TOPS-20
SOFTWARE
INSTALLATION GUIDE

Order Number: AA-4195F-TM

October 1978

This manual describes installing the TOPS-20 software on a new DECSYSTEM-20 or DECSYSTEM-2020. It also describes the procedures for updating the TOPS-20 software on an existing DECSYSTEM-20 or DECSYSTEM-2020.

This manual supersedes the following manuals.

1. DECSYSTEM-20 Software Installation Guide.
   Order No: AA-4195E-TM
   Published January 1978

2. DECSYSTEM-2020 Software Installation Guide.
   Order No: AA-C894A-TM
   Published May 1978

OPERATING SYSTEM: TOPS-20 V3A (2007)

SOFTWARE: RSX-20F VB12-32(2040/2050) VB12-34(2060)
KLINIT VB07-04(2040/2050) VB10-45(2060)
MICROCODE 202(2040) 212(2050/2060)

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DECCOMM	DECSYSTEM-20	TMS-11
ASSIST-11	DECSYSTEM-2020	ITPS-10

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Reader of This Manual

This manual is for the person who has the responsibility of:

1. Installing the TOPS-20 software on a new DECSYSTEM-20 or DECSYSTEM-2020

2. Updating the TOPS-20 software on an existing DECSYSTEM-20 or DECSYSTEM-2020

To use this manual effectively, first read Getting Started With DECSYSTEM-20 and then become familiar with the information in the DECSYSTEM-20 Operator's Guide or the DECSYSTEM-2020 Operators Guide, depending on the type of system you are installing. Also become familiar with the information in the DECSYSTEM-20 User's Guide.

You do not have to know assembly language programming or have previous experience installing a TOPS-20 software system, although both are helpful.

Contents Of This Manual

Chapters 1 through 8 contain step-by-step instructions, with error recovery procedures, describing how to install the Release 3A software on a new DECSYSTEM-20 and/or DECSYSTEM-2020. Even though most of the installation procedures within this manual pertain to both systems, there are certain steps and error recovery procedures that pertain only to the DECSYSTEM-2020. These procedures will be shaded in gray, e.g., Chapters 2, 5, and 6.

The error recovery procedures that pertain to the DECSYSTEM-20 will have the word error printed as Error.

The error recovery procedures that pertain to the DECSYSTEM-2020 will have the word error printed as ERROR and will be shaded.

NOTE

If you see:

Error:
ERROR:

together for an error recovery procedure, it means this error recovery procedure is the same for both systems.

Appendix A contains step-by-step instructions and pointers to various chapters within the manual, describing how to update a Release 3 TOPS-20 software system to a Release 3A TOPS-20 software system on the DECSYSTEM-20.

Appendix B contains step-by-step instructions and pointers to various chapters within the manual, describing how to update a Release 3 TOPS-20 software system to a Release 3A TOPS-20 software system on the DECSYSTEM-2020.

Appendix C is a pocket installation guide for the experienced installer. This text contains the text and output from a sample installation of the TOPS-20 software on a DECSYSTEM-20. This appendix does not have error recovery procedures. The steps in this appendix are keyed to the steps within the body of this manual that describe how to install the TOPS-20 software on a DECSYSTEM-20.

Appendix D is a pocket installation guide for installing the TOPS-20 software on a DECSYSTEM-2020. This appendix does not have error recovery procedures. The steps in this appendix are keyed to the steps within the body of this manual that describes how to install the TOPS-20 software on a DECSYSTEM-2020.

Appendix E contains the steps for tailoring your system for the ARPA network.

The DECSYSTEM-20 and the DECSYSTEM-2020 System Manager's Guides contain helpful hints on how to manage the DECSYSTEM-20 and the DECSYSTEM-2020 timesharing systems. A system manager should read that manual which pertains to his system before making timesharing generally available to users.

How To Use This Manual

To install the TOPS-20 software on a DECSYSTEM-20 and DECSYSTEM-2020 follow the directions in Chapters 1, 2, 3, 4, 6, 7, and 8, doing exactly as instructed. Steps that pertain only to a DECSYSTEM-2020 are shaded in gray. If you are experienced in installing the TOPS-20 software, you may follow the example in Appendix C or D depending on the type of system you are installing.

To update the TOPS-20 software on both the DECSYSTEM-20 and DECSYSTEM-2020:

Carefully perform the instructions in either Appendix A or B depending on whether you are installing the TOPS-20 software on a DECSYSTEM-20 or DECSYSTEM-2020. The commands you must type are printed in RED. If you type accurately, all you have to do is perform the indicated function and verify that the terminal output resembles the sample output. Remember that the systems differ in memory size and peripherals, so steps that describe configuring memory, initializing line printers and disk packs, and assigning logical unit numbers to tape drives require you to type the values that are correct for your system and not the sample parameters.

If your terminal output does not resemble the sample output, first read ALL the instructions after the word "Error", then choose the recovery procedure that corrects your problem.

NOTE

> The version and edit numbers in this manual could differ from the numbers printed on your console. The numbers printed on your console must be equal to or greater than the numbers in this manual.

Time estimates are included so that you know ABOUT how long a step takes. Times are estimated to the nearest minute, so don't worry if a step takes somewhat longer or shorter than the estimate.

If a step pertains only to a certain type of system, it will be noted as such. For example if a step pertains only to the DECSYSTEM-20, beside the step heading it will say (For DECSYSTEM-20 Only). If the step pertains only to a DECSYSTEM-2020, it will be shaded in gray.

Checking off each step as you complete it is a good way to keep your place.

Symbols Used In This Manual

(CTRL) Indicates where you type a control backslash, this is done by holding down the CTRL key while typing a backslash. The backslash key is located near the key labeled LINEFEED or LF.

(ESC) Indicates where you press the key labeled ESC, ESCAPE, PREFIX, ALT, or ALTMODE.

(RET) Indicates where you press the RETURN key.

Reference Documentation

The following lists all DECSYSTEM-20 and DECSYSTEM-2020 manuals and order numbers of the latest versions available. In this manual some of the following manuals are referenced by title only. Refer to the list below for the order numbers of referenced manuals.

Manual Title	Order No.
Getting Started With DECSYSTEM-20	AA-4187C-TM
DECSYSTEM-20 System Manager's Guide	AA-4169E-TM
DECSYSTEM-20 User's Guide Update	AA-4179B-TM AD-4179B-T1 AD-4179B-T2
DECSYSTEM-20 Monitor Calls User's Guide	DEC-20-OMUGA-A-D
DECSYSTEM-20 Operator's Guide Update	AA-4176C-TM AD-4176C-T1
DECSYSTEM-20 Batch Operator's Guide Update	DEC-20-OBOGA-A-D DN1, DN2, DN3
DECSYSTEM-20 Monitor Calls Reference Manual Update	AA-4166C-TM AA-4166C-T1
DECSYSTEM-20 Batch Reference Manual Update	DEC-20-OBRMA-A-D DN1, DN2, DN3
DECSYSTEM-20 Link Reference Manual	AA-4183B-TM
DECSYSTEM-20 EDIT User's Guide	DEC-20-UEUBA-A-D
Getting Started With Runoff	DEC-20-URGSA-A-D

Manual Title	Order No.
DECSYSTEM-20 SORT/MERGE User's Guide	AA-4186C-TM
DECSYSTEM-20 Macro Assembler Reference Manual	AA-4159C-TM
DECSYSTEM-20 MAKLIB Program Functional Spec.	DEC-20-UMKLA-A-D
DECSYSTEM-20 USAGE File Specification	AA-4181A-TM
DECSYSTEM-2020 Operator's Guide Update	AA-C765A-TM AD-C765A-T1
DECSYSTEM-2020 System Manager's Guide Update	AA-C895A-TM AD-C895A-T1
User Environment Test Package Reference Manual	AA-D606A-TM
DECNET-20 Programmer's Guide and Operator's Manual	AA-5091A-TM
TOPS-20 Software Installation Guide	AA-4195F-TM
TOPS-10 and TOPS-20 SYSERR Manual*	AA-D533A-TK
Hardware Reference Manual Vol. 1	EK-10/20-HR-001
DECSYSTEM-20 FORTRAN Reference Manual	AA-4158B-TM
DECSYSTEM-20 APLSF Reference Manual	DEC-20-LASFA-A-D
DECSYSTEM-20 BASIC User's Guide	DEC-20-LBMAA-A-D
DECSYSTEM-20 COBOL Utilities Manual	DEC-20-LCUMA-A-D
DECSYSTEM-20 COBOL Programmer's Reference Manual Update	DEC-20-LCRMA-A-D DN1
TOPS-20AN Monitor Calls User's Guide Update	AA-4963A-TM AD-4963A-T1
TOPS-20AN User's Guide	AA-5221A-TM
IBM Emulation-Termination DN64: 2780/3780 Update	AA-5095A-TM AD-5095A-T1
DECSYSTEM-10/20 ALGOL Programmer's Guide	AA-0196C-TK
DECSYSTEM-20/PDP-11 BASIC-PLUS-2 Language Manual	AA-0153A-TK
DECSYSTEM-20 BASIC-PLUS-2 User's Guide	AA-0152A-TM
DECSYSTEM-20 DBMS Administrator's Procedures Manual	AA-4146B-TM
DECSYSTEM-20 DBMS Programmer's Procedures Manual	AA-4149B-TM
Getting Started With Batch	AA-C781B-TM
TRAFFIC User's Manual	DEC-20-ATUMA-A-D
EDIT Reference Manual	AA-5415A-TM

*This manual supersedes the Error Detection, Recovery, and Reporting Reference Manual - Order No. EK-SEDRR-RF-002.

CHAPTER 1

INTRODUCTION

Installing the TOPS-20 software on either the DECSYSTEM-20 or DECSYSTEM-2020 is not a hard task if you follow the procedures outlined in the following chapters. This chapter explains some of the procedures to follow. It also describes the tools you need to install the software. Before starting the installation, read the listing labeled TOPS20.BWR which accompanies your software.

1.1 PREPARING FOR INSTALLATION

A Digital Field Service representative will install your DECSYSTEM-20 or your DECSYSTEM-2020 hardware and inform you when the system runs diagnostics correctly. Before he leaves obtain the following information.

1. The serial number of the machine. This information is needed if you are installing the software on a DECSYSTEM-2020. It will be used in Chapter 5.

   SERIAL NUMBER

   _____

2. The channel and unit number of each disk drive and if it is dual-ported (the DECSYSTEM-2020 does not support dual-ported disk drives). The unit number is on the display panel on the drive. The DECSYSTEM-20 dual-ported disk drives are connected to both the C.P.U. and the front-end processor. It is an error if two dual-ported drives with the same unit number are connected to the front-end processor. The procedures in this manual assume that the unit you are installing the front-end software on is Unit 0.

   DISK DRIVES

TYPE	CHANNEL#	UNIT#	DUAL-PORTED ?
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____
____	_____	____	_____

3. The UBA# to which the disk drives are attached to. This information is needed if you are installing the TOPS-20 software on a DECSYSTEM-2020.

U.B.A #

4. A list of line numbers and line speeds. Use these numbers in Section 3.3.1 when you set the default terminal speeds. Also, find out which lines are remote so that you can define the remote lines as described in Section 3.3.2.

LINES

Line #	Auto Speed	Remote?	Line #	Auto Speed	Remote?

NOTE

The word Auto over the word Speed declares that the line has been specified as an autobaud line in Section 3.3.2. Autobaud detection pertains only to the DECSYSTEM-20.

5. The serial number of each magnetic tape drive. Use these numbers in Section 3.3.4 to define magnetic tape logical unit numbers. The number appearing on the thumbwheel does NOT necessarily correspond to the logical unit number of the drive.

Magnetic Tapes

SERIAL #	TYPE	SERIAL #	TYPE	SERIAL #	TYPE

NOTE

The serial numbers on a TU70 and/or TU71 tape drives are made up of three factors. These factors consist of the RH20 channel number, the DX20 number, and a two digit tape unit number. Assuming that the RH20 channel number is 2, the serial number for tape unit 3 would be as follows:

2003

In the above example, the RH20 channel is the first digit (2), the DX20 number is the second digit (0), and the last two digits are the tape unit number (03). The serial number for a TU72 tape drive can be found on the back of the tape drive.

6. The unit number and type of each line printer. Use this information in Section 3.3.5 to initialize the line printer.

Line Printers

Unit #	Model #	Lowercase ?	Programmable VFU ?
_____	_____	_____	_____
_____	_____	_____	_____

7. The base address of the RH11 disk controller. This information is needed if you are installing the TOPS-20 software on a DECSYSTEM-2020.

RHBASE #

_____

Creating The TOPS-20 File System (Chapter 2)

This chapter describes powering up both the DECSYSTEM-20 and the DECSYSTEM-2020, obtaining the DECSYSTEM-20 front-end monitor from the floppy disk, obtaining the DECSYSTEM-2020 preboot monitor from magnetic tape. This chapter also describes loading the TOPS-20 bundled software from magnetic tape.

Tailoring The System (Chapter 3)

Each installation is unique. Chapter 5 describes how to select the proper monitor, declare the system name, and change the system defaults for terminals, line printers, magnetic tapes, accounting, and time zone.

Creating The Front-End File System (Chapter 4) (DECSYSTEM-20 ONLY)

Create the front-end file system and copy files into it from the floppy disk. Upon completion of this chapter, the installation is complete.

Creating The Microprocessor File System (Chapter 5) (DECSYSTEM-2020 ONLY)

This chapter describes the steps involved in building the microprocessor file system. After completing the steps in this chapter the installation is complete.

Restarting The System (Chapter 6)

This chapter describes the steps involved to boot both systems from disk.

Installing Unbundled Software (Chapter 7)

The steps in this chapter describe how to install any unbundled software you have purchased.

Running The U.E.T.P. Program (Chapter 8)

This chapter describes the steps involved in running the User Environment Test Package. This program performs a cursory check of the software.

Updating the DECSYSTEM-20 To Release 3A (Appendix A)

The steps in this Appendix describe the procedures involved in updating the DECSYSTEM-20 to Release 3A.

Updating the DECSYSTEM-2020 to Release 3A (Appendix B).

The steps in this appendix described the procedures involved in updating the DECSYSTEM-2020 to Release 3A.

Pocket Installation Guide For The DECSYSTEM-20 (Appendix C)

This appendix list step-by-step instructions for installing the TOPS-20 Release 3A software on a DECSYSTEM-20.

Pocket Installation Guide For The DECSYSTEM-2020 (Appendix D)

This appendix list step-by-step instructions for installing the TOPS-20 Release 3A software on a DECSYSTEM-2020.

Tailoring Your System For ARPANET (Appendix E) (DECSYSTEM-20 ONLY)

This appendix contains the steps involved in tailoring your system for the ARPA network.

1.2 AN OVERVIEW OF THE TOPS-20 SOFTWARE

1.3 INSTALLATION TOOLS

You need the following tools to install the TOPS-20 software on a DECSYSTEM-20:

1. The RSX-20F Disk-Boot System, System Floppy A. The files on this floppy are used to boot the central processor from an RP04 or RP06 disk pack. These files are:

```
PARSER.TSK;1     95.    C  27-JUN-78 11:40
T20ACP.TSK;1     8.     C  07-JUN-78 09:26
BOO.TSK;1        19.    C  07-JUN-78 09:26
COP.TSK;1        8.     C  07-JUN-78 09:26
DMO.TSK;1        5.     C  07-JUN-78 09:26
INI.TSK;1        23.    C  07-JUN-78 09:26
PIP.TSK;1        56.    C  07-JUN-78 09:26
RED.TSK;1        6.     C  07-JUN-78 09:26
SAV.TSK;1        13.    C  07-JUN-78 09:26
UFD.TSK;1        9.     C  07-JUN-78 09:26
ZAP.TSK;1        38.    C  07-JUN-78 09:27
RSX20F.SYS;1     56.    C  01-MAY-77 00:02
```

2. The RSX-20F Auxiliary Diskette, System Floppy B. The files on this floppy are used to boot for various functions in installing and maintaining the software on a DECSYSTEM-20. These files are:

```
F11ACP.TSK;1     77.     C  07-JUN-78 09:20
KLDISC.TSK;1      5.     C  07-JUN-78 09:21
KLRING.TSK;1      6.     C  07-JUN-78 09:21
KLXFER.TSK;1      5.     C  07-JUN-78 09:21
MIDNIT.TSK;1      4.     C  07-JUN-78 09:21
SETSPD.TSK;1      4.     C  07-JUN-78 09:21
TKTN.TSK;1        6.     C  07-JUN-78 09:21
KLE.TSK;1        23.     C  07-JUN-78 09:21
KLI.TSK;1        38.     C  07-JUN-78 09:22
MOU.TSK;1         5.     C  07-JUN-78 09:22
KLA.MCB;202      36.        07-JUN-78 09:22
KLX.MCB;212      41.        07-JUN-78 09:23
BOOT.EXB;1       35.        07-JUN-78 09:24
MTBOOT.EXB;1     34.        07-JUN-78 09:24
```

3. The TOPS-20 Installation tape V3A and the TOPS-20 Distribution tape. The Installation tape you use depends on the type of system you are installing. The following is a list of systems and the tapes you should use to install the TOPS-20 software.

   a. If you are installing the TOPS-20 software on a DECSYSTEM-20 model number 2040 or 2050, you should be using the Installation tape labeled TOPS-20 INSTL.MT V3A ORDER NO. AP-4171F-BM and the Distribution tape labeled TOPS-20 DIST.MT V3A, ORDER NO. AP-4172F-BM.

   b. If you are installing the TOPS-20 software on a DECSYSTEM-20 model number 2060, you should be using the Installation tape labeled TOPS-20 2060 INSTL.MT V3A, ORDER NO. BB-H137A-BM and the Distribution tape labeled TOPS-20 2060 DIST.MT V3A, ORDER NO. BB-H138A-BM.

   c. If you are installing the TOPS-20 ARPANET software on a DECSYSTEM-20, you should be using the Installation tape labeled TOPS-20AN INSTL.MT V3A, ORDER NO. AP-5254C-BM and the Distribution tape labeled TOPS-20AN DIST.MT V3A, ORDER NO. AP-5255C-BM.

   d. If you are installing the TOPS-20 software on a DECSYSTEM-2020, you should be using the Installation tape labeled TOPS-20 2020 INSTL.MT, ORDER NO. BB-D867B-BM and the Distribution tape labeled TOPS-20 2020 DIST.MT, ORDER NO. BB-D868B-BM. The TOPS-20 software for the DECSYSTEM-2020 is completely on magnetic tape, there are no floppy disk drives on the DECSYSTEM-2020.

The TOPS-20 Installation tapes V3A for all DECSYSTEM-20's contains the TOPS-20 monitor and related programs. The files on this tape are:

The TOPS-20 monitor (SAVE format)

The TOPS-20 Command Language Processor (SAVE format)

The DLUSER program (SAVE format)

DLUSER data (ASCII file)

The DUMPER program (SAVE format)

Three DUMPER save sets recorded at 1600 B.P.I. in DUMPER format for the following directories:

<SYSTEM>
<SUBSYS>
<UETP.LIB>

The TOPS-20 Distribution tape for all DECSYSTEM-20's contains the TOPS-20 bundled software. There are four DUMPER save sets recorded at 1600 B.P.I. in DUMPER format. The content of the save sets are:

Save set 1 contains documents about the software.

Save set 2 contains files for the directory <SYSTEM> (same as the files on the Installation tape).

Save set 3 contains files for the directory <SUBSYS> (same as the files on the Installation tape)

Save set 4 contains source files needed to build the software in the directories <SYSTEM> and <SUBSYS> except for the monitor and the TOPS-20 Command Processor.

The TOPS-20 Installation tape V3A for the DECSYSTEM-2020 contains the TOPS-20 monitor and related programs. The files on this tape are:

KS10 Microcode

The Bootstrap routines

The TOPS-20 monitor (SAVE format)

The TOPS-20 Command Language Processor (SAVE format)

The DLUSER program (SAVE format)

DLUSER data (ASCII file)

The DUMPER program (SAVE format)

Three DUMPER save sets recorded at 1600 B.P.I. in DUMPER format. These save sets contain the following directories:

<SYSTEM>
<SUBSYS>
<UETP.LIB>

The Microprocessor file system initialization program

The TOPS-20 Distribution tape for the DECSYSTEM-2020 contains the TOPS-20 bundled software. There are four DUMPER save sets recorded at 1600 B.P.I. in DUMPER format. The contents of each save set are:

Save set 1 contains documents about the software

Save set 2 contains files for the directory <SYSTEM> (same as the files on the Installation tape)

Save set 3 contains files for the directory <SUBSYS> (same as the files on the Installation tape)

Save set 4 contains the files needed to build the software in the directories <SYSTEM> and <SUBSYS> except for the monitor and the Command Language Processor.

4. A separate tape for each unbundled product you have purchased. The format of these tapes is described in Chapter 7.

5. If you must format disk packs on a DECSYSTEM-20 or DECSYSTEM-2020, ask your DIGITAL Field Service Representative to format the disk packs.

1.4 THE TOPS-20 MONITOR AND THE TOPS-20AN MONITOR

There are four monitors distributed with the TOPS-20 Software for the DECSYSTEM-20 Models 2040 and 2050. They are:

MONSML.EXE

MONMED.EXE

MONBCH.EXE

MONBIG.EXE

There are two monitors distributed with the TOPS-20 software for the DECSYSTEM-20 Model 2060. They are:

2060-MONBIG.EXE

2060-MONMAX.EXE

There are four monitors distributed with the TOPS-20AN software. The ARPANET monitors are:

AN-MONSML.EXE

AN-MONMED.EXE

AN-MONBIG.EXE

AN-MONLGE.EXE

There are two monitors distributed with the TOPS-20 software for the DECSYSTEM-2020. They are:

2020-MONSML.EXE

2020-MONMED.EXE

All the monitors mentioned above are described in Chapter 3.

1.4.1 The Batch System

Your TOPS-20 software system initialization includes a standard GALAXY Batch system. If you need a special batch system, first install the standard batch system, then refer to the DECSYSTEM-20 System Manager's Guide or the DECSYSTEM-2020 System Manager's Guide, depending on the type of system you have, for instructions on how to build your own specialized batch system.

CHAPTER 2

CREATING THE TOPS-20 FILE SYSTEM

This chapter describes how to create a new TOPS-20 file system for both the DECSYSTEM-20 and the DECSYSTEM-2020. If you are installing the software on a DECSYSTEM-20, perform Steps 1 through 18 and Steps 34 through 67 in this chapter. If you are installing the software on a DECSYSTEM-2020, perform Steps 19 through 67 in this chapter.

STOP: These Procedures Install A New System

> Follow the procedures in this chapter if you are installing TOPS-20 software on a new system or if you are creating a new file system on a set of disk packs. Read Appendix A or B, depending on the type of system you have, to update the Release 3 TOPS-20 software on an existing system.

2.1 CHECKING THE TOPS-20 SOFTWARE PACKAGE FOR THE DECSYSTEM-20

The TOPS-20 software package contains the following items. Check to be sure that you have all of them.

1. RSX20F Disk-boot System
   System Floppy A

   THROUGHOUT THE REST OF THIS TEXT, THIS FLOPPY WILL BE REFERRED TO AS THE SYSTEM FLOPPY A.

2. RSX20F Auxiliary Diskette
   System Floppy B

   THROUGHOUT THE REST OF THIS TEXT, THIS FLOPPY WILL BE REFERRED TO AS THE SYSTEM FLOPPY B.

3. TOPS-20 Installation Tape V3A

   THROUGHOUT THE REST OF THIS TEXT, THIS TAPE WILL BE REFERRED TO AS THE INSTALLATION TAPE.

4. TOPS-20 Distribution Tape (magnetic tape)

   THROUGHOUT THE REST OF THIS TEXT, THIS TAPE WILL BE REFERRED TO AS THE DISTRIBUTION TAPE.

5. A separate tape for each unbundled software product purchased. Chapter 7 lists the unbundled software products, describes the format of the tapes, and tells how to install them.

Chapter 1 lists the contents of these floppy disks and magnetic tapes.

2.2 PREPARING THE DECSYSTEM-20 FOR INSTALLATION

Prepare the system for installation by powering it up and mounting the disk packs.

➡ Step 1: Read the Listing Labeled TOPS20.BWR.

Read the listing labeled TOPS20.BWR to learn about any last-minute changes made to the installation procedure or to the TOPS-20 software.

➡ Step 2: Power Up the System.

Turn on the power by pressing the power switch if the light under the word POWER on the operator's panel is off. (Do not touch the emergency power switch unless you see smoke or sparks coming from the system.) The system is ready after a few seconds, and the power light comes on.

Be sure that the system is completely powered on:

1. Check the disk drives. If power is off, remove the back cover and make sure that the breakers labeled CB1 and CB2 are both on.

2. Check the magnetic tape drives. If power is off, press the rocker switch, i.e., the white switch containing the ON/OFF light, on the front panel. If power is still off, open the front cabinet and reset the breaker.

3. Check the line printers. If power is off on an LP20A or LP20B printer (which has four buttons on the right of the top panel), reset the knee-level breaker on the lower panel. The TAPE light may be on; disregard it. If you have an LP20F or LP20H printer (which has four rocker switches on the left of the top panel), lift the cover just above the lights and reset the breaker. Be sure that the printer has paper.

4. Turn on the console terminal. Be sure that it is on line and has paper.

➡ Step 3: Format the Disk Packs.

Ask your DIGITAL Field Service representative if the disk packs are formatted for use with the DECSYSTEM-20. If they are not, ask your DIGITAL Field Service representative to format the disk packs.

➡ Step 4: Label the Disk Packs.

This manual contains the procedures for creating the public structure for your system. This structure is called PS: and contains the files needed to run the system. All packs must be the same type. Decide how many packs will comprise your public structure and assign them consecutive "logical unit numbers" starting with 0. These are the logical pack numbers referred to in Step 39. Identify each pack by writing these numbers with a felt-tip pen on the external pack label. Also label the pack cover. The format of the label may be:

TOPS-20 Disk Pack
Structure Name: "PS"
Logical Unit: n

CAUTION

DO NOT USE A GUMMED LABEL ON THE PACK because it can spin off and cause severe damage to the drive.

Step 5: Mount the Disk Packs.

Mount the disk packs on the proper drives. Make sure you place one pack on the drive that is unit 0, dual ported, and connected to the front-end. The installation procedure will store the files used by the front-end on this pack. After the installation is complete, you may dismount the disk packs so that the drives can be cleaned and maintained. However, during system operation, the pack that contains the front-end files must be on dual-ported drive 0 as it was during installation.

Be careful when mounting a disk pack because the drive shaft can be damaged if the pack is jammed off-center into the drive. Follow these instructions when mounting a pack:

1. If another disk is already mounted on the drive and spinning, press the START/STOP button and wait until the drive stops.
2. Press the bar on the drive door, push the door back, and slide the pack cover down over the pack.
3. Turn the cover handle counterclockwise a few turns until it turns freely. Lift the pack gently and vertically. If there is any resistance, turn the handle a few more turns counterclockwise and lift again.
4. Lift the pack out of the drive and place it on the protective bottom cover. Be sure that the cover clicks closed.
5. Take the pack to be mounted and remove the protective bottom cover by squeezing the handle. Gently lower the pack vertically into the drive, being careful not to hit the sides of the drive. Keep the pack centered in the drive while lowering it.
6. Turn the handle clockwise about two full turns. You will feel a resistance roughly equal to the power steering on a car. When the resistance increases noticeably, STOP TURNING or damage will result.
7. Lift off the cover vertically.
8. Close the door to the drive.
9. Start the drive by pressing the START/STOP button. The disk is ready to be used when the READY light comes on. (On the RP06 the DOOR LOCKED light assures that the disk is mounted properly.)
10. Be sure that the drive is not write protected.

CAUTION

Do not leave a disk pack or magnetic tape on top of a disk drive. The vibration from the drive can cause these items to fall to the floor, causing expensive and irreparable damage.

➡Step 6: Check the CONTROLLER SELECT Switches.

Be sure that the CONTROLLER SELECT switch on dual-ported drive 0 is set to A/B and that every other drive has the CONTROLLER SELECT switch set to A. To change the CONTROLLER SELECT switch, set the switch to the desired position, press the STOP button to cycle the drive down. When it has stopped spinning, press the START button and wait for the READY light to come on.

➡Step 7: Mount System Floppy A in Drive 0.

Place the floppy disk labeled:

System Floppy A

in the left floppy drive (drive 0). To mount a floppy disk, hold the floppy disk with your thumb on the label. Then with your thumb and the label facing upward, slide the floppy disk into the floppy drive until it contacts the back of the drive and stops. Press down the bar until it clicks.

WARNING

Make sure that the paper directory that sometimes is included with the floppy disk is not sticking to the back of the floppy disk. Attempting to load the floppy disk into a drive when this paper directory is stuck on the back of the floppy disk will damage the floppy disk and the floppy drive.

➡Step 8: Mount System Floppy B in Drive 1.

In the right floppy drive (drive 1), place the floppy disk labeled:

System Floppy B

HINT

Be sure that you have mounted the floppy disks in the correct drives or problems will develop in Step 12.

Step 9: Mount the Installation Tape on MTA0:.

Remove the write ring (if present) from the magnetic tape labeled:

TOPS-20 Installation Tape

and mount the tape on drive 0. Drive 0 is the lowest unit on the lowest channel on the lowest TM03, TM02 controller or DX20 controller. Your Digital Field Service representative will give you this information. If you cannot determine which drive is drive 0, make sure that all drives are off line except the one you want to use.

NOTE

Be sure to mount the correct Installation tape. Refer to Chapter 1 Section 1.3 for the correct Installation tape for your system.

CAUTION

The logical unit number for a magnetic tape drive is not determined by the numbered flywheel on the left side of TU45 drives. The numbered flywheel is the slave number of the drive. Never change the setting of this flywheel.

To mount a reel of tape on a TU45 drive:

1. Place the reel on the top hub with the labeled side of the tape facing you.

2. Lock the reel on the hub by pressing the rocker in the center of the hub.

3. Thread the tape through the slot in front of the tape heads by following the arrows. Move the head shields back for easier access to the tape slot.

4. Wind the tape one turn clockwise onto the take-up reel.

5. Press the LOAD button. The tape slowly advances onto the take-up reel and moves to the logical beginning of the tape. If the drive overshoots the beginning of the tape, it repositions itself.

6. Make sure the ON LINE button is lit, otherwise press the ON LINE button.

To mount a reel of tape on a TU70, TU71, or TU72 tape drive:

1. Place the reel of tape on the right hand side hub with the tape label facing you.

2. Thread the tape leader down the slot until its approximately three inches in front of the read/write head.

3. Press the RESET, LOAD, and START buttons respectively. The tape leader is threaded automatically on the take up reel and moves to the logical beginning of tape.

On completion, the LOAD, ON LINE, and File Protect lights should be on, indicating that the tape is positioned at the beginning. When the File Protect light is on, the system cannot write on the tape. If the File Protect light is not on, remove the write ring from the back of the tape.

2.2.1 Loading and Starting the TOPS-20 Monitor on a DECSYSTEM-20

To create the TOPS-20 file system, load the TOPS-20 monitor into the system and start the File-System Initialization routine. The steps in this section describe how to load and start the TOPS-20 monitor:

1. Load the front-end monitor from the floppy disks. Use the front-end to initialize the central processor and memory.
2. Use the front-end monitor to load the TOPS-20 Magnetic Tape Bootstrap (MTBOOT) program from System Floppy A into the central processor.
3. Use MTBOOT to load the TOPS-20 monitor from magnetic tape into memory.
4. Use MTBOOT to start the TOPS-20 monitor at the File-System Initialization routine.

➡ Step 10: Place the Front-end HALT Switch in the ENABLE Position.

Open the second door from the left side of the DECSYSTEM-20, directly under the DECSYSTEM-20 control panel, to access the front-end switches.

Be sure that the front-end HALT switch is in the ENABLE position (Figure 2-1). If the switch is in the HALT position, move it up to the ENABLE position. When the HALT switch is in the HALT position, the front-end will not operate.

➡ Step 11: Set the Switch Register to 000007 (octal).

The front-end control panel has 16 switch register switches (Figure 2-1). Set them to 000007 (octal) by setting (up) switches 2, 1, and 0, and leaving the rest down. (Refer to the DECSYSTEM-20 Operator's Guide Chapter 3 for a detailed description of all switches).

Booting the front-end from a floppy disk with the switch register set to 000007 causes the front-end monitor to run the central processor initialization dialog. This loads the central processor microcode and configures central processor memory.

Step 12: Hold ENABLE and Press the SWITCH REGISTER Button.

Hold ENABLE and press the SWITCH REGISTER button on the control panel (Figure 2-1). Pressing these buttons loads the front-end monitor and starts the initialization dialog. The system prints:

```
RSX-20F VB12-32 0:13 8-AUG-78

[SY0: REDIRECTED TO DX0:]
[DX0: MOUNTED]
[DX1: MOUNTED]
KLI -- VERSION VB07-04 RUNNING
KLI -- ENTER DIALOG [NO,YES,EXIT,BOOT]?
KLI>
```

Item	Identifies
RSX-20F	The name of the front-end monitor.
VB12-32	The version of the front-end monitor. (The version number of the 2060 front-end monitor is VB12-34.)
0:13 8-AUG-78	The time and date that the front-end monitor was built.
SY0:	The area from which the front-end obtains its files. If SY0: is redirected to DX0:, the front-end obtains the files from floppy drive 0. If SY0: is redirected to DB0:, the front-end obtains the files from disk drive 0.
KLI	The name of the central processor initialization dialog.
KLI>	The prompt for the central processor initialization dialog.

Error: If the system does not print the above heading, be sure that the floppy disks are mounted in the proper drives, and the HALT switch is in the ENABLEd position. Then retry Step 12.

NOTE

The version and edit numbers in this manual could differ from the numbers printed on your console. The numbers printed on your console must be equal to or greater than the numbers in this manual.

