CONFIGUR

This CONFIGUR activity enables you to record software on the 96 TPI System Disk.

1. When the CONFIGUR activity is automatically invoked, it will display several messages. Wait for CONFIGUR to display the following message:

   ```
   STANDARD SYSTEM (Y OR N)? <Y>:
   ```

2. Type **N** at the "STANDARD SYSTEM" prompt. CONFIGUR will display the "CP/M CONFIGURATION" menu.

3. Type **B** at the "SELECTION" prompt beneath the "CP/M CONFIGURATION" menu. CONFIGUR will display The disk parameters menu (submenu B), showing the status of your 5.25-inch drive units.

4. Select the "SOFT-SECTORED UNIT" that corresponds to your 96 TPI primary drive. CONFIGUR will prompt you to enter a "STEP RATE".

5. Type **6** and ***RETURN*** for the step rate of your 96 TPI primary drive. (This entry is necessary to change the 30 ms default step rate.) CONFIGUR will prompt you to enter a "TRACK DENSITY".

6. Type **96** and ***RETURN*** for the track density of your 96 TPI primary drive. (This entry is necessary to change the 48 TPI default track density.) CONFIGUR will display the changed status of your 96 TPI drive.

7. Type **Y** at the "SELECTION" prompt beneath the drive disk parameters menu (submenu B). CONFIGUR will redisplay the "CP/M CONFIGURATION" menu.

8. Type **Y** at the "SELECTION" prompt beneath the "CP/M CONFIGURATION" menu. CP/M will display the system prompt.

Proceed to the MAKEBIOS activity.

MAKEBIOS

The MAKEBIOS utility helps you to modify the CP/M Operating System so that it can control the disk drives in your secondary drive group.

1. At the A> system prompt, type the following command line to run MAKEBIOS:

   A>**SUBMIT MAKEBIOS A:** ***RETURN***

   The MAKEBIOS utility will display the following:

```
A>MAKEBIOS 1 A:

     BIOS SELECTION MENU

A -- H17 ONLY
B -- H37 ONLY
C -- H47 ONLY
D -- H67 ONLY
E -- H17 AND H37
F -- H17 AND H47
G -- H17 AND H67
H -- H37 AND H47
I -- H37 AND H67
J -- H47 AND H67

ENTER SELECTION:
```

2. At the "ENTER SELECTION" prompt, type a selection letter according to the following criteria:

   - If you have both 5.25-inch hard-sectored drives and 5.25-inch soft-sectored drives, then type **E *RETURN***.
   - If you have both 5.25-inch hard-sectored drives and H/Z-67 drives, then type **G *RETURN***.
   - If you have both 5.25-inch soft-sectored drives and 8-inch H/Z-47 drives, then type **H *RETURN***.
   - If you have both 5.25-inch soft-sectored drives and H/Z-67 drives, then type **I *RETURN***.
   - If you have both 8-inch H/Z-47 drives and H/Z-67 drives, then type **J *RETURN***.

After you type in one of these selection letters and a carriage return, your terminal display will show seven command lines and other messages, ending with the message:

```
MAKEBIOS FUNCTION COMPLETE

A>
```

Proceed to the MOVCPM activity.

MOVCPM

The MOVCPM utility puts a copy of the operating system into a special location in computer memory, where the system is automatically modified. The MOVCPM activity must be followed by the SYSGEN activity.

1. If you have a System Partition, type **MOVCPM67 * A:** ***RETURN***.

   If you have a System Disk, type **MOVCPM37 * A:** ***RETURN***.

2. Wait till your MOVCPM utility displays a message in the following form:

```
MOVCPMxx Version 2.2.04
CONSTRUCTING nnk CP/M vers 2.2
READY FOR "SYSGEN" OR
"SAVE 38 CPMnn.COM"

A>
```

Proceed immediately to the SYSGEN activity.

SYSGEN

The SYSGEN utility puts a partially customized copy of the CP/M Operating System on the System Partition or System Disk. SYSGEN will get this operating system copy from a special location in computer memory. (A MOVCPM activity put the operating system into this special memory location.)

