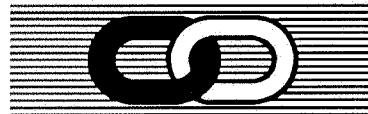


MOSTM

P C -

**Installation
&
Quick Start**



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Introduction to PC-MOS

PC-MOS is an advanced operating system designed to provide Multitasking and Multiuser capability to personal computers. This capability lets you maximize the processing power of your computer by sharing its resources among several tasks and/or users. This is in sharp contrast to standard single-tasking/single-user DOS compatible operating systems.

What to Read

The following list describes some of the PC-MOS advanced features, what they can do for you, and where to look in the documentation for information on how to use them.

Auto-Install Program and Auto Configuration Utility

A easy to use menu-driven automatic installation program is available. It can be used to partition your hard drive, create directories for MOS files, and copy the MOS files onto the hard disk.

A menu-driven automatic configuration utility (ACU) is also available to step you through the creation of a CONFIG.SYS file to set up your system configuration.

See the Installation section of this manual for complete instructions on these programs.

Memory Management

PC-MOS lets you access 16 megabytes of RAM (extended memory) and allocate the usable equivalent of a DOS 640K RAM area to each user or background task for running multiple applications. See the Multitasking/Multiuser chapter and the discussion of the MEMDEV driver in the Configuration chapter in your User Guide.



Disk Caching

Built-in, user adjustable, disk caching gives you better disk performance, greatly increasing system throughput. See the CACHE statement in the Configuration chapter of your User Guide.

Familiar Commands

PC-MOS contains many commands that you will use on a routine basis. Many of these will be familiar to you if you have previous experience in a DOS environment. In addition, there are specialized commands which make PC-MOS more powerful than are normally available in a standard DOS environment. See the General Commands chapter in your User Guide for more complete information.

Multitasking/Multiuser Operation

PC-MOS lets you run multiple DOS applications simultaneously, both at the host computer and at each user terminal or workstation. All users can "hot-key" among full-screen DOS applications quickly and easily. See the Multitasking/Multiuser section in this manual and in your User Guide for complete information on adding and removing tasks.

Resource Control

PC-MOS lets you customize system performance by varying different aspects of a specified task, such as the priority or processing time allocated to each task or user. You can also increase or decrease the "time slicing" interval for smoother system performance and improved multitasking capabilities. See the MOS and MOSADM Utility commands in the Multitasking/Multiuser chapter of your User Guide.

Powerful Batch Language

PC-MOS' powerful batch file language capabilities let you easily design menus, validate keyboard input, nest batch files and manage separate startup batch files to customize the environment for each task. See the Batch Files chapter in your User Guide for complete information.

PC-MOS System MONITOR

The MOS MONITOR is a terminate and stay resident (TSR) program that allows you to view and change your system's multitasking and multiuser environment without having to stop what you are presently doing. You can add and remove tasks, change priority and time slice values for tasks, restart tasks, and control disk caching and task switching -- all from within the MOS MONITOR.

See the Multitasking/MultiUser chapter of your User Guide for information on using the MOS System MONITOR.

PC-MOS Editor

The PC-MOS Editor is a full screen editor with two modes of editing. Both a Command (line editing) mode and a Visual (text editing) mode are provided so you can edit files quickly and easily. See the Editor chapter of your User Guide for information on using the MOS Editor.

DEBUG Utility

PC-MOS provides a DEBUG utility that lets you make changes to existing programs and check for problems during execution. This utility is a powerful tool normally reserved for those with programming experience. See the DEBUG chapter in your User Guide.

Printer Control

If you have multiple users or multiple printers you may want to use the PC-MOS Print Spooler to control printing operations on the system. The print spooler allows the sharing of system printers among all users on the system. The print spooler lets you spool files to a disk and organize them by priority, form type, class and disposition prior to printing.

Users can examine the status of print jobs in progress, route output to multiple printers simultaneously through a single print partition, and "hot-key" between local and spooled printing. See the Print Spooler chapter in your User Guide for information on setting up the print spooler.

Introduction to PC-MOS

Security

PC-MOS lets you selectively secure access to sensitive data at the file, directory, and partition levels. You can secure individual files or entire directories from unauthorized use, and even assign your own passwords and user ID codes. You can even employ data encryption for disk reads and writes. PC-MOS must be installed on your system before security can be implemented. See the Security chapter in your User Guide for instructions on setting up security.

Intertask Communications

PC-MOS includes several levels of intertask communication, including NETBIOS emulation and intertask piping. See NETBIOS emulation and Input/Output redirection in your User Guide for more information.

On-Line HELP Utility

An on-line help utility is always available in PC-MOS. You can use the HELP command to display a list of commands available in PC-MOS. You can then select individual commands to review the command form and an explanation of its use. You can also customize keywords and screen text in the Help Utility to suit your needs.

Command Recall Buffer

PC-MOS lets you recall up to 50 previously entered commands for reuse or editing. This saves the time and effort of having to constantly retype commands. See the Overview chapter in your User Guide.

Warm Reboot at Workstations

PC-MOS lets you warm boot a single workstation, allowing a user to reboot a task without interrupting other users. Pressing the CTRL - ALT - DEL keys at the same time at a workstation will reboot just that task. See the Multitasking/Multiuser chapter of your User Guide for more information.

Training Workshops

The Software Link employs a full-time training staff to educate anyone who markets, installs, supports or uses our products. Both introductory and comprehensive technical workshops are offered.

Introductory Workshops

These are 1-day workshops designed for novice users or resellers who would like a review of the basics. Topics covered include:

- Basic PC Architecture
- Microprocessor Structure
- Memory Addressing
- Time Slicing and Multitasking/Multiuser Theory
- The PC-MOS Operating System
- Basic System Design using The Software Link's products

Comprehensive Technical Workshops

These are advanced hands-on workshops that are held both at The Software Link corporate headquarters in Atlanta (5 days) and at various major cities in the United States and Canada (4 days). Topics covered include:

- Installing PC-MOS on different machines as a MOS only environment or as a dual MOS/DOS operating system environment.
- Configuring and fine tuning the system environment for various multitasking and multiuser systems.
- Invoking the PC-MOS intrinsic and extrinsic commands.

Training Workshops

- Using the PC-MOS batch file language to create user defined menus and specialized processes.
- Creating a hybrid system that combines distributed and shared processing by integrating PC-MOS and LANLink 5X.
- Expanding a Novell network through the PC-MOS GATEWAY to Novell's NetWare.
- Installing and configuring The Software Link's high speed, hardware-based, graphics workstation products.
- Providing remote communication and terminal emulation capabilities with PC-EmuLink.
- Setting up and maintaining security at the file, directory and task level.
- Installing and using the PC-MOS Print Spooler to control multiple users or multiple printers on a system.
- Using the PC-MOS Editor in both command and text modes.

Contact your Software Link sales representative for complete information about the training workshop schedule and pricing.

Getting Started

This manual contains instructions to help you easily install and configure PC-MOS. (Though PC-MOS can be run on floppy disk systems, hard disk systems are recommended.)

Startup Procedures

The required steps for getting started with PC-MOS are:

1. Run the Auto-Install program (or follow the appropriate manual installation instructions) to prepare your hard disk and/or transfer the PC-MOS files to the hard disk.
2. Run the Auto-Configuration Utility program (or manually configure your system following the configuration examples and User Guide Configuration Chapter) to build or modify your CONFIG.SYS file to establish your system configuration.
3. Use the ADDTASK command to set up your multitasking or multiuser environment as required. (Refer to the Multitasking/Multiuser section in this manual and/or your PC-MOS User Guide for instructions.)

NOTE: Check the README file provided on the PC-MOS diskette(s) for any changes or additions not covered in the PC-MOS User Guide.

Several sample configurations, with the necessary CONFIG.SYS and AUTOEXEC.BAT files, are shown in this manual for your reference.

Accessing Drives

The letters A to Z are used by MOS as identifiers for accessing the information stored on disk drives. MOS defaults to using letters A and B for accessing the information on one or two floppy diskette drives, and using drive letters C to Z for accessing information on hard disks, RAM disks, and other direct-access storage devices.

Getting Started



Backup Original MOS Diskette(s)

Your version of MOS may include one or more diskettes. The original diskette(s) you receive contains the operating system and all supporting programs. You should make a backup copy of the original diskette(s) and put the original(s) away for safekeeping. The original MOS diskette labeled SYSTEM contains the boot record.

Have extra diskette(s) ready to use for your backup copy. Attach a label to the diskette(s) and write on the label what the diskette(s) contain. For example, PC-MOS BOOT DISK. If your version has more than one diskette, you may want to identify each backup diskette using its original name. You should also write the PC-MOS version number on the label.

One

Place the original MOS diskette labeled SYSTEM in drive A of your computer. Turn on the computer, or if it is already on, you may reboot from the keyboard by pressing the CTRL, ALT and DEL keys simultaneously. MOS will "boot up" from the diskette, and the system prompt, [A:\], will appear on the video screen.

Two

To copy the entire contents of an original diskette, including the boot sector, you should use the DISKCOPY command. If your version of MOS has more than one diskette, repeat this step for each additional diskette. (You will need an empty diskette for each MOS diskette you make a copy of with the DISKCOPY command.)

Whether you have a single- or dual-diskette drive machine, type the following command and press ENTER.

.DISKCOPY A: B:

If you have only one diskette drive in your computer, follow the instructions that appear on the video screen regarding swapping the source and target diskettes in drive A.

Three

When your copies are complete, store the original MOS diskette(s) in a safe place. Keep them for back up purposes only, NOT for daily use. Your MOS backup diskette(s) are now complete and ready to use.

Floppy Disk Systems

With computers that have only floppy disk drives, you must have a PC-MOS boot disk in drive A each time you boot your computer. This will load the operating system into the computer's memory and invoke any automated batch files.

If there are specific application programs that you use on a routine basis, you may want to place the MOS boot sector and system files on the application diskettes to make them bootable. You can use the .MSYS command to copy the MOS boot sector to the diskette.

When .MSYS is complete, copy the MOS system file, \$\$MOS.SYS, and the command processor files, \$\$SHELL.SYS and COMMAND.COM, to the diskette. You may then use your application diskette to boot your computer, and set up a batch file to automatically load the application.

Getting Started

Hard Disk Systems

With computers that have a physical hard disk drive, you will want to place MOS on the hard disk and set up your own batch files. If your computer is new, you may also need to define logical disks (called partitioning) and then format the logical disks.

