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INTRODUCTORY NOTES & HELPFUL HINTS

P&T CP/M 2.2mH (Radio Shack Hard Disk)

(March, 1985)

IGNORING THESE NOTES MAY BE HAZARDOUS TO YOUR SENSE OF HUMOR. If you read them as you install your P&T CP/M 2.2mH-RSHD system, the job will get done quickly and easily - and your computer will work well when you are finished. If you don't read them, you will (at a minimum) take longer to install the system correctly. In general, they are all that you need to read to get the system up and running. When this is not the case, we shall cite the pages in the manuals that we feel you should read.

WARNING: YOU SHOULD NEVER COVER THE WRITE PROTECT NOTCH ON THE MASTER DISK FROM PICKLES & TROUT.

MAKING A SYSTEM DISKETTE

Your P&T CP/M 2.2mH-RSHD master diskette was designed to make it as easy as possible to create a primary working system diskette. Each step can be briefly described.

First, take a new diskette and cover the write-protect notch (on the bottom right-hand side of the diskette) with one of the tabs that comes with the diskettes. Your P&T CP/M 2 system will be copied to this diskette.

Second, mount the P&T master diskette in drive A (i.e., the built-in drive on a single-drive Mod II/12/16/6000; the left-hand drive on a dual-drive Mod 12/16/6000; or drive 0 in TRSDOS) and RESET the computer. If a hard disk is attached and turned on, you should hold down the <ESC> and <REPEAT> keys while you press RESET. (Note: do not turn on the hard disk while your microcomputer is running.)

Third, when prompted to do so, tell the operating system that you do or do not have more than one floppy drive (Y<enter> or N<enter>). Your response starts a nearly automatic process, during which the operating system first formats the diskette you are preparing and then copies everything from the P&T master diskette to it. The exact procedure followed varies with the number of drives you have.

SINGLE-DRIVE SYSTEM

If you have a single-drive system, you will have to do considerable disk swapping (see pp. 3.6-7 in the P&T CP/M 2 User's Manual). Although this process is generally more tedious than difficult, please note the following points: (1) The operating system calls the P&T master disk both "disk A" and the "source" disk; similarly, it

calls the diskette you are making both "disk B" and the "destination" disk. (2) The system's programs duplicate a request to mount "disk B" at two points, just before and just after the formatting routine. When this happens, just press the <enter> key as each prompt requests. And (3) if you should make a mistake - such as mounting "disk A" when "disk B" is requested - the system cannot overcome the error and you will have to start the whole process over again (by RESEtting the computer).

MULTI-DRIVE SYSTEM

If you have more than one floppy drive, there are two results. First, you are asked how many drives your system has. Second, your answer starts a process which insures that, when your system diskette has been made, the operating system will include the floppy drive module that will support your multi-drive configuration. Note that the system always uses drive B (i.e., the primary expansion drive on a Mod II, the right-hand drive on a computer with two built-in drives; or drive 1 in TRSDOS) for making your working system diskette.

IN CASE OF TROUBLE

Most users experience little if any trouble making a primary working system diskette. Inevitably, however, a few do - usually because their computers are not functioning correctly. If you have problems, please do the following:

1. If you have a multi-drive computer and the system reports "soft read errors" when formatting the new disk, tell the system (when prompted) that you have only one drive. Then follow the instructions for a "SINGLE-DRIVE SYSTEM". In general, this problem only occurs on a small percentage of (usually older) Model II's whose expansion drives either cannot run at a 10ms head step rate or need to be re-aligned.
2. If your computer cannot make a system diskette on the built-in (or left-hand) drive, or if CP/M 2.2m reports other errors (e.g., a "load error"), try making a system diskette on different Mod II/12/16 before phoning Pickles & Trout. If this also fails, phone us for assistance.

PREPARING YOUR HARD DISK

FOR CP/M ONLY

If you intend to store only CP/M files on your hard disk, follow the instructions in this section.

