SCULPTOR

INSTALLATION INSTRUCTIONS

INTRODUCTION
REFERENCE MANUAL
SAMPLE PROGRAMS
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SCULPTOR
INSTALLATION INSTRUCTIONS

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CHAPTER 1. INTRODUCTION

Specific instructions for the installation of SCULPTOR are provided for each operating system on which SCULPTOR is available. Please refer to the Table of Contents and read the relevant instructions fully before proceeding. If you are not familiar with any of the operating system utilities needed, please also read the relevant system documentation.

After installation, you should make two security copies of the supplied programs and files. The master disk or tape may be copy protected and should not itself be duplicated — such a copy may not work. Remember that SCULPTOR is copyright material and that you may only make copies of the programs for backup purposes in support of their use on a single machine. Each such copy must be labelled with the copyright notice shown on the master media.

Under no circumstances should you attempt to write to the supplied master media, as this may damage it.

As supplied, the programs are configured for English language messages and for UK format dates (dd/mm/yy). The language configuration program **lcf** can be used to translate these messages and to alter the date format. It is documented in section 5.3 of the SCULPTOR Reference Manual.

CHAPTER 2. VDU PARAMETER FILES

The programs **menu** and **sage** require access to a vdu parameter file to describe the attributes of the terminal being used. The installation of these parameter files varies according to the operating system and is detailed in the appropriate installation instructions (Chapters 5 to 11).

Several vdu parameter files are supplied, and the list on page 3 was complete at the time of publication. However, new parameter files are added when the opportunity arises. If you need to create your own vdu parameter file, refer to section 5.8 of the SCULPTOR Reference Manual. The same model terminal is sometimes manufactured with different options, so a parameter file that is supplied for that terminal may need adjusting to suit your own particular model. You may also wish to make adjustments that suit your personal preference.

Because SCULPTOR programs can transmit data to the terminal very quickly, it is important to ensure that handshaking is enabled (either DTR or X-ON/X-OFF depending on the operating system). If your terminal does not support handshaking, the baud rate must be low enough to prevent buffer overflow.

NOTE: Items in the list on pages 4 and 5 that are marked with an asterisk (*) are examples of alternative parameter files for terminals that have embedded display attributes. They define a data highlight attribute, but will override any box delimiters that are declared in a **!box** declaration.

VDU PARAMETER FILE NAME	DESCRIPTION
FT	Fortune 32:16
XXX	Torch XXX
adm11	Lear Seagler ADM11
adm31	Lear Seagler ADM31
alt2	Altos 2 (type a)
alt2b	Altos 2 (type b)
alt2c	Altos 2 (type c)
ansi	ANSI standard
apricot	ACT Apricot
bbc	Cumana BBC Upgrade
cifer34	Cifer 34
ct82	SWTP 8209 and 8212 (20/24 lines)
esprit2	Hazeltine Esprit 2
esprit3	Hazeltine Esprit 3
facit4420	Facit 4420 (enhanced ADM3A emulation)
fdm110	Freedom 110
h1500	Hazeltine 1510 / Volker-Craig VC414H
h80	Hazeltine 80
hytec	Hytec
ibmpc	IBM PC XT/AT
icl6402	ICL 6402
intertube	Intertec Data Systems
ittxtra	ITT Extra
link125	Link 125 (80/132 columns)
ncr7901	NCR 7901
nl8000	Newbury 8000
oldct82	SWTP CT82 (16/20 lines)
pericom	Pericom 6800 (80/132 lines)
pt	Convergent Technologies
qvt102	Qume QVT102
*qvt102h	Qume QVT102
sirius	ACT Sirius
sk8620	Seiko 8620
swtpx12	SWTP X12 (80/132 columns)
t7000	Wicat
tdv2220	Tandberg Data
tvi910	Televideo 910
tvi925	Televideo 925

(cont.)

VDU PARAMETER FILE NAME	DESCRIPTION
vt100	Standard VT100
wy100	Wyse WY100 (80/132 columns)
wy350	Wyse WY350 (80/132 columns)
*wy350h	Wyse WY350 (80/132 columns)
wy50	Wyse WY50 (80/132 columns)
*wy50h	Wyse WY50 (80/132 columns)
wy75	Wyse WY75 (80/132 columns)

CHAPTER 3. PRINTER PARAMETER FILES

The program **sagerep** requires access to a printer parameter file to describe the attributes of the printer being used. The installation of these parameter files varies according to the operating system and is detailed in the appropriate installation instructions (refer to Chapters 5 to 11).