A logical disk (partition) is a portion of the physical hard disk that is designated as a separate disk drive for storing information. MOS uses a unique drive letter to access the information on each logical disk.

For example, a physical hard disk drive may contain 40 megabytes of storage. You may define all 40 megabytes as one logical disk that MOS accesses with the drive letter C. Or, you may want to define two logical disks of 20 megabytes each, the first accessed by drive letter C and the second by drive letter D.

If you already have applications set up on your computer running with MS-DOS[®] or PC-DOS[™], you may be able to install MOS over the current operating system on the hard disk. In this case, you do not need to redefine or reformat the logical disks. Skip to "Installing MOS to Replace an existing DOS Environment" in this manual.

Automatic Installation

Using the AUTO-INSTALL Program

Use of the Auto-Install program is recommended for easily and quickly installing PC-MOS on your computer. The Auto-Install program will install PC-MOS on your system by preparing your hard disk to receive PC-MOS and/or copying the PC-MOS files onto the disk.

To use the Auto-Install program insert the PC-MOS SYSTEM Disk in drive A, and reboot your computer. Your computer will boot under PC-MOS from the SYSTEM Disk and automatically load the Auto-Install program. Follow the screen instructions and answer the questions as directed to install PC-MOS.

When you are finished, reboot your computer from the hard disk and use the Auto-Configuration Utility next to set up your system configuration.

NOTE: If you prefer not to use the Auto-Install program, you can use the appropriate set of manual installation instructions in the next section. If you are upgrading to a newer version of MOS it is best to use the Auto-Install program, since the program will check for duplicate files from previous versions. This prevents any problems that may result from mixed version files.

Automatic Installation

Using the AUTO-CONFIGURATION UTILITY

The Auto-Configuration Utility program (ACU) will build a CONFIG.SYS file (or modify an existing CONFIG.SYS) to set up your system configuration.

To run the program, first log onto the subdirectory of your hard disk that contains the PC-MOS program files. (This is usually \PCMOS unless you selected a different name during installation.) At the system prompt, type:

ACU

and press ENTER. Follow the screen instructions and answer the questions as directed to configure PC-MOS.

Next, refer to the Multitasking/Multiuser section in this manual and/or your PC-MOS User Guide for instructions on using the AD-DTASK command to set up your multitasking or multiuser environment as required.

Manual Installation

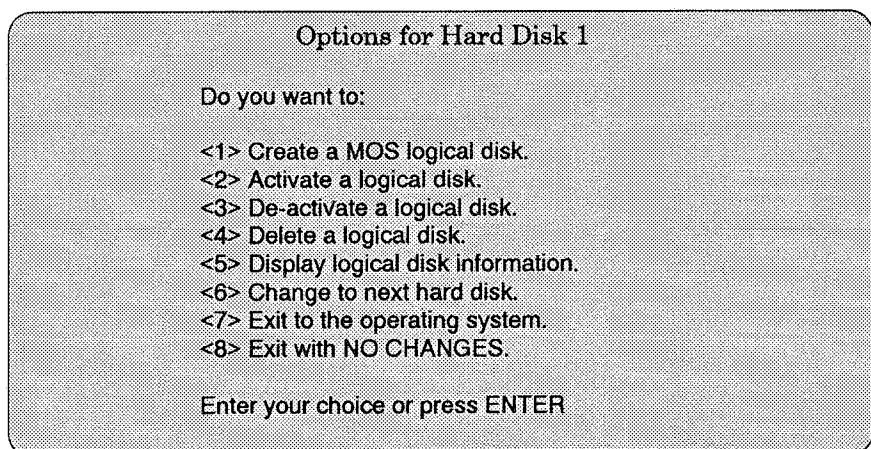
.HDSETUP

If your computer system is new, you must prepare the hard disk for use with PC-MOS. The PC-MOS program that sets up your hard disk is HDSETUP. HDSETUP can partition hard disks with 16 or less heads and 1024 or less cylinders. Very large hard disks may have more heads and/or cylinders. HDSETUP can not partition these hard drives.

Disk Manager® by OnTrack Computer Systems, Inc. can partition hard disks that have greater than 16 heads and/or greater than 1024 cylinders. PC-MOS supports hard disks of greater than 32MB that are set up using Disk Manager v4.02 and above. See the section on partitioning your hard disk with Disk Manager for more information.

This section explains the HDSETUP program and menu options. Look over the options now so that you are familiar with them. Later, when following the appropriate instructions to install PC-MOS on your system you may be asked to run this program.

The HDSETUP menu is similar to the following:



Manual Installation



Most options from this menu have built-in default values for the most logical choices. You may use the defaults for each option, or, if you are technically knowledgeable, you may override any of the defaults.

The following explains each option available from the menu.

<1>Create a MOS logical disk. This option lets you define the number of cylinders to assign to each logical disk. A logical disk partition may be as large as 256 megabytes, or the maximum size of your physical hard disk, whichever is less. However, if you define a logical disk larger than 32 megabytes, it may no longer be compatible with some existing applications.

The defaults for this option automatically assign a logical disk up to 32 megabytes. Whether you enter your own assignment or use the default, a Logical Disk Assignment Map is built to track the definitions.

<2>Activate a logical disk. This option lets you designate which logical disk is bootable. You can designate more than one disk as bootable, and each bootable disk may contain a different operating system, e.g. DOS on C: and MOS on D:.

If you designate only one active bootable disk, MOS automatically boots from that disk. If you designate more than one active disk, each time you boot your computer a prompt appears asking which logical disk you want to boot from. You must then make a selection, e.g. press 1 for C: or 2 for D: etc. If an entry is not made, your computer will not boot.

<3>De-activate a logical disk. At any time you can select this option and designate a logical disk as not active. When you de-activate a logical disk, it is no longer bootable.

<4>Delete a logical disk. This option lets you delete a logical disk assignment. Any information contained on that disk is lost. The number of cylinders defined for the logical disk are not automatically re-assigned.

<5>Display logical disk data. This option displays the Logical Disk Assignment Map, with all current information for each logical disk. You cannot make any changes with this option.

<6>Change to next hard disk. If you have more than one physical hard disk in your computer, this option lets you change to the next hard disk for defining logical disks. All of the same options are available for the next physical hard disk drive.

<7>Exit to the operating system. You may type a 7 and press ENTER to exit from .HDSETUP and return to the system prompt. The new setup information will be saved to disk.

<8>Exit with no changes. This option will cause you to return to the system prompt without saving any of your changes.



Installing PC-MOS on a New System

Your hard disk should have been prepared for operation (low-level formatted) by the vendor. If not, this must be done before proceeding with the installation. (Also be sure that the system SETUP program has the correct drive type selected for your computer's BIOS.) With the hard disk prepared, the installation process is as follows:

1. Boot your computer with the PC-MOS SYSTEM Disk in drive A.
2. Enter HDSETUP at the [A:\] prompt to display the HDSETUP menu as follows: Type

HDSETUP

and press ENTER.

3. Select option 5 to display logical disk information. If no logical disks exist, press ENTER to return to the main menu, and go to step 5. If logical disks exist, press ENTER to return to the main menu, and go to step 4.
4. Delete any existing logical disks by selecting option 4, delete a logical disk. Enter the number of the logical disk that you want to delete. (Do NOT press ENTER at this time.)

A warning message will display asking if you want to proceed with deleting the logical disk. Press the "Y" key to delete the logical disk. Then press ENTER to continue.

Repeat step 4 for each logical disk, until MOS tells you that "There are no MOS logical disks" remaining. Press ENTER to return to the main menu. Then go to step 5.

5. Select option 1 to create logical disk(s).

Answer "N" to the prompt "Shall I build multiple 32MB partitions?"

Answer the prompt "Shall I use the whole fixed disk for MOS?" either:

"Y" HDSETUP automatically assigns the entire hard disk to MOS and displays the resulting information on the screen.

or:

"N" You will be prompted to assign a portion of the available hard disk cylinders to each logical disk you want to create. Follow the screen instructions. (A maximum of 4 logical disks can be created.)

Press ENTER to return to the main menu. Then go to step 6.

6. Select option 7 to exit HDSETUP. The setup information will be saved on the hard disk's track 0. With the PC-MOS SYSTEM Disk in drive A reboot your system by turning the computer off and back on again.

7. Format each logical disk, by entering:

FORMAT x:

at the [A:\] prompt, where "x" is the logical disk drive letter, for example: Type

FORMAT C:

then press "Y" and ENTER to format the first logical disk.

Repeat this step for each logical disk you created, i.e. D:, or E:, or F: if used. FORMAT automatically places a boot sector on the disk.

8. Copy the following files from the PC-MOS SYSTEM Disk in drive A to the root directory of the first logical disk, C:, by entering the following commands:

COPY \$\$MOS.SYS C:\

COPY \$\$SHELL.SYS C:\

COPY COMMAND.COM C:\

Manual Installation



NOTE: The SYSTEM Disk versions of these three files are the 60-minute timeout versions. After you decide to keep PC-MOS you must open the sealed envelope and follow the initialization instructions to make your installation permanent.

9. Remove the SYSTEM Disk from drive A and reboot your system from the hard disk by turning the computer off and back on again.

If the system reboots from the hard disk and takes you to the [C:\] system prompt, installation was successful. Go to step 10.

If you can not reboot from the hard disk, return to step 1 and carefully go through these installation procedures again. If you still don't succeed, the hard disk may not have been properly prepared by the vendor to receive an operating system.

10. Make a subdirectory for PC-MOS and log onto that subdirectory by entering the following commands:

```
MD \PCMOS
```

```
CD \PCMOS
```

11. Place the SYSTEM Disk in drive A. At the [C:\PCMOS] prompt, type:

```
A:GETFILES
```

and press ENTER. This command starts a batch file that copies the PC-MOS files into the present subdirectory and decompresses any compressed files on the diskette(s).

12. Make different subdirectories for your various application software and copy all application files into their respective sub-directories.

13. Use the PC-MOS editor, ED, to create a CONFIG.SYS file on the root directory of drive C that is appropriate for your system environment. (See the Configuration section of the User Guide.)

Installing PC-MOS to Replace an Existing DOS Environment

BACKUP YOUR HARD DISK BEFORE PROCEEDING!

When you are installing PC-MOS onto the hard disk of an existing system, IT IS STRONGLY RECOMMENDED THAT YOU MAKE BACKUP COPIES OF ALL THE PROGRAMS AND DATA ON YOUR HARD DISK FIRST! If your system has a tape backup unit, that may be the quickest way to backup your information. If not, use the DOS BACKUP program.