1. At the A> prompt, type **SYSGEN** and press ***RETURN***. This entry invokes the SYSGEN utility, which displays a message in the form:

```
SYSGEN VERSION 2.0.04
SOURCE DRIVE NAME (OR RETURN TO SKIP):
```

2. Press ***RETURN***. SYSGEN will display:

```
DESTINATION DRIVE NAME (OR RETURN TO REBOOT):
```

3. Type **A**. SYSGEN will display:

```
DESTINATION ON A, THEN TYPE RETURN
```

4. Press ***RETURN***. SYSGEN will display:

```
FUNCTION COMPLETE
DESTINATION DRIVE NAME (OR RETURN TO REBOOT):
```

5. Reset the computer by holding down the ***SHIFT*** key and pressing the ***RESET*** key. Do not enter a carriage return at this prompt.

6. Boot up with the System Partition or with the System Disk in the 96 TPI drive.

Proceed to the CONFIGUR activity.

CONFIGUR

The CONFIGUR utility customizes the operating system on your System Partition or System Disk to match several characteristics of your hardware environment. This procedure will show you how to use CONFIGUR to customize the system for essential hardware characteristics. (Use the CONFIGUR instructions in the Volume II: The CP/M Reference Guide if you want more detailed instructions on using CONFIGUR.)

1. Type the command **CONFIGUR** ***RETURN*** at the system prompt. This entry invokes CONFIGUR, which will present a display that begins with an identification message in the following form:

   ```
   Heath/Zenith Configuration Program
   Version 2.2.04
   Serial Number: sss-sssss
   ```

   CONFIGUR will continue to display messages, ending with the following prompt:

   ```
   Standard system (Y or N)? <Y>:
   ```

2. Type **N**. CONFIGUR will display a selection menu labelled "CP/M Configuration".

3. Refer to Table 1-34 if you have a Z89-3 interface card, and to Table 1-35 if you have a Z89-11 interface card. Using the appropriate table, type the keyboard entries listed for your terminal. To the right of each entry is an excerpt or description of part of the display that should appear immediately **after** you type the entry. If the excerpted or described display in the table does not appear on your terminal, repeat the entry.

NOTE: Type only the capital letters or numbers featured in bold faced type beneath the heading "Keyboard Entries". Do not change the order of the entries listed. If you type an incorrect entry at a prompt, CONFIGUR will either ignore your mistake, or display it. If a mistake is ignored, simply answer the prompt again. If CONFIGUR displays your mistake, you can usually change it by typing **Z** and repeating a few entries.

Your Terminal	Keyboard Entries	Excerpt or Description of Desired Display
Zenith or Heath Z-19, H-19, Z-88, H-88, Z-89, H-89, or Z-90 terminal	**A** **A** **9** **350** **Y** **C** **A** **CRT** **Y**	(Terminal and Printer Characteristics – Submenu A) CRT: baud rate: CRT: baud rate: 9600 port: CRT: baud rate: 9600 port: 0E8H = 350Q CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) CRT: = CON: = CRT: CP/M Configuration (Main Menu)
DECwriter LA-34 or LA-36 terminal	**A** **B** **30** **320** **Y** **C** **A** **TTY** **Y**	(Terminal and Printer Characteristics – Submenu A) TTY: baud rate: TTY: baud rate: 300 port: TTY: baud rate: 300 port: 0D0H = 320Q CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) CON: = CON: = TTY: CP/M Configuration (Main Menu)
Diablo KSR 1640 terminal	**A** **B** **12** **320** **Y** **C** **A** **TTY** **Y**	(Terminal and Printer Characteristics – Submenu A) TTY: baud rate: TTY: baud rate: 1200 port: TTY: baud rate: 1200 port: 0D0H = 320Q CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) CON: = CON: = TTY: CP/M Configuration (Main Menu)

Table 1-34
Terminals with Z89-3 Interface

Your Terminal	Keyboard Entries	Excerpt or Description of Desired Display
Zenith or Heath Z-19, H-19, Z-88, H-88, Z-89, H-89, or Z-90 terminal	**A** **A** **9** **350** **Y** **C** **A** **CRT** **Y**	(Terminal and Printer Characteristics – Submenu A) CRT: baud rate: CRT: baud rate: 9600 port: CRT: baud rate: 9600 port: 0E8H = 350Q CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) CRT: = CON: = CRT: CP/M Configuration (Main Menu)
DECwriter LA-34 or LA-36 terminal	**A** **B** **30** **330** **Y** **C** **A** **TTY** **Y**	(Terminal and Printer Characteristics – Submenu A) TTY: baud rate: TTY: baud rate: 300 port: TTY: baud rate: 300 port: 0D8H = 330Q CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) CON: = CON: = TTY: CP/M Configuration (Main Menu)
Diablo KSR 1640 terminal	**A** **B** **12** **330** **Y** **C** **A** **TTY** **Y**	(Terminal and Printer Characteristics – Submenu A) TTY: baud rate: TTY: baud rate: 1200 port: TTY: baud rate: 1200 port: 0D8H = 330Q CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) CON: = CON: = TTY: CP/M Configuration (Main Menu)

