying or deleting records from a file that is used more than once during an /Update run, even if only one instance of the file is being modified or deleted.

### *MAXCIM Users*

- If a literal entered in the /Update dialogue is equal to the default value stored in the ECB, then it is considered a valid entry regardless of whether it satisfies minimum/maximum values or validation checks. The same holds true when the user is entering data with /ENTRY.
- When deleting records with /Update, a delete check is performed on the file from which you are deleting records. If the delete check fails, then records are not deleted in that update run.

### *CDD Users*

- Data validation specified by VALID FOR DATATRIEVE IF clauses is not performed.
- External reference checks are not used with the CDD.

## *Statistics*

During an update run, update statistics are printed at the end of the log file. These update statistics describe the number of records selected, modified, added and deleted, the number of failures due to external references, and failures due to duplicate keys.

## *Using Different Data Structures with /Update*

XENTIS/Update is supported only for RMS data files. Using relational databases is not allowed.

## *Restricting and Auditing /Update*

You may restrict and audit /Update using the following methods:

- There are several Setup File parameters that are used to control access to /Update and how /Update transactions occur. They are: USER-SECURITY, ALLOW-UPD-FUNC, ALLOW-REUPDATE, MULTI-FILE-UPD, ALLOW-KEYS-UPD, REQ-ACTIVITY-FILE, EXT-REF-CHECK, and ALLOW-TEMP-UPDATE.

---

*Refer to Appendix A for more information.*

---

- If the USER-SECURITY Setup File parameter is set to Y, XENTIS verifies that the user has an entry in the XENTIS User Security file (XENTISnn\$SECURITY:XENTIS\_SECURITY.DAT) that allows updating of files.
- Dictionary security is checked for WRITE (ADD) or DELETE access to the output files.
- Data restrictions and validation can be included in the dictionary. If you are using a XENTIS dictionary, for each field you may include restrictions such as maximum and minimum values, required input, a validation file, etc.
- For some dictionaries, you may include date fields in the data file that are automatically updated when a record changed.
- For some dictionaries, you may record file transactions in an audit trail file. If you are using a XENTIS dictionary, use the audit trail management feature.

## */File*

XENTIS/File is a variation of XENTIS/Report. Its purpose is to write records to a data file. With /File, input files are processed the same way as in /Report. The difference between /File and /Report is where the output goes; instead of creating a report, details are written to a data file. Records can be written to a new, empty data file or added to an existing data file.

### *Why Use /File*

/File is commonly used as an intermediate step to create a report that requires two passes through a data file. For example: when you wish to include an accumulated value in a calculation or selection expression, or to sort and break a report.

/File is also used as a data management tool to assist in file maintenance to:

- Create extract files  
As an example: a year-to-date transaction file that is too large to use efficiently in day-to-day operations can have data extracted into twelve smaller month-to-date transaction files using /File.
- Combine files  
Use /File to combine twelve month-to-date transaction files into one year-to-date file.
- Summarize data to be added to a history file  
With /File, optionally choose summary output to accumulate, then store summary data.
- Convert data types of fields  
/File converts the data type from the input file to the data type specified in the output file.

### *Before Initiating /File*

Before initiating /File, determine the output file you wish to use. You may either request /File to create a temporary dictionary and a sequential output file during processing or pre-define the dictionary description and the output file before initiating the /File dialogue.

If you request /File to create a temporary dictionary and a sequential output file during processing, then you need not create a dictionary description or an actual file before initiating the /File dialogue. The temporary dictionary feature may be used regardless of the interfaces you have licensed in XENTIS.

If you wish to pre-define the output file, then you must create a description in a data dictionary and ensure a 'matching' actual file exists. The actual file may already contain records or it may be a new, empty data file. To create a new, empty data file use the 'Create a new, empty data file' /Dictionary Menu option. If the setup parameter REQUIRE-EMPTY-FILE is set to 'Y', then an empty data file must exist before the /File run; you will not be allowed to append records to a data file that already contains records.

## *Temporary Dictionaries*

### *Why Use a Temporary Dictionary*

The temporary dictionary feature is most useful when creating a temporary file (a file that you plan to use, then delete) with /File. For example: when creating a report that requires two passes through a data file, perform the first pass using a temporary dictionary without pre-defining the output file.

If you are creating a permanent file (a file that you plan to keep as part of your database) with /File, then it is better to pre-define the file in your data dictionary.

Another reason that you may choose to pre-define a file is file security. Temporary dictionaries do not use passwords. If you wish to include dictionary password security on the output file, then you must pre-define the file.

## Using a Temporary Dictionary

Once a temporary dictionary is created with /File, you may use it as an input file in a subsequent XENTIS dialogue.

---

*Refer to the FILE section in XENTIS Dialogue for complete information.*

---

The temporary file created in the /File run may be a sequential file or an indexed file. If the output is a sequential file, the temporary file must be the primary file in a subsequent XENTIS dialogue or it must be converted to an indexed file before initiating a subsequent dialogue. To convert the sequential file, create an FDL (file definition language) file and use the VMS CONVERT utility.

## The /File Dialogue

The /File dialogue uses the same reporting commands and keystrokes as /Report.

---

*Refer to /Report Introduction for more information.*

---

The first part of the /File dialogue is identical to /Report. You are prompted for input files, key relationships, calculations, selection logic and sort fields. For these dialogue sections, use the allowed values and explanations in the /Report section of the this manual.

**Prompt:** Enter XENTIS Function

Enter FILE to  
pointer file.

---

*Refer*

---

File dialogue using a

---

*'RE' functions.*

---

Enter a field name or literal value to be inserted into field '1' CUSTOMER\_NUMBER

Output file : CUST\_ORDERS

Exclusive, Protected, or Shared access : S

Create new sequential output file: N

Input for field '1' CUSTOMER\_NUMBER : A:CUSTOMER\_NO



**Prompt:     Output file**

Default:           No default

**Allowed Values:**

<i>file-name</i>	As described for the <b>Primary file/view</b> in the Dialogue section, or if using a temporary dictionary, the actual filename.
------------------	---

**Allowed Options:**

<b>/DICT=TEMP</b>	Specifies that a dictionary entry does not exist and that a temporary dictionary file is desired. Output will be to a sequential file.
<b>/DICT=APPEND</b>	Specifies that output will be appended to a file that is described by a temporary dictionary.

Enter the name of the file where the records will be written. If the output file is pre-defined, allowed values are the same as for an auxiliary file in the /Report dialogue (generic, actual/generic, and multiple dictionary reporting allowed). If the output file is not pre-defined and a temporary dictionary is desired, enter:

*actual\_file*/DICT=TEMP

where *actual\_file* includes the device and directory, file name and extension. If a device and directory are not included, then the file is created in the current default.

**Pre-Defined Output File**

A valid file description must be stored in a dictionary and a data file must exist. An empty data file is required when the setup parameter REQUIRE-EMPTY-FILE is set to Y.

Records cannot be appended to a relative file that does not have a header record. If the output file is a relative file without a header record, XENTIS displays a warning message and creates a new sequential file. The response to Create new sequential output file is ignored. NOTE: If relative files have header records, then the Setup File parameter HEADER-RECORD must be set to Y.

**Temporary Dictionary**

If you enter an actual file name followed by '/DICT=TEMP', then XENTIS creates a temporary dictionary. The records are written to a sequential output file.

**Prompt:     Exclusive, Protected or Shared access**

Default:           S

**Allowed Values:**

<b>S</b>	Shared Access *
<b>P</b>	Protected Access *
<b>E</b>	Exclusive Access *

\* can be disallowed by a Setup File parameter.

Specifies whether other users can read or read/write to the output file. This prompt is omitted if a temporary dictionary is used.

Shared access permits other users to read or write to the output file during the /File run. Protected access permits other users to read but not write to the output file during the /File run. Exclusive access does not permit other users to read or write to the output file during the /File run.

**Prompt:**     *Create new sequential output file*

Default:                Shipped as N, can be changed in the Setup File.

**Allowed Values:**

<b>N</b>	Write records to the output file, not a new sequential file
<b>Y</b>	Write records to a new sequential, or indexed file
<b>H</b>	Write records to a new sequential file with a header record

Specifies whether records are written to the output file or a new sequential file. This prompt is ignored if the output file is a relative file that does not have a header record. This prompt is omitted if a temporary dictionary is used.

If N, XENTIS writes records to the existing output file.

If Y, XENTIS creates a new file identical to the output file except that it is a sequential file. After the sequential file is created, you may use VMS commands to convert to an indexed file or a relative file. If during the field section you append **/KEY=*n*** to the field specification, then the sequential file will be converted automatically to an indexed file. NOTE: The sequential file is created using the attributes found in the actual data file, not the file description.

If H, XENTIS creates a new file identical to the output file except that it is a sequential file with a header record. You may want to use H when you are planning to convert the sequential file to a relative file with a header record.

**Prompt:**     *Input for field *n* (Field Name)*

Default:                If the output file is pre-defined, a matching field name from an input file or a matching calculation result name. If there is no matching field name, " " for text-type fields, 0 for numeric-type fields, and 00-XXX-0000 for date-type fields. If the output file is not pre-defined and a temporary dictionary is used, then a default is not offered for the first input field and a default of NONE is offered for all subsequent input fields.

**Allowed Values:**

<i>field-name</i>	set field equal to the value in the entered field
<i>field-number</i>	set field equal to the value in the entered field
<i>calculation-result</i>	set field equal to the value in the entered calculation name
<i>literal</i>	set field equal to the entered literal

**Allowed Options:**

<b>/KEY=<i>n</i></b>	Specifies that this field will be a segment to an index, or key.
----------------------	--

**Pre-Defined Output File**

XENTIS prompts for input for each field defined in the output file. Enter a field from an input file, a calculation result name, or a literal. During processing, XENTIS writes the data value from the input field into the field in the output file.

**Temporary Dictionary**

XENTIS prompts for fields to be included in the output file. Enter a field from an input file, a calculation result name, or a literal. When you are finished, enter NONE.

### Indexed File

The **/KEY=*n*** option is allowed only if the output file uses a temporary dictionary or if **Y** was the response at the Create New Sequential Output File prompt. The presence of the **/KEY** option on any field will cause the sequential output file to be converted to an indexed file. The filetype (extension) of this indexed file is controlled by the DFLT-INDEX-TYPE setup file parameter. The *n* value indicates the key segment number and must have a value from one through eight.

When an indexed file is the result, the indexed file will have only one index. This file may then be used as an input file to a subsequent XENTIS run.

### Prompt: Accumulate

Default: N

#### Allowed Values:

<b>N</b>	Do not accumulate
<b>Y</b>	Accumulate
<b>R</b>	Accumulate a running total
<b>X</b>	Accumulate a running total, but do not reset at a break when performing summary output

The **Accumulate** prompt is issued only for numeric-type fields and specifies whether a field is accumulated during the /File run. **Accumulate** is directly related to how you respond to **Detail or summary output**. See **Detail or summary output** below for more information.

If N, the field is not accumulated during the /File run.

If Y, XENTIS totals the values in this field during the /File run. If you want the accumulated values written in the output file, you must respond S (summary) at the **Detail or summary output** prompt. The accumulated value of the field is written to the output file at each break specified, then the accumulator is reset. If you respond D (detail) at the **Detail or summary output** prompt, the value of the field (not the accumulated value) is written to the output file for each detail processed.

If R, XENTIS accumulates a running total of this field during the /File run. If you respond S (summary) at the **Detail or summary output** prompt, the running total is written to the output file at each break specified, then it is reset to zero. If you respond D (detail) at the **Detail or summary output** prompt, the running total is written to the output file for each detail processed.

If X, XENTIS works just like R except the running totals are not reset to zero.

### Prompt: Detail or summary output

Default: Shipped as D, can be changed in the Setup File.

#### Allowed Values:

<b>D</b>	Detail output
<b>S</b>	Summary output
<b>T</b>	Summary output with selection-on-subtotal.

Specifies whether each detail encountered from the input files is written as a record to the output file or whether one record is written to the output file for each break encountered. Unlike /Report, you may include only detail lines or summary lines in the output file; not both.

If **D**, the output file contains one line for each detail encountered. The output file does not contain any subtotals or accumulated values. If you respond **Y** to the accumulate prompt for a numeric-type field and **D** at the detail or summary output prompt, the accumulated value is not included in the output file.

If **S**, the output file contains one record for each break encountered. The record includes the following: for a text-type or date-type field, the data value in the last detail encountered; for a numeric-type field that is not accumulated, the data value in the last detail encountered; for a numeric-type field that is accumulated, the accumulated value at the break.

If **T**, output is the same as if summary output were chosen, except the user can select records based upon the value of subtotals.

### Prompt: Break Field

Default: Sort Fields

#### Allowed Values:

*field-name*  
*field-number*  
*calculation-result*

XENTIS issues this prompt only if summary output is selected. Only one break field is allowed when you choose summary output. You can optionally respond **SORT FIELDS**; if so, a break occurs when a data value changes in any of the sort fields.

If the output file is an indexed file, keys in the output file must be defined to allow records with duplicate data in the key field(s) or you must ensure that duplicates are not written to the output file. Normally, duplicate values are not allowed in the primary key but are allowed in secondary keys.

If duplicate keys are not allowed in the primary key, ensure duplicates are not written to the output file by making each segment (or field) of the primary key a sort field, then break by **SORT FIELDS**. Thus, anytime a data value changes in any of the primary key fields, a unique record is written to the output file.

### Prompt: Enter Sel-on-Subtot expr

Default: NONE

#### Allowed Values:

*FIELD comparison-operation LITERAL*

If **T** is entered at the **Detail or Summary** prompt, then XENTIS will prompt the user for a series of select-on-subtotal expressions.

Enter a binary expression where *FIELD* is a reporting field specified in the report that is being accumulated, including fields with alternative accumulate options, where *comparison-operation* is any valid comparison operation, and where *LITERAL* is any valid numeric literal. Only one operation is allowed per expression, however you may enter multiple expressions. If multiple expressions are entered, all expressions must be true in order to select the group of records.

For example, if **ORDER\_AMOUNT** is a field that is being accumulated and you wish to select only those groups of records where the accumulated value of **ORDER\_AMOUNT** is greater than 1000, the you would enter an expression similar to: **ORDER\_AMOUNT > 1000**.

If Select-on-Subtotal expressions are entered for multiple break levels, XENTIS will compute the subtotals and evaluate the Select-on-Subtotal expression for the inner most break levels first.

## Technical Considerations

### Statistics

After a file run, statistics are displayed on the terminal when executing interactively or at the end of the log file when executing in batch. These file statistics include the number of records selected and number written to the output file, as well as the number of errors encountered while writing to the output file, and during selection.

### Using Different Data Structures with /File

XENTIS/File is supported for RMS data files and relational databases. See the appropriate section on each database for more information.

### Restricting /File

You may restrict /File using the following methods:

- There are several Setup File parameters that are used to control access to /File and how /File transactions occur. They are: ALLOW-FILE, REQUIRE-EMPTY-FILE, and FILE-DROP-PRIV.

---

*Refer to Appendix A for more information.*

---

- Dictionary or database security is checked for WRITE (ADD) access to the output files.
- If the USER-SECURITY Setup File parameter is set to Y, XENTIS verifies that the user has an entry in the XENTIS User Security file (XENTISnn\$SECURITY:XENTIS\_SECURITY.DAT) that allows writing to files.
- Data restrictions and validation can be included in the dictionary or data descriptions. If you are using a XENTIS dictionary, for each field you may include restrictions such as maximum and minimum values, required input, a validation file, etc.

---

*Refer to the /Dictionary section for more information.*

---

- For some dictionaries, you may include date fields in the data file that are automatically updated when a record is added or changed.

### Writing records to an exceptions file

Exception files store records that for whatever reason are not allowed in the intended data file. XENTIS/File can write records to an exception file. This reduces the possibility of lost records during a /File run. A common example is when you are writing records to an indexed file and there are duplicate keys detected that cannot be written to the output file.

XENTIS/File will only write records to the exception file if the setup parameter EXCEPTIONS is set to Y. The name of the exceptions file is controlled by the parameter EXCEPTION-FILE. This is shipped as XENTIS\_EXCEPTIONS.DAT. Exception files are sequential.

## */Model, /Graph, and /Webpage*

XENTIS/Model is a variation of XENTIS/Report; its purpose is to create an output file in a special format to be imported into a spreadsheet package or used in a word processing 'merge' operation. With /Model, input files are processed the same way as in /Report. The difference between /Model and /Report is the format of the output; instead of creating a report, /Model creates an output file that can be imported into a spreadsheet package. XENTIS/Graph works just like /Model except the output file can be imported into a graphics package. The remaining text references /Model but the same features exist for /Graph. XENTIS/Webpage works very similar to /Model. It has some additional prompts to enable XENTIS to produce tabular web pages that can be viewed with any web browser. Except as designated later, the remaining text references /Model but the same features exist for /Webpage.

### *Why Use /Model*

/Model is used to process data stored on your OpenVMS system to import to a spreadsheet. Once imported, you may utilize the features available in the spreadsheet package to perform accounting functions and create special reports.

### *Spreadsheet and Graphics Packages*

/Model and /Graph work with specific spreadsheet, word processing, and graphics packages. /Model and /Graph may work with other packages. See Technical Considerations for more information on how to customize output.

## *The /Model, /Graph, and /Webpage Dialogue*

The /Model, /Graph, and /Webpage dialogue uses the same reporting commands and keystrokes as /Report.

The first part of the /Model dialogue prompts for input files, key relationships, and values and explanation

<F1>=HELP <F2>=HELP <F3>=COMMAND <F4>=SELECT \*\* Model Section  
 Y = accumulate this field into a total value. N = don't accumulate.

Model Field : R.CUSTOMER\_NO  
 Heading : <Customer Number>  
 Print mask : #####  
 Accumulate : N

prompted for input files, use the allowed

**Prompt:**     *Enter XENTIS Function*

Enter MODEL to initiate the /Model dialogue, WEBPAGE to initiate the /Webpage dialogue. You may also enter REMODEL or REWEBPAGE to initiate the /Model or /Webpage dialogue using a pointer file.

---

*Refer to the Command File section for more information about pointer files and 'RE' functions.*

---

**Prompt:**     *Modeling Control File  
Graphics Control File  
Webpage Control File*

Default:             For /Model shipped as LOTUS.DAT, can be changed in the Setup File.  
                         For /Webpage shipped as FIXED-HEAD-NOBORDER.DAT, can be changed in Setup.

Specifies the format of the output file. The modeling control file passes variables into XENTIS so that the output file is in a format that is understood by the spreadsheet package you wish to use. For example: if you wish to import to Lotus 1-2-3, enter LOTUS.DAT as the modeling control file.

---

*Refer to Appendix E for a list of supported Model and Table Control files.*

---

**Prompt:**     *First table title line (/Webpage only)*

Default:             Your company name. Can be changed in the Setup File.

*Allowed Values:*

<i>table title</i>	Any character string.
<b>NONE</b>	For no title line.

**Prompt:**     *Second table title line (/Webpage only)*

Default:             None.

*Allowed Values:*

<i>table title</i>	Any character string.
<b>NONE</b>	For no title line.

**Prompt:**     *Third table title line (/Webpage only)*

Default:             None.

*Allowed Values:*

<i>table title</i>	Any character string.
<b>NONE</b>	For no title line.

When using /Webpage, XENTIS prompts for three title lines. The first line contains a default set by a parameter in the Setup File. The second and third title lines contain a default of NONE. If you do not want any one of the title lines to contain any character string, enter NONE.

**Prompt:**     *HTML document title (/Webpage only)*

Default:             Value from second table title line.

<i>Allowed Values:</i>	
<i>document title</i>	Any character string.

When using /Webpage, XENTIS needs a document title. This is an HTML requirement. If a catalogue entry is created, this document title will be used in the catalogue entry.

**Prompt:**     *Enter into HTML catalogue (/Webpage only)*

Default:             N

<i>Allowed Values:</i>	
<b>Y</b>	Make an entry into the XENTIS HTML document catalogue.
<b>N</b>	Do not make an entry into the XENTIS HTML document catalogue.

XENTIS can enter a hyperlink into an HTML catalogue that points the the Webpage table that will be created.

**Prompt:**     *Rows per HTML document (/Webpage only)*

Default:             Set by a value in the Table Control File.

<i>Allowed Values:</i>	
<i>Any integer</i>	

It may be beneficial to break large Webpage tables into smaller and more manageable documents. This controls the maximum number of rows that each HTML document will have.

**Prompt:**     *Model/Graph/Webpage field n*

Default:             No default for field 1, then **NONE**.

<i>Allowed Values:</i>	
<i>field-name</i>	
<i>field-number</i>	
<i>calculation-result</i>	
<i>literal</i>	
<b>NONE</b>	

Enter the name of the field containing the data you want included in the output file. Enter a field from an input file, a calculation result name, or a literal. Enter **NONE** when no more fields are desired.



## Prompt: Column heading

Default: The field name or as specified in the dictionary.

### Allowed Values:

<i>character-string</i>	Any character string.
<b>NONE</b>	

The column heading is the character string that displays over the field at the top of the spreadsheet. If you do not want a column heading, enter **NONE**.

Column headings may be suppressed in the modeling control file. See the Technical Considerations section in this manual for more information.

## Prompt: Print mask

Default: As specified in the dictionary or by a Setup File parameter.

### Allowed Values:

See 'Print Masks' in the 'Techniques' section for valid print masks.

This prompt is issued for numeric and date-type fields only.

The print mask is used to print data in a specific format. Use print masks to print special characters with numeric fields or to control the size of date fields. Print masks contain one pound sign (#) for each character position in the data field.

## Prompt: Justification (Webpage only)

Default: C

### Allowed Values:

<b>L</b>	Left justify the data in the cell
<b>R</b>	Right justify the data in the cell
<b>C</b>	Center the data in the cell

## Prompt: Accumulate

Default: N

### Allowed Values:

<b>N</b>	Do not accumulate
<b>Y</b>	Accumulate
<b>R</b>	Accumulate a running total

The **Accumulate** prompt is issued only for numeric-type fields and specifies whether a field is accumulated during the /Model run. **Accumulate** is directly related to how you respond to **Detail or summary output**. See **Detail or summary output** below for more information.

If N, the field is not accumulated during the /Model run.

If Y, XENTIS totals the values in this field during the /Model run. If you want the accumulated values written in the output file, you must respond S (summary) at the **Detail or summary output** prompt. The accumulated value of the field is written to the output file at each break specified, then the accumulator is reset. If you respond D (detail) at the **Detail or summary output** prompt, the value of the field (not the accumulated value) is written to the output file for each detail processed.

If R, XENTIS accumulates a running total of this field during the /Model run. The running total accumulator is never reset. If you respond S (summary) at the **Detail or summary output** prompt, the running total of the field is written to the output file at each break specified, but the accumulator is not reset. If you respond D (detail) at the **Detail or summary output** prompt, the running total of the field is written to the output file for each detail processed.

**Prompt:**     *Model output ASCII file   or   Web Page output file*

Default:               Specified in the Modeling Control File or the Webpage Table Control File.

**Allowed Values:**

<i>file-name</i>	Any file name that conforms to the operating system standards.
------------------	--

Enter the name of the output file. The Model output ASCII file is the file that is imported into the spreadsheet package.

**Prompt:**     *Detail or summary output*

Default:               D

**Allowed Values:**

<b>B</b>	Both Detail and Summary output
<b>D</b>	Detail output
<b>S</b>	Summary output

Specifies whether each detail encountered from the input files is written as a record to the output file or whether one record is written to the output file for each break encountered. Like /Report, you may include detail lines, summary lines, or both in the output file.

If D, the output file contains one line for each detail encountered. The output file does not contain any subtotals or accumulated values. If you respond Y to the accumulate prompt for a numeric-type field and D at the detail or summary output prompt, the accumulated value is not included in the output file.

If S, the output file contains one record for each break encountered. The record includes the following: for a text-type or date-type field, the data value in the last detail encountered; for a numeric-type field that is not accumulated, the data value in the last detail encountered, for a numeric-type field that is accumulated, the accumulated value at the break.

If B, the output file contains both detail output and summary output.

## Prompt: Break Field

Default: SORT FIELDS

### Allowed Values:

#### **SORT FIELDS**

*field-name*

*field-number*

*calculation-result*

XENTIS issues this prompt only if summary output is selected. Only one break field is allowed when you choose summary output. You can optionally respond **SORT FIELDS**; if so, a break occurs when a data value changes in any of the sort fields.

## Technical Considerations

### Importing the Output File

Each spreadsheet package has its own file import utility. Once you have created a Model output file, you must transfer it to where the spreadsheet package resides in your system, then import it to a spreadsheet using the file import utility. You will probably want to import all data as numeric (even if it is text) so that each field is placed in a separate column.

Once you have imported the output file, adjust the width and format of the columns, then save the spreadsheet.

### Modeling Control File

The modeling control file works similar to the Setup File; you can think of it as a Model Setup File. Each control file is composed of parameters and their assigned values. The parameters are set to values that a particular spreadsheet package uses in its file format.

The modeling control files are text files that can be modified using a text editor (like EDT). For a given modeling control file, some of the parameters should not be changed (for example; SEPARATOR-CHARACTER). Others may be changed to reflect the way you would like your spreadsheets to appear (for example: HEADINGS).

If you have a spreadsheet or graphics package that is not listed as a package /Model works with, you may create your own modeling control file that specifies the proper format to interface with your application. If you develop generally useful interfaces that you wish your vendor to support and distribute, please contact one of your technical support representatives.

#### Example of LOTUS.DAT

FORMAT	ASCII
MULTIPLE-DATA-PER-LINE	Y
QUOTES-AROUND-STRINGS	Y
SEPARATOR-CHARACTER	" "
LINE-PREFIX	"NONE"
LINE-POSTFIX	"NONE"
HEADER-RECORD	"NONE"
TRAILING-RECORD	"NONE"
SEQUENCE-START	0
SEQUENCE-INCREMENT	0
TRAILING-BLANKS	0

LEADING-BLANKS	0
HEADINGS	Y
DEFAULT-OUTPUT-FILE	LOTUS.LIS

**NOTE:** Documentation of the internal specifications of the Modeling Control File is not a commitment that future versions of XENTIS will use the same specifications. The presence or definition of any parameter in a Modeling Control File is subject to change in future XENTIS versions.

The parameters of the Modeling Control Files are defined below.

<i>Field</i>	<i>Description</i>
FORMAT	Specifies the format of the output file. Only ASCII and SYLK are allowed.
MULTIPLE-DATA-PER-LINE	Use Y if multiple fields are allowed on each line in the output file, otherwise use N.
QUOTES-AROUND-STRINGS	Use Y if text fields are to be surrounded by quotes. Use N if text fields are not to be surrounded by quotes. Use S if text fields are to be enclosed by single apostrophes. Use D if text fields are to be preceded by a lone quote. Use C if the data field is to be surrounded by quotes only if the data contains a comma or a quote.
SEPARATOR-CHARACTER	The character to use when MULTIPLE-DATA-PER-LINE is set to Y. Enclose your entry in quotes. If none desired, use NONE.
LINE-PREFIX	A character string that is to be prefixed to each output line. Enclose your entry in quotes. NONE indicates there is no line prefix.
LINE-POSTFIX	A character string that is to be appended to each output line. Enclose it in quotes. NONE indicates there is no line suffix.
HEADER-RECORD	A character string that is to be the first line in the output file. Enclose your entry in quotes. NONE indicates there is no header record.
TRAILING-RECORD	A character string that is to be the last line in the output file. Enclose your entry in quotes. NONE indicates there is no trailing record.
SEQUENCE-START	Use a positive whole number if there is to be a sequence number at the beginning of each output line. Use 0 if there is to be no sequence number.
SEQUENCE-INCREMENT	Use a positive whole number to indicate incremental quantity of each sequence number. Use 0 if there is no sequence number.
TRAILING-BLANKS	For text fields, use Y if trailing blanks are to be written to the output file. Use N if trailing blanks are not to be written to the output file.
LEADING-BLANKS	Use 1 if exactly one trailing blank is to be written to the output file. For text fields, use Y if leading blanks are to be written to the output file. Use N if trailing blanks are not to be written to the output file.
HEADINGS	Use Y to include column headings in the output file, otherwise use N.
DEFAULT-OUTPUT-FILE	Use a valid filename for your output file.

# /Word

XENTIS/Word is a variation of XENTIS/Report; its purpose is to create an output file in a special format to be used when inserting data in word processing documents with merge operations. With /Word, input files are read and details are created the same way as in /Report. The difference between /Word and /Report is the format of the output; instead of creating a report, /Word creates an output file that can be used in word processing merge operations.

## Why Use /Word

/Word is used to retrieve data stored on your VAX to use in form letters and other documents created by a word processing package. A common application is to use /Word to extract names, addresses, cities, states, and zip codes to merge into a form letter.

## Word Processing Packages

/Word works with specific word processing packages; they are listed below. /Word may work with packages not listed below; any DEC word processing package that uses list processing may be compatible with /Word.

<i>Supported Word Processing Packages</i>	
	WORD-11
	DECWORD
	WPS

*Refer to /Model for interfaces to other word processing packages.*

## The /Word Dialogue

The /Word dialogue uses the same reporting commands and keystrokes as /Report.

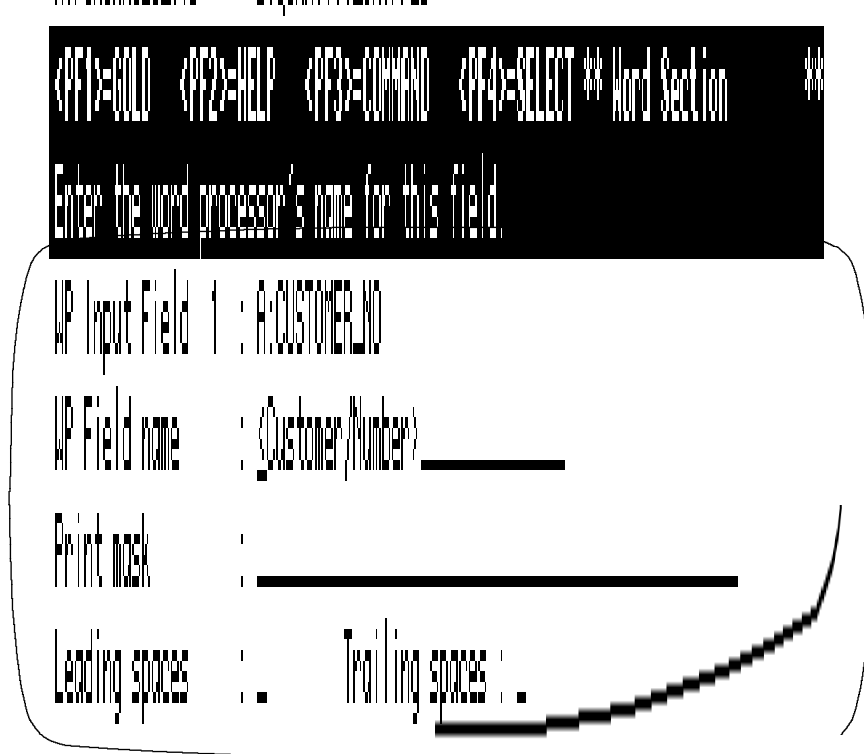
*Refer to /Report Introduction for more information.*

The first part of the /Word dialogue is identical to /Report. You are prompted for input files, key relationships, calculations, selection logic, and sort fields. For these dialogue sections, use the allowed values and explanations in the /Report section of the XENTIS Reference Manual. In the discussion, below, only prompts that are different from the standard /Report dialogue are presented.

### Prompt: Enter XENTIS Function

Enter WORD to initiate the /Word dialogue. You may also enter REWORD to initiate the /Word dialogue using a pointer file.

*Refer to the Command File section for more information about pointer files and 'RE' functions.*



**Prompt:**     *Word input field n*

Default:             No default for field 1, then **NONE**.

**Allowed Values:**

*field-name*  
*field-number*  
*calculation-result*  
*literal*  
**NONE**

Enter the name of the field containing the data you want to insert in your word processing document. Enter a field from an input file, a calculation result name, or a literal. Enter **NONE** when no more fields are desired.

**Prompt:**     *WP field name*

Default:             <Default column heading> where Default column heading is the default column heading for the item entered in **Word input field n**.

**Allowed Values:**

<i>character-string</i>	Any character string. Most WP packages require the field to be enclosed by brackets (<>).
-------------------------	---

Enter the name of the word processing field, as entered in your word processing document, where the data in the input field will be inserted.

**Prompt:    *Print mask***

Default:            As specified in the dictionary or by a Setup File parameter.

***Allowed Values:***

See Techniques Section, Print Masks, for valid print masks.

This prompt is issued for numeric- and date-type fields only.

The print mask is used to print data in a specific format. Use print masks to print special characters with numeric fields or to control the size of date fields. Print masks contain one pound sign (#) for each character position in the data field.

**Prompt:    *Leading spaces (Y, N, 1)***

Default:            Y

***Allowed Values:***

Y  
N  
1

This prompt tells XENTIS whether or not to include leading spaces when formatting the data. If Y, then XENTIS prints the data exactly as it is stored in the field. If N, then XENTIS prints the data stored in the field and trims leading spaces and tabs. If 1, then XENTIS trims leading spaces and tabs, then adds one space on the beginning of the data value.

**Prompt:    *Trailing spaces (Y,N,1)***

Default:            Y

***Allowed Values:***

Y  
N  
1

This prompt tells XENTIS whether or not to include trailing spaces when formatting the data. If Y, then XENTIS prints the data exactly as it is stored in the field. If N, then XENTIS prints the data stored in the field and trims trailing spaces and tabs. If 1, then XENTIS trims trailing spaces and tabs, then adds one space on the end of the data value.

**Prompt:**     *WP output file*

Default:        WORD.LIS

*Allowed Values:*

*file name*

Any file name that conforms to the operating system standards.

Enter the name of the output file. The WP output file is the file that contains the data that will be inserted into your word processing document during the merge operation.

## *Technical Considerations*

### *Merging the Output File*

Each word processing package has its own merge operation utility. Once you have created a WP output file, transfer it to where the word processing package resides in your system. Create the word processing document to use in the merge operation. Merge the file with the word processing document using the merge utility.



# XENTIS/Edit

Menu Selection:	/Edit from the XENTIS Main Menu.
-----------------	----------------------------------

XENTIS/Edit lets you update data in actual data files. With /Edit, you can add, change, delete and list records in existing files and add records to new files.

---

Note: In order to update a file with /Edit, the file must be described in a XENTIS dictionary.

---

Dictionary security is used with /Edit. For example, to add new records to a file, a user must have the proper add privilege level for the file and all its fields.

Move around on a response line using /Dictionary key strokes; all /Dictionary key strokes and Setup file parameters used in /Dictionary are valid in /Edit. Additional key strokes and Setup file parameters available in /Edit are:

<CTRL> W	Refreshes the display screen.
EDIT-FILE-MULT	Determines whether or not XENTIS prompts for another file to edit after exiting an /Edit session.
ALLOW-SPAWN	Determines if spawning and/or attaching is allowed.
AUTO-ERASE	Determines if a screen field is erased when a character is typed.
DISCARD-AFTER-RET	Determines if the data in the field positioned to the right of the cursor is thrown away when a <Return> key is pressed.

## Invoking /Edit

To update a file with /Edit, the default dictionary must be the dictionary containing the file description. If not, change the default dictionary. After selecting /Edit from the menu, the following prompts display.

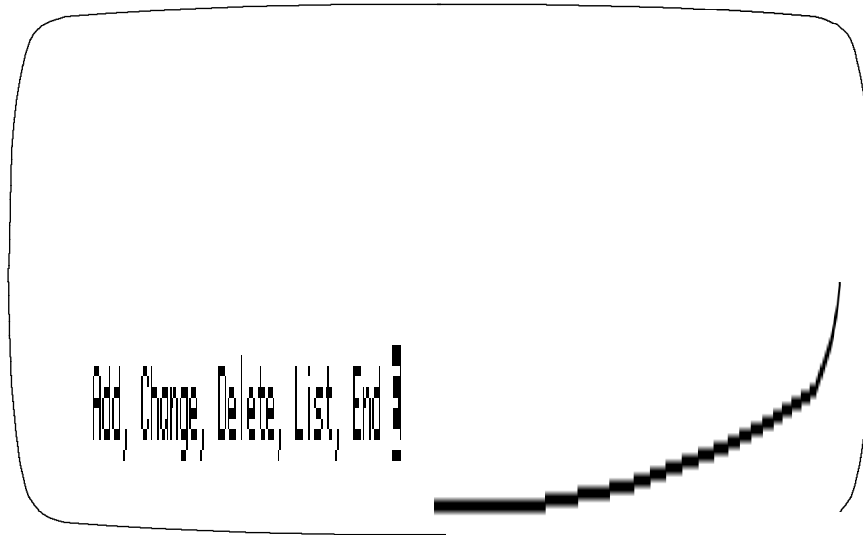
### Prompt: File

Enter the generic file name of the file you want to update (for example; CUSTOMER).

### Prompt: Retrieve screen parameters from <Automatic>

Enter AUTOMATIC or the name of the .ECF file that contains screen parameters for this file. Once you respond to this prompt, the /Edit screen displays.

If you enter AUTOMATIC, XENTIS creates an /Edit screen for you. All the fields in the file display in field number order on the left-hand side of the screen. At the end of the /Edit session, XENTIS prompts: **Do you want to save this screen?** If you respond Y, XENTIS prompts for a file name that can be used in future /Edit sessions with this data file. If you respond N, XENTIS exits /Edit and returns to the XENTIS Main Menu.



If you enter an .ECF file, the /Edit screen displays according to the parameters contained in the .ECF file. See Customizing /Edit Screens for more information on .ECF files and screen parameters.

INVENTORY MAINTENANCE	
1. Part No: <input type="text"/>	
<b>STORAGE</b> 2. Warehouse No: <input type="text"/> 3. Location: <input type="text"/>	<b>BEGINNING BALANCES</b> 8. Year: <input type="text"/> 9. Month: <input type="text"/>
<b>QUANTITIES</b> 4. On hand: <input type="text"/> 5. Reorder at: <input type="text"/> 6. Not to go below: <input type="text"/> 7. On order: <input type="text"/>	<b>RECEIPTS</b> 10. YTD: <input type="text"/> 11. MTD: <input type="text"/> 12. Date ordered: <input type="text"/> 13. Est. arrival: <input type="text"/> 14. Date added: <input type="text"/> 15. Date changed: <input type="text"/>
Add, Change, Delete, List, End <input type="text"/>	

## The /Edit Screen and Prompt

### Security

The /Edit prompt displays at the bottom of the screen; specify the /Edit function to perform. /Edit displays only those functions that your password privilege allows you to perform. For example, if your password does not have enough privilege to add records to the file, ADD does not display in the /Edit prompt. If you do not have enough READ privilege level, the /Edit screen does not display. If you do not have enough READ privilege for certain fields in the file, those fields do not display.

## Screen Display

The maximum size of a field displayed on an /Edit screen is 512 characters. If you are using an AUTOMATIC screen and a field exceeds 80 characters, the screen displays in 132 character mode. If the number of fields in the file exceed the number of fields that can fit one screen, once a full screen is used, XENTIS prompts **Next screen ?**. If you are using a customized screen, the screen width and number of screens are specified in the .ECF file.

## File Type and the /Edit Prompt

The /Edit prompt varies depending on the type of file entered at the **File** prompt.

If the file is indexed, the /Edit prompt contains ADD, CHANGE, DELETE, LIST, and END. XENTIS retrieves records in the file using a key and prompts **Key to use**.

If the file is relative, the /Edit prompt contains ADD, CHANGE, DELETE, LIST, and END. XENTIS retrieve records in the file using record number and prompts **Record number**.

If the file is sequential, the /Edit prompt contains ADD, CHANGE, LIST, REWIND, and END. XENTIS retrieves records in the file by reading each record sequentially looking for the correct record.

## Prompt: Select a Function

To select a function to perform, enter the first character, then press <Return>.

## Spawning or Attaching to a Subprocess

Enter S at the /Edit prompt to spawn a subprocess and to transfer control to it. Then enter an individual DCL command, or <Return> to invoke DCL. Enter X at the /Edit prompt to attach to an existing subprocess. The ability to use spawn and attach are determined by the Setup File parameter ALLOW-SPAWN.

## Adding or Changing Data

Operations are the same for both automatic and customized screens. Use the /Dictionary keystrokes to move around on the screen. When you enter data in a formatted field (a field for which an edit mask has been defined in the dictionary), XENTIS automatically formats the data for you.

When displayed, the data exhibits the formatting characteristics of the edit mask. When you position the cursor on the field to modify the data, the formatting disappears. When you enter data, DO NOT enter the formatting characteristics.

## Exiting /Edit

When you are finished with the /Edit session, enter E at the /Edit prompt. If the Setup file parameter EDIT-FILE-MULT is set to N, XENTIS returns you to the XENTIS Main Menu. If it is set to Y, XENTIS prompts you for another file to edit.

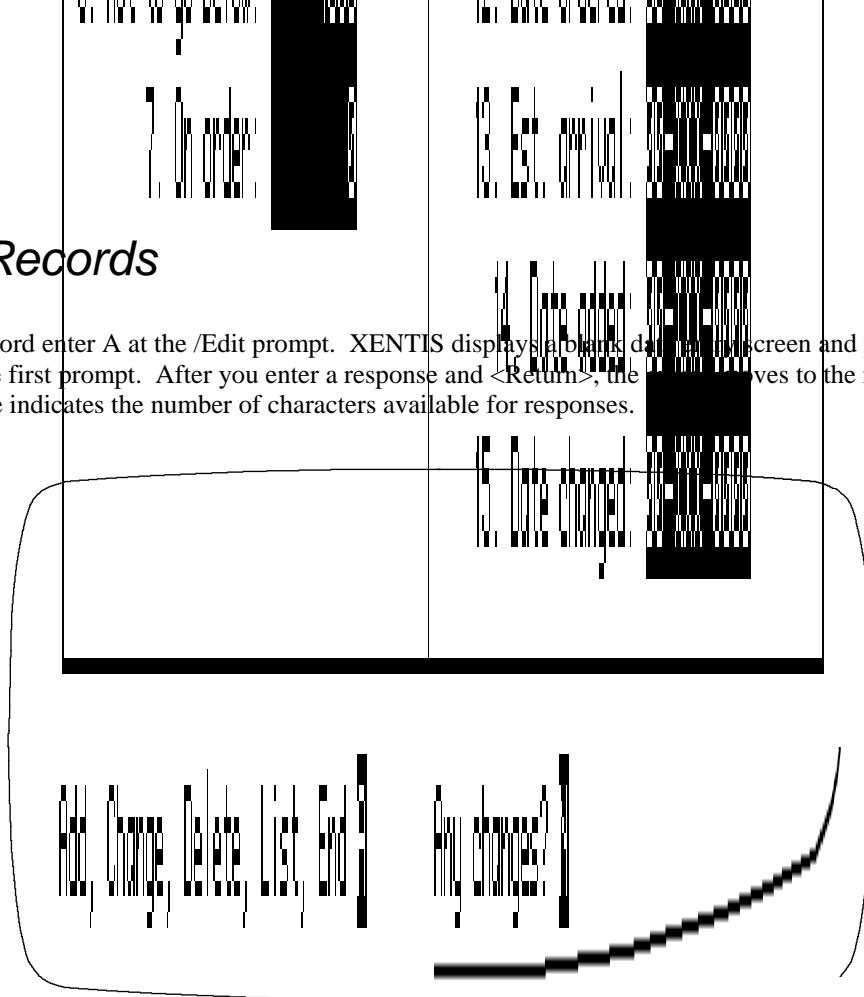
## Creating a New Data File

Using both /Dictionary and /Edit, you can create a new data file. First, add a file and field description to the dictionary for the new file. Create the actual data file by choosing 'Create a new, empty data file' from the /Dictionary Menu. Once the dictionary description and the actual data file are created, then add records to the new file using /Edit.

*Edit*

## *Adding Records*

To add a new record enter A at the /Edit prompt. XENTIS displays a blank data entry screen and positions the cursor next to the first prompt. After you enter a response and <Return>, the cursor moves to the next prompt. The highlighted space indicates the number of characters available for responses.



After you have completed making changes to the screen, XENTIS prompts for additional actions:

### *Prompt: Any changes*

#### *Allowed Values:*

Y  
N

Make changes to entered data.  
Returns to the /Edit prompt.

### *Prompt: Field #*

#### *Allowed Values:*

field-number  
0

Screen field number of the data value you want to change.  
Stop making changes.

Enter the field number of the data value you want to change, then change the data value. When you are done changing data values, enter 0. XENTIS returns to the /Edit prompt.

If the file you are adding records to is an indexed file and you enter a data value in a key field that already exists in the file where the key does not allow duplicates, XENTIS displays **Duplicate record detected**. When this occurs, enter a different data value or exit ADD by pressing <Up-arrow>.

## Changing Records

To change an existing record, enter **C** at the /Edit prompt. XENTIS displays a blank data entry screen and issues a prompt. The prompt varies depending on the type of file entered at the **File** prompt.

### *Indexed File*

If the file is an indexed file and if the file contains two or more keys, XENTIS prompts **Key to use**. Enter the number of the key you want to use to retrieve records. If the file contains only one key, XENTIS automatically uses that key to retrieve records.

XENTIS positions the cursor next to the prompt for the first segment in the key. Enter the data value for the record you want to change. If the key you are using is segmented, XENTIS positions the cursor next to the prompt for the second segment in the key. Enter the data value for the record you want to change. XENTIS prompts for each segment in the key.

Once the entire key is entered, XENTIS retrieves, then displays the record in the /Edit screen. If an exact match is not found in the data file for the data values entered, XENTIS displays **Key not matched**. When this occurs, re-enter the key data values.

### *Relative File*

If the file is a relative file, XENTIS prompts **Record number**. Enter the record number of the record you want to change. XENTIS retrieves, then displays the record in the /Edit screen.

### *Sequential File*

If the file is a sequential file, XENTIS displays a blank data entry screen and positions the cursor next to the first prompt. Enter data in as many fields as needed to identify the record you want to change. Press <Return> to bypass a field.

XENTIS begins with the first record in the data file reading each record until it finds one that matches the data in the fields you entered. XENTIS prompts **Correct record?**. If you respond Y, the correct record displays in the /Edit screen. If you respond N, XENTIS continues reading the file until another record is found that matches the data in the fields you entered.

If XENTIS reaches the end of the file without finding the correct record, XENTIS displays **Record not found**. When this occurs, choose R from the /Edit prompt to rewind to the beginning of the file. Then choose C and start over.

*Edit*

6. Not to go below: 10000	12. Date ordered: 00-XXX-0000
7. On order: 0	13. Est. arrival: 00-XXX-0000
14. Date added: 19-FEB-1992	
15. Date changed: 00-XXX-0000	

Add, Change, Delete, List, End 0 Change Field # 0

When the record you want to change has been retrieved and displayed, XENTIS prompts:

#### *Field#*

Enter the field number of the data value you want to change, then change the data value. When you are done changing data values, enter 0. XENTIS returns you to the /Edit prompt.

If the file you are changing is an indexed file and you enter a data value in a key field that already exists in the file, and duplicate keys are not allowed, XENTIS displays **Duplicate record detected -- re-enter key values**. When this occurs, re-enter a different data value or exit CHANGE by pressing <Up-arrow>.

#### *Prompt: Change next record*

##### *Allowed Values:*

Y  
N

Display the next record in sequence.  
Return to the /Edit prompt.

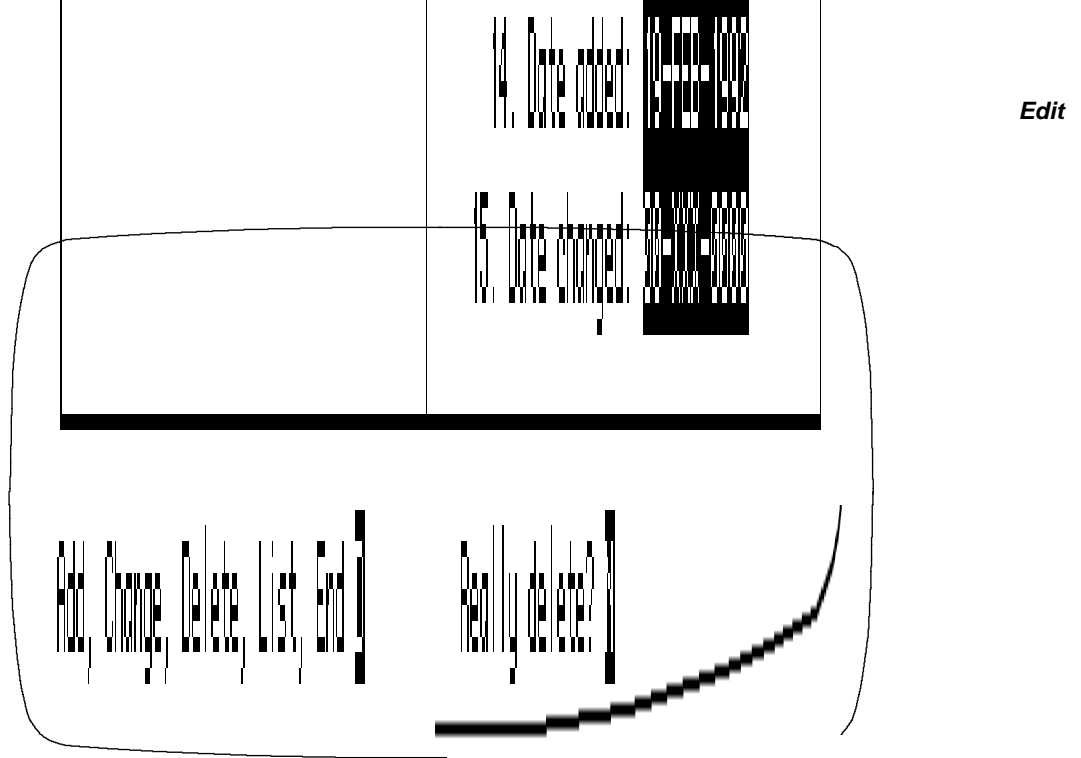
## *Deleting Records*

To delete an existing record, enter D at the /Edit prompt. XENTIS displays a blank data entry screen and issues a prompt. As described in CHANGING RECORDS, the prompt varies depending on the type of file entered at the **File** prompt. Follow instructions in CHANGING RECORDS to retrieve the correct record. For indexed files, if an exact match is not found for the key data values entered, XENTIS displays "Key not matched".

---

Note: Records cannot be deleted in sequential files with /Edit.

---



When the record you want to delete has been retrieved and displayed, XENTIS prompts:

*Prompt: Really delete*

*Allowed Values:*

<b>Y</b>	Display the next record in sequence.
<b>N</b>	Return to the /Edit prompt.

*Prompt: List next record*

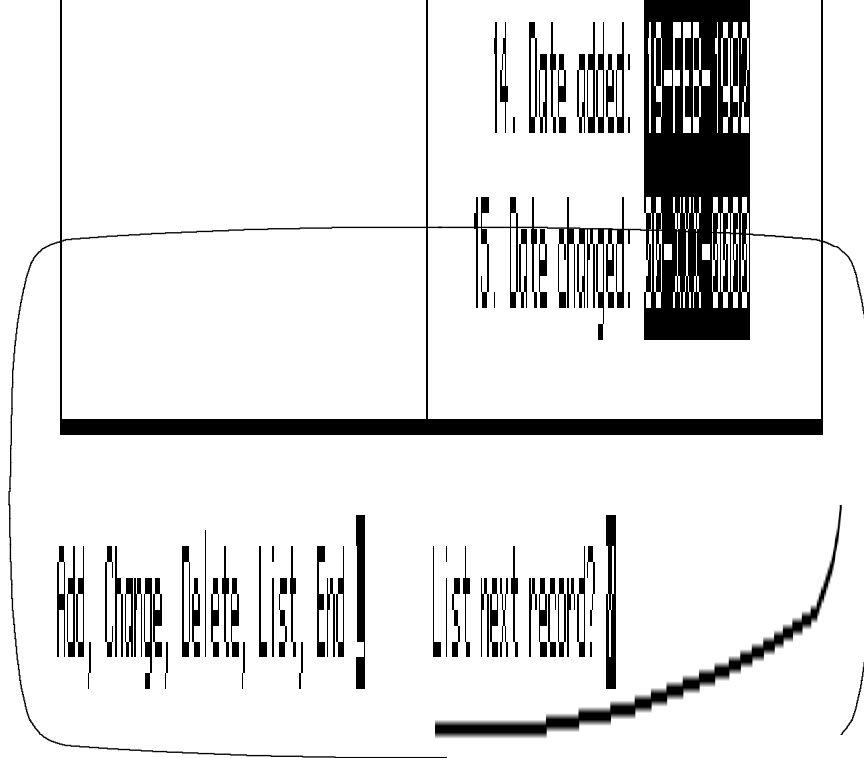
*Allowed Values:*

<b>Y</b>	Display the next record in sequence.
<b>N</b>	Return to the /Edit prompt.

## *Listing Records*

To list an existing record, enter L at the /Edit prompt. XENTIS displays a blank data entry screen and issues a prompt. As described in CHANGING RECORDS, the prompt varies depending on the type of file entered at the **File** prompt. Follow instructions in CHANGING RECORDS to retrieve the correct record.

*Edit*



When the record you want to list has been retrieved and displayed, XENTIS prompts:

*Prompt: List next record*

*Allowed Values:*

**Y**

Display the next record in sequence.

**N**

Return to the /Edit prompt.

## Customizing Screens

This section describes how to create customized /Edit screens using .ECF files.

When invoking /Edit, XENTIS issues the following prompt: **Retrieve screen parameters from:**. Valid responses are AUTOMATIC or an .ECF file name (for example: CUSTOMER.ECF). The default is AUTOMATIC unless an .ECF file exists in the same directory as the actual file you entered at the file prompt with the same file name and an .ECF extension.

If you enter 'AUTOMATIC', XENTIS positions the fields on the left side of the screen in sequential order. If you enter an .ECF file name, XENTIS positions the fields on the screen according to the parameters stored in the .ECF file.

.ECF files are composed of a series of six commands and comment lines. Each command is described in detail below. At the end of the section is a sample .ECF file and screen. Only one data file may be accessed at a time with /Edit. Each .ECF file can use only one data file.

### SCREEN

Syntax: **SCREEN** *number*

Example: SCREEN 1



The SCREEN command performs two functions. SCREEN tells /Edit that parameters for one screen are contained below. SCREEN is also used to indicate a new screen and its screen number when one screen is not large enough to hold all of the fields in a file.

*Number* is an integer representing the screen number. SCREEN must be the first non-comment command in the .ECF file and the first command for each additional screen.

## PROMPT

Syntax: **PROMPT** *row column "text"*

Examples: PROMPT 5 28 "(#) Quantity?"  
 PROMPT 14 5 "##. Customer Number:"

The PROMPT command stores a text prompt that appears next to a field 'window' on the /Edit screen and the prompt position. Prompt position is determined by *row* and *column*. A PROMPT command must directly precede its corresponding FIELD command.

*Row* is the vertical position on the screen. Valid values are 1 through 22.

*Column* is the horizontal position on the screen. Valid values are 1 through 131. Values 1 through 80 are used with a normal terminal setting. Values 81 through 131 are used with a 132-character terminal setting.

*"Text"* is the text entry as you want it to appear on the /Edit screen. Quotes (") are optional; required only if the text contains embedded spaces. Text entries must contain one # or two ## to hold the field number (unless you are using screen navigation). See the FIELD command below for more information.

## FIELD

Syntax: **FIELD** *name row column length*

Examples: FIELD QUANTITY 5 43 5  
 FIELD CUSTOMER\_NUMBER 14 27 8  
 FIELD MTD\_AMOUNT(6) 9 15 0

The FIELD command sets the position and length of a field 'window' on the /Edit screen. Field position is determined by *row* and *column*. A FIELD command must directly succeed its corresponding PROMPT command.

*Name* is the field name as it is stored in the dictionary description. If the field has multiple occurrences, use subscripts to designate the occurrence number.

*Row* is the vertical position on the screen. Valid values are 1 through 22.

*Column* is the horizontal position on the screen. Valid values are 1 through 131. Values 1 through 80 are used with a normal terminal setting. Values 81 through 131 are used with a 132-character terminal setting.

*Length* is the size of the field 'window' on the /Edit screen. Length is usually the same as the length of the field or its print mask (whichever is longer). If the field 'window' is not long enough to hold the entire field, then the data in the field 'window' scrolls. If length is 0, then the length of the data field is used for the length of the field 'window'.

If a field is positioned beyond column 80 in a screen set to 80 columns, then you are prompted **Save this screen** when you exit /Edit. Fields automatically updated or added in /Edit (i.e.; DATE\_ADDED and DATE\_CHANGED) must either display on the /Edit screen or be included using a SCRAP command. See SCRAP below for more information.

*TEXT*

Syntax:        **TEXT** *row column "text"*

```
Examples: TEXT 3 20 " Customer Master File Maintenance "
```

```
TEXT 20 1 "Press return to leave field unchanged"
```

```
SET DRAW
```

```
TEXT 2 2 "lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq"
```

The TEXT command stores a text entry that appears on the /Edit screen and the text position. Text position is determined by *row* and *column*. The TEXT command is similar to the PROMPT command except that TEXT can store any text entry; it need not be associated with a field.

*Row* is the vertical position on the screen. Valid values are 1 through 22.

*Column* is the horizontal position on the screen. Valid values are 1 through 131. Values 1 through 80 are used with a normal terminal setting. Values 81 through 131 are used with a 132-character terminal setting.

"Text" is the text entry as you want it to appear on the /Edit screen. Quotes (") are optional; required only if the text contains embedded spaces.

The TEXT command can also be used to draw screen graphics characters (for example; to create horizontal or vertical lines) on the /Edit screen. In order to use line drawing characters, you must include a SET DRAW command before the TEXT command. When SET DRAW is used, all subsequent lower case and special characters are converted to the line drawing characters they represent. See SET DRAW for more information.

*SET*

Syntax:       **SET** *option*

Examples:      SET    NORMAL  
                 SET    BOLD  
                 SET    BOTTOM

The SET command controls the display of the text entries contained in subsequent PROMPT and TEXT commands. SET commands determine the terminal setting; settings are not changed until the next SET command is encountered. All valid SET *options* are listed below.

<b>BOLD</b>	Displays all subsequent text entries with a higher intensity than normal.
-------------	---

**BOTTOM** Displays all subsequent text entries and entries in field 'windows' as bottom-half of double height characters. See also 'SET TOP'.

DRAW	Displays all subsequent lower case and special text characters as the line drawing characters they represent. Use SET DRAW with TEXT prompts to paint horizontal and vertical lines or special graphics on the /Edit screen. Common lower case characters used to draw vertical and horizontal lines are q, x, l, k, t, w, u, v, m, and j.
------	--

*Refer to the DEC Terminal Guide for more information.*

FIELD-ACCEPT	If the SET NAVIGATE command is issued previously in the .ECF file, FIELD-ACCEPT determines whether the <Return> key or the <TAB> key is used as the 'field acceptance' key when entering data in a field. Valid forms for this command are: SET FIELD-ACCEPT=RETURN or SET FIELD-ACCEPT=TAB. If SET FIELD-ACCEPT=RETURN is entered, then the <Return> key is the 'field acceptance' key and the <TAB> key is the 'screen acceptance' key. If SET FIELD-ACCEPT=TAB is entered, then the <TAB> key is the 'field acceptance' key and the <Return> key is the 'screen acceptance' key. See the 'Screen Navigation' section for more information.
NAVIGATE	Determines how to move around, from field to field and screen to screen, when adding or changing records in /Edit. If the SET NAVIGATE command is present in an .ECF, then field navigation is allowed. See the 'Screen Navigation' section for more information.
NORMAL	Resets all display settings. Subsequent text entries display with normal characteristics.
REVERSE	Displays all subsequent text entries in reverse video (usually dark characters on a light background).
TOP	Displays all subsequent text entries and entries in field 'windows' as the top half of a double-height character set. See also 'SET BOTTOM'.
WIDE	Sets characters into double width font.

## SCRAP

Syntax: **SCRAP**

Example: SCRAP  
FIELD DATE\_ADDED 20 5 11  
FIELD DATE\_CHANGED 21 5 11

The SCRAP command is used to include fields required in the /Edit screen but not display them (for example; fields entered at the **Field to update on add** and **Field to update on change** prompts). SCRAP must appear before any FIELD or PROMPT entries for fields being scrapped. For Indexed files, do not SCRAP key fields.

You need not use SCRAP if you do not want a field to display on an /Edit screen; simply do not include the field in the .ECF file. If a field is not included in an .ECF and the field is not included with the SCRAP command, then nulls are written to the field in the file when new records are added.