IMPORTANT: If your existing DOS environment includes any "extended" partitions created by PC-DOS 3.3 or above, you will NOT be able to access them using this installation method. Instead, use either of the other two installation methods provided depending on your particular needs. Don't forget to follow these backup instructions BEFORE proceeding with the installation method of your choice.

If you intend to restore and run any of your existing software under PC-MOS you should ALSO make a backup set using the PC-MOS EXPORT program. Note that the PC-MOS EXPORT and IMPORT programs are NOT compatible with DOS BACKUP and RESTORE programs!

The following steps illustrate how to backup your information using the PC-MOS EXPORT program:

- A. Make sure you have enough formatted floppy diskettes ready before you begin.
- B. Boot your computer with the PC-MOS SYSTEM Disk in drive A.
- C. Log onto the C drive and enter the following command at the [C:\] prompt:

```
A:EXPORT C:** A:/s (press ENTER)
```

This command will export all files in the root directory and all sub-directories of drive C onto your formatted floppy diskettes in drive A.

Manual Installation



NOTE: The SYSTEM Disk will time out after 60 minutes. If your backup will take longer than 60 minutes, you will have to initialize your PC-MOS files to make them permanent non-time out files before doing your EXPORT.

When your backup set is complete, continue with the installation as follows:

1. Boot your computer with the PC-MOS SYSTEM Disk in drive A.
2. Write the boot record on hard disk drive C, by entering the following command at the [A:\] prompt:

MSYS C:

3. Copy the following files from the PC-MOS SYSTEM Disk in drive A to the root directory of hard disk drive C, by entering the following commands:

COPY \$\$MOS.SYS C:\

COPY \$\$SHELL.SYS C:\

COPY COMMAND.COM C:\

NOTE: The SYSTEM Disk versions of these three files are the 60-minute timeout versions. After you decide to keep PC-MOS you must open the sealed envelope and follow the initialization instructions to make your installation permanent.

4. Remove the PC-MOS SYSTEM Disk from drive A and reboot your system from the hard disk by turning the computer off and back on again.
5. Make a subdirectory for PC-MOS and log onto that subdirectory by entering the following commands:

MD \PCMOS

CD \PCMOS

6. Place the SYSTEM Disk in drive A. At the [C:\PCMOS] prompt, type:

A:GETFILES

and press ENTER. This command starts a batch file that copies the PC-MOS files into the present subdirectory and decompresses any compressed files on the diskette(s).

7. Use a text editor to create a CONFIG.SYS file on the root directory of drive C that is appropriate for your system environment. (See the Configuration section of the User Guide.)

NOTE: If necessary, you can restore the files backed up with EXPORT onto the hard disk using the PC-MOS IMPORT program as follows:

- A. Boot with the PC-MOS SYSTEM Disk in drive A.
- B. Change to the root directory of drive C.
- C. Execute IMPORT by entering the following command at the [C:\] prompt:

A:IMPORT A:*.* C:

This command will restore your entire backup set onto the C drive. You can restore selected files from your backup set using the optional filename operand with the IMPORT command, or by using the PC-MOS EXCEPT or ONLY commands with IMPORT. See your User Guide for more information.

Manual Installation



Installing a Dual Operating System Environment (MOS & DOS)

In a PC-MOS and DOS dual operating system environment, DOS must be installed on the first logical disk since DOS only recognizes the C drive as a bootable disk.

Most versions of DOS will not recognize the PC-MOS extended disk partition structure. Therefore any data stored in logical disks other than the C drive will normally NOT be accessible while working in a DOS environment. While in a PC-MOS environment, however, data in all logical disks (including drive C) will be accessible.

When designing this environment we suggest that you make logical disk C a large volume, which will store files and applications that will execute under both PC-MOS and DOS. (Keep volume C less than or equal to 32MB, however, so DOS can recognize it.)

This will allow you to use the same directories and files in either environment. The second logical disk should be used to boot the PC-MOS operating system and run PC-MOS specific applications.

NOTE: The dual operating system environment is not available to hard disks partitioned with OnTrack's Disk Manager since it can only make one partition bootable.

The installation process is as follows:

1. Boot your computer with the PC-MOS SYSTEM Disk in drive A.
2. Enter HDSETUP at the [A:\] prompt to display the HDSETUP menu as follows: Type

HDSETUP

and press ENTER.

DOS 5.0 : -use FDISK TO PARTITION DRIVE
-FORMAT C: FOR DOS
-FORMAT D: FOR MOS
-USE HDSETUP TO MAKE BOTH ACTIVE

3. Select option 5 to display logical disk information. If no logical disks exist, press ENTER to return to the main menu, and go to step 5. If logical disks exist, press ENTER to return to the main menu, and go to step 4.

4. Delete any existing logical disks by selecting option 4, delete a logical disk. Enter the number of the logical disk that you want to delete. (Do NOT press ENTER at this time.)

A warning message will display asking if you want to proceed with deleting the logical disk. Press the "Y" key to delete the logical disk. Then press ENTER to continue.

Repeat step 4 for each logical disk, until MOS tells you that "There are no MOS logical disks" remaining. Press ENTER to return to the main menu and continue.

5. If you want to create a 32MB partition for DOS and subsequent multiple 32MB partitions for PC-MOS, and your hard disk is smaller than 128MB, go to step 6.

If your hard disk is larger than 128MB, OR if you want to create a 32MB partition (or less) for DOS and use ~~the~~ either all the remaining hard disk capacity (regardless of size) for one PC-MOS partition or multiple PC-MOS partitions the number and size of your choice, go to step 7.

NOTE: In either case you may only have up to a total of four partitions (logical disks).

6. Select option 1 to create logical disk(s).

Answer "Y" to the prompt "Shall I build multiple 32MB partitions?"

Press ENTER to return to the main menu. Then go to step 9.



7. This step is used only to determine the proper number of cylinders for a 32MB partition on your system's hard disk. The disk will not actually be set up this way at this point.

Select option 1 to create logical disk(s).

Answer "Y" to the prompt "Shall I build multiple 32MB partitions?"

Write down the TOTAL number of cylinders that PC-MOS has assigned to logical disk number 1:

964 cylinders

Press ENTER to return to the main menu. Then repeat step 4 to delete the logical disks that this step created. Then go to step 8.

8. Select option 1 to create logical disk(s).

Answer "N" to the prompt "Shall I build multiple 32MB partitions?"

Answer "N" to the prompt "Shall I use the whole fixed disk for MOS?"

You will then be prompted to assign a portion of the available hard disk volume (by cylinders) to each logical disk you want to create.

If you want to use a full 32MB for the first (DOS) partition, enter the number of cylinders obtained in step 7 for a 32MB partition, and then press ENTER.

You may optionally select a smaller number of cylinders (and thus partition size) if you want, but NEVER ENTER MORE THAN THAT NUMBER for the DOS partition.

After creating the DOS partition, choose the number of cylinders you want for each of your subsequent PC-MOS partitions. You may have a total of four partitions (logical disks).

NOTE: The create logical disk(s) screen always displays how many cylinders are remaining for use. If you want the rest of the hard disk to be one partition for use by PC-MOS, enter that total number of remaining cylinders and press the ENTER key. If not, you may assign the remaining cylinders into up to three more partitions.

When finished, press ENTER again to return to the main menu. Then go to step 9.

9. Activating a logical disk tells PC-MOS that it will be a bootable disk. The first logical disk (DOS) activates automatically. However, you must activate any subsequent logical disks (that you want to be bootable) by selecting option 2, "Activate a logical disk", from the HDSETUP menu. You only need one bootable partition for PC-MOS, which should be partition 2 (drive D).

Enter "2" to activate the second logical disk (D) for PC-MOS. The active status shown will change from N to A. Then press ENTER to return to the main menu.

10. Select option 7 to exit HDSETUP. The setup information will be saved on the hard disk's track 0. With the PC-MOS SYSTEM Disk in drive A reboot your system by turning the computer off and back on again.

11. Format each PC-MOS logical disk by entering:

FORMAT x:

at the [A:\] prompt, where "x" is the logical disk drive letter, for example: Type

FORMAT D:

and press "Y" and ENTER.

Repeat this step for each additional PC-MOS logical disk you created, i.e. E: or F: if used. FORMAT automatically places a boot sector on the disk.

Manual Installation



12. Copy the following files from the PC-MOS SYSTEM Disk in drive A to the root directory of drive D on the hard disk by entering the following commands:

```
COPY $$MOS.SYS D:\
```

```
COPY $$SHELL.SYS D:\
```

```
COPY COMMAND.COM D:\
```

(Only do step 12 for drive D, since you only need one bootable PC-MOS partition.)

NOTE: The SYSTEM Disk versions of these three files are the 60-minute timeout versions. After you decide to keep PC-MOS you must open the sealed envelope and follow the initialization instructions to make your installation permanent.

13. Remove the PC-MOS SYSTEM Disk from drive A and replace it with a DOS system disk. Then reboot your system by turning the computer off and back on again.

14. Format the DOS logical disk and make it a bootable disk by entering:

```
FORMAT C: /S
```

at the A prompt.

NOTE: It is not necessary to provide a "volume label" (disk name) when prompted by DOS. You may press ENTER to skip naming the disk. Then follow the screen instructions to complete the format.

15. Remove the DOS system disk from drive A and reboot your system from the hard disk by turning the computer off and back on again.

NOTE: When the system is rebooted, PC-MOS will know from the HDSETUP procedure that 2 logical disks are active, and will prompt with:

"BOOT PARTITION?"

You must enter 1 to select the DOS logical disk (C), or enter 2 to select the PC-MOS logical disk (D). (Only type the number. It is not necessary to press the ENTER key.)

Select 2 for PC-MOS. The system should boot under PC-MOS and bring up a [D:\] prompt.

16. Make a subdirectory for PC-MOS and log onto that subdirectory by entering the following commands at the [D:\] prompt:

```
MD \PCMOS
```

```
CD \PCMOS
```

17. Place the SYSTEM Disk in drive A. At the [D:\PCMOS] prompt, type:

```
A:GETFILES
```

*has problem reading 1st diskette!
2nd use auto install*

and press ENTER. This command starts a batch file that copies the PC-MOS files into the present subdirectory on drive D and decompresses any compressed files on the diskette(s).

18. Make different subdirectories for the various application software you intend to install on the PC-MOS logical disk and copy all application files into their respective subdirectories.

