

AD/ADVANTAGE

MANTIS for Windows Administration Guide

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AD/Advantage[®] MANTIS for Windows Administration Guide

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We welcome your comments

We encourage critiques concerning the technical content and organization of this manual. A [Reader Comment Sheet](#) is included at the end of the manual for your convenience.

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About this book

Using this document

MANTIS[®] is an application development system that consists of design facilities (e.g., screens and files) and a programming language. This manual explains the features offered by MANTIS for Windows and where to find more information on those features. It also explains the installation and configuration procedures, and the special options offered to the Master User.

Document organization

The information in this manual is organized as follows:

Chapter 1—Getting started

Discusses compatibility between MANTIS for Windows and MANTIS for mainframe, as well as the features of MANTIS for Windows.

Chapter 2—Installing MANTIS

Discusses the considerations and procedures for installing MANTIS.

Chapter 3—MANTIS configuration and customization

Describes the keyboard layout, initialization process, command line options, and environment variables used by MANTIS for Windows. It also explains how to sign on to MANTIS and move among the facilities, and how to redirect input and output for noninteractive execution.

Chapter 4—Master User's extended functionality

Details specific options available only to the Master User.

Chapter 5—MANTIS utilities

Describes the MANTIS Print Utility (MPR) and the MANTIS Cluster Utility (MANTUTIL).

Appendix A—Planning your applications

Offers some suggestions for program development, system performance, and using color in your applications.

Convention	Description	Example
Braces { }	<p>Indicate selection of parameters. (Do not attempt to enter braces or to stack parameters.) Braces surrounding stacked items represent alternatives, one of which you must select.</p> <p>The example indicates that you must enter FIRST, LAST, or a value for <i>begin</i>.</p>	<pre>{ FIRST begin LAST }</pre>
<u>Underlining</u>	<p>Indicates the default value supplied when you omit a parameter.</p> <p>The example indicates that if you do not specify ON, OFF, or a row and column destination, the system defaults to ON.</p>	<pre>SCROLL [ON OFF [row] [,col]</pre>
	<p>Underlining also indicates an allowable abbreviation or the shortest truncation allowed.</p> <p>The example indicates that you can enter either PRO or PROTECTED.</p>	<u>PROTECTED</u>
Ellipsis points...	<p>Indicate that the preceding item can be repeated.</p> <p>The example indicates that you can enter (A), (A,B), (A,B,C), or some other argument in the same pattern.</p>	<i>(argument, ...)</i>
SMALL CAPS	<p>Represent a keystroke. Multiple keystrokes are hyphenated.</p>	ALT-TAB

Convention	Description	Example
UPPERCASE	<p>Indicates MANTIS reserved words. You must enter them exactly as they appear.</p> <p>The example indicates that you must enter CONVERSE exactly as it appears.</p>	CONVERSE <i>name</i>
lowercase	Indicates generic names of parameters for which you supply specific values as needed.	COMPOSE [program-name]
<i>Italics</i>	<p>Indicate variables you replace with a value, a column name, a file name, and so on.</p> <p>The example indicates that you can supply a name for the program.</p>	COMPOSE [<i>program-name</i>]
Punctuation marks	<p>Indicate required syntax that you must code exactly as presented.</p> <p>() parentheses . period , comma : colon ' ' single quotation marks</p>	[LET] _{<i>i</i>} $\begin{bmatrix} (i) \\ (i, j) \end{bmatrix}$ [ROUNDED(<i>n</i>)] = <i>e1</i> [<i>e2, e3...</i>]

MANTIS documentation series

MANTIS is fourth-generation programming language used for application development. MANTIS is part of AD/Advantage[®], which offers additional tools for application development. The following list shows the manuals offered with MANTIS for Windows, organized by task. You may not have all the manuals that are listed here.

Getting started

- ◆ *MANTIS for Windows Administration Guide*, P19-2304*

General use

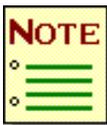
- ◆ *MANTIS for Windows Language Reference Manual*, P19-2302
- ◆ *MANTIS for Windows Facilities Reference Manual*, P19-2301
- ◆ *MANTIS for Windows Quick Reference*, P19-2303

SQL support

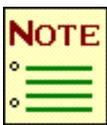
- ◆ *MANTIS for Windows SQL Support for SUPRA Programming Guide*, P19-2307
- ◆ *MANTIS for Windows SQL Support for SUPRA Administration Guide*, P19-2308*

Master user tasks

- ◆ *MANTIS for Windows Administration Guide*, P19-2304*
- ◆ *MANTIS for Windows SQL Support for SUPRA Administration Guide*, P19-2308*



Manuals marked with an asterisk (*) are listed twice because you use them for different tasks.



MANTIS educational material is available from your regional Cincom education department.

1

Getting started

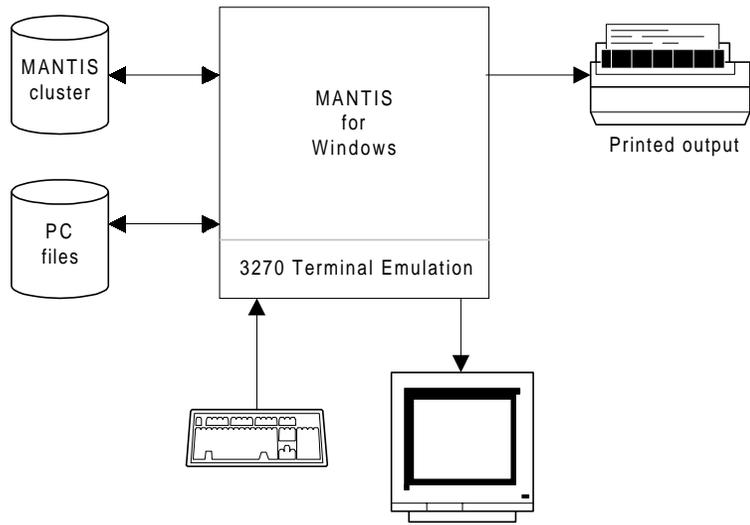
MANTIS for Windows is an application development workbench for users of MANTIS for the IBM mainframe. MANTIS is composed of facilities (for creating screens, files, etc.) and a programming language. This manual explains the features offered by MANTIS for Windows and where to find more information on those features. It also explains the installation and configuration procedures, and the special options offered to the Master User.

MANTIS entities (e.g., programs, screens, and files) are maintained by MANTIS in its own library. You can copy MANTIS entities to and from the mainframe and between two personal computers. You can also copy MANTIS entities to diskettes and print MANTIS output on a personal computer printer. By using MANTIS, you can do the following:

- ◆ Design and create formatted screens to enable full use of the facilities available on today's personal computers to display text data attractively.
- ◆ Design and create permanent files for storing and manipulating data.
- ◆ Create and test programs interactively. MANTIS provides a compatibility mode that enables you to create programs that are compatible with MANTIS for the IBM mainframe. See "[Compatibility between MANTIS for Windows and MANTIS on the mainframe](#)" on page 17.

MANTIS for Windows simulates an IBM 3270-type device to the extent possible with the associated hardware.

The following figure outlines how MANTIS for Windows works:



The MANTIS cluster is a PC file containing all the MANTIS entities available to the MANTIS user. This file contains the following:

- ◆ All MANTIS user definitions.
- ◆ All programs, screen and file designs, and so on, for each MANTIS user.
- ◆ All MANTIS error message texts.
- ◆ All HELP prompters available in the Program Design Facility.

The MANTIS cluster is required by MANTIS, the MANTIS Cluster Utility, and the Print Utility programs. The Print Utility is called MPR. The MANTIS Cluster/File Utility is called MANTUTIL. MANTIS refers to the MANTIS interpreter. See “MANTIS utilities” on page 157 for more information.

Compatibility between MANTIS for Windows and MANTIS on the mainframe

In MANTIS for Windows, the Master User can specify size limits, but with compatibility mode in effect, MANTIS enforces the mainframe limits.

Size limit	Personal computer*	IBM mainframe
Maximum string length (bytes)	254–32750	254
Maximum dimension size (bytes)	255–16000	255
Maximum number of dimensions	2–255	2 (1 for TEXT)
Maximum program line number	9999–64000	30000
Maximum number of user words (variables)	2048–65535	2048
Maximum number of external DO levels	5–255	5
Maximum number of CHAIN parameters	40–255	40
Maximum program size (bytes)	32768–65248	32768

* Maximum size limits on the personal computer must be in the ranges listed here.

The following statements and functions are supported by MANTIS for the IBM mainframe but not by MANTIS for Windows:

ASI*	TOTAL*
DEQUEUE**	VIEW*
ENQUEUE**	VSI*
MARK*	

* MANTIS displays an error message if you try to execute this statement/function on Windows.

** This statement is ignored on MANTIS for Windows.

The following statements, functions, and commands are supported by MANTIS for Windows, but not by MANTIS for the IBM mainframe:

BREAK*	NULL*
CHR*	NUMERIC*
EDIT* **	RETURN*
FOR*	SET* **
GO**	\$SYMBOL*
LANGUAGE*	UPPERCASE*
NEXT*	

* Documented in MANTIS for Windows Language Reference Manual, P19-2302.

** Documented in MANTIS for Windows Facilities Reference Manual, P19-2301.

The following statements and functions work differently on Windows and mainframe (refer to the *MANTIS for Windows Language Reference Manual*, P19-2302, for compatibility considerations):

ACCESS	KEY
ATTRIBUTE	OUTPUT
CALL	PERFORM
CHAIN	PRINTER
CLEAR	RELEASE
COMMIT	SCROLL
CONVERSE	SHOW
DO	SIZE
FSI	SLICE
GET	SLOT
INTERFACE	

The following facilities and editing commands work differently on Windows and mainframe (refer to the *MANTIS for Windows Facilities Reference Manual*, P19-2301, for compatibility considerations):

Interface Design	DOWN
Transfer Facility	QUIT
Screen Design	REPLACE
Windowing	RUN
External File Design	SAVE
Program Design	SEQUENCE
BIND	UP

Features of MANTIS for Windows

This section provides an overview of the features offered by MANTIS for Windows, when to use them, and where to find more information.

Logical keys

MANTIS for Windows uses logical keys that correspond to 3270 keys. Personal computer keys are mapped to logical keys, and this mapping can be customized.

Use logical keys to enter data and perform special functions, such as scrolling. Logical keys are defined in the tables under “[MANTIS editing and windowing keys](#)” beginning on page 31. The tables are also in the *MANTIS for Windows Facilities Reference Manual*, P19-2301, and the *MANTIS for Windows Language Reference Manual*, P19-2302.

Customizing logical keys is described in “[Updating the configuration file](#)” on page 79.

Logical Terminal Interface

The MANTIS Logical Terminal Interface provides a logical display (32767 rows by 32767 columns) that enables you to create screen designs (maximum of 255 rows or 255 columns, not to exceed 64K). You can create screens that are larger than your physical screen and use multiple screen designs in one display, extended edit masking, and field attributes.

You will use the Logical Terminal Interface whenever you create and display screens.

The Logical Terminal Interface is introduced in both the *MANTIS for Windows Facilities Reference Manual*, P19-2301, and the *MANTIS for Windows Language Reference Manual*, P19-2302. Also, refer to the *MANTIS for Windows Language Reference Manual*, P19-2302, for an explanation of the CONVERSE statement and advanced techniques used to display multiple screens.

Display modes

MANTIS uses the following methods to display data on the logical display:

- ◆ **Full-screen mode.** Describes the way MANTIS displays a screen.
- ◆ **Scroll mode.** Describes the way MANTIS displays data in Program Design. This mode is automatically invoked when you create a MANTIS program.

You will use MANTIS display modes whenever you use MANTIS. These modes are invoked automatically, and you do not have to be concerned with which mode you are currently using.

Display modes are discussed in the *MANTIS for Windows Facilities Reference Manual*, P19-2301, and the *MANTIS for Windows Language Reference Manual*, P19-2302.

Compatibility mode

Compatibility mode enables you to write MANTIS applications on Windows that will be compatible with MANTIS for the IBM mainframe. You can set compatibility mode using the Update Configuration File Facility. When testing your applications, MANTIS displays an error message when the application tries to use a feature or statement that is not supported by MANTIS for IBM mainframe.

You will use compatibility mode to develop applications that will be compatible with MANTIS for the IBM mainframe.

MANTIS for Windows Facilities Reference Manual, P19-2301, and *MANTIS for Windows Language Reference Manual*, P19-2302, describe compatibility mode and the differences between MANTIS for Windows and MANTIS for the IBM mainframe. See “[Updating the configuration file](#)” on page 79 for information on how to set compatibility mode.

Line Editor

The MANTIS Line Editor enables you to create and edit your MANTIS programs.

You will use the MANTIS Line Editor whenever you use the MANTIS Program Design Facility.

The MANTIS Line Editor and the editing commands it offers are described in the *MANTIS for Windows Facilities Reference Manual*, P19-2301. (MANTIS programming language is described in the *MANTIS for Windows Language Reference Manual*, P19-2302.)

EDIT command

The EDIT command invokes an external text editor. You will use the EDIT command whenever you want to use an external personal computer text editor to modify your MANTIS program.

The EDIT command is discussed in the *MANTIS for Windows Facilities Reference Manual*, P19-2301, and in the *MANTIS for Windows Language Reference Manual*, P19-2302.

PERFORM statement

The PERFORM statement invokes an external command. The command, which can run a user-written program, executes without accessing or interfering with the MANTIS work area.

You can use PERFORM to build menu-driven systems where the menu itself and some system components are written in MANTIS. From MANTIS, you can use the PERFORM statement to invoke old or performance-sensitive components written in COBOL, BASIC, Pascal, Assembler, C, and so on.

The PERFORM statement is described in the *MANTIS for Windows Language Reference Manual*, P19-2302.

File design

MANTIS for Windows enables you to create and access MANTIS files (MANTIS File Design Facility), create and access external (personal computer) file views (External File View Design Facility), and create TOTAL file views (TOTAL File View Design Facility) to be used on MANTIS for the IBM mainframe.

You can create the following types of external file views with MANTIS for Windows:

- ◆ Native personal computer file views.
- ◆ Personal computer file views that simulate VSAM files.

You will use the file design facilities whenever you want to create a file view.

File design is described in the *MANTIS for Windows Facilities Reference Manual*, P19-2301.

Transfer Facility

The Transfer Facility enables you to copy MANTIS entities from one personal computer to another.

You will use the Transfer Facility to archive MANTIS entities or move them to another personal computer.

The Transfer Facility is described in the *MANTIS for Windows Facilities Reference Manual*, P19-2301.

Universal Export Facility

The Universal Export Facility (UEF) enables you to import/export entities (e.g., screens, files, programs, views, etc.) from one MANTIS file to another. The Universal Export Facility is described in the *MANTIS for Windows Facilities Reference Manual*, P19-2301.

I/O redirection

You can redirect keyboard input and screen output for noninteractive execution. You will use I/O redirection to run noninteractive MANTIS applications. (See “[Redirecting input and output in a noninteractive mode](#)” on page 44.)

2

Installing MANTIS

This chapter discusses the considerations and procedures for installing MANTIS.

System requirements and hardware considerations

MANTIS for Windows has the following requirements:

- ◆ Microsoft Windows 95, 98, or NT
- ◆ 486 processor minimum
- ◆ 8 MB RAM minimum (16MB recommended)
- ◆ 20 MB disk space
- ◆ CD-ROM drive (not delivered on floppies)
- ◆ VGA monitor minimum (SVGA recommended)

Package contents

Your package contains the following:

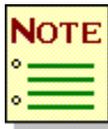
- ◆ A CD-ROM disk.
- ◆ The following documentation:
 - *MANTIS for Windows Facilities Reference Manual*, P19-2301
 - *MANTIS for Windows Language Reference Manual*, P19-2302
 - *MANTIS for Windows Quick Reference*, P19-2303
 - *MANTIS for Windows Administration Guide*, P19-2304
 - *MANTIS for Windows SQL Support for SUPRA Programming Guide*, P19-2307
 - *MANTIS for Windows SQL Support for SUPRA Administration Guide*, P19-2308

Installation

To install this product, complete the following steps in the order presented:

1. Insert the CD into your CD-ROM drive.
2. Print the README.TXT document. This file contains information which became available after the manuals were printed.
3. Run setup.exe from the CD. Follow the instructions on your screen.
4. After MANTIS is installed, a new submenu called Cincom App Group appears in the Programs menu. The submenu contains the MANTIS item. Choose the MANTIS item to start MANTIS.
5. You should now have the MANTIS sign-on screen. You can now sign on to MANTIS. The available users and passwords are:

User	Password
MASTER	MASTER
EXAMPLES	CASINO



You must enter these passwords in uppercase.

3

MANTIS configuration and customization

This chapter describes the keyboard layout, initialization process, command line options, and environment variables used by MANTIS for Windows. It also explains how to sign on to MANTIS and move among the facilities, and how to redirect input and output for noninteractive execution.

Keyboard

A standard personal computer has the following types of keys:

- ◆ A main keypad of alphabetic (a–z) and nonalphabetic (numeric and punctuation) data-entry keys.
- ◆ Special keys (e.g., function keys, TAB, ENTER, directional cursor keys, HOME, END, PGUP, etc.).
- ◆ ALT and CTRL (held down while pressing another key).

Logical key names are used to describe keyboard operations. You use the keyboard to the following:

- ◆ **Enter data.** You can enter data only when the cursor is in an unprotected field on the screen. When you press a data-entry key, the corresponding character is entered into the field at the cursor position, and the cursor moves one position to the right. If you are in overwrite mode (the default mode), each character that you enter overwrites the character at the cursor position. In insert mode (turned on/off by the INSERT key), each character that you enter is inserted at the cursor position, and the following characters in the field move one position to the right.
- ◆ **Perform special functions.** When you press one of the keys listed in the table under “MANTIS editing and windowing keys” on page 31, MANTIS performs a function that has an immediate effect on your screen (such as moving the window or initiating insert mode), without returning control to the application.

You can also use keys such as those listed in the tables under “MANTIS editing and windowing keys,” which starts on page 31, to return control to the MANTIS program that is executing. The program can obtain the name of the logical key that you pressed. The response to the logical key is determined by the logic of the MANTIS program. You can also enter any value in the Key Simulation field (located at the lower right corner of the screen) before pressing ENTER, and this value will be returned to the MANTIS program as the logical key name. Entering KILL in the Key Simulation field terminates the program.

The following tables show the default key assignments you can use when running your application. Logical key names, such as CANCEL and INSERT, are used throughout this manual. The personal computer key values for logical keys can be changed using the Update Configuration File Facility (see “[Updating the configuration file](#)” on page 79).

MANTIS editing and windowing keys

The following table shows the keys that you use to move the cursor and the window, and modify the screen, without returning control the MANTIS application program:

Logical key	PC key	Enables you to . . .
UP	↑	Move the cursor up one row.
DOWN	↓	Move the cursor down one row.
LEFT	←	Move the cursor left one column.
RIGHT	→	Move the cursor right one column.
TAB	→ (TAB)	Move the cursor to the start of the next unprotected field.
BACKTAB	SHIFT-→ (SHIFT-TAB)	Move the cursor to the start of the next unprotected field.
DELETE	DEL	Delete the character at the cursor.
BACKSPACE	← (BACKSPACE)	Delete the character to the left of the cursor and move the cursor one space to the left.
ERASEEOF	F6 or CTRL-END	Delete the character(s) from the cursor to the end of the field.
INSERT	INS	Turn on/off insert mode.
HOME	HOME	Move the cursor to the first unprotected field on the screen.

Logical key	PC key	Enables you to . . .
NEWLINE	CTRL-ENTER	Move the cursor to the first unprotected field on the next line.
REFRESH ¹	CTRL-R	Redisplay the current screen.
SELECT ^{1 2}	CTRL-S	Copy a line from the scroll map to the Unsolicited Input field for you to modify.
SELUP ¹	CTRL-U	Copy the previous input line from the scroll map to the Unsolicited Input field.
SELDOWN ¹	CTRL-D	Copy the next input line from the scroll map to the Unsolicited Input field.
TABWRD	CTRL-→	Move the cursor to the next word.
TABBOW	CTRL-←	Move the cursor to the beginning of the word (or to the previous word if the cursor is currently at the beginning of a word).
TABEOF	END	Move cursor past the last nonblank character in the current field.
LINEDRAW ³	CTRL-B	Draw lines in Screen Design by using the cursor keys.
LINECLEAR ³	CTRL-N	Erase line-drawing characters in Screen Design by using the cursor keys.
STOP	CTRL-\	Terminate MANTIS. You must press this key twice, consecutively.
WINUP	PGUP	Move the window up by the row increment value.
WINDOWN	PGDN	Move the window down by the row increment value.
WINLEFT ⁴	CTRL-PGUP	Move the window left by the column increment value.

¹ This key is used in the MANTIS Line Editor. Refer to the *MANTIS for Windows Facilities Reference Manual*, P19-2301, for more information.

² Refer to the PERFORM statement in the *MANTIS for Windows Language Reference Manual*, P19-2302, for more information on SELECT.

³ This key remains active until you press an action key (see the table under “MANTIS action keys” on page 34).

⁴ To change the increment value, refer to the SCROLL statement in the *MANTIS for Windows Language Reference Manual*, P19-2302.

Logical key	PC key	Enables you to . . .
WINRIGHT ¹	CTRL-PGDN	Move the window right by the column increment value.
WINTOPL	CTRL-HOME	Move the window to the top left of the logical display.
WINTOPR	No default (user definable)	Move the window to the top right of the logical display.
WINBOTL	No default (user definable)	Move the window to the bottom left of the logical display.
WINBOTR	No default (user definable)	Move the window to the bottom right of the logical display.
SCROLLALL	CTRL-A	Display the entire scroll output map by scrolling from top to bottom.
INPUTMAP	CTRL-I	Add or remove the Unsolicited Input field and Key Simulation field.
WINDOWMAP	CTRL-W	Add or remove the row/column coordinates at the bottom of the screen.
STATUSLINE	CTRL-P	Add or remove the status line on the last line of the screen. The status line shows the insert mode and cursor position.
VALIDINFO	CTRL-V	Display extended edit attributes for a particular field. Position cursor over the field and press VALIDINFO any time during data entry to the screen.

¹ To change the increment value, refer to the SCROLL statement in the *MANTIS for Windows Language Reference Manual*, P19-2302.

MANTIS action keys

The following table shows the MANTIS action keys you use to send data from the input screen to the MANTIS application program. The function of each key is determined by the application and returns the logical key name to the map variable in the application program. Data fields are modified to match the screen fields.

Logical key	PC key	Logical key	PC key
CANCEL	Esc	PF11	ALT--
CLEAR*	F2	PF12	ALT++
ENTER	ENTER	PF13	ALT-Q
PA1	ALT-J	PF14	ALT-W
PA2	ALT-K	PF15	ALT-E
PA3	ALT-L	PF16	ALT-R
PF1	ALT-1	PF17	ALT-T
PF2	ALT-2	PF18	ALT-Y
PF3	ALT-3	PF19	ALT-U
PF4	ALT-4	PF20	ALT-I
PF5	ALT-5	PF21	ALT-O
PF6	ALT-6	PF22	ALT-P
PF7	ALT-7	PF23	ALT-A
PF8	ALT-8	PF24	ALT-S
PF9	ALT-9		
PF10	ALT-0		

* This key erases the entire screen.

MANTIS macro keys

The following table shows the MANTIS macro keys. These keys invoke an internal function that is equivalent to typing the logical key name in the Key Simulation field and pressing ENTER.

Logical key	PC key	Enables you to . . .
EDIT*	CTRL-E	Invoke the user-specified editor.
HELP*	CTRL-H	Display the help prompter.
KILL	CTRL-K	End the program loop.
QUIT*	CTRL-Q	Exit from programming mode and return to the Program Design Facility menu.

- * The function of this key is application-dependent. The description here is the intended purpose of the key. Consult each facility for details.

Initialization

During initialization, MANTIS reads the configuration file, which describes the current options, location of the MANTIS cluster, and logical key assignments. Then, MANTIS checks for any system environment variables which override the corresponding specifications in the configuration file.

Command line options

When starting MANTIS, you can specify a configuration file, a screen background color, or both at the command line for the MANTIS icon. In addition, you can control whether shared access to external files will be supported. This section explains how you can specify these options.

Omit command line options

When starting MANTIS without specifying a configuration file or a screen background color, MANTIS will use the default configuration file MANTIS.INI and will automatically determine the background color. If you do not wish to specify any command line options, skip to [“Signing on to MANTIS”](#) on page 42.

Specify command line options

To specify the configuration file for MANTIS to use, or the screen background color you prefer, or to allow shared access to external files, use the following options at the command line for the MANTIS icon:

WINMAN.EXE [/C:*configfile*] [BGCOLOR:*n*] [/[/NO]SHARE]

/C:configfile

Description *Optional.* Specifies the path name of the configuration file.

Default /C:MANTIS.INI

Format /C:*configuration-file*

Consideration If you specify /C: without specifying a configuration file name, MANTIS starts without reading a configuration file and uses defaults for all options, including keyboard assignments. For information on how to create a configuration file, see [“Updating the configuration file”](#) on page 79. If the configuration file cannot be opened, MANTIS displays an error message and terminates.

/BGCOLOR:*n*

Description *Optional.* Specifies the background color of the MANTIS screen.

Default 15 White

Format /BGCOLOR:*n* (*n*:0,1, 2–15)

Options

0 Black	8 Dark gray
1 Blue	9 Light blue
2 Green	10 Light green
3 Cyan	11 Light cyan
4 Red	12 Light red
5 Magenta	13 Light magenta
6 Brown	14 Yellow
7 Light gray	15 White

Consideration When you change the background color of screen, the foreground color will be also changed to contrast well with the background color.

/[NO]SHARE

Description	<i>Optional.</i> Specifies whether MANTIS should support shared files (/SHARE) or run in single-user mode (/NOSHARE).
Default	/NOSHARE
Options	/SHARE /NOSHARE

Considerations

- ◆ When running MANTIS in nonshared mode (default), no other program can access any files opened by MANTIS. This includes the MANTIS cluster, the transfer cluster, the MANTIS log file, and any external files accessed by MANTIS programs.
- ◆ If you want to load a program off the cluster that could have been modified by another MANTIS sharing that cluster, you may need to modify your configuration file. There are two options in the MEMORY USAGE OPTIONS of the Update configuration file menu that are affected: NUMBER OF ENTRIES IN THE PROGRAM POOL and LOAD RESIDENT PROGRAMS. They are described in “[Memory usage options](#)” on page 88. These options should be set to 0 and N respectively. This will prevent MANTIS from keeping copies of programs in memory. Note that this may have an adverse impact on performance.
- ◆ When running MANTIS in the multiuser (shared) mode, there is a substantial performance penalty when writing a file (UPDATE/INSERT/DELETE). This is particularly so with indexed files (which includes the MANTIS cluster) because of the additional need to flush index buffers and record headers.
- ◆ The MULTIUSER OPTIONS of the Update Configuration File menu can be used to fine tune file sharing and record locking (see “[Multiuser options](#)” on page 105).