### Sample .ECF File and Screen

```
!                               Screen Parameters for INVENTORY.IDX
! *****
! *****
!
SET DRAW
!
! Top Line
TEXT 1 01 "lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq"
TEXT 1 41 "qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqk"
!
! Left Margin
TEXT 2 01 "x"
TEXT 3 01 "x"
TEXT 4 01 "x"
TEXT 5 01 "x"
TEXT 6 01 "x"
TEXT 7 01 "x"
```

```

TEXT      8      01      "x"
TEXT      9      01      "x"
TEXT     10      01      "x"
TEXT     11      01      "x"
TEXT     12      01      "x"
TEXT     13      01      "x"
TEXT     14      01      "x"
TEXT     15      01      "x"
TEXT     16      01      "x"
TEXT     17      01      "x"
TEXT     18      01      "x"
TEXT     19      01      "x"
TEXT     20      01      "x"
!
! Bottom Line
TEXT     21      01      "mqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqq"
TEXT     21      41      "qqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqj"
:
SET NORMAL
SET REVERSE
TEXT      2      29      "INVENTORY MAINTENANCE"
SET NORMAL
!
PROMPT   4      27      "##. Part No.:"
FIELD   PART_NO  4      40  0
!
SET BOLD
TEXT      6      15      "STORAGE"
SET NORMAL
!
PROMPT   8      5       "##. Warehouse No.:"
FIELD   WAREHOUSE_NO  8      23  0
!
PROMPT   9      9       "##. Location:"
FIELD   LOCATION      9      23  0
!
:
```

INVENTORY MAINTENANCE	
1. Part No: <input type="text"/>	
<b>STORAGE</b> 2. Warehouse No: <input type="text"/> 3. Location: <input type="text"/>	<b>BEGINNING BALANCES</b> 8. Year: <input type="text"/> 9. Month: <input type="text"/>
<b>QUANTITIES</b> 4. On hand: <input type="text"/> 5. Reorder at: <input type="text"/> 6. Not to go below: <input type="text"/> 7. On order: <input type="text"/>	<b>RECEIPTS</b> 10. YTD: <input type="text"/> 11. MTD: <input type="text"/>
	12. Date ordered: <input type="text"/> 13. Est. arrival: <input type="text"/> 14. Date added: <input type="text"/> 15. Date changed: <input type="text"/>

Add, Change, Delete, List, End

## Screen Navigation

Screen navigation allows you to move from field-to-field and from screen-to-screen in an /Edit screen without entering the number for the field you wish to change.

If the /Edit screen parameters are created using 'automatic' screen formatting or the SET NAVIGATE command is not included in an .ECF file, then you are prompted for a field number to change each time you wish to change a value in a field. If the /Edit screen parameters are created using an .ECF file, then you may use the SET NAVIGATE command to allow screen navigation.

### SET NAVIGATE

In an .ECF file, the SET NAVIGATE command tells XENTIS to allow screen navigation. This command can appear anywhere in the .ECF file except at the end (the last line).

### SET FIELD-ACCEPT

If the SET NAVIGATE command is issued previously in the .ECF file, this command may be optionally included to determine whether the <Return> key or the <TAB> key is used as the 'field acceptance' key. Valid forms for this command are: SET FIELD-ACCEPT=RETURN or SET FIELD-ACCEPT=TAB.

If SET FIELD-ACCEPT=RETURN is used, then the <Return> key is the 'field acceptance' key and the <TAB> key is the 'screen acceptance' key. If SET FIELD-ACCEPT=TAB is used, then the <TAB> key is the 'field acceptance' key and the <Return> key is the 'screen acceptance' key. If the SET NAVIGATE command is issued previously in the .ECF file but SET FIELD-ACCEPT is not included, then the 'field acceptance' key is <TAB> and the 'screen acceptance' key is <Return>. If SET FIELD-ACCEPT is included but SET NAVIGATE is not or does not appear first, then this command is ignored.

If the setup parameter DISCARD-AFTER-RET is set to 'Y', then pressing <Return> or <TAB> discards characters to the right of the cursor.

## Changes in Screen Display

When using screen navigation, pound signs (#) contained in a PROMPT command, which normally signify where to display the field number on the screen, are replaced with spaces on the /Edit screen. The period (.) following the pound signs is replaced with space. When adding or changing records, field numbers do not appear on the screen.

## Adding Records with Screen Navigation

In add mode, fields are always processed in the order in which they are encountered in the .ECF file (from top to bottom) even though the fields may not be positioned on the screen in this order. Screens are always processed in screen number order.

When the 'field acceptance' key is pressed, the current field (where the cursor resides) is accepted and the cursor is placed on the next field (the next field number). If the cursor resides on the last field of the screen, then pressing 'field acceptance' key does not move the cursor.

When the 'screen acceptance' key is pressed, all remaining fields on the screen are processed in field number order. If an error occurs (for example, no data is entered for a field requiring a minimum length), an error message displays and you are given an opportunity to enter data in that field. If the .ECF file contains more than one screen, the next screen is displayed. If not, then you are returned to the /Edit prompt.

When adding records with screen navigation, you may move back and forth between screens using the arrow keys.

## Changing Records with Screen Navigation

In change mode, fields are always processed in field position order, from left-to-right, top-to-bottom, regardless of the field numbers. After retrieving a record to change, the cursor is placed at the first (left-most) field at the top of the first screen.

When the 'field acceptance' key is pressed, the current field (where the cursor resides) is accepted and the cursor is placed on the next field to the right. If a field does not exist to the right, then the cursor is placed on the left-most field on the next line down. If the cursor resides on the last field (right-most) on the last line of the screen, then pressing 'field acceptance' key does not move the cursor.

When the 'screen acceptance' key is pressed, no more fields are processed. If the .ECF file contains more than one screen, the next screen is displayed. If not, then you are prompted for the next record to change. If you respond 'N', you are returned to the /Edit prompt.

When changing records with screen navigation, you may not move back and forth between screens using the arrow keys. To return to a previous screen, you must end the change session, then change the record again.

## Screen Navigation Key Strokes

### Function Key



With screen navigation, the left and right arrow keys can be used to move one character at a time within a field ('automatic' mode) or may be used to jump from field-to-field ('navigate' mode). Toggle between these two modes by pressing <F17> at any prompt in /Edit.

If SET NAVIGATE is not included in the .ECF file, then 'navigate' mode is not available. Pressing <F17> disables the use of the right and left arrow keys.

### Arrow Keys

The following key strokes can be used when changing a record using screen navigation. If the setup parameter DISCARD-AFTER-RET is set to 'Y', then pressing <Return> discards characters to the right of the cursor.



Moves the cursor up one line on the screen in the same field position. If the cursor is in the second field on line 7, <Up-arrow> places the cursor in the second field on line 6.

If there is not a field on line 6, then the cursor is placed on the next line that contains a field. If there are fewer fields than the current field position, then the cursor is placed on the last field in the line. If the cursor is on the top line of the screen, then pressing <Up-arrow> does not move the cursor.



Moves the cursor down one line on the screen in the same field position. Works the same as <Up-arrow> but in the opposite direction.



When in 'navigate' mode, moves the cursor one field to the left on the current line. If the cursor is on the left-most field on the line, then pressing <Left-arrow> does not move the cursor.



When in 'navigate' mode, moves the cursor one field to the right on the current line. If the cursor is on the right-most field on the line, then pressing <Right-arrow> does not move the cursor.

## Symbols

XENTIS uses several externally defined symbols to transfer values to XENTIS /Edit. If the symbols are not set

outside of XENTIS, they are not used. The symbols discussed here are normally used by DP professionals or advanced users.

### ***XENTIS\$DICT***

The dictionary name of the default dictionary. If this symbol exists and contains a valid XENTIS dictionary file name, then XENTIS uses it for the default dictionary. The user is never prompted with **Dictionary:.**

### ***XENTIS\$PASSWORD***

The password for the default dictionary. If this symbol exists and contains a valid XENTIS password, then XENTIS uses it for the dictionary password. The user is never prompted for **Password:.**

### ***XENTIS\$EDIT\$FILE***

The generic file name of the file to edit. If this symbol exists and contains a valid generic file name, then XENTIS /Edit uses it for the file to edit. The user is never prompted with **File:.**

### ***XENTIS\$EDIT\$CMDFILE***

The actual file name (.ECF) of the file that contains the screen parameters or AUTOMATIC. If this symbol exists and contains a valid actual file name (.ECF), then XENTIS /Edit uses it to obtain screen parameters. If this symbol contains AUTOMATIC, the screen parameters are automatically generated. The user is never prompted with **Retrieve screen parameters from:.**

### ***XENTIS\$HELP***

Specifies whether help messages are displayed at the bottom of the edit screen. If this symbol exists and contains Y, then help messages are displayed. If the symbol is not set or set to something other than Y, help messages are not displayed.





# XENTIS/Dictionary

XENTIS/Dictionary is used to create, store, and maintain file descriptions and other dictionary elements that are used with XENTIS. /Dictionary is also used to apply security to data file, field and view access. The XENTIS dictionary can be used to describe VAX RMS data files. Definition of other database systems is done within the databases themselves.

## SETUP File

The system setup file is used to set standard dialogue defaults, run-time parameters, and other optional settings. The system setup file is usually maintained by your system manager and should reflect the standards needed for the typical XENTIS user in the company. If allowed by the system manager, each user can create a user setup file to modify parameter values to individual needs.

---

*Refer to Appendix A for more information on the setup file and setup parameters.*

---

DISCARD-AFTER-RET is a setup parameter used in /Dictionary. This parameter determines whether or not characters to the right of the cursor are automatically discarded when the return key is pressed.

AUTO-ERASE is a setup parameter used in /Dictionary. This parameter determines whether or not the field is automatically erased when the user starts to type over the field.

## Key Strokes

This section defines the keys that are defined to perform particular functions in XENTIS/Dictionary. Use these key strokes to move around on the response line and in the /Dictionary dialogue.

### Dialogue Control Keys



Moves the cursor right on the response line.



Moves the cursor left on the response line.

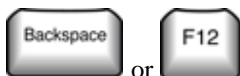


Backs up one prompt in the /Dictionary dialogue.



Recalls previous responses.

### Editing Keys



The BACKSPACE key moves the cursor to the beginning of the response line.



The BACKSLASH key (\), followed by <Return>, moves back one prompt in the dialogue. Enter \ in the first character position on the response line.

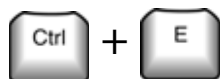


Toggles between insert and overstrike mode.

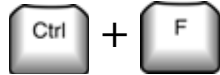


Moves the cursor to the left one character.

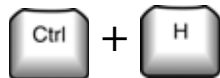
## Dictionary



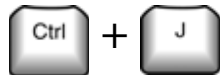
Moves the cursor to the right end of the line.



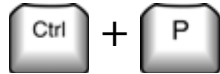
Moves the cursor to the right one character.



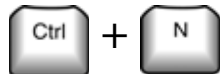
Moves the cursor to the left end of the line.



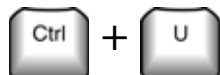
Erases the word to the left of the cursor.



Deletes the character that the cursor is positioned upon.



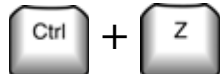
Erases from the cursor to the end of the line. See Appendix A for more information on the DISCARD-AFTER-RET setup parameter.



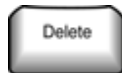
Erases from the cursor to the left end of the line.



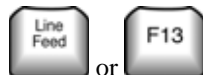
Indicates that the following character is data rather than a command. For example: CTRL/V followed by CTRL/J says that the CTRL/J character is data, not a command to erase the previous word.



Backs up one prompt in the /Dictionary dialogue.



The DELETE key deletes one character to the left of the cursor.



The LINE FEED key erases the word to the left of the cursor.

# Edit a Dictionary

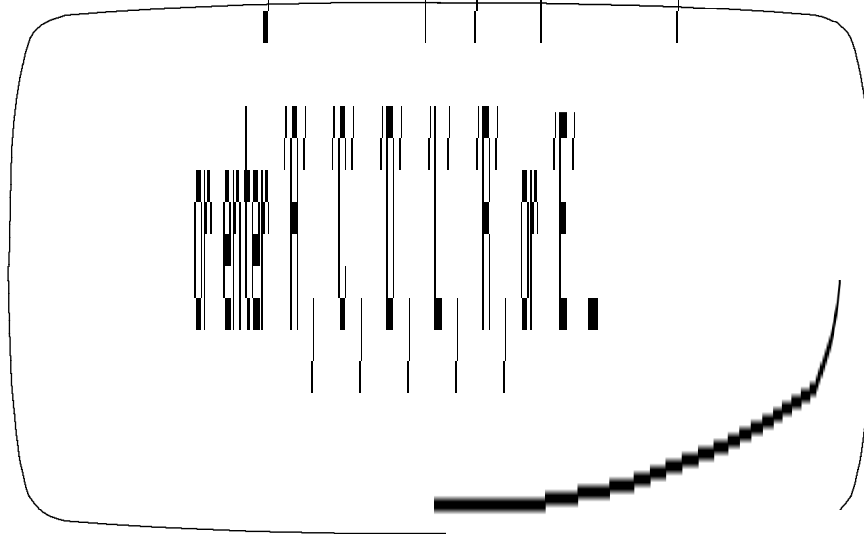
Menu Selection: 'Edit a dictionary' from the /Dictionary Menu.

Use this option to add, change, delete, list or rename dictionary elements (files, fields, tables, passwords, or views) in the current default dictionary. Technical or advanced users normally enter and maintain data file descriptions in the dictionary.

The default dictionary displays in the upper right-hand corner of the /Dictionary Menu. If you wish to edit a dictionary other than the current default, change the default dictionary using the 'Change the default dictionary' option before choosing 'Edit a dictionary'.

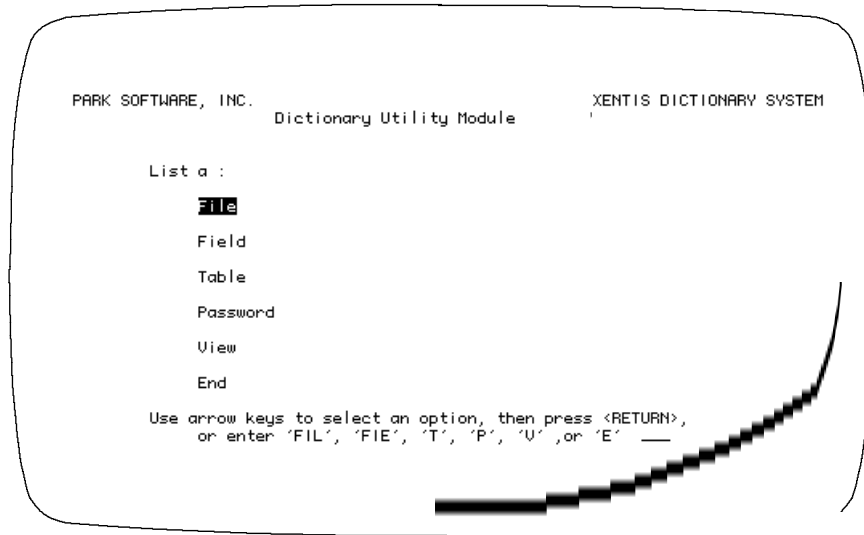
## The Dictionary Utility Menu

The Dictionary Utility Menu appears on two screens. The first screen prompts for the editing function to perform.



## Dictionary

The second screen prompts for the dictionary element to edit.



# Editing File Descriptions

To edit a file description, choose Add, Change, Delete or List from the first screen of the Utility Menu and File from the second.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the Dictionary Utility Menu if you are at the first prompt.

## Add a File Description

Choose Add and File from the Utility Menus. XENTIS prompts for the generic name of the file description you want to add. XENTIS displays the file description screen:

```

PARK SOFTWARE, INC.                                XENTIS DICTIONARY SYSTEM
Dictionary Utility Module
Adding a file description

Generic filename : CUSTOMER

1. Actual file : DISK0:IXEN40.DEMO\CUSTOMER.IDX
2. File type      : INDEXED
3. Record format  : FIXED
4. Read privilege level : 2
5. Add privilege level : 3
6. Change privilege level : 3
7. Delete privilege level : 3
8. Audit trail    : N
9. Audit trail receiver :
10. File prefix to use :
11. Field to update on add : DATE_ADDED
12. Field to update on change : DATE_CHANGED

Any changes (Y or N) ? N
  
```

### Prompt: Generic file name

Default: No default

#### Allowed Values:

*file-name* 1 to 32 alphanumeric characters including A-Z, 0-9, dollar sign (\$), underscore (\_), and dash (-). The first character must be alphabetic.

Enter a descriptive name for this file. For example, you might enter APMaster as the generic file name for an accounts payable master file. XENTIS converts all lower case alpha characters to upper case.

**Prompt: 1. Actual file name**

Default: No default

**Allowed Values:**

<i>file-name</i>	1 to 61 alphanumeric characters including A-Z, 0-9, dollar sign (\$), underscore (_), dash (-), and device and directory.
<i>URL Path</i>	1 to 61 characters that are allowed in an internet URL path name.

Enter the file name of the data file. Include device, directory, name, extension, or logical. Example: DUA0:[ACCTG.DATA]APMASTER.DAT

When entering an internet URL path name, be sure to begin the path with: HTTP://

This makes sure that XENTIS knows you are using a URL rather than a file name. Placeholders may be specified. See appendix for more information about placeholders.

**Prompt: 2. File type**

Default: No default

**Allowed Values:**

<b>I</b>	Indexed.
<b>S</b>	Sequential
<b>R</b>	Relative
<b>U</b>	User-defined

---

*Refer to 'RMS File Structures' for more information.*

---

**Prompt: 3. Record format**

Default: No default

**Allowed Values:**

<b>F</b>	Fixed length records
<b>V</b>	Variable length records
<b>U</b>	Unknown format
<b>C</b>	Comma Separated Values (Sequential File Type, Variable length)
<b>T</b>	Tab Separated Values (Sequential File Type, Variable length)
<b>X</b>	XML formatted text file.
<b>W</b>	XML formatted data stream from an HTTP web server.

When using record format W make sure that your actual file name is an Internet URL beginning with HTTP://.

When using record formats X or W, only a selected few data types are allowed for each field.

### *Prompt: 4. Read privilege level*

Default: 0

*Allowed Values:*

**0 to 9**

To read this file the user must have a password file read privilege level the same as or higher than the number you enter. 0 assigns the least amount of security, 9 the most.

### *Prompt: 5. Add privilege level*

Default: 0

*Allowed Values:*

**0 to 9**

To add records to this file the user must have a password file add level number the same as or higher than this number. 0 assigns the least amount of security, 9 the most.

### *Prompt: 6. Change privilege level*

Default: 0

*Allowed Values:*

**0 to 9**

To change records in this file the user must have a password file change level number the same as or higher than this number. 0 assigns the least amount of security, 9 the most.

### *Prompt: 7. Delete privilege level*

Default: 0

*Allowed Values:*

**0 to 9**

To delete records from this file the user must have a password file delete level number the same as or higher than this number. 0 assigns the least amount of security, 9 the most.

**Prompt: 8. Audit trail**

Default: N

**Allowed Values:**

<b>Y</b>	Audit trail will be used.
<b>N</b>	Audit trail will not be used.

If **N**, an audit trail will not be kept for this file. If **Y** an audit trail will be kept for this file and XENTIS prompts for the name of the audit trail receiver.

**Prompt: 9. Audit trail receiver**

Default: Blank if AUDIT TRAIL is N, no default if AUDIT TRAIL is Y

**Allowed Values:**

<i>audit-receiver-name</i>	1 to 12 alphabetic characters.
<b>blank</b>	Audit trail will not be used.

Enter the name of the receiver that will process the audit information; for example, AUDITDAT.

---

*Refer to 'Audit Trail Manager' for more information.*

---

**Prompt: 10. File prefix to use**

Default: Blank

**Allowed Values:**

<i>prefix</i>	1 to 4 alphanumeric or special characters.
<b>blank</b>	No prefix will be used

If this file does not have a prefix, press <Return>. If this file meets the criteria to use a file prefix, enter the file prefix. A prefix can contain up to four characters; if the prefix is less than four characters, type in the characters then press <Return>.

File prefixes may contain any ASCII character other than a null.

A file prefix is used with files that contain more than one record layout in the actual data file and contain a field identifying the record layout that is the first segment of the primary key. Such a field might be named RECORD\_TYPE. If these criteria are met, then enter the data value stored in RECORD\_TYPE as the file prefix.

For example, an actual data file contains two record layouts for two different kinds of records: one for header records and one for detail records. In order to use this data file with XENTIS, you must add two file descriptions, one for each layout, with different generic file names (for example: HEADER and DETAIL) and both using the same actual file.



Assume that both HEADER and DETAIL contain a RECORD\_TYPE field, the first segment of the primary key for both layouts, and the value of record type for header records is '01' and for detail records is '02'. Add a FILE DESCRIPTION for HEADER and enter 01 <Return> for the file prefix. Add FIELD DESCRIPTIONS for all the fields in HEADER including RECORD\_TYPE but do not define RECORD\_TYPE as part of the key. Thus, the second segment of the primary key becomes segment 1, the third segment becomes segment 2, and so on. Repeat these steps for DETAIL except enter 02 <Return> for the file prefix.

When a file prefix is defined for a file you are using to create a report, XENTIS determines which records belong with which record layout. When a file prefix is not defined, XENTIS does not.

If the RECORD\_TYPE field is not the first segment of the primary key, then you cannot use a file prefix. Add two file descriptions as instructed above, but do not enter a file prefix. Instead, use selection logic to select the appropriate records.

### *Prompt: 11. Field to update on add*

Default: Blank

#### *Allowed Values:*

<i>field-name</i>	A valid field name 1 to 32 alphanumeric characters.
<b>blank</b>	

Enter the name of a date field in the data file being described that will be updated with the current date (and time if present in the field) when a record is added to this file with XENTIS/Edit or /File. The field must be defined in the file with a valid FIELD DESCRIPTION and must be a XENTIS date-type field. In XENTIS/Edit, the field must either display on the /Edit screen or be included in the /Edit screen with the SCRAP command.

---

*Refer to /Edit, Customizing /Edit Screens, for more information.*

---

### *Prompt: 12. Field to update on change*

Default: Blank

#### *Allowed Values:*

<i>field-name</i>	A valid field name 1 to 32 alphanumeric characters.
<b>blank</b>	

Enter the name of a date field in the data file being described that will be updated with the current date (and time if present in the field) when a record in this file is changed with XENTIS/Edit, /File or /Update. The field must be defined in the file with a valid FIELD DESCRIPTION and must be a XENTIS date-type field. In XENTIS/Edit, the field must either display on the /Edit screen or be included in the /Edit screen with the SCRAP command.

---

*Refer to /Edit, Customizing /Edit Screens, for more information.*

---

After responding to the final prompt, XENTIS prompts:

### *Prompt: 13 - 18. Url-1 through Url-6*

Default: Blank

<i>Allowed Values:</i>	
<i>URL path name</i>	The balance of the URL path name began in the actual file name prompt
<b>blank</b>	.

Enter the balance of the URL path name if the allowed space for the actual file name is too small. Trailing spaces on these values will be ignored.

### *Prompt: Any changes (Y or N)*

Default: N

<i>Allowed Values:</i>	
<b>Y</b>	Change items on the screen.
<b>N</b>	Don't change any of the item.

### *Prompt: Change which element*

Default: No default

<i>Allowed Values:</i>	
<i>element-number</i>	An item number from the screen.

Prompted if you responded Y to Any Changes.

### *Prompt: Add another file*

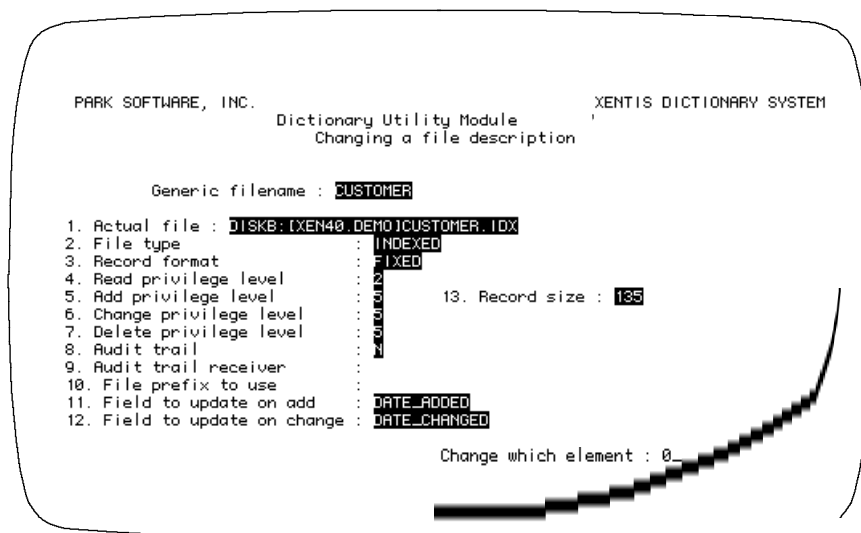
Default: N

<i>Allowed Values:</i>	
<b>Y</b>	A new file screen displays.
<b>N</b>	XENTIS returns to the Dictionary Utility Menu.

Prompted if you responded Y to Any Changes.

## *Change a File Description*

Choose Change and File from the Utility Menus. XENTIS prompts for the generic name of the file description you want to change. Once you enter the generic file name, XENTIS displays the file description screen to change.



The screen includes Record size, a field added and maintained by XENTIS. XENTIS prompts:

*Prompt: Change which element: 0*

**Allowed Values:**

<i>element-number</i>	An element number to change.
<b>0</b>	No additional changes.

Enter the element number to change, then change the response. XENTIS continues to prompt **Change which element** until you enter 0. After entering 0, XENTIS prompts:

*Prompt: Change another file (Y or N).*

Default: N

**Allowed Values:**

<b>Y</b>	XENTIS prompts for another generic file name.
<b>N</b>	XENTIS returns to the Dictionary Utility Menu.

## Delete a File Description

Choose Delete and File from the Utility Menus. XENTIS prompts for the generic name of the file description you want to delete. Once you enter the generic file name, XENTIS prompts:

*Prompt: Delete fields associated with 'file name'*

*Allowed Values:*

**Y**  
**N**

XENTIS deletes all field descriptions associated with the file.  
Field descriptions are not deleted.

*Prompt: Really delete 'file name'*

*Allowed Values:*

**Y**  
**N**

The file description, and field descriptions if requested, is deleted.  
The file description is not deleted.

*Prompt: Delete another file*

*Allowed Values:*

**Y**  
**N**

XENTIS prompts for a new generic file name to delete.  
XENTIS returns to the Dictionary Utility Menu.

When deleting a file and its associated field descriptions, if a field is locked by another user (usually with Edit a Dictionary), that field description may not be deleted and left without a corresponding file description. To delete the field description, re-add a corresponding file description, then delete both the file and field descriptions once the field is unlocked.

## *List a File Description*

Choose List and File from the Utility Menus. XENTIS displays a menu prompting for type of list.



### *Option 1) Full listing of the file*

Use this option to display the file description screen. The screen includes Number of Fields, a field added and maintained by XENTIS. XENTIS prompts:

#### *Prompt: Output device to use*

##### *Allowed Values:*

<b>TT:</b>	Output to your terminal.
<i>printer-name</i>	Output to the specified printer.
<i>file name</i>	Create an output file.

#### *Prompt: Generic file name*

Enter the generic name of the file you want to list.

#### *Prompt: List another file (Y or N)*

If **Y**: XENTIS prompts for another generic file name.

If **N**: XENTIS returns to the Dictionary Utility Menu.

### *Option 2) Brief listing of the file with fields listed*

Use this option to display summary information from the file description and associated field descriptions. XENTIS prompts:

*Prompt: Sort the fields in:*

- 1) *Field position order*
- 2) *Field number order*

Field-	Flt	Flt	Flt	Flt	Occ-	Occurs	Key
NAME	3)	Field	name	order			

Enter the order in which the fields will be displayed.

Prompt: Output device to use

Allowed Values:

TT:

printer-name

file-name

Prompt: Generic file

Enter the generic file name.

Once the generic file name is entered, press

CUSTOMER_NO	1	1	6	W	1	1	0	0	1	1
CUSTOMER_NAME	2	7	25	T	1	1	0	0	2	1
CUSTOMER_AGE	3	32	38	T	1	1	0	0	0	0
CUSTOMER_LIFE	4	02	36	T	1	1	0	0	0	0
CITY	5	02	15	T	1	1	0	0	0	0
STATE	6	07	2	T	1	1	0	0	0	0
COUNTRY	7	09	28	T	1	1	0	0	0	0

Press <RETURN> for more, or 'Q' to quit.

When the list requires more than one screen, press <Return> to call the next screen. To exit the list and return to the Dictionary Utility Menu, enter **Q** <Return> at any screen.

After the final screen displays, XENTIS prompts:

Prompt: List another file (Y or N)

If **Y**: XENTIS prompts for another generic file name.

If **N**: XENTIS returns to the Dictionary Utility Menu.



Option 3) List of all files

Use this option to display a brief listing of all the files in the dictionary. XENTIS prompts:

**no device to use**

<b>TT:</b>	Output to your terminal.
<i>printer-name</i>	Output to the specified printer.
<i>file-name</i>	Create an output file.




Actual filename : C:\NTFS\SYSTEM\SYSTEM\_PARTITION\SYSTEM

press (entry) to continue

Actual filename: **SCENT-SCHEM0:NEW-PORT-MASTER.LTM**

Press (RETURN) to continue.

Assign a new generic file name to a file description stored in the dictionary. Choose Rename and File from the Utility Menus. XENTIS issues the following prompts.

Default:	No default
----------	------------

<i>file-name</i>	A valid generic file name
------------------	---------------------------

*Prompt: New Generic File name*

Default:            No default

*Allowed Values:*

<i>file-name</i>	A valid generic file name
------------------	---------------------------

*Prompt: Really rename 'old generic file name' and assoc. fields (Y or N)*

Default:            N

*Allowed Values:*

<b>Y</b>	XENTIS will rename the file to your specifications.
<b>N</b>	XENTIS returns to the Generic Filename to Rename prompt.

*Prompt: Rename another file (Y or N)*

Default:            N

*Allowed Values:*

<b>Y</b>	XENTIS prompts for another generic file name to rename.
<b>N</b>	XENTIS returns to the Dictionary Utility Menu.



## Editing Field Descriptions

To edit a field description choose Add, Change, Delete or List from the first screen of the Utility Menu and Field from the second. Field descriptions can be added to existing file descriptions only.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the Dictionary Utility Menu if you are at the first prompt.

### Add a Field Description

Choose Add a Field from the Utility Menus. XENTIS prompts for the generic file name and a field name. XENTIS displays the field description screen:

```

PARK SOFTWARE, INC.                                XENTIS DICTIONARY SYSTEM
Dictionary Utility Module V4.1x03
Changing a field description

Generic filename : CUSTOMER
Field name       : CUSTOMER_NO

1. Field type      : NU      14. Col. heading: Customer/Number
2. Field position : 1       15. Default val.: /NONE
3. Field length   : 6       16. Minimum val.: /NONE
4. Occurrences    : 1       17. Maximum val.: /NONE
5. Occurs stride  : 0       18. Scale factor: 0
6. Minimum length : 0       19. Print mask  : #####
7. Allow low. case: 0       20. Valid. file  :
8. Required input : 0       21. Key to use   :
9. Read prv. level: 0       22. Valid. table:
10. Add prv. level: 0
11. Chg prv. level: 0
12. Key field     : 1
13. Key segment   : 1
24. Help message  :

Change which element : 0_

```

### Prompt: Field name

Default: No default

#### Allowed Values:

*field-name*

1 to 32 alphanumeric characters including A-Z, 0-9, dollar sign (\$), underscore (\_), and dash (-). The first character must be alphabetic.

Enter a name for this field. XENTIS converts all lower case alpha characters to upper case.

**Prompt: 1. Field type**

Default: No default

**Allowed Values:***field-type*

Valid XENTIS data type abbreviation.

Enter the data type for this field. The data type entered for FIELD TYPE must match the data type of the field in the actual data file. Valid data types, language equivalents, and valid data types for key fields are listed in Appendix C.

When using record format W or X to describe XML formatted data, only data types that describe character data may be used. Validation of these data types is performed when a report is being run. See appendix C for the list of valid data types with XML formatted data.

**Prompt: 2. Field position**

Default: Calculated next available position.

**Allowed Values:****1 to 32767**

Enter the starting position of the field in the record layout. The first byte in a record layout is position 1.

**Note:** At this prompt and any subsequent prompt, <Down-arrow> fills this and all remaining prompts with the default responses.

**Prompt: 3. Field length**

Default: For some data types, calculated based on data type. If not calculated, 1.

**Allowed Values:****1 to 9999**

Enter the number of bytes in the field. Field lengths for valid data types are listed in Appendix C.

**Prompt: 4. Occurrences**

Default: 1

**Allowed Values:****1 to 99**

Enter the number of times this field occurs in the record layout. If this field occurs only once, enter 1. For example, assume you are adding field descriptions to the dictionary for a file you wish to use with XENTIS. In the record layout, there is a field that occurs twelve times. Each occurrence stores a month-to-date amount, one for each calendar month. The field attributes for all of the twelve occurrences are identical (same data type, length, etc.).

One way to define the record layout is to add twelve separate field descriptions; one for each occurrence. Another way is to add one field description (field name MTD\_AMT) and enter 12 at the **Occurrences** prompt.

In /Report and the /Report modules, refer to fields with multiple occurrences using a subscript (the occurrence number enclosed by parentheses). Fields with multiple occurrences display in the Info window with parentheses. For example, refer to MTD\_AMT for May by entering MTD\_AMT(5).

If you enter a number greater than 1, XENTIS prompts for 'nested' occurrences. You may use up to two 'nested' occurrences. If there are no 'nested' occurrences, press <Return>.

If you enter more than one occurrence for a field, XENTIS also prompts for stride. See OCCURRENCES STRIDE below.

*Partial Record Layout; MTD\_AMT*

	JAN		FEB		MAR		APR		MAY	
1		11		21		31		41		51

<u>Field Name</u>	<u>Occurrences</u>	<u>Stride</u>
MTD_AMT	12	10

*Partial Record Layout; MTD\_AMT and MTD\_QTY*

	JAN AMT		JAN QTY		FEB AMT		FEB QTY	
1		11		16		26		31

<u>Field Name</u>	<u>Occurrences</u>	<u>Stride</u>
MTD_AMT	12	15
MTD_QTY	12	15

### *Prompt: 5. Occurrences stride*

Default: Blank if OCCURRENCES is 1, calculated by XENTIS if OCCURRENCES is greater than 1.

*Allowed Values:*

**1 to 32767**  
**blank**

Enter the number of bytes from the first character position of one occurrence to the first character position of the next sequential occurrence. For the MTD\_AMT example above, stride is the length of the field. For the MTD\_AMT and MTD\_QTY example above, recurring fields are separated. Here the stride is the total bytes in both fields.

**Prompt: 6. Minimum length**

Default: Blank or no default for text fields.

**Allowed Values:**

*field-length*  
**0**  
**blank**

Enter the minimum number of characters required when adding data in this field with /Edit, /File, or /Update. Only text fields are prompted for minimum length. All other field types skip this prompt. Minimum length cannot be greater than the field length.

**Prompt: 7. Allow low. case**

Default: Blank or N for T (text) or ZT (zero-filled text) fields.

**Allowed Values:**

<b>Y</b>	Allow lower case characters.
<b>N</b>	Don't allow lower case characters, convert to upper case.
<b>blank</b>	

Specifies whether or not lower case characters are allowed when adding data in this field with /Edit, /File, or /Update. This prompt is issued for T (Text) and ZT (Zero-filled text). All other field types skip this prompt.

**Prompt: 8. Required input**

Default: N

**Allowed Values:**

<b>Y</b>	Require data entry.
<b>N</b>	Don't require data entry.

Specifies whether data must be entered in this field when adding records with /Edit, /File, or /Update.

**Prompt: 9, 10, 11. Privilege levels**

Default: 0

**Allowed Values:**

**0 to 9**

To read, add or change data in this field, a user must have a password field read, add or change level number the same as or higher than this number. 0 assigns the least amount of security, 9 the most.

**Prompt: 12. Key field**

Default: 0

*Allowed Values:***0 to 9**

If this field is a part of a key, enter the key number (1 for the primary key, 2 for the secondary key, and so on). If this field is not a part of a key field, enter 0 (or press <Return>). After entering a key number, XENTIS prompts for **Key segment**. Enter the segment number in that key. See KEY SEGMENT below. XENTIS continues to prompt for **Key field** until you enter 0 (or press <Return>). A file description can contain up to nine keys. A field may be a part of any one or all of the keys defined in a file.

**Key Numbers and Key Segments**

Key 1:	COMPABBR PRODUCT SEQUENCE	Key Number:	<u>1</u>	<u>2</u>	<u>3</u>
		Key Segment:	1	2	1
Key 2:	PRODUCT COMPABBR SEQUENCE	Key Number:	<u>1</u>	<u>2</u>	
		Key Segment:	2	1	
Key 3:	COMPABBR SEQUENCE	Key Number:	<u>1</u>	<u>2</u>	<u>3</u>
		Key Segment:	3	3	2

RMS files can have up to 255 keys defined but XENTIS only allows you to define 9. All other keys are ignored. Data types allowed in key fields are restricted.

---

*Refer to Appendix C for a list of valid data types for key fields.*

---

**Prompt: 13. Key segment**

Default: Blank if KEY FIELD is 0, 1 if KEY FIELD is greater than 0.

*Allowed Values:***0 to 9  
blank**

XENTIS issues this prompt only for key fields. Enter the segment number of the field in the key. If the key is only one field, the key segment is 1. See KEY FIELD above. XENTIS only allows and recognizes 9 segments for each key. All additional segments are ignored.

**Prompt: 14. Column heading**

Default:           Field name

**Allowed Values:***heading*

Heading composed of alphanumeric and special characters and delimiting character (shipped as /).

Enter a column heading for this field that will be used as the default column heading in /Report.

**Prompt: 15. Default value**

Default:           /NONE

**Allowed Values:***valid-value*

Any valid default value.

**/NONE**

No default.

**/PREV**

Use the data value in the field from the last entered record as the default in the current record. Applies only when adding fields.

**/INCR=*n***Use the data value in the field from the last entered record plus the value *n* as the default in the current record. This is valid for numeric-type fields only.

Enter a default value for this field when adding or changing records with /Edit, /File, or /Update.

**Prompt: 16.           Minimum value**

Default:           /NONE

**Allowed Values:***minimum-value*

Valid value 1 to 25 characters in length

**/NONE**

Enter a minimum data value for this field used when adding or changing records with /Edit, /File, or /Update. A value entered in this field must be same as or higher than this minimum value.

For numeric-type fields, enter a numeric value. For text-type fields, enter a text value (characters are compared from left to right). For date-type fields, enter a valid date. /NONE indicates there is no minimum value.

**Prompt: 17. Maximum value**

Default:           /NONE

**Allowed Values:***maximum-value*

Valid value 1 to 25 characters in length

**/NONE**

Enter a maximum data value for this field used when adding or changing records with /Edit, /File, or /Update. See MINIMUM VALUE above for rules. /NONE indicates there is no maximum value.

### Prompt: 18. Scaling factor

Default: Blank or 0

Allowed Values:

**-9 to 9**  
**blank**

Enter the number of implied decimal places for a numeric-type field.

---

*Refer to 'Print Masks' for more information.*

---

### Prompt: 19. Print mask

Default: Blank for text-type fields, calculated for other data types. The default depends upon the data type, the field length, and the scale factor.

Allowed Values:

*print-mask* Any valid print mask. (48 characters for text, 18 for numeric)  
**blank**

Enter the default print mask for this field. The default print mask displays at the PRINT MASK prompt in the FIELD section of the /Report dialogue.

---

*Refer to 'Print Masks' for more information on print masks.*

---

### Prompt: 20. Validation file

Default: Blank

Allowed Values:

*file-name* Valid generic file name.  
**blank**

Enter the name of a validation file for this field. If this field does not have a validation file, press <Return>.

A validation file is a separate file that exists and contains data. The validation file must contain a field with the same data format and characteristics (e.g.: data type) as this field. In the validation file, the field must be a single-segment key (a key made up of one and only one field). Enter the matching key field in FILE KEY TO USE. When data is added or changed in this field using /Edit, /File, or /Update, XENTIS checks the validation file looking for a matching entry. If a matching entry is not found, a warning message displays.

- The validation file must be described in the current default dictionary; enter the generic file name.
- Data validation may be suppressed with /Update using the Setup File parameter EXT-REF-CHECK.

**Prompt: 21. File key to use**

Default: Blank if a validation file is not entered, 1 if a validation file is entered.

**Allowed Values:**

**1 to 9**  
**blank**

Enter the key number of the matching key field in the validation file.

**Prompt: 22. Validation table**

Default: Blank

**Allowed Values:**

*table-name* Valid XENTIS table name.  
**blank**

Enter the name of a validation table for this field. If this field does not have a validation table, press <Return>.

A validation table is a separate table that exists in the current default dictionary and contains entries. Validation tables are created in the 'Edit a dictionary' /Dictionary Menu option.

---

*Refer to 'Editing Tables' for more information.*

---

When data is added or changed in this field using /Edit, /File or /Update, XENTIS checks the table looking for a matching entry. If a matching entry is not found, a warning message displays.

- The validation table must be included in the current default dictionary; enter the table name.
- Data validation may be suppressed with /Update using the Setup File parameter EXT-REF-CHECK.

**Prompt: 23. Enter the help message to appear with this field**

Default: Blank

**Allowed Values:**

*help-message* Blank or 1 to 2 lines of 1 to 80 alphanumeric characters.

Enter a help or information message that is displayed when adding data to this field in /Edit.

After responding to the final prompt, XENTIS prompts:

**Prompt: Any changes (Y or N)****Allowed Values:**

**Y** Make changes.  
**N** Do not make changes.



*Prompt: Change which element**Allowed Values:**element-number***0**

Don't make any more changes.

*Prompt: Change positions of subsequent fields**Allowed Values:***Y**

Recalculate

**N**

Do not recalculate.

If the starting position of the field (Field position) is less than the record size (if the field is added in the middle of the record) this prompt is issued.

XENTIS recalculates and changes the Field position of all subsequent fields and displays **Field positions changed**. When recalculating Field position for each subsequent field: if the Field position is greater than or equal to the position of the added field, the Field position is adjusted by the length of the added field (including multiple occurrences).

*Prompt: Add another field (Y or N)*

Default: Y

*Allowed Values:***Y**

A new field screen displays.

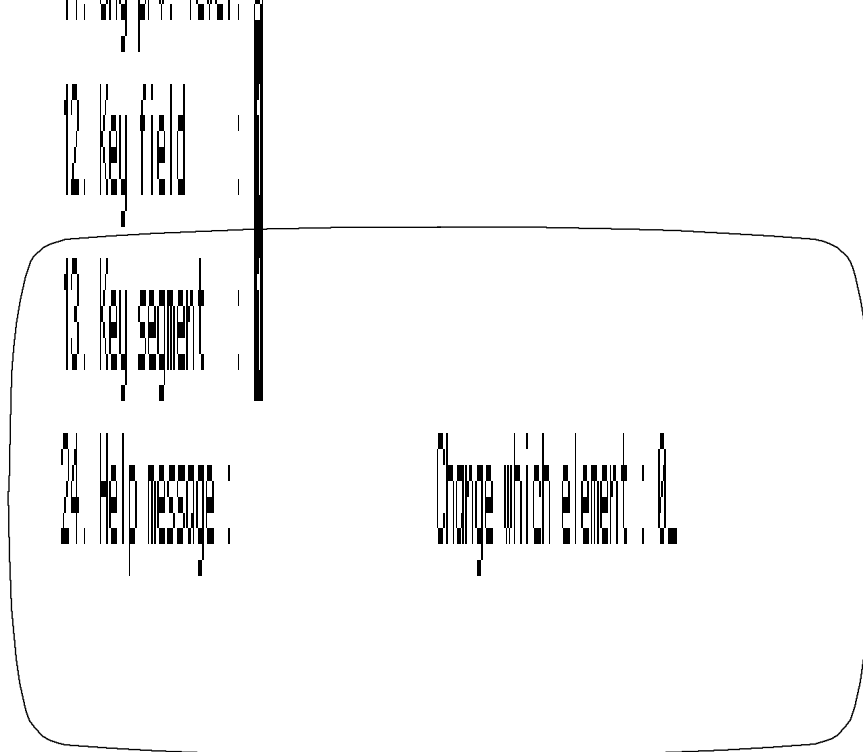
**N**

XENTIS returns to the Dictionary Utility Menu.

If the starting position of the field (Field position) is less than the record size (if the field is added in the middle of the record) this prompt is issued.

*Change a Field Description*

Choose Change and Field from the Utility Menus. XENTIS prompts for the generic name of the file and the field name. At the **Field name** prompt, enter either the name of the field or the field number. Once you enter the generic file name and the field name, XENTIS displays the field description screen to change.



### *Prompt: Change which element:*

Default: 0

#### *Allowed Values:*

*element-number*

Enter the element number to change, then change the entry. XENTIS continues to prompt **Change which element** until you enter 0.

If the Field position, Field length, or Occurrences is changed, the following prompt is issued:

### *Change positions of subsequent fields*

Default: N

#### *Allowed Values:*

<b>Y</b>	Recalculate
<b>N</b>	Do not recalculate.

If you respond with "Y", XENTIS recalculates and changes the Field position of all subsequent fields and displays **Field positions changed**. When recalculating Field position for each subsequent field: if the Field position is greater than or equal to the position of the changed field, the Field position is adjusted by the difference between the old and new Field position, Field length, or both.

*Prompt: Change another field (Y or N)*

Default: N the first time. If the response is changed to Y, then the default becomes Y.

*Allowed Values:*

<b>Y</b>	XENTIS prompts for another field name.
<b>N</b>	XENTIS returns to the Dictionary Utility Menu.

*Delete a Field Description*

Choose Delete and Field from the Utility Menus. XENTIS prompts for the generic name of the file and the field name. At the **Field name** prompt, enter either the name of the field or the field number. Once you enter the generic file name and the field name, XENTIS prompts:

*Prompt: Really delete 'field name'*

Default: N

*Allowed Values:*

<b>Y</b>	Delete field
<b>N</b>	Do not delete field

*Prompt: Change positions of subsequent fields*

Default: N

*Allowed values:*

<b>Y</b>	Recalculate and change field positions.
<b>N</b>	Do not change field positions.

If you enter **Y**, XENTIS recalculates and changes the Field position of all subsequent fields and displays **Field positions changed**. When recalculating Field position for each subsequent field: if the Field position is greater than the last position of the deleted field, the Field position is adjusted by the length of the deleted field (including multiple occurrences).

*Prompt: Delete another field*

Default: N

*Allowed Values:*

<b>Y</b>	XENTIS prompts for a new field name to delete.
<b>N</b>	XENTIS returns to the Dictionary Utility Menu.

## List a Field Description

Choose List and Field from the Utility Menus. XENTIS prompts:

### Prompt: Output device to use

*Allowed Values:*

<b>TT:</b>	Output to your terminal.
<i>printer-name</i>	Output to the specified printer.
<i>file-name</i>	Create an output file.

### Prompt: Generic file name

*Allowed Values:*

<i>file-name</i>	The generic name of the file that contains the field you want to list.
------------------	--

### Prompt: Field name or number

*Allowed Values:*

*field-name*  
*field-number*

Enter the name or number of the field you want to list.

Once you respond the field name or number is entered, XENTIS displays the field description screen. After the screen displays, XENTIS prompts:

### Prompt: List another field

*Allowed Values:*

<b>Y</b>	XENTIS prompts for another field name or number.
<b>N</b>	XENTIS returns to the Dictionary Utility Menu.
<b>X</b>	XENTIS lists the next field in the dictionary.

## Rename a Field

Assign a new field name to a field description stored in the dictionary. Choose Rename and Field from the Utility Menus. XENTIS issues the following prompts.

**Prompt: Generic File name**

Default: No default

**Allowed Values:**

<i>file-name</i>	A valid generic file name
------------------	---------------------------

**Prompt: Field Name or Number to Rename**

Default: No default

**Allowed Values:**

<i>field-name</i>
<i>field-number</i>

**Prompt: New Field Name**

Default: No default

**Allowed Values:**

<i>field-name</i>	A valid field name
-------------------	--------------------

**Prompt: Really rename 'old name' to 'new name' (Y or N)**

Default: N

**Allowed Values:**

<b>Y</b>	Rename field.
<b>N</b>	Don't rename field.

**Prompt: Rename another field (Y or N)**

Default: N

**Allowed Values:**

<b>Y</b>	Prompt for another field name or number to rename.
<b>N</b>	Return to the Dictionary Utility Menu.

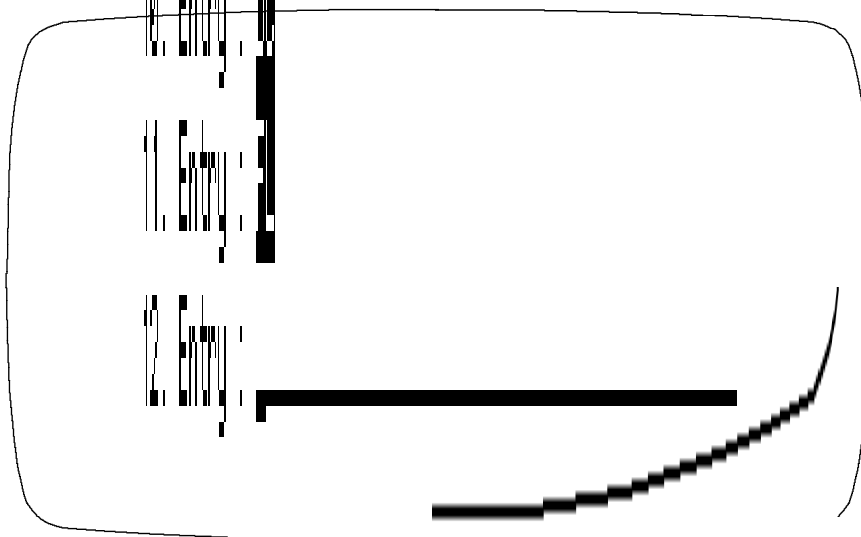
## Editing Tables

A table is used to validate responses for fields described in a XENTIS dictionary. Enter the table name under VALIDATION TABLE in the field description. When data is added or changed in the field, XENTIS ensures the response is contained in the table.

To edit a table choose Add, Change, Delete or List from the first screen of the Utility Menu and Table from the second. Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the Dictionary Utility Menu if you are at the first prompt.

### Add a Table

Choose Add and Table from the Utility Menu. XENTIS displays the table screen:



### Prompt: Table name

Default: No default

#### Allowed Values:

*table-name*

1 to 32 alphanumeric characters including A-Z, 0-9, dollar sign (\$) or underscore (\_). The first character must be alphabetic.

Enter a name for the table. XENTIS converts lower case alphabetic characters to upper case.

**Prompt: Table delimiter**

Default: ;

**Allowed Values:***delimiter*

One alphanumeric or special character

Enter the character that separates table values.

**Prompt: Entries 1: through n:**

Default: No default

**Allowed Values:***table-entry*

1 to 50 alphanumeric or special characters per entry

Enter the data values to be stored in the table. You may use up to 50 characters in an entry. Table entries may not include the delimiter character. When you press <Return> after an entry, XENTIS prompts for the next. XENTIS continues to prompt for entries until you press <Return> without typing an entry or you reach the maximum allowed.

After responding to the final prompt, XENTIS prompts:

**Prompt: Any changes (Y or N)****Allowed Values:****Y**

Make changes

**N**

Don't make changes.

**Prompt: Change which element****Allowed Values:***element-number*

Change another table.

Enter the element number to change, then change the response.

**Prompt: Add another table****Allowed Values:****Y**

Change another table.

**N**

Return to the Dictionary Utility Menu.

## Change a Table

Choose Change and Table from the Utility Menus. XENTIS prompts for the name of the table to change. Once the table name is entered, XENTIS displays the table description screen to change and prompts:

*Prompt: Change which element :*

Default: 0

*Allowed Values:*

*element-number*

Enter the element number to change, then change the response. XENTIS continues to prompt **Change which element** until you enter 0. After entering 0, XENTIS prompts:

*Prompt: Change another table (Y or N)*

*Allowed Values:*

**Y**

Prompt for another table name.

**N**

Return to the Dictionary Utility Menu.

### *Adding Entries to Existing Tables*

To add an entry to an existing table, enter the number of the last entry plus 1 at the **Change which element** prompt.

### *Changing Entries in Existing Tables*

To change an entry in an existing table, enter the number of the entry that you want to change at the **Change which element** prompt.

### *Deleting Entries in Existing Tables*

To delete an entry in an existing table, enter the number of the entry that you want to delete at the **Change which element** prompt. Press <PF4>. The entry is deleted. When you exit, the entries are renumbered.

## Delete A Table

Choose Delete and Table from the Utility Menus. XENTIS prompts for the name of the table you want to delete. Once the table name is entered, XENTIS prompts:



**Prompt: Really delete 'table name' (Y or N)***Allowed Values:*

<b>Y</b>	Delete the table.
<b>N</b>	Do not delete the table.

**Prompt: Delete another table (Y or N)***Allowed Values:*

<b>Y</b>	Prompt for a new table name to delete.
<b>N</b>	Return to the Dictionary Utility Menu.

**List a Table**

Choose List and Table from the Utility Menus. XENTIS prompts:

**Prompt: Output device to use***Allowed Values:*

<b>TT:</b>	Output to your terminal.
<i>printer-name</i>	Output to a printer
<i>file-name</i>	Output to a file.

**Prompt: Table name***Allowed Values:*

<i>table-name</i>	A valid table name.
<b>/ALL</b>	List all tables in the dictionary.

Once the table name is entered, the table description screen displays. When the table list requires more than one screen, press <Return> to call the next screen. To exit the list and return to the Dictionary Utility Menu, enter Q <Return> at any screen.

After the final screen displays, XENTIS prompts:

### *Prompt: List another table (Y or N)*

*Allowed Values:*

**Y**  
**N**

Prompt for another table name to list.  
Return to the Dictionary Utility Menu.

## *Rename a Table*

Assign a new name to a table stored in the dictionary. Choose Rename and Table from the Utility Menus. XENTIS issues the following prompts.

### *Prompt: Table Name to Rename*

Default: No default

*Allowed Values:*

*table-name*

A valid table name

### *Prompt: New Table Name*

Default: No default

*Allowed Values:*

*table-name*

A valid table name

### *Prompt: Really rename 'old name' to 'new name' (Y or N)*

Default: N

*Allowed Values:*

**Y**  
**N**

Rename table  
Do not rename table.

**Prompt: Rename another table (Y or N)**

Default: N

**Allowed Values:****Y**

Prompt for another table name to rename.

**N**

Return to the Dictionary Utility Menu.

## Editing Passwords

All users need passwords to use a dictionary. Each password has assigned privilege levels. The user's password privilege level for the function to perform must match or exceed that for the dictionary element. If not, XENTIS issues an error message.

### Password Examples

<i>Data Files</i>	<i>File</i>	<i>PL</i>	<i>Protected Fields</i>	<i>Comments</i>
Payroll, Staff	Read	7	Salary Fields - 8	User needs PL of 7 or more to use the file; 8 or more to see or work with Salary Fields.
	Add	7		
	Change	7		
	Delete	7		
Payroll, Managers	Read	8	Salary Fields - 10	User needs PL of 8 or more to use file. Salary fields are not even seen by anyone with a PL of under 10.
	Add	8		
	Change	8		
	Delete	8		
Personnel	Read	5	Salary Fields - 8	User needs PL of 5 or more to more to read file; 6 or more to add, change or delete. Salary fields are protected.
	Add	6		
	Change	6		
	Delete	6		
Inventory	Read	0	None	Anyone can read; user needs 4+ PL to add; 5+ to change or delete. Not a very sensitive file.
	Add	4		
	Change	5		
	Delete	5		

---

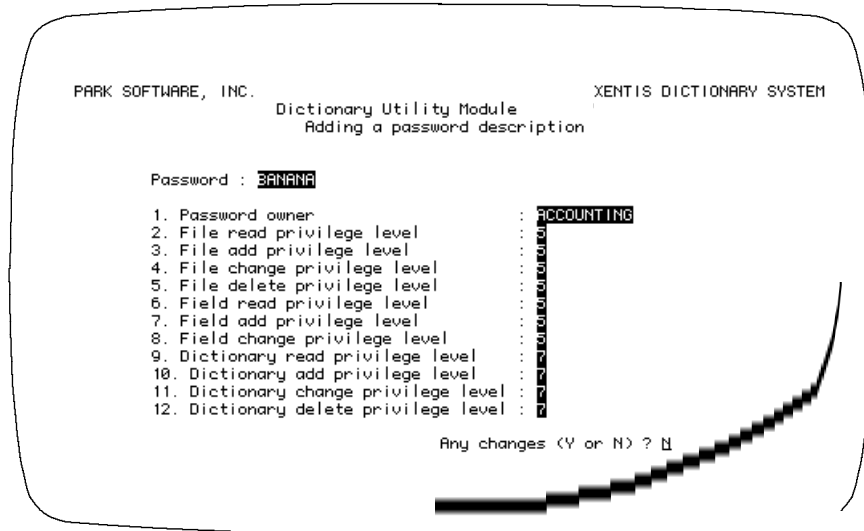
Note: To add, change, delete or list passwords, a user must have password privilege levels of 9 or 10.

---

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the Dictionary Utility Menu if you are at the first prompt.

## Add a Password

Choose Add and Password from the Utility Menus. XENTIS displays the password screen:



### Prompt: Password

Default: No default

#### Allowed Values:

*password*

1 to 32 alphanumeric characters including A-Z, 0-9, dollar sign (\$) and underscore (\_). The first character must be alphabetic.

Enter the password. XENTIS converts lower case alphabetic characters to upper case.

### Prompt: 1. Password owner

Default: No default

#### Allowed Values:

*owner-name*  
**blank**

1 to 25 alphanumeric or special characters

Enter the name or group name of the person or group assigned the above password. Password owner is used with the Audit Trail Management utility; when an audit trail is used, the password owner is written to the audit trail file when a transaction occurs under this password.

**Prompt: 2 File read privilege level**

Default: 0

Allowed Values:

0 to 9

Enter the password privilege level for reading records in data files. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 3. File add privilege level**

Default: 0

Allowed Values:

0 to 9

Enter the password privilege level for adding records to data files. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 4. File change privilege level**

Default: 0

Allowed Values:

0 to 9

Enter the password privilege level for changing records in data files. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 5. File delete privilege level**

Default: 0

Allowed Values:

0 to 9

Enter the password privilege level for deleting records in data files. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 6. Field read privilege level**

Default: 0

**Allowed Values:****0 to 9**

Enter the password privilege level for reading fields in a data file. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 7. Field add privilege level**

Default: 0

**Allowed Values:****0 to 9**

Enter the password privilege level for adding data to fields in a data file. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 8. Field change privilege level**

Default: 0

**Allowed Values:****0 to 9**

Enter the password privilege level for changing data in fields in a data file. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 9. Dictionary read privilege level**

Default: 0

**Allowed Values:****0 to 9**

Enter the password privilege level for reading dictionaries. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 10. Dictionary add privilege level**

Default: 0

Allowed Values:

0 to 9

Enter the password privilege level for adding entries to dictionaries. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 11. Dictionary change privilege level**

Default: 0

Allowed Values:

0 to 9

Enter the password privilege level for changing entries in dictionaries. 0 assigns the least amount of privilege to the password, 9 the most.

**Prompt: 12. Dictionary delete privilege level**

Default: 0

Allowed Values:

0 to 9

Enter the password privilege level for deleting entries in dictionaries. 0 assigns the least amount of privilege to the password, 9 the most.

After responding to the final prompt, XENTIS prompts:

**Prompt: Any changes (Y or N)**

Default: N

Allowed Values:

Y	Make changes
N	Do no make changes



**Prompt: Change which element**

Default: 0

**Allowed Values:**

<i>element-number</i>	To change an element.
<b>0</b>	To stop making changes

Enter the element number to change, then change the response.

**Prompt: Add another password**

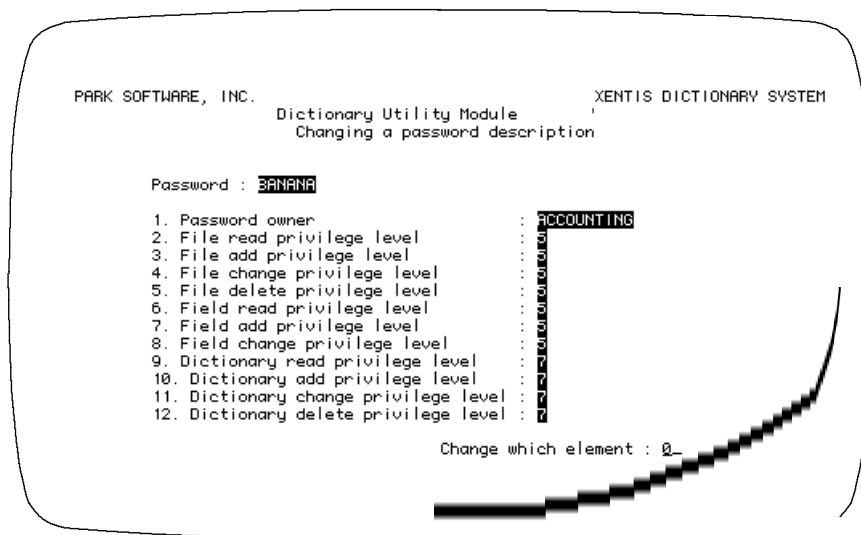
Default: N

**Allowed Values:**

<b>Y</b>	Add another password
<b>N</b>	Return to the Dictionary Utility Menu.