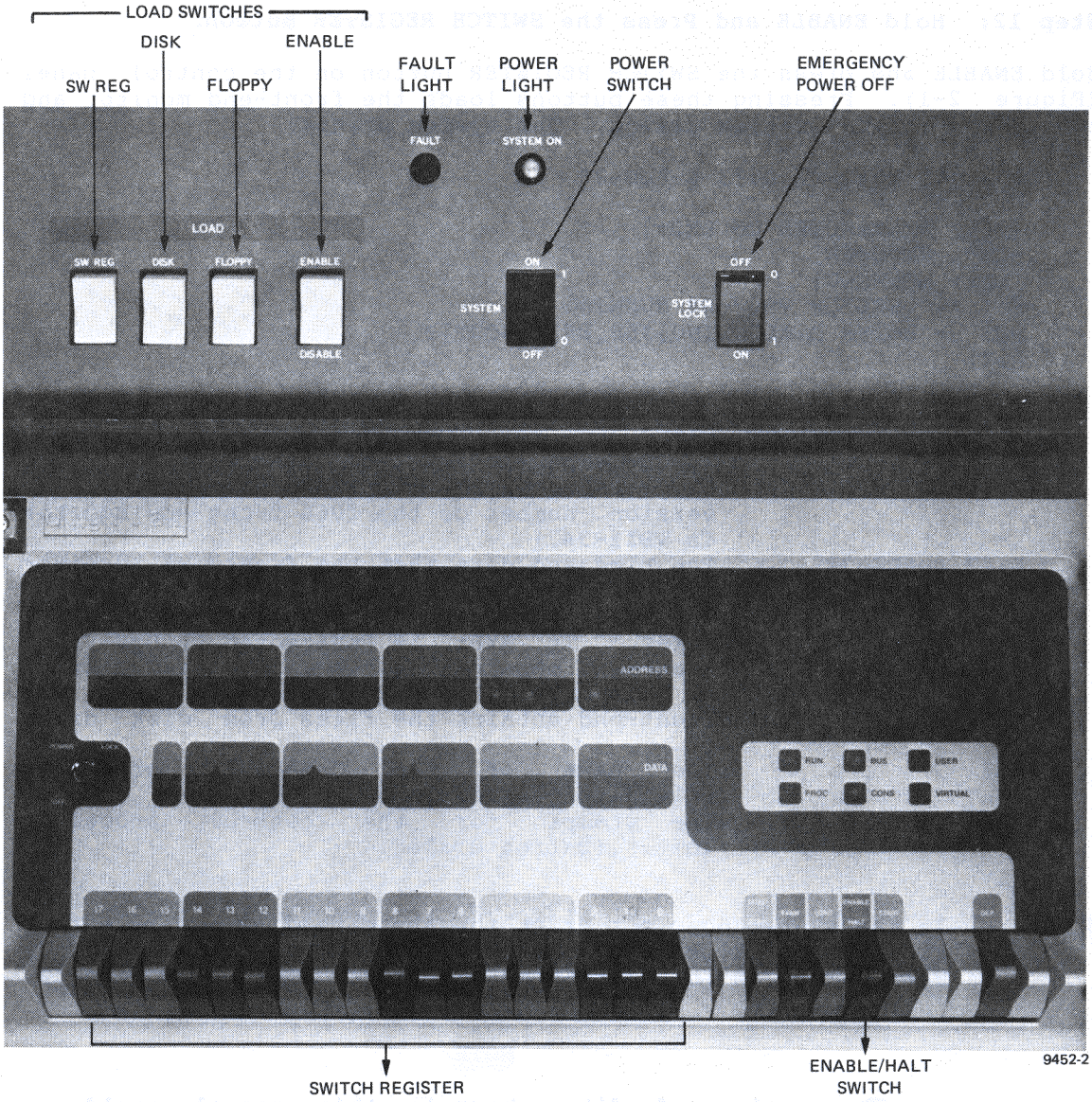


Figure 2-1 DECSYSTEM-20 and Front-End Control Panels

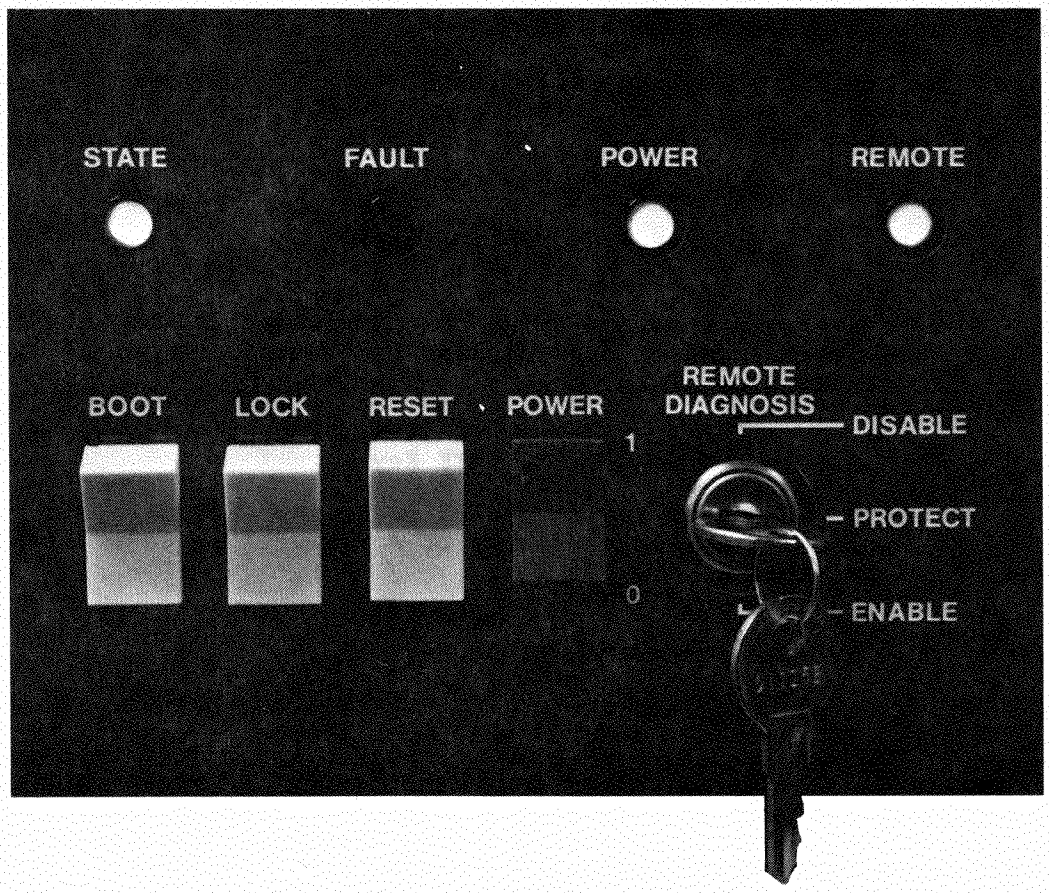


Figure 2-2 DECSYSTEM-2020 Control Panel

Step 13: Type YES and Press the RETURN Key.

To enter the central processor initialization dialog, type YES and press the RETURN key. The system prints KLI -- RELOAD MICROCODE [YES,VERIFY,NO]?:

```
KLI -- ENTER DIALOG [NO,YES,EXIT,BOOT]?
KLI>YES RET
KLI -- RELOAD MICROCODE [YES,VERIFY,NO]?
KLI>
```

Error: If the system does not print the above heading, be sure that the floppy disks are mounted in the proper drives, then return to Step 12.

DELETE Key

If you make a typing error, press the DELETE key to erase a single character at a time. Type CTRL/U to delete the complete line.

Step 14: Type YES and Press the RETURN Key.

To load the central processor microcode, type YES and press the RETURN key. After 30 seconds, during which the floppy drives click, the microcode is loaded and the system prints KLI -- MICROCODE VERSION 212 LOADED followed by KLI -- RECONFIGURE CACHE [FILE,ALL,YES,NO]? if you are installing the TOPS-20 software on a 2050 or 2060. If you are installing the TOPS-20 software on a 2040, the system prints KLI--MICROCODE VERSION 202 LOADED followed by KLI--CONFIGURE KL MEMORY [FILE,ALL,YES,NO]?

```
KLI -- RELOAD MICROCODE [YES,VERIFY,NO]?
KLI>YES RET
KLI -- MICROCODE VERSION 212 LOADED
```

Step 15: STOP.

Go to Step 16 if the system prints:

```
KLI -- RECONFIGURE CACHE [FILE,ALL,YES,NO]?
KLI
```

Go to Step 17 if the system prints:

```
KLI -- CONFIGURE KL MEMORY [FILE,ALL,YES,NO]?
KLI
```

Step 16: Type ALL and Press the RETURN Key.

To reconfigure the central processor cache, type ALL and press the RETURN key. Upon receiving this reply, the system configures all available cache. After the configuration is complete, the system prints:

```
KLI>ALL RET
KLI -- ALL CACHES ENABLED
KLI -- CONFIGURE KL MEMORY [FILE,ALL,YES,NO]?
KLI>
```

Error: If the system does not print one of the headings above, be sure that the floppy disks are mounted in the proper drives, then return to Step 12.

Step 17: Type ALL and Press the RETURN Key.

To configure the central processor memory, type ALL and press the RETURN key. This answer configures all available memory in the most useful manner and then prints a message indicating the results. These results will be different depending on the type of hardware you have. Refer to Table 2-1 for the sample output that pertains to your system. (Refer to the DECSYSTEM-20 Operator's Guide for details on memory configuration.) After the configuration is complete, the system prints KLI -- LOAD KL BOOTSTRAP [YES,NO,FILENAME]?:

```
KLI -- CONFIGURE KL MEMORY [FILE,ALL,YES,NO]?
KLI>ALL<RET>
```

Table 2-1
Logical Memory Configurations

If you have a 2040/2050, your output will resemble one of the following:

```
LOGICAL MEMORY CONFIGURATION
                    CONTROLLER

ADDRESS   SIZE  RQ0 RQ1 RQ2 RQ3   CONTYPE INT
00000000  128K  00  01  00  01     MA20    4
00000000  128K  03  02  03  02     MA20    4

                              OR

LOGICAL MEMORY CONFIGURATION
                    CONTROLLER

ADDRESS   SIZE  RQ0 RQ1 RQ2 RQ3   CONTYPE INT
00000000  256K  01  00  01  00    MB20    4
```

If you have a 2060, your output will resemble the following.

```
LOGICAL MEMORY CONFIGURATION
  ADDRESS  SIZE  INT  TYPE CONTROLLER
00000000 128K   4   MB20  0 & 1
00400000 512K   4   MF20  10
02400000 256K   4   MF20  14
034000003200K         NON-EXISTENT
```

NOTE

The MOS memory configurator is capable of configuring 4096K of memory. The message concerning the NON-EXISTENT memory can be ignored. This message is specifying the difference between the actual physical memory and 4096K.

Error: If the system does not print a heading similar to the one above, be sure that the correct floppy disks are mounted in the proper drives, then return to Step 12.

Step 18: Type MTBOOT and Press the RETURN Key.

After the prompt KLI>, type MTBOOT and press the RETURN key:

```
KLI -- LOAD KL BOOTSTRAP [YES,NO,FILENAME]?
KLI>MTBOOT(RET)
KLI -- CONFIGURATION FILE ALTERED
KLI -- BOOTSTRAP LOADED AND STARTED

BOOT>
```

The front-end loads the central processor memory with the bootstrap program from the floppy mounted on drive 1 and then starts the bootstrap program. When at bootstrap command level (about 45 seconds), the system prints BOOT>. CONTINUE AT STEP 34.

Error: If the system prints:

```
KLI> -- ?BOOTSTRAP LOAD FAILED
```

or any other error message, you may have the wrong floppy disk mounted in drive 0 or you may not have stopped the central processor. Type CTRL/\. (Backslash is near the LINEFEED key.) After 10 seconds, the system prints PAR>. Type the command ABORT and press the RETURN key. The system prints PAR%, which means the central processor has stopped. Go back to Step 12.

If the system prints the following message exactly:

```
KLI -- ?BOOT FILE NOT FOUND
KLI -- ?BOOTSTRAP LOAD FAILED
KLI -- ENTER DIALOG [NO,YES,EXIT,BOOT]?
KLI>
```

You either have the wrong floppies mounted or you mistyped the name of the bootstrap. Go back to Step 13. If the error recurs, make sure that you have mounted the proper floppy disks. If the error continues, contact Digital Software Support.

2.3 CHECKING THE TOPS-20 SOFTWARE PACKAGE FOR THE DECSYSTEM-2020

The TOPS-20 software package contains the following items. Check to be sure you have all of them:

1. TOPS-20 Installation Tape
2. TOPS-20 Distribution Tape

2.3.1 Preparing the DECSYSTEM-2020 for Installation

Prepare the system for installation by powering it up, typing a CTRL/C on the CTY, and mounting the disk packs.

Step 19: Read the listing labeled TOPS20.BWR.

Read the listing labeled TOPS20.BWR to learn about any last-minute changes made to the installation procedures or to the TOPS-20 software.

Step 20: Power up the System.

Turn on the power by pressing the power button (Figure 2-2), the power is off if the light under the word POWER is off. The system is ready after a few seconds, and the power light comes on. The system prints KS10 CSL.V0.1 and then the prompt KS10>. The system then waits approximatly 15 seconds and then tries to load the microcode from the disk on drive 0. Because the microcode is not yet on the disk, the system prints the error message BT AUTO. The system will continue to print this error message every 15 seconds until a CTRL/C is typed on the CTY(Step 3).

Be sure that the system is completely powered on:

1. Check the disk drives. If power is off, remove the back cover and make sure that the breakers labeled CB1 and CB2 are both on.

2. Check the magnetic tape drives. If power is off, press the rocker switch, i.e., the white switch containing the ON/OFF light, on the front of the tape drive. If power is still off, open the front cabinet and reset the breaker.

3. Check the line printer. If power is off on a LP20A or LP20B (which has four buttons on the right of the top panel), reset the knee-level breaker on the lower panel. The tape light may be on; disregard it. If power is off on an LP20C or LP20D, open the front panels and reset the power switch. (The power switch is located on the right side if you are facing the printer). Press the RESET button, then press the ON-LINE button.

4. Turn on the CTY. Be sure it is on line and has paper.

Step 21: Type a CTRL/C on the CTY.

To stop the system from trying to load the microcode from disk, type a CTRL/C on the CTY. The system prints the KS10> prompt.

```
CTRL C
^C
KS10>
```

Step 22: Ask Your Digital Field Service Representative if the Disk Packs are Formatted.

Ask your Digital Field Service Representative if the disk packs are formatted for use with the DECSYSTEM-2020. If they are not, ask your DIGITAL Field Service representative to format the disk packs.

Step 23: Label the Disk Packs.

This manual contains the procedures for creating the public structure for your system. This structure is called PS: and contains the files needed to run the system. It can consist of one or two RP06 disk packs or one to four RM03 disk packs. The disk packs that make up your public structure must be the same type. Identify each pack by writing the logical unit number of the pack with a felt tip pen on an external label on the pack cover. The format of the label may be:

```
TOPS-20 DISK PACK
Structure Name:  "PS:"
Logical Unit:  n
```

CAUTION

Do not use a gummed label when labeling the pack because it can spin off and cause severe damage to the drive.

Step 24: Mount the Disk Packs.

Mount the disk packs on the drive. The procedures in this manual assume that a disk pack is on drive 0. After the installation is complete, you may dismount the disk pack so that the drive can be cleaned and maintained.

Be careful when mounting a disk pack because the drive shaft can be damaged if the pack is jammed-off-center into the drive. Follow these instructions when mounting a pack:

To mount a pack on an RP06 disk drive, perform the following instructions:

1. If another disk is already mounted on the drive and spinning, press the rocker switch labeled START/STOP to the stop position and wait until the disk stops spinning.

2. Press the bar on the drive door push the door back, and slide the pack cover down over the pack.

3. Turn the cover counter-clockwise a few turns until it turns freely. Lift the pack gently and vertically. If there is any resistance, turn the handle a few more turns counter-clockwise and lift again.

4. Lift the pack out of the drive and place it on the protective bottom cover. Be sure that the cover clicks closed.

5. Take the pack to be mounted and remove the protective bottom cover by squeezing the handle. Gently lower the pack vertically into the drive, being careful not to hit the sides of the drive. Keep the pack centered in the drive while lowering it.

6. Turn the handle clockwise about two full turns. Try lifting the pack cover off. If there is any resistance, turn the handle clockwise until you feel a resistance like that of power steering on a car, then lift the cover off.

7. Lift the cover off vertically.

8. Close the door on the drive.

9. Start the drive by pressing the START/STOP rocker switch to the START position. The disk is ready to be used when the READY and the "DOOR LOCKED" lights come on.

10. Be sure that the drive is not write-protected.

NOTE

Do not leave a disk pack or magnetic tape on top of a disk drive. The vibration from the drive can cause these items to fall to the floor, causing expensive damage.

To mount a disk pack on a RM03 disk drive, perform the following instructions:

1. If another disk pack is already mounted on the drive and spinning, press the START/STOP button and wait until the disk pack stops spinning.

2. Press the bar on the drive door and lift the door up.

3. Slide the pack cover down over the pack and turn the handle counter-clockwise a few turns until it turns freely. Lift the pack gently and vertically. If there is any resistance, turn the handle a few more turns counter-clockwise and lift again.

4. Lift the pack out of the drive. Take the bottom cover and place it on the bottom of the pack. Turn the knob on the bottom cover clockwise until it tightens.

5. Take the pack to be mounted and remove the protective bottom cover by turning the knob on the bottom cover counter-clockwise until there is no resistance. Gently lower the pack vertically into the drive, being careful not to hit the sides of the drive. Keep the pack centered in the drive while lowering it.

6. Turn the handle clockwise about two full turns. Try lifting the pack cover off. If there is any resistance, turn the handle clockwise until you feel a resistance like that of power steering on a car, then lift the cover off.

7. Lift the cover off vertically.

8. Close the door on the drive.

9. Start the drive by pressing the START/STOP button. The disk is ready to be used when the READY light comes on.

10. Be sure that the drive is not write-protected.

Step 25: Check the CONTROLLER SELECT Switches.

Be sure that the CONTROLLER SELECT switch on drive 0 is set to A/B and that every other drive has the CONTROLLER SELECT switch set to A. To change the CONTROLLER SELECT switch on an RP06 disk drive, do the following:

1. Set the switch to the desired position. (The CONTROLLER SELECT switch is located on disk display unit).

2. Cycle down the drive by pushing the START/STOP rocker switch to the STOP position. When the drive has completely cycled down, press the rocker switch to the START position.

3. Wait for the READY and DOOR LOCKED light to come on.

To change the CONTROLLER SELECT switch on an RM03 disk drive, do the following:

1. Open the front-panel of the disk drive and locate the CONTROLLER SELECT switch. (As you're facing the drive, it is on the right hand side of the drive just below knee level).

2. Set the CONTROLLER SELECT switch to the desired position.

3. Cycle down the drive by pressing the START/STOP button. When the drive is completely cycled down, press the START/STOP button.

4. Wait for the READY light to come on.

Step 26: Mount the Installation Tape on MTA0:.

Remove the write ring (if present) from the magnetic tape labeled TOPS-20 Installation Tape and mount the tape on drive 0. Your DIGITAL Field Service Representative will give you this information. If you cannot determine which drive is drive 0, make sure that all drives are off-line except the one you want to use.

NOTE

The logical unit number for a magnetic tape drive is not determined by the numbered flywheel on the left side of the drive. Never change the setting of this flywheel.

To mount a reel of tape on a TU45:

1. Place the reel on the top hub with the labeled side of the tape facing you.

2. Lock the reel on the hub by pressing the rocker in the center of the hub.

3. Thread the tape through the slot in front of the heads by following the arrows. Move the head shields back for easier access to the tape slot.

4. Wind the tape one turn clockwise onto the take-up reel.

5. Press the LOAD button. The tape slowly advances onto the take-up reel and moves to the logical beginning of the tape. If the drive overshoots the beginning of the tape, it repositions itself.

6. Press the ON LINE button unless it is already on.

On completion of the above procedures, the LOAD, ON LINE, and FPT (file protect) lights should be on, indicating that the tape is positioned at the beginning. When the file protect light is on, the system cannot write on the tape. If the FPT light is *not on, remove* the write ring from the back of the tape.

2.3.2 Loading and Starting the TOPS-20 Monitor on a DECSYSTEM-2020

To create the TOPS-20 file system, load the TOPS-20 resident monitor from the TOPS-20 Installation Tape into the system. The steps in this section describe how to load and start the TOPS-20 monitor.

1. Load the microcode and bootstrap routine from the Installation tape.

2. Load the secondary bootstrap routine from the Installation tape.

3. Load the resident TOPS-20 monitor from the Installation tape.

NOTE

If you are using tape drive 0, you may skip Steps 27 through 32, and start at Step 33.

Step 27: Type MS and Press the RETURN Key.

To inform the system you are selecting magnetic tape to bootstrap the system, type MS and press the RETURN key. The system prints the question >>UBA.

```
KS10>MS RET
>>UBA?
```

ERROR: If you mistype the command, the system responds with the error message ?IL (meaning illegal command) and the KS10> prompt. Try giving the command again. If the error continues to exist, contact your Digital Field Service Representative.

Step 28: Type 3 and Press the RETURN Key.

To inform the system which Unibus Adapter the TOPS-20 Installation Tape is on, type 3 (3 is the default) and press the RETURN key. The system prints the question >>RHBASE?

```
>>UBA? 3 RET
>>RHBASE?
```

ERROR: If the system prints the message ?BN, it means that the number you typed in was not a legal octal number. Type a CTRL/C and return to Step 27.

Step 29: Type 772440 and Press the RETURN Key.

To inform the system of the RH11 base address, type 772440 (772440 is the default) and press the RETURN key. The system prints the question >>UNIT?

```
>>RHBASE? 772440 RET
>>UNIT?
```

ERROR: If the system prints the message ?BN, it means that the number you typed in was not a legal octal number. Type a CTRL/C and return to Step 27.

Step 30: Type 0 (zero) and Press the RETURN Key.

To inform the system which Tape Control unit on the RH11 you are using, type 0 (0 is the default) and press the RETURN key. The system prints the question >>DENS?

```
>>UNIT?0 RET
>>DENS?
```

ERROR: If the system prints the message ?BN, it means that the number you typed in was not a legal octal number. Type a CTRL/C and return to Step 27.

Step 31: Type 1600 and Press the RETURN Key.

To inform the system of the density of the tape, type 1600 (1600 is the default) and press the RETURN key. The system prints the question >>SLV?.

```
>>DENS? 1600 RET
>>SLV?
```

ERROR: If the system prints the message ?BN, it means that the number you typed in was not a legal octal number. Type a CTRL/C and return to Step 27.

Step 32: Type 0 (zero) and Press the RETURN Key.

To inform the system what slave tape unit you are using, type 0 (0 is the default) and press the RETURN key. The system prints the prompt KS10>.

```
>>SLV?0 RET
KS10>
```

ERROR: If the system prints the message ?BN, it means that the number you typed in was not a legal octal number. Type a CTRL/C and return to Step 27.

Step 33: Type MT and Press the RETURN Key.

To have the microprocessor initiate the bootstrap procedure immediately from TOPS-20 Installation tape, type MT and press the RETURN key. The system prints the prompt BOOT.

```
KS10>MT(RET)
BOOT>
```

NOTE

The remaining steps in this chapter pertain to both systems.

Step 34: Type /L and Press the RETURN Key.

To load the TOPS-20 monitor from magnetic tape into memory, type /L and press the RETURN key. The system rewinds the tape on drive 0, loads the resident monitor, skips a line, and prints the BOOT> prompt:

```
BOOT>/L(RET)
CHN:2 DX20:0 MICROCODE VERSION 1(0) LOADED, VERIFIED, AND STARTED


BOOT>
```

NOTE

The message concerning the DX20 microcode will only be printed if you are installing the TOPS-20 software on a DECSYSTEM-20 with a DX20 tape controller.

Error:
ERROR: If you made a typing error and press the RETURN key, the system prints the BOOT> prompt again, reissue the correct command.

If you did not put the magnetic tape on line, the system prints:

```
?NO RDY DRIVE
BOOT>
```

Place the tape on line and give the /L command again.

If the system prints the message:

```
?BAD FIL FMT, or
?BAD EXE DIR
```

Make sure that you have mounted the correct TOPS-20 Installation tape on drive 0 and that all other tape drives are off-line. If this has been done then rewind the tape and try giving the /L command again. If the error recurs, call Digital Software Support.

Error: If the system does not print the BOOT> prompt, you probably mistyped the name MTBOOT. The system prints the message:

```
KLI -- ?BOOT FILE NOT FOUND
KLI -- ?BOOT LOAD FAILED
KLI -- ENTER DIALOG [NO,YES,EXIT,BOOT]?
KLI>
```

If the floppy disks are mounted properly and you typed MTBOOT properly, go back to Step 12. If the error recurs, contact Digital Software Support.

The system will use the magtape that is on-line. Check to see if you have more than one tape drive on-line. If so, press the ON LINE button to take each unwanted drive off-line. Try typing /L again.

NOTE

The following procedure is only intended for use during installation. If you are trying to bring up a monitor on an existing set of TOPS-20 disk packs, refer to the DECSYSTEM-20 Operator's Guide or the DECSYSTEM-2020 Operator's Guide for the correct procedure.

Step 35: Type /G143 and Press the RETURN Key.

To start the TOPS-20 File-System Initialization routine, type /G143 and press the RETURN key. The system starts the TOPS-20 monitor at the File-System Initialization routine:

```
BOOT>/G143(RET)

[FOR ADDITIONAL INFORMATION TYPE "?" TO ANY OF THE FOLLOWING
QUESTIONS.]

DO YOU WANT TO REPLACE THE FILE SYSTEM ON THE PUBLIC STRUCTURE?
```

Error: If you have an error and the system reprints the BOOT>
ERROR: prompt, reissue the correct command.

If the system does not print the BOOT> prompt, check your typescript. Go back to Step 12 in Section 2.2 for a DECSYSTEM-20 or Step 33 Section 2.3.1 for a DECSYSTEM-2020.

IF THE SYSTEM PRINTS:

```
?BAD EXE DIR
```

you probably typed the wrong command. Try giving the /G143 command again. If you still get an error, go back to Step 12 in Section 2.2 for a DECSYSTEM-20 or Step 33 Section 2.3.1 for a DECSYSTEM-2020.

2.4 INITIALIZING THE TOPS-20 FILE SYSTEM

To initialize the TOPS-20 file system, you must define the name of the public structure and the number and location of each disk pack that is part of the public structure.

The steps in this section initialize the TOPS-20 file system by creating:

1. New home blocks (which contain pointers to the beginning of the file system).
2. The directory <ROOT-DIRECTORY> (which contains pointers to all of the directories in the system).
3. The directories <SYSTEM>, <SUBSYS>, <UETP.LIB> <ACCOUNTS>, <OPERATOR>, and <SPOOL>.
4. Space for the front-end file system.
5. The system swapping space. (The area allocated for the movement, by the monitor, of pages between memory and disk.)

NOTE

Refer to the DECSYSTEM-20 System Manager's Guide or the DECSYSTEM-2020 System Manager's Guide for a detailed explanation of all of the above.

Step 36: Type YES and Press the RETURN Key.

To create the public structure, type YES and press the RETURN key.

```
[FOR ADDITIONAL INFORMATION TYPE "?" TO ANY OF THE FOLLOWING QUESTIONS.]

DO YOU WANT TO REPLACE THE FILE SYSTEM ON THE PUBLIC STRUCTURE? YES RET

DO YOU WANT TO DEFINE THE PUBLIC STRUCTURE?
```

Step 37: Type YES and Press the RETURN Key.

To write the home blocks for each unit in the public structure, type YES and press the RETURN key.

```
DO YOU WANT TO DEFINE THE PUBLIC STRUCTURE? YES RET

HOW MANY PACKS ARE IN THIS STRUCTURE:
```

Step 38: Type the Number of Packs and Press the RETURN Key.

Count the number of disk packs you plan to have in your public structure. Type the answer and press the RETURN key. The following example uses one:

```
HOW MANY PACKS ARE IN THIS STRUCTURE: 1 RET

ON WHICH "CHANNEL,UNIT" IS LOGICAL PACK # 0 MOUNTED:
```

Error: If you type the wrong number of disk packs, type CTRL/\, after the system prints PAR> (10 seconds), type ABORT, and press the RETURN key. The system prints PAR% (central processor has stopped). Go back to Step 12 and start again.

ERROR: If you type the wrong number of disk packs, type CTRL/\, the system prints KS10>. Go back to Step 33 and start again.

Step 39: Type ?. (Do Not Press the RETURN Key).

You must inform the system of the location of each disk pack that is to be in the public file system. If you are not sure of the channel and unit numbers of each disk pack type ?. This causes the system to print the channel and unit number of each disk drive:

```
ON WHICH "CHANNEL,UNIT" IS LOGICAL PACK # 0 MOUNTED: ?
[ENTER A PAIR OF NUMBERS SEPARATED BY A COMMA THAT SPECIFY THE
 CHANNEL AND UNIT UPON WHICH THE APPROPRIATE PACK IS MOUNTED.
 THE FOLLOWING IS A LIST OF VALID CHANNEL,UNIT PAIRS:
1,0 ;TYPE=RP06,DUAL PORT
1,1 ;TYPE=RP06,OFFLINE,DUAL PORT
1,2 ;TYPE=RP04,OFFLINE,DUAL PORT
]

ON WHICH "CHANNEL,UNIT" IS LOGICAL PACK # 0 MOUNTED:
```

NOTE

The "CHANNEL" number for the DECSYSTEM-2020 is always 0. The following is a example of the DECSYSTEM-2020 output.

```
0,0 ;TYPE=RP06
0,1 ;TYPE=RP06,OFFLINE
]
```

Error: If you followed the procedure in Step 6 exactly, drive 0 will be listed as dual-ported. Of the remaining drives, those that contain the packs that are to be your public structure will be listed as on-line. All other drives will be listed as off-line.

If a drive that you want to use is not listed, the drive(s) controller select switch is probably set to B. Follow the procedure in Step 6 for changing it to A. Type CTRL/\. After 10 seconds, the system prints PAR>. Type ABORT and press the RETURN key to halt the central processor. Return to Step 12 and start again.

If a drive you want to use is listed as off-line, turn it on-line and wait for the READY light to come on. Go back to Step 12.

ERROR: If you followed the procedure in Step 24, drive 0 will be listed as on-line. All drives that are not to be part of your public structure will be listed as off-line.

If a drive that you want to use is not listed, the drive's controller select switch is probably set to B. Follow the procedure in Step 25 for changing it to A. After you've changed the controller select switch to the correct position, type CTRL/\. The system prints the KS10> prompt. Return to Step 33 and start again.

If a drive you want to use is listed as off-line, turn it on-line and wait for the READY light to come one. Go back to Step 33 and start again.

Step 40: Type the Channel No, Unit No, And Press the RETURN Key.

Type the channel number and unit number of the dual-port drive and press the RETURN key. You have to answer this question once for each disk pack. If there is any problem, contact your Digital Field Service representative to give you the channel and unit number of each drive.

```
ON WHICH "CHANNEL,UNIT" IS LOGICAL PACK # 0 MOUNTED: 1,0 RET

DO YOU WANT THE DEFAULT SWAPPING SPACE?
```

Error: / ERROR: If your answer is invalid, the system prints one of several messages and repeats the question. You can simply repeat the current step.

Error: If your answer is valid but not the one you wanted, type CTRL/\. After 10 seconds, the system prints PAR>. Type ABORT and press the RETURN key to halt the central processor. Go back to Step 12 and start again.

ERROR: If your answer is valid but not the one you wanted, type CTRL/\. The system prints the prompt KS10>. Go back to Step 33 and start again.

Step 41: Type ?. (Do Not Press the RETURN Key).

To determine the default size of the swapping space for your system, type ?. The system will print the default swapping space for either the 2020, 2040, 2050, or the swapping space for the 2060. The default swapping space for the 2020, 2040, or 2050 is 5035. The default swapping space for the 2060 is 7030.

If you are planning on using a monitor other than MONSML for the 2020, 2040, 2050, or MONBIG for the 2060, refer to Chapter 3 Section 3.1 for the correct swapping space for the monitor you choose.

```
DO YOU WANT THE DEFAULT SWAPPING SPACE? ?
[THE DEFAULT IS 5035 PAGES] (FOR A 2020, 2040, 2050)
[THE DEFAULT IS 7030 PAGES] (FOR A 2060)

DO YOU WANT THE DEFAULT SWAPPING SPACE?
```

Step 42: Type YES or NO and Press the RETURN Key.

If you want to accept the default swapping space size, type YES, press the RETURN key, and proceed to Step 44.

```
DO YOU WANT THE DEFAULT SWAPPING SPACE? YES<RET>

DO YOU WANT THE DEFAULT SIZE FRONT-END FILE SYSTEM?
```

If you want to specify the size of the swapping space, type NO and press the RETURN key. The formula for determining the proper swapping space for your system can be found in the DECSYSTEM-20 System Manager's Guide, Chapter 5, or the DECSYSTEM-2020 System Manager's Guide, Chapter 5.

After you determine the size of swapping space you need, proceed to Step 43.

```
DO YOU WANT THE DEFAULT SWAPPING SPACE? NO<RET>

HOW MANY PAGES FOR SWAPPING?
```

Error: If you type the wrong answer, type CTRL/\. After 10 seconds, the system prints PAR>. Type ABORT and press the RETURN key to halt the central processor. Return to Step 12 and start again.

ERROR: If you type the wrong answer, type CTRL/\. The system prints the prompt KS10>. Return to Step 33 and start again.

Step 43: Type the Decimal Number of Pages and Press the RETURN Key.

Type the decimal number of disk pages you want to assign for swapping and press the RETURN key. This option is provided so you will be able to increase the amount of swapping space in the future. The default size is the maximum amount that your present monitor will use for swapping. If you decide to increase the amount used by the monitor in the future, you must already have assigned that much space on the disk during the installation procedure. Otherwise, you must repeat the installation procedure and specify the larger number. The system will round up the number of pages specified to an integral number of cylinders.

```
HOW MANY PAGES FOR SWAPPING? n<RET>

DO YOU WANT THE DEFAULT SIZE FRONT-END FILE SYSTEM?
```

Error: If you type an invalid number, the system prints

```
? INVALID NUMBER OF SWAPPING PAGES FOR THIS TYPE OF DISK
```

and returns to the question in Step 42. If you type an answer that is valid but not the one you wanted, type CTRL/\. After 10 seconds, the system prints PAR>. Type ABORT and press the RETURN key to halt the central processor. Go back to Step 12 and start again.

Step 44: Type ? (Do Not Press the RETURN Key).

To determine the default size of the front-end file system, type ?. If you already know what the default is, you may omit this step.

```
DO YOU WANT THE DEFAULT SIZE FRONT-END FILE SYSTEM? ?
[THE DEFAULT IS 950 PAGES]

DO YOU WANT THE DEFAULT SIZE FRONT-END FILE SYSTEM?
```

NOTE

If you are installing the TOPS-20 software on a DECSYSTEM-2020 and are using RM03 disk packs for your public structure, do not reserve any space for the front-end file system.

Step 45: Type YES and Press the RETURN Key.

