INSTALLATION

Mentat 3.1

Installation Instructions for UNIX Systems

4100.31

Mentat Installation and Usage on UNIX machines

This document describes the installation and usage of the Mentat program on UNIX platforms listed in Table 1. The instructions given here require a basic knowledge of the machine on which you are loading the Mentat software. No attempt is made to teach the use of UNIX commands.

This document contains a quick installation section intended for the experienced Mentat users, a section containing details about the installation procedure, a section concerning the usage of the Mentat programs.

Appendices include a sample installation session and hints about troubleshooting.

If you encounter a problem during the installation, please contact the customer support staff at the nearest MARC office listed below.

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Table 1 CDROM device names for UNIX systems

Computer	Operating System Revision	CD-ROM mount command (assumes a directory /cdrom exists)
Digital Equipment Alpha	OSF 4.0 or later	mount -t cdfs /dev/rz**u**A /cdrom **u** = CD-ROM unit number, **A** = a or c
HP 9000-700	HP-UX 9.0 or later	mount -F cdfs /dev/dsk/c201d**n**s0 /cdrom **n** = SCSI controller number for CD-ROM
HP 9000-700	HP-UX 10.0 or later	mount -F cdfs /dev/dsk/c0t**n**d0 /cdrom **n** = SCSI controller number for CD-ROM
IBM RS6000	AIX 3.2.5 or later	mount -rv cdrfs /dev/cd0 /cdrom
Silicon Graphics	IRIX 5.3 or later	mount -rt iso9660 /dev/scsi/sc**n**dul0 /cdrom **n** = SCSI controller number, **u** = CD-ROM unit Note that the "l" is a lowercase L.
Silicon Graphics	IRIX 6.2 or later	mount -rt iso9660 /dev/scsi/sc**n**dul0 /cdrom **n** = SCSI controller number, **u** = CD-ROM unit # The CD-ROM will usually automount to /cdrom or /CDROM
SUN SparcStations	Solaris 2.3 or later	mount -F hsfs /dev/dsk/c0t**n**dus0 /cdrom **n** = SCSI controller number, **u** = CD-ROM unit #
SUN SparcStation	Solaris 2.5 or later	Uses automounting to /cdrom

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Chapter 1: Read me first – Installation Prerequisites

Before installing the software

Decide where you want the product to be installed before reading in the Mentat software from the CD-ROM. You will be prompted for a parent directory to install the software, which will be referred to as "parent". During installation the directories *mentat310*, *install*, and *security* will be created in the directory you specify.

The Mentat program requires approximately 100 to 150 Mbytes of permanent disk storage capacity.

If you are installing both MARC-K71 and Mentat 3.1, install MARC-K71 first, and then install Mentat 3.1.

Personal data

During installation, you will be prompted to supply your name, address, telephone number, etc. You will also be asked to enter the client specific administration code (e.g. MENT310.U0123) which is listed on the accompanying delivery letter. If you have also installed MARC, enter your MARC code when prompted. If no codes were provided to you, then leave it blank.

This information will be sent to the MARC office supplying you the installation passwords and is intended to keep your data as known to the MARC company up to date.

Password protection

The Mentat version you have received is protected against illegal usage by means of Globetrotter's FLEXlm licensing software. You *cannot* run the program directly after you have installed the product from the CD-ROM until you obtain passwords from MARC. Passwords will be supplied to you from the nearest MARC office after you have performed the first two steps of the installation procedure. These steps are as follows:

1. Run the installation script, install the software from the CD-ROM, and generate a machine specific identifier for the purpose of creating passwords.
2. Send the machine specific identifier to the nearest MARC office.
3. Upon return of the passwords, enter these by editing the *license.dat* file.

Passwords need normally be entered only once.

Multiple machines NFS Server

If you are installing Mentat on an NFS Fileserver, the install script needs to create directories in which to install Mentat; the default NFS export options do not allow this level of access by root. Two approaches are possible – do not install as root, or if you must install as root, modify your NFS export options to include *~root=list* (where *list* can include hostnames and netgroups.)

Should I be "root"?

