THE p-System*

The P-code interpreter, which is built into your computer, enables you to execute existing p-System programs. p-System programs are first written with a text editor, which creates a disk file of human-readable instructions (the "source file"). A program called a "compiler" is then used to convert this text file into a file of P-code instructions that the computer can understand and execute (the "object" file).

To develop your own programs, you must have a TI disk system (sold separately). At least two disk drives are recommended to eliminate the inconvenience of disk swapping. Also necessary are some or all of the following TI products (sold separately):

1. p-System Editor/Filer/Utilities. This product contains a text editor program, a diskette file management program, and a group of utility programs. The Editor enables you to create and edit both high-level (such as Pascal) and Assembly Language (either TMS9900 or TMS9995) source files, as well as other types of text files (memos, letters, etc.) and save them on diskette.

2. UCSD Pascal** Compiler. The p-System Pascal Compiler is a program that converts a Pascal source file created with the editor into an executable object program. The Compiler diskette contains a library of routines you can incorporate in your Pascal programs to make full use of the graphics, speech, and sound capabilities of the TI Computer 99/8.

3. p-System Assembler/Linker. This product contains an assembler program and a linker program. The Assembler translates an Assembly Language source file created with the Editor into an object program. The Linker combines Pascal object files with Assembly Language object files to create hybrid programs. Assembly programs must be linked (combined) with P-code programs before the computer can use them with the p-System. You must have the UCSD Pascal Compiler to fully utilize the Assembler/Linker.

Note: These products are designed specifically for use with the 99/8. Software designed for use with the TI-99/4A Home Computer may not work when used with the 99/8. ~~Ask your dealer for details.~~

In addition to these products, there are two fine books that can aid you in more fully realizing the potential of the p-System. The first of these, Personal Computing with the p-System (Overgaard and Stringfellow 1983), gives detailed information on how to use the Editor and Filer, and how to develop programs. The second, The UCSD Pascal Handbook (Clark and Koehler 1982), is a comprehensive explanation of the UCSD Pascal programming language.

*p-System is a trademark of SofTech Microsystems Inc.
**UCSD Pascal is a trademark of the Regents of the University of California

With the p-System, you can execute high-level language programs such as UCSD Pascal and TI PILOT. UCSD Pascal is compiled and TI PILOT is interpreted to an intermediate language called "P-code" or "pseudo-code." The p-System interprets the P-code and instructs the computer to execute the appropriate machine language instructions.

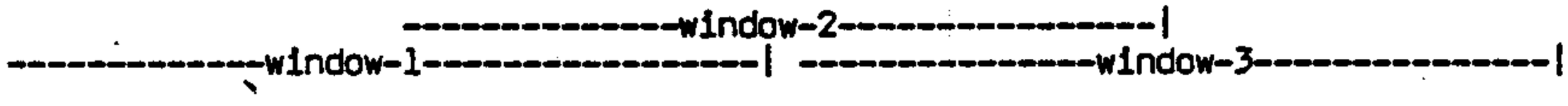
You can use the p-System by pressing B when the master selection list (menu) is displayed.

When you select the p-System, you can choose to display your own list of commands instead of the p-System command level promptline.

The optional Editor, Filer, Compiler, Assembler, Linker, and Utilities programs require a disk system and a program diskette. Note that the Mini-Filer program includes many of the capabilities of the Filer.

VIRTUAL 80-COLUMN SCREEN AND WINDOWING

The p-System uses a virtual 80-column screen, although only a 40-column "window" of text is displayed at any one time. There are three such windows: the first displays columns 1-40 of text, the second displays columns 21-60, and the third displays columns 41-80.



80-Column Screen

Pressing FCTN 8 enables you to view the next screen window to the right.
Pressing FCTN 7 enables you to view the next screen window to the left.

SPECIAL KEYS

The p-System recognizes special keys. These keys, the key sequences that define the keys, and the use of the keys are shown below.

SPECIAL KEY	KEY SEQUENCE	ACTION
del	FCTN 1	Deletes a character in the Editor.
ins	FCTN 2	Inserts a character in the Editor.
flush	FCTN 3	Stops writing the output to the screen.
break	CTRL 4	Stops the program and initializes the System.
stop	FCTN 5	Suspends the program until this key is pressed again.
key click	FCTN 6	Acts as a toggle to determine whether the audio key click is enabled.
screen left	FCTN 7	Displays the next screen window to the left.
screen right	FCTN 8	Displays the next screen window to the right.
line delete	FCTN 9	Deletes the current line.
etx/eof	CTRL C	Accepts changes in the Editor.
esc	CTRL .	Returns to the previous menu or command level.
tab	CTRL I	Moves the cursor to the next tab in the Editor.
up-arrow	FCTN E	Moves the cursor up one line.
left-arrow	FCTN S	Moves the cursor to the left one column.
right-arrow	FCTN D	Moves the cursor to the right one column.
down-arrow	FCTN X	Moves the cursor down one line.
return	ENTER	Tells the computer to accept the information you type.

DEVICES, UNITS, AND VOLUMES

The peripherals that the p-System uses are called devices or units. The data sent to or received from a device may be organized as serial data or blocked data, depending on the device. Serial data, such as characters sent to a printer, are processed one character at a time. Blocked data, such as characters on disk files, are processed in 512-byte blocks.

A disk drive peripheral contains a diskette, which is called a volume. Each diskette volume is organized into files, each of which has a distinct identifying name called a filename.

Subsidiary Volumes

A diskette can contain up to 77 individual files, each of which can be designated as a "subsidiary" volume. A subsidiary volume is a file treated as if it were another diskette; that is, it can be further subdivided into 77 additional files. This capability to extend the number of files to another level greatly increases the storage capability of a diskette. Note: Creating subsidiary volumes requires the use of the Editor/Filer/Utilities diskette.

Unit Names and Numbers

Peripheral devices or units can be accessed by either a unit name or a unit number. Note, however, that disk drives have no assigned unit names because the unit name of a disk drive is the volume name of the diskette currently in the drive. Thus, the unit name of a disk drive changes each time a new diskette is inserted.

When accessing a unit by its number, precede the unit number with a pound sign (#). A unit name or unit number must be followed by a colon (:). The colon separates the unit name or unit number from the filename. For example, MYDISK:MYFILE.TEXT refers to the file MYFILE.TEXT on the volume MYDISK:. If MYDISK: is in unit number four, the file could also be accessed as #4:MYFILE.TEXT.

The following table is a list of the numbers and names of the units.

