



**ADDENDUM TO
CP/M 2.2 PREFACE**

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INTRODUCTION

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This addendum describes CP/M version 2.2 revision 1.2.0. It supplements the North Star CP/M Preface.

Revision 1.2.0 differs from previous releases in the following ways:

- o CP/M now supports 5-1/4 inch hard disk drives of various capacities.
- o A program named "COLDBOOT" has been added to the CP/M system disk. This program can be used in place of the reset switch to perform a cold boot.
- o A program named "ONECOPY" copies files between floppy disks when only one floppy disk drive is available.
- o CP/M now includes a "Multi-Drive" simulator. The simulator works with non-hard disk computers, and maps nonexistent floppy disk drives into drive number 1.
- o The "CPMGEN" program can now customize a disk to execute a program automatically when cold boot is performed. The program must be named "AUTO.COM".
- o The "CPMGEN" program determines the highest memory address available in the computer, and various components of the CP/M system so that the full memory is utilized. In computers that contain a 64K HRAM memory board, the section of memory above the disk controller is used by CP/M and the amount of memory available to programs increases by 5,120 bytes.
- o Errors CP/M encounters when you attempt to log on to a nonexistent disk drive will not cause the system to log on to the current default drive.

TERMS USED IN THIS MANUAL

1.1

Purpose Use the this information to clarify the meaning of the text contained in this manual:

Terms and Conventions	DESCRIPTION	EXPLANATION
	{TEXT}	Indicates that the text enclosed in braces may vary when displayed on your terminal. The actual text you see depends on your computer configuration.
	[RETURN]	Means that you should press the "RETURN" key on the terminal keyboard.
	BOLD TEXT	Means that you should type the boldfaced text on your terminal keyboard.
	[CONTROL]X	Means that you should press and hold the [CONTROL] key on the terminal keyboard, then type the letter that follows.
	FACTORY MASTER DISK	Means the floppy disk included in the CP/M Package.
	WORK DISK	Means a copy of the factory master disk.

The disk included in the CP/M package is called the factory master disk. This disk is designed for use on North Star HORIZON computers that contain 32K of memory and double-density disk drives.

The first thing you should do is create a duplicate of the factory master disk. The duplicate disk is called the work disk. Use the procedures in this chapter to copy the disk.

Your computer configuration probably differs from the double-density HORIZON with 32K of memory. You customize the work disk is to allow CP/M to make full use of your computer's capabilities.

Introduction CP/M can be used with a number of different computer configurations. Use the table in this section to find the description that matches your computer configuration, then do the procedures that are indicated.

Procedures to Perform IP...

- o your computer contains two floppy disk drives and no hard disk drive, then do the procedures in Sections 2.2, 2.3, and 2.7
- o your computer contains one floppy disk drive and a hard disk drive, then do the procedures in Sections 2.2, 2.4, 2.5, 2.6, 2.7, 2.8 and 2.9
- o your computer contains two floppy disk drives and a hard disk drive, then do the procedures in Sections 2.2, 2.3, 2.7, 2.8 and 2.9

Purpose Perform this procedure to load CP/M:

Procedure

STEP ACTION

- 1 Turn on the computer and terminal power switches.
- 2 Insert the factory master disk into drive number 1.
- 3 Flip the reset switch located at the rear of the computer.
CP/M loads into the computer's memory. When loading is complete, the screen displays:

32K CP/M vers 2.2 Horizon 1.2.0 QD
Product of North Star Computers, Inc.

A>

Introduction The factory master disk contains a program named "COPY". This program copies floppy disks using two floppy disk drives. You can only use this program if your computer has 2 floppy disk drives.

Note The COPY program copies the CP/M format as well as the files from the original disk. The disk that receives the copies does not need to be formatted before COPY is run.