Normally, there is no need to be logged in as root. However, you will be queried as to whether you want to create an optional *link* by which the Mentat program will be known system-wide under the name *mentat*. This link will be placed in the directory */usr/bin* to which you must have write permission. Logging in as root is one way of ensuring that you can create this link. Make sure that you have write permission to the installation directory before you start the installation script. Note that on most systems you will have to be root to mount the CD-ROM.

For NFS fileserver networks, read the above paragraph.

Chapter 2: Quick Installation Procedure

Step 1: Start the install script

<cdrom_dir>*/install_marc*

Run the MARC installation script *install_marc* from the CD-ROM. Substitute your CD-ROM device name for <cdrom_dir>. For example, on a SUN this may be /cdrom/cdrom0/install_marc.

Welcome to the MARC Installation script

Enter the pathname to the directory to install the software
(<current directory>)
:

Enter the path for the directory in which you want to install the MARC product(s). The default selection will be your current directory. You must have write permission to this directory.

Step 2: Extract the files from the CD-ROM

Main Menu

1) Install the MARC program
2) Install the Mentat program
3) Install Security
4) Update Product scripts
5) Un-Install a Product
6) Help Information
0) Exit from the install script

Selection : **2**

Select option 2 to install Mentat 3.1.

Remember to install MARC-K71 before you install Mentat.

Select the platform

Mentat 3.1 Installation

Mentat Menu

2.1) Install for DEC OSF 3.2
2.2) Install for DEC OSF 4.0
2.3) Install for HP-UX 9.05
2.4) Install for HP-UX 10.01
2.5) Install for IBM AIX 3.2.5
2.6) Install for IBM AIX 4.1.5
2.7) Install for SGI IRIX 5.3
2.8) Install for SGI IRIX 6.3
2.9) Install for Sun Solaris 2.4
2.10) Install for Sun Solaris 2.5
2.11) Help Information
0) Return to the previous menu

Selection [] :

Select the platform that you will be running Mentat on. The script will determine a default value, and it will be shown in brackets after the *Selection* prompt. Just press return to use the default value.

You will be prompted to supply the pathname to the directory where the Finite Element Method program MARC is stored. If the script determines that MARC has already been installed to the default location of *"parent"/marck71*, then a default value for the path will be displayed. Just press return to use the default value. If you do not have MARC at this site, you can ignore the prompt.

You will also be prompted whether you want to create a system wide link in */usr/bin* to the *mentat* script. You must be root to perform this.

Note that other platforms may appear on your menu list that are not shown here.

Return to previous menu

0) Return to the previous menu

Choose the *Return to previous menu* option to return to the main menu.

Step 3: generate the system identifier

3) Security submenu
3.1) Generate system identifier file

Generate system identifier. From the main menu, select option 3, and then option 3.1. You will be prompted for your name, address, etc. You will also be prompted for your license code which is in the accompanying letter; e.g. MENT310.U0123. If you have also installed MARC, enter the MARC license also; e.g. MARCK71.U0123.

Step 4: send the system identifier to MARC

3.2) Show system identifier
3.3) Print the system identifier
3.4) Send the system identifier

The system identifier is stored in the subdirectory *install*, under the *parent* directory, in a file called *sid001.dat*. Send the contents of this file to the nearest MARC office. In return, you will receive passwords.

0) Return to previous menu
0) Exit from the installation script

You may exit the script now by repeatedly choosing the *return/exit* option.

Step 5: enter the password

cd "parent"/security
vi license.dat
chmod 644 license.dat

When you receive the passwords from the MARC office, they should be entered by means of creating the file *license.dat* file in the *security* subdirectory using an editor. If the file was E-mailed to you, then save the contents in *license.dat*.

See Globetrotter's *FLEXlm End User Manual* for more information on the license file format.

Step 6: checking

cd "parent"/mentat310
./bin/mentat

On the Mentat command line enter:
exec_p examples/confirm/confirm.proc

Repeatedly choose the *return/exit* option to leave the installation script.

Next, change your current directory to be the parent directory in which you installed Mentat, and then cd to *mentat310*.

Enter the command *./bin/mentat* to start Mentat. Then, check the Mentat program by opening a procedure file called *confirm.proc* on Mentat's command line. Four elements will be automatically created. Select the quit button when finished.