**Change a Password**

Choose Change and Password from the Utility Menus. XENTIS prompts for the password you want to change. Once you enter the password, XENTIS displays the password description screen.



### *Prompt: Change which element: 0*

*Allowed Values:*

*element-number*  
**0**

Change the entered element  
Don't make further changes.

Enter the element number to change, then change the response. XENTIS continues to prompt **Change which element** until you enter 0. After entering 0, XENTIS prompts:

### *Prompt: Change another password (Y or N).*

*Allowed Values:*

**Y**  
**N**

Prompt for another password.  
Return to the Dictionary Utility Menu.

## *Delete a Password*

Choose Delete and Password from the Utility Menus. XENTIS prompts for the password you want to delete. Once you enter the password, XENTIS prompts:

### *Prompt: Really delete password 'password' (Y or N)*

*Allowed Values:*

**Y**  
**N**

Delete the password.  
Do not delete the password.

### *Prompt: Delete another password*

*Allowed Values:*

**Y**  
**N**

Prompt for another password to delete.  
Return to the Dictionary Utility Menu.

## *List a Password*

Choose List and Password from the Utility Menus. XENTIS prompts:

**Prompt: Output device to use****Allowed Values:**

<b>TT:</b>	Output to your terminal.
<i>printer-name</i>	Output to the specified printer.
<i>file-name</i>	Create an output file.

**Prompt: Password****Allowed Values:**

<i>password</i>	To list an individual password.
<b>/ALL</b>	To list all passwords in the dictionary.

Enter the password you want to list. /ALL <Return> displays a list of all passwords contained in the dictionary. The master password cannot be listed and does not appear in the list of all passwords.

Once the password is entered, the password description screen displays. The password list requires more than one screen; press <Return> to call the next screen. To exit the list and return to the Dictionary Utility Menu, enter Q <Return> at any screen.

After the final screen displays, XENTIS prompts:

**Prompt: List another password (Y or N).****Allowed Values:**

<b>Y</b>	Prompt for another password.
<b>N</b>	Return to the Dictionary Utility Menu.

**Rename a Password**

Assign a new name to a password defined in the dictionary. Choose Rename and Password from the Utility Menus. Any password defined in the dictionary can be renamed including the master password. In order to rename any password other than the master password, you must have dictionary privilege levels of 9 or 10 assigned to your password. In order to rename the master password, you must have privilege levels of 10 assigned to your password. XENTIS issues the following prompts.

**Prompt: Password**

Default:            No default

**Allowed Values:**

<i>password</i>	Any valid password.
-----------------	---------------------

*Prompt: New Password*

Default:            No default

*Allowed Values:*

<i>password</i>	Any valid password.
-----------------	---------------------

*Prompt: Really rename 'old password' to 'new password' (Y or N)*

Default:            N

*Allowed Values:*

<b>Y</b>	Rename password
<b>N</b>	Do not Rename password.

*Prompt: Rename another password (Y or N)*

Default:            N

*Allowed Values:*

<b>Y</b>	Prompt for another password to rename.
<b>N</b>	Return to the Dictionary Utility Menu.

# Editing View Descriptions

A view contains file, key, and selection (optional) specifications that can be used in any report dialogue. When a view name is entered at the **Primary file/view** prompt, the dialogue uses the file and key specifications contained in the view and skips to the CALCULATIONS section of the dialogue.

If the view contains selection specifications, then the selection expressions contained in the view are **not** displayed in the SELECTION section of the dialogue and the user is prompted for selection logic as usual. Both the selection logic contained in the view and the selection logic entered by the user are applied to the report run.

## Rules

- Create a separate view for each different set of file configurations.
- Use only one view per report.
- A view and the descriptions for all the files specified in the view must be stored in your default dictionary.

## Add a View

Choose Add and View from the Utility Menus. The first of four screens displays. On each screen, the cursor is positioned next to the first prompt. After you enter a response and <Return>, the cursor moves to the next prompt. Underscores indicate the number of characters available for responses. XENTIS provides a default response whenever possible. To change a default response, type over the default, then press <Return>. When you have completed a screen, XENTIS prompts:

### Prompt: Any changes (Y or N)

#### Allowed Values:

**Y**  
**N**

Change entries made.

Display the next view screen or prompt for more views.

### Prompt: Change which element

#### Allowed Values:

*element-number*  
**0**

to change an individual element.

to stop making changes.

Enter the element number to change, then change the response.

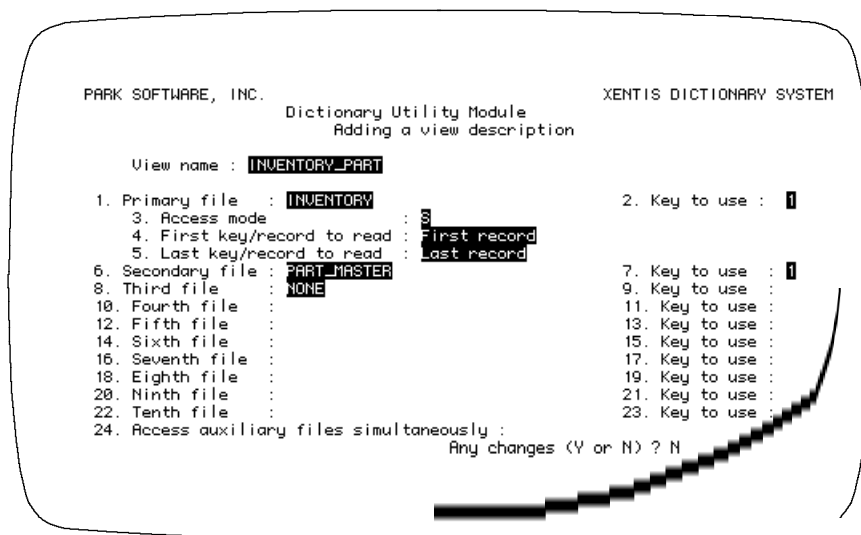
### Prompt: Add another view

#### Allowed Values:

**Y**  
**N**

Add another view.

Return to the Dictionary Utility Menu.




---

Refer to FILES and KEYS sections of the XENTIS dialogue for detailed descriptions of the following prompts.

---

### Prompt: View name

Default: No default

#### Allowed Values:

*view-name* 1 to 32 alphanumeric characters including A-Z, 0-9, dollar sign (\$) or underscore (\_). The first character must be alphabetic.

Enter a name for the View you are creating. The name should suggest the files contained in the View.

### Prompt: 1. Primary file

Default: No default

#### Allowed Values:

*generic-file-name* A valid generic file name stored in the current default dictionary.

Enter the generic file name of the primary file. The primary file can be Indexed, Relative, or Sequential. The primary file description **must** be stored in the same dictionary as the view.

**Prompt: 2. Key to use**

Default: Blank if PRIMARY FILE is sequential or relative, 1 if PRIMARY FILE is indexed.

**Allowed Values:**

<b>0 to 9</b>	Key number to access the primary file.
<b>blank</b>	

**Prompt: 3. Access mode**

Default: S

**Allowed Values:**

<b>S</b>	Shared access (read/write)
<b>E</b>	Exclusive access (no access)
<b>P</b>	Protected access (read only).

Specifies whether other users can read or read/write to the primary file while your report is being created.

**Prompt: 4. First key/record to read**

Default: 1 if PRIMARY FILE is sequential or relative, First record if PRIMARY FILE is indexed.

**Allowed Values:**

<i>numeric value</i>	If PRIMARY FILE is indexed, sequential or relative
<i>alphabetic values</i>	If PRIMARY FILE is indexed.
<b>FIRST RECORD</b>	If PRIMARY FILE is indexed.

Enter the first record to read in the primary file.

**Prompt: 5. Last key/record to read**

Default: Last record

**Allowed Values:**

<i>numeric value</i>	If PRIMARY FILE is indexed, sequential or relative
<i>alphabetic values</i>	If PRIMARY FILE is indexed.
<b>LAST RECORD</b>	If PRIMARY FILE is indexed. sequential or relative.

Enter the last record to read in the primary file.

### Prompt: 6 Secondary file

Default: NONE

**Allowed Values:**

*generic-file-name*  
**NONE**

A valid generic file name stored in the current default dictionary.  
No more files.

Enter the generic file name of the second file. The second file can be Indexed or Relative. The secondary file description **must** be stored in the default dictionary.

### Prompt: 7. Key to use

Default: Blank if SECONDARY FILE is relative, 1 if SECONDARY FILE is indexed.

**Allowed Values:**

**1 to 9**  
**blank**

Enter the key number used to access the second file.

### Prompt: 8. to 23. Third through tenth files and keys to use

Default: See above

**Allowed Values:**

See above

Enter up to ten files, one primary and nine auxiliary. In each case, the default is determined by XENTIS.

### Prompt: 24. Access auxiliary files simultaneously

Default: N

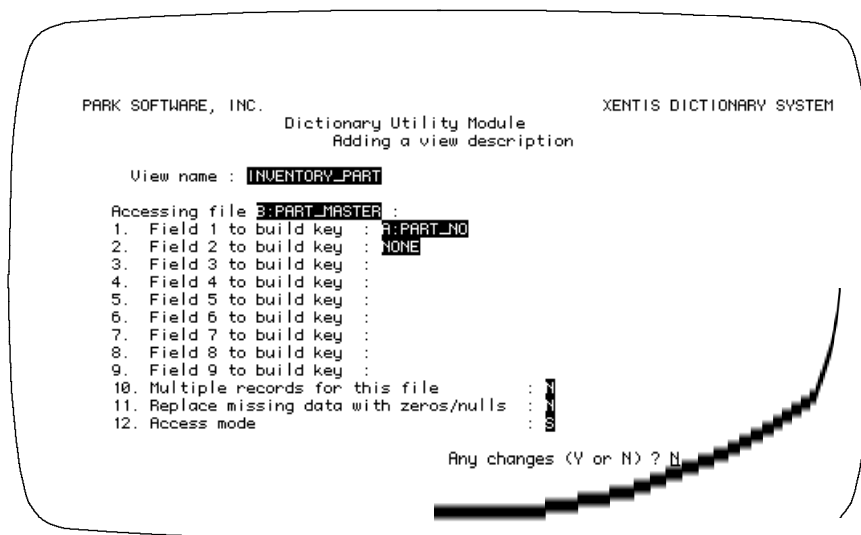
**Allowed Values:**

**Y**  
**N**

Access files simultaneously.  
Access files hierarchically.

If you respond N, auxiliary files are accessed hierarchically. If you respond Y, auxiliary files are accessed simultaneously.





Screen 2 is provided for each auxiliary file specified in the view.

---

*Refer to the KEYS section of the XENTIS dialogue for detailed descriptions of the following prompts.*

---

### **Prompt: 1. to 9. Field n to build key**

Default: No default, NONE after full key is built

#### **Allowed Values:**

*literal value*  
*field-name*  
**NONE**

Any valid field name from a previous file, or field number.

Enter the field (or fields) from a previous file used to match to the auxiliary file access key fields. Fields can be specified using field name or field number. Partial text fields are allowed. In addition to fields, a literal value can be entered.

If the full key has not been built, then XENTIS does not offer a default. If the full key is built, XENTIS offers NONE as the default. Partial keys are allowed in views.

---

*Refer to KEYS, Rules for Building Keys, for complete information.*

---

### **Prompt: 10. Multiple records for this file**

Default: N

#### **Allowed Values:**

**Y**  
**N**

Look for multiple records in this file.

Do not look for multiple records in this file.

**Prompt: 11. Replace missing data with zeros/nulls**

Default: N

**Allowed Values:**

<b>Y</b>	Include the primary file record and display data from the missing auxiliary file records as nulls or zeros.
<b>N</b>	Discards the primary file record if no match if found.

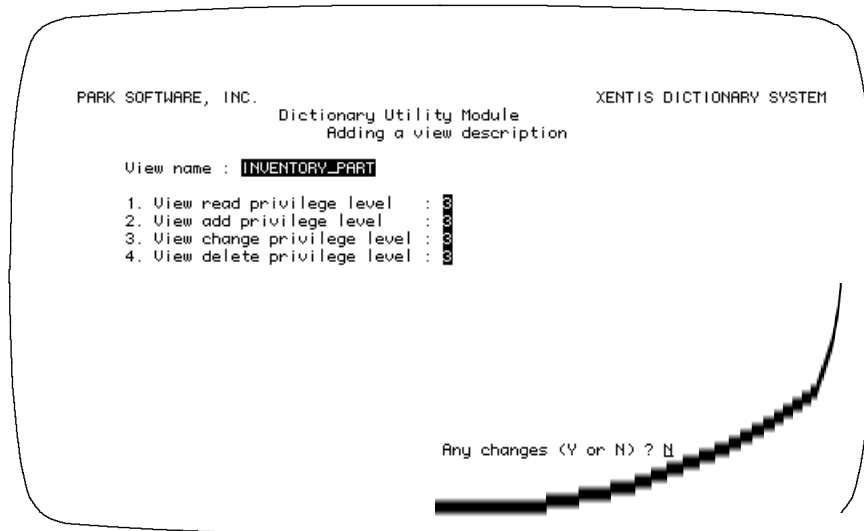
**Prompt: 12. Access mode**

Default: S

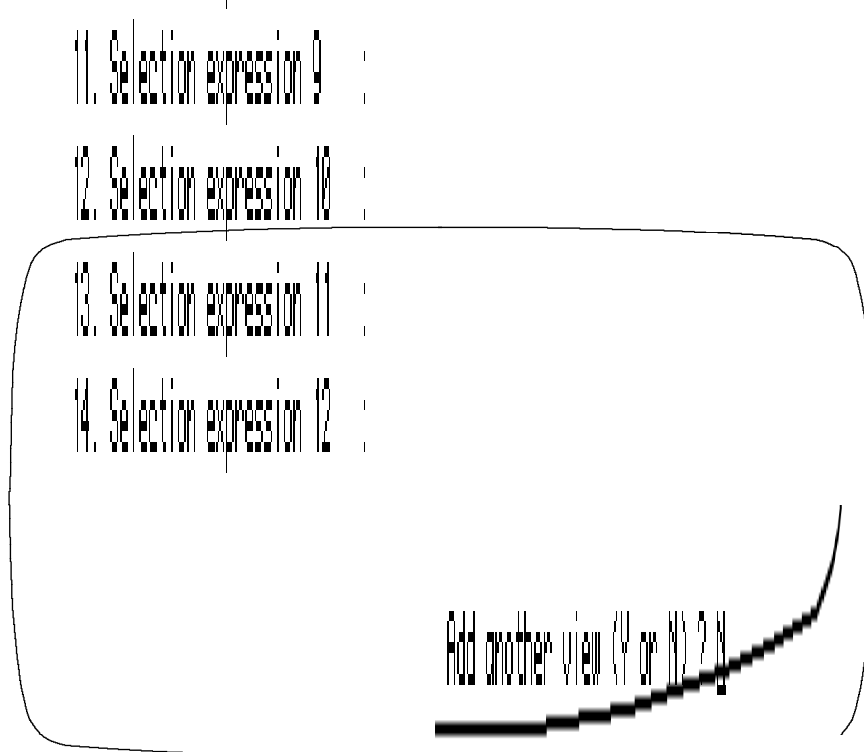
**Allowed Values:**

<b>S</b>	Shared access (read/write)
<b>E</b>	Exclusive access (no access)
<b>P</b>	Protected access (read only)

Specifies whether other users can read or read/write to the auxiliary file while your report is being created.



The prompts on screen 3 ask for the read, add, change and delete privilege levels for the view. Valid responses are 0 to 9 where 0 assigns the least amount of security, 9 the most. When a view is entered at the **Primary File/View** prompt in a /Report dialogue, the /Dictionary security assigned to the view is used to access the files contained in the view, not security assigned to the individual files.



Use screen 4 to include selection specifications in a view.

*Refer to the SELECTION section of the XENTIS dialogue for detailed descriptions of the following prompts.*

### **Prompt: 1. Include selection (Y or N)**

Default: N

#### **Allowed Values:**

<b>Y</b>	Include selection logic
<b>N</b>	Don't include selection logic.

If Y, XENTIS prompts for selection logic. If N, XENTIS does not prompt for selection logic.

### **Prompt: 2. And, Or, or Complex**

Default: A

#### **Allowed Values:**

<b>A</b>	And
<b>O</b>	Or
<b>C</b>	Complex

Enter the type of selection to use to relate the selection expression to one another. AND selection means that all expressions must be true for a detail to be selected. OR selection means that any expression must be true for a detail to be selected. COMPLEX selection means that you specify the relationship between expressions.

*Prompt: 3. to 12. Selection expression n*

Default: No default or NONE

*Allowed Values:*

*selection-expression*  
**NONE**

Enter selection expressions. A view can contain up to 12 expressions. Type NONE when you are done entering expressions.

---

*Refer to the SELECTION section for complete information on valid selection expressions.*

---

*Change a View*

Choose Change and View from the Utility Menus. XENTIS prompts for the name of the view you want to change. Once you enter the view name, XENTIS displays screen 1 of the view description to change and prompts:

*Prompt: Change which element : 0.**Allowed Values:*

<i>element-number</i>	Change the entered element.
<b>0</b>	Stop making changes and display the next view screen.

Enter the element number to change, then change the response. XENTIS continues to prompt **Change which element** until you enter 0. After entering 0, XENTIS displays the next view screen. When all changes are made on the last view screen, enter 0 at the **Change which element** prompt. XENTIS prompts:

*Prompt: Change another view (Y or N)**Allowed Values:*

<b>Y</b>	Prompt for another view name.
<b>N</b>	Return to the Dictionary Utility Menu.

If you add a file to an existing view, be sure to change the defaults for the **Field n to build key** prompts on Screen 2.

## Delete a View

Choose Delete and View from the Utility Menus. XENTIS prompts for the view name to delete. Once you enter the view name, XENTIS prompts:

*Prompt: Really delete 'view name'*

*Allowed Values:*

<b>Y</b>	Delete the view description.
<b>N</b>	Do not delete the view description.

*Prompt: Delete another view*

*Allowed Values:*

<b>Y</b>	Prompt for a new view name to delete.
<b>N</b>	Return to the Dictionary Utility Menu.

## List a View

Choose List and View from the Utility Menus. XENTIS prompts:

*Prompt: Output device to use*

*Allowed Values:*

<b>TT:</b>	Output to your terminal.
<i>printer-name</i>	Output to the specified printer.
<i>file-name</i>	Create an output file.

*Prompt: View name*

*Allowed Values:*

<i>view-name</i>	To list individual view names.
<b>/ALL</b>	To display a list of all views described in the dictionary.

Once the view name is entered, screen 1 of the view description displays. Press <Return> to call the next screen. To exit the list and return to the Dictionary Utility Menu, enter **Q** <Return> at any screen.

After the final screen displays, XENTIS prompts:

*Prompt: List another view (Y or N)*

*Allowed Values:*

<b>Y</b>	Prompt for another view name to list.
<b>N</b>	Return to the Dictionary Utility Menu.

## *Rename a View*

Assign a new name to a view defined in the dictionary. Choose Rename and View from the Utility Menus. XENTIS issues the following prompts.

*Prompt: View Name to Rename*

Default:            No default

*Allowed Values:*

<i>view-name</i>	A valid view name.
------------------	--------------------

*Prompt: New View Name*

Default:            No default

*Allowed Values:*

<i>view-name</i>	A valid view name.
------------------	--------------------

*Prompt: Really rename 'old name' to 'new name' (Y or N)*

Default:            N

*Allowed Values:*

<b>Y</b>	Renames view.
<b>N</b>	Does not rename view.

*Prompt: Rename another view (Y or N)*

Default:            N

*Allowed Values:*

<b>Y</b>	Prompts for another view to rename.
<b>N</b>	Return to the Dictionary Utility Menu.

## Brief Listing of Dictionary

Menu Selection:	'Brief listing of dictionary' from the /Dictionary Menu.
-----------------	--

Use this option to generate a report containing a brief listing of a XENTIS dictionary. A brief listing contains one entry for each file described in a XENTIS dictionary including generic and actual file names, file type, record format, number of fields, and record size.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

XENTIS issues the following prompts.

### Prompt: *Dictionary to list*

Default: Current default dictionary

#### Allowed Values:

*dictionary-name*

Name of an existing XENTIS dictionary.

Enter the file name of the dictionary. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS uses the user's current default device and directory. If an extension is not specified, XENTIS uses .DIC.

After responding the prompt, XENTIS initiates /Report to generate the report. The report output is to an output file named XDLIST1.LIS in your current default directory.

Press <Return> at the **Press <Return> to Exit** prompt. The /Dictionary Menu displays.

Once generated, print or browse the report either outside of XENTIS (with a DCL command) or from the /Report Menu.

## Full Listing of Dictionary

Menu Selection:	'Full listing of dictionary' from the /Dictionary Menu.
-----------------	---

Use this option to generate a report containing a full listing of a XENTIS dictionary. A full listing contains one entry for each file described in a XENTIS dictionary including generic and actual file name, file type, record format, number of fields, and record size. In addition, the report displays field description information for the fields defined in each file.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

XENTIS issues the following prompts:

**Prompt:**     *Dictionary to list*

Default:     Current default dictionary

<i>Allowed Values:</i>
<div> <p><i>dictionary-name</i></p> </div> <div> <p>Name of an existing XENTIS dictionary.</p> </div>

Enter the file name of the dictionary. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS uses the user's current default device and directory. If an extension is not specified, XENTIS uses .DIC.

After responding the prompt, XENTIS initiates /Report to generate the report. The report output is to an output file named XDLIST2.LIS in your current default directory.

Press <Return> at the **Press <Return> to Exit** prompt. The /Dictionary Menu displays.

Once generated, print or browse the report either outside of XENTIS (with a DCL command) or from the /Report Menu.



# Create a New Dictionary

Menu Selection: 'Create a new dictionary' from the /Dictionary Menu.

Use this option to create a new dictionary and to assign privilege levels for reading, adding, changing or deleting any descriptions of data contained in this dictionary, and the master password. Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt. XENTIS issues the following prompts:

## Prompt: Dictionary file name

Default: No default

### Allowed Values:

<i>file-name</i>	1 to 40 alphanumeric characters including A-Z, 0-9, dollar sign (\$), underscore (_), dash (-), and device and directory.
------------------	---

Enter the file name of the dictionary. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS uses the user's current default device and directory. If an extension is not specified, XENTIS uses .DIC.

If the file name already exists, XENTIS prompts:

**The file 'dictionary name' already exists**

**Do you wish to create a new version of 'dictionary file name'**

If Y: A new version is created and the next prompt displays.

If you choose to create a new version, the new version will not contain any of the files, fields, tables, passwords or views described in the old version.

If N: XENTIS re-issues the dictionary file name prompt.

## Prompt: Dictionary read privilege level

Default: 0

### Allowed Values:

**0 to 9**

To read elements in this dictionary, the user must have a password dictionary read privilege level the same as or higher than the number you enter. 0 assigns the least amount of security, 9 the most.

**Prompt:**     *Dictionary add privilege level*

Default:            0

*Allowed Values:*

**0 to 9**

To add elements to this dictionary, the user must have a password dictionary add privilege level the same as or higher than the number you enter. 0 assigns the least amount of security, 9 the most.

**Prompt:**     *Dictionary change privilege level*

Default:            0

*Allowed Values:*

**0 to 9**

To change elements in this dictionary, the user must have a password dictionary change privilege level the same as or higher than the number you enter. 0 assigns the least amount of security, 9 the most.

**Prompt:**     *Dictionary delete privilege level*

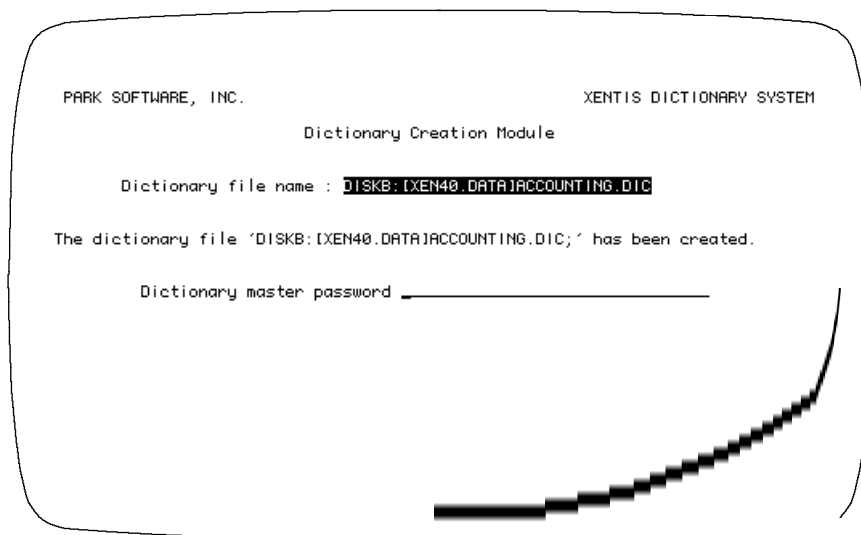
Default:            0

*Allowed Values:*

**0 to 9**

To delete elements in this dictionary, the user must have a password dictionary delete privilege level the same as or higher than the number you enter. 0 assigns the least amount of security, 9 the most.

After responding to the privilege level prompts, the second screen displays.



### *Prompt: Dictionary Master Password*

Default: No default

#### *Allowed Values:*

*password*

1 to 32 alphanumeric characters including A-Z, 0-9 dollar sign (\$), or underscore (\_). The first character must be alphabetic.

Enter the master password for the new dictionary. There is only one master password for each dictionary; all of the privilege levels associated with a master password are automatically assigned 10. XENTIS converts all lower case alpha characters to upper case.

### *Prompt: Master Password Owner*

Default: No default

#### *Allowed Values:*

*owner-name*

**blank**

Blank or 1 to 25 alphanumeric or special characters.

Enter the name of the person or group assigned the master password. Password owner is used with the Audit Trail Management utility; when an audit trail is used, the password owner is written to the audit trail file when a transaction occurs under this password.

After responding to the final prompt, XENTIS creates the new dictionary. Once a new dictionary is created, it can be used with most other XENTIS/Dictionary Menu options.

## Change the Default Dictionary

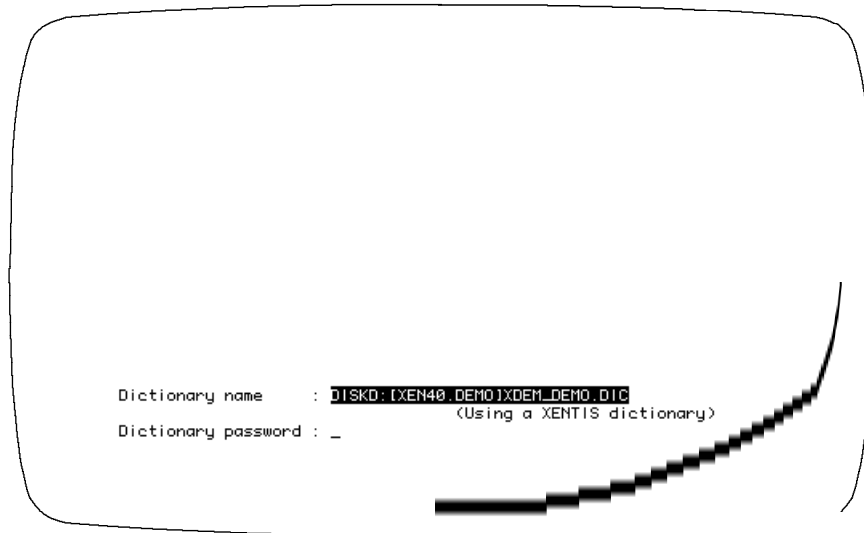
Menu Selection: 'Change the default dictionary' from the /Dictionary Menu.

Use this option to change the default dictionary. The default dictionary is displayed in the upper right-hand corner of the XENTIS Menu screens. You may only access those dictionaries for which you are licensed.

The default dictionary is the dictionary automatically used by XENTIS when retrieving file descriptions. The default dictionary is determined by the symbol XENTIS\$DICT or set outside of XENTIS. The default dictionary can be changed by choosing 'Change the default dictionary' from the /Dictionary Menu or by setting XENTIS\$DICT outside of XENTIS.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

XENTIS issues the following prompts:



**Prompt:**     *Dictionary name*

Default:            No default

**Allowed Values:**

see table below

**Prompt:**     *Password*

Default:            No default

**Allowed Values:**

see table below

The **Password** prompt is not issued for the following dictionaries: CDD or Rdb.

If you are using:

- A XENTIS dictionary, enter the actual file name of the dictionary. If you do not specify device and directory, the default device and directory are used. If you do not specify an extension, .DIC is used.
- A MAXCIM V4.0 + database, do not enter device, directory or extension. Validation of the password does not occur until a data file is specified.
- An INGRES database, 'Ingres' and 'database\_name' are not case-sensitive.
- An ORACLE database, the 'username' portion of the password may not be needed. See your system manager. Validation of the username and the password do not occur until the database is used by XENTIS.
- An Rdb database, enter 'RDB:' followed by the device and directory where the database is located on your system. If you do not specify device and directory, the default device and directory are used. If you do not specify an extension, .RDB is used.
- A SYBASE database, 'Sybase' is not case-sensitive. 'database\_name' must exactly match the case used when the database was defined. 'username' is your SYBASE login username. The case of 'username' must exactly match the case used when the 'username' was created in SYBASE. If a 'username' is not entered, then XENTIS automatically uses the VMS username (XENTIS does not convert the username to lower case characters). 'password' is your SYBASE password. The case of 'password' must exactly match the case used when the 'password' was created in SYBASE.
- A PROGRESS database, 'Progress' is not case-sensitive. 'database\_name' is the OpenVMS filename that contains your database. 'username' is the Progress user name, and 'password' is the Progress password. Validation of the database, the username, and the password does not occur until the database is used by XENTIS.

Once the dictionary and password are entered, the new default dictionary displays in the upper right-hand corner of the /Dictionary Menu screen.

**Passwords Allowed**

<i>For:</i>	<i>Enter Dictionary: example</i>	<i>Then password: example</i>
XENTIS	<b>dev:[dir]dictionary_name.DIC</b> DISKB:[XENDICT] INHOUSE.DIC	<b>database_password</b> APPLE
CDD	CDD CDD	
MAXCIM V3.X	<b>NCA\$ECB:MAXCIM.ECB</b> NCA\$ECB:MAXCIM.ECB	<b>password</b> ORANGE
MAXCIM V4.X	<b>database_name</b>	<b>database_password</b>
+	ACCTG_LIVE	GRAPES
INGRES	<b>ingres:database_name</b> ingres:PERSONNEL	
ORACLE	<b>ORACLE</b> ORACLE	<b>username /password</b> PERSONNEL/PEAR
Rdb	<b>RDB:dev:[dir]database_name.RDB</b> RDB:DISKB:[RDB.PERSONNEL] PERSONNEL.RDB	
SYBASE	<b>sybase:database_name</b> sybase:PERSONNEL	<b>username /password</b> acctg/banana
PROGRESS	<b>PROGRESS:dev:[dir]database_name</b> PROGRESS:DISKG:[ACC] ACCOUNTING	<b>username/password</b> ACCTNG/GUAVA

# Copy a XENTIS File Description

Menu Selection:	'Copy a XENTIS file description' from the /Dictionary Menu.
-----------------	---

Use this option to copy file descriptions (and associated field descriptions), tables, or views from one XENTIS dictionary to another.

This option is useful when you wish to store the same file description, table, or view in more than one dictionary. It is also useful when you wish to copy a file description, modify it, create a new, empty data file, then populate the file using /Edit or /File.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

XENTIS issues the following prompts:

## Prompt: *XENTIS dictionary to use*

Default: Current default dictionary

### Allowed Values:

<i>dictionary-name</i>	A valid XENTIS dictionary name
------------------------	--------------------------------

Enter the name of the XENTIS dictionary to copy a file description, a table, or a view from. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS appends the user's current default device and directory. If an extension is not specified, XENTIS appends .DIC.

## Prompt: *'Copy a XENTIS file description' from the /Dictionary Menu. Dictionary password*

Default: No default

### Allowed Values:

<i>password</i>	A valid dictionary password
-----------------	-----------------------------

Enter the password for the dictionary. This password must have read privilege to the dictionary in order for you to continue. If not, XENTIS re-issues this prompt.

**Prompt**     *'Dump a file, table, or view (F, T, or V)*

Default:            F

*Allowed Values:*

<b>F</b>	File
<b>T</b>	Table
<b>V</b>	View

Enter **F** if you are copying a file description. Enter **T** if you are copying a table. Enter **V** if you are copying a view.

**Prompt:**     *Generic file name to dump*

Default:            No default

*Allowed Values:*

<i>file-name</i>	A valid generic file name. Use of VMS wildcards is permitted.
------------------	---

This prompt is issued if you are copying a file. Enter the generic file name you want to copy. If the response is not valid, XENTIS displays an error message and re-issues the prompt. Once entered, XENTIS displays:

Processing	File: <i>file name</i>
	Field: <i>field-name</i>

**Prompt:**     *Generic view name to dump*

Default:            No default

*Allowed Values:*

<i>view-name</i>	A valid view name. Use of VMS wildcards is permitted.
------------------	---

This prompt is issued if you are copying a view. Enter the view name you want to copy. If the response is not valid, XENTIS displays an error message and re-issues the prompt. Once entered, XENTIS displays:

Processing View: *view-name*



**Prompt:**     *Table name to dump*

Default:            No default

**Allowed Values:**

<i>table-name</i>	A valid table name. Use of VMS wildcards is permitted.
-------------------	--

This prompt is issued if you are copying a table. Enter the name of the table you want to copy. If this table name is not valid, XENTIS displays an error message and re-issues the prompt. Once entered, XENTIS displays:

Processing Table:*table-name*

**Prompt:**     *Press <Return> to select more files, 'T' to do transfer, or 'Q' to quit*

Default:            Blank

**Allowed values:**

<b>T</b>
<b>Q</b>
<b>blank</b>

If blank, XENTIS returns to the **Dump a file, table, or view** prompt to prompt for another file, table, or view to process before performing the transfer. If **Q**, then XENTIS returns to the /Dictionary Menu without performing the transfer. If **T**, then XENTIS proceeds with transfer and issues the prompts listed below.

**Prompt:**     *XENTIS dictionary to load to*

Default:            No default

**Allowed Values:**

<i>dictionary-name</i>	A valid XENTIS dictionary name
------------------------	--------------------------------

Enter the name of the XENTIS dictionary to copy a file description to. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS appends the user's current default device and directory. If an extension is not specified, XENTIS appends .DIC.

**Prompt:**     *Dictionary password*

Default:            No default

**Allowed Values:**

<i>password</i>	A valid dictionary password
-----------------	-----------------------------

## Dictionary

Enter the password for the dictionary. This password must have add privilege to the dictionary in order for the file description or table to be copied. If not, XENTIS re-issues this prompt.

### *Prompt: Renumber the fields (Y or N)*

Default: N

*Allowed Values:*

Y  
N

This prompt is issued if you are loading a file. If N, the field numbers remain unchanged. If Y, fields numbers remain in the same sequence but unused field numbers are removed. You may want to renumber fields if there are gaps in the record layout (fields have been deleted from the record layout).

After responding to the final prompt, XENTIS begins copying the file description or the table. If an item of the same name already exists in the dictionary you are copying to, XENTIS displays a message and prompts for a new name.

Once copied, XENTIS displays **Press <Return> to continue or 'Q' to quit.**

Press <Return> to copy another file, table or view. XENTIS re-issues the **XENTIS dictionary to use** prompt.

Enter **Q** to return to the Menu.

# Dump a File Description to a Text File

Menu Selection:	'Dump a file description to a text file' from the /Dictionary Menu.
-----------------	---

Use this option to copy file descriptions (and associated field descriptions), tables, or views to a text file.

Once copied, you can edit the text file with any text editor (like EDT). With the text editor, you can make changes quickly and use editing functions like REPLACE and SEARCH. After changes are made, load the text file into the dictionary using the 'Load a file description from a text file' /Dictionary Menu option.

**A word of caution:** if you plan to use this /Dictionary utility, be very careful when editing the text file. If you inadvertently delete a required line, the text file may not reload properly into the dictionary.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

XENTIS issues the following prompts.

## Prompt: XENTIS dictionary to use

Default: Current default dictionary

### Allowed Values:

<i>dictionary-name</i>	A valid XENTIS dictionary name
------------------------	--------------------------------

Enter the name of the XENTIS dictionary to copy a file description, a table, or a view from. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS appends the user's current default device and directory. If an extension is not specified, XENTIS appends .DIC.

## Prompt: Dictionary password

Default: No default

### Allowed Values:

<i>password</i>	A valid dictionary password
-----------------	-----------------------------

Enter the password for the dictionary. This password must have read privilege to the dictionary in order for you to continue. If not, XENTIS re-issues this prompt.

## Output text file name

Default: No default

### Allowed Values:

<i>file-name</i>	Standard operating system file names.
------------------	---------------------------------------

## Dictionary

Enter the name of the text file that you are copying the file description to. If a file with the same name already exists, a new version will be created. If a device and directory are not specified, XENTIS appends the user's current default device and directory.

### Prompt: *Dump a file, table, or view (F, T, or V)*

Default: F

#### Allowed Values:

<b>F</b>	File
<b>T</b>	Table
<b>V</b>	View

Enter **F** if you are copying a file description. Enter **T** if you are copying a table. Enter **V** if you are copying a view.

### Generic file name to dump

Default: No default

#### Allowed Values:

<i>file-name</i>	A valid generic file name. Use of VMS wildcards is permitted.
------------------	---

This prompt is issued if you are copying a file. Enter the generic file name you want to copy to a text file. If the response is not valid, XENTIS displays an error message and re-issues the prompt. Once entered, XENTIS displays:

Processing	File: <i>file-name</i>
	Field: <i>field-name</i>

### Prompt: *Generic view name to dump*

Default: No default

#### Allowed Values:

<i>view-name</i>	A valid view name. Use of VMS wildcards is permitted.
------------------	---

This prompt is issued if you are copying a view. Enter the view name you want to copy to a text file. If the response is not valid, XENTIS displays an error message and re-issues the prompt. Once entered, XENTIS displays:

Processing View: *view-name*

**Prompt:**     *Table name to dump*

Default:            No default

**Allowed Values:***table-name*

A valid table name. Use of VMS wildcards is permitted.

This prompt is issued if you are copying a table. Enter the name of the table you want to copy to a text file. If this table name is not valid, XENTIS displays an error message and re-issues the prompt. Once entered, XENTIS displays:

Processing Table:*table-name*

Once copied, XENTIS displays **File 'file name' has been created** and the following prompt:

**Prompt:**     *Press <Return> to continue or 'Q' to quit.*

Default:            No default

**Allowed Values:****<Return>**

To continue

**Q**

To return to the menu.

Press <Return> to dump another file, table or view to the same text output file. XENTIS re-issues the **Dump a file, table, or view** prompt. Once another file, table, or view is copied into the same text output file, XENTIS displays **File 'file name' has been appended**.

Enter **Q** to return to the Menu.

# Load a File Description from a Text File

Menu Selection:	'Load a file description from a text file' from the /Dictionary Menu.
-----------------	---

Use this option to load file descriptions (and associated field descriptions), tables, or views from a text file.

If you have copied file descriptions, tables, or views to a text file, you can load the text file back into a dictionary using this option. If you are adding file descriptions, tables, or views to a dictionary, you can create a text file in the proper format, then load the text file into the dictionary. See 'Output File Format' below.

**A word of caution:** if you plan to use this /Dictionary utility, be very careful when you are editing the text file. If you inadvertently delete a required line, the text file may not reload properly into the dictionary. If a line in the input file contains incorrect data or if lines are missing, XENTIS displays a message and continues to load the file. Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt. Temporary dictionary files may also be loaded.

## Prompt: *XENTIS dictionary to load to*

Default: Current default dictionary

### Allowed Values:

<i>dictionary-name</i>	A valid XENTIS dictionary name
------------------------	--------------------------------

Enter the name of the XENTIS dictionary to load a file description, a table, or a view to. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS appends the user's current default device and directory. If an extension is not specified, XENTIS appends .DIC.

## Prompt: *Dictionary password*

Default: No default

### Allowed Values:

<i>password</i>	A valid dictionary password
-----------------	-----------------------------

Enter the password for the dictionary. This password must have add privilege to the dictionary in order for you to continue. If not, XENTIS re-issues this prompt:

## Prompt: *Input text file name*

Default: No default

### Allowed Values:

<i>file-name</i>	A valid standard operating system file name.
------------------	--

Enter the name of the text file to load into the dictionary. If a device and directory are not specified, XENTIS appends the user's current default device and directory. If this input file name is not valid, XENTIS displays an error message and re-issues the prompt.

**Prompt:**     *Renumber the fields (Y or N)*

Default:            N

*Allowed Values:*

**Y**  
**N**

This prompt is issued if you are loading a file. If N, the field numbers remain unchanged. If Y, fields numbers remain in the same sequence but unused field numbers are removed. You may want to renumber fields if there are gaps in the record layout (fields have been deleted from the record layout).

After responding to the final prompt, XENTIS begins loading the files and field descriptions, the tables, and the views into the dictionary.

If an entry already exists in the dictionary with the same generic file, table, or view name, XENTIS displays a message and prompts for a new name.

**Prompt:**     *Press <Return> to continue or Q to quit*

Default:            No default.

*Allowed Values:*

<b>Q</b>	To quit
<b>&lt;Return&gt;</b>	To process more files

Once loaded, XENTIS gives you an opportunity to stop to continue processing more files. Press <Return> to load another file, table or view. XENTIS re-issues the **Input text file name** prompt. Enter **Q** to return to the Menu.

If an error is encountered during loading, XENTIS displays an error message and continues to load the text file. To discontinue loading the text file, enter 'Q' at the **Press <Return> to continue** prompt.

## *Output File Formats*

You may modify a text file created with the 'Dump a file description to a text file' option or create a text file outside of XENTIS (either with a text editor or using a separate program), then use 'Load a file description from a text file' option to load the text file into a XENTIS dictionary. Both of these /Dictionary Menu options can be run in batch. To do so, create a DCL .COM file that contains responses to all the prompts used in each option.

The following examples illustrate the format of a text load file containing a file description and a view description.

*For file descriptions:*

- Each dictionary entry is composed of one set of FILE DESCRIPTION: items and one set of FIELD DESCRIPTION: items for each field associated with the file.

- The example shows only the item headings. In a true text load file, an assigned value follows each item heading. To load successfully, the fields must appear as they do here with a space separating item names from the assigned values.
- A text load file may contain more than one file description. When such a file is loaded with 'Load a file description from a text file', each entry is added as a separate file description to the dictionary. To add multiple entries in one load file, append a second, third (and so on) file description.

*Output Text File Format: FILE*

**FILE DESCRIPTION:**

GENERIC\_FILENAME:  
 ACTUAL\_FILENAME:  
 FILE\_TYPE:  
 RECORD\_FORMAT:  
 READ\_PRIV\_LEVEL:  
 ADD\_PRIV\_LEVEL:  
 CHG\_PRIV\_LEVEL:  
 DEL\_PRIV\_LEVEL:  
 AUDIT\_FLAG:  
 AUDIT\_RECEIVER:  
 NUMBER\_OF\_FIELDS:  
 RECORD\_SIZE:  
 NEXT\_FIELD\_NUM:  
 PREFIX\_VALUE:  
 ADD\_UPD\_FIELD:  
 CHG\_UPD\_FIELD:

**FIELD DESCRIPTION:**

FIELD\_NAME:  
 FIELD\_NUMBER:  
 FIELD\_TYPE:  
 FIELD\_POSITION:  
 FIELD\_LENGTH:  
 FIELD\_OCCURS:  
 OCCURS\_STRIDE:  
 READ\_PRIV\_LEVEL:  
 ADD\_PRIV\_LEVEL:  
 CHG\_PRIV\_LEVEL:  
 KEY\_FIELDS:  
 KEY\_SEGMENTS:  
 COL\_HEADING:  
 REQ\_INPUT:  
 DEFAULT\_VAL:  
 MIN\_VAL:  
 MAX\_VAL:  
 MIN\_LENGTH:  
 TABLE\_VAL:  
 FILE\_VAL:  
 FILE\_VAL\_KEY:  
 SCALE\_FACTOR:  
 PRINT\_MASK:  
 LOWER\_CASE:  
 PATTERN\_TO\_MATCH:

**HELP DESCRIPTION:**

HELP\_FIELD:  
 HELP\_FIELD\_NUMBER:  
 HELP\_LINE\_ONE:  
 HELP\_LINE\_TWO:



*For view descriptions:*

- Each dictionary entry is composed of one set of VIEW\_DESCRIPTION: items, PRIMARY FILE: items, and optionally one set of items for each auxiliary file and VIEW\_SELECTION\_LOGIC.
- The example shows only the item headings. In a dump file, an assigned value follows each item heading. To load successfully, the fields must appear as they do here with a space separating item names from the assigned values.
- A dump file may contain more than one view description. When such a file is loaded with 'Load a file description from a text file', each entry is added as a separate file description to the dictionary. To add multiple entries in one load file, append a second, third (and so on) view description.
- When entering a value for PRIMARY\_FILE: in dump files using a text editor, you may include multiple primary files.

*Output Text File Format: VIEW*

```

VIEW DESCRIPTION:
GENERIC_VIEWNAME:
READ_PRIV_LEVEL:
ADD_PRIV_LEVEL:
CHG_PRIV_LEVEL:
DEL_PRIV_LEVEL:
ACCESS_SIMULTANEOUSLY:

PRIMARY_FILE:
FILE_TYPE:
KEY_TO_USE:
ACCESS_MODE:
FIRST_RECORD:
LAST_RECORD:

SECONDARY_FILE:
FILE_TYPE:
KEY_TO_USE:
ACCESS_MODE:
FIELD_1_KEY:
FIELD_2_KEY:
FIELD_3_KEY:
MULTIPLE_RECORDS:
REPLACE_ZEROS_NULLS:

THIRD_FILE:

VIEW_SELECTION_LOGIC:

```

*Loading Temporary Dictionary Files*

Beginning with version 4.7 XENTIS supports loading temporary dictionary files into a XENTIS data dictionary. The temporary dictionary must have the same file type (extension) as specified in the setup file. After loading, the user needs to adjust those dictionary attributes that are found in a XENTIS data dictionary but not found in a temporary data dictionary, including the actual filename and the key (index) specifications if the file is an indexed file.

# Copy a CDD/COBOL/DIBOL File Description to XENTIS

Menu Selection:	Copy a CDD/COBOL/DIBOL file description to XENTIS' from the /Dictionary Menu.
-----------------	---

Use this option to transfer file descriptions (records or one-file domains) from the CDD (Oracle's Common Data Dictionary), from COBOL file definitions, or from DIBOL record definitions to a XENTIS dictionary. XENTIS can create reports using file descriptions stored in a XENTIS dictionary, in the CDD, or in the dictionary system of several databases. The XENTIS dictionary is often the dictionary of choice, even for CDD users, because of its broad capabilities.

Even if you use the CDD, you may choose to transfer descriptions from the CDD to a XENTIS dictionary for one of the following reasons:

- Security for files, fields and views can be applied in a XENTIS dictionary but not in the CDD.
- XENTIS/Dictionary includes some features that work only when using a XENTIS dictionary. For example: dumping and loading dictionary descriptions to and from text files, copying descriptions between dictionaries, using database views, and so on.
- XENTIS/Edit can only be used with XENTIS dictionaries.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

The CDD/COBOL/DIBOL copy function issues the following prompts.

## Prompt: XENTIS dictionary to use

Default: Current default dictionary

### Allowed Values:

<i>dictionary-name</i>	A valid XENTIS dictionary name
------------------------	--------------------------------

Enter the name of the XENTIS dictionary that will receive the CDD, COBOL, or DIBOL description you are transferring. Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS uses the user's current default device and directory. If an extension is not specified, XENTIS uses .DIC.

## Prompt: Dictionary password

Default: No default

### Allowed Values:

<i>password</i>	A valid dictionary password
-----------------	-----------------------------

The prompt appears only if the XENTIS\$PASSWD symbol is not set. Enter the password for the dictionary. This password must have read privilege to the dictionary in order for you to continue. If not, the dictionary will not open and XENTIS re-issues this prompt.

**Prompt:**     *Transfer type CDD , COBOL, or DIBOL*

Default:            No default

**Allowed Values:**

<b>CDD</b>	To indicate conversion of a CDD dictionary.
<b>COBOL</b>	To indicate conversion of a COBOL record definition.
<b>DIBOL</b>	To indicate conversion of a DIBOL record definition.

Enter the selection for the type of transfer you are about to do.

**Prompt:**     *Path or file name to transfer*

Default:            No default

**Allowed Values:**

<i>path-name</i>	A valid CDD path name
<i>domain-name</i>	A valid CDD one file domain name created by Datatrieve.
<i>source-file-name</i>	The file that contains the appropriate COBOL or DIBOL source code.

Enter the path name of the record, domain or COBOL or DIBOL source file to transfer from.

For the CDD, the name must contain each node in the path name starting with CDD\$TOP or your CDD anchor specification and continuing to the record/domain node. Example:

CDD\$TOP . CONTRACTS . DATA . CONTRACT\_RECORD

If either the record or domain name is not valid, XENTIS displays an error message and re-issues the prompt.

For a COBOL or DIBOL record definition, your entry must contain a file specification in the device/directory/file-name format normally required. Example:

DISK1 : [ COBOLDEF ] CUSTOMER . FD

For a COBOL record definition transfer, the following restrictions are in effect:

- Only two levels of occurs are supported.
- 66, 77, and 88 levels are not supported.
- The VALUE, SYNCHRONIZED, JUSTIFIED clauses are not supported.
- FILLER fields generate the name FILLER-*n*, where *n* is a sequence number.
- Processing stops when a WORKING-STORAGE SECTION, LINKAGE SECTION, REPORT-SECTION, COMMUNICATION SECTION, OR PROCEDURE DIVISION phrase is encountered.
- Sequence numbers are not supported.
- The OCCURS DEPENDING clause is partially supported. XENTIS will use the maximum value specified for this clause.

For a DIBOL record definition transfer, the following restrictions are in effect:

- Integer fields of 16 bytes are not supported.
- Field names must be unique. If they are not unique, XENTIS will make them unique by appending a sequence number.
- All fields must have a declared length.

- No more than two dimensions are allowed.

### **Prompt:**     *Include structure level fields*

Default:            N

*Allowed Values:*

**Y**  
**N**

A structure level field contains one or more fields within it. In the CDD, these are defined with a "STRUCTURE" identifier or are defined as a group level field in a Datatrieve or COBOL style definition. Enter **Y** to include structure level fields in the XENTIS file description, **N** to not include structure level fields.

### **Prompt:**     *Generic file name*

Default: The lowest node of the path name unless it already exists, then the lowest node of the path name with '\_n' appended (*n* is an integer number).

*Allowed Values:*

*file-name*

A valid generic file name

Once the generic file name is entered, XENTIS displays **Processing....** then issues field prompts. The field prompts ask for information included in a XENTIS FIELD DESCRIPTION but not in the CDD.

At any of the field prompts you may enter /GO <Return>. This tells XENTIS to use defaults for all the remaining field prompts. If you do not use /GO and are entering responses to each prompt, backslash (\) and <Up-arrow> do not move you back one prompt; you must respond to each prompt.

## **Field Prompts**

The following prompts are issued:

---

*Refer to 'Add a Field Description' for details on allowed values and defaults.*

---

**Prompt:**     *Field read privilege level*

**Prompt:**     *Field add privilege level*

**Prompt:**     *Field change privilege level*

**Prompt:**     *Default column heading*

Note: May be skipped if contained in the CDD

**Prompt:**     *Required input*

**Prompt:**     *Default value*

**Prompt:**     *Minimum value*

Note: May be skipped if contained in the CDD

**Prompt:**     *Maximum value*

Note: May be skipped if contained in the CDD

*Prompt: Minimum length*  
*Prompt: Table to validate*  
*Prompt: File to validate*  
*Prompt: File key to use*  
*Prompt: Lower case allowed*

Some field characteristics stored in the CDD are not used in XENTIS. When XENTIS encounters such a characteristic, a message displays showing the characteristic and its value that will not be transferred. Possible messages are:

Attribute 'CDD\$K_REC_BAS_NAME' for field (name) is:	(value)
Attribute 'CDD\$K_REC_BASE' for field (name) is:	(value)
Attribute 'CDD\$K_REC_BAS_CONDITION' for field (name) is:	(value)
Attribute 'CDD\$K_REC_COB_NAME' for field (name) is:	(value)
Attribute 'CDD\$K_REC_DTR_MISSING_VALUE' for field (name) is:	(value)
Attribute 'CDD\$K_REC_QUERY_NAME' for field (name) is:	(value)
Attribute 'CDD\$K_REC_PLI_NAME' for field (name) is:	(value)
Attribute 'CDD\$K_REC_DTR_VALIDATION' for field (name) is:	(value)

If you are transferring a domain, XENTIS does not issue file prompts. Instead, **Processing data file...** displays on the screen. During this time, XENTIS retrieves the file type, record format, record size, and key information from the actual data file. If XENTIS encounters a key that does not match any of the fields contained in the record layout, a new field called KEY\_n\_SEG\_m is added to the XENTIS dictionary file description.

## File Prompts

If you are transferring a path record or a COBOL record description, XENTIS issues the following file prompts. The file prompts ask for information included in a XENTIS FILE DESCRIPTION but not in the CDD.

---

*Refer to 'Add a File Description for details on allowed values and defaults.'*

---

*Prompt: Actual file name*  
*Prompt: File structure*  
*Prompt: Key field n, key segment n*  
*Prompt: File read privilege*  
*Prompt: File add privilege*  
*Prompt: File change privilege*  
*Prompt: File delete privilege*  
*Prompt: Audit trail*  
*Prompt: Audit trail receiver*  
*Prompt: Prefix value*  
*Prompt: Add update field*  
*Prompt: Change update field*

When all responses are entered, XENTIS displays **Processing complete. Press <Return> to continue.** If you have loaded a COBOL record definition from a file that contains multiple record definition, you will be prompted to process successive files until all have been encountered. Once all are complete, press <Return> to return to the Menu.

# Create a New Empty Data File

Menu Selection: 'Create a new empty data file' from the /Dictionary Menu.

Use this option to create a new, empty actual data file from a file description. The file description must be stored in a XENTIS dictionary. Create a new data file to use with /File, /Update, or /Edit or with one of your own applications.

Before choosing 'Create a new empty data file', add new FILE and FIELD DESCRIPTIONS in the dictionary or copy and modify existing FILE and FIELD DESCRIPTIONS for the new data file.

During execution, XENTIS creates a temporary FDL file using the attributes from the dictionary description. XENTIS uses only the first eight segments of any key defined in the dictionary description due to restrictions in FDL. File descriptions are subject to VMS FDL restrictions.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

XENTIS issues the following prompts:

## Prompt: *XENTIS dictionary to use*

Default: Current default dictionary

### Allowed Values:

*dictionary-name* A valid XENTIS dictionary name.

Enter the name of the dictionary that contains the FILE DESCRIPTION for the file you are creating.

Include device, directory, name, extension, or logical. If a device and directory are not specified, XENTIS uses the user's current default device and directory. If an extension is not specified, XENTIS uses .DIC.

## Prompt: *Dictionary password*

Default: No default

### Allowed Values:

*password* A valid dictionary password.

Enter the password for the dictionary. This password must have read privilege to the dictionary in order for you to continue. If not, the dictionary will not open and XENTIS re-issues this prompt.

## Prompt: *Generic file name to create*

Default: No default

### Allowed Values:

*file-name* A valid generic file name.

Enter the generic file name for the file you are creating. If this file name is not valid, XENTIS displays an error message and re-issues the prompt.

**Prompt:**     *Approximately how many records will be initially put into the file*

Default:            No default

*Allowed Values:*

*Any Integer*

Enter the approximate number of records you will be initially adding to the new file. This does not limit the size of the file; it is only used to create the initial file space needed.

**Prompt:**     *Key changes and duplicates*

Default:            N for key number 1. Y for all other keys.

*Allowed Values:*

<b>Y</b>	Allow changes or duplicates.
<b>N</b>	Do not allow changes or duplicates.

This prompt is displayed only when the specified file is an indexed file. For each key, XENTIS asks if you want to allow key changes and if you want to allow records with duplicate keys to be stored in the file. Your answers determine the attributes that are assigned to the file by RMS.

**Prompt:**     *File 'actual file name' already exists*  
                   *Continue Creating the file:*

Default:            Y

*Allowed Values:*

**Y**  
**N**

This prompt is displayed only when an actual file already exists. XENTIS uses the actual file name stored as part of the file description when naming the new, empty data file. If a file already exists, then XENTIS issues a warning message and prompts to continue. If you respond Y, then XENTIS creates a new version of the file. If you respond N, then XENTIS does not create a new version of the file and returns to **Generic file name to create**.

**Prompt:**     *Delete the temporary FDL file*

Default:         Y

*Allowed Values:*

Y  
N

Enter Y to delete the FDL file. Enter N to save the file in your current default directory. The file will be named *generic\_file\_nnnn.FDL* where *nnnn* are integer numbers and *generic\_file* is your generic file name. The FDL file contains attributes used to create the data file. Save the FDL file if you want to use it as a reference or if you want to run a VMS CONVERT on the data file.

During execution, XENTIS creates a temporary FDL file using the attributes from the dictionary description. FDL parameters not stored as part of the dictionary description use standard defaults (for example: allow duplicate values in keys). If you wish to change or add FDL parameters, save the temporary FDL file, use the FDL utility or any text editor (like EDT) to modify the FDL file, then run a VMS CONVERT on the data file.

After responding to the final prompt, XENTIS creates the file. Once the file is created, XENTIS displays **File 'file name' has been created** and prompts **Press <Return> to continue**. After you press <Return>, XENTIS re-issues the **Generic file name to create** prompt. Create another new data file or return to the Menu.



# System Utilities

The XENTIS System Utilities include options that are used to create and maintain the XENTIS environment. These options are used primarily by a XENTIS system manager.

PARK SOFTWARE, INC. DISKID: [XEN40.DEMO]XDEM\_DEMO.DIC

## XENTIS System Utilities

NO	DESCRIPTION	NAME
01	Menu file maintenance menu ...	MENU
02	Create a DCL command file from a report def'n	CREATECOM
03	Setup file compilation	SETUP
04	Info window file creation	INFOFILE
05	Audit trail management	AUDITMAN

Enter <Return>, function number/name, \ to backup, or EXIT: \_\_\_\_\_

Included with System Utilities are utilities that allow a system manager to maintain menus, as shown below.

PARK SOFTWARE, INC. DISKID: [XEN40.DEMO]XDEM\_DEMO.DIC

## XENTIS Menu File Maintenance

NO	DESCRIPTION	NAME
01	Create or maintain a menu title	MENUSCREEN
02	Create or maintain menu line items	MENULINE
03	Generate a menu file report	MENULIST

Enter <Return>, function number/name, \ to backup, or EXIT: \_\_\_\_\_

---

*Refer to Appendix F for complete information about the XENTIS menu system and these menu options.*

---

# Create a DCL Command File from a Report Definition

Guide Menu Selection: 'Create a DCL command file from a report def'n' System Utilities Menu.

This option creates a DCL command file (.COM) using a saved report definition (.XCF). The DCL Command file created can be used to execute a XENTIS command from outside of XENTIS. These command files can also be added to the XENTIS menu to provide direct access to previously created XENTIS commands. Upon selection of this utility, XENTIS issues the following prompts:

**Prompt:** *Enter name or number to CHANGE XCF TO DCL, or Press RETURN for more, or Type 'V' to Quit:*

## Allowed Values:

<b>&lt;Return&gt;</b>	Displays a listing of command files
<i>name</i>	Converts the entered command file.
<b>\</b>	Return to the menu.

## <Return>

XENTIS displays a listing of command files consisting of: catalogue headings, a command file number that displays on the left-hand side of the screen, and the command file name.

```

Catalogue of DISK0: (DEM01)XENTIS.XDX;2

Customer Reports
1.  CUST_LIST.XCF;1

Order Reports
2.  CUST_ORDERS.XCF;1
3.  ORDER_LIST.XCF;1

Inventory Reports
4.  INVENTORY_LIST.XCF;1
5.  PART_INVEN.XCF;1

Part Reports
6.  PART_LIST.XCF;1

Enter name or number to CHANGE XCF TO DCL, or
Press RETURN to Exit:
  
```

The list includes any command file:

- in the device and directory determined by the Setup File parameter DFLT-CMD-LOC.

