

INSTALLING A HARD DRIVE: a quick checklist

By Dennis Faas, infopackets editor

<http://www.infopackets.com>

This short guide will take you through the process of creating a Startup Disk and preparing your hard drive for FDISK and FORMAT. Please refer to the video for detailed instructions on the FDISK and FORMAT commands.

1. CREATE A WINDOWS 98 STARTUP DISK

When I created the How to Install a Hard Drive: The Video, I used an old Windows 98 Startup Disk that I still had floating around. The Windows 98 Startup Disk I used when I made the video came with FDISK.EXE and FORMAT.COM already on it.

However, I was not aware that Microsoft stopped packaging FORMAT.COM on Startup Disks starting with Windows ME and above.

Why?

No reason, really. It's just a Microsoft epiphany and it's not supposed to make sense. What to do?

If you're running Windows 98 and Windows 98 SE already:

Create a Startup Disk by clicking: START -> SETTINGS -> CONTROL PANEL. Once there, click on ADD / REMOVE PROGRAMS. Next, select the ADD / REMOVE WINDOWS COMPONENTS tab and select CREATE STARTUP DISK.

If you're **not** running Windows 98 or Windows 98 SE:

Download a Windows 98 SE (second edition) startup disk from bootdisk.com. To create the disk: download the file, run it, and insert a blank floppy and an image of a Windows 98 SE Startup Disk will be created for you. This disk will contain FDISK.EXE and FORMAT.COM required to partition and format your hard drive.

<http://www.bootdisk.com/original.htm>

IS YOUR HARD DRIVE BIGGER THAN 64 GIGABYTES?

All new hard drives manufactured after 2003 are larger than 64 gigabytes.

You will need to replace FDISK.EXE already present on your Startup Disk. You can download an updated version of FDISK.EXE from bootdisk.com (URL below).

<http://www.bootdisk.com/dosfiles/fdisk.zip>

Once your Windows 98 Startup Disk has been created, download and extract this file. Then, copy the extracted file over top of the FDISK.EXE already present on your Windows 98 Startup Disk.

Don't know how to extract a .ZIP file?

No problem. Download my free video tutorial on WinZip. This URL also contains a link to WinZip 8.0:

<http://www.infopackets.com/videos/winzip.htm>

2. DECIDE ON YOUR HARD DRIVE CONFIGURATION

Once the Startup Disk has been created, reboot your machine and make sure it works properly. After that, you'll need to figure out how you want to set up your hard drive, as discussed in the video.

FDISK is a Microsoft utility which is run on the DOS command line. DOS is the most basic Disk Operating System and provides no Graphical User Interface (no mouse). The video explicitly shows you how set up a hard drive and operate FDISK under DOS using almost any scenario.

CHOICE 1: ONE BIG PARTITION

You can choose to set up your drive as one big partition. Considering that hard drives are being produced with extremely large capacities, this choice is becoming less popular.

CHOICE 2: USING MULTIPLE PARTITIONS ON THE SAME DRIVE

Imagine your hard drive as a freshly cooked Pumpkin Pie...

If you wanted to cut it the pie into smaller pieces, you could do this by partitioning the drive. Partitioning is becoming more popular among users of large sized-hard drives, as it is used primarily for two reasons:

- a. To sort files (example: 1 partition for the operating system, another for user data);
- b. To allow for full Operating System backups without having to back up the entire hard drive. In this scenario, the C drive would be read (assuming this is where the operating system has been stored) and the image backup would be written to another partition (most likely the D drive).

3. FDISK / BIOS / and FAT (FILE ALLOCATION TABLE) LIMITATIONS

There are limitations to the size of a partition (below is brief history). If your computer system is up to date, the only thing you should really be concerned about is whether you have a single partition which exceeds 137GB (currently not possible with FDISK).

The way around this would be to cut up the 137GB partition into smaller partitions.

528MB - Limitation of disk control units (ATA BIOSs) - they do not recognize LBA mode - older computers (286/386/486) could not work with disks larger than 528MB.

4GB - Windows NT limitation - Partition with FAT16 system cannot be larger than 4GB.

4.2GB - BIOS limitation*

8GB - BIOS limitation*

33.8GB - BIOS limitation*

137GB - Current FDISK limit (as of 2002)

* BIOS limitation: with some older computer systems, the motherboard may require a BIOS FLASH in order to have the system recognize the full capacity of the hard drive. In this case, you should go to the manufacturer of your motherboard (you will need to know the make and model and the web site for the manufacturer) and download a BIOS update.

Again, most likely your system is relatively new (within 3years) and you are not required to update your BIOS.

3.1 HOW TO CHECK IF YOU NEED TO UPDATE YOUR MOTHERBOARD BIOS

If you enter the BIOS during startup (DEL key for most computer systems, F2 for others), go to the section where you are given the option for IDE AUTO HDD DETECTION. If the system detects the full size of the hard drive (even if it is minus a few megabytes -- this is normal), you shouldn't require a BIOS update.

4. PREPARE TO USE FDISK TO DEFINE YOUR HARD DRIVE

Always use caution when using FDISK!

Changes are written to a hard drive as soon as you exit DISK. If you're unsure the changes you've made, you can always reset the system by either shutting off your system using the power button on your machine) or press the RESET button * before * exiting FDISK from the main menu.

If you're adding a second hard drive to your system, it is recommended that you unplug the hard drive that contains your operating system so you don't accidentally erase its contents. This might require that you set your new hard drive as a MASTER (temporarily) until you've made changes to the drive.

One other note: although unlikely -- if you experience problems writing changes to FDISK, it is possible that your BIOS has a MASTER BOOT RECORD lock on the drive. In this case, you would have to edit your computer's BIOS to change this setting.

In an utmost unlikely scenario where you still can't write changes to the drive, it is also possible that your MASTER BOOT RECORD (MBR) is corrupt. In this case, the drive cannot be used and will require repairs (contact your hard drive manufacturer).

Good luck and enjoy the video!