Chapter 3: Installation Procedure Information

Multiple machines/ NFS Servers

If you are installing Mentat on an NFS Fileserver, the install script needs to create directories in which to install Mentat; the default NFS export options do not allow this level of access by root. Two approaches are possible – do not install as root, or if you must install as root, modify your NFS export options to include *~root=list* (where *list* can include hostnames and netgroups).

Step 1: Start the install script from the CD-ROM

Start the installation by running the *install_marc* script located on the CD-ROM from a "C" or Bourne shell. You should not have your current directory be the CD-ROM device, since temporary files will need to be created.

If you will also be installing MARC-K71, install that product first (using Main Menu *option 1*).

Decide where the Mentat program will be located in the system. This location will be called the *parent* directory. For example, if you specify the path as */usr/software/marc*, then */usr/software/marc* will be the *"parent"* directory. It is recommended that you create this directory before you start the installation script. The directories *mentat310, install,* and *security* will be created when the product is unloaded from the CD-ROM.

The *install_marc* script will accept the following options:

-a	Turns on automatic installation. The script will install both MARC-K71 and Mentat 3.1 from the CD-ROM. The *-i* option is required (described below).
-c <path>	Specifies the path to the CD-ROM device. This may also be the path to a NFS mounted CD-ROM. Normally the script will determine the path to the CD-ROM device from the path specified to invoke *install_marc* on the commandline.
-i <path>	Specifies the installation path (*"parent"* directory). This option is required when specifying the automatic installation option, *-a*.
-v	Turns on verbose mode.

The "automatic" installation will install both MARC and Mentat. To perform an "automatic" installation, run the installation script as follows:

/cdrom/install_marc -a -i <path>

Note that when the "automatic" installation is complete, you will have to run the installation script interactively to generate the system identifier using option 3.1 (see Step 3).

You may want to check the contents against the list supplied in Appendix C of this document. Should any subdirectory be missing, please contact MARC customer support for further details.

> **Note:** See Table 1 at the beginning of this document for the name of the CD-ROM device for your machine if you can't determine what it is named, or see your systems administration guide.

Step 2: extract the files and set paths

Extract the files from the CD-ROM and set the path names in the Mentat background files to correspond to the location where you have installed the version. From the main menu list of the *install_marc* script, choose *option 2* to install Mentat, and then select the platform. Note that a default platform selection will be displayed if the script determines that Mentat has not yet been installed.

The installation script will then extract the files and then proceed to set the path names in the Mentat background files to correspond to the current location of the Mentat version.

You will then be asked a question concerning the MARC Finite Element Method program which can be started from within Mentat. You are required to give the pathname to the directory where MARC is stored on your system. If you do not have MARC at your site, you can ignore the prompt.

link

You will also be asked whether the Mentat program should be made accessible system wide under the link-name *mentat*. If so, a soft-link file, *mentat*, will be created in the directory */usr/bin*.

> **Note:** If you decide to create the link, you
> - must be allowed to create the link (e.g., be logged in as root).
> - must ensure your users who want to use the MARC program have */usr/bin* in their search path.

Step 3: generate system identifier

Using the installation script *install_marc*, choose *option 3* from the main menu list. A submenu will appear. Choose *option 3.1* from this submenu to generate the system identifier.

> **Note:** When you generate the system identifier, you will be asked to enter your name, address etc. See Appendix A for a sample session.

Step 4: send to MARC

The system identifier is stored in the subdirectory *install* under the *parent* directory, in a file called *sid001.dat*. Send this file to the nearest MARC office. The file can be printed using the *install_marc option 3.3*. Send the printout by means of telefax to the nearest MARC office. If you have access to the E-mail facility, you can mail the system identifiers directly using the *install_marc option 3.4*.

Step 5: password

Change your current directory to the subdirectory *security*. If you receive your passwords via email, then save the license data in a file named *license.dat* in the *security* directory. The permissions for *license.dat* should be 644, since all users will need read access. If you receive your passwords via telefax, then enter them by means of creating the *license.dat* file using an editor and typing in the information. The password will consist of at least 3 lines:

"SERVER" line which specifies the system hostname

"DAEMON" line which specifies the vendor specific daemon name and path

"FEATURE" line(s) which specifies the product and options. This line contains the password and the expiration dates.