- that uses the extension assigned to the Setup File parameters DFLT-CMD-TYPE and DFLT-COMP-TYPE (shipped as .XCF and .XCC).

If a command file is catalogued, it appears under its catalogue heading. If a command file is not catalogued, it appears under the heading 'Miscellaneous XENTIS Standard Command Files' or 'Miscellaneous XENTIS Compiled Command Files'.

Continue to view the listing by pressing <Return>. When all screen have displayed, XENTIS issues the following prompt:

**Prompt:**     *Enter name or number to CHANGE XCF TO DCL, or  
Press RETURN to Exit:*

**Allowed Values:**

<i>file-name</i>	The name of a command file.
<i>file-number</i>	The number listed next to a command file.
<i>\</i>	Return to the menu.

Enter the name or number of the command file you wish to use to create the .COM file, or press <Return> to return to the Menu.

**NOTE:** Only standard command files (.XCF) can be used to create a .COM file.

***file-name***

Enter the name of the command file you wish to use, then press <Return>. If the command file is located in the device and directory determined by the Setup File parameter DFLT-CMD-LOC, then you do not need to include a device and directory. If you wish to run a command file in a different location, include the device and directory on the front of the command file name. If the command file uses the file extension assigned to the Setup File parameter DFLT-CMD-TYPE (shipped as .XCF), then you need not include an extension.

***file-number***

Enter the number of the command file (displayed on the left-hand side of the screen in the catalogue listing) you wish to use, then press <Return>.

***\***

Enter \, then press <Return> to return to the Menu.

Once a name or number is entered, XENTIS displays the following messages and creates the .COM file. The name of the .COM file is *file name*.COM where *file name* is the name of the saved command file.

```
XENTIS/Create_DCL Initializing ....
Created DCL command file file-name.COM
Press <Return>?
```

During execution, XENTIS locates and copies the command file template file. The name of the template file is determined by the setup parameter COM-CTL-FILE (shipped as XENTISCOM.DAT). The template file must reside on the disk and directory specified by the logical XENTISnn\$REPORT\$DATA, where 'nn' is the version number. In the copy, XENTIS substitutes the user's default directory, the dictionary name, the password, and the command file name.

If the report definition contains command file substitution, then the prompts are issued before the DCL command file is created. When you respond to the prompts, the responses are written in literals in the saved .COM file.

# Setup File Compilation

Guide Menu Selection:     'Setup file compilation' from the XENTIS System Utilities Menu.
---

This option compiles the system setup file, XENTISSET.DAT. Normally, XENTISSET.DAT is maintained and compiled by the System Manager.

After installing XENTIS on your system or after making any modification to XENTISSET.DAT, the system setup file must be compiled. The system setup file will not function properly unless it is first compiled. Changes to the system setup file do not take effect until it is recompiled.

When compiling the system setup file with 'Setup File Compilation', XENTISSET.DAT must reside on the disk and directory specified by the XENTISnn\$REPORT\$DATA logical, where 'nn' is the version number. During compilation, XENTIS translates XENTISSET.DAT to binary format and stores the compiled version as XENTISSET.XEN.

---

*Refer to Appendix A for complete information on the system setup file.*

---

Once you select this item from the menu, XENTIS displays the following messages:

```
XENTIS/SETUP_Compile Vn.m Initializing....  
Reading: XENTISnn$REPORT$DATA:XENTISSET.DAT  
Translated: dev:[dir]XENTISSET.DAT;1  
Writing   : dev:[dir]XENTISSET.XEN  
Completed.
```

Once these messages display, the compilation process is complete and XENTIS returns to the XENTIS Menu.

# Info Window File Creation

Guide Menu Selection: 'Info Window File Creation' from the XENTIS System Utilities Menu.

When in DISPLAY mode, the generic file names of all files available for reporting in the default dictionary are displayed in the Info window in the FILE section of a dialogue. Generic file names are retrieved from the dictionary itself. If the default dictionary contains a large number of files, the file names are retrieved, and displayed, slowly.

A user can optionally build a File name Info file containing the names of the files in the default dictionary. When a File name Info file exists and when in DISPLAY mode during the FILE portion of a dialogue, XENTIS uses the File name Info file, instead of the dictionary itself, to retrieve file names, thus displaying files in the Info window much faster.

Note: For CDD users: A File name Info file cannot be built for DEC's Common Data Dictionary (CDD).

## Create a File Name Info File

Create a File name Info file for the default dictionary by selecting 'File name info file creation' from the XENTIS System Utilities Menu. If a default dictionary is not specified, you are prompted for a dictionary. The File name Info file is named as shown below.

Note: Oracle, Progress, and Sybase users - If a default password is not set (using the symbol XENTIS\$PASSWD), you are prompted for the password.

<i>Default Dictionary</i>	<i>File name Info file</i>	<i>File name Info file directory location</i>
XENTIS	<i>dictionary_name</i> .FILE_INFO	Same as dictionary
MAXCIM	MAXCIM.FILE_INFO	Same as ECB
(all versions)		
ORACLE	ORACLE_ <i>username</i> .FILE_INFO	Current default dir
Rdb	<i>database_name</i> .FILE_INFO	Same as database
SYBASE	SYBASE_ <i>dbname_username</i> .FILE_INFO	Current default dir
PROGRESS	PROGRESS_ <i>dbname_username</i> .FILE_INFO	Current default dir
INGRES	INGRES_ <i>dbname_username</i> .FILE_INFO	Current default dir

# Audit Trail Management

Guide Menu Selection: 'Audit trail management' from the XENTIS System Utilities Menu.

Use this option to monitor changes made to a data file with /Edit, /File, or /Update. When a record is added, changed, or deleted in a data file, the Audit Trail Management utility adds a record to the audit trail file. The audit trail file is a sequential file. Records in the audit trail file include generic file name, date, password owner, the new record for adds, the old record for deletes, the new and the old record for changes, and other information. See Audit Trail File Format for a complete list.

Define an audit trail for a file in the file description. See File Description for more information. Once an audit trail is defined in a file description, XENTIS will not allow changes to the data file with /Edit, /File, or /Update until the audit trail is started.

Audit trails are implemented using a detached process and a mailbox; messages are written to a mailbox for each transaction that occurs using the data file. The Audit Trail Management utility reads the mailbox, then writes a record to the audit trail file recording information about the transaction.

Move around on a response line using /Dictionary key strokes. Backslash (\) or <Up-Arrow> backs you up one prompt or returns you to the /Dictionary Menu if you are at the first prompt.

To perform an audit trail function, a user must have the following privileges: SYSNAM, GRPNAM, DETACH, GROUP, PRMMBX, ALTPRI (or SETPRI), TMPMBX, WORLD, OPER, and NETMBX.

There are three functions available in the Audit Trail Management utility. 'Startup' creates the detached process and the mailbox. 'Status' displays current status information about activity in the data file. 'Shutdown' deletes the detached process and the mailbox. Once you have selected this function from the menu, the following prompts appear.

## Prompt: Startup, Shutdown, or Status

Default: No default

### Allowed Values:

<b>STAR</b>	To start an audit trail.
<b>STAT</b>	To display current status.
<b>SHUT</b>	To shut down an audit trail

Enter STAR to start an audit trail. Enter STAT to displays current status information about activity in the data file. Enter SHUT to shutdown an audit trail.

## Prompt: Audit Trail Receiver

Default: No default

### Allowed Values:

1 to 12 alphabetic characters

This prompt is issued when you are starting an audit trail. Enter the name of the audit trail receiver that you want to start. The audit trail receiver must be the same as entered in the FILE DESCRIPTION for the data file audit trail you are starting. The detached process name for this audit trail will be 'Aud\_audit\_trail\_receiver'. The system logical name of the mailbox for this audit trail will be the same as the Audit Trail Receiver.

### **Prompt:**     *Output File name*

Default:            No default

#### *Allowed Values:*

<i>file-name</i>	A valid standard operating system file name
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This prompt is issued when you are starting an audit trail. Enter the name of the sequential audit trail file that will contain audit trail information. If a device and directory are not specified, XENTIS uses the user's current default device and directory.

### **Prompt:**     *Base priority for detached process*

Default:            5

#### *Allowed Values:*

Any valid VMS priority
------------------------

This prompt is issued when you are starting an audit trail. Enter the priority assigned to the detached process. The lower the number, the lower the assigned priority.

After responding to the final prompt, XENTIS creates the detached process, the mailbox, and the sequential audit trail file. The audit trail is now initialized.

Once the audit trail is started, XENTIS displays **Press <Return> to continue, 'Q' to quit.** If you press <Return>, XENTIS re-issues the **Startup, Shutdown, or Status** prompt.

### **Prompt:**     *Audit Trail Receiver*

Default:            No default

#### *Allowed Values:*

<i>Audit trail receiver name</i>	1 to 12 alphabetic characters
----------------------------------	-------------------------------

This prompt is issued when you are displaying the status of an audit trail. Enter the name of the audit trail receiver for which you want to display status information. The audit trail receiver must be initialized in order to display status information. If this audit trail receiver is not valid, XENTIS displays an error message and re-issues the prompt. After responding the prompt, XENTIS displays the following status information.

*Audit Trail Status Information*

<b>Present time:</b>	The current date and time.
<b>Time of last operation:</b>	The date and time the last record was written to the audit trail file.
<b>Audit startup time:</b>	The date and time the audit trail receiver was started.
<b>Number of audit puts:</b>	The number of records that have been written to the audit trail file.
<b>Number of current users:</b>	The current number of users on the system running programs that access the audit trail receiver.
<b>Audit trail output file:</b>	The name of the audit trail file.

Once the audit trail information is displayed, XENTIS displays **Press <Return> to continue, 'Q' to quit.** If you press <Return>, XENTIS re-issues the **Startup, Shutdown, or Status** prompt.

*Prompt: Audit Trail Receiver*

Default: No default

*Allowed Values:*

<i>Audit trail receiver name</i>	1 to 12 alphabetic characters
----------------------------------	-------------------------------

This prompt is issued when you are stopping an audit trail. Enter the name of the audit trail receiver that you want to stop. The audit trail receiver must be initialized in order to stop. If this audit trail receiver is not valid, XENTIS displays an error message and re-issues the prompt. Remember that changes cannot be made to the data file with /Edit, /File, or /Update unless you remove or change the audit trail receiver in the associated file description or restart the audit trail receiver.

After responding to the prompt, if no users are currently accessing the audit trail receiver, XENTIS deletes the detached process and the mailbox and displays **Shutdown successfully completed.** The audit trail is now stopped. If users are currently accessing the audit trail receiver, XENTIS does not stop the audit trail receiver and displays **Shutdown failed - please check status.**

Once the audit trail receiver is stopped, XENTIS displays **Press <Return> to continue, 'Q' to quit.** If you press <Return>, XENTIS re-issues the **Startup, Shutdown, or Status** prompt.

*Audit Trail File Format*

<i>Field</i>	<i>Length</i>	<i>Data Type</i>
RECEIVER NAME	12	Text
GENERIC FILE NAME	32	Text
MESSAGE TYPE	1	Text (A, C, or D)
CURRENT DATE TIME	8	VMS Date
VMS TERMINAL NAME	12	Text
VMS USERNAME	12	Text
VMS NODE NAME	6	Text
VMS PROCESS ID	8	Text
DATE OF PRIOR CHANGE	8	VMS Date
RFA	6	RFA
RECORD_LENGTH	2	Word
RECORD IMAGE 1	n	Record Image bit by bit
RECORD IMAGE 2	n	Record Image bit by bit



The audit trail file is a sequential file containing variable length records. Fields contain the following information.

RECEIVER_NAME	is the name of the audit trail receiver.
GENERIC_FILENAME	is the generic name of the file using the audit trail receiver.
MESSAGE_TYPE	indicates the type of transaction that occurred on the data file; A for an added record, C for a changed record, or D for a deleted record.
CURRENT_DATE_TIME	is the date and time this transaction occurred.
TERMINAL	is the name of the terminal being used to complete the transaction.
PASSWORD_OWNER	is the password owner assigned to the XENTIS password used to access XENTIS.
DATE_PRIOR_CHANGE	is the date and time of the last change made to this file.
RFA	is the RFA of the record in the data file that is added, changed or deleted.
RECORD_LENGTH	is the length of the record that is added, changed or deleted.
IMAGE_1	is the data in the record from the data file. If a record is added, this is the data in the new record. If a record is changed, this is the data in the old record. If a record is deleted, this is the data in the old record.
IMAGE_2	is the data in the record from the data file used only if a record is changed. If a record is changed, this is the data in the new record.

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# SETUP File

The System Setup File, XENTISSET.DAT, is used to select XENTIS options so that each XENTIS installation can create its own reporting environment. Variables are passed into XENTIS, with the use of parameters stored in the System Setup File, to set standard dialogue defaults, run-time parameters, and other operational settings. The System Setup File is usually maintained by the system manager and should reflect the standards needed for the typical XENTIS user in the company. If allowed by the system manager, each user can create a User Setup File to modify System Setup File parameters for individual reporting needs. Each parameter contained in the System Setup File is described in this appendix.

## The System SETUP File

The name of the text version of the System Setup File is XENTISSET.DAT, the compiled version is XENTISSET.XEN. The compiled version must reside in the disk and directory specified by the XENTISnn\$REPORT\$DATA logical, where 'nn' is the version number. If XENTISSET.XEN is not present, XENTIS will not execute properly.

XENTISSET.DAT is a text file that can be modified using any standard text editor (like EDT). Normally, the system manager initially modifies parameter values to fit company-wide standards and reporting needs but parameter values may be altered at any time. After any modification of XENTISSET.DAT, the System Setup File must be compiled. To compile XENTISSET.DAT, choose 'Setup File Compilation' from the XENTIS System Utilities Menu. The System Setup File will not function properly unless it is compiled. In addition, changes do not take effect until the System Setup File is recompiled.

It is recommended that modification to the system setup file be placed at the end of the file. If XENTIS encounters a parameter specified more than one time, it will use the last specification of the parameter.

## User Setup Files

If an individual's reporting needs vary from the company-wide needs and if allowed by the system manager, each user can create a User Setup File. A User Setup File is a miniature version of the System Setup File containing only those parameters that the user wishes to alter. If a User Setup File exists in the current default directory and if no restrictions are set, the parameter value in the User Setup File overrides the parameter value in the System Setup File.

A User Setup File is a text file that can be created with any text editor (like EDT). Once a text editing session is initiated, type in the parameter title and its new value. The name of this text file is determined by the System Setup File parameter USER-SETUP. The parameter value is shipped as SETUP.DAT. The User Setup File is governed by the same format and parameter requirements as the System Setup File except that only the parameter title and parameter value are required. A comment column is not required but may be included if desired. User Setup Files are not compiled.

Setup parameters can be changed individually for each report by using the **SET** command.

### Sample User SETUP File

```
! *****  SETUP.DAT  *****
!
! **  Parameters to change display  **
START-IN-DISPLAY      N
START-DISPLAY-CMD     N
DISCARD-AFTER-RET     Y
!
! **  Parameters to set defaults  **
DFLT-MISSING          Y
DFLT-BETWEEN-COL      5
DFLT-PRT-QUE          TXA7:
DFLT-WRITE-CMD        Y
!
! **  Parameters for report titles  **
```

PRINT-VERSION	N
PRINT-PRODUCT	N
PRINT-CMD-FILENAME	N

## SETUP File Format

The System Setup File layout has four columns: Parameter, User-Modify, Parameter Value, and Comment. If a line in the file does not begin with !, the Parameter, User-Modify and Parameter Value columns must contain valid entries (only the Comment column need not have an entry). Each column entry must be separated by one or more spaces or tabs.

### Parameter

This column contains parameter titles. Do not modify parameter titles.

### User-Modify

Allowed values are 'Y' or 'N'. If 'Y', XENTIS allows the parameter to be changed in a User Setup File. If 'N', XENTIS does not allow the parameter to be changed in a User Setup File. If a user tries to change a parameter value in a User Setup File when the user-modify flag is set to N, it is ignored.

### Parameter Value

This column contains the value assigned to the parameter.

### Comment

This column contains comment lines used to describe the parameter. Comment lines begin with !. If a line begins with !, then the entire line is a comment.

### Other Rules

If the parameter value field contains spaces, then it must be surrounded by quotation marks.

An exclamation or a quotation mark may not be part of a parameter value.

A User Setup File must not include the user-modify field.

In either the System or User Setup Files, you can insert a start up message to display when users access XENTIS. Type two exclamation points (!!) followed by the message.

## Parameter Descriptions

Parameters are listed in the same order as they appear in the System Setup File.

### Setup Parameters new to Version

NET-DEVICE	This parameter controls the name of the internet device. The default value is UCX\$DEVICE.
NET-PROTOCOL	This parameter controls the protocol used. The default value is: HTTP://
NET-PORT	This parameter controls the number of the TCP/IP port used. The default value is 80.
NET-INCL-HOST	This parameter controls whether or not the host name is included in the URL passed to the HTTP server. It can have a value of Y or N. The default value is Y.
NET-INCL-PROTOCOL	This parameter controls whether or not the protocol is included in the URL passed to the HTTP server. It can have a value of Y or N. The default value is Y.

NET-TIMEOUT	This parameter controls the number of seconds that the software will wait for a response from the HTTP server. Set this parameter to a low value when testing new CGI scripts. The default value is 600.
NET-READSIZE	This parameter controls the maximum number of bytes read from the HTTP server in any one read request. The default value is 500.
NET-REQ-XML-HEAD	This parameter controls whether or not the software will require the standard XML header, "<?xml ", to exist in the XML data stream. The allowed values are Y and N. The default value is N.

### *Setup Parameters new to Version 4.8*

DISPLAY-FILE-NAMES	This parameter controls whether or not file names will be displayed in the info (middle) window. Setting this parameter to a value of N can improve performance when operating in DISPLAY mode and data dictionary has a very large number of files. The valid values of this parameter are Y and N. The default value is Y.
POST-PRINT-PROC	This parameter supports the ability for XENTIS to call a DCL procedure upon completion of producing an output file. This allows a user to perform additional processing of the output file, such as converting it to a PDF file that is readable by Adobe's Acrobat Reader. The value of the parameter should be either blank or the name of a DCL command procedure. Unless specified otherwise, XENTIS assumes this file will be found in the directory pointed by the XENTISnn\$REPORT\$DATA logical. The default value of this parameter is blank. This feature can only be used if the ALLOW-SPAWN parameter is set to Y.
POST-PRINT-FLAGS	If the POST-PRINT-PROC parameter is non-blank then XENTIS will call the DCL procedure specified. The DCL procedure will be passed two DCL parameters. The first DCL parameter will be the name of the output file. The second DCL parameter will be the value of the POST-PRINT-FLAGS setup parameter.

### *Setup Parameters new to Version 4.7*

DFLT-WEBPAGE-TYPE	This parameter controls the file type (extension) of Webpage Control Files. Up to seven characters may be used.
WEBPAGE-CTL-FILE	This parameter controls the name of the default Webpage Control File. If not device/directory is specified, XENTIS assumes this file will be found in the directory pointed to by the XENTISnn\$REPORT\$DATA logical. The Webpage Control File determines the format of the resultant web page.
HTML-TAB-POSTFIX	This is the name of a template file, containing HTML code, that postfixes Webpage output files.
HTML-TAB-INDEX	This is the name of a template file that controls the format and layout of the HTML Report Index file for reports produced with /Webpage. This file will be created only when the number of rows in the report exceeds the Rows per HTML Page value.
INCREMENT-LINE	This parameter will automatically increment the default print line while defining a new report if the current field would be placed beyond the right margin. The right margin is determined by the RIGHT-MARGIN setup parameter, or the terminal width if the former is zero. The valid values are Y and N. The default value is N.
ABORT-IF-ERR-EXE	This parameter controls where XENTIS should exit with an error status that can be seen by DCL should an unrecoverable error exist while producing a report. The valid values for this parameter are Y and N. The default value is Y.
SUPPRESS-DUP-KEY-MSG	This parameter allows the user to control whether or not warning messages are displayed in XENTIS/File when a duplicate key error is encountered. This does not affect other error messages that may occur in XENTIS/File. The valid values are Y and N. The default value is N.
ENHANCED-WILDCARD	This parameter controls whether the WE and WN calculation operators use the wildcard processing that existed prior to version 4.7, or whether they use the wildcard processing that corresponds to the OpenVMS STR\$MATCH_WILD system routine. A value of Y means to use the OpenVMS system routine, while a value of N means to use the traditional method of wildcard comparisons. The default value is N.

USE-BAD-DATES	This parameter controls the disposition of invalid dates of data type RDA, RDR, TDA, MDY, DMY, PDA, JDA, PRD, and JTD. If the value of the parameter is Y, then XENTIS will attempt to use a bad date. For example, if the date field in the data record indicates January 32 <sup>nd</sup> , then XENTIS will interpret this to mean February 1 <sup>st</sup> . To reject such dates, set the value of the parameter to N. The default value is N. XENTIS prior to version 4.7 would attempt to process these dates.
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### ***Setup Parameters New to Version 4.6***

HTML-RELATIVE-PATH	This parameter controls whether or not relative paths are used when XENTIS writes filenames into the HTML catalogue file. This parameter has valid values of Y or N. A Y instructs XENTIS to write relative paths while a value of N instructs XENTIS to write absolute paths. Relative paths are applicable only when the report HTML file is in the same directory as the catalogue file or in a sub-directory of the catalogue file.
SORT-ORDER	This parameter controls the sort order of the report. Previously only ASCII sorts were allowed. Now EBCDIC and Multinational ASCII sorts are allowed. The allowable values for this parameter are A for ASCII, E for EBCDIC, and M for Multinational ASCII. The default value is A. EBCDIC sorting should be performed only on character data.
ALLOW-NEXT-CALC	This parameter controls whether or not the NEXT T, NEXTN, or NEXTD calculations functions are allowed to be used. The valid values are Y for Yes, and N for No. The default value is Y.
ALLOW-PRER-CALC	This parameter controls whether or not the PRERT, PRERN, or PRERD calculation functions are allowed to be used. The value values are Y for Yes, and N for No. The default value is Y.
EXTEND-MASK-TOT	Sometimes the print mask for accumulated fields is too small for the value when being printed on a total or sub-total line but not too small when printed on a detail line. Setting this parameter to a value of Y allows XENTIS to extend on the left, the print mask used for numeric fields if the accumulated data value is too large for the print mask. The print mask will be automatically extended by 3 characters if there is room for the extension. A parameter value of N will disable this capability. The default value is Y.
USER-SECURITY	The User Security feature of XENTIS allows a system manager to specify which users have access to which licensed modules of XENTIS. The valid values of this parameter are Y and N. The default value is N. Please refer to the Technical Addendum for more information.

### ***Setup Parameters New to Version 4.5***

HTML-PAGE-SIZE	This parameter controls the default page size of HTML reports. A value of zero means that the normal page size default value should be used. This shipped value of this parameter is zero.
HTML-PAGES-PER-DOC	Dictates the maximum number of report pages that will be written to an HTML document. If the number of pages in a report exceeds this value, then multiple HTML document files will be created. If you expect your report to be large, you should increase the value of this parameter. The shipped value of this parameter is 1.
HTML-DFLT-CATALOG	Controls the default response for the "Enter into catalogue" prompt when HTML reports are being created. The valid values are Y and N.
HTML-CATALOG-FILE	Controls the name of the HTML Catalog file. This file is an HTML file that contains a list of HTML reports that have been created and cataloged.
HTML-PRE-INDEX	This is the name of a template file that controls the format and layout of the HTML Report Index file. HTML Report Index files are created only when the number of pages in the report exceeds the value in the HTML-PAGES-PER-DOC parameter.
HTML-PRE-PREFIX	This is the name of a template file, containing HTML code, that prefixes HTML output files.
HTML-PRE-POSTFIX	This is the name of a template file, containing HTML code, that postfixes HTML output files.

HTML-OUTPUT-TYPE	This parameter contains the file type (extension) of HTML output files.
NULL-TEXT	When using XENTIS/File and writing to an SQL database, if this parameter contains a value and a text field's value equals the value of this parameter, then XENTIS/File will write a NULL to the SQL database instead of the field's value. The SQL-FILE-WRITE parameter must be set to Y for Ingres, Rdb, or Sybase.
NULL-NUMERIC	When using XENTIS/File and writing to an SQL database, if this parameter contains a value and a numeric field's value equals the value of this parameter, then XENTIS/File will write a NULL to the SQL database instead of the field's value. The SQL-FILE-WRITE parameter must be set to Y for Ingres, Rdb, or Sybase.
SQL-FILE-WRITE	Controls whether or not XENTIS/File uses SQL when writing records to an Ingres, Rdb, or Sybase database. If set to Y, SQL will be used. If set to N, the existing low level callable interface is used. The shipped value of this parameter is Y.
NU-IS-TEXT	Allows fields with NU data type to be used as a text field. To use this feature the parameter value should contain one or more file designator flags, A through R, to signify which files this parameter applies to. To use this parameter on files A and C only, then give the parameter a value of AC.
NZ-IS-TEXT	Allows fields with NZ data type to be used as a text field. To use this feature the parameter value should contain one or more file designator flags, A through R, to signify which files this parameter applies to. To use this parameter on files A and C only, then give the parameter a value of AC.
NR-IS-TEXT	Allows fields with NR data type to be used as a text field. To use this feature the parameter value should contain one or more file designator flags, A through R, to signify which files this parameter applies to. To use this parameter on files A and C only, then give the parameter a value of AC.
NL-IS-TEXT	Allows fields with NL data type to be used as a text field. To use this feature the parameter value should contain one or more file designator flags, A through R, to signify which files this parameter applies to. To use this parameter on files A and C only, then give the parameter a value of AC.
TDA-IS-TEXT	Allows fields with TDA data type to be used as a text field. To use this feature the parameter value should contain one or more file designator flags, A through R, to signify which files this parameter applies to. To use this parameter on files A and C only, then give the parameter a value of AC.
MDY-IS-TEXT	Allows fields with MDY data type to be used as a text field. To use this feature the parameter value should contain one or more file designator flags, A through R, to signify which files this parameter applies to. To use this parameter on files A and C only, then give the parameter a value of AC.
DMY-IS-TEXT	Allows fields with DMY data type to be used as a text field. To use this feature the parameter value should contain one or more file designator flags, A through R, to signify which files this parameter applies to. To use this parameter on files A and C only, then give the parameter a value of AC.
DFLT-MULT-RECORDS	This parameter controls the default response for the "Does this key have multiple records". The valid values are Y, for a default of Yes, N, for a default of No, and A, for a default of Automatic. Automatic indicates that the software should determine the default automatically as it has done in previous versions. The shipped value of this parameter is A.
DISPLAY-WARNINGS	Controls whether or not warning messages are displayed during the dialogue phase at the user's terminal. Only Y or N are valid values. The shipped value of this parameter is Y.
SEGMENTED-CALCS	Specifies whether or not the software should segment the calculation expressions so the each expression is performed only when it is needed. The valid values are Y or N. The shipped value is Y.
ORACLE-GFLOAT	Controls whether the Oracle interface uses G-Float or D-Float for 8 byte floating point processing. Normally Alpha systems use G-Float and VAX systems use D-Float. The valid values are Y or N. The shipped value is Y.

CENTURY-ADJUST	This parameter helps the user control which century a date belongs to when the date field uses only 2 characters for the year. If the parameter contains a value of 1 through 99, then a century adjustment may occur on certain date data. If the two digit year is less than the parameter value, then XENTIS will assume the date is for the year 2000 or later, otherwise it will assume the date is for the year 1999 or earlier. This parameter applies only to D1, D3, D5 calculation functions, TDA, MDY, DMY, JTD and user written date data types that return valid 19 <sup>th</sup> century dates.
DMACS-POLICY	This parameter is used only when XENTIS/Update is deleting records and the default data dictionary is a Maxcim ECB. It controls where a copy of the deleted record is written to the DMACS file. A value of 1 indicates that the deleted record should be placed in the first record slot in the DMACS file, while a value of 2 means the second record slot should be used. To be consistent with prior versions of XENTIS, the shipped value of this parameter is 1.

## **Setup Parameters New to Version 4.4**

HISTORY-FILE	This parameter controls the name of this history file. A new history record will be written to the history file whenever XENTIS exits. If the filename is null, invalid, or cannot be written to, no history record will be written, and no error will be displayed. This parameter should contain a valid OpenVMS filename or should be two quotation marks, “ ”.
SEGMENTED-SELECT	Controls whether or not segmented selection logic should be used. Segmented selection logic will normally improve the performance of reports that use selection expressions that reference many files. Only Y or N are valid values. The default value is Y.
PROMPT-LIT-INPUT	Specifies whether prompted literals receive their input from SYSS\$INPUT or from SYSS\$COMMAND. The valid values are I for SYSS\$INPUT and C for SYSS\$COMMAND. The default value is I. Setting this parameter to C is useful when a report is to be run from the context of a DCL command file and the responses to the prompts are to come from a terminal.
TEMP-DROP-PRIV	This parameter controls whether or not privileges should be dropped when a file described by a temporary dictionary is used. This assumes that the XENTIS images have been installed with privileges. Only Y and N are valid values. The default value is Y.
ALLOW-TEMP-UPDATE	Controls whether or not XENTIS/Update is allowed to update a file that is described by a temporary dictionary. Only Y and N are valid values. The default value is N.
JOIN-SUGGEST-LOC	Specifies the location of the Join Suggestion Files. This parameter should contain a device and a directory, or a logical that translates to a device and a directory. The default value for this parameter is XENTIS\$JOIN:.
FLOAT-LEFT-PAREN	When using the surrounding-parenthesis-if-negative feature of numeric print masks, the left parenthesis can be stationary or it can float next to the left most printing character. A Y value allows it to float, while an N value requires it to be stationary. The default value is N.
RIGHT-MARGIN	This parameter controls the default right margin of the title lines. Only numbers between 0 and 999 inclusive are valid. A value of 0 indicates that XENTIS should automatically determine the right margin. This parameter also affects the SPREAD command and the DUMP command.
STATS-ON-REPORT	A Y or N value that indicates whether final performance statistics should be printed at the bottom of the report. The default value is N.
UPDATE-LOG-NAME	Controls the name of the XENTIS/Update log file. Any valid filename is acceptable. The filename may include any one or more of the following place holders; %C%, %D%, %T%, %X%. The %C% place holder will have the XENTIS Command File name put in its place. The %D% place holder will have the current date put in its place. The %T% place holder will have the current time put in its place. And the %X% place holder will have the current date and time, in a format used by older versions of XENTIS, put in its place.
FIRST-KEY-RANGE-DEL	Specifies the character that will be used as a delimiter when multiple ranges of the <b>First/Last key to read</b> response are used. The default value is a semicolon, ‘;’.



## Setup Parameters New to Version 4.3

TITLE-CTL-FILE	Specifies the name of the title control file. The title control file describes and controls the layout of the title lines of a report, the top 4 lines. If not specified otherwise, XENTIS will look for the file in the XENTISnn\$REPORT\$DATA directory. Read the comments found inside this file for more information.
REGISTRY-FILE	Specifies the name of the registry file. XENTIS writes a record to the registry file whenever a XENTIS Command File (XCF) or and XENTIS Compile Command File (XCC) is used. Each record in this file contains the date, the time, and the filename of the command file used. To disable this feature use a parameter value of “ ”.
DFLT-CMD-NEW	Specifies the default location, device and/or directory, to store newly created XENTIS Command Files. See also DFLT-CMD-LOC.
DFLT-INDEX-TYPE	The file extension given to new indexed files generated by XENTIS/File. The filename for an indexed file is ALWAYS the output filename with the DFLT-INDEX-TYPE extension. Default setting INDEXED. See also DFLT-SEQ-TYPE.
DFLT-BREAK-DESC	The default break description. Two special codes are used within the default break description, ~F~ and ~M~, which results in the substitution of the current break field and of the current break print mask respectively.
END-REPORT-MSG	The end of report message. If the parameter value contains one or more print mask characters, #, then XENTIS will format the end of report message with the number of records processed in the printing phase.
SHIFT-SIZE	Controls the number of characters to shift, or pan, when a SHLEFT or SHRRIGHT command is used without a value, or when the PF1-Left or PF1-Right key combinations are pressed. The default value is 20.
FIRST-KEY-DELIM	A single character that specifies the delimiter to use when multiple fields or segments are entered by the user at the ‘First key to read’ and the ‘Last key to read’ prompts. The default delimiter is a comma.
FINAL-FF	Specifies whether or not a form-feed is printed at the end of the report. The valid values are Y and N only. The default value is Y. See also INITIAL-FF.
DISABLE-PRIOR-BATCH	Controls whether or not the priority setting parameters are disabled when operating in batch. Useful if XENTIS images are given privilege to raise priorities. Valid values are Y and N only.
DFLT-NEW-FLD-NONE	Determines whether or not the default for a new report field, sort field, or break field should be NONE or should no default be displayed. Valid values are Y and N only. The default value is Y, meaning NONE will be the default.
AUTO-WIDE	Specifies whether or not, when operating in display mode, the terminal shifts from an 80 column screen to a 132 column screen automatically when the report format exceeds 80 columns. Valid values are Y and N only. The default value is Y.
LOGICAL-PASSWORD	Controls whether the Logical Password feature is turned on or off. If the feature is turned on, then whenever the user enters a password to gain access to a data dictionary, XENTIS will assume the user entered a logical that needs to be translated. XENTIS then uses the translated value. If there is no translated value, XENTIS will use the value entered by the user. When writing command files, XENTIS will write what the user entered, not the translated value. Translation does not occur while editing password in a XENTIS dictionary. The valid values for this parameter are Y and N only. The default value is N.
FIELD-ORDER	Controls the sort order of the fields displayed in the info window. Valid values are A, N, or F. A indicates alphabetical field name followed by file number. N indicates file number followed by field number. F indicates file number followed by alphabetical field name. The default value is N.
CDD-DROP-PRIV	Only governs XENTIS images installed with privileges. Allowed parameter values are Y and N. If the parameter value is Y, then XENTIS will drop its privileges when it attempts to open a data file that is described by the CDD.

## Setup Parameters New to Version 4.2

EXCEPTIONS	Determines if records are written to an exceptions file when using XENTIS/File. If set to Y, then records that cannot be written to the output file will be written to an exceptions file. If set to N, then records will not be written to an exceptions file.
EXCEPTION-FILE	Defines the name of the exceptions file when XENTIS writes records to an exceptions file. The default name is XENTIS_EXCEPTIONS.DAT.
DFLT-DATE-MASK	Defines the default print mask to use when the data dictionary does not supply a print mask. This parameter is also used for date calculation results.
ENHANCE-HEADING	Controls whether or not default column headings will be enhanced to replace certain characters with a space or to capitalize words. This is shipped with a value of Y.
DISPLAY-FUNC	Controls whether or not the XENTIS functions will be displayed in the info window. The allowable values are Y to display all functions, L to display only licensed functions, or N to not display functions.
ABORT-IF-ERR-BATCH	This parameter controls whether XENTIS will abort if an error occurs in the dialogue and the program is executing in batch. If set to Y, then it will abort in a manner such that DCL error trapping will detect the error.
ADJUST-MASK	Controls whether or not the print mask will be prefixed with spaces when heading justification is C or R and the heading is larger than the print mask. This will result in the data being centered or right justified under the print mask. Allowable values are Y or N.
RDB-USE-ATTACH	Controls how XENTIS connects to Rdb databases for those customers using the XENTIS/Rdb interface. Set this to Y if using Rdb V4.1 or later, otherwise set it to a value of N.
BARCODE-TYPE	Controls the type of bar code produced. This is shipped as CODE39. See Appendix I for a complete list of valid types.
BARCODE-PRINTER	Controls the format of barcode output. This is shipped as EPSON9. See Appendix I for a complete list of valid printer types.
BARCODE-SUBSET	Controls the code subset for CODE128 bar code types. Valid values are X (automatic code control), A (code subset A), B (code subset B), or C (code subset C).
BARCODE-FLAG	Defines what the flag character is for characters to be barcoded. This is shipped as the tilde (~).
BARCODE-HEIGHT	Controls the vertical height of the bar code. Valid values are 1 through 20.
BARCODE-PASSES	Controls the number of passes that will be performed for dot matrix printers. Valid values are 1 through 5.
BARCODE-RATIO	Controls the wide-to-narrow ratio for CODE39, EXT39, and INT25 bar codes. Valid values are 1 through 3.
BARCODE-DENSITY	Controls the dot width of vertical bars or spaces in the bar code. Valid values are 1 through 6.
BARCODE-LPI	Controls the number of lines per inch that will be used on the printer when the output file is printed. Valid values are 2 through 20.
BARCODE-CPI	Controls the number of characters per inch that will be used on the printer when the output file is printed. Valid values are 2 through 20.
BARCODE-CAPTION	Controls whether or not a text caption, or value, of the bar code is printed below the bar code. Allowable values are Y or N.
BARCODE-COLLAPSE	Controls whether or not spaces are removed from bar code data before converting it into a bar code. Allowable values are Y or N.
BARCODE-CHECKSUM	Controls whether or not a checksum is generated automatically for bar code types that have optional checksums. Allowable values are Y or N.

BARCODE-PORTRAIT	Controls whether or not the output is printed in landscape or portrait mode. Allowable values are Y or N. Set this parameter to N if the output is to an HP Laserjet printer and the output is being printed in landscape mode.
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## Setup Parameters New to Version 4.1

READ-LIMIT	Limits the number of records read from the primary file. Zero indicates that no limit will be imposed. The limit imposed here cannot be increased by your response to the <b>Number of records to select/read</b> prompt.
SELECT-LIMIT	Limits the number of record groups (details) selected. Zero indicates that no limit will be imposed. The limit imposed here cannot be increased by your response to the <b>Number of records to select/read</b> prompt.
BATCH-DIALOGUE	When running a report in batch, this value controls whether or not the report dialogue appears in the standard VMS batch log file.
DISPLAY-FREQ	Controls whether or not the Info Window displays the allowed values for the Print Freq (frequency) prompt.
DISPLAY-HEAD	Controls whether or not the Info Window displays the allowed values for the <b>Justify Heading</b> or the <b>Column Attributes</b> prompt.
DISPLAY-MASK	Controls whether or not the Info Window displays the allowed values for the <b>Print Mask</b> prompt in display mode.
DISPLAY-ACCUM	Controls whether or not the Info Window displays the allowed values for the <b>Accumulate Level</b> prompt in display mode.
DISPLAY-YESNO	Controls whether or not the Info Window displays the allowed values of Yes and No for display mode prompts that allow Y or N answers.
USE-KEY-NAME	Determines whether or not XENTIS is to use key names. If Y, then the Key Section of the dialogue uses key names in its defaults, and key names are written to XCF files. If N, key names are not used, and key numbers are used.
AUTO-ERASE	Controls how input fields that display defaults are handled. If Y, then entering any character in the first character of an input field will cause the rest of the field to be erased.
DFLT-NEW-SEQ	Provides the default value for the /File <b>Create New Sequential File</b> prompt. Allowed values are Y, N, and H.
CACHE-LIMIT	Determines whether or not a record cache will be used when accessing RMS files. A record cache stores the most recently accessed records in memory to speed repetitive access. This parameter establishes a limit number of records that can be cached. If set to 0, caching will not be used. This parameter may not exceed 100. Caching has not been implemented for XENTIS/Update, for SQL based databases, nor on target files that have one-to-many relationships.
DFLT-CACHE	This parameter establishes the number of records to be cached, if not overridden by a "/CACHE=n" response to the Key prompt for a file. If set to 0, but caching is to be used (see CACHE-LIMIT, above), will require each report to specify a cache size if caching is to be used. This parameter may not exceed the value of CACHE-LIMIT.
SQL-READ-ONLY	When using SQL data bases, determines whether transactions will be Read/Write or Read-only. If Y, then Read-only transaction are used. If N, Read/Write transactions are used. This parameter has no affect if the database is Sybase.
HEADING-UNDERLINE	Controls whether XENTIS prints a row of dashes below column headings. If Y, dashes are printed. If N, they are not.
TOTAL-OVERLINE	Determines whether XENTIS automatically prints a row of dashes above any accumulated fields. If Y, dashes are printed. If N, they are not.
ATTR-FILE	Defines the name of the file XENTIS will use when looking for Print Attributes. The default name is XENTIS_ATTRIBUTES.DAT. If you change this file name, do not use a name with a ".DAT" extension.
IGNORE-TIME	Determines whether XENTIS uses the time portion of date/time fields for comparisons and breaks. If N, then XENTIS uses time. If Y, XENTIS ignores the time.

ALLOW-3GL	Determines whether or not XENTIS calls user-written routines. If N, then XENTIS does not call such routines. If Y, XENTIS will call user-written routines.
DFLT-SKIP-BTWN	Determines the default for the <b>Lines to skip between</b> details prompt.
GT-DESC-1	The value for this parameter contains the long grand total description.
GT-DESC-2	The value for this parameter contains the short grand total description.
QUERY-CLT	Determines whether the <b>Do you wish to have Calc-On-Totals</b> prompt is issued in QUERY.

## *Setup Parameters New to Version 4.0*

SQL_JOIN	When using a relational database with XENTIS, specifies whether the database or XENTIS joins tables. If Y, the database engine joins tables whenever possible. If N, XENTIS joins tables. In general, it is much more efficient for the database to join tables. Having this parameter set to N is supported primarily for the purpose of executing reports defined prior to version 4.0.
SQL-SORT	When using a relational database with XENTIS and SQL-JOIN is assigned a value of 'Y', specifies whether the database (when able to do so) or XENTIS sorts the report if sort fields are entered. If Y, the database sorts the report. If N, XENTIS sorts the report.
RMS-INP-BUFFERS	Controls the number of RMS buffers used by XENTIS for RMS input files. See the RMS manual for allowed values.
RMS-OUT-BUFFERS	Controls the number of RMS buffers used by XENTIS for RMS output files. See the RMS manual for allowed values.
RMS-EXTEND	Controls the extension quantity for RMS output files. See the RMS manual for allowed values.
PREEXTEND-OUTPUT	Determines whether or not the size of the output file is estimated and disk space allocated at the time the output file is created. If Y, disk space is allocated. If N, disk space is not allocated.
SORT-WORK-FILES	Controls the number of work files used during sorting. Use the sort logicals documented in the VMS sort documentation to control where the sort files are placed on your system. See the VMS sort documentation for allowed values.
SORT-TAG-SORT	Specifies whether a tag sort or a record sort is performed during sorting. If Y, XENTIS performs a tag sort. If N, XENTIS performs a record sort. A tag sort can yield improved performance when the sort key is small compared to the sort record and a large number of records are being processed.
TEMP-DICT-TYPE	Determines the file type (extension) for temporary dictionaries used with /File. Default setting: TEMPDICT
GUIDE-MENU	Determines whether or not guide menu is used in DISPLAY mode. If Y, guide menu is used. If N, guide menu is not used.
WRITE-SET-CMDS	Determines whether or not SET commands are stored in uncompiled report definitions. If Y, SET commands are written. If N, they are not.
KEYS-FROM-FILE	Specifies whether key information is determined from the actual data file or the data dictionary. If Y, key information is determined from the actual data file (key information in the dictionary is ignored). If N, key information is determined from the dictionary. When using a XENTIS dictionary and an actual file that contains more than nine keys, you may use more than nine keys in XENTIS by assigning a value of 'Y'.
SELECT-IS-RETURN	Specifies whether or not the SELECT key, when pressed, types the response highlighted in the Info window and issues <Return>. If Y, the SELECT key types the response and issues <Return>. If N, the SELECT key types the response without <Return>.
FIND-DEFAULT	Specifies whether the highlighter bar in the Info window starts on the default response if a default is provided by XENTIS or the highlighter bar starts in the upper left-hand corner of the Info window. If Y, the highlighter bar starts on the default response. If N, the highlighter bar starts in the upper left-hand corner.

INITIAL-FF	Specifies whether or not an initial form feed is included in output files. If Y, an initial form feed is included. If N, an initial form feed is not included. See also FINAL-FF.
TEXT-IS-STRING	Specifies whether text fields are processed unchanged or if ASCII formatting characters and nulls are removed before processing. If Y, text-class fields are processed unchanged. If N, ASCII formatting characters and nulls are removed before processing. If you have data fields that contain null characters and you want them removed during report processing, then set TEXT-IS-STRING to N.
DISPLAY-QUEUE-NAMES	Determines whether queue names are displayed in the Info window at the <b>Printer queue name</b> prompt. If Y, queue names are displayed in the Info window. If N, queue names are not displayed in the Info window.
DISPLAY-FORM-NAMES	Determines whether form names are displayed in the Info window at the <b>Form name</b> prompt. If Y, form names are displayed in the Info window. If N, form names are not displayed in the Info window.
MAX-WRAP	Specifies the maximum number of print lines allowed with the word wrap feature. Allowed values are 1 to 100.
ADABAS-MAX-OCCURS	This parameter is no longer used.
ADABAS-DDM-FILE	This parameter is no longer used.
DFLT-SUP-TITLE	The default to the <b>Suppress title lines</b> prompt. Allowed values are Y and N.
DFLT-SUP-HDING	The default to the <b>Suppress heading lines</b> prompt. Allowed values are Y and N.
DFLT-SUP-DET	The default to the <b>Suppress details</b> prompt. Allowed values are Y, N, and B.
CONVERT-SEGMENTS	When matching a key field to a field in a previous file, determines whether the data type of the key field must exactly match the data type of the field in the previous file (or literal entered by the user) or the data type of the key field must be the same data-class as the field in a previous file. If Y, the data-class must match (data types are converted). If N, the data type must match (data types are not converted).
DISPLAY-INTERVAL	Determines the message display interval of number of records read. During processing, when the number of records read equals the value assigned to this parameter, XENTIS displays a 'number of records read' message. Allowed values are 0 or a positive integer.
DISPLAY-KEY-NAME	When using DISPLAY mode, controls whether a key name (index name) or a key description is displayed in the Info window. The key name is the name assigned to the index at the time it was created. If a key name does not exist, XENTIS creates a name. The key description is created by XENTIS using the names of the fields included in the key. If Y, the key names appear. If N, the key descriptions appear.

## Software ID Parameters

VERSION	The XENTIS version number in the format VX.X.
LICENSEE	The name of the firm that purchased the XENTIS license. The licensee name is displayed when XENTIS is initialized.
COMPANY	The company name used as the default in the first line of a report.

## File Locations and Naming Parameters

USER-SETUP	The name of the User Setup File. Default setting: SETUP.DAT
CATALOG-FILE	The name of the file that contains command file catalog entries. Default setting: XENTIS.XDX
PASS-FILE-1	The name of the MAXCIM password file. Has no effect with MAXCIM version 4 and higher. Default Setting: DMPWS
PASS-FILE-2	The name of the MAXCIM password file used if the password file specified in PASS-FILE-1 is unavailable. Has no effect with MAXCIM version 4 and higher. Default Setting: NCA\$X:ZZXPWS.NCA

BATCH-CTL-FILE	The name of the batch control template file. This file should be in the directory assigned to the logical XENTISnn\$REPORT\$DATA, where 'nn' is the version number. Default setting: XENTISBAT.DAT
COM-CTL-FILE	The name of the command file template file. This file is used as a template when creating a DCL command file from a saved report definition using the 'Create DCL command file from report def'n' option on the XENTIS System Utilities Menu or when entering 'C' at the <b>Execute</b> prompt. This file should be in the directory assigned to the logical XENTISnn\$REPORT\$DATA, where 'nn' is the version number. Default setting: XENTISCOM.DAT
MODEL-CTL-FILE	The name of the default modeling control file.
ACTIVITY-FILE	The name of the MAXCIM activity file. Default Setting: DMACS
DFLT-CMD-TYPE	The default file extension of XENTIS command files. Default setting: XCF
DFLT-COMP-TYPE	The default file extension of compiled XENTIS command files. Default setting: XCC
DFLT-SUBS-TYPE	The default file extension of XENTIS substitution files. Default setting: XCS
DFLT-SAVE-TYPE	The default file extension of XENTIS pointer files. Default setting: XEN
DFLT-DATA-TYPE	The default file extension of XENTIS data files. Default setting: DAT Required setting for MAXCIM users: NCA
DFLT-SEQ-TYPE	The file extension given to sequential files generated by XENTIS /File. The filename for a sequential file is ALWAYS the output filename with the DFLT-SEQ-TYPE extension. Default setting: SEQ
DFLT-CMD-LOC	Specifies the default location, device and/or directory, to retrieve and store and to retrieve XENTIS command files. Default VMS filename processing occurs.

## ***Security Related Parameters***

ALLOW-SPAWN	Specifies whether users are allowed to use the reporting commands SPAWN and ATTACH to create or attach to a VMS sub-process. Allowed parameter values are Y and N.
ALLOW-DIR	Specifies whether users are allowed to use the reporting command DIR to obtain a directory listing. Allowed parameter values are Y and N.
ENCRYPT-PASSWORD	Specifies whether passwords are hidden in .XCF and .COM files. If Y, passwords are hidden. If N, passwords are not hidden.
ALLOW-UPD-FUNC	Specifies whether users are allowed to use the /Update function. Allowed parameter values are Y and N.
ALLOW-REUPDATE	Specifies whether users are allowed to use the REUPDATE function. Allowed parameter values are Y and N.
ALLOW-FILE	Specifies whether users are allowed to use the FILE function. Allowed parameter values are Y and N.
REQUIRE-EMPTY-FILE	When using /File, specifies whether or not the output file must be empty. If Y, the output data file must be empty in order to use it with /File. If N, the output data file may already contain records.
DROP-PRIV	Specifies whether the VMS privileges attached to XENTIS are dropped when opening a data file. Using the INSTALL utility, XENTIS may have VMS privileges that take precedence over a user's normal VMS privileges. If Y, the XENTIS VMS privileges are dropped when opening a data file. If N, the XENTIS VMS privileges are not dropped. DROP-PRIV no effect for MAXCIM V4.0 and higher.
FILE-DROP-PRIV	Specifies whether the VMS privileges attached to XENTIS are dropped when opening an output file in the /File option. Using the INSTALL utility, XENTIS may have VMS privileges that take precedence over a user's normal VMS privileges. If Y, the XENTIS VMS privileges are dropped when opening an output file. If N, the XENTIS VMS privileges are not dropped.

ALLOW-ACTUAL	Specifies whether users are allowed to use the ACTUAL/GENERIC syntax at any of the file prompts. This parameter applies to files described by the CDD. Allowed parameter values are Y and N. If N, then RMS files can be accessed only if a Datatrieve domain is defined for the desired data file.
OTHER-DIR	Specifies whether users may access other directories. Allowed parameter values are Y and N.

## Initialization Parameters

DIALOGUE-PRIORITY	The process priority used by XENTIS to change the CPU priority of the process during the dialogue phase. Allowed values are VMS priorities.									
START-IN-DISPLAY	When using any /Report menu option except 'Run an existing report' or Modify an existing report', specifies whether to start a dialogue session in DISPLAY or NODISPLAY mode. Y for DISPLAY mode, N for NODISPLAY mode.									
START-IN-DISPLAY-CMD	When using the /Report menu options 'Run an existing report' or Modify an existing report', specifies whether to start a dialogue session in DISPLAY or NODISPLAY mode. Y for DISPLAY mode, N for NODISPLAY mode.									
RULER-BAR-START	The line number position of the Moveable Ruler Bar when the dialogue first begins in DISPLAY mode. XENTIS is shipped with a standard of 12. Allowed parameter values are 4 – 15. Adjustments are automatically made for terminals that display more than 24 lines.									
DISP-TRAIL-SPACES	Specifies whether to display trailing spaces on screen lines in DISPLAY mode. If Y, spaces are displayed. If N spaces are not displayed. XENTIS is faster while operating in DISPLAY mode if the trailing spaces are not displayed but the quality of display may be affected if non-DEC terminals or reverse video are used.									
DISP-HELP-BAR	Specifies whether to display the mini-help bar in DISPLAY mode. If Y, the mini-help bar is displayed. If N, it is not displayed.									
DISP-SECTION	Specifies whether the current dialogue section title is displayed on the locator bar in DISPLAY mode. If Y, the current dialogue section title is displayed. If N, it is not displayed.									
DISP-PROMPTS-AHEAD	Specifies whether all prompts available display on the screen before issued in DISPLAY mode. If Y, XENTIS will display all prompts available before issued. If N, the prompts will be displayed as they are issued.									
DISCARD-AFTER-RET	Specifies whether characters to the right of the cursor are automatically discarded when <Return> is pressed. If Y, XENTIS automatically discards any characters to the right of the <Return> in the response. If N, XENTIS includes any characters to the right of the <Return>.									
DFLT-FUNC	The default at the <b>Function</b> prompt. Allowed parameter values are: <table><tr><td><b>R</b> (Report)</td><td><b>Q</b> (Query)</td><td><b>S</b> (Select)</td></tr><tr><td><b>F</b> (File)</td><td><b>W</b> (Word)</td><td><b>G</b> (Graphics)</td></tr><tr><td><b>M</b> (Model)</td><td><b>U</b> (Update)</td><td><b>C</b> (Columnar)</td></tr></table>	<b>R</b> (Report)	<b>Q</b> (Query)	<b>S</b> (Select)	<b>F</b> (File)	<b>W</b> (Word)	<b>G</b> (Graphics)	<b>M</b> (Model)	<b>U</b> (Update)	<b>C</b> (Columnar)
<b>R</b> (Report)	<b>Q</b> (Query)	<b>S</b> (Select)								
<b>F</b> (File)	<b>W</b> (Word)	<b>G</b> (Graphics)								
<b>M</b> (Model)	<b>U</b> (Update)	<b>C</b> (Columnar)								

## Input File Accessing Parameters

ALLOW-MULTI-DICT	Specifies whether users may access multiple dictionaries. Allowed parameter are Y and N.
HEADER-RECORD	Indicates whether relative files contain a header record. If Y, a header record exists. If N, a header record does not exist. A header record is the first record in a data file. The first four bytes of a header record is a longword integer field containing the number of records in the file (including the header record). When using Relative auxiliary files, XENTIS automatically increments the record number by one when a header record exists. Default setting: N. Required setting for MAXCIM users: Y.
DFLT-EXCL-SHARE	The default for the <b>Access allowed</b> prompt. Allowed parameter values are S (Shared), P (Protected), and E (Exclusive).

ALLOW-EXCL	Specifies whether to allow E as a response to the <b>Access allowed</b> prompt. Allowed parameter values are Y and N.
ALLOW-PROT	Specifies whether to allow P as a response to the <b>Access allowed</b> prompt. Allowed parameter values are Y and N.
ALLOW-SHAR	Specifies whether to allow S as a response to the <b>Access allowed</b> prompt. Allowed parameter values are Y and N.
DFLT-MULT-FILE-ACC	The default for the <b>Access auxiliary files simultaneously</b> prompt. Allowed parameter values are Y for simultaneous processing and N for hierarchical processing.

## **Key Access Parameters**

DFLT-MISSING	The default for the <b>Replace missing data with zeros/nulls</b> prompt. If Y, missing records in auxiliary files are replaced with zeros/nulls. If N, missing records are not replaced.
REL-FILE-EXTENSIONS	Specifies whether extended processing for relative auxiliary files is allowed. If Y, extended processing (Count, Range, or Link method) is allowed. If N, extended processing is not allowed.
IGNORE-CHARS	Specifies the number of characters in field names to ignore when matching field names for defaults at the key building prompts. Number of characters ignored start with the left-most character in the field name. Allowed values are 0 to the maximum field name size allowed.

## **Calculation Parameters**

DFLT-CALCS	The default for the <b>Do you wish to have calculations</b> prompt. Allowed parameter values are Y and N.
DFLT-CALC-TOTS	The default for the <b>Do you wish to have calculations on totals</b> prompt. Allowed parameter values are Y and N.
DFLT-CALC-MASK	The default print mask for calculation fields. Allowed parameter values are any print mask in the form described in the Field Specification section of the manual.

## **Fielding Parameters**

CDD-INCLUDE-STR	Specifies whether to include all structure or group fields in the list of fields available to the user when using field descriptions stored in the CDD. If Y, all fields are included. If N, structure level fields are excluded.
DFLT-FREQ	The default for the <b>Print frequency</b> prompt. Allowed parameter values are D, T, F, S, U, H, 0 through 9.
HEAD-DELIM	Specifies the single character that separates lines in a stacked column heading. Allowed parameter value is any single character. Default setting: /
DFLT-COL-HDING-JUST	The default for the <b>Justify heading</b> prompt. Allowed parameter values are C (Centered), L (Left-justified), or R (Right-justified).
DFLT-BETWEEN-COL	Specifies the default number of spaces between columns in a report. Allowed parameter values are integers greater or equal to zero.
POS-CALC	Specifies how the position of a field in a report is calculated. If L, the first available print position from the left is selected. If R, the first available print position from the right is selected.
POS-RECALC	Specifies whether print positions are recalculated when returning to fields already selected in a report. If Y, print positions are recalculated. If N, print positions are not recalculated. Refer to the XENTIS RECALC and NORECALC commands.
DFLT-ACCUM	The default for the <b>Accumulate level</b> prompt. Allowed parameter values are N, T, S, 0 through 9.



ACCUM-IF-UNIQUE	Specifies whether a field is accumulated only when a new record is encountered. This is useful when accumulating fields from a primary file and the secondary file has multiple records and a field from the primary file has a value independent of the order of the auxiliary file detail records. If Y, fields are accumulated only when a new record is encountered. If N, fields are accumulated regardless of whether a new record is encountered.
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## Selection Parameters

DFLT-SELECTS	The default for the <b>Do you wish to have selection logic</b> prompt. Allowed parameter values are Y and N.
DFLT-SEL-TYPE	The default for the <b>Selection will be AND, OR, or COMPLEX</b> prompt. Allowed parameter values are A (And), O (Or), or C (Complex).
ERR-IF-NO-SELECT	Specifies whether a fatal error message is issued if no records are selected during processing. An error message is useful when running multiple reports in batch. If Y, an error message is issued if no records are selected. If N, an error message is not issued.

## Sorting Parameters

DFLT-SORTS	The default for the <b>Do you wish to have a sort</b> prompt. Allowed parameter values are Y and N.
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## Breaking Parameters

DFLT-BREAKS	The default for the <b>Do you wish to have break logic</b> prompt. Allowed parameter values are Y, N, and S.
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## Report Formatting Parameters

DFLT-OUTPUT	The defaults for the <b>Output File/Device</b> prompt. A full file specification is allowed. Standard VMS default file specification processing will be used. Default setting: SYS\$DISK:XENTIS.LIS
DFLT-QUE-PRT	The default for the <b>Queue to system printer</b> prompt. Allowed parameter values are Y and N.
DFLT-PRT-QUE	The default for the Printer queue name prompt.
DFLT-QUE-FORM	The default for the <b>Form name</b> prompt.
DFLT-QUE-DEL	The default for the <b>Delete after printing</b> prompt. Allowed parameter values are Y and N.
DFLT-QUE-PRI	The print queue priority used by XENTIS when queuing a file to a printer. Allowed parameter values are VMS queue priorities.
LINES-TO-PRINT	The default to the <b>Lines to print on page</b> prompt if <b>Output file/device</b> is anything other than a terminal device. Allowed values are 0, -1, or a positive integer. If assigned a value of '0', then the default is the value assigned to DFLT-PAGE-SIZE minus six. If assigned a value of '-1', then the default is the value of the highest print line specified in the report. If assigned a value greater than 0, then the default is that value.
DFLT-PAGE-SIZE	The default to the <b>Page size</b> prompt if <b>Output file/device</b> is anything other than a terminal device. Allowed values are -1 or a positive integer. If assigned a value of '-1', then the default is the value entered at the <b>Line to print on page</b> prompt. If assigned a value greater than 0, then the default is that value.
DFLT-SUP-BLANK-BRK	The default to the <b>Suppress blank subtotals</b> prompt. Allowed parameter values are Y and N.
DFLT-SUP-ERROR	The default to the <b>Suppress error messages</b> prompt. Allowed parameter values are Y and N.
PRINT-PRODUCT	Specifies whether the product name is printed in report headings. If Y, the product name is printed. If N, the product name is not printed.

PRINT-VERSION	Specifies whether the version string is printed in report headings. If Y, version number is printed. If N, version number is not printed.
PRINT-PAGE	Specifies whether 'PAGE' and page number are printed in report headings. If Y, 'PAGE' and page number are printed. If N, 'PAGE' and page number are not printed.
PRINT-DATA-FILENAME	Specifies whether primary and auxiliary filenames used to create a report are printed in report headings. If Y, filenames are printed. If N, filenames are not printed.
PRINT-TIME-OF-DAY	Specifies whether the time of day is printed in report headings. If Y, time of day is printed. If N, time of day is not printed.
PRINT-DATE	Specifies whether the date is printed in report headings. If Y, date is printed. If N, date is not printed.
PRINT-CMD-FILENAME	Specifies whether the command filename is printed in report headings. If Y, the command filename is printed. If N, the command filename is not printed.
FF-OR-COUNT	Specifies whether multiple page reports use form feeds or line feeds between report pages. If F, a form feed is inserted between pages. If C, the number of lines to skip are counted and inserted with line feeds between pages. If T, works the same as F unless title lines are suppressed; if so, form feeds are suppressed.
POSITION-PAPER	Specifies whether the user is prompted to position paper when output device is a printer. Allowed parameter values are Y and N.
FIELD-TYPE-3	Specifies whether to fill the leading spaces in a data type ZT field with blanks or zeros. If Z, the leading spaces are filled with zeros for numeric values and left-justified blank filled for non-numeric values. If R, the leading spaces are filled with blanks.
SUPPRESS-END-OF-RPT	Specifies whether the End of Report message is suppressed. Allowed parameter values are Y and N.
GENERATE-REPORT	Specifies whether a report, or output file, is produced if 0 records are selected in a /Report or /File run. Allowed parameter values are Y and N.