Type YES, press the RETURN key, and proceed to Step 46.

```
DO YOU WANT THE DEFAULT SIZE FRONT-END FILE SYSTEM? YES (RET)

DO YOU WANT THE DEFAULT SIZE BOOTSTRAP AREA?
```

Step 46: Type ?. (Do Not Press the RETURN Key.).

To find out how many pages are assigned as the default boot file space, type a question mark. The system responds with the number of pages allocated for the boot file space.

```
DO YOU WANT THE DEFAULT SIZE BOOTSTRAP AREA? ?

[THE DEFAULT IS 64 PAGES]

DO YOU WANT THE DEFAULT BOOT SIZE BOOTSTRAP AREA?
```

Step 47: Type Y and Press the RETURN Key.

It is recommended that you take the default bootstrap space. Type Y and press the RETURN key.

```
DO YOU WANT THE DEFAULT SIZE BOOTSTRAP AREA? YES (RET)

[STRUCTURE "PS" SUCCESSFULLY DEFINED]
```

Step 48: STOP.

The system now recognizes the structure you just defined and prints

```
[PS MOUNTED]

%%NO SETSPD
```

If the system prints a message similar to:

```
?PS UNIT 0 HAS NO BAT BLOCKS
DO YOU WANT TO WRITE A SET OF PROTOTYPE BAT BLOCKS?
```

Type YES and press the RETURN key. Continue with the next step.

%%NO SETSPD means that the system cannot run the SETSPD program. This is expected because you have not yet loaded the SETSPD program into the file system. This message may be printed at any time before the system requests the date and time.

Error: ERROR: If certain error conditions occur while the monitor is mounting the structure (a drive is write protected, for example), the system prints an error message followed by:

?HAVE THE PROBLEMS MENTIONED ABOVE BEEN CORRECTED YET:

When the problem has been corrected, type Y and press the RETURN key. Go back to Step 12 for a DECSYSTEM-20 or Step 33 for a DECSYSTEM-2020.

2.5 STARTING THE MONITOR

Now that the file system is initialized, you can start the system by performing the following steps.

Step 49: Type the Date and Time, and Press the RETURN Key.

The system prints

System restarting, wait...

ENTER CURRENT DATE AND TIME:

Type the date and time in the format:

day-month-year hour minute.

Press the RETURN key. Type the time in AM/PM format or 24-hour format. For example, 2:00 o'clock pm on the last day of July is entered as 31-JULY-1977 2 PM:

ENTER CURRENT DATE AND TIME: 8-AUG-78 1254 RET

The system responds by retyping the date and time.

YOU HAVE ENTERED FRIDAY, 8-AUGUST-1978 12:54PM,
IS THIS CORRECT (Y,N)

Step 50: Type Y and Press the RETURN Key if the Date is Correct.

If you have typed the correct date and time, type Y and press the RETURN key. If the date and time are incorrect, type N and press the RETURN key. The system again asks for the date and time:

YOU HAVE ENTERED FRIDAY, 8-AUGUST-1978 12:54PM,
IS THIS CORRECT (Y,N) Y RET
WHY RELOAD?

Step 51: Type INSTALLATION and Press the RETURN Key.

Type INSTALLATION and press the RETURN key. Whatever text you type following this question is entered into the system error file, <SYSTEM>ERROR.SYS. The TOPS-20 monitor starts running, and the system prints <SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED and RUNNING DDMP.

```
WHY RELOAD? INSTALLATION(RET)
<SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED
RUNNING DDMP

NO SYSJOB
```

The system prints the message SYSTEM ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED because the ACTGEN program has not been run. (Refer to Chapter 10 of the DECSYSTEM-20 System Manager's Guide, or Chapter 10 of the DECSYSTEM-2020 System Manager's Guide for more information.) The system prints NO SYSJOB because the SYSJOB program is not stored on disk. This program is not needed yet, so ignore this message.

Error: If you type an incorrect string, do not worry about the incorrect entry; continue with the next step.

Step 52: Type CTRL/C to Tell the System That You Want to Start a Job.

```
<SYSTEM>ACCOUNT.TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED

RUNNING DDMP

NO SYSJOB
(CTRL/C)
```

Step 53: Type G, MTA0: and Press the RETURN Key.

The system is now at the miniexec command level and you can type any miniexec command. Use this command language to load the TOPS-20 command processor from tape. Type CTRL/U if you want to erase a line while at miniexec command level.

The system prints NO EXEC because the file <SYSTEM>EXEC.EXE (containing the TOPS-20 command language) does not exist. The command language is not needed at this point, so ignore this message.

To skip over the end of the monitor save file, type G. The system prints ET FILE. Type MTA0: and press the RETURN key. The system skips over the end of the monitor save file and prints the miniexec prompt MX>.

```
NO EXEC
MX>GET FILE MTA0:(RET)
MX>
```

NOTE

If you are using a tape drive other than tape drive 0, reply accordingly in the following steps and/or error recovery procedures, e.g., MTA1:, MTA2:.

Error: If you get an error message in the form:

```
INTERRUPT AT location
```

where location is an octal number, this message can be ignored, so continue with the next step.

Step 54: Again Type G Then MTA0: And Press the RETURN Key.

To load the TOPS-20 Command Processor from magnetic tape into memory, type G. The system prints ET FILE. Type MTA0: and press the RETURN key. The system reads the program from MTA0: into memory and prints the miniexec prompt when it is finished:

```
MX>GET FILE MTA0:RET
MX>
```

Error: If you get another error in the form INTERRUPT AT location,
ERROR: the tape is bad. Start at Step 10 once more for a DECSYSTEM-20 or Step 33 for a DECSYSTEM-2020. If the errors continue, call Digital Software Support.

If you make a typing mistake and press the RETURN key, the system prints the MX> prompt. Try again.

Step 55: Type S And Press the RETURN Key.

To start the TOPS-20 Command Processor that you just loaded into memory, type S. The system prints TART. Press the RETURN key. The system prints the name and version of the TOPS-20 Command Processor and the TOPS-20 prompt, @:

```
MX>STARTRET

 TOPS-20 Command processor 3A(415)
@
```

Error: If the system prints INTERRUPT AT 1, you did only one G
ERROR: command in the miniexec. Repeat the command in this step. If you still get the error, go back to Step 12 for a DECSYSTEM-20 or Step 33 for a DECSYSTEM-2020. If the errors continue, contact Digital Software Support.

If you receive the error message INTERRUPT AT 601772, follow the error recovery procedures listed below.

Rewind the tape manually and give the following commands:

```
MX>GET FILE MTA0:RET
MX>RESETRET
MX>GET FILE MTA0:RET
MX>STARTRET
```

Proceed to Step 56:

If you make a typing error and press the RETURN key, the system prints the MX> prompt, try again.

Error: If many error messages are repeatedly printed, the tape could be bad. Press the front-end HALT switch and wait one minute. Go back to Step 12. If the errors persist, ask for another tape.

ERROR: If many error messages are repeatedly printed, the tape could be bad. Type CTRL/\ and wait for the system to print the prompt KS10>. Return to Step 33 and start again. If errors still persist, ask for another tape.

2.6 CREATING A SPECIAL SYSTEM DIRECTORY .

With the system running, you must create a special system directory used in verifying and testing the system. The directory <UETP.LIB> is created by running the DLUSER program from tape.

Step 56: Give the Command: ENABLE (CAPABILITIES).

To be able to load files into privileged areas and create user names and directories, give the ENABLE command to obtain the required capabilities. Type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key. The system prints a $ prompt instead of @:

```
@ENABLE (CAPABILITIES)
$
```

Step 57: Give the Command: RUN (PROGRAM) MTA0:.

To run the DLUSER program from the magnetic tape, type RUN and press the ESC key. The system prints (PROGRAM). Type MTA0: and press the RETURN key. After you issue this command, the system prints the prompt DLUSER>:

```
$RUN (PROGRAM) MTA0:
DLUSER>
```

Error: If you receive an error message, rewind the tape, skip two
ERROR: files, and reissue this command. If you are installing the TOPS-20 software on a DECSYSTEM-2020, when you type the SKIP command, skip 4 files. The following example shows how to do this on a DECSYSTEM-20 for MTA0:

```
$REWIND (DEVICE) MTA0:
$SKIP (DEVICE) MTA0: 2 FILES
$RUN (PROGRAM) MTA0:
DLUSER>
```

Step 58: Give the DLUSER Command: LOAD (FROM FILE) MTA0:.

To load the directory structure from the tape into the file system, type LOAD and press the ESC key. The system prints (FROM FILE). Type MTA0: and press the RETURN key. After a few seconds, the system prints DONE. and the DLUSER prompt:

```
DLUSER>LOAD (FROM FILE) MTA0:

DONE.
DLUSER>
```

Error: If you mistype the command and have not pressed the RETURN
ERROR: key, delete the entire line by typing a CTRL/U and reissue the command.

If you mistyped the command and pressed the RETURN key, follow the error recovery procedure in Step 57.

If you get a group of JSYS error messages, you probably did not give the ENABLE command in step 56. Type two CTRL/Cs, type ENABLE, give the commands in the following example, and reissue the command in this step:

```
$REWIND (DEVICE) MTA0:
?DEVICE MTA0: OPEN ON JFN 3
%CLOSE JFN? YES
 3 MTA0: [OK]
$SKIP (DEVICE) MTA0: 2 FILES
$RUN (PROGRAM) MTA0:
DLUSER>
```

Step 59: Type EXIT and Press the RETURN Key.

Type EXIT and press the RETURN key to end the DLUSER program. The system prints $:

```
DLUSER>EXIT
$
```

2.7 RUNNING DUMPER FROM TAPE

The DUMPER program places files from the magnetic tape into the TOPS-20 file system. The DUMPER program is the fifth file on the tape.

Step 60: Give the Command: RUN (PROGRAM) MTA0:.

The DUMPER program is on the tape mounted on drive 0. Type RUN and press the ESC key. The system prints (PROGRAM). Since the tape is already positioned at the DUMPER program, type MTA0: and press the RETURN key. After the DUMPER program starts, the system prints the word DUMPER, the current version, and then prints the DUMPER prompt:

```
$RUN (PROGRAM) MTA0:

DUMPER 3A(172)

DUMPER>
```

Error: If you get errors, the magnetic tape was not recorded properly or positioned properly. Rewind the tape, skip four files, and try again. If you are installing the TOPS-20 software on a DECSYSTEM-2020, when you give the SKIP command, skip 5 files. The following lines show how to do this on a DECSYSTEM-20 for MTA0:. If the errors persist, contact Digital Software Support:

```
$REWIND (DEVICE) MTA0:
$SKIP (DEVICE) MTA0: 4 FILES
$RUN (PROGRAM) MTA0:

DUMPER 3A(172)

DUMPER>
```

Step 61: Give the DUMPER Command: TAPE (FILESPEC) MTA0:.

Tell DUMPER which tape drive to use by giving the DUMPER command TAPE. Type TAPE and press the ESC key. The system prints (FILESPEC). Type MTA0: and press the RETURN key. The system prints the DUMPER prompt:

```
DUMPER>TAPE (FILESPEC) MTA0:
DUMPER>
```

Error: If you make a typing error, reissue the command.

2.8 RESTORING TOPS-20 BUNDLED SOFTWARE FROM TAPE

Restore the files for the directories <SYSTEM>, <SUBSYS>, and <UETP.LIB> from the tape.

Give the DUMPER command FILES just before the RESTORE command if you want the system to print the file specification of each file it restores. The installation takes longer if you print this information. To stop printing each file specification, give the NO FILES command after the current RESTORE command finishes.

(Refer to the description of DUMPER in the DECSYSTEM-20 User's Guide for an explanation of any messages that DUMPER may print on your terminal.)

Step 62: Give the DUMPER Command: RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SYSTEM>*.*.*.

To copy the TOPS-20 monitor and its related programs from magnetic tape to disk, give the DUMPER RESTORE command. Type RESTORE and press the ESC key. The system prints (MTA FILES). Press the ESC key. The system prints PS:<*>*.*.* (TO). Type <SYS and press the ESC key. The system prints TEM>*.*.*. Press the RETURN key.

This DUMPER command restores all the files in the first save set to the directory <SYSTEM>. When all the files are restored, the system prints END OF SAVESET and the DUMPER prompt:

```
DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SYSTEM>*.*.*
DUMPER TAPE # 1, "NEW-SYSTEM FOR RELEASE 3A" ,WEDNESDAY, 8-AUG-78 1207
LOADING FILES(S) INTO PS:<SYSTEM>

END OF SAVESET
DUMPER>
```

The system prints a header containing the date and time that the tape was written.

Error: If you do not type the directory name <SYSTEM>, the files
ERROR: are restored to the wrong directory. To correct this error, type CTRL/E, give the following commands to correct this error, and reissue the RESTORE command in this step. Be sure to delete and expunge the files in the incorrect directory.

```
^C
INTERRUPTING...
DUMPER>SKIP 0

%DO YOU REALLY WANT TO ABORT YOUR INTERRUPTED COMMAND?
YES OR NO? YES
DUMPER>
```

Step 63: Give the DUMPER Command: RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SUBSYS>*.*.*.

Restore the system program files to the directory <SUBSYS>. Type RESTORE and press the ESC key. The system prints (MTA FILES). Press the ESC key. The system prints PS:<*>*.*.* (TO). Type <SUB and press the ESC key. The system prints SYS>*.*.*. Press the RETURN key. When all the files are restored, the system prints END OF SAVESET and the DUMPER prompter:

```
DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SUBSYS> *.*.*

DUMPER TAPE # 1, "NEW-SUBSYS FOR RELEASE 3A" ,WEDNESDAY, 8-AUG-78 1209
LOADING FILE(S) INTO PS:<SUBSYS>

END OF SAVESET
DUMPER>
```

Error: If you forget to type the directory <SUBSYS>, the files are ERROR: restored to the wrong directory. Type CTRL/E, give the following commands to correct the error, and reissue the RESTORE command in this step. Be sure to delete and expunge the files in the incorrect directory.

```
^E
INTERRUPTING...
DUMPER>SKIP 0

%DO YOU REALLY WANT TO ABORT YOUR INTERRUPTED COMMAND?
YES OR NO? YES
DUMPER>
```

Step 64: Give the DUMPER Command: RESTORE (MTA FILES) PS:<*>*.*.* (TO) <UETP.LIB>*.*.*.

To restore the files into the directory <UETP.LIB>, type RESTORE and press the ESC key. The system prints (MTA FILES). Press the ESC key. The system prints PS:<*>*.*.* (TO). Type <UETP.LIB> and press the ESC key. Press the RETURN key. When all the files are restored, the system prints END OF SAVESET and the DUMPER prompt:

```
DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <UETP.LIB>*.*.*

DUMPER TAPE # 1, "UETP FOR RELEASE 3A" ,WEDNESDAY, 8-AUG-78 1211
LOADING FILE(S) INTO PS:<UETP.LIB>

END OF SAVESET
DUMPER>
```

Error: If you forget to type <UETP.LIB>, the system restores the
ERROR: files to the wrong directory. Type CTRL/E to stop DUMPER, give the SKIP 0 command, and reissue the RESTORE command. Be sure to delete and expunge the files in the incorrect directory:

```
CTRL/E
INTERRUPTING...
DUMPER>SKIP 0 RET

%DO YOU REALLY WANT TO ABORT YOUR INTERRUPTED COMMAND?
YES OR NO? YES RET
DUMPER>
```

Step 65: Type EXIT and Press the RETURN Key.

Type EXIT and press the RETURN key to end DUMPER. The system prints the TOPS-20 enabled prompt:

```
DUMPER>EXIT RET
$
```

Step 66: Give the Command: UNLOAD (DEVICE) MTA0:.

To remove the TOPS-20 Installation tape from the tape drive, type UNLOAD and press the ESC key. The system prints (DEVICE). Type MTA0: and press the RETURN key. The system rewinds the tape onto the source reel.

```
         ESC
$UNLOAD (DEVICE) MTA0: RET
$
```

You can now remove the TOPS-20 Installation tape from the tape drive.

Error: If the system prints:
ERROR:

```
%Device open in lower fork
%Kill lower fork?
```

type YES and press the RETURN key. The system unloads your tape.

Step 67: Give the Command: DIRECTORY (OF FILES) <*> and Press the RETURN key.

If you give the command DIRECTORY (OF FILES) <*>, the system would print every directory that is in the directory <ROOT-DIRECTORY>. You will notice that there are two directories called <NEW-SYSTEM> and <NEW-SUBSYS>. These directories should have no files associated with them. They were created by the monitor and will be used in the event you update your system to a newer release of the TOPS-20 Operating System.

```
            ESC
$DIRECTORY (OF FILES) <*> RET
```

CHAPTER 3

TAILORING THE SYSTEM

After you have installed the bundled TOPS-20 software from the Installation tape, tailor your system for your specific needs. You must:

1. Select a monitor that is correct for your system.
2. Change the system name.
3. Set terminal speeds, define remote lines, system logical names, magnetic tape logical unit numbers, line printer parameters, the time zone, directory parameter settings, and enable or disable account validation. All these parameters are located in the system parameter file <SYSTEM>3A-CONFIG.CMD.
4. Changing the operators password and user group.
5. Create the directory PS:<REMARKS>.
6. Create the LPFORM.INI file.

If you are tailoring a DECSYSTEM-2020 perform all the steps in this chapter with the exception of Steps 82 and 87.

3.1 SELECTING A TOPS-20 MONITOR

At this time you are running the TOPS-20 monitor MONSML.EXE if you have a 2020, 2040, or 2050. If you have a 2060 you are running the TOPS-20 monitor 2060-MONBIG.EXE. You should now select a monitor that meets your systems requirements. Choose a monitor that supports at least:

1. As much memory as your system contains. A monitor that supports less memory than your system contains does not run correctly.
2. The number of terminal lines you need. Do not count the operator's console in this number. Just count the local terminal lines and remote lines.
3. The number of user jobs that you will run, plus seven (six operators jobs and job 0). For example, if you expect to run 20 user jobs, the monitor you select should support at least 27 jobs.

4. The number of pseudo-terminals that you need. The system needs seven pseudo-terminals, plus the number that you want for the batch system. For example, if you want to run five pseudo-terminals in your batch system, you need a monitor that supports at least 12 pseudo-terminals.

   Pseudo-terminals are needed for the following operator jobs:

   OPLEAS - This program allows users to communicate with the operator.

   BATCON - Batch Controller

   EXEC - Job that the operator uses for utility functions.

   PTYCON - This program lets the operator communicate with the other pseudo-terminals.

   LPTSPL - Line printer spooler.

   LPTSPL - Optional. Needed for a second line printer.

   SPRINT - Optional. Needed for a card reader.

5. The number of peripheral devices on your system.

All monitors are stored in the directory <SYSTEM>. They all run timesharing and batch concurrently. Do not select a monitor that has fewer resources than you need, but do not choose a monitor that is unnecessarily large either. The TOPS-20 monitor and their characteristics are listed below. Be sure the monitor you select is for your type of system (e.g., 2020, 2040, 2050, 2060).

If you are installing the TOPS-20 software on a DECSYSTEM-20, model 2040 or 2050 copy one of the following monitors to MONITR.EXE:

MONSML.EXE A small timesharing monitor. This monitor supports up to:

```
 40  jobs
 64  lines
 20  pseudo-terminals
256K of memory
  8  magnetic tape drives
  2  line printers
  1  card reader
 80  million words of disk storage (four RP04
     or two RP06 disk drives) per structure.
5035 pages for swapping space.
```

MONMED.EXE A medium-size timesharing monitor. This monitor supports up to:

```
 64  jobs
128  lines
 30  pseudo-terminals
256K of memory
  8  magnetic tape drives
  2  line printers
  1  card reader
 80  million words of disk storage (four RP04
     or two RP06 disk drives) per structure.
7030 pages for swapping space.
```

MONBCH.EXE — A batch-oriented monitor for a medium size configuration. This monitor allows a five-stream batch system and at least one timesharing job. The Batch monitor supports up to:

14	jobs
8	lines
12	pseudo-terminals
256K	of memory
8	magnetic tape drives
2	line printers
1	card reader
80	million words of disk storage (four RP04 or two RP06 disk drives) per structure.
7030	pages for swapping space.

MONBIG.EXE — A large timesharing monitor. This monitor supports up to:

100	jobs
128	lines
30	pseudo-terminals
512K	of memory
8	magnetic tape drives
2	line printers
1	card reader
80	million words of disk storage (four RP04 or two RP06 disk drives) per structure.
7030	pages for swapping space.

If you are installing the TOPS-20 software on a DECSYSTEM-20 model 2060 copy one of the following monitors to MONITR.EXE:

2060-MONBIG.EXE — A large timesharing monitor. This monitor supports up to:

100	jobs
128	lines
30	pseudo-terminals
512K	of memory
8	magnetic tape drives
2	line printers
1	card reader
80	million words of disk storage (four RP04 or two RP06 disk drives) per structure.
7030	pages for swapping space.

2060-MONMAX.EXE — The largest timesharing monitor. This monitor supports up to:

128	jobs
128	lines
50	pseudo-terminals
2048K	of memory
16	magnetic tape drives
2	line printers
1	card reader
120	million words of disk storage (six RP04 or three RP06 disk drives) per structure.
7030	pages for swapping space.

If you are part of the ARPA network copy one of the following monitors to MONITR.EXE.

AN-MONSML.EXE A small timesharing monitor. This monitor supports up to:

- 40 jobs
- 64 lines
- 20 pseudo-terminals
- 20 NVT's
- 256K of memory
- 8 magnetic tape drives
- 2 line printers
- 1 card reader
- 120 million words of disk storage (six RP04 or three RP06 disk drives) per structure.
- 5035 pages for swapping space.

AN-MONMED.EXE A medium-size timesharing monitor. This monitor supports up to:

- 60 jobs
- 128 lines
- 30 pseudo-terminals
- 30 NVT's
- 256K of memory
- 8 magnetic tape drives
- 2 line printers
- 1 card reader
- 120 million words of disk storage (six RP04 or three RP06 disk drives) per structure.
- 7030 pages for swapping space.

AN-MONBIG.EXE A large timesharing monitor. This monitor supports up to:

- 100 jobs
- 128 lines
- 30 pseudo-terminals
- 40 NVT's
- 512K of memory
- 8 magnetic tape drives
- 2 line printers
- 1 card reader
- 120 million words of disk storage (six RP04 or three RP06 disk drives) per structure.
- 7030 pages for swapping space

AN-MONLGE.EXE The largest ARPANET timesharing monitor. This monitor supports up to:

100	jobs
128	lines
50	pseudo-terminals
40	NVT's
2048	of memory
8	magnetic tape drives
2	line printers
1	card reader
120	million words of disk storage (six RP04 or three RP06 disk drives) per structure.
10000	pages for swapping space.

If you are installing the TOPS-20 software on a DECSYSTEM-2020 copy one of the following monitors to MONITR.EXE.

2020-MONSML.EXE A small timesharing monitor. This monitor supports up to:

40	jobs
32	lines
20	pseudo-terminals
256K	of memory
8	magnetic tape drives
1	line printer
1	card reader
80	million words of disk storage (four RM03 or two RP06 disk drives) per structure.
5035	pages for swapping space.

2020-MONMED.EXE A medium-size timesharing monitor. This monitor supports up to:

60	jobs
32	lines
30	pseudo-terminals
512K	of memory
8	magnetic tape drives
1	line printer
1	card reader
80	million words of disk storage (four RM03 or two RP06 disk drives) per structure.
7035	pages for swapping space.

NOTE

The swapping space for all the above monitors are based on a one disk pack public structure.

Step 68: Give the Command: CONNECT (TO DIRECTORY) PS:<SYSTEM>.

Connect to the <SYSTEM> directory by typing CONNECT and pressing the ESC key. The system prints (TO DIRECTORY). Type PS:<SYSTEM> and press the RETURN key:

```
$CONNECT (TO DIRECTORY) PS:<SYSTEM>
$
```

Error: The system may print the following message:

<SYSTEM> OVER PERMANENT STORAGE ALLOCATION BY n PAGES.

For now, disregard this message. Later, increase both the permanent and working storage allocations of this directory by giving the CTRL/E CREATE command.

If the system prints:

```
?INVALID PASSWORD
@
```

you are probably not enabled. Give the ENABLE command and reissue the CONNECT command.

Step 69: Give the Command:. COPY (FROM) MONtyp.EXE (TO) MONITR.EXE.

Copy the monitor that you have selected to the file MONITR.EXE. Type COPY and press the ESC key. The system prints (FROM). Type the name of the monitor that you have selected and press the ESC key. The system prints the generation number and (TO). Type MONITR.EXE and press the RETURN key.

```
$COPY (FROM) MONtyp.EXE.1 (TO) MONITR.EXE
 MONtyp.EXE.1 => MONITR.EXE.2;P777700 [OK]
```

The different monitors are:

TOPS-20 2060	TOPS-20 2040/2050	TOPS-20 ARPANET	TOPS-20 2020
2060-MONBIG.EXE	MONSML.EXE	AN-MONSML.EXE	2020-MONSML.EXE
2060-MONMAX.EXE	MONMED.EXE	AN-MONMED.EXE	2020-MONMED.EXE
	MONBCH.EXE	AN-MONLGE.EXE	
	MONBIG.EXE	AN-MONBIG.EXE	

Error: If you type the wrong name, reissue the command.

3.2 CHANGING THE SYSTEM NAME

Whenever a user types CTRL/C before logging in or gives the INFORMATION (ABOUT) VERSION command, the system prints a message similar to:

```
TOPS-20 SMALL SYSTEM, TOPS-20 MONITOR 3A(1765)
```

You can change the system name "TOPS-20 SMALL SYSTEM" by entering the name you want into the file PS:<SYSTEM>MONNAM.TXT. If the name contains lowercase letters, give the command TERMINAL (MODE IS) NO RAISE before entering the name.

The text of the system name can contain up to 105 characters. For practical purposes, it should not exceed 32 characters to fit on a single 72-character line of terminal output. The following two steps show how to change the system name to "Installation-test System."

Step 70: Give the Command: TERMINAL (MODE IS) NO RAISE.

If you want lowercase letters in the system name, type TERMINAL and press the ESC key. The system prints (MODE IS). Type NO RAISE and press the RETURN key. Make sure the CAPS LOCKED button on the terminal is not depressed. The system prints $.

```
          ESC
           ↓
$TERMINAL (MODE IS) NO RAISE RET
$
```

Step 71: Give the Command: COPY (FROM) TTY: (TO) MONNAM.TXT. type-system-name-here. ^Z.

Type COPY and press the ESC key. The system prints (FROM). Type TTY: and press the ESC key. The system prints (TO). Type MONNAM.TXT and press the RETURN key. The system is now waiting for you to type in the new name of your system. After you enter the new system name, press the RETURN key; then type a CTRL/Z. The system prints ^Z followed by the $ prompt. In the example below, we use Installation-test System as the new system name.

```
      ESC          ESC
       ↓            ↓
$COPY (FROM) TTY: (TO) MONNAM.TXT RET
 TTY: => MONNAM.TXT.1

Installation-test System RET
CTRL/Z
   ↓
  ^Z
$
```

You can change this file at any time, but the system reads the system name only when the monitor is started (whenever you boot the system).

3.3 CREATING SYSTEM DEFAULTS IN 3A-CONFIG.CMD

You must create the file PS:<SYSTEM>3A-CONFIG.CMD to define system parameters for:

1. Terminal line speeds
2. Logical names
3. Magnetic tape logical unit numbers

4. Line printer defaults

5. Local time zone

6. Directory Parameter Setting

7. Account Validation

8. Latency Optimization

The next time the system starts, the SETSPD (SET System Parameter Defaults) program uses the parameters entered into this file. This program runs automatically at system startup.

The formats of the commands are described in the following sections. The sequence of the commands is not important. You can include comment lines if they are preceded by an exclamation point. Comments are not permitted on the same line as a command.

Step 72: Give the Command: CREATE (FILE) 3A-CONFIG.CMD.

Use EDIT to create the 3A-CONFIG.CMD file. (Refer to the DECSYSTEM-20 EDIT User's Guide for more information on how to use EDIT.) To create the file 3A-CONFIG.CMD, type CREATE, and press the ESC key. The system prints (FILE). Type 3A-CONFIG.CMD and press the RETURN key. The system prints Input: 3A-CONFIG.CMD.1 and line number 00100:


```
$CREATE (FILE) 3A-CONFIG.CMD RET
Input:  3A-CONFIG.CMD.1
00100
```

Do not confuse the CREATE command that creates a file with the CTRL/E CREATE command that creates a directory.

3.3.1 Setting Terminal Speeds

Whenever the system starts, the SETSPD program reads the TERMINAL commands from PS:<SYSTEM>3A-CONFIG.CMD and sets the terminal lines to the specified speeds.

Users can change the speeds of their terminals by giving the TERMINAL (MODE IS) SPEED command. When one user logs out and the next user logs in on the same terminal, the system does not change the line speed back to the default listed in 3A-CONFIG.CMD.

The operator can change the speed of the line by giving the CTRL/E SET command.

To set the default speed for a particular line, enter a command in the following format into 3A-CONFIG.CMD:

```
TERMINAL line SPEED input output
```

Item	Identifies
line	An octal line number or range of lines in the form line-line. Your Digital Field Service representative will provide you with a list of line numbers and the corresponding locations. (Refer to Section 1.1.)
input	The input speed of the terminal(s).
output	The output speed of the terminal(s). If you do not specify an output speed along with an input speed, the system assumes that the output speed is the same as the input speed. The terminal input and output speeds must be the same on a DECSYSTEM-2020.

Valid terminal speeds are:

0 (to shut off the line)	300
50	600
75	1200
110	1800
134 (actually 134.5)	2400
150	4800
200	9600

NOTE

If you do not specify a speed for a line, the system uses 300 baud for both input and output. If you have lines in the terminal controller (the DH11 on a DECSYSTEM-20 and a DZ11 on a DECSYSTEM-2020) that are not installed, you should define those lines with a baud rate of 0. Otherwise, the lines run open, causing degradation in system performance.

Line numbers are always octal and the console terminal line number is always one greater than the highest line number. Refer to Table 3-1 for line numbers for the DECSYSTEM-20 and Table 3-2 for line numbers for the DECSYSTEM-2020.

Table 3-1
Terminal Line Numbers
DECSYSTEM-20

Number of Lines (Decimal)	Timesharing Line Numbers (Octal)	Console Line Number (Octal)
8	1 to 10	11
16	1 to 20	21
32	1 to 40	41
64	1 to 100	101
96	1 to 140	141

Table 3-2
Terminal Line Numbers
DECSYSTEM-2020

Number of Lines (Decimal)	Timesharing Line Numbers (Octal)	Console Line Number (Octal)
8	2 to 11	12
16	2 to 21	22
32	2 to 41	42

Step 73: Type the TERMINAL SPEED Commands.

Type your required TERMINAL SPEED commands. You can include comment lines by preceding them with an exclamation point. The file entered below is an example. Determine the most useful definitions for the system according to the terminals that you have.

```
00100  ! Terminal Speeds<RET>
00200  ! Line 1 has input=9600 and output=9600<RET>
00300  TERMINAL 1 SPEED 9600<RET>
00400  ! Lines 2 to 20 have input and output=2400<RET>
00500  TERMINAL 2-20 SPEED 2400<RET>
00600  ! Lines 23 to 40 do not exist<RET>
00700  TERMINAL 23-40 SPEED 0<RET>
00800
```

3.3.2 Defining Dialup (REMOTE) Lines

For each dialup line, you have the option of declaring that line to have a specified speed. On the DECSYSTEM-20 you may declare a line to be autobaud. If a dialup line is declared an autobaud line at system startup, the line will be automatically set to 300 baud.

To declare a line autobaud, replace the word SPEED with the word AUTO in the TERMINAL command and do not specify any input and output speeds.

Include a TERMINAL command for each dialup line. Use the form (described above as the TERMINAL command), but insert the word REMOTE after the line number. If you do not use the AUTO argument and omit the output speed, the system assumes that the output speed is the same as the input speed. On a DECSYSTEM-2020 the input and output speed must be the same. The command format is:

```
TERMINAL line REMOTE SPEED input output

                or

TERMINAL line REMOTE AUTO (FOR DECSYSTEM-20 ONLY)
```

Whenever a user starts a job on a dialup line, and AUTO is not specified, the system sets the speed of that line to the speed specified in 3A-CONFIG.CMD.

Step 74: Define REMOTE Lines.

If you have remote lines, obtain the line numbers from your Digital Field Service representative and enter the proper commands in 3A-CONFIG.CMD. The lines entered below are an example. You must determine the correct commands for your own system.

```
00800  ! Lines 21 and 22 are dialup lines<RET>
00900  TERMINAL 21 REMOTE SPEED 300<RET>
01000  TERMINAL 22 REMOTE AUTO <RET> (FOR DECSYSTEM-20 ONLY)
```

3.3.3 Defining System Logical Names

Insert a command in the following format to define any special system logical names that you require. These logical names are defined when the system starts. The command format is:

```
DEFINE name definition-list
```

The logical name SYS: defaults to PS:<SUBSYS> if you do not define it in 3A-CONFIG.CMD. The DECSYSTEM-20 User's Guide describes logical names.

Step 75: Type System Logical Name Definitions.

Enter any system logical name definitions into 3A-CONFIG.CMD. The lines entered below are examples. You must determine the correct definitions for your own system.

```
01100   DEFINE NEW: PS:<NEW>,SYS:<RET>
01200   DEFINE OLD: PS:<OLD>,SYS:<RET>
01300   DEFINE HLP: SYS:<RET>
01400
```

3.3.4 Defining Magnetic Tape Logical Unit Numbers

The system assigns magnetic tape drive(s) logical unit numbers. It starts with the lowest numbered unit on the lowest numbered controller on the lowest numbered channel and proceeds upward. If the cabling connecting the tape drives to the system changes, the logical unit numbers referencing the tape drives can also change, unless you enter the appropriate commands in 3A-CONFIG.CMD. The commands in 3A-CONFIG.CMD guarantee that the physical drives always have the same logical unit numbers.

Request the tape drive serial numbers from your DIGITAL Field Service representative or open the back door of the magnetic tape drives and look on the sticker containing the number. Use the last four digits of the number. Enter a MAGTAPE command in the following format into the 3A-CONFIG.CMD file:

```
MAGTAPE unit serial slave
```

Item	Identifies
unit	The logical unit number that you wish to assign to the drive. The unit number can be 0, 1, 2, 3, 4, 5, 6, or 7.
serial	The last four digits of the serial number. (Leading 0s may be omitted)
slave	The type of tape drive, e.g., TU70, TU71, TU72, TU45.

NOTE

If no slave number is entered the system assumes that the slave number is TU45.

Step 76: Define Magnetic Tape Drive Logical Unit Numbers.