Environment variables

System environment variables are optional specifications (such as cluster file, transfer file, error log files, external editor, and default user and password) that you can specify for MANTIS to use or to temporarily override the values in the configuration file. You set environment variables within MANTIS by using the MANTIS SET \$SYMBOL statement. The following environment variables are available for your use:

MANTIS_*prefix*_

Description *Optional.* Specifies a prefix to be added to other environment variable names, when needed, to avoid conflicts with other (non-Cincom) software products.

Consideration If a prefix is defined, it must be used with all the following environment variables.

Examples SET MANTIS_=MANT1_
SET MANT1_ CLUSTER=C:\MANTIS21\MANTIS.CLU

CLUSTER=*name*

Description *Optional.* Specifies the MANTIS cluster file.

Default Name specified in the configuration file.

Consideration This value is used only during MANTIS initialization.

Example SET CLUSTER=C:\MANTIS22\MANTIS.CLU

TRANSFER=*name*

Description *Optional.* Specifies the MANTIS transfer file.

Default Name specified in the configuration file.

Consideration This value is only used during MANTIS initialization.

Example SET TRANSFER=A:TRANSFER.CLU

EDITFILE=*name*

Description *Optional.* Specifies a name to be used for the temporary file that is created by the EDIT command.

Default MANTIS generates a unique name.

Consideration The current value of this variable will be used each time the EDIT command is issued.

EDITOR=*command*

Description *Optional.* Specifies an external editor and any command line parameters to be used whenever the EDIT command is used.

Default Command specified in the configuration file.

Considerations

- ◆ Each occurrence of a hash mark (#) is replaced with the file name when the editor is invoked.
- ◆ The current value of this variable will be used each time the EDIT command is issued.

Example SET EDITOR=NOTEPAD.EXE #

EDITTABS=*number*

Description *Optional.* Specifies the tab setting used in your external editor. MANTIS will use the current value of this variable to expand tabs in files processed with the EDIT or LOAD FILE commands.

Default 8

Consideration If you specify 0, MANTIS will not expand the tabs.

ERRLOG=*name*

Description *Optional.* Specifies a name for the MANTIS error log file.

Default MANTIS.LOG

ESPACE=*size*

Description *Optional.* Specifies the amount of environment space required when MANTIS performs a DOS command.

Default 0

Consideration The current value of this variable is used to set the /E parameter of an internal call to COMMAND.COM (which is done for each PERFORM and EDIT command).

USER=*username*;*password*

Description *Optional.* Specifies the name and password of a user to be automatically signed on to by MANTIS.

Consideration This variable is handled by the MASTER:SIGN_ON program, which must be modified before this variable can be used (see “[Alternate sign-on](#)” on page 143).

TMP=*pathname*

Description *Optional.* Specifies a path to be used for temporary files created during execution of an EDIT command.

Default Create the files in your current directory.

Considerations

- ◆ MANTIS will first look for the TMP variable with a prefix. If MANTIS does not find one, it will search the TMP without a prefix.
- ◆ The current value is used each time a temporary file is created.

Moving among MANTIS facilities

The following figure illustrates the standard facilities provided with MANTIS. (This is the end user's menu. The Master User's menu is shown in the figure under "Master User options" on page 50.) To request a facility from the menu, either enter the number corresponding to the facility in the action field (: :) and press ENTER, or press the corresponding PF key.

```

M A N T I S

FACILITY SELECTION

RUN A PROGRAM ..... 1  TRANSFER FACILITY ..... 12
DISPLAY A PROMPTER ..... 2  EDIT MANTIS MESSAGES ..... 13
DESIGN A PROGRAM ..... 3  DIRECTORY FACILITY ..... 14
DESIGN A SCREEN ..... 4  UPDATE CONFIGURATION FILE .. 15
DESIGN A FILE ..... 5  UPDATE PRINTER DEFINITION .. 16
DESIGN A PROMPTER ..... 6  UPDATE RESIDENT PROGRAM LIST 17
DESIGN AN INTERFACE ..... 7  UPDATE LANGUAGE CODES ..... 18
DESIGN A TOTAL FILE VIEW .....8  UNIVERSAL EXPORT FACILITY .. 19
DESIGN AN EXTERNAL FILE VIEW ..... 9
DESIGN A SCENARIO ..... 10
SIGN ON AS ANOTHER USER .... 11  TERMINATE MANTIS.....CANCEL

:  :
```

When you exit from one of these facilities, you always return to this menu where you can select from another facility or exit from MANTIS.

To exit MANTIS from the Facility Selection menu, press CANCEL.

Redirecting input and output in a noninteractive mode

MANTIS normally runs interactively, responding to keyboard input by displaying output on the screen. In some applications, however, you may desire a noninteractive mode of input and output. To demonstrate your MANTIS application, you can do one of the following:

- ◆ Record some typical input commands and data in a file, and have MANTIS play back its responses on the screen.
- ◆ Perform high-volume noninteractive processing, such as report generation, in which case you must assign the keyboard input to one file and the screen output to another file instead of to the actual keyboard and screen.

The following pages describe how you can redirect input and output. In all cases, any keyboard input you redirect must be to a keyboard file, which is a special operating system text file that you create by using an external text editor. A keyboard file replaces input from the keyboard and is used to run MANTIS noninteractively.

You can redirect input and output in the following ways:

- ◆ **Line Editor @ Command.** In the MANTIS Line Editor (programming mode), you can redirect input by using the at character (@) to tell MANTIS to read keyboard input from a specified file. When MANTIS reaches the end of the file, it resumes obtaining input from the keyboard. Refer to the *MANTIS for Windows Facilities Reference Manual*, P19-2301, for information about the Line Editor.
- ◆ **MANTIS.KBD Startup File.** During initialization, MANTIS reads keyboard input from the MANTIS.KBD file (if present) before attempting to obtain input from the keyboard. For information on MANTIS initialization, see “[Initialization](#)” on page 35.

- ◆ **Noninteractive Execution.** MANTIS performs keyboard input and screen output through the devices/files that are assigned as the standard input and standard output, respectively. These devices/files are assigned by default to your keyboard and screen. You can tell MANTIS to read keyboard input from a file by using command line redirection to assign the file to standard input by entering the following:

```
WINMAN.EXE /STDIN:<REPORTS.KBD
```

You can also tell MANTIS to write screen output to a file by using command line redirection to assign the file to standard output by entering the following:

```
WINMAN.EXE /STDIN:REPORTS.KBD/STDOUT:REPORTS.LST
```

You can only redirect standard output if you have redirected the standard input.

Redirecting input

Input that you store in a keyboard file does not correspond exactly to the keys that you enter from the keyboard. You must represent any logical keys that you use by logical key names in the format *{logkey name}*. In addition, special commands can be specified to control input and output.

For example, in a keyboard file, {TAB} specifies the tab-to-next-field function corresponding to the logical key TAB. The TAB key is enclosed by delimiters that distinguish it from normal input data. Any characters in the keyboard file that are not enclosed by delimiters are treated as data-entry characters. A TAB key must be specified between fields, because the AUTOSKIP attribute is not operative while MANTIS reads keyboard files. If you must specify a left brace delimiter character ({} as a data-entry character, enclose it with delimiters ({}).

Tab characters are ignored in keyboard files. No other ASCII control characters, except CR/LF (carriage-return/line-feed), may be entered.

Example of keyboard file

A simple example of a keyboard file is shown in the following example (the comments in parentheses are not part of the file):

```

OPERATOR      (Enter data in user-name field)
{TAB}         (Tab to next field)
JOSHUA        (Enter data in password field)
{ENTER}       (Submit sign-on screen)
{PF1}         (Select option 1 on the Facility Selection menu)
REPORTS       (Enter data in program name field)
{ENTER}       (Run a Program By Name screen)

```

Comments

A comment in a keyboard file is preceded by an exclamation mark (!) or broken vertical bar (!) and extends to the end of the line. A comment must either follow a command before the closing delimiter or be introduced by its own opening delimiter, as the following example shows:

```

OPERATOR{TAB}JOSHUA{ENTER}{PF1!Select Run a Program By Name}
REPORTS{ENTER}{!Enter program name and run the program}

```

Basic commands

You can enter keyboard commands on the same line or on separate lines. Starting a new line has no effect, except in MANTIS programming mode. In programming mode, an implicit {ENTER} is performed at the end of each line, enabling you to enter a MANTIS program in a keyboard file. For example:

```

OPERATOR{TAB}JOSHUA{ENTER}{PF3}{PF1}
10 ACCESS REPORT ("SALES_REPORT", "CREATION")
20 ACCESS SALE("SALE_DETAILS", "READONLY")
30 UNTIL SALE="END" OR SALE="ERROR"
40 GET SALE NEXT
50 IF SALE="NEXT"
60 INSERT REPORT
70 END
80 END
90 STOP
RUN

```

Special keyboard file commands

The keyboard file can also contain some special commands to control input and output, in addition to the commands that correspond to logical keys. Special commands are listed in the following table (some of these commands, such as {CURSOR *field-name*}, have one or more parameters):

Command	Enables you to . . .
{CALL <i>file-specification</i> }	Obtain input from the specified keyboard file, then continue with the current keyboard file.
{CONTINUE}	Restart keyboard input after a fault. (When a fault occurs while reading the keyboard file, MANTIS normally skips the rest of the keyboard file. CONTINUE causes MANTIS to resume reading the keyboard file if FAULTEXTIT is OFF.)
{CURSOR <i>field-name</i> }	Move the cursor to the start of <i>field-name</i> .
{ECHO ON}	Display the final results of SHOW and CONVERSE processing.
{ECHO OFF}	Suppress display of any SHOW or CONVERSE output (default).
{FAULTEXTIT ON}	Exit if a fault occurs (default).
{FAULTEXTIT OFF}	Skip to the next {CONTINUE} if a fault occurs.
{INPUT <i>data</i> }	Enter data into the Unsolicited Input field.
{MESSAGE <i>message</i> }	Output the message in the Message field (full-screen mode) or in the Unsolicited Input field (scroll mode).
{REPLY <i>data</i> }	Enter data into the Key Simulation field.
{SETDELAY <i>seconds</i> }	Set the number of seconds MANTIS waits after processing each subsequent CONVERSE statement.
{WAIT <i>seconds</i> }	Delay MANTIS for a number of seconds.

If a parameter contains special characters, such as delimiters (`{}`), space, tab, exclamation mark (`!`), broken vertical bar (`|`), single quote (`'`) or double quote (`"`), the parameter must be enclosed by single or double quotes. Any quotes within the parameter must be doubled up if they match the enclosing quotes (e.g., `""field-name""`). Lowercase characters in a parameter are converted to uppercase, unless the parameter is enclosed by quotes.

If you use a command that is not a valid logical key, or that is not listed in the previous table, MANTIS treats it like a program function, saving the text in the built-in variable `KEY`, and so on. Parameters are ignored. You can use this feature to create new program function names, such as `VERIFY`, invoked by the command `{VERIFY}`.

A fault condition can arise if a keyboard file contains commands with incorrect format, if MANTIS rejects input data, or if MANTIS processing encounters an error. Error messages are written to `MANTIS.LOG`. A fault causes MANTIS to exit, unless the fault exit mode has been turned off by the command `{FAULTEXTIT OFF}`.

Redirecting output

When MANTIS runs interactively, it displays terminal output immediately on the screen, and echoes all data characters entered from the keyboard by displaying them on the screen at the cursor position. When reading a keyboard file, MANTIS does not normally output the screen data or echo data characters as it reads them from the keyboard file. If you want screen output when using a keyboard file, you must use the command `{ECHO ON}`.

With `{ECHO ON}`, if standard output is redirected, MANTIS writes an image of the screen window to the output file when processing the command (e.g., `{ENTER}`). This terminates data entry to each screen, and sets the size of the screen window to 24 rows by 80 columns.

4

Master User's extended functionality

When you sign on as Master User, your facility selection menu displays as shown in the figure under “[Master User options](#)” on page 50. This menu includes some options available to all users. These general options are described in the *MANTIS for Windows Facilities Reference Manual*, P19-2301. Specific options available only to you, the Master User, are detailed in this chapter. See the table in “[Master User options](#)” on page 50 for descriptions and cross-references for these options.

Master User options

To select a facility, enter the number of the facility in the action field (: :) and press ENTER, or press the corresponding PF key.

```

M A N T I S
FACILITY SELECTION
RUN A PROGRAM ..... 1  TRANSFER FACILITY ..... 12
DISPLAY A PROMPTER ..... 2  EDIT MANTIS MESSAGES ..... 13
DESIGN A PROGRAM ..... 3  DIRECTORY FACILITY ..... 14
DESIGN A SCREEN ..... 4  UPDATE CONFIGURATION FILE .. 15
DESIGN A FILE ..... 5  UPDATE PRINTER DEFINITION .. 16
DESIGN A PROMPTER ..... 6  UPDATE RESIDENT PROGRAM LIST 17
DESIGN A USER PROFILE ..... 7  UPDATE LANGUAGE CODES ..... 18
DESIGN AN INTERFACE ..... 8  UNIVERSAL EXPORT FACILITY .. 19
DESIGN A TOTAL FILE VIEW ... 9
DESIGN AN EXTERNAL FILE VIEW 10
SIGN ON AS ANOTHER USER .... 11  TERMINATE MANTIS.....CANCEL
```

: :

The following table lists the Master User options that appeared in the previous figure:

This option	Enables you to . . .	See
Design a User Profile	Create, maintain, and delete user profiles.	“ Designing a user profile ” on page 53.
Transfer Facility	Specify a user name when copying MANTIS entities and delete all bins in the transfer file.	“ Transfer Facility ” on page 70.
Edit MANTIS Messages	Alter the wording of MANTIS messages.	“ Editing MANTIS messages ” on page 77.
Update Configuration File	Inspect and modify the MANTIS configuration file options.	“ Updating the configuration file ” on page 79.
Update Printer Definition	Create, inspect, and modify MANTIS printer definitions.	“ Updating printer definitions ” on page 114.
Update Resident Program List	View and maintain the list of resident programs.	“ Updating the resident program list ” on page 131.
Update language codes	Alter the language codes and corresponding language names.	“ Updating language codes ” on page 134.

Additional Master User functions

In addition to the options on the Master User Facility Selection menu (see the figure under “[Master User options](#)” on page 50), this chapter describes three other functions accessible only to the Master User. They are described in the following table with corresponding cross-references:

This option	Enables you to . . .	See
Write a facility program	Specify which MANTIS facilities are available to each user.	“ Writing a facility program ” on page 136.
Alter the sign-on procedure	Customize sign-on and termination procedures for MANTIS.	“ Altering the sign-on procedure ” on page 139.
Utilize special features	Use certain restricted features of the MANTIS language.	“ Utilizing special features ” on page 147.

Designing a user profile

The User Profile Design Facility enables you to create and maintain user profiles (for access to MANTIS) and to delete MANTIS users. Each MANTIS user has a profile containing a valid sign-on name, password, and facility program that controls the facilities each user can access.

To create a new user profile or update an existing profile, enter the number of the facility in the action field and press ENTER, or press the corresponding PF key. The User Profile Design Facility screen displays:

```

                M A N T I S
                USER PROFILE DESIGN FACILITY

NAME OF USER ..... :

CREATE  NEW USER PROFILE ..... 1
INSPECT USER PROFILE ..... 2
UPDATE  USER PROFILE ..... 3
PRINT  USER PROFILE ..... 4
DELETE  USER ..... 5
DIRECTORY OF USERS ..... 6
TERMINATE THIS FACILITY ..... CANCEL

                :
                :
```

Enter data as described below:

NAME OF USER

Description *Required* for options 2–5. *Optional* for options 1 and 6. Identifies this user profile.

Format 1–16 character name

The User Profile Design Facility options are listed below, with references to more information, as appropriate:

CREATE NEW USER PROFILE

Description Creates a new user profile (see “[Creating a user profile](#)” on page 56).

INSPECT USER PROFILE

Description Displays an existing profile.

Consideration No updates may be made in this option (see “[Inspecting an existing user profile](#)” on page 61).

UPDATE USER PROFILE

Description Updates an existing user profile (see “[Updating an existing user profile](#)” on page 65).

PRINT USER PROFILE

Description Prints a hard copy of the specified user profile design. Output is routed to your designated printer.

DELETE USER

Description Deletes the MANTIS user whose name you have entered. All the user's MANTIS entities (programs, screens, files, etc.) will be deleted before the user profile is deleted. When you select option 5, the screen shown under "Designing a user profile" on page 53 will be redisplayed with a confirmation message displayed on the last line. You will be asked to cancel or confirm the deletion by pressing CANCEL, PF5, or ENTER. When you confirm this deletion, the following confirmation message is displayed:

```
Use <KILL> to terminate delete; else ENTER
```

If you do not want to delete this user and all associated user entities, press the TAB key to position the cursor in the Key Simulation field and enter KILL.

If you press ENTER or any action key, the user will be deleted. You receive the message "The user has been deleted."

DIRECTORY OF USERS

Description Displays a listing of all user profiles. The Directory of Users contains the user name, password, and description. Within this directory, you can locate a specific user by entering a name or partial name on the command line.

TERMINATE THIS FACILITY

Description Returns you to the Facility Selection menu (see the figure under "Master User options" on page 50) when you press the CANCEL key.

Creating a user profile

When you select the Create New User Profile option from the User Profile Design Facility menu (see the figure under “**Designing a user profile**” on page 53), the following screen displays:

```
                M A N T I S

                User Profile Design Facility

NAME AND DESCRIPTION OF USER .....

PASSWORD .....
FACILITY PROGRAM ..... MASTER:START_FACILITY
STATUS ..... ACTIVE
STATEMENTS PER SLICE ..... 10000
SLICES BEFORE INTERRUPT ..... 1
ASSOCIATED PRINTER ..... PRN
MIDDLE EAST COUNTRIES TERMINAL ..... N
DECIMAL POINT CHARACTER ..... .

BLANK FILL CHARACTER ..... |
DEFAULT LANGUAGE ..... ENGLISH
DEFAULT SQL DATABASE TYPE ..... SUPRA
```

You can add a user by supplying a name and description for the user. MANTIS supplies the name you entered, if any, on the previous screen (see the figure under “[Designing a user profile](#)” on page 53). The remaining entries contain default values. Supply new entries, as described below:

NAME AND DESCRIPTION OF USER

Description	NAME is <i>required</i> ; DESCRIPTION is <i>optional</i> . MANTIS supplies the user name you entered, if any, on the User Profile Design menu; you supply a description of the user on the line below the heading.
Format	1–16 character name 1–64 character description

PASSWORD

Description *Optional*. Specifies the password for the user.

Default No password.

Format 1–16 characters

Considerations

- ◆ Passwords can include spaces, special characters, and trailing blanks.
- ◆ You can assign one password to several users.

FACILITY PROGRAM

Description *Required*. Indicates which facility program will display functions and facilities available to this user.

Default MASTER:START_FACILITY

Considerations

- ◆ MASTER:START_FACILITY contains all standard MANTIS facilities.
- ◆ If standard facilities are not suitable for a particular user, you can write a special facility program and place the name of that program here. See “[Writing a facility program](#)” on page 136 for instructions on writing a facility program.

STATUS

- Description** *Optional.* Specifies whether the user can access MANTIS.
- Default** ACTIVE
- Options** ACTIVE Allows access to MANTIS; any other value inactivates the user.
- Consideration** Any word other than ACTIVE inactivates the user and displays the message STATUS OF USER IS xxx when the user attempts to sign on. Availability is reestablished by entering ACTIVE.
-

STATEMENTS PER SLICE

- Description** *Optional.* Specifies the number of statements that will be counted as a program slice.
- Default** 10,000 statements per slice.
- Format** 1–32767
- Considerations**
- ◆ Users can override this value by including a SLICE statement in their programs.
 - ◆ If you supply a “ ” or a value greater than 32767, the system replaces the value with 1 or 32767, respectively.
-

SLICES BEFORE INTERRUPT

- Description** *Optional.* Specifies the number of slices (see above) executed before MANTIS issues a warning of a potential program loop to this user's terminal.
- Default** 1
- Format** 1–32767
- Consideration** Users can override this value by including a SLOT statement in their programs. If you supply a “ ” or a value greater than 32767, the system replaces the value with 1 or 32767, respectively.

ASSOCIATED PRINTER

- Description** *Optional.* Specifies the file or device for this user's printed output. You can also specify a spool command to be issued when the file is closed.
- Default** PRN Routes the printer output to the default personal computer printer.
- Format** 1- to 30-character printer specification of the form to *filename*[:spool command] (*filename* is the file specification of the spool file for all printer output).
- Consideration** Each occurrence of the hash character (#) in the spool command is replaced with the printer file name and the resulting DOS command is performed when the printer is closed.

MIDDLE EAST COUNTRIES TERMINAL

- Description** *Optional.* Specifies whether numeric fields are displayed from right to left.
- Default** N
- Options** Y Displays numeric fields with numerals from right to left.
N Displays numeric fields with numerals from left to right.

DECIMAL POINT CHARACTER

- Description** *Optional.* Indicates the character that will be used as the decimal point in numeric data.
- Default** Period (.)
- Options** Period (.)
Comma (,)
- Consideration** In some countries, the comma (,) is the preferred decimal point. If you code the comma for the decimal point, the numeric data displayed by the CONVERSE and SHOW statements have the comma indicating the position of the decimal point. The numeric constants in MANTIS programs still use the period (.) as the decimal point indicator.

BLANK FILL CHARACTER

- Description** *Optional.* Specifies the character used in programs to designate a comment and in-screen design to concatenate screen heading text so that spaced letters and words can be stored as a single heading field.
- Default** Broken vertical bar (|)
- Options** Any character.
-

DEFAULT LANGUAGE

- Description** *Optional.* Specifies the language under which MANTIS searches for MANTIS error messages, prompts, and screens for the user.
- Default** ENGLISH
- Format** 1–16 alphanumeric characters
- Consideration** MANTIS always attempts to find the entity in the user's specified language first, and failing this, searches for the English equivalent. If the language entered here is not present in the MANTIS file, when the user signs on, an error message displays and the system will default to ENGLISH. See "[Updating language codes](#)" on page 134 for details.
-

DEFAULT SQL DATABASE TYPE

- Description** *Optional.* Specifies the SQL database system to use by default. Refer to the appropriate MANTIS SQL Support Administration manual.
- Default** SUPRA
- Options** SUPRA
- Supply the above information, and press ENTER to store the user profile, or CANCEL to return to the User Profile Design Facility menu (see the figure under "[Designing a user profile](#)" on page 53).

Inspecting an existing user profile

This option enables you to view the profile of an existing user. Note that you cannot alter the profile when you inspect it. When you select the Inspect User Profile option from the User Profile Design menu (see the figure under “[Designing a user profile](#)” on page 53), the following screen displays:

```

M A N T I S

User Profile Design Facility

NAME AND DESCRIPTION OF USER .....

PASSWORD .....
FACILITY PROGRAM ..... MASTER:START_FACILITY
STATUS ..... ACTIVE
STATEMENTS PER SLICE ..... 10000
SLICES BEFORE INTERRUPT ..... 1
ASSOCIATED PRINTER ..... PRN
MIDDLE EAST COUNTRIES TERMINAL ..... N
DECIMAL POINT CHARACTER ..... .

BLANK FILL CHARACTER ..... |
DEFAULT LANGUAGE ..... ENGLISH
DEFAULT SQL DATABASE TYPE ..... SUPRA

```

NAME AND DESCRIPTION OF USER

Description MANTIS supplies the user name you entered on the User Profile Design menu and a description for that user if one exists.

PASSWORD

Description Specifies the password for the user if one exists.

FACILITY PROGRAM

Description Identifies which facility program will display functions and facilities available to this user. The facility program named MASTER:START_FACILITY contains all standard MANTIS facilities.

STATUS

Description Specifies whether the user can access MANTIS.

Options ACTIVE Allows access to MANTIS. Anything else inactivates a user.

STATEMENTS PER SLICE

Description Specifies the number of statements that will be counted as a program slice.

Consideration Users can override this value by including a SLICE statement in their programs.

SLICES BEFORE INTERRUPT

Description Specifies the number of slices (see above) executed before MANTIS issues a warning of a potential program loop to this user's terminal.

Consideration Users can override this value by including a SLOT statement in their programs.

ASSOCIATED PRINTER

- Description** Specifies the file or device for this user's printed output. It can also specify a spool command to be issued when the file is closed.
- Format** 1- to 30-character printer specification of the form to *filename*];spool command] (*filename* is the file specification of the spool file for all printer output).
- Consideration** All occurrences of the hash character (#) in the spool command are replaced with the printer file name and the resulting command is performed when the printer is closed.

MIDDLE EAST COUNTRIES TERMINAL

- Description** Specifies whether numeric fields are displayed from right to left.
- Options** Y Display numeric fields with numerals from right to left.
N Display numeric fields with numerals from left to right.

DECIMAL POINT CHARACTER

- Description** *Optional.* Indicates the character that will be used as the decimal point in numeric data.
- Default** Period (.)
- Options** Period (.)
Comma (,)
- Consideration** In some countries, the comma (,) is the preferred decimal point. If you code the comma for the decimal point, the numeric data displayed by the CONVERSE and SHOW statements have the comma indicating the position of the decimal point. The numeric constants in MANTIS programs still use the period (.) as the decimal point indicator.

BLANK FILL CHARACTER

Description Specifies the character used in the program to designate a comment and in-screen designs to concatenate screen heading text so that spaced letters and words can be stored as a single heading field.

DEFAULT LANGUAGE

Description Specifies the language under which MANTIS searches for MANTIS error messages, prompters, and screens for the user.

Default ENGLISH

Format 1–16 alphanumeric characters

Consideration MANTIS always attempts to find the entity in the user's specified language first, and failing this, searches for the English equivalent. If the language entered here is not present in the MANTIS file when the user signs on, an error message displays and the system will default to ENGLISH. (See "[Updating language codes](#)" on page 134 for details.)