## **Command File Parameters**

DFLT-WRITE-CMD	The default to the <b>Write these responses to a command file</b> prompt. Allowed parameter values are Y and N.
DFLT-COMPILE-COMFILE	The default to the <b>Do you want to compile this command file</b> prompt. Allowed parameter values are Y and N.
DFLT-CAT-COM-FILE	The default to the <b>Do you want to catalogue this command file</b> prompt. Allowed parameter values are Y and N.
REQ-NEW-CMD-FILE	Specifies whether a new command file must be saved if the selection logic is changed. Allowed parameter values are Y and N.

## **Execution Parameters**

DFLT-EXECUTE	The default for the <b>Execute</b> prompt. Allowed parameter values are Y (execute interactively), B (execute in batch), O (execute in batch overnight), N (do not execute but create specified files), or C (Create a DCL command file).
ALLOW-EXE-Y	Specifies whether to allow Y as a response to the <b>Execute</b> prompt. Allowed parameter values are Y and N.
ALLOW-EXE-B	Specifies whether to allow B as a response to the <b>Execute</b> prompt. Allowed parameter values are Y and N.
ALLOW-EXE-O	Specifies whether to allow O as a response to the <b>Execute</b> prompt. Allowed parameter values are Y and N.
ALLOW-EXE-C	Specifies whether to allow C as a response to the <b>Execute</b> prompt. Allowed parameter values are Y and N.

## Processing Parameters

SCROLL-FROM-BOTTOM	Specifies whether reports displayed on a terminal (TT: as output device) scroll details from the top or the bottom of the screen . If Y, details are scrolled from the bottom up. If N, details are scrolled from the top down.
DISPLAY-NOW	Specifies whether unsorted reports displayed on a terminal (TT: as output device) display records as they are selected or select all records first, then display. If Y, records are displayed as they are selected. If N, records are selected first, then displayed.
DISPLAY-MSG	Specifies whether processing status messages are displayed during processing. If Y, messages are displayed. If N, messages are not displayed.
SELECT-PRIORITY	The process priority used by XENTIS to change the CPU priority of the process during the selection phase. Allowed values are VMS priorities.
SORT-PRIORITY	The process priority used by XENTIS to change the CPU priority of the process during the sort phase. Allowed values are VMS priorities.
PRINT-PRIORITY	The process priority used by XENTIS to change the CPU priority of the process during the print phase. Allowed values are VMS priorities.
PROMPT-DONE	Specifies whether the <b>Press return to exit</b> message is issued after a report is generated. Allowed parameter values are Y and N.
MENU-DONE	Specifies whether to return to the /Report menu after a report is run or to return to the Function prompt at the start of a new dialogue. If Y, returns to the menu. If N, returns to the Function? prompt.
DISPLAY-DCL	Specifies whether DCL messages are displayed when submitting batch jobs or printing in XENTIS. Allowed parameter values are Y and N.

## Update Function Parameters

DFLT-UPD-OPTION	Specifies the default /Update function. Allowed parameter values are M (Modify) or D (Delete).
MULTI-FILE-UPD	Specifies whether multiple files may be used in the /Update option. Allowed parameter values are Y and N.
ALLOW-KEYS-UPD	Specifies whether key fields can be updated in the /Update option. Allowed parameter values are Y and N.
REQ-ACTIVITY-FILE	Specifies whether the activity file is required. Allowed parameter values are Y (activity file required), L (log file activated), B (both activity and log files used), and N (neither activity nor log files used). Default setting: Y.
EXT-REF-CHECK	Specifies whether external reference checking is included. Allowed parameter values are Y and N. Default setting: Y.

## Batch Processing Parameters

NOW-BATCH-QUE	Specifies the batch queue to use when entering B at the <b>Execute</b> prompt. In addition to the batch queue name, append any DCL qualifiers you want. For example, if you do not want a LOG created when a report is executed with B, NOW-BATCH-QUE is SYSSBATCH:/NOLOG. If you want a LOG created but NOT printed, NOW-BATCH-QUE is SYSSBATCH:/NOPRINT. Default setting: SYSSBATCH
NOW-BATCH-PRI	The batch queue priority used by XENTIS when queuing a file to batch after entering B at the <b>Execute</b> prompt. Allowed parameter values are VMS queue priorities.
NIGHT-BATCH-QUE	Identical to NOW-BATCH-QUE except this parameter is used when O is entered at the <b>Execute</b> prompt.
NIGHT-BATCH-PRI	The batch queue priority used by XENTIS when queuing a file to batch after entering O at the <b>Execute</b> prompt. Allowed parameter values are VMS queue priorities.

NIGHT-BATCH-TIME Specifies the time of day to run batch jobs when entering O at the **Execute** prompt. Use 24 hour military time only. If the parameter value is 6:00 or less, the job is submitted the following day.

### *Which Prompts to Issue for a QUERY:*

In this portion of the Setup File, select the prompts to be issued in a /Query dialogue. If the parameter value is Y, then the prompt is included in the query dialogue. If the parameter value is N, then the prompt is not included.

<i>Parameter Title</i>	<i>Prompt Affected</i>
QUERY-FILE-EXCL-SHAR	Access allowed?
QUERY-CALCS	Do you wish to have calculations?
QUERY-FLD-FREQ	Print frequency? (report fields)
QUERY-FLD-HDING	Column Heading?
QUERY-HDING-JUST	Justify Headings?
QUERY-FLD-MASK	Print mask?
QUERY-FLD-LINE	Print line?
QUERY-FLD-POS	Print position?
QUERY-FLD-ACCUM	Accumulate field?
QUERY-CLT-FREQ	Print frequency? (calc-on-totals)
QUERY-CLT-MASK	Calc on total print mask?
QUERY-CLT-LINE	Calc on total print line?
QUERY-CLT-POS	Calc on total print position?
QUERY-SELECT	Do you want selection logic?
QUERY-SELECT-NUMBER	Number of records?
QUERY-SORT	Do you wish to have a sort?
QUERY-SORT-A-OR-D	Ascending or descending sort?
QUERY-BREAK	Do you wish to have break logic?
QUERY-BREAK-DESC	Break description?
QUERY-BREAK-LINE	Break print line?
QUERY-BREAK-POS	Break print position?
QUERY-BREAK-NUM-BLNK	No. of blanks before/after break?
QUERY-BREAK-TOP	Start printing again at top of page?
QUERY-BREAK-PAGE	Reset page counter?
QUERY-FRMT-PRINT-QUE	Queue to printer?
QUERY-FRMT-FORM	Form name?
QUERY-FRMT-QUE-NAME	Queue name?
QUERY-FRMT-COPIES	Number of copies?
QUERY-FRMT-DEL	Delete after printing?
QUERY-FRMT-LINES	Lines per page?
QUERY-FRMT-PAGE-SIZE	Page size?
QUERY-FRMT-TITLE-1	First title line?
QUERY-FRMT-TITLE-2	Second title line?
QUERY-FRMT-TITLE-3	Third title line?
QUERY-FRMT-SKIP-BTWN	Lines to skip between details?
QUERY-FRMT-SUP-TITLE	Suppress titles?
QUERY-FRMT-SUP-HDING	Suppress heading?
QUERY-FRMT-SUP-DET	Suppress details?
QUERY-FRMT-SUP-BREAK	Suppress blank subtotal lines?
QUERY-FRMT-SUP-GTOT	Suppress grand totals?
QUERY-FRMT-SUP-ERROR	Suppress error messages?
QUERY-FRMT-CMD-FILE	Include command file in output?
QUERY-SAVE-CMD	Save responses in a command file?
QUERY-COMPILE-CMD	Compile this command file?

QUERY-CATALOG-CMD  
QUERY-FRMT-SAVE

Catalogue this command file?  
Save selected records in a file?

## File Dialogue

FILE-DET-OR-SUM

Determines the default to the **Detail or summary** prompt in the /File dialogue. Allowed values are D or S. If D, then the default is D (for detail). If S, then the default is S (for summary).

## Control of Dialogue

AMBIG-GOTO

Determines whether or not XENTIS allows ambiguous GOTO destinations. If Y, then valid GOTO destinations may be abbreviated as long as there are enough characters entered to specify an unambiguous destination. If N, then valid GOTO destinations must be entered in their entirety.

AMBIG-SYMBOLS

Specifies whether XENTIS allows symbol substitution. If Y, then symbol substitution is allowed. If N, then symbol substitution is not allowed.

## Edit Dialogue

EDIT-FILE-MULT

Determines whether XENTIS prompts for another file to edit after exiting an /Edit session. If Y, then XENTIS prompts for another file after exiting. If N, then XENTIS returns to the Main Menu after exiting.

## System Limitation Parameters

MAX-ROW

Determines the maximum number of print lines allowed in /Report. Allowed values are 1 to 100.

MAX-CALCS

Determines the maximum number of calculations allowed. Allowed values are 1 to 100.

MAX-FILES

Determines the maximum number of data files allowed. Allowed values are 1 to 18.

MAX-CLTS

Determines the maximum number of calc-on-totals allowed in /Report. Allowed values are 1 to 40.

MAX-SELECTS

Determines the maximum number of selection expressions allowed in /Report. Allowed values are 1 to 64.

MAX-KEYS

Determines the maximum number of keys and key segments allowed. Allowed values are 1 to 30. Does not apply to XENTIS/Dictionary or XENTIS/Edit.



# Editing Command Files

A command file is a sequential text file, like the Setup File. You can edit command files with a standard text editor, as any other text file, to create partial command files or command files with substitution command lines. Included in this appendix are:

## Partial Command Files

When you want to use the same set of related specifications in more than one report dialogue, create a partial command file.

A partial command file contains sets of related command file dialogue specifications that can be used in any other dialogue. To create a partial command file, use a text editor to modify a full dialogue, saving only the desired portion.

## Command File Substitution

When you want to run the same report repeatedly using different parameters, modify the command file to include substitution prompts and variables in the report dialogue. Command file substitution allows you to insert command lines in a command file. A command line includes a customized prompt, a default response (optional), a list of valid responses (optional), and a variable for the user prompted response that is substituted into the report dialogue.

## Partial Command Files

A partial command file contains a part of a command file that may be used in any report dialogue. Partial command files are helpful when using the same set of related responses in more than one report dialogue.

Create a partial command file for any set, or consecutive sets, of related responses. If sets of responses are not consecutive, each set must be stored in a separate partial command file.

Use a partial command file by entering @, then the partial command filename at the first prompt for the responses contained in the partial command file. XENTIS uses the responses stored in the partial command file in the report dialogue, then displays the next dialogue prompt.

## Copy the Full Command File

You don't have to use a command file copy when creating a partial command file, but it's a good idea. To copy a command file, use the 'Copy a report definition' option on the /Report Menu or the DCL COPY command. Rename the copy.

## Edit the Command File

Invoke the text editor and call up the command file or its renamed copy. Leaving the heading intact, delete all lines between the R in REPORT and the last line of the file except the set of related specifications you want to re-use. For example, to create a partial command file for a set of calculation expressions using any text editor:

- Advance past the heading to the R in REPORT.
- Use DELETE all lines except the heading (above REPORT) and the Calculation section.
- Exit the editor and save the changes.

## Use in Any Dialogue Prompt

You now have a set of responses that you can insert, at the appropriate prompt, during any report dialogue. To use these responses, initiate a dialogue in the usual manner. At the appropriate prompt, enter @, then the partial command filename.

For example, if your partial command file contains calculation expressions, at the **Do you wish to have calculations?** prompt, type *@partial\_command\_filename* <Return>. XENTIS uses the responses for the entire calculation section stored in the partial command file, then moves to the next prompt, **Field 1 number/name/literal?**.

## Partial Command File Example

The example shows a partial command file created for the calculation section. To use this file, enter:  
Do you wish to have calculations? <Y> @CUSTOMER\_PARTIAL

### Partial Command File, Example

```
!***** XENTIS/Report Command File
*****
! FILENAME:      DQA0:[INHOUSE]CUSTOMER_PARTIAL.XCF;
! CREATED:       30-JAN-88   03:15 PM
! VERSION:       V3.3
!***** Calculation Section
*****
Y                                     ! Yes we have
calculations
FULL_NAME;30 = A:GENDER + " " + EDIT (A:LSTNAME,128) !Calc expression 1
CTY_ST_ZIP;26 = EDIT(A:CITY,128) + " " + A:STATE + " " +A:ZIP !Calc
expression 2
CNAME;40 = EDIT(A:COMPNAME,32)                                !Calc expression 3
CUT_OFF_DATE = TODAY D+ 60                                     !Calc expression 4
NONE                                                            !No more calculations
```

## Command File Substitution

---

NOTE: Many of the uses for Command File Substitution can be performed with the Prompted Literal feature. Whenever possible, use the Prompted Literal feature rather than Command File Substitution.

---

Use command file substitution when you want to run the same report repeatedly but use different parameters. In order to use command file substitution, create and save a report dialogue as a command file (.XCF). Insert command lines and response variables in the command file using a text editor. When the command file (.XCF) is run later, the customized prompts are issued and the responses used in the report run. When you compile a command file that contains substitutions, the substitutions are lost. You can use command file substitution with compiled command files (.XCC) by storing command lines and response variables in a substitution command file (.XCS). See the Compiled Command File Substitution section below.

### The Command Line

A command line is normally inserted in a command file under the heading but above REPORT. A command line is used to obtain user input. Command lines must be in the following general form:

```
!~Dn~prompt~default~class~minimum~maximum~~valid responses~~substitution lists~~
!~PROMPT or !~CPROMPT
```

NOTE: default, valid responses and substitution lists are optional.

### Rules

0. Use **CPROMPT** to prompt at SYSS\$COMMAND instead of prompting at SYSS\$INPUT.
1. The entire command line must fit on one dialogue line.
2. You can have 1-9 command lines in one command file.



3. Each command line must begin with !~~.
4. Each element in a command line must be separated by two ~'s.
5. When an element contains a list, each item in the list must be separated by one ~.
6. Each command line must end with ~.
7. A command line (or group of command lines) must be followed by !~~**PROMPT**. Insert !~~PROMPT where you want the command line prompt to appear in the report dialogue.
8. If a maximum is desired then a class and a minimum is required.
9. If a minimum is desired then a class is required.
10. Class values may be D, for date, T for text, or N for numeric.
11. When omitting an optional element from a command line, include four ~'s between its surrounding elements. If optional elements are left off the end of a command line, do not include the trailing ~'s.

**NOTE:** Refer to the following example while reviewing the command line elements and substitution variables:

```
!~~D1~~WHAT STATE~~WA~~CA~~OR~~WA~~CALIF~~OREG~~WASH~~CA~~OR~~WA~~
!~~PROMPT
```

## Command Line Elements

### 1. **D# (D1)** - The Command Line Identifier

This element identifies the command line and is used to associate the command line with a response variable later in the dialogue.

The identifier is expressed as D and then a sequential number from 1 to 9. The identifier for the first command line is D1, the second is D2, and so on up to the ninth line, D9. D must be capitalized.

### 2. **Prompt (What State)** - The Issued Prompt

This element is the actual prompt issued to the user when the report is rerun. The prompt can be up to 64 characters in length.

### 3. **Default (WA)** - The Prompt Default (OPTIONAL)

This element is the default to the issued prompt.

If a prompt default is specified in a command line, it is displayed in angle brackets with the issued prompt. The prompt default works just like a regular default value; if the user hits <Return> without responding to the prompt, the default is used as the response. If no prompt default is specified in the command line and the user hits <Return> without responding to the prompt, the response is assumed to be spaces.

For example; the default for WHAT STATE? is WA:

**WHAT STATE<WA>?**

### 4. **Valid Responses (CA~OR~WA)** - The List of Valid Responses (OPTIONAL)

This element is the list of valid responses to the issued prompt. The list displays with the prompt only when an invalid response is entered at the prompt.

When a valid responses list is included in a command line, XENTIS validates the user's response against the list. If the response is included in the list, the response is accepted. If the response is not in the list, the prompt is re-issued until a valid response is entered.

The list, as all elements, must be enclosed on either side with ~~ and each item within the list must be separated by ~. The entire list, including the ~'s, cannot exceed 127 characters.

**NOTE:** If a default response and a valid responses list are included in the command line, the default must be included in the list of valid responses. You must include a valid responses list in order to use a substitution list.

5. **Substitution List (CALIF~OREG~WASH)** - The List of Response Substitutions (OPTIONAL)

This element is a list of substitution items. Based on the users response and the valid responses list, one of the items is substituted into the report dialogue.

After a response is entered and validated, XENTIS determines the position of the response in the valid response list and substitutes the item in the same position in the substitution list.

The list, as all elements, must be enclosed on either side with ~~ and each item within the list must be separated by ~. The entire list, including the ~'s, cannot exceed 127 characters.

---

**NOTE** You must include a valid responses list in order to use a substitution list. Each substitution list must have the same number of elements as the validation list.

---

6. **Substitution List (CA~OR~WA)** - A Second List of Response Substitutions (OPTIONAL)

Exactly the same as the substitution list described above, but used for a different variable. You may have up to three substitution lists in a command line.

7. **!~~PROMPT (!~~PROMPT)** - Issue Command

This element is the command that issues the prompts.

!~~PROMPT must appear after the D# command lines. If you have more than one D# line, insert !~~PROMPT only once.

Insert !~~PROMPT in the command file where you want the prompt(s) to appear in the report dialogue.

## Response Variables

Each command line has at least one response variable associated with it. Response variables are inserted in the command file where the input value will be used when the report is rerun. See the examples for specifics.

When the report is rerun and a user enters a response to an issued prompt, XENTIS substitutes the response for the response variable in the dialogue.

Response variables are in the form **~~S#-n~~**.

## Rules

1. Each response variable must begin and end with ~~.
2. Ensure that response variables are surrounded by quotes when necessary.
3. When a validation list is included in a command line, the response variable **~~S#-0~~** can be used to specify the exact user response.

## Response Variable Elements

1. **S#** - The Response Variable Identifier

This element identifies the response variable with its associated command line (the command line that contains the response's prompt).

The identifier is expressed as S and then a sequential number from 1 to 9. The number is the same as the number in its associated command line identifier. S must be capitalized.

2. **-n** - The Substitution List Identifier

This element associates the response variable with its substitution list.

Recall that three substitution lists are allowed. When n is specified as 1, XENTIS substitutes a value from the first substitution list. When n is specified as 2, XENTIS substitutes a value from the second substitution list. When n is specified as 3, XENTIS substitutes a value from the third substitution list.

For example, a response variable associated with the D2 command line and the first substitution list is in the form **~~S2-1~~**.

A response variable associated with the D2 command line and the third substitution list is in the form `~~S2-3~~`.

---

**NOTES** If neither a validation list nor a substitution list are included in a command line, then `n` can be any number other than 0, usually 1.

If a validation list, but not a substitution list, is included in the command line, then `n` should be 0.

If both a validation list and a substitution list are included in a command line, then `n` can be 0, specifying the exact user response.

---

## Compiled Command File Substitution

When a command file that contains substitutions is compiled, the command lines and the response variables are lost both in the compiled (.XCC) and the standard (.XCF) command files. When **Y** is entered at the **Do you want to compile this command file** prompt, the responses entered in that report run are written over the response variables in the .XCF and .XCC command files.

You can use command file substitution with compiled command files by storing command lines and response variables in a .XCS file.

### .XCS Files

With the text editor, create a .XCS file containing command lines and response variables. The command lines and response variables must be in the same form as in normal command file substitution. The .XCS file must be named *filename.XCS* (where *filename* is the name of the .XCC file you wish to use with command file substitution).

If you choose to modify an existing compiled command file and a corresponding .XCS file is not found, the **Change selection logic** and **Execute** prompts display.

If you choose to modify an existing compiled command file and a corresponding .XCS file is found, the **Change selection logic** and **Execute** prompts do not display. The command file is executed as if you had selected 'Run an existing report'.

### Format

Enter command lines at the top of the .XCS file. Enter response variables in appropriate format after the command lines.

When creating a .XCS file, include lines to move to the appropriate portion of the dialogue to insert response variables from the **Change selection logic** prompt. For example, if you are using response variables in selection logic, enter 'Y' (**Change selection logic**), then 'Y' for (**Do you wish to have selection logic**), then an 'A', 'O', or 'C' (**Selection will be AND, OR, or COMPLEX**), then the appropriate selection expressions. See the example below.

If you are not using response variables in selection logic, you can move to the appropriate portion of the command file using `\` and `GOTO` statements.

When substituting into a portion of a dialogue, you **must** include responses for the entire section. For example, when changing selection logic, all selection expressions in the .XCC file are lost and only those expressions in the .XCS file are used.

#### .XCS File Example 1

```
!~~D1~~WHAT STATE~~WA~~
!~~PROMPT
Y
Y
A
A:STATE = "~~S1-1~~"
```

#### XCS File Example 2

```
!~~D1~~Sort by Customer (C) or Product (P)~~C~~C~P~~@CUST_PART~@PROD_PART~~
!~~PROMPT
GOTO SORT
~~S1-1~~
GOTO EXECUTE
```

## Special Commands

There are two special commands that can be used in a .XCS file; !~~FIRST and !~~LAST.

!~~FIRST tells XENTIS to insert the following value as a response to the **First key to read** prompt.

!~~LAST tells XENTIS to insert the following value as a response to the **Last key to read** prompt.

!~~FIRST and !~~LAST operate under the same rules described in the KEYS section.

These two special commands must be in the following form in a .XCS file:

**!~~first value**

**!~~last value**

where *value* is a valid response to these prompts (see the KEYS section for more information) or a response variable. If *value* is a response variable, you must include command lines in your .XCS file to obtain user input.

#### .XCS File Example 3

```
!~~D1~~BEGINNING PO#~~
!~~D2~~ENDING PO#~~
!~~PROMPT
!~~FIRST ~~S1-1~~
!~~LAST ~~S2-1~~
```

## Command File Substitution - Example 1

Example showing a substitution command file created to prompt for a two character STATE value. The value is substituted into a selection expression and the second line of the report title. When the report is rerun using @FILENAME, the following prompts are issued:

```
WHAT STATE?
Change selection logic<N>?
Execute<Y>?
```

The output report contains all records for the two character value entered.

```
!***** XENTIS/Report Command File*****
!      FILENAME:  DQA0:[INHOUSE]CUSTOMER.XCF;
!      CREATED:   30-JAN-91  03:15 PM
!      VERSION:   3.X
```

```

!~~D1~~WHAT STATE~~
!~~PROMPT
REPORT
!***** File Definition Section *****
:
:

!***** Selection Logic Section*****
Y                               !   Yes we have selection logic
A                               !   Type of selection logic
A:STATE = "~~S1-1~~"           !   Selection expression 1
NONE                           !   No more selection logic
:
:

!*****Output/Format Specifications*****
:
ACME ELECTRIC INC.!   First title line
CUSTOMERS IN ~~S1-1~~ STATE           !   Second title line
:
:
:

```

## Command File Substitution - Example 2

Example showing a substitution command file created to prompt for a two character STATE value with a default of WA and a beginning and ending date. The values are substituted into a selection expression and the second line of the report title. When the report is rerun using @FILENAME, the following prompts are issued:

```

WHAT STATE <WA>?
Beginning Invoice Date <01-JAN-1991>?
Ending Invoice Date <31-DEC-1991>?
Change selection logic<N>?
Execute<Y>?

```

The output report contains all records for the two character value entered. If the user presses <Return> without responding, the default value, WA, is used in the report run.

```

!***** XENTIS/Report Command File*****
!      FILENAME:  DQA0:[INHOUSE]CUSTOMER.XCF;
!      CREATED:   30-JAN-91  03:15 PM
!      VERSION:   3.X
!~~D1~~WHAT STATE~~WA~~
!~~D2~~Beginning Invoice Date~~01-JAN-1991~D~01-JAN-1985~31-DEC-1995~~
!~~D3~~Ending Invoice Date~~31-DEC-1991~D~01-JAN-1985~31-DEC-1999~~
!~~PROMPT
REPORT
!***** File Definition Section *****
:
:

!***** Selection Logic Section*****
Y                               !   Yes we have selection logic
A                               !   Type of selection logic
A:STATE = "~~S1-1~~"           !   Selection expression 1
B:INVOICE_DATE GE  ~~S2-1~~     !   Selection expression 2
B:INVOICE_DATE LE  ~~S3-1~~     !   Selection expression 3
NONE                           !   No more selection logic !
:
:

! *****Output/Format Specifications*****

```

```
:
ACME ELECTRIC INC. ! First title line
CUSTOMERS IN ~~S1-1~~ STATE ! Second title line
:
:
```

## Command File Substitution - Example 3

Example showing a substitution command file created to prompt for a two character STATE value with a default of WA, a valid responses list, and one substitution list and a beginning and ending date. When the report is rerun using @FILENAME, the following prompts are issued:

```
WHAT STATE <WA>?
Beginning Invoice Date <01-JAN-1991>?
Ending Invoice Date <31-DEC-1991>?
Change selection logic<N>?
Execute<Y>?
```

If a value other than an item in the valid responses list (CA, OR, or WA) is entered, the prompt is re-issued until a valid response is entered.

Based on the response's position in the valid responses list, a value in the substitution list is substituted into the second line of the report title. For example, if the user enters CA at the prompt, CALIF is substituted.

If the user presses <Return> without responding, WASH, the substitution list value associated with WA, is used in the report title.

```
!***** XENTIS/Report Command File*****
! FILENAME: DQA0:[INHOUSE]CUSTOMER.XCF;
! CREATED: 30-JAN-91 03:15 PM
! VERSION: 3.X
!~~D1~~WHAT STATE~~WA~~CA~OR~WA~~CALIF~OREG~WASH~~
!~~D2~~Beginning Invoice Date~~01-JAN-1991~D~01-JAN-1985~31-DEC-1995~~
!~~D3~~Ending Invoice Date~~31-DEC-1991~D~01-JAN-1985~31-DEC-1995~~
!~~PROMPT
REPORT
!***** File Definition Section *****
:
:
!***** Selection Logic Section*****
Y ! Yes we have selection logic
A ! Type of selection logic
A:STATE = "~~S1-0~~" ! Selection expression 1
B:INVOICE_DATE G ~~S2-1~~ AND B:INVOICE_DATE LE ~~S3-1~~
NONE ! No more selection logic
:
:
! *****Output/Format Specifications*****
:
ACME ELECTRIC INC. ! First title line
CUSTOMERS IN ~~S1-1~~ STATE ! Second title line
:
:
```

## Command File Substitution - Example 4

Example showing a substitution command file created to prompt for a two character STATE value with a default of WA, a valid responses list, and two substitution lists. When the report is rerun using @FILENAME, the following

prompts are issued:

```
WHAT STATE<WA>?
Change selection logic<N>?
Execute<Y>?
```

If a value other than an item in the valid responses list (CA, OR, or WA) is entered, the prompt is re-issued until a valid response is entered.

Based on the substitution list identifier and the response's position in the valid responses list, a value in a substitution list is substituted into a selection expression and the second line of the report title. For example, if the user enter CA at the prompt, CALIF is substituted for the variable S1-1. CA is substituted for the variable S1-2. If the user presses <Return> without responding, the substitution list value associated with WA, WASH or WA, is used in the report run.

```
!***** XENTIS/Report Command File*****
!      FILENAME:  DQA0:[INHOUSE]CUSTOMER.XCF;
!      CREATED:   30-JAN-91  03:15 PM
!      VERSION:   3.X
!~~D1~~WHAT STATE~~WA~~CA~OR~WA~~CALIF~OREG~WASH~~CA~OR~WA~~
!~~PROMPT
REPORT
!***** File Definition Section *****
:
:
:
!***** Selection Logic Section*****
Y                                     !   Yes we have selection logic
A                                     !   Type of selection logic
A:STATE = "~~S1-2~~"                 !   Selection expression 1
NONE                                 !   No more selection logic
:
:
:
! ***** Output/Format Specifications *****
:
ACME ELECTRIC INC. !   First title line
CUSTOMERS IN ~~S1-1~~ STATE           !   Second title line
:
:
:
```

## Command File Substitution - Example 5

Example showing a substitution command file created to prompt for a two character STATE value and a six character date value. When the report is rerun using @FILENAME, the following prompts are issued:

```
WHAT STATE?
BEGINNING DATE (MMDDYY)?
Change selection logic<N>?
Execute<Y>?
```

The output report contains all records for the two character value entered at the **What state?** prompt and the six character value entered at the **Beginning date?** prompt.

```
!***** XENTIS/Report Command File*****
!      FILENAME:  DQA0:[INHOUSE]CUSTOMER.XCF;
!      CREATED:   30-JAN-91  03:15 PM
!      VERSION:   3.X
!~~D1~~WHAT STATE~~WA~~CA~OR~WA~~CALIF~OREG~WASH~~CA~OR~WA~~
!~~D2~~BEGINNING DATE (MMDDYY)~~
!~~PROMPT
```

```

REPORT
!***** File Definition Section *****
:
:
!***** Key Definition Section *****
1                                ! Key number to access primary
file                             !
~~S2-1~~                         ! First key to read in primary
file                             !
Last Record                      ! Last key to read in primary
file
:
!***** Selection Logic Section*****
Y                                ! Yes we have selection logic
A                                ! Type of selection logic
A:STATE = "~~S1-2~~"            ! Selection expression 1
NONE                            ! No more selection logic
:
:
:
! *****Output/Format Specifications*****
:
ACME ELECTRIC INC. ! First title line
CUSTOMERS IN ~~S1-1~~ STATE ! Second title line
:
:
:

```



# Data Types

XENTIS supports the following data types in RMS file systems. The data types are specified in the XENTIS dictionary definitions for files.

Abbreviation	Data Type	Size (Bytes)	XML	Allowed in Key?
Text Class Data Types				
T	Text (null, cr, lf, ff, vt characters removed)	User defined	Y	Y
STR	String or Structure (no bad characters removed)	User defined	Y	Y
CT1	Counted text field w/ 1 byte header	User defined	N	N
CT2	Counted text field w/ 2 byte header	User defined	N	N
NT	Null terminated string	User defined	N	N
NBY	NCA Byte Array	User defined	N	N
ZT	Zero-filled (right justified) text	User defined	N	Y
Tnn	Foreign Text	User defined	N	Y
Numeric Class Data Types (Integer)				
B	Byte Integer	1	N	N
W	Word Integer	2	N	Y - 1st
L	Longword Integer	4	N	Y - 1st
LR	Longword Integer, bytes reversed	4	N	Y - 1st
Q	Quadword Integer	8	N	Y - 1st
QR	Quadword Integer, bytes reversed	8	N	Y - 1st
BU	Byte unsigned	1	N	N
WU	Word unsigned	2	N	Y - 1st
WUR	Word unsigned, bytes reversed	2	N	Y - 1st
LU	Long unsigned	4	N	Y - 1st
LUR	Long unsigned, bytes reversed	4	N	Y - 1st
QU	Quadword unsigned	8	N	Y - 1st
QUR	Quadword unsigned, bytes reversed	8	N	Y - 1st
CVW	CVT Word (W with bytes reversed)	2	N	Y
Numeric Class Data Types (Floating Point)				
F	F-Floating	4	N	N
D	D-Floating (loss of precision on Alpha systems)	8	N	N
G	G-Floating	8	N	N
H	H-Floating (loss of precision on Alpha systems)	16	N	N
FS	S-Floating, IEEE (Alpha systems only)	4	N	N
FT	T-Floating, IEEE (Alpha systems only)	8	N	N
FX	X-Floating, IEEE (Alpha systems only)	16	N	N
CVS	CVT Single (F with bytes reversed)	4	N	Y
CVD	CVT Double (D with bytes reversed)	8	N	Y
Numeric Class Data Types (Other)				
P	Packed decimal string	User defined	N	Y
NU	Numeric string, unsigned	User defined	N	Y
NL	Numeric string, left separate sign	User defined	N	Y
NLO	Numeric string, left over punched sign	User defined	N	Y
NR	Numeric string, right separate sign	User defined	N	Y
NRO	Numeric string, right over punched sign	User defined	N	Y
NZ	Numeric string, zoned sign	User defined	N	Y
GN	General numeric (free form with dollar, comma, period)	User defined	Y	Y
SMN	SYBASE Money	8	N	Y
Nnn	Foreign Numeric	User defined	N	Y
Date Class Data Types				
DA	VMS date (64 bit binary)	8	N	Y - 1st
RDA	RSTS format date: 1000 * (Year - 1970) + Day-of-year (valid through year 2034 for 2 byte version)	2 or 4	N	Y
RDR	same as RDA, above, with the bytes reversed.	2 or 4	N	
TDA	TEXT date and time in YYMMDD, YYYYMMDD, YYMMDDHHMMSS, or YYYYMMDDHHMMSS format	6, 8, 12, or 14	Y	Y

## Appendix C - Data Types

MDY	TEXT date and time in MMDDYY, MMDDYYYY MMDDYYHHMMSS or MMDDYYYYHHMMSS formats	6, 8, 12, or 14	Y	Y
DMY	same as MDY, above, with month and date segments switched	6, 8, 12, or 14	Y	Y
NDA	NCA Date	4	N	Y
IDA	INGRES Date & time	25	N	Y
SDA	SYBASE Date & time	8	N	Y
ODA	Oracle Date & time	7	N	Y
PDA	Powerhouse Date (valid through year 2027)	2	N	Y
JDA	Powerhouse Julian Date (value through year 2027)	2	N	Y
UDA	Unix Date, integer(number of seconds since 1-JAN-1970) (valid through year 2037)	4	N	Y
JTD	Julian Text Date, Characters in YYJJJ, YYYYJJJ, YYJJHHMMSS, or YYYYJJHHMMSS formats	5, 7, 11, or 13	N	Y
PRD	Progress Date, characters in MM/DD/YYYY format	10	Y	Y
Dnn	Foreign Date	User defined	N	Y

In the 'Allowed Key' column: if **Y**, then a field of that data type is allowed as a key and may be any segment of the key. If **Y - 1st**, then a field of that data type is allowed as a key but must be the first segment of the key. If **N**, then a field of that data type is not allowed as a key.

## Language Equivalents

The table below shows language equivalents for each standard XENTIS data type.

<i>Data Type</i>	<i>Size (Bytes)</i>	<i>Language</i>	<i>Definition / Notes</i>
<b>T</b> Text	User defined	BASIC: COBOL: DIBOL: FORTRAN: MACRO: MAXCIM: PASCAL: PL/I: C:	STRING PIC X(n) A CHARACTER*n DSC\$K_DTYPE_T LEFT STRING (TYPE 4) PACKED ARRAY [1..n] OF CHAR CHARACTER char[n]
<b>STR</b> String	User defined		Behaves like text field but does not delete certain non-printable characters such as nulls and line feeds.
<b>CT2</b> Counted Text	User defined	MACRO:	DSC\$K_DTYPE_VT
<b>NT</b> Null terminated	User defined	C:	char[n] with a null terminating byte
<b>NBY</b> NCA Byte Array	User defined	MAXCIM:	BYTE ARRAY (type 13)
<b>ZT</b> Zero-filled (right justified) text	User defined	MAXCIM:	ZERO STRING (TYPE 3)
<b>B</b> Byte Integer	1	BASIC: DIBOL: MARCO: MAXCIM: PASCAL: PL/I: C:	INTEGER(/BYTE) or BYTE I(1) DSC\$K_DTYPE_B BYTE INTEGER (TYPE 6) INTEGER (size of 8 bites) FIXED(7) char

<b>W</b>	Word Integer	2	BASIC: COBOL: DIBOL: FORTRAN: MACRO: MAXCIM: PASCAL: PL/I: C:	INTEGER(/WORD) or WORD PIC S9(1)-S9(4) USAGE COMP I(2) INTEGER*2 DSC\$K_DTYPE_W WORD INTEGER (TYPE 1) INTEGER (size of 16 bits) FIXED(15) short int
<b>L</b>	Longword Integer	4	BASIC: COBOL: DIBOL: FORTRAN: MACRO: MAXCIM: PASCAL: PL/I: C:	INTEGER(/LONG) or LONG PIC S9(5)-S9(9) USAGE COMP I(4) INTEGER*4 or INTEGER DSC\$K_DTYPE_L LONG INTEGER (TYPE 8) INTEGER FIXED(31) int
<b>Q</b>	Quadword Integer	8	COBOL: MACRO:	PIC S9(10)-S9(18) USAGE COMP DSC\$K_DTYPE_Q
<b>BU</b>	Byte unsigned	1	FORTRAN: MACRO: PASCAL: C:	LOGICAL*1 or BYTE DSC\$K_DTYPE_BU BOOLEAN, CHAR, or UNSIGNED (size of 8) unsigned char
<b>WU</b>	Word Unsigned	2	COBOL: FORTRAN: MACRO: PASCAL: C:	PIC 9(1)-9(4) USAGE COMP LOGICAL*2 DSC\$K_DTYPE_WU UNSIGNED (size of 16) unsigned short int
<b>LU</b>	Long Unsigned	4	COBOL: FORTRAN: MACRO: PASCAL: C:	PIC 9(5)-9(9) USAGE COMP LOGICAL*4 or LOGICAL DSC\$K_DTYPE_LU UNSIGNED unsigned int
<b>QU</b>	Quad Unsigned	8	COBOL: MACRO:	PIC 9(10)-9(18) USAGE COMP DSC\$K_DTYPE_QU
<b>F</b>	F-Floating	4	BASIC: COBOL: FORTRAN: MACRO: MAXCIM: PASCAL: C:	REAL(/SINGLE) or SINGLE USAGE COMP-1 REAL*4 or REAL DSC\$K_DTYPE_F SINGLE REAL (TYPE 9) REAL or SINGLE float
<b>D</b>	D-Floating	8	BASIC: COBOL FORTRAN MACRO MAXCIM PASCAL PL/I C:	REAL(/DOUBLE) or DOUBLE USAGE COMP-2 REAL*8 DSC\$K_DTYPE_D DOUBLE REAL (TYPE 2) DOUBLE(/NOGFLOAT) FLOAT(56) double
<b>G</b>	G-Floating	8	BASIC: FORTRAN: MACRO: PASCAL: PL/I C:	REAL(/GFLOAT) or GFLOAT REAL*8 DSC\$K_DTYPE_G DOUBLE(/GFLOAT) FLOAT(53) double

<b>H</b>	H-Floating	16	BASIC: FORTRAN: MACRO: PASCAL: PL/I:	REAL(/HFLOAT) or HFLOAT REAL*16 DSC\$K_DTYPE_H QUADRUPLE FLOAT(113)
<b>FS</b>	S-Floating	4	MACRO: C:	DSC\$K_DTYPE_FS (IEEE, Alpha only) float
<b>FT</b>	T-Floating	8	MACRO: C:	DSC\$K_DTYPE_FT (IEEE, Alpha only) double
<b>FX</b>	X-Floating	16	MACRO: C:	DSC\$K_DTYPE_FX (IEEE, Alpha only) long double

<b>P</b>	Packed Decimal String	User defined	BASIC: COBOL: DIBOL: MACRO: MAXCIM: PL/I:	DECIMAL PIC S9(n)V(n) USAGE COMP-3 P DSC\$K_DTYPE_P PACKED DECIMAL (TYPE 11) FIXED DEC(1-31)
<b>NU</b>	Numeric String, Unsigned	User defined	COBOL: MACRO: MAXCIM:	PIC 9(n)V(n) DSC\$K_DTYPE_NU INTEGER STRING (TYPE 14)
<b>NL</b>	Numeric String, Left Separate Sign	User defined	COBOL: MACRO:	PIC S9 (n)V(n) SIGN LEADING SEPARATE DSC\$K_DTYPE_NL
<b>NLO</b>	Numeric String, Left Overpunched Sign	User defined	COBOL: MACRO:	PIC S9(n)V(n) SIGN LEADING DSC\$K_DTYPE_NLO
<b>NR</b>	Numeric String, Right Separate Sign	User defined	COBOL: MACRO:	PIC S9(n)V(n) SIGN TRAILING SEPARATE DSC\$K_DTYPE_NR
<b>NRO</b>	Numeric string, Right Overpunched Sign	User defined	COBOL: MACRO:	PIC S9(n)V(n) SIGN TRAILING DSC\$K_DTYPE_NRO
<b>NZ</b>	Numeric String, Zoned Sign	User defined	DIBOL: MACRO:	D DSC\$K_DTYPE_NZ
<b>GN</b>	General Numeric	User defined		For use with numeric string fields. Data can contain numeric digits, leading and/or trailing spaces, embedded spaces, dollar sign, and the numeric symbols for decimal point, digit separator, and sign.

<b>DA</b>	VMS format (binary) date	8	MACRO: MAXCIM:	DSC\$K_DTYPE_ADT VMS DATE (TYPE 5)
<b>RDA</b>	RSTS format date	2, 4		Two byte integer containing the value: 1000 * (Year - 1970) + Day-of-Year
<b>RDR</b>	RSTS format date reversed	2, 4		Bytes reversed from RDA format.
<b>TDA</b>	Text Date (YYYYMMDDH HMMSS)	6, 8, 12, 14		Year may be 2 or 4 char. If field length is 12 or 14, time is assumed to be present.
<b>MDY</b>	Text Date (MMDDYYYYH HMMSS)	6, 8, 12, 14		Year may be 2 or 4 char. If field length is 12 or 14, time is assumed to be present.
<b>DMY</b>	Text Date (DDMMYYYYH HMMSS)	6, 8, 12, 14		Year may be 2 or 4 char. If field length is 12 or 14, time is assumed to be present.

<b>JTD</b>	Julian Text Date (YYJJJ)	5, 7, 11, 13	COBOL	ACCEPT data-item FROM DAY returns this format (5 bytes version)
<b>NDA</b>	NCA Date	4		Byte reversed integer containing number of days since a base date

## Foreign Data Types

Foreign data types are provided for customers that have data types that XENTIS does not support directly. Support for foreign data types is provided in the XUUSER\_PACK subroutine. The only data dictionary that supports foreign data types is the XENTIS data dictionary. Three classes of foreign data types are supported: Text, Numeric, and Date.

The process of implementing a foreign data type is best performed by programmers. Implementing foreign data types is performed using the following steps.

- Determine if the data type is text, numeric, or date.
- Choose a number for the data type between 21 and 99 inclusive (01-20 are reserved).
- Modify the XUUSER\_PACK.BAS subroutine, or write your own subroutine using any 3GL programming language, so that the subroutine will pack and unpack the data type according to the codes passed to it. Documentation on how to do this is provided in the sample copy of XUUSER\_PACK.BAS. Do not change any of the passed parameters.
- Compile the XUUSER\_PACK subroutine.
- Link XUUSER\_PACK.BAS by following the instructions in the sample program copy.
- Either place the resulting executable image in the XENTIS directory where the standard XENTISnn\_USER\_PACK image resides or define the XENTISnn\_USER\_PACK logical to point to your new image. This logical must be defined as an EXECUTIVE mode logical in the system table. Please note that 'nn' denotes the version number.
- Install the XENTISnn\_USER\_PACK image using the VMS INSTALL utility if the image XRPnn.EXE is also installed. Please note that 'nn' denotes the version number.
- Specify your data type to XENTIS/Dictionary by using one of the following codes: T21 to T99, N21 to N99, or D21 to D99, for text, numeric, or date data classes.
- Test your foreign data type.



# Error Messages

Error messages are listed in alphabetical order. Some error messages include the notation '<error message>'. When this occurs, refer to the error message in angle brackets for additional information.

## A

### A or D only

Cause: A value other than **A** or **D** was entered at the **Ascending or Descending Sort** prompt.  
 Action: Respond with **A** or **D**.

### Access to other directories not allowed

Cause: An input file was specified that resides in a directory other than your default directory and this feature has been disallowed by your system manager.  
 Action: Ask your system manager to allow the use of multiple directories by changing the OTHER-DIR parameter in the Setup File.

### Actual file specification not allowed

Cause: ACTUAL/GENERIC syntax was used at one of the file prompts and this feature has been disallowed by your system manager.  
 Action: Ask your system manager to allow the use of ACTUAL/GENERIC syntax by changing the ALLOW-ACTUAL parameter in the Setup File.

### Add security prevents key changing

Cause: A field was specified to be modified which is a key segment, and file-level security disallows new records to be added to the file, based on the users' passwords' security level.  
 Action: Use a different password with a higher security level, or change the file's record-adding security level.

### All fields must be on same line

Cause: The **SPREAD** command was entered, but all reporting fields were not on the same print line.  
 Action: Change the report so that all fields are on the same print line, or don't use the **SPREAD** command.

### ATTACH not allowed by setup file

Cause: The reporting command **ATTACH** was used and has been disallowed by your system manager.  
 Action: Ask your system manager to allow the use of **ATTACH** by changing the ALLOW-SPAWN parameter in the Setup File.

### Attempt to create Zero literal failed in XRPATX

Cause: More than the maximum number of literals have been specified in this and all previously-defined calculation, field, break, and selection expressions.  
 Action: If the same literal value (text, numeric, or date) is referenced several times, set a calculation result to this value, and reference the calculation result instead of the literal.

### Attribute not found

Cause: The print attribute entered was not found in the print attributes file.  
 Action: Either enter an attribute that is found in the print attributes file, or define the desired attribute in the print attributes file.

## B

### Bad GOTO destination specified for <function> good destinations are <destinations>

Cause: A **GOTO** command was issued with an invalid destination.  
 Action: Re-enter the **GOTO** command with a valid destination.

---

*Refer to /Report Introduction, Reporting Commands, for more information.*

---

## Appendix D - Error Messages

### Bad field number

- Cause: A **GOTO FIELD-*n*** command was issued with an invalid field number specified. The field number specified was either less than one, or non-numeric.
- Action: Re-enter the **GOTO FIELD-*n*** command using a valid number. To get past the last field, use **GOTO FIELD-999**.

### Bad IF clause -- <error message>

- Cause: Some syntax error occurred. The expression parser will display the IF-expression, and point to the item in question.
- Action: Review the documentation on calculation expression construct, and re-enter the formula.

### Bad Main Clause -- <error message>

- Cause: Some syntax error occurred. The expression parser will display the main expression, and point to the item in question.
- Action: Review the documentation on calculation expression construct, and re-enter the formula.

### Bad operator

- Cause: There is a syntax error in your calculation or selection expression. The expression parser will display your expression and point to the operator in question.
- Action: Check the operators used in the expression.

### Bad Output Device: <device>

- Cause: The device entered is not a valid device for report output.
- Action: Check the device entered for proper spelling and syntax. Check to ensure the device is a valid response or a valid device name.

### Bad Select Expression -- <error message>

- Cause: A syntax error was detected in the selection expression. Usual cause is a selection expression entered with calculation expression syntax: **RESULT = EXPRESSION**. The expression parser will point to the place in the expression which contains the error.
- Action: Review the expression and re-enter it. Remove the 'RESULT = ' portion of the selection expression.

---

*Refer to 'Selection Section' for more information.*

---

### Both Subtotal and Total were selected - use only one with AT <freqs>

- Cause: When using selective print frequencies (print frequency AT), both **S** and **T** were used in the response.
- Action: Enter either **T** or **S**, not both.

### Break description overlaps data

- Cause: Based on the specified print line, print position, and length of the break description, XENTIS determined that another field has already been specified to be printed somewhere within that area of the report.
- Action: Check your print fields' print frequency, line, and positions. Get into DISPLAY mode to view the report more closely. Try using another print line or a different print position. The original default print position is the first space it could find that would cause the description to NOT overlap other data.

### Break line must be between 1 and <maximum line number>

- Cause: The print line for the break description is outside the valid range.
- Action: In the Setup File, increase the maximum number of print lines allowed by increasing the value assigned to MAX-ROW. Enter a value in the range shown. If no break description is desired, back up to the break description prompt and enter the word **NONE**.

## C

### Calc on Total <result name> not allowed

- Cause: The result of a calculation-on-total was specified as part of a selection expression.
- Action: Review your reporting requirements. If selection based on a calc-on-total result is required, first use the /File option to summarize records at the desired break level and run a report against the resulting file.



#### Calc-on-totals Support Numerics Only

- Cause: Only numeric data elements may be specified in calculation- on-total expressions. Dates and text fields may not be present in calculation-on-total expressions.
- Action: Review your reporting requirements. If possible, specify a calculation (not calc-on-total) expression to perform the desired function, and print it with a **T** print frequency. If non-numeric calculations are required at breaks, first use the /File option to summarize data at the desired break level, then create a report using that file for input. You can then use a calculation to perform the desired functions, rather than using a calc-on-total.

#### Calc used elsewhere, not deleted

- Cause: An attempt was made to delete a calculation expression that is used in a subsequent dialogue section.
- Action: Remove the calculation result name from the subsequent dialogue section, then return to the CALCULATION section and delete the expression.

#### Calculation error. Result will be zero.

- Cause: An error has occurred during a calculation. Typical errors include divide-by-zero, or some date calculations on null dates. The result of the calculation will be zero.
- Action: No action necessary by the user. This is a warning message.

#### Cannot access <database> with /UPDATE

- Cause: XENTIS/Update is available for RMS files only. It cannot be used with databases.
- Action: Use the database's interactive SQL to modify database data records.

#### Cannot find command file: <command filename>

- Cause: The command file specified was not found.
- Action: Check the syntax to ensure the file name was typed correctly. Check to see if the command file exists in the directory specified by the DFLT-CMD-LOC parameter. Check to see if your VMS privilege allows you access to the command file.

#### Can't update a CSV/TSV data file

- Cause: XENTIS/Update does not allow you to modify fields in a Comma Separated Value (CSV) or a Tab Separated Value (TSV) formatted file.
- Action: Chose a file that doesn't have the CSV or TSV format, or convert the CSV or TSV file into a file that has fixed length fields.

#### CDD record exceeds 2 dimensions

- Cause: XENTIS supports fields with up to 2 dimensions, or occurrence levels. The CDD record chosen contains a field with more than 2 dimensions.
- Action: Chose a record that contains fields with no more than 2 dimensions.

#### Change security prevents changing field

- Cause: A field was specified to be modified where the dictionary's change-level security for that field is higher than the security level assigned to the user based on his dictionary password.
- Action: Use a different dictionary password with higher security or change the security level of the field in question in the dictionary.

#### Changeable flag should be Y or N -- <parameter>

- Cause: The user-changeable flag for the identifier parameter in the setup file is something other than **Y** or **N**.
- Action: Change the flag to be **Y** (users may change this parameter), or **N** (users may not change).

#### Checksum error is command file

- Cause: The Run-Time-Only license is in effect and the XENTIS command file that was selected has been modified by software other than XENTIS or by a user with a text editor. This is not allowed.
- Action: Define the report again on a computer system that does not have a Run-Time-Only license. This will regenerate the internal checksum.

#### CLT expression results not allowed as break fields

- Cause: A result of a calculation-on-total expression was specified as the field to break on. Calculations-on-totals, however, are not performed until a break occurs.
- Action: Review your reporting requirements. If breaking based on a calc-on-total result is required, first use the /File option to summarize records at the desired break level and run a report against the resulting file. What is your CLT in this report will be a regular CALC in that one, so you may break using the calc result.

## Appendix D - Error Messages

### CMDFILE Error <dialogue section>

<prompt> -- <response>

- Cause: An error occurred when loading the responses in a command file into a new dialogue session. The message displays the section of the dialogue, the prompt and the response where the error occurred. This should occur only if the command file has been modified outside of XENTIS.
- Action: When modifying a report, **Press <Return> to Correct Error** displays. Entering <Return> allows the user to correct the error. Entering **ABORT** allows the user to abort the command file. **QUIT** is also allowed.
- When running a report, **Press <Return> to Abort** displays. Enter <Return> to abort the command file. Enter **QUIT** to return to the menu.

### Column overlaps other columns

- Cause: Based on the specified print line, print position, and length of the print mask, XENTIS determined that another field has already been specified to be printed somewhere within that area of the report.
- Action: Check your print fields' print frequency, line, and positions. Get into DISPLAY mode to view the report more closely. Try using another print line or a different print position. XENTIS' originally-offered default print position is the first space it could find that would cause the value to NOT overlap other data.

### Command filename error -- <error message>

- Cause: An error occurred while trying to open a XENTIS command file. Typical errors include insufficient VMS privilege to read the command file, an invalid name, and file not found.
- Action: Based on the error message displayed. Check the file's existence and its protection codes. Refer to the VMS Error Message Manual for details on the error displayed.

## D

### Data class is not printable

- Cause: The field specified for printing is non-printable. It may be defined to be an RFA, for example.
- Action: Do not attempt to print this field. Check the dictionary to see what data type the field is, or use the LIST FILES command in the XENTIS/Report dialogue.

### Data class not matched

- Cause: A date, text, or numeric entry was requested of the user, but a valid date, text, or numeric was not entered.
- Action: Enter an appropriate valid date, text, or numeric.

### Data conversion error. Data set to zero/blank.

- Cause: This error occurs during the report selection phase when XENTIS is reading records from the data files. It has encountered a data field whose contents contain invalid data.
- Action: This is a warning message. Processing continues. The invalid data should be corrected.

### Data type inconsistency --> <result name>

- Cause: The calculation result name specified in this calculation expression has been defined to generate a different type of data than the same result name was specified to generate in a previous expression. For example, the same result name may have been used in an expression which generates a date, but is being used in this expression to generate a number.
- Action: Re-evaluate your calculation expressions. If differing data types are to be generated, use different result names.

### Data type of output field is not valid as index

- Cause: RMS limits the data types that can be used as an index. You have specified a field whose data type is one that cannot be an index and you have chosen that field to be an index.
- Action: Choose another field to be an index.

### Data type not valid for CSV or TSV file

- Cause: The data type of a field read from the temporary dictionary is not valid for use with a Comma Separated Value (CSV) file or a Tab Separated Value (TSV) file.
- Action: Change the data type to one that is compatible with CSV and TSV files.

Data value greater than <number> Data reset to zero.

- Cause: A floating point conversion error has occurred while producing your report. XENTIS has encountered invalid floating pointer data.
- Action: There is garbage in your file. Fix the garbage. This is a warning message. Processing continues.

Date reset to <date>

- Cause: A valid date was entered with the /TODAY switch at the **Enter XENTIS Function** prompt.
- Action: This is an acknowledgment only. No error has occurred.

Deinstall image, give user SYSLOCK priv

- Cause: XENTIS cannot be installed with privileges if the Rdb database is to be used. The SYSLOCK privilege is required for limited user licenses.
- Action: Review the installation guide. Deinstall the XENTIS images and give each XENTIS user the SYSLOCK privilege.

Delete not allowed from sequential file

- Cause: In XENTIS/Update you have attempt to delete records from a sequential file. You can only modify records in a sequential file.
- Action: Don't try to delete records, or convert the file to an indexed file.

DELETE not allowed, used in Select-on-Subtotal

- Cause: An attempt to delete a field that is currently be used in a Select-on-Subtotal expression is being made.
- Action: Delete the Select-on-Subtotal expression first.

Dictionary consistency error while processing <filename>

- Cause: For MAXCIM ECB: The activity file description for the ECB being used is missing or the flag for an external reference to the data file is set but the external reference is missing from the ECB.
- Action: Insert the activity file description or the external reference into the ECB.
- Cause: For a XENTIS dictionary: The fields specified in the file header to update on add or change are not defined as fields, the table validations do not exist, or the file validations do not exist.
- Action: Correct the data dictionary.

Dictionary list error

- Cause: The **LIST** command has encountered bad information in the data dictionary.
- Action: Inspect the data dictionary for errors and correct them.

Dictionary type error

- Cause: A dictionary was specified that your site does not have access to.
- Action: If you have purchased access rights to this dictionary with XENTIS, call your dealer's Customer Support Department for assistance. If you have not purchased access rights to this type of dictionary, call your dealer's Sales Department for any questions you may have.

DIR not allowed

- Cause: The reporting command **DIR** was used and has been disallowed by your system manager.
- Action: Ask your system manager to allow the use of **DIR** by changing the ALLOW-DIR parameter in the Setup File.

## E

Empty output file required

- Cause: A response of **N** was given at the **Create empty sequential file** prompt, the existing data file contains at least one record, and the system manager has instructed XENTIS to allow records to be added to empty files only.
- Action: Either create a new sequential data file, or have your system manager allow records to be added to non-empty data files by changing a setup parameter.

/ENTRY not valid in batch

- Cause: When running in batch, XENTIS encountered a 'Change to' value of '/ENTRY' in the XENTIS command file.
- Action: Since on-the-fly data entry cannot be performed in batch, this error terminated XENTIS. Change the XENTIS command file that will be run in batch so that no /ENTRY switches are present.

## Appendix D - Error Messages

### Error chaining to: <program name> <error message>

- Cause: There is something wrong with the program specified in the XENTIS\$CHAIN symbol.  
Action: Examine the operating system message and correct the cause of the error.

### Error converting output to barcode <error message>

- Cause: An error has occurred while converting the output file to barcodes.  
Action: Contact customer support.

### Error creating <file type> file -- <error message>

- Cause: The indicated file could not be created.  
Action: Review the operating system message and take corrective action.

### Error, Cumulative record sizes > 32767

- Cause: The sum of the record sizes of all input files, sort fields, break fields, title data fields, calculation fields, and literals cannot exceed 32767 bytes. This limit has been exceeded.  
Action: Reduce the number of files, the record size of the input files, the number of literals, or the number of calculations. See the RECSIZE\_LIMIT logical.

### Error during queueing to printer <error message>

- Cause: An error has occurred while XENTIS was attempting to queue the report to the printer.  
Action: Review the operating system message and take corrective action.

### Error during ATTACH/SPAWN <error message>

- Cause: A **SPAWN** or **ATTACH** command was issued either by the user or automatically by XENTIS, which resulted in an error in the spawned subprocess. A log of the subprocess activity and error messages may follow this error message.  
Action: Review the subprocess log as it appears on your screen. Refer to the VMS Error Message Manual for additional assistance.

### Error getting field from screen

- Cause: Some system services or other unexpected error occurred when attempting to read a response from the user's keyboard. Call your dealer's Customer Support Department.

### Error in file or field number

- Cause: A field was specified in the format #A1, and contains a file designator and/or field number which does not correspond to a field in a defined file.  
Action: Review your files and fields via the **LIST FILES** command, and re-enter the field number correctly.

### Error in finding a channel

- Cause: XENTIS could not find another channel, or LUN, to use.  
Action: Run XENTIS as a standalone program rather than one that is linked into another program.

### Error - no field name entered

- Cause: A response was entered at a **Sort field** prompt using the syntax for sorting with an accumulated value and a field name was not included (for example; **/TOTAL** was entered).  
Action: Re-enter the name of the sort field, optionally followed by **/TOTAL**.

### Error: Not a valid system setup file

- Cause: The system setup file being read is not valid. It may have become corrupted, the XENTISnn\$REPORT\$DATA logical may be pointing to the wrong directory, or an older version of the file may have been copied to the XENTIS data file directory.  
Action: Recompile the system setup file by selecting the appropriate item from the XENTIS menu.

### Error opening <filename> -- <error message>

- Cause: A system error was encountered while attempting to open the indicated file. The cause depends on the error message displayed. Review the VMS Error Message Manual for further information on the error message displayed. Most likely messages involve insufficient VMS privileges to create the file, invalid file name, or inadequate space for the file on the device specified.  
Action: Depends on the error message received.

Error opening setup file -- <filename> -- <error message>

- Cause: An error occurred trying to open the system setup file. Refer to the VMS Error Message Manual for additional details about the error message actually displayed. Typical errors include file not found and insufficient privilege to read the file.
- Action: Be certain that XENTISnn\$REPORT\$DATA:XENTISSET.XEN exists and has a protection code allowing the user to read it.

Error processing <section>

- Cause: An error occurred while trying to process the dialogue section. Common causes are either an invalid response in the dialogue section or a calculated field was not properly inserted or deleted.
- Action: Check the command file to see if it contains an invalid response in the section. Ensure calculations are properly deleted and inserted in the CALCULATION section.

Error reading database system tables

- Cause: XENTIS encountered an error while reading table information from the system tables in the chosen database.
- Action: Review the technical notes in the Database Interfaces chapter for your chosen database and follow its troubleshooting guidelines.

Error reading fields in dictionary

- Cause: An unexpected error occurred while reading fields from a XENTIS dictionary.
- Action: Review the operating system message and take corrective action.