Enter the definitions of the magnetic tape drive logical unit numbers into 3A-CONFIG.CMD. The commands entered below are examples. You must determine the correct definitions for your system.

```
01400   MAGTAPE 0 24      TU45(RET)
01500   MAGTAPE 1 25      TU45(RET)
01600   MAGTAPE 2 2002    TU71(RET)
01700   MAGTAPE 3 2003    TU70(RET)
01800   MAGTAPE 4 150000  TU72(RET)
01900
```

3.3.5 Defining Line Printer Parameters

The characteristics of the six possible line printers that can be ordered with your DECSYSTEM-20 are listed in Table 3-3. Ask your Digital Field Service representative which type of line printer you have.

Table 3-3
DECSYSTEM-20 Line Printers

Model	VFU	Lowercase	Identification
LP20A LP20B	PROGRAMMABLE PROGRAMMABLE	NO YES	Four buttons on the right top panel, with the top button being POWER ON ALARM/CLEAR
LP20C LP20D	PROGRAMMABLE PROGRAMMABLE	NO YES	Four buttons on the right top panel, with the top button being POWER ON ALARM/CLEAR
LP20F LP20H	TAPE TAPE	NO YES	Four rocker switches on the left of the top panel

Table 3-4
DECSYSTEM-2020 Line Printers

Model	VFU	Lowercase	Identification
LP20A	PROGRAMMABLE	NO	Four buttons on the right top panel with the top button being POWER ON ALARM/CLEAR
LP20B	PROGRAMMABLE	YES	
LP20C	PROGRAMMABLE	NO	Four buttons on the right top panel, with the top button being POWER ON ALARM/CLEAR
LP20D	PROGRAMMABLE	YES	

The instructions in the following sections describe how to install the line printer.

3.3.5.1 **Specifying the VFU File.-** The vertical formatting unit is used to control paper advance through the line printer. For a line printer with a programmable VFU, place a command in 3A-CONFIG.CMD that specifies the file to program the VFU. For installation purposes, use SYS:NORMAL.VFU. The command format is:

```
PRINTER n LOWERCASE VFU dev:<dir>name.typ
```

Item	Identifies
n	The unit number of the printer.
LOWERCASE	Specifies that the printer has the 96-character set. If your printer has the 64-character set, do not include the word LOWERCASE in the command.
VFU	The type of file specified by the command.
dev:<dir>name.typ	The location of the VFU file.

You do not need VFU commands for LP20F and LP20H line printers.

An example of typical VFU commands in the 3A-CONFIG.CMD file are:

```
For an LP20A and LP20C
PRINTER 0 VFU SYS:NORMAL.VFU

For an LP20B and LP20D
PRINTER 0 LOWERCASE VFU SYS:NORMAL.VFU
```

Step 77: Type the VFU Command.

If you have one or more line printers with programmable VFUs, enter the appropriate PRINTER commands in 3A-CONFIG.CMD:

```
01900  PRINTER 0 LOWERCASE VFU SYS:NORMAL.VFU<RET>
02000  PRINTER 1 VFU SYS:NORMAL.VFU<RET>
02100
```

3.3.5.2 **Specifying the RAM File** - You must identify a file that will load the translation RAM (random-access memory). This RAM controls the way that each character is treated by the line printer. Use SYS:LP96.RAM for line printers that have lowercase letters. Use SYS:LP64.RAM for printers that do not have lowercase letters. The command format is:

```
PRINTER n LOWERCASE RAM dev:<dir>name.typ
```

Item	Identifies
n	The line printer unit number.
LOWERCASE	Specifies that the printer has the 96-character set. If your printer has the 64-character set, do not include the word LOWERCASE in the command.
RAM	The type of file specified by the command.
dev:<dir>name.typ	The file that contains the translation RAM.

Examples of typical RAM commands in the 3A-CONFIG.CMD file are:

1. For an LP20A, LP20F or LP20C

   ```
   PRINTER 0 RAM SYS:LP64.RAM
   ```

2. For an LP20B, LP20H or LP20D

   ```
   PRINTER 0 LOWERCASE RAM SYS:LP96.RAM
   ```

Step 78: Type the RAM Command.

Enter the RAM command into 3A-CONFIG.CMD:

```
02100  PRINTER 0 LOWERCASE RAM SYS:LP96.RAM<RET>
02200  PRINTER 1 RAM SYS:LP64.RAM<RET>
02300
```

3.3.6 Defining the Local Timezone

The time zone in which your installation is located can be represented as the number of hours west or east of Greenwich. For example, Eastern Standard Time is zone 5; Central Standard Time is zone 6, Mountain Standard Time is zone 7, and Pacific Standard Time is zone 8. To set your local timezone, you can enter the following command in 3A-CONFIG.CMD:

```
TIMEZONE n
```

n is a decimal number between -12 and 12 inclusive. Zones -12 and 12 represent the same clock time but on opposite sides of the international date line. If you do not specify a timezone in 3A-CONFIG.CMD, the system will default to zone 0, signifying Greenwich mean time.

Step 79: Type the TIMEZONE Command.

Enter the TIMEZONE command into 3A-CONFIG.CMD:

```
02300    TIMEZONE 5 (NET)
02400
```

3.3.7 Directory Parameter Settings

You have the option of allowing users to change their directory parameters. If you decide to allow users to do this no command is entered into the 3A-CONFIG.CMD file because the system default is: ENABLE-DIRECTORY-PARAMETER-SETTING. However, if you decide not to allow users to change their directory parameters, you should enter the command: DISABLE-DIRECTORY-PARAMETER-SETTING into the 3A-CONFIG.CMD file. When this command is given it prevents the user from changing any of his directory parameters unless he has WHEEL or OPERATOR capabilities. The following step is an example of disallowing users from changing their directory parameters.

Step 80: Type DISABLE-DIRECTORY-PARAMETER-SETTING and Press the RETURN Key.

To prevent users from changing their directory parameters type DISABLE-DIRECTORY-PARAMETER-SETTING and press the RETURN key.

```
02400    DISABLE-DIRECTORY-PARAMETER-SETTING(NET)
02500
```

NOTE

If the default is taken, users are allowed to change some of their directory parameters with the SET DIRECTORY PROTECTION command.

3.3.8 Account Validation

You have the option of requiring all users to enter a valid account name when they are logging into the system. If you decide to require valid accounts, you do not have to enter any command into the 3A-CONFIG.CMD file because the system default is: ENABLE ACCOUNT-VALIDATION. However, if you decide not to validate accounts, you must enter the command: DISABLE ACCOUNT-VALIDATION into the 3A-CONFIG.CMD file. The following step is an example of not using the account validation facility.

➡ **Step 81: Type DISABLE ACCOUNT-VALIDATION and Press the RETURN Key.**

If you are not validating accounts type DISABLE ACCOUNT-VALIDATION and press the RETURN key.

```
02500   DISABLE ACCOUNT-VALIDATION<RET>
02600
```

3.3.9 Full Latency Optimization (FOR DECSYSTEM-20 ONLY)

Full latency optimization is a performance improvement feature. When the command, ENABLE FULL-LATENCY-OPTIMIZATION is entered into the 3A-CONFIG.CMD file the number of revolutions needed to read pages off the disk is minimized.

WARNING

Before you can use this performance feature, you must obtain from your Digital Field Service Representative the following information about your hardware.

1. If you have a KL10-C processor, it must be at revision level 11.

2. If you have a KL10-E processor, it must be at revision level 3.

3. If board M7772 is at version level E, and CS revision level F, or you have board M7786.

If your hardware does not meet the above requirements, take the system default, which is, DISABLE FULL-LATENCY-OPTIMIZATION.

➡ **Step 82: Type ENABLE FULL-LATENCY-OPTIMIZATION and Press the RETURN Key. (FOR DECSYSTEM-20 ONLY)**

If your hardware meets the above requirements, type ENABLE FULL-LATENCY-OPTIMIZATION and press the RETURN key.

```
02600   ENABLE FULL-LATENCY-OPTIMIZATION<RET>
02700
```

Step 83: Press the ESC Key, Type E and Press the RETURN Key.

Press the ESC key to end insert mode. Type E and press the RETURN key to save the file. The system prints the file name and $:

```
02700    $
*E
[3A-CONFIG.CMD.1]
$
```

Step 84: Give the Command: TYPE (FILE) <SYSTEM>3A-CONFIG.CMD.

To be sure that the file is in the proper directory, type TYPE and press the ESC key. The system prints (FILE). Type <SYSTEM>3A-CONFIG.CMD and press the RETURN key. The system prints the contents of the file on your terminal.

```
$TYPE (FILE) <SYSTEM>3A-CONFIG.CMD
00100   ! Terminal Speeds
00200   ! Line 1 has input=9600 and output=9600
00300   TERMINAL 1 SPEED 9600
00400   ! Lines 2 to 20 have input and output=2400
00500   TERMINAL 2-20 SPEED 2400
00600   ! Lines 23 to 40 are shut off
00700   TERMINAL 23-40 SPEED 0
00800   ! Line 21 and 22 are dialup lines
00900   TERMINAL 21 REMOTE SPEED 300
01000   TERMINAL 22 REMOTE AUTO
01100   DEFINE NEW: PS:<NEW>,SYS:
01200   DEFINE OLD: PS:<OLD>,SYS:
01300   DEFINE HLP: SYS:
01400   MAGTAPE 0 24 TU45
01500   MAGTAPE 1 25 TU45
01600   MAGTAPE 2 2002 TU71
01700   MAGTAPE 3 2003 TU70
01800   MAGTAPE 4 150000 TU72
01900   PRINTER 0 VFU SYS:NORMAL.VFU
02000   PRINTER 1 VFU SYS:NORMAL.VFU
02100   PRINTER 0 LOWERCASE RAM SYS:LP96.RAM
02200   PRINTER 1 RAM SYS:LP64.RAM
02300   TIMEZONE 6
02600   ENABLE FULL-LATENCY-OPTIMIZATION
$
```

Remember, the sequence of the commands is not important. The file shown above is just an example.

Error: If the system cannot find the file or prints the wrong file, give the following COPY command to place the file in <SYSTEM>:

```
$COPY (FROM) 3A-CONFIG.CMD (TO) PS:<SYSTEM>3A-CONFIG.CMD
```

(Refer to the DECSYSTEM-20 EDIT Reference Manual if you want to change the file.)

3.4 CHANGING PTYCON.ATO

Perform the steps in this section if your system has a card reader, a second line printer, or both. Otherwise, skip this section (Steps 85 to 89) entirely.

Step 85: Give the Command: EDIT (FILE) PTYCON.ATO.

(Refer to the DECSYSTEM-20 EDIT User's Guide or DECSYSTEM-20 EDIT Reference Manual for more information on how to use EDIT.) Type EDIT and press the ESC key; the system prints (FILE). Type PTYCON.ATO and press the RETURN key; the system prints Edit: PTYCON.ATO.1 and the prompter *.

```
$EDIT (FILE) PTYCON.ATO
Edit:  PTYCON.ATO.1
*
```

Step 86: For a Card Reader, Give the Command: S;CDR:$$/.

To specify the existence of a card reader, type S;CDR:$$/. and press the RETURN key; the system prints *.

```
*S;CDR:$$/.
*
```

Error: If the system prints:

```
S*
```

You did not type enough ESC characters (printed as $). Type CTRL/U and reissue the command.

Step 87: For a Second Line Printer, Give the Command: S;LPT1:$$/. (FOR DECSYSTEM-20 ONLY).

To specify the existence of a second line printer, type S;LPT1:$$/. and press the RETURN key; the system prints *.

```
*S;LPT1:$$/.
*
```

Error: If the system prints:

```
S*
```

You did not type enough ESC characters (printed as $). Type CTRL/U and reissue the command.

Step 88: Type E and Press the RETURN Key.

Type E and press the RETURN key to save the file. The system prints the file name and a $.

```
*E<RET>

[PTYCON.ATO.2]
$
```

Step 89: Give the Command: TYPE (FILE) PS:<SYSTEM>PTYCON.ATO.

To make sure that the file is in the proper directory, type TYPE and press the ESC key. The system prints (FILE). Type PS:<SYSTEM>PTYCON.ATO and press the RETURN key. The system prints the contents of the file on your terminal.

```
      <ESC>
      ↓
$TYPE (FILE) PS:<SYSTEM>PTYCON.ATO<RET>

.
.
.

$
```

3.5 CHANGING THE OPERATOR'S PASSWORD AND USER GROUP

You may wish to change the operator's password from the widely publicized DEC-20 to a 39-alphanumeric-character phrase of your choosing. The password can include a hyphen. BE SURE TO REMEMBER THE PASSWORD or you will have to reinstall the system if you cannot think of the particular phrase that you typed. In order for the operator to run the User Environmental Test Package he must belong to the correct user group. This section describes how to change the operator's password and user group.

Step 90: Give the Command: ^ECREATE (DIRECTORY NAME) PS:<OPERATOR> and Press the RETURN Key.

Type CTRL/E CREATE, and press the ESC key. The system prints (DIRECTORY NAME). Type PS:<OPERATOR> and press the RETURN key. The system prints [OLD], and then the subcommand prompt $$.

```
      <CTRL/E>  <ESC>
      ↓         ↓
$^ECREATE (DIRECTORY NAME) PS:<OPERATOR><RET>

[OLD]
$$
```

Step 91: Give the Command: PASSWORD your password and Press the RETURN Key.

To insert the operator's new password, type PASS and press the ESC key. The system prints WORD. Type the new password and press the RETURN key. The system prints the subcommand prompt.

```
$$ PASSWORD your password<RET>
$$
```

Step 92: Give the Subcommand: USER-GROUP (NUMBER) 100 and Press the RETURN Key.

The operator's user group number must be changed to 100 in order for him to run the User Environmental Test Package. Type USER-GROUP and press the ESC key. The system prints (NUMBER). Type 100 and press the RETURN key.

```
$$USER-GROUP (NUMBER) 100<RET>
$$
```

Step 93: Press the RETURN Key.

To return to the TOPS-20 command level, press the RETURN key.

```
$$<RET>
$
```

3.6 CREATING PS:<REMARKS> DIRECTORY

The directory PS:<REMARKS> will be used to receive messages sent by users to the operator. Creating this directory avoids constant interruption to the operator from users issuing PLEASE request. With this directory the operator can read the messages at a specified time each day.

Step 94: Give the Command ^ECREATE (DIRECTORY NAME)<REMARKS> and Press the RETURN key.

Type CTRL/E CREATE, and press the ESC key. The system prints (NAME). Type PS:<REMARKS> and press the RETURN key.

```
$^ECREATE (DIRECTORY NAME) PS:<REMARKS><RET>
[NEW]
$$
```

Step 95: Press the RETURN Key.

Upon completion of the above step the system prints $$, press the RETURN key and proceed to the next step.

```
$$ RET
$
```

3.7 CREATING THE LPFORM.INI FILE

If the LPFORM.INI file is created, each time LPTSPL receives a request for the line printer, the system will do the following:

1. Print the name of the user who requested the line printer. (BANNER)
2. Print the name of the file that is being printed. (HEADER)
3. After all the information in that file is printed, it will print the users name again. (TRAILER)

If this file is omitted, each time a request for the line printer is received, LPTSPL will use the system default.

Step 96: Give the Command: CONNECT (TO DIRECTORY) <SUBSYS> and Press the RETURN Key.

The LPFORM.INI file must reside in the directory <SUBSYS>. Type CONNECT and press the ESC key. The system prints (TO DIRECTORY). Type <SUBSYS> and press the RETURN key.

```
          ESC
          |
          v
$CONNECT (TO DIRECTORY) <SUBSYS> RET
$
```

Step 97: Give the Command: CREATE (FILE) LPFORM.INI and Press the RETURN key.

Use the EDIT program to create the LPFORM.INI file. Type CREATE and press the ESC key. The system prints (FILE). Type LPFORM.INI and press the RETURN key. The system proceeds into edit mode and prints 00100. The parameters in the example below are used only for explanatory purposes. You must decide the parameters to be used on your system.

```
          ESC
          |
          v
$CREATE (FILE) LPFORM.INI RET
 INPUT: LPFORM.INI.1
00100  NORMAL/BANNER:2/HEADER:2/TRAILER:2 RET
00200  NARROW/BANNER:2/HEADER:2/TRAILER:2/WIDTH:72 RET
00300
```

The above example would cause the user's name, and the filename to be printed twice on both normal and narrow forms before the actual data was printed. Also, after all the data was printed, the system would print the users name twice again on both normal and narrow forms. The parameter WIDTH:72 informs the system that a maximum of 72 characters can be printed horizontally on narrow forms.

Step 98: Press the ESC Key. Type EU and Press the RETURN Key.

To leave edit mode as save the file without line numbers, press the ESC key. The system prints the edit prompt. Type EU and press the RETURN key. The system prints the filename and the generation number, then the TOPS-20 command prompt.

```
00300 ESC
*EU RET
[LPFORM.INI.1]
$
```

NOTE

Perform the Steps in Chapter 4 if you have a DECSYSTEM-20. Perform the Steps in Chapter 5 if you have a DECSYSTEM-2020.

CHAPTER 4

CREATING THE FRONT-END FILE SYSTEM

(FOR DECSYSTEM-20 ONLY)

The steps in this chapter restore the front-end file system when you reinitialize it or change the front-end hardware. They also restore the front-end software if the front-end file system on disk is destroyed.

These steps copy the front-end software from the floppy disks to the front-end file space on the public structure. These steps involve using the following front-end programs:

MOU Adds a device to the list of front-end devices.

UFD Creates a directory in the front-end file space on the public structure.

PIP Copies files from the floppy disk to the public disk.

RED Changes the definition of the front-end logical name SY0: from the floppy to the public structure.

SAV Saves the front-end monitor.

INI Initializes the front-end file system on PS:.

4.1 HALTING THE TOPS-20 MONITOR

Step 99: Make Sure that the Correct Floppy Disks are Mounted.

Be sure that System Floppy A is mounted in the left drive (drive 0) and that System Floppy B is mounted in the right drive (drive 1). (Refer to Step 7 in Chapter 2 if you have trouble.)

Step 100: Type CTRL/\.

At the console terminal, type CTRL/\ to return to the front-end Command Parser. When you are at Command Parser command level, the system prints the prompt PAR>:

PAR>

Step 101: Type SHUTDOWN and Press the RETURN Key.

To stop the TOPS-20 monitor, type SHUTDOWN and press the RETURN key. The system prints a list of messages.

```
PAR>SHUTDOWN (RET)
**HALTED**
%DECSYSTEM-20 NOT RUNNING
```

Error: If you mistype SHUTDOWN, an error message is printed, after which you can reissue the command.

The system must print %DECSYSTEM-20 NOT RUNNING. If it does not, type CTRL/\ and give the ABORT command. Go back to Step 99.

4.2 RESTARTING THE FRONT-END MONITOR

This entire procedure is invalid if you did not stop the TOPS-20 monitor in Section 4.1.

Step 102: Set the Switch Register to 000003 (Octal).

Set the front-end switch register to 000003 (switches 1 and 0 up; the rest down).

Step 103: Hold ENABLE and Press the SWITCH REGISTER Button.

Hold ENABLE and press the SWITCH REGISTER button to start the front-end monitor from drive 0. The system will print a few lines of information. After the system prints [DX1: MOUNTED] proceed to Section 4.3 of this chapter.

```
RSX-20F VB12-32 0:01 8-AUG-78

[SY0: REDIRECTED TO DX0:]
[DX0: MOUNTED]
[DX1: MOUNTED]
```

Error: If you left the switch register set to 000007, the system starts the KL Initialization routine. The printout would look like this:

```
RSX-20F VB12-32 0:01 8-AUG-78

[SY0: REDIRECTED TO DX0:]
[DX0: MOUNTED]
[DX1: MOUNTED]
KLI -- VERSION VB07-04 RUNNING
KLI -- ENTER DIALOG [NO,YES,EXIT,BOOT]?
KLI>
```

Set the switch register correctly and press the ENABLE and SWITCH REGISTER buttons again.

If you set the switch register incorrectly, the system may print:

```
11-HALT
T04
```

Set the switch register correctly and press the ENABLE and SWITCH REGISTER buttons again.

4.3 COPYING FILES FROM FLOPPY DISK TO RP04 OR RP06

Use the following procedures to copy the files. Remember that you are typing commands to the front-end and that you must wait for a prompt before typing the answer. There is no type-ahead feature except when you want to type a CTRL/\. You can type a CTRL/U to erase an entire line or press the DELETE key to erase a single character per keystroke.

Many of the steps in this chapter and in Chapter 8 assume that the disk pack is mounted on drive 0. To use a dual-port drive other than drive 0, make the following changes:

1. Where a step calls for DB0: to be typed in, type in the number of the actual drive used. For example: DB1:, DB2:, etc. Messages printed by the system will reflect this change.

2. If the disk is mounted on a drive other than drive 0, in Step 139, pressing ENABLE and DISK will not work. Instead, set the front-end switch register switches 7 and 0 in the up position. Set switches 10, 9, and 8 to the binary number of the drive used. For example, for drive 1, set switch 8 up; for drive 2, set switch 9 up; for drive 3, set switches 9 and 8 up. After this has been completed press the ENABLE and SWITCH REGISTER buttons.

Step 104: Type CTRL/\

To start the front-end Command Parser, type CTRL/\. The system takes about 10 seconds to load the Command Parser from the floppy disks. You are at Command Parser command level when the system prints the prompter PAR%. The % after PAR indicates that the central processor is not running:

```
[DX1: MOUNTED]
^\
PAR%
```

Step 105: STOP

The central processor (as opposed to the front-end processor) must be halted before you proceed to the next step. If the central processor is not halted, the front-end monitor will not be saved on the front-end file system in a usable state. When the central processor is stopped, the system prints a percent sign following the Command Parser prompt. If it prints an angle bracket, >, give the SHUTDOWN command and type CTRL/\ before continuing.

Step 106: Type MCR INI and Press the RETURN Key.

To start the INITIALIZE program, type MCR INI and press the RETURN key. When the INITIALIZE program is ready for you to type commands (after a few seconds), it prints the prompt INI>:

```
PAR%MCR INI<RET>

INI>
```

Step 107: Type DB0: Press the RETURN Key, Wait 15 Seconds and Perform the Next Step.

To initialize the front-end file system on the public structure, type DB0: and press the RETURN key. In about 10 seconds, the INI program finishes. It does not reprint the prompt. Proceed directly to the next step.

```
INI>DB0:<RET>
```

Error: If you type the wrong device name or get an error message, press the front-end HALT switch and wait one minute. Go back to Step 103.

Step 108: Type CTRL/\.

To start the front-end Command Parser, type CTRL/\. When the Command Parser is ready for you to type commands (about 10 seconds), it prints the prompt PAR%:

```
<CTRL/\>
PAR%
```

NOTE

Nothing happens until you type CTRL/\.

Step 109: Type MCR MOU and Press the RETURN Key.

To start the MOUNT program again, type MCR MOU and press the RETURN key. When you are at MOUNT command level, the system prints MOU>:

```
PAR%MCR MOU<RET>
MOU>
```

Error: If you make a typing error, reissue the command.

Step 110: Type DB0: and Press the RETURN Key.

To allow the front-end to use its reserved area on the dual-port disk (the one with the channel selector set to A/B), type DB0: and press the RETURN key. When the mount operation is complete, the system prints a message and MOU>:

```
MOU>DB0:<RET>
MOU -- MOUNT COMPLETE
MOU>
```

Error: If you mistype DB0:, the mount operation may fail. If this happens and the system reprints the prompt MOU>, reissue the command. Otherwise, go back to Step 108.

Step 111: Type CTRL/Z and CTRL/\.

To terminate the MOUNT program and start the front-end Command Parser, type CTRL/Z, followed by CTRL/\. After about 10 seconds, when the system is at Command Parser command level, it prints the prompt PAR%:

```
MOU>^Z

PAR%
```

Step 112: Type MCR UFD and Press the RETURN Key.

To run the UFD program, type MCR UFD and press the RETURN key. The system loads the program from the floppy disk and starts it. After a few seconds, UFD is ready for you to type commands and prints the prompt UFD>:

```
PAR%MCR UFD

UFD>
```

Error: If you make a typing error, reissue the command.

Step 113: Type DB0:[5,5] Press RETURN Key, Wait 5 Seconds and Perform the Next Step.

To create the directory (on the front-end reserved space on the public structure) that contains the front-end file system, type DB0:[5,5] and press the RETURN key. When the UFD program finishes, it does not reprint the prompt. Wait 5 seconds and then proceed directly to the next step:

```
UFD>DB0:[5,5]
```

Error: If the system prints:

```
UFD -- FAILED TO CREATE DIRECTORY
```

you probably did not give the correct command the last time you ran the MOU program. Go back to Step 105.

Step 114: Type CTRL/\.

To load the front-end Command Parser from the floppy disk, type CTRL/\. After 10 seconds, the Command Parser is at command level and the system prints the prompt PAR%:

```
CTRL/\
PAR%
```

NOTE

Nothing happens until you type the CTRL/\.

Step 115: Type MCR PIP and Press the RETURN Key.

To load the PIP program from the floppy disk and start it, type MCR PIP and press the RETURN key. After 10 seconds, PIP is ready for you to type commands. The system prints the prompt PIP>:

```
PAR%MCR PIP RET

PIP>
```

Error: If you make a typing error, reissue the command.

Step 116: Type DB0:=DX0:*.*,DX1:*.* and Press the RETURN Key.

To copy all the files from the floppy disks (both drive 0 and drive 1) to the front-end file system on the public structure, type DB0:=DX0:*.*,DX1:*.* and press the RETURN key. (You can use CTRL/U and the DELETE key to help type this line and others in this chapter.) You will hear clicking as the system accesses the floppy disks. AFTER ABOUT TEN MINUTES, the transfer is complete and the system prints the prompt PIP>:

```
PIP>DB0:=DX0:*.*,DX1:*.* RET
PIP>
```

Error: If you make a typing error, reissue the command.

Step 117: Type DB0:/LI and Press the RETURN Key.

To get a list of the files on the front-end file system, type DB0:/LI and press the RETURN key. The system prints the list. Check it against the following output to be sure that all the files exist. Do not worry about the order of the files, generation numbers, or dates and times when comparing the files. The file sizes (indicated in 256-word blocks) should be the same. When the listing is finished, the system prints the prompt PIP>:

```
PIP>DB0:/LI (RET)

DIRECTORY DB0:[5,5]
8-AUG-78 11:39

F11ACP.TSK;1          77. C  05-JUN-78 09:00
KLRING.TSK;1          6.  C  05-JUN-78 09:00
KLDISC.TSK;1          5.  C  05-JUN-78 09:00
KLXFER.TSK;1          5.  C  05-JUN-78 09:00
MIDNIT.TSK;1          4.  C  05-JUN-78 09:01
SETSPD.TSK;1          4.  C  05-JUN-78 09:01
TKTN.TSK;1            6.  C  05-JUN-78 09:01
KLE.TSK;1             23. C  05-JUN-78 09:01
KLI.TSK;1             38. C  05-JUN-78 09:01
MOU.TSK;1             5.  C  05-JUN-78 09:02
KLA.MCB;1             36.    05-JUN-78 09:02
KLX.MCB;1             41.    05-JUN-78 09:02
BOOT.EXB;1            35.    05-JUN-78 09:02
MTBOOT.EXB;1          34.    05-JUN-78 09:03
PARSER.TSK;1          95. C  05-JUN-78 09:03
T20ACP.TSK;1          8.  C  05-JUN-78 09:04
BOO.TSK;1             19. C  05-JUN-78 09:04
COP.TSK;1             8.  C  05-JUN-78 09:04
DMO.TSK;1             5.  C  05-JUN-78 09:04
INI.TSK;1             23. C  05-JUN-78 09:04
PIP.TSK;1             56. C  05-JUN-78 09:05
RED.TSK;1             6.  C  05-JUN-78 09:05
SAV.TSK;1             13. C  05-JUN-78 09:05
UFD.TSK;1             9.  C  05-JUN-78 09:05
ZAP.TSK;1             38. C  05-JUN-78 09:05
RSX20F.SYS;1          56; C  05-JUN-78 09:06

     TOTAL OF 656. BLOCKS IN 27. FILES
```

As long as a Floppy disk is mounted, you can give the /LI command to list the names of the files that it contains.

Step 118: Type CTRL/Z and CTRL/\.

To end PIP and start the front-end Command Parser, type CTRL/Z followed by CTRL/\. After 10 seconds, the system is ready to accept commands and prints the prompt PAR%:

```
     (CTRL/Z)
     ↓
PIP>

(CTRL/\)
PAR%
```

Error: If you make a typing error, reissue the command.

Step 119: Type MCR RED and Press the RETURN Key.

To load and start the REDIRECT program from floppy disk, type MCR RED and press the RETURN key. After the REDIRECT program is ready to accept commands (about five seconds), the system prints the REDIRECT prompt RED>:

```
PAR%MCR RED<RET>
RED>
```

Error: If you make a typing error, reissue the command.

Step 120: Type DB0:=SY0: Press RETURN Key, Wait 5 Seconds and Perform the Next Step.

To redirect the primary front-end file structure from the floppy disks to the front-end file system on the public structure, type DB0:=SY0: and press the RETURN key. AFTER 5 SECONDS, THE REDIRECT PROGRAM IS FINISHED AND DOES NOT REPRINT THE PROMPT. PROCEED DIRECTLY TO THE NEXT STEP:

```
RED>DB0:=SY0:<RET>
```

Error: If this operation fails or you make a mistake and the system has printed the prompt RED>, reissue the command. Otherwise, type CTRL/\ and go back to Step 104. (Even this may not work. You may have to go back to Step 103.)

Step 121: Type CTRL/\.

To start the front-end Command Parser, type CTRL/\. After one second, the system loads and starts the Command Parser and prints the prompt PAR%:

```
<CTRL/\>
PAR%
```

Step 122: Type MCR SAV and Press the RETURN Key.

To start the SAVE program, type MCR SAV and press the RETURN key. After one second, the SAVE program is ready to accept commands and the system prints the prompt SAV>:

```
PAR%MCR SAV<RET>
SAV>
```

Error: If you make a typing error, reissue the command.

Step 123: Set the Switch Register to Zero.

Before proceeding, set the switch register to zero (all switches down).

Step 124: Type SY0:/WB and Press the RETURN Key.

To save the system bootstrap and the front-end monitor on the front-end file system on the public structure, type SY0:/WB and press the RETURN key (WB stands for write bootstrap). After the bootstrap and the monitor are saved, the system prints a message and the front-end restarts itself at the save entry point:

```
SAV>SY0:/WB (RET)
[DB0: DISMOUNTED]
[DX0: DISMOUNTED]
[DX1: DISMOUNTED]

RSX-20F VB12-32 0:14 8-AUG-78

[SY0: REDIRECTED TO DB0:]
[DB0: MOUNTED]
```

Error: If you make a typing error, reissue the command.

The last two messages inform you that the front-end is using the files on the TOPS-20 file system instead of the floppy disks.

Step 125: Store the Floppy Disks.

Remove the floppy disks, insert them in their covers, and store them in a safe place.

NOTE

If you have some spare floppies available, it is a good idea to copy System Floppy A and B to the spare floppies for backup purposes. Refer to the DECSYSTEM-20 System Manager's Guide for this procedure.

If you are part of the ARPA network perform the steps in Appendix E at this time.

CHAPTER 5

CREATING THE MICROPROCESSOR FILE SYSTEM

(FOR DECSYSTEM-2020 ONLY)

The steps in this chapter describe how to build the microprocessor file system. After completing these steps, you may boot the system from disk.

Step 126: Give the Command: CONNECT (TO DIRECTORY) PS:<SYSTEM> and Press the RETURN Key.

You must connect to the directory that the microprocessor initialization program is located. Type CONNECT and press the ESC key. The system prints (TO DIRECTORY). Type PS:<SYSTEM> and press the RETURN key.

```
$CONNECT (TO DIRECTORY) PS:<SYSTEM>
$
```

Step 127: Give the Command: RUN (PROGRAM) SMFILE and Press the RETURN Key.

To start the microprocessor file system program, type RUN and press the ESC key. The system prints (PROGRAM). Type SMFILE and press the RETURN key. The system prints a few lines of information and the SMFILE> prompt.

```
$RUN (PROGRAM) SMFILE
DECSYSTEM-2020 DIAGNOSTICS FE-FILE PROGRAM
VERSION #
[FOR HELP TYPE "HELP"]
SMFILE>
```

Step 128: Give the Command: WRITE SETUP PS:<BOOT-DIRECTORY>BOOTSTRAP.BIN and Press the RETURN Key.

To inform the system where to write the bootstrap program, type WRITE SETUP PS:<ROOT-DIRECTORY> BOOTSTRAP.BIN and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>WRITE SETUP PS:<ROOT-DIRECTORY>BOOTSTRAP.BIN
SMFILE>
```

Step 129: Give the Command: WRITE RESET and Press the RETURN Key.

To initialize the pointer words in the home block, type WRITE RESET and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>WRITE RESET<RET>
SMFILE>
```

Step 130: Give the Command: READ KS10.ULD and Press the RETURN Key.

To have the system read the microcode, type READ KS10.ULD and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>READ KS10.ULD<RET>
SMFILE>
```

Step 131: Give the Command: SERIAL nnnnn.

To inform the system of the serial number of the KS10, type SERIAL and then the serial number of the KS10 (Refer to Chapter 1 Section 1.1), and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>SERIAL nnnnn<RET>
SMFILE>
```

Step 132: Give the Command: WRITE CRAM and Press the RETURN Key.

To have the system write the microcode into the microprocessor file system, type WRITE CRAM and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>WRITE CRAM<RET>
SMFILE>
```

Step 133: Give the Command: WRITE BOOT SMBOOT.EXE and Press the RETURN Key.

To have the system write the monitor pre-boot program onto the microprocessor file system, type WRITE BOOT SMBOOT.EXE and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>WRITE BOOT SMBOOT.EXE<RET>
SMFILE>
```

Step 134: Give the Command: WRITE DONE and Press the RETURN Key.

To inform the system you are finished building the microprocessor file system, and have the system update the home blocks, type WRITE DONE and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>WRITE DONE<RET>
SMFILE>
```

Step 135: Give the Command: OUTPUT CRAM PS:<SYSTEM> KS10.RAM and Press the RETURN Key.

To have the microcode saved on tape when you are creating a system backup tape, type OUTPUT CRAM PS:<SYSTEM>KS10.RAM and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>OUTPUT CRAM PS:<SYSTEM>KS10.RAM (RET)
SMFILE>
```

Step 136: Give the Command: OUTPUT MTBOOT SMMTBT.EXE PS:<SYSTEM>MTBOOT.RDI and Press the RETURN Key.