Table 1-35
Terminals with Z89-11 Interface

4. Refer to Table 1-36 if you have a Z89-3 interface card, and to Table 1-37 if you have a Z89-11 interface card. Using the appropriate table, type the keyboard entries listed for your printer. To the right of each entry is is an excerpt or description of part of the display that should appear immediately **after** you type the entry. If the excerpted or described display in the table does not appear, repeat the entry.

Your Printer	Keyboard Entries	Excerpt or Description of Desired Display
Diablo 630, 1640, or 1650 printer	**A** **C** **12** **340** none none **Y** **C** **D** **UL1** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 1200 port: LST: baud rate: 1200 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = UL1: CP/M Configuration (Main Menu)
DECwriter LA-34 or LA-36 printer	**A** **C** **30** **340** none none **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 300 port: LST: baud rate: 300 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)
Heath H-14 printer	**A** **C** **4** **340** none none **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)

Table 1-36
Printers with Z89-3 Interface
(continued on next page)

Keyboard Your Printer	Entries	Excerpt or Description of Desired Display
Texas Instruments TI-810 printer	**A** **C** **4** **340** none none **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)
Zenith or Heath Z-25 or H-25 printer	**A** **C** **4** **340** **M** none **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: HIGH Serial Printer Ready Signal: RTS (Pin 4) CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)
Epson MX-80 serial printer	**A** **C** **4** **340** **M** **N** **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: HIGH Serial Printer Ready Signal: DTR (Pin 20) CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)

Table 1-36

Printers with Z-89-3 Interface

(continued from preceding page)

Your Printer	Keyboard Entries	Excerpt or Description of Desired Display
Diablo 630, 1640, or 1650 printer	**A** **C** **12** **340** none none **Y** **C** **D** **UL1** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 1200 port: LST: baud rate: 1200 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = UL1: CP/M Configuration (Main Menu)
DECwriter LA-34 or LA-36 printer	**A** **C** **30** **340** none none **P** **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 300 port: LST: baud rate: 300 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) Z89-11 LPT Selection: SERIAL CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)
Heath H-14 printer	**A** **C** **4** **340** none none **P** **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) Z89-11 LPT Selection: SERIAL CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)

Table 1-37
Printers with Z89-11 Interface
(continued on following page)

Your Printer	Keyboard Entries	Excerpt or Description of Desired Display
Texas Instruments TI-810 printer	**A** **C** **4** **340** none none **P** **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: LOW Serial Printer Ready Signal: RTS (Pin 4) Z89-11 LPT Selection: SERIAL CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)
Zenith or Heath Z-25 or H-25 printer	**A** **C** **4** **340** **M** none **P** **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: HIGH Serial Printer Ready Signal: RTS (Pin 4) Z89-11 LPT Selection: SERIAL CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)
Epson MX-80 serial printer	**A** **C** **4** **340** **M** **N** **P** **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) LST: baud rate: LST: baud rate: 4800 port: LST: baud rate: 4800 port: 0E0H = 340Q Serial Printer Ready Signal Polarity: HIGH Serial Printer Ready Signal: DTR (Pin 20) Z89-11 LPT Selection: SERIAL CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)

Table 1-37
Printers with Z89-11 Interface
(continued on following page)

Your Printer	Keyboard Entries	Excerpt or Description of Desired Display
Epson MX-80 parallel printer	**A** none none **Y** **C** **D** **LPT** **Y**	(Terminal and Printer Characteristics – Submenu A) Parallel Printer Ready Signal Polarity: HIGH Z89-11 LPT Selection: PARALLEL CP/M Configuration (Main Menu) (Default I/O Configuration – Submenu C) LST: = LST: = LPT: CP/M Configuration (Main Menu)

Table 1-37
Printers with Z89-11 Interface
(continued from preceding page)

5. CONFIGUR should now display the selection menu labelled "CP/M Configuration".

   If you have a System Partition (instead of a System Disk), then proceed to step 6.