Procedure

STEP ACTION

1 Insert the factory master disk into drive number 1.

2 Insert a new floppy disk into drive number 2.

3 COPY[RETURN]

The screen displays:

North Star CP/M 2.2 Diskette Copier (ver 1.1)
Copies Double-Density Diskettes (DQ capacities)

Mount the Diskettes to be processed and-
Enter INPUT Drive number (1-4):
Or Mount System Diskette and RETURN to Exit:

4 1[RETURN]

The screen displays:

To Surface Check Only, Enter "N",
To Verify-Compare two diskettes, Enter "V",
To Copy, Enter OUTPUT Drive number(1-4):

5 2[RETURN]

The screen displays:

Input is CP/M Single-Sided Diskette
Enter RETURN for normal one-sided Copy:

COPYING DISKS USING TWO FLOPPY DISK DRIVES (continued)

Procedure

STEP ACTION

6 [RETURN]

The screen displays:

Proceeding to copy 35 track diskette

Copy COMPLETE

Mount the Diskettes to be processed and-

Enter INPUT Drive number(1-4):

Or Mount System Diskette and RETURN to Exit:

7 [RETURN]

8 Remove the factory master disk from drive number 1 and store it in a safe place.

9 Remove the work disk from drive number 2 and label it:

CP/M VERSION 2.2 RELEASE 2.1.0 FOR HORIZON
WORK DISK

10 Go to Section 2.6.

Introduction A floppy disk must be prepared to store information. The preparation process is called "formatting". Formatting is accomplished by using the "FORMAT" program.

Procedure

STEP ACTION

- 1 Insert the factory master disk in drive number 1.
- 2 **FORMAT[RETURN]**
- 3 When the screen displays the format menu, remove the factory master disk from drive number 1 and insert a new floppy disk.

North Star CP/M 2.20 Diskette Formatter
 Initializes Diskettes for use with CP/M

Select one of the format options below:

- D = Double-Density Single-Sided = D
- Q = Quad-Capacity (Double-Sided) = Q
- S = Single-Density = S
- X = eXit - Warm Boot from A: = X

Enter option letter (D,Q,S,X):

- 4 **IF...**

o drive number 1 is a single-sided drive, then:

D[RETURN]

o drive number 1 is a double-sided drive, then:

Q[RETURN]

- 5 Enter Drive number(1-4):

1[RETURN]

FORMATTING A NEW FLOPPY DISK (continued)

Procedure

STEP ACTION

- 6 Load Diskette in Drive: 1,
Strike RETURN <cr> when ready,
To format as: {Quad} {Double} Capacity Diskette:

[RETURN]
- 7 - Proceeding to Format {35} {70}* Tracks -...
*****...
Diskette Successfully Initialized

Select one of the format options below:

D = Double-Density Single-Sided = D
Q = Quad-Capacity (Double-Sided) = Q
S = Single-Density = S
X = eXit - Warm Boot from A: = X

Enter option letter (D,Q,S,X):
- 8 Remove the formatted disk from drive number 1.
- 9 Insert the factory master disk in drive number 1.
- 10 X[RETURN]

Introduction Files cannot be copied directly between two floppy disks if the computer has only one floppy disk drive. The "ONECOPY" program allows you to copy files between two floppy disks using only one floppy disk drive. You swap the input and output disks several times during the copying process.

What you will need To use the ONECOPY program you need the factory master disk and a new disk. Format the new disk according to the procedure in Section 2.4 before you do this procedure.

Procedure

STEP ACTION

1 Insert the factory master disk into drive number 1.

2 **ONECOPY[RETURN]**

The screen displays:

Mount INPUT Diskette and type RETURN

3 **[RETURN]**

The screen displays:

This program copies one or more files (ala PIP) between two diskettes alternately mounted in the logged-drive.

Procedure:

Enter a filename (may be wildcard like *.*) then Return

The name is validated and stacked in a list.

To end the list and begin the actual copying,

Enter a null line (simply a return)

Enter filename (just RETURN begins copying):

4 ***.*[RETURN]**

When the screen displays:

Enter filename (just RETURN begins copying):

5 **[RETURN]**

When the screen displays:

Mount OUTPUT diskette and type RETURN

COPYING CP/M FILES WITH ONE DISK DRIVE (continued)

Procedure

STEP ACTION

- 6 Remove the factory master disk from drive number 1 and insert the formatted disk.
- 7 **[RETURN]**
When the screen displays:
Mount INPUT diskette and type RETURN
- 8 Remove the formatted disk from drive number 1 and insert the factory master disk.
- 9 Repeat steps 5 through 8 until the screen displays:
Mount SYSTEM Diskette and type RETURN
- 10 Remove the formatted disk from drive number 1.
- 11 Insert the factory master disk in drive number 1.
- 12 **[RETURN]**

Introduction The CP/M system program is stored on a area of the disk called the "system tracks". The "SYSGEN" program reads the system tracks into memory from one disk and then writes these tracks onto another disk. The system tracks must be placed on a disk so that the disk can be used to load CP/M.