To have the magtape bootstrap program saved on tape when you are creating a system backup tape, type OUTPUT MTBOOT SMMTBT.EXE PS:<SYSTEM>MTBOOT.RDI and press the RETURN key. The system prints the SMFILE> prompt.

```
SMFILE>OUTPUT MTBOOT SMMTBT.EXE PS:<SYSTEM>MTBOOT.RDI(RET)
SMFILE>
```

Step 137: Give the Command: EXIT and Press the RETURN Key.

To return to the TOPS-20 command level, type EXIT and press the RETURN key. The system prints the TOPS-20 enabled prompt.

```
SMFILE>EXIT (RET)
$
```

CHAPTER 6

RESTARTING THE SYSTEM

At this point you have:

1. Initialized the TOPS-20 file system.
2. Loaded the TOPS-20 monitor and related programs into directories <SYSTEM> and <SUBSYS>.
3. Loaded the files for the TOPS-20 User Environmental Test Package into directory <UETP.LIB>.
4. Created the system initialization files.
5. Loaded the front-end software system for the DECSYSTEM-20 into the TOPS-20 file system.

or

6. Created the microprocessor file system for the DECSYSTEM-2020.

Now the TOPS-20 file system is intact and the standard TOPS-20 bundled software is completely installed on your system. This means you can now stop the system and reboot it from the file system on disk.

Whenever you have to restart the system be sure that the central processor is stopped; otherwise you can damage the file system you just created.

To restart the DECSYSTEM-20 follow the procedures in Steps 138, 139, and 143 through 146. To restart the DECSYSTEM-2020 follow the procedures in Steps 140 through 146.

Step 138: Be Sure that the Central Processor is Stopped (FOR DECSYSTEM-20 ONLY).

Check your output to be sure that the last time the system printed the prompt PAR (in Step 122), it was followed by a % to indicate that the central processor is stopped. If the prompt is followed by a >, type SHUTDOWN and press the RETURN key.

Step 139: Hold ENABLE and Press the DISK Button:.

To restart the system, hold ENABLE and press the DISK button. The system restarts after a few seconds and obtains all the software from the TOPS-20 file system. Continue at Step 143.

If the TOPS-20 file system is on a drive other than drive 0, holding the ENABLE button and pressing the BOOT button will not work. You must set the SWITCH REGISTER to the appropriate disk drive. For example if the TOPS-20 file system is on drive 1, set switches 8, 7, and 0 up, for drive 2, 9, 7 and 0. (Refer to the DECSYSTEM-20 Operator's Guide for more information on setting the SWITCH REGISTER.)

If you have set the switches to the appropriate disk drive, hold ENABLE and press the SWITCH REGISTER button rather than the DISK button. When this procedure is followed the system will print the BOOT> prompt and wait for a reply. Reply by pressing the RETURN key, then go to Step 143.

```
RSX-20F VB12-32 0:14 8-AUG-78

[SY0: REDIRECTED TO DB0:]
[DB0: MOUNTED]
KLI -- VERSION VB07-04 RUNNING
KLI -- MICROCODE VERSION 212 LOADED
KLI -- ALL CACHES ENABLED
LOGICAL MEMORY CONFIGURATION:
                    CONTROLLER
ADDRESS   SIZE  RQ0 RQ1 RQ2 RQ3  CONTYPE INT
000000    256K  00 01 00  01       MB20    4

KLI -- BOOTSTRAP LOADED AND STARTED
CHN:2 DX20:0 MICROCODE VERSION 1(0) LOADED, VERIFIED, AND STARTED

[PS MOUNTED]

System restarting, wait...
ENTER CURRENT DATE AND TIME:
```

If you have installed the TOPS-20 software on a DECSYSTEM-20 Model 2060. The above output would resemble the following;

```
RSX-20F VB12-34 10:09 26-JUN-78

[SY0: REDIRECTED TO DB0:]
[DB0: MOUNTED]


RSX-20F VB12-34 10:09 26-JUN-78

[SY0: REDIRECTED TO DB0:]
[DB3: MOUNTED]
KLI -- VERSION VB10-45 RUNNING
KLI -- MICROCODE VERSION 212 LOADED
KLI -- ALL CACHES ENABLED
KLI -- % MOS MEMORY IS ALREADY CONFIGURED

LOGICAL MEMORY CONFIGURATION
  ADDRESS  SIZE  INT  TYPE CONTROLLER
00000000 128K   4   MB20  0 & 1
00400000 448K   4   MF20  10
02200000 256K   4   MF20  14
032000003264K         NON-EXISTENT

KLI -- BOOTSTRAP LOADED AND STARTED

CHN:2 DX20:0 MICROCODE VERSION 1(0) LOADED, VERIFIED, AND STARTED
```

The line "System restarting, wait..." is printed on all the terminals currently connected to the system to inform users that the system will soon be ready to use.

Error: If the system prints:

*** THIS VOLUME DOES NOT CONTAIN A HARDWARE BOOTABLE SYSTEM ***

the disk pack on the dual-port drive does not contain the front-end software. Perhaps the wrong disk pack has been mounted. But, if everything appears to be in order, try the steps in Chapter 2 again. If the error continues, contact Digital Software Support.

If the system does nothing when you press the switches, you may have pressed ENABLE and SWITCH REGISTER by mistake. Try pressing ENABLE and DISK.

If the system prints JSYS error messages between the lines [PS MOUNTED] and System restarting, wait..., you probably have mistyped some information in the <SYSTEM>3A-CONFIG.CMD file. Use EDIT to check the file and correct any errors.

Step 140: Type CTRL/\.

To get the KS10 command parser, type a CTRL/\. The system prints the KS10> prompt.

```
CTRL
KS10>
```

Step 141: Type SH and Press the RETURN Key.

To shutdown the system, type SH and press the RETURN key. The system prints the message **HALTED**.

```
KS10>SH RET
KS10>USR MOD
**HALTED**
```

NOTE

If your public structure is on a drive other than disk drive 0, pressing the BOOT button (Step 142) will not work. You must give the DS command and specify the unit where your public structure is mounted. The following example shows how to select disk drive 2.

```
CTRL/\
KS10>DS RET
>>UBA?1 RET
>>RHBASE?776700 RET
>>UNIT?2 RET
KS10>BT RET
BOOT> RET
```

Step 142: Press the BOOT Button (DECSYSTEM-2020 ONLY).

To restart the system press the BOOT button on the DECSYSTEM-2020 control panel. The system restarts after a few seconds and obtains all the software from the TOPS-20 file system. After the system obtains all the software it prints ENTER CURRENT DATE AND TIME.

```
BT SW

[PS MOUNTED]
ENTER CURRENT DATE AND TIME:
```

Step 143: Type the Date and Time and Press the RETURN Key.

After the prompt, type the date and time in the form:

```
day-month-year hhmm
```

Then press the RETURN key:

```
ENTER CURRENT DATE AND TIME:  8-AUG-78 1324(RET)

YOU HAVE ENTERED WEDNESDAY, 8-AUGUST-78 1:24PM,
 IS THIS CORRECT (Y,N)
```

Step 144: Type Y or N and Press the RETURN Key.

After the system prints the date and time, check to be sure that it is correct. If it is, type Y and press the RETURN key. If the date or time is incorrect, type N, press the RETURN key, and go back to the last step:

```
YOU HAVE ENTERED WEDNESDAY, 8-AUGUST-78 1:24PM,
 IS THIS CORRECT (Y,N) Y(RET)
WHY RELOAD?
```

Step 145: Type TS and Press the RETURN Key.

If you plan to install the unbundled software, type TS and press the RETURN key. When you bring up the system for any other reason, type one of the abbreviations listed in Table 6-1:

```
WHY RELOAD?  TS(RET)
<SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED
RUN CHECKD?
```

Table 6-1
System Reload Abbreviations

Abbreviation	Meaning
SA	Stand-alone
TS	Timesharing
PM	Preventive maintenance
CM	Corrective maintenance
CR	Crash (include a reason)

Step 146: Type N and Press the RETURN Key.

The CHECKD program examines the entire disk file system, reports any errors, and tries to correct them. You do not have to run this program unless the system crashes unexpectedly or, for some other reason, you expect that there may be disk errors. If you halt the system by giving a CTRL/E CEASE command or by using some other controlled means, you do not have to run CHECKD before restarting.

Type N and press the RETURN key. The system prints RUNNING DDMP.

If you do run CHECKD, it takes about four minutes per disk drive. Be prepared for a long wait until the system prints something on your console terminal. For each inconsistency, CHECKD prints a message and the directory in which the error occurred. (Refer to the DECSYSTEM-20 Operator's Guide for a list of CHECKD error messages.)

```
RUN CHECKD?N(RET)
RUNNING DDMP


SYSJOB 3(7) STARTED AT 16-JUN-78 0835
RUN SYS:INFO
RUN SYS:MAILER
RUN SYS:QUASAR
JOB 0 /LOG OPERATOR XX OPERATOR
ENA
^ESET LOGINS ANY
^ESEND * SYSTEM IN OPERATION
PTYCON
GET SYSTEM:PTYCON.ATO
/
SJ  0:
SJ  0:  INSTALLATION-TEST SYSTEM, TOPS-20 MONITOR 3A(1762)
SJ  0: @LOG OPERATOR OPERATOR
SJ  0:  JOB 1 ON TTY206 16-JUN-78 08:35:32
SJ  0: @ENA
SJ  0:
[From OPERATOR: SYSTEM IN OPERATION]
 $^ESET LOGINS ANY
SJ  0: $^ESEND * SYSTEM IN OPERATION
SJ  0: $PTYCON
SJ  0: PTYCON> GET SYSTEM:PTYCON.ATO
SJ  0: PTYCON> SILENCE
SJ  0: PTYCON.LOG.1
SJ  0: PTYCON> B-START
SJ  0: PTYCON> L-START PLPT0=LPT0
SJ  0: PTYCON>
SJ  0: **** L(0) 08:36:21 ****
SJ  0: START PLPT0=LPT0
SJ  0: **** B(1) 08:36:22 ****
SJ  0: /START
SJ  0: !
SJ  0: PTYCON>
SJ  0: **** L(0) 08:36:26 ****
SJ  0: LPTSPL>
SJ  0: PTYCON> ;LPT1:L1-START PLPT1=LPT1
SJ  0: PTYCON> ;CDR:S-START PCDR0:=CDR0:
SJ  0: PTYCON> WHAT ALL
SJ  0: L(0)       4          OPERATOR   LPTSPL     TI      0:0:0
SJ  0: B(1)       5          OPERATOR   BATCON     TI      0:0:0
SJ  0: P(2)       3          OPERATOR   OPLEAS     RN      0:0:0
SJ  0: O(3)       2          OPERATOR   EXEC       TI      0:0:0
```

CHAPTER 7

INSTALLING UNBUNDLED SOFTWARE

Digital sells a number of unbundled software products in addition to the TOPS-20 bundled software package. The TOPS-20 bundled software is delivered with the system, but if you need any unbundled software, it must be purchased separately. The current unbundled software products are listed in Table 7-1.

Table 7-1
Unbundled Software Products

Product	Product Code
FORTRAN-20	QT001-AP
ALGOL-20	QT002-AP
COBOL-20 V10	QT003-AP
BASIC-20	QT004-AP
SORT-20 V2	QT007-AP
DBMS-20 V4	QT008-AP
CPL-20	QT009-AP
COBOL-20 with SORT-20	QT011-AP
APL-20/SF	QT012-AP
APL-20 BASIC	QT014-AP
IQL-20 EXTENDED	QT016-AP
BASIC-PLUS-2	QT027-AP
IQL-20	QT015-AP

The steps in this chapter describe how to install any of the above unbundled software products and/or the TOPS-20 Distribution tape.

If you are installing the TOPS-20 DECnet-20 unbundled software, follow the steps in Chapter 6 of the TOPS-20 DECnet-20 Programmer's Guide and Operations Manual.

If you are installing the DN64 unbundled software, follow the steps in Chapter 3 of the IBM Emulation-Termination DN64:2780/3780 Manual.

An unbundled software tape has at least two save sets:

1. DOCUMENTS, which contains five types of files that will be restored to <OPERATOR> or the directory of your choice:

product.MEM	Describes the format of the tape and how to install and build the particular product.
product.SD	Lists all the source files that you need to build the product from scratch.
product.BD	Lists all the binary files that you must load from the tape into the directory <SUBSYS> to use the product.
product.BWR	Contains a list of known errors and warnings about the product (if any).
component.DOC	Gives useful information about each component of the product.

2. SUBSYS, which contains all the files (.EXE, .HLP, .REL, etc.) that you must load into <SUBSYS> to use the product.

3. SOURCES, which is optional. If this save set exists, it contains all the sources you need to build the product from scratch, plus a .LOG file generated when the files in save set 2 were created. The FORTRAN tape contains three source save sets: one for FORTRA and BLIS10, one for FOROTS and FORLIB, and one for FORDDT.

   The steps in this section do not show how to install the source files. You can restore them to the directory of your choice. These files are not required to run the product. Leaving them on the tape is acceptable.

You can use the line printer to list the files in the DOCUMENTS save set, or you can load them into a special directory. You must load the files in the second save set into <SUBSYS> to be able to run the product. You do not have to store the source files on disk unless you are building the product from scratch (which is not required, because all of the necessary files are stored in the second save set).

You may wish to dedicate a separate disk pack to store the contents of your tapes. If so, perform the installation procedure for that pack, restore all the software from the unbundled tapes to that pack. With a separate disk pack containing the software, you can perform any special building that you need without wasting public disk space. The disadvantage is that the build procedures have to take place when public timesharing is not available. Transfer only the resulting executable files to the public disk system via magnetic tape.

The following steps show how to install system binary files. Repeat steps 156 through 159 to install additional products.

Step 147: Type CTRL/C.

Type CTRL/C to start a job at your terminal:

```
CTRL/C
↓
INSTALLATION-TEST SYSTEM, TOPS-20 MONITOR 3A(1762)
@
```

Step 148: Type SYSTAT and Press the RETURN Key.

To look at the operator jobs on the system, type SYSTAT and press the RETURN key. The system prints a list of the current jobs. Determine which operator job is running PTYCON. Use that job number in the next step.

```
@SYSTAT<RET>
 WED 8-AUG-78 13:25:58  UP 0:02:21
 0+5 JOBS   LOAD AV   0.37   0.21   0.09

 NO OPERATOR IN ATTENDANCE

 JOB  LINE PROGRAM  USER
  6*    41  EXEC    NOT LOGGED IN

  1     42  PTYCON  OPERATOR
  2     46  EXEC    OPERATOR
  3     45  OPLEAS  OPERATOR
  4     43  LPTSPL  OPERATOR
  5     44  BATCON  OPERATOR
@
```

Step 149: Give the Command: ATTACH (USER) OPERATOR (JOB#) 1.

Attach to the OPERATOR job running PTYCON. Type ATTACH and press the ESC key. The system prints (USER). Type OPERATOR and press the ESC key. The system prints (JOB #). Type 1 and press the RETURN key. The system prints a message similar to [ATTACHED TO TTY42, CONFIRM], press the RETURN key.

```
@ATTACH<ESC> (USER) OPERATOR<ESC> (JOB #) 1<RET>
 [ATTACHED TO TTY42, CONFIRM]<RET>
PASSWORD:
```

Step 150: Type your Password and Press the RETURN Key Twice.

Type the operator's password and press the RETURN Key twice.

```
PASSWORD:  your password<RET>
<RET>
PTYCON>
```

Step 151: Give the PTYCON Command: CONNECT (TO SUBJOB) 0.

Connect to the PTYCON job that is at TOPS-20 command level by typing CONNECT and pressing the ESC key. The system prints (TO SUBJOB). Type 0 and press the RETURN key. The system prints the TOPS-20 prompt:

```
PTYCON>CONNECT<ESC> (TO SUBJOB) 0<RET>
[CONNECTED TO SUBJOB 0(3)]
```

Step 152: Give the Command: ASSIGN (DEVICE) MTA0:.

Give the ASSIGN command to assign a magnetic tape drive to your job. The example uses drive number 0, but you can use any one of your choice. Type ASSIGN and press the ESC key. The system prints (DEVICE). Type MTA0: and press the RETURN key. The system prints an @ when the drive is assigned:

```
ASSIGN (DEVICE) MTA0:
@
```

Error: If the device is assigned to another job, the system prints the message:

?ALREADY ASSIGNED TO JOB n

Use the command INFORMATION (ABOUT) AVAILABLE DEVICES to find an available tape drive. Reissue the ASSIGN command.

Step 153: Give the Command: ENABLE (CAPABILITIES).

Because you are restoring files to restricted areas, enable the required capabilities. Type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key. The system prints a $ prompt:

```
@ENABLE (CAPABILITIES)
$
```

Step 154: Type DUMPER and Press the RETURN Key.

To start DUMPER, type DUMPER and press the RETURN key. The system prints a line and the DUMPER prompt:

```
$DUMPER

DUMPER 3A(172)

DUMPER>
```

DUMPER Errors

If you get errors using DUMPER, refer to the description of DUMPER in the DECSYSTEM-20 User's Guide.

Step 155: Give the Command: TAPE (FILESPEC) MTA0:.

Tell DUMPER which tape drive to use. The example uses MTA0:, but if you have assigned another drive, use that drive number. Type TAPE and press the ESC key. The system prints (FILESPEC). Type MTA0: and press the RETURN key. The system prints the DUMPER prompt:

```
DUMPER>TAPE (FILESPEC) MTA0:
DUMPER>
```

Step 156: Mount the Unbundled Software Tape

Mount the unbundled software tape on the drive that is assigned to your job. Remember to press the ON LINE button after mounting the tape.

Step 157: Type REWIND and Press the RETURN Key.

To start the tape at the beginning, type REWIND and press the RETURN key. The system moves the tape to the beginning and prints the DUMPER prompt:

```
DUMPER>REWIND
DUMPER>
```

Step 158: Give the Command: RESTORE (MTA FILES) PS:<*>*.*.* (TO) <OPERATOR>.

To restore the documents to directory <OPERATOR>, type RESTORE and press the ESC key. The system prints (MTA FILES). Press the ESC key. The system prints PS:<*>*.*.* (TO). Type <OPERATOR> and press the RETURN key. The system prints a header containing the date and time that the tape was made, followed by the DUMPER prompt. If you want a list of the files, give the FILES command before the RESTORE command. You can restore the files to any directory. <OPERATOR> is not required.

```
DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <OPERATOR>

DUMPER TAPE # 1, <DOCUMENTS>, WEDNESDAY, 8-AUG-78 1741
LOADING FILE(S) INTO PS:<OPERATOR>

END OF SAVESET
DUMPER>
```

You can list any of the files on the line printer by typing CTRL/C and giving the LIST command. The files with file types .MEM, .BWR, .BD, .SD, .DOC, .TCO, and .PCO are the most useful to print. Return to DUMPER by giving the CONTINUE command and pressing the RETURN key. In the example, the user prints the file SOURCE.DIR:

```
DUMPER>^C
$LIST (FILE) SOURCE.DIR
$CONTINUE

DUMPER>
```

Step 159: Give the Command: RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SUBSYS>.

To restore the binary files to <SUBSYS>, type RESTORE and press the ESC key. The system prints (MTA FILES). Press the ESC key. The system prints PS:<*>*.*.* (TO). Type <SUBSYS> and press the RETURN key. The system prints the header, followed by the DUMPER prompt:

```
DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SUBSYS>

DUMPER TAPE # 1, <BINARY>, WEDNESDAY, 8-AUG-78 1743
LOADING FILE(S) INTO PS:<SUBSYS>

END OF SAVESET
DUMPER>
```

Step 160: Sources.

If you want to restore the source files, give the same RESTORE command as in the last step, but replace <SUBSYS> with the name of the directory where you want the sources stored. Normally, the directories in the definition of the system logical name SYS: do not contain source files, so you should use the CTRL/E CREATE command to create a directory for the source files.

Step 161: Dismount the Tape and Store It.

Remove the tape from the drive and store it in a safe place.

Step 162: Go to Step 156 to Restore Other Software Products.

Go back to Step 156 if you want to install other unbundled software products.

Step 163: Give the DUMPER Command: EXIT.

Type EXIT and press the RETURN key to end DUMPER. Return to TOPS-20 command level:

```
DUMPER>EXIT
$
```

Step 164: Give the Command: DEASSIGN (DEVICE) MTA0:.

Give the DEASSIGN command to release the magnetic tape for use by other users. Type DEASSIGN and press the ESC key. The system prints (DEVICE). Type MTA0: (or the number of the magnetic tape drive that you are using) and press the RETURN key. The system prints the TOPS-20 prompt:

```
$DEASSIGN (DEVICE) MTA0:
$
```

Step 165: Proceed to Step 169 in Chapter 8.

CHAPTER 8

RUNNING THE TOPS-20 UETP PACKAGE

This chapter describes how to run the User Environment Test Package. This program performs a cursory check of the various hardware components.

This program starts a number of test that can run once or repeatedly. The source files are kept in the directory <UETP.LIB>, while the temporary data files and results of the test are stored in the directory <UETP.RUN>. For more information on UETP, refer to the User Environment Test Package Reference Manual.

NOTE

If you performed the Steps in Chapter 7 of this manual, you may skip Steps 166 through 168 and start at Step 169.

Step 166: Type CTRL/C.

Type a CTRL/C to start a job.

```
CTRL/C
Installation-test System, TOPS-20 Monitor 3(1447)
@
```

Step 167: Give the Command: LOGIN (USER) OPERATOR (PASSWORD) Your Password (ACCOUNT) OPERATOR and Press The RETURN Key.

From this terminal, log into the system as OPERATOR, using your password and the account operator. Type LOGIN and press the ESC key. The system prints (USER). Type OPERATOR and press the ESC key. The system prints (PASSWORD). Type your password and press the ESC key. The system prints (ACCOUNT). Type OPERATOR and press the RETURN key.

```
                ESC             ESC                     ESC
@LOGIN (USER) OPERATOR (PASSWORD) your password (ACCOUNT) OPERATOR RET

 JOB 6 ON TTY1 8-AUG-78 13:51
@
```

Step 168: Give the Command: ENABLE (CAPABILITIES) and Press the RETURN Key.

To enable your capabilities, type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key.

```
@ENABLE (CAPABILITIES)
$
```

Step 169: Give the Command: TAKE (COMMANDS FROM) <UETP.LIB> SET-UP.CMD and Press the RETURN Key.

To set up various sub-directories, type TAKE and press the ESC key. The system prints (COMMANDS FROM). Type <UETP.LIB> SET-UP.CMD and press the RETURN key. This command file contains all the commands necessary to create the sub-directories.

```
$TAKE (COMMANDS FROM) <UETP.LIB>SET-UP.CMD

[NEW]
[NEW]
[NEW]
[NEW]
[NEW]
[NEW]
[NEW]
[NEW]
 END OF SET-UP.CMD.1
```

Step 170: Give the Command: CONNECT (TO DIRECTORY)<UETP.RUN> and Press the RETURN Key.

To connect to the directory that has the standard tests, type CONNECT and press the ESC key. The system prints (TO DIRECTORY). Type <UETP.RUN> and press the RETURN Key.

```
$CONNECT (TO DIRECTORY) <UETP.RUN>
$
```

Step 171: Give the Command: RUN (PROGRAM) UETP.EXE and Press the RETURN Key.

To start the UETP program, type RUN and press the ESC key. The system prints (PROGRAM). Type UETP.EXE and press the RETURN key. The system prints the prompt UETP>.

```
$RUN (PROGRAM) UETP.EXE
[12-AUGUST-78 10:42:41 USER ENVIRONMENT TEST PACKAGE 1(15)]

UETP>
```

Step 172: Give the Command: ENABLE (TEST) VERIFY and Press the RETURN Key.

To load the verification program, type ENABLE and press the ESC key. The system prints (TEST). Type VERIFY and press the RETURN key. The system prints a message specifying that the verification program has been enabled.

```
                ESC
                 |
UETP>ENABLE (TEST) VERIFY RET
 10:42:07 [ENABLED COMPLETED]

UETP>
```

Step 173: Give the Command: BEGIN and Press the RETURN Key.

To start the verification program, type BEGIN and press the RETURN key. The system prints a message specifying that the verification procedure has begun.

```
UETP>BEGIN RET
10:42:07 [BEGIN COMPLETED]
```

NOTE

If the verification program cannot find a program or finds an incorrect version of a program it will print an error message similar to the following:

```
**ERROR VERIFY 16-Jun-78 09:44:00 ? Mismatch occurred during verification:
        Currently installed file: SYS:DLUSER.EXE      214510 P    3A(415)
        Correct File:             SYS:DLUSER.EXE      263431 P    3(4)
```

When the verification program has completed the verification procedures, it will print the following message:

```
END VERIFY 12-AUGUST-78 10:43:07 END OF VERIFY TEST
```

Do not continue with the remaining steps until the verification program has ended.

Step 174: Give the Command: TAKE (COMMANDS FROM) <UETP.LIB> ACCEPTANCE.CMD and Press the RETURN Key.

To load the standard test into the batch system, type TAKE and press the Esc key. The system prints (COMMANDS FROM). Type <UETP.LIB> ACCEPTANCE.CMD and press the RETURN key. This command file contains all the standard test and the commands necessary to load the files into the batch system.

```
UETP>TAKE (COMMAND FROM) <UETP.LIB> ACCEPTANCE.CMD
UETP>DEFAULT/CYCLE:00:30
UETP>ENABLE RANCBL
 10:43:07 [ENABLE COMPLETED]
UETP>ENABLE RANFOR
 10:43:07 [ENABLE COMPLETED]
UETP>ENABLE MTA0
 10:43:07 [ENABLE COMPLETED]
UETP>STATUS

[12-MAY-78 10:43:11]
    TEST  NAME    STATUS   TIMES TO   TIMES   ERROR      START
    (FILE NAME)            BE RUN     RUN     COUNT      TIME
    ===========   =======  ========   =====   ======   =======
    VERIFY.SUP    ENDED           1       1        0
    RANCBL.SUP    ENABLED      0:30       0        0
    RANFOR.SUP    ENABLED      0:30       0        0
    MTA0.SUP      ENABLED      0:30       0        0
UETP>
```

NOTE

The standard tests include a random I/O COBOL test, a random I/O FORTRAN test, a magtape test for MTA0:. If you want to test a tape drive other than drive 0, you must enable the test for the selected drive. Type ENABLE and press the ESC key. The system prints (TEST). Type MTAn (n = the number of the drive, e.g., MTA1, MTA2) and press the RETURN key.

```
UETP>ENABLE (TEST) MTAn
```

Step 175: Mount a Scratch Tape on MTA0:.

Mount a scratch tape on MTA0:. Be sure it has a write ring in the back of the tape and remember to press the ON-LNE button on the tape drive.

8.1 TESTING UNBUNDLED SOFTWARE

The steps in this section describe how to enable test for any of the unbundled software products you have installed on the system. Be sure to enable only the unbundled software products you have installed.

Step 176: If You Have Installed BASIC-PLUS-2, Give the Command: ENABLE (TEST) BASIC and Press the RETURN Key.

If you installed BASIC-PLUS-2, type ENABLE and press the ESC key. The system prints (TEST). Type BASIC and press the RETURN key.

```
UETP>ENABLE (TEST) BASIC
 10:43:07 [ENABLE COMPLETED]
UETP>
```

Step 177: If You Have Installed ALGOL, Give the Command: ENABLE (TEST) ALGOL and Press the RETURN Key.

If you installed ALGOL-20, type ENABLE and press the ESC key. The system prints (TEST). Type ALGOL and press the RETURN key.

```
UETP>ENABLE (TEST) ALGOL
 10:43:07 [ENABLE COMPLETED]
UETP>
```

Step 178: If You Have Installed DBMS-20, Give the Command: ENABLE (TEST) DBMS and Press the RETURN Key.

If you installed DBMS-20, type ENABLE and press the ESC key. The system prints (TEST). Type DBMS and press the RETURN key.

```
UETP>ENABLE (TEST) DBMS
 10:43:07 [ENABLE COMPLETED]
UETP>
```

Step 179: If You Have Installed APL-20, Give the Command: ENABLE (TEST) APL and Press the RETURN Key.

If you installed APL-20, type ENABLE and press the ESC key. The system prints (TEST). Type APL and press the RETURN key.

```
UETP>ENABLE (TEST)APL
 10:43:07 [ENABLE COMPLETED]
UETP>
```

Step 180: Give the Command: BEGIN (UETP RUN AFTER) and Press the RETURN Key.

To begin the standard tests and all the unbundled software test you enabled, type BEGIN and press the ESC key. The system prints (UETP RUN AFTER). Press the RETURN key. The system starts all the tests immediately.

```
UETP>BEGIN (UETP RUN AFTER)
10:45:17 [BEGIN COMPLETED]

UETP>
```

NOTE

Periodically give a STATUS command to find out which test are running and how many times they have been run. The following is an example of the STATUS command:

```
UETP>STATUS

[12-MAY-78 10:47:32]
TEST  NAME    STATUS   TIMES TO   TIMES   ERROR      START
(FILE NAME)            BE RUN     RUN     COUNT      TIME
==========  ======== ========  =====  ======    =======
VERIFY.SUP    ENDED       1        1          0   12-MAY-78 10:45:27
RANCBL.SUP    RUNNING    0:30      0          0   12-MAY-78 10:45:27
RANFOR.SUP    QUEUED     0:30      0          0   12-MAY-78 10:45:27
MTA0.SUP      QUEUED     0:30      0          0   12-MAY-78 10:45:27

UETP>
```

From the above example you can see that the RANCBL.SUP test is running, and the RANFOR.SUP and MTA0.SUP test are in a wait state, and the VERIFY.SUP test ended.

If under the heading ERROR COUNT there is a number other than 0, be sure to print the ERRORS.LOG file to find out what caused the error.

The UETP program does not notify you when all the test are completed. To find out when all the test are completed, give a STATUS command. When all the test are completed your output from the STATUS command will resemble the following:

```
STATUS

[10-Aug-78 08:30:48]
    TEST  NAME    STATUS   TIMES TO   TIMES   ERROR      START
    (FILE NAME)            BE RUN     RUN     COUNT      TIME
    ==========  ======== ========  =====  ======    ========
    VERIFY.SUP    ENDED       1        1          0   10-Aug-78 07:51:
    RANCBL.SUP    ENDED      0:30     39          0   10-Aug-78 07:59:
    RANFOR.SUP    ENDED      0:30     70          0   10-Aug-78 07:59:
    MTA0.SUP      ENDED      0:30     22          0   10-Aug-78 07:59:
```

Step 181: Give the Command: EXIT and Press the RETURN Key.

To exit from the UETP program, type EXIT and press the RETURN key. The system prints the TOPS-20 enabled prompt.

```
UETP>EXIT<RET>
$
```

Error: If you try to exit while there are tests still running, the ERROR: system prints the message %YOU STILL HAVE TESTS RUNNING. "ABORT ALL" BEFORE EXITING. Wait until all the tests are completed and then reissue the EXIT command.

Step 182: Give the Command: TAKE (COMMANDS FROM) <UETP.LIB> CLEAN-UP.CMD and Press the RETURN Key.

To delete the temporary directories, type TAKE and press the ESC key. The system prints (COMMANDS FROM). Type <UETP.LIB> CLEAN-UP.CMD and press the RETURN key. The system prints the word [OLD] for each directory it has deleted.

```
$TAKE<ESC> (COMMANDS FROM) <UETP.LIB> CLEAN-UP.CMD<RET>
[OLD]
[OLD]
[OLD]
[OLD]
[OLD]
[OLD]
[OLD]
```

Step 183: Type CTRL/X.

To return the CTY to the PTYCON program, type CTRL/X. The system prints the PTYCON prompt.

```
$   ^X<CTRL/X>

PTYCON>
```

Step 184: Start Timesharing.

APPENDIX A

UPDATING THE DECSYSTEM-20 TO TOPS-20 RELEASE 3A SOFTWARE

This appendix describes how to install Release 3A software on a DECSYSTEM-20 now running TOPS-20 Release 3 software.

As you update the system, enter the commands printed in red. The system replies are printed in black.

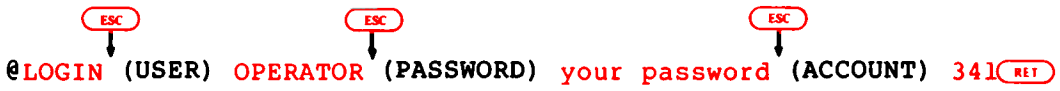
To install the TOPS-20 Release 3A software, you need:

1. System Floppy A
2. System Floppy B
3. TOPS-20 Installation Tape V3A
4. A separate tape for each unbundled software product you have purchased. The available unbundled software products are listed in Chapter 7 of this manual.

The updating procedures are divided into four sections. They are:

A.1 INSTALLING THE RELEASE 3A SOFTWARE

Step 1: Log in to the System with OPERATOR or WHEEL Capabilities.



Step 2: Give the Command, INFORMATION (ABOUT) DISK-USAGE and Press the RETURN Key.

You must have enough disk space on your public structure (PS:) before you can proceed. To find out how many free pages are on PS:, type INFORMATION and press the ESCAPE key. The system prints (ABOUT); type DISK-USAGE and press the RETURN key. The system prints the number of pages assigned to you and the number of free pages on PS:.

```
@INFORMATION (ABOUT) DISK-USAGE
```

The system prints

```
n pages assigned
n working, n permanent allowed
n System pages free
@
```

Where n = the number of pages

WARNING

The number of free pages on PS: must be at least 4500. If you do not have at least this number, you must dump some files to tape.

Step 3: Give the Command: ENABLE (CAPABILITIES).

```
@ENABLE (CAPABILITIES)
```

Step 4: Give the Command: ^ECREATE (DIRECTORY NAME) <VERIFY> and Press the ESC Key. Type a Comma. Then Press the RETURN Key.

Before you can load the Release 3A verify program onto PS:, you must delete the Release 3 <VERIFY> directory. Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type <VERIFY> and press the ESC key. The system prints (PASSWORD). Type a comma and press the RETURN key.

```
$ECREATE (DIRECTORY NAME) <VERIFY> (PASSWORD),
[OLD]
$$
```

Step 5: Give the Command: KILL and Press the RETURN Key.

To delete the Release 3 <VERIFY> directory, type KILL and press the RETURN key. The system prints [CONFIRM].

```
$$KILL
[CONFIRM]
```

Step 6: Press the RETURN Key Twice.

To confirm you are deleting the directory <VERIFY> press the RETURN key twice.

```
[CONFIRM]
$$
$
```

Step 7: Give the Command: ^ECREATE (DIRECTORY NAME) <EXERCISER-LIBRARY> and Press the ESC Key. Type a Comma. Then Press the RETURN Key.