   If you have a System Disk (instead of a System Partition), then respond to the selection prompt beneath the "CP/M Configuration" menu by typing **B**. CONFIGUR will display the disk parameters menu (submenu B), showing the status of your 5.25-inch drive units. Skip ahead to step 7.

   If your secondary drive group consists of any 96 TPI drives, type the sequence of keyboard entries listed in Table 1-38. To the right of each entry is an excerpt or description of the part of the display that should appear immediately **after** you type the entry.

Keyboard Entries	Excerpt or Description of Desired Display
B	5.25 Inch Soft-Sectored Unit 0 Step Rate: 30ms Track Density: 48tpi
	5.25 Inch Soft-Sectored Unit 1 Step Rate: 30ms Track Density: 48tpi
	5.25 Inch Soft-Sectored Unit 2 Step Rate: 30ms Track Density: 48tpi
A	Soft-Sector Unit 0 Step Rate ?
6	Soft-Sector Unit 0 Step Rate ? 6
RETURN	Soft-Sector Unit 0 Track Density ?
96	Soft-Sector Unit 0 Track Density ? 96
RETURN	5.25 Inch Soft-Sectored Unit 0 Step Rate: 6ms Track Density: 96tpi
	5.25 Inch Soft-Sectored Unit 1 Step Rate: 30ms Track Density: 48tpi
	5.25 Inch Soft-Sectored Unit 2 Step Rate: 30ms Track Density: 48tpi
B	Soft-Sector Unit 1 Step Rate ?
6	Soft-Sector Unit 1 Step Rate ? 6
RETURN	Soft-Sector Unit 1 Track Density ?
96	Soft-Sector Unit 1 Track Density ? 96
RETURN	5.25 Inch Soft-Sectored Unit 0 Step Rate: 6ms Track Density: 96tpi
	5.25 Inch Soft-Sectored Unit 1 Step Rate: 6ms Track Density: 96tpi
	5.25 Inch Soft-Sectored Unit 2 Step Rate: 30ms Track Density: 48tpi
C	Soft-Sector Unit 2 Step Rate ?
6	Soft-Sector Unit 2 Step Rate ? 6
RETURN	Soft-Sector Unit 2 Track Density ?
96	Soft-Sector Unit 2 Track Density ? 96
RETURN	5.25 Inch Soft-Sectored Unit 0 Step Rate: 6ms Track Density: 96tpi
	5.25 Inch Soft-Sectored Unit 1 Step Rate: 6ms Track Density: 96tpi
	5.25 Inch Soft-Sectored Unit 2 Step Rate: 6ms Track Density: 96tpi
Y	CP/M Configuration (Main Menu)

Table 1-38
CONFIGUR Entries for Secondary 96 TPI Drives

If your secondary drive group does not consist of any 96 TPI drives, then skip ahead to step 11.

7. Select the "Soft Sectored Unit" that corresponds to your 96 TPI primary drive. CONFIGUR will prompt you to enter a "Step Rate".

8. Type **6** and ***RETURN*** for the step rate of your 96 TPI primary drive. (This entry is necessary to change the 30 ms default step rate.) CONFIGUR will prompt you to enter a "Track Density".

9. Type **96** and ***RETURN*** for the track density of your 96 TPI primary drive. (This entry is necessary to change the 48 TPI default track density). CONFIGUR will display the changed status of your 96 TPI drive.

10. Type **Y** at the "Selection" prompt beneath the drive disk parameters menu (submenu B). CONFIGUR will redisplay the "CP/M Configuration" menu.

11. Type **Y** at the "Selection" prompt beneath the "CP/M Configuration" menu. CP/M will display the system prompt.

You have just completed your customizing procedure. If you correctly followed your entire customizing procedure, your System Partition or System Disk should contain a copy of the CP/M Operating System that controls all components of your hardware environment.

To combine this customized operating system with an application program, proceed to the "Working Disk Procedures".

NOTE: If you have any hardware devices that are **not** listed in these tables, then use the instructions in Volume II: The CP/M Reference Guide to perform the CONFIGUR activity.