The **mentat** script uses the following environment variables to locate the *license.dat* file:

FLEXDIR

LM_LICENSE_FILE

The FLEXDIR environment variable typically points to the *security* directory, and the name *license.dat* is appended to it for the full pathname. If the file does not exist, then the environment variable LM_LICENSE_FILE is used to obtain the full pathname for the license file.

See Globetrotter's *FLEXlm End User Manual* for more information on entering your license password.

Note: There is generally no need to start the Flexlm license manager. The **mentat** script will do so.

Step 6: checking

Run the Mentat program. Repeatedly choose the *exit* option to leave the installation script:

0) Return to the previous menu

0) Exit from the installation script

type mentat if a soft link was created

> **Note:** Should the Mentat program fail to start, please use the checklist in Appendix B to verify whether the installation was executed correctly. Contact MARC customer support if you are still unable to run the program.

Chapter 4: Running Mentat

This section describes the Mentat usage on UNIX based machines applicable to either BSD4 or System V machines except where noted. The Mentat program is started by a shell script program called **mentat** which is stored in the *mentat310/bin* directory. If you used the option to create a link during the installation, this shell script is known system wide as *mentat*.

You do not need to start the shell script from a specific directory.

The Mentat program will create the default files in your current working directory; i.e., where you are located at the time of starting the Mentat program.

The shell-script mentat contains a number of arguments which are passed on to the Mentat program. Table 2 gives the meaning of these input options. You are free to alter these commands to suit your preference. For a complete set of arguments, see the *Mentat 3.1 - MARC-K7.1 New Features Manual.*

Table 2 Mentat Input Options

Keyword	Options	Description
-mf	main.ms	The name of the startup menu file.
-mp	$(DIR)/menus/	Directory path name where the menu files are located.
-hp	$(DIR)/help/	Directory path name where the help files are located.
-lf	*filename*	Specify the Mentat logfile name.
-bp	$(DIR)/bin/	Directory path name where the external Mentat programs and shell scripts are located.
-fn	8x15	Default font type.
-db	on	Double buffering: a screen refresh is first assembled in a separate memory section and then displayed. This option results in a smooth appearance.
-rl	*filename*	Record the Mentat commands in the procedure file *filename*.
-pr	*filename*	Any additional set-up commands you wish to add. Store these in a procedure file containing the Mentat commands.
-ml	$(DIR)/material/	Directory path name where the material files are located.

Chapter 5: Mentat Interfaces

Mentat External Programs

Mentat supports a number of CAD interfaces: IGES, Patran, Ideas, VDA, and ProEngineer. These interfaces are programmed in external programs which are called from within Mentat. The interface programs are stored in the *mentat* subdirectory *bin*. These programs read the data files in their native format and translate the contents into a Mentat model file. This file is subsequently read by Mentat. The external programs are called from within Mentat by means of the *file* submenu.

MARC Jobs

The subdirectory *bin* contains shell script files to start a MARC FEM job or to abort the job using the following shell scripts:

submit1, *submit2*, *submit3*,
and
kill1, *kill2*, *kill3*

These shell scripts are called by means of the buttons in the *job* menu.

You may alter these files to suit your environment; e.g., set up one of the *submit* scripts so that it starts a MARC job on a different machine on your network.

Plotter Interface

Because of the many variations in plotting environments, we have created plotting interfaces in the form of shell scripts that operate from within Mentat. Currently, Mentat recognizes the following plotting formats:

- PostScript
- Xdump (translated in either PostScript or HPGL format)

This section describes a template shell script for each of the formats mentioned above. They are located in the ./bin directory and are named as follows:

postscript1, postscript2, postscript3
xdump1, xdump2, xdump3

PostScript

The PostScript function is activated by pressing the gray print 1, gray print 2, or gray print 3 button from the UTILS menu on the POSTSCRIPT panel. The program captures the graphics portion of the screen into a file and sends this file to a PostScript printer. In the example listed below, the file is sent to a computer called 'voltaire' on the network. The `lpr` command with the `supt` argument sends the file to a PostScript printer known to the spooler as supt. After the file is sent, it is removed from disk automatically.

```
#!/bin/csh
 rsh voltaire lpr -Psupt < $1
rm -f $1
```

The argument `$1` is the filename handed to the shell by Mentat. If there is more than one printer on-line, the `postscript2` and `postscript3` shell scripts may be used to address these other printers.