Before you can load the Release 3A <UETP> directory onto PS:, you must delete the Release 3 <EXERCISER-LIBRARY> directory. Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type <EXERCISER-LIBRARY> and press the ESC key. The system prints (PASSWORD). Type a comma and press the RETURN key.

```
$E^CREATE (DIRECTORY NAME) <EXERCISER-LIBRARY> (PASSWORD),
[OLD]
$$
```

Step 8: Give the Command: KILL and Press the RETURN Key.

To delete the Release 3 <EXERCISER-LIBRARY>, type KILL and press the RETURN key. The system prints [CONFIRM].

```
$$KILL
[CONFIRM]
```

Step 9: Press the RETURN Key Twice.

To confirm you are deleting the directory <EXERCISER-LIBRARY> press the RETURN key twice.

```
[CONFIRM]
$$
$
```

Step 10: Give the Command: ^ECREATE (DIRECTORY NAME) <EXERCISER> and Press the ESC Key. Type a Comma. Then Press the RETURN Key.

You must delete the Release 3 <EXERCISER> directory. Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type <EXERCISER> and press the ESC key. The system prints (PASSWORD). Type a comma and press the RETURN key.

```
$E^CREATE (DIRECTORY NAME) <EXERCISER> (PASSWORD),
[OLD]
$$
```

Step 11: Give the Command: KILL and Press the RETURN Key.

To delete the Release 3 <EXERCISER> directory, type KILL and press the RETURN key. The system prints [CONFIRM].

```
$$KILL
[CONFIRM]
```

Step 12: Press the RETURN Key Twice.

To confirm you are deleting the directory <EXERCISER>, press the RETURN key twice.

```
[CONFIRM]RET
$$RET
$
```

Step 13: Mount the Installation tape on MTA0: and Give the Following Commands:.

```
$REWIND (DEVICE) MTA0:RET

$SKIP (DEVICE) MTA0: 2 FILESRET
```

Step 14: Give the Command: RUN (PROGRAM) MTA0: and Press the RETURN Key.

To run the DLUSER program from magnetic tape, type RUN and press the ESCAPE key. The system prints (PROGRAM). Type MTA0: and press the RETURN key. After the DLUSER program starts, the system prints the DLUSER prompt.

```
$RUN (PROGRAM) MTA0:RET

DLUSER>
```

Error: If you make a typing mistake, rewind the tape, skip two files, and reissue the command above. The following example shows how to do this when System Magtape D is on MTA0:.

```
$REWIND (DEVICE) MTA0:RET

$SKIP (DEVICE) MTA0: 2 FILESRET

$RUN (PROGRAM) MTA0:RET

DLUSER>
```

Step 15: Give the DLUSER Command: LOAD (FROM FILE) MTA0: and Press the RETURN Key.

To load the directory structure into the file system from the TOPS-20 Installation tape type LOAD and press the ESCAPE key. The system prints (FROM FILE). Type MTA0: and press the RETURN key. After a few seconds, the system prints DONE. and the DLUSER prompt.

```
DLUSER>LOAD (FROM FILE) MTA0:
```

The system prints

```
DONE.
DLUSER>
```

Step 16: Type EXIT and Press the RETURN Key.

Type EXIT and press the RETURN key to leave the DLUSER program. The system prints the TOPS-20 enabled prompt.

```
DLUSER>EXIT

$
```

Step 17: Give the Command: RUN (PROGRAM) MTA0: and Press the RETURN Key.

To run the DUMPER program, type RUN and press the ESCAPE key. The system prints (PROGRAM). Type MTA0: and press the RETURN key. After the DUMPER program starts, the system prints the word DUMPER, the current version, and then prints the DUMPER prompt.

```
$RUN (PROGRAM) MTA0:
```

The system prints

```
DUMPER 3A(172)

DUMPER>
```

Error: If you receive any errors, rewind the tape, skip four files and reissue the command above. The following example shows how to do this for MTA0:. If errors still persist, contact DIGITAL Software Support.

```
$REWIND (DEVICE) MTA0:

$SKIP (DEVICE) MTA0: 4 FILES

$RUN (PROGRAM) MTA0:
```

The system prints

```
DUMPER 3A(172)

DUMPER>
```

Step 18: Give the DUMPER Command: TAPE (FILESPEC) MTA0: and Press the RETURN Key.

To tell the DUMPER program which tape drive you are using, type TAPE and press the ESC key. The system prints (FILESPEC). Type MTA0: and press the RETURN key. The system prints the DUMPER prompt.

```
DUMPER>TAPE (FILESPEC) MTA0:
```

The system prints

```
DUMPER>
```

Step 19: Give the Command: RESTORE (MTA Files) <NEW-SYSTEM>*.* (TO) PS:<NEW-SYSTEM> and Press the RETURN Key.

To copy the TOPS-20 monitor and its related programs from System Magtape D to your public structure, type RESTORE and press the ESC key. The system prints (MTA FILES). Type <NEW-SYSTEM>*.* and press the ESC key. The system prints (TO). Type PS:<NEW-SYSTEM> and press the RETURN key.

This DUMPER command restores all the files in the first save set to the directory PS:<NEW-SYSTEM>. When all the files are restored, the system prints the message END OF SAVESET and the DUMPER prompt.

```
DUMPER>RESTORE (MTA FILES) <NEW-SYSTEM>*.* (TO) PS:<NEW-SYSTEM>

DUMPER TAPE #1, "NEW-SYSTEM FOR RELEASE 3A", TUESDAY, 16-AUG-78 1511

LOADING FILE (S) INTO PS:<NEW-SYSTEM>

END OF SAVESET
DUMPER>
```

Step 20: Give the Command: RESTORE (MTA FILES) <NEW-SUBSYS>*.* (TO) PS:<NEW-SUBSYS> and Press the RETURN Key.

Restore the system program files to the directory PS:<NEW-SUBSYS>. Type RESTORE and press the ESC key. The system prints (MTA FILES). Type <NEW-SUBSYS)*.* and press the ESC key. The system prints (TO). Type PS:<NEW-SUBSYS> and press the RETURN key. When all the files are restored, the system prints the message END OF SAVESET and the DUMPER prompt.

```
DUMPER>RESTORE (MTA FILES) <NEW-SUBSYS>*.* (TO) PS:<NEW-SUBSYS>

DUMPER TAPE #1, "NEW-SUBSYS FOR RELEASE 3A", TUESDAY, 16-AUG-78 1515
LOADING FILE (S) INTO PS:<NEW-SUBSYS>

END OF SAVESET
DUMPER>
```

Step 22: Give the DUMPER Command: RESTORE (MTA FILES) PS:<*>*.*.* (TO) <UETP.LIB>*.*.* and Press the RETURN Key.

To restore the files for the User Environment Test Package. Type RESTORE and press the ESC key. The system prints (MTA FILES). Press the ESC key. The system prints PS:<*>*.*.* (TO). Type <UETP.LIB> and press the ESC key. The system prints *.*.*. Press the RETURN key. When all the files are restored, the system prints END OF SAVESET and the DUMPER prompt.

```
DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <UETP.LIB>*.*.*

DUMPER TAPE #1, "UETP FOR RELEASE 3A", TUESDAY, 16-AUG-78 15:45
LOADING FILE(S) INTO PS:<UETP.LIB>

END OF SAVESET
DUMPER>
```

Step 23: Give the DUMPER Command: EXIT and Press the RETURN Key.

To terminate the DUMPER program and return to the TOPS-20 command level. Type EXIT and press the RETURN key.

```
DUMPER>EXIT
$
```

Step 24: Give the Command: UNLOAD (DEVICE) MTA0: and Press the RETURN Key.

To rewind and unload the tape on MTA0:, type UNLOAD and press the ESC key. The system prints (DEVICE). Type MTA0: and press the RETURN key.

```
$UNLOAD (DEVICE) MTA0:
$
```

A.1.1 Renaming the Release 3 Monitor

If you need to revert to the Release 3 monitor, you must rename it before copying the Release 3A monitor into <SYSTEM>MONITR.EXE.

Step 25: Give the Command: RENAME (EXISTING FILE)PS:<SYSTEM>MONITR.EXE (TO) PS: <SYSTEM>3-MONITR.EXE and Press the RETURN Key.

To rename and save the Release 3 monitor, type RENAME and press the ESC key. The system prints (EXISTING FILE). Type PS:<SYSTEM>MONITR.EXE and press the ESC key. The system prints (TO BE). Type PS:<SYSTEM)3-MONITR.EXE and press the RETURN key. When the rename is successfully completed, the system prints a message specifying that the file was renamed correctly.

```
$RENAME (EXISTING FILE) PS:<SYSTEM>MONITR.EXE (TO BE)
     PS:<SYSTEM>3-MONITR.EXE

<SYSTEM>MONITR.EXE.1 => PS:<SYSTEM>3-MONITR.EXE.1 [OK]

$
```

Step 26: Give the Command: COPY (FROM) PS:<NEW-SYSTEM>MONtyp.EXE (TO) PS:<SYSTEM> MONITR.EXE and Press the RETURN Key.

To copy the Release 3A monitor into PS:<SYSTEM>, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SYSTEM>MONtyp.EXE (typ designates the type of monitor you have selected for your system) and press the ESC key. The system prints (TO). Type PS:<SYSTEM>MONITR.EXE and press the RETURN key. When the copy is successfully completed, the system prints a message specifying that the file was copied correctly.

```
$COPY (FROM) PS:<NEW-SYSTEM>MONtyp.EXE (TO) PS:<SYSTEM>MONITR.EXE

<NEW-SYSTEM>MONtyp.EXE. => <SYSTEM>MONITR.EXE.1 [OK]
```

A.1.2 Creating the File <NEW-SYSTEM>3A-CONFIG.CMD

You must create the file <NEW-SYSTEM>3A-CONFIG.CMD to declare system parameters.

Step 27: Give the Command: EDIT (FILE)<SYSTEM>3-CONFIG.CMD.1 (OUTPUT AS)<NEW- SYSTEM>3A-CONFIG.CMD.

To edit <SYSTEM>3-CONFIG.CMD and to have changes placed in <NEW-SYSTEM>3A-CONFIG.CMD, type EDIT and press the ESC key. The system prints (FILE). Type <SYSTEM>3-CONFIG.CMD and press the ESC key. The system prints the generation number of that file and (OUTPUT AS). Type <NEW-SYSTEM>3A-CONFIG.CMD and press the RETURN key. The system prints: EDIT:<SYSTEM>CONFIG.CMD and the EDIT prompt.

```
$EDIT (FILE) <SYSTEM>3-CONFIG.CMD.1 (OUTPUT AS)
     <NEW-SYSTEM>3A-CONFIG.CMD.
```

The system prints

```
EDIT:<SYSTEM>3-CONFIG.CMD.1

*
```

Step 28: Give the Edit Command: P^:* and Press the RETURN Key.

To print the contents of <SYSTEM>3-CONFIG.CMD, type P^:* and press the RETURN key. The system prints the entire 3-CONFIG.CMD file and then the EDIT prompt.

```
EDIT:<SYSTEM>3-CONFIG.CMD.1

* P^:*RET
```

A.1.3 Changing System Parameters

Read Chapter 4 of this manual (Tailoring the System), and make any changes to the system parameters that are necessary. One parameter that must be added is the definition for the logical name SYS:. Add the following command to the 3A-CONFIG.CMD file.

```
DEFINE SYS: PS:<NEW-SUBSYS>,PS:<SUBSYS>
```

NOTE

When you are making a change to the system parameters, use the EDIT command R line number. Any changes made to the system parameters will be made only in <NEW-SYSTEM>3A-CONFIG.CMD. The file <SYSTEM>3-CONFIG.CMD will remain the same.

Step 29: Give the EDIT Command: Press the ESC Key, type E and Press the RETURN Key.

After you make all the necessary changes to the system parameters, press the ESC key, type E, and press the RETURN key. This command ends the EDIT program and saves the file. The system prints the name of the output file.

```
*EURET

[<NEW-SYSTEM>3A-CONFIG.CMD.1]
```

NOTE

Before bringing up the system under Release 3A, you should check the Release 3A PTYCON.ATO file against the Release 3 PTYCON.ATO file. You do not have to compare these files if you have not changed the Release 3 PTYCON.ATO file. However, if you have made your own changes to the Release 3 PTYCON.ATO file and you wish those changes to exist under Release 3A, you must add the changes to the Release 3A PTYCON.ATO.

A.1.4 Changing the Operator's Password

You may wish to change the operator's password from the widely publicized DEC-20 to a 39-alphanumeric-character phrase of your choosing. The password can include a hyphen.

Step 30: Give the Command: ^ECREATE (DIRECTORY NAME) PS:<OPERATOR>. Type a comma. Press the RETURN Key.

Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type PS:<OPERATOR> and a comma, then press the RETURN key. The system prints the subcommand prompt.

```
$ECREATE (DIRECTORY NAME) PS:<OPERATOR>,
$$
```

Step 31: Type the Operator's Password and Press the Return Key.

At the subcommand prompt type PASSWORD, press the space bar, then type the operator's password. Press the RETURN key.

```
$$PASSWORD Your Password
$$
```

Step 32: Press the RETURN Key.

To exit from the subcommand level press the RETURN key.

```
$$
$
```

Step 33: Give the Command: ^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT) Date and Time and Press the RETURN Key.

To bring the system down, type CTRL/E CEASE and press the ESC key. The system prints (TIMESHARING AT). Type the date and time and press the ESC key. The system prints (RESUMING AT). Type the date and time and press the RETURN key.

```
$ECEASE (TIMESHARING AT) date and time (RESUMING AT)
date and time
 system shutdown scheduled for 24-AUG-78 13:47:00,
 System going down in one minute!!
 System down, up again at 24-AUG-78 13:48:00

 Shutdown complete
```

NOTE

Wait for the system to print Shutdown complete.

Step 34: Type CTRL/\.

At the console terminal, type CTRL/\ to return to the front-end Command Parser. When you are at Command Parser command level, the system prints the prompt PAR>.

```
Shutdown complete
CTRL/\
PAR>
```

Step 35: Type SHUTDOWN and Press the RETURN Key.

To stop the TOPS-20 monitor, type SHUTDOWN and press the RETURN key. The system prints a list of messages.

```
PAR>SHUTDOWN RET
** HALTED **
%DECSYSTEM-20 NOT RUNNING
```

Step 36: Mount Release 3A System Floppy A in Floppy Drive 0 and Release 3A System Floppy B in Floppy Drive 1.

Step 37: Press the ENABLE and FLOPPY Buttons Simultaneously.

To bring up the Release 3A front-end monitor, press the ENABLE and FLOPPY buttons simultaneously. The system prints:

```
RSX-20F VB12-32 0:13 21-AUG-78
[SY0:  REDIRECTED TO DX0:]
[DX0:  MOUNTED]
[DX1:  MOUNTED]

KLI -- VERSION VB07-04 RUNNING
KLI -- MICROCODE VERSION 212 LOADED
KLI -- ALL CACHES ENABLED
LOGICAL MEMORY CONFIGURATION:
                    CONTROLLER
ADDRESS    SIZE   RQ0   RQ1   RQ2   RQ3   CONTYPE   INT
00000000   128K   00    01    00    01     MA20      4
004000000  128K   02    03    02    03     MA20      4

KLI -- BOOTSTRAP LOADED AND STARTED

CHN:2 DX20:0 MICROCODE VERSION 1(0) LOADED, VERIFIED, AND STARTED

[PS MOUNTED]

System restarting, wait...

ENTER CURRENT DATE AND TIME:
```

Step 38: Type the Date and Time; Then Press the RETURN Key.

After the prompt, type the date and time in the format day-month-year hour min; then press the RETURN key.

```
ENTER CURRENT DATE AND TIME:  16-Aug-78 1105(RET)
```

The system prints

```
YOU HAVE ENTERED TUESDAY, 16-AUGUST-78 11:05 AM, IS THIS  CORRECT
(Y,N)
```

Step 39: Type Y or N and Press the RETURN Key.

If you have entered the correct date and time, type Y and press the RETURN key. Otherwise, type N and press the RETURN key. The system will ask for the date and time again.

```
IS THIS CORRECT (Y,N) Y(RET)
```

The system prints

```
WHY RELOAD?
```

Step 40: Type TS and Press the RETURN Key.

```
WHY RELOAD? TS(RET)
```

The system prints

```
SYSTEM ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED

RUN CHECKD?
```

NOTE

The system prints the message SYSTEM ACCOUNTS TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED because the ACTGEN program has not been run. (Refer to Chapter 9 of the DECSYSTEM-20 System Manager's Guide for more information.)

Step 41: Type N and Press the RETURN Key.

The CHECKD program examines the entire disk file system, reports any errors, and tries to correct the errors. You do not have to run the program unless the system crashes unexpectedly or you expect that there may be disk errors. Type N and press the RETURN key. The system runs the DDMP program. The DDMP program is a background task that moves pages from the disk swapping area to the disk file system.

```
RUN CHECKD? N(RET)
RUNNING DDMP

SYSJOB 3(7) STARTED AT 16-JUN-78 0835
RUN SYS:INFO
RUN SYS:MAILER
RUN SYS:QUASAR
JOB 0 /LOG OPERATOR XX OPERATOR
ENA
^ESET LOGINS ANY
^ESEND * SYSTEM IN OPERATION
PTYCON
GET SYSTEM:PTYCON.ATO
/
SJ  0:
SJ  0:  INSTALLATION-TEST SYSTEM, TOPS-20 MONITOR 3A(1762)
SJ  0: @LOG OPERATOR OPERATOR
SJ  0:  JOB 1 ON TTY206 16-JUN-78 08:35:32
SJ  0: @ENA
SJ  0:
[From OPERATOR:  SYSTEM IN OPERATION]
$^ESET LOGINS ANY
SJ  0: $^ESEND * SYSTEM IN OPERATION
SJ  0: $PTYCON
SJ  0: PTYCON> GET SYSTEM:PTYCON.ATO
SJ  0: PTYCON> SILENCE
SJ  0: PTYCON.LOG.1
SJ  0: PTYCON> B-START
SJ  0: PTYCON> L-START PLPT0=LPT0
SL  0: PTYCON>
SJ  0: **** L(0) 08:36:21 ****
SJ  0: START PLPT0=LPT0
SJ  0: **** B(1) 08:36:22 ****
SJ  0: /START
SJ  0: !
SJ  0: PTYCON>
SJ  0: **** L(0) 08:36:26 ****
SJ  0: LPTSPL>
SJ  0: PTYCON> ;LPT1:L1-START PLPT1=LPT1
SJ  0: PTYCON> ;CRD:S-START PCDR0:=CDR0:
SJ  0: PTYCON> WHAT ALL
SJ  0: L(0)       4          OPERATOR   LPTSPL    TI     0:0:0
SJ  0: B(1)       5          OPERATOR   BATCON    TI     0:0:0
SJ  0: P(2)       3          OPERATOR   OPLEAS    RN     0:0:0
SJ  0: O(3)       2          OPERATOR   EXEC      TI     0:0:0
```

A.2 REVERTING TO RELEASE 3

If you must revert to running the TOPS-20 Release 3 software, follow the steps in this section.

Step 1: Log in to the System with OPERATOR or WHEEL Capabilities.

```
      (ESC)          (ESC)                    (ESC)
@LOGIN (USER) OPERATOR (PASSWORD)YOUR PASSWORD (ACCOUNT) 341(RET)
@
```

Step 2: Give the Command: ENABLE (CAPABILITIES) and Press the RETURN Key.

To perform the next step you must enable your capabilities. Type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key.

```
@ENABLE (CAPABILITIES)
$
```

Step 3: Give the Command: RENAME (EXISTING FILES) PS:<SYSTEM>3-MONITR.EXE (TO BE) PS:<SYSTEM>MONITR.EXE and Press the RETURN Key.

In Section A.1.1, you renamed the Release 3 monitor to PS:<SYSTEM>3-MONITR.EXE. If you are reverting to Release 3, this monitor must be put back into PS:<SYSTEM>MONITR.EXE. Type RENAME and press the ESC key. The system prints (EXISTING FILE). Type PS:<SYSTEM>3-MONITR.EXE and press the ESC key. The system prints the generation number and (TO BE). Type PS:<SYSTEM>MONITR.EXE and press the RETURN key. When the rename has been successfully executed, the system prints a message specifying that the file has been renamed correctly.

```
$RENAME (EXISTING FILE) PS:<SYSTEM>3-MONITR.EXE (TO BE)
PS:<SYSTEM>MONITR.EXE

 <SYSTEM>3-MONITR.EXE.1=> <SYSTEM>MONITR.EXE [OK]
```

Step 4: Give the Command: CTRL/E ^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT) Date and Time and Press the RETURN Key.

To bring the system down, type CTRL/E CEASE and press the ESC key. The system prints (TIMESHARING AT). Type the date and time and press the ESC key. The system prints (RESUMING AT). Type the date and time you want timesharng to start again and press the RETURN key. The system prints a list of messages, the last message is Shutdown complete.

```
$^ECEASE (TIMESHARING AT) date and time (RESUMING AT) date and time

 Shutdown complete
```

Step 5: Type CTRL/\.

At the console terminal, type CTRL/\ to return to the front-end Command Parser. When you are at Command Parser command level, the system prints the prompt PAR>.

```
PAR>
```

Step 6: Type SHUTDOWN and Press the RETURN Key.

To stop the TOPS-20 monitor, type SHUTDOWN and press the RETURN key. The system prints a list of messages.

```
PAR>SHUTDOWN (RET)
** HALTED **

%DECSYSTEM-20 NOT RUNNING
```

Step 7: Reload the Release 3 Monitor Using the Release 3 Floppies or the Release 3 Disk.

To reload the Release 3 monitor using the Release 3 floppies, mount System Floppy A in floppy drive 0, press the ENABLE and FLOPPY buttons simultaneously, and answer the usual start-up questions.

To reload the Release 3 monitor using the Release 3 disk, press the ENABLE and DISK buttons simultaneously, and answer the usual start-up questions.

NOTE

You can reload the Release 3 monitor from disk only if the Release 3 front-end software is still on the disk.

A.3 MAKING THE RELEASE 3A MONITOR THE PRIMARY MONITOR

In case you ever need to revert to the Release 3 monitor, you must rename it before copying the Release 3A monitor into <SYSTEM>MONITR.EXE.

Step 1: Log in to the System with OPERATOR or WHEEL Capabilities.

```
@LOGIN (USER) OPERATOR (PASSORD)your password (ACCOUNT) 341(RET)
@
```

(ESC) after OPERATOR, (ESC) after your password

Step 2: Give the Command: ENABLE (CAPABILITIES) and Press the RETURN Key.

To perform the next step you must enable your capabilities. Type ENABLE and press the ESC key. The system prints (CAPABILITIES) Press the RETURN key.

```
@ENABLE (CAPABILITIES)(RET)
$
```

(ESC) after ENABLE

Step 3: Give the Command: RENAME (EXISTING FILE) PS:<SYSTEM>MONITR.EXE (TO BE) PS:<SYSTEM>3-MONITR.EXE and Press the RETURN Key.

To rename and save the Release 3 monitor, type RENAME and press the ESC key. The system prints (EXISTING FILE). Type PS:<SYSTEM>MONITR.EXE and press the ESC key. The system prints (TO BE). Type PS:<SYSTEM>3-MONITR.EXE. When the Release 3 monitor is successfully renamed, the system prints a message specifying that the file has been renamed correctly.

```
$RENAME (EXISTING FILE) PS:<SYSTEM>MONITR.EXE (TO BE)
PS:<SYSTEM>3-MONITR.EXE

 <SYSTEM>MONITR.EXE.1 => PS:<SYSTEM>2-MONITR.EXE.1 [OK]

$
```

Step 4: Give the Command: COPY (FROM) PS:<NEW-SYSTEM>MONtyp.EXE (TO) PS:<SYSTEM> MONITR.EXE and Press the RETURN Key.

To copy the Release 3A monitor into PS:<SYSTEM>, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SYSTEM> MONtyp.EXE (typ designates the type of monitor you have selected for your system) and press the ESC key. The system prints (TO). Type PS:<SYSTEM>MONITR.EXE and press the RETURN key. When the copy is successfully completed, the system prints a message specifying that the file was copied correctly.

```
$COPY (FROM) PS:<NEW-SYSTEM>MONtyp.EXE (TO) PS:<SYSTEM>MONITR.EXE

 <NEW-SYSTEM>MONtyp.EXE. => <SYSTEM>MONITR.EXE.1 [OK]
```

Step 5: Give the Command: ^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT) Date and Time and Press the RETURN key.

Shut down the system by typing CTRL/E CEASE and press the ESC key. The system prints (TIMESHARING AT). Type the date and time you want timesharing to cease and press the ESC key. The system prints (RESUMING AT). Type the date and time you want timesharing to start again and press the RETURN key.

```
$^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT)
Date and Time
```

Step 6: Put the Release 3A Front End Software On Disk.

Start at Step 100 in Chapter 6 of this manual to put the Release 3A front-end software on disk.

NOTE

When the Release 3A front-end software is put on disk, the Release 3 front-end is destroyed. In order to use the Release 3 front-end software again, you must reinstall it using the Release 3 floppies.

A.4 MAKING THE RELEASE 3A MONITOR THE PERMANENT MONITOR

The steps in this section should be performed when you feel comfortable with the Release 3A software.

Step 1: Log in to the System with OPERATOR or WHEEL Capabilities.

```
@LOGIN (USER) OPERATOR (PASSWORD) your password (ACCOUNT) 341
@
```

Step 2: Give the Command: ENABLE (CAPABILITIES) and Press the RETURN Key.

To perform the next step you must enable your capabilities. Type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key.

```
@ENABLE (CAPABILITIES)
$
```

Step 3: Give the Command: COPY (FROM) PS:<NEW-SYSTEM>*.* (TO) PS:<SYSTEM>*.* and Press the RETURN Key.

To copy the directory <NEW-SYSTEM> to <SYSTEM>, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SYSTEM>*.* and press the ESC key. The system prints (TO). Type PS:<SYS and press the ESC key. The system prints TEM>*.*. Press the RETURN key. The system prints a message specifying that each file has been copied correctly.

```
$COPY (FROM) PS:<NEW-SYSTEM>*.* (TO) PS:<SYSTEM>*.*
```

Step 4: Give the Command: COPY (FROM) PS:<NEW-SUBSYS>*.* (TO) PS:<SUBSYS> and Press the RETURN Key.

To copy the directory <NEW-SUBSYS> to <SUBSYS>, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SUBSYS>*.* and press the ESC key. The system prints (TO). Type PS:<SUB and press the ESC key. The system prints SYS>*.*. Press the RETURN key. The system prints a message specifying that each file has been copied correctly.

```
$COPY (FROM) PS:<NEW-SUBSYS>*.* (TO) PS:<SUBSYS>*.*
```

Step 5: Give the Command: CONNECT (TO DIRECTORY)<SYSTEM> and Press the RETURN Key.

Connect to the directory <SYSTEM> by typing CONNECT and pressing the ESC key. The system prints (TO DIRECTORY). Type <SYSTEM> and press the RETURN key.

```
$CONNECT (TO DIRECTORY) <SYSTEM>
$
```

Step 6: Give the Command: EDIT (FILE) <SYSTEM>3A-CONFIG.CMD and Press the RETURN Key.

To edit the 3A-CONFIG.CMD, type EDIT and press the ESC key. The system prints (FILE). Type <SYSTEM>3A-CONFIG.CMD and press the RETURN key.

```
$EDIT (FILE) <SYSTEM>3A-CONFIG.CMD
```

The system prints:

```
EDIT:  3A-CONFIG.CMD
*
```

Step 7: Give the EDIT Command: P^:* and Press the RETURN Key.

To print the entire 3A-CONFIG.CMD file, type P^:* and press the RETURN key.

```
*P^:*
```

Step 8: Give the EDIT Command: R Line Number and Press the RETURN Key.

The parameter DEFINE SYS: PS:<NEW-SUBSYS>, PS:<SUBSYS> must be replaced by DEFINE SYSTEM: PS:<SYSTEM>. To do this, type an R and the line number where DEFINE SYS: PS:<NEW-SUBSYS>, PS:<SUBSYS> is located; then press the RETURN key. The system prints the line number you entered in the R command. In the example below, the parameter is located at line 00500.

```
R00500
```

The system prints

```
00500
```

Step 9: Type DEFINE SYSTEM: PS:<SYSTEM> and Press the RETURN Key.

To define SYSTEM: as PS:<SYSTEM>, type DEFINE SYSTEM: PS:<SYSTEM> and press the RETURN key.

```
00500 DEFINE SYSTEM: PS:<SYSTEM>(RET)
```

The system prints

```
1 LINES (00500/1) DELETED
*
```

Step 10: Type E and Press the RETURN Key.

To end the EDIT program and save the file, type an E and press the RETURN key. The system prints <SYSTEM>3A-CONFIG.CMD.1 and the TOPS-20 command prompt.

```
* E(RET)
  <SYSTEM>3A-CONFIG.CMD.1
$
```

Step 11: Give the Command: CONNECT and Press the RETURN Key.

Connect back to your log in directory by typing CONNECT and pressing the RETURN key.

```
$CONNECT(RET)
$
```

Step 12: Give the Command: DELETE (FILES) <NEW-SYSTEM>*.*.* and Press the RETURN Key.

To delete the files in the directory <NEW-SYSTEM>, type DELETE and press the ESC key. The system prints (FILES). Type <NEW-SYSTEM>*.*.* and press the RETURN key. The system prints an [OK] message for each file it deletes.

```
        (ESC)
        ↓
$DELETE (FILES) <NEW-SYSTEM>*.*.*(RET)
.
.
.
.
.
.
.
.
$
```

Step 13: Give the Command: DELETE (FILES) <NEW-SUBSYS>*.*.* and Press the RETURN Key.

To delete the files in the directory <NEW-SUBSYS>, type DELETE and press the ESC key. The system prints (FILES). Type <NEW-SUBSYS>*.*.* and press the RETURN key. The system prints an [OK] message for each file it deletes.

```
$DELETE (FILES) <NEW-SUBSYS>*.*.* RET
.
.
.
.
.
.
.
.
.
.
.
$
```

Step 14: Give the Command: ^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT) Date and Time and Press the RETURN Key.

Shut down the system by typing CTRL/E CEASE and press the ESCAPE key. The system prints (TIMESHARING AT). Type the date and time you want timesharing to cease and press the ESCAPE key. The system prints (RESUMING AT). Type the date and time you want timesharing to start again and press the RETURN key. The system prints a list of messages. The last message is Shutdown complete.

```
$^ECEASE (TIMESHARING AT) date and time (RESUMING AT)
date and time RET

  Shutdown complete
```

Step 15: Type CTRL/\.

At the console terminal, type CTRL/\ to return to the front-end Command parser. When you are at Command parser command level, the system prints the prompt PAR>.

```
Shutdown complete
CTRL/\
PAR>
```

Step 16: Type SHUTDOWN and Press the RETURN Key.

To stop the TOPS-20 monitor, type SHUTDOWN and press the RETURN key. The system prints a list of messages.

```
PAR>SHUTDOWN RET
** HALTED **

%DECSYSTEM-20 NOT RUNNING
```

➡Step 17: Press the ENABLE and DISK Buttons Simultaneously.

To run the Release 3A software from disk, press the ENABLE and DISK buttons simultaneously and answer the usual start-up questions. (Refer to Step 38 in Section A1.)

WARNING

If you ever need to revert to Release 3, you must reinstall Release 3 using the Release 3 floppies and tapes.

NOTE

If you are installing any unbundled software, perform the steps in Chapter 7.

➡Step 18: Perform the Steps in Chapter 8 of this Manual.

APPENDIX B

UPDATING THE DECSYSTEM-2020 TO TOPS-20 RELEASE 3A SOFTWARE

This appendix describes how to install Release 3A software on a DECSYSTEM-2020 now running TOPS-20 Release 3 software.

To update the system to Release 3A, enter the commands printed in RED. The system replies are printed in BLACK.

To install the TOPS-20 Release 3A, you need:

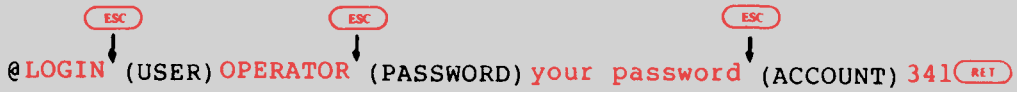
1. TOPS-20 Installation Tape V3A

2. A separate tape for each unbundled software product you have purchased. The available unbundled software products are listed in Chapter 7 of this manual.

The updating procedures are divided into three sections. They are:

B.1 INSTALLING THE RELEASE 3A SOFTWARE

Step 1: Log on to the System with OPERATOR or WHEEL Capabilities.



Step 2: Give the Command; ENABLE (CAPABILITIES) and Press the RETURN Key.

To enable your capabilities, type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key.The system prints the TOPS-20 enabled prompt.

Step 3: Give the Command: ^ECREATE (DIRECTORY NAME) <VERIFY> and Press the ESC Key. Type a Comma. Then Press the RETURN Key.

Before you can load the Release 3A verify program onto PS:, you must delete the Release 3 <VERIFY> directory. Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type <VERIFY> and press the ESC key. The system prints (PASSWORD). Type a comma and press the RETURN key.

```
   CTRL/E    ESC                          ESC
  $ECREATE (DIRECTORY NAME) <VERIFY> (PASSWORD) RET
[OLD]
  $$
```

Step 4: Give the Command: KILL and Press the RETURN Key.

To delete the Release 3 <VERIFY> directory, type KILL and press the RETURN key. The system prints [CONFIRM].

```
$$KILL RET
[CONFIRM]
```

Step 5: Press the RETURN Key Twice.

To confirm you are deleting the directory <VERIFY> press the RETURN key twice.

```
[CONFIRM] RET
$$ RET
$
```

Step 6: Give the Command: ^ECREATE (DIRECTORY NAME) <EXERCISER-LIBRARY> and Press the ESC Key. Type a Comma. Then Press the RETURN Key.

Before you can load the Release 3A <UETP> directory onto PS:, you must delete the Release 3A <EXERCISER-LIBRARY> directory. Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type <EXERCISER-LIBRARY> and press the ESC key. The system prints (PASSWORD). Type a comma and press the RETURN key.

```
 CTRL/E    ESC                                     ESC
$ECREATE (DIRECTORY NAME) <EXERCISER-LIBRARY> (PASSWORD), RET
[OLD]
$$
```

Step 7: Give the Command: KILL and Press the RETURN Key.

To delete the Release 3 <EXERCISER-LIBRARY>, type KILL and press the RETURN key. The system prints [CONFIRM].

```
$$KILL RET
[CONFIRM]
```

Step 8: Press the RETURN Key Twice.