If you have devices that are listed in these tables and they still don't function properly with your System Parition or System Disk, then the devices themselves might have been set with characteristics that this text could not anticipate. Therefore you should refer to your hardware manual(s) for hardware settings instructions, and to Volume II: The CP/M Reference Guide for CONFIGUR instructions.

WORKING DISK PROCEDURES

After you have a fully customized copy of the CP/M Operating System on your System Disk (or System Partition), you will probably find it convenient to have your favorite application programs on this disk (or partition) as well.

A disk (or partition) containing both the CP/M Operating System and useful application programs is called a "Working Disk" (or "Working Partition"). Constructing a Working Disk (or Working Partition) involves a quick procedure through which you transfer copies of application programs to your System Disk (or System Partition) by using the PIP utility. Thus, your System Disk (or System Parition) becomes a Working Disk (or Working Partition).

The working disk procedure you use is determined by the kind of drive you used to boot up. You booted up using a drive slot from your primary drive group. Find the description of your primary drive group on the left side of Table 1-45. The working disk procedure listed to the right of this description is the procedure you should use to create a working disk (or working partition).

PRIMARY DRIVE GROUP DESCRIPTION	PROPER WORKING DISK PROCEDURE	PAGE
One 48 TPI, 5.25-inch drive	Working Disk Procedure One	1-237
One 96 TPI, 5.25-inch drive	Working Disk Procedure One	1-237
Two 48 TPI, 5.25-inch drives	Working Disk Procedure Two	1-238
Three 48 TPI, 5.25-inch drives	Working Disk Procedure Three	1-239
Two 48 TPI, 8-inch drives (H-47 or Z-47)	Working Disk Procedure Four	1-240
Two 96 TPI, 5.25-inch drives	Working Disk Procedure Two	1-238
Two 96 TPI, 5.25-inch drives and one 48 TPI, 5.25-inch drive	Working Disk Procedure Three	1-239
Three 96 TPI, 5.25-inch drives	Working Disk Procedure Three	1-239
One Winchester/floppy drive (H-67 or Z-67)	Working Disk Procedure Five	1-241
One 96 TPI, 5.25-inch drive and one 48 TPI, 5.25-inch drive	Working Disk Procedure Six	1-242
One 96 TPI, 5.25-inch drive and two 48 TPI, 5.25-inch drives	Working Disk Procedure Six	1-242

Table 1-45
Working Disk Procedures

This procedural section also includes a text concerning "System Copying Between Unlike Disks", for users who have the hardware and the desire necessary to copy the CP/M Operating System to disks within secondary drives.

Working Disk Procedure One

One Primary 5.25-Inch Drive

This procedure will help you to copy application programs from an Application Program Disk to your System Disk using a utility from the Backup Disk (or Backup Disk I). The System Disk must be write-enabled during this procedure.

1. Insert the Backup Disk (or Backup Disk I) in the drive slot, call the System Disk "DISK B", and call the Application Program Disk "DISK C".

2. Perform bootstrap.

3. Type **PIP** ***RETURN*** at the "A>" system prompt. This entry invokes PIP, which will display the "*" prompt.

4. Type **B:=C:{filename.ext}** ***RETURN*** at the "*" prompt; where {filename.ext} is the name of a file you wish to copy from the Application Program Disk to the System Disk. When finished copying the file, PIP will redisplay the "*" prompt.

5. Insert "DISK B" (System Disk), "DISK C" (Application Program Disk), and "DISK A" (Backup Disk) as prompted.

6. For each application program you wish to copy from the same Application Program Disk, repeat Steps 4 and 5.

   For each application program you wish to copy from a different Application Program disk, press ***RETURN*** at the "*" prompt and repeat Steps 3, 4, and 5.

Your former System Disk is now a Working Disk, containing a fully customized CP/M Operating System and your favorite application programs. Use a felt-tipped pen to carefully modify the label. Then perform bootstrap with the Working Disk and invoke an application program.

Working Disk Procedure Two

Two Primary 5.25-inch Drives of the Same Type

This procedure will help you to copy application programs from an Application Program Disk to your System Disk using a utility from the Backup Disk (or Backup Disk I). The System Disk must be write-enabled during this procedure.