The following printer parameter files have been supplied as examples, but in order to make the best use of your printer, you should create your own parameter files. The procedure for doing this is described in section 5.9 of the SCULPTOR Reference Manual.

PRINTER PARAMETER FILE NAME	DESCRIPTION
bd136	Walters BD136
dre8820	Newbury Data 8820
dre_132	Newbury Data 8830, 8840, 8910 (132 column paper)
dre_80	Newbury Data 8830, 8840, 8910 (80 column paper)
epson	Epson RX80
ndr_132	Newbury Data 8850 (132 column paper)
ndr_80	Newbury Data 8850 (80 column paper)
nullp	Null (for creating import/export files)
p132	Any printer (132 column paper)
p80	Any printer (80 column paper)
pvdu	For reports to the screen
ricoh	Ricoh 1600
wenger	Wenger 4/1

If the output from **sagerep** is allowed to print on the screen, the parameter file **pvdu** (or your own equivalent) must be specified on the **sagerep** command line. This suppresses the output of unwanted control codes.

(cont.)

Note that a printer parameter file defines the control code sequences used to select a printer's features. It does not direct the output to any particular device. This must be done by using the operating system's I/O redirection facility. For further information about this, see section 4.7 of the SCULPTOR Reference Manual.

CHAPTER 4. INSTALLING SCULPTOR ON FLOPPY DISK SYSTEMS

If you intend to use SCULPTOR on a system which does not have a hard disk, it is useful to know which programs are most frequently used, so that you can make up a suitable set of disks. The following guide may be useful, although your own pattern of use may suggest some changes.

PROGRAMS FREQUENTLY REQUIRED

Development Systems		Run-time Systems
cf	**rg**	**menu**
cr	**sage**	**newkf**
describe	**sg**	**sage**
menu	**sagerep**	**sagerep**
newkf		

PROGRAMS OCCASIONALLY REQUIRED

Development Systems	Run-time Systems
kfcheck	**kfcheck**
kfdet	
reformat	
sageform	

(cont.)

MS DOS / PC DOS

A simple way to work is to keep your programs on drive A and to make this the default drive. In this case, the relevent vdu parameter file and the required printer parameter files must also be kept on drive A, either in the root directory or in the directory \ETC\SAGE. Any reference to data files on other drives must specify the drive letter in the filename.

Alternatively, keep your programs on drive A and make drive B the default drive. Data files on drive B can then be referenced without specifying the drive letter. In this case, the environment variable PATH must be set to A:\ and the relevant vdu parameter file and the required printer parameter files must reside on drive B.

In either case, the program disk must contain a copy of the command processor (COMMAND.COM) and the environment variable COMSPEC must be correctly set (typically to A:\COMMAND.COM). A standard system disk will contain a copy of COMMAND.COM and will have COMSPEC correctly set. Other standard programs may be deleted if you don't require them. The SET command is used to examine and change the values in environment variables. For example:

```
A> SET                  (to examine)
A> SET PATH=A:\         (to change PATH)
```

Permanent changes must be placed in the AUTOEXEC.BAT file.

CHAPTER 5. MS DOS / PC DOS INSTALLATION

These instructions assume that your hard disk is drive C and that your floppy disk is drive A. If this is not the case, please modify the instructions to suit your system. It is assumed that you have a working knowledge of the DOS operating system. If you come across any unfamiliar terms or procedures in these instructions, you should refer to your operating system documentation for further details.

You can install SCULPTOR so that it will run from within any directory on your system (Section 5.1), or you can install it to run in the directory \SCULPTOR only (Section 5.2). If you are using a hard disk, we recommend that you choose the first method, unless you are installing a demonstration copy, which will be easier to remove if installed in one directory only.

5.1 Installing SCULPTOR to run in any directory

FULL DEVELOPMENT SYSTEM: Follow all steps below.

RUN-TIME SYSTEM ONLY: Follow all steps below except step 2.

1) First, make the following directories in which the standard SCULPTOR files are kept:

```
C> CD \
C> MKDIR SCULPTOR
C> MKDIR SCULPTOR\DEMO
C> MKDIR ETC
C> MKDIR ETC\SAGE
```

2) Insert the Development System disk labelled "Disk 1 of 2" in drive A and type the following commands:

```
C> COPY A:\*.EXE C:\
C> COPY A:\SCULPTOR\*.* C:\SCULPTOR
C> COPY A:\DEMO\*.* C:\SCULPTOR\DEMO
```

(cont.)