Xdump

The xwd command, widely available on many platforms, dumps an image of an X window into a specially formatted dump file. This file can then be read by various other X utilities for redisplay, printing, editing, formatting and archiving. Its complementary xpr command takes the window dump file as input and formats its output for a particular device, such as a PostScript printer or a HP PaintJet (color mode). Below you will find an example of a shell script that uses xwd, and, in conjunction with xpr, sends the information to PaintJetXl. See the man pages on your system for more details.

```
#!/bin/csh
xwd | xpr -device pjetxl -scale 2 | /etc/aprint -Abatphone2 -L25
```

Edit

The edit_window shell script is used to control the editor associated with the EDIT commands. It is possible to change the type of editor, e.g., from vi to emacs or change the type of windowing environment.

System Shell

The system_window shell script is used to control the type of window opened with the system_shell command. It is possible to change the type of window.

Parallel Render

The marc_render shell script may be modified such that the photorealistic rendering is performed across multiple CPUs. The parameter nbands is used to specify the number of CPUs.

Chapter 6: Managing Flexlm with Mentat

Flexlm License File

Flexlm is the network based licensing product from Globetrotter Software used in MARC products.

The license file, *license.dat*, should be placed in the *"parent"/security* directory once you receive your licenses from your nearest MARC office. Everyone should have read permission to the file. The license file has the following format:

Line	Description
SERVER	This line specifies the license server. It has the format: SERVER hostname hostid port
DAEMON	This line specifies the name of the vendor daemon (marcd), and the path. It has the format: DAEMON marcd *"parent"/security*
FEATURE	This line lists the feature, or license names. This line cannot be modified from what is sent to you. For your Mentat license, it has the format: FEATURE mentat marcd 1.000 ...
USE_SERVER	When used together with the SERVER line, this line is used on the licensed "client system" (as opposed to the license server), to specify that it should obtain a license from the specified license server. It has no options.

Flexlm License Manager

The **run_marc** script will start the Flexlm license manager daemon **lmgrd.marc** using the **rc.lmgrd** script located in the *security* directory. Once **lmgrd.marc** is running, it will read the license file *license.dat* which is also located in the *security* directory. The license file contains the Mentat license (and other MARC product licenses, if necessary). In addition, lmgrd.marc will also start the MARC vendor daemon **marcd**. The path to marcd is specified in the license file on the DAEMON line. These processes must be running on the license server for the MARC security system to obtain a license.

The Mentat program will contact these daemons at regular intervals. If no contact is made after a specified time period, then the Mentat program will terminate execution.

Environment Variables

The environment variable **FLEXDIR** is used to specify the directory containing the *license.dat* file. The variable is set in the **mentat** script, and the default setting is *$DIR/../security*, where $DIR is the path to the Mentat directory. When MARC executes, it will look for the file *license.dat* in the FLEXDIR directory. If it cannot find the file or if it cannot find the **mentat** license, then it will check the list of license files specified by the environment variable **LM_LICENSE_FILE**. This environment variable is set in the **mentat** script also, and is a colon separated list of file pathnames. The default setting for this variable is:

LM_LICENSE_FILE=$FLEXDIR/license.dat:/usr/local/flexlm/licenses/license.dat

You may instead want to combine the licenses into one file and change the FLEXDIR setting appropriately. The FLEXDIR environment variable is also used in the **rc.lmgrd** script located in the *security* directory.

Security Directory

The security directory defaults to *"parent"/security*. It must be writable by all Mentat users since **lmgrd.marc** will write the logfile (*security/license.log*) to that directory. If you do not wish to have the security directory writable by others, then you must modify the **rc.lmgrd** script to write the logfile to a different location (such as */tmp*). You may also want to monitor the size of the logfile, since all Flexlm activity is recorded.

> **Note:** The *license.log* file contains important status information regarding the license manager daemon. Always check this file when you get a security error.

If you move the security directory to a different location, or more specifically if you move **lmgrd.marc** and **marcd**, then you must modify the FLEXDIR environment variable specified in the **mentat** script to specify their location.

Client/Server Licensing

The default installation assumes that the system in which MARC is installed will function as the *license server*. The term *license server* only refers to the fact that lmgrd.marc and marcd will be running on that system, and will maintain the state of available licenses. Even if you have purchased a nodelocked license, the nodelocked system will function as the license server for that license. A nodelocked license can be distinguished from a floating license since it will have a HOSTID=xxx in the feature line.