19. Use the PC-MOS editor ED, or other text editor, to create a CONFIG.SYS file on the D drive's root directory that is appropriate for your PC-MOS system environment. (See the Configuration section of the User Guide.)

Manual Installation



20. Reboot your system from the hard disk by turning the computer off and back on again.

This time when prompted with:

"BOOT PARTITION ?"

select 1 for DOS. The system should boot under DOS and bring up a C prompt.

21. Make a subdirectory for DOS on drive C and log onto that subdirectory by entering the following commands at the C prompt:

MD\ DOS

CD\ DOS

22. Place the DOS SYSTEM Disk in drive A and enter:

COPY A:*.*

at the C prompt to copy the DOS program files into the \DOS subdirectory of drive C. (Note that the default DOS prompt does not display the current directory. You may enter the PROMPT=\$p\$g command to display both the current drive and directory in the system prompt.)

Repeat step 22 for each DOS program disk. (Follow the instructions in your DOS User Manual.)

23. Make different subdirectories for the various application software you intend to install on the DOS logical disk and copy all application files into their respective subdirectories.
24. Use a text editor to create a CONFIG.SYS file on the C drive's root directory that is appropriate for your DOS system environment. (See your DOS User Manual.)

Partitioning Hard Disks with OnTrack Disk Manager

The PC-MOS HDSETUP utility can partition hard disks with 16 or less heads and 1024 or less cylinders. Very large hard disks may have more heads and/or cylinders. HDSETUP can not partition these hard drives.

Disk Manager by OnTrack Computer Systems, Inc. can partition hard disks that have greater than 16 heads and/or greater than 1024 cylinders. PC-MOS supports hard disks of greater than 32MB that are set up using Disk Manager v4.02 and above. (Note that you can NOT run the PC-MOS HDSETUP utility on a drive that was partitioned with Disk Manager.)

Note that Disk Manager only allows one bootable partition when you have multiple logical disks (partitions). This means that you cannot set up a dual bootable DOS and MOS system on one hard disk if it was partitioned with Disk Manager. Another Disk Manager limitation is that the first logical partition can not exceed 32MB. If you require multiple bootable partitions, you must use HDSETUP to partition the hard disk.

While HDSETUP only supports up to four logical disk partitions, Disk Manager supports up to sixteen. Dividing a hard disk up into several smaller partitions will save disk space as compared with having just a few large logical drives since the cluster size is smaller on smaller logical drives. Practically, this means that small files will take up less space on a smaller logical drive.

NOTE: If you use Disk Manager (or HDSETUP) to set up your hard disk and you want both PC/MS-DOS and PC-MOS to be able to read all disk partitions, the C drive must be less than or equal to 32MB and you must NOT use a DOS version greater than 3.x. (DOS 4.x versions no longer support the same disk partitioning structures as previous versions of DOS.)

Manual Installation



Installing MOS on a hard disk partitioned with Disk Manager

To install PC-MOS on a hard disk that is to be partitioned with Disk Manager:

1. Follow the OnTrack documentation instructions to partition the hard disk and format the logical disk partitions.

This procedure MUST be performed when running under a PC-DOS or MS-DOS version 3.x since Disk Manager installs PC/MS-DOS on the drive when it prepares the drive. Once the drive is totally functional as a normal PC/MS-DOS system, continue with these instructions:

2. Boot the system with the PC-MOS SYSTEM Disk in drive A.
3. Write the PC-MOS boot record on drive C by entering the following command at the [A:\] prompt:

MSYS C:

4. Copy the following files from the PC-MOS SYSTEM Disk in drive A to the root directory of drive C:, by entering the following commands:

COPY \$\$MOS.SYS C:\

COPY \$\$SHELL.SYS C:\

COPY COMMAND.COM C:\

NOTE: The SYSTEM Disk versions of these three files are the 60-minute timeout versions. After you decide to keep PC-MOS you must open the sealed envelope and follow the initialization instructions to make your installation permanent.

5. Remove the SYSTEM Disk from drive A and reboot your system from the hard disk by turning the computer off and back on again.

6. Make a subdirectory for PC-MOS and log onto that subdirectory by entering the following commands at the [C:\] prompt:

MD \PCMOS

CD \PCMOS

7. Place the SYSTEM Disk in drive A. At the [C:\PCMOS] prompt, type:

A:GETFILES

and press ENTER. This command starts a batch file that copies the PC-MOS files into the present subdirectory and decompresses any compressed files on the diskette(s).

8. Make different subdirectories for your various application software and copy all application files into their respective sub-directories.
9. Use the PC-MOS editor, ED, to create a CONFIG.SYS file on the root directory of drive C that is appropriate for your system environment. (See the Configuration section of the User Guide.)

NOTE: For compatibility with Disk Manager you MUST use the /BPS operand with the CACHE= statement in your CONFIG.SYS file. (See the next section.)

NOTE: You must also include the Disk Manager DMDRVR.BIN device driver in your CONFIG.SYS file for the system to function correctly.

Manual Installation

The PC-MOS CACHE= command and /BPS operand

The Disk Manager software changes the standard 512 byte/sector setting for large hard disk volumes. Therefore, you must include the /BPS (bytes per sector) operand with the CACHE= statement. Also, the "unit" operand of the CACHE= statement MUST be set to at least the same number of kilobytes as the BPS value for the setup to work correctly.

The following are the BPS values that Disk Manager uses for various hard disk volumes:

Hard Disk Volume	Bytes/Sector	minimum cache "unit" size
over 32MB to 64MB	1024	1K
over 64MB to 128MB	2048	2K
over 128MB to 256MB	4096	4K
over 256MB to 512MB	8192	8K
over 512MB to 632MB	16384	16K

For example, the CACHE statement to include in your CONFIG.SYS file for a 200MB hard disk with a 2MB (2048K) cache size would be:

```
CACHE=2048,4,0,0,C,D /BPS=4096
```

Note that 2048 is the cache size, 4 is the unit size (in kilobytes) and the /BPS=4096 sets the bytes/sector value. Note also that the two zeros are the settings for the firstw and lastw timers, which effectively disables write caching. C and D are the drives to be cached. (See the Configuration chapter of your User Guide for more information on the CACHE= command statement.)

If you have more than one logical disk, say a 32MB, and 168MB on the same physical hard disk you must use the Bytes/Sector value for the largest one, in this case /BPS=4096.

Multitasking/Multiuser Operation

The power of PC-MOS is its ability to support multiple tasks and multiple users concurrently, while maintaining compatibility with most existing DOS applications.

The following pages discuss the use of the ADDTASK command to create multiple tasks and/or multiple users.

How to Add a Background Task

To add a background task of the maximum size possible for your system configuration, enter the following command at the system prompt:

```
ADDTASK MAX
```

This will add a background task of maximum size with the next sequential task ID number, a blank security class and no startup batch file for customizing the path, prompt, or other variables for that task.

You may add tasks of a specific size by including the memory size, in Kilobytes, with the command -- for example:

```
ADDTASK 512
```

Only the memory size or "MAX" is required with the ADDTASK command for background tasks. If other than the default settings and/or a startup batch file is needed, they can be entered with the command as follows:

Form: ADDTASK memsize,[task ID],[class],[startup]

Operands:

memsize Memory size of the partition (task) in Kilobytes.



- task ID** Task ID number to assign to the task. Enter up to two digits. 0 is reserved for the host partition.
- class** Task security class. (If security is used you must create the file \$\$USER.SYS in your root directory to define security parameters for each user. See the Security chapter of your User Guide.)
- startup** Start-up batch file (list the filename without the .BAT extension). Invoked when task is initialized (similar to host computer AUTOEXEC.BAT file in that it is used to customize the path, prompt, or other variables for the task).

Task ID, security class, and start-up batch file are optional operands. Enter a comma in place of an operand that is not used. PC-MOS automatically numbers the tasks sequentially. For example, entering:

```
ADDTASK 256,,TASK
```

will add a 256K task with the next sequential task ID number, a blank security class, and the start-up batch file TASK.BAT.

The startup batch file TASK.BAT might contain the following commands to customize the environment for that task:

TASK.BAT

```
BATECHO OFF
PATH=C:\C:\PCMOS
PROMPT=[TASK $I] $P$G
```

NOTE: It's a good idea to use the \$I operand in the prompt command. The \$I operand causes the task ID number of the task to appear in the prompt. This allows users to easily determine what task they are presently in.

The MOS MAP Display

The MOS MAP command displays a list of statistical information about the tasks you add on your computer. The display is similar to the following:

PC-MOS USER TASK STATISTICS											
Task	Start	Size	Video	User	Program	Port	Baud	Pri	Slice	Files	Status
0*	18000	512K	CGA		MOS.COM	N/A	N/A	2	1	3	ACTIVE
1	18000	512K	MONO		COMMAND.COM	1	19200	2	1	2	ACTIVE
2	18000	512K	MONO		COMMAND.COM	N/A	N/A	2	1	2	WAIT

191K of 2048K Memory available

NOTE: An asterisk (*) appears next to the task ID number of the task you are currently in.

"Start" indicates the memory address where this task starts in memory. "Size" is the memory size of the task. "Video" displays the current video mode for each task. If a user has signed on to a task with a user ID, it is displayed under "User". "Program" displays the program currently being executed.

The current port and baud rate appear in the next two columns if they are set up for a specific task; if not, "N/A" is displayed. "Pri" is the priority assigned to each task. "Slice" is the number of time ticks assigned to each task. "Files" displays the number of files currently open in each task. "Status" displays whether the task is active or in a waiting state.

For more information on these parameters see the Multitasking/Multiuser chapter of your User Guide.



How to Switch between Tasks

Partition Access Method (PAM switching) allows a user to switch into any task from the main console or from any workstation. (If partition level security is active, users may only access those tasks that they have the proper security class for.)

Partition Access Keys

The ALT key and the numbers on the numeric key pad are used to switch between tasks. To switch tasks, hold down the ALT key, type the number(s) of the task ID for the partition you want to access, and then release the ALT key. (Task ID numbers are assigned by the ADDTASK command, and can be viewed with the MOS MAP command.)

For example, to access the partition with task ID 1, hold down the ALT key, type a 1 on the numeric key pad, then release the ALT key:

ALT 1

To return to the host partition (task 0) hold down the ALT key and type 0 on the numeric key pad, then release the ALT key.

SWITCH Command

The SWITCH command allows you to switch to a specific partition with a command line entry rather than with the ALT - key number Partition Access Method. The command form is:

SWITCH {task ID}

where task ID is the number of the task to which you want to switch. This is helpful for use in batch files. If you do not specify a task number, you will be switched to the next task number in sequence.