If your hard disk has been formatted using the TRSDOS FORMAT program, you do not need to reformat it. However, if you own a new, unformatted hard disk, you must use HFORMAT to prepare it for files. To do this, RESEt your computer with your new primary working system diskette in drive 0, exit MENU (by typing EX<enter>), type HFORMAT<enter> at the "A" prompt, and select HFORMAT's second option ("Format by Tracks"). (See pp. 6.38-6.41 in the Hard Disk Addendum for more detailed instructions.) Then respond in the following ways to the questions posed by the system (Figure 6.59):

- 8.7 Mbyte: drive 0, 4 heads, 256 cylinders, press <enter> in response to the last three questions.

- 12 Mbyte: press <enter> in response to every question.
- 15 Mbyte: drive 0, 6 heads, 306 cylinders, press <enter> in response to the last three questions.
- 35 Mbyte: drive 0, 8 heads, 512 cylinders, press <enter> in response to the last three questions.

You should also use option 3 of HFORMAT to transfer a system bootstrap to track 0 on your hard disk. Note that this takes a few milliseconds (at most) to execute. Having done this, you will no longer need to hold down the <ESC> and <REPEAT> keys when loading the system from a system diskette. In a later section ("HLOADER"), we will tell you how to set up the system so that RESET will cause the operating system to be loaded (i.e., "cold booted") from the hard disk. Note: HFORMAT may not work correctly if you have the ADM3A utility module selected.

FOR TRSDOS/XENIX AND CP/M

If you wish to store both TRSDOS 4.2 and CP/M or XENIX and CP/M files on your hard disk, you must perform the following operations:

1. Copy all of your TRSDOS or XENIX files onto floppy diskettes. Then, reformat the hard disk by typing one of the following TRSDOS command lines or using the same information to answer the questions posed by the XENIX format program.
 - 8.7 Mbyte drive: FORMAT 4 { DIR=75,HDS=4,CYL=150 }
 - 12 or 15 Mbyte drive: FORMAT 4 { DIR=75,HDS=6,CYL=150 }
 - 35 Mbyte drive: this drive has 8 heads and 512 cylinders. If you wish to use our preconfigured disk table parameter module, HDT35-3, you should format the first 365 cylinders (numbered 0 through 364). If you wish to divide it into equal-sized XENIX and CP/M sections, format the first 256 cylinders (numbered 0 through 255).
2. Select one of the pre-configured disk table parameter modules (e.g., HDT15-4, HDT35-3) or use the P&T utility HDCONFIG to write a disk table parameter module. This module should never access a track outside of the following ranges of tracks:
 - 8.7 Mbyte hard disk: tracks 600-1023
 - 12 Mbyte hard disk: tracks 900-1379
 - 15 Mbyte hard disk: tracks 900-1835
 - 35 Mbyte hard disk: tracks 1200-4095

See Chapter 7 in the Hard Disk Addendum and immediately below for instructions on using HDCONFIG.
3. Following the instructions detailed in the last section, use HFORMAT to format the tracks that you have reserved for your CP/M logical drives.

Please note the following limitation when storing both CP/M and TRSDOS/XENIX files on the same hard disk: you must always cold boot the CP/M operating system from a diskette and, therefore, you must always hold down the <ESC> (or <BREAK>) and <REPEAT> keys when you RESET your computer.

MAKING A NEW MODULE USING HDCONFIG

Examine the preconfigured disk table parameter modules described at the end of the Hard Disk Addendum. One of these should satisfy your needs. If none does, use HDCONFIG either to create an entirely new module or to modify a P&T module. The latter is easier. Suggestions: (1) if you modify a module, edit the hard disk logical drives in reverse order - i.e., from C to A. (2) If you wish to edit a preconfigured module so as to share the disk between TRSDOS and CP/M, delete the first 1-3 hard disk logical drive(s) and use the "M", or move, option to re-order the drive letters. (3) See Chapter 7 in the Hard Disk Addendum for further instructions.

