

# BOOT DISKS



# ***Boot Disks***

A computer can't do anything without an operating system. But before a PC can run an operating system, it needs to load or install an operating system. To do this you'll need a boot disk.



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# ***Boot Disks***

But why use boot disks? Why not just make the OS a part of the PC?

- Easier install
- Easier upgrade
- You have a choice of what OS



# ***Boot Disks***

**How does a boot disk work?**

After the POST checks the hardware components, it then checks the floppy drive to see if it contains a formatted floppy disk.



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# ***Boot Disks***

## **How does a boot disk work?**

If there is a disk mounted in the drive, the program searches specific locations on the disk for the files that make up the first two parts of the operating system. The files are IO.sys and MSDOS.sys



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# ***Boot Disks***

## **How does a boot disk work?**

If there is no information on the disk or the disk is not a bootable disk, an error message will display on the screen...



# ***Boot Disks***

**How does a boot disk work?**

**Invalid System Disk**

**Replace the Disk and then press  
any key**



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# ***Boot Disks***

## **How does a boot disk work?**

If the disk does have IO.sys and MSDOS.sys, the program reads the data stored on the disks first sector, and copies that data to a specific location in RAM. This information is the Boot Record.



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# ***Boot Disks***

## **How does a boot disk work?**

The Boot Record is about 512 bytes. This code will initiate the loading of two system files. After the boot record is loaded into memory at address 7C00, the control is then taken over by the boot record.



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# ***Boot Disks***

## **How does a boot disk work?**

The Boot Record takes control and load IO.sys into RAM. The IO.sys contains a routine called SYSINIT that will manage the rest of the boot up. After IO.sys is loaded, the boot record is no longer needed, and is then replaced in RAM by other code.



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# ***Boot Disks***

## **How does a boot disk work?**

**SYSDISK takes control of the start-up process and loads MSDOS.sys from RAM. MSDOS.sys works with the BIOS to manage files, execute programs and respond to signals from hardware.**



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# ***Boot Disks***

**How does a boot disk work?**

**SYSDISK searches the root directory of the disk for a file called CONFIG.sys If there is a CONFIG.sys the SYSDISK tells MSDOS.sys to execute the commands in that file.**



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# ***Boot Disks***

## **How does a boot disk work?**

The CONFIG.sys file tells the operating system how to handle certain operations, such as how many files can be opened at one time. CONFIG.sys also loads device drivers.



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# ***Boot Disks***

**How does a boot disk work?**

Device drivers are coded files that extend the capabilities of the BIOS to control memory or hardware devices such as the CD-ROM.



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**How does a boot disk work?**

After CONFIG.sys is loaded, the SYSINIT tells MSDOS.sys to load COMMAND.com The COMMAND.com system file consists of three parts.



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## **How does a boot disk work?**

The first part is a further extension of input/output functions. The second part contains some internal commands such as dir, copy and type. The third part searches for a file named AUTOEXEC.bat



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**How does a boot disk work?**

The AUTOEXEC.bat file is located on the root of the disk, and is a file that contains a series of commands or programs that are needed to run each time the computer is turned on.



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# ***Boot Disks***

**How does a boot disk work?**

**The PC is now fully booted and ready to use.**



# ***References***

**How Computer Work: Millenium Edition**

**by: Ron White, 1999 QUE**