Error reading password record

- Cause: XENTIS could not read the password record in the dictionary or in the password file. A common cause for this error is that the password specified at the **Password** prompt or by the symbol XENTIS\$PASSWORD is not a valid password in the default dictionary.
- Action: Exit XENTIS and re-enter the password or check the XENTIS\$PASSWORD symbol. Ask your system manager to validate the password.

Error reading header record

- Cause: XENTIS/File could not read the header record of a relative file while adding records to that file.
- Action: Review the operating system message displayed and take corrective action.

Error reading HTML <file type> file

- Cause: XENTIS could not read the HTML template file.
- Action: Review the operating system message displayed and take corrective action.

Error reading system tables for <table name>

- Cause: XENTIS encountered an error while reading field/column or key/index information from the system tables in the chosen database.
- Action: Review the technical notes in the Database Interfaces chapter for your chosen database and follow its troubleshooting guidelines.

Error /TOTAL not supported in <function>

- Cause: The function specified does not support sorting with an accumulated value (using /TOTAL syntax at a **Sort field** prompt).
- Action: Re-enter the name of the sort field without /TOTAL or recreate the command file using a function that does support sorting with an accumulated value.

Expanded Expression too long, saving original

- Cause: The entered calculation or selection expression contained abbreviated field names, such as #A1, etc. When the expression was expanded by XENTIS to contain the actual field names, the maximum expression length allowed was exceeded.
- Action: This is an informational message only. No action is needed. The originally-entered expression will be used.

Expecting a command:

Enter "/E" to leave Index Command Mode

- Cause: After issuing the **INDEX** command, something other than a valid command was entered at the **INDEX command** prompt.
- Action: To enter a command, do so at this prompt. To enter data, type \ or /E to leave INDEX Command Mode.

## Appendix D - Error Messages

Expecting a command: Press <PF3> to leave Command Mode, but first Press RETURN to continue:

- Cause: At the **Command** prompt, something other than a valid command was entered.
- Action: To enter a command, do so at this prompt. To enter data, leave command mode by pressing the <PF3> key.

Expr. probably truncated -- <expression>

- Cause: An unusually long selection expression or calculation expression was entered. It may have been too long to store in available memory as a single expression.
- Action: Evaluate the expression to see if it can be broken up into shorter, multiple expressions.

Expression contains '|'

- Cause: A text calculation expression contains a vertical bar (|) literal. Vertical bar literals are not allowed in the calculation section.
- Action: Remove the vertical bar literal from the expression.

Expression too long

- Cause: The entered calculation or selection expression exceeds the maximum characters allowed.
- Action: Abbreviate field names into the format #A1, or use multiple expressions to perform the calculations or selections.

External file is missing from dictionary

- Cause: An external file look-up is required, according to the file description in the dictionary, but the external file has not been defined in the dictionary.
- Action: Define the external file in the same dictionary as the file being modified is defined in, or remove the external file check.

## F

Fatal error: Key segment mismatch

- Cause: When joining indexed files together in a report, XENTIS needs to convert the data type of the join fields from a previous file to match the data type of the key segments of the current file. This message will occur if a conversion is not possible.
- Action: Use a different field to join to the targeted indexed file in the Key Section of the dialogue.

Field cannot be used in a Calc on Total: <field name>

- Cause: A field which has not been specified as being accumulated has been used in a calculation-on-total expression. Only numeric literals and accumulated fields may comprise a calc-on-total expression.
- Action: Specify that the field should be accumulated by entering it as a field to print in the field dialogue. If this field should not be printed, assign it a print frequency of **9**, but be sure the accumulate level is not **N**.

Field length not equal to field stride

- Cause: XENTIS has detected an inconsistency in the definition of the record in the data dictionary. It has found the field stride of a group field to be equal to something other than the length of the group field.
- Action: Correct the group stride or length in the data dictionary.

Field must be in minor file

- Cause: A field from a previously-defined file was specified to be used as a linked-list linking field for an this auxiliary file.
- Action: Specify a field from this auxiliary file to be used to read the linked list of records from this auxiliary file.

Field must be in parent file

- Cause: A field from the auxiliary file being linked-to was specified to be used to be the link into itself.
- Action: Specify a field from one of the previously-defined files to be used as the link field into this auxiliary file.

Field must be numeric

- Cause: A non-numeric field was specified as a link field for retrieving records from an auxiliary relative file.
- Action: Specify a numeric field as the link field to a relative auxiliary file.

#### Field number not recognized

- Cause: A field number of the form #A1 was specified, and the field number exceeds the number of fields in the selected file, or is zero.
- Action: Review the list of fields for the file, and re-enter the field number properly.

#### Field name not recognized

- Cause: A field name was entered which does not exist.
- Action: Review the list of fields in files specified for this report, and enter the correct field name.

#### Field name not recognized - Literal assumed

- Cause: A field name was entered which does not exist. The prompt also allows literal values to be entered, so XENTIS is assuming that the user meant to enter a literal, and automatically enclose the response in quotation marks.
- Action: This is an informational message only. If a literal was meant to be entered, take no action. If a field name was meant to be entered, review the list of fields in files specified for this report, back up a prompt, and enter the correct field name.

#### File function not allowed

- Cause: FILE was entered at the **Enter XENTIS function** prompt and it has been disallowed as a valid response.
- Action: Check with your System Manager. The FILE function can be disallowed using the ALLOW-FILE setup parameter.

#### File has <value> key(s)

- Cause: A specified input data file is indexed. <value> displays the number of keys defined in the file.
- Action: This is an informational message only.

#### File must be INDEXED or RELATIVE

- Cause: A sequential file was specified as an auxiliary file. XENTIS cannot access sequential files except as a primary file.
- Action: Reconsider your file accessing methods. Make the sequential file the primary file if possible, or build a new file from the sequential file which contains at least one key.

#### File number not recognized

- Cause: A field number of the form #A1 was specified, and the file designator (the letter) is outside the valid range, or does not correspond to a specified file.
- Action: Review the list of files being referenced in this report, and re-enter the field number with the proper file designator.

#### File security prevents delete

- Cause: The delete security level of the file, as defined in the dictionary, exceeds the user's security level defined by his password, an external reference check does not allow delete, or, for MAXCIM users, the CHANGE EDITOR MODE in XDEF or DMDEF does not include D (delete).
- Action: Use a password with a higher level of security or lower the security level on the file, remove or check the external reference check, or add the D (delete) option in the CHANGE EDITOR MODE in XDEF or DMDEF.

#### Filename error -- <error message>

- Cause: An error occurred while trying to parse the filename.
- Action: Based on the actual error message displayed. Be certain that the filename has been correctly specified, including device, directory, and filename.

#### Filename error -- <filename> -- <error message>

- Cause: An error occurred while trying to open a data file. Refer to the VMS Error Message Manual for additional details on the actual error displayed. Typical errors include file not found and insufficient VMS privileges.
- Action: Double-check to see what the actual filename is that is being opened (look in the dictionary or CDD or MAXCIM ECB). Be sure that the file exists and that the protection codes are such that the user may read the file.

#### First and last string positions not allowed

- Cause: In the /Update dialogue, a partial text field was specified as the field to modify (e.g.: field/1-10).
- Action: If only part of a text field is to be modified, perform a calculation which constructs the portion to be modified, an use the SEG() function to prefix and append the portions not modified to the text result. Use the calculation result as the value to change the entire field to.

## Appendix D - Error Messages

Format is 'AT <freqs>'

Cause: **AT** was entered at the **Print frequency** prompt without any frequencies.  
Action: Enter **AT** followed by the selected frequencies or enter a single print frequency.

Function not allowed with UPDATE: <calculation function>

Cause: The use of the chosen calculation function is not available when using XENTIS/Update.  
Action:

Function not available

Cause: A function has been selected which is an extra-cost option which your site has not been granted access to, or has been disabled for you by your system manager.  
Action: If you purchased the option, contact your system manager. If you have not purchased the option, call your dealer's Sales Department with any questions you may have.

### G

Generic filename is missing

Cause: The generic file specified in a XENTIS command file cannot be found in the dictionary.  
Action: Be sure your default dictionary is the same as it was when the XENTIS command file was created, and be sure that the generic filename is defined in that XENTIS dictionary.

GOTO not allowed

Cause: A **GOTO** reporting command was entered at a guide menu prompt. **GOTO** is not allowed.  
Action: Do not enter a **GOTO** command at the guide menu prompt.

### H

HTML documents must have a title

Cause: You have attempted to have no title for the HTML output file. HTML requires a title.  
Action: Enter a title.

### I

'IF' but no Expression

Cause: An 'IF' operator was specified, but no conditional expression was entered to the right of the word 'IF'.  
Action: Re-enter the expression. If a conditional expression is desired, use the format: *result = expression IF expression*.

Ill-formed Atomic Expr. -- <expression>

Cause: There is a syntax error in your calculation or selection expression.  
Action: Review the manual for valid expression construct, and try another approach.

Illegal POINTER filename

Cause: An invalid response was entered for the pointer filename.  
Action: Check the syntax of the response. Ensure a valid device and directory were entered and that your VMS privilege allows you to write to that location. Ensure a valid filename and extension were entered.

Illegal Reference to CLT

Cause: A calculation-on-total result name was referenced in a selection expression.  
Action: Reconsider your selection criteria. If selection based on a calc-on-total result is required, first use the /File option to summarize records at the desired break level and run a report against the resulting file. What is your calculation-on-total in this report will be a regular calculation in that one, so you may perform selection criteria against the calc result.



Index segment <number> is missing

- Cause: Using XENTIS/File, the user had chosen to create a new indexed file with a multi-segment index, but a segment has been skipped.
- Action: Re-enter the output fields, specifying the index segments, without skipping a segment.

Initial read error

- Cause: This error occurs during the beginning of the selection phase of a report. It typically occurs when the user has specified a **First key to Read** value, yet that value is higher than any key value in the file.
- Action: Either accept that zero records will be read, or change your **First Key to Read** value.

Internal error <error message> at <expression>

- Cause: An unexpected error has occurred while reading data dictionary information.
- Action: Inspect data dictionary entries for the file or view being used for accuracy and correct any errors.

Invalid argument to function

- Cause: The argument to the USERx(), NEXTx(), PREVx(), or PRERx() function was not valid. Some functions don't allow use of literals, some require literals, while some don't allow calculations.
- Action: Review the documentation regarding the calculation function used then re-enter the calculation using a correct argument.

Invalid form name

- Cause: A form name that has not been defined by the system manager has been specified.
- Action: See your system manager for a list of valid print form names and their attributes.

Invalid key field

- Cause: A field from the wrong file has been specified to be used to build a key into an auxiliary file.
- Action: Fields to build keys must come from files defined prior to the file into which the key is being built. For simultaneous accessing, all key-building fields must come from the primary file. Enter a valid field name or literal.

Invalid operator <operator>

- Cause: An operator not allowed in selection expressions was specified. Note that certain operators allowed in calculations are not allowed in selection expressions. The expression parser will point to the operator in error.
- Action: Consider an alternate way of performing that operation using an operator supported by selection expressions, or perform that calculation in the calculation phase, then reference the result in the selection expression.

Invalid option on execute -- <value>

- Cause: A option was appended to the response to the **Execute** prompt which is not valid.
- Action: Correct or remove the switch from your response.

---

*Refer to 'Execute' for more information.*

---

Invalid record selection

- Cause: A file designator for the file from which records will be deleted was wrongly specified.
- Action: Enter **A** to delete records from the primary file, **B** from the secondary file, etc. To abort the delete dialogue, just back up a prompt with \ or /E.

Invalid syntax - first operand must be accumulated

- Cause: The first operand in a Select-on-Subtotal expression was not an accumulated field.
- Action: Enter the expression again making sure the first operand is an accumulated field.

Invalid syntax -- '=' not found

- Cause: A calculation expression was entered that contained no equals sign.
- Action: Calculations must be of the form *result = expression*. Re-enter the expression with a result name, followed by a space, and equals sign, another space, and a valid expression.

Invalid syntax -- operation not found

- Cause: An invalid SQL join statement was entered in the KEY section; an operation was not found in the statement.
- Action: Check the SQL statement and ensure an operation is included.

## Appendix D - Error Messages

### Invalid syntax - last operand must be literal

- Cause: The last operand in a Select-on-Subtotal expression was not a literal.  
Action: Enter the expression again making sure the last operand is a literal.

### Invalid table index

- Cause: Call your dealer 's Customer Support Department for assistance.

## J

### Join fields are not same data class

- Cause: When entering an SQL join expression, the two operands must be of the same data class; date, text, or numeric. The user entered an expression that mixes data classes.  
Action: Enter an SQL join expression where the operands are of the same data class. Be sure to surround text literals with quotes.

## K

### /KEY allowed only for output to seq file

- Cause: You entered the **/KEY** option when output is not to a new sequential file.  
Action: Enter the field without the **/KEY** option.

### Key exceeds allowable size

- Cause: The value entered at the **First/Last key to read** prompts is larger than the size of the key used to access the primary file.  
Action: Check the size of the key and re-enter the value.

### Key fields not changeable

- Cause: A field was specified to be modified which is a key segment, and the system manager has instructed XENTIS to disallow the modification of key fields with **/Update**.  
Action: Have the system manager enable key field modification by changing a setup parameter.

### Key segment specified is invalid

- Cause: The **/KEY=** option was specified on the field, but the segment number entered was not valid.  
Action: Key segment numbers must be from 1 through 8, as per RMS limitations.

## L

### Line must be 1 - <maximum line number>

- Cause: The print line for this field is not within the valid range.  
Action: In the Setup File, increase the maximum number of print lines allowed by increasing the value assigned to **MAX-ROW**. Enter a value in the range shown. If you do not wish to print this field, specify a print frequency of **9**.

### Line too long

- Cause: The response given at one of the prompts is too long to fit on the response line.  
Action: Check your response to ensure that it is accurate, then shorten your response.

### Lines per page is too small

- Cause: The response entered at the Lines to print per page was too small. The response must be the same as or exceed the maximum number of print lines used in the **FIELD**, **CALCULATION-ON-TOTAL**, and **BREAK** sections.  
Action: Enter a larger number greater than or equal to the maximum number of print lines used.

### Literal must be entered

- Cause: A field name was entered when expecting a literal value.  
Action: Enter a literal value.

**Literal not allowed**

Cause: A literal value was specified as the field to break on during a /File, /Model, or /Graph dialogue.  
 Action: Review your reporting requirements. If it is desired to create a break level at which a break will never occur, as would be the case when breaking on a literal value, set a calculation result to the literal value, then break on the calc result field.

**Literal or Calcs not allowed**

Cause: A calculation result or a literal value was specified as a field to modify.  
 Action: Fields to modify must be actual fields from a file. Specify a field name or number to be modified.

**Literal pool is full**

Cause: A maximum number of characters may be specified as literals. This limit has been exceeded.  
 Action: If the same literal is referenced more than once, consider setting a calculation result equal to that value, then reference the calculation result instead of the literal value.

**Literals not allowed as break fields**

Cause: A literal value was specified as the field to break on.  
 Action: Review your reporting requirements. If it is desired to create a break level at which a break will never occur, as would be the case when breaking on a literal value, set a calculation result to the literal value, then break on the calc result field.

**Literals not allowed in sort**

Cause: A literal value was specified as a sort field.  
 Action: If a literal must be used to perform a sort, define it as a calculation expression, and use the calculation result as the sort field.

**Logical XENTISnn\$REPORT\$DATA not assigned**

Cause: The logical XENTISnn\$REPORT\$DATA has not been assigned to point to the device and directory containing the system setup file.  
 Action: Assign the logical appropriately and restart XENTIS.

**LUN error -- <error message>**

Cause: This error occurs when XENTIS is being called from another program and the calling program has too many files open.  
 Action: Run XENTIS stand-alone or close some files before calling XENTIS.

**M**

**Maximum value is <number>**

Cause: XENTIS is prompting for a numeric or date value. The prompted literal was defined with a maximum value. A value greater than the maximum value was entered.  
 Action: Enter a numeric or date whose value is no more the number or date indicated.

**Minimum length is <number>**

Cause: XENTIS is prompting for a text value. The prompted literal was defined with a minimum allowable length. A value shorter than the minimum length was entered.  
 Action: Enter a text value whose length is at least the number indicated.

**Minimum value is <number>**

Cause: XENTIS is prompting for a numeric or date value. The prompted literal was defined with a minimum allowable value. A value less than the minimum value was entered.  
 Action: Enter a numeric or date whose value is at least the number or date indicated.

**Multi-segment index must be string**

Cause: You have chosen multiple fields for your index. All such fields must be text or have the appearance of being string to RMS. This is an RMS restriction.  
 Action: Choose fields that are text or appear to RMS to be string.

**Must be "ALL" or a positive number!!**

Cause: An invalid number was entered as the response to the **Number of Records to Select** prompt.  
 Action: Enter the number of records to be selected (maximum), or enter the word **ALL** to select all matching records.

## Appendix D - Error Messages

### Must specify a destination

Cause: A **GOTO** command was issued without specifying the destination.  
Action: Re-enter the **GOTO** command in the form **GOTO destination**.

## N

### No ADD\_DATE field exists

Cause: A data file was defined as having a date-added field, but no such field is defined in the dictionary.  
Action: Review the dictionary definition of the file, and either add a field description for the date-added field, or remove the date-added field name from the file's dictionary definition.

### No CHG\_DATE field exists

Cause: A data file was defined as having a date-changed field, but no such field is defined in the dictionary.  
Action: Review the dictionary definition of the file, and either add a field description for the date-changed field, or remove the date-changed field name from the file's dictionary definition.

### No default allowed

Cause: A sole Carriage-Return was pressed, or a blank line was encountered in a XENTIS command file in response to a prompt at which no default is allowed.  
Action: Enter a valid, non-blank response to the prompt issued.

---

*Refer to documentation of the dialogue prompt for more information.*

---

### No default allowed for: <prompt text>

Cause: A sole Carriage-Return was pressed, or a blank line was encountered in a XENTIS command file in response to a prompt at which no default is allowed.  
Action: Enter a valid, non-blank response to the prompt issued. Refer to the users manual for additional details.

### No default allowed here

Cause: A **GOTO** command was issued that caused a prompt in the dialogue to be skipped which has no default.  
Action: This is an informational message. The prompt requiring a response is issued. Upon entering a response to it, try using the **GOTO** command again.

### No DISPLAY mode on HARDCOPY terminals

Cause: The **DISPLAY** reporting command was entered from a hard copy terminal.  
Action: **DISPLAY** mode is not valid using a hard copy terminal. Do not use the **DISPLAY** reporting command when using a hard copy terminal.

### No substring allowed with numerics

Cause: A numeric-type field was entered with the /S-E syntax.  
Action: Re-enter the field name without the /S-E syntax or convert the numeric-type field to a text-type field using the STR function in a calculation expression.

### No valid COBOL record found

Cause: While attempting to convert a COBOL or DIBOL record description to a XENTIS data dictionary description, XENTIS could not find a valid COBOL or DIBOL record description.  
Action: Examine the contents of the file specified to ensure that it contains a full record description. For COBOL this means that it must have a 01 level indicator, and it cannot have any sequence numbers.

### 'NONE' is not allowed as a Calc Name

Cause: A result name of **NONE** was specified. **NONE** is a reserved word.  
Action: Use a different result name for your calculation expression. The result name is that part of the expression to the left of the equals sign.

---

*Refer to appendix E for a list of reserved words.*

---

**Not a valid byte integer**

Cause: Something outside the range of 0 - 255 was entered when XENTIS was expecting such a value.  
 Action: Evaluate the prompt and enter a number from 0 to 255.

**Not a valid calc field name: <field name>**

Cause: The result name of the calculation expression is the name of a field in an input file.  
 Action: Change the result name so that it does not match a field name in an input file.

**Not a valid calculation field**

Cause: A calculation result was specified in the form #X1, and the no such calculation has been defined.  
 Action: Review the calculation expressions and their corresponding numbers, to be sure you're referencing the proper result.

**Not a valid date**

Cause: Something other than a valid date was entered when XENTIS was expecting a date.  
 Action: Evaluate the prompt and enter a date in the form DD-MMM-YYYY or in any other valid format, as described in the user manual.

**Not a valid dictionary**

Cause: The dictionary specified at the Dictionary prompt or by the symbol XENTIS\$DICT is not a valid XENTIS dictionary.  
 Action: Check to be sure the filename being entered is a valid XENTIS dictionary. Check to be sure that it was created by or converted to the current version of XENTIS.

**Not a valid disk filename**

Cause: XENTIS is prompting the user for a disk filename. What has entered is not a valid disk filename.  
 Action: Enter a valid disk filename.

**Not a valid GROUP/BEGIN/END field**

Cause: When entering a sub-record at a file prompt, an invalid field specification for the GROUP, BEGIN, or END qualifier was entered.  
 Action: Check the syntax of the response. Ensure a valid field(s) is entered.

**Not a valid integer**

Cause: Too large or too small of a number was entered when XENTIS was expecting a less extreme value.  
 Action: Evaluate the prompt and enter a less extreme numeric value.

**Not a valid join field**

Cause: An invalid SQL join statement was entered in the KEY section; an invalid field was used in the statement.  
 Action: Check the SQL statement and ensure valid fields are included.

**Not a valid key number**

Cause: A key number less than 1 or greater than the number of keys in the file was specified.  
 Action: Evaluate the file linkage method to determine which key to access this file by, and enter a number from 1 to the number of keys in the file.

**Not a valid last record**

Cause: A last-record-to-read value less than the first-record-to-read value was specified.  
 Action: Enter a last-record-to-read value that is greater than or equal to the value of first-record-to-read.

**Not a valid literal**

Cause: A literal starts with a quotation mark but does not end with one, or quotation marks are embedded within the literal.  
 Action: Be sure to end the literal with the same form of punctuation with which it was started. Valid marks are ' and ". If one or more " are to be embedded in the literal, start and end the literal with ', and vice-versa.

**Not a valid maximum**

Cause: When entering a sub-record at a file prompt, an invalid number was entered for the /MAX qualifier.  
 Action: Check the syntax of the response. Ensure a valid maximum is entered.

**Not a valid number**

Cause: Something other than a number was entered when XENTIS was expecting one.  
 Action: Evaluate the prompt and respond by entering a number.

## Appendix D - Error Messages

### Not a valid POINTER file

- Cause: A pointer file was specified that was created in an outdated version of XENTIS. It cannot be accessed with the current version of XENTIS.
- Action: Re-create the pointer file via the SELECT function.

### Not a valid setup parameter -- <parameter>

- Cause: A parameter name was found in the setup file which is not a valid parameter name. That line from the setup file will be ignored. Note that this line may exist in the system or user setup files.
- Action: Review the setup file and either remove this line or modify it so that the parameter name is properly referenced.

### Not a valid subfile

- Cause: When entering a sub-record at a file prompt, an invalid sub-record statement was entered.
- Action: Check the syntax of the response. Ensure a valid sub-record statement is entered.

### Not a valid system setup file

- Cause: A compiled version of the System Setup File was not found.
- Action: Recompile the System Setup File using the correct item on the System Utilities menu.

### Not a Version 2.1 or 3.0 XENTIS Dictionary

- Cause: The default dictionary specified is not a valid, or is an outdated version of a XENTIS dictionary.
- Action: Check to be sure of the actual filename of your valid XENTIS dictionary.

### Not in validation table: <error message>

- Cause: A value was entered which is not among the list of valid responses to the prompt issued.
- Action: Review the list of valid responses and enter one of them.

### Null field not allowed

- Action: Call your dealer customer support.

### Numeric literal is invalid

- Cause: A numeric literal of extreme value (too large or too small) has been specified.
- Action: Review your numeric literals and adjust appropriately.

## O

### Occurrence level too large

- Cause: A subscripted field was specified, with an occurrence greater than what the field is dimensioned to.
- Action: Review the field definition in the dictionary to see how many elements are defined for that array field. When specifying a subscript for that field, use a number between 1 and the number of elements that have been defined for that field.

### Only Numeric Calc on Totals are allowed

- Cause: The result of the calculation-on-total expression was specified to be text, or the operations involved in the expression will produce a text or date value. Only numeric results are valid in calculation-on-totals.
- Action: Review your reporting requirements. If possible, specify a calculation (not calc-on-total) expression to perform the desired function, and print it with a **T** print frequency. If non-numeric calculations are required at breaks, first use the /File option to summarize data at the desired break level, then create a report using that file for input. You can then use a calculation to perform the desired functions, rather than using a calc-on-total.

### Only one detail freq is allowed with AT <freqs>

- Cause: More than one detail frequency (D, F, H, or U) was specified with **AT** at the Print frequency prompt.
- Action: Re-enter the print frequency with **AT** and only one detail frequency.

### Only one primary file allowed from <database>

- Cause: Multiple primary files were specified while using a database. Only one primary file may be used from a database.
- Action: If multiple files need to be processed sequentially from a database in the same report run (and as primary files), first use the /File option to extract the pertinent data from the database into an RMS file. Use the resulting RMS file rather than the database table for the primary file(s).

Only single dictionary updates allowed

- Cause: In the FILE section of an /Update dialogue, the multiple dictionary syntax was entered and multiple dictionaries are not allowed.
- Action: Check with your System Manager. Multiple dictionary updates can be disallowed using the ALLOW-MULTI-DICT setup parameter.

Only single file updates allowed

- Cause: A field was selected for updating that is in a different file than a previously selected field, and the system manager has restricted XENTIS to allowing updates on only one file at a time.
- Action: Execute multiple updates, modifying fields in just one file at a time, or have the system manager enable multiple-file updates by changing a setup parameter.

Only Yes or No - validation error

- Cause: Something other than Y or N was entered at a prompt that only allows Y or N.
- Action: Re-enter the response using only Y or N.

Operator not valid in CLT: <operator>

- Cause: A date or text operator or function was used in a calculation- on-total expression. Only numeric operations and functions may be used in calc-on-total expressions.
- Action: Review your reporting requirements. If possible, specify a calculation (not calc-on-total) expression to perform the desired function, and print it with a T print frequency. If non-numeric calculations are required at breaks, first use the /File option to summarize data at the desired break level, then create a report using that file for input. You can then use a calculation to perform the desired functions, rather than using a calc-on-total.

Option not recognized

- Cause: A /Switch was specified at the **Function** prompt, that is not valid.
- Action: Refer to the users manual for a list of valid responses to this prompt, or remove the switch.

Option not valid Interactively

- Cause: A function of 'REPORT/QUERY' was specified interactively. This syntax only works when running from a XENTIS command file. It tells XENTIS to accept the report dialogue found in the command file, and then to switch to QUERY mode to accept additional information from the user.
- Action: Enter 'REPORT' for the report dialogue, or 'QUERY' for the abbreviated dialogue. 'REPORT/QUERY' has no meaning when issued interactively.

Output file already exists

- Cause: The name of the entered output file already exists.
- Action: This message is for information purposes only.

Output file limited to <maximum number> fields/subscripts

- Cause: In /File, an output file containing more than the maximum number of allowed fields was specified. The output file may not contain more fields than the range shown.
- Action: In the Setup File, increase the maximum number of fields allowed by increasing the value assigned to MAX-FLDS. In the appropriate dictionary, describe the file with only fields that will be written to. Filler areas will be initialized to zeroes and nulls.

Output filename error

- Cause: The report filename entered does not meet the file naming requirements of VMS.
- Action: Check the filename for proper syntax, including device, directory, and filename.

Overflow

- Cause: A numeric literal is either extremely large or extremely small.
- Action: Review all numeric literals in your expression.

**P**

Parameter is not setable in user file: <parameter>

- Cause: The identified parameter has been flagged as unchangeable by the system manager, and an attempt to change it has been made in the user's setup file. The parameter maintains its system- level setting.
- Action: Remove the parameter from your user setup file, or have the system manager change the user-changeable flag to Y in the system setup file.

## Appendix D - Error Messages

### Parse terminated before End of Command

- Cause: Some field name, extra character, or literal was found at the end of an expression, that was not connected to the expression by use of an operator.
- Action: Insert the appropriate operator or delete the extraneous characters.

### Password is missing

- Cause: The password specified when running XENTIS cannot be found in the dictionary.
- Action: Be sure your default dictionary is correct, and be sure that the password is defined in that XENTIS dictionary.

### Pointer filename error

- Cause: An invalid filename was entered at the **Enter your pointer output filename** prompt.
- Action: Check the syntax of the response. Ensure a valid device and directory were entered and that your VMS privilege allows you access. Ensure the syntax of the filename and extension are correct.

### Pointer input file equals pointer output file

- Cause: In an 'RE' dialogue, a new pointer file was saved. The new pointer filename entered is identical to the input pointer filename. XENTIS does not allow the input and output pointer filenames to be the same.
- Action: Re-enter the new pointer filename using a different filename.

### Prefix definition is wrong

- Cause: When XENTIS is starting to select records from the primary file it has detected that the prefix information in XENTIS data dictionary is wrong, and it cannot proceed any further.
- Action: Review how file prefixes are defined in the data dictionary and correct the prefix definition.

### Premature use of select field

- Cause: A selection criteria result was specified in the form #S1, and selection criteria has not yet been defined.
- Action: Refrain from referencing selection criteria results until those portions of the dialogue which occur after the selection criteria dialogue phase. If a criteria result must be printed or used in a calculation, create a calculation using the 'IF' clause.

### Primary key not changeable, use REUPDATE

- Cause: When using XENTIS/Update you cannot modify the primary key fields. An attempt has been made to modify a field that belongs to the primary key.
- Action: Use the SELECT function to select the records that you want to modify, then use the REUPDATE function to modify the fields belonging to the primary key.

### Print line already used

- Cause: In a /CReport dialogue, the same print line was specified twice. Each print line may be specified only once.
- Action: Re-enter the response using a print line that is not already specified.

### Print mask error: Comma not allowed after decimal point

- Cause: A comma was found to the right of the decimal point in a print mask.
- Action: Remove the comma from that location, or move the decimal point to the right of the comma.

### Print mask error: Comma not allowed to start mask

- Cause: A comma was found as the first character of a print mask.
- Action: Remove the leading comma, or insert another '#' in front of it.

### Print mask error: CR or DB must finish print mask

- Cause: 'CR' or 'DB' was found in a print mask, but not at the end of it.
- Action: Move the 'CR' or 'DB' to the end of the print mask or remove it altogether.

### Print mask error: Negative sign must be trailing

- Cause: A negative sign was found in a print mask that was not at the end of the print mask.
- Action: Negative signs are automatically placed at the beginning of the printed number if no sign characters are specified (such as '-', '()', 'CR', 'DB', etc.). The only place a '-' is valid within a print mask is at the end of it. Move the '-' to the end of the print mask, or remove it altogether.

### Print mask error: Only one decimal point allowed

- Cause: More than one '.' was found in a print mask.
- Action: Remove the extraneous decimal point(s).



Print mask error: Single '\$' or '\*' not allowed

- Cause: Floating dollar signs and asterisk fill-in are specified by using two \$ or two \*, and only one was found in the print mask evaluated.
- Action: Insert a second '\$' or '\*' adjacent to the one in the print mask, or remove the one that is there.

Print mask error: Trailing ')' required when using leading '('

- Cause: When a print mask begins with '(', it must end with ')', and there was no trailing ')' in the print mask evaluated.
- Action: Insert a trailing ')' into the print mask, or remove the leading '('.

Print mask error: Trailing negative sign missing when using '\$' or '\*'

- Cause: When a print mask begins with '\$' or '\*', there must be a trailing negative sign, and there was not one in the print mask evaluated.
- Action: Insert a trailing negative sign into the print mask.

Print position is less than one

- Cause: The print position entered is less than one. Zero or negative print positions are not allowed.
- Action: Enter a print position that is one or larger.

Print position too large

- Cause: The print position entered, when combined with the print mask and/or column heading, exceeds the maximum allowable print position.
- Action: Enter a print position that is not as large. You might consider printing on a separate line.

**R**

Record already selected

- Cause: A file designator for the file from which records will be deleted was specified that has already been specified.
- Action: This is an informational message only.

Records must be saved when just SELECTing

- Cause: A response of **N** was entered at the **Do you wish to save pointers to selected records** prompt, and the function being performed is **SELECT**.
- Action: Respond **Y** if you wish to perform a **SELECT** operation. If no **SELECT** operation is desired, type **ERASE** to restart the dialogue.

Recursion Depth Limit

- Cause: Too many levels of function calls have been specified in a calculation expression.
- Action: Simplify the expression by breaking it into multiple expressions.

Response not allowed: <response value>

- Cause: The user entered a valid response that has been disabled by the setup file.
- Action: Change the setup parameter that doesn't allow this response.

Restarting and erasing...

- Cause: The **ERASE** command was issued.
- Action: This is an informative message only.

Result is unusable or already used: <field name>

- Cause: The result name specified in the calc-on-total expression has already been specified in another calculation expression (not calc-on-total).
- Action: Be sure to specify a calculation-on-total result name which is different from any result names found in standard calculation expressions.

Result length must be between 1 and <n> characters

- Cause: A text result name was specified with a length qualifier outside the valid text result length range.
- Action: Result lengths are specified as in '*result:length = expression*'. Reconsider your formula. If a result of more characters is required, use multiple expressions containing the **SEG()** function to create two results.

## Appendix D - Error Messages

### Result name contains illegal characters

- Cause: The result name (that part of the expression to the left of the equals sign), contains one or more illegal characters or spaces.
- Action: Replace any such characters with underscores (\_), or any other valid result name character.

### ReUpdate function not allowed

- Cause: REUPDATE was entered at the **Enter XENTIS function** prompt and it has been disallowed as a valid response.
- Action: Check with your System Manager. The REUPDATE function can be disallowed using the ALLOW-REUPDATE setup parameter.

### Running total not allowed

- Cause: An alternate accumulation option was entered on a running total. These two features are not compatible with each other.
- Action: Use either a running total or an alternate accumulation option, but not both.

## S

### Same physical file update not allowed

- Cause: If you are using the same data file more than once in a multiple file /Update run, then neither file may be modified or deleted.
- Action: Use SELECT, then REUPDATE.

### Security prohibits access to field

- Cause: The security level of a field exceeds that granted to the user according to the user's password.
- Action: Use another dictionary password that has a higher security level, or lower the field's security level.

### Security prohibits access to file

- Cause: The read-level security assigned to a file, in the XENTIS dictionary or the MAXCIM ECB is greater than the security level of the user based on his dictionary password.
- Action: Use a different dictionary password with a higher security level or change the security levels of this file in the dictionary.

### Security prohibits access to function

- Cause: The calculation function used is not allowed by a setup file parameter.
- Action: Change the setup file parameter or use a different calculation function.

### Security prohibits access to view

- Cause: The read-level security assigned to a XENTIS view, in the XENTIS dictionary is greater than the security level of the user based on his dictionary password.
- Action: Use a different XENTIS password with a higher security level or change the security levels of this file in the dictionary.

### Security prohibits adding to file

- Cause: In /File, an output file has been specified to which the user has not been granted the ability to add records.
- Action: Check the file security levels for this data file, as defined in your dictionary. Adjust them to allow add-access to the file.

### Security prohibits update with TEMP dictionary

- Cause: An attempt has been made to update a file described by a temporary dictionary and such is not allowed by a setup file parameter.
- Action: Change the appropriate setup parameter or describe the file in a XENTIS data dictionary.

### /SELECT needs number

- Cause: The **/SELECT** or **/READ** switch was appended to the response to the **Execute** prompt, but no value was assigned to the switch.
- Action: The proper syntax for use of the **/SELECT** switch is **Y/SELECT=n**, where *n* is the number of records to select, or for the **/READ** switch is **Y/READ=n**, where *n* is the number of records to read. Re-enter your response in this form.

Selection expressions must be boolean

- Cause: A single text field was entered as a selection expression.
- Action: When entering a single field as a selection expression, the field must be numeric. When the value in that field is 0, the detail is not selected. When the value in that field is anything other than 0, the detail is selected.

Setup file error on line: <expression>

- Cause: A badly-formatted line was found in the user or system setup file.
- Action: Remove the line from the setup file or correct it.

Something is Left Over

- Cause: Some field name, extra character, or literal was found at the end of an expression, that was not connected to the expression by use of an operator.
- Action: Insert the appropriate operator or delete the extraneous characters.

Sort on Total field must be accumulated

- Cause: You have specified a Sort-on-Total field but you haven't designated any fields that field for accumulation.
- Action: Enter the appropriate response that will accumulate you Sort-on-Total field.

Sorts with a /TOTAL field must have a break

- Cause: 'N' was entered at the **Do you wish to have break logic** prompt when a sort field was entered with /TOTAL (sort on an accumulated value).
- Action: Remove /TOTAL from the sort field or specify a break field.

SPAWN not allowed

- Cause: The reporting command SPAWN was used and has been disallowed by your system manager.
- Action: Ask your system manager to allow the use of SPAWN by changing the ALLOW-SPAWN parameter in the Setup File.

SQL statement is too long

- Cause: An SQL statement entered in the KEY section was too long.
- Action: Shorten the SQL statement.

Starting character beyond end of string

- Cause: A partial field was specified in the form 'field\_name/S-E', and the starting character specified exceeds the length of the field.
- Action: Examine the field as it's defined in the dictionary, and enter the correct starting and ending characters.

Starting/Ending character is invalid

- Cause: A partial field has been specified in the form *field\_name/S-E*, and the starting and ending characters are inappropriate.
- Action: Review the starting and ending characters' values, and review the length of the field. Also, this syntax is accepted only for text fields. Be sure the ending value is larger than the starting value, and that each value is within the length of the text field.

Starting/Ending positions not allowed

- Cause: A sub-field specification was used when trying to join two database tables together. Only full fields are allowed to join database tables.
- Action: Use a full field to join database tables.

Subrecords not allowed

- Cause: A sub-record was entered in the FILE section of an /Update dialogue. Sub-records are not allowed in /Update.
- Action: Remove the sub-record from the FILE section.

Substitute definition error -- <command>

- Cause: A substitution definition command, such as ~~D, etc., has been found to have some kind of syntactical error.
- Action: Evaluate the command for proper syntax.

---

*Refer to the appropriate prompt for more information.*

---

## Appendix D - Error Messages

### Substitution error -- <error message>

Cause: A syntax error occurred in a ~S substitution command.

Action: Check the syntax of ~S commands.

---

*Refer to the Command File Substitution for more information.*

---

### Subtotal/Total and break numbers cannot be used together in AT <freqs>

Cause: Frequency S or T was specified with one or more of frequencies **0** through **9** with **AT** at the **Print frequency** prompt.

Action: Re-enter the selective print frequency statement without **S** or **T**.

### Syntax Error

Cause: Some syntax error was detected in a calculation, selection, or calculation-on-total expression.

Action: Review the expression carefully and re-enter correctly.

## T

### Table is missing

Cause: During the XENTIS/Update dialogue a table validation check is being performed, but the table is missing from the data dictionary.

Action: Add the table to the data dictionary.

### Tables must be joined to primary

Cause: You are using a database that has only an internal SQL interface. RMS files can be used only after all database tables have been specified.

Action: Specify all your database tables before specifying an RMS files.

### The field <field name> is not accumulated

Cause: A sort field was specified with the **/TOTAL** qualifier and the field is not accumulated.

Action: Remove **/TOTAL** from the sort field or change the accumulate level of the field.

### This is not a valid compiled command file. You may wish to re-create one

Cause: The compiled command file referenced via the ^filename command or 'Run (or Modify) an Existing Report' functions, is not a valid compiled command file, or was created under an outdated version of XENTIS.

Action: Re-create the compiled command file under the current version of XENTIS.

### Title may be truncated

Cause: A report title longer than the maximum allowed has been entered. Depending on other information appearing in the report title lines, this title may be truncated in order to accommodate other information.

Action: Abbreviate the title if the results are not as you would like them. This is a warning message.

### Too many atomic expressions

Cause: The total number of operations being performed in calculations defined in the calculation, calculation-on-totals, and selection phases of dialogue exceeds the maximum allowed. Note that each expression may contain several operations.

Action: Review your calculations and selection expressions. If the same part of an expression is used more than once, consolidate it into a calculation result, and use that result instead of performing the operation multiple times. Additionally, try to determine if the calculations may be performed using a different set of functions or operators, which could reduce the number of total operations being performed.

### Too many atomic view select expressions

Cause: See '**Too many atomic expressions**'. A view is being used that contains selection expressions with operations causing the limit to be exceeded.

Action: Edit the view and reduce the number of operations used in the selection expressions.

### Too many files entered

Cause: You have entered more primary files than is allowed at the **Primary file/view** prompt.

Action: Consider using the **/MULTIPLE=** option at this prompt, which has no limit on the number of primary files.

Too many nesting levels

- Cause: Too many levels of nested parentheses were used in a calculation or selection expression.  
 Action: Simplify the expression by breaking it into multiple expressions, or remove unnecessary parentheses.

Too Many SubExpressions

- Cause: A calculation or selected expression contains too many operations.  
 Action: Simplify the expression by breaking it into multiple expressions.

Type Clash

- Cause: A field or literal of one data type (text, date, or numeric), is being compared to or computed with a field or literal of a different data type.  
 Action: Review data types of fields. A calculation may need to be performed to convert one data type to another before performing the desired operation. Also note that many six-digit numbers are considered to be dates unless followed by a decimal point.

**U**

Unable to access V4.X MAXCIM ECB

- Cause: XENTIS could not locate the MAXCIM V4.X database specified as the default dictionary. A common cause for this error is that the MAXCIM logicals were not correctly assigned before running XENTIS.  
 Action: Ensure all the MAXCIM logicals are correctly assigned but most importantly database\$ECB, database\$TOP, and database\$INCLUDE.

Unable to create <parameter file>

- Cause: An internal error occurred when XENTIS attempted to write parameters during a report run.  
 Action: Call your dealer 's Customer Support department.

Unable to enter DISPLAY mode in batch

- Cause: A XENTIS or DCL command file contains the XENTIS command **DISPLAY**, and XENTIS is currently running in batch.  
 Action: This is an informational message only. DISPLAY mode is not entered into, and processing continues normally. Note, however, that a Press return to continue prompt will be issued by XENTIS should this error occur. Remove the DISPLAY command from all command files which will be processed in batch.

Unable to find requested prompt - check location of <help file>

- Cause: XENTIS was unable to properly access the help file to retrieve a prompt.  
 Action: See your system manager or call your dealer 's customer support department.

Unable to open <type of file>: <filename> -- <error message>

- Cause: The specified file could not be opened by the operating system. Typical errors include file not found and insufficient privilege to read the file.  
 Action: In most circumstances the error message includes the message returned by the operating system. Review the operating system documentation and correct the error so that XENTIS can open the file.

Unable to open <filename> Not in dictionary

- Cause: The filename specified was not found in the dictionary.  
 Action: Do a **LIST DICT** to view a listing of all available files in the dictionary.

Unable to open <filename> -- <error message>

- Cause: An error occurred attempting to open the stated file. Typical errors include insufficient privilege to read the file and file not found.  
 Action: Based on the actual error message displayed. Be certain that the file actually exists as named, and that its protection code is set to allow the user to read it.

Unexpected fatal error in <program> <version>

- Cause: An error has occurred that XENTIS did not anticipate.  
 Action: Contact XENTIS support.

## Appendix D - Error Messages

### Update function not allowed

- Cause: The UPDATE function was selected, but that function has been disabled by your system manager.  
Action: Have your system manager enable the UPDATE option by changing a parameter in the setup file.

### Use DELETE to change calc result name

- Cause: You cannot change a calculation result name, once a calculation has been entered.  
Action: Use the **DELETE** command to delete the calculation, then re-enter it.

## V

### Value entered is not reasonable

- Cause: You have entered a pages per document value that is either less than one or greater than 999.  
Action: Enter a value between one and 999.

### View domains are not yet supported

- Cause: A view domain stored in the CDD was entered at the **Primary file/view** prompt. View domains are not yet allowed.  
Action: Do not use a view domain.

### View select <expression number> -- <error message>

- Cause: A syntax error in a selection expression was entered in a view. See **Bad Select Expression** for cause.  
Action: Correct the view, then rerun the report. See **Bad Select Expression** for action.

### View select <expression number> must be boolean

- Cause: A single text field name was entered as a selection expression in a view.  
Action: Correct the view, then rerun the report. See **Select expression must be boolean for action**.

### View written to: <file name>

- Cause: You have entered the **CREATEVIEW** command.  
Action: This message is for information purposes only.

## W

### Warning -- Selection expression <expression number> not referenced

- Cause: Using complex selection, a selection expression was not referenced using the #Sn syntax.  
Action: Check selection logic and ensure that all expressions are referenced.

### Warning: Table other than A referenced

- Cause: In the KEY section, when using SQL to join tables, a row/field from a table other than the table entered at the **Primary file/view** prompt was referenced in an Initial/Final expression for table A response. Only rows/fields from table A are allowed.  
Action: Re-enter the response using only rows/fields from table A.

### Warning, Create date has changed for <file name>

- Cause: A pointer file is being used and one of the files referenced in the pointer file has a different create date than when the pointer file was created. This means that the pointers are probably invalid.  
Action: Create the pointer file again, using the current file.

### Warning: Current table not referenced

- Cause: In the KEY section, when using SQL to join tables, a table was not referenced in a Join expression n for table x expression. All tables specified must be referenced in a join statement.  
Action: Re-enter the join statements. Ensure that all tables are referenced.

### Warning, Key field specified. Recommend REUPDATE

- Cause: During the XENTIS/Update dialogue a non-primary key field has been chosen for modification. XENTIS recommends that you use the SELECT function to select the desired records that you wish to modify, followed by the REUPDATE function to modify the records.  
Action: This message is for informational purposes only.

Warning, obsolete data type used

Cause: The data type of a field in the chosen file has been replaced with a standard data type.  
 Action: Redefine the field in your data dictionary to use the standard data type.

Warning, Print mask truncated

Cause: A print mask longer than the maximum allowed has been entered and has been truncated.  
 Action: This is a warning message.

Warning: unable to INDEX cmd file:

Error opening <filename> -- <error message>

Cause: An error occurred while trying to update the XENTIS catalog. Refer to the VMS Error Message Manual for additional details on the actual error message displayed. Typical errors include insufficient privilege to write to the file, the file is locked by another user, or there is insufficient disk space to contain the new catalog entry.  
 Action: Based on the actual error message displayed. Check to see that the filename is of a valid syntax. The catalog filename is defined as a parameter in the setup file. Also, make sure that if the file exists, it has appropriate protection codes, and that there is sufficient disk space.

Warning -- View select expression <expression number> not referenced

Cause: Using complex selection, a selection expression was not referenced using the #Sn syntax in a view.  
 Action: Correct the view, then rerun the report. Check selection logic and ensure that all expressions are referenced.

Web page documents must have a title

Cause: You have attempted to have no title for the HTML output file. HTML requires a title.  
 Action: Enter a title.

Will NOT re-calculate positions when backing-up

Cause: The **NORECALC** command was issued.  
 Action: This is an informational message only.

Will re-calculate positions when backing-up

Cause: The **RECALC** command was issued.  
 Action: This is an informational message only.

**Y**

Y or N only

Cause: Something other than **Y** and **N** was entered when XENTIS was issuing a yes/no prompt.  
 Action: Evaluate the prompt and enter either **Y** or **N**.

Y, N, or 1 only

Cause: Something other than **Y**, **N**, or **1** was entered in response to a prompt at which XENTIS was expecting one of those values.  
 Action: Evaluate the prompt, then enter a **Y**, **N** or **1**.

*Refer to the appropriate prompt for additional information.*

You can't save pointers from a database

Cause: An attempt was made to save record pointers, and one or more input files to which pointers would be saved is within a database.  
 Action: If record pointers are essential, first use the /File option of XENTIS to extract data from the database. Use the resulting RMS file as input instead of the database.

You can't save pointers using subrecords

Cause: An attempt to save pointers when subrecords are being used has been made.  
 Action: Either don't save pointers, or don't use subrecords.

You can't save pointers using /MULTIPLE=

Cause: Saving pointers is not allowed when the /MULTIPLE= method of multiple primary files is being used.  
 Action: Don't save pointers.

## Appendix D - Error Messages

You have selected a VIEW DOMAIN  
View domains are not yet supported

- Cause: A view domain was selected from the CDD.  
Action: View domains are not yet supported. Specify a simple domain, or an actual file with a record description from the CDD. You must manually enter the appropriate file linkage methods and selection criteria which your view domain might contain.

You have selected a RECORD DEFINITION

You must include a Filename

- Cause: A CDD record definition was entered without a corresponding actual data file name.  
Action: Enter the actual name of the data file to be associated with the record description selected.

You have selected an RMS DOMAIN

You may not include a Filename

- Cause: An actual filename was entered, followed by a slash (/) and an RMS domain name.  
Action: RMS domains contain the actual filename to be used. To use this domain, enter just the domain name. To use the specified file, enter the actual filename, a slash (/), and the appropriate CDD record description path name.

You must choose a field

- Cause: A guide menu destination beyond the FIELD section was entered and no fields were specified in the FIELD section. There is no default for Field 1; you must enter at least one field before moving beyond this section.  
Action: Choose a different guide menu destination or enter a field before re-entering the guide menu destination.

You must choose a file first

- Cause: A guide menu destination beyond the FILE section was entered and no files were specified in the FILE section. There is no default for the primary file, you must respond to the **Primary file/view** prompt before moving beyond this section.  
Action: Choose a different guide menu destination or enter a primary file before re-entering the guide menu destination.

You must choose a function first

- Cause: The first guide menu destination must be the FUNCTION section.  
Action: Select the FUNCTION section.

You must have at least one break field

- Cause: A response of **Y** was entered at the **Do you wish to have breaks** prompt, and a response of **NONE** was entered as the first break field.  
Action: If no break fields are desired, back up to the **Do you wish to have breaks** prompt and respond with **N**. Otherwise, enter a field name or calculation result name on which to break.

You must have at least one calculation

- Cause: A response of **Y** was entered at the **Do you wish to have calculations** or **Do you wish to have calc-on-totals** prompt, and a response of **NONE** was entered as the first expression.  
Action: If no calculations are desired, back up to the **Do you wish...** prompt, and enter **N**, otherwise enter a calculation expression.

You must have at least one field

- Cause: A response of **NONE** was entered as the first field to include in the interface file.  
Action: Specify at least one valid field to be interfaced.

You must have at least one modify field

- Cause: A response of **NONE** was specified as the first field to be modified. At least one field must be modified if that was the function selected.  
Action: Enter a valid field name.

You must have at least one record deletion

- Cause: A response of **NONE** was specified as the record to delete records from. At least one record must have records deleted if that was the function selected.  
Action: Enter a valid file designator. **A** for the primary file, **B** for the second file, etc.



You must have at least one report field

Cause: A response of **NONE** was entered as the first print field.  
 Action: Specify at least one field or value to be printed.

You must have at least one selection expression

Cause: A response of **Y** was entered at the Do you wish to have selection logic prompt, and a response of **NONE** was entered as the first expression.  
 Action: If no selection criteria is desired, back up to the prompt, and enter **N**, otherwise enter a selection expression.

You must have at least one sort

Cause: A response of **NONE** was entered as the first sort field after the a response of **Y** was entered at the **Do you wish to have a Sort** prompt.  
 Action: Specify a valid sort field. If no sort is desired, back up to the prompt and respond **N**.

You must include a filename

Cause: In the FILE section, a CDD record definition was entered without an actual filename.  
 Action: Re-enter the response in the form 'ACTUAL/PATH\_RECORD' where ACTUAL is the actual filename and PATH\_RECORD is the CDD record definition.

You must select a function or cmdfile before using GOTO's

Cause: A **GOTO** reporting command was entered from the **Enter XENTIS function** prompt without first selecting a function or loading a command file.  
 Action: Enter a response to the **Enter XENTIS function** prompt, press <RETURN> to accept the default, or load a command file before using **GOTO**.

You must specify output format

Cause: A guide menu destination beyond the FORMAT section was entered and not all prompts in the FORMAT section have defaults assigned. You must respond to all prompts that do not have defaults before moving beyond that section.  
 Action: Choose a different guide menu destination or respond to the prompts that do not have defaults before re-entering the guide menu destination.

Your selection is not found in the CDD

Cause: The CDD path name specified could not be accessed.  
 Action: Check the syntax of your path name. Include CDD\$TOP if appropriate. If trouble persists, use CDD's DMU utility to try to access the path.

# Technical Addendum

## *Handling unexpected errors.*

If an unexpected error occurs, XENTIS will attempt to display information about where the error occurred. It will then issue the **Press RETURN to exit** prompt. Press <Return> to return to the /Report menu. Under some circumstances, temporary files may not be deleted. If executing in batch, XENTIS should set an exit status code than will allow DCL to detect the error.

## *Temporary and Sort Files*

All temporary and sort files are created on the device assigned to the logical SYS\$SCRATCH. All users have SYS\$SCRATCH in their process logical table.

XENTIS /Report contains four major phases of operation: dialogue, selection, sorting and printing. The sorting phase is skipped if no sort is requested. When a report is executed in batch, XENTIS completes through 'Creating Command Files' interactively, then submits a .COM file to the batch queue. When a report is being run, here's how XENTIS works internally:

### *Validating the Dialogue*

All responses in the dialogue are validated. When creating a new report, responses are validated as entered. When modifying or running an existing report, responses are validated as they are read in.

When a filename is entered at any of the file prompts, XENTIS looks for the file description in the dictionary, validates the password, and locates and opens the actual data file.

All calculation and selection expressions are checked for accuracy.

### *Creating Command Files*

Screen displays: Writing command files.....

All command files requested at the **Write these responses to a command file** and **Do you wish to save a compiled version** prompts are created. When a report is executed in batch, XENTIS writes and submits a .COM file to the batch queue. The remaining steps are performed during the batch run.

Screen displays: Submitting <.COM filename> to <Batch Queue Name>.....

### *Formatting Parameters*

Screen displays: Writing parameters.....

The parameters are formatted and stored internally.

### *Creating Details, Selecting and Performing Calculations*

Screen displays: Selecting.....

During this phase, details are created, compared to the selection criteria, calculated fields are computed, then the detail is either discarded or written to the sort file. A detail is made up of one record from each file used to create the report. A record is read in the primary file, then based on the keys used to access an auxiliary file and the fields used to build keys, XENTIS finds 'matching' records in the auxiliary files. Once a 'matching' record is found in each auxiliary file used to create the report, a detail is created and stored in memory. See the KEYS section, below, for more information.

## Selection

If the SEGMENTED-SELECT Setup parameter is set to N, then the following logic takes place. Selection criteria is applied to every detail created. XENTIS determines when to perform selection. If the report uses only one file or if all the selection criteria involves the primary file only, then XENTIS reads a record in the primary file and performs selection BEFORE reading auxiliary files. If the selection criteria involves more than one file, then XENTIS examines the expressions to determine which files are used in selection, then performs selection at an optimal point.

If the SEGMENTED-SELECT Setup parameter is set to Y, then the following logic takes place. XENTIS examines each selection expression and determines the optimal point in processing. For example, if a four file report contains 2 selection expressions that reference only fields from the first file and 3 expressions that reference fields from the first and second file, then XENTIS will evaluate and execute those expressions that reference the first file immediately after reading the first file, and the 3 other expressions immediately after reading the second file. Using the DEBUG feature will allow you to watch selection expressions being executed.

## Calculation Computation

Calculation expressions are executed whenever the data fields referenced in the expressions have changed. Using the DEBUG feature will allow you to watch calculation expressions being executed.

## Temporary Sort File and Pointer File

After a detail is created, selection logic is applied, and calculations are performed, all details that meet all selection criteria are written to a temporary sort file. Each record in the temporary sort file contains the sort fields, the fields that are printing on the report, the break fields, and the RFA's of each record in the detail.

A temporary sort file is ALWAYS created unless a report contains NO sort fields AND the **Output file/device** is TT: (output to the terminal) or PRINTER PORT (output to the printer port of your terminal). In that case, records can be displayed as they are selected. This feature is determined by the DISPLAY-NOW parameter in the Setup File.

---

*Refer to Appendix A for more information.*

---

If saving selected records in a pointer file, then XENTIS writes a record to the pointer file after writing the temporary sort file record.

## Sorting

Screen displays: Sorting.....

If the report contains sort fields, then the temporary sort file is sorted using the VMS sort utility. If the report does not contain sort fields or if output is to the terminal (TT:) and a sort file is not created, then this step is skipped.

## Selecting on Subtotals

Screen displays: Selecting on Subtotals level n .... Records selected = nnnn

If the report contains selection on subtotals, then the selection on subtotal expressions are applied against the subtotals computed from the temporary sort file, and a new temporary sort file is created. If there are no selection on subtotal expressions, then this step is skipped.

## Printing

Screen displays: Beginning output to 'Output Filename'.....

During the printing phase, fields with a specified accumulate level are summed, calculation-on-totals are performed and breaks are inserted. XENTIS extracts and formats the fields printing on the report, writes them to the output file or device, and optionally prints and/or deletes the output file.

## XENTIS Symbols

There are externally defined symbols that can be used to pass values to XENTIS. The symbols discussed here are normally used by advanced users. Setting these symbols in the logicals files, XENTISLOGICALS.COM, is a common practice.

### XENTIS\$DICT

If this symbol exists and contains a valid dictionary name, then XENTIS uses it for the default dictionary. The user is not prompted for Dictionary.

### XENTIS\$PASSWD

If this symbol exists and contains a valid dictionary password, then XENTIS uses it for the dictionary password. The user is not prompted for Password.

### XENTIS\$MENU\_OPTION

If this symbol exists and contains NEVER, INTERACTIVE, or ALWAYS, then XENTIS uses it to determine whether or not to display the XENTIS menu.

If the symbol is set to NEVER, the XENTIS menu is never used. If the symbol is set to INTERACTIVE, the XENTIS menu is used interactively but not in batch. If the symbol is set to ALWAYS, the XENTIS menu is used both interactively and in batch. If not set outside of XENTIS, XENTIS\$MENU\_OPTION is set to ALWAYS in XENTIS.COM.

When running XENTIS linked into MAXCIM V3.X, the XENTIS menu cannot be used. XENTIS\$MENU\_OPTION must be set to NEVER.

### XENTIS\$CMDFILE

If this symbol exists and contains a valid command filename, then XENTIS automatically runs the command file when XRP.EXE is run (XRP.EXE is the module used for the 'Create a new report' option). The user is not prompted for **Enter XENTIS function**.

A valid command filename can be in any one of the following forms:

@filename.XCF                      ^filename.XCC

- /GO, /SHOW, /BATCH, /NIGHT, or /SHOW/GO may be appended.
- filename is the command file name (without an extension) or dev:[dir]filename where dev:[dir] are the device and directory where the command file is stored.

### XENTIS\$CMDFILE\_n

where n is a sequential integer between 1 and 99.

If the symbol XENTIS\$CMDFILE exists and contains a valid command file name, XENTIS runs the command file when XRP.EXE is run. When the command file is finished processing, XENTIS searches for the symbol XENTIS\$CMDFILE\_1. If the symbol XENTIS\$CMDFILE\_1 exists and contains a valid command file name, XENTIS processes that command file. XENTIS searches for the symbol XENTIS\$CMDFILE\_2, and so on until it does not find the next symbol in sequence. If XENTIS encounters an error when running a report, it does not finish the report, but searches for the next appropriate symbol.

All rules and syntax that apply to XENTIS\$CMDFILE also apply to XENTIS\$CMDFILE\_n.

**XENTIS\$FUNCTION**

If this symbol exists and contains a valid /Report function (QUERY, SELECT, FILE, MODEL, etc.), XENTIS uses the function as the default to the **Enter XENTIS function** prompt when XRP.EXE is run.

**XENTIS\$DFLT\_QUEUE**

If this symbol exists and contains a valid queue name, then XENTIS uses it as the default to the **Queue to use** prompt with Print a Report and Print a Report Definition from the /Report menu. If this symbol is not set, then XENTIS uses the Setup File parameter DFLT-QUE-PRT as the default response.

**XENTIS\$DFLT\_FORM**

If this symbol exists and contains a valid form name, then XENTIS uses it as the default to the **Form to use** prompt with Print a Report and Print a Report Definition from the /Report menu. If this symbol is not set, then XENTIS uses the Setup File parameter DFLT-QUE-FORM as the default response.

**Menu Symbols**


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*Refer to Appendix F, The XENTIS Menu System, for a complete list of menu symbols.*

---

## XENTIS Logicals

In this section the notation 'nn' refers to the XENTIS version number. For example, for XENTIS version 4.3, substitute '43' for 'nn'.

**XENTISnn\$COMFILES**

XENTISnn\$COMFILES is the logical that points to the location (device and directory) of the XENTIS logicals files, XENTISLOGICALS.COM.

The logicals described below are normally assigned in XENTISLOGICALS.COM. You may assign these logicals outside of XENTIS. You may choose to do this to run XENTIS programs without invoking the XENTIS menu. The logicals discussed here are normally assigned by advanced users.

**XENTISnn\$REPORT\$DATA**

XENTISnn\$REPORT\$DATA is the logical that points to the location (device and directory) of the data files shipped with XENTIS. Data files include the batch template file, the DCL command procedure template file, the system setup file (both uncompiled and compiled versions), the help files, and the /Model control files.

**XENTISnn\$PROGRAM**

XENTISnn\$PROGRAM is the logical that points to the location (device and directory) of the executable files shipped with XENTIS.