SETTING UP YOUR SYSTEM

We suggest that you use the GS option of MENU to make a copy of this diskette before proceeding. Do this by typing GS<enter> and using the third ("All Files") option.

Do you have to change your new operating system? P&T CP/M 2 includes two system files that determine how the operating system functions, a "table of contents" file (BIOSPARM.PNT) and "module library" file (BIOSMODS.PNT). They are presently configured to load modules that can run an "average" Mod II/12/16/6000 (with a printer, modem, etc.). It is not yet configured to run your hard disk and it is probably not as perfectly configured for your computer system as it can be. Thus, we suggest that you read the following paragraphs carefully.

The easiest way to change the system's configuration is to execute the SM option of MENU (which is part of the SC secondary menu). Do this by typing SC<enter> and then SM<enter>. Alternatively, you may use the MODSEL utility - by typing MODSEL<enter> at the "A>" prompt. In either case, the program starts by asking from which drive it should read BIOSMODS.PNT. Type A<enter> this time. It will then read BIOSMODS and present you with the first of several screens.

First Screen

The first screen presents the "CRT Driver Modules". STDCRT1 is now in reverse video (i.e., black on white or green), indicating that it is presently selected. If you own a Mod 12/16B/6000, you should change this to select the M12CRT1 module. Do this by moving the cursor to the module's name (using the arrow keys) and then pressing the <HOLD> key. This highlights M12CRT1, indicating that it is now the module that will be loaded into memory when you next RESET your microcomputer. Now press the <enter> key to move to the next screen.

As you move from screen to screen, examine each of the options described below and make your decisions accordingly. It is easy so long as you remember the following instructions. (1) If you wish a fuller description of a module, move the cursor to its name and press the <F1> key. (2) If you wish to select a module, simply move the cursor to its name and press the <HOLD> key. (3) If you wish to de-select a module, move the cursor to its name and press the <ESC> key. And, (4) when you wish to move to the next screen, merely press the <enter> key.

Second Screen

1. If you wish to use a Radio Shack 8.7/12/15/35 Mbyte hard disk, you must select the RSHD1 module. To do so, just press the <HOLD> key.

Third Screen (Hard Drive Alternative)

2. After you have selected RSHD1, you will be given the opportunity to select a hard disk table module (described on the last page of the Hard Disk Addendum). Select the one that suits your needs best. Be sure that you choose a module that is appropriate to the size of your hard disk. Also, if you intend to cold boot from the hard disk, choose a module that places logical drive A on the hard disk. (Note: unless you have good reasons not to do so, you should choose a module that places logical drive A on the hard disk.)

Third Screen (Floppy Drive Alternative)

3. If you did not select RSHD1, the third screen gives you the option of choosing a disk table module for a floppy only system. The module whose name is already in reverse video should be correct for your system.

Fourth Screen (Hard Drive Alternative)

4. If you did select RSHD1, the fourth screen presents you with three alternative hard disk warm boot modules:
 - Mod II with a 15 or 35 Mbyte hard disk with NO memory chips on the hard disk interface board (warm boot from floppy disk): select RFLWB1.
 - Mod II/12/16A/16B/6000 with an 8.7 or 12 Mbyte hard disk with 16 Kbytes of memory on the hard disk interface board (warm boot from hard disk memory): select RSHWB1.
 - Mod 16B/6000 with a 15 or 35 Mbyte hard disk (warm boot from 68000 memory): select R16WB1.

Fourth Screen (Floppy Drive Alternative)

5. If you did not select RSHD1, the fourth screen presents you with three alternative warm boot modules that work with floppy-only systems.
 - Mod II with NO extra memory board (warm boot from floppy disk): select STDWB1.
 - Mod II with extra memory board or Mod 12 (warm boot from extra memory): select M12WB1.
 - Mod II/12/16/6000 with a 68000 microprocessor (warm boot from 68000 memory): select M16WB1.