DEFAULT SQL DATABASE TYPE

Description *Optional.* Specifies the SQL database system to use by default. Refer to the appropriate MANTIS SQL Support Administration manual.

Default SUPRA

Options SUPRA

After viewing the screen, press CANCEL to return to the User Profile Design menu (see the figure under "[Designing a user profile](#)" on page 53).

Updating an existing user profile

To alter the profile options for a user, enter the user name and select the Update User Profile option from the User Profile Design Facility menu (see the figure under “[Designing a user profile](#)” on page 53). The following screen displays:

```

M A N T I S

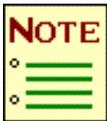
User Profile Design Facility

NAME AND DESCRIPTION OF USER .....

PASSWORD .....
FACILITY PROGRAM ..... MASTER:START_FACILITY
STATUS ..... ACTIVE
STATEMENTS PER SLICE ..... 10000
SLICES BEFORE INTERRUPT ..... 1
ASSOCIATED PRINTER ..... PRN
MIDDLE EAST COUNTRIES TERMINAL ..... N
DECIMAL POINT CHARACTER ..... .

BLANK FILL CHARACTER ..... |
DEFAULT LANGUAGE ..... ENGLISH
DEFAULT SQL DATABASE TYPE ..... SUPRA

```



Notice that you cannot alter the user name. You can use this option to update user profiles to allow access to new facilities. If you change the user you are signed on to, the changes will not take effect until the next time you sign on.

NAME AND DESCRIPTION OF USER

Description MANTIS supplies the user name you entered on the User Profile Design menu and a description for that user if one exists.

PASSWORD

Description *Optional.* Specifies the password for the user.

Format 1–16 characters

Considerations

- ◆ Passwords can include spaces, special characters, and trailing blanks.
 - ◆ You can assign the same password to several users.
-

FACILITY PROGRAM

Description *Optional.* Indicates which facility program will display functions and facilities available to this user.

Default MASTER:START_FACILITY

Considerations

- ◆ MASTER:START_FACILITY contains all standard MANTIS facilities.
- ◆ If standard facilities are not suitable for a particular user, you can write a special facility program and place the name of that program here. See [“Writing a facility program”](#) on page 136 for instructions on writing a facility program.

STATUS

- Description** *Optional.* Specifies whether the user can access MANTIS.
- Default** ACTIVE
- Options** ACTIVE Allows access to MANTIS. Any other value inactivates the user.
- Consideration** Any word other than ACTIVE inactivates the user and displays the message STATUS OF USER IS xxx when the user attempts to sign on. (xxx is any status other than ACTIVE.) Availability is reestablished by entering ACTIVE.

STATEMENTS PER SLICE

- Description** *Optional.* Specifies the number of statements that will be counted as a program slice.
- Default** 10,000 statements per slice.
- Format** 1–32767, inclusive
- Consideration** Users can override this value by including a SLICE statement in their programs.

SLICES BEFORE INTERRUPT

- Description** *Optional.* Specifies the number of slices (see above) executed before MANTIS issues a warning of a potential program loop to this user's terminal.
- Default** 1
- Consideration** Users can override this value by including a SLOT statement in their programs.

ASSOCIATED PRINTER

- Description** *Optional.* Specifies the file or device for this user's printed output. You can also specify a spool command to be issued when the file is closed.
- Default** PRN Routes the printer output to the default printer.
- Format** 1- to 30-character printer specification of the form to *filename*];spool command] (*filename* is the file specification of the spool file for all printer output).
- Consideration** All occurrences of the hash character (#) in the spool command are replaced with the printer file name and the resulting command is performed when the printer is closed.

MIDDLE EAST COUNTRIES TERMINAL

- Description** *Optional.* Specifies whether numeric fields are displayed from right to left.
- Default** N
- Options** Y Displays numeric fields from right to left.
N Displays numeric fields from left to right.

DECIMAL POINT CHARACTER

- Description** *Optional.* Indicates the character that will be used as the decimal point in numeric data.
- Default** Period (.)
- Options** Period (.)
Comma (,)
- Consideration** In some countries, the comma (,) is the preferred decimal point. If you code the comma for the decimal point, the numeric data displayed by the CONVERSE and SHOW statements have the comma indicating the position of the decimal point. The numeric constants in MANTIS programs still use the period (.) as the decimal point indicator.

BLANK FILL CHARACTER

Description	<i>Optional.</i> Specifies the character used in programs to designate a comment and in-screen designs to concatenate screen heading text so that spaced letters and words can be stored as a single heading field.
Default	Broken vertical bar ()
Options	Any character

DEFAULT LANGUAGE

Description	<i>Optional.</i> Specifies the language under which MANTIS searches for MANTIS error messages, prompts, and screens for the user.
Default	ENGLISH
Consideration	MANTIS always attempts to find the entity in the user's specified language first, and failing this, searches for the English equivalent. Any language entered here must be present in the MANTIS file of languages. See " Updating language codes " on page 134 for details.

DEFAULT SQL DATABASE TYPE

Description	<i>Optional.</i> Specifies the SQL database system to use by default. Refer to the appropriate MANTIS SQL Support Administration manual.
Default	SUPRA
Options	SUPRA

After supplying all the appropriate information, press ENTER to update the user profile and return to the User Profile Design Facility menu. Press CANCEL to abort the changes and return to the User Profile Design Facility menu (see the figure under "[Designing a user profile](#)" on page 53).

Transfer Facility

The Transfer Facility provides a flexible tool for sharing MANTIS entities (screens, programs, etc.) among users on different personal computers. The Transfer Facility uses a transfer file that holds data on a temporary basis. The transfer file is separate from the MANTIS file and is divided into independent areas, or bins, which may belong to a single user or may be shared by several users. You can copy entities to and from the transfer file and the user library and copy the transfer file between personal computers.

In addition to copying MANTIS entities to and from bins in the transfer file, you can delete and list entities in the bins. For details on how to use the Transfer Facility from an end user's view, refer to the *MANTIS for Windows Facilities Reference Manual*, P19-2301. The Master User's Transfer Facility menu is shown in the following figure. Option 13 is unique to this menu, and options 2 and 3 have extended functionality for the Master User. These options are discussed on the following pages.

```

                                TRANSFER FACILITY                                YYYY/MM/DD
                                                                                   HH:MM:SS

      BIN      :                               :
      PASSWORD :                               :

      CREATE A NEW BIN ..... 1
      COPY FROM LIBRARY TO BIN ..... 2
      COPY FROM BIN TO LIBRARY ..... 3
      DELETE FROM BIN ..... 4
      LIST CONTENTS OF BIN ..... 5
      CHANGE PASSWORD FOR BIN ..... 6
      DIRECTORY OF BINS ..... 7
      TURN PRINT ON/OFF ..... 8
      HELP ..... 9

      DELETE ENTIRE BIN ..... 12
      DELETE ALL BINS IN TRANSFER FILE ..... 13
      TERMINATE ..... CANCEL

                                :           :
  
```

The rest of this section discusses the three options of the Master User's Transfer Facility that are different from the end user's view.

Provide the following information:

BIN

Description *Required* for Copy From Library to Bin (option 2) and Copy From Bin to Library (option 3); *ignored* for Delete All Bins in transfer file (option 13).

Format 1–16 alphanumeric characters

Considerations

- ◆ If you do not know the name of an existing bin, you can select the Directory of Bins option (described in the *MANTIS for Windows Facilities Reference Manual*, P19-2301) to view a list of the current bins. Bin names are listed as well as the name of the creator and the date of creation. Passwords also appear if you are the Master User or the creator of the bin.
- ◆ The bin name you enter on this menu appears in the Bin field in the upper left corner of all subsequent screens until you change it on the Transfer Facility menu or exit from this facility.

PASSWORD

Description *Optional*. Provides a password for the bin.

Format 1–16 alphanumeric characters

Considerations

- ◆ If you provide a password when you create a bin, you must supply a password for the other options on the Transfer Facility menu, as well.
- ◆ If you do not know the password for an existing bin, you can select the Directory of Bins option (described in the *MANTIS for Windows Facilities Reference Manual*, P19-2301) to view a list of the current bins in your library. Bin names are listed as well as the name of the creator and the date of creation. Passwords also appear if you are the Master User or the creator of the bin.

Copy from library to bin

When executed by the Master User, the Copy From Library to Bin option (also on the end user's Transfer Facility menu) contains an additional field (USER), as shown in the following figure:

```

                                COPY FROM LIBRARY TO BIN                                YYYY:MM:DD
                                                                                          HH:MM:SS

BIN: current_bin

PROGRAMS ..... 1          DL/I CALL PROFILES ..... 9
SCREENS ..... 2
FILE PROFILES ..... 3
PROMPTERS ..... 4          TURN PRINT ON/OFF ..... 12
INTERFACES ..... 5          HELP ..... 13
SCENARIOS ..... 6          USER FILE DATA ..... 14
TOTAL FILE VIEWS ..... 7    ALL USER ENTITIES ..... 24
EXTERNAL FILE VIEWS ..... 8  TERMINATE ..... CANCEL

                USER : MASTER                                =
STARTING NAME :                                           :
ENDING NAME :                                           :
(A)DD/(R)EPLACE : A :                                WITH DATA : N :
NEW NAME :                                           :
LANGUAGE : ENGLISH                                :

                :
                :

```

USER

- Description** *Optional.* Provides the name of the user to copy from.
- Default** MASTER
- Format** Valid user name

Copy user file data to bin

When executed by the Master User, the Copy User File Data to Bin option contains an additional field (USER), as shown in the following figure:

```

                                COPY USER DATA TO BIN
                                YYYY:MM:DD
                                HH:MM:SS

BIN: current_bin

        USER = MASTER                =
        FILE NAME :                    :
        STARTING KEY :                  :
        ENDING KEY :                    :

        FILE NAME IN BIN :              :
        NEW KEY VALUE :                  :

        (A)DD/(R)EPLACE : A :

(PRESS ENTER TO COPY; PF12 TO TURN PRINT ON/OFF; CANCEL TO EXIT)

```

USER

Description	<i>Optional.</i> Provides the name of the user to copy from.
Default	MASTER
Format	Valid user name

Copy from bin to library

When executed by the Master User, the Copy From Bin to Library option (also on the end user's Transfer Facility menu) contains an additional field (USER), as shown in the following figure:

```

                                COPY FROM BIN TO LIBRARY                                YYYY:MM:DD
                                                                                          HH:MM:SS

BIN: current_bin

PROGRAMS ..... 1          DL/I CALL PROFILES ..... 9
SCREENS ..... 2
FILE PROFILES ..... 3
PROMPTERS ..... 4          TURN PRINT ON/OFF ..... 12
INTERFACES ..... 5          HELP ..... 13
SCENARIOS ..... 6          USER FILE DATA ..... 14
TOTAL FILE VIEWS ..... 7    ALL USER ENTITIES ..... 24
EXTERNAL FILE VIEWS ..... 8  TERMINATE ..... CANCEL

      STARTING NAME :
      ENDING NAME :
(A)DD/(R)EPLACE : A :          WITH DATA : N :
      USER : MASTER           =
      NEW NAME :
      NEW PASSWORD :
      LANGUAGE : ENGLISH      :

                                :

```

USER

Description	<i>Optional.</i> Provides the name of the user to copy into.
Default	MASTER
Format	Valid user name

Copy user file data to library

When executed by the Master User, the Copy User File Data to Library option contains an additional field (USER), as shown in the following figure:

```

                                COPY USER DATA TO LIBRARY                                YYYY:MM:DD
                                                                                               HH:MM:SS

BIN: current_bin

FILE NAME IN BIN :                               :
STARTING KEY :                                   :
ENDING KEY :                                     :

                                USER = MASTER                                =
FILE NAME IN LIBRARY :                           :
NEW KEY VALUE :                                   :

(A)DD/(R)EPLACE : A :
```

(PRESS ENTER TO COPY; PF12 TO TURN PRINT ON/OFF; CANCEL TO EXIT)

USER

Description	<i>Optional.</i> Provides the name of the user to copy into.
Default	MASTER
Format	Valid user name

Delete all bins in transfer file

This option is available only through the Master User's Transfer Facility menu. This option enables you to delete all the bins and their contents currently in the transfer file. When you select this option, MANTIS displays a message asking you to confirm the deletion. To confirm the deletion, press ENTER or the PF key again. To terminate the deletion, press CANCEL.

Editing MANTIS messages

This option enables you to alter the text of MANTIS messages. You may not alter the message numbers. When you select the Edit MANTIS Messages option from the Facility Selection menu (see the figure under “Master User options” on page 50), the following screen displays:

```

                M A N T I S
                EDIT MANTIS MESSAGES
LANGUAGE ..... : ENGLISH           :
START CODE ..... :                   :
```

LANGUAGE

Description Displays your default language.

Consideration You can only edit messages in the language specified by this field. Change it if you wish to edit messages that have another language code. Press ENTER and a list of all MANTIS programming messages and warnings generated as a result of executing MANTIS is presented by message code in numerical order. Hash characters (###) indicate portions of the message filled by MANTIS when the error occurs.

To alter an error message, enter A (for alter) in the first column of the screen (to the left of the message number), alter the text, and press PF1. You cannot insert or delete error messages.

To page through this message list, you can do one of the following:

- ◆ Press ENTER to display the next 19 lines.
- ◆ Type in 1–3 characters of the desired message code in the upper-left corner of the screen and press ENTER. MANTIS lists a page of messages beginning with the first message that matches or follows the code you specified.

Press CANCEL when you are finished to return to your Facility Selection menu (see the figure under “[Master User options](#)” on page 50).

START CODE

Description *Optional.* If this field is left blank, the first screen of messages begins with the first message number stored in the MANTIS file. Specify a 3-character message code in this field to position the first screen of messages to the desired point.

Updating the configuration file

The Update Configuration File option enables you to inspect and modify an existing MANTIS configuration file or to create a new MANTIS configuration file. The options in this facility enable you to set certain maximum values which apply to all users, adjust certain parameters which affect MANTIS performance, and customize the keyboard. When you select this option, the Update Configuration File screen displays:

```

M A N T I S

UPDATE CONFIGURATION FILE

GENERAL OPTIONS ..... 1
PROGRAM PARAMETER OPTIONS ... 2
MEMORY USAGE OPTIONS ..... 3
LOGICAL TERMINAL OPTIONS .... 4
TERMINAL KEY ASSIGNMENTS .... 5
SQL OPTIONS ..... 6
MULTI_USER OPTIONS ..... 7

LIBRARY FUNCTIONS ..... 10
GENERAL OPTIONS ..... CANCEL

: :
```

Begin by selecting the Library Functions option and either load the configuration file you want to update, or set all options to their default values to create a new configuration file. You can also create a new configuration file by loading an existing one and saving it under a new name.

Then, return to this menu and select the category you wish to update by entering the corresponding number in the action field (: :) and pressing ENTER, or by pressing the corresponding PF key.

After making your changes, press ENTER. The fields will be validated, any errors will be highlighted, and you will be prompted to correct them. If all fields are valid, you will return to the Update Configuration File menu.

General options for updating the configuration file

When you select option 1 from the Update Configuration File menu (see [“Updating the configuration file”](#) on page 79), the following General Options screen displays:

```

                                M A N T I S
                                GENERAL OPTIONS
MANTIS FILE      :
TRANSFER FILE    :
EXT EDITOR       :
INITIAL SIGNON LANGUAGE ..... :
DATE MASK        :
TIME MASK        :

(PRESS ENTER TO UPDATE OPTIONS, CANCEL TO EXIT)
```

MANTIS FILE

- Description** *Required.* Specifies the path name of the MANTIS file to be used when running MANTIS with this configuration file.
- Format** File name (optionally including drive and directory path specifications)
- Consideration** The system environment variable CLUSTER can be used to temporarily override the file name specified here. See “[Environment variables](#)” on page 39.

TRANSFER FILE

- Description** *Required.* Specifies the path name of the Transfer file to be used when running MANTIS with this configuration file.
- Format** File name (optionally including drive and directory path specifications)
- Consideration** The system environment variable TRANSFER can be used to temporarily override the file name specified here. See “[Environment variables](#)” on page 39.

EXT EDITOR

- Description** *Optional.* Specifies the command that MANTIS will use to invoke your personal computer text editor.
- Format** The command line. Each occurrence of the hash mark (#) in the command will be replaced by the file name when the editor is invoked.
- Consideration** The system environment variable EDITOR can be used to temporarily override the command specified here. See “[Environment variables](#)” starting on page 39.
- Example** C:\Program Files\Accessories\Wordpad.exe #

INITIAL SIGN-ON LANGUAGE

- Description** *Optional.* Specifies the language for the display of the initial MANTIS sign-on screen. Once the user is signed on, the language specified in the user profile is in effect.
- Default** ENGLISH
- Format** 1–32 characters reflecting a valid language for the target cluster. See [“Updating language codes”](#) on page 134 for more information.
- Consideration** The language name you specify is not required to be defined in the current cluster, since you may intend to use this configuration file with another cluster.

DATE MASK

- Description** *Optional.* Specifies the default date mask to be used by the DATE function.
- Default** *YY/MM/DD*
- Format** 1–32 characters. See the considerations for the DATE statement.
- Consideration** For information on the DATE statement, refer to the [MANTIS for Windows Language Reference Manual](#), P19-2302.

TIME MASK

- Description** *Optional.* Specifies the default time mask to be used by the TIME function.
- Default** *HH:MM:SS*
- Format** 1–32 characters. See the considerations for the TIME statement.
- Consideration** For information on the TIME statement, refer to the [MANTIS for Windows Language Reference Manual](#), P19-2302.

Program parameter options

When you select option 2 from the Update Configuration File menu (see "Updating the configuration file" on page 79), the following Program Parameter Options screen displays:

```

M A N T I S

PROGRAM PARAMETER OPTIONS

COMPATIBILITY MODE ..... :
MAXIMUM PROGRAM BINDING ERROR COUNT ..... :

IF COMPATIBILITY MODE IS YES THEN THE FOLLOWING OPTIONS
HAVE NO EFFECT.

MAXIMUM STRING LENGTH ..... :
MAXIMUM DIMENSION SIZE ..... :
MAXIMUM NUMBER OF DIMENSIONS ..... :
MAXIMUM PROGRAM LINE NUMBER ..... :
MAXIMUM USER WORD NUMBER ..... :
MAXIMUM NUMBER OF EXTERNAL DO LEVELS ..... :
MAXIMUM NUMBER OF CHAIN PARAMETERS ..... :
MAXIMUM PROGRAM SIZE ..... :

(PRESS ENTER TO UPDATE OPTIONS, CANCEL TO EXIT)
```

You can modify these options, as described below:

COMPATIBILITY MODE

Description	<i>Required.</i> Specifies whether you want compatibility mode in effect for all MANTIS programs and other entities.
Default	Y
Options	Y Activates compatibility mode. N Deactivates compatibility mode and allows full functionality of MANTIS for Windows.

Considerations

- ◆ MANTIS will issue an error message for a program that tries to use any of the language extensions available on Windows or exceeds any of the mainframe size limitations.
- ◆ If you specify compatibility mode, any program written in MANTIS for the IBM mainframe will run unmodified on MANTIS for Windows. (Refer to the *MANTIS for Windows Language Reference Manual*, P19-2302.)
- ◆ If you specify compatibility mode and press ENTER, MANTIS sets all remaining values on this screen to the maximum for the IBM mainframe.

MAXIMUM PROGRAM BINDING ERROR COUNT

Description	<i>Optional.</i> Specifies the maximum number of errors allowed when you BIND a single program.
Default	100
Options	1–65535
Consideration	If MANTIS encounters more than this number of errors, the BIND operation terminates with an error message.

MAXIMUM STRING LENGTH

Description	<i>Required.</i> Sets the maximum length of a TEXT variable. This applies to simple TEXT variables and each element of a TEXT array.
Default	254
Options	254–32750

MAXIMUM DIMENSION SIZE

Description	<i>Required.</i> Sets the maximum size of any single dimension of an array variable (BIG, SMALL, or TEXT).
Default	255
Options	255–16000

MAXIMUM NUMBER OF DIMENSIONS

Description	<i>Required.</i> Sets the maximum number of dimensions that can be defined for a BIG, SMALL, or TEXT array variable.
Default	2
Options	2–255
Consideration	For TEXT variables, the maximum string length does not count as one of the dimensions.

MAXIMUM PROGRAM LINE NUMBER

Description	<i>Required.</i> Sets the maximum line number (not number of lines) that can be used when entering MANTIS programs.
Default	30,000
Options	9999–64000
Consideration	If you change this value, you should also check the STRING EVALUATION STACK LENGTH described in “Memory usage options” on page 88.

MAXIMUM USER WORD NUMBER

Description	<i>Required.</i> Sets the maximum number to limit the number of program variables allowed in a single program. (Each variable in a MANTIS program is assigned a user word number internally within MANTIS.)
Default	2047
Options	2047–65535

MAXIMUM NUMBER OF EXTERNAL DO LEVELS

Description	<i>Required.</i> Sets the maximum number of active levels of External DO for a single main program.
Default	5
Options	5–255

MAXIMUM NUMBER OF CHAIN PARAMETERS

Description	<i>Required.</i> Sets the maximum number of parameters allowed in a single CHAIN statement.
Default	40
Options	40–255

MAXIMUM PROGRAM SIZE

Description	<i>Required.</i> Sets the maximum size (in bytes) a MANTIS program can occupy in its internal MANTIS format.
Default	32,768
Options	32768–65248

Generally, when running in compatibility mode, the lower value in the allowable range is in effect for the above options.

Memory usage options

When you select option 3 from the Update Configuration File menu (see "Updating the configuration file" on page 79), the following Memory Usage Options screen displays:

```
                M A N T I S
                MEMORY USAGE OPTIONS

STRING EVALUATION STACK LENGTH ..... :      :
DATA WORK AREA INCREMENT SIZE ..... :      :
PROGRAM AREA INCREMENT SIZE ..... :      :
VOCABULARY AREA INCREMENT SIZE ..... :      :
INDEX AREA INCREMENT SIZE ..... :      :
NUMBER OF ENTRIES IN THE PROGRAM POOL ..... :      :
NUMBER OF FREE-MEMORY-LISTS ..... :      :

LOAD RESIDENT PROGRAMS ..... :      :

(PRESS ENTER TO UPDATE OPTIONS, CANCEL TO EXIT)
```

You can modify these options, as described below:

STRING EVALUATION STACK LENGTH

Description *Required.* Specifies the size of the stack MANTIS uses internally when doing expression evaluation of TEXT variables.

Default 1024

Options 1024–32752

Considerations

- ◆ Set this value by adding at least 2 to the MAXIMUM STRING LENGTH (described in “[Program parameter options](#)” on page 84).
- ◆ This parameter should only be expanded if you receive an error message indicating that the string stack is too small.

DATA WORK AREA INCREMENT SIZE

Description *Required.* This value specifies the increment size of the data work area as the MANTIS program executes, and all of its data is stored in an area expanded dynamically as required.

Default 1024

Options 1024–65504

Consideration If most of your MANTIS applications use many complex declaration statements (FILE, ACCESS, and SCREEN), system performance could possibly be improved by increasing this value.

PROGRAM AREA INCREMENT SIZE

Description *Required.* When in Program Design, the area in memory used to hold the current MANTIS program is expanded dynamically as required. This value specifies the increment size.

Default 1024

Options 1024–65504

VOCABULARY AREA INCREMENT SIZE

- Description** *Required.* When a MANTIS program is executing, its list of variable names is stored in an area which is expanded dynamically. This value specifies the increment size.
- Default** 1024
- Options** 1024–65504
- Consideration** If most of your MANTIS applications use many complex declaration statements (FILE, ACCESS, and SCREEN), system performance could possibly be improved by increasing this value.

INDEX AREA INCREMENT SIZE

- Description** *Required.* When a MANTIS program is executing, its table of user word numbers is expanded dynamically. This value specifies the increment size.
- Default** 1024
- Options** 1024–65504
- Consideration** If most of your MANTIS applications use many complex declaration statements (FILE, ACCESS, and SCREEN), system performance could possibly be improved by increasing this value.

NUMBERS OF ENTRIES IN THE PROGRAM POOL

- Description** *Optional.* Specifies the number of entries in the subprogram pool.
- Default** 0
- Options** 0–999
- Consideration** This parameter can significantly improve the performance of applications that use external DO. (Refer to the *MANTIS for Windows Language Reference Manual*, P19-2302.)

NUMBER OF FREE-MEMORY-LISTS

Description	<i>Optional.</i> Specifies the number of free-memory-lists.
Default	0
Options	0–99

LOAD RESIDENT PROGRAMS

Description	<i>Required.</i> Indicates whether you want the programs specified in the Update Resident Programs Facility to be loaded into memory during MANTIS initialization.
Default	N
Options	Y Load the specified resident programs. N Do not load the specified resident programs.
Consideration	For more information on the Update Resident Programs Facility, see “Updating the configuration file” on page 79.

Logical terminal options

When you select option 4 from the Update Configuration File menu (see "Updating the configuration file" on page 79), the following Logical Terminal Options screen displays:

```
                M A N T I S

                LOGICAL TERMINAL OPTIONS

TERMINAL CLASS      :                               :
TERMINAL ATTRIBUTES :                               :
PRINTER CLASS      :                               :
PRINTER ATTRIBUTES :                               :

NUMBER OF ROWS IN THE SCROLL OUTPUT MAP ..... :      :
NUMBER OF COLUMNS IN THE SCROLL OUTPUT MAP ..... :      :
SCIENTIFIC NOTATION ALLOWED IN MASKED NUMERIC INPUT .... :      :
CR/DB IN NUMERIC EDIT MASKS: DISPLAY "CR" IF POSITIVE ... :      :
ALLOW TREMINAL SIZE TO BE SET ..... :      :
AUTOMATICALLY SWITCH TERMINAL SIZE ..... :      :
RESERVE BOTTOM LINE FOR STATUS LINE ..... :      :
DISPLAY STATUS LINE AT START-UP ..... :      :

(PRESS ENTER TO UPDATE OPTIONS, CANCEL TO EXIT)
```

You can modify these options, as described below:

TERMINAL CLASS

- Description** *Optional.* Specifies the CLASS attribute for terminal I/O. This attribute determines the methods used to read the keyboard and write screen output.
- Default** SCREEN
- Options** SCREEN Direct screen output.
ANSI Standard output using ANSI.SYS control sequences.
LOG Standard output of full-screen images.
- Consideration** For more information on SCREEN, ANSI, and LOG, see “[ATTRIBUTE statement](#)” on page 147.