Turning Partition Access Method On and Off

If the ALT- numeric key pad sequence conflicts with an application program's use of the keyboard, you may turn off partition access. To turn it off, hold down the ALT key and press 9 on the numeric key pad three times. For example, press ALT 9 9 9 to turn off partition access. To turn partition access back on, press ALT 9 9 9 again.

How to Remove a Task

The REMTASK command lets you remove tasks from the system.

To remove a task you must not presently be in that task when you enter the REMTASK command. Also, though not necessary, it is best to exit any program(s) running in a task before removing that task.

Form: REMTASK task ID | (ALL)

Operands:

task ID enter the task number of the partition to remove.

ALL entering ALL instead of a task ID number removes all tasks (except task 0)

Explanation:

You may use REMTASK to remove any task to which you have unrestricted access, except partition 0. Partition 0 is absolute and may never be removed. For example, to remove a partition with a task ID of 1 you would enter:

REMTASK 1

Entering the following command will remove all tasks on the system (except task 0):

REMTASK ALL

NOTE: The REMTASK ALL command can only be entered from task 0. If entered from any other task, an error message will remind you to switch to task 0 before entering the command.



How to Add a MultiUser Task

Adding a multiuser task for a terminal or workstation requires the addition of a few more operands to the ADDTASK command line. These operands define the type of terminal or workstation, the port through which the terminal is connected to the host computer, or the workstation number, and (for serial terminals) the speed of communication.

For example, to add a 512Ktask for a PC-type serial terminal connected to COM2, with the next sequential task ID number,a blank security class and no startup batch file, the ADDTASK command might be:

```
ADDTASK 512,,,PCTERM,2,38400
```

where PCTERM.SYS is the terminal driver, 2 is the logical port number of the serial port the terminal is connected to , and 38400 is the baud rate for communication.

The ADDTASK command to add a 560K task for a VGNA (Video Graphics Network Adapter) workstation with the next sequential task ID number,a blank security class and no startup batch file might be:

```
ADDTASK 560,,,VGNA,1
```

where VGNA.SYS is the device driver, and 1 represents the first VGNA workstation.

The ADDTASK command to add a 600K task for a MaXtation SH-4/M workstation with the next sequential task ID number,a blank security class and no startup batch file might be:

```
ADDTASK 600,,,SH,1
```

where SH.SYS is the device driver, and 1 represents the first MaXtation workstation.

NOTE: Notice that in the workstation examples the "workstation number" replaces the "port" and "baud rate" operands normally used for terminals.

If other than the default settings and/or a startup batch file is needed, they can be entered with the command as follows:

Form:

```
ADDTASK memsize,{task ID},{class},{startup},{term ID},  
{port,baud rate}|{workstation number}
```

Operands:

memsize Memory size of the partition (user task) in Kilobytes.

task ID Task ID number to assign to the task. Enter up to two digits. 0 is reserved for the host partition.

class Task security class. (If security is used you must create the file \$\$USER.SYS in your root directory to define security parameters for each user. See the Security chapter of your User Guide.)

startup Start-up batch file (filename without the .BAT extension). Invoked when user's work station is initialized. (Similar to host computer's AUTOEXEC.BAT file in that it is used to customize the path, prompt, or other variables for the task.)

term ID Device driver for terminal or workstation type. This driver must be entered in the CONFIG.SYS file with a DEVICE= statement. Enter without the .SYS extension.

Some common drivers are:

PCTERM.SYS	for PC-type terminals like the Wyse 60.
------------	---

VGNA.SYS	for VGNA (Video Graphics Network Adapter) workstations.
----------	---

SH.SYS	for MaXtation SH-4/M workstations.
--------	------------------------------------

Multitasking/Multiuser Operation

(Other terminals or workstations require different drivers, see the Multitasking/Multiuser chapter of your User Guide for a complete list of drivers).

2

The logical port number of the serial port through which a terminal is connected to the host computer. This port number is based on the order it is listed in the \$SERIAL.SYS statement in your CONFIG.SYS file. For example, 2 represents the second serial port address listed in the DEVICE=\$SERIAL.SYS statement.

NOTE: Other add-in serial port devices may also be used to connect terminals, such as a Maxspeed intelligent serial port board. If so, the port addresses are assigned sequentially as the various drivers are listed in the CONFIG.SYS file. You can use the MOS INFO command to display a list of the serial drivers loaded on the system and what logical port numbers have been assigned to each device.

baud rate The baud rate at which the terminal and the host computer communicate. (Usually 9600, 19200, or 38400.)

workstation number Enter the number of the workstation, e.g. 1 for the first workstation, 2 for the second, etc. (This operand is used for hardware-based workstations like VGNA and MaXtation workstations, and replaces the "port" and "baud rate" operands.)

Task ID, security class, and start-up batch file are optional operands and must be replaced by a comma if not used. PC-MOS automatically numbers the tasks sequentially and defaults to a blank security class.

For example, entering:

```
ADDTASK 512,,USER1,SH,1
```

will add a 512K task for the first MaXtation workstation, with the next sequential task ID number, a blank security class, and the start-up batch file USER1.BAT.

Configuration Examples

Once you have placed PC-MOS on your system, it must be configured. This is accomplished with a CONFIG.SYS file that defines the operating environment, and for which PC-MOS looks at boot time.

This process can be done automatically by using the Auto Configuration Utility (ACU) or manually by adding the appropriate configuration options to the CONFIG.SYS file yourself. If you are not familiar with all the PC-MOS configuration options you may want to use the ACU. If you are more experienced, you may want the option of fine tuning the system configuration yourself manually.

NOTE: The system administrator should determine which options are best suited for your system.

The following is a list of items that may be placed in the CONFIG.SYS file. See the Configuration chapter of your User Guide for a detailed explanation of each.

Configuration Options:	Device Drivers:
8087	MEMDEV
CACHE	SHELL
COUNTRY	SLICE
DESNOW	SMPSIZE
DEVICE	USERFILE
FREEMEM	VTYPE



Sample Configurations

The following pages show sample configuration options for various types of machines to aid you in the configuration of your system.

IMPORTANT NOTES:

THESE SAMPLES ARE TO BE USED ONLY AS GUIDELINES!

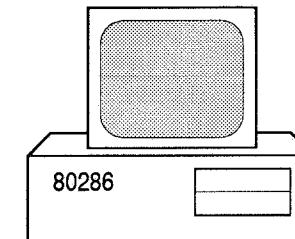
YOUR SYSTEM MAY BE CONFIGURED DIFFERENTLY, AND MAY REQUIRE DIFFERENT CONFIGURATION OPTIONS BASED ON YOUR SPECIFIC HARDWARE AND OTHER PERIPHERAL EQUIPMENT INSTALLED.

NOTE: VTYPE and FREEMEM statements, in particular, will vary for different video cards and installations. If your system does not boot properly, remove both of these statements from your CONFIG.SYS file and reboot. This allows MOS itself to try to determine where it can relocate its system components, rather than you having to specifically tell it. If your system will still not boot properly, add the statement FREEMEM=N to your CONFIG.SYS file and reboot. This tells MOS not to relocate any of its system components into high memory, thus avoiding any possible memory conflicts with other system hardware.

If one of these two changes results in a successful bootup, you probably had assigned a FREEMEM area for MOS that was already in use by another system component, such as a video card or a network interface card. Consult the card manufacturer's documentation for information on what memory addresses the cards actually use.

NOTE: The MEMDEV= memory management driver statement requires the use of optional operands for hard disks that use DMA (Direct Memory Access) buffering. If your hard disk uses DMA buffering and you did NOT include the necessary MEMDEV operand, your system may lock when trying to load the MEMDEV driver. (You might also receive a "cannot open \$\$MOS.SYS file" or "file error 03" message during boot-up.) See the discussion of MEMDEV in your PC-MOS User Guide for more information.

SINGLE USER SYSTEM without Memory Management



HARDWARE ENVIRONMENT

CPU: 80286
Memory: 640K standard
Disk Drives: A, B, C (C=HARD DRIVE)

CONFIG.SYS

```
MEMDEV=C:\PCMOS\$286N.SYS
CACHE=64,2,0,0,C
SMPSIZE=60K
```

AUTOEXEC.BAT

```
BATECHO OFF
PATH=C:\;C:\PCMOS
PROMPT=[TASK-$I] $P$G
```

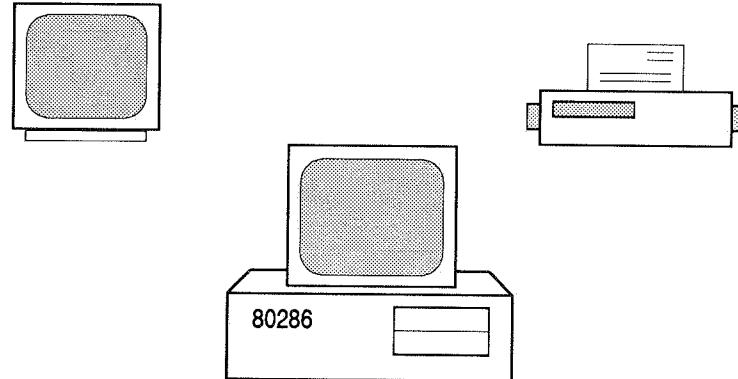
The \$286N.SYS driver loaded with the MEMDEV statement is only for use on 80286-based machines without memory management. (The \$286N.SYS driver can NOT be used on 8088 or 8086-based PC or XT machines.) See MEMDEV in your User Guide for more information.

NOTE: For this example, the PC-MOS program files should be in the C:\PCMOS subdirectory.

Configuration Examples



TWO USER SYSTEM with Print Spooler



HOST HARDWARE ENVIRONMENT

CPU: 80286-Based
Memory: 2 MB Extended Memory, accessed with an All Computers, Inc. CHARGECARD
Serial Ports: COM1, COM2
Disk Drives: A, B, C (C=HARD DRIVE)
Video Card: VGA
Terminal: WYSE 60, connected to COM1
Printer: Dot Matrix printer on LPT1

CONFIG.SYS

```
MEMDEV=C:\PCMOS\$CHARGE.SYS
FREEMEM=C8000,F0000
VTYPE=1
DEVICE=C:\PCMOS\$SERIAL.SYS /AD=03F8,HS=P,IN=4
DEVICE=C:\PCMOS\PCTERM.SYS
CACHE=256,2,0,0,C
SMPSIZE=70K
```

MEMDEV sets the memory management driver for the system.
FREEMEM tells MOS what memory between 640K and 1MB is available for MOS and not being used by other hardware or devices.