Fourth Screen (Note): If you select either R16WB1 or M16WB1 and you are using Trisoft CP/M 68K, you must insure that the CP/M 68K system does not use the top 16 Kbytes of memory available to the 68000 microprocessor. (See Trisoft's installation instructions for details.)

Fifth Screen

6. The SIO module should be de-selected if you are NOT using a modem, serial port printer, or other serial port device. To do this, just press the <ESC> key.

Sixth Screen

7. If you are not using a Radio Shack or other parallel port printer, you should de-select the "Centronics Port Driver Module" shown in reverse video. To do this, move your cursor to this module's name and press <ESC>.

8. Radio Shack printer owners may wish to select a Centronics port driver module that is more perfectly suited to their printer. The following are possible alternatives to the module now selected:
 - Daisy-wheel II and Line Printer 3, 4, 5, 6, and 8: select PPSTD.
 - Daisy-wheel II with reverse line feed capability: select PPSTDR.
 - DWP 410 and DMP 2100 with reverse line feed capability: select PPDSTDR.
 - DMP 400, 500, and 2100 with the paper feed (CR/NL) switch set so that a CR code only causes a carriage return operation: select PPDNORS or PPDMIN (these being the best modules for those who do NOT use TRSDOS).
9. Owners of non-Radio Shack parallel port printers who have NOT set up their printers to work with TRSDOS (i.e., who have not set the machine to do auto line feed): select either the PPNORS or PPMIN option. Otherwise, select PPSTD (or PPSTDR if the printer has a reverse line feed capability) and read the first note under "FINE-TUNING THE SYSTEM" below.

Seventh Screen

10. If you wish to utilize the AUTOKEY (programmable key), KEYXLATE (key translate), SCRNDUMP (screen print), and/or ADM3A (ADM 3A screen emulation) modules, you must select them. Move the cursor to each one you wish to select and press the <HOLD> key. (Note: the ADM3A module should NOT be selected unless you are using a program that requires it.)

Eighth Screen

11. After you have made all of your selections, you are asked to confirm that they are correct. Press Y<enter> and the new selections are stored in BIOSMODS.PNT. Press N<enter> and you return to the beginning of SM or MODSEL. (Note: STDCORE1 is automatically selected.)

PLEASE REMEMBER: YOU MUST RESET YOUR COMPUTER (AFTER YOU EXIT SM OR MODSEL) TO LOAD THE NEW SYSTEM INTO MEMORY. If you selected a hard disk parameter module that places logical drive A on the hard disk, the system will boot up to drive A and print "MENU?" on the screen. The P&T CP/M 2 files are now on your primary floppy disk drive, so log on to this drive (by typing f<enter>, where f is the letter of the floppy disk logical drive), and type MENU<enter> at the system prompt.

FINE-TUNING THE SYSTEM

Although your operating system will now perform most of the functions you require of it, some users will find that there are a few features that are not working in quite the way they want or need. Most of the utilities that they will require to "fine-tune" their system are part of the SC secondary menu, so type SC<enter> at the P&T MENU prompt and examine this menu in more detail. What follows are references to a few of the more commonly used options on the SC menu. Some programs or peripherals may require the use of others.

1. Owners of the older Radio Shack printers (such as the Daisy-wheel II and Line Printer 3 and 5) and some of the newer ones as well (such as the DMP 120 and DWP 210 and 410) should use the PP option of MENU to stop their printer from double spacing. Do this by enabling the first option ("suppress extra line feed") of PP. Owners of the newer Radio Shack printers (such as the DMP 400 and 2100) may do the same if they are using TRSDOS regularly, but it is better to set the switches on these machines so that only a carriage return occurs when

a CR code is received. Owners of non-Radio Shack printers who have set up their machines to work with TRSDOS may also find it necessary to use this facility. (p. 4.32)