NUMBER	NAME	DESCRIPTION
#1	CONSOLE:	Keyboard and display with echo (characters entered from the keyboard are displayed)
#2	SYSTERM:	Keyboard and display without echo (characters entered from the keyboard are not displayed)
#4	(diskette name)	1st disk drive
#5	(diskette name)	2nd disk drive
#6	PRINTER:	9600 baud RS232 input/output--Port 2
#7	REMIN:	300 baud RS232 input--Port 1
#8	REMOUT:	300 baud RS232 output--Port 1
#9	(diskette name)	3rd disk drive
#10	(diskette name)	4th disk drive
#13	RAMDISK:	Memory disk (if additional RAM is attached)
#14	OS:	Operating System
#15	(cartridge name)	Solid State Cartridge

Root and Prefix Volumes

When you enter the p-System, a volume called the root is selected from one of the following:

!o! The diskette in the first disk drive (unit #4).

!o! The Operating System (unit #14).

If a volume (diskette) is in unit #4, it becomes the root volume. If unit #4 is not present, the Operating System becomes the root volume.

You can substitute an asterisk (*) for the name or number of the root volume. For example, if MYDISK: is the name of the root volume, *MYFILE.TEXT can be used in place of MYDISK:MYFILE.TEXT.

The System has a default volume name (called the prefix volume) that is automatically prefixed to a filename that contains no volume name. When you select the p-System, the prefix volume name is the name of the root volume.

For example, if MYDISK: is the root volume when you enter the p-System, it is also the prefix volume name. If the files MYDISK:MYFILE.TEXT and DISK2:MYFILE.TEXT are on two diskettes, you can use MYFILE.TEXT to access MYDISK:MYFILE.TEXT and then change the prefix volume name to DISK2: and use MYFILE.TEXT to access DISK2:MYFILE.TEXT.

Note that you can also use a colon (:) for the name or number of the prefix volume. For example, if MYDISK: is the prefix volume name, :MYFILE.TEXT accesses MYDISK:MYFILE.TEXT. If a filename is entered without a volume name or unit number, then the prefix volume name is used.

The diskette that the default volume name refers to is called the prefix volume. You can use the p-System X(ecute command to change the prefix volume name. Note that you cannot change the root volume without restarting the System.

FILES

A file is a collection of information. A file can contain:

- Program statements to be compiled or interpreted by the computer.
- A program ready to be executed by the computer.
- Data to be used by a program.
- Data generated by a program.
- Other information that serves a specific purpose. For example, some files contain programs or data essential to the operation of the System itself; these files are known as System files and are identified by the prefix "SYSTEM." The files that you create and maintain for specific purposes are called user files.

System Files

System files are the files essential to the operation of the System. Some System files contain programs you can access from the System command level by pressing a single key, as shown below.

KEY	FILE	FUNCTION
A	SYSTEM.ASSMBLER	Assembler
C	SYSTEM.COMPILER	Compiler
E	SYSTEM.EDITOR	Editor
F	SYSTEM.FILER	Filer
G	SYSTEM.TI.FILER	Built-in "Mini-Filer"
L	SYSTEM.LINKER	Linker

When you press one of these keys from the command level, the System checks each disk drive for the appropriate file. If the file is found, the appropriate program is initiated; if the file is not found, an error message is displayed.

Although the file SYSTEM.COMPILER usually contains the Pascal compiler, it can be any available compiler. You can access the compiler for another language by naming it SYSTEM.COMPILER.

Built-In System Files

The Operating System (unit #14) contains four essential System files.

FILE	PURPOSE
SYSTEM.CHARAC	Character definitions
SYSTEM.LIBRARY	Graphics and file management routines
SYSTEM.MISCINFO	Miscellaneous information used by the System
SYSTEM.PASCAL	The Operating System

Because these files are part of the "firmware" (that is, they are stored on integrated circuit [IC] chips), you cannot modify them. You can, however, override the information in these files by having files with the same names either on a diskette in the first disk drive (unit #4) or on a Solid State Cartridge (unit #15).

Optional System Files

Although they are not essential to the operation of the System, you can create three System files for your convenience.

FILE	FUNCTION
SYSTEM.STARTUP	Executes automatically
SYSTEM.MENU	Replaces command level promptline
SYSTEM.CONFIG	System configuration

SYSTEM.STARTUP automatically executes when you enter or initialize the p-System. If you have a file named SYSTEM.STARTUP in the first disk drive (unit #4) or in a Solid State Cartridge (unit #15), that file executes.

SYSTEM.MENU executes when the p-System command level promptline is displayed. If you have a file named SYSTEM.MENU in the first disk drive (unit #4) or in a Solid State Cartridge (unit #15), the p-System executes that program rather than displaying the p-System command level promptline.

SYSTEM.CONFIG contains the System configuration. If you have a file named SYSTEM.CONFIG in the first disk drive (unit #4) or in a Solid State Cartridge (unit #15), the System uses the configuration in that file instead of the normal System configuration.

Note that for an optional SYSTEM.CONFIG or SYSTEM.STARTUP file to be effective, it must be present when you enter the p-System. If you create a SYSTEM.CONFIG file while you are using the p-System, the p-System continues to use the built-in system configuration. Your SYSTEM.CONFIG and/or an optional SYSTEM.MENU are executed only after you re-enter the p-SYSTEM; they are not executed when you initialize the p-System.

Filenames

Every file has a unique name, called a filename, that distinguishes it from all other files on the same volume. Although the System allows you great flexibility in naming files, there are certain restrictions that must be carefully observed.

A filename may consist of from 1 through 15 of the following characters.

- The upper-case letters A-Z
- The digits 0-9
- The special characters hyphen (-), slash (/), backslash ( ), underline (_) and period (.)

Note that any lower-case letters are changed to upper-case letters; spaces or non-displaying characters are removed. A dollar sign ($), colon (:), equals sign (=), question mark (?), an asterisk (*), or comma (,) cannot be entered as part of a filename.

EXTENDED MEMORY AND THE MEMORY DISK

Normally, the computer has 64K (65,536) bytes of CPU RAM (Central Processing Unit Random-Access Memory). Whereas this amount of memory is enough to enable you to use the p-System effectively, you can enhance the operation of your p-System by making additional RAM available to the System.

Extended Memory

If your computer has more than the standard 64K bytes of CPU RAM, you can use the p-System's extended memory feature that divides the available RAM for program and variable storage into two sections, each of which can contain up through 64K bytes.

The System uses one section of memory, called the external code pool, to store most code segments, including most System and user programs. The other section of memory (the stack/heap space) is used to store data and code segments that have special requirements.

The advantages of extended memory include:

- Additional memory space is available for large programs.
- The need for the System to move and swap code segments is reduced, resulting in improved processing time.
- The likelihood of a stack overflow (a system failure resulting from a program trying to use more memory than is available) is diminished.

If you have more than the standard 64K of RAM, the extended memory feature is automatically enabled when you enter the p-System. If you have more than 64K of RAM but do not wish to use the extended memory feature, set the memory disk block allocation and the size of the external code pool to 0. (For information on how to do this, refer to "Change System Parameters" on page X.)