TERMINAL ATTRIBUTES

- Description** *Optional.* Specifies the initial TERMINAL attribute (except CLASS).
- Format** 1–56 alphanumeric characters representing one or more attributes, with each attribute separated by a comma (e.g., CUR,PRO).
- Considerations**
- ◆ If no attributes are specified, the default attributes will be those supported by the display adapter.
 - ◆ For more information on attributes, see “[ATTRIBUTE statement](#)” on page 147.

PRINTER CLASS

- Description** *Optional.* Specifies the initial CLASS attribute for PRINTER output, which determines the control sequences used to format PRINTER output.
- Default** DUMB
- Options** DUMB For the most basic printer support.
Other Name of the printer definition in the PRINTER.DEF file (see “[Updating printer definitions](#)” on page 114).

PRINTER ATTRIBUTES

- Description** *Optional.* Specifies the initial PRINTER attributes.
- Format** 1–56 alphanumeric characters representing one or more attributes, with each attribute separated by a comma (e.g., CUR,PRO).
- Consideration** For more information, refer to the ATTRIBUTE statement in the *MANTIS for Windows Language Reference Manual*, P19-2302.
-

NUMBER OF ROWS IN THE SCROLL OUTPUT MAP

- Description** *Required.* The scroll output map contains the last line(s) which were displayed during programming mode and/or by SHOW and PROMPT statements during program execution.
- Default** 88
- Options** 22–255
- Consideration** Up to 255 rows by 255 columns may be specified. However, the memory required to hold the design cannot exceed 64K. This means, for example, that a 255 x 255 screen cannot be created, but a 255 x 250, or a 250 x 255 screen can be created.
-

NUMBER OF COLUMNS IN THE SCROLL OUTPUT MAP

- Description** *Required.* Determines the longest line that can be entered or displayed in scroll mode.
- Default** 80
- Options** 80–255
- Consideration** Up to 255 rows by 255 columns may be specified. However, the memory required to hold the design cannot exceed 64K. This means, for example, that a 255 x 255 screen cannot be created, but a 255 x 250, or a 250 x 255 screen can be created.

SCIENTIFIC NOTATION ALLOWED IN MASKED NUMERIC INPUT

- Description** *Required.* Specifies whether MANTIS users will be allowed to enter a number in either decimal notation or scientific notation.
- Default** Y
- Options** Y MANTIS users will be allowed to enter a number in either decimal notation (with a decimal point) or scientific notation (with an exponent preceded by E) in any numeric field, as long as the number fits in the field when aligned according to the edit mask.
- N MANTIS users will not be allowed to enter a number in scientific notation in any numeric field and they will not be allowed to enter a number with a decimal point in a field whose edit mask consists entirely of hash marks (#).

CR/DB IN NUMERIC EDIT MASKS: DISPLAY “CR” IF POSITIVE

- Description** *Required.* Specifies whether CR in edit masks is to be displayed for positive or negative numbers.
- Default** Y
- Options** Y Display positive values as CR.
N Display negative values as CR.

Consideration The following table shows the differences with examples:

Sign character	Results for “CR” = Y		Results for “CR” = N	
	+ number	- number	+ number	- number
+	123.34+	123.34-		
-	123.34	123.34-		
CR	123.34CR	123.34DR	123.34	123.34CR
DR	123.34	123.34DR	123.34DR	123.34
DB	23.34	123.34DB		123.34DB

ALLOW TERMINAL SIZE TO BE SET

Description *Required.* Specifies whether you want screen size specifications in ATTRIBUTE(TERMINAL)= statements to dynamically set the personal computer screen size or simply be ignored.

Default N

Options Y Allow the screen size to be changed.

N Ignore screen size specifications.

Consideration This option is only supported for EGA/VGA adapters with high resolution displays and then only when the TERMINAL CLASS is SCREEN.

AUTOMATICALLY SWITCH TERMINAL SIZE

Description *Required.* Specifies whether you want MANTIS to automatically reset the screen size to the standard size (25x80) when conversing standard size screens.

Default N

Options Y Automatically reset the terminal size.

N Do not automatically reset the terminal size.

Consideration This option is ignored when ALLOW TERMINAL SIZE TO BE SET is set to N.

RESERVE BOTTOM LINE FOR STATUS LINE

Description	<i>Required.</i> Specifies whether the bottom line of the screen is to be reserved for the status line. The status line shows the insert mode and logical cursor position.
Default	Y
Options	Y Reserve the bottom line for the status line. N Do not reserve the bottom line for the status line.

DISPLAY STATUS LINE AT START-UP

Description	<i>Required.</i> Specifies whether the status line will be initially displayed.
Default	N
Options	Y The status line will be initially displayed. N The status line will not be initially displayed.

Considerations

- ◆ You can display or remove the status line at any time by using the STATUSLINE key (see “MANTIS editing and windowing keys ” on page 31).
- ◆ This option is ignored when RESERVE BOTTOM LINE FOR STATUS LINE is set to N.

Terminal key assignments

When you select option 5 from the Update Configuration File menu (see “[Updating the configuration file](#)” on page 79), the following Terminal Key Assignments menu displays:

```

M A N T I S

TERMINAL KEY ASSIGNMENTS

ALPHABETIC KEYS (A-M) ..... 1
ALPHABETIC KEYS (N-Z) ..... 2
NUMERIC KEYS ..... 3
NONALPHANUMERIC KEYS (SP - +) ..... 4
NONALPHANUMERIC KEYS (, - @) ..... 5
NONALPHANUMERIC KEYS ([ - ~) ..... 6
SPECIAL KEYS ..... 7
FUNCTION KEYS ..... 8
NUMERIC KEYPAD KEYS ..... 9
RETURN TO MAIN MENU ..... CANCEL

:   :
```

Select the category you want to update by entering the corresponding number in the action field (: :) and pressing ENTER, or by pressing the corresponding PF key.

Note that the first six categories correspond to ranges of the ASCII character set, which are produced using the main keypad in conjunction with the SHIFT- and CTRL- keys. ALT- key combinations are listed along with the SHIFT- and CTRL- key combinations. The remaining categories correspond to the special groups of (nondata-entry) keys which surround the main keypad.

Users should note that key assignments are applied to the key codes returned from the PC BIOS (Basic Input Output System) routines. Therefore, the use of foreign keyboard device drivers (as well as other keyboard input preprocessors) should not present any serious problems provided they operate at or below the BIOS level.

Users of foreign keyboard device drivers should, however, note the following:

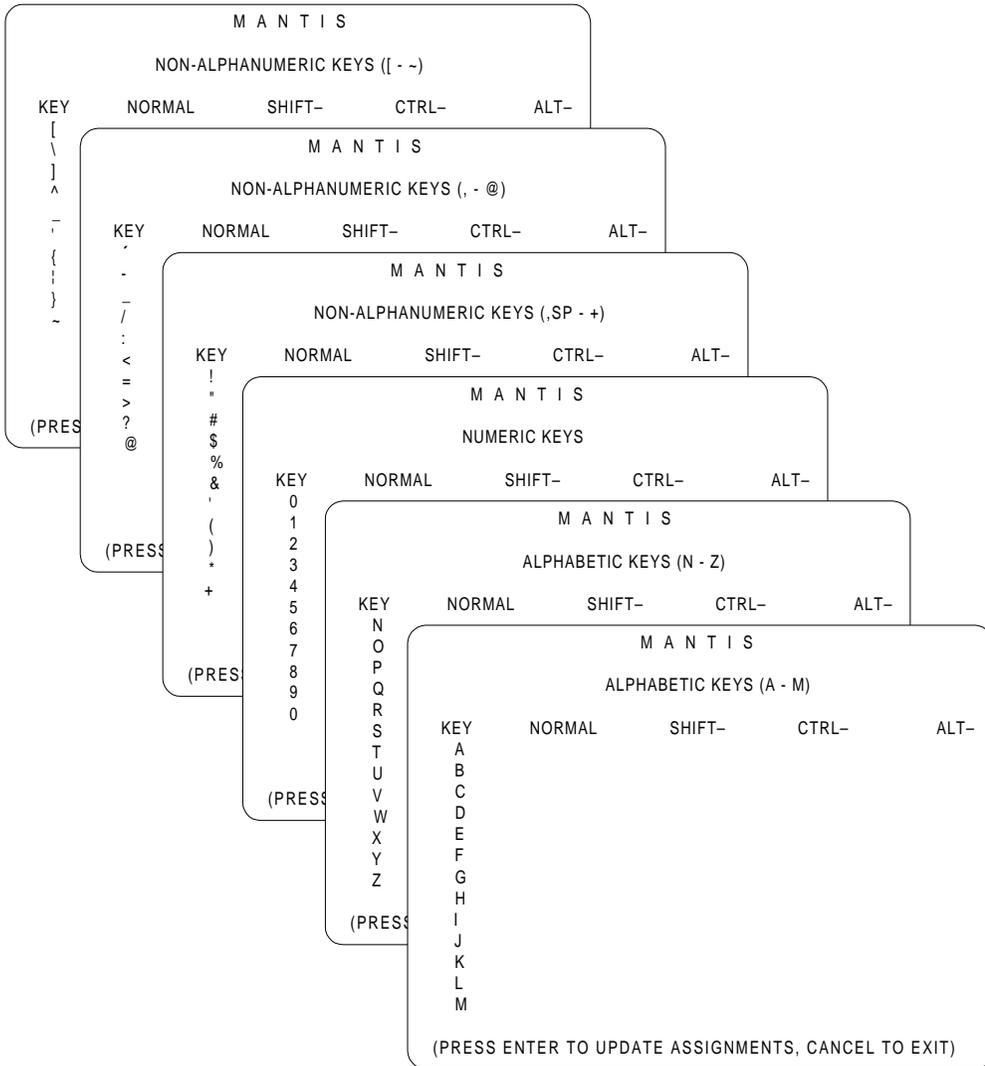
- ◆ The ALT- key assignments for the top row of the main keypad should be made using the fields for the following key combinations:

ALT-'	ALT-5	ALT-0
ALT-1	ALT-6	ALT--
ALT-2	ALT-7	ALT-=
ALT-3	ALT-8	
ALT-4	ALT-9	

- ◆ Characters with code points above 127 cannot be reassigned. This includes all foreign characters.

Main keypad—Rows 1–6

When you select options 1–6 from the Terminal Key Assignments menu (see the figure under “Terminal key assignments” on page 98), the following screens appear respectively:

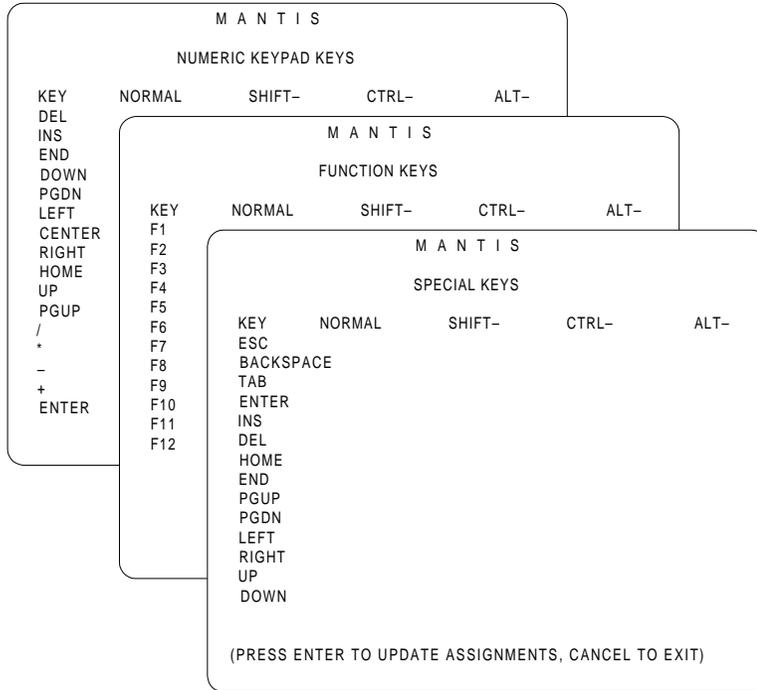


For each option on the Terminal Key Assignments menu (see the figure under “[Terminal key assignments](#)” on page 98), one row exists for each key in the respective key group and one column exists for each valid SHIFT/CTRL/ALT combination of the key. Some combinations are protected because they are invalid. Valid key assignments are:

- ◆ Nothing. This causes the default value to be assigned. The default values for normal text characters are the characters themselves. The default for all other characters is INVALID, which causes the key to be rejected with a beep.
- ◆ Single character (which represents itself).
- ◆ Numeric specification of the form #*nnn* where *nnn* is the decimal ASCII code (0–255) of the desired character.
- ◆ Logical key name. (See the tables under “[Keyboard](#)” on page 31.) In addition to other logical keys, two special logical keys are INVALID and IGNORE. INVALID causes the key to be rejected with a beep. IGNORE causes the key to be silently ignored.

Special keys, function keys, numeric keypad keys

When you options 7–9 from the Terminal Key Assignments menu, the following screens appear respectively:



SQL options

When you select option 6 from the Update Configuration File menu (see ["Updating the configuration file"](#) on page 79), the following SQL Options screen displays:

```
      M A N T I S
      SQL OPTIONS
DISCONNECT FROM DATABASES ON CHAIN STATEMENT ..... : N :
SQL WORK AREA EXPANSION INCREMENT (NUMBER OF SSN'S) ... : 50 :
SQLDA EXPANSION INCREMENT (NUMBER OF SQLVAR ENTRIES) ... : 10 :
```

(PRESS ENTER TO UPDATE OPTIONS, CANCEL TO EXIT)

DISCONNECT FROM DATABASES ON CHAIN STATEMENT

Description *Optional.* Specifies whether you want MANTIS to disconnect from SUPRA whenever a CHAIN statement is encountered.

Default N

Options Y Disconnect from SUPRA when a CHAIN statement is executed.

N Do not disconnect from SUPRA when a CHAIN statement is executed.

Consideration Entering N reduces the number of connect and disconnect operations within MANTIS. MANTIS treats a CHAIN statement as a main program termination and performs several cleanup actions as a result. If the program being chained to connects to the same database, performance is improved by specifying N for this option.

SQL WORK AREA EXPANSION INCREMENT (NUMBER OF SSN'S)

Description *Optional.* Provides the default number of entries to allocate when creating or expanding the SQL work area.

Default 50

Format Value in the range 1–2000

SQLDA EXPANSION INCREMENT (NUMBER OF SQLVAR ENTRIES)

Description *Optional.* Provides the default number of repeating element (SQLVAR) entries to allocate when creating or expanding an SQLDA.

Default 10

Format Value in the range 1–300

Multiuser options

When you select option 7 from the Update Configuration File menu (see [“Updating the configuration file”](#) on page 79), the following Multiuser Options screen displays:

```

                                M A N T I S
                                Multiuser Options
Record Lock Retry Count ..... : 100 :
Record Lock Sleep Value ..... : 0.5 :
Master Lock Retry Count ..... : 10  :

Share MANTIS Cluster ..... : Y  :
Share Transfer Cluster ..... : Y  :
Share External Files ..... : N  :
Allow Alternate Index Creation in Shared Mode ..... : N  :
```

(PRESS ENTER TO UPDATE OPTIONS, CANCEL TO EXIT)

Record lock retry count

Description	<i>Optional.</i> When MANTIS is attempting to lock a record, it will retry the lock operation the specified number of times.
Default	100
Options	0–999

Considerations

- ◆ Specifying 0 will prevent MANTIS from retrying the lock attempt.
- ◆ The Record Lock Sleep Value and the Master Lock Retry Count should also be taken into consideration when setting this value.
- ◆ If MANTIS fails to obtain a lock after the specified number of retries, it will return with a HELD status to the program.
- ◆ Pressing the CTRL-BREAK key, while MANTIS is retrying a record lock, will cause MANTIS to immediately stop trying to obtain the lock and return with a HELD status to the program.

Record lock sleep value

Description	<i>Optional.</i> When MANTIS is retrying a record lock, it will <i>sleep</i> every eight retries for the specified number of seconds.
Default	0.5
Options	0–30

Considerations

- ◆ Specifying 0 will prevent MANTIS from sleeping when retrying the lock attempt.
- ◆ The Record Lock Retry Count and the Master Lock Retry Count should also be taken into consideration when setting this value.
- ◆ The reason for the “sleep” is to permit the process that has the record locked time to complete processing and to free the record.
- ◆ The maximum length of time that MANTIS will try to lock a record is this value multiplied by the Record Lock Retry Count.

Master lock retry count

Description *Optional.* MANTIS maintains a master lock record in all indexed files, including the MANTIS cluster. Since this record is locked more often than most, MANTIS will go through the normal lock retry cycle the specified number of times before returning a HELD status.

Default 10

Options 0–999

Considerations

- ◆ Specifying 0 will prevent MANTIS from repeating the normal number of retries against the master lock.
- ◆ The Record Lock Retry Count and the Record Lock Sleep Value should also be taken into consideration when setting this value.
- ◆ The maximum length of time that MANTIS will try to lock the master lock record is this value multiplied by the Record Lock Retry Count multiplied by the Record Lock Sleep Value.

Share MANTIS cluster

Description *Optional.* Indicates whether MANTIS should open the MANTIS Cluster file in shared (multiuser) or exclusive (single-user) mode.

Default Y

Options Y Allows sharing of the MANTIS Cluster.

N Prevents sharing of the MANTIS Cluster.

Considerations

- ◆ This option only applies when MANTIS is started with the /SHARE parameter specified on the command line.
- ◆ If you set this option to N, you must have a MANTIS Cluster available for your exclusive use.

Share transfer cluster

Description *Optional.* Indicates whether MANTIS should open the transfer cluster file in shared (multiuser) or exclusive (single-user) mode.

Default Y

Options Y Allows sharing of the transfer cluster.

N Prevents sharing of the transfer cluster.

Considerations

- ◆ This option only applies when MANTIS is started with the /SHARE parameter specified on the command line.
- ◆ If you set this option to N, you must have a transfer cluster available for your exclusive use.

Share external files

Description *Optional.* Indicates whether MANTIS should open the external files in shared (multiuser) or exclusive (single-user) mode.

Default Y

Options Y Allows sharing of the External files.

N Prevents sharing of the External files.

Considerations

- ◆ This option only applies when MANTIS is started with the /SHARE parameter specified on the command line.
- ◆ If you set this option to N, all external files will be opened for your exclusive use.

Allow alternate index creation in shared mode

Description *Optional.* Indicates whether MANTIS should create an Alternate Index in an External file even if another user is accessing the file.

Default N

Options Y Allows Alternate Index creation.

 N Prevents Alternate Index creation.

Considerations

- ◆ This option only applies when MANTIS is started with the /SHARE parameter specified on the command line and the Share External Files option is set to Y.
- ◆ If you set this option to Y, you must ensure that no other users are updating an indexed file at the same time that you create the alternate index. Other users that have this file open when you create a new index will not be aware of the new index and will not maintain the index if updates are made.

Library functions

When you select option 10 from the Update Configuration File menu (see "Updating the configuration file" on page 79), the following Library Functions screen displays:

```

                                M A N T I S
                                LIBRARY FUNCTIONS
NAME OF FILE :
SAVE ..... 1
REPLACE ..... 2
FETCH ..... 3
SET DEFAULTS ..... 4
TERMINATE ..... CANCEL
                                :
                                :
```

NAME OF FILE

- Description** *Required* for SAVE and FETCH; *Optional* for REPLACE. Specifies the name of the configuration file.
- Format** 1–48 alphanumeric characters that represent a file name (optionally including the drive and directory path specifications)

The following actions can be executed from the Library Functions screen menu by typing the number of the action in the action field and pressing ENTER or by pressing the corresponding PF key:

- ◆ **SAVE.** Saves a new configuration file. Use this option only when you save a new file design for the first time when it is not already in your library. Use the REPLACE option to save any changes to an existing configuration file.
- ◆ **REPLACE.** Replaces the configuration file in your library with the updated version currently in your work area.
- ◆ **FETCH.** Retrieves a configuration file from your library and places it in your work area. If a file already exists in your work area and has not been saved or replaced, a message asks you to confirm your action. To fetch the file, press PF3 again (or press ENTER again if you entered 3 in the action field). To cancel the action, press CANCEL or any other action key. (Then you can save the configuration file currently in your work area before fetching another from your library.)
- ◆ **SET DEFAULTS.** Resets all options and key assignments in your work area to the values shown in the [table](#) on page 112.
- ◆ **TERMINATE.** Press CANCEL to return to the Update Configuration File menu.

Setting configuration file defaults

The following table describes the configuration file defaults:

Field name	Default
General options (see “General options for updating the configuration file” on page 81):	
MANTIS FILE	MANTIS.CLU
TRANSFER FILE	TRANSFER.CLU
EXT EDITOR	(none)
INITIAL SIGN-ON LANGUAGE	ENGLISH

Program parameter options (see “Program parameter options” on page 84):	
COMPATIBILITY MODE	Y
MAXIMUM PROGRAM BINDING ERROR COUNT	100
MAXIMUM STRING LENGTH	254
MAXIMUM DIMENSION SIZE	255
MAXIMUM NUMBER OF DIMENSIONS	2
MAXIMUM PROGRAM LINE NUMBER	30000
MAXIMUM USER WORD NUMBER	2048
MAXIMUM NUMBER OF EXTERNAL DO LEVELS	5
MAXIMUM NUMBER OF CHAIN PARAMETERS	40
MAXIMUM PROGRAM SIZE	32768

Memory usage options (see “Memory usage options” on page 88):	
STRING EVALUATION STACK LENGTH	1024
DATA WORK AREA INCREMENT SIZE	1024
PROGRAM AREA INCREMENT SIZE	1024
VOCABULARY AREA INCREMENT SIZE	1024
INDEX AREA INCREMENT SIZE	1024
NUMBER OF ENTRIES IN THE PROGRAM POOL	0
NUMBER OF FREE-MEMORY-LISTS	0
LOAD RESIDENT PROGRAMS	N

Field name	Default
------------	---------

Logical terminal options (see “[Logical Terminal Interface](#)” on page 20):

TERMINAL CLASS	SCREEN
TERMINAL ATTRIBUTES	(none)
PRINTER CLASS	DUMB
PRINTER ATTRIBUTES	(none)
NUMBER OF ROWS IN THE SCROLL OUTPUT MAP	88
NUMBER OF COLUMNS IN THE SCROLL OUTPUT MAP	80
SCIENTIFIC NOTATION ALLOWED IN MASKED NUMERIC INPUT	Y
CR/DB IN NUMERIC EDIT MASKS: DISPLAY “CR” IF POSITIVE	Y
ALLOW TERMINAL SIZE TO BE SET	N
AUTOMATICALLY SWITCH TERMINAL SIZE	N
RESERVE BOTTOM LINE FOR STATUS LINE	Y
DISPLAY STATUS LINE AT START-UP	N

Terminal Key Assignments (see “[Terminal key assignments](#)” on page 98).

For a list of default logical keys, see “[MANTIS editing and windowing keys](#)” on page 31.

Multuser Options (see “[Multuser options](#)” on page 105):

Record Lock Retry Count	100
Record Lock Sleep Value	0.5
Master Lock Retry Count	10
Share MANTIS Cluster	Y
Share Transfer Cluster	Y
Share External Files	Y
Allow Alternate Index Creation in Shared Mode	N

Updating printer definitions

The Update Printer Definitions Facility enables you to create, inspect, and modify MANTIS printer definitions. Printer definitions are stored in an external file called PRINTER.DEF. Each printer definition specifies the attributes and control sequences MANTIS uses to format printed output. Each printer definition has a name, which is used in the CLASS device attribute to select a printer type (refer to the ATTRIBUTE statement in the *MANTIS for Windows Language Reference Manual*, P19-2302).

Each printer definition has one or more modes which correspond to the page sizes supported by the printer. Each page size can have an associated print size (e.g., condensed print).

When you select the Update Printer Definitions option from the Facility Selection menu (see the figure under “[Master User options](#)” on page 50), the following screen displays:

```

                M A N T I S
                UPDATE PRINTER DEFINITIONS
                UPDATE PRINTER DETAILS ..... 1
                UPDATE PRINTER MODES ..... 2
                LIBRARY FUNCTIONS ..... 3
                DIRECTORY OF PRINTERS ..... 4
                TERMINATE THIS FACILITY .... CANCEL

```

```

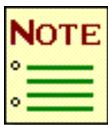
                :      :

```

The following options on this menu enable you to define printer characteristics:

- ◆ Update Printer Details (applies to all modes).
- ◆ Update Printer Modes (applies to a single mode that you specify).

You can move among the options listed on this menu without losing the printer definition currently in your work area. However, remember to save your printer definition or any updates through the Library Functions before exiting from the Update Printer Definitions Facility to the Master User's Facility Selection menu (see the figure under "Master User options" on page 50). If you try to exit from the Update Printer Definitions Facility or fetch a new printer definition into your work area through the Library Functions without first saving your current changes, MANTIS asks you to confirm your action.



When the `ATTRIBUTE(PRINTER)=` statement specifies a `CLASS` attribute which is identical to the current `CLASS`, MANTIS does not reload the printer definition from the `PRINTER.DEF` file. Therefore, if you update the printer definition which you are currently using, and you want the changes to take effect immediately, you must change the `PRINTER CLASS` to something different and switch it back again, or exit and restart MANTIS.

The remainder of this section discusses the Update Printer Definitions options. If you are creating a new printer definition, proceed through the sections. If you are updating an existing printer definition, see the section(s) you need. The following table provides an overview of the options available in the Update Printer Definitions and where the option is discussed:

This option	Enables you to . . .	See
Update Printer Details	Define printer characteristics for all modes.	"Update printer details" on page 117.
Update Printer Modes	Define printer characteristics for the mode you specify.	"Update printer modes" on page 120.
Library Functions	Save a new printer definition and replace, fetch, and delete existing printer definitions.	"Library functions" on page 110.
Directory of Printers	View an alphabetical list of existing printer definitions.	"Directory of printers" on page 130.

Update printer details

The Update Printer Details option enables you to define printer characteristics for all modes. When you select option 1 from the Update Printer Definitions menu (see figure under “[Updating printer definitions](#)” on page 114), the following Update Printer Details screen displays:

```

                                M A N T I S
                                UPDATE PRINTER DETAILS
NAME           :
DESCRIPTION    :
OPEN SEQ      :
CLOSE SEQ     :
LINE DRAWING  :  :
```

NAME

Description *Optional.* Provides the name of the printer definition.