2. Owners of the older Radio Shack printers (such as the Daisy-wheel II and Line Printer 3, 4, 5, 6, and 8) should also use the PP option to enable "emulate form feed".
3. Owners of the Models 12/16/6000 will probably want to use the DP option of MENU to increase the speed of their floppy disk read/write heads to 3 ms. Owners of some Model II's may have to slow the speed of the heads on their expansion drives to 15ms. (Note: if you have not RESET your computer since using the SM option to select new modules, you should do so before executing this option.) (p. 4.18)
4. The system comes configured so that the P&T MENU will execute every time that you RESET your computer. To disable this, simply execute the AE menu option and respond N<enter> when the system asks if you wish to change the command line, Y<enter> when it asks if you wish to change when the command line executes, and I<enter> (for Never) when it asks for your selection. (p. 4.8)
5. Owners of serial printers or other serial port devices will want to use the SP option of MENU to configure their serial port(s). Please refer to the P&T CP/M 2 User's Manual (pp. 4.28, 8.122-125, 12.1-5) for details.
6. Owners of the P&T Clock/Calendar/Bell board should use the CA option of MENU to set the port number used by the system to access the CCB board. (p. 4.11)
7. Those users who selected the KEYXLATE module may wish to exit MENU and execute the KXEDIT utility so as to translate the keyboard to their own specifications. See pp. 8.78-81 in the User's Manual for instructions. After testing the results, re-execute MENU and use the KT option to "save" the new key translation table. (p. 4.28)

USING YOUR HARD DISK

When you have finished fine-tuning the system, RESET your computer and log on to the primary floppy drive (by typing f<enter>, where f is the letter of the floppy disk logical drive).

Before copying any files to the hard disk, you should "clear" the directory areas and "check" the media for bad spots. To do the first, execute the CLEARDIR utility from the floppy disk (by typing CLEARDIR <enter>) and, when prompted, request that this utility erase the directory areas on each of your hard disk logical drives. (See pp. 6.25-26 in the Hard Disk Addendum for further details.) To perform the check operation, execute the HDCHECK utility from the floppy disk (by typing HDCHECK<enter>) and, when prompted, request that it check each of the hard disk logical drives. (See pp. 6.32-36 for further details.) Note: CLEARDIR and HDCHECK may not work correctly if you have the ADM3A utility module selected.

You are now ready to copy the Pickles & Trout system and utility files to the hard disk. Do this using the following commands:

```
PIP d:=f:*.PNT[ov]
PIP d:=f:*.COM[ov]
```

In both commands, replace "d" with your primary hard disk logical drive letter and "f" with your primary floppy logical drive letter.

HLOADER

If (1) you are NOT storing both TRSDOS/XENIX and CP/M files on the hard drive and (2) you have configured the system so that logical drive A is on the hard drive, you may use the HLOADER utility to alter the P&T CP/M 2 system so that it will cold boot from the hard disk. To do so, follow the HLOADER instructions in the Hard Disk Addendum (pp. 644-47). You should "load the system" from the primary hard disk drive specified by "d" in the PIP commands (immediately above) and "read the system" from the floppy drive specified by "f".

MOVING NON-P&T FILES

You may use either PIP or the P&T utility, FASTCOPY, to move other files on to the hard disk. See pp. 858-65 in the User's Manual for instructions on how to use FASTCOPY. If these files are on single-density diskettes and you have a one-floppy system, copy them from the secondary logical drive assigned to this floppy drive. For example, if you have logical drives C and D assigned to your floppy drive, copy from drive D. PLEASE NOTE: the file copy routines in the P&T MENU program do not work with hard disk logical drives.

FURTHER NOTES

At this point, your system is ready for most operations. There are just six further points that we might profitably mention in these introductory notes.