Memory Disk

If your computer has more than 128K (131,072) bytes of CPU RAM, you can use the memory disk feature in addition to the extended memory feature. The memory disk is an area of RAM that the p-System treats as a disk. The prefix unit name of the memory disk is RAMDISK:.

When you enter the p-System, RAMDISK: occupies all memory over 128K bytes. You can use the CONFIG utility to modify the size of RAMDISK:. With this system, RAMDISK: can contain as many as 64K blocks or 32M (33,554,432) bytes; RAMDISK: is limited, however, to the amount of available RAM.

Because most programs stored on RAMDISK: are not moved to the code pool area when they are executed, processing time is reduced and memory is more efficiently used. Only programs with special requirements are moved from RAMDISK: for execution.

Note that programs and data stored on RAMDISK: are erased when you turn off the computer. Remember to store RAMDISK: programs and data on a diskette before you turn off the computer.

MINI-FILER

The built-in Mini-Filer program in the Operating System (unit #14) file named SYSTEM.TI.FILER provides many of the file management capabilities of the p-System Filer program. By pressing keys to select menu items from the Mini-Filer, you can manipulate disk files.

Use the G(o command from the System command level to access the Mini-Filer.

To exit from the Mini-Filer, press Q ("Return to Standard p-System Menu"). Note that if there is a file named SYSTEM.MENU in the first disk drive (unit #4) or in a Solid State Cartridge (unit #15), the System executes that file rather than displaying the System command level promptline.

When you need more information to respond to a prompt or menu, press the question mark (?) key. The question mark is the Mini-Filer's help key; pressing this key in response to any prompt or menu causes the Mini-Filer to display additional information.

Menus

The Mini-Filer offers you choices in the form of menus. For example, when you first enter the Mini-Filer, the main menu is displayed on the screen. Each menu item is preceded by a letter. To select a particular menu item, type the letter that precedes it.

If you do not wish to make a selection from the main Mini-Filer menu, press Q to enter the System command level.

Prompts

When you are prompted to enter a volume identifier (either a unit number or unit name), the Mini-Filer supplies a default you can use by pressing return|. If you do not wish to use the displayed default, type a volume identifier and press return|. This volume identifier becomes the new default, and is subsequently displayed when the Mini-Filer prompts you for a volume identifier.

If you have the memory disk option, the default volume identifier when you enter the Mini-Filer is RAMDISK:. If you do not have the memory disk option, there is no default volume identifier when you enter the Mini-Filer.

If you do not wish to respond to a prompt, press esc| to return to the main Mini-Filer menu.

Main Menu

When you enter the Mini-Filer, a menu of "Special p-System Commands" is displayed. The options available from the main menu are discussed on the following pages. To select a menu option, press the letter that precedes it.

LETTER	OPTION
A.	Run a program.
B.	Copy a disk.
C.	Copy a file.
D.	Delete a file.
E.	List the files on a disk.
F.	Format a new disk.
G	Clear a disk directory.
H.	Combine free disk space.
I.	Change name..
Q.	Return to standard p-System menu.
?.	Help.
S.	Set single disk system.

This main menu is also displayed when an option you select (except the "Run a Program" option) is completed, or when you press esc| in response to a prompt or a subsequent menu.

Note that when you select the last option (Set single disk system), the prompt "Set multiple disk system" appears on the menu.

Run a Program

The "Run a Program" option enables you to execute a specified program.

This option prompts you to enter the identifier of the volume that contains the program you want to execute (called the source volume). The first 16 filenames on the specified volume are then displayed. If the source volume contains more than 16 filenames, press the spacebar to display the next 16 filenames.

To execute a program, type the letter preceding the filename of the program. The p-System does not return to the Mini-Filer's main menu when the program has finished execution, but rather displays the System command level promptline (or executes SYSTEM.MENU, if present). Use the G(o command to return to the Mini-Filer from the System command level.

Running a Program with the Memory Disk

If you have the memory disk option, the program you select is normally transferred to RAMDISK: before it is executed. If the program is already on RAMDISK:, it is executed immediately.

If you select a file that is not currently on RAMDISK: and there is sufficient space on RAMDISK:, the file is tranferred to RAMDISK: and executed. If there is insufficient space on RAMDISK:, the prompt Transfer to RAMDISK:? (Y/N) appears. If you press N, the file is executed immediately without being transferred. If you select Y, the Mini-Filer enables you to delete files currently on RAMDISK: to make room for the file you selected.

If you choose to delete files from RAMDISK:, the Mini-Filer displays the first 16 filenames of the files currently on RAMDISK:, the number of blocks in each file, and the number of blocks you must delete to create sufficient space for the file you selected. Press the spacebar| to display the next 16 filenames.

To delete a file, press the letter preceding the filename. The word "delete" appears to the left of the filename to indicate that the file is marked for deletion (no file is actually deleted until you press return|). To unmark a file that you have marked for deletion, press the letter again.

You can mark as many files for deletion as are needed. When you have finished marking files, press return| to delete the marked files, or press esc| to return to the Mini-Filer's main menu without deleting files.

When you have created sufficient space on RAMDISK: to transfer the selected file, the space on RAMDISK: is compressed (if necessary) and the file is transferred and executed.

If you run a program from RAMDISK: and then modify the copy of the program on diskette, the modified copy cannot be executed until you either delete the program from RAMDISK: or change its name.

Copy a Disk

The "Copy a Disk" option enables you to copy an entire disk.

This option prompts you to enter the identifier of the volume you want to copy from (called the source volume), then the identifier of the volume you want to copy to (called the destination volume). If the destination volume is not blank (that is, if it has a directory), the prompt Copy over volume-identifier? (Y/N) appears. Press Y to copy the disk, or N to return to the Mini-Filer's main menu without copying the disk.

If you have set the single disk option, the Mini-Filer displays appropriate messages that tell you when to change the disk in your disk drive.

If the disk you are copying to is of a different size than the one you are copying from, the following prompt appears:

```
Disks are of different sizes
Do you still want to copy? (Y/N)
```

Exercise care if you respond to this prompt with a Y. If the disk to which you are copying has less storage capacity, it is possible that it will not be able to hold all of the data you are copying, causing the copy operation to abort. If the disk to which you are copying has greater storage capacity than the one you are copying, it will assume the characteristics of the smaller one. For example, if you copy a single-sided, single-density disk to a double-sided, double-density disk, the p-System treats both as if they were single-sided, single-density.

Copy a File

The "Copy a File" option enables you to copy a specified file from one volume to another.

This option prompts you to enter the identifier of the volume you want to copy from (called the source volume), then the identifier of the volume you want to copy to (called the destination volume). To print a textfile, select the printer as the destination volume.