Format 1–32 alphanumeric characters

Considerations

- ◆ This name is used in the CLASS attribute for PRINTER (see ATTRIBUTE statement). Although there are no restrictions on the format, it is suggested that the name describe both the manufacturer and model of the printer being defined (e.g., IBMPRO).
- ◆ If you do not supply a name here, you will have to supply one when you save the design in Library Functions.

DESCRIPTION

Description *Optional.* Provides a description of the printer being defined.

Format 1–62 alphanumeric characters

OPEN SEQ**CLOSE SEQ**

- Description** *Optional.* (Can specify OPEN, CLOSE, or both.) OPEN SEQ specifies the control sequence which will be sent to the printer immediately after the printer file/device is opened. CLOSE SEQ specifies the control sequence that will be sent to the printer immediately before the printer file/device is closed.
- Format** 1–62 alphanumeric characters representing the control sequence, where:
- Graphic ASCII characters (such as A) except '{' are represented by themselves ({ is represented by {{})
- Nongraphic ASCII characters are represented in one of the following ways:
- {Esc} ASCII ESC character
- {CTRL-*n*} ASCII control character CTRL-*n*, where *n* is between A and underscore (_)
- {#*nnn*} ASCII character with decimal character code *nnn*
- Consideration** To conserve space and improve performance, external representations of the control sequences are not saved in the printer definition. They are generated automatically from the internal (binary) control sequences when the definition is loaded. MANTIS will normally choose the most natural representation for each byte in the control sequence. For this reason, control sequences may appear different from the format in which you originally entered them.

LINE DRAWING

- Description** *Optional.* Specifies whether the printer supports line-drawing characters (entered by using LINEDRAW and LINECLEAR in Screen Design).
- Default** N
- Options** Y Use line-drawing characters.
- N Use simulated line-drawing characters.
- Press ENTER to store the definitions or press CANCEL to return to the Update Printer Definitions Facility menu.

Update printer modes

The Update Printer Modes option enables you to define printer characteristics for the mode you specify on this screen. When you select this option from the Update Printer Definitions Facility menu (see the figure under “[Updating printer definitions](#)” on page 114), the following Update Printer Modes screen displays:

```

                                M A N T I S
                                UPDATE PRINTER MODES
NAME :                               :
                                PAGE SIZE :      X      :
INSERT A NEW MODE ..... 1
UPDATE MODE DETAILS ..... 2
DELETE A MODE ..... 3
LIST AVAILABLE MODES ..... 4
TERMINATE THIS FACILITY ..... CANCEL
                                :      :

```

MANTIS maintains the following field:

NAME

Description Specifies the name of the printer definition.

You supply the following information:

PAGE SIZE

Description *Required* for Insert a New Mode, Update Mode Details, and Delete a Mode; *Optional* for List Available Modes. Specifies the number of lines per page and the number of columns per line for the desired mode.

Format *lpp* x *cpl*, where *lpp* is the number of lines per page and *cpl* is the number of characters per line

Options *lpp* Must be 24–255.

cpl Must be 80–255.

Consideration The printer mode is selected by specifying the corresponding page size, using the (rows, columns) attribute in the ATTRIBUTE(PRINTER) statement.

Insert a new mode

The Insert a New Mode option enables you to define a new mode for the printer. When you select this option from the Update Printer Modes menu (see the figure under “[Update printer details](#)” on page 117), the mode is inserted into the definition and a confirmation message appears. To modify control sequences, use the Update Mode Details option, as described in the following section.

Update mode details

The Update Mode Details option enables you to modify the control sequences for an existing mode. When you select this option from the Update Printer Modes menu (see the previous figure), the following Update Mode Details screen displays:

M A N T I S			
UPDATE MODE DETAILS			
NAME	:		:
PAGE SIZE	:	X	:
INIT SEQ	:		:
RESET SEQ	:		:
BOLD ON	:		:
BOLD OFF	:		:
U/L ON:			:
U/L OFF	:		:

MANTIS maintains the following fields:

NAME

Description Specifies the name of the printer definition.

PAGE SIZE

Description Specifies the number of lines per page and the number of columns per line for the selected mode.

Format *lpp x cpl*, where *lpp* is the number of lines per page and *cpl* is the number of characters per line.

You supply the following information:

INIT SEQ

RESET SEQ

Description *Optional.* (You can specify INIT SEQ, RESET SEQ, or both.) INIT SEQ specifies the control sequence that will be sent to the printer when this mode is selected (via page size attribute of the ATTRIBUTE(PRINTER) statement). RESET SEQ specifies the control sequence that will be sent to the printer before switching to another mode.

Format 1–64 alphanumeric characters representing the control sequence, where:

Graphic ASCII characters (such as A) except '{' are represented by themselves ({ is represented by {{})

Nongraphic ASCII characters are represented in one of these ways:

{Esc} ASCII ESC character

{CTRL-*n*} ASCII control character CTRL-*n*, where *n* is between A and underscore (_)

{#*nnn*} ASCII character with decimal character code *nnn*

Considerations

- ◆ The INIT SEQ control sequence will also be sent (for the initial printer mode) immediately after the OPEN SEQ control sequence when the printer file/device is opened.
- ◆ The RESET SEQ control sequence will also be sent (for the current printer mode) immediately before the CLOSE SEQ control sequence when the printer file/device is closed.
- ◆ To conserve space and improve performance, external representations of the control sequences are not saved in the printer definition. They are generated automatically from the internal (binary) control sequences when the definition is loaded. MANTIS will normally choose the most natural representation for each byte in the control sequence. For this reason, control sequences may appear different from the format in which you originally entered them.

BOLD ON**BOLD OFF**

Description *Optional.* (Specifies BOLD ON, BOLD OFF, or both.) BOLD ON specifies the control sequence that will be sent to the printer before outputting fields with the BRIGHT attribute. BOLD OFF specifies the control sequence that will be sent to the printer after outputting fields with the BRIGHT attribute.

Format 1–64 alphanumeric characters representing the control sequence, where:

Graphic ASCII characters (such as A) except '{' are represented by themselves ({ is represented by {{})

Nongraphic ASCII characters are represented in one of these ways:

{Esc} ASCII ESC character

{CTRL-*n*} ASCII control character CTRL-*n*, where *n* is between A and underscore (_)

{#*nnn*} ASCII character with decimal character code *nnn*

Considerations

- ◆ The BOLD OFF control sequence should cancel the effect of the BOLD ON control sequence and restore the normal printing attributes.
- ◆ To conserve space and improve performance, external representations of the control sequences are not saved in the printer definition. They are generated automatically from the internal (binary) control sequences when the definition is loaded. MANTIS will normally choose the most natural representation for each byte in the control sequence. For this reason, control sequences may appear different from the format in which you originally entered them.

U/L ON**U/L OFF**

Description *Optional.* (Specifies U/L ON, U/L OFF, or both.) U/L ON specifies the control sequence that will be sent to the printer before outputting fields with the UNDERLINE attribute. U/L OFF specifies the control sequence that will be sent to the printer after outputting fields with the UNDERLINE attribute.

Format 1–64 alphanumeric characters representing the control sequence, where:

Graphic ASCII characters (such as A) except '{' are represented by themselves ({ is represented by {{})

Nongraphic ASCII characters are represented in one of these ways:

{Esc} ASCII ESC character

{CTRL-*n*} ASCII control character CTRL-*n*, where *n* is between A and underscore (_)

{#*nnn*} ASCII character with decimal character code *nnn*

Considerations

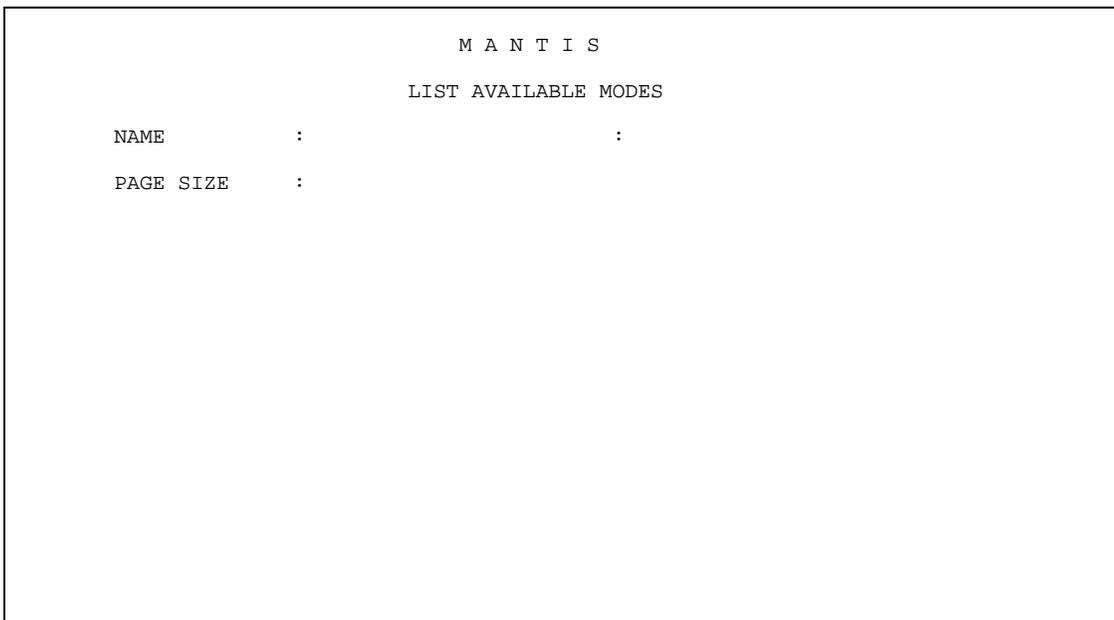
- ◆ The U/L OFF control sequence should cancel the effect of the U/L ON control sequence and restore the normal printing attributes.
- ◆ To conserve space and improve performance, external representations of the control sequences are not saved in the printer definition. They are generated automatically from the internal (binary) control sequences when the definition is loaded. MANTIS will normally choose the most natural representation for each byte in the control sequence. For this reason, control sequences may appear different from the format in which you originally entered them.

Delete a mode

The Delete a Mode option enables you to delete an existing mode. When you select this option from the Update Printer Modes menu (see the figure under “[Update printer modes](#)” on page 120), MANTIS will ask you to confirm the deletion by selecting this option again. When the mode is deleted, a confirmation message is displayed.

List available modes

The List Available Modes option enables you to view a list of the existing modes (according to their page sizes) for the current printer definition. When you select this option from the Update Printer Modes menu (see the figure under “Update printer modes” on page 120), the following screen displays:



NAME

Description Specifies the name of the printer definition.

PAGE SIZES

Description Specifies page sizes corresponding to the available printer modes.

Format *lpp x cpl*, where *lpp* is the number of lines per page and *cpl* is the number of characters per line.

Library functions

The Library Functions option enables you to save a new printer definition and replace, fetch, and delete existing printer definitions. When you select option 3 from the Update Printer Definitions menu (see the figure under “[Updating printer definitions](#)” on page 114), the following Library Functions menu displays:

```

                                M A N T I S
                                LIBRARY FUNCTIONS
NAME OF FILE :
SAVE ..... 1
REPLACE ..... 2
FETCH ..... 3
SET DEFAULTS ..... 4
TERMINATE ..... CANCEL
                                :
                                :
```

NAME OF FILE

Description *Required.* Specifies the name of the printer definition.

Format 1–32 alphanumeric characters

Consideration If you did not supply a name in the Update Printer Details option (see “[Update printer details](#)” on page 117), you must supply one here.

The following actions can be executed from the Library Functions screen menu by typing the number of the action in the action field and pressing ENTER or by pressing the corresponding PF key:

- ◆ **SAVE.** Saves a new printer definition from your current work area into the printer definition file. Use this option only when you save a new printer definition for the first time (e.g., it is not already in the printer definition file). To rename a printer definition, save the current printer definition with a new name and then delete the original one.
- ◆ **REPLACE.** Replaces the printer definition in the printer definition file with the updated version currently in your work area.
- ◆ **FETCH.** Select this option to retrieve a printer definition from the printer definition file and place it in your work area. If a printer definition already exists in your work area and has not been saved or replaced, a message asks you to confirm your action. To fetch the printer definition, select the option again. To cancel the action, press CANCEL or any other action key. (Then you can save the printer definition currently in your work area before fetching another printer definition from the printer definition file.)
- ◆ **DELETE.** Deletes a printer definition from the printer definition file. When you select this option, a message asks you to confirm your deletion. To delete the printer definition, press PF4 again (or press ENTER again if you entered 4 in the action field). To cancel the deletion, press CANCEL or any other action key.

Directory of printers

The Directory of Printers option provides an alphabetical list of existing printer definitions in the printer definition file. When you select this option from the Update Printer Definitions Facility menu (see the figure under “Updating printer definitions” on page 114), the following screen displays:

```

M A N T I S
      DIRECTORY OF PRINTERS
-----NAME-----DESCRIPTION-----
:
:
```

You may only view the listing. You may not change any information on this screen. You can position the directory list at a specific point by entering 1–32 alphanumeric characters (representing a complete or partial printer definition name) on the Unsolicited Input field of the screen. When you press ENTER, the directory begins the listing with the printer definition name at, or alphabetically after, the entered characters. After viewing the list of printer definitions, press ENTER to return to the Update Printer Definitions Facility menu (see the figure under “Updating printer definitions” on page 114). Use CANCEL to exit before the end of the listing.

Updating the resident program list

When MANTIS starts, it optionally loads and keeps resident programs in memory. Resident programs improve performance of frequently used programs because MANTIS does not have to return to the cluster to load them. The Update Resident Program List option enables you to view and maintain the list of resident programs. When you select this option from the Facility Selection menu (see the figure under “[Master User options](#)” on page 50), the following screen displays:

```

                M A N T I S
                UPDATE RESIDENT PROGRAM LIST
VIEW/MODIFY LIST OF RESIDENT PROGRAMS ..... 1
REMOVE RESIDENT PROGRAMS FROM MEMORY ..... 2
TERMINATE ..... CANCEL
                :
                :
```


One program name is displayed per line, in the format:

```
user-name: program-name
```

To remove a program, blank out or erase its name. To add a program name to the list, type its name on the first blank line on the screen. To view the second and subsequent pages, press ENTER. When the last page is displayed, press CANCEL to return to the Update Resident Program List menu (see the figure under “[Updating the resident program list](#)” on page 131).

The new list of resident programs and/or any changes made to the actual programs in the list will not be in effect until the next time you exit and restart MANTIS.

Remove resident programs from memory

This option enables you to delete all the resident programs from memory. When you select this option from the Update Resident Program List menu (see the figure under “[Updating the resident program list](#)” on page 131), MANTIS asks you to confirm the deletion by either pressing PF2 again, or if you entered 2 in the action field, by pressing ENTER again.

Updating language codes

This option enables you to alter the language codes and corresponding language names that MANTIS uses to support multiple languages. If your installation uses a language other than English, you must add the language name(s) and assign a language code to each language. To do this, select the Update Language Codes option from the Facility Selection menu (see the figure under “[Master User options](#)” on page 50). The following screen displays:

```

MANTIS LANGUAGE CODES                                PAGE 1 OF 1

CODE          LANGUAGE

: A : ==> : ENGLISH                                :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :
:   : ==> :                                         :

(PRESS ENTER TO PAGE, CANCEL TO EXIT)

```

English must always be defined with a code of A. (In the Kanji version, in addition to English, other languages may be assigned a code of A.) To define a new language, select a code (any unique character B–Z) and enter it and the corresponding name. You can define up to 39 additional languages. The language code is used internally by MANTIS. In all other facilities which support multiple languages (Screen Design, Prompter Design, and Edit MANTIS Messages,), you use the language name.

To delete a language, blank out or erase its code in the table.

Press CANCEL when you finish modifying or viewing this list, and you will return to the Facility Selection menu.

Writing a facility program

As Master User, you can choose which MANTIS facilities (Screen Design, File Design, or customized routines) are available to each user. A facility program is a standard MANTIS program and is referred to as a facility program to indicate the role it plays in the MANTIS system.



Be sure to back up your cluster before you modify any of the facility programs.

To make all of the MANTIS standard facilities available to a user, simply assign the program MASTER:START_FACILITY to the Facility Program field on the Create a User Profile Design screen (see the figure under “[Creating a user profile](#)” on page 56). If, however, you do not want the standard facility programs for a particular user, you can write a special facility program for that user.

You can use any program as a facility program. The following is a sample facility program:

```

10 ENTRY USER_MENU
20 .SCREEN MENU( "MENU_SCREEN" )
30 .CONVERSE MENU
40 .WHILE MENU<>"CANCEL"
50 ..WHEN MENU="PF1"
60 ...CHAIN "ORDERS_PROGRAM"
70 ..WHEN MENU="PF2"
80 ...CHAIN "CUSTOMERS_PROGRAM"
90 ..END
100 .CONVERSE MENU
110 .END
120 .CHAIN "MASTER:TERMINATE"
130 EXIT

```

A user with this facility program is presented with a menu to choose between order and customer inquiry. Pressing PF1 displays orders, and pressing PF2 displays customers. Pressing CANCEL terminates MANTIS.

MANTIS provides several standard facility programs. To invoke a facility, use the CHAIN statement (as shown on the previous page) in the format:

```
CHAIN "identity"
```

where "identity" is one of the following programs supplied with MANTIS:

Facility to be invoked	Identity
Run a program by name	CONTROL:RUN_A_PROGRAM
Design a program	CONTROL:PROGRAM_DESIGN
Design a screen	CONTROL:SCREEN_DESIGN
Design a MANTIS file	CONTROL:SETS
Design a prompter	CONTROL:PROMPTER
Design an external file	CONTROL:ACCESS
Design an interface	CONTROL:INTERFACE
Design a TOTAL view	CONTROL:ULTRA_VIEW
Design a Scenario	CONTROL:SCENARIO_MENU
Run a Scenario	CONTROL:SCENARIO_RUNMENU
Transfer Facility	CONTROL:TRANSFER
Directory of programs	CONTROL:LIST_PROGRAMS
Directory of screens	CONTROL:S_D_DIRECTORY
Directory of MANTIS files	CONTROL:LIST_SETS
Directory of prompters	CONTROL:LIST_PROMPTERS
Directory of interfaces	CONTROL:LIST_INTERFACES
Directory of TOTAL views	CONTROL:LIST_ULTRA_VIEWS

Facility to be invoked	Identity
Directory of any entity	CONTROL:DIRECTORY
Directory of external file views	CONTROL:LIST_ACCESSES
Directory of scenarios	CONTROL:LIST_SCENARIOS
View a prompter	CONTROL:DISPLAY
Sign on as another user	CONTROL:SIGN_ON
MANTIS Run System	MASTER:RUN_SYSTEM
Terminate session	MASTER:TERMINATE

A portion of a sample facility program is provided in the following example:

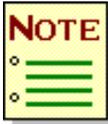
```

10 ENTRY FACILITY_SELECTION: |MANTIS 2.1
20 .OUTPUT SCREEN
30 .COMMIT
40 .SCREEN MAP( "FACILITY" )
50 .IF USER="MASTER"
60 ..UNTIL MAP="CANCEL"
70 ...CONVERSE MAP
80 ...WHEN MAP="PF1" OR OPTION=1
90 ....CHAIN "CONTROL:RUN_A_PROGRAM"
.
.
.
```

If you code MASTER:START_FACILITY in the FACILITY PROGRAM field on the Create a User Profile Design screen (see the figure under [“Creating a user profile”](#) on page 56), all the facility programs are made available to the user. By using the standard MANTIS facility programs and creating your own routines, you can customize a user’s facility selections.

Altering the sign-on procedure

As Master User, you can customize the sign-on and termination procedures for MANTIS by modifying the screen MASTER:SIGN_ON and the programs MASTER:SIGN_ON and MASTER:TERMINATE. After MANTIS initialization, the first program that is executed is CONTROL:SIGN_ON, which calls MASTER:SIGN_ON via external DO before the sign-on screen is displayed. MASTER:SIGN_ON can be customized to bypass or modify the standard sign-on screen procedure.



Be sure to back up your cluster before you alter the sign-on or termination procedures.

You can pass a valid user ID and password back to CONTROL:SIGN_ON. This bypasses the standard MANTIS sign-on screen and transfers control directly to the user's facility program.

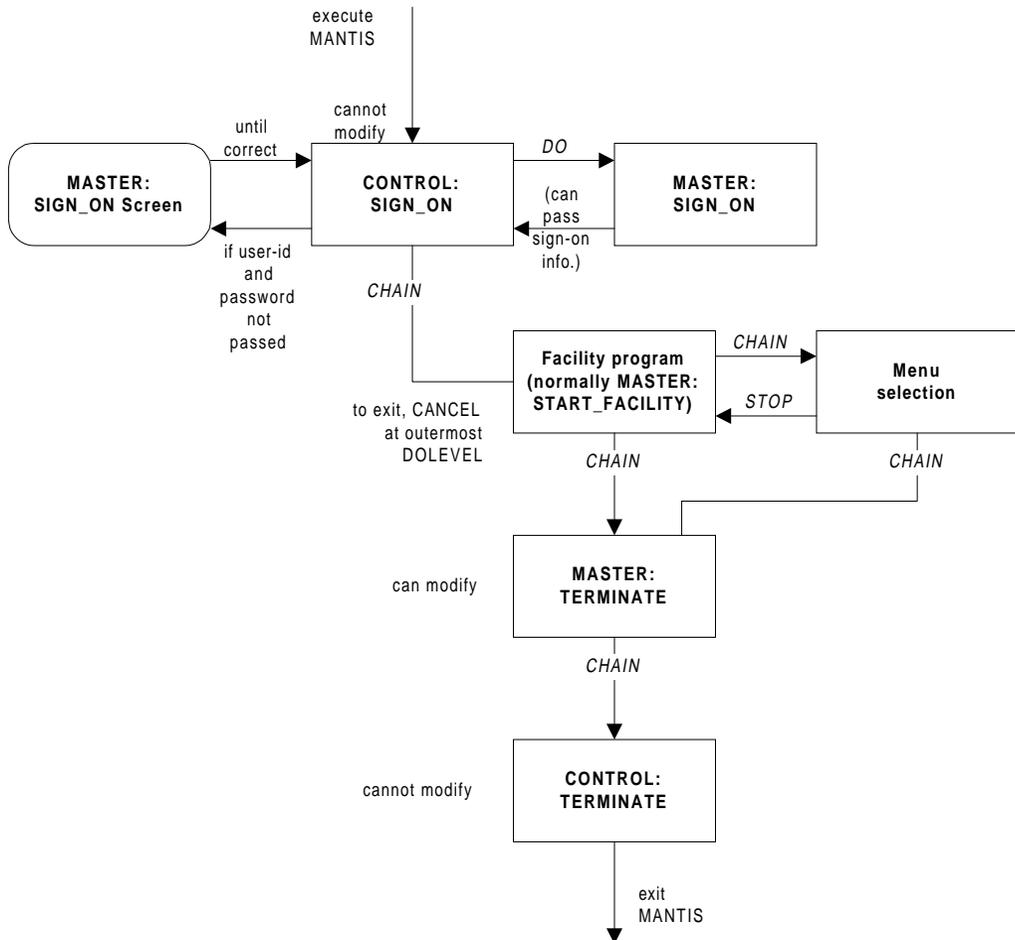
MASTER:SIGN_ON must end with a RETURN or EXIT statement. CONTROL:SIGN_ON can receive parameters for user ID, password, facility program name, and parameter data to be passed to the facility program as part of the CHAIN.

The CONTROL:SIGN_ON program checks for a valid user ID and password before control transfers to the facility program. If no user ID and password are passed back to CONTROL:SIGN_ON from MASTER:SIGN_ON, the MANTIS sign-on screen (MASTER:SIGN_ON) displays. CONTROL:SIGN_ON also initializes MANTIS based on data in the sign-on user's user profile (e.g., associated printer). When a valid user ID and password are entered, control passes to the user facility program, typically a menu program. The user facility program is the one specified in the user's profile unless an initial facility program is returned from MASTER:SIGN-ON.

Control is retained within the facility program usually until a CANCEL is encountered at the facility menu. Then control is passed to MASTER:TERMINATE via a MANTIS CHAIN. The user facility program supplied with MANTIS is called MASTER:START_FACILITY.

MASTER:TERMINATE enables you to expand or modify the way a MANTIS session ends. You may want to modify it to sign off to a security program or tally usage statistics that can be attributed to a user or program. MASTER TERMINATE must end with a CHAIN to CONTROL:TERMINATE.

The following figure illustrates the MANTIS flow from sign-on to sign-off. The sections that follow explain how to modify the flow.



Customizing the sign-on screen

Use the MANTIS Screen Design Facility (refer to the *MANTIS for Windows Facilities Reference Manual*, P19-2301) to fetch, update, and replace the MASTER:SIGN_ON screen.

The following three fields on the sign-on screen must keep their original names, sizes, and attributes:

- ◆ **SIGNNAME.** 16 characters (TEXT)
- ◆ **SIGNPASS.** 16 characters (TEXT)
- ◆ **NOTE.** 73 characters (TEXT)

You can move the fields to different locations on the screen. If you alter these three fields, users will not be able to sign on. You should back up the MANTIS cluster before you alter this screen. You should also test your new sign-on screen before using it in your production system.

The following fields are optional:

- ◆ **CALENDAR.** 10 characters (TEXT, PROTECTED). Displays the current date.
- ◆ **CLOCK.** 8 characters (TEXT, PROTECTED). Displays the current time.
- ◆ **VERSION.** 16 characters (TEXT, PROTECTED). Displays the release level of MANTIS.

Alternate sign-on

You may decide to bypass the MANTIS sign-on screen completely. To do this, modify the MASTER:SIGN_ON program to return a valid user name and password to the main sign-on program, CONTROL:SIGN_ON. The user's Facility Selection menu appears on the screen if you bypass the sign-on screen. The MASTER:SIGN-ON program enables:

- ◆ Different IDs to sign on to the same MANTIS user.
- ◆ The user to change his/her own password.
- ◆ Additional security checks.

You can also force the CONTROL:SIGN_ON program to CHAIN to a program instead of to the user facility program and/or to pass a parameter to the CHAINED program by initializing the TEXT variable PARAMETER.