3) Now insert either the Development System disk labelled ''Disk 2 of 2'', or the Run-Time System disk labelled ''Disk 1 of 1'' in drive A and type the following commands:

```
C> COPY A:\*.EXE C:\
C> COPY A:\SCULPTOR\*.* C:\SCULPTOR
C> COPY A:\VDUS\*.* C:\ETC\SAGE
C> COPY A:\PRINTERS\*.* C:\ETC\SAGE
```

4) You should now examine the file CONFIG.SYS which you will find in the root directory on your hard disk. First type the file to see its existing content:

```
C> CD \
C> TYPE CONFIG.SYS
```

If any of the following lines are not in CONFIG.SYS, use a text editor to add them to the file. If the lines are already present, edit the file and change their values only if they are less than those shown below. If the values are greater, leave them as they are:

```
FILES = 40
BUFFERS = 10
```

You may wish to refer to your DOS manual for further information about the CONFIG.SYS file. It allows you to tune DOS to suit your particular needs. For example, if you are developing new programs, you may find it useful to add the line BREAK = ON to CONFIG.SYS.

5) Now change to the directory \ETC\SAGE and use DIR to examine its content:

```
C> CD \ETC\SAGE
C> DIR
```

You will see several files with the extension VDU and several with the extension PTR. These are vdu and printer parameter files and are explained in detail in sections 5.8 and 5.9 of the SCULPTOR Reference Manual. First look at the VDU files. If you have a computer which is not IBM PC compatible or for which no special file has been supplied, it will be necessary to read section 5.8 of the manual and to create your own vdu parameter file. Otherwise, select the appropriate file by copying it to the file VDU (but see the special note about networks on page 18).

For example, if you are using an IBM PC or a compatible machine:

```
C> COPY IBMPC.VDU VDU
```

Now look at the PTR files. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, use the files PVDU (for reports to the screen), P80 (for reports on 80-column paper) and P132 (for reports on 132-column paper). It is convenient to remove their extensions:

```
C> RENAME PVDU.PTR PVDU
C> RENAME P80.PTR P80
C> RENAME P132.PTR P132
```

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file \ETC\SAGE\PRINTER. It is therefore convenient to copy the printer parameter file that you most frequently use to the file \ETC\SAGE\PRINTER. For example, if you print a lot of reports on the screen:

```
C> COPY PVDU PRINTER
```

Now that you have installed SCULPTOR, an easy way to get started is to copy the SCULPTOR development menu and its supporting files into a working directory. There is a batch file to do this. If your working directory is NAME, the procedure is:

```
C> CD \SCULPTOR
C> NEWSYS \NAME
C> CD \NAME
C> MENU
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory \SCULPTOR\DEMO. If you wish to run them, they must first be compiled and their data files created.

5.2 Installing SCULPTOR to run only in the \SCULPTOR directory

FULL DEVELOPMENT SYSTEM: Follow all steps below.

RUN-TIME SYSTEM ONLY: Follow all steps below except step 2.

1) First make the directory \SCULPTOR which will be used for all SCULPTOR work:

```
C> CD \
C> MKDIR SCULPTOR
```

2) Insert the Development System disk labelled ''Disk 1 of 2'' in drive A and type the following commands:

```
C> CD \SCULPTOR
C> COPY A:\*.EXE
C> COPY A:\SCULPTOR\*.*
C> COPY A:\DEMO\*.*
```

3) Now insert either the Development System disk labelled ''Disk 2 of 2'', or the Run-Time System disk labelled ''Disk 1 of 1'' in drive A and type the following commands:

```
C> COPY A:\*.EXE
C> COPY A:\SCULPTOR\*.*
C> COPY A:\VDUS\*.*
C> COPY A:\PRINTERS\*.*
```

4) You should now examine the file CONFIG.SYS which you will find in the root directory on your hard disk. First type the file to see its existing content:

```
C> CD \
C> TYPE CONFIG.SYS
```

If any of the following lines are not in CONFIG.SYS, use a text editor to add them to the file. If the lines are already present, edit the file and change their values only if they are less than those shown below. If the values are greater, leave them as they are:

```
FILES = 40
BUFFERS = 10
```

You may wish to refer to your DOS manual for further information about the CONFIG.SYS file. It allows you to tune DOS to suit your particular needs. For example, if you are developing new programs, you may find it useful to add the line BREAK = ON to CONFIG.SYS.

5) Now change back to the directory \SCULPTOR and use DIR to examine its content:

```
C> CD \SCULPTOR
C> DIR
```

You will see several files with the extension VDU and several with the extension PTR. These are vdu and printer parameter files and are explained in detail in sections 5.8 and 5.9 of the SCULPTOR Reference Manual. First look at the VDU files. If you have a computer which is not IBM PC compatible, or for which no special file has been supplied, it will be necessary to read section 5.8 of the manual and to create your own vdu parameter file. Otherwise, select the appropriate file by copying it to the file VDU (no extension). For example, if you are using an IBM PC or a compatible machine:

```
C> COPY IBMPC.VDU VDU
```

Now look at the PTR files. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, use the files PVDU (for reports to the screen), P80 (for reports on 80-column paper) and P132 (for reports on 132-column paper). It is convenient to remove their extensions:

```
C> RENAME PVDU.PTR PVDU
C> RENAME P80.PTR P80
C> RENAME P132.PTR P132
```

(cont.)

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file PRINTER. It is therefore convenient to copy the printer parameter file that you most frequently use to the file PRINTER. For example, if you print a lot of reports on the screen:

```
C> COPY PVDU PRINTER
```

The SCULPTOR programs are now installed on your hard disk and ready to use. An easy way to get started is to use the SCULPTOR development menu:

```
C> MENU
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory \SCULPTOR\DEMO. If you wish to run them, they must first be compiled and their data files created.

5.3 DOS File Systems – Important Note

The DOS file system can be damaged if the computer is switched off or reset while a program is still running, even if the program is inactive. This happens when the program has files open which it has updated, but not yet closed. (DOS does not properly record the files on disk until they are closed.) Therefore, always ensure that you return to the DOS prompt before resetting the computer or switching it off.

If the computer is accidentally switched off at the wrong time, it is very important to use the following procedure when you switch it back on:

1) Run the DOS command CHKDSK which checks the integrity of the DOS file system and has an option to repair it. Refer to the DOS manual for full details of this command.

2) Run the SCULPTOR program KFCHECK to check the integrity of your SCULPTOR files. If damage is found, the SCULPTOR program KFRI can be used to repair it. These programs are documented in section 5.1 of the SCULPTOR Reference Manual.

It is good practice to back up all work at the end of each day. It is also wise to run the CHKDSK and KFCHECK programs at the beginning of each day. In this way, you will detect any damage that does occur before it is too late to remedy the situation.

5.4 DOS Networks

On most DOS networks, SCULPTOR supports the connection of different terminal types to the network, and it is necessary to create a separate vdu parameter file for each station. This is done by copying the required parameter file to the file \ETC\SAGE\VDUn where n is the station number. For example:

```
C> CD \ETC\SAGE
C> COPY IBMPC.VDU VDU0
C> COPY ANSI.VDU VDU1
```

The number of each station can be determined by attempting to run the program **menu** on the station. Unless a vdu parameter file already exists for that station, the error message displayed will indicate the correct name to use. On some networks, the station numbers used by SCULPTOR do not correspond to physical connections and will be surprisingly high. This is not a cause for concern.

CHAPTER 6. OS9 LEVEL II (6809) INSTALLATION

These instructions are written on the assumption that your hard disk is H0, your floppy disk is D0, and that your current execution directory when running SCULPTOR will be /H0/CMDS. If this is not the case, please modify the instructions accordingly. Please also check that you have RBF Revision 1, Edition 16 or later. Earlier versions will cause some programs to hang. It is assumed that you have a working knowledge of the OS9 operating system. If you come across any unfamiliar terms or procedures in these instructions, you should refer to your operating system documentation for further details. If you are upgrading an existing installation of SCULPTOR, remember to first unlink any SCULPTOR programs that have been loaded into the module directory.

If you cannot read the supplied disk(s) on device D0, try using the device MD0. Some systems use this device name for reading disks in Microware standard format.