The Mini-Filer displays the first 16 filenames on the source volume. Press the spacebar to display the next 16 filenames.

Type the letter preceding the filename of the file you wish to copy, or press esc to return to the Mini-Filer's main menu without copying a file.

When you have selected a file, the Mini-Filer ascertains whether a file with the same name already exists on the destination volume. If such a file exists, the Mini-Filer prompts you to indicate whether you want to replace the file on the destination volume with a copy of the file on the source volume. Press Y to replace the file, or press N to return to the Mini-Filer's main menu without copying the file.

To copy the file, the Mini-Filer then ascertains whether there is sufficient space on the destination volume. If sufficient space is available, the file is copied.

If there is insufficient space on the destination volume, the Mini-Filer ascertains whether compressing the space on the destination volume would create sufficient space to copy the file. If sufficient space can be created, the Mini-Filer prompts you to indicate whether you want to compress the space. Press Y to compress the space and copy the file, or press N to return to the Mini-Filer's main menu without copying the file.

If compressing the space on the destination volume would not create sufficient space for the file, you have the option of deleting files from the destination volume to make room for the selected file.

If you choose to delete files, the Mini-Filer displays the first 16 filenames currently on the destination volume, the number of blocks in each file, and the number of blocks you must delete to create sufficient space for the file. If the destination volume contains more than 16 filenames, press the spacebar| to display the next 16 filenames.

To delete a file, press the letter preceding the filename. The word "delete" appears to the left of the filename to indicate that the file is marked for deletion (no file is actually deleted until you press return|). To unmark a file that you have marked for deletion, press the preceding letter again.

You can mark as many files for deletion as are needed. When you have finished marking files, press return| to delete the marked files, or press esc| to return to the Mini-Filer's main menu without deleting files.

When you have created sufficient space on the destination volume to copy the file you selected, the space on the destination volume is compressed (if necessary), and the file is copied.

Once you have copied a file, the word "copied" appears to the left of the filename in the list of files on the source volume. Note that unlike the delete option, "copied" means that a file has actually been copied, not that it is marked for copying.

If you have set the single disk option, the Mini-Filer displays appropriate messages that tell you when to change the disk in your disk drive.

Delete a file

The "Delete a File" option enables you to delete specified files.

This option prompts you to enter the identifier of the volume (called the source volume) that contains the file(s) you want to delete. The first 16 filenames of the source volume are then displayed. Press the spacebar| to display the next 16 filenames.

To delete a file, press the letter preceding the filename. The word "delete" appears to the left of the filename to indicate that the file is marked for deletion (no file is actually deleted until you press return|). To unmark a file that you have marked for deletion, press the preceding letter again.

You can mark as many files for deletion as are needed. When you have finished marking files, press return| to delete the marked files, or press esc| to return to the Mini-Filer's main menu without deleting files.

Before any files are actually deleted, the prompt Do you really want to delete? (Y/N) appears. Press Y to delete the file(s), or press N to return to the Mini-Filer's main menu without deleting files.

List the Files on a Disk

The "List the Files on a Disk" option enables you to obtain information about the files on a specified disk.

This option prompts you to enter the identifier of the volume (called the source volume) to be listed. The first 16 filenames on the source volume are then displayed. The listing for each file includes its filename, size (in blocks), date (of creation or revision), and type (Text, Code, Data, Back, Foto, Svol, or Bad).

If the source volume contains more than 16 files, the filenames of the first 16 files are displayed, followed by the prompt Press spacebar to continue. Press Y to list the next 16 files, or press N to return to the Mini-Filer's main menu. If the source volume contains 16 or less files, press the spacebar to return to the Mini-Filer's main menu.

The size of the largest free area (in blocks) is displayed following the listing of the last file on the disk.

Format a New Disk

The "Format a New Disk" option enables you to prepare a disk for use on the p-System and to create an empty p-System directory on the disk.

To format a disk, respond to the prompts as follows:

PROMPT	RESPONSE
Unit Number:	Enter the unit number or volume name of the disk drive.
New Name:	Enter the volume name you want to assign to the diskette.
Single-Sided Disk?	Press Y to format a single-sided diskette, or press N to format a double-sided diskette.
Single Density?	Press Y to format a single-density diskette, or press N to format a double-density diskette.
40 Tracks?	Press Y to format 40 tracks on the diskette (or 40 tracks on each side of a double-sided diskette), or press N to format a number of tracks other than 40.

If you press N in response to 40 Tracks?, the Mini-Filer displays an additional prompt:

How Many Tracks (35 or 77)?

Enter 35 or 77.

NOTE: You can format a single-sided diskette on a double-sided drive, and a single-density diskette on a double-density controller.

Clear a Disk Directory

The "Clear a Disk Directory" option enables you to establish a new, empty (clear) directory on a disk that has been previously formatted for use on the p-System. Clearing a directory effectively deletes all the files on the disk.

This option prompts you to enter the identifier of the volume (called the source volume) on which you want to establish a new directory. If the source volume already has a directory, the prompt Remove all files on volume-ID? (Y/N) appears. Press Y to establish a new directory, or press N to return to the Mini-Filer's main menu without establishing a new directory.

The Mini-Filer then prompts you to enter a volume name to assign to the disk. If the source volume already has a directory, the current volume name is the default; press return| to keep the same volume name. If the source volume does not have a directory, the prompt Number of Blocks on Volume? appears. (This situation is unlikely because the "Format a New Disk" option establishes a directory.) Enter the number of blocks on the disk.

When you establish a new directory, the Mini-Filer does not create a duplicate directory.

Combine Free Disk Space

The "Combine Free Disk Space" option enables you to compress all areas of free space into one large area of free space. All files are then contiguous.

This option prompts you to enter the identifier of the volume (called the source volume) on which you want to combine the free space. When all free space on the source volume has been combined, a message is displayed indicating the size (number of blocks) of the free space area.

Compressing a disk may become necessary after you have deleted files from a disk. Small areas of free space are interspersed among areas of the disk occupied by files. Although there may be sufficient free space on the disk, you cannot store a large file on the disk unless the file can be stored in one area of the free space. Compressing the disk combines all free space areas into one large area of free space, increasing the likelihood that you can store a large file on the disk.

Change Name

The "Change Name" option enables you to change the name of a specified file.

This option prompts you to enter the identifier of the volume (called the source volume) on which you want to change the name of a file.

The Mini-Filer then displays the first 16 filenames of the files on the source volume. Press the spacebar to display the next 16 filenames.

Type the letter preceding the filename of the file to be changed. The word "change" appears to the left of the filename to indicate that the file is marked for a name change.

After you select a file, the prompt Enter new name appears. Enter the new filename, or press esc to return to the Mini-Filer's main menu without changing the name of a file.

When you enter a new filename, the displayed filename list is revised to reflect the name you have assigned.

