

Frequently Asked Questions

WD Caviar and WD Expert EIDE Hard Drives

Q1: What information should I gather before calling Technical Support?

1. Be prepared to give your hard drive serial number, complete model number, and CCC code.
2. Be in front of the computer in question and know what devices are in your computer. If possible, have in hand the user guides for these devices. What hard drive(s) do you have?
3. Know the version of the operating system (for example, Windows 95) you are using. To check your version of Windows:
 - Right click **My Computer**
 - Select **Properties**
 - Write down the information listed under **System**
4.00.950 and 4.00.950a = WIN95
4.00.950b = WIN95 OEM SR2
4. Know your CPU type and speed (for example, P5/133).
5. Know the amount of memory (RAM) in your system. What memory management utility (such as QEMM or HIMEM) are you using?
6. Know the manufacturer, date, and version of the system BIOS (CMOS).
7. Know the amount of storage space available on your hard drive and the size of each partition.
8. Have printed copies (or onscreen copies) of your AUTOEXEC.BAT and CONFIG.SYS files.
9. Have your EZ-Drive disk, DOS system disk or Windows 95 or 98 Startup disk, and a pen and paper.

10. Know the results, including error codes (if any) from using the WDDIAG utility.

Q2: I ran Fdisk on my 8.4 GB or larger hard drive and created partitions. Everything appeared normal but now I cannot boot my system even from a DOS floppy.

Your system BIOS did not properly handle the 8.4 GB or larger hard drive. This caused Fdisk to create an unusable partition. DOS hangs as soon as it detects this unusable partition. Booting from a DOS bootable diskette will not work. You must boot from the EZ-Drive 9.10WD or later diskette, repartition and format your hard drive. EZ-BIOS will automatically install to support your 8.4 GB or larger hard drive.

When you reboot using your EZ-Drive 9.10WD or later diskette and select Fully Automatic Install, you will encounter the following warning screen:

```
***Warning!*** You have chosen to  
overwrite:
```

```
Drive 1: WDC AC xxxxxx
```

```
It has a FAT16 partition.
```

```
EZ-Drive will erase Drive 1. Are you sure you want to con-  
tinue? (Type YES or NO):
```

Type YES to continue. Follow the remaining prompts to repartition and format your hard drive.

Q3: I used EZ-Drive to set up my 8.4 GB hard drive, and one of the following messages displays on my system everytime I reboot:

- 1790 Disk 0 error; or

- 1780 hard disk error

This message may display after changing your hard drive configuration. If it displays more than once, and/or the system does not boot to the hard drive after installing EZ-Drive, you must add an additional jumper, then boot to the EZ-Drive 9.10WD or later diskette to set

up your hard drive. See “Alternate Jumper Settings” on page 6.

Q4: I don't see the full capacity of my hard drive when installing my operating system.

Three issues can affect the installation of your hard drive:

1. 8.4 GB and larger hard drives exceed the standard BIOS and DOS operating system barrier of 16,320 cylinders, 16 heads, and 63 sectors.
2. Some computer systems built before early 1996 do not support hard drives with more than 4095 cylinders (hard drives larger than 2.1 GB).
3. A typical system BIOS dated before August 1994 does not recognize drives larger than 528 MB.

To overcome these limitations, use EZ-Drive 9.10WD or later to install your new hard drive, upgrade your system BIOS, or install an EIDE controller card with onboard BIOS that supports the full capacity of your hard drive. The following are USA phone numbers for common BIOS sources.

BIOS Source	USA Phone Number	Internet Address
Micro Firmware (Phoenix BIOS only)	405-321-8333	www.firmware.com
Phoenix	781-551-4000	www.phoenix.com
Unicore (Award and AMI BIOS)	978-686-6468	www.unicore.com

Also, if you installed EZ-BIOS and then incorrectly booted to your operating system installation disk, you may have accidentally used your operating system to overwrite your EZ-Drive partitions. You need to repartition and format with EZ-Drive and install the operating system.

Q5: Must I do anything to my original hard drive when adding my new Western Digital hard drive?

Yes, one hard drive must be designated as a master and the other as a slave on the same IDE

interface cable. We recommend designating your new hard drive as the master. For non-Western Digital hard drives, consult your original hard drive documentation for master/slave jumper positions. (See Figure 1.)