1. Insert the Backup Disk (or Backup Disk I) in drive A:, insert the System Disk in drive B:, and call the Application Program Disk "DISK C".

2. Perform bootstrap.

3. Type **PIP *RETURN*** at the "A>" system prompt. This entry invokes PIP, which will display the "*" prompt.

4. Type **B:=C:{filename.ext} *RETURN*** at the "*" prompt; where {filename.ext} is the name of a file you wish to copy from the Application Program Disk to the System Disk. When finished copying the file, PIP will redisplay the "*" prompt.

5. Insert "DISK B" (System Disk), "DISK C" (Application Program Disk), and "DISK A" (Backup Disk) as prompted.

6. For each application program you wish to copy from the same Application Program Disk, repeat Steps 4 and 5.

   For each application program you wish to copy from a different Application Program disk, press ***RETURN*** at the "*" prompt and repeat Steps 3, 4, and 5.

Your former System Disk is now a Working Disk, containing a fully customized CP/M Operating System and your favorite application programs. Use a felt-tipped pen to carefully modify the label. Then perform bootstrap with the Working Disk and invoke an application program.

Working Disk Procedure Three

Three Primary 5.25-inch Drives

This procedure will help you to copy application programs from an Application Program Disk to your System Disk using a utility from the Backup Disk (or Backup Disk I). The System Disk must be write-enabled during this procedure.

1. Insert the System Disk in drive A:, insert the Backup Disk (or Backup Disk I) in drive B:, and insert the Application Program Disk in drive C:.

2. Perform bootstrap.

3. Type **B:PIP *RETURN*** at the "A>" system prompt. This entry invokes PIP, which will display the "*" prompt.

4. Type **A:=C:{filename.ext} *RETURN*** at the "*" prompt; where {filename.ext} is the name of a file you wish to copy from the Application Program Disk to the System Disk. When finished copying the file, PIP will redisplay the "*" prompt.

5. For each application program you wish to copy from the same Application Program Disk, repeat Step 4.

   For each application program you wish to copy from a different Application Program Disk, press ***RETURN*** at the "*" prompt and repeat Steps 3 and 4.

Your former System Disk is now a Working Disk, containing a fully customized CP/M Operating System and your favorite application programs. Use a felt-tipped pen to carefully modify the label. Then perform bootstrap with the Working Disk and invoke an application program.

Working Disk Procedure Four

Two Primary 8-inch Drives

This procedure will help you to copy application programs from an Application Program Disk to your System Disk using a utility from the Backup Disk (or Backup Disk I). The System Disk must be write-enabled during this procedure.

1. Insert the Backup Disk (or Backup Disk I) in drive A: and insert the System Disk in drive B:.

2. Perform bootstrap.

3. Type **PIP *RETURN*** at the "A>" system prompt. This entry invokes PIP, which will display the "*" prompt.

4. Remove the Backup Disk from drive A:, and insert the Application Program disk in drive A:.

5. Type **B:=A:{filename.ext}** ***RETURN*** at the "*" prompt; where {filename.ext} is the name of a file you wish to copy from the Application Program Disk to the System Disk. When finished copying the file, PIP will redisplay the "*" prompt.

6. For each application program you wish to copy from the same Application Program Disk, repeat Steps 4 and 5.

   For each application program you wish to copy from a different Application Program Disk, press ***RETURN*** at the "*" prompt and repeat Steps 3, 4, and 5.

Your former System Disk is now a Working Disk, containing a fully customized CP/M Operating System and your favorite application programs. Use a felt-tipped pen to carefully modify the label. Then perform bootstrap with the Working Disk and invoke an application program.

Working Disk Procedure Five

One Winchester/Floppy Drive

This procedure will help you to copy application programs from an Application Program Disk to your System Partition. The System Partition must be write-enabled during this procedure.

1. Insert the Application Program Disk in the floppy disk drive slot of the H/Z67 drive model. This slot is drive C:.

2. Perform bootstrap with the System Partition.

3. Type **PIP** ***RETURN*** at the "A>" system prompt. This entry invokes PIP, which will display the "*" prompt.

4. Type **A:=C:{filename.ext}** ***RETURN*** at the "*" prompt; where {filename.ext} is the name of a file you wish to copy from the Application Program Disk to the System Partition. When finished copying the file, PIP will redisplay the "*" prompt.