Note : You cannot change volume names with the Mini-Filer.

Return to Standard p-System Menu

The "Return to Standard p-System Menu" option enables you to exit from the Mini-Filer program and enter the System command level (see "System Commands). You can later use the G(o command to return to the Mini-Filer.

When you select the "Return to Standard p-System Menu" option, the file SYSTEM.MENU, if it exists on the root volume, is executed.

Help

The "Help" option enables you to obtain information about the Mini-Filer program.

When you select the "Help" option from the Mini-Filer's main menu, or when you enter a question mark (?) in response to any of the Mini-Filer's menus or prompts, the Mini-Filer displays additional information on the screen.

Set Single-Disk System

The "Set Single-Disk System" option enables you to specify to the p-System that you are using a system with only one disk drive. The System must have this information if you are using the Mini-Filer to copy a disk or to copy a file from one disk to another.

When the Mini-Filer menu is displayed, "Set Single-Disk System" is the default. When you press S, the option subsequently appears on the Mini-Filer's main menu as "Set Multiple-Disk System." Pressing S again displays the "Set Single-Disk System" option.

Selecting the "Set Multiple-Disk System" option enables you to specify to the p-System that you are using a system with more than one disk drive.

p-System COMMANDS

This section includes a description of each command at the System level. The System command level (also called the outer level) is the primary control for the entire System. These outer level commands invoke fundamental System operations, such as the Compiler, the Editor, the Filer, and so forth. Note that some of these commands are available only if you have additional software (sold separately) as noted in the description of each command.

To access the p-System command level, select the "Return to Standard p-System Menu" option from the Mini-Filer's special command menu. (Note that SYSTEM.MENU, if it exists on the root volume, is executed.)

At the System command level, a promptline of System Commands appears at the top of the display. Each command is accessed by a single keystroke. Typing a key causes either an action to be performed or another promptline to be displayed, detailing new commands available at a different level. A diagram of the System command levels is shown below.

COMMAND DIAGRAM

G(o S(et date E(dit R(un F(ile C(omp L(ink X(ecute A(ssem D(ebug
H(alt I(nitialize U(ser restart M(onitor

E(dit	F(ile		M(onitor
A(djst	G(et	B(ad-Blks	B(egin
C(py	S(ave	E(xt-dir	E(nd
D(el	W(hat	K(rnch	A(bort
F(ind	N(ew	M(ake	S(uspend
I(nsrt	L(dir	P(refix	R(esume
J(mp	R(em	V(ols	
K(ol	C(hng	X(amine	
R(eplace	T(rans	Z(ero	
Q(uit	D(ate	O(n/off-line	
X(ch	Q(uit	F(lip-swap/lock	
Z(ap			

Promptlines

A promptline shows the command options available at a given level of the System. Each command is invoked by typing a single letter. When any portion of the promptline is displayed, you can access any of the commands by pressing the appropriate single-letter key.

All promptlines include:

!o! The name of the level (such as "Edit" in the Editor) or System module.

!o! A list of available commands, with the calling letter capitalized and separated from the rest of the word by an open parenthesis "(".

!o! The version number of the program in square brackets at the end of the line.

Note that a promptline is never visible while a program is running and is not always visible when you are using the Editor to insert text.

Typing an invalid command at any level may cause the promptline to disappear. Press the spacebar| to clear the display and cause the correct promptline to be displayed.

Some promptlines include a question mark (?), indicating that there are more commands available than can fit onto one line of the display. Type a question mark (?) to display the additional commands. For example, the following promptlines appear at various stages as you use the System.

```
!o! Command: G(o, S(et date? [IV.12 B]
!o! Command: E(dit, R(un,? [IV.12 B]
!o! Command: F(ile, C(omp,L(ink,? [IV.12 B]
!o! Command: X(ecute, A(ssem,? [IV.12 B]
!o! Command: D(ebug,? [IV.12 B]
!o! Command: H(alt, I(nitialize,? [IV.12 B]
!o! Command: U(ser restart? [IV.12 B]
!o! Command: M(onitor [IV.12 B]
```

(Note: The IV.12 B displayed at the end of the promptline is the System version number. Future releases of the System, if any, may display a different version number.)

A(ssem

The A(ssem (assemble) command enables you to access the Assembler program* to assemble code, converting a source file into an object (executable) file. Pressing A executes the program SYSTEM.ASSMBLER.

If the workfile *SYSTEM.WRK.TEXT exists, the Assembler uses it as the source file. If *SYSTEM.WRK.TEXT does not exist, the Assembler prompts you to enter the filename of the source file. (Remember that an * before a filename specifies that the file is in the root volume.)

If *SYSTEM.WRK.TEXT exists, the Assembler uses *SYSTEM.WRK.CODE as the object file. If *SYSTEM.WRK.TEXT does not exist, the Assembler prompts you to enter the filename of the object file. If you press return| without entering a filename, the Assembler uses *SYSTEM.WRK.CODE as the object file.

The Assembler always prompts you to enter the filename of the listing file. If you press return| without entering a filename, the Assembler does not generate a listing file.

If an error is detected in the program being assembled, you can choose to continue assembly, stop assembly, or return directly to the Editor to correct the source file. If you elect to return to the Editor, the cursor is positioned at the point of error detection, and an error message is displayed.

See the p-System Assembler manual for further details.

Note: This section describes the TMS9995 Assembler. Other assemblers are available. To access one of these from the command prompt line you must name it "SYSTEM.ASSEMBLER."

*sold separately

C(omp

The C(omp (compile) command enables you to access the Compiler program* to compile a Pascal program. Pressing C executes the file SYSTEM.COMPILER. If the workfile *SYSTEM.WRK.TEXT exists, the Compiler uses it as the source file. If *SYSTEM.WRK.TEXT does not exist, the Compiler prompts you to enter the filename of the source file.

If *SYSTEM.WRK.TEXT exists, the Compiler uses *SYSTEM.WRK.CODE as the object file. If *SYSTEM.WRK.TEXT does not exist, the Compiler prompts you to enter the filename of the object file. If you press return| without entering a filename, the Compiler uses *SYSTEM.WRK.CODE as the object file.

The Compiler always prompts you to enter the filename of the listing file. If you press return| without entering a filename, the Compiler does not generate a listing file, unless you have used compiler options within your source file to specify a listing file.

If an error is detected in the program being compiled, you can choose to continue compilation, stop compilation, or return directly to the Editor to correct the source file. If you elect to return to the Editor, the cursor is positioned at the point of error detection, and an error message is displayed.

See the Pascal Compiler manual for further details.

Note: This section describes the Pascal Compiler. Compilers for other languages are also available. To access one of these from the command prompt line, you must name it "SYSTEM.COMPILER."

*sold separately

D(ebug

The D(ebug command enables you to access the debugger so that you can find and correct program errors. The debugger is part of the Compiler package.*

See the Pascal Compiler manual for further details.