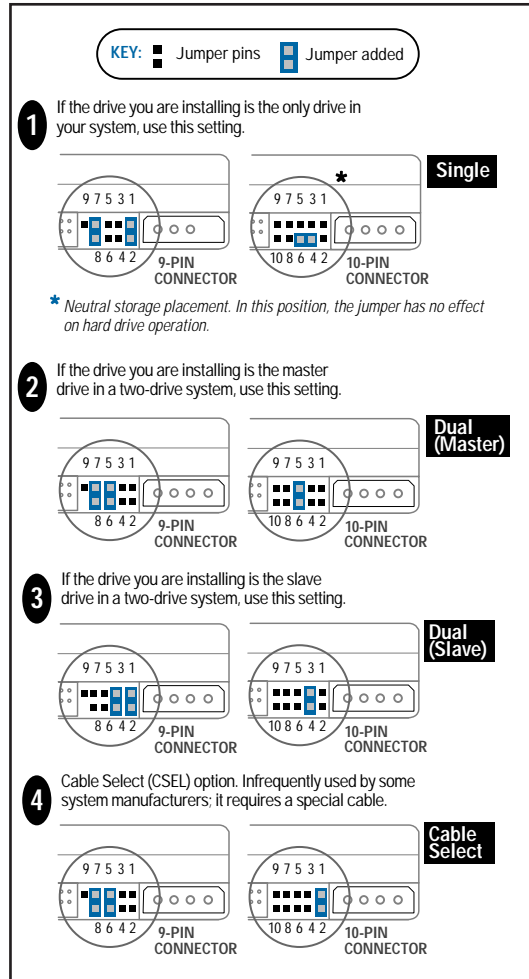


Figure 1. Standard Jumper Settings for Western Digital Hard Drives

Q6: Do I need to use the Cable Select (CSEL) jumper option?

No, this jumper option is only used as an alternative by some system manufacturers to designate a drive(s) as master or slave. This jumper option requires a special cable and hardware support in the host system. The IDE interface cable in your hard drive package may not support CSEL. Using the CSEL jumper option does not affect hard drive performance or functionality.

Q7: I get the message "HDD Controller Failure" after installing my Western Digital hard drive.

This may appear when you first boot the system after installing the hard drive. Press F1 to continue. If the message continues to display, retrace the steps outlined for CMOS setup, cabling, and jumper configuration. Make sure to follow the instructions correctly.

Q8: Why is the capacity of my new hard drive less than it should be?

This may be due to varying definitions of a megabyte. Hard drive suppliers define a decimal megabyte as 1,000,000 bytes (10⁶). Alternatively, a binary megabyte is defined as 1,048,576 (2²⁰). This is why some utilities show 3815.4 MB, while others will show 4000.7 MB for the same drive. See the following table.

Drive	Western Digital (MB)	CMOS and Fdisk (MB)	CHKDSK (Bytes)	Windows 95/98 (GB)
2.5 GB	2,559	2,441	2,559,836,160	2.38
3.2 GB	3,249	3,098	3,249,340,416	3.02
4.0 GB	4,000	3,815	4,000,776,192	3.72
4.3 GB	4,304	4,112	4,311,982,080	4.01
5.1 GB	5,163	4,924	5,163,540,480	4.80
6.4 GB	6,448	6,149	6,448,619,520	6.00
8.4 GB	8,455	8,063	8,455,200,768	7.87
9.1 GB	9,115	8,693	9,115,361,280	8.48
10.1 GB	10,141	9,671	10,141,286,400	9.44
10.2 GB	10,262	9,787	10,262,568,960	9.55
13.0 GB	13,020	12,417	13,020,069,888	12.12
13.5 GB	13,578	12,949	13,578,485,760	12.64
15.3 GB	15,377	14,665	15,377,080,320	14.32
18.0 GB	18,042	17,207	18,042,716,160	16.80
20.4 GB	20,416	19,938	20,416,757,760	19.01

Western Digital reports decimal megabytes (1,000,000 bytes).

CMOS reports binary megabytes (1,048,576 bytes).

CHKDSK reports decimal megabytes (1,000,000 bytes).

Q9: What should I check if my system will not boot after I turn on the power?

Ensure that:

1. The system power cables are secure.
2. The jumper selections on your hard drive(s) are correctly set for your installation.
3. The connections at both ends of the IDE interface cable are secure and correctly oriented.

4. If you have a 2.5 GB or larger hard drive, you may encounter a system BIOS limitation.
5. The EIDE controller card, if installed, is properly seated and connected.

Q10: I cannot boot from my newly installed hard drive or access the hard drive after I used Fdisk and Format to set up my drive.