An example MASTER:SIGN_ON program is as follows:

```
10 ENTRY SIGN_ON(NAME,CLEARANCE,PARAMETER)
20 . TEXT NAME(16),CLEARANCE(16),PARAMETER(100)
30 . |
40 . | This program is called by the CONTROL:SIGN_ON program.
50 . | It can be modified to suppress the standard MANTIS sign on
60 . | procedure by returning a valid user name and password in the
70 . | 'NAME' and 'CLEARANCE' parameters.
80 . |
90 . | In addition, the user can force "CONTROL:SIGN_ON" to CHAIN
100 . | to a program of the user's choice or to pass a parameter
110 . | to the CHAINED program by initializing the text variable
120 - | 'PARAMETER'.
130 . |
140 . | The layout of 'PARAMETER' is as follows:
150 . |
160 . | aaaaaaaaa;bbbbbbbbbb
170 . |
180 . | Where:
190 . |
200 . | aaaaaaaaa - is the program to be CHAINED to instead
210 . |           of the user facility program
220 . |
230 . | ;           - is a mandatory separator if 'bbbbbbbbbb' is
240 . |           present
250 . |
260 . | bbbbbbbbb - is the parameter data to be passed to
270 . |           the 'aaaaaaaa' program if 'aaaaaaaa' is supplied,
280 . |           or to the user facility program if 'aaaaaaaa' is
290 . |           not supplied.
300 . |
310 . | both the 'aaaaaaaa' and 'bbbbbbb' parameters are optional.
320 . |
330 . |
```

```
340 . | You may want users to be able to pass their name and password
350 . | in an environment variable.
360 . | (Note: The following piece of code will NOT work if you have set
370 . | IBM (mainframe) compatibility mode.)
380 . | For example:
390 . |
400 . | TEXT USERNAME(32)
410 . | USERNAME=$SYMBOL($SYMBOL("mantis_")+ "user")
420 . | IF USER="" AND USERNAME<>" "
430 . | NAME=USERNAME
440 . | IF POINT(NAME-";")
450 . |     CLEARANCE=NAME(POINT(NAME-";")+1,-1)
460 . |     NAME=NAME(1,POINT(NAME-";")-1)
470 . |     END
480 . | END
490 . |
500 . | Or, you may want all users to sign on with the same user name
510 . | and password, and to be presented with a special initial menu.
520 . | For example:
530 . |
540 . | NAME="ACCOUNTS"
550 . | CLEARANCE="BILLS"
560 . | PARAMETER="ACCOUNTS_PAY"
570 . |
580 . | Or, you may want to override the TERMINAL and/or PRINTER
590 . | attributes specified in the Configuration file.
600 . | For example:
610 . |
620 . | ATTRIBUTE(PRINTER)="NOSPOOL"
630 EXIT
```

Terminating MANTIS

When your facility or application program terminates MANTIS, it CHAINS to the MASTER:TERMINATE program. This allows you to perform certain installation-dependent functions before exiting MANTIS. You must modify the MASTER:TERMINATE program in your library as required to perform these functions.

The MASTER:TERMINATE program is:

```
10 ENTRY TERMINATE
20 . |
30 . | THIS PROGRAM CAN BE MODIFIED BY THE MASTER USER TO
    INVOKE
40 . | VARIOUS INSTALLATION DEPENDENT HOUSEKEEPING FUNCTIONS
50 . | BEFORE EXITING FROM MANTIS.
60 . |
70 . CHAIN "CONTROL:TERMINATE"
80 EXIT
```

To use this feature, be sure to modify all necessary facility programs to chain to MASTER:TERMINATE.

Utilizing special features

Programs in the Master User library can utilize certain restricted features of the MANTIS language, as documented in this section.

ATTRIBUTE statement

ATTRIBUTE	{	$(screen - name, (lrow, lcol) = attributes, ...$ $(TERMINAL) = [screen - size,] [attributes,] ...$ $(TERMINAL, CURSOR) = position$	}
-----------	---	--	---

screen-name

Description	<i>Optional.</i> Specifies the symbolic name of a screen design.
Format	Must be a MANTIS symbolic name defined in a previously executed SCREEN statement.

(lrow,lcol)

Description	<i>Optional.</i> Specifies the coordinates of the field whose attributes you want to change. These are the row and column coordinates of the field within the logical display. The selected field is the one in the specified map that contains these coordinates.
Format	<i>lrow</i> and <i>lcol</i> must each be a numeric expression that evaluates to a value from 1–255.

Considerations

- ◆ The row/column position must fall within a field in the specified map or MANTIS will issue an error message.
- ◆ You can change the attributes of screen heading fields by using the *(lrow,lcol)* coordinates of the heading within the logical display.

Example `ATTRIBUTE(MAP,(10,12))="BLINK"`

This example sets the attribute of the field in the specified map to BLINK. The field is identified as the one occupying row 10, column 12 in the logical display.

attributes

Description *Required.* Specifies the attribute(s) you want to modify.

Considerations

- ◆ Each *attributes* parameter must be a text expression which evaluates to one or more attributes.
- ◆ For more information on field-level attributes, refer to the ATTRIBUTE statement in the *MANTIS for Windows Language Reference Manual*, P19-2302.

TERMINAL

Description *Optional.* Specifies the attributes for the MANTIS terminal output device, which is usually the Windows screen but can be changed using redirection of standard output.

Example ATTRIBUTE(TERMINAL)="NOUNDERLINE"

This example suppresses the underline attribute on output of all fields.

screen-size

Description *Optional.* Specifies the screen size of the terminal output device. This is the number of rows and columns that MANTIS outputs to the screen to fill it.

Format Must be a text expression evaluating to a row and column specification in the format: (*pro*,*pcol*)

Options

CLASS attributes	Screen size
SCREEN	(25,80) (43,80) (EGA, VGA only) (50,80) (VGA only)
ANSI	(25,80)
LOG	(24–255,80–255)

Consideration If the status line is reserved, MANTIS counts that line toward the total number of screen rows required. Therefore, specifying (24,80) with the status line reserved, is equivalent to specifying (25,80). MANTIS chooses the screen size you specify or the next largest that will accommodate that size.

attributes

Description *Required.* Specifies the attribute(s) you want to modify.

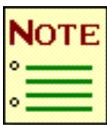
Format Each *attributes* parameter must be a text expression that evaluates to one or more attributes.

Considerations

- ◆ You will not normally be required to set the TERMINAL attributes because MANTIS determines the type of the output device (from standard output) and attempts to find all the attributes of the device. However, you may wish to suppress some of these attributes, or override them.
- ◆ The only attributes which will affect the terminal output are shown in the following list. For more information about setting device attributes, refer to the *MANTIS for Windows Language Reference Manual*, P19-2302.

<u>B</u> R <u>I</u> G <u>H</u> T/ <u>N</u> O <u>R</u> M <u>A</u> L	<u>U</u> N <u>D</u> E <u>R</u> L <u>I</u> N <u>E</u> / <u>N</u> O <u>U</u> N <u>D</u> E <u>R</u> L <u>I</u> N <u>E</u>
<u>R</u> E <u>V</u> E <u>R</u> S <u>E</u> <u>V</u> I <u>D</u> E <u>O</u> / <u>V</u> I <u>D</u> E <u>O</u>	<u>C</u> O <u>L</u> O <u>R</u> / <u>N</u> O <u>C</u> O <u>L</u> O <u>R</u>
<u>B</u> L <u>I</u> N <u>K</u> / <u>N</u> O <u>B</u> L <u>I</u> N <u>K</u>	<u>C</u> L <u>A</u> S <u>S</u>

- ◆ Valid TERMINAL CLASSES are:
 - SCREEN. Direct output to screen (default when standard output is the console).
 - ANSI. Standard output using ANSI.SYS control sequences. ANSI is valid regardless of whether the standard output is the console.
 - LOG. Log screen images to standard output (default when standard output is not the console). LOG is not valid when standard output is the console.



The CLASS of an open device cannot be changed. After initialization, the terminal output is always open and the TERMINAL CLASS can only be set through the configuration file.

TERMINAL, CURSOR

Description *Optional.* Specifies the position of the cursor in the physical screen display. The assigned position gives the row and column position where the cursor is to appear when the next terminal input operation begins, that is, upon executing the next OBTAIN or CONVERSE statement or command.

Example ATTRIBUTE(TERMINAL,CURSOR)="(24,74)"

This example places the screen cursor in column 74 of row 24 of the screen for the next CONVERSE or OBTAIN statement.

position

Description *Optional.* Specifies the physical screen position in row/column coordinate form.

Format Must be a text expression evaluating to a row and column position in the format: (*pro*,*pcol*). *pro* must be between 1 and the number of screen rows, and *pcol* must be between 1 and the number of screen columns.

ATTRIBUTE function

The ATTRIBUTE function returns the attributes of a field or device or the physical coordinates of the cursor on the screen.

ATTRIBUTE (*screen - name*, $\left. \begin{array}{l} \{ (field - name) \} \\ \{ (row, lcol) \} \end{array} \right\}$)

screen-name

- Description** *Required.* Specifies the name of the screen whose field attributes you want returned.
- Format** Must be a MANTIS symbolic name defined in a previously executed SCREEN statement.

field-name

- Description** *Optional.* Specifies the name of the field whose attributes you want returned.
- Format** Valid symbolic name of an existing field on the specified screen.

row,lcol

- Description** *Optional.* Specifies the coordinates of the field within the logical display whose attributes you want returned.
- Format** *row* and *lcol* must each be a numeric expression that evaluates to a value from 1–32767.

Considerations

- ◆ The row/column position must fall within a field in the specified screen or MANTIS will issue an error message.
- ◆ You can return the attributes of screen heading fields by using the (*row,lcol*) coordinates of the heading within the logical display.

General consideration

- ◆ Returned attributes are in the format:

(lrow, lcol), length, attributes, ...

where *lrow* and *lcol* are the row and column coordinates of the field in the logical display, *length* is the length of the field, and *attributes* is a list of the 3-character abbreviation(s) of the field's attributes.

Examples

ATTRIBUTE(MAP,FLD1) returns "(10,20),3,BRI,NUM"

ATTRIBUTE(MAP,(1,40)) returns "(1,35),16,HED,BRI"

ATTRIBUTE(TERMINAL[,CURSOR])

TERMINAL

Description *Optional.* Specifies that you want attributes of the terminal returned.

Consideration Terminal attributes are returned as a text value in the format:

(prow,pcol),attributes,...

where *(prow,pcol)* is the screen size (number of rows and columns that MANTIS will output to the screen) and *attributes* specifies the current attribute setting for the screen.

Example

ATTRIBUTE(TERMINAL) returns
“(24,80),CLA(SCREEN),BRI,REV,BLI,UND”

TERMINAL,CURSOR

Description *Optional.* Returns the position of the cursor in the physical screen.

Consideration The returned value is in the format:

(prow,pcol),

where *prow,pcol* is the position of the cursor on the physical screen.

Example

ATTRIBUTE(TERMINAL,CURSOR) returns “(24,2)”

CURSOR and MODIFIED functions

The CURSOR and MODIFIED functions accept the field specification in the *(lrow,lcol)* format, as described in “[ATTRIBUTE function](#)” on page 152.

```
CURSOR(screen-name, (lrow, lcol) )
```

```
MODIFIED(screen-name, (lrow, lcol) )
```


5

MANTIS utilities

This chapter describes the following:

- ◆ **MANTIS Print Utility (MPR).** Allows you to print MANTIS entities, such as file profiles, programs, and screens, without signing on to MANTIS and the
- ◆ **MANTIS Cluster Utility (MANTUTIL).** Allows you to copy and recover the MANTIS cluster.

MANTIS Print Utility (MPR)

The MANTIS Print Utility (MPR) allows you to print MANTIS entities, such as file profiles, programs, and screens, without signing on to MANTIS. MPR offers print, directory, and search options, which are described in this section.

MPR input and output

Input to the MANTIS Print Utility (MPR) consists of the MANTIS file and a set of commands to process the file. The MANTIS file contains all MANTIS entities (programs, screens, etc.). More than one MANTIS file can exist, and the one opened by MPR is the one defined in the configuration file or CLUSTER environment variable. (See “[MANTIS configuration and customization](#)” on page 29.)

MPR reads commands first from the command line. If no commands are present, or they are not terminated with the GO command (a partial command stream), MPR reads the remaining commands from the standard input, which can be redirected to a file or device. If standard input is the console (the default without redirection), MPR prompts you for more input until the GO command (or end of file) is entered. Each command can be entered on a separate line, or multiple commands can be placed on a single line separated by a slash (/). For example:

```
USER=(EXAMPLES,CASINO)/TYPE=PROGRAMS
```

A comment begins with an exclamation mark (!) or a broken vertical bar (|) and continues until the end of the line. Comments can be positioned in the command stream wherever a valid MPR command would go. For example:

```
USER=(EXAMPLES,CASINO)/TYP=SCR/BRIEF | Test run for today.
```

Error messages and report information are written to standard output, which can be redirected to a file or device. Report output can also be sent to a particular file or device through the Output= command (see “[OUTPUT=](#)” on page 167). Error messages will still be sent to standard output in this case.

Report output is designed to be printed on 132 columns, so information will be truncated using the default of 80 columns. To obtain the full report, specify 132 columns in the configuration file or by using the ATTRIBUTE= command (see “[ATTRIBUTE=](#)” on page 163).

MPR operation

The following types of MPR commands are available and have varying scopes, depending on where you place them in the command stream (see “[MANTIS Print Utility \(MPR\) commands](#)” on page 162 for command definitions, syntax, parameters, scope, and effect):

- ◆ **Output definition commands (ATTRIBUTE= and OUTPUT=).**
Define output parameters. These commands are optional, and they apply to the whole MPR run. See “[ATTRIBUTE=](#)” on page 163 and “[OUTPUT=](#)” on page 167.
- ◆ **Library definition commands (USER=).** Define the user library (or libraries) from which the entities are to be processed. At least one library definition is required. See “[USER](#)” on page 174.
- ◆ **Entity selection commands (TYPE= and SELECT=).** Further qualify the entities within the library, by defining the types and names of the entities to be processed. These commands are optional. In general, USER=, TYPE=, and SELECT= define the three levels of the entity selection hierarchy. See “[SELECT=](#)” on page 171 and “[TYPE=](#)” on page 173.
- ◆ **Function commands (DIRECTORY, PRINT, and SEARCH=).**
Define the kind of reporting to be performed. These commands are optional and apply to the entity selection last specified. The default function command is Print. You may place function commands as qualifiers to the command stream, library definitions or entity selections, in which case they apply to all processing at that level and serve as default function commands for lower levels. See “[DIRECTORY](#)” on page 164, “[PRINT](#)” on page 168, and “[SEARCH=](#)” on page 169.
- ◆ **Print qualification commands (BRIEF, XREF).** The print qualification commands Brief and XREF= have the same scope consideration. See “[BRIEF](#)” on page 164 and “[XREF](#)” on page 176.
- ◆ **The GO command is optional and terminates the command stream.** See “[GO](#)” on page 165.

A command stream includes all command input to MPR, terminated by the GO command. Each command is defined, along with its syntax, parameters, scope, and effect. The following pages explain the command stream, its general structure, the MPR command types, and instruction on how to formulate an MPR request.

The command stream can contain more than one command set. A command set begins with a library definition (USER=) command and terminates with the next USER= command (or GO). Each command set is confined to the specified libraries, and contains one or more units of work for those libraries.

Each unit of work contains optional entity selection and optional function commands. Only one function is performed on some entity selection within a unit of work. Because defaults and higher level definitions might apply, you may not explicitly define the unit of work.

The MPR command is executed at the operating system command prompt (C>) in this format:

C:>MPR [/C:*configfile*]/[*NO*]SHARE][*commands*]

/C:configfile

Description *Optional.* Specifies the path name of the configuration file. (See “[Updating the configuration file](#)” on page 79 .)

Default /C:MANTIS.INI

Format /C:configuration-file

Considerations

- ◆ If you specify /C: without specifying a configuration file name, MPR starts without reading a configuration file and uses defaults for all options. (See “[Updating the configuration file](#)” on page 79 .) If the configuration file cannot be opened, MPR displays an error message and terminates.
- ◆ This parameter must precede any commands.

/[NO]SHARE

Description *Optional.* Specifies whether MPR should support shared files (/SHARE) or run in single-user mode (/NOSHARE).

Default /NOSHARE

Format /SHARE

/NOSHARE

Considerations

- ◆ When running MPR in nonshared mode (default), no other program can access any files opened by MPR. This would normally be the MANTIS cluster and possibly the MANTIS log file.
- ◆ This parameter must precede any commands.

MANTIS Print Utility (MPR) commands

The following table summarizes the MPR commands (lowercase is converted to uppercase on input):

Command	Description	See
<u>A</u> TTRIBUTE=	Define output file attributes using the notation of the MANTIS ATTRIBUTE(PRINTER) statement.	"ATTRIBUTE=" on page 163.
<u>B</u> RIEF	Specify brief Screen Design reports. Omit the screen field attributes listing.	"BRIEF" on page 164.
<u>D</u> IRECTORY	Print a directory list of selected entities.	"DIRECTORY" on page 164.
<u>G</u> O	End command input; start processing.	"GO" on page 165.
<u>H</u> ELP	Display a summary description of MPR and its commands.	"HELP" on page 166.
<u>O</u> UTPUT=	Specify a file for MPR output, using the notation of the MANTIS PRINTER= statement.	"OUTPUT=" on page 167.
<u>P</u> RIENT	Print the completed design(s) of selected entities.	"PRINT" on page 168.
<u>S</u> EARCH=	Search selected entities for a string.	"SEARCH=" on page 169.
<u>S</u> ELECT=	Select entity names to be processed.	"SELECT=" on page 171.
<u>T</u> YPE=	Select type(s) of MANTIS entities to be processed, such as SCREEN.	"TYPE=" on page 173.
<u>U</u> SER=	Select user library containing selected entities. This is the only required command.	"USER" on page 174.
<u>X</u> REF=	Specify cross-reference options for program listings.	"XREF" on page 176.

ATTRIBUTE=

The ATTRIBUTE= command enhances screen design printing. All attributes specified are applicable only to screen designs, except for the output page size.

ATTRIBUTE=*attribute-list*

attribute-list

Description *Required.* Specify the attribute list using the same notation as the MANTIS ATTRIBUTE(PRINTER) statement. For a complete specification of the *attribute-list*, refer to the *MANTIS for Windows Language Reference Manual*, P19-2302. You can also specify the output page size explicitly within the *attribute-list*. For more information on output file characteristics, see the OUTPUT command.

Examples

```
OUT=MPR.LST/ATTR=CLA(STD),(60,132)
```

```
OUT=MPR.LST/ATTR=NOR,NOU
```

The first example creates an output file MPR.LST in the current directory. CLA(STD) specifies STD as a printer type for which the print file is destined. STD must be the name of a definition in the PRINTER.DEF (printer definitions) file. This example also overrides the default page size by specifying 60 rows and 132 columns per page.

The second example creates an output file MPR.LST in the current directory. NOR,NOU specifies normal intensity and no underlining, thus overriding the simulation of BRIGHT and UNDERLINE attributes which always occur by default. (Simulation is performed only when the output device does not support BRIGHT or UNDERLINE attributes. Extra output lines are produced with no vertical spacing to cause overprinting.)

BRIEF

The BRIEF command omits the screen field attributes portion of the listing generated when printing a screen design.

BRIEF

Example

```
USER= (EXAMPLES , CASINO) /TYP=SCR/BRIEF
```

DIRECTORY

The DIRECTORY command instructs MPR to produce a directory listing of the entity selection. Directory listings consist of one line of output per selected entity.

DIRECTORY

General consideration

- ◆ The scope of this command depends on its relative position in the command sequence. It applies to the level of entity selection last specified. If omitted, the function for a unit of work defaults to PRINT.

Examples

```
USER= (EXAMPLES , CASINO) /TYP=SCR , PROG/DIR  
USER= (EXAMPLES , CASINO) /DIR/TYP=SCR , PROG/SEL= *
```

Both examples will produce directories for the user EXAMPLES of all SCREENS and PROGRAMS. However, in the first example, the DIRECTORY command applies only to the entity selection of screens and programs in the EXAMPLES library, whereas in the second example, the DIRECTORY command applies to the entity selection of the entire EXAMPLES library. All subsequent entity selections (TYPE= and SELECT=) will produce DIRECTORY output unless another function command (PRINT or SEARCH=) is specified later.

GO

The GO command terminates the command stream and directs MPR to start processing the MANTIS file.

GO

General considerations

- ◆ Commands entered on the same line after the GO command will be ignored.
- ◆ If an end-of-file or a read error occurs on reading the command input, the GO command will be simulated.

HELP

The HELP command lists a summary description of MPR and its commands.

HELP

General consideration

- ◆ The HELP text is displayed on the console in sections. Each section of the HELP text is displayed with a pause. MORE appears in the lower right corner of the screen after the last line of each section is displayed. Press any key to see the next section of the HELP text. Press CTRL-BREAK to terminate the HELP text display.

OUTPUT=

The OUTPUT= command directs the output produced by MPR to a specified file.

OUTPUT=filespec

filespec

Description *Required.* Specify the name of the file where output should be sent.

General considerations

- ◆ The OUTPUT= command applies to the entire MPR run.
- ◆ The output is written to standard output by default. The last OUTPUT= command is in effect. Subsequent OUTPUT= commands supersede the preceding one.
- ◆ Use the ATTRIBUTE= command to specify particular output file attributes. The default page size is 60 rows by 80 columns, unless overridden in the configuration file.
- ◆ You may also use !EJECT and !SKIP in MANTIS programs. Both EJECT and SKIP must appear as program line comments. !EJECT tells MPR to start a new page; !SKIP tells MPR to print a blank line. The SKIP comment in a MANTIS program optionally takes a line count. For example:

```
|SKIP 10
```

MPR outputs the specified number of blank lines (one by default), but only up until the current page boundary. Blank lines will never be output at the top of a new page.

PRINT

The PRINT command instructs MPR to print the completed design of the selected entities.

PRINT

General considerations

- ◆ PRINT is the default function command in the absence of any function or default commands at each level. The scope of this command depends on its relative position in the command stream. It applies to the level of entity selection last specified.
- ◆ Output will be similar in most cases to that produced by the Print Completed Design option of the MANTIS facilities. MPR output always contains a few header lines giving the Name, Password (if any), Description, and so on of the entity. Header lines are followed by detail lines describing the entity: a list of field specifications for FILES, SCREENS, and ACCESS entities; the program listing with optional cross- references for PROGRAMS; the prompter lines (up to 80) for PROMPTERS.
- ◆ Screen designs consist of two separate sections for each entity. First, the screen design is printed as you would see it in the Display Completed Design option of the MANTIS Screen Design Facility. Individual screen fields may be given attributes that will direct the printer to highlight them. See the ATTRIBUTE= command for details. The second section is a list of the screen fields, with the position, size, and attributes of each. The second section is suppressed if BRIEF is specified.

Examples

```
USER=(EXAMPLES,CASINO)/TYP=PROG/PRI/SEL=A*
USER=(EXAMPLES,CASINO)/PRI/TYP=PROG/TYP=SCR/DIR
```

The first line in the previous example will produce a listing of every program in the EXAMPLES library with a name that starts with the letter A. The PRINT command applies only to the entity selection of programs.

The second line in the previous example will produce a listing of all programs in the EXAMPLES library and a directory of all screens in the EXAMPLES library. The PRINT command applies to the entity selection of the EXAMPLES library, and all lower-level entity selections will have a default function of PRINT. This default is overridden by the inclusion of the DIRECTORY command after the TYPE=SCR entity selection command. It is important to note that the second TYPE= command terminates the first unit of work.

SEARCH=

The SEARCH= command searches the selected entities for all occurrences of the specified character string.

SEARCH=["string"]

string

Description *Required.* Specifies what you want to search for.

Consideration Search criteria depend on the entity type as follows:

- ◆ **PROGRAMS.** Search every program line. The string can match any sequence of characters that appears in the program listing.
- ◆ **PROMPTERS.** Search every prompter line for an occurrence of the string.
- ◆ **USERS,SCENARIOS.** Perform no search; command is ignored.
- ◆ **Others.** Search for a field name containing an occurrence of the string.

General considerations

- ◆ The scope of this command depends on its relative position in the command stream. It applies to the level of entity selection last specified. If omitted, the function for the unit of work defaults to PRINT.
- ◆ The report produced contains one entry per line of occurrence. (If the specified string occurred in a single program line twice, the line is listed once.)

Examples

```
USER=(EXAMPLES,CASINO)/TYP=SCR,PROG/SEA=OPTION  
USER=(EXAMPLES,CASINO)/SEA=OPTION/TYP=PROG/TYP=SCR/PRI
```

The first line in the previous example will produce a list of all screen field names and program lines containing the characters OPTION. All screens and programs in the EXAMPLES library will be searched. The SEARCH= command applies only to the entity selection of screens and programs.

The second line in the previous example will produce a list of program lines in the EXAMPLES library that contain OPTION and completed designs of all EXAMPLES screens. The SEARCH= command applies to the entity selection of the EXAMPLES library, and all lower-level entity selections will have this default SEARCH= function. This default is overridden by inclusion of the PRINT command after the entity selection command TYPE=SCR. It is important to note that the second TYPE= command terminates the first unit of work.

SELECT=

The SELECT= command defines the lowest level in the selection hierarchy. It selects actual entity names within the USER= library(s) and TYPE= entity types already selected (e.g., the program or screen name when TYPE= PROGRAMS or TYPE=SCREENS has been defined).

SELECT=value

value

Description *Optional.* Specifies any combination of actual characters and any of the special characters described below.

Default * (select all values)

Options * Asterisk represents 0 or more unspecified characters.

 ? Question mark represents exactly one unspecified character.

Considerations

- ◆ Special characters represent a string of unspecified characters in the name.
- ◆ Lowercase characters are not converted to uppercase.
- ◆ * means all entities of the given type.
- ◆ A * means all entities starting with the letter A.
- ◆ * A * means all entities containing the letter A in their names.
- ◆ A*B means all entities whose names start with A and end with B.
- ◆ A?? means all entities whose names are three characters long and start with A.

Examples

```
USER= ( EXAMPLES , CASINO ) /TYP=PROG/SEL=A*  
DIR  
USER= ( EXAMPLES , CASINO ) /SEL=A* /DIR
```

The first line in the previous example will produce a directory listing of all programs in the EXAMPLES library with names starting with the letter A. The SELECT= command applies to the TYPE selection of PROGRAMS.

The second two lines in the previous example will produce directory listings of all entities in the EXAMPLES library with names starting with the letter A.

TYPE=

The TYPE= command defines the middle level in the selection hierarchy. It selects the type of entity within the USER= library(s) that will be processed. The entities can be further qualified by using the SELECT= command.