*sold separately

E(dit

The E(dit command enables you to access the Editor program* to edit a file. Pressing E executes the file SYSTEM.EDITOR.

If a *SYSTEM.WORK.TEXT workfile is present, it is displayed and is available for editing. If no workfile is present, you can choose to edit an existing file, create and edit a new file, or return to the command level promptline.

You can use the Editor program to create new program or document textfiles or to alter existing files.

See the p-System Editor manual for further details.

Note: This is a screen-oriented Editor. Others are available. To access one of these from the command prompt line, you must name it "SYSTEM.EDITOR."

*sold separately

Filer

F(ile
The F(ile ... to perform desired
file manageman... SYSTEM.FILER.

The Filer ... workfile, moving
files, and ...

See the p-Syst...

Note that ... are included in the
built-in Mini-...

*sold separat...

G(o

The G(o command causes the computer to execute the Mini-Filer program.

H(alt

The H(alt command enables you to exit from the p-System.

Pressing H causes the System to stop execution and the master title screen to be displayed. You can then reselect the p-System or select another option shown on the master selection list, such as TI Extended BASIC II.

I(nitialize

The I(nitialize command enables you to restart the p-System.

When you initialize the System, a file named SYSTEM.STARTUP executes automatically, if it exists on a diskette in the first disk drive (unit #4) or on a Solid State Cartridge (unit #15).

All execution errors that are not fatal cause the System to restart. Note that although an I(nitialize command does not clear any redirections, any runtime error does.

L(ink

The L(ink command enables you to access the Linker* program to link programs or program segments. Pressing L executes the file SYSTEM.LINKER.

The Linker program enables you to link machine-language routines into host compilation units which have been compiled from a high-level language. The Linker also enables you to link machine-language code routines together.

See the p-System Linker manual for further details.

*sold separately

M(onitor

The M(onitor command enables you to keep a record of keystrokes.

Type M to enter monitor mode and continue to use the System in a normal manner; all keystrokes are saved in a file. Thus, to automate a sequence of System commands:

```
!o!   Enter monitor mode.

!o!   Enter all the commands that are to be recorded.

!o!   Exit monitor mode.
```

All the input is saved in a monitor file that can subsequently be used by redirecting System input to the monitor file with the I= execution option string (see X(ecute).

The monitor file can be either a textfile or a datafile. If it is a textfile, you can use the Editor program to modify it. (Note: Some special characters cannot be read by the Editor. Monitor files containing these characters cannot be edited with the Editor.)

The M(onitor command itself cannot be recorded in a monitor file.

When M is pressed
the following prompts are displayed:

```
Monitor: B(egin, E(nd, A(bort?
Monitor: S(uspend, R(esume
```

To select a command, type the initial letter of that command.

B(egin
B(egin starts a monitoring session. When prompted, type a filename and press return|.

To specify the maximum size of the monitor file, type the filename followed by the size (in blocks) enclosed in brackets. For example, #4:MYFILE.TEXT[4] instructs the computer to reserve four blocks of memory for the monitor file.

If you do not specify the size of the monitor file, the System reserves half of the largest area of contiguous free space.

When you use E(nd to save the monitor file, the System saves only the number of blocks actually used as a monitor, not the entire reserved area.

Select R(esume to return to the System promptline.

E(nd
E(nd stops a monitoring session and saves the monitor file. To return to the System promptline, select S(uspend. If no monitor file is open, an error message is displayed (see the Appendix).

A(bort
A(bort ends a monitoring session without saving the monitor file. To return to the System promptline, select R(esume or S(uspend.

S(uspend
S(uspend turns off the monitoring capability without closing the monitor file. The System returns to the promptline; you can then type commands without recording them. The monitor file remains open and more can be added to it with the R(esume command.

R(esume
R(esume restarts the monitoring capability and returns to the System promptline. If the monitoring capability has not been suspended, nothing happens.

R(un

The R(un command enables you to run an existing program or one you have created. Pressing R executes the current workfile.

If the workfile does not contain a codefile, R(un calls the Compiler. If the compilation is successful, the resulting code is run. If there is no workfile, R(un calls the Compiler, which prompts you for the name of a textfile to compile.

If the codefile requires linking to one or more assembly-language codefiles, the Linker is called to search *SYSTEM.LIBRARY. If the files cannot be found there, an error message is displayed (see the Appendix).

S(et date

The S(et date command enables you to display or change the current System date.

When you create, modify, or save a file, the System date is recorded with the file. When you list a disk directory, the dates associated with each file are displayed.

Press S to access the S(et date command. The System displays the current date in day-month-year order and prompts you to enter a new date. To leave the date unchanged, press return|.

To change the date, type the day, month, and year, separated by hyphens (-), and press return|. It is not necessary to enter the full name of the month because the System ignores all but the first three letters. Note also that the year is entered as two digits, not four; for example, type 84 rather than 1984. After you press return|, the new System date is displayed.

If you type just the day and press return|, the System month and year are not changed. Similarly, if you change only the day and month, the System year remains the same.

U(ser restart

Pressing U causes the last System or application program executed to execute again. The command can be used to make multiple runs of a user program or to return to the Editor after a workfile update.

U(ser restart cannot be used to restart the Compiler or Assembler program because it will restart them improperly.

X(ecute

The X(ecute (execute) command enables you to run programs that have already been compiled and to take advantage of execution options.

Pressing X causes the computer to prompt you to enter a filename. Respond with an execution option string. In the simplest case, this string can contain only the name of a file.

If the filename cannot be found, the message No file filename is displayed. If all of the code necessary to execute the filename has not been linked in, the message Must L(ink first is displayed. If the filename contains no program (all its segments are units or segment routines), the message No program in filename is displayed.

If the execution option string contains both option specifications and a filename, the filename must be listed first in the execution option string. The options are performed first, followed by the filename (unless one of the errors named in the preceding paragraph occurs).

The filename must have been created with a .CODE suffix, even if its name has subsequently been changed. The X(ecute command automatically appends a .CODE suffix to the filename unless the filename ends with a period (.).

Execution Option Strings

The X(ecute command enables you to specify options to modify the System's environment. These modifications include redirecting standard program or System I/O (input/output), changing the default prefix (the volume-name part of a filename), and changing the default library textfile. (To redirect input or output is to specify a new default I/O device.)

These modification options are also available from within a user program.

Execution option strings are used to modify the System's environment. These strings contain one optional filename and zero or more option specifications, which are one or two letters followed by an equals sign (=) and optionally a filename or literal string.

The possible execution options are summarized below.

OPTION	ACTION
L	Changes the default library textfile
P	Changes the default volume name
PI	Redirects program input
PO	Redirects program output
I	Redirects System input
O	Redirects System output

Note: Upper- and lowercase letters can be used interchangeably within an execution option string.