**XENTISnn\$SECURITY**

XENTISnn\$SECURITY is the logical that points to the location (device and directory) of the user security file that control which users can access which XENTIS modules..

### ***XENTISnn\$MENU***

XENTISnn\$MENU is the logical that points to the location (device and directory) of the menu data file shipped with XENTIS.

### ***XENTISnn\$DEMO***

XENTISnn\$DEMO is the logical that points to the location (device and directory) of the demonstration files shipped with XENTIS.

### ***XENTISnn\$DFLT\_DICT***

XENTISnn\$DFLT\_DICT is the logical that defines the default dictionary if the symbol XENTIS\$DICT is not set.

### ***XENTISnn\$MENU\_SCREEN\_FILE***

XENTISnn\$MENU\_SCREEN\_FILE is the logical that defines the menu screen file (device, directory, file name, and extension).

### ***XENTISnn\$MENU\_LINE\_FILE***

XENTISnn\$MENU\_LINE\_FILE is the logical that defines the menu line file (device, directory, file name, and extension).

---

*Refer to Appendix F for more information on menu logicals.*

---

### ***XENTISnn\$BROWSE\_FILES***

XENTISnn\$BROWSE\_FILES is the logical that controls the file types (extension) that the *Browse* functions from the dictionary menu will use.

### ***SQL\$DEBUG***

If SQL\$DEBUG exists and translates to a Y, then when XENTIS generates or prepares an SQL statement for execution, it will display the SQL statement on the user's terminal.

### ***TOLAS\_DATE\_FORMAT***

If TOLAS\_DATE\_FORMAT exists and translates to an accepted value, XENTIS will accept as input a print as output, those date formats that are valid TOLAS dates. Please refer to TOLAS application software documentation for more information.

### ***RECSIZE\_LIMIT\_filename***

If RECSIZE\_LIMIT\_filename exists and translates to a number, where *filename* is the name of the data file entered in the File Section dialogue, then XENTIS will limit the size of the data record for this file and ignore bytes beyond the specified limit. This logical allows XENTIS to process records from files that have a very large record sizes.

## ***Queuing to Batch***

### ***Queuing to Batch in XENTIS***

When you enter B or O at the **Execute** prompt, your report is run in batch. With B, the command file is queued for immediate processing. With O, the command file is queued to batch for overnight processing.

Here's how queuing to batch works in XENTIS:

- XENTIS copies the batch template file to SYSSCRATCH:. The name of the template file is determined by the Setup File parameter BATCH-CTL-FILE (shipped as XENTISBAT.DAT). The template file must reside in the location specified by the XENTISnn\$REPORT\$DATA logical.
- The name of the copy contains: the product name, XENTIS, the command file name, then several digits, depending upon the time of day, with a .COM extension (for example: XENTIS\_COMPRPT\_12345.COM).
- In the copy, XENTIS substitutes: the user's default directory, the dictionary name, the password, the command file, the execute options, and its own name so that it can delete itself after it has run.
- Once the substitutions are made, the .COM file is submitted to batch using the VMS SUBMIT command.

The queue name, which can include qualifiers for the SUBMIT command, is retrieved from the Setup File parameters NOW-BATCH-QUE or NIGHT-BATCH-QUE. Batch queue priority and the time of day to run a job in batch when executed with O are also specified by parameters in the Setup File.

- At many sites, a log file is printed with the report when a report is run in batch. The log file is a copy of the .COM file and a recording of all the prompts, responses, and error messages issued during the batch run. If you do not want a log file to print with the report, append /NOPRINT to the values assigned to the NOW-BATCH-QUE and NIGHT-BATCH-QUE parameters in the Setup File. If you do not want a log file created with the report, append /NOLOG.

The PASSWORD can be hidden in the log file if the Setup File parameter ENCRYPT-PASSWORD is set to Y.

The DCL informational messages can be displayed when a batch job is submitted or queued; message display is determined by the DISPLAY-DCL Setup File parameter.

---

*Refer to Appendix A for more information on the Setup File.*

---

## Queuing to Batch Outside of XENTIS

In addition to queuing to batch within XENTIS, you can also create your own .COM files and submit them to batch outside of XENTIS. Use XENTISBAT.DAT as a guide when constructing your .COM file. You can include more than one XENTIS report run in one .COM file and use the XENTIS\$DICT and XENTIS\$PASSWD symbols to set a default dictionary.

### Example of Customized .COM File

```
$ SET DEFAULT DUA0:[XENTIS.FILES] ! 'nn' indicates version
$ @XENTISnn$COMFILES:XENTISLOGICALS.COM
$ XENTIS$DICT :== DISKB:[XENTIS.DICT]INHOUSE.DIC
$ XENTIS$PASSWD :== TUNAFISH
$ XENTIS$CMDFILE:=="@REPORT1.XCF"/GO
$ RUN XENTISnn$PROGRAM:XRPNn.EXE ! 'nn' indicates version
$DECK

$EOD
$ XENTIS$CMDFILE:=="@REPORT2.XCF/GO"
$ RUN XENTISnn$PROGRAM:XRPNn.EXE ! 'nn' indicates version
$DECK

$EOD
$ XENTIS$CMDFILE:=="@REPORT3.XCF/GO"
$ RUN XENTISnn$PROGRAM:XRPNn.EXE ! 'nn' indicates version
$DECK

$EOD
$ EOJ
```

## Pointer Files

During a dialogue, you may save the record pointers of selected records in a pointer file. A pointer file may then be used with 'RE' functions to pre-select records in a subsequent report run. See the COMMAND FILE section, above, for more information.

Pointer files are sequential files. The first record in a pointer file is a header record containing filenames and record counts. All subsequent records in a pointer file contain the record pointers, one record in the pointer file for each detail previously selected. The file is in the following format, as expressed in BASIC:

<i>Pointer File Structure</i>				
RECORD POINTHEAD				
WORD	DIC_TYPE	!Dictionary Type	!	
STRING	FIL_ACCESS = 1	!File Access (S,P,E)	!	
BYTE	FILL	!1 byte filler	!	
STRING	PRI_FILE = 64	!Primary filename	!	
STRING	FIL_NAME = 64	!Data filename	!	
STRING	FIL_DSC = 64	!Generic filename	!	
STRING	DIC_NAME = 64	!Dictionary name	!	
STRING	DIC_PASS = 64	!Dictionary password	!	
STRING	FIL_CREATE = 8	!VMS creation date	!	
STRING	FIL_REVISE = 8	!VMS revision date	!	
END RECORD POINTHEAD				
RECORD POINTER_REC				
VARIANT				
CASE				
STRING	VRSN = 16	! Header layout	!	
LONG	REC_CNT	!File identification	!	
BYTE	PRI_FIL_COUNT	!No. of recs in pointer file	!	
BYTE	FIL_CNT	!No. of primary files	!	
WORD	FILL	!No. of files pointed to	!	
POINTHEAD	POINT(1 to 18)	!2 filler bytes	!	
		!File information	!	
CASE				
BYTE	CUR_PRI_FIL	!Current primary file	!	
STRING	FILL = 1	!Word-Aligned	!	
RFA	REC_RFA(1 to 18)	!Record pointers	!	
END VARIANT				
END RECORD POINTER_REC				

**NOTE:** Documentation of the internal specifications of the Pointer File is not a commitment that future versions of XENTIS will use the same specifications. The presence or definition of any field in a Pointer File is subject to change in any future version.

**NOTE:** Versions 4.0 through 4.5 used a different format of the pointer file.

The contents of this file are:

### *VRSN*

Pointer file identification that must contain "XRP-POINTER Vn.n", where 'n.n' is the version.

### *PRI\_FIL\_CNT*

The number of primary files referenced by the pointer file.



***FIL\_CNT***

The number of data files referenced by the pointer file.

***REC\_CNT***

The number of records contained in the pointer file.

***FIL\_NAME***

The actual filenames of the files referenced by the pointer file.

***PRI\_FILES***

If multiple primary files are used, the actual filenames of the multiple primary files.

***FIL\_DSC***

The generic filenames of the files referenced by the pointer file.

***DIC\_NAM***

The actual filename of the dictionary used to store data file descriptions for each file referenced by the pointer file.

***DIC\_PASS***

The password used to access the dictionary for each file referenced by the pointer file.

***DIC\_TYPE***

The type of dictionary used to store data file descriptions for each file referenced by the pointer file. Allowed values are **1** (XENTIS dictionary), **2** (MAXCIM V3.X ECB file), **3** (MAXCIM V4.X ECB file), and **4** (Oracle's Common Data Dictionary - CDD).

***FIL\_ACCESS***

The access method used for each file referenced by the pointer file when a **RE**-function is executed using the pointer file. Allowed values are **S** (shared access), **P** (protected access - allow other users to READ only), and **E** (exclusive access - do not allow other users to use the data file).

***FIL\_CREATE***

The creation date of the file as assigned by the operating system in VMS 64 bit date format

***FIL\_REVISE***

The revision date of the file as assigned by the operating system in VMS 64 bit date format.

***CUR\_PRI\_FIL***

A number specifying which primary file the current record is from.

***REC\_RFA(1) through REC\_RFA(18)***

An array contains the record pointers of the selected records. The columns in the array are in the following form: REC.RFA(x). The (x) subscript varies from 0 to 17 depending on the number of data files used. Each row in the array is in the following form: REC.RFA (0) contains the pointer for the first data file, while REC.RFA(1) contains the pointer for the second data file, etc. Except for the header record, each record in the pointer file corresponds to a 'detail' record selected from the data files.

## Limitations and Restrictions

### Restricted Words

Some words are defined in XENTIS and are restricted for use as literals and variables. **DO NOT** use restricted words anywhere in a XENTIS dialogue except when used as intended. Restricted words include:

- All reporting commands. Remember that LIST is a command.
- All XENTIS date literals (for example, TODAY). Any variation of the special date literals (for example; Y, YE, YES, YEST, YESTE, YESTER, etc.) are reserved words in XENTIS.
- All operations and functions including AND and OR.
- Any response allowed at a prompt that has a defined meaning in XENTIS (for example; valid XENTIS functions).

### Data Files and File Descriptions

#### Fields

- In /Report, the maximum number of fields allowed in a data file is 999.
- In /Dictionary, the maximum number of fields that can be described in a file description is 999.
- In /Report, the maximum size of a field is 2048 bytes.
- In /Dictionary, the maximum size of a field in a file description is 2048.

#### Keys

- In /Report, the maximum number of keys allowed in a data file is 20.
- In /Dictionary, the maximum number of keys that can be described in a file description is 9.
- In /Report, the maximum number of key segments in a single key allowed in a data file is 20. (RMS allows only 8 segments per key.)
- In /Dictionary, the maximum number of key segments in a single key that can be described in a file description is 9.

#### Records

- The sum of the sizes from records from all input files, plus calculations, sort fields, break fields, title data fields, and literals cannot exceed 32767 bytes.
- In /Dictionary, the maximum record size is 32767.

---

*Refer to RECSIZE\_LIMIT\_filename logical on how to limit the recordsize of a file.*

---

#### Miscellaneous /Dictionary

- The maximum occurrences allowed in a field description is 99.
- The maximum number of validation files allowed in all field descriptions associated with one file description is 50.
- The maximum number of validation tables allowed in all field descriptions associated with one file description is 50.

## Report, Dialogue

### General

- The maximum size of any item in the Info window is 40 bytes. The item is truncated if it extends beyond 40 bytes.

### Literals

- The maximum number of literals allowed in one report is 200.
- The maximum number of characters allowed in one string literal is 64.
- The maximum number of bytes for all literals in one report is 4096.

### FILE section

- The maximum number of files in a report is 18 primary and 17 auxiliary. There is no limit on multiple primary files if method 2 of specifying multiple primary files is used.
- The maximum number of characters that can be entered at the **Primary file/view** prompt is 255.
- The maximum number of characters that can be entered at the auxiliary file prompts is 255.

### KEY section

- The maximum number of fields that can be used to build a key in a report is 20.
- The maximum number of initial/final expressions for SQL databases is 8.
- The maximum number of join expression for each auxiliary table is 8.

### CALCULATION section

- The maximum number of calculation expressions allowed in one report is 100.
- The maximum number of operations allowed in all expressions is 700.
- The maximum number of operations allowed in one calculation expression is 19.
- Each calculation expression can contain up to 250 characters.
- The maximum text calculation result size is 2048 bytes.

### FIELD section

- The maximum number of fields that can be printed on one report is 150.
- The maximum size of a print mask is 80 characters.
- The maximum number of print lines per detail is 100.
- The maximum print position is 1000.
- The maximum size of a field specified in /Report is 2048 bytes.
- The maximum number of characters allowed in a column heading is 64.

### CALCULATIONS ON TOTALS (CLT) section

- The maximum number of CLT expressions allowed in one report is 40.
- The maximum number of operations allowed in all expressions is 256.
- Each CLT expression can contain up to 132 characters.

### SELECTION section

- The maximum number of selection expressions allowed is 64.
- The maximum number of operations allowed in all expressions is 500.

- Each selection expression can contain up to 132 characters.

### ***SORT section***

- The maximum number of sort fields allowed on one report is 10.

### ***BREAK section***

- The maximum number of break fields allowed on one report is 10.
- The maximum size of a break description is 128 characters.
- The maximum number of Select-on-Subtotal expressions per break is 8.

### ***FORMAT section***

- The maximum size of an output filename is 64 characters.
- The maximum size of the report titles allowed is 64 characters.
- The maximum size of form name and print queue is 32.

## ***Report, General***

- When printing a report, print queues are not verified as valid.
- Calculations involving undefined or null dates, 00-XXX-00, yield undefined results.
- Calculated values may need to be rounded because of the internal representation of the number in VMS.
- The maximum number of **SET** commandss allowed is 40.
- The maximum size of a **SET** commands is 64 characters.
- Queue names, including optional qualifiers, may not exceed 64 characters.
- The **SQLWHERE** command value is limited to 256 characters.

## ***Other Options***

- In /Word, supported word processing packages are listed in the /Word section.
- In /Model, supported spread sheet and graphics packages are listed in the /Model section.
- In /Model, the maximum size of a column heading is 64 characters.
- In /Word, the maximum size of an output WP field name is 64 characters.
- In /Update, when updating a field in the primary file and there are multiple records in the auxiliary files, the field is updated only once for the first detail encountered.
- In /Edit, the maximum size of a field displayed on an /Edit screen is 512 characters.
- In /File, the maximum number of fields allowed in an output file is 999.
- In /File, the maximum size of a field in an output file is 2048.
- In /CReport, the maximum number of print lines is 150.

## ***DEBUG Mode***

XENTIS supports a debug mode of operating. If this mode is turned on, XENTIS will display a series of debugging messages, either on the user's terminal or into a text file, that indicate the various operations that XENTIS is performing. This capability allows you to debug reports that are not producing the expected results. Please note that 'nn' denotes the version number.

### *XENTISnn\_DEBUG\_OUTPUT logical*

This logical controls whether debug output should go to your terminal or whether it should go to a text file. If this logical does not exist or is not defined correctly, output will go to your terminal. If this logical is defined to translate to a disk file, then debugging output will go to this file.

### *XENTISnn\_DEBUG\_DELAY logical*

This logical controls how much delay will occur before debug messages are displayed. The value associated with this logical dictates the number of primary records that must be processed prior to displaying the first debug message. For example a value of 60 means that the first debug message will be displayed when the 60<sup>th</sup> primary record is being processed. The **F** debug flag is not affected by this logical.

### *XENTISnn\_DEBUG\_FLAGS logical*

This logical controls whether debug mode is invoked or not, and if invoked the messages that are displayed. This logical should translate to one or more character flags according to the following table:

Flag	Description
A	Displays newly read record in ASCII format
C	Calculation Expressions
D	Dictionary Operations
E	Calculation Detail Operations
F	Data File Opens and Closes
H	Displays newly read record in HEX format
Q	SQL Operations
R	Data File Reads
S	Selection Expressions
T	Selection Detail Operations
W	Data File Writes

Use of the A or the H debug flag requires the R or Q debug flag and the security clearance to read all fields from all files in the report. No error is displayed if the A or H is rejected by the software. If the Q flag is used, only those fields used in the report will contain displayable data. Output can be extensive.

For example, to display data file reads, calculation expressions, and selection expressions, define the XENTISnn\_DEBUG\_FLAGS logical, where nn is the version number, to a value of RSC such as:

```
$DEFINE XENTISnn_DEBUG_FLAGS RSC
```

## *HISTORY File*

This History file is a special data file that XENTIS writes to each time it exits. The name of this file is controlled by the HISTORY-FILE Setup parameter. This file contains an audit log of what operations XENTIS has performed during its execution. While this file is similar to the Registry file, it contains different data and serves a different purpose. A description of the data contained in the History file is in the following table.

Field Name	Data Type	Size	Description
User_Name	T	12	The OpenVMS username.

Terminal	T	8	The current terminal device name.
Node_Name	T	6	The current network node name.
Function	T	10	The XENTIS function used (Report, Model,...)
Process_ID	L	4	The OpenVMS Process ID.
UIC_Member	W	2	The OpenVMS UIC Member number.
UIC_Group	W	2	The OpenVMS UIC Group number.
Start-Time	DA	8	The starting date and time.
End_Time	DA	8	The ending date and time.
CPU_Used	L	4	The CPU time used, in 1/100th seconds.
Page_Faults	L	4	The number of page faults performed.
Direct_IO	L	4	The number of direct I/O's performed.
Buffered_IO	L	4	The number of buffered I/O's performed.
Select_Count	L	4	The number of records selected.
Primary_Count	W	2	The number of primary files used.
File_Count	W	2	The number of data files used.
File_Names	CT2	500	A list of filenames delimited by a pound (#) character, where the first name is the XCF filename, followed by the data file names.

Included in the data directory is a temporary dictionary file that describes the history file. Its name is XENTIS\_HISTORY.TEMPDIC. To produce a report using the history file, copy this temporary dictionary file into the same directory that contains the history file, and produce a report using the history file as your primary data file. Be sure to append /DICT=TEMP to the filename.

## REGISTRY File

This Registry file is a special data file that XENTIS writes to each time it accesses a XENTIS Command File (XCF). The name of the Registry file is controlled by the REGISTRY-FILE Setup parameter. This file contains an audit log of what XCF files were used. While this file is similar to the History file, it contains different data and serves a different purpose. A description of the data contained in the History file is in the following table.

Field Name	Data Type	Size	Description
Date	T	12	The date that the XCF file was accessed
Time	T	12	The time that the XCF file was accessed.
File_Name	T	255	The VMS filename of the XCF file that was accessed.

## SECURITY File

This security file is a special data file that XENTIS uses to control which users have access to which XENTIS modules. The file is named XENTIS\_SECURITY.DAT and is located in the directory defined by the XENTISnn\$SECURITY executive mode logical in the system logical name table. A detailed description of how this file is used by XENTIS and its format can be found in the security file. Usage of the security file is controlled by the USER-SECURITY setup file parameter.

## Foreign Command

XENTIS may be executed using a feature of the Operating System called Foreign Commands. This feature allows XENTIS to be invoked with various qualifiers (options), while at the same time bypassing the standard XENTIS menus. Therefore, XENTIS now supports several qualifiers on a command line. These qualifiers are:

/REPORT= <i>filename1</i>	Specifies the name of the report definition file to use. This is the same as the XENTIS\$CMDFILE symbol.
/DICTIONARY= <i>filename2</i>	Specifies the name of the data dictionary to use. This is the same as the XENTIS\$DICT symbol.
/PASSWORD= <i>password</i>	Specifies the password to use. This is the same as the XENTIS\$PASSWD symbol.
/CHAIN= <i>filename3</i>	Specifies the program to chain to after finishing. This is the same as the XENTIS\$CHAIN symbol.
/SELECT= <i>number</i>	Specifies the number of records to select. This is the same as the /SELECT option at the <b>Execute</b> prompt.
/READ= <i>number</i>	Specifies the number of records to read from the primary file. This is the same as the /READ option at the <b>Execute</b> prompt.
/NOERR	Specifies that no error messages are to be displayed. This is the same as the /NOERR option at the <b>Execute</b> prompt.
/STATS	Specifies that detailed statistics are to be displayed. This is the same as the /STATS option at the <b>Execute</b> prompt.
/GO	Specifies that XENTIS should execute the report immediately. This is the same as the /GO option on a XENTIS command file.
/BATCH	Specifies that XENTIS should submit the report to batch. This is the same as the /BATCH option on a XENTIS command file.
/NIGHT	Specifies that XENTIS should submit the report to overnight batch. This is the same as the /NIGHT option on a XENTIS command file.
/SHOW	Specifies that XENTIS should display the dialogue as it is processing the XENTIS command file. This is the same as /SHOW option on a XENTIS command file.

### RULES

- Qualifiers may be abbreviated to three characters.
- Qualifiers have priority over corresponding symbols.
- Only one of /GO, /NIGHT, and /BATCH can be used.

An example of using a Foreign Command to execute XENTIS would be:

```
$ XRP ::= $XENTISnn$PROGRAM:XRPnn.EXE
$ XRP/REPORT=CUSTLIST/DICT=MYDICT/PASS=MYDICT/SEL=100/GO
```

## Supported Modeling Control Files

The supported control files for XENTIS/Model are:

<b>CCALC.DAT</b>	For C-Calc
<b>CALC11.DAT</b>	For Calc-11
<b>COMMA_SEPARATED.DAT</b>	For Comma Separated Value files
<b>DIGICA.DAT</b>	For Digicalc
<b>EXCEL.DAT</b>	For Excel
<b>FINAR.DAT</b>	For Finar
<b>LOTUS.DAT</b>	For Lotus 1-2-3
<b>MSWORD.DAT</b>	For Microsoft Word
<b>MUPLAN.DAT</b>	For Multiplan
<b>SATURN.DAT</b>	For Saturn Calc
<b>TAB_SEPARATED.DAT</b>	For Tab Separated Value files
<b>WORDPERFECT.DAT</b>	For WordPerfect
<b>WORDSTAR.DAT</b>	For Wordstar
<b>XML.DAT</b>	For XML formatted text files.
<b>20-20.DAT</b>	For 20-20

## Supported Webpage Control Files

The supported control files for XENTIS/Webpage are:

<b>FIXED-BORDER-HEAD.HTMLTBL</b>	Fixed columns, with border, with headings
<b>FIXED-BORDER-NOHEAD.HTMLTBL</b>	Fixed columns, with border, without headings
<b>FIXED-NOBORDER-HEAD.HTMLTBL</b>	Fixed columns, without border, with headings
<b>FIXED-NOBORDER-NOHEAD.HTMLTBL</b>	Fixed columns, without border, without headings
<b>VARIABLE-BORDER-HEAD.HTMLTBL</b>	Variable columns, with border, with headings
<b>VARIABLE-BORDER-NOHEAD.HTMLTBL</b>	Variable columns, with border, without headings
<b>VARIABLE-NOBORDER-HEAD.HTMLTBL</b>	Variable columns, without border, with headings
<b>VARIABLE-NOBORDER-NOHEAD.HTMLTBL</b>	Variable columns, without border, no headings



# *XENTIS Menus*

XENTIS reporting and data management software products are normally accessed using menus. A menu system, tools and software, is provided as part of the XENTIS software. The menu system allows you to customize the standard XENTIS menus, or create entirely new menus for use with XENTIS or any other VAX/VMS software you may be using.

There are two different menu systems provided with XENTIS. The original menu system included with XENTIS is the 'select-by-number' menu, since you can select entries by number (or by highlighting the desired menu entry).

The additional menu system provided with XENTIS V3.6 or higher is the 'select-by-name' menu. This menu system allows you to select entries by number (or by highlighting the desired menu entry), and also by referencing easily-remembered names.

The original menu system is provided to allow users that are comfortable with it to continue using it. The 'select-by-name' menu system provides many expanded capabilities. Each menu system is described in this appendix. You may use one or both of the menu systems, as you wish.

# Select-by-Name Menu System

## Use and Maintenance

### Invoking the 'select-by-name' Menu System

To invoke the 'select-by-name' menu system, execute XENTIS1.COM. This file is shipped with XENTIS and is located in the same directory as the other XENTIS data files.

Normally after installation, a short-cut method is used to invoke the menu. See your System Manager for instructions on how to invoke the menu at your site.

### Selecting Menu Items and Keystrokes

To select an option from a XENTIS menu, use one of the following methods:

- Highlight the option using the cursor keys, then press either <Return>, <PF4>, or <SELECT>.
- Enter the menu item number displayed and press <Return>.
- Enter the menu item name and press <Return>.

Menu item names may be abbreviated. Abbreviations must include enough characters to make the menu item unambiguous. Entering a full name runs its menu function, even if another choice begins with the same text. You may access an item on a different menu by entering the menu item name without going through the menu hierarchy.

Additional keystrokes and responses are listed below.

- Enter a menu name to display a different menu.
- Enter EXIT or Q, then press <Return> to exit from XENTIS.
- Enter \ , E, or 0, then press <Return> to back up one menu level or exit from the main menu.

### Menu Content

The standard XENTIS 'select-by-name' menu system is comprised of a main menu and sub-menus. Each of these menus may be modified. If you have any questions about modifications, see your System Manager.

Each menu contains heading information at the top, the menu itself, and an area at the bottom to enter responses. The menu consists of three columns. The first column displays the menu item number, the second displays the menu item description, and the third displays the menu item name.

### Maintaining the Menu

The XENTIS menus are maintained using the options available on the Menu File Maintenance Menu. There are three options: 'Create or maintain a menu title', 'Create or maintain menu line items', and 'Generate a menu file report'.

The 'select-by-name' menu system allows an unlimited number of menus and menu levels. Each menu may contain up to sixteen menu items.

## Create or maintain a menu title

Use this item to add, change, delete, or list menu screen information. There are three fields associated with each screen; menu name, title, and menu to return to. When you are finished, enter E, then press <Return> to return to the Menu File Maintenance Menu. NOTE: If you are creating a new sub-menu, be sure to add a line item to its higher level menu that calls the new sub-menu.

### Menu Name

Maximum: 20 characters

Enter the name of the menu screen you wish to maintain. The menu name is used to directly access any menu. As shipped, the XENTIS menu system contains seven menus. The menu names are MAIN, REPORT, DICTIONARY, LABELMAKER, DEMO, UTILITY, and MENU.

### Title

Maximum: 40 characters

Enter the menu title that displays at the top of the menu screen.

### Menu to Return to

Maximum: 20 characters

Enter the name of the menu screen to return to when this menu is exited. Valid responses are blank to exit from XENTIS, a menu name that already exists, or a menu name that will be created.

## Create or maintain menu line items

Use this option to add, change, delete, or list menu line items. There are seven fields associated with each line item; menu name, line sequence, line description, menu entry text, program name, program type and blank before. When you are finished, enter E, then press <Return> to return to the Menu File Maintenance Menu.

### Menu Name

Maximum: 20 characters

Enter the name of the menu screen that contains the line item you wish to maintain. As shipped, the XENTIS menu system contains seven menus. The menu names are MAIN, REPORT, DICTIONARY, LABELMAKER, DEMO, UTILITY, and MENU.

### Line Sequence

Maximum: 10 characters

Enter the line sequence (alpha or numeric characters) for this line item. Items on the menu are displayed by line sequence on the menu screens.

### Line Desc.

Maximum: 48 characters

Enter the text description that displays in the middle section of the menu.

### Menu Entry Text

Maximum: 20 characters

Enter the menu item 'name' that displays in the third column on the menu. The name can be used to invoke the menu item and to jump between menus. If this menu item calls a sub-menu, then enter its menu name.

### *Program Name*

Maximum: 60 characters

Enter the program to run (.EXE), DCL command file, or the DCL statement to execute when this menu item is chosen. Do not include RUN or @. If this menu item calls a sub-menu, then enter its menu name.

If the program type is 'C', 'D', or 'P', then the program name should include a location (device and directory). If a location is not specified and program type is 'C' or 'P', then XENTIS uses the logical XENTISnn\$PROGRAM to locate the program. If program type is 'D', then XENTIS uses the default directory.

### *Program Type*

Maximum: 1 character

Enter the program type. Valid responses are P for executable image (.EXE), C for DCL command file (.COM), D for a single DCL statement, or M for a menu entry.

### *Blank Before*

Maximum: 1 character

Enter Y if you wish to skip a line on the menu screen before displaying this menu item. Enter N if you do not.

## *Generate a menu file report*

Use this item to generate a report listing the entries for menu screen and menu line items. When finished processing, press <Return> to return to the Menu File Maintenance Menu.

## *Technical Overview*

The XENTIS menu system is made up of four primary components. They are (standard names are displayed in parentheses):

- a DCL command file (XENTIS1.COM)
- the menu program (XMENU.EXE)
- the menu screen file (XMENU\_SCREEN.IDX)
- the menu line file (XMENU\_LINE.IDX)

Here's how the XENTIS menu system works: invoke XENTIS by executing XENTIS1.COM. XENTIS1.COM establishes logicals and symbols that control menu display and locate menu data files that are used by the menu program. XENTIS1.COM then runs the menu program XMENU.EXE. XMENU.EXE locates the menu screen file, XMENU\_SCREEN.IDX, and the menu line file, XMENU\_LINE.IDX. The screen file contains one record for each menu screen in the menu system. The line file contains one record for each menu line item in the menu system. Using these two files, XMENU.EXE displays the first menu. Once a menu selection is entered, XMENU either displays another menu (if requested) or passes the appropriate command back to XENTIS1.COM for execution via a DCL command.

### *The DCL Command File, XENTIS1.COM*

The following is an example of a DCL command file created to use with the XENTIS menu system. With XENTIS, a similar file already exists and is named XENTIS1.COM. If you wish to use the XENTIS menu system with applications other than XENTIS, create a command file in the following form.

*Sample DCL Command File*

```

$ XENTIS$MENU$LOGO := "ABC Company"
$ IF F$TYPE(XENTIS$MENU_TO_DISPLAY) .EQS. ""
$ THEN XENTIS$MENU_TO_DISPLAY := MAIN
$ ENDIF
$ !
$ ASSIGN/NOLOG SYS$SYSDEVICE:[XEN] XENTISnn$PROGRAM
$ ASSIGN/NOLOG SYS$SYSDEVICE:[XEN] XENTISnn$MENU
$ ASSIGN/NOLOG XENTISnn$MENU:XMENU_SCREEN.IDX -
XENTISnn$MENU_SCREEN_FILE
$ ASSIGN/NOLOG XENTISnn$MENU:XMENU_LINE.IDX -
XENTISnn$MENU_LINE_FILE
$ !
$DISPLAY_MENU:
$ ASSIGN/NOLOG SYS$COMMAND SYS$INPUT
$ ON ERROR THEN GOTO MENU_ERROR
$ RUN XENTISnn$PROGRAM:XMENU.EXE
$ ON WARNING THEN GOTO CTRL_Y_OR_DCL_ERROR
$ 'XENTIS$COMMAND_TO_RUN
$ GOTO DISPLAY_MENU
$ !
$MENU_ERROR:
$ SAVE_STATUS = $STATUS
$ GOSUB PRESS_RETURN
$ EXIT SAVE_STATUS
$ !
$CTRL_Y_OR_DCL_ERROR:
$ SAVE_STATUS = $STATUS
$ GOSUB PRESS_RETURN
$ EXIT SAVE_STATUS
$ !
$PRESS_RETURN:
$ MODE := 'F$MODE()'
$ IF MODE .NES. "BATCH" .OR. MODE .EQS. "INTERACTIVE"
$ THEN
$ READ/PROMPT = "Press return to continue: "SYS$COMMAND -
JUNK/END=RETURN1
$ ENDIF
$ !
$RETURN1:
$ RETURN

```

## Components of the DCL Command File

### Symbols Set in the DCL Command File

**XENTIS\$MENU\$LOGO** contains the text field displayed in the title of each menu screen. If this symbol is blank, the menu title line does not display (including logo, company name, and version number). If the menu title line does not display, then the menu itself may contain up to seventeen menu items.

**XENTIS\$MENU\_TO\_DISPLAY** determines the first menu displayed when XENTIS is invoked. If this symbol is not set, then XENTIS looks for a menu named MAIN.

### Logicals Defined in the DCL Command File

**XENTISnn\$PROGRAM** defines the location (node, device, directory) of the menu program, XMENU.EXE, and other programs accessed during execution. When entering menu line items, if 'program type' is 'C' or 'P', then XENTISnn\$PROGRAM defines the location of 'program name' if a device and directory are not specified.

**XENTISnn\$MENU** defines the location (node, device, directory) of the menu screen file, XMENU\_SCREEN.IDX, and the menu line file, XMENU\_LINE.IDX.

**XENTISnn\$MENU\_SCREEN\_FILE** defines the filename and location (node, device, directory) of the menu screen file, XMENU\_SCREEN.IDX. This logical is normally defined as XENTISnn\$MENU:XMENU\_SCREEN.IDX.

**XENTISnn\$MENU\_LINE\_FILE** defines the filename and location (node, device, directory) of the menu line file, XMENU\_LINE.IDX. This logical is normally defined as XENTISnn\$MENU:XMENU\_LINE.IDX.

### *Symbol Set from the Menu Line File*

**XENTIS\$COMMAND\_TO\_RUN** XMENU.EXE places the DCL command associated with a menu item (as specified in the menu line file) into this symbol. This symbol is passed back to XENTIS1.COM where it gets executed.

## *Running XENTIS Functions without the Menu*

XENTIS functions, normally accessed through the XENTIS menus, can be accessed without using the menu system. You may use this feature to invoke a specific XENTIS function from VMS or to add XENTIS functions to another menu system.

To do so, execute XENTIS1.COM and include the name of the function you wish to invoke. For example:

```
$ @XENTISnn$COMFILES:XENTIS1.COM REPORT_CREATE_REPORT
```

where 'nn' is the version number. Each function name references a subroutine in XENTIS1.COM. When XENTIS1.COM is executed in this manner, control goes directly to the subroutine for execution rather than to the menu. Valid function names are listed below. You may add your own subroutines to XENTIS1.COM.

<i>Function Name</i>	<i>Menu Item Performed</i>
DICT_EDIT	Edit a dictionary
DICT_CREATE_DICT	Create a new dictionary
DICT_CHANGE_DEFAULT	Change the default dictionary
DICT_TRANSFER	Copy a XENTIS description to XENTIS
DICT_DUMP	Dump a file description to a text file
DICT_LOAD	Load a file description from a text file
DICT_CDD_TO_XENTIS	Copy a CDD description to XENTIS
DICT_CREATE_FILE	Create new, empty data file
DICT_AUDIT_MANAGER	Audit Trail Management
DICT_CREATE_INFO_FILE	Filename info file creation
DICT_LIST_BRIEF	Brief data dictionary listing
DICT_LIST_FULL	Full data dictionary listing
EDIT_FILE	/Edit
FILE_OUTPUT	/File
MODEL_OUTPUT	/Model
WORD_OUTPUT	/Word
UPDATE_OUTPUT	/Update
CREPORT_OUTPUT	/Creport
MENU_LINE_MAINTENANCE	Maintain menu line items
MENU_SCREEN_MAINTENANCE	Maintain menu screen items
MENU_REPORT	Create a report of menus
REPORT_CREATE_REPORT	Create a new report
REPORT_CREATE_QUERY	Create a new query
REPORT_EXECUTE	Run an existing report
REPORT_BATCH	Run an existing report in batch
REPORT_MODIFY	Modify an existing report
REPORT_DIR_FILE	Directory of report definitions
REPORT_DELETE_FILE	Delete a report definition
REPORT_PRINT_FILE	Print report output
REPORT_PRINT_CMD	Print a report definition
REPORT_COPY_FILE	Copy a report definition
REPORT_CREATE_DCL	Create a .COM file from a report definition
REPORT_COMPILE_SETUP	Setup file compilation
REPORT_LABELS	Design Labels

REPORT_REFORMAT_LABELS	Reformat Labels
REPORT_BROWSE_LISTING	Browse report output files
REPORT_BROWSE_COMMAND	Browse report command files
XBAR_FRONT_END	XBAR conversion
REGISTRY_REPORT	Produce report from Registry File

## Creating Custom Menus

The XENTIS menu system allows you to create different XENTIS menus for different groups of users. Each menu can be customized and maintained individually and is defined by a separate set of menu data files; a menu screen file and a menu line file. Each menu system may include an unlimited number of menus and menu levels, each containing up to sixteen menu items.

There are two alternatives for creating multiple XENTIS menus: use the standard XENTIS file names for the menu data files (Alternative I) or copy and rename the menu data files (Alternative II). Alternative I allows one set of menu data files in a single directory, Alternative II allows multiple sets of menu data files in a single directory.

### ALTERNATIVE I: Using XENTIS file names.

This section shows you how to create a new set of menu files where the menu file copies must use the standard XENTIS file names. As a result, only one set of menu files may be stored in each directory.

- Create a central, common directory to store the additional set of menu files. Let's assume the directory is DISKB:[USER].
- Copy the standard menu screen and line files into the common directory.
 

```
$ COPY dev:[dir]XMENU_SCREEN.IDX DISKB:[USER]*.*
$ COPY dev:[dir]XMENU_LINE.IDX DISKB:[USER]*.*
```

 where *dev:[dir]* is the device and directory where XENTIS resides.
- Copy XENTIS\_LOGICALS.COM into the common directory.
 

```
$ COPY dev:[dir]XENTIS_LOGICALS.COM DISKB:[USER]*.*
```
- Modify XENTIS\_LOGICALS.COM to define the logical XENTISnn\$MENU as a search list logical that looks first in the common directory for a file, then in the XENTIS directory if not found.
 

```
$ DEFINE/PROC/NOLOG XENTISnn$MENU DISKB:[USER],dev:[dir]
```
- For each user that will use the copied menu files, modify their LOGIN.COM file and define the logical XENTISnn\$COMFILES to point to the common directory.
 

```
$ DEFINE/PROC/NOLOG XENTISnn$COMFILES DISKB:[USER]
```

### ALTERNATIVE II: Using custom file names

This section shows you how to create a new set of menu files where the menu file copies are not required to use the standard XENTIS file names. As a result, you can create multiple sets of menu files in a single directory.

- Create a central, common directory to store additional sets of menu files. Let's assume the directory is DISKB:[USER].
- Copy the standard menu screen and line files into the common directory renaming them as they are copied. In the example, the menu files being created are for the accounting department and are renamed to ACCTG\_SCREEN.IDX and ACCTG\_LINE.IDX. Repeat this step for each custom menu.
 

```
$ COPY dev:[dir]XMENU_SCREEN.IDX DISKB:[USER]ACCTG_SCREEN.IDX
$ COPY dev:[dir]XMENU_LINE.IDX DISKB:[USER]ACCTG_LINE.IDX
```

 where *dev:[dir]* is the device and directory where XENTIS resides.
- Copy XENTIS\_LOGICALS.COM into the common directory.
 

```
$ COPY dev:[dir]XENTIS_LOGICALS.COM DISKB:[USER]*.*
```

## **Appendix F - Select by Name Menu System**

- Modify XENTIS\_LOGICALS.COM in DISKB:[USER]. Define the menu screen logical and the menu line logical to the copied filenames (include node, device, directory, filename, and extension).  
\$ DEFINE/PROC/NOLOG XENTISnn\$MENU\_SCREEN\_FILE -  
DISKB:[USER]ACCTG\_SCREEN.IDX  
\$ DEFINE/PROC/NOLOG XENTISnn\$MENU\_LINE\_FILE -  
DISKB:[USER]ACCTG\_LINE.IDX
- For each user that will use the accounting menu files, modify their LOGIN.COM file and define the logical XENTISnn\$COMFILES to the common directory.  
\$ DEFINE/PROC/NOLOG XENTISnn\$COMFILES DISKB:[USER]



# Select-by-Number Menu System

## How to Use

### Invoking the 'Select-by-Number' Menu System

To invoke the 'select-by-number' menu system, execute XENTIS.COM. This file is shipped with XENTIS and is located in the same directory as the other XENTIS files.

Normally after installation, a short-cut method is used to invoke the menu. See your System Manager for instructions on how to invoke the menu at your site.

### Selecting Menu Items

To select an option from a XENTIS menu, use one of the following methods.

- Highlight the option using the cursor keys, then press either <Return>, <PF4>, or <SELECT>.
- Enter the menu item number and press <Return>.

Addition keystrokes and responses are listed below.

- Enter Q, then press <Return> to exit from XENTIS.
- Enter \, E, or 0, then press <Return> to back up one menu level or exit from the main menu.

### Menu Content

The standard XENTIS 'select-by-number' menu system is comprised of a main menu and sub-menus. Each of these menus may be modified. If you have any questions about modifications, see your System Manager.

Each menu contains heading information at the top, the menu itself, and an area at the bottom to enter responses. The menu consists of two columns. The first column displays the menu item number and the second displays the menu item description.

## Technical Overview

Here's how XENTIS Menu works: the menu program, XUMENU.EXE, displays the menus and the user prompt. A menu data file, MENU.DAT, stores menu screen option descriptions and the DCL commands used to execute the options. A DCL command file sets the parameters for XENTIS Menu, executes XUMENU.EXE, and executes the DCL commands, as specified in MENU.DAT, once a selection is entered. In XENTIS, the DCL command file is usually XENTIS.COM.

The XENTIS 'select-by-number' menu system handles up to three menu levels. Each menu may contain up to 26 options.

To use XENTIS Menu, create two files; a DCL command file to run the menu program and a MENU.DAT file to store menu screen data and DCL commands.

### The DCL Command File, XENTIS.COM

The following is an example of a 'typical' DCL command file created to use XENTIS Menu:

#### Sample DCL Command File

```
$ XENTIS$TOP$LINE = 5
```

```

$ XENTIS$BOTTOM$LINE      = 17
$ XENTIS$SPACING          = 1
$ XENTIS$MENU$LOGO        = 'Company Name'
$ XENTIS$MENU$TITLE       = 'Accounts Receivable System'
$ ASSIGN/NOLOG SYS$SYSDEVICE:[XEN] XENTISnn$PROGRAM
$ ASSIGN/NOLOG SYS$SYSDEVICE:[XEN] XENTISnn$MENU
$ DISPLAY_MENU:
$ ASSIGN/NOLOG SYS$COMMAND SYS$INPUT
$ ON ERROR THEN EXIT
$ RUN XENTISnn$PROGRAM:XUMENU.EXE
$ IF .NOT. ( $STATUS .AND. 1 ) THEN EXIT
$ ON ERROR THEN GOTO DISPLAY_MENU
$ 'XENTIS$DCL_1'
$ 'XENTIS$DCL_2'
$ 'XENTIS$DCL_3'
$ 'XENTIS$DCL_4'
$ GOTO DISPLAY_MENU
$MENU_EXIT:
$ EXIT

```

### ***Symbols set in the DCL command file***

Set the following symbols as appropriate to your application in the DCL .COM file.

XENTIS\$TOP\$LINE	Sets the screen line number on which the first menu item is displayed.
XENTIS\$BOTTOM\$LINE	Sets the screen line number on which the last line is displayed. If the entire menu doesn't fit in the space specified by the top and bottom display lines, PRESS M FOR MORE displays.
XENTIS\$SPACING	Sets the number of blank lines displayed between each menu item. If not defined, blank lines are not displayed between menu items.
XENTIS\$MENU\$LOGO	Sets the text field displayed in the upper left-hand corner of each menu screen.
XENTIS\$MENU\$TITLE	Sets the text field displayed in the center above the menu items in each menu screen.

### ***Symbols set from the MENU.DAT file***

XUMENU.EXE uses the DCL commands associated with a menu item (as specified in the MENU.DAT file) to set the following four symbols.

XENTIS\$DCL_1	The first DCL command to execute.
XENTIS\$DCL_2	The second DCL command to execute.
XENTIS\$DCL_3	The third DCL command to execute.
XENTIS\$DCL_4	The fourth DCL command to execute.

## ***The MENU.DAT File***

### ***Format***

MENU.DAT is a text file that contains eight columns separated by a comma. Enclose text elements in quotes (") if a comma is a part of the text. At most, there can be 26 options on any one menu and two levels of sub-menus.

The first three columns contain numeric values used to create menu levels. The fourth column contains the menu option description. The last four columns contain either a DCL command, a special key word (MENU, EXIT, or QUIT), or empty quotes (").

The last line has a special syntax and must always be in the same form as shown below. Examples, descriptions and instructions provided below exclude the last line of MENU.DAT files.

## Special Key Words

MENU, EXIT and QUIT are special key words, not actual DCL commands, used by XENTIS Menu to perform specific functions.

MENU is used to access sub-menus. EXIT is used to back up one menu level (only when sub-menus are used). QUIT is used to terminate XENTIS Menu.

## Main Menu (No Sub-menus)

The following is an example of a 'typical' MENU.DAT file used by XENTIS Menu to create a main menu:

### Main Menu Example

1, 0, 0, "Customer Maintenance",	"RUN AR:CUST_MAINT.EXE", " ", " ", " "
2, 0, 0, "Aged Trial Balance",	"RUN AR:TRIAL_BAL.EXE", " ", " ", " "
3, 0, 0, "Sales History Report",	"RUN AR:SALE_HIST.EXE", " ", " ", " "
4, 0, 0, "Leave Menu",	"QUIT", " ", " ", " ", " "
0, 0, 0, " ", " ", " ", " ", " "	

**COLUMN 1** contains a numeric value representing the sequential order of options in the main menu. Values start with 1 and increment by 1.

**COLUMNS 2 and 3** contain a numeric value representing the sequential order of options in sub-menus. See the ONE and TWO LEVEL SUB-MENUS examples below for details. When using only a main menu (no sub-menus), columns 2 and 3 are 0.

**COLUMN 4** contains the option description. Text is as it appears on the menu screen and is enclosed by quotes ("").

**COLUMNS 5 through 8** contain DCL commands to be executed when the associated option is selected. If fewer than four DCL commands are needed, remaining columns must be represented by empty quotes (""). Exactly eight columns must be specified on each line. The option to leave the menu contains the special key word QUIT in column 5.

## One Level Sub-menus

The following is an example of a 'typical' MENU.DAT file used by XENTIS Menu to create a main menu and one level sub-menus:

### One Level Sub-menu Example

1, 0, 0, "Customer Maintenance",	"RUN AR:CUST_MAINT.EXE", " ", " ", " "
2, 0, 0, "A/R Reports",	"MENU", " ", " ", " "
2, 1, 0, "Aged Trial Balance",	"RUN AR:TRIAL_BAL.EXE", " ", " ", " "
2, 2, 0, "Alpha Customer List",	"RUN AR:CUST_LIST.EXE", " ", " ", " "
2, 3, 0, "Return to Main Menu",	"EXIT", " ", " ", " "
2, 4, 0, "Leave Menu",	"QUIT", " ", " ", " "
3, 0, 0, "Sales History Report",	"RUN AR:SALE_HIST.EXE", " ", " ", " "
4, 0, 0, "Leave Menu",	"QUIT", " ", " ", " "
0, 0, 0, " ", " ", " ", " ", " "	

**COLUMN 1** contains a numeric value as described in the MAIN MENU example. Lines that have the same numeric value in column 1 are part of the same first level sub-menu.

**COLUMN 2** contains a numeric value representing the sequential order of options in the first level sub-menu. Values start at 1 and increment by 1.

**COLUMN 3** contains a numeric value representing the sequential order of options in the second level sub-menu. See the TWO LEVEL SUB-MENUS example below for details. When using only one level sub-menu, column 3 is 0.

**COLUMN 4** contains the option description as described in the MAIN MENU example.

**COLUMNS 5 through 8** contain DCL commands to be executed when the associated option is selected. The main menu option selected to access the sub-menu contains the special key word MENU in column 5. The sub-menu option selected to return to the main menu contains the special key word EXIT in column 5. The main menu option to leave the main menu contains the special key word QUIT in column 5. The sub-menu option selected to leave both the sub-menu and the main menu contains the special key word QUIT in column 5.

When the second option, A/R REPORTS, is selected from the main menu, a sub-menu displays containing three options: AGED TRIAL BALANCE, ALPHA CUSTOMER LIST, <Return> TO THE MAIN MENU.

## Two Level Sub-menus

The following is an example of a 'typical' MENU.DAT file used by XENTIS Menu to create a main menu and two level sub-menus:

### *Two Level Sub-menu, Example*

1, 0, 0, "Customer Maintenance",	"RUN AR:CUST_MAINT.EXE", " ", " ", " "
2, 0, 0, "A/R Reports",	"MENU", " ", " ", " "
2, 1, 0, "Aged Trial Balance",	"RUN AR:TRIAL_BAL.EXE", " ", " ", " "
2, 2, 0, "Customer Listings",	"MENU", " ", " ", " "
2, 2, 1, "List Customers by No.",	"RPT=1", "RUN AR:CUST_LIST", "PRINT 1.LIS", " "
2, 2, 2, "List Customers by Name",	"RPT=2", "RUN AR:CUST_LIST", "PRINT 2.LIS", " "
2, 2, 3, "Display Previous Menu",	"EXIT", " ", " ", " "
2, 3, 0, "Return to Main Menu",	"EXIT", " ", " ", " "
2, 4, 0, "Leave Menu",	"QUIT", " ", " ", " "
3, 0, 0, "Sales History Report",	"RUN AR:SALE_HIST.EXE", " ", " ", " "
4, 0, 0, "Leave Menu",	"QUIT", " ", " ", " "
0, 0, 0, " ", " ", " ", " ", " "	

**COLUMN 1** contains a numeric value as described in the MAIN MENU example. Lines that have the same numeric value in column 1 are part of the same first level sub-menu.

**COLUMN 2** contains a numeric value as described in the ONE LEVEL SUB-MENUS example. Lines that have the same numeric value in column 2 are part of the same second level sub-menu.

**COLUMN 3** contains a numeric value representing the sequential order of options in the second level sub-menu. Values start with 1 and increment by 1.

**COLUMN 4** contains the option description as described in the MAIN MENU example.

**COLUMNS 5 through 8** contain DCL commands to be executed when the associated option is selected. The main menu option selected to access the first level sub-menu contains the special key word MENU in column 5. The first level sub-menu option selected to access the second level sub-menu contains the special key word MENU in column 5. The first and second level sub-menu options selected to return to the previous menu contain the special key word EXIT in column 5. The main menu option to leave the main menu contains the special key word QUIT in column 5. The first level (and second level, if desired) sub-menu option selected to leave both the sub-menu and the main menu contains the special key word QUIT in column 5.

When the second option, A/R REPORTS, is selected from the main menu, a sub-menu displays containing three options. When the second option, CUSTOMER LISTINGS, is selected from the first level sub-menu, a second level sub-menu displays containing three options: LIST CUSTOMER BY NO., LIST CUSTOMER BY NAME, and DISPLAY PREVIOUS MENU.

## Examples

Using the DCL command file example and the MENU.DAT file used in the 'Two Level Sub-menus' example, the menu screens display as follows:

Company Name	
Accounts Receivable System	
1.	Customer Maintenance
2.	A/R Reports
3.	Sales History Report
4.	Leave Menu
Use arrow keys to select an option then press <Return> or enter the number of your selection ____	

When option 2, 'A/R Reports', is selected from the Main Menu, the following menu screen displays:

Company Name	
Accounts Receivable System	
1.	Aged Trial Balance
2.	Customer Listings
3.	Return to Main Menu
4.	Leave Menu
Use arrow keys to select an option then press <Return> or enter the number of your selection ____	

When option 2, 'Customer Listings', is selected from the First Level Sub-menu, the following menu screen displays:

Company Name	
Accounts Receivable System	
1.	List Customers by No.

## ***Appendix F - Select by Number Menu System***

2. List Customers by Name

3. Display Previous Menu

Use arrow keys to select an option then press <Return> or  
enter the number of your selection \_\_\_\_

# Customizing XENTIS

## Overview

XENTIS provides programming facilities to define your own functions and to control processing within XENTIS. You may create your own functions to be used in XENTIS calculations, or you may write routines to control and modify data processed within XENTIS. Both of these features must be considered "advanced", and require programming skills.

## User-written Functions

User-written functions allow you to create functions to be used in the CALCULATION section that are not normally defined in XENTIS. These functions are created by writing, compiling, and linking a routine for the function in a VAX 3GL programming language (COBOL, BASIC, FORTRAN, C, etc.). A XENTIS user-written function is then implemented as a shareable image that is dynamically linked to XENTIS while XENTIS is executing.

### Function Classes

There are three classes of user-written functions; text, numeric, and date. You may develop one or more of each of these classes of functions. For each class, XENTIS includes a function that allows you to invoke your own user-written function. The XENTIS function USERT indicates that the user-written function is a text function, USERN indicates a numeric function, and USERD indicates a date function.

### Using User-Written Functions in XENTIS

When using the function in the CALCULATION section, enter the XENTIS function followed by two parameters enclosed in parentheses. The first parameter is the name of the user-written function, expressed as a string literal (enclosed in quotes). The second parameter is an argument that is passed to the routine. The argument is required and its data class must match the data class of the XENTIS function. The argument may be a literal value, a field that exists in an input file, or defined in a prior calculation expression. The syntax used to enter a user-written function is:

*result;n* = USER*x* ( "*name*" , *argument* )

<i>result</i>	is the name of the new field being created by the calculation and will contain the resulting value once the function is performed.
<i>;n</i>	is used only when the user-written function is a text function (USERT). <i>n</i> is the length assigned to <i>result</i> .
<i>x</i>	is <b>T</b> if the function is text, <b>N</b> if the function is numeric, and <b>D</b> if the function is date.
" <i>name</i> "	is the name of the user-written function (as defined in the function). You must use a text literal (enclosed in quotes).
<i>argument</i>	is the argument passed to the function. The data class must match the data class of the XENTIS function.

### Rules

The following rules must be followed when creating a user-written function:

- User-written functions may be written in any 3GL language. Instructions may be found in the sample user-written functions provided in the XENTIS data directory.

- The logical XENTISnnUSERFUNC must be defined to contain the name of the executable created when the routine is linked.
- When linking, you must include a statement that sets UNIVERSAL to the function name.
- In the user-written function, you must include a FUNCTION statement that includes the function name and a variable that uses the argument.
- The user-written function must pass back a success (1) or failure (0) status.

## Example

The following example describes the steps of creating and using a user-written function whose purpose is to select every 100th record ready by XENTIS.

### Step 1 - Write the function

Write the function in a 3GL programming language. The following provides an illustration of a user-written function written in BASIC used to select every 100th record. The name of the function is COUNTER. Note that the statement UNIVERSAL=COUNTER must be used during linking and the statement FUNCTION LONG COUNTER must be included in the source code of the user-written function. The argument is passed into the function using the parameter IN\_VALUE, and the result is passed back using the parameter OUT\_VALUE.

```
! This is a user-written routine written for XENTIS.
! This routine increments a counter and passes back a '1' if the
! counter is divisible by 100, a '0' if the counter is not
! divisible by 100.
!
! Compile Instructions:
!   BASIC filename
! Link Instructions:
!   LINK/SHARE filename,SYSS$INPUT:/OPT
!   UNIVERSAL=COUNTER                                VAX
!   SYMBOL_VECTOR=(COUNTER=PROCEDURE)                ALPHA
!   PSECT_ATTR=COUNTER_PSECT,NOSHR
!   <Ctrl>Z
! Execute Instructions:
!   $ DEFINE XENTISnnUSERFUNC dev:[dir]filename.EXE;
!
FUNCTION LONG COUNTER (
    DOUBLE IN_VALUE BY REF,          !Input value    &
    DOUBLE OUT_VALUE BY REF )       !Output value  &
OPTION TYPE = EXPLICIT
MAP (COUNTER_PSECT) LONG COUNTER_DATA ! Initialize to zero
COUNTER_DATA = COUNTER_DATA + INTEGER(IN_VALUE, LONG) !Increment
IF (COUNTER_DATA / 100%) * 100% = COUNTER_DATA !If divisible by 100
    THEN OUT_VALUE = 1.0
    ELSE OUT_VALUE = 0.0
END IF
END FUNCTION 1%                                ! Exit with success
```

### Step 2 - Compile and Link

Compile and link the use-written function. Be sure to use a linker options file using the UNIVERSAL option. The PSECT\_ATTR options may also be required under some circumstances, depending upon the programming language used.

### Step 3 - Define the logical

Define the logical XENTISnnUSERFUNC to resolve to the shareable image created after linking.



### Step 4 - Create the report

Create a report using the CUSTOMER file. Include the following calculation:

Calculation expression 1: `FLAG = USERN( "COUNTER", 1.0 )`

In the function, a counter is set that adds a value of 1 (the argument passed in the calculation) for each detail encountered. If the counter is exactly divisible by 100, then the calculation result (FLAG) is set to 1. Otherwise, it is set to 0.

Also include the following selection expression:

Selection expression 1: `FLAG = 1`

This selection expression allows you to select only those details with a value of 1 in the FLAG field

## User-written 3GL Routine

In addition to a user-written function, XENTIS supports the ability to have a user-written 3GL routine embedded in the XENTIS selection phase (where XENTIS displays **Selecting....**). If a user-written 3GL routine is present, XENTIS will call this routine at specific points in its fixed loop logic in the selection phase, passing to the 3GL routine information about where in the logic it is being called from, the layout of the individual record buffers, and other data dictionary and report specifications that may be needed by the 3GL routine. The points in the fixed logic where the 3GL routine will be called from are:

- Initialization of the selection phase.
- Termination of the selection phase.
- Immediately following the reading of every record.
- Immediately before selection expressions are evaluated, even if no selection expressions were entered.
- Immediately before passing the detail data to the sort or print routines.

The role of the 3GL routine is to analyze the data passed to it, perform manipulations of the data if desired, and return a success or failure status code to XENTIS.

The potential benefits of using a 3GL routine in this fashion are:

- Selection expression logic is extremely complex and slow if implemented in XENTIS. Using a 3GL routine may streamline the selection process.
- A file containing an unusual format, a format that no packaged software can understand, is needed. The 3GL routine could access this file.
- The ability to join files in a manner not supported by XENTIS could be performed.

This use of this feature involves significant security risks, and is available only if the ALLOW-3GL setup parameter is set to Y. The default value of this parameter is N.

Implementation of a user-written 3GL routine is similar to the user-written function. The steps are:

- Write the user-written 3GL routine in your desired 3GL programming language. The name of the routine must be **XRP3GL**.
- Compile the 3GL routine, correcting any errors.
- Link the 3GL routine into a shareable image using an options file where the XRP3GL entry point is declared to be UNIVERSAL.
- Define the logical XENTISnnSHR3GL to translate to the shareable image just linked.
- Execute XENTIS/Report, /Update, /File, etc.

Two sample user-written 3GL routines are provided with XENTIS. The name of the sample routines are XENTIS\_XRP3GL.C and XENTIS\_XRP3GL.BAS. Additional detailed instructions on how to use and program a 3GL routine can be found in the source code of the sample routines and in the release notes.

## Troubleshooting

The software configuration on your system may lead to difficulty using the User-written Functions or the User-written 3GL Routines. OpenVMS image activation security may require privileges to activate this feature. If this is the case, you will receive an error message indicating either an image activation failure or an RMS end-of-file during the selection phase of the report. If this occurs, do the following.

- Log into an account that has the CMKRNL and SYSNAM privileges.
- Shutdown XENTIS by entering: @XENTISnn\$COMFILES:XENTIS\_SHUTDOWN
- Examine the XENTISnn\_PRIV\_LIST logical. If it does not exist, define it in your system startup file with a value of NONE. Also define it interactively for the current process.
- Start up XENTIS by entering: @SYS\$MANAGER:XENTISnn\_START.COM
- Define your XENTIS shareable image logical with /SYSTEM and EXEC: An example would be:  

```
$ DEFINE/SYSTEM/EXEC XENTISnnUSERFUNC my_user_func.exe
$ DEFINE/SYSTEM/EXEC XENTISnnSHR3GL my_user_3gl.exe
```
- Install your shareable image with the INSTALL utility:  

```
$ INSTALL ADD my_user_func.exe
$ INSTALL ADD my_user_3gl.exe
```

Be sure to specify a device and directory for your shareable images.

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# XENTIS Installation

## Overview

The Installation Guide provides complete information about installing XENTIS on your system. Each phase of the installation process is described in a separate section. You may need to review only specific sections depending on your current situation. Use this chart to determine where to start in the installation process and which sections to read. If you have questions during the installation process, call your support representative.

<i>Section</i>	<i>Title</i>	<i>Description</i>
1	System Requirements	System requirements necessary before, during, and after installation.
2	Installation Instructions	Step-by-step instructions for the installation process.
3	After Installation	Setting up the XENTIS environment after installation.
4	Upgrading XENTIS	Information about upgrading from a previous XENTIS version.
5	License Key	Complete information about the license key.

<i>Objective</i>	<i>Section to Read</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
First time installation	•	•	•		
Upgrading to a new version of XENTIS	•	•	•	•	
Adding a new XENTIS module					•
Reloading the license key					•
Answering questions about the license key					•

## System Requirements for version 5.0

This section contains information about system requirements that are necessary during and after installing XENTIS on your system. Read it prior to installation.

Note: Through out these installation instructions please replace 'nn' with '50' and 'n.n' with '5.0'.