Procedure

STEP ACTION

- 1 Insert the factory master disk into drive number 1.
- 2 **SYSGEN[RETURN]**
When the screen displays:
To read System into RAM Image, Enter Drive number (1-4)?
- 3 **1[RETURN]**
When the screen displays:
Load input diskette in drive and RETURN to read CP/M system from it?
- 4 **[RETURN]**
When the screen displays:
Enter Destination Disk Drive number (1-4)- or RETURN to Cold-Boot from drive 1- or CONTROL-C to Warm-Boot?
- 5 Remove the factory master disk from drive number 1.
- 6 Insert the formatted disk into drive number 1.
- 7 **1[RETURN]**
When the screen displays:
Load output diskette in drive 1 and RETURN to write CP/M system onto it?

COPYING THE CP/M SYSTEM PROGRAM (continued)

Procedure

STEP ACTION

8 [RETURN]

After several seconds the screen displays:

Enter Destination Disk Drive number (1-4)-
or RETURN to Cold-Boot from drive 1-
or CONTROL-C to Warm-Boot?

9 [RETURN]

10 Store the factory master disk in a safe place.

11 Remove the formatted disk from drive number 1. This disk
is now your work disk.

12 Label the work disk:

CP/M 2.2 Rev 1.2.0 for HORIZON
WORK DISK

Introduction The work disk must be customized to allow CP/M to make full use of your computer's capabilities. Use "CPMGEN" program to customize the work disk.

About CP/Ms Memory Use CPMGEN locates the various components of the CP/M system at memory addresses that make full use of the computer's memory. Changes to these addresses are not necessary for normal CP/M installations. In step 19 of this procedure you can accept the addresses or specify changes. To specify changes, you need a thorough knowledge of CP/Ms operation. Contact your authorized North Star dealer if you think that these memory addresses need to be modified for your computer system but do not know how to determine the correct addresses.

About Floppy Disk Drives The North Star HORIZON computer is shipped with Quad-Capacity, fast-stepping floppy disk drives. Early models of the computer may have single-sided, slow stepping floppy disk drives. Determine the type of floppy disk drives contained in your computer. The CPMGEN program asks for this information in step 5 of this procedure.

Procedure

STEP ACTION

1 Insert the work disk into drive number 1.

2 CPMGEN[RETURN]

3 The screen displays the CPMGEN menu:

North Star CP/M 2.2 System Generator

Note: All responses end with RETURN,
- (minus sign) restarts at question 1,
CONTROL-C aborts with warm boot.

Q1. Enter Memory Size in Kilobytes OR
Simply type RETURN for your 56K System?

CUSTOMIZING CP/M (continued)

Procedure

STEP ACTION

4 IF...

o you want CP/M to use all of the memory in your system,
then [RETURN]

o you want CP/M to use less than all of the memory in your
system, then amount[RETURN]
EXAMPLE: 48[RETURN]

Q2A. Enter Drive 1 Capacity (Q=Quad, D=Double)
or RETURN=none?

5 IF...

o drive number 1 is a single-sided drive, then D[RETURN]

o drive number 1 is a double-sided drive, then Q[RETURN]

Q3A. Enter Stepping Speed for Drive 1 (F=Fast, N=Normal)?

6 IF...

o drive number 1 is a single-sided drive, then N[RETURN]

o drive number 1 is a double-sided drive, then F[RETURN]

CUSTOMIZING CP/M (continued)

Procedure

STEP ACTION

Q2B. Enter Drive 2 Capacity (Q=Quad, D=Double)
or RETURN=none?

7 IF...

o your computer has only 1 floppy disk drive, then [RETURN]
and go to step 13

o drive number 2 is a single-sided drive, then D[RETURN]

o drive number 2 is a double-sided drive, then Q[RETURN]

Q3B. Enter Stepping Speed for Drive 2 (F=Fast, N=Normal)?

8 IF...

o drive number 2 is a single-sided drive, then N[RETURN]

o drive number 2 is a double-sided drive, then F[RETURN]

Q2C. Enter Drive 3 Capacity (Q=Quad, D=Double)
or RETURN=none?