1. 15 and 35 MBYTE OWNERS: Since these hard disks were introduced after the Radio Shack Hard Disk Addendum was printed, the Addendum does not mention them. Therefore, please note: (a) the description of the modules associated with these hard disks on the back inside cover, and (b) that HDCONFIG has been modified so that Figure 7.6 (p. 7.14) in the Addendum now shows a 15 Mbyte option. Use the "Other" option if you have a 35 Mbyte drive.
2. The documentation that comes with P&T CP/M 2.2m was written to satisfy the needs of all of our users, and is therefore very comprehensive. A new user can quickly learn to use the system if he/she reads the following parts of the P&T CP/M 2 User's Manual:
 - Chapter 4 on MENU. Scan the full list of MENU options and then read the descriptions of those options you are likely to use.
 - Pp. 5.11-18 on the internal CP/M commands (paying special attention to the DIR, ERA, REN, and TYPE commands) and the discussion on pp. 5.19-20.
 - Chapter 7 on how to use the "utility" modules (if you selected one or more of them).

- Chapter 8 on the CP/M utilities. Scan the list of utilities on pp. 8.2-3 in order to get an idea of what facilities are available to you. Note that, while most of the operations can be performed from the P&T MENU, there are a few that cannot (e.g., PIP, STAT, ERROR, and VERIFY). New users should carefully read the chapters on PIP (concentrating on disk-to-disk copying) and STAT (concentrating on pp. 8.130-133), since these are the two most commonly used utilities that require you to type in command lines.
 - Chapter 6 in the Hard Disk Addendum on the hard disk utilities. Scan the list of utilities on p. 6.1 and then read the descriptions of BFBACKUP, BFRECTOR, and FILEBACK.
3. If you receive a disk error message, it will generally take this form:

Read error, code = R40
BDOS ERROR ON B: BAD SECTOR

Since the problem is often NOT caused by a "bad sector", just note on which drive the problem occurred. Then, write down the code (R40 in this case) and, when you are at an "A>" prompt, simply type ERROR R40<enter>. ERROR will then explain the message to you. (Be sure to mention this code if you call Pickles & Trout for assistance.)

- 4. There is a small, undocumented program called PAGE.COM on your system diskette. If you execute this program (by typing PAGE<enter>), it will send a page feed command to your printer.
- 5. Pickles & Trout has two products that are especially useful for hard disk users, SNAPBACK and the ADVANCED COMMAND PROCESSOR. Each is briefly described below.

It is impossible to over emphasize the importance of "backing up" your hard disk data files regularly (3-5 times per week). A hard disk failure is not common, but it does happen. And if your files are not properly backed up when it fails, the results can be very expensive. The P&T CP/M 2.2mH-RSHD system includes two utilities, FILEBACK and BFBACKUP, to help you perform this necessary task. Unfortunately, like all such utilities, they are rather "slow" (i.e., they can only copy some 240,000 characters per minute). This is why Pickles & Trout developed SNAPBACK, a new backup utility described in the accompanying brochure. It will copy an astonishing 1.5 (Mod II) to 2.4 (Mod 12/16/6000) million characters per minute. It can thus both protect your data and save you hours of valuable computer time.

As you will soon discover, a hard disk logical drive can store so many files that its directory can appear like a large, disorganized mass of names. The ADVANCED COMMAND PROCESSOR (ACP) helps you to overcome this problem by making it easy to group related data files together in distinct directory areas (called "user areas"). You can organize your files by task, employee, customer, etc., thereby creating directories that reflect what you actually do with your computer. This simple organizational facility is just one of the many ways that the P&T ACP can help you to improve the efficiency of your computer system. See the enclosed brochure for more details.

- 6. Please note that Pickles & Trout supports our REGISTERED users in two ways. First, you can telephone our technical support staff at any time between 9:00 a.m and 5:00 p.m. (Pacific coast time) Monday through Friday. Second, we

periodically publish a newsletter, C:Whats.New, that is filled with helpful hints, announcements of new products, bug reports, and other information of interest to our users. If you wish to take advantage of this support, your P&T CP/M 2 system MUST be registered. So PRINT your name and address on the yellow registration card that was enclosed with the diskette and place it in the mail today.

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