Except for the directories named VDUS and PRINTERS, the directory structure on the supplied disk(s) indicates the directories into which the files should be copied. You may have to use **makdir** to make some new directories on your hard disk. The **dsave** command can be used to copy entire directory contents from the supplied disk onto your hard disk. For example:

```
OS9: chd /D0/CMDS
OS9: dsave -m /D0 /H0/CMDS !(chd /H0/CMDS -p x)
```

SCULPTOR requires a vdu parameter file for each terminal type in use on your system. It looks for these parameter files in the current execution directory. Examine the VDUS directory on the supplied disk and copy the appropriate vdu parameter files into your CMDS directory. If you use a terminal for which no vdu parameter file has been supplied, use the program **setvdu** to create a new one. This is documented in section 5.8 of the SCULPTOR Reference Manual. If you have only one type of terminal on your system, copy the appropriate parameter file to the file /H0/CMDS/vdu. If you use different terminals on your system, copy a parameter file to the file /H0/CMDS/vduX for each terminal, where X is the tty device name.

(cont.)

For example, if you have a Qume QVT102 on port 0 and a Wyse 50 on ports 1 and 2:

```
OS9: chd /H0/CMDS
OS9: copy qvt102 vduTERM
OS9: copy wy50 vduT1
OS9: copy wy50 vduT2
```

Some implementations of OS9 use a different device naming convention to the one shown in the above example.

SCULPTOR uses printer parameter files which it also looks for in the current execution directory. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, copy the files **pvdu** (for reports to the screen), **p80** (for reports on 80-column paper) and **p132** (for reports on 132-column paper) from the PRINTERS directory on the supplied disk into /H0/CMDS.

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file /H0/CMDS/PRINTER. It is therefore convenient to copy the printer parameter file that you most frequently use to the file /H0/CMDS/PRINTER. For example, if you print a lot of reports on the screen:

```
OS9: copy /H0/CMDS/PVDU /H0/CMDS/PRINTER
```

Ensure that all vdu and printer parameter files that you use have execute permission. Providing that you have adequate RAM memory in your system, you will find it advantageous to load the most commonly used SCULPTOR programs into the module directory. These are:

cf, cr	(on Development systems only)
menu, sage, sagerep	(on Development and Run-Time systems)

Now that you have installed SCULPTOR, an easy way to get started is to copy the SCULPTOR development menu and its supporting files into a working directory. There is a program to do this. If your working directory is /H0/USR/name, the procedure is:

```
OS9: chd /H0/USR/SCULPTOR
OS9: sagerep newsys pvdu /H0/USR/name
OS9: chd /H0/USR/name
OS9: menu
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory /H0/USR/SCULPTOR/DEMO. If you wish to run them, they must first be compiled and their data files created.

CHAPTER 7. OS9 LEVEL I (68000) INSTALLATION

These instructions are written on the assumption that your hard disk is H0, your floppy disk is D0, and that your current execution directory when running SCULPTOR will be /H0/CMDS. If this is not the case, please modify the instructions accordingly. It is also assumed that you have a working knowledge of the OS9 operating system. If you come across any unfamiliar terms or procedures in these instructions, you should refer to your operating system documentation for further details. If you are upgrading an existing installation of SCULPTOR, remember to first unlink any SCULPTOR programs that have been loaded into the module directory.

If you cannot read the supplied disk(s) on device D0, try using the device MD0. Some systems use this device name for reading disks in Microware standard format.

Except for the directories named VDUS and PRINTERS, the directory structure on the supplied disk(s) indicates the directories into which the files should be copied. You may have to use **makdir** to make some new directories on your hard disk. The **copy** command can be used to copy entire directory contents from the supplied disk onto your hard disk. For example:

```
$ copy -r /D0/CMDS/* -w=/H0/CMDS
```

SCULPTOR requires a vdu parameter file for each terminal type in use on your system. It looks for these parameter files in the current execution directory. Examine the VDUS directory on the supplied disk and copy the appropriate vdu parameter files into your CMDS directory. If you use a terminal for which no vdu parameter file has been supplied, use the program **setvdu** to create a new one. This is documented in section 5.8 of the SCULPTOR Reference Manual.

SCULPTOR uses the shell environment variable TERM to determine which vdu parameter file to use. You must ensure that TERM is set to the correct name on each terminal and that a vdu parameter file with that name resides in /H0/CMDS. You can rename the supplied parameter files if necessary. The value of TERM can be set with the shell command **setenv**:

```
$ setenv TERM <name>
```

(cont.)

SCULPTOR uses printer parameter files which it also looks for in the current execution directory. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, copy the files **pvdu** (for reports to the screen), **p80** (for reports on 80-column paper) and **p132** (for reports on 132-column paper) from the PRINTERS directory on the supplied disk into /H0/CMDS.

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file /H0/CMDS/PRINTER. It is therefore convenient to copy the printer parameter file that you most frequently use to the file /H0/CMDS/PRINTER. For example, if you print a lot of reports on the screen:

```
$ copy /HO/CMDS/PVDU /HO/CMDS/PRINTER
```

Ensure that all vdu and printer parameter files that you use have execute permission. Providing that you have adequate RAM memory in your system, you will find it advantageous to load the most commonly used SCULPTOR programs into the module directory. These are:

cf, cr	(on Development systems only)
menu, sage, sagerep	(on Development and Run-Time systems)

Now that you have installed SCULPTOR, an easy way to get started is to copy the SCULPTOR development menu and its supporting files into a working directory. There is a program to do this. If your working directory is /H0/USR/name, the procedure is:

```
$ chd /H0/USR/SCULPTOR
$ sagerep newsys pvdu /H0/USR/name
$ chd /H0/USR/name
$ menu
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory /H0/USR/SCULPTOR/DEMO. If you wish to run them, they must first be compiled and their data files created.

CHAPTER 8. UNIFLEX (6809) INSTALLATION

SCULPTOR is supplied on a mountable file system. Except for the directories named **vdus** and **printers**, the directory structure on the disk indicates the directories into which the files should be copied. You may have to use **crdir** to make some new directories on your hard disk. It is assumed that you have a working knowledge of the Uniflex operating system. If you come across any unfamiliar terms or procedures in these instructions, you should refer to your operating system documentation for further details.

SCULPTOR requires a vdu parameter file for each terminal type in use on your system. Examine the directory vdus on the supplied disk and copy the appropriate vdu parameter files into your /gen directory. If you use a terminal for which no vdu parameter file has been supplied, use the program **setvdu** to create a new one. This is documented in section 5.8 of the SCULPTOR Reference Manual. If you have only one type of terminal on your system, link the appropriate parameter file to the file /gen/vdu. If you use different terminals on your system, link a parameter file to the file /gen/vduN for each terminal, where N is the tty number. For example, if you have a Qume QVT102 on port 0 and a Wyse 50 on ports 1 and 2:

```
++ link /gen/qvt102 /gen/vdu0
++ link /gen/wy50 /gen/vdu1
++ link /gen/wy50 /gen/vdu2
```

SCULPTOR uses printer parameter files which are also kept in the /gen directory. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, copy the files **pvdu** (for reports to the screen), **p80** (for reports on 80-column paper) and **p132** (for reports on 132-column paper) from the printers directory on the supplied disk into your /gen directory.

(cont.)

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file /gen/printer. It is therefore convenient to link the printer parameter file that you most frequently use to the file /gen/printer. For example, if you print a lot of reports on the screen:

```
+ + link /gen/pvdu /gen/printer
```

Now that you have installed SCULPTOR, an easy way to get started is to copy the SCULPTOR development menu and its supporting files into a working directory. There is a shell script to do this. If your working directory is /usr/name, the procedure is:

```
+ + chd /usr/sculptor
+ + newsys /usr/name
+ + chd /usr/name
+ + menu
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory /usr/sculptor/demo. If you wish to run them, they must first be compiled and their data files created.

CHAPTER 9. UNIFLEX (68000) INSTALLATION

SCULPTOR is supplied on a mountable file system. The directory structure on the disk indicates the directories into which the files should be copied. You may have to use **crdir** to make some new directories on your hard disk. It is assumed that you have a working knowledge of the Uniflex operating system. If you come across any unfamiliar terms or procedures in these instructions, you should refer to your operating system documentation for further details.

SCULPTOR requires a vdu parameter file for each terminal type in use on your system. These are kept in the directory /etc/sage. A standard set of parameter files has been supplied, but if you use a terminal for which a vdu parameter file has not been supplied, use the program **setvdu** to create a new one. This is documented in section 5.8 of the SCULPTOR Reference Manual.

SCULPTOR uses the shell environment variable TERM to determine which vdu parameter file to use. You must ensure that TERM is set to the correct name on each terminal and that a vdu parameter file with that name resides in /etc/sage. You can rename the supplied parameter files if necessary. If you need to permanently change the value of TERM, refer to your operating system documentation. A temporary procedure is:

```
+ + env TERM = <name>
```

If TERM has no value, SCULPTOR looks for the file /etc/sage/vdu. This should be linked to the parameter file for the terminal on port 0.

SCULPTOR uses printer parameter files which are also kept in the directory /etc/sage. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, use the files **pvdu** (for reports to the screen), **p80** (for reports on 80-column paper) and **p132** (for reports on 132-column paper).

(cont.)

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file /etc/sage/printer. It is therefore convenient to link the printer parameter file that you most frequently use to the file /etc/sage/printer. For example, if you print a lot of reports on the screen:

```
+ + link /etc/sage/pvdu /etc/sage/printer
```

Now that you have installed SCULPTOR, an easy way to get started is to copy the SCULPTOR development menu and its supporting files into a working directory. There is a shell script to do this. If your working directory is **/usr/name**, the procedure is:

```
+ + chd /usr/sculptor
+ + newsys /usr/name
+ + chd /usr/name
+ + menu
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory **/usr/sculptor/demo**. If you wish to run them, they must first be compiled and their data files created.

For some versions of 68000 Uniflex, two versions of the SCULPTOR programs sage, sagerep and reformat are supplied. The files with no suffix have software floating point routines and will run on any system. The files which have a **.hf** suffix have hardware floating point calls and will only run on a system which has the 68881 floating point co-processor chip installed. If you have a suitable system, using the **.hf** files will provide a substantial performance improvement in calculations which involve floating point numbers. To use these alternative programs, copy them onto your system and then rename them to remove the suffix. The software floating point routines emulate the 68881 co-processor, which means that data files can be freely moved between the two types of system.

CHAPTER 10. UNIX / XENIX INSTALLATION

SCULPTOR is supplied in either **tar** format, **cpio** format or as a mountable file system. The appropriate installation command can be found on the label. This will show the device name used when the disk or tape was created, but since your own system may be set up differently, check your /dev directory in order to ascertain the correct device name. It is assumed that you have a working knowledge of the Unix operating system. If you come across any unfamiliar terms or procedures in these instructions, you should refer to your operating system documentation for further details.

In **tar** and **cpio** format, SCULPTOR is supplied as a relative file system, i.e. the leading / is omitted from the pathnames. This means that you must be in the root directory when you load the files, unless you specifically wish to load them into a local directory structure first. You must also login as the system manager. If more than one disk has been supplied, install each one separately.

Typical installation command for **tar** format:

```
£ cd /
£ tar xvf /dev/device_name
```

Typical installation procedure for **cpio** format:

```
£ cd /
£ cpio -iduv </dev/device_name
```

In the case of a mountable file system, the disk should be mounted and examined. The directory structure on the disk will indicate the directories into which the files should be copied. You may have to use **mkdir** to make some new directories on your hard disk.

SCULPTOR requires a vdu parameter file for each terminal type in use on your system. These are kept in the directory /etc/sage. A standard set of vdu parameter files has been supplied, but if you use a terminal for which a parameter file has not been supplied, use the program **setvdu** to create a new one. This is documented in section 5.8 of the SCULPTOR Reference Manual.

(cont.)

SCULPTOR uses the shell environment variable TERM to determine which vdu parameter file to use. You must ensure that TERM is set to the correct name on each terminal and that a vdu parameter file of the same name resides in /etc/sage. You can rename the supplied parameter files if necessary. If you need to permanently change the value of TERM, refer to your operating system documentation. Temporary procedures are:

Bourne shell:	C shell:
TERM = <name> **export TERM**	**setenv TERM <name>**

SCULPTOR uses printer parameter files which are also kept in the directory /etc/sage. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, use the files **pvdu** (for reports to the screen), **p80** (for reports on 80-column paper) and **p132** (for reports on 132-column paper).

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file /etc/sage/printer. It is therefore convenient to link the printer parameter file that you most frequently use to the file /etc/sage/printer. For example, if you print a lot of reports on the screen:

```
£ link /etc/sage/pvdu /etc/sage/printer
```

SCULPTOR also requires the environment variable SHELL to be correctly set. If you wish to run a SCULPTOR program directly from login, place the call at the end of your **.profile** (or **.login**) file, not in /etc/passwd. If the line **exit** is then appended to **.profile**, the user will be logged off when the SCULPTOR program terminates.