If you have purchased a floating license, the system that is to be the license server must be determined before generating the system identification file (*sid001.dat*). You must generate the system identification file from the license server, since the *lmhostid* value of the server is needed to generate your passwords. The license file that is returned to you should be placed in the *security* directory. The client systems can use the same license file, or they can use a brief license file with just the SERVER and USE_SERVER lines.

Product Layout

When you install Mentat you will get the following installation hierarchy:

<Parent>

install	Contains the install_marc script and other installation scripts
security	Contains the Flexlm programs
marck71	Contains the MARC-K71 program files (if installed)
mentat310	Contains the Mentat program files

The environment variables involved with the Flexlm security are set in the **mentat** script as follows:

DIR=*"parent"/mentat310*

FLEXDIR=$DIR/../security

LM_LICENSE_FILE=$DIR/../security/license.dat

Appendix A: Sample Installation of Mentat

In this appendix, a sample installation, assuming a single license installation for SGI R8000, is demonstrated.

Step 1: start the installation script from CD-ROM

<cdrom_dir>/*install_marc*

In most cases, the name <cdrom_dir> will be /cdrom or /CDROM. The device name for your CD-ROM may be different, so check your system administration guide. For example, on a SUN the name may be /cdrom/cdrom0.

Step 2: extract the files from the CD-ROM

Welcome to the MARC Installation script

Enter the pathname to the directory to install the software (<current directory>)

enter the path

/opt/marc

MARC installation script for UNIX systems
MARC Analysis Research Corporation
Main menu

1) Install the MARC program
2) Install the Mentat program
3) Install Security
4) Update Product Scripts
5) Un-Install a Product
6) Help information
0) Exit from this program

select option 2

*Selection : **2***

Step 3: Select the platform option

MARC Analysis Research Corporation
Mentat 3.1 Menu

2.1) Install for DEC OSF 3.2
2.2) Install for DEC OSF 3.2
2.3) Install for HP-UX 9.05
2.4) Install for HP-UX 10.01
2.5) Install for IBM AIX 3.2.5
2.6) Install for IBM AIX 4.1.5
2.7) Install for SGI IRIX 5.3
2.8) Install for SGI IRIX 6.3
2.9) Install for Sun Solaris 2.4
2.10) Install for Sun Solaris 2.5
2.11) Help information
0) Exit from this program

select option 2.7

*Selection [2.7] : **2.7***

Installing from /cdrom/mentat310_sgi_r5_63.tar.Z
mentat file adjusted.
hexmesh file adjusted.

	enter the path to the marck71 directory.	*Enter the pathname to the directory containing MARC:* */opt/marc/marck71*
	You can use the default selection by just pressing the enter key.	*bin/submit1 file adjusted.* *bin/submit2 file adjusted.* *bin/submit3 file adjusted.* *bin/kill1 file adjusted.* *bin/kill2 file adjusted.* *bin/kill3 file adjusted.*
	make your choice	*Create a link to the startup file mentat ?* **y**
Step 3: generate a system identifier	select option 3	***Security submenu*** *3.1) Generate system identifier file* *3.2) Show the system identifier* *3.3) Print the system identifier* *3.4) Send the system identifier* *3.5) Reset the license manager (lmreread)* *3.6) Start the license manager daemon* *3.7) Stop the license manager daemon* *3.8) Help* *0) Return to previous submenu*
	select option 3.1	*Selection :* **3.1**
	Enter your data	*Please enter the following information:* *Your company name () :* ***PieMontVue Inc.*** *Your department () :* *Your company address () :* ***101 Grant St.*** *City and postal code () :* ***Woodsland, Ca 97001*** *Country () :* ***USA*** *Your name () :* ***Pat Smith*** *Your email address () :* ***psmith@pie.com*** *Your telephone number () :* ***498 8779221*** *Your telefax number () :* ***498 8770101***
	If you are installing both MARC and Mentat, enter both of your license codes.	*Computer type (SGI) :* *Computer model (IP27) :* ***O2*** *Mentat license code () :* ***MENT310.U0123*** *MARC license code () :* ***MARCK71.U0123***
		Any changes (y/n) [n] ? **n** **** *Data written in file "/opt/marc/install/sid001.dat".* *Send this file to MARC*
Step 4: send the system identifier to the nearest MARC office	**select option 3.3 to print, or 3.4 for E-mail**	*Selection :* ***3.4***
Step 5: enter passwords	*vi license.dat* *chmod 644 license.dat*	When you receive your passwords from MARC, edit or create the *"parent"/security/license.dat* file and add the license data sent to you. It will consist of at least 3 lines: a SERVER line, a DAEMON line, and a FEATURE line. See Globetrotter's *FLEXlm End User Manual* for more information.
	select option 0 repeatedly to exit the installation script	*Selection :* **0** *Selection :* **0**