TYPE=*type-list*

type-list

Description	<i>Optional.</i> Specifies the MANTIS entity type(s).
Default	All types of entities except Users and Scenarios
Options	<u>F</u> iles MANTIS file designs <u>P</u> rograms Programs <u>S</u> creens Screens <u>P</u> rompters Prompters <u>I</u> nterfaces Interfaces <u>A</u> ccess External file designs <u>S</u> cenarios Scenarios <u>T</u> otal TOTAL file designs

The following types can be specified for the Master User library only:

Errors Errors (DIRECTORY function only)
Users User profiles

Consideration Lowercase type selections are converted to uppercase on command input, and additional characters, if entered, must be entered exactly as shown.

Examples

```
USER= (EXAMPLES , CASINO) /TYP=SCR/DIR
USER= (EXAMPLES , CASINO)
TYP=SCR/TYP=PROG/DIR
```

The first line in the previous example will produce a directory of all screens in the EXAMPLES library.

The second two lines in the previous example will produce completed designs (PRINT) of all screens in the EXAMPLES library and a directory of all EXAMPLES programs. Note that in example 2, the DIRECTORY command applies to the second TYPE= command. The default function PRINT applies to all units of work that do not have a function command. The second TYPE= command terminates the first unit of work.

USER

The USER command defines the highest level in the selection hierarchy.

USER=(*user-name,password*),...

user-name

Description *Required.* Specifies the user name as entered at the MANTIS sign-on screen.

Considerations

- ◆ You can enter the user name in uppercase or lowercase.
 - ◆ If you enter more than one user, then all subsequent entity selections in the command set apply to all the specified users.
-

password

Description *Required.* Specifies the password as entered at the MANTIS sign-on screen.

Format Must be entered exactly as it is during MANTIS sign-on.

Consideration All characters between the comma and the right parenthesis are considered part of the password.

General considerations

- ◆ At least one USER= command is required.
- ◆ The USER= command selects the user library (or libraries) to which the command set applies (up to the next USER= command).
- ◆ The user library can be qualified by using the TYPE= and SELECT= commands.

Examples

```
DIR/USER=(EXAMPLES,CASINO),(MASTER,password)/GO  
DIR/USER=(EXAMPLES,CASINO)/TYP=PROG  
USER=(MASTER,password)/TYP=USER/PRI/GO
```

The first line in the previous example will produce directories of all entity types in the EXAMPLES and Master User libraries.

The second two lines in the previous example will produce directories of all programs in the EXAMPLES library and profiles of all MANTIS users. Only the Master User can access user profiles using MPR. Note that the PRINT command overrides the default function DIRECTORY which was set by placing it in front of all USER= commands.

XREF

The XREF command defines the types of cross-reference listings to be generated when printing programs.

XREF[=*xref-list*]

xref-list

Description *Optional.* Specifies the type of cross-reference(s), separated by commas.

Options

<u>V</u> erbs	Cross-reference of all verbs used
<u>V</u> ariables	Cross-reference of all program variables referenced
<u>L</u> iterals	Cross-reference of all quoted literal strings
<u>P</u> rocedures	Cross-reference of all procedures referenced
<u>S</u> ubprograms	(Same as Procedures)

Considerations

- ◆ If *xref-list* is omitted, all four types of cross-references will be generated.
- ◆ VARIABLES, PROCEDURES, and SUBPROGRAMS cross-references include an asterisk (*) next to the line number in which it is defined.

General considerations

- ◆ If the XREF= command is omitted, no cross-reference output will be generated.
- ◆ The scope of this command depends on its relative position in the command stream. It applies to the level of entity selection last specified.

Examples

```
USER= ( EXAMPLES , CASINO ) /TYP=PROG/XREF=VAR  
USER= ( EXAMPLES , CASINO ) /XREF
```

The first line in the previous example will produce program listings for all programs in the EXAMPLES library. Each program listing will contain a VARIABLES cross- reference.

The second line in the previous example will produce completed designs for all entity types in the EXAMPLES library. The completed designs of programs will consist of a program listing with all four cross-references at the end.

MANTIS print utilities error handling

Any errors encountered during command processing will result in a message describing the error. If standard input is not redirected, MPR will display a request to enter the command line again from the point at which the error was detected. For example:

```
C>MPR
MPR> USER=(EXAMPLES,CASINO)/TOPE=PROG/GO
Invalid command encountered
TOPE=PROG/GO ←Enter again from here
```

After the GO command is received, MPR will not normally produce any errors. If errors do occur, error messages will be displayed on the console and printed in the report.

Special considerations

Keep in mind the following considerations for scenarios and screen designs.

Scenarios

Scenario entity names consist of the following parts:

- ◆ Actual SCENARIO-NAME
- ◆ Associated SCREEN-NAME.

Each field is 16 characters in length. To select a specific scenario using the `SELECT=` command, you will have to enter the SCREEN-NAME after the SCENARIO name with any padding spaces as required to fill out the SCENARIO-NAME to 16 characters.

Alternatively, use the * special character to separate SCENARIO-NAME from SCREEN-NAME.

Screen designs

When printing wide screens containing fields that would run into the last printable character position in a line, it may be necessary to reduce the MPR output width (see “[ATTRIBUTE function](#)” on page 163) to accommodate any trailing attributes should you find the printed output incorrect. For example, a bright field may be printed on two consecutive lines instead of being overprinted on one line, or you may observe wrap-around on the output where it was not expected.

MANTIS File Utility

The MANTIS File Utility (MANTUTIL) is a utility that you can use whenever you need to copy or recover an indexed data file, the MANTIS cluster, or the transfer cluster .

```
MANTUTIL [ COPY
           RECOVER ] oldfile newfile [/key = fpp: ll [ ; fpp: ll; ... ]
                               [/Index = keyofref | / Index = none]
```

COPY

Description *Optional.* Reduces the size of an indexed data file or cluster to a minimum and copies all records in sequential order from the old file or cluster to the new file or cluster. This option also reorganizes the file or cluster by shrinking it if a large number of records have been deleted.

Considerations

- ◆ The COPY option copies data records based on the index specified by the /INDEX parameter. If the /INDEX parameter is not specified, or /INDEX = NONE is specified, MANTUTIL uses the primary index. (The RECOVER option ignores the index in the old file or cluster and rebuilds the index in the new file or cluster.)
- ◆ After all records have been copied, MANTUTIL will regenerate all alternate indexes unless /INDEX = NONE is specified.

RECOVER

Description *Optional.* Copies all data records from the old file or cluster to the new file or cluster and rebuilds the index. This option also checks for various forms of file corruption.

Considerations

- ◆ Use this option if the file or cluster becomes unusable after a major system failure. Normally, the first indication of a bad file or cluster will be that MANTIS cannot open it. If this occurs with the MANTIS cluster, MANTIS will fail with a fatal error.
- ◆ As it copies data records, the RECOVER option ignores the index in the old file or cluster and rebuilds the index in the new file or cluster. (The COPY option copies data records based on the index in the old file or cluster.)

oldfile

Description *Required.* Specifies the name of the existing data file or cluster from which records will be copied.

Considerations

- ◆ The file or cluster name may be specified with or without an extension; if no extension is specified, the default .CLU is used.
- ◆ MANTUTIL opens all files in exclusive (nonshared) mode. This means that you cannot copy or recover a cluster or file that is currently open to MANTIS in another session or another network node.

newfile

Description *Required.* Specifies the name of the new data file or cluster to which records will be copied.

Considerations

- ◆ The file or cluster name may be specified with or without an extension; if no extension is specified, the default .CLU is used.
- ◆ The file must not already exist.

/index=keyofref

Description *Optional.* Used with the COPY option to specify that MANTUTIL should use a secondary (alternate) key rather than the primary key. keyofref is a number between 1 and 15.

/index=none

Description *Optional.* Used with the COPY option to specify that MANTUTIL should not regenerate any alternate indexes. This is the only way to remove alternate indexes from a file.

/key=fpp:ll[;fpp:ll;...]

Description *Required* for data files, not used with clusters. Use with the RECOVER option to specify the layout of the primary key. The information required for this parameter can be obtained by examining the record layout of the external file view for this data file. The information required for the parameter is:

<i>f</i>	Data format. Must be one of the following: U—Unsigned binary S—Signed binary F—Floating point T—Everything else (e.g., text, zoned, packed, etc.)
<i>pp</i>	Position of the field in the record
<i>ll</i>	Length of the field

Multiple fields are separated with semicolons. For example, given the file view as seen in the following figure, the key parameter would be:

```
/key=T01:10;U25:04
```

where this information is obtained from the FORMAT, SIGN, POSN, and LENGTH columns of fields with KEY in the ATTRIBUTE column:

```

PAGE 1                               FILE VIEW LAYOUT DEFINITION                               YYYY/MM/DD
NAME: INDEX#                          ELEMENT COUNT 4                               HH:MM:SS

-----MANTIS-----E X T E R N A L F I L E-----
      NAME      TYPE  POSN  FORMAT LENGTH  SIGN  DEC DIM OFFSET ATTRIBUTE
NAME1          TEXT   1    TEXT   10                KEY
NUMBER1        BIG    11   BINARY  4
NAME2          TEXT   15   TEXT   10
NUMBER2        BIG    25   BINARY  4                KEY

```

```
: :
```

General considerations

- ◆ Pressing CTRL-BREAK will terminate MANTUTIL. You would need to delete the partial file before rerunning MANTUTIL.

A

Planning your applications

CPU and memory usage and response time affect system performance. Although it is nearly impossible to make general recommendations for improving system performance that will apply to each situation, this appendix offers some suggestions for program development, system performance, and using color in your applications.

Establishing program development standards

Good standards help you develop and maintain programs that are easy to debug, support, and maintain. Standards need to accommodate the complexity of routines. It is important to recognize standards as guidelines for making informed choices. Standards are not inflexible rules. When you develop and apply standards, consider the benefits of performance and maintenance. In relatively simple programs, performance may be stressed over maintenance. On the other hand, programs that use complicated algorithms may need MANTIS self-documenting features to make them clear.

We suggest implementing the following guidelines for improved program development:

- ◆ Using modular programs
- ◆ Prototyping
- ◆ Using one-dimensional arrays
- ◆ Creating samples

MANTIS lends itself well to a modular style of programming in which the mainline program contains the control structure with the required DO routines inside. Developing programs based on modules allows several programmers to work on various modules and test them before they become part of the whole system.

The sample shown below shows a typical mainline program. All screens, files, and variables are declared in the housekeeping routine. Since it is executed only once, it should reside at the end of the program.

The validation check can be broken up further if more than one editing check is required. The other two routines (INSERT_UPDATE_OR_DELETE and STATUS_CHECK) issue the function and check the status return.

Mainline program:

```
ENTRY MAINLINE_ROUTINE
DO HOUSEKEEPING
CONVERSE MAP
WHILE MAP <> "CANCEL"
DO VALIDATION_CHECK
DO INSERT_UPDATE_OR_DELETE
DO STATUS_CHECK
CONVERSE MAP
END
EXIT
```

Validation check:

```
ENTRY VALIDATION_CHECK
DO CHECK_DATE
DO CHECK_CUSTOMER_NO
DO CHECK_CUSTOMER_STATE
```

Besides writing modular programs, it is a good idea to prototype the application. Prototyping enables the developer and end user to design the screens and the flow of the application together. This collaborative effort helps ensure that the application will be accepted with fewer changes requested later on. Successful prototyping does require a commitment from the end user and developer.

Another recommendation is to use one-dimensional arrays to express various pieces of information about one entry. One subscript is easier to deal with than two. Some shops try to limit the size of control structures to what fits on a single page or screen. This permits the entire control structure to appear in front of you and makes a hard copy unnecessary. Although this standard is good for small algorithms, it does not apply to every situation. It does not make sense to destroy an understandable two-page algorithm into 3one-page algorithms just to meet a standard.

Finally, establish a user for storing sample MANTIS prompters, programs, screens, and file views. The purpose of the sample user is to demonstrate to programmers standard screens, edit routines, control structures, and whatever else is important to help them learn MANTIS and develop better programs. This is also a good place to keep shop standards.

When you receive new releases of MANTIS, be sure to review your standards to see how new features of the release can be incorporated into your shop's standard procedures. Standards may need to be changed, added to, or deleted.

Keep the rules simple and have a good reason for why they are what they are. Designate someone to be responsible for them, and see to it that the standards are reviewed periodically for revisions. Good standards help train programmers, develop and maintain systems, and ensure the success of MANTIS in your shop.

Performance factors and recommendations

The major components of overall performance and the factors that affect them in a MANTIS production system are listed in this section.

Factors

Performance factors are MANTIS File I/O, storage utilization, CPU time, and response time.

MANTIS File I/O is affected by:

- ◆ **Program loading.** Reading a MANTIS program from the MANTIS file into memory.
- ◆ **Complex variable declarations.** Defined by ACCESS, FILE, and SCREEN statements. Complex definitions are stored as records in the MANTIS File by the associated design facility program. When the complex declaration is executed, the definition is read from the MANTIS file into the data area.
- ◆ **User FILE accesses.** Implemented as a key range in the MANTIS file. Associated File I/O is directly proportional to the number of GET, INSERT, UPDATE, and DELETE statements executed for those FILEs.

Storage utilization is affected by:

- ◆ **MANTIS context.** Amount of storage used by MANTIS largely depends on the total program code/data requirements for all programs from top level to current DOLEVEL.
- ◆ **Number of storage requests.** Number of requests (allocation and deallocation) resulting primarily from variable declarations, CHAIN/STOP execution, and PROGRAM statements.

CPU time is affected by:

- ◆ **Program logic.** Depending upon the program requirements and the algorithms used by the programmer.
- ◆ **External software.** Including associated costs for any other software that is part of your system.
- ◆ **Language usage.** Consisting of associated overhead for language processing. You can reduce CPU time by becoming aware of how certain MANTIS statements are executed. Statements requiring the most of performance factors are:
 - CONVERSE, SHOW, OBTAIN, and WAIT. Require CPU usage and imply a COMMIT of updates.
 - STOP, CHAIN, and PROGRAM/External DO require MANTIS file I/O to load programs, usually followed by MANTIS File I/O for complex statements.
 - COMMIT. Requiring CPU usage due to system overhead.
 - ACCESS, FILE, and SCREEN. Require MANTIS file I/O to read definition (design), memory and CPU usage to define complex variable and associated fields.
 - RELEASE. Affects performance when used with external DO. (Refer to the *MANTIS for Windows Language Reference Manual*, P19-2302.)

Response time is affected by:

- ◆ Amount of CPU time required.
- ◆ Amount of file I/O required.
- ◆ Responsiveness to application and application requests.

Recommendations

Consider a three-tiered approach when you are optimizing performance. You can make improvements at the system, application design, and program levels.

At the system level, use system features to reduce system overhead for all MANTIS applications.

At the application-design level, you have several areas to consider. During the design phase, analyze the interaction among MANTIS entities (screens, files, views, etc.) within your program. Weigh the relative cost of performance goals and application modularity and/or maintainability. For specific MANTIS entities, consider the following:

- ◆ **Programs.** Begin with standard design techniques to determine the modules (MANTIS programs) and subroutines (MANTIS procedures) you will use. When you must choose between CHAIN and external DO to invoke a program, weigh the cost of saving the caller's (and that caller's caller, etc.) context (using DO) in memory usage against the cost of rebuilding context after the return (using CHAIN). Refer to the *MANTIS for Windows Language Reference Manual*, P19-2302.

Do obvious program structuring (e.g., remove declarations, comments, and unnecessary statements from loops). As the system is written, it should be documented. Do not use comments as documentation because they require space within the program work area. Instead, place documentation in a prompter or program that is never executed. If you must have comments in a program, keep them concise. Place them in front of the code they describe, between EXIT and ENTRY statements where they will never be executed. Note that comments are removed from the bound version of a program.

Consider using the RELEASE statement for infrequently used external programs.

For production systems, consider using a MANTIS file that contains your application programs in BOUND NOSOURCE format. Bound programs execute faster than unbound programs, and the NOSOURCE format reduces program size on the MANTIS file (thus reducing I/O during program loading).

- ◆ **Screens.** Use features such as advanced editing, dynamic repeats, and windowing to reduce or eliminate program logic.
- ◆ **MANTIS files.** Restrict use to small, infrequently accessed control files or tables of program constants to reduce contention for the MANTIS file. The MANTUTIL command can be used to clean up and compress the MANTIS file quite often considerably reducing its size as well as providing improved performance for MANTIS file I/O.
- ◆ **External file views.** Consider tailoring your views to specific programs to reduce or eliminate extraneous fields (those not used by the program but still handled by MANTIS and the system).

At the programming level, program logic is the biggest consideration. You can improve most programs by using better algorithms and data structures or by eliminating redundant logic using standard optimization techniques. But remember that extreme measures at this level can impact program clarity and/or maintainability and should be carefully reviewed. Database and programming standards can often help or hurt the selection of efficient program logic.

Use the MANTIS language effectively. For example, to improve program efficiency, use the CLEAR, POINT, MODIFIED, PAD/UNPAD statements, left-hand substrings of text variables, the array-initialization option of the LET statement, and automatic mapping.

Automatic mapping is sharing buffers between the screen and file based on identical names for screen and file field names. With automatic mapping, no LET statements are required to move data from the screen to the file or vice versa. This can result in substantial savings in response for large programs with many data items. Also, by using automatic mapping, you reduce the size of the program work area and data work area, enabling you to realize substantial response savings. Remember though, with automatic mapping it may not be obvious from within the program exactly how the fields are used, or from where the field on the screen obtained its value. If this information is not obvious, you may want to reconsider the value of automatic mapping.

In addition to the previous topics, consider the following:

- ◆ Place optional variable declarations at the point where they are used.
- ◆ Remember that logic statements treat 0 as FALSE and nonzero as TRUE. Numeric variables can then be used as conditions on logic statements. Expressions containing comparison operators and logical connectives yield TRUE or FALSE values and can be assigned to numeric variables.
- ◆ If you avoid prefixing, you will reduce the size of the MANTIS symbol table as well as variable storage and eliminate unnecessary LET statements.
- ◆ Limit your use of delimiters (such as * and -) on screens and in program comments. Extensive use of delimiters can increase memory requirements and terminal I/O overhead.
- ◆ If your application is driven by a small menu program, consider including the menu procedure as an internal procedure in each program. When you exit the program, the menu program can be done internally (DO) instead of chained to (CHAIN).
- ◆ Simplify heavily nested structures. If too many levels are used, an IF structure becomes difficult to debug later on. Sometimes by rethinking the logical structure, you can more easily represent nested IFs with a WHEN structure. The WHEN structure is particularly useful in a menu program where a CHAIN statement is executed after a selection is made.

Using color in screen design

You can use color in screen design as a communications tool if standards are developed for color displays. When considering how to use color, consider the following guidelines and suggestions:

- ◆ Color draws attention to specific items, provides implicit clues to the logical structure of a system, improves legibility and enhances comprehension. If misused, however, color can induce eye strain and can add confusion.
- ◆ The human eye sees colors by changing focus for each color. The further apart two colors are in the spectrum, the more refocusing the eye must do to see both (too much refocusing produces eye strain). Studies indicate that in darker environments (such as terminal display viewing), the best combination is text in a lighter color against a darker background.
- ◆ To attract the attention of viewers who must sit at a display for long periods of time, use high intensity color. Since the eye is more attracted to a longer wave length, red is more effective at drawing attention to an item than is violet.
- ◆ You can use color to communicate a particular order by matching the natural order of the color spectrum. Viewers are automatically familiar with the ordering of colors in the spectrum. Color enables you to provide visual clues about the relationship of different parts of a system. Viewers will intuitively link two areas that have the same color pattern without explicit prompting.
- ◆ Use color conservatively. Three to five colors are usually enough to convey a message without producing confusion.
- ◆ Blue, turquoise, and green work well as basic display colors because they do not force the eye to refocus when it shifts from one to the other. You could use white, a neutral color, for help information in pop-up screens because it is very effective in distinguishing help from other displays.
- ◆ Pink, yellow, and red are too bright and intense for long viewing but are effective in grouping information or grabbing the viewer's attention. They are good candidates for pop-up windows, overlay screens, and split screens.

Using color can enhance your system's ability to communicate with the users. Care in selecting and standardizing color is instrumental in its success.

B

Messages

This appendix provides the error messages you may receive when executing the Master User options described in this manual, and the FATAL errors that you have the capability to correct. Messages are presented alphabetically within the facility where they occur. In addition to the actual message text, an explanation and action are provided.

FATAL error messages

You may encounter these types of errors when attempting to operate in an incorrect environment, specifying incorrect configuration options, requesting inaccessible files, and so on.

FATAL_030

- Explanation** An error occurred opening the configuration file. Either the configuration file specified by option /C: does not exist, or the MANTIS.INI file is not in the current directory (default).
- Action** Correct the /C: option if used, or copy the MANTIS.INI file to the current directory.

FATAL_031

- Explanation.** The configuration file is invalid. The file specified in the /C: option exists but is not a valid configuration file.
- Action** Correct the /C: option.

FATAL_032

- Explanation** The command line options are invalid. One or more of the MANTIS command line parameters is incorrect.
- Action** Correct the command line. (See “[MANTIS configuration and customization](#)” on page 29.)

FATAL_033

- Explanation** The terminal and/or printer options specified in the configuration file are invalid.
- Action** Start MANTIS using another configuration file (or no configuration file) using the /C: option and correct the terminal/printer attributes.

FATAL_100

- Explanation** An error occurred while opening the MANTIS file (MANTIS.CLU). Either the file does not exist, or it is unavailable for read/write access.
- Action** Verify that the MANTIS file exists and is not marked for read-only or locked by another process. Also verify that the MANTIS cluster name has been specified in the configuration file or in the CLUSTER environment variable (see “[Environment variables](#)” on page 39).

FATAL_101

- Explanation** The facility program was not found. Your facility program does not exist in the MANTIS file. The facility program is specified in the User Profile or in the MASTER:SIGN_ON program.
- Action** Sign on as the Master User and verify that the correct facility name is specified in the user profile or the MASTER:SIGN_ON program.

FATAL_106

- Explanation** A fault occurred in the CONTROL:SIGN_ON program. This may occur if there is insufficient memory to load and/or execute CONTROL:SIGN_ON.
- Action** Ensure that MANTIS has sufficient memory.

FATAL_108

Explanation You cannot run MANTIS from within MANTIS. You cannot PERFORM MANTIS from within MANTIS.

Action Remove the PERFORM statement from your program.

FATAL_109

Explanation You cannot set MANTIS environment variable. An error occurred while attempting to set a system environment variable.

Action Check to ensure that the environment is sufficiently large.

FATAL_131

Explanation An illegal screen redirection occurred. The terminal output is redirected to a file or device while the terminal input is directed to the keyboard. This mode of operation is not supported.

Action Correct the MANTIS command line.

User profile design

The following User profile design error messages may be encountered.

Deleting user: 'xxx'

Explanation	You have selected the Delete User option. The user profile record is being deleted.
Action	Informational message only.

Error deleting 'xxx'

Explanation	An error occurred when attempting to delete records for file 'xxx' in the user profile to be deleted.
Action	Use HELP LAST to examine the last system error message or check the MANTIS error log.

Failed to insert FREE_FILES record

Explanation	An error occurred while attempting to create the internal file FREE_FILES.
Action	Use HELP LAST to examine the last system error message or check the MANTIS error log.

Failed to obtain standard profile

Explanation	The standard file profiles could not be obtained from the Template user in the MANTIS file. Probable corruption of MANTIS file.
Action	Contact your local Cincom representative.

Insert of new profile failed

- Explanation** An error occurred while attempting to insert a new use profile record into the MANTIS file.
- Action** Use HELP LAST to examine the last system error message or check the MANTIS error log.

Insertion of standard profiles failed

- Explanation** An error occurred while attempting to insert the standard file profiles for the new user into the MANTIS file.
- Action** Use HELP LAST to examine the last system error message or check the MANTIS error log.

No privilege for attempted operation

- Explanation** You attempted to delete one of the reserved Cincom users.
- Action** Do not attempt this operation.

No user names starting with 'CONTROL' or 'MASTER'

- Explanation** You cannot create users whose names begin with CONTROL or MASTER.
- Action** Use other names.

The user is not recognized

- Explanation** You attempted to inspect, update, print, or delete a user profile which does not exist.
- Action** Specify a valid user profile.

The 'XXX' user is protected

- Explanation** You cannot access the user you have specified. It is reserved for Cincom use.
- Action** Informational message only.

This facility is available only for the Master User

- Explanation** A non-Master User attempted to execute CONTROL:USERS program.
- Action** Informational message only.

Too many users

Explanation You attempted to create a new user profile, but the maximum number of user profiles has already been reached for a single MANTIS file. The maximum number of users for a single MANTIS file is 255 (including the 33 reserved users and EXAMPLES).

Action Delete an obsolete user profile.

Unable to delete user: 'XXX'

Explanation An error occurred when attempting to delete the user profile record from the MANTIS file.

Action Use HELP LAST to examine the last system error message or check the MANTIS error log.

Update failure

Explanation An error occurred while attempting to update the user profile record in the MANTIS file.

Action Use HELP LAST to examine the last system error message or check the MANTIS error log.

Update of standard profiles failed

Explanation An error occurred while attempting to update the standard file profiles for the user in the MANTIS file.

Action Use HELP LAST to examine the last system error message or check the MANTIS error log.

USE <KILL> to terminate delete; else ENTER

- Explanation** You have selected the Delete User option.
- Action** Press ENTER to begin the deletion process, or type KILL to stop the deletion process.

User already exists

- Explanation** You attempted to create a new user profile with the same name as an existing user profile.
- Action** Specify a unique name.

User profile created

- Explanation** A new user profile has been created.
- Action** Informational message only.

User profile updated

- Explanation** Confirmation message for the Update User Profile option.
- Action** Informational message only.

<XXX> to confirm DELETE; otherwise <CANCEL>

- Explanation** Prompt for confirmation on the Delete User option.
- Action** Confirm the deletion, or press CANCEL to stop the deletion.

The user has been deleted

- Explanation** Confirmation message for the Delete User option.
- Action** Informational message only.

Edit MANTIS messages

You may encounter the following error message when editing MANTIS messages:

Error updating messages file

Explanation	An error occurred when attempting to update the errors file.
Action	Use HELP LAST to examine the last system error message or check the MANTIS error log.

Update configuration file

The following errors may be encountered when updating the configuration file:

A value must be supplied

Explanation You must specify a value for the highlighted field.
Action Specify a value.