Now that you have installed SCULPTOR, an easy way to get started is to copy the SCULPTOR development menu and its supporting files into a working directory. There is a shell script to do this. If your working directory is /usr/name, the procedure is:

```
£ chd /usr/sculptor
£ newsys /usr/name
£ chd /usr/name
£ menu
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory /usr/sculptor/demo. If you wish to run them, they must first be compiled and their data files created.

CHAPTER 11. VAX VMS INSTALLATION

To install SCULPTOR on your system, first ensure that you have system privilege and that you are in the directory of a user who will run SCULPTOR, then mount each floppy disk in turn and run the installation command file on the disk. The installation commands assume that the name of your main hard disk is DUA0. If this is not the case, please modify the command file accordingly. The procedure for the first disk in the Development System is:

```
mount $floppy1 sculptor
@$floppy1:[install]dev_instal
dismount $floppy1
```

The procedure for the next three disks in the Development System and for all disks in the Run-Time system is the same, except that the installation command is:

```
@$floppy1:[install]run_instal
```

The installation procedure creates the following directories:

[SAGE]	Binary executable files.
[SCULPTOR]	Sculptor programs and command files to set up a development environment.
[SCULPTOR.DEMO]	Sculptor demonstration programs.
[ETC.SAGE]	VDU (terminal) and printer parameter files.

The installation procedure also appends new commands to the file **login.com** in the current directory. These commands set up logical names for the SCULPTOR programs and should be added to the **login.com** file of all other users who will be using SCULPTOR. The commands are in the file **dev_login.com** (Development System) or **run_login.com** (Run-Time System) on the first disk.

SCULPTOR requires a vdu parameter file for each terminal type in use on your system. These are kept in the directory [etc.sage]. A standard set of vdu parameter files has been supplied, but if you use a terminal for which a parameter file has not been supplied, use the program **setvdu** to create a new one. This is documented in section 5.8 of the SCULPTOR Reference Manual.

SCULPTOR uses the TERMINAL DEVICE_TYPE to determine which vdu parameter file to use. You must ensure that this is set to the correct name for each terminal and that a vdu parameter file of the same name resides in [etc.sage]. You can rename the supplied parameter files if necessary. If you need to examine or change the DEVICE_TYPE name, refer to the DCL Commands section of your operating system manual.

SCULPTOR uses printer parameter files which are also kept in the directory [etc.sage]. When you are more familiar with SCULPTOR, you should use the program **setprinter** to create your own printer parameter files. This is documented in section 5.9 of the SCULPTOR Reference Manual. For the time being, use the files **pvdu** (for reports to the screen), **p80** (for reports on 80-column paper) and **p132** (for reports on 132-column paper).

When running a report program, the printer parameter file to be used can be specified on the command line, or can be allowed to default to the file **[etc.sage]printer**. It is therefore convenient to copy the printer parameter file that you most frequently use to the file **[etc.sage]printer**. For example, if you print a lot of reports on the screen:

```
copy sys$sysroot:[etc.sage]pvdu sys$sysroot:[etc.sage]printer
```

The SCULPTOR programs look for their vdu and printer parameter files in the directory whose logical name is SAGEDIR. The installation procedure will have appended the following command to your **login.com** file:

```
assign dua0:[etc.sage] SAGEDIR
```

Please check the commands that have been appended to the file **login.com** and make any adjustments that may be necessary for your particular system. Before starting to use SCULPTOR, it will be necessary to log off and log on again, so that your new login commands are effective.

Now that you have installed SCULPTOR, an easy way to get started is to copy the SCULPTOR development menu and its supporting files into a working directory. There is a command file to do this. If your working directory is [mydir], the procedure is:

```
@[sculptor]newsys  mydir
menu
```

If all has gone well, you will now have the SCULPTOR development menu on your screen. This menu is simply a guide to get you started. It does not provide an interface to all the SCULPTOR programs and it is not essential to use it.

Some sample programs have been supplied in the directory [sculptor.demo]. If you wish to run them, they must first be compiled and their data files created.

IMPORTANT NOTE

The version of SCULPTOR for VAX VMS uses the RMS filing system. For this reason, there are the following differences from other SCULPTOR systems:

1) There is no **prev** (previous) command.

2) The **kfcheck** and **kfri** programs are not supplied. Their functions are provided by the DCL programs ANALYSE and CONVERT.

3) A program that exits normally on VMS has a return code of 1 (SS$_NORMAL). For this reason, the SCULPTOR commands **exit** and **exit 0** also return 1 and not 0 as on other systems.