To confirm you are deleting the directory <EXERCISER-LIBRARY> press the RETURN key twice.

```
[CONFIRM]RET
$$RET
$
```

Step 9: Give the Command: ^ECREATE (DIRECTORY NAME) <EXERCISER> and Press the ESC Key. Type a Comma. Then Press the RETURN Key.

You must delete the Release 3 <EXERCISER> directory. Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type <EXERCISER> and press the ESC key. The system prints (PASSWORD). Type a comma and press the RETURN key.

```
CTRL/E  ESC                                  ESC
$ECREATE (DIRECTORY NAME) <EXERCISER> (PASSWORD),RET
[OLD]
$$
```

Step 10: Give the Command: KILL and Press the RETURN Key.

To delete the Release 3 <EXERCISER> directory, type KILL and press the RETURN key. The system prints [CONFIRM].

```
$$KILLRET
[CONFIRM]
```

Step 11: Press the RETURN Key Twice.

To confirm you are deleting the directory <EXERCISER>, press the RETURN key twice.

```
[CONFIRM]RET
$$RET
$
```

Step 12: Mount the Installation Tape on MTA0: and Give the Following Commands:.

```
      ESC
$REWIND (DEVICE) MTA0:RET

    ESC
$SKIP (DEVICE) MTA0: 4 FILESRET
```

Step 13: Give the Command: RUN (PROGRAM) MTA0: and Press the RETURN Key.

To run the DLUSER program from magnetic tape, type RUN and press the ESCAPE key. The system prints (PROGRAM). Type MTA0: and press the RETURN key. After the DLUSER program starts, the system prints the DLUSER prompt.

```
$RUN (PROGRAM) MTA0:
DLUSER>
```

Error: If you make a typing mistake, rewind the tape, skip two files, and reissue the command above. The following example shows how to do this when the Installation tape is on MTA0:.

```
$REWIND (DEVICE) MTA0:
$SKIP (DEVICE) MTA0: 4 FILES
$RUN (PROGRAM) MTA0:
DLUSER>
```

Step 14: Give the DLUSER Command: LOAD (FROM FILE) MTA0: and Press the RETURN Key.

To load the directory structure into the file system from the TOPS-20 Installation tape type LOAD and press the ESCAPE key. The system prints (FROM FILE). Type MTA0: and press the RETURN key. After a few seconds, the system prints DONE. and the DLUSER prompt.

```
DLUSER>LOAD (FROM FILE) MTA0:
```

The system prints

```
DONE.
DLUSER>
```

Step 15: Type EXIT and Press the RETURN Key.

Type EXIT and press the RETURN key to leave the DLUSER program. The system prints the TOPS-20 enabled prompt.

```
DLUSER>EXIT
$
```

Step 16: Give the Command: RUN (PROGRAM) MTA0: and Press the RETURN Key.

To run the DUMPER program, type RUN and press the ESCAPE key. The system prints (PROGRAM). Type MTA0: and press the RETURN key. After the DUMPER program starts, the system prints the word DUMPER, the current version, and then prints the DUMPER prompt.

```
$RUN (PROGRAM) MTA0:
```

The system prints

```
DUMPER 3A(172)

DUMPER>
```

Error: If you receive any errors, rewind the tape, skip four files and reissue the command above. The following example shows how to do this for MTA0:. If errors still persist, contact DIGITAL Software Support.

```
$REWIND (DEVICE) MTA0:

$SKIP (DEVICE) MTA0: 5 FILES

$RUN (PROGRAM) MTA0:
```

The system prints

```
DUMPER 3A(172)

DUMPER>
```

Step 17: Give the DUMPER Command: TAPE (FILESPEC) MTA0: and Press the RETURN Key.

To tell the DUMPER program which tape drive you are using, type TAPE and press the ESC key. The system prints (FILESPEC). Type MTA0: and press the RETURN key. The system prints the DUMPER prompt.

```
DUMPER>TAPE (FILESPEC) MTA0:
```

The system prints

```
DUMPER>
```

Step 18: Give the Command: RESTORE (MTA Files) <NEW-SYSTEM>*.* (TO) PS:<NEW-SYSTEM> and Press the RETURN Key.

To copy the TOPS-20 monitor and its related programs from System Magtape D to your public structure, type RESTORE and press the ESC key. The system prints (MTA FILES). Type <NEW-SYSTEM>*.* and press the ESC key. The system prints (TO). Type PS:<NEW-SYSTEM> and press the RETURN key.

This DUMPER command restores all the files in the first save set to the directory PS:<NEW-SYSTEM>. When all the files are restored, the system prints the message END OF SAVESET and the DUMPER prompt.

```
DUMPER>RESTORE (MTA FILES) <NEW-SYSTEM>*.* (TO) PS:<NEW-SYSTEM>

DUMPER TAPE #1, "NEW-SYSTEM FOR RELEASE 3A", TUESDAY, 16-AUG-78 1511

LOADING FILE (S) INTO PS:<NEW-SYSTEM>

END OF SAVESET
DUMPER>
```

Step 19: Give the Command: RESTORE (MTA FILES) <NEW-SUBSYS>*.* (TO) PS:<NEW-SUBSYS> and Press the RETURN Key.

Restore the system program files to the directory PS:<NEW-SUBSYS>. Type RESTORE and press the ESC key. The system prints (MTA FILES). Type <NEW-SUBSYS)*.* and press the ESC key. The system prints (TO). Type PS:<NEW-SUBSYS> and press the RETURN key. When all the files are restored, the system prints the message END OF SAVESET and the DUMPER prompt.

```
DUMPER>RESTORE (MTA FILES) <NEW-SUBSYS>*.* (TO) PS:<NEW-SUBSYS>

DUMPER TAPE #1, "NEW-SUBSYS FOR RELEASE 3A", TUESDAY, 16-AUG-78 1515
LOADING FILE (S) INTO PS:<NEW-SUBSYS>

END OF SAVESET
DUMPER>
```

Step 20: Give the DUMPER Command: RESTORE (MTA FILES) PS:<*>*.*.* (TO) <UETP.LIB>*.*.* and Press the RETURN Key.

To restore the files for the User Environment Test Package. Type RESTORE and press the ESC key. The system prints (MTA FILES). Press the ESC key. The system prints PS:<*>*.*.* (TO). Type <UETP.LIB> and press the ESC key. The system prints *.*.*. Press the RETURN key. When all the files are restored, the system prints END OF SAVESET and the DUMPER prompt.

```
DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <UETP.LIB>*.*.*

DUMPER TAPE #1, "UETP FOR RELEASE 3A", TUESDAY, 16-AUG-78 15:45
LOADING FILE(S) INTO PS:<UETP.LIB>

END OF SAVESET
DUMPER>
```

➡Step 21: Give the DUMPER Command: EXIT and Press the RETURN Key.

To terminate the DUMPER program and return to the TOPS-20 command level. Type EXIT and press the RETURN key.

```
DUMPER>EXIT<RET>
$
```

➡Step 22: Give the Command: UNLOAD (DEVICE) MTA0: and Press the RETURN Key.

To rewind and unload the tape on MTA0:, type UNLOAD and press the ESC key. The system prints (DEVICE). Type MTA0: and press the RETURN key.

```
          <ESC>
          ↓
$UNLOAD (DEVICE) MTA0:<RET>
$
```

B.1.1 Renaming the Release 3 Monitor

If you need to revert to the Release 3 monitor, you must rename it before copying the Release 3A monitor into <SYSTEM>MONITR.EXE.

➡Step 23: Give the Command: RENAME (EXISTING FILE)PS:<SYSTEM>MONITR.EXE (TO) PS: <SYSTEM>3-MONITR.EXE and Press the RETURN Key.

To rename and save the Release 3 monitor, type RENAME and press the ESC key. The system prints (EXISTING FILE). Type PS:<SYSTEM>MONITR.EXE and press the ESC key. The system prints (TO BE). Type PS:<SYSTEM)3-MONITR.EXE and press the RETURN key. When the rename is successfully completed, the system prints a message specifying that the file was renamed correctly.

```
          <ESC>                                          <ESC>
          ↓                                              ↓
$RENAME (EXISTING FILE) PS:<SYSTEM>MONITR.EXE (TO BE)
     PS:<SYSTEM>3-MONITR.EXE<RET>

<SYSTEM>MONITR.EXE 1 => PS:<SYSTEM>3-MONITR.EXE.1 [OK]

$
```

➡Step 24: Give the Command: COPY (FROM) PS:<NEW-SYSTEM>2020-MONtyp.EXE (TO) PS:<SYSTEM> MONITR.EXE and Press the RETURN Key.

To copy the Release 3A monitor into PS:<SYSTEM>, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SYSTEM>2020-MONtyp.EXE (typ designates the type of monitor you have selected for your system) and press the ESC key. The system prints (TO). Type PS:<SYSTEM>MONITR.EXE and press the RETURN key. When the copy is successfully completed, the system prints a message specifying that the file was copied correctly.

```
$     (FROM) PS:<NEW-SYSTEM>2020-MONtyp.EXE (TO) PS:<SYSTEM>MONITR.EXE
```

```
<NEW-SYSTEM>2020-MONtyp.EXE. => <SYSTEM>MONITR.EXE.1 [OK]
```

B.1.2 Creating the File <NEW-SYSTEM>3A-CONFIG.CMD

You must create the file <NEW-SYSTEM>3A-CONFIG.CMD to declare system parameters.

Step 25: Give the Command: EDIT (FILE)<SYSTEM>3-CONFIG.CMD.1 (OUTPUT AS)<NEW- SYSTEM>3A-CONFIG.CMD.

To edit <SYSTEM>3-CONFIG.CMD and to have changes placed in <NEW-SYSTEM>3A-CONFIG.CMD, type EDIT and press the ESC key. The system prints (FILE). Type <SYSTEM>3-CONFIG.CMD and press the ESC key. The system prints the generation number of that file and (OUTPUT AS). Type <NEW-SYSTEM>3A-CONFIG.CMD and press the RETURN key. The system prints: EDIT:<SYSTEM>3-CONFIG.CMD and the EDIT prompt.

```
$EDIT (FILE) <SYSTEM>3-CONFIG.CMD.1 (OUTPUT AS)
<NEW-SYSTEM>3A-CONFIG.CMD.
```

The system prints

```
EDIT:<SYSTEM>3-CONFIG.CMD.1

*
```

Step 26: Give the Edit Command: P^:* and Press the RETURN Key.

To print the contents of <SYSTEM>CONFIG.CMD, type P^:* and press the RETURN key. The system prints the entire CONFIG.CMD file and then the EDIT prompt.

```
EDIT:<SYSTEM>3-CONFIG.CMD.1

* P^:*
```

B.1.3 Changing System Parameters

Read Chapter 5 of this manual (Tailoring the System), and make any changes to the system parameters that are necessary. One parameter that must be added is the definition for the logical name SYS:. Add the following command to the 3A-CONFIG.CMD file.

```
DEFINE SYS: PS:<NEW-SUBSYS>,PS:<SUBSYS>
```

NOTE

When you are making a change to the system parameters, use the EDIT command R line number. Any changes made to the system parameters will be made only in <NEW-SYSTEM>3A-CONFIG.CMD. The file <SYSTEM>3-CONFIG.CMD will remain the same.

Step 27: Give the EDIT Command: Press the ESC Key, type E and Press the RETURN Key.

After you make all the necessary changes to the system parameters, press the ESC key, type E, and press the RETURN key. This command ends the EDIT program and saves the file. The system prints the name of the output file.

```
ESC
*E RET

[<NEW-SYSTEM>3A-CONFIG.CMD.1]
```

NOTE

Before bringing up the system under Release 3A, you should check the Release 3A PTYCON.ATO file against the Release 3 PTYCON.ATO file. You do not have to compare these files if you have not changed the Release 3 PTYCON.ATO file. However, if you have made your own changes to the Release 3 PTYCON.ATO file and you wish those changes to exist under Release 3A, you must add the changes to the Release 3A PTYCON.ATO.

B.1.4 Changing the Operator's Password

You may wish to change the operator's password from the widely publicized DEC-20 to a 39-alphanumeric-character phrase of your choosing. The password can include a hyphen.

Step 28: Give the Command: ^ECREATE (DIRECTORY NAME) PS:<OPERATOR>. Type a comma. Press the RETURN Key.

Type CTRL/E CREATE and press the ESC key. The system prints (DIRECTORY NAME). Type PS:<OPERATOR> and a comma, then press the RETURN key. The system prints the subcommand prompt.

```
CTRL/E  ESC
  ↓      ↓
$ECREATE (DIRECTORY NAME) PS:<OPERATOR>, RET
$$
```

Step 29: Type the Operator's Password and Press the Return Key.

At the subcommand prompt type PASSWORD, press the space bar, then type the operator's password. Press the RETURN key.

```
$$PASSWORD  Your Password<RET>
$$
```

Step 30: Press the RETURN Key.

To exit from the subcommand level press the RETURN key.

```
$$<RET>
$
```

Step 31: Give the Command: CONNECT (TO DIRECTORY) PS:<NEW-SYSTEM> and Press the RETURN Key.

To connect to the directory PS:<NEW-SYSTEM>, type CONNECT and press the ESC key. The system prints (TO DIRECTORY). Type PS:<NEW-SYSTEM> and press the RETURN key. The system prints the TOPS-20 enabled prompt.

```
          <ESC>
          |
$CONNECT (TO DIRECTORY) PS:<NEW-SYSTEM><RET>
$
```

Step 32: Perform Steps 127 through 137 in Chapter 5 of this Manual to Create the Microprocessor File System.

Step 33: Give the Command: ^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT) Date and Time and Press the RETURN Key.

To bring the system down, type CTRL/E CEASE and press the ESC key. The system prints (TIMESHARING AT). Type the date and time and press the ESCAPE key. The system prints (RESUMING AT). Type the date and time and press the RETURN key.

```
<CTRL/E> <ESC>                                  <ESC>
|        |                                      |
$ECEASE (TIMESHARING AT) date and time (RESUMING AT)
date and time<RET>
 System shutdown scheduled for 24-AUG-78 13:47:00,
 System going down in one minute!!
 System down, up again at 24-AUG-77 13:48:00

 Shutdown complete
```

NOTE

Wait for the system to print Shutdown complete.

Step 34: Type CTRL/\.

To return to KS10 command level, type CTRL/\. The system prints the prompt KS10>.

```
(CTRL)
KS10>
```

Step 35: Type SH and Press the RETURN Key.

To shutdown the monitor, type SH and press the RETURN key. The system prints KS10>USR MOD and **HALTED**.

```
KS10>SH(RET)
KS10>USR MOD
**HALTED**
```

Step 36: Press the BOOT Switch.

To restart the Release 3A monitor, press the BOOT switch on the control panel. The system prints BT SW and then asks for the date and time.

```
KS10>BT SW
ENTER CURRENT DATE AND TIME:
```

Step 37: Type the Date and Time and Press the RETURN Key.

After the prompt, type the date and time in this format:

```
day-month-year hhmm
```

Then press the RETURN key:

```
ENTER CURRENT DATE AND TIME: 16-AUG-78 1324(RET).

YOU HAVE ENTERED WEDNESDAY, 16-AUGUST-78 1:24 PM,
IS THIS CORRECT (Y,N)
```

Step 38: Type Y or N and Press the RETURN Key.

After the system prints the date and time, check to be sure that it is correct. If it is, type Y and press the RETURN key. If the date or time is incorrect, type N, press the RETURN key, and go back to the last step.

```
YOU HAVE ENTERED WEDNESDAY, 16-AUG-78 1:24 PM,
IS THIS CORRECT (Y,N) Y(RET)
WHY RELOAD
```

➡Step 39: Type TS and Press the RETURN Key.

Type TS and press the RETURN. When you bring up the system for any reason, type one of the abbreviations listed in Table 8-1 of this manual.

```
WHY RELOAD?TS(RET)
<SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION
IS DISABLED
RUN CHECKD?
```

➡Step 40: Type N and Press the RETURN Key.

You do not have to run the CHECKD program unless the system crashes unexpectedly or you expect there may be disk errors. Type N and press the RETURN key. The system runs the DDMP program:

```
RUN CHECKD?N(RET)
RUNNING DDMP
```

B.2 REVERTING TO RELEASE 3

➡Step 1: Log on to the System with OPERATOR or WHEEL Capabilities.

```
      (ESC)              (ESC)                      (ESC)
        ↓                  ↓                          ↓
@LOGIN (USER) OPERATOR (PASSWORD) your password (ACCOUNT) 341(RET)
```

➡Step 2: Give the Command: ENABLE (CAPABILITIES) and Press the RETURN Key.

To enable your capabilities, type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key. The system prints the TOPS-20 enabled prompt.

```
      (ESC)
        ↓
@ENABLE (CAPABILITIES)(RET)
$
```

➡Step 3: Give the Command: CONNECT (TO DIRECTORY)<SYSTEM> and Press the RETURN Key.

Connect to the directory <SYSTEM> by typing CONNECT and pressing the ESC key. The system prints (TO DIRECTORY). Type <SYSTEM> and press the RETURN key. The system prints the TOPS-20 enabled prompt.

```
        (ESC)
          ↓
$CONNECT (TO DIRECTORY)<SYSTEM>(RET)

$
```

Step 4: Perform Steps 127 through 137 in Chapter 5 of this Manual.

To rebuild the Release 3 Microprocessor File System, perform Steps 127 through 137 in Chapter 5 of this manual.

Step 5: Give the Command: RENAME (EXISTING FILES) PS:<SYSTEM>3-MONITOR.EXE (TO BE) PS:<SYSTEM>MONITR.EXE and Press the RETURN Key.

In Section B.1.1 you renamed the Release 3 monitor to PS:<SYSTEM>3-MONITR.EXE. If you are reverting to Release 3, this monitor must be put back into PS:<SYSTEM>MONITR.EXE. Type RENAME and press the ESC key. The system prints (EXISTING FILE). Type PS:<SYSTEM>3-MONITR.EXE and press the ESC key. The system prints (TO BE). Type PS:<SYSTEM>MONITR.EXE and press the RETURN key. When the rename has been successfully executed, the system prints a message specifying that the file has been renamed correctly.

```
$RENAME (EXISTING FILE) PS:<SYSTEM>3-MONITR.EXE (TO BE)
 PS:<SYSTEM>MONITR.EXE

 <SYSTEM>3-MONITR.EXE.1=> <SYSTEM>MONITR.EXE[OK]
```

Step 6: Give the Command: CTRL/E ^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT) Date and Time and Press the RETURN Key.

To bring the system down, type CTRL/E CEASE and press the ESC key. The system prints (TIMESHARING AT). Type the date and time and press the ESC key. The system prints (RESUMING AT). Type the date and time you want timesharing to start again and press the RETURN key. The system prints a list of messages, the last message is Shutdown Complete.

```
$ ECEASE (TIMESHARING AT) date and time (RESUMING AT) date and time

Shutdown Complete
```

Step 7: Type CTRL/\.

To return to KS10 command level, type CTRL/\ (backslash). When you are at KS10 command level, the system prints the prompt KS10>.

```
KS10>
```

Step 8: Type SH and Press the RETURN Key.

To stop the TOPS-20 monitor, type SH and press the RETURN key. The system prints two messages.

```
KS10>SH
KS10>USR MOD
**HALTED**
```

Step 9: Press the BOOT Button on the Control Panel.

To reload the Release 3 monitor from the disk, press the BOOT button on the Control Panel and answer the usual start-up questions.

B.3 MAKING THE RELEASE 3A MONITOR THE PERMANENT MONITOR

The steps in this section should be performed when you feel comfortable with the Release 3A software.

Step 1: Log in to the System with OPERATOR or WHEEL Capabilities.

```
@LOGIN (USER) OPERATOR (PASSWORD)your password (ACCOUNT) 341
@
```

(ESC after LOGIN, ESC after OPERATOR, ESC after password, RET after 341)

Step 2: Give the Command: ENABLE (CAPABILITIES) and Press the RETURN Key.

To perform the next step you must enable your capabilities. Type ENABLE and press the ESC key. The system prints (CAPABILITIES). Press the RETURN key.

```
@ENABLE (CAPABILITIES)
$
```

(ESC after ENABLE, RET after CAPABILITIES)

Step 3: Give the Command: CONNECT (TO DIRECTORY) PS:<NEW-SYSTEM> and Press the RETURN Key.

To connect to the directory <NEW-SYSTEM>, type CONNECT and press the ESC key. The system prints (TO DIRECTORY). Type PS:<NEW-SYSTEM> and press the RETURN key.

```
$CONNECT (TO DIRECTORY) PS:<NEW-SYSTEM>

$
```

(ESC after CONNECT, RET after PS:<NEW-SYSTEM>)

WARNING

If you had to revert to the Release 3 monitor, you must perform Steps 127 through 137 in Chapter 5 of this manual at this time to recreate the Release 3A Microprocessor File System.

Step 4: Give the Command: COPY (FROM) PS:<NEW-SYSTEM>2020-MONtyp.EXE (TO) PS:<SYSTEM>MONITR.EXE and Press the RETURN Key.

To copy the TOPS-20 Release 3A monitor to MONITR.EXE, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SYSTEM>2020-MONtyp.EXE and press the ESC key. The system prints (TO). Type PS:<SYSTEM>MONITR.EXE and press the RETURN key. When the Release 3A monitor has been copied successfully, the system prints a message specifying it has been copied correctly.

```
$COPY (FROM) PS:<NEW-SYSTEM>2020-MONtyp.EXE (TO)
PS:<SYSTEM>MONITR.EXE
<NEW-SYSTEM>2020-MONtyp.EXE.1 => <SYSTEM>MONITR.EXE.1[OK]
```

Step 5: Give the Command: COPY (FROM) PS:<NEW-SYSTEM>*.* (TO) PS:<SYSTEM>*.* and Press the RETURN Key.

To copy the directory <NEW-SYSTEM> to <SYSTEM>, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SYSTEM>*.* and press the ESC key. The system prints (TO). Type PS:<SYS and press the ESC key. The system prints TEM>*.*. Press the RETURN key. The system prints a message specifying that each file has been copied correctly.

```
$COPY (FROM) PS:<NEW-SYSTEM>*.* (TO) PS:<SYSTEM>*.*
```

Step 6: Give the Command: COPY (FROM) PS:<NEW-SUBSYS>*.* (TO) PS:<SUBSYS> and Press the RETURN Key.

To copy the directory <NEW-SUBSYS> to <SUBSYS>, type COPY and press the ESC key. The system prints (FROM). Type PS:<NEW-SUBSYS>*.* and press the ESC key. The system prints (TO). Type PS:<SUB and press the ESC key. The system prints SYS>*.*. Press the RETURN key. The system prints a message specifying that each file has been copied correctly.

```
$COPY (FROM) PS:<NEW-SUBSYS>*.* (TO) PS:<SUBSYS>*.*
```

Step 7: Give the Command: CONNECT (TO DIRECTORY)<SYSTEM> and Press the RETURN Key.

Connect to the directory <SYSTEM> by typing CONNECT and pressing the ESC key. The system prints (TO DIRECTORY). Type <SYSTEM> and press the RETURN key.

```
$CONNECT (TO DIRECTORY) <SYSTEM>
$
```

Step 8: Give the Command: EDIT (FILE) <SYSTEM>3A-CONFIG.CMD and Press the RETURN Key.

To edit the 3A-CONFIG.CMD, type EDIT and press the ESC key. The system prints (FILE). Type <SYSTEM>3A-CONFIG.CMD and press the RETURN key.

```
$EDIT (FILE) <SYSTEM>3A-CONFIG.CMD
```

The system prints:

```
EDIT:  3A-CONFIG.CMD
*
```

Step 9: Give the EDIT Command: P^:* and Press the RETURN Key.

To print the entire 3A-CONFIG.CMD file, type P^:* and press the RETURN key.

```
*P^:*(RET)
```

Step 10: Give the EDIT Command: R Line Number and Press the RETURN Key.

The parameter DEFINE SYS: PS:<NEW-SUBSYS>, PS:<SUBSYS> must be replaced by DEFINE SYSTEM: PS:<SYSTEM>. To do this, type an R and the line number where DEFINE SYS: PS:<NEW-SUBSYS>, PS:<SUBSYS> is located; then press the RETURN key. The system prints the line number you entered in the R command. In the example below, the parameter is located at line 00500.

```
R00500 (RET)
```

the system prints

```
00500
```

Step 11: Type DEFINE SYSTEM: PS:<SYSTEM> and Press the RETURN Key.

To define SYSTEM: as PS:<SYSTEM>, type DEFINE SYSTEM: PS:<SYSTEM> and press the RETURN key.

```
00500 DEFINE SYSTEM: PS:<SYSTEM> (RET)
```

The system prints

```
1 LINES (00500/1) DELETED
*
```

Step 12: Type E and Press the RETURN Key.

To end the EDIT program and save the file, type an E and press the RETURN key. The system prints <SYSTEM>3A-CONFIG.CMD.1 and the TOPS-20 command prompt.

```
* E (RET)
  <SYSTEM>3A-CONFIG.CMD.1
$
```

Step 13: Give the Command: CONNECT and Press the RETURN Key.

Connect back to your log in directory by typing CONNECT and pressing the RETURN key.

```
$CONNECT (RET)
$
```

Step 14: Give the Command: DELETE (FILES) <NEW-SYSTEM>*.*.* and Press the RETURN Key.

To delete the files in the directory <NEW-SYSTEM>, type DELETE and press the ESC key. The system prints (FILES). Type <NEW-SYSTEM>*.*.* and press the RETURN key. The system prints an [OK] message for each file it deletes.

```
$DELETE (FILES) <NEW-SYSTEM>*.*.*
.
.
.
.
.
.
.
.
$
```

Step 15: Give the Command: DELETE (FILES) <NEW-SUBSYS>*.*.* and Press the RETURN Key.

To delete the files in the directory <NEW-SUBSYS>, type DELETE and press the ESC key. The system prints (FILES). Type <NEW-SUBSYS>*.*.* and press the RETURN key. The system prints an [OK] message for each file it deletes.

```
$DELETE (FILES) <NEW-SUBSYS>*.*.*
.
.
.
.
.
.
.
.
.
.
$
```

Step 16: Give the Command: ^ECEASE (TIMESHARING AT) Date and Time (RESUMING AT) Date and Time and Press the RETURN Key.

Shut down the system by typing CTRL/E CEASE and press the ESCAPE key. The system prints (TIMESHARING AT). Type the date and time you want timesharing to cease and press the ESCAPE key. The system prints (RESUMING AT). Type the date and time you want timesharing to start again and press the RETURN key. The system prints a list of messages. The last message is Shutdown complete.

```
$^ECEASE (TIMESHARING AT) date and time (RESUMING AT)
date and time

  Shutdown complete
```

Step 17: Type CTRL/\.

To halt the TOPS-20 monitor, type CTRL/\. The system prints the prompt KS10>.

Step 18: Type SH and Press the RETURN Key.

To shutdown the system, type SH and press the RETURN key. The system prints the messages KS10>USR MOD and **HALTED**.

```
KS10>SH
KS10>USR MOD

**HALTED**
```

Step 19: Press the BOOT Button.

To run the Release 3A TOPS-20 software from disk, press the BOOT button and answer the usual start-up questions.

NOTE

If you ever have to revert to the Release 3 monitor you must re-install the Release 3 software using the Release 3 Installation Tape.

Step 20: Perform the Steps in Chapter 8 of this Manual.

APPENDIX C

POCKET INSTALLATION GUIDE FOR THE DECSYSTEM-20

This appendix contains an example of a typical installation of the TOPS-20 software on a DECSYSTEM-20 Model 2050.

STEP	OPERATION
1	Read the listing labeled TOPS-20.BWR.
2	Power up the system
3	Have the disk packs formatted if necessary.
4	Label the disk packs.
5	Mount the disk packs.
6	Check the Controller Select Switches.
7	Mount SYSTEM FLOPPY A in drive 0.
8	Mount SYSTEM FLOPPY B in drive 1.
9	Mount the TOPS-20 Software Installation tape on MTA0.
10	Place the FRONT-END HALT SWITCH in the ENABLE position.
11	Set the SWITCH REGISTER to 000007 (Octal).
12	Press the ENABLE and SWITCH REGISTER buttons simultaneously.

```
   RSX-20F VB12-32 0:13 8-AUG-78

   [SY0: REDIRECTED TO DX0:]
   [DX0: MOUNTED]
   [DX1: MOUNTED]
   KLI-- VERSION VB07-04 RUNNING
   ENTER DIALOG [NO,YES,EXIT,BOOT]
13 KLI>YES (RET)
   KLI-- RELOAD MICROCODE [YES,VERIFY,NO]?
14 KLI>YES (RET)
   KLI-- MICROCODE VERSION 212 LOADED
   KLI-- RECONFIGURE CACHE [FILE,ALL,YES,NO]?
16 KLI>ALL (RET)
   KLI-- ALL CACHES ENABLED
   KLI-- CONFIGURE KL MEMORY [FILE,ALL,YES,NO]?
```

```
17          KLI>ALL RET

            LOGICAL MEMORY CONFIGURATION:
                                CONTROLLER
            ADDRESS    SIZE     RQ0 RQ1 RQ2 RQ3   CONTYPE   INT
            00000000   128K     00  01  00  01     MA20       4
            00400000   128K     02  03  02  03     MA20       4
            KLI-- LOAD KL BOOTSTRAP [YES,NO,FILENAME]?
18          KLI>MTBOOT RET
            KLI-- CONFIGURATION FILE ALTERED
            KLI--  BOOTSTRAP LOADED AND STARTED

34          BOOT>/L RET
            CHN:2  DX20:0MICROCODE VERSION 1(0) LOADED, VERIFIED, AND
            STARTED

35          BOOT>/G143 RET

          [FOR ADDITIONAL INFORMATION TYPE "?" TO ANY OF THE FOLLOWING
          QUESTIONS.]

36        DO YOU WANT TO REPLACE THE FILE SYSTEM ON THE PUBLIC STRUCTURE? YES RET

37        DO YOU WANT TO DEFINE THE PUBLIC STRUCTURE? YES RET

38        HOW MANY PACKS ARE IN THIS STRUCTURE: 1 RET

40        ON WHICH "CHANNEL,UNIT" IS LOGICAL PACK # 0 MOUNTED: 1,0 RET

42        DO YOU WANT THE DEFAULT SWAPPING SPACE? YES RET

45        DO YOU WANT THE SIZE FRONT-END FILE SYSTEM? YES RET

47        DO YOU WANT THE DEFAULT SIZE BOOTSTRAP AREA? YES RET

          [STRUCTURE "PS" SUCCESSFULLY DEFINED]

          [PS MOUNTED]

          %NO SETSPD

          SYSTEM RESTARTING, WAIT...

49        ENTER CURRENT DATE AND TIME: 31-AUG-78 1200 RET
          YOU HAVE ENTERED FRIDAY, 31-AUGUST-1978 12:00PM,
50        IS THIS CORRECT (Y,N) Y RET
51        WHY RELOAD? INSTALLATION RET
          <SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS DISABLED
          RUNNING DDMP
          NO SYSJOB
52        CTRL/C
            NO EXEC
53        MX>GET FILE MTA0: RET

54        MX>GET FILE MTA0: RET

55        MX>START RET

          TOPS-20 COMMAND PROCESSOR 3A(415)

                ESC
                 ↓
56        @ENABLE (CAPABILITIES) RET
```

```
                ESC
57      $RUN (PROGRAM) MTA0: RET

                    ESC
58      DLUSER>LOAD (FROM FILE) MTA0: RET
        DONE.

59      DLUSER>EXIT RET

                ESC
60      $RUN (PROGRAM) MTA0: RET

                    ESC
61      DUMPER>TAPE (FILESPEC) MTA0: RET

                        ESC             ESC
62      DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SYSTEM>*.*.* RET

        DUMPER TAPE # 1, "NEW-SYSTEM FOR RELEASE 3A" ,FRIDAY, 31-AUG-78  12:07
        LOADING FILE(S) INTO PS:<SYSTEM>

        END OF SAVESET

                        ESC             ESC
63      DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SUBSYS>*.*.* RET

        DUMPER TAPE # 1, "NEW-SUBSYS FOR RELEASE 3A" ,FRIDAY, 31-AUG-78 12:10
        LOADING FILE(S) INTO PS:<SUBSYS>

        END OF SAVESET

                        ESC             ESC
64      DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <UETP.LIB>*.*.* RET

        DUMPER TAPE # 1, "UETP FOR RELEASE 3A" ,FRIDAY, 31-AUG-78 12:10
        LOADING FILE(S) INTO PS:<UETP.LIB>

        END OF SAVESET

65      DUMPER>EXIT RET

              ESC
66      $UNLOAD (DEVICE) MTA0: RET

                ESC
68      $CONNECT (TO DIRECTORY) PS:<SYSTEM> RET

            ESC                     ESC
69      $COPY (FROM) MONTYP.EXE (TO) MONITR.EXE RET
         MONTYP.EXE.1 => MONITR.EXE.2;P777700 [OK]

                ESC
70      $TERMINAL (MODE IS) NO RAISE RET
```

```
                ESC             ESC
                 |               |
71      $COPY (FROM) TTY: (TO) MONNAM.TXT RET
        TTY: => MONNAM.TXT.1
        Installation-test System RET
        CTRL/Z
        ^Z
                ESC
                 |
72      $CREATE (FILE) 3A-CONFIG.CMD RET
        INPUT: 3A-CONFIG.CMD
73      00100  ! Terminal Speeds RET
        00200  ! Line 1 has input=9600 and output=9600 RET
        00300  TERMINAL 1 SPEED 9600 RET
        00400  ! Lines 2 to 20 have input and output=2400 RET
        00500  TERMINAL 2-20 SPEED 2400 RET
        00600  ! Lines 22 to 40 are shut off RET
        00700  TERMINAL 22-40 SPEED 0 RET
        00800  ! Line 21 is a dialup line RET
74      00900  TERMINAL 21 REMOTE SPEED 300 RET
        01000  TERMINAL 22 REMOTE AUTO RET
75      01100  DEFINE NEW: PS:<NEW>,SYS: RET
        01200  DEFINE OLD: PS:<OLD>,SYS: RET
        01300  DEFINE HLP: SYS: RET
76      01400  MAGTAPE 0 24 RET
        01500  MAGTAPE 1 25 RET
77      01600  PRINTER 0 VFU  SYS:NORMAL,VFU RET
        01700  PRINTER 1 VFU  SYS:NORMAL,VFU RET
78      01800  PRINTER 0 LOWERCASE RAM SYS:LP96.RAM RET
        01900  PRINTER 1 RAM SYS:LP64.RAM RET
79      02000  TIMEZONE 6 RET
82      02300  ENABLE FULL-LATENCY-OPTIMIZATION RET (SEE WARING)
        ESC
         |
83      *E RET
```

WARNING

Before you can use this performance feature, you must obtain from your DIGITAL Field Service Representative the following information about your hardware.