VTYPE & FREEMEM statements may vary for different VGA cards.

The \$SERIAL.SYS driver sets up the serial port interface. The PCTERM.SYS driver is required for the Wyse 60 and other PC type terminals. A 256K disk cache is set up for drive C. A 70K system memory pool (SMP) is set to manage the multiuser environment.

AUTOEXEC.BAT

```
BATECHO OFF
PATH=C:\;C:\PCMOS
PROMPT=[TASK-$I] $P$G
ADDTASK 512,,TASK1,PCTERM,1,38400
ADDTASK 32,,PRINTER
SPOOL C:\SPOOLER
```

The first ADDTASK command adds a 512K multiuser task for the Wyse 60 terminal. The next ADDTASK adds a 32K background task for the MOS print spooler's print processor. The SPOOL command causes all print requests from the task to be written to the specified directory on disk for subsequent printing by the print processor.

TASK1.BAT

```
BATECHO OFF
PATH=C:\;C:\PCMOS
PROMPT=[TASK-$I] $P$G
SPOOL C:\SPOOLER
```

PRINTER.BAT

```
BATECHO OFF
PATH=C:\;C:\PCMOS
PROMPT=[TASK-$I] $P$G
PRINT C:\SPOOLER
```

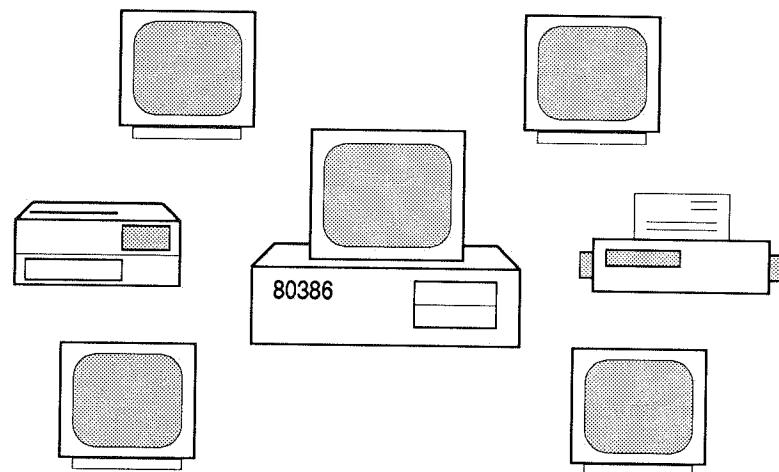
The PRINT command invokes the print processor in the task. This program polls the specified subdirectory for files, and prints them according to the disposition, priority, and class assigned. Don't forget to make a subdirectory with this name on the specified drive.

NOTE: For these examples, the PC-MOS program files should be in the C:\PCMOS subdirectory.

Configuration Examples



FIVE USER SYSTEM with Remote Terminals & Print Spooler



HOST HARDWARE ENVIRONMENT

CPU: 80386-Based
Memory: 4 MB Extended Memory
Serial Ports: COM 1, plus eight more ports provided by a MAXPEED SS-8/M intelligent serial port board.
Disk Drives: A, B, C (C=HARD DRIVE)
Video Card: VGA
Terminals: WYSE 60
Modems: Hayes or Hayes-compatible, 2400 baud
Printers: Dot matrix on LPT1, laser printer on LPT2

CONFIG.SYS

```
MEMDEV=C:\PCMOS\$386.SYS
FREEMEM=CA000,F0000
VTYPE=1
DEVICE=C:\PCMOS\$SERIAL.SYS /AD=03F8,HS=P,IN=4
DEVICE=C:\PCMOS\MAX.SYS /OC8000 /CN=TLLLLLLL
DEVICE=C:\PCMOS\PCTERM.SYS
CACHE=512,4,0,0,C
SMPSIZE=80K
```

MEMDEV sets the memory management driver for the system. FREEMEM tells MOS what memory between 640K and 1MB is available for MOS and not being used by other hardware or devices. (In this case the starting address was moved up from C8000 to CA000 to avoid conflict with the MAXPEED board's address space.)

VTYPE & FREEMEM statements may vary for different VGA cards.

The \$SERIAL.SYS driver sets up the serial port interface for COM1. The MAX.SYS driver sets up the interface for the MAXPEED intelligent serial port board. (It must be loaded after all other serial drivers.) /OC8000 indicates the starting address for the board. /CN=TLLLLLLL indicates that the first workstation on the MAXPEED board will be for a remote terminal and the rest will all be local (direct connected) terminals. See your MAXPEED User Guide for more information. Note that in this case COM1 will be logical port 1, and the MAXPEED ports will be logical ports 2 through 9.

The PCTERM.SYS driver is required for the Wyse 60 and other PC type terminals. A 512K disk cache is set up for drive C. An 80K system memory pool (SMP) is set to manage the multiuser environment.

AUTOEXEC.BAT

```
BATECHO OFF
PATH=C:\;C:\PCMOS
PROMPT=[TASK-$I] $P$G
MODEM 1 2
ADDTASK 512,,TASK1,PCTERM,1,2400
MODEM 2 2
ADDTASK 512,,TASK2,PCTERM,1,2400
ADDTASK 512,,TASK3,PCTERM,1,38400
ADDTASK 512,,TASK4,PCTERM,1,38400
ADDTASK 32,,PRINTER
SPOOL C:\SPOOLER /D2A /LPT1 /D2B LPT2
```

The first two ADDTASK commands add 512K multiuser tasks for the two remote terminals. The MODEM commands that precede them initialize the modems that connect the remote terminals. MODEM 1 2 initializes the modem connected to logical port 1 (COM1) at 2400 baud. MODEM 2 2 initializes the modem connected to logical port 2 (the first port on the MAXPEED board) at 2400 baud.

Configuration Examples



The next two ADDTASK commands add 512K multiuser tasks for the two local terminals. These are connected to the second and third physical ports on the MAXPEED board (logical ports 3 and 4) and are communicating at 38400 baud. You can use the MOS INFO command to display a list of all serial drivers loaded and what logical port numbers have been assigned to their physical ports. You must always use these logical port numbers with the ADDTASK command.

The last ADDTASK command adds a 32K background task for the MOS print spooler's print processor. The SPOOL command causes all print requests from the task to be written to the specified directory on disk for subsequent printing by the print processor. Print output with a Disposition, Priority and Class of D2A will go to the dot matrix printer on LPT1, while output designated D2B will go to the laser printer on LPT2.

TASK1.BAT through TASK4.BAT

```
BATECHO OFF  
PATH=C:\C:\PCMOS  
PROMPT=[TASK-$I] $P$G  
SPOOL C:\SPOOLER /D2A /LPT1 /D2B LPT2
```

All print output from the terminals with a Disposition, Priority and Class of D2A will go to the dot matrix printer on LPT1, while output designated D2B will go to the laser printer on LPT2.

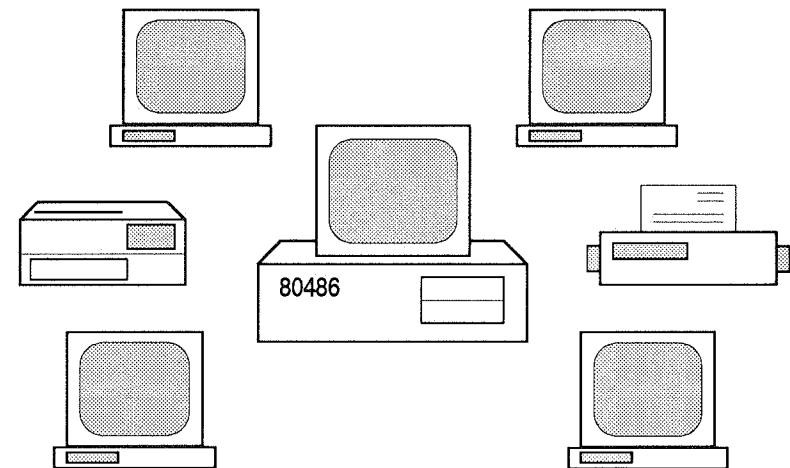
PRINTER.BAT

```
BATECHO OFF  
PATH=C:\C:\PCMOS  
PROMPT=[TASK-$I] $P$G  
PRINT C:\SPOOLER /A1 /B2
```

The PRINT command tells the print processor to poll the C:\SPOOLER directory for spooled files and send class A files to the dot matrix printer on LPT1 and class B files to the laser printer on LPT2.

NOTE: For these examples, the PC-MOS program files should be in the C:\PCMOS subdirectory.

FIVE USER MAXTATION SYSTEM with Print Spooler & Mice



HOST HARDWARE ENVIRONMENT

CPU:	80486-Based
Memory:	4 MB Extended Memory
Serial Ports:	COM 1
Disk Drives:	A, B, C (C=HARD DRIVE)
Video Card:	VGA
Mice:	Microsoft serial mice
Workstations:	MaXtation with MaXtation SH-4/M controller. (Hercules Mono-Graphics compatible)
Printers:	Dot matrix on LPT1, laser printer on LPT2

MAXTATION SETUP

The MaXtation SH-4/M is a video graphics display adapter for use in multiuser systems running PC-MOS. It allows you to connect standard monochrome monitors and PC keyboards to the host computer as Hercules graphics workstations instead of expensive terminals. Each SH-4/M controller can support up to four workstations. Simple RJ-45 phone cabling is used between the controller and workstations. Up to four of these controllers can be installed in one host computer for a total of sixteen workstations. The MaXtation controller can operate the host's display or co-reside with existing VGA or EGA video cards only. In our example, the host computer's display will be run by the existing VGA video card.

Configuration Examples



Install the MaXtation controller in your computer and connect the workstations by following the instructions in the MaXtation User's Guide for installing in a co-resident VGA environment.

CONFIG.SYS

```
MEMDEV=C:\PCMOS\$386.SYS
FREEMEM=C8000,EE000
VTYPE=5
DEVICE=C:\PCMOS$SERIAL.SYS /AD=03F8,IN=4
DEVICE=C:\PCMOS$SH.SYS /0EE000
DEVICE=C:\PCMOS$MOUSE.SYS
CACHE=512,4,0,0,C
SMPSIZE=80K
```

MEMDEV sets the memory management driver for the system. Note that an 80486-based machine still uses the \$386.SYS driver. FREEMEM tells MOS what memory between 640K and 1MB is available for MOS and not being used by other hardware or devices. The FREEMEM area starts at C8000, but this may vary for different VGA cards. (In this case the ending FREEMEM address was moved down from F0000 to EE000 to avoid conflict with the MaXtation board's address space which was set to EE000 to F0000.)