Cannot create '#'

Explanation An error occurred when attempting to create the indicated configuration file.
Action Use HELP LAST to examine the last DOS error message or check the MANTIS error log.

Enter either Y or N

Explanation The highlighted field must be Y or N.
Action Correct the entry.

Error updating configuration file

Explanation An error occurred when accessing the configuration file.
Action Use HELP LAST to examine the last system error message or check the MANTIS error log.

Invalid CLASS name

Explanation You specified an invalid device CLASS attribute for the TERMINAL or PRINTER.
Action Enter a valid class.

Invalid key assignment

- Explanation** You have specified an invalid key assignment for the highlighted terminal key combination.
- Action** Enter a valid key, as described in “[Terminal key assignments](#)” on page 98.

Options set to default values

- Explanation** Confirmation message from the Set Defaults option in the Library Functions.
- Action** Informational message only.

Replacing another file, use <#> to confirm

- Explanation** You are about to replace a configuration file which was not previously fetched.
- Action** Press the indicated key to confirm the replacement, or press CANCEL to stop the replacement.

Restart MANTIS to use new options

- Explanation** After saving or replacing your configuration file changes, you must exit and restart MANTIS for the new options to take effect. Until you exit, the previous options are still in effect.
- Action** Informational message only.

Scroll map is too large

Explanation The size of the scroll map exceeds the maximum overall size permitted.

Action Reduce the number of rows and/or columns specified by using the Logical Terminal Options.

The allowed range is # - #

Explanation You must enter a valid value for the highlighted field between the indicated low and high values (inclusive).

Action Correct the value.

Uncorrected error in #

Explanation An uncorrected field-entry error exists on the indicated option screen. You cannot save or replace the configuration file until the error is corrected.

Action Return to the indicated screen and correct the error.

Unsaved changes exist, use < # > to confirm

Explanation You are about to exit this facility, and you did not save your changes.

Action To save your changes, select the Library Functions option and use the SAVE option to create a new configuration file, or use the REPLACE option to replace an existing configuration file. To exit this facility without saving the changes you just made, press CANCEL again.

`#` already exists

Explanation You specified the name of an existing configuration file for a SAVE operation.

Action Provide a unique name.

`#` does not exist

Explanation MANTIS could not locate the configuration file you specified for a FETCH or REPLACE operation.

Action Specify the name of an existing entity.

`#` fetched

Explanation The configuration file was successfully fetched.

Action None. Confirmation only.

`#` replaced

Explanation The configuration file was successfully replaced.

Action None. Confirmation only.

`#` saved

Explanation The configuration file was successfully saved.

Action None. Confirmation only.

Update resident program list

The following error messages may be encountered when updating the resident program list:

Press < XXX > to confirm removal from memory

Explanation This is a prompt for confirmation when Remove Resident Programs from Memory option is selected.

Action Either confirm the removal, or press CANCEL to stop the removal.

Resident programs have been removed from memory

Explanation This is a confirmation message that resident programs have been removed.

Action Informational message only.

Transfer

The following error messages may be encountered when transferring data:

All bins deleted

Explanation This message confirms that the Delete All Bins in the Transfer File option was successful.

Action Informational message only.

Delete canceled

Explanation This message confirms that the Delete All Bins in the Transfer File option was stopped.

Action Informational message only.

Press enter to confirm deletion of all bins

Explanation This message is the prompt for confirmation of Delete All Bins in Transfer File option.

Action Confirm deletion by pressing ENTER, or press CANCEL to stop deletion.

Press PF13 to confirm deletion of all bins

Explanation This message is the prompt for confirmation of Delete All Bins in Transfer File option.

Action Confirm deletion by pressing PF13, or press CANCEL to stop deletion.

Universal Export Facility

The following error messages may be encountered when migrating data:

At least one entity or "ALL" must be selected

Explanation You did not select an entity type on the main UEF screen.

Action Select "ALL" or at least one entity.

Invalid design name or wild card expression - enter again

Explanation The name entered in the SELECTION field of the main UEF screen is invalid.

Action Enter a valid entity name.

Cannot select other entities if "ALL" is selected

Explanation You have selected "ALL" and other entities which is an illegal combination.

Action Either select "ALL" only or select one or more other entities.

The 'SELECTION' field should contain nothing

Explanation The SELECTION field of the main UEF screen is not blank when it should be.

Action Blank out the SELECTION field.

Directory should be turned off

Explanation Export with directory has been selected when it should not have been.

Action Enter N in the EXPORT USING DIRECTORY SELECTION field of the UEF options screen.

Fields must be specified in ROW/COLUMN order

- Explanation** On import, screen fields are to be in row/column order. This message is displayed when they are not.
- Action** Edit the export file to arrange the screen fields in row/col order.

ENTITIES ###, ### DATA RECORDS, ##### ERRORS, ##### WARNINGS

- Explanation** This message is displayed at the end of UEF processing, it shows the number of entities processed (for either export or import), the number of data records processed, the number of errors that occurred and the number of warnings that were reported.
- Action** Informational only. No action required.

Default description for UEF Import

- Explanation** IBM requires that entities are stored with a description, PC and CCB do not. This message is used as the default description for IBM when the export file has been generated from CCB or PC and no description exists.
- Action** Informational only. No action required.

Default ##### assigned

- Explanation** This message warns the user that a default has been used.
- Action** Informational only. No action required.

This function is not available

- Explanation** This message is displayed when the executing MANTIS is an execute only version. UEF is not available in an execute only MANTIS.
- Action** UEF can only be accessed using a nonexecute-only version of MANTIS. Contact Cincom Support.

Error in creating file, please reenter FILE NAME

Explanation The EXPORT FILE NAME supplied on the main UEF screen is invalid, or system permissions prevent the creation of a file.

Action Enter a valid file name or change directory or change the permission on the current directory.

Data not imported for privileged file #####

Explanation This message indicates that an attempt was made by a nonprivileged user to import privileged file data.

Action Informational only. No action required.

File not found, reenter name or <CANCEL> to exit

Explanation The file specified by EXPORT FILE NAME on the main UEF screen does not exist.

Action Enter the name of an existing file in the EXPORT FILE NAME field of the main UEF screen.

Specified DEVICE not valid

Explanation Invalid screen device dimensions (ROWS X COLS) were specified in the SCREEN DEVICE field of the UEF options screen.

Action Enter valid screen device dimensions in the SCREEN DEVICE field.

Privileged file ##### not imported

Explanation This message indicates that an attempt was made by a nonprivileged user to import a privileged file.

Action Informational only. No action required.

Specified LANGUAGE not valid

- Explanation** A language unknown to MANTIS was specified in the LANGUAGE field of the UEF options screen.
- Action** Enter a language known to MANTIS in the LANGUAGE field.

User ##### is not recognised

- Explanation** This message is only displayed for the CONTROL user, when the CONTROL user attempts to export all entities for a particular user and that user does not exist.
- Action** Make the user known to MANTIS, by asking you administrator to create the USER specified.

EXPORTED

- Explanation** This message is never displayed alone rather it forms part of “## ENTITIES ###, ### DATA RECORDS, #### ERRORS, #### WARNINGS”.
- Action** Informational only. No action required.

IMPORTED

- Explanation** This message is never displayed alone rather it forms part of “## ENTITIES ###, ### DATA RECORDS, #### ERRORS, #### WARNINGS”.
- Action** Informational only. No action required.

' #####' already

Explanation This message is displayed when an attempt is made to import an entity that already exists, and ADD has been specified on the UEF options screen.

Action If you really want to import this particular entity then put an R in the ADD OR REPLACE field of the UEF options screen. Note doing so will override the existing design with the one being imported.

Invalid attribute '#####'

Explanation The attribute given is not known to UEF.

Action Check the attribute against the list of known attributes and update the export file accordingly.

Too many files allocated

Explanation This message is displayed when the MANTIS limit for the number of open files is reached.

Action Contact Cincom Support.

Quoted text literal expected

Explanation On import a string was expected but was not found.

Action Update the export file to add the expected quotes.

field limit exceeded

Explanation This message is displayed when the MANTIS limit for the number fields for SCREENS, SETS, ACCESSES or INTERFACES is reached.

Action Update the export file removing the number of fields in excess of the number allowed.

field count exceeded the number of fields specified

Explanation This message indicates that during import of a FILE, SCREEN, ACCESS or INTERFACE, the number of fields specified did not equal a count of the specified fields.

Action Decrease the number of fields specified, by editing the Export File.

Invalid data type '#####'

Explanation Displayed data type is not known to UEF.

Action Assign a valid data type.

PROMPTER line limit exceeded

Explanation This message indicates that during the import of a prompter description the prompter line limit was exceeded.

Action Update the export file removing the number of prompter lines in excess of those allowed.

PROMPTER line count exceeded the number of lines specified

Explanation This message indicates that during import of a PROMPTER, the number of lines specified did not equal a count of the specified lines.

Action Correct the prompter line count descriptor in the export file.

Number of valid list items exceeded the number specified

Explanation This message indicates that during import of a SCREEN field, the number of valid list items specified did not equal a count of the specified valid list items.

Action Update the export file to either increase the specified valid list item count or to decrease the number of valid list items specified.

File type should be 'PRIMARY' or 'RELATED'

- Explanation** This message indicates that an ULTRA/TOTAL file type was not one of RELATIVE or PRIMARY.
- Action** Correct the FILE_TYPE descriptor in the export file.

Expected '#' but received '#'

- Explanation** During import, an expected character was not detected.
- Action** Update the export file, in accordance with the Universal Export Facility syntax.

Invalid token '#####'

- Explanation** A token unknown to UEF was detected.
- Action** Update the export file, in accordance with the Universal Export Facility syntax.

On input line #####

- Explanation** This message is used in association with “Invalid token ‘#####’” to indicate the line of the Export File where the Invalid token was detected.
- Action** Informational only. No action required.

Added data for #####

- Explanation** This is a processing message indicating into which file data has been added.
- Action** Informational only. No action required.

Replaced data for #####

- Explanation** This is a processing message indicating into which file data has been replaced.
- Action** Informational only. No action required.

Skipping remainder of definition

- Explanation** This message is displayed when import detects an error in the current description and is unable to recover.
- Action** Informational only. No action required.

Restart at line #####

Explanation This message is used in conjunction with “Skipping remainder of definition” to indicate at which line import processing will restart from.

Action Informational only. No action required.

Processing #####

Explanation During export, this message indicates the name and type of entity being processed.

Action Informational only. No action required.

The closing quote is missing from a text literal

Explanation On import, a string was detected but it does not have matching opening and closing quotes.

Action Update the export file to add the expected quotes.

Invalid Entity Type

Explanation This message is displayed when the entity_type passed from the library functions is not one of SCREEN, PROCESS, PROMPTER, SET, ACCESS, INTERFACE or SUPRA.

Action Contact Cincom Support.

Ignoring #####

Explanation The entity specified did not match the selection criteria specified, thus it is being ignored.

Action Informational only. No action required.

Line number ##### commented out

Explanation This message is displayed when a program line being imported is illegal.

Action Informational only. No action required.

INTERNAL INTERFACE set to ##

- Explanation** (CCB Only) On import of an Interface, the internal interface was set to the specified value.
- Action** This may not require any action, but it is displayed to inform the user that this is a possible problem area.

INTERNAL INTERFACE BUFFER set to ###

- Explanation** (CCB Only) On import of an Interface, the internal interface buffer was set to the specified value.
- Action** This may not require any action, but it is displayed to inform the user that this is a possible problem area.

.MSD.MPR.MIF.MPT.MEF.MID.MPD

- Explanation** This message indicates the file name extensions for Library Functions IMPORT/EXPORT.
- Action** Informational only. No action required.

An indexed file must specify a key field

- Explanation** On import, an indexed file without a key was detected.
- Action** Update the Export file, adding the attribute of KEY to the key fields.

mapped to

- Explanation** This message informs the user of any mapping that has taken place when importing an export file that was generated on another platform.
- Action** This may not require any action, but it is displayed to inform the user that this is a possible problem area.

Invalid #####

- Explanation** This message indicates that the given descriptor and value is not known to UEF.
- Action** Update the export file, changing the invalid descriptor to a valid one.

ACCESS_METHOD must be BINARY/TEXT for RELATIVE/SEQUENTIAL file

- Explanation** (CCB Only) During import of an ACCESS description with RELATIVE file type, an ACCESS_METHOD other than BINARY was detected or for an ACCESS description with SEQUENTIAL file type an ACCESS_METHOD other than TEXT was detected.
- Action** Correct the ACCESS_METHOD descriptor in the Export File.

INTERNAL INTERFACE COBOL set to ###

- Explanation** This message informs the user that the INTERNAL INTERFACE COBOL has been set to the given value.
- Action** Informational only. No action required.

INTERNAL INTERFACE RESIDENT set to ###

- Explanation** This message informs the user that the INTERNAL INTERFACE RESIDENT has been set to the given value.
- Action** Informational only. No action required.

not supported on this platform

- Explanation** This message indicates that the specified descriptor is not supported on the current platform.
- Action** This may not require any action, but it is displayed to inform the user that this is a possible problem area.

required but not found

Explanation During import, an entity profile is built. Some platforms require that certain descriptors be supplied prior to the entity being added/replaced in the MANTIS Cluster. This message indicates which descriptors are required but have not been found.

Action Update the export file adding the required descriptor for the specified entity.

First field of file must have attribute of KEY

Explanation During import, of a FILE description it was detected that the first field specified did not have an attribute of KEY.

Action Update the export file adding the attribute of KEY the the first field of the specified entity description.

FIELD_TYPE must exist for each field

Explanation During import, a field was read that did not have a FIELD_TYPE.

Action Update the export file adding the FIELD_TYPE descriptor to each field of the specified entity.

KEY_OF_REFERENCE cannot exist for an INDEXED file type

Explanation During import of an INDEXED file, the KEY_OF_REFERENCE descriptor was detected.

Action Update the export file removing the KEY_OF_REFERENCE reference descriptor or changing the FILE_TYPE descriptor to one that does support a KEY_OF_REFERENCE.

REFERENCE_VARIABLE must exist for a NUMBERED file type

- Explanation** During import of a NUMBERED file, the REFERENCED_VARIABLE descriptor was not detected.
- Action** Update the export file to add a REFERENCE_VARIABLE descriptor, or change the FILE_TYPE to one that does not require a REFERENCE_VARIABLE.

cannot exist for REMOTE Interface

- Explanation** During import of a REMOTE interface, the given descriptor was detected when it should not have been.
- Action** Update the export file, removing the specified descriptor for the specified entity description.

in #####

- Explanation** This message is used in conjunction with a number of other messages to indicate the entity type and name in which an error occurred.
- Action** Informational only. No action required.

set to 'NO'

- Explanation** (CCB ONLY) This message indicates that the given descriptor was set to NO, during import.
- Action** This may not require any action, but it is displayed to inform the user that this is a possible problem area.

skipping to matching closing bracket

- Explanation** During import, if an error was detected that was associated with a left bracket, then this message is displayed indicating that processing has skipped to the matching right bracket.
- Action** Informational only. No action required.

Status not 'ACTIVE' for file #####

Explanation This message is warning the user that the FILE they are attempting to process has a nonACTIVE status and thus cannot be processed.

Action Update the export file, changing the status of the specified entity description to ACTIVE.

No data imported for file #####

Explanation This message is used in conjunction with “Status not ‘ACTIVE’ for file #####” to indicate the nonactive file for which the data was not imported.

Action Information only. No action required.

No data exported for file #####

Explanation This message is used in conjunction with “Status not ‘ACTIVE’ for file #####” to indicate the nonactive file for which the data was not exported.

Action Information only. No action required.

Deleting File #####

Explanation This message indicates that an error was encountered when attempting to delete the FILE given prior to another version of the FILE being imported.

Action Contact Cincom Support.

REFERENCE_VARIABLE must not exist for an INDEXED file

Explanation During import of an INDEXED file, the REFERENCE_VARIABLE descriptor was detected.

Action Update the export file to remove a REFERENCE_VARIABLE descriptor or to change the FILE_TYPE to one that does require a REFERENCE_VARIABLE.

REFERENCE_VARIABLE must exist for NUMBERED file

- | | |
|--------------------|---|
| Explanation | During import of a NUMBERED file, the REFERENCE_VARIABLE descriptor was NOT detected. |
| Action | Update the export file to add a REFERENCE_VARIABLE descriptor or to change the FILE_TYPE to one that does not require a REFERENCE_VARIABLE. |

Variable length records not allowed for NUMBERED files

- | | |
|--------------------|--|
| Explanation | During import, an ACCESS description with NUMBERED FILE_TYPE and variable length records was detected. |
| Action | Update the export file, changing the variable length records to fixed length records. |

KEY fields not allowed for SEQUENTIAL/NUMBERED files

- | | |
|--------------------|--|
| Explanation | During import, a FILE with ASCII FILE_TYPE and ACCESS_METHOD other than DOS was detected. |
| Action | Update the export file, removing the attribute of KEY from all the fields of the specified descriptor. |

RECORD_TYPE must be #####

- | | |
|--------------------|---|
| Explanation | During import, a RECORD_TYPE other than the one given was detected. |
| Action | Update the export file changing the RECORD_TYPE to that specified. |

Both NUM_REPEATS and FIRST_REPEATING_ELEMENT must be specified

- | | |
|--------------------|---|
| Explanation | During import, a descriptor was found where either NUM_REPEATS or FIRST_REPEATING_ELEMENT was specified with out the other. |
| Action | Update the export file, specifying both NUM_REPEATS and FIRST_REPEATING_ELEMENT descriptors for the description specified. |

Scanned beyond end of line

- | | |
|--------------------|--|
| Explanation | This error should never occur. It indicates some form of corruption during the reading of the export file. |
| Action | Contact Cincom Support. |

KEY fields not allowed for FILE_TYPE specified

- | | |
|--------------------|---|
| Explanation | This message indicates that during import a field with the KEY attribute was detected for a FILE_TYPE on which this is not allowed. |
| Action | Update the export file, removing the attribute of KEY from all the fields of the specified descriptor. |

RELATIVE files must specify a REFERENCE_VARIABLE

- | | |
|--------------------|--|
| Explanation | This message indicates that during import a RELATIVE file without a specified REFERENCE_VARIABLE was detected. |
| Action | Update the export file, adding a REFERENCE_VARIABLE descriptor for the entity description specified. |

Variable length records not allowed for ##### file

- | | |
|--------------------|--|
| Explanation | This message indicated that variable length records are not permitted for the given file type. |
| Action | Update the export file, changing the variable length records to fixed length records. |

Illogical program ##### not imported

Explanation This message indicates that an attempt was made to import an illogical program.

Action Update the export file, altering the program lines so that the program is no longer illogical.

INTERFACE TYPE set to #####

Explanation This message informs the user that the INTERFACE TYPE has be set to the given value.

Action Informational only. No action required.

Adding #####

Explanation This message indicates that an error occurred while adding the given entity.

Action Contact Cincom Support.

Replacing #####

Explanation This message indicates that an error occurred while replacing the given entity.

Action Contact Cincom Support.

Error ### opening log file

Explanation The system permissions prevent the opening of the log file.

Action Change directories or change the permissions on the current directory.

Importing data for #####

Explanation This message indicates that an error occurred during import of the data for the given file.

Action Contact Cincom Support.

Invalid data entered in ##### field, please reenter

Explanation This message indicates that an invalid value has been entered in the given field of the main UEF screen.

Action Enter valid data in the field specified.

Error opening external file '#####'

- Explanation** The system permissions prevent the opening of an external file.
- Action** Change the permissions on the file specified.

Cannot specify same value for ##### ### ###

- Explanation** The given descriptors do not have unique values.
- Action** Update the export file, giving unique values to the descriptors specified.

Associated record chain not complete for #####

- Explanation** This message indicates that the ASSOCIATED_RECORD_LAYOUT does not exist.
- Action** Ensure that all associated records can be found in the MANTIS file prior to importing.

Fields specified do not match those of associated layout

- Explanation** This message indicates that the fields of the FILE being imported do not match those of the ASSOCIATED_RECORD_LAYOUT specified.
- Action** Contact Cincom Support.

Added #####

- Explanation** This message indicates that the given entity was added to the MANTIS Cluster.
- Action** Informational only. No action required.

Replaced #####

- Explanation** This message indicates that the given entity was replaced in the MANTIS Cluster.
- Action** Informational only. No action required.

not Imported

- Explanation** This message indicates that the given entity description was not imported.
- Action** Informational only. No action required.

Update printer definitions

The following errors may be encountered when updating printer definitions:

A value must be supplied

Explanation The highlighted field is missing a value.

Action Supply a valid value.

Enter either Y or N

Explanation Y or N are valid values for the highlighted field.

Action Specify a valid value.

Error accessing PRINTER.DEF file

Explanation An error occurred when trying to access the PRINTER.DEF (printer definitions) file.

Action Use HELP LAST to examine the last system error message or check the MANTIS error log.

Error opening PRINTER.DEF file

Explanation An error occurred when trying to open the PRINTER.DEF (printer definitions) file.

Action Make sure that the PRINTER.DEF file exists in the current directory.

Invalid control sequence

Explanation The highlighted field does not contain a valid control-sequence specification.

Action Correct as described in [“Updating printer definitions”](#) on page 114.

Maximum number of modes defined

- Explanation** A maximum of eight modes (page sizes) can be defined for each printer definition.
- Action** Consider eliminating a mode that is used infrequently or create a separate printer definition.

Mode already defined

- Explanation** You attempted to insert a new mode with the same page size as an existing mode.
- Action** Use a different page size or create a separate printer definition.

Mode deleted

- Explanation** Confirmation message for the Delete a Mode option.
- Action** Informational message only.

Mode inserted

- Explanation** Confirmation message for the Insert a New Mode option.
- Action** Informational message only.

Mode not defined

- Explanation** You attempted to update or delete a mode with a page size that is not defined.
- Action** Use the List Available Modes option to determine the correct page size.

The allowed range is XXX - XXX

- Explanation** The number of rows/columns specified on the Insert a New Mode option must be in the indicated range of numbers.
- Action** Specify valid values.

Unsaved changes exist, use < XXX > to confirm

- Explanation** You are exiting the facility without saving your changes.
- Action** Save your changes before exiting the facility, or confirm you want to exit the facility without saving your changes.

'XXX' already exists

Explanation The printer definition specified already exists.

Action Specify a unique name.

'XXX' deleted

Explanation The printer definition was successfully deleted.

Action Informational message only.

'XXX' does not exist

Explanation The printer definition specified does not exist.

Action Specify an existing entity.

'XXX' fetched

Explanation The printer definition was successfully fetched.

Action Informational message only.

'XXX' replaced

Explanation The printer definition was successfully replaced.

Action Informational message only.

'XXX' saved

Explanation The printer definition was successfully saved.

Action Informational message only.

<XXX> to confirm DELETE; otherwise <CANCEL>

Explanation You have specified that you want to delete the printer definition.

Action Confirm that you want to delete the screen, or press CANCEL to stop the deletion.

MANTIS Print Utility

The following error messages may be encountered when using MANTIS Print Utility:

Equals (=) expected

Explanation	An equal sign (=) is missing after a command requiring a value.
Action	Correct and resubmit.

Error in SORT phase of Cross-Reference generation

Explanation	An error occurred executing a system SORT command for XREF intermediate files.
Action	Ensure that the system SORT command is in a directory listed in the PATH system environment variable and increase the available memory.

Error opening Sort file

Explanation	An error occurred opening an intermediate (work) file for collecting XREF entries.
Action	Ensure that the TMP (or MANTIS_TMP) system environment variable contains a valid directory name.

Error opening sorted Cross-Reference file

Explanation	An error occurred opening an intermediate (work) file for sorting XREF entries.
Action	Ensure that the system SORT command is in a directory listed in the PATH system environment variable and increase the available memory.

Error writing Cross-Reference sort file

Explanation	An error occurred writing XREF information to an intermediate (work) file.
Action	Ensure sufficient disk space exists for creation of temporary files.

Execution aborted

Explanation Execution of MPR was terminated.
Action Check prior messages for the cause.

Interrupted by CTRL-BREAK

EXPLANATION User pressed the CTRL-C or CTRL-BREAK key.
Action If listing HELP text, Help is terminated. Otherwise, MPR is terminated; restart if desired.

Invalid command encountered

Explanation Invalid, misspelled, or ambiguous command name.
Action Correct and resubmit.

Invalid cross-reference specification

Explanation Invalid, misspelled, or ambiguous XREF type.
Action Correct and resubmit.

Invalid type specification

Explanation Invalid, misspelled, or ambiguous TYPE name.
Action Correct and resubmit.

Invalid user or password specified

Explanation The specified user is not defined in the MANTIS file or the specified password does not match.
Action Verify the correct user and password supplied.

Invalid user/password specification

Explanation The syntax of the USER command is invalid.
Action Correct and resubmit.

Name is too long

Explanation Command name or value is too long.
Action Reduce the length of the name or value and resubmit.

The first command must be USER

Explanation A TYPE or SELECT was encountered before any users were specified.

Action Insert a USER command.

The MANTIS file is corrupt

Explanation An internal inconsistency was detected in the MANTIS file.

Action Verify that a valid MANTIS file was used by attempting to execute MANTIS with the file.

Too many types for one TYPE command

Explanation More than 20 types were specified on a single TYPE command.

Action Eliminate redundant types from the list.

Too many users for one USER command

- Explanation** More than 20 users were specified on a single USER command.
- Action** Split the number of users across multiple USER command sets.

Unable to open HELP file

- Explanation** An error occurred opening the Help text file, MPR.HLP.
- Action** Verify that MPR.HLP is in the same directory containing MPR.EXE.

Unable to open MANTIS file

- Explanation** An error occurred when opening the MANTIS file.
- Action** Verify that the CLUSTER system environment variable or MANTIS FILE name in the configuration file is correct and that the file is in the current directory.

Unable to open the output file

- Explanation** An error occurred opening the PRINTER output file.
- Action** Verify that the OUTPUT command specifies a valid file name.

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Reader Comment Sheet

Name: _____

Job title/function: _____

Company name: _____

Address: _____

Telephone number: _____ Date: _____

How often do you use this manual? Daily Weekly Monthly Less

How long have you been using this product? Months Years

Can you find the information you need? Yes No Please comment.

Is the information easy to understand? Yes No Please comment.

Is the information adequate to perform your task? Yes No Please comment.

General comment: _____

WE STRIVE FOR QUALITY

To respond, please fax to Larry Fasse at (513) 612-2000.