Program input is the input required by an individual program, such as a file containing records to be processed. Program output is the output produced by an individual program, such as a value produced by a mathematical operation within a program.

System input is the input required by the p-System, such as the X(ecute command. System output is the output produced by the p-System, such as a program.

Several different option strings can be entered at one time if they are separated by one or more spaces. A single space is optional between the equals sign and the following filename or string.

The execution option strings are performed in the following order.

!o! Change the prefix if the P= option is present.

!o! Change the library textfile if the L= option is present.

!o! Perform any specified I/O redirections.

!o! Execute the program if a filename is specified.

These options are invoked with the X(ecute command. Causing redirection from within a user program requires the use of the REDIRECT intrinsic (and possibly the EXCEPTION intrinsic). Refer to the descriptions of these intrinsics in the p-System Compiler manual. The intrinsic CHAIN also makes use of execution option strings.

Redirecting System input to come from a file or main memory amounts to driving the System from a series (or script) of commands. This redirection is a useful tool, especially in testing or in applications that load automatically. A script for the System can be created by using the M(onitor command to record keystrokes to a file.

Note: Redirection applies only to the input and output of standard files, and therefore has no effect on low-level device I/O intrinsics such as UNITWRITE or BLOCKREAD.

Alternate Volume Names and Libraries

You can change the prefix volume name (the name of the device) with the P= execution option string, which is equivalent to using the P(refix command in the Filer. All filenames that do not explicitly name a volume are prefixed by the prefix volume name.

To change the prefix volume name, respond to the filename prompt by typing P= and the volume name. For example, if you enter P=ABC, the prefix volume name becomes ABC:.

Note: Do not type a colon at the end of the volume name; it is automatically provided by the System.

Similarly, the default "library textfile" can also be changed. The library textfile is a file that contains the names of several user libraries. When a program with separately compiled units is run, the System searches for them first in the files named in the library textfile, and then in *SYSTEM.LIBRARY. When you enter the p-System, the default library textfile is *USERLIB.TEXT. For more information about libraries, see the p-System Compiler manual.

To change the default library textfile, respond to the filename prompt by entering L= and the filename. For example, entering L=MYLIB makes the file MYLIB.TEXT the new default library textfile.

Redirection

The following execution option strings control redirection.

PI=filename
PI=string
PO=filename
I=filename
I=string
O=filename

PI= redirects program input and overrides any previous input redirection. PI=filename causes program input to come from the file specified by the filename. PI=string causes program input to come from the program's input buffer and adds the string to the input buffer. Using PI= without a filename makes program input the same as System input.

PO= redirects program output and overrides any previous output redirection. PO=filename causes program output to be sent to the file specified by the filename. Using PO= without a filename makes program output the same as System output.

I= redirects System input and overrides any previous System input redirection. I=filename causes System input to come from the file specified by the filename. I=string causes System input to come from the System's input buffer and adds the string to the input buffer. Using I= without a filename resets System input to CONSOLE:.

O= redirects System output and overrides any previous System output redirection. O=filename causes System output to be sent to the file specified by the filename. Using O= without a filename resets System output to CONSOLE:.

For PI=filename and I=filename, the filename can specify either a disk file or an input device that sends characters. If the file is a disk file, redirection ends with an EOF and the System performs the equivalent of an input redirection with no filename. If the file is a device, redirection continues until you explicitly change it. Thus, you can control the System from a remote port, such as REMIN:.

For PI=string and I=string, the string can be any sequence of characters enclosed in double quotation marks. Any quotation mark embedded in the string must be denoted as two adjacent apostrophes. Strings are always added to input buffers so that they are read in order (first in, first out). Commas in input buffers are treated as carriage returns.

Input buffers are located in the main memory. Program or System input can be redirected to come from both a file and the appropriate input buffer in which case, the buffer is used first (until it is empty).

For PO=filename and O=filename, the filename can specify either a disk file or an output device that receives characters. If the file is a disk file, it is named literally as shown (to make it a textfile, you must append .TEXT to the filename). Whenever output redirection is changed, the file is closed and locked (the new version is saved, and the previous version is deleted).

Program redirection ends when the program ends. Any characters still in the program's input buffer are discarded.

Redirection applies only to the standard files, input and output. Redirection affects file-level operations and intrinsics, but not device-level intrinsics, such as UNITREAD, UNITWRITE, BLOCKREAD, BLOCKWRITE, and so on. Calls of the form

```
REWRITE(MY_FILE,'CONSOLE:')
WRITE(MY_FILE,LOTS_OF_TEXT)
```

are not affected by redirection because these calls do not involve the standard input and output files.

A user program can access redirection with the intrinsic REDIRECT and clear redirection with the intrinsic EXCEPTION. The CHAIN intrinsic enables you to queue an execution option string; after the program that contains the option string has finished executing, the string is executed. For further details, see the p-System Compiler manual.

System redirection ends when the System terminates with a H(alt command or an execution error.

p-System CONFIGURATION

The built-in CONFIG (Configuration Manager) utility enables you to display or modify the current configuration of the p-System. System configuration includes information about peripheral devices and memory.

The default values of the System can be overridden by specifying keywords (enclosed in parentheses) after a filename. The keywords specify system programs (called drivers) that control the indicated peripheral devices and memory.

(SYSTEM)	Specifies the driver that controls the operating system
(CARTRIDGE)	Specifies the driver that controls the cartridge.
(MEMORY DISK)	Specifies the driver that controls the part of memory that can be used as a disk.
(DISPLAY)	Specifies the driver that controls the monitor.
(KEYBOARD)	Specifies the driver that controls the keyboard.
(DSKx)	Specifies the driver that controls a 5 1/4 inch disk drive, where x is an integer from 1 through 4.
(BLOCKED,device-dependent information)	Specifies the driver to control a blocked device.
(SERIAL,device-dependent information)	Specifies the driver to control a serial device.

If you use CONFIG to modify the configuration, you can save the new configuration in a file. Later, you can use the configuration by loading it from the file.

CONFIG is in a file in the Operating System (unit #14) named CONFIG.CODE. You can run the CONFIG program by using either the "Run a Program" option in the Mini-Filer or the X(ecute command from command level.

Main Menu

When you enter the CONFIG utility, a selection list of options is displayed. The options available from the main menu are discussed in the following sections.

To select a menu option, press the letter that precedes it. Press Q to exit from CONFIG.

LETTER	OPTION
A.	Modify current configuration
B.	Save current configuration
C.	Load a configuration
D.	Display current configuration
Q.	Quit the configuration utility

When an option you select is completed, CONFIG displays the prompt Type space| to continue. Press the spacebar| to return to the main menu.