Resource		Requirement	Notes
Terminal			Needed during installation. A hard copy device is preferred. If a hard copy device is not available and DECNET is running on your system, create a log of the installation by entering: \$ SET HOST/LOG 0
User Account		Privileged Account	Needed during installation. The SYSTEM account is acceptable.
System Quotas	VIRTUALPAGECNT	35000 or more (VAX) 50000 or more (Alpha)	Needed during and after installation. Exact setting is dependent on your system, size of CPU, optional XENTIS modules licensed, and database interfaces licensed. If you are using a database interface, system parameters should be set as instructed in the database installation instructions.
Process Quotas	FILLM	40 or more	Needed after installation. Exact settings are dependent on your system, size of CPU, optional XENTIS modules licensed, and database interfaces licensed. If you are using a database interface, process quotas should be set as instructed in the database installation instructions.
	ENQLM	200 or more	
	PGFLQUO	35000 or more (VAX)	
		50000 or more (Alpha)	
Disk Space	System Disk	13500 blocks (Vax) 35000 blocks (Alpha)	Needed during installation. VMSINSTAL requires installation on the system disk.
	Target Disk	10000 blocks (Vax) 25000 blocks (Alpha)	Needed after installation. During installation, you will be prompted for target directories. The target directories are not required to reside on the system disk. The amount of disk space required after installation depends on which modules you have licensed and which files you choose to retain after installation.
DEC Software	OpenVMS VAX Open VMS AXP	V6.1 or later V6.2 or later	
Oracle Software	CDD/PLUS CDD/Repository	V4.3 or later V5.x	Supports CDD Plus and both DMU and CDO dictionaries. Must be installed before XENTIS.
Database Interfaces	Ingres	V6.3 and higher	These database interfaces are supported only on VAX systems. Contact your vendor regarding using these database on Alpha systems.
	Oracle	V7.0 and V7.1	
	Sybase	V4.0 and higher	
	Progress	V6.2L or V6.2N only	Contact your vendor for special instructions if used on a VAX system.
	Oracle Rdb (VAX)	V4.0 - 6.1	Must be installed before XENTIS.
	Oracle Rdb (Alpha)	V6.0 - 6.1	Must be installed before XENTIS.

## Installation Instructions

Read the 'Systems Requirements' document before proceeding. Once the installation is complete, read 'After Installation'.

### Installation Overview

XENTIS uses VMSINSTAL to perform the installation. For complete information about VMSINSTAL consult 'Digital's Guide to VAX/VMS Software Installation'. Type a question mark (?) at any prompt to receive on-line help. Default responses are shown in square brackets [ ] after the prompt. Simplify installation by using default responses as much as possible.

#### Installation Prompt Overview (for first time installation)

```
Release notes included with this kit are always copied to SYS$HELP.
Additional Release Notes Options:
1. Display release notes
2. Print release notes
3. Both 1 and 2
4. None of the above
* Select option [2]:

* Load License Product Key [Y]?
* Enter location for the XENTIS image files [drive:[XENTISnn.IMAGES]]?
* Enter location for the XENTIS data files [drive:[XENTISnn.DATA]]?
* Enter location for the XENTIS demo files [drive:[XENTISnn.DEMO]]?
* Enter your default dictionary name [default]:
* Enter your company name:

PKMS LICENSE KEY LOAD PROCEDURE FOR XENTIS
Distributor Name:
Authorization Code:
Product Name [XENTIS]:
Company Name:
Node Name:
Modules 1:
Modules 2:
Checksum A:
Checksum B:
Checksum C:
Checksum D:
Checksum E:

Is the License Key correct [Y]?
Load License Key PKMS$XENTIS [Y]?
Create license key startup file: PKMS_XENTIS_START.COM [Y]?
```

## Installation Considerations

### When to Perform Installation

It is not necessary to shut down any part of your system, including DECNET, or log users off while installing XENTIS. The amount of time required for the entire installation process varies from system to system.

### Target Device and Directory

During installation, you are given the opportunity to choose a target disk and directories for XENTIS. If the directories do not exist, they will be created by the installation procedure. You will be prompted for three directories to use: the offered defaults are [XENTISnn.IMAGES], [XENTISnn.DATA], and [XENTISnn.DEMO]. Initially, the system disk is offered as the default device. You may use any valid disk as the target device.

If you are upgrading from a previous version of XENTIS, you may not install this version in the same directory where XENTIS now resides.

### Beginning the Installation

#### Account to Use During Installation

Log into the SYSTEM or a privileged account, preferably on a hard-copy device.

#### Execute the VMSINSTAL Procedure

```
$ @SYS$UPDATE:VMSINSTAL XENTIS drive: OPTIONS N
```

where *drive:* is the device name of the tape drive you plan to use.

### Installation Prompts

Step	Prompt	Responses and Notes
1	VAX/VMS Software Product Installation Procedure Vn.n  It is date at time. Enter a question mark (?) at any time for help.  * Do you want to continue anyway [NO]?	VMSINSTAL may display information about the state of your system.  Y: Continue installation. N: Discontinue installation.
2	Are you satisfied with the backup of your system disk [YES]?	Y: Continue installation. N: Discontinue installation.
3	Please mount the first volume of the set on drive:  * Are you ready?	Mount the XENTIS tape on the tape drive.  Y: Continue installation. N: Discontinue installation.
4	%MOUNT-I-MOUNTED, XENTIS mounted on drive:  The following products will be processed:  XENTIS Vn.n  Beginning installation of XENTIS Vn.n at time  %VMSINSTAL-I-RESTORE, Restoring product save set A...	
5	Release notes included with this kit are always copied to SYS\$HELP.	



	<p>Additional Release Notes Options:</p> <ol style="list-style-type: none"> <li>1. Display release notes</li> <li>2. Print release notes</li> <li>3. Both 1 and 2</li> <li>4. None of the above</li> </ol> <p>* Select option [2]:</p> <p>Do you want to continue installation [NO]?</p> <p>%VMSINTAL-I-REMOVED, The product's release notes have been successfully moved to SYS\$HELP.</p>	<p>In addition to the option you choose, the release notes are always copied to the directory defined as SYS\$HELP.</p> <p>Y: Continue installation. N: Discontinue installation.</p>
6	<p>XENTIS Vn.n - starting installation SETUP phase...</p> <p>XENTIS Vn.n - starting installation option selection phase ...</p>	
7	<p>Load License Product Key [Y]?</p>	<p>Y: Load the license key during install. N: Do not load the license key during install.</p> <p>The license key is used to enable XENTIS after it is installed on your system. If the license key is NOT loaded during installation, it may be loaded later by executing a DCL command procedure.</p> <p>The default to this prompt is determined by the installation procedure. If a license key is already loaded, then the default is N. If a license key is not loaded, then the default is Y.</p> <p>For complete information, see the 'License Key' section.</p>
8	<p>* Enter location for the XENTIS image files [drive:[XENTISnn.IMAGES]]?</p> <p>* Enter location for the XENTIS data files [drive:[XENTISnn.DATA]]?</p> <p>* Enter location for the XENTIS demo files [drive:[XENTISnn.DEMO]]?</p> <p>That disk and directory specification does not exist.</p> <p>* Do you wish to create it [N]?</p>	<p>The responses to these prompts determine the target disk and directories for XENTIS. See 'Installation Considerations' for more information regarding target disk and directories. The default <i>drive</i>: is the system disk unless you change the default in a preceding response. If the target disk and directories entered do not exist, the following prompt is issued after each of these.</p> <p>Y: Create the directories during install. N: Do not create the directories during install. You will be re-prompted for locations.</p>

## Appendix H - Installation

9	XENTIS files already exist in that directory - choose another.	XENTIS may not be installed in a directory where XENTIS already exists. This message displays if XENTIS.COM, XRP.EXE, XENTIS.OLB, XDEM_DEMO.DIC, or XENTISSET.DAT already exist in the target directories specified.  When this is the case, you are re-prompted for target directories.
10	* Enter your default dictionary name [XENTISnn\$DEMO:XDEM_DEMO.DIC]:	Enter the name of the dictionary you wish to use as the default dictionary.
11	* Enter your company name:	Enter your company name as you wish it to appear as the default for the first title line in /Report.
12	Load the License Product key: YES  Image files Disk/Directory: DISK:[XENTISnn.IMAGES] Data files Disk/Directory: DISK:[XENTISnn.DATA] Demo files Disk/Directory: DISK:[XENTISnn.DEMO] Report Title line default: company name Default Dictionary: dictionary name  * OK to continue [Y]?	A summary of your responses is displayed.        Y: Continue installation. N: Pause installation. You will be re-prompted starting with 'Keep installation/link files after install'.
13	PKMS LICENSE KEY LOAD PROCEDURE FOR XENTIS  Distributor Name: Authorization Code: Product Name [XENTIS]: Company Name: Node Name: Modules 1: Modules 2: Checksum A: Checksum B: Checksum C: Checksum D: Checksum E:  Is the License Key correct [Y]?   %PKMSLOAD-I-KEYEXIST, License key already exists  Load License Key PKMS\$XENTIS [Y]?	These prompts are issued ONLY if you responded Y to 'Load License Product Key' in Step 7. See the 'License Key' section for complete information.  Enter responses from you paper key. Responses must be entered EXACTLY or the license key installation will fail. Ensure that you include the exact spacing between words and that you are not confusing zeroes with oh's.        Y: License key information is correct. Continue installation. N: License key information is not correct. You are re-prompted for license key responses.  This message displays only if the PKMS\$XENTIS already exists.  Y: Load the license key (create the PKMS\$XENTIS logical in the system table). N: Do not load the license key (do not create the PKMS\$XENTIS logical in the system table).

14	<p>Create license key startup file: PKMS_XENTIS_START.COM [Y]?</p> <p>%PKMSLOAD-I-CREATE, Startup file created: PKMS_XENTIS_START.COM</p> <p>The installation process will continue automatically until completion without the need for additional user input. This processing will take approximately 2 to 20 minutes depending on your hardware configuration and system load.</p> <p>%VMSINSTAL-I-RESTORE, Restoring product save set B.. %VMSINSTAL-I-RESTORE, Restoring product save set C.. %VMSINSTAL-I-RESTORE, Restoring product save set D.. XENTIS Vn.n - starting image file COPY phase... XENTIS Vn.n - starting data file COPY phase... XENTIS Vn.n - starting demo file COPY phase... XENTIS Vn.n - starting startup file COPY phase...</p> <p>Be sure to include @SYS\$MANAGER:XENTISnn_START.COM in your system startup file.</p> <p>XENTIS Vn.n - All installation phases complete... %VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...</p> <p>Installation of XENTIS Vn.n completed at time</p> <p>VMSINSTAL Procedure done at TIME</p>	<p>Y: Create the license key startup file. N: Do not create the license key startup file.</p> <p>This message displays if you responded Y to 'Create license key startup file'.</p> <p>The installation proceeds automatically. These messages display.</p> <p>Alpha restores save set E rather than save set B.</p>
----	---	--

## After Installation

This section contains information about setting up the XENTIS environment once the installation is complete. Read after installation.

### Starting XENTIS

To enable XENTIS to execute properly perform the following steps:

- Define XENTISnn\_PRIV\_LIST logical if desired (see below for more information).
- Start up XENTIS by entering:  

```
@SYS$MANAGER:XENTISnn_START.COM
```
- Automatically start up XENTIS by adding the following line to your system startup file after all databases have been started  

```
@SYS$MANAGER:XENTISnn_START.COM
```

### Read the XENTIS Release Notes

### Running XENTIS

Run XENTIS by executing a DCL command procedure called XENTIS1.COM. This file is located in the disk and directory into which the XENTIS data files were installed.

```
$ @disk:[directory]XENTIS1.COM
```

We recommend that you create a symbol in your system login file (SYS\$MANAGER:SYLOGIN.COM) or in individual user's login files (LOGIN.COM) to run XENTIS from the DCL prompt:

```
$ XENTIS == @disk:[directory]XENTIS1.COM      -or-
$ XENTIS == @disk:[directory]XENTIS.COM
      (For the menu system provided with XENTIS version 3.5 and earlier.)
```

### Running the XENTIS Tutorial

To run the XENTIS tutorial, enter the following:

```
$ @XENTISnn$COMFILES:XENTIS_TUTORIAL.COM
```

We recommend that you create a symbol in your system login file (SYS\$MANAGER:SYLOGIN.COM) or in individual user's login files (LOGIN.COM) to run the XENTIS tutorial:

```
$ XTUTOR == @disk:[directory]XENTIS_TUTORIAL.COM
```

### Set Protection on the XENTIS Directory

You may choose to have the installation procedure create target directories for XENTIS. If so, the target directories were created with the owner UIC and protection associated with the account used during installation. You may change these parameters after installation. We recommend that you write-protect the target directories and the files and executables contained in them by adjusting the file protection.

### Shutting Down XENTIS

The following procedure allows you to shut down XENTIS. It removes installed images, if any, and the XENTIS system logicals. You should shut down XENTIS when installing new databases, since XENTIS recognizes currently running databases on startup. To shut down XENTIS, enter:

```
$ @XENTISnn$COMFILES:XENTIS_SHUTDOWN
```

## *XENTIS Startup Files and Logicals*

### *PKMS\_XENTIS\_START.COM*

PKMS\_XENTIS\_START.COM is the license key startup file that is optionally created when loading the license key. This file resides in SYS\$SPECIFIC:[SYSMGR].

### *XENTISnn\_START.COM*

XENTISnn\_START.COM is the XENTIS startup file that resides in SYS\$COMMON:[SYSMGR]. When executed, this file:

- loads the license key by calling PKMS\_XENTIS\_START.COM.
- defines the XENTIS system logicals.
- installs XENTIS images with SYS\$LCK privilege if the number of concurrent users in your license is not 0, or the Progress interface is licensed.
- installs Rdb/CDD/SQL shareable images if they have not been installed.

This file should be executed when your system is booted. Add an entry in the system startup procedure to do so after any reference to starting Rdb, CDD, SQL, or any other database.

### *XENTISnn\_PRIV\_LIST*

XENTISnn\_PRIV\_LIST is a logical that provides the system manager with the ability to override if and how XENTIS uses the VMS INSTALL utility when installing XENTIS images. If this logical translates to a VMS privilege list, then the images will be installed with the specified privileges. If this logical translates to NOINSTALL then the images will not be installed. If this logicals translates to NONE then if the images get installed they will be installed with no privileges.

### *XENTISnn\$COMFILES*

XENTISnn\$COMFILES is a system logical that is used to locate various XENTIS files. It is defined in XENTISnn\_START.COM.

## *Modify XENTIS Data Files*

### *The System Setup File, XENTISSET.DAT*

After installation, review the System Setup File to ensure that parameters are set to the proper values (see below). Make appropriate changes to XENTISSET.DAT by adding parameters to the bottom of the file, then compile it.

Additional information:

The System Setup File, XENTISSET.DAT, is used to pass variables to XENTIS so that each XENTIS installation can create its own reporting environment. Variables are passed into XENTIS with the use of parameters stored in XENTISSET.DAT.

---

*Refer to Appendix A in the XENTIS Reference Manual for complete information.*

---

Each time XENTISSET.DAT is modified, it must be compiled. To do so, choose the 'Setup File Compilation' option on the menu. We recommend that you set appropriate ACL's on XRPSMnn.EXE to ensure that unauthorized persons are not changing and compiling the System Setup File.

### *The XENTIS Logicals File, XENTIS\_LOGICALS.COM*

After installation, review the XENTIS logicals file. If desired, modify the file to define additional XENTIS logicals. To set the default dictionary, use the logical XENTISnn\$DFLT\_DICT.

Additional information:

The XENTIS logicals file, XENTIS\_LOGICALS.COM, is used to define XENTIS logicals that locate the XENTIS files and programs. XENTIS\_LOGICALS.COM is located by the logical XENTISnn\$COMFILES. A list of valid XENTIS logicals can be found in Appendix E of the XENTIS Reference Manual.

### *Secure XENTIS images*

There are two XENTIS images that deserve special attention with respect to security. These images are XRPSCMnn.EXE and XDCREnn.EXE. These images need to be protected with VMS security, preferably with Access Control Lists, in a manner that only highly privileged persons are allowed to execute them. Failure to do this can seriously compromise XENTIS security. These images compile the system setup file and create new empty data dictionaries respectively.

### *Add XEN\_VER symbol to SYLOGIN.COM*

Add the XEN\_VER global symbol to SY\$MANAGER:SYLOGIN.COM.

```
$ XEN_VER :== nn
```

where 'nn' is the current version number.

### *License Key*

Refer to the 'License Key' section for instructions and information about the license key issues listed below.

- Load License Key (if necessary)

### *X-Bar (stand-alone Bar code product)*

The stand-alone X-Bar utility, XBAR.EXE, is invoked with the XBAR command. Before the XBAR command will work, it must be added to either the process command tables or to the system DCL command tables. The file XBAR.CLD is provided with the XBAR.EXE program to aid in adding XBAR to your command tables. Please refer to VMS documentation on 'SET COMMAND' or the VMS Command Definition Utility on how to add the XBAR command to your command tables.

### *Secure the XENTIS\_SECURITY.DAT file*

If user level security for the XENTIS modules is to be used, then the XENTIS\_SECURITY.DAT file must be secured with appropriate VMS protection codes and access control lists (ACL) such that only authorized users are allowed to modify the security file. However, all XENTIS users must be allowed to read the security file.

In addition, all logicals referenced by the XENTISnn\$SECURITY logical must be defined in Executive mode. This includes all intermediary logicals. By default, during installation, XENTIS creates the XENTISnn\$SECURITY logical in the system table using executive mode. This logical must exist in the system logical name table (LNM\$SYSTEM\_TABLE). For example, if the XENTISnn\$SECURITY logical translates to DISKC:[XENTIS46.DATA], then the DISKC logical must be defined in executive mode.

# Upgrading XENTIS

*For current users installing a newer version*

## System Considerations

### *Multiple Versions at the Same Time*

This version may be installed and activated while a previous version is installed and running. Starting with version 4.3 all XENTIS logicals have a version number included in the definition of the logical. In addition all images that may be installed with the VMS INSTALL utility also have a version number included in the name of the image file. This insures that this version will not interfere with any prior installed version of XENTIS.

### *Release Notes*

The XENTIS Release Notes describe changes in the XENTIS software. Please read the notes for information about new features, changes in behavior, and resolved problems included in this release. The notes can be found on your distribution tape. During installation, you are given the option to print or display the notes.

### *Backup Copy of the Older Version*

Before removing the older version from your disk, ensure that you have a usable backup copy.

### *Run in Parallel*

We recommend that you run both the older and the new version of XENTIS concurrently for a short period of time. This provides time to incorporate the changes you made in the older version into the new version. Please note that the 'End of Report' message produced by version 4.3 or later may be slightly different than a report produced by version 4.2 or earlier.

## *Compare Modified Text Files (XENTIS\_UPGRADE.COM)*

Some data files shipped with XENTIS may be modified with any text editor (like EDT, EVE, or TPU) to reflect environment-specific needs, choices, and settings. You may have made modifications to these files in the older version of XENTIS that can be incorporated into the new version.

Do not copy the old version file into the Vn.n directory. Programming changes may have occurred. Instead, use the XENTIS\_UPGRADE.COM procedure found in the XENTISnn\$COMFILES directory. This procedure will search for older versions of XENTIS on your system and compare text files that could have been modified against standard copies of those files. When it finds a difference, it reports it to the user. To use the procedure enter: `$ @XENTISnn$COMFILES:XENTIS_UPGRADE.COM`

A list of the files that you may change and how they may be changed are listed below.

### *XENTISLOGICALS.COM*

Beginning with version 4.2 this file is no longer used. It is replaced by XENTIS\_LOGICALS.COM. This new file is called only during system startup.

### ***XENTIS System Setup File, XENTISSET.DAT***

Determine changes you have made to XENTISSET.DAT in the older version of XENTIS that you would like to incorporate in the new version, then change chosen parameters to desired settings. Once XENTISSET.DAT is modified, recompile it using the System Utilities Menu option. Unmodified copies of XENTISSET.DAT since version 4.1 are provided under the names XENTISSET.Vnn\_ORIGINAL, where 'nn' is the version number. Make any changes to the setup file by adding the parameter at the end of the file.

### ***Custom Modeling Control Files***

If you have created a custom modeling control file, copy it in with the new version's XENTIS data files (the directory defined by XENTISnn\$REPORT\$DATA).

## ***Programs and Reports***

### ***Compiled Command Files (.XCC)***

Compiled command files created in previous versions of XENTIS must be recreated using the new version.

### ***Standard Command Files (.XCF)***

Full or partial standard command files created in any 3.X version of XENTIS may be used with the new version. Full or partial standard command files created with FIS or XENTIS V2.X must be converted before using with the new version. Contact your support representative for information.

### ***Foreign Data Types***

Foreign data types are defined by modifying XUUSER\_PACK.BAS or by creating your own substitute routine of the same name written in your favorite 3GL programming language. The foreign data type routine must be incorporated into each version of XENTIS separately after installation. To do so, after the new version is installed, compile and link XUUSER\_PACK according to the instructions found in XUUSER\_PACK.BAS.

### ***Callable XENTIS - Available only on request***

If you use this feature, a special software distribution tape is required. Please contact your XENTIS dealer.

### ***User Written DCL Command Procedures***

Check the menu item sequence in the new version. If the menu items have been re-sequenced and a DCL command procedure references menu item numbers, change the command procedure to match the new sequence numbers.

Beginning with version 4.3, DCL command procedures generated by XENTIS are tied to the version they were created under, including older versions. To have previously created DCL command procedures use the current version of XENTIS, perform the following steps:

- Copy the XRPnn.EXE image to XRP.EXE
- Define a logical as: `DEFINE XENTIS$PROGRAM XENTISnn$PROGRAM:`
- Define a symbol in SYLOGIN.COM as: `XEN_VER := nn`  
where 'nn' is the current version number.



# License Key

## Overview

XENTIS cannot be used until enabled by a license key. The license key determines which XENTIS modules will run on each CPU in your system.

License key information is distributed on a license key form. When loading the license key, enter the information on the form either during or after installation. The license key is normally loaded only once. However, there are situations where you must reload the license key.

## Rules for License Keys

- A new license key must be issued and loaded when a change is made to your system (such as licensing XENTIS on a different CPU or changing the node name or the CPU type).
- A new license key must be issued and loaded when a change is made to the characteristics of your license (such as changing the number of concurrent users, upgrading a demonstration license to a permanent license, or purchasing a license for a new XENTIS module or interface).
- A separate license key must be issued and loaded for each node in a cluster licensed to run XENTIS.
- When upgrading VMS from V5.X to a higher version, a new license key is not required.
- When upgrading to a new version of XENTIS, a new license key may or may not be required. If required, then the new license key will be supplied.

## Elements of License Keys

### *PKMS\_LOAD.COM*

The DCL command procedure that loads the license key. This file is stored in the directory assigned to the logical XENTISnn\$COMFILES after installation.

### *PKMS\$XENTIS*

The logical that is created when the license key is loaded. This logical resides in the system table and is used by XENTIS to validate the license key.

### *PKMS\_XENTIS\_START.COM*

The DCL command file that defines the PKMS\$XENTIS logical when the CPU is booted. This file is stored in SYS\$SPECIFIC:[SYSMGR] and is executed by SYS\$COMMON:[SYSMGR]XENTISnn\_START.COM during system startup.

## Loading License Keys

The license key may be loaded during or anytime after installation. The license key is loaded by executing the DCL command procedure PKMS\_LOAD.COM. If the license key is loaded during installation, this procedure is automatically executed for you. If the license key is loaded after installation, you must execute this procedure. Once executed, enter the information on your license key form.

### *Loading During Installation*

To load the license key during installation, respond 'Y' to the 'Load License Key' prompt issued in step 8 of the installation procedure.

### Loading After Installation

To load the license key after installation, execute PKMS\_LOAD.COM.

```
$ @XENTISnn$COMFILES:PKMS_LOAD.COM
```

### License Key Prompts

The following prompts are issued when the license key procedure is executed. Enter the information from your license key form except where noted. Responses must be entered EXACTLY as shown on the form.

Prompt	Sample Response	Notes
Distributor Name:	SOFTWARE	
Authorization Code:	SAL	
Product Name [XENTIS]:	XENTIS	
Company Name:	ABC SOFTWARE	
Node Name:	ROCKY	
Modules 1:  Modules 2:	RPT DIC EDI FIL MOD UPD CDD ING RDB	This prompt is issued only when the license key is loaded during XENTIS installation. The modules entered at this prompt specify the database interfaces for XENTIS to link with. These prompts are not issued when the license key is loaded after installation.
Checksum A:	1234abcd	
Checksum B:	EFGH5678	
Checksum C:	!*9988=?	
Checksum D:	aJBk%-1c	
Checksum E:	STRUvWXy	
Is the License Key correct [Y]:	Y	Y: License key information is correct. Continue loading procedure. N: License key information is not correct. You are re-prompted for license key responses.
Load License Key PKMS\$XENTIS [Y]:	Y	Y: Load the license key (create the logical PKMS\$XENTIS in the system table). N: Do not load the license key (do not create the PKMS\$XENTIS logical in the system table).  If you respond N and you have not previously installed a license key, XENTIS will not run. If you respond N and you have previously installed a license key, XENTIS will use the previous license key.
Create License Key startup file: PKMS_XENTIS_START.COM [Y]:	Y	Y: Create the license key startup file. N: Do not create the license key startup file.  If you respond N and then reboot your system, you will have to reload the license key.

### Installing a License Key on More Than One Node

A license key must be issued and installed for each node in a cluster licensed to run XENTIS.

To install the license key on additional nodes, execute PKMS\_LOAD.COM on each node by entering:

```
$ @XENTISnn$COMFILES:PKMS_LOAD.COM
```

PKMS\_LOAD.COM creates the logical PKMS\$XENTIS in the system table and PKMS\_XENTIS\_START.COM in SYS\$SPECIFIC:[SYSMGR] on the node.

### ***Limited Concurrent Users***

If your license key limits the number of concurrent users (USER COUNT not equal to 0), then either each user needs SYSLCK privilege to run XENTIS or you must INSTALL the XENTIS images with SYSLCK privilege.

If you have a limited number of concurrent users, all XENTIS images are installed with SYSLCK automatically. This is accomplished in the XENTIS startup procedure by executing the DCL command procedure XENTIS\_INSTALL\_IMAGES.COM located by the logical XENTISnn\$COMFILES.

## XENTIS Files

The following is a list of files in the XENTIS system. Included is the name of the file, a short description of the file, and whether or not the file is required.

### XENTIS Executables

AUDITMANnn.EXE	Audit trail manager program	Required for XENTIS/Edit
AUDITPROC.EXE	Audit trail processor	Required for XENTIS/Edit
FRMLET.EXE	Unsupported form letter program	Not required
XDCDDnn.EXE	Transfer CDD or COBOL description	Required for XENTIS/Dictionary
XDCREnn.EXE	Create a new dictionary	Required for XENTIS/Dictionary
XDCRFLnn.EXE	Create an empty data file	Required for XENTIS/Dictionary
XDDUMPnn.EXE	Dump file description	Required for XENTIS/Dictionary
XDEDITnn.EXE	Edit the dictionary program	Required for XENTIS/Dictionary
XDFIX_PREFIX.EXE	Fixes prefixes in data dictionary	Not required
XDLOADnn.EXE	Load file description	Required for XENTIS/Dictionary
XDTRANnn.EXE	Transfer file description	Required for XENTIS/Dictionary
XENEDTnn.EXE	XENTIS/Edit	Required for XENTIS/Edit
XMENUnn.EXE	Menu program	Required for XENTIS
XRPNn.EXE	XENTIS/Report/Update/File/Model...	Required for XENTIS/Report
XRPFCCnn.EXE	Command file conversion program	Not required
XRPCOM_DCLnn.EXE	DCL command file generator	Required for XENTIS/Report
XRPLABELSnn.EXE	Label reformatting program	Required for XENTIS/Report
XRPLOAD_INFOnn.EXE	Build file names program	Required for XENTIS/Report
XRPMRG.EXE	Merge help file program	Required for XENTIS/Report
XRPNNEWnn.EXE	Change default dictionary program	Required for XENTIS/Report
XRPPSCMnn.EXE	Compile setup file program	Required for XENTIS/Report
XRPPDXnn.EXE	Catalog program	Required for XENTIS/Report
XRPPREADSET.EXE	Reads setup parameters	Required for XENTIS
XUMENUnn.EXE	Original menu program	Required for XENTIS

### Control, command, and data files

20-20.DAT	Model control file for 20-20	Not required
CALC11.DAT	Model control file for CALC-11	Not required
CCALC.DAT	Model control file for C-Calc	Not required
COMMA_SEPARATED.DAT	Model control file for CSV files	Not required
DIGICA.DAT	Model control file for Digicalc	Not required
EXCEL.DAT	Model control file for Excel	Not required
FINAR.DAT	Model control file for Finar	Not required
LOTUS.DAT	Model control file for Lotus 1-2-3	Not required
MENU.DAT	Original menu control file	Required
MSWORD.DAT	Model control file for Microsoft Word	Not required
MUPLAN.DAT	Model control file for Multi-Plan	Not required
SATURN.DAT	Model control file for SaturnCalc	Not required
SCOMP.DAT	Model control file for SuperComp/20	Not required
TAB_SEPARATED.DAT	Model control file for TSV files	Not required
WORDPERFECT.DAT	Model control file for Word Perfect	Not required
WORDSTAR.DAT	Model control file for Wordstar	Not required
XML.DAT	Model control file for XML format output	Not required
REGISTRY_REPORT.XCF	Produces the Registry Report	Not required
XDLIST1.XCC	Report definition for dictionary listing	Required for XENTIS/Dictionary
XDLIST2.XCC	Report definition for dictionary listing	Required for XENTIS/Dictionary
XENTIS.COM	Original XENTIS menu driver	Required
XENTIS1.COM	XENTIS menu driver	Required
XENTIS.XDX	XENTIS catalog file	Not required
XENTISBAT.DAT	XENTIS batch template file	Required
XENTISCOM.DAT	XENTIS DCL com template file	Required
XENTISHLP.IDX	XENTIS help file	Required
XENTISSET.DAT	XENTIS setup file - text version	Required

XENTISSET.XEN	XENTIS setup file - compiled version	Required
XENTISSET_TUTORIAL.XEN	XENTIS setup file - tutorial version	Required
XENTISSET_LITE.DAT	XENTIS setup file - Lite addendum	Required
XENTIS_HTML_*.*	Template files used in HTML output	Required
XENTIS_KEYDEFS.COM	Defines F6 to F20 keys	Required
XENTIS_LICENSE_CHECK.COM	Helps validate license key	Required
XENTIS_LOGICALS.COM	XENTIS logicals DCL COM file	Required
XENTIS_INSTALL_IMAGES.COM	Installs images with privileges	Required
XENTIS_INSTALL_SYS_IMAGES.COM	Installs system images	Required
XENTIS_RECOMPILE_COMMAND.COM	Recompiles all XCF files in a directory	Required
XENTIS_SECURITY.DAT	Contains user security data	Required
XENTIS_SHUTDOWN.COM	Shuts down XENTIS	Required
XENTIS_SQL_LINE.DAT	Holds template SQL statements	Required
XENTIS_TITLE.DAT	Title control file	Required
XENTIS_TUTORIAL.COM	XENTIS Tutorial	Required
XMENU*.*	Menu control files	Required
XRPLABELS.SETUP	SETUP file for label processing	Required
XRPBROWSE.COM	Browse procedure	Required
XRPBROWSE.EDT	Browse EDT control file	Required
PKMS_LOAD.COM	License key load procedure	Required
PKTEST.EXE	License key load test program	Required
*.HTMLTBL	Various Webpage control files	Required
<u>Demo files</u>		
XDEM_DEMO.DIC	Demo data dictionary	Not required
XDEM_DEMO*.XCF	Demo .report definition files	Not required
XDEM_*.IDX	Demo data files	Not required
XDEM_*.COM	Demo .COM files	Not required
XDEM_*.ECF	Demo /Edit screen files	Not required
<u>Miscellaneous files</u>		
FRMLET.*	Form letter merge program	Not required
XUUSER_PACK.BAS	User defined data type program	Not required
ZZXFIS.BAS	Program to link XENTIS into MAXCIM	Not required
XENTISSET.Vnn_ORIGINAL	Setup files from previous versions	Not required
XENTIS_XRP3GL.*	Sample 3GL routines	Not required
XENTIS_USER_FUNCTION.*	Sample user written functions	Not required
XENTIS_ATTRIBUTES.DAT	Sample data file for printing attributes	Not required
XENTIS_HISTORY.TEMPDI	Temporary dictionary for History file	Not required
XENTIS_UPGRADE.COM	Assists upgrading from prior version	Not required
XENTIS_CHECKENV.COM	Verifies user environment is adequate	Not required
XENTIS_NEW_LICENSE.COM	Load a new license key automatically.	Not required
<u>X-Bar files provided on XENTIS tape</u>		
XBAR.CLD	XBAR Command Definition File	Required for XBAR
XBAR.EXE	Stand-alone bar code program	Required for XBAR
XBAR_FRONT.EXE	Front end to XBAR.EXE	Required for XBAR
XENTIS_XBAR_COMMAND.COM	Validates XBAR command is installed	Required for XBAR
<u>Shareable Image Files</u>		
XENTISnn_*.STUBS.EXE	Database stub routines	Required
XENTISnn_USER_PACK.EXE	Foreign data type routine	Required
XENTISnn_BARCODE.EXE	Barcoding routines	Required
XENTISnn_UTIL1.EXE	Various utility routines	Required
XENTISnn_USER_FUNCTION.EXE	User written functions	Optional
XENTISnn_XRP3GL.EXE	User written routines	Optional

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# ***X-Bar™ - Bar Coding Tool***

The X-Bar utility allows you to print bar codes from standard ASCII text files without difficult custom programming or special printers. With X-Bar, you can print bar codes on reports, documents, forms, and labels.

X-Bar works in two different ways. First, when integrated with XENTIS, X-Bar allows you to print data on your reports as bar codes. Second, as a stand-alone tool, X-Bar lets you print bar codes on reports generated by other applications.

## ***Using X-Bar with XENTIS V4.2 (and higher versions).***

XENTIS V4.2 provides automatic integration with X-Bar bar code printing. To print bar codes on reports generated with XENTIS V4.2, perform the following procedure:

- Design your report using XENTIS. For data elements to appear as bar codes, just add “/ATTR=BARCODE” following your response to the “Column Attributes” prompt.

Field 1	number/name/literal: CPU_MODEL	
Print freq :	D	Heading : Model
Column Attr:	C/ATTR=BARCODE_____	Print line : ____
Print mask :	_____	Print posn : ____
		Accum level : ____

*Bar code column attribute entry*

Be sure to design your report with enough room to avoid having the bar code print over other data elements. All other aspects of the report design process are the same as for any other report.

- Run your report with XENTIS. XENTIS will generate your output file and automatically prepare the file for printing on your bar code printer. The characteristics of the bar codes produced are defined in your XENTIS setup file.
- Print the resulting file on the appropriate printer as you normally would.

X-Bar runs using options set in your XENTIS setup file. As a result, if you wish to override specific options for a particular report, you may override the setup options using the SET command. Refer to the SET command for more information.

## ***Using X-Bar with XENTIS V4.1 (and prior versions)***

Versions of XENTIS prior to V4.2 do not have an automatic interface to X-Bar. Even so, using X-Bar to print bar codes on your reports requires only the following steps:

With XENTIS V4.1 and prior versions, you must follow steps similar to using X-Bar as a stand-alone tool (above), except generation of the source file will be done using XENTIS. To embed the flag characters in your output file requires only that you modify the print mask for the field to be bar coded.

- Design your report using XENTIS. For data to appear as bar codes, add a tilde character (~) to the beginning and end of the print mask for each field to be bar coded. If you do not want to use a tilde, you may select another character.

Field 1	number/name/literal: CPU_MODEL	Print line : 1__
Print freq : 0	Heading : Model	Print posn : __
Column Attr: C		Accum level : __
Print mask : ~#####~		

*Delimiters in print mask*

For example, a print mask that originally appeared as “#####” would be modified to appear as “~#####~”. Note: In XENTIS V4.0 and lower, text fields may be prefixed and suffixed with special characters, but date and numeric fields may not.

- Run your report using XENTIS to generate a listing file.
- Execute the XBAR command from DCL to convert the file for printing using the following syntax:

**XBAR** *file-spec* [followed by additional optional parameters]

where *file-spec* is the input file to have bar codes attached. You may also control the processing of the XBAR command by entering additional parameters. For a list of these command qualifiers, see the section entitled XBAR Command Qualifiers, below.

- Print the resulting file on the appropriate printer as you normally would.

## Using X-Bar with XENTIS Label Maker (V4.2)

The process of generating labels using the Label Maker feature of XENTIS requires two steps. First, prepare a report, formatting it as though labels will print in a single column. Next, reformat the labels for printing in multiple columns. To print bar codes on the labels requires a third step to convert the formatted label output for bar code printing. To print bar codes on labels, follow these steps:

- Design your report using the XENTIS Label Maker Design label output option. When selecting the data to appear on the labels, add a tilde character (~) to the beginning and end of the print mask for each fields to be bar coded. If you do not want to use a tilde, you may select another character.

Field 1	number/name/literal: CPU_MODEL	Print line : 1__
Print freq : 0	Heading : Model	Print posn : __
Column Attr: C		Accum level : __
Print mask : ~#####~		

*Delimiters in print mask*

For example, a print mask that originally appeared as “#####” would be modified to appear as “~#####~”. Note: In XENTIS V4.0 and lower, text fields may be prefixed and suffixed with special characters, but date and numeric fields may not.

- Run your report using XENTIS to generate a listing file.
- Run the Label Maker Reformat Labels program to reformat your labels for printing in multiple columns. Select the Label Maker reformat option to insert a form feed character between labels. Also, consider the “Suppress blank lines” option. You may not want to suppress blank lines if that will cause items normally printed below your bar codes to shift up on the page.

Note: X-Bar will not properly print multiple-across labels with Label Maker provided with XENTIS versions prior to V4.2.



- Run X-Bar to convert the label output file for bar code printing. In XENTIS V4.2, the X-Bar conversion program may be found on the Utility Menu provided with XENTIS. In XENTIS V4.1 and earlier, you must run the XBAR program from DCL, as described in the section entitled “Using X-Bar With Non-XENTIS Software.”
- Print the resulting file on the appropriate printer. Be sure to use a print form (created with DEFINE/FORM in DCL) that describes the form height as the height of 1 label.

## Using X-Bar With Non-XENTIS Software

X-Bar can be used to prepare a standard ASCII text file for printing of bar codes on any of the supported printers. The text file may come from any source: application software, a text editor, etc.

Only two requirements exist for the text file to successfully display bar codes. First, the file must have the data to be bar coded delimited by a special character. This tells X-Bar that only that data should appear as bar codes. The character used to delimit the bar code data may be selected by you when you run X-Bar. Second, since bar codes typically require more room on paper than human-readable text, room must be reserved in the text file so no text is printed where the bar codes will appear. The area required for the bar codes is affected by the bar code format, density, printer type, etc.

To use X-Bar with other application software, follow these steps:

- Create a text file. Delimit (surround) the data you want bar coded with tilde (~) characters. Substitute another character if you do not wish to use the tilde.
- Execute the XBAR command from DCL to convert the file for printing using the following syntax:

**XBAR** *file-spec* [followed by additional optional parameters]

where *file-spec* is the input file to have bar codes attached. You may also control the processing of the XBAR command by entering additional parameters. For a list of these command qualifiers, see the section below entitled “XBAR Command Qualifiers.”

- Print the resulting output file on the appropriate printer.

## How It Works

X-Bar reads each record in an input file and searches for the bar code delimiter character. If the input record does not contain the flag sequence, then the input record is placed in the output file. If the input record contains the flag sequence, then the characters between the first flag sequence and the second flag sequence are considered to be the bar code data.

Upon detecting bar code data in a record, it is replaced with appropriate printer commands that instruct the specified printer to print a corresponding bar code. This process continues for every record in the file until the entire file is processed.

## X-Bar Command Format

The process that prepares bar codes for printing is invoked in one of several ways. In XENTIS V4.2 and above, adding /ATTR=BARCODE to the “column attributes” prompt causes automatic processing by X-Bar. Also available in XENTIS V4.2 is the ability to invoke X-Bar from the XENTIS Utilities menu.

The X-Bar program, itself can be executed directly from DCL using the following syntax:

### **XBAR** *file-spec*

where *file-spec* specifies the name of the file to transform. Wild cards and multiple files are not allowed. If a file type is not specified, “.LIS” file type will be used.

## *X-Bar Command Qualifiers*

The following command qualifiers may be appended to the XBAR command. If XBAR is executed by XENTIS, the values for these parameters are provided by the XENTIS setup file, XENTISSET.DAT. If XBAR is run from the XENTIS Utility menu, override values may be entered on the request screen. When running XBAR from DCL, we recommend that you use DCL symbols to store the X-Bar command with appropriate command qualifiers.

*/TYPE=barcode\_type* (default = CODE39)

This qualifier controls the type of bar code produced. If this qualifier is not used, then CODE39 bar codes will be produced. *barcode\_type* may be selected from following values:

UPCA	The UPC-A bar code.
UPCE	The UPC-E bar code.
EAN13	The EAN/JAN-13 bar code.
EAN8	The EAN/JAN-8 bar code.
CODE39	The CODE39 bar code, (also known as 3 of 9)
CODE93	The CODE93 bar code.
EXT39	The extended CODE39 bar code.
EXT93	The extended CODE93 bar code.
INT25	The interleaved 2 of 5 bar code.
CODE128	The CODE128 bar code.
CODABAR	The CODABAR bar code.
POSTNET	The POSTNET bar code (also known as ZIP+4).
UCC128	The UCC128 bar code.
HIBC	The Health Industry Bar Code (based on CODE39)
MSI	The MSI Plessy bar code.

*/PRINTER=printer\_type* (default = EPSON9)

*printer\_type* controls the format of the output. The resulting output must be printed on a printer specified with this qualifier, or on a compatible printer. Otherwise, you may experience unpredictable results. If this qualifier is not specified, then EPSON9 will be used. '*printer\_type*' may be any of the following values:

EPSON9	An Epson 9 pin printer.
EPSON24	An Epson 24 pin printer.
PRO9	An IBM Proprinter 9 pin printer.
PRO24	An IBM Proprinter 24 pin printer.
TOSHIBA24	A Toshiba 24 pin printer.
MICROLINE	An Okidata Microline Standard printer.
HPLJ150	An HP Laserjet 150 dpi printer.
HPLJ300	An HP Laserjet 300 dpi printer.
HPDJ150	An HP Deskjet 150 dpi printer.
HPDJ300	An HP Deskjet 300 dpi printer.
HPPJ180	An HP Paintjet 180 dpi printer.
HPCLJ150	HP Laserjet 150 dpi compatibility mode.
HPCLJ300	HP Laserjet 300 dpi compatibility mode.
POSTSCRIPT	A PostScript printer in conjunction with the SCRIPTSERVER printing software.

*/OUTPUT=file\_spec*

This qualifier controls the name of the output file. If the qualifier is not specified, the output file will be the same name as the input file.

*/SUBSET=code128\_subset* (default = X)

This qualifier controls the code subset for CODE128 bar codes according to the following table (ignored for other types):

X	Code control will be automatic
A	Code subset A will be used.
B	Code subset B will be used.
C	Code subset C will be used.

*/FLAG=char\_sequence* (default = ~)

The */FLAG* qualifier controls the starting and ending flag character sequence that indicates which characters in the text file comprise the bar code data. Any character sequence may be specified, although it is best to keep it to one or two characters. If this qualifier is not specified, then the tilde character, (~), will be used.

*/HEIGHT=n* (default = 5)

This controls the vertical height of the bar code. For dot matrix printers, this is the number of print head passes. Valid values range from 1 through 20. For laser printers, this is the height in 1/10ths inches. For example: for printer type HPLJ300, a value of 5 will produce a bar code that is 1/2 inch tall. If this qualifier is not specified, a value of 5 will be used.

`/PASSES=n` (default = 1)

The `/PASSES` qualifier controls the number of overstrike passes that will be performed for dot matrix printers. If a laser printer is specified, this qualifier will be ignored. If this qualifier is not specified a value of 1 will be used. Valid values range from 1 through 5.

`/RATIO=n` (default = 1)

The `/RATIO` qualifier controls the wide to narrow ratio for CODE39, EXT39, and INT25 bar codes. It is ignored for all other bar code types. If this qualifier is not specified a value of 1 will be used. Valid values are:

- |   |                                   |
|---|-----------------------------------|
| 1 | A ratio of 2 to 1 will be used.   |
| 2 | A ratio of 2.5 to 1 will be used. |
| 3 | A ratio of 3 to 1 will be used.   |

`/DENSITY=n` (default = 2)

This qualifier controls the dot width of vertical bars or spaces in the bar code. If this qualifier is not specified a value of 2 will be used. Valid values range from 1 through 6.

`/LPI=n` (default = 6)

This qualifier indicates the number of lines per inch that will be used on the printer when the output file is printed. If this qualifier is not specified, a value of 6 will be used. Valid values range from 1 through 20.

`/CPI=n` (default = 10)

This qualifier indicates the number of characters per inch that will be used on the printer when the output file is printed. If this qualifier is not specified a value of 10 will be used. Valid values range from 2 to 20.

`/CAPTION` (default)  
`/NOCAPTION`

This qualifier controls whether or not a text caption, or value, of the bar code is printed below the bar code. `/CAPTION` is assumed if not specified. Captions are not printed as part of the bar code if the output printer type is POSTSCRIPT.

`/COLLAPSE` (default)  
`/NOCOLLAPSE`

This qualifier controls whether or not spaces are removed from bar code data before converting it into a bar code. Spaces are never removed from the captioned text that is printed below the bar code. `/COLLAPSE` is assumed if not specified.

/CHECKSUM  
/NOCHECKSUM (default)

This qualifier controls whether or not a checksum is generated automatically for bar code types that have optional checksums. /NOCHECKSUM is assumed if not specified. The bar code data must contain an underscore (\_) as a place holder for the checksum character.

/PORTRAIT (default)  
/LANDSCAPE

The /LANDSCAPE qualifier should be specified if the output is to an HP Laserjet printer and the output is being printed in landscape mode. Failure to do this will result in erroneous output. /PORTRAIT is assumed if neither /PORTRAIT nor /LANDSCAPE is specified.

/ABORT (default)  
/NOABORT

This qualifier controls whether or not the XBAR command will abort or continue if it encounters a bar code data error. /ABORT is the default and will be assumed if not specified. An example of a bar code data error would be including an alphabetic character for the UPC-A bar code. If an error occurs, the output file will be closed but not deleted so that it can be examined to determine the cause of the error. If /NOABORT is used, bar code data will be replaced with spaces if a bar code data error occurs.

/EPS\_FLAG=*char\_sequence* (default = |)

This qualifier is used only if the printer type is POSTSCRIPT, otherwise it is ignored. Specifying this qualifier controls the character sequence that will be prefixed to every output line that contains embedded Postscript. If this qualifier is not specified, then the vertical bar (|) character will be used.

/DROP=*n* (default = 0)

This qualifier is used to drop, or remove, the checksum characters for barcode data that already has the checksum included. X-Bar normally expects barcode data to not have checksum, and it automatically generates the appropriate checksums.

## Discussion

Regardless of the file type and record format of the input file, the output file will always be a Sequential file with Variable records.

For a dot-matrix printer to properly advance the paper to the top of the next form or page, it is necessary for the print file to contain form-feed characters to perform this function. When printing with forms or labels, each new form or label should be followed with a form-feed character.

Because the printing of the bar code usually takes more space on the paper than the bar code data, it is prudent to not print text where the bar code is expected to be printed. The position of the bar code is determined by the position of the bar code flag characters. For non-Postscript printers, the upper left corner of the bar code is positioned on the initial bar code flag character. For Postscript printers, the lower left corner of the bar code is positioned on the initial bar code flag character.

Be sure to include sufficient white space (blanks) following and below the bar code data for non-PostScript printers. For PostScript printers be sure to include sufficient white space above the bar code data to avoid overprinting bar code and text.

Please note that a text file containing printer commands to print bar codes is much larger than a text file without the printer commands.

## *PostScript Output*

When the printer type is POSTSCRIPT, the X-Bar utility requires the output file to be printed using the SCRIPTSERVER printing software for PostScript printers. When using SCRIPTSERVER be sure to specify one of the following:

/PARAM=BAR_COMMANDS	when using the PRINT command
/BAR	when invoking the SCRIPT facility
BC YES	when in the SCRIPT facility

This is necessary because there will be embedded PostScript commands within the output text file, and SCRIPTSERVER must distinguish between text and PostScript commands. Most other PostScript print server software does not support embedded PostScript.

In addition, the barcode attributes used when XBAR was run must match those specified in SCRIPTSERVER. For example, you must specify the same font size when using SCRIPTSERVER as you did when XBAR was run. Otherwise, your output may be incorrect.

## Restrictions

The following table documents the restrictions and features available for each bar code type supported.

Bar Code Type	Input Length	Adjust Ratio	Upper Case	Lower Case	Number	Punctuation	Ctrl Char	Checksum
UPCA	11,13,16	No	No	No	Yes	No	No	Yes
UPCE	11,13,16	No	No	No	Yes	No	No	Yes
EAN13	12,14,17	No	No	No	Yes	No	No	Yes
EAN8	7, 9,12	No	No	No	Yes	No	No	Yes
CODE39	1 to 30	Yes	Yes	No	Yes	Yes	No	Yes
CODE93	1 to 30	No	Yes	No	Yes	Yes	No	Yes
EXT39	1 to 30	Yes	Yes	Yes	Yes	Yes	Yes	Yes
EXT93	1 to 30	No	Yes	Yes	Yes	Yes	No	Yes
INT25	2 to 30	Yes	No	No	Yes	No	No	No
CODE128	1 to 30	No	Yes	Yes	Yes	Yes	Yes	Yes
CODABAR	1 to 30	No	No	No	Yes	No	No	Yes
POSTNET	5, 9,11	No	No	No	Yes	No	No	Yes
UCC128	19	No	No	No	Yes	No	No	No
HIBC	1 to 30	No	No	No	Yes	No	No	Yes
MSI	1 to 30	No	No	No	Yes	No	No	Yes

## Problems

### Error Messages

BARCODE-E-TOOLONG, Bar Code is too long.

The bar code is either more than 30 characters or it has zero characters.

BARCODE-E-NOTVALID, Bar Code data is not valid.

The data supplied to XBAR is either not the correct length (some bar codes require the data to be a fixed length), or the data supplied contains characters that the bar code type cannot represent.

BARCODE-E-TOOMANY, Too many bar codes.

There are too many bar codes on a single line in the input file. A maximum of five bar codes are allowed per line.

BARCODE-E-HEIGHTINVALID, height invalid

There is not sufficient space between detail line to insert the bar code.

### Formatting

When formatting a report for printing bar codes, you may print bar codes side-by-side. However, in this case, they must exist on the same horizontal line. Bar codes cannot exhibit a vertical partial overlap, where as you pass down the page, one bar code begins printing before another has ended.

## Examples

### Commands

```
$ DEFINE XBAR_IMAGES dev:[directory]           !directory for
XBAR.EXE
$ SET COMMAND XBAR_IMAGES:XBAR.CLD             !Define XBAR
command
$ XBAR/OUTPUT=OUTPUT.LIS/PRINTER=POSTSCRIPT/CPI=12/LPI=6-
_$ /DENSITY=2/TYPE=CODE39/HEIGHT=5  INPUT.LIS
$ PRINT/QUEUE=LASER/PARAM=BAR_COMMANDS OUTPUT.LIS
                                           !Scriptserver
queue
```

### Input File (INPUT.LIS)

This is the first line in the file		
This is the second line in the file		
line 0		line 0
line 1		line 1
line 2		line 2
line 3	~ABC 123 XYZ~	line 3
Caption	ABC 123 XYZ	Caption
This is another line following the bar code		

### Transformed File (OUTPUT.LIS)

The following is an approximation of the output resulting from the above input file.

This is the first line in the file		
This is the second line in the file		
line 0		line 0
line 1		line 1
line 2		line 2
line 3		line 3
Caption	ABC 123 XYZ	Caption
This is another line following the bar code		



# X-Bar Installation

## Installation Overview

If you are running XENTIS V4.2 or higher, X-Bar software is provided on your XENTIS installation tape. It is automatically transferred to your system along with XENTIS. If you are on a lower version of XENTIS, you should perform this stand-alone installation of X-Bar, described below.

## Command Installation

Regardless of whether or not you are using XENTIS, the one step that must be performed to allow X-Bar to be used, regardless of your installation method, is to define the XBAR command in your command tables.

Set up your system to use X-Bar by using 'SET COMMAND' in DCL. 'SET COMMAND' allows you to place the XBAR command into your process command table or, if you're sufficiently privileged, into the system command table. Once placed there, you may then run XBAR by entering XBAR at the DCL prompt.

X-Bar includes a file named XBAR.CLD. This allows you to define the XBAR command by entering the following DCL command:

```
SET COMMAND disk[directory]XBAR.CLD.
```

where *disk* and *directory* represent the location of the XBAR.CLD file.

Review the OpenVMS Command Definition Utility documentation for more information regarding 'SET COMMAND'.

## License Keys

X-Bar requires the presence of a valid license key on your system in order to run. If you are a XENTIS user, your XENTIS license key can be amended to include X-Bar. If you are using X-Bar without XENTIS, your distributor can provide a license key to make X-Bar operable.

## Stand-Alone Installation

X-Bar uses VMSINSTAL to perform the installation. For complete information about VMSINSTAL consult 'Digital's Guide to VAX/VMS Software Installation'. Type a question mark (?) at any prompt to receive on-line help. Default responses are shown in square brackets [ ] after the prompt. Simplify installation by using default responses as much as possible.

### Installation Prompt Overview (for first time installation)

```
Release notes included with this kit are always copied to SYS$HELP.
* Load License Product Key [Y]?
* Enter location for the XBAR files [drive:[XBAR.IMAGES]]?
* Enter your company name:

      PKMS LICENSE KEY LOAD PROCEDURE FOR XBAR
      Distributor Name:
      Authorization Code:
      Product Name [XBAR]:
      Company Name:
      Node Name:
      Modules 1:
```

```

Modules 2:
Checksum A:
Checksum B:
Checksum C:
Checksum D:
Checksum E:

Is the License Key correct [Y]?
Load License Key PKMS$XBAR [Y]?
Create license key startup file: PKMS_XBAR_START.COM [Y]?

```

## Installation Considerations

### When to Perform Installation

It is not necessary to shut down any part of your system, including DECNET, or log users off while installing X-Bar. The amount of time required for the entire installation process varies from system to system.

### Target Device and Directory

During installation, you are given the opportunity to choose a target disk and directories for X-Bar. If the directory does not exist, it will be created by the installation procedure. Initially, the system disk is offered as the default device. You may use any valid disk as the target device.

## Beginning the Installation

### Account to Use During Installation

Log into the SYSTEM or a privileged account, preferably on a hard-copy device.

### Execute the VMSINSTAL Procedure

```
$ @SYS$UPDATE:VMSINSTAL XBAR drive:
```

where *drive:* is the device name of the tape drive you plan to use.

## Installation Prompts

Step	Prompt	Responses and Notes
1	VAX/VMS Software Product Installation Procedure Vn.n  It is <i>date</i> at <i>time</i> . Enter a question mark (?) at any time for help.  * Do you want to continue anyway [NO]?	VMSINSTAL may display information about the state of your system.  Y: Continue installation. N: Discontinue installation.
2	Are you satisfied with the backup of your system disk [YES]?	Y: Continue installation. N: Discontinue installation.

3	<p>Please mount the first volume of the set on drive:</p> <p>* Are you ready?</p>	<p>Mount the X-Bar tape on the tape drive.</p> <p>Y: Continue installation. N: Discontinue installation.</p>
4	<p>%MOUNT-I-MOUNTED, XBAR mounted on drive:</p> <p>The following products will be processed:</p> <p style="padding-left: 40px;">XBAR V1.0</p> <p style="padding-left: 40px;">Beginning installation of XBAR V1.0 at time</p> <p>%VMSINSTAL-I-RESTORE, Restoring product save set A...</p>	
5	<p>Release notes included with this kit are always copied to SYS\$HELP.</p>	
6	<p>XBAR V1.0 - starting installation SETUP phase... XBAR - starting installation option selection phase ...</p>	
7	<p>Load License Product Key [Y]?</p>	<p>Y: Load the license key during install. N: Do not load the license key during install.</p> <p>The license key is used to enable X-Bar after it is installed on your system. If the license key is NOT loaded during installation, it may be loaded later by executing a DCL command procedure.</p> <p>The default to this prompt is determined by the installation procedure. If a license key is already loaded, then the default is N. If a license key is not loaded, then the default is Y.</p> <p>For complete information, see the 'License Key' section.</p>
8	<p>* Enter location for the XBAR files [drive:[XBAR.IMAGES]]?</p> <p>That disk and directory specification does not exist.</p> <p>* Do you wish to create it [N]?</p>	<p>The responses to these prompts determine the target disk and directories for X-Bar. See 'Installation Considerations' for more information regarding target disk and directories. The default <i>drive:</i> is the system disk unless you change the default in a preceding response. If the target disk and directory entered does not exist, the following prompt is issued.</p> <p>Y: Create the directories during install. N: Do not create the directories during install. You will be re-prompted for locations.</p>

9	<p>Load the Product License key: YES</p> <p>Disk/Directory:                      disk:[XBAR]</p> <p>* OK to continue [Y]?</p>	<p>A summary of your responses is displayed.</p> <p>Y: Continue installation. N: Pause installation. You will be re-prompted starting with 'Load License Key'.</p>
10	<p>PKMS LICENSE KEY LOAD PROCEDURE FOR XBAR</p> <p>Distributor Name: Authorization Code: Product Name [XBAR]: Company Name: Node Name: Modules 1: Modules 2: Checksum A: Checksum B: Checksum C: Checksum D: Checksum E:</p> <p>Is the License Key correct [Y]?</p> <p>%PKMSLOAD-I-KEYEXIST, License key already exists</p> <p>Load License Key PKMS\$XBAR [Y]?</p> <p>Create license key startup file: PKMS_XBAR_START.COM [Y]?</p> <p>%PKMSLOAD-I-CREATE,      Startup      file      created: PKMS_XBAR_START.COM</p>	<p>These prompts are issued ONLY if you responded Y to 'Load License Product Key'. See the 'License Key' section for complete information.</p> <p>Enter responses from you paper key. Responses must be entered EXACTLY or the license key installation will fail. Ensure that you include the exact spacing between words and that you are not confusing zeroes with oh's.</p> <p>Y: License key information is correct. Continue installation. N: License key information is not correct. You are re-prompted for license key responses.</p> <p>This message displays only if the logical PKMS\$XBAR already exists.</p> <p>Y: Load the license key (create the PKMS\$XBAR logical in the system table). N: Do not load the license key (do not create the PKMS\$XBAR logical in the system table).</p> <p>Y: Automatically create the license key startup file used with system startup. N: Do not create the license key startup file.</p> <p>This message displays if you responded Y to 'Create license key startup file'.</p>

11	<p>You need to create a system logical named XBAR_IMAGES that translates to <i>disk:[directory]</i>. This should be done at system startup.</p> <p>Example:</p> <pre>DEFINE/SYSTEM XBAR_IMAGES disk:[directory]</pre> <p>%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...</p> <p>Installation of XBAR V1.0 completed at 15:54</p> <p>VMSINSTAL procedure done at 15:54</p>	<p>The installation proceeds automatically TO completion. This processing will take approximately 5 minutes depending on your hardware configuration and system load.</p>
----	--	---

## After Installation

This section contains information about setting up the XBAR environment once the installation is complete. Read after installation.

### Starting X-Bar

To enable X-Bar to execute properly perform the following steps:

- Start up X-Bar by entering:  

```
@SYS$MANAGER:PKMS_XBAR_START.COM
```
- Automatically start up X-Bar by adding the following line to your system startup file:  

```
@SYS$MANAGER:PKMS_XBAR_START.COM
```

## Setup Options

For users running XENTIS V4.2 and higher versions, you may modify the following setup parameters may be used to revise the default bar code specification. For more information refer to the XENTIS Reference Manual.

BARCODE-TYPE	Default bar code format.
BARCODE-PRINTER	Default bar code printer
BARCODE-SUBSET	Bar code subset
BARCODE-FLAG	Bar code flag character sequence (default is the tilde)
BARCODE-HEIGHT	Bar code height
BARCODE-PASSES	Bar code passes
BARCODE-RATIO	Bar code ratio
BARCODE-DENSITY	Bar code density
BARCODE-LPI	Bar code lines per inch
BARCODE-CPI	Bar code characters per inch
BARCODE-CAPTION	Bar code caption option
BARCODE-COLLAPSE	Bar code collapse option
BARCODE-CHECKSUM	Bar code checksum

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