9 IF...

o your computer has only 2 disk drives, then [RETURN] and
go to step 13

o drive number 3 is a single-sided drive, then D[RETURN]

o drive number 3 is a double-sided drive, then Q[RETURN]

Q3C. Enter Stepping Speed for Drive 3 (F=Fast, N=Normal)?

10 IF...

o drive number 3 is a single-sided drive, then N[RETURN]

o drive number 3 is a double-sided drive, then F[RETURN]

CUSTOMIZING CP/M (continued)

Procedure

STEP ACTION

Q2D. Enter Drive 4 Capacity (Q=Quad, D=Double)
or RETURN=none?

11 IF...

o your computer has only 3 disk drives, then [RETURN] and
go to step 13

o drive number 4 is a single-sided drive, then D[RETURN]

o drive number 4 is a double-sided drive, then Q[RETURN]

Q3D. Enter Stepping Speed for Drive 4 (F=Fast, N=Normal)?

12 IF...

o drive number 4 is a single-sided drive, then N[RETURN]

o drive number 4 is a double-sided drive, then F[RETURN]

Q4A. Is this a North Star HARD DISK System (Y or N)?

13 IF...

o your computer does not have a hard disk, then N[RETURN]
and go to step 16

o your computer has a hard disk, then Y[RETURN]

Q4C. Is it a 5 inch hard disk or an HD-18 (5 or 18)?

CUSTOMIZING CP/M (continued)

Procedure

STEP ACTION

14 IF...

- o your computer has a 5-1/4 inch hard disk drive, then
5[RETURN]
 - o your computer has one or more HD-18 hard disk drives,
then 18[RETURN]
-

Q4B. Give the PATHNAME of the Hard Disk Work File OR
Simply type RETURN for "CPMWORK"?

15 IF...

- o you want your work file to be named CPMWORK, then
[RETURN]
 - o you want to choose some other name for your work file,
then filename[RETURN]
- EXAMPLE: WORKFILE[RETURN]

Q5. Do you want Read-After-Write Check (Y or N)?

16 IF...

- o you want CP/M to verify data by reading it after it has
been written (this is recommended), then Y[RETURN]
- o you do not want CP/M to verify data, then N[RETURN]

Q6. Is the Printer attached to the Parallel Port
or to the Second Serial Port (P or S)?

CUSTOMIZING CP/M (continued)

Procedure

STEP ACTION

17 IF...

-
- o you do not have a printer attached to your computer, then S[RETURN]
 - o you have a printer attached to the second serial port of your computer, then S[RETURN]
 - o you have a printer attached to the parallel port of your computer, then P[RETURN]
- Q7. Do you want the program AUTO.COM automatically started when you Cold Boot (Y or N)?

18 IF...

-
- o you want a program to be started automatically when you load CP/M, then Y[RETURN]
 - o you do not want a program to be started automatically, then N[RETURN]
- A. The top of RAM address (in hexadecimal) is set at: xxxxh
- The computed locations for the System Components are:
- | | |
|---|------------------|
| D. The Hard Disk BIOS Extension | begins at: xxxxh |
| E. The BIOS (and USER area is +700h) BIOS | begins at: xxxxh |
| F. CP/Ms BDOS (which is the end of TPA) | begins at: xxxxh |

To alter one of the above addresses,
enter the letter (ABCDEF) followed by RETURN
To accept these addresses, simply enter RETURN:

CUSTOMIZING CP/M (continued)

Procedure

STEP ACTION

19 IF...

o you want to accept the locations CPMGEN has calculated,
then [RETURN] and go to step 22

o you want to change any locations, then letter [RETURN]

EXAMPLE: A[RETURN]

20 Enter the new address desired (first two Hex digits):

nn[RETURN]

substituting the first two digits of the new address for
"nn".

EXAMPLE: AF[RETURN]

CUSTOMIZING CP/M (continued)

Procedure

STEP ACTION

21 IF...

o you want to change other addresses, then repeat steps 19 and 20

o you have finished changing addresses, then RETURN and go to step 22

CPMGEN complete, the Herald for your version is:

xxK CP/M vers 2.2 Horizon Rev 1.2.0 xx
Product of North Star Computers, Inc.