1. If you have a KL10-C processor, it must be at revision level 11.

2. If you have a KL10-E processor, it must be at revision level 3.

3. If board M7772 is at revision level E, and CS revision level F, or you have board M7786.

If your hardware does not meet the above requirements, take the system default, which is, DISABLE FULL-LATENCY-OPTIMIZATION.

```
                ESC
                 |
85      $EDIT (FILE) PTYCON.ATO RET
        EDIT: PTYCON.ATO.1
                ESC ESC
                 |   |
86      *S;CDR$$/. RET
87      *S;LPT:$$/. RET
                 |   |
                ESC ESC
```

```
88      *E<RET>
        [PTYCON.ATO.2]

            <ESC>
89      $TYPE (FILE) PTYCON.ATO<RET>

        <CTRL/E>    <ESC>
90      $^ECREATE (DIRECTORY NAME) PS:<OPERATOR><RET>

91      $$PASSWORD THINK-SUN<RET>

                    <ESC>
92      $$USER-GROUP (NUMBER) 100<RET>

93      $$<RET>

        <CTRL/E>    <ESC>
94      $^ECREATE (DIRECTORY NAME) PS:<REMARKS><RET>

95      $$<RET>

                <ESC>
96      $CONNECT (TO DIRECTORY) <SUBSYS><RET>

              <ESC>
97      $CREATE (FILE) LPFORM.INI<RET>
        00100  NORMAL/BANNER:2/HEADER:2/TRAILER:2<RET>
        00200  NARROW/BANNER:2/HEADER:2/TRAILER:2/WIDTH:72<ESC>
98      *EU<RET>

        $

100     <CTRL/\>
101     PAR>SHUTDOWN<RET>
        **HALTED**

        %DECSYSTEM-20 NOT RUNNING

102     SET THE SWITCH  REGISTER to 000003 (OCTAL).

103     Hold ENABLE and press the SWITCH REGISTER button.

        RSX-20F YB12-32 0:13  8-AUG-77

        [SY0: REDIRECTED TO DX0:]
        [DX0: MOUNTED]
        [DX1: MOUNTED]

104     <CTRL/\>
106     PAR%MCR INI<RET>

107     INI>DB0:<RET>
108     <CTRL/\>
109     PAR%MCR MOU<RET>
```

```
110     MOU>DB0:(RET)
        MOU -- MOUNT COMPLETE
             (CTRL/Z)
111     MOU>
        (CTRL/\)
112     PAR>MCR UFD(RET)

113     UFD>DB0:[5,5] (RET)   (Proceed to next step immediately)
114     (CTRL/\)
115     PAR>MCR PIP(RET)

116     PIP>DB0:=DX0:*.*,DX1:*.*(RET)

117     PIP>DB0:/LI(RET)

        DIRECTORY DB0:[5,5]
        8-AUG-78 09:05

        F11ACP.TSK;1          77.     C  05-JUN-78 08:59
        KLRING.TSK;1          6.      C  05-JUN-78 08:59
        KLDISC.TSK;1          5.      C  05-JUN-78 08:59
        KLXFER.TSK;1          5.      C  05-JUN-78 08:59
        MIDNIT.TSK;1          4.      C  05-JUN-78 09:00
        SETSPD.TSK;1          4.      C  05-JUN-78 09:00
        TKTN.TSK;1            6.      C  05-JUN-78 09:00
        KLE.TSK;1             23.     C  05-JUN-78 09:00
        KLI.TSK;1             38.     C  05-JUN-78 09:00
        MOU.TSK;1             5.      C  05-JUN-78 09:01
        KLA.MCB;1             36.        05-JUN-78 09:01
        KLX.MCB;1             41.        05-JUN-78 09:01
        BOOT.EXB;1            35.        05-JUN-78 09:01
        MTBOOT.EXB;1          34.        05-JUN-78 09:02
        PARSER.TSK;1          95.     C  05-JUN-78 09:02
        T20ACP.TSK;1          8.      C  05-JUN-78 09:03
        BOO.TSK;1             19.     C  05-JUN-78 09:03
        COP.TSK;1             8.      C  05-JUN-78 09:03
        DMO.TSK;1             5.      C  05-JUN-78 09:03
        INI.TSK;1             23.     C  05-JUN-78 09:03
        PIP.TSK;1             56.     C  05-JUN-78 09:04
        RED.TSK;1             6.      C  05-JUN-78 09:04
        SAV.TSK;1             13.     C  05-JUN-78 09:04
        UFD.TSK;1             9.      C  05-JUN-78 09:04
        ZAP.TSK;1             38.     C  05-JUN-78 09:04
        RSX20F.SYS;1          56.     C  05-JUN-78 09:05
        KL.CFG;1              1.        05-JUN-78 09:05

                TOTAL OF 656.  BLOCKS IN 27. FILES
             (CTRL/Z)
118     PIP>
119     (CTRL/\)
120     PAR>MCR RED(RET)

121     RED>DB0:=SY0: (RET)   (Proceed to next step immediately)
122     (CTRL/\)
123     PAR>MCR SAV(RET)
```

```
124     SAV>SY0:/WB<RET>
        [DB0: DISMOUNTED]
        [DX0: DISMOUNTED]
        [DX1: DISMOUNTED]

125     Store the floppy disks in a safe place.
```

NOTE

If you are part of the ARPA network, perform the steps in APPENDIX C at this time.

```
138     Be sure the central processor is stopped

139     Hold ENABLE and press the DISK button.

        RSX-VB12-32 0:22 8-AUG-77

        [SY0:REDIRECTED TO DB0:]
        [DB0: MOUNTED]
        KLI-- VERSION VB07-04 RUNNING
        KLI-- MICROCODE VERSION 212 RUNNING
        LOGICAL MEMORY CONFIGURATION:
                              CONTROLLER
        ADDRESS    SIZE    RQ0 RQ1 RQ2 RQ3    CONTYPE    INT
        00000000   128K    00  01  00  01        MA20      4
        00400000   128K    02  03  02  03        MA20      4
        KLI-- BOOTSTRAP LOADED AND STARTED
        CHN2:  DX20 MICROCODE VERSION 1(0) LOADED, VERIFIED, AND STARTED


        [PS MOUNTED]

        System restarting wait...

143     ENTER CURRENT DATE AND TIME: 8-AUG-78 1300<RET>
        YOU HAVE ENTERED 31-AUGUST-1977 1:00 PM,
144     IS THIS CORRECT (Y,N) Y<RET>
145     WHY RELOAD? SA<RET>
        <SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND -  ACCOUNT
        VALIDATION IS DISABLED
146     RUN CHECKED? N<RET>
        RUNNING DDMP

        SYSJOB  3(7) STARTED AT 16-AUG-77 1305
        RUN SYS:INFO
        RUN SYS:MAILER
        RUN SYS:QUASAR
        JOB 0 /LOG OPERATOR XX OPERATOR
        ENA
        ^ESET LOGINS ANY
        ^ESEND * SYSTEM IN OPERATION
        ^ESET OPERATOR
        PTYCON
        GET <SYSTEM>PTYCON.ATO
        /
        SJ  0:
        SJ  0: INSTALLATION-TEST SYSTEM, TOPS-20 MONITOR 3A(1762)
        SJ  0: @LOG OPERATOR OPERATOR
        SJ  0: JOB
        [From OPERATOR:SYSTEM IN OPERATION]
        1 ON TTY46 16-AUG-77 13:05:25
```

```
SJ  0: @ENA
SJ  0: $^ESET LOGINS ANY
SJ  0: $^ESEND * SYSTEM IN OPERATION
SJ  0: $PTYCON
SJ  0: PTYCON> GET SYSTEM:PTYCON.ATO
SJ  0: PTYCON SILENCE
SJ  0: PTYCON.LOG.1
SJ  0: PTYCON> B-START
SJ  0: PTYCON> L-START PLPT0=LPT0
SJ  0: PTYCON>
SJ  0: **** L(0) 13:05:52  ****
SJ  0: START PLPT0=LPT0
SJ  0: %LPTDOL  DEVICE PLPT0 IS OFF-LINE
SJ  0: LPTSPL>
SJ  0: **** B(1) 13:05:56 ****
SJ  0: START
SJ  0: !
SJ  0: PTYCON> ;LPT1:L1-START PLPT1=LPT1
SJ  0: PTYCON> ;CDR:S-START PCDR0:=CDR0:
SJ  0: PTYCON> WHAT ALL
SJ  0: L(0)        4    OPERATOR    LPTSPL      TI      0:0:0
SJ  0: B(1)        5    OPERATOR    BATCON      TI      0:0:0
SJ  0: P(2)        3    OPERATOR    OPLEAS      RN      0:0:0
SJ  0: O(3)        2    OPERATOR    EXEC        TI      0:0:1
```

147 CTRL/C

```
INSTALLATION-TEST SYSTEM, TOPS-20 MONITOR 3A(1762)
```

148 @SYSTAT RET

```
 WED  8-AUG-77 13:25:58 UP 0:02:21
 0+5 JOBS    LOAD AV    0.37    0.21    0.09
NO OPERATOR IN ATTENDANCE

 JOB  LINE PROGRAM   USER
  6*    41  EXEC      NOT LOGGED IN
  1     42  PTYCON    OPERATOR
  2     46  EXEC      OPERATOR
  3     45  OPLEAS    OPERATOR
  4     43  LPTSPL    OPERATOR
  5     44  BATCON    OPERATOR
```

ESC ESC

149 @ATTACH (USER) OPERATOR (JOB #) 1 RET

```
[ATTACHED TO TTY42, CONFIRM] RET
```

150 PASSWORD: your password RET

RET

ESC

151 PTYCON>CONNECT (TO SUBJOB) 0 RET

```
[CONNECTED TO SUBJOB O(3)]
```

ESC

152 ASSIGN (DEVICE) MTA0: RET

ESC

153 @ENABLE (CAPABILITIES) RET

154 $DUMPER RET

```
DUMPER 3A(172)
```

155 DUMPER>TAPE (FILESPEC) MTA0: RET

156 MOUNT THE UNBUNDLED SOFTWARE TAPE

157 DUMPER>REWIND RET

158 DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <OPERATOR> RET

```
DUMPER TAPE # 1, <DOCUMENTS>, FRIDAY, 31-AUG-77 17:41
LOADING FILE(S) INTO PS:<OPERATOR>

END OF SAVESET
```

159 DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SUBSYS> RET

```
DUMPER TAPE # 1, <BINARY>, FRIDAY, 31-AUG-78 17:45
LOADING FILE(S) INTO PS:<SUBSYS>

END OF SAVESET
```

161 Dismount the tape and store it in a safe place

162 Go to Step 156 if you want to restore other software products

163 DUMPER>EXIT RET

164 $DEASSIGN (DEVICE) MTA0: RET

NOTE

If you performed Steps 147 through 164, you may skip Steps 166 through 168 and start at Step 169.

166 CTRL/C

```
Installation-test System, 31-AUG-77, TOPS-20 MONITOR 3A(1762)
```

167 @LOGIN (USER) OPERATOR (PASSWORD) your password (ACCOUNT)
OPERATOR RET

168 @ENABLE (CAPABILITIES) RET

169 $TAKE (COMMANDS FROM) <UETP.LIB>SET-UP.CMD RET

170 $CONNECT (TO DIRECTORY) <UETP.RUN> RET

```
                ESC
                 ↓
171         $RUN  (PROGRAM) UETP.EXE RET
            [12-AUGUST-78 10:42:41 USER ENVIRONMENT TEST PACKAGE 1(15)
172         UETP>ENABLE  (TEST) VERIFY RET
             10:38:07 [ENABLE COMPLETED]
173         UETP>BEGIN RET
             10:42:07 [BEGIN COMPLETED]

                    ESC
                     ↓
174         UETP>TAKE  (COMMANDS FROM) <UETP.LIB> ACCEPTANCE.CMD RET
            UETP>DEFAULT/CYCLE:00:30
            UETP>ENABLE RANCBL
             10:43:07 [ENABLE COMPLETED]
            UETP>ENABLE RANFOR
             10:43:07 [ENABLE COMPLETED]
            UETP>ENABLE MTA0
             10:43:07 [ENABLE COMPLETED]
            UETP>STATUS

            [12-MAY-78 10:43:11]

            TEST NAME     STATUS    TIMES TO    TIMES    ERROR     START
            (FILE NAME)             BE RUN      RUN      COUNT     TIME
            ===========   ======    ========    =====    =====     =====
            VERIFY.SUP    ENABLED      1           0        0
            RANCBL.SUP    ENABLED      0:30        0        0
            RANFOR.SUP    ENABLED      0:30        0        0
            MTA0.SUP      ENABLED      0:30        0        0

            UETP>

175         Mount a Scratch Tape on MTA0:.

            The following Steps are optional.  Perform  only  the  Steps
            that pertain to your system.

                      ESC
                       ↓
176         UETP>ENABLE  (TEST) BASIC RET
             10:45:08 [ENABLE COMPLETED]
                      ESC
                       ↓
177         UETP>ENABLE  (TEST) ALGOL RET
             10:45:08 [ENABLE COMPLETED]
                      ESC
                       ↓
178         UETP>ENABLE  (TEST) DBMS RET
             10:45:08 [ENABLE COMPLETED]
                      ESC
                       ↓
179         UETP>ENABLE  (TEST) APL RET
             10:45:08 [ENABLE COMPLETED]

180         UETP>BEGIN  (UETP RUN AFTER) RET
             10:45:09 [BEGIN COMPLETED]
```

NOTE

Do not perform the following Steps until all the test are completed.

```
181     UETP>EXIT<RET>
              <ESC>
182     $TAKE (COMMANDS FROM) <UETP.LIB> CLEAN-UP.CMD<RET>
        [OLD]
        [OLD]
        [OLD]
        [OLD]
        [OLD]
        [OLD]
        [OLD]

183     <CTRL/X>
184     Start Timesharing
```

APPENDIX D

POCKET INSTALLATION GUIDE FOR THE DECSYSTEM-2020

This appendix contains an example of a typical installation of the TOPS-20 software on a DECSYSTEM-2020.

STEP	OPERATION
19	Read the listing labeled TOPS-20.BWR.
20	Power up the system.
21	Type a CTRL/C.
22	Format the disk packs if necessary.
23	Label the disk packs.
24	Mount the disk packs.
25	Check the CONTROLLER SELECT switches.
26	Mount the Installation tape labeled on MTA0:
27	KS10>MS RET
28	>>UBA? 3 RET
29	>>RHBASE? 772440 RET
30	>>UNIT? 0 RET
31	>>DENS? 1600 RET
32	>>SLV? 0 RET
33	KS10> MT RET
34	BOOT>/L RET
35	BOOT>/G143 RET
	[FOR ADDITIONAL INFORMATION TYPE "?" TO ANY OF THE FOLLOWING QUESTIONS.]
36	DO YOU WANT TO REPLACE THE FILE SYSTEM ON THE PUBLIC STRUCTURE? YES RET
37	DO YOU WANT TO DEFINE THE PUBLIC STRUCTURE? YES RET
38	HOW MANY PACKS ARE IN THIS STRUCTURE? 2 RET

```
40      ON WHICH "CHANNEL, UNIT" IS LOGICAL PACK #0 MOUNTED:  0,0 RET

40      ON WHICH "CHANNEL, UNIT" IS LOGICAL PACK #1 MOUNTED:  0,1 RET

41      DO YOU WANT THE DEFAULT SWAPPING SPACE?  YES RET

45      DO YOU WANT THE DEFAULT FRONT-END FILE SYSTEM?  YES RET

47      DO YOU WANT THE DEFAULT SIZE BOOTSTRAP AREA?  YES RET

        [STRUCTURE "PS" SUCCESSFULLY DEFINED]

        [PS MOUNTED]

        %%NO SETSPD
        System restarting wait...

49      ENTER CURRENT DATE AND TIME:  8-AUG-78 1254 RET
        YOU HAVE ENTERED FRIDAY, 8-AUGUST-1978 12:54PM
50      IS THIS CORRECT (Y,N) Y RET
51      WHY RELOAD?  INSTALLATION RET
        <SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND-ACCOUNT  VALIDATION  IS
        DISABLED
        RUNNING DDMP

        NO SYSJOB

52      CTRL/C
          ^C
        NO EXEC
53      MX>GET FILE MTA0: RET
        INTERRUPT AT 0
54      MX>GET FILE MTA0: RET

55      MX>START RET

              ESC
              ↓
56      $ENABLE (CAPABILITIES) RET

           ESC
           ↓
57      $RUN (PROGRAM) MTA0: RET

                 ESC
                 ↓
58      DLUSER>LOAD (FROM FILE) MTA0: RET

        DONE.
59      DLUSER>EXIT RET

           ESC
           ↓
60      $RUN (PROGRAM) MTA0: RET

                 ESC
                 ↓
61      DUMPER>TAPE (FILE SPEC) MTA0: RET
```

```
62   DUMPER>RESTORE(ESC) (MTA FILES)(ESC) PS:<*>*.*.* (TO) <SYS(ESC)TEM>*.*.*(RET)

     DUMPER TAPE #1, "NEW-SYSTEM FOR RELEASE 3A", WEDNESDAY, 8-AUG-78 [illegible]
     LOADING FILE(S) INTO PS<SYSTEM>

     END OF SAVSET

63   DUMPER>RESTORE(ESC) (MTA FILES)(ESC) PS:<*>*.*.* (TO) <SUB(ESC)SYS>*.*.*(RET)

     DUMPER TAPE #1, "NEW-SUBSYS FOR RELEASE 3A", WEDNESDAY, 8-AUG-78 1305
     LOADING FILE(S) INTO PS:<SUBSYS>

     END OF SAVESET

64   DUMPER>RESTORE(ESC) (MTA FILES)(ESC) PS:<*>*.*.* (TO) <UETP.LIB>(ESC)*.*.*(RET)

     DUMPER TAPE #1, "UETP FOR RELEASE 3A" WEDNESDAY, 8-AUG-78 1315
     LOADING FILE(S) INTO PS:<UETP.LIB>

     END OF SAVESET

65   DUMPER>EXIT(RET)

66   $UNLOAD(ESC) (DEVICE) MTA0:(RET)

68   $CONNECT(ESC) (TO DIRECTORY) PS:<SYSTEM>(RET)

69   $COPY(ESC) (FROM) MONtyp.EXE(ESC) .1 (TO) MONITR.EXE(RET)
     MONtyp.EXE.1 =>MONITR.EXE.2;P777700 [OK]

70   $TERMINAL(ESC) (MODE IS) NO RAISE(RET)

71   $COPY(ESC) (FROM) TTY:(ESC) (TO) MONNAM.TXT(RET)
     TTY:   =>MONNAM.TXT.1

     INSTALLATION-TEST System(RET)
      (CTRL/Z)
      ^Z

72   $CREATE(ESC) (FILE) 3A-CONFIG.CMD(RET)
     Input:  3A-CONFIG.CMD.1
```

```
73          00100   ;TERMINAL SPEEDS<RET>
            00200   ;Line 2 has input=9600 and output=9600<RET>
            00300   TERMINAL 2 SPEED 9600<RET>
            00400   ;Lines 3 to 20 have input and output=2400<RET>
            00500   TERMINAL 3-20 SPEED 2400<RET>
            00600   ;Lines 23 to 32 do not exist<RET>
            00700   TERMINAL 23-42 SPEED 0<RET>
            00800   ;Lines 21 and 22 are dialup lines<RET>
            00900   TERMINAL 21-22 REMOTE SPEED 300<RET>
            01000   DEFINE NEW:  PS:<NEW>,SYS:<RET>
            01100   DEFINE OLD:  PS:<OLD>,SYS:<RET>
            01200   DEFINE HLP:  SYS:<RET>
            01300   MAGTAPE 0 24<RET>
            01400   MAGTAPE 1 25<RET>
            01500   PRINTER 0 LOWERCASE VFU SYS:NORMAL.VFU<RET>
            01600   PRINTER 0 LOWERCASE RAM SYS:LP96.RAM<RET>
            01700   TIMEZONE 5<RET>
            01800<ESC>
            *E<RET>
            [3A-CONFIG.CMD.1]

85          $EDIT (FILE) PTYCON.ATO<RET>

                  <ESC> <ESC>
                    ↓↓
86          *S; CDR:$$/.<RET>

88          *E<RET>
            [PTYCON.ATO.2]

                <ESC>
                  ↓
89          $TYPE (FILE) PS:<SYSTEM>PTYCON.ATO<RET>

          <CTRL/E>      <ESC>
             ↓            ↓
90          $^ECREATE (DIRECTORY NAME) PS:<OPERATOR><RET>
            [OLD]
            $$PASSWORD your password<RET>

91          $$USER-GROUP 100<RET>

92          $$<RET>

          <CTRL/E>      <ESC>
             ↓            ↓
93          $^ECREATE (DIRECTORY NAME) PS:<REMARKS><RET>

94          $$<RET>

                    <ESC>
                      ↓
95          $CONNECT (TO DIRECTORY)<SUBSYS><RET>

                  <ESC>
                    ↓
96          $CREATE (FILE) LPFORM.INI<RET>
            INPUT:  LPFORM.INI

            00100   NORMAL/BANNER:2/HEADER:2/TRAILER:2<RET>
            00200   NARROW/BANNER:2/HEADER:2/TRAILER:2/WIDTH:72<RET>
            00300<ESC>
            * EU<RET>
            [LPFORM.INI.1]
```

```
                ESC
                 ↓
128         $CONNECT (TO DIRECTORY) <SYSTEM>RET

               ESC
                ↓
129         $RUN (PROGRAM) SMFILE RET
            DECSYSTEM-2020 DIAGNOSTICS F-E FILE PROGRAM
            VERSION 50.0, TOPS-20, KS10, CPU#=4097
            [FOR HELP TYPE "HELP"]

130         SMFILE>WRITE SETUP PS:<ROOT-DIRECTORY>BOOTSTRAP.BIN RET

131         SMFILE>WRITE RESET RET

132         SMFILE>READ KS10.ULD RET

133         SMFILE>SERIAL nnnnn RET

134         SMFILE>WRITE CRAM RET

135         SMFILE>WRITE BOOT SMBOOT.EXE RET

136         SMFILE>WRITE DONE RET
            [HOME BLOCKS SET]
137         SMFILE>EXIT RET


140         CTRL/\
            ↓
141         KS10>SH RET

142         Press the BOOT Button

143         ENTER THE CURRENT DATE AND TIME:  8-AUG-78 1324 RET

            YOU HAVE ENTERED, WEDNESDAY, 8-AUGUST-1978 1:24PM
144         IS THIS CORRECT (Y,N)Y RET

145         WHY RELOAD?  TS RET
            <SYSTEM>ACCOUNTS-TABLE.BIN NOT FOUND - ACCOUNT VALIDATION IS
            DISABLED

146         RUN CHECKD?  N RET
            RUNNING DDMP

            SYSJOB 3(7) STARTED AT 16-AUG-77 1305
            RUN SYS:INFO
            RUN SYS:MAILER
            RUN SYS:QUASAR
            JOB 0 /LOG OPERATOR XX OPERATOR
            ENA
            ^ESET LOGINS ANY
            ^ESEND * SYSTEM IN OPERATION
            ^ESET OPERATOR
            PTYCON
            GET <SYSTEM>PTYCON.ATO
            /
            SY  0:
            SJ  0: INSTALLATION-TEST SYSTEM, TOPS-20 MONITOR 3A(1762)
            SJ  0: @LOG OPERATOR OPERATOR
            SJ  0: JOB
            [From OPERATOR:SYSTEM IN OPERATION]
            1 ON TTY46 16-AUG-77 13:05:25
```

```
SJ  0: @ENA
SJ  0: $^ESET LOGINS ANY
SJ  0: $^ESEND * SYSTEM IN OPERATION
SJ  0: $PTYCON
SJ  0: PTYCON> GET SYSTEM:PTYCON.ATO
SJ  0: PTYCON SILENCE
SJ  0: PTYCON.LOG.1
SJ  0: PTYCON> B-START
SJ  0: PTYCON> L-START PLPT0=LPT0
SJ  0: PTYCON>
SJ  0: **** L(0) 13:05:52  ****
SJ  0: START PLPT0=LPT0
SJ  0: %LPTDOL DEVICE PLPT0 IS OFF-LNE
SJ  0: LPTSPL>
SJ  0: **** B(1) 13:05:56 ****
SJ  0: START
SJ  0: !
SJ  0: PTYCON ;LPT1:L1-START PLPT1=LPT1
SJ  0: PTYCON> ;CDR:S-START PCDR0:=CDR0:
SJ  0: PTYCON> WHAT ALL
SJ  0: L(0)        4    OPERATOR    LPTSPL     TI     0:0:0
SJ  0: B(1)        5    OPERATOR    BATCON     TI     0:0:0
SJ  0: P(2)        3    OPERATOR    OPLEAS     RN     0:0:0
SJ  0: O(3)        2    OPERATOR    EXEC       RI     0:0:1

147     (CTRL^C)
        INSTALLATION-TEST SYSTEM, TOPS-20 MONITOR 3A(1762)

148     @SYSTAT (RET)
         WED  8-AUG-78 13:25:58 UP 0:02:21
         0+5 JOBS    LOAD AV    0.37    0.21    0.09
        NO OPERATOR IN ATTENDANCE

         JOB  LINE PROGRAM   USER
          6*    41  EXEC     NOT LOGGED IN
          1     42  PTYCON   OPERATOR
          2     46  EXEC     OPERATOR
          3     45  OPLEAS   OPERATOR
          4     43  LPTSPL   OPERATOR
          5     44  BATCON   OPERATOR

                (ESC)                (ESC)
149     @ATTACH (USER)  OPERATOR (JOB #) 1 (RET)
        [ATTACHED TO TTY42, CONFIRM] (RET)
150     PASSWORD:  your password (RET)
        (RET)

                    (ESC)
151     PTYCON>CONNECT (TO SUBJOB) 0 (RET)
        [CONNECTED TO SUBJOB 0(3)]

                (ESC)
152     ASSIGN (DEVICE) MTA0: (RET)

                (ESC)
153     @ENABLE (CAPABILITIES) (RET)

154     $DUMPER (RET)
        DUMPER 3A(172)
```

155 DUMPER>TAPE (FILESPEC) MTA0:

156 MOUNT THE UNBUNDLED SOFTWARE TAPE

157 DUMPER>REWIND

158 DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <OPERATOR>

```
DUMPER TAPE # 1, <DOCUMENTS>, FRIDAY, 31-AUG-77 17:41
LOADING FILE(S) INTO PS:<OPERATOR>

END OF SAVESET
```

159 DUMPER>RESTORE (MTA FILES) PS:<*>*.*.* (TO) <SUBSYS>

```
DUMPER TAPE # 1, <BINARY>, FRIDAY, 31-AUG-77, 17:45
LOADING FILE(S) INTO PS:<SUBSYS>

END OF SAVESET
```

161 Dismount the tape and store it in a safe place

162 Go to Step 156 if you want to restore other software products

163 DUMPER>EXIT

164 $DEASSIGN (DEVICE) MTA0:

NOTE

If you performed Steps 147 through 164, you may skip Steps 166 through 168 and start at Step 169.

166 CTRL/C

167 @LOGIN (USER) OPERATOR (PASSWORD) your password (ACCOUNT) OPERATOR

168 @ENABLE (CAPABILITIES)

169 $TAKE (COMMANDS FROM) <UETP.LIB>SET-UP.CMD

170 $CONNECT (TO DIRECTORY) <UETP.RUN>

```
                ESC
                 ↓
171     $RUN (PROGRAM) UETP.EXE RET
        [12-AUGUST-78 10:42:41 USER ENVIRONMENT TEST PACKAGE 1(15)
172     UETP>ENABLE (TEST) VERIFY RET
         10:38:07 [ENABLE COMPLETED]
173     UETP>BEGIN RET
         10:42:07 [BEGIN COMPLETED]
                ESC
                 ↓
174     UETP>TAKE (COMMANDS FROM) <UETP.LIB> ACCEPTANCE.CMD RET
        UETP>DEFAULT/CYCLE:00:30
        UETP>ENABLE RANCBL
         10:43:07 [ENABLE COMPLETED]
        UETP>ENABLE RANFOR
         10:43:07 [ENABLE COMPLETED]
        UETP>ENABLE MTA0
         10:43:07 [ENABLE COMPLETED]
        UETP>STATUS

        [12-MAY-78 10:43:11]

        TEST NAME     STATUS    TIMES TO    TIMES    ERROR     START
        (FILE NAME)             BE RUN      RUN      COUNT     TIME
        ============  ======    ========    =====    =====     =====
        VERIFY.SUP    ENABLED      1           0        0
        RANCBL.SUP    ENABLED      0:30        0        0
        RANFOR.SUP    ENABLED      0:30        0        0
        MTA0.SUP      ENABLED      0:30        0        0

        UETP>

175     Mount a Scratch Tape on MTA0:.

        The following Steps are optional.  Perform  only  the  Steps
        that pertain to your system.

                ESC
                 ↓
176     UETP>ENABLE (TEST) BASIC RET
         10:45:08 [ENABLE COMPLETED]
                ESC
                 ↓
177     UETP>ENABLE (TEST) ALGOL RET
         10:45:08 [ENABLE COMPLETED]
                ESC
                 ↓
178     UETP>ENABLE (TEST) DBMS RET
         10:45:08 [ENABLE COMPLETED]
                ESC
                 ↓
179     UETP>ENABLE (TEST) APL RET
         10:45:08 [ENABLE COMPLETED]

180     UETP>BEGIN (UETP RUN AFTER) RET
         10:45:09 [BEGIN COMPLETED]
```

NOTE

Do not perform the following Steps until all the tests are completed.

```
181       UETP>EXIT RET
               ESC
182       $TAKE (COMMANDS FROM) <UETP.LIB> CLEAN-UP.CMD RET
          [OLD]
          [OLD]
          [OLD]
          [OLD]
          [OLD]
          [OLD]
          [OLD]

183       CTRL/X
184       Start Timesharing
```

APPENDIX E

TAILORING YOUR SYSTEM FOR ARPANET

(FOR DECSYSTEM-20 ONLY)

The steps in this appendix should be performed only if you are using the ARPA network.

At this point you have installed the ARPANET software.

➡**Step 1: Give the Command: CONNECT (TO DIRECTORY) <SYSTEM> and Press the RETURN Key.**

If you are part of the ARPA network, you must add a parameter to the <SYSTEM>3A-CONFIG.CMD file. Type CONNECT and press the ESC key. The system prints (TO DIRECTORY). Type <SYSTEM> and press the RETURN key.

```
$CONNECT (TO DIRECTORY) <SYSTEM>
$
```

(ESC after CONNECT; RET after <SYSTEM>)

➡**Step 2: Give the command: EDIT (FILE) 3A-CONFIG.CMD and Press the RETURN Key.**

If you are using the ARPA network you must set up a HOST number in the 3A-CONFIG.CMD file. Type EDIT and press the ESC key. The system prints (FILE). Type 3A-CONFIG.CMD and press the RETURN key.

```
$EDIT (FILE) 3A-CONFIG.CMD
```

(ESC after EDIT; RET after 3A-CONFIG.CMD)

E.1 DEFINING THE HOST NUMBER

You should have received a HOST number from ARPA when you were given permission to connect to the ARPANET. If you do not know your HOST number you may get it by calling the ARPANET Network Control Center at BB+N. The format for the Host command is:

```
HOST OCTAL-HOST-NUMBER
```

Step 3: Give the Edit command: I line number. Press the RETURN Key.

To insert the HOST command into the 3A-CONFIG.CMD file, type I and then the number of the line at which you want to insert the HOST command.

```
*I2150(RET)
*
```

Step 4: Type the HOST Number.

Type HOST followed by the OCTAL-HOST-NUMBER and press the RETURN key.

```
02150  HOST 45(RET)
*
```

Step 5: Type E and Press the RETURN key.

Type E and press the RETURN key to save the file. The system prints the file name and the $ prompt.

```
*E (RET)
[3A-CONFIG.CMD.1]
$
```

E.1.1 Entering the Host Number, Name, and Other Pertinent Information

The following information must be entered into the HSTNAM.TXT:

a. Host Number

b. Host Name

c. SYSTEM TYPE

D. FLAGS

E. NEW

The format for the command is: NNN,SSSS,TT,F1,F2,F3,...

Where:

```
NNN is Host number in octal.
SSSSS is the name string.
TT is system type spelled out. Current valid names are:
  NULL string means no system type or insufficient representation.
  TENEX    -- Systems running some version of BBN-Tenex or TOPS-20.
  ITS      -- System running a version of ITS.
  DEC      -- System running DECsystem-10
  TIP      -- a TIP.
  MTIP     -- Magtape TIP.
  ANTS     -- some ANTS.
  ELF      -- ELF operating system for PDP-11.
  MULTICS  -- MULTICS
  F1...F3... Are flags as follows:
 User      -- Doesn't run Server TELNET.
 Server    -- Runs some type of Server TELNET on Sockets 1 and/or 27(8
 Nickname  -- This is another name you can give for the host.
NEW -- Uses new network protocol (RAR/RAS, etc).
```

Step 6: Give the Command: EDIT (FILE) HSTNAM.TXT and Press the RETURN Key.

You must enter your Host number, Host name, and other pertinent information into the file HSTNAM.TXT. Type EDIT and press the ESC key. The system prints (FILE). Type HSTNAM.TXT and press the RETURN key. The system prints the name of the file being edited, the generation number, and the EDIT prompt.

```
$EDIT (FILE) HSTNAM.TXT
EDIT: HSTNAM.TXT.1
*
```

Step 7: Give the EDIT Command: I line number and Press the RETURN Key.

To inform the EDIT program where the information is to be inserted, type I and then the line number you have chosen in which to place the information. Press the RETURN key. The system prints the line number you entered. The following is an example:

```
*I00150
00150
```

Step 8: Type the Information for YOUR System.

Type the information for your system. The following is just an example. You must enter the information pertaining to your system.

```
00150 145,DEC-MARLBORO,TENEX,SERVER,USER,NEW
*
```

NOTE

The previous example assumes that the line number you selected was between two existing line numbers. If the line number you selected was at the end of the file, the system will print another line number. If the latter is the case, press the ESC key and continue at the next step.

Step 9: Type EU and Press the RETURN Key.

To end the EDIT program and save the file without line numbers, type EU and press the RETURN key. The system prints the name of the file and the TOPS-20 enabled prompt.

```
*EU RET

[HSTNAM.TXT.2]

$
```

NOTE

Proceed at Chapter 7 (Installing Unbundled Software).

INDEX

READER'S COMMENTS

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