5. For each application program you wish to copy from the same Application Program Disk, repeat Step 4.

   For each application program you wish to copy from a different Application Program Disk, press ***RETURN*** at the "*" prompt and repeat Steps 3 and 4.

Your former System Partition is now a Working Partition, containing a fully customized CP/M Operating System and your favorite application programs. Perform bootstrap with the Working Disk and invoke an application program.

Working Disk Procedure Six

One 96 TPI, 5.25-Inch Primary Drive and One or Two 48 TPI, 5.25-Inch Primary Drive(s)

This procedure will help you to copy application programs from an Application Program Disk to your System Disk. The System Disk must be write-enabled during this procedure.

1. Insert the System Disk in the 96 TPI drive and the Application Program Disk in the floppy disk in a 48 TPI drive.

2. Boot up with the System Disk.

3. Type **PIP** ***RETURN*** at the "A>" system prompt. This entry invokes PIP, which will display the "*" prompt.

4. Type a command in the following form at the "*" prompt:

   A:=x:{filename.ext}[V]** ***RETURN

   Where **A** is the drive letter that references the System Disk in the 96 TPI drive;
   where **x** stands for the drive letter that references the Application Program Disk in the 48 TPI drive;
   where **{filename.ext}** stands for the name of a file that you wish to copy from the Application Program Disk to the System Disk; and
   where **[V]** is an option that verifies the accuracy of this PIP activity.

   After copying the file, PIP will redisplay the "*" prompt.

5. For each application program you wish to copy from the same Application Program Disk, repeat Step 4.

   For each application program you wish to copy from a different Application Program Disk, press ***RETURN*** at the "*" prompt and repeat Steps 3 and 4.

Your former System Disk is now a Working Disk, containing a fully customized CP/M Operating System and your favorite application programs. Boot up with the Working Disk and invoke an application program.

System Copying Between Unlike Disks

This page provides a general procedure for any user who wishes to copy the CP/M Operating System between two **different** types of disk media. To copy the system between unlike media, you should use MOVCPMxx, SYSGEN, and PIP utilities in sequence.

Furthermore, you should perform bootstrap with a fully customized System Disk or Working Disk, and enter commands that refer to the names of the disk drives containing the necessary utilities.

1. Run a MOVCPMxx utility that is compatible with the type of disk that is receiving the system, as explained below:

   - If the disk receiving the system copy is a hard sectored 5.25-inch disk being used in a Z89, H89, Z87, H77, or H17, then use **MOVCPM17**.
   - If the disk receiving the system copy is a soft sectored 5.25-inch disk being used in a Z90, Z89, H89, Z87, H77, Z37, or H17, then use **MOVCPM37**.
   - If the disk receiving the system copy is an 8-inch disk that will be used in a Z47 or H47 disk drive model, then use **MOVCPM47**.
   - If the media receiving the system copy is either a Winchester disk partition or an 8-inch disk used in a Z67 disk drive model, then use **MOVCPM67**.

2. Run the SYSGEN utility immediately after the MOVCPMxx utility:

   - Press ***RETURN*** when SYSGEN displays the "SOURCE DRIVE NAME (OR RETURN TO SKIP):" prompt.
   - Type a drive letter at the "DESTINATION DRIVE NAME" prompt.
   - Press ***RETURN*** to confirm your selection for "DESTINATION".
   - When SYSGEN displays the second "DESTINATION DRIVE NAME" prompt, you can select another drive letter to copy the system to another disk, or you can press ***RETURN*** to exit from the SYSGEN utility.

3. Run PIP to copy the file BIOS.SYS to the destination disk.

   - Type a command in the form **PIP B:=A:BIOS.SYS[RV]** ***RETURN***.
   - In this command, drive A contains the System Disk or Working Disk (with the customized BIOS.SYS file and the PIP.COM utility file), and drive B contains the disk receiving the file copy.
   - Press ***CTRL-C*** to perform a warm boot.
   - Repeat the PIP command for each destination disk.

NOTE: If your CP/M backup software consists of three 5.25-inch disks, then the MOVCPMxx utilities you use in this procedure are stored on CP/M (Backup or Distribution) Disk II. The SYSGEN and PIP utilities are stored on CP/M (Backup or Distribution) disk I. Enter your commands using the appropriate drive specifications, and inserting disks as prompted.