Enter Destination Disk Drive number(1-4)-
or RETURN to Cold-Boot from drive 1-
or CONTROL-C to Warm-Boot ?

22 IF...

o you do not want to save the system you have generated, then [CONTROL]C and go back to step 1

o you want to save the system you have created, then
1[RETURN]

Load output diskette in drive 1
and RETURN to write CP/M system onto it?

23 [RETURN]

Enter Destination Disk Drive number(1-4)-
or RETURN to Cold-Boot from drive 1-
or CONTROL-C to Warm Boot ?

24 [RETURN]

25 If you selected the automatic start option at step 18, use the CP/M "REN" command to change the name of your program file to "AUTO.COM".

EXAMPLE: REN A:AUTO.COM=A:MICROPLAN.COM

Introduction CP/M uses hard disk files to store information. These files are called "CP/M hard disk units". CP/M hard disk units are created, modified, and deleted using a subset of the North Star HDOS operating system. This HDOS subset is loaded by the CP/M operating system when it is needed.

Read Sections 8 and 9 of the CP/M Preface before you do this procedure. These sections explain:

- o How to choose sizes, names and allocation factors for CP/M hard disk units
- o How to create CP/M units on the hard disk

After you have read the CP/M Preface, select names, sizes and allocation factors for your CP/M hard disk units, then do the procedure below.

The HDOS Commands

The HDOS command **HE[RETURN]** displays a list of the HDOS commands while you are in the HDOS command mode.

The HDOS command **HE XY[RETURN]** displays the format for a command.

EXAMPLE: **HE CR[RETURN]** displays the format for creating hard disk files.

Procedure

STEP ACTION

- 1 Insert the CP/M work disk into drive number 1.
- 2 Flip the reset switch located at the rear of the computer. CP/M loads and the screen displays:

```
Hard Disk Boot In-Process
To review connections, enter Semicolon (;)
within a second or two

-----Current Connections in workfile: CPMWORK
-----ENTER A CONNECTION or T=To HDOS or
          S=SAVE or X=EXIT?
```

CREATING CP/M HARD DISK UNITS (continued)

Procedure

STEP ACTION

3 T[RETURN]

The screen displays:

Entering HDOS (slight delay) to Create "units", etc.
When finished, return to CP/M HDBOOT process
with command "CP"

North Star Hard Disk Operating System, Subset V2.1.0

=

4 Create a CP/M unit:

CR filename size allocation-factor[RETURN]

EXAMPLE: CR CPMUNITA 4032 2[RETURN] creates a CP/M unit
capable of storing 100 Kilobytes of information.

1 meg.

5 Repeat step 4 until you have created all of the CP/M hard
disk units that you require.

6 CP[RETURN]

The screen displays:

-----Current Connections in workfile: CPMWORK
-----ENTER A CONNECTION or T-To HDOS or
S=SAVE or X=EXIT?

CREATING CP/M HARD DISK UNITS (continued)

Procedure

STEP ACTION

- 7 Enter your CP/M connections:

letter:filename[RETURN]

NOTE: CP/M allows you to use the letters A through P for your connections. Unit A must be assigned to a hard disk unit.

EXAMPLE: A:CPMUNITA[RETURN]

The connection table is displayed after each connection is entered.

```
-----Current Connections in workfile: CPMWORK
A:CPMUNITA
-----ENTER A CONNECTION or T=To HDOS or
          S=SAVE or X=EXIT?
```

- 8 Repeat step 7 until you have entered a connection for each CP/M hard disk unit.

- 9 Enter a connection for a floppy disk drive:

letter:,1[RETURN]

EXAMPLE: M:,1[RETURN]

- 10 Repeat step 9 for each floppy disk drive in your computer system.

EXAMPLE: N:,2[RETURN]
O:,3[RETURN]
P:,4[RETURN]

CREATING CP/M HARD DISK UNITS (continued)

Procedure

STEP ACTION

11 S[RETURN]

CP/M saves your connection table and:

IF...

o your CP/M system is not set to automatically start a program, the screen displays:

A>

o your CP/M system is set to automatically start a program, the program AUTO.COM runs.

Introduction When CP/M hard disk units are first created they are empty. This procedure describes how to copy files from floppy disks into CP/M hard disk units. Copy the files from your work disk into the unit you designated as "A". You may also want to copy these files into other hard disk units.