VTYPE is set to 5 to provide the proper video save area for Hercules Mono-graphics workstations.

The \$SERIAL.SYS driver establishes the PC-MOS serial port interface. AD= specifies the physical port address. IN= specifies the interrupt associated with the port. In this example, a mouse will be connected to the host computer through COM1. See your MOS User Guide for more detailed information.

The SH.SYS driver sets up the interface for the MaXtation controller ports. /0EE000 indicates that the default memory address range for the board was changed to EE000 to F0000. This allows a larger contiguous block of FREEMEM for MOS. See your MaXtation User Guide for more information.

The \$MOUSE.SYS driver is required to install a mouse on the host computer and on the VGNA workstations. You MUST use this driver instead of the driver supplied with your mouse. (You still use the MOUSE.COM program that was supplied with your mouse.)

A 512K disk cache is set up for drive C. An 80K system memory pool (SMP) is set to manage the multiuser environment. The more device drivers and tasks that will be added - the larger the SMPSIZE will have to be. The MOS MAP utility command display shows how much of the available SMP is being used.

AUTOEXEC.BAT

```
BATECHO OFF
PATH=C:\;C:\PCMOS
PROMPT=[TASK-$I] $P$G
ADDTASK 512,,,TASK1,SH,1
ADDTASK 512,,,TASK2,SH,2
ADDTASK 512,,,TASK3,SH,3
ADDTASK 512,,,TASK4,SH,4
ADDTASK 32,,,PRINTER
MOS MOUSE 1,1200
SPOOL C:\SPOOLER /D2A /LPT1 /D2B LPT2
```

The first four ADDTASK commands establish multiuser tasks of 512K each for the MaXtation workstations. "SH" is used as the terminal ID operand, which corresponds to the SH.SYS driver set up in your CONFIG.SYS file. The last numbers in the ADDTASK commands (1,2,3,4) are the user or "workstation numbers" that correspond to the ports on the MaXtation controller board. (Notice that with workstations the "workstation number" replaces the "port" and "baud rate" operands normally used for terminals.)

The last ADDTASK command adds a 32K background task for the MOS print spooler's print processor. The SPOOL command causes all print requests from the task to be written to the specified directory on disk for subsequent printing by the print processor. Print output with a Disposition, Priority and Class of D2A will go to the dot matrix printer on LPT1, while output designated D2B will go to the laser printer on LPT2.

The MOS MOUSE command installs a mouse on logical port 1 at a baud rate of 1200. This is COM1 since it is the first port defined by the \$SERIAL.SYS statement, and \$SERIAL.SYS was listed before the SH.SYS statement in the CONFIG.SYS file. The serial ports on the four MaXtation workstations are therefore logical ports 2 to 5.

Configuration Examples



Note that if the MaXtation SH.SYS driver was listed before the \$SERIAL.SYS driver then the four serial ports defined by SH.SYS for the MaXtation workstations would be logical ports 1 through 4, and the port defined by \$SERIAL.SYS would be logical port 5. Don't confuse these serial port numbers with the workstation numbers used in the ADDTASK commands. (See Note 2 in the VGNA example for information on using the MOS INFO command for checking the logical port numbers assigned by MOS.)

"TASK1" through "TASK4", in the ADDTASK commands, indicate starup batch files named TASK1.BAT through TASK4.BAT (which you must place in the root directory of the boot drive) that will automatically execute in the respective task. They do not have to be the same, as they are in this example.

TASK1.BAT through TASK4.BAT

```
BATECHO OFF  
PATH=C:\;C:\PCMOS  
PROMPT=[TASK-$I] $P$G  
MOS VMODE HG2  
MOS MOUSE %,1200  
SPOOL C:\SPOOLER /D2A /LPT1 /D2B LPT2
```

To support Hercules graphics at the workstations you must invoke a VMODE of HG2 (for 2-page) or HG1 (for single-page) Hercules applications. If you don't know what your application requires, try them to see which one works.

Replace the % in the MOUSE command with the logical port number of the serial port for each task. In our example this would be 2 through 5. For example, in TASK1.BAT, % would be replaced with a 2, in START2.BAT with a 3, etc.

All print output from the workstations with a Disposition, Priority and Class of D2A will go to the dot matrix printer on LPT1, while output designated D2B will go to the laser printer on LPT2.

"PRINTER" in the ADDTASK command for the print processor, indicates a starup batch file named PRINTER.BAT (which you must place in the root directory of the boot drive) that will automatically execute in that task and invoke the PRINT command to start the print processor.

PRINTER.BAT

```
BATECHO OFF  
PATH=C:\;C:\PCMOS  
PROMPT=[TASK-$I] $P$G  
PRINT C:\SPOOLER /A1 /B2
```

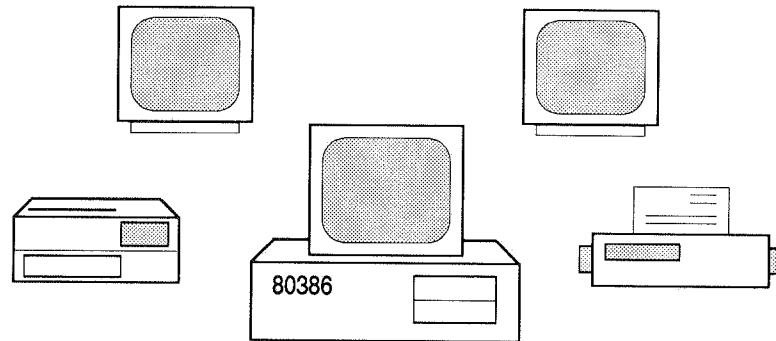
The PRINT command tells the print processor to poll the C:\SPOOLER directory for spooled files and send class A files to the dot matrix printer on LPT1 and class B files to the laser printer on LPT2.

NOTE: For these examples, the PC-MOS program files should be in the C:\PCMOS subdirectory.

Configuration Examples



THREE USER VGNA SYSTEM with Print Spooler and Mice



HOST HARDWARE ENVIRONMENT

CPU: 80386-Based
Memory: 4 MB Extended Memory
Serial Ports: COM1
Disk Drives: A, B, C (C = HARD DRIVE)
Video Card: Paradise VGA Plus 8-bit card
Workstations: Video Graphics Network Adapter
Mice: Microsoft serial mice
Printers: Dot Matrix on LPT1, laser printer on LPT2

VGNA SETUP

The Video Graphics Network Adapter (VGNA) is a video graphics display adapter for use in multiuser systems running PC-MOS on 386-based machines. VGNA allows you to connect standard VGA monitors and PC keyboards to the host computer as workstations instead of expensive graphics terminals. Each VGNA motherboard can support up to two workstations. A total of four VGNA boards can be installed in one host computer. The VGNA motherboard can operate the host's display or co-reside with a Paradise VGA video card only.

VGNA MOTHERBOARD

BASE ADDRESS: 0310
INTERRUPT: 5

CONFIG.SYS

```
MEMDEV=C:\PCMOS\$386.SYS
FREEMEM=C8000,F0000
DEVICE=C:\PCMOS\$SERIAL.SYS /AD=03F8,IN=4
DEVICE=C:\PCMOS\VGNA.SYS /0310,5 /AD=0200 /AD=0208
DEVICE=C:\PCMOS$MOUSE.SYS
CACHE=512,4,0,C
SMPSIZE=70K
```

MEMDEV sets the memory management driver for the system. FREEMEM tells MOS what memory between 640K and 1MB is available for MOS and not being used by other hardware or devices. The FREEMEM area starts at C8000 to avoid the area used by the VGA card, but this may vary for different VGA cards.

The \$SERIAL.SYS driver establishes the PC-MOS serial port interface. This allows the computer to communicate with the serial ports with greater efficiency. AD= specifies the physical port address. IN= specifies the interrupt associated with the port. In this example, a mouse will be connected to the host computer through this port. See your MOS User Guide for more detailed information.

The \$VGNA.SYS statement loads the device driver required for the VGNA hardware and must include the base address, interrupt and serial port addresses (for the workstation mice) that you selected for the VGNA motherboards. See your VGNA Installation Guide for more detailed information.

The \$MOUSE.SYS driver is required to install a mouse on the host computer and on the VGNA workstations. You MUST use this driver instead of the driver supplied with your mouse. (You still use the MOUSE.COM program that was supplied with your mouse.)

Configuration Examples



A 512K disk cache is set up for drive C. A 70K system memory pool (SMP) is set to manage the multiuser environment. The more device drivers and tasks that will be added - the larger the SMPSIZE will have to be. The MOS MAP utility command display shows how much of the available SMP is being used.

AUTOEXEC.BAT

```
BATECHO OFF
PATH C:\PCMOS
PROMPT $I$P$G
ADDTASK 512,,START1,VGNA,1
ADDTASK 512,,START2,VGNA,2
ADDTASK 32,,PRINTER
MOS MOUSE 1,1200
SPOOL C:\SPOOLER /D2A /LPT1 /D2B /LPT2
```

The first two ADDTASK commands establish multiuser tasks of 512K each for the VGNA workstations. "VGNA" is used as the terminal ID operand, which corresponds to the VGNA.SYS driver set up in your CONFIG.SYS file. . The last numbers (1 and 2) are the user or "workstation numbers" that correspond to the workstation connections on the VGNA motherboard.

START1 and START2 will cause batch files named START1.BAT and START2.BAT (located in the root directory of the boot drive) to automatically execute in their respective tasks. PATH, PROMPT, and other commands as well as a menu batch file can be loaded when the workstation is initialized using these startup batch files.

The last ADDTASK command adds a 32K background task for the MOS print spooler's print processor. The SPOOL command causes all print requests from the task to be written to the specified directory on disk for subsequent printing by the print processor. Print output with a Disposition, Priority and Class of D2A will go to the dot matrix printer on LPT1, while output designated D2B will go to the laser printer on LPT2.

The MOS MOUSE command installs a mouse on port 1 at a baud rate of 1200. This is the first port defined by the \$SERIAL.SYS statement, since it was listed before the VGNA.SYS statement in the CONFIG.SYS file.