We recommend using EZ-Drive 9.10WD or later software when installing 8.4 GB and larger hard drives. See Question 2. If you used Fdisk and Format on a smaller capacity hard drive, check the system to ensure that:

1. You correctly partitioned (via the Fdisk utility) and formatted (via the Format utility) the new hard drive.
2. You made your primary drive bootable (formatted with/S option).
3. You marked your bootable partition active in Fdisk if you created multiple partitions.

Q11: My drive does not spin up or it spins down after a few seconds.

Ensure that:

1. Your power connector is securely fastened and working properly.
2. The orientation of pin socket 1 on the 40-pin IDE interface cable matches pin 1 on the connector.
3. The jumper selections on your hard drive(s) are correctly set for your installation.

Q12: I have a 2.5 GB or larger drive with Windows 3.1 or early version of Windows 95 installed. Can I create just one partition?

No. DOS and Windows have a 2.1 GB partition limitation. You must use at least two partitions to access the full capacity of your drive. See Question 15.

Q13: I transferred files from my old drive to my new larger drive, and the same files seem to take up much more space. Why?

Hard drives divide partitions into units called clusters. In general, larger hard drives use larger cluster sizes. To reduce your cluster size, you must reduce the partition size. See Question 15.

Q14: How can I get 32-bit disk access in Windows 3.1x?

Run the SETUP.EXE program located on your EZ-Drive disk to install the 32-bit disk access driver.

NOTE: Do NOT run this from Windows 95/98. This will cause Windows 95/98 to run in DOS compatibility mode and degrade performance.

Q15: Should I create more than one partition on my hard drive?

The following applies to hard drive capacities of 2.5 GB or larger.

1. You must create at least two partitions if you are using DOS 6.x, Windows 3.1x, Windows 95 v4.00 9.50a, or any operating system that uses the FAT16 file system.
2. Only one partition is required if you are using Windows 95 v4.00 9.50b or Windows 98 that uses the FAT32 file system or Windows NT with NTFS.

FAT16 vs FAT32: FAT16 has always been used by DOS and has a maximum partition limit of 2.1 GB. FAT32 partitions utilize disk space more efficiently and the partitions may be greater than 2.1 GB.

The default FAT16 cluster sizes are:

Fdisk Partition Size*	EZ-Drive Partition Size**	Cluster Size
0 - 127 MB	0 - 133 MB	2 KB
128 - 255 MB	133 - 267 MB	4 KB
256 - 511 MB	268 - 537 MB	8 KB
512 - 1023 MB	538 - 1073 MB	16 KB
1024 - 2047 MB	1074 - 2113 MB	32 KB

* Fdisk reports binary megabytes (1,048,576 bytes).

** EZ-Drive reports decimal megabytes (1,000,000 bytes).

To find out if your file system supports FAT16 or both FAT16 and FAT32:

In Windows 95:

1. From the Start menu, select Settings, then Control Panel.
2. Double-click on the System icon.
3. Click on the General tab.

4. Check the number code under the System section:

4.00.950a = FAT16 only

4.00.950.b = FAT32 and FAT16

CAUTION. Repartitioning an existing drive destroys all the data. Be sure to create a backup before repartitioning an existing drive.

Q16: My existing drive was installed using Ontrack Disk Manager. Can I use EZ-Drive to install my new hard drive?

Yes. Ontrack Disk Manager and EZ-Drive cannot coexist in the same system. If your existing drive has Ontrack Disk Manager installed, use the EZ-Drive Fully Automated Install to set up your new hard drive and convert Ontrack Disk Manager boot code to EZ-BIOS.

Even though EZ-Drive converts Ontrack Disk Manager partitions to EZ-BIOS partitions without data loss, be sure to back up your existing hard drive before proceeding.

Q17: Can I install Windows NT 3.51 or 4.0 or OS/2 Warp 3.0 or 4.0 on my drive that originally was installed with EZ-Drive?

Yes, but you must disable floppy boot protection before installing these operating systems.

Q18: What should I do if my anti-virus program detects a virus in the Master Boot Record (MBR) when EZ-BIOS is supporting my large hard drive?

Your anti-virus program has mistakenly identified EZ-BIOS as a virus. Do not allow the anti-virus program to remove or clean the virus in the MBR. If EZ-BIOS is removed, you will lose large hard drive support.

Q19: When I create custom partitions using EZ-Drive or Fdisk, my primary partition is slightly smaller than the size I entered.