After you have copied the files into hard disk unit "A" from the work disk, a copy of the PIP program will be on unit "A". To load application programs, such as WordStar, onto the hard disk from floppy disks, use the PIP program from unit "A".

Note Single-sided floppy disk drives can only copy side one from double-sided floppy disks.

Procedure

STEP ACTION

1 Load the work disk into drive number 1.

2 `unit:PIP A:=unit:*. *[RETURN]`

EXAMPLE: `M:PIP A:=M:*. *[RETURN]`

The PIP program loads and the screen displays:

*

The drive motor starts and the screen displays:

`COPYING:
{filename.type}`

`.
{filename.type}`

`{filename.type}` represents the actual names of the files being copied.

When the displays the PIP prompt character:

*

COPYING FILES INTO CP/M HARD DISK UNITS (continued)

Procedure

STEP ACTION

3 [RETURN]

To verify that the files have been copied,

4 DIR unit:[RETURN]

EXAMPLE: DIR A:[RETURN]

the screen displays the names of the files contained in the unit:

```
CPMGEN .COM : PIP      .COM : XSUB   .COM : ED      .COM
ASM     .COM : DDT     .COM : LOAD   .COM : STAT   .COM
DUMP    .COM : ONECOPY .COM : SUBMIT  .COM : DIRDUMP .COM
COLDBOOT.COM : HDOFF  .COM : DUMP   .ASM : DIRDUMP .ASM
FORMAT .COM : COPY    .COM : SYSGEN .COM : HD18BOOT.COM
USER   .ASM : HD05BOOT.COM
```

Introduction After you have become acquainted with how CP/M works on your hard disk system, you may want to:

- o add CP/M hard disk units
- o delete CP/M hard disk units
- o change the connection table

You can cause CP/M to stop at the hard disk connection table when the system is being loaded from floppy disk.

The hard disk boot program stops at the connection table if you type a semicolon (;) on the terminal during the boot process. The semicolon must be entered while the following message is displayed on the screen:

```
Hard Disk Boot In-Process
To review connections, enter Semicolon (;)
within a second or two
```

If you fail to enter the semicolon during the proper time period, reload CP/M and try again.

Procedure

STEP ACTION

- 1 Insert your CP/M work disk into the floppy drive.
- 2 Flip the reset switch located at the rear of the computer.

The screen displays:

```
Hard Disk Boot In-Process
To review connections, enter Semicolon (;)
within a second or two
```


MODIFYING HARD DISK CONNECTIONS

Procedure

STEP ACTION

3 ;

the screen displays the connection table:

-----Current Connections in workfile: CPMWORK

A:CPMUNITA

.

.

.

M:,1

-----ENTER A CONNECTION or T=To HDOS or
S=SAVE or X=EXIT?

4 Follow steps 3 through 12 of the procedure in Section 2.8 to make your modifications and save your new connection table.

North Star CP/M includes the following enhancements:

- o A program named "COLDBOOT" is included on the CP/M disk. This program resets the computer and allows you to an operating system, such as CP/M or DOS, without using the computer's reset switch.
- o A program named "ONECOPY" is included on the CP/M disk. This program allows you to copy files between two floppy disks on a computer that has only one floppy disk drive.
- o CP/M supports four floppy disk drives on computers without hard disks. In systems that have less than four floppy disk drives, the missing drives are mapped into drive 1. This feature allows you to perform certain functions, such as listing directories, on disks that do not contain a copy of the CP/M system program.

Purpose Use the COLDBOOT program instead of the computer's reset switch when you want to load another operating system or reload CP/M.

Introduction When COLDBOOT is run, the screen displays a message and the program waits for a [RETURN] to be entered before the system is loaded from the disk in drive 1. This pause allows you to change system disks before the computer attempts to load the system disk.

The COLDBOOT program can be stored in a CP/M hard disk unit or on a floppy disk.

Procedure

STEP ACTION

1 IF...

o the COLDBOOT program is stored in a hard disk unit, then proceed to step 2.

o the COLDBOOT program is stored on a floppy disk, then load the floppy disk into drive 1.