Modify Current Configuration

The "Modify Current Configuration" option enables you to revise the current configuration by adding or removing a device or by changing various System parameters.

When you select "Modify Current Configuration," a selection list of options is displayed. To select a menu option, press the letter that precedes it. Press Q to return to the Configuration Manager's main menu.

LETTER	DESCRIPTION
A.	Add a new device
B.	Remove a device
C.	Change system parameters
Q.	Quit modifying the configuration

Add A New Device

The "Add a New Device" option enables you to add a device to the System configuration.

This option prompts you to enter a device number. Type the unit number of the device you want to add and press return|. If you do not want to add a device, type a zero and press return|. If the number you enter is not the unit number of an existing device, a message is displayed to that effect. If you enter the unit number of an existing device, information is displayed about the device and you are prompted to indicate whether you want to remove it from the System configuration. Press Y to remove the device, or type N if you do not want to remove the device.

The "Add a New Device" option then displays an option list of the device drives available for the specified unit number. To select a device drive, press the letter preceding the drive you want to select.

Remove a Device
The "Remove a Device" option enables you to remove a device from the System configuration.

This option prompts you to enter a device number. Type the unit number of the device you want to remove, and press return. If you do not want to remove a device, type a zero and press return. If the number you enter is not the unit number of an existing device, a message to that effect is displayed. If you enter the unit number of an existing device, information is displayed about the device and you are prompted to indicate whether you want to remove it. Type Y to remove the device, or type N if you do not want to remove the device.

Note: If you remove the MEMORY DISK device while executing the CONFIG program from the MEMORY DISK, the computer will lock up and you will have to reset the computer to continue operation.

Change System Parameters
The "Change System Parameters" option displays and enables you to modify the values of several System parameters.

This option displays a list of the parameters that you can change, with the current value of each parameter. An example of a list of parameters is shown below.

A.	Screen Width	80
B.	Size of Free Area	10000
C.	Memory Disk Block Alloc	1024
D.	External Code Pool Size	65536
E.	Last Principal Vol	14
F.	Subsidiary Vols	3
G.	Extra Serial Vols	4
H.	TIOOM Size	400

Q. Quit changing system parameters

Press the letter preceding the parameter you want to change. If you do not want to change any option, press Q.

If you change any parameter other than the screen width, the following message is displayed:

```
WARNING - CHANGING THIS VALUE WILL
          FORCE THE SYSTEM TO REBOOT.
          DO YOU STILL WANT TO CHANGE
          THIS VALUE (Y/N)?
```

Press Y to change the value of the parameter and reboot (restart) the System. If you do not want to change the parameter and reboot the System, press N.

Screen Width--The Screen Width should never be modified. Because most applications require a screen width of 80 columns, changing this parameter could produce unpredictable results.

Size of Free Area--The Free Area is the area of memory that is not available to the p-System. Enter the size (number of bytes) of this area. (Typically, this area is left at 0.)

Memory Disk Block Alloc--Enter the number of 512-byte blocks you want to allocate to RAMDISK:. This option is effective only if your computer has over 128K (131,072) bytes of CPU RAM.

External Code Pool Size--Enter the number of bytes you want to allocate to the external code pool. This option is effective only if your computer has over 64K (65,536) bytes of CPU RAM. The maximum size of the external code pool is 65,536 bytes.

Number of Principal Vols--Enter the maximum number of principal volumes. Principal volumes, which can be either blocked or serial, begin with unit #1 and extend to the specified limit. The default number of principal volumes is 15.

Number of Subsidiary Vols--Enter the maximum number of subsidiary volumes. Subsidiary volumes begin with a unit number one greater than the limit specified for principal volumes. The highest unit number of a subsidiary volume is the sum of the number of principal volumes and the number of subsidiary volumes. The default number of subsidiary volumes is 0.

Number of Serial Vols--Enter the maximum number of serial volumes. Serial volumes begin with a unit number one greater than the limit for subsidiary volumes. The highest unit number of a serial volume is the sum of the number of principal volumes, the number of subsidiary volumes, and the number of serial volumes. The default number of serial volumes is 2.

TICOM Size--The TICOM area is the memory area the p-System uses to manage devices. Enter the size (number of bytes) of this area. The default value for TICOM area is 400 bytes.

Save Current Configuration

The "Save Current Configuration" option enables you to save the current configuration in a file.

This option prompts you to enter the name of the file where you want to save the configuration. You have the following options:

- Type a filename and press return|. The configuration is saved in the file you specify.

- Press return|. The configuration is saved under the filename *SYSTEM.CONFIG (the configuration file used when you start the System).

- Press esc|, then press return|. You return to the Configuration Manager's main menu without saving the configuration.

If you successfully save a configuration the following message appears:

CONFIGURATION SAVED

Type SPACE| to continue.

Press the spacebar| to return to the Configuration Manager's main menu.

Load a Configuration

The "Load a Configuration" option enables you to load a configuration from a file.

This option prompts you to enter the name of the file from which you want to load the configuration. You have the following options:

!o! Type a filename and press return|. The configuration is loaded from the file you specify.

!o! Press return|. The configuration is loaded from the file *SYSTEM.CONFIG (the configuration file used when you start the System).

!o! Press esc|, then press return|. You return to the Configuration Manager's main menu without loading a configuration.

If you successfully load a configuration, the System is automatically restarted using the new configuration.

Display Current Configuration

The "Display Current Configuration" option displays the current System configuration, including information about memory and peripheral devices.

When there is too much information to be displayed on one screen, this option displays as much information as possible, followed by the prompt Type SPACE| to continue. Press the spacebar| to view the rest of the configuration information.

APPENDIX--ERROR MESSAGES

Execution Error Messages

If an execution error occurs, the appropriate error number message is displayed. To restart the system after an error, press the spacebar. The following chart lists the execution error numbers and messages.

0 System error. . .FATAL
1 Value range error
2 No procedure in segment
3 Exited uncalled procedure
4 Stack overflow
5 Integer overflow
6 Divide by 0
7 NIL pointer reference
8 Program interrupted by user
9 System I/O error. . .FATAL
10 User I/O error
11 Unimplemented instruction
12 Floating point error
13 String overflow
14 HALT
15 Illegal heap operation
16 Breakpoint
17 Incompatible real number size
18 Set too large

I/O Error Messages

If an I/O (input/output) error occurs, the appropriate error number message is displayed. To restart the system after an error, press the spacebar. The following chart lists the I/O error numbers and messages.

1 Parity error
2 Illegal unit number
3 Illegal request
4 Data-com timeout
5 Volume went off-line
6 File lost in directory
7 Bad file name
8 No room on volume
9 Volume not found
10 File not found
11 Duplicate directory entry
12 File already open
13 File not open
14 Bad input format
15 Ring buffer overflow
16 Write protect
17 Illegal block
18 Illegal buffer