Partitions must begin on a cylinder boundary. To start a partition on a cylinder boundary, utilities such as EZ-Drive and Fdisk create a primary partition that may be a few megabytes smaller than the size you entered. Both EZ-Drive and Fdisk add these megabytes to your second partition. You do not lose any megabytes.

Q20: I installed my new hard drive, used the alternate jumper settings, and installed EZ-Drive, but Windows NT 3.51 or 4.0 does not properly recognize my hard drive. How can I access my new hard drive with Windows NT 3.51 or 4.0?

Our hard drives installed using the alternate jumper settings and EZ-Drive are incompatible with Windows NT 3.51 and 4.0. You need to follow the steps outlined below so Windows NT 3.51 or 4.0 can recognize your new hard drive.

1. Turn off the system power.
2. Disconnect the IDE interface cable from the system.
3. Remove the jumpers from the alternate jumper positions.
4. Use the standard jumper settings on page 2.
5. Enter CMOS setup. Refer to your system manual for instructions.

Select the Hard Disk Type option for your new Western Digital hard drive. Select a user defined drive type and enter 1023 cylinders, 16 heads, and 63 sectors. If your system does not have a user defined drive type, select **Type 9**.

Note: If none of these options are available, upgrade your system BIOS to support the full capacity of your new hard drive.

6. Reconnect your IDE interface cable to the system.
7. Use EZ-Drive to set up your new hard drive. Windows NT 3.51 or 4.0 should properly recognize your new hard drive.

IMPORTANT: Windows NT 3.51 and 4.0 DO NOT support the EZ-Drive floppy boot protection scheme. If using one of these operating systems, you must disable floppy boot protection.

Q21: What is the warranty period for my Western Digital hard drive?

Every Western Digital hard drive covered in this guide has a 3-year warranty.

Q22: I've read this information sheet and I am still having problems.

If none of the solutions presented here solves your problem, consider these options:

1. Read the README.TXT text file on the EZ-Drive disk for additional troubleshooting information.
2. Check the Western Digital online services at www.westerndigital.com for a more comprehensive list of frequently asked questions.
3. Contact your reseller/retailer.
4. Have the EZ-Drive disk available and contact Western Digital technical support. See Question 1.

Alternate Jumper Settings

Use the jumper settings described in this section only if your hard drive has a 10-pin connector and your system continues to lock up after you have:

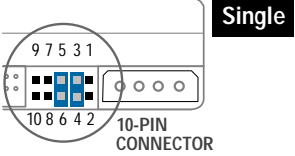
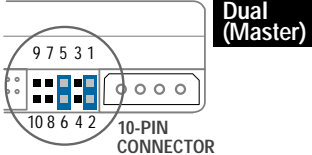
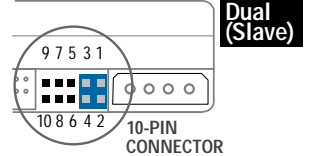
- used EZ-Drive 9.10WD or later
- upgraded your system BIOS
- or installed an EIDE controller card with an onboard BIOS.

These jumper settings cause the drive to report 2.1 GB rather than the actual drive capacity. If you use these jumper settings, you **MUST** use EZ-Drive 9.10WD or later to install EZ-BIOS and access the full capacity of your new hard drive.

Alternate jumper settings are not recommended on drives with 9-pin connectors.

Note for Windows NT Users: If your system locks up, and you are using Windows NT, do not use these alternate jumper settings. You need to either use the standard jumper settings on page 2 and select a user defined drive type in CMOS setup or upgrade your system BIOS to support the full capacity of your new hard drive. See Question 20 for details.

If you have a 2.5 GB or larger hard drive, your system locks up on initial boot and you cannot access your system CMOS (setup), you may need to use one of the following jumper configurations:

- 1** If the drive you are installing is the only drive on your system, set the jumpers in these positions..

10-PIN CONNECTOR
- 2** If the drive you are installing is the master drive in a two-drive system, set the jumpers in these positions.

10-PIN CONNECTOR
- 3** If the drive you are installing is the slave drive in a two-drive system, set the jumpers in these positions.

10-PIN CONNECTOR

KEY: ■ Jumper pins ■ Jumper added

For service and literature:
800.ASK.4WDC USA
949.932.5000 Outside USA
949.932.4300 DocuFAX
www.westerndigital.com

Alternate Jumper Settings for Western Digital Hard Drives with 10-pin connectors.

If you need additional information contact Western Digital Technical Support at:

North America: 800-ASK-4WDC
Outside North America: 949-932-5000
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