Note that if the VGNA.SYS driver was listed before the \$SERIAL.SYS driver then the two serial ports defined by VGNA.SYS would be logical ports 1 and 2, and the port defined by \$SERIAL.SYS would be logical port 3. Don't confuse these serial port numbers with the workstation numbers. (See NOTE 2 for additional information on determining logical port numbers.)

STARTUP BATCH FILES

START1.BAT and START2.BAT

```
BATECHO OFF
PATH C:\PCMOS
PROMPT $I$P$G
MOS VMODE VGA
MOS MOUSE %,1200
SPOOL C:\SPOOLER /D2A /LPT1 /D2B /LPT2
```

If a particular workstation must support VGA graphics include the MOS VMODE VGA command. For workstations that do not need VGA graphics support use MOS VMODE CGA instead.

Replace the % in the MOUSE command with the logical port number of the serial port for each task. In our example this would be 2 and 3. For example, in START1.BAT, % would be replaced with a 2, and in START2.BAT with a 3. (See NOTE 2 for more information.)

All output from the workstations with a Disposition, Priority, and Class of D2A will go to the dot matrix printer on LPT1 on the server, while output designated D2B will go to the laser printer on LPT2.

PRINTER.BAT

```
BATECHO OFF
PATH C:\PCMOS
PRINT C:\SPOOLER /A1 /FF /B266
```

The PRINT statement tells the print processor to print Class A files to LPT1 and Class B files to LPT2. All form feeds will be sent to the printer associated with Class B and the printer on LPT2 will be set at 66 lines per page.

Configuration Examples

NOTE 1: For these examples, the PC-MOS program files should be in the C:\PCMO\$ subdirectory.

NOTE 2: The MOS INFO command can be used to see what ports, in what order, were defined in the CONFIG.SYS file. The example MOS INFO display below shows the information for this example where \$SERIAL.SYS was loaded before the VGNA.SYS driver.

PC-MOS System Information		Start	End
FREEMEM =		C8000	F0000
MOS Kernel Segment #1	D9830	E5730	
MOS Kernel Segment #2	101000	10D5A0	
System Memory Pool (SMP)	C8030	D9830	
Disk Cache Descriptors	E5960	E7960	
Disk Cache	9000	A000	
Command Processor	A000	12090	
Master Video Context Area	E8000	F0000	
Communications Driver Description		First	Last
\$Serial.sys V4.00 (890804)	COM 1	COM 1	
VGNA.SYS V1.00 (891213)	COM 2	COM 3	

In this case, the mouse on the host computer is installed on logical port 1 (MOS MOUSE 1,1200), and the mice on the two VGNA workstations are installed on logical ports 2 and 3 (MOS MOUSE 2,1200 and MOS MOUSE 3,1200).

If the VGNA.SYS driver had been loaded before the \$SERIAL.SYS driver, the MOS MOUSE commands for the VGNA workstations would use logical ports 1 and 2 (MOS MOUSE 1,1200 and MOS MOUSE 2,1200) and the mouse on the host computer would use logical port 3 (MOS MOUSE 3,1200).

PC-MOS to DOS Cross Reference

(* = Internal Commands)

COMMANDS		
DOS	PC-MOS	Purpose
	ADDDEV ADDTASK	Dynamically add a device driver. Dynamically add an active partition.
ASSIGN	FILEMODE	Change drive designation.
ATTRIB	EXPORT	Change file attributes.
BACKUP	BREAK*	Backup files to disk.
BREAK*	BREAK*	Set system Control-Break.
CHDIR*	CD*	Change directory.
CHKDSK	VERIFY	Verify condition of disk.
	CLASS	Assign or change security class.
CLS*	CLS*	Clear screen.
COMMAND	COMMAND*	Invoke command processor.
COMP	COMPFILE	Compare two files.
COPY	COPY*	Copy files. (also MOS file Security control)
CTTY		Change output to aux console. (n/a in MOS)
DATE*	DATE*	Set system date.
DEBUG	DEBUG	Debugger utility.
DEL*	ERASE*	Delete files.
DIR*	DIR*	Display directory contents. (MOS can sort)
DISKCOMP		Compare disks.
DISKCOPY	DISKCOPY	Copy one diskette to another.
	DOT*	Disable/Enable need for preceding "." with MOS Commands.
EDLIN	ED	Text editor. (MOS has full screen capability)
	ENVSIZE*	Set environment size in bytes.
	EXCEPT*	Exclude files from an operation.
FDISK	HDSETUP	Partition hard disks. (No 32MB limit with MOS)
FIND	SEARCH	Search files.
FORMAT	FORMAT	Format disks.
GRAFTABL		Load a graphics table.
GRAPHICS		Graphics screen print command.



COMMANDS		
DOS	PC-MOS	Purpose
JOIN KEYBxx	HELP	MOS on-line help.
		Join multiple drives to a single drive.
		Set keyboard characteristics.
LABEL MKDIR*	KEYMAP	Keyboard Macro utility.
MODE	DISKID	Label a disk.
	MD*	Create a directory.
	MOS	Select specific system functions, as follows:
	MOS ANSI	Turn on/off ANSI.SYS support.
	MOS DIS	Disable keyboard looping in task.
	MOS DOSVER	Set DOS version level.
	MOS DSSPORT	Diasable port from \$SERIAL.SYS control.
	MOS FILES	Limit number of open files.
	MOS FREEIRQ	Free IRQ reserved by application.
	MOS HOLD	Set printer reservation time.
	MOS INFO	Display system memory allocations.
	MOS IRQ	List reserved IRQ's.
	MOS KEYB	Define keyboard type and buffer size.
	MOS MAP	Display partition map.
	MOS MOUSE	Initialize mouse for a task.
	MOS NODIS	Restore keyboard to normal state in task.
	MOS RESIZE	Adjust partition size.
	MOS ROUTE	Control printer output.
	MOS SERINIT	Initialize a serial port.
	MOS TSR	Turn TSR support on/off.
	MOS USEIRQ	Reserve IRQ for application.
	MOS VMODE	Set video mode.
	MOS WAIT	Wait for an event before continuing.
	MOSADMIN	System administrator functions, as follows:
	MOSADMIN CACHE	Turn disk cache on/off.
	MOSADMIN EMSLIMIT	Set task EMS memory size and handles.
	MOSADMIN HOLD	Set printer reservation time for other task.
	MOSADMIN PRI	Set partition priority.
	MOSADMIN RESET	Control task reset logic.
	MOSADMIN SLICE	Set partition time slice.

COMMANDS		
DOS	PC-MOS	Purpose
	MOSADM SWITCH	Turn on/off ability to switch between tasks.
	MOSADM TIME	Control timer chip I/O protection.
	MOSADM TMFACTOR	Set system time-slice factor.
	MOSADM VIRQ	Set IRQ task switching method.
	MORE	Filter text display.
	NETNAME	Network signon command.
	ONLY*	Limit action of a command to specific files.
	PATH*	Specify directory path.
	PRINT	Print Processor. (MOS has multi-tasking print spooler)
	PROMPT*	Set prompt style.
	RECOVER	Recover damaged files.
	REMDEV	Dynamically remove a device driver.
	REMTASK	Dynamically remove a task partition.
	RENAME*	Rename files. (MOS can also rename directories)
	RESTORE	Restore files from disk.
	RMDIR*	Remove a directory.
	SELECT	Select keyboard layout and format.
	SET*	Set environment variables.
	SHARE	Activate DOS file sharing. (Inherent in MOS)
	SIGNON/OFF*	Invoke system password routine.
	SWITCH	Switch to another task.
	MSORT	Sort file records. (MOS has new sort options)
	SPOOL	Print spooler.
	ALIAS	Substitute drive letter for directory.
	MSYS	Write boot record on a disk.
	TIME*	Set system time.
	TREE	Display directory structure.
	TYPE*	Display a text file. (MOS also supports hex format)
	DIRMAP	
	TYPE*	
	VER	Display version of operating system.
	VERIFY	Verify disk writes.
	VOL	Set the name of a disk.



BATCH FILE PROCESSING COMMANDS		
DOS	PC-MOS	Purpose
CALL	ABORT* AUTOCD* BATECHO* CALL/RETURN*	Stop batch file processing. Recover saved drive and directory. Control ECHO state for all batch files. Jump to a specified batch label. (MOS also returns)
ECHO	ECHO* FLUSH*	Control batch command echo. Clear the command recall buffer.
FOR GOTO IF	FOR IN DO* GOTO* IF/NOT* INSERT* KEY* PAUSE* REM* NEXT* STOP*	Interactive command execution. Jump to specified label. Conditional control of batch file processing. Set insert mode for editing. Wait for specified keystroke. Temporary halt to batch processing. Insert remark in a batch file. Set additional batch operands. Immediate exit from current batch file.
PAUSE REM SHIFT*	TEXT/ENDTEXT*	Enter text for display with special attributes.

CONFIG.SYS & AUTOEXEC/STARTUP BATCH FILE STATEMENTS		
DOS	PC-MOS	Purpose
	\$286N.SYS	System driver for Non-memory managed 80286-based computers.
	\$386.SYS	Memory management driver for 80386-based computers.
	\$ALL.SYS	Memory management driver for the ALL CARD™.
	\$CHARGE.SYS	Memory management driver for the ALL CHARGECARD™.
	\$GIZMO.SYS	Memory management driver for the AT GIZMOTM card.
	\$MOUSE.SYS	Mouse driver.
	\$NETBIOS.SYS	Set IBM standard protocol for network procedures.
	\$PIPE.SYS	Set pipe information for system.
	\$SERIAL.SYS	Set up standard buffered serial ports.
BUFFERS	CACHE	Set the size of system buffers.
COUNTRY	COUNTRY*	Set a cache for disk I/O.
DEVICE	DESNOW* DEVICE* \$EMS.SYS	Set country formats.
FCBS		Remove "snow" from color display.
FILES		Install a device driver.
LASTDRIVE	FREEMEM*	Set device driver for LIM specification expanded memory.
SHELL	MEMDEV* SHELL* SLICE* SMPSIZE* USERFILE*	File control block commands. (Not necessary in MOS)
VDISK.SYS	\$RAMDISK.SYS VTYPE*	Set number of file handles. (Not necessary in MOS)
		Specify MOS memory configuration.
		Set maximum number of drives. (Not necessary in MOS)
		Specify Memory Management Device.
		Set user interface.
		Set processing time for partitions.
		Set size of system memory pool.
		Designate directory for \$\$USER.SYS user security file.
		Create a RAMdisk.
		Specify video adapter type. (Controls certain aspects of memory allocation)

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