2 **unit:COLDBOOT[RETURN]**

EXAMPLE: A:COLDBOOT[RETURN]

3 The program loads and the screen displays:

LOAD SYSTEM DISK AND RETURN TO COLD BOOT

4 Insert a floppy disk which contains an operating system into drive number 1.

5 **[RETURN]**

The drive motor starts and the operating system loads into the computer's memory.

Introduction The "ONECOPY" program copies files between two floppy disks on a computer that has only one floppy disk drive.

The floppy disk that receives the file copies must be a CP/M formatted disk. If you use a new disk, format it according to the procedure in Section 2.4 before you do this procedure. ONECOPY does not copy the CP/M system tracks onto the new disk. After you complete this procedure, do the procedure in Section 2.6 to copy the CP/M system tracks.

ONECOPY can be stored in a CP/M hard disk unit or on a floppy disk.

Procedure**STEP ACTION**

1 IF...

o the ONECOPY program is stored in a hard disk unit, then proceed to step 2.

o the ONECOPY is stored on a floppy disk, then load the disk into drive 1.

2 **unit:ONECOPY[RETURN]**

EXAMPLE: A:ONECOPY[RETURN]

The screen displays:

Mount INPUT Diskette and type RETURN

3 Load the disk that contains the files you want to copy into drive 1.

HOW TO USE THE ONECOPY PROGRAM (continued)

Procedure

STEP ACTION

4 [RETURN]

The screen displays:

This program copies one or more files (ala PIP) between two diskettes alternately mounted in the logged-drive.

Procedure:

Enter a filename (may be wildcard like *.*) then Return

The name is validated and stacked in a list.

To end the list and begin the actual copying,

Enter a null line (simply a return)

Enter filename (just RETURN begins copying):

5 filename.type[RETURN]

EXAMPLE: PIP.COM[RETURN]

When the screen displays:

Enter filename (just RETURN begins copying):

6 Repeat step 5 until you have entered the names of all the files you want copied.

7 [RETURN]

When the screen displays:

Mount OUTPUT diskette and type RETURN

8 Remove the input disk from drive number 1 and insert the output disk.

9 [RETURN]

When the screen displays:

Mount INPUT diskette and type RETURN

10 Remove the output disk from drive number 1 and insert the input disk.

HOW TO USE THE ONECOPY PROGRAM (continued)

Procedure

STEP ACTION

- 11 Repeat steps 7 through 10 until the screen displays:
 Mount SYSTEM Diskette and type RETURN
- 12 Remove output disk from drive number 1.
- 13 If drive 1 is your CP/M unit A:, insert your CP/M
 work disk into drive 1.
- 14 [RETURN]

Introduction CP/M supports up to four floppy disk drives in computers that do not contain a hard disk. The CP/M drive designations are A:, B:, C:, and D:, representing drives 1, 2, 3, and 4. When you attempt to access a non-existent drive, CP/M asks for a disk to be loaded into drive 1. After the specified function is completed, CP/M asks for the system disk to be loaded into drive 1.

This feature allows you to perform certain functions, such as listing a disk directory, by specifying a non-existent disk drive. The simulator is active only on systems that do not have a hard disk.

Example Assume that you want to copy a file named "TESTFILE.DOC" from a floppy disk in drive number 1 to another floppy disk without removing the floppy disk that is loaded in drive number 2. You could accomplish the copy process using the CP/M "PIP" program.

Procedure

STEP ACTION

- 1 Load a CP/M work disk that contains the PIP program into drive number 1.
- 2 PIP C:=-A:WORKFILE.DOC[RETURN]
the screen displays:
MOUNT A: IN DRIVE 1, TYPE ANY KEY
- 3 Load the CP/M disk that contains the file named "WORKFILE.DOC" into drive number 1.
- 4 [RETURN]
- 5 PIP loads "WORKFILE.DOC" into memory, then the screen displays:
MOUNT C: IN DRIVE 1, TYPE ANY KEY
- 6 Load the CP/M disk that is to receive the copy of "WORKFILE.DOC" into drive number 1.
- 7 [RETURN]

HOW TO USE THE MULTI-DRIVE SIMULATOR (continued)

Procedure

STEP ACTION

- 8 PIP writes "WORKFILE.DOC" onto the disk, then the screen displays:
MOUNT SYSTEM IN DRIVE 1, TYPE ANY KEY
- 9 Load the CP/M work disk into drive number 1.
- 10 [RETURN]