Appendix B: Troubleshooting

Cannot access CD-ROM

- The device name listed in Table 1 may be incorrect for your system. Please consult your system manager.
- The CD-ROM device may not be mounted. Please consult your system manager.

Cannot create

- You have no write permission in the parent directory. Change with *chmod.*

Security failed

- The FLEXlm license manager is missing or can not be executed. You should first check the Flexlm logfile *security/license.log*. Check that the files *lmgrd.marc* and *marcd* are located in the *security* subdirectory. Try testing the FLEXlm license server with the command *security/lmstat*. If this fails, consult the *FLEXlm End User Manual.*
- You are attempting to run on a machine that according to the Mentat password(s) you are not allowed to use.
- Your license period has expired. Check the date on your machine.
- If you have just modified the *license.dat* file, the *lmgrd.marc* daemon may not have been restarted. Run the *lmreread* utility as follows:

  lmreread -c "parent"/security/license.dat
- If you get the FLEXlm error:

  Invalid (inconsistent) license key (-8,130:2) No such file or directory

  it may be implying that the hostname and the hostid values specified on the SERVER line may be inconsistent. Check the values and restart the license manager.
- If you get the FLEXlm error:

  Cannot connect to license server (-15,12:146)

  and you are using a floating license, the license manager (*lmgrd.marc*) may not be running on the license server, or the USE_SERVER line in your client side *license.dat* file is incorrect. Also make sure that the TCP/IP port numbers used on the SERVER line are the same on both the client and the server.

Cannot open the display

- Make sure Mentat has X server access to your display device. The command: "`xhost +`" will allow Mentat to run on a remote screen. This command must be issued while logged onto the computer that owns the remote screen.
- If you are using a terminal other than the default screen belonging to the machine, you may have to set the X-window output device:

  C-shell: setenv DISPLAY your_terminal_name:0.0

  Bourne shell: DISPLAY = your_terminal_name:0.0
  export DISPLAY

Mentat runs OK, then aborts

- This may happen when the model you are working on becomes very large. Mentat requires a considerable amount of memory to store the model. We advise that a minimum of 32 Mb core memory is available in your machine.
- Spare memory by switching off the double buffering mode.

Appendix C: Mentat Files and Subdirectories

The Mentat version you have received contains a full set of subdirectories listed below. You can save disk space by removing the subsets that you do not need.

Table 5 Contents of the Mentat directory unloaded from CD-ROM

Basic set:	**Contents: required as minimum**
bin	shell scripts and programs for Mentat
help	Mentat online help files
materials	Mentat material files
menus	Mentat menu files
Extended set:	**Contents: example Mentat procedure files**
examples	Sample Mentat procedure files.

Table 6 Contents of the Security directory unloaded from CD-ROM

Program	**Description**
lmchsum	Performs a checksum of the license file
lmdiag	Diagnose a problem with checking out a license
lmdown	Shutdowns the license daemons
lmgrd	The main license manager daemon for Flexlm
lmhostid	Prints the hostid of a system
lmremove	Allows you to remove a single user's license
lmreread	Causes the license manager to reread the license file
lmstat	Helps you monitor the status of all network licensing activities
lmswitchr	Switches the FLEXadmin log file for the specified feature
lmutil	The executable to which the Flexlm utilities are linked
lmver	Lists the Flexlm version of a library or executable
marcd	The vendor daemon used to pass MARC specific licensing information to lmgrd
rc.lmgrd	The script that starts lmgrd
See the *FLEXlm End User Manual* for more information	