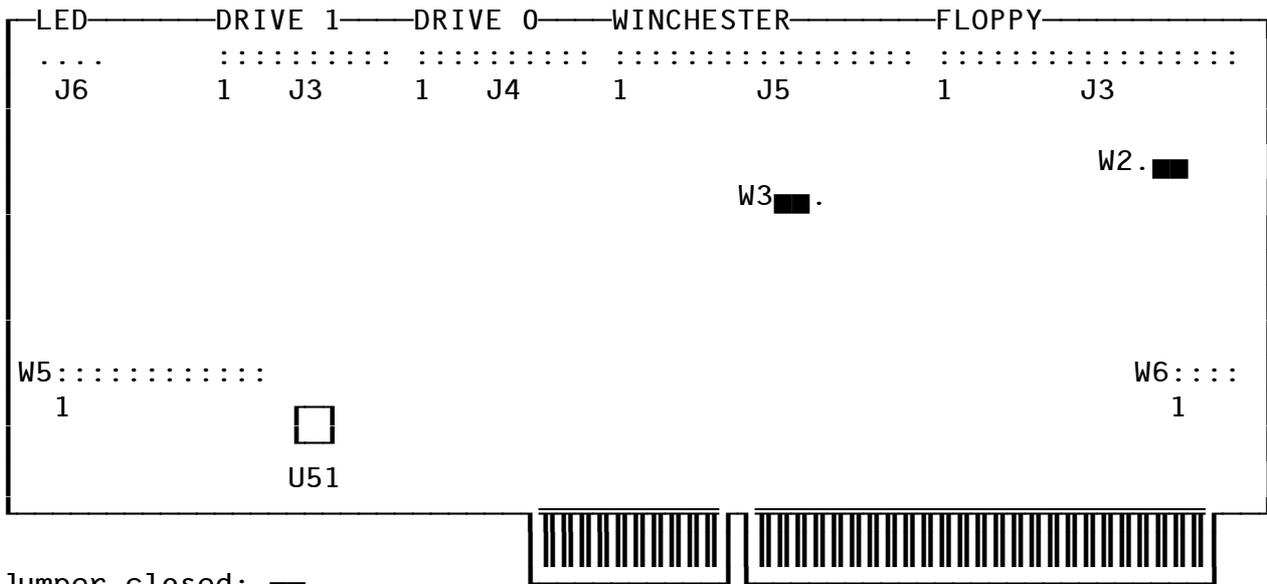
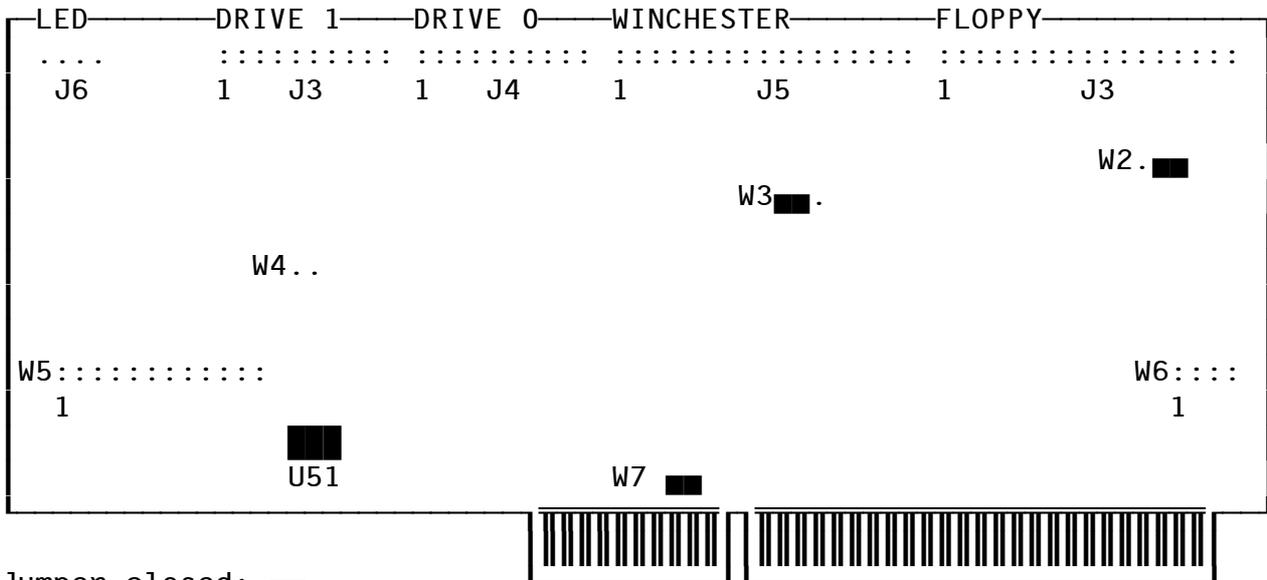


Western Digital WD1009V-SE2

DEFAULT JUMPER SETTINGS



Jumper closed: 
 Figure 1: WD1009V Controller



Jumper closed: 
 Figure 2: WD1009V Controller, EISA Enhanced Version

DEFAULT JUMPER OPTIONS

Jumper W2

- o ■ 2-3 End-twisted floppy drive cable

Jumper W3

- o 1-2 AT-Type 1.44 MB floppy drive

Jumper W4

- o o Card always enabled

Jumper W5

- 1-2 o o Alternate sectors disabled
- 3-4 o o Translation mode enabled
- 5-6 o o Force 35/53 SPT
- 7-8 o o 4-Byte ECC
- 9-10 o o Multi-segmented adaptive look ahead caching enabled
- 11-12 o o Primary BIOS address (C800:0)
- 13-14 o o 1009V BIOS enabled
- 15-16 o o 1
- 17-18 o o 1 IRQ14
- 19-20 o o DMA channel 6
- 21-22 o o Primary hard drive address (1F0-1F7)
- 23-24 o o Hard drive controller enabled

Jumper W6

- 1-2 o o Enabled floppy controller
- 3-4 o o DMA channel 2
- 5-6 o o Primary floppy drive address (3F0-3F7)
- 7-8 o o Single Speed. 1.2 MB 5.25" floppy drive

Jumper W7

- EISA Auto-configuration enabled

JUMPER OPTIONS

Jumper W2

■ o 1-2 Center-twisted floppy drive cable

Jumper W3

o ■ 2-3 PS/2 Type 1.44 MB floppy drive

Jumper W4

■ Card enabled by the EISA host

Jumper W5

1-2 ■ Alternate sectors enabled

3-4 ■ Translation mode disabled

5-6 ■ Physical mode-SPT

7-8 ■ 7-byte ECC

9-10 ■ Caching disabled

11-12 ■ Secondary BIOS address (CC00:0)

13-14 ■ 1009V BIOS disabled

15-16 ■ 1
17-18 ■ 1 IRQ11 o o 1 IRQ12 or o o 1 IRQ15

19-20 ■ DMA channel 7

21-22 ■ Secondary hard drive address (170-177)

23-24 ■ Hard drive controller disabled

Jumper W6

■ Disabled floppy controller

■ DMA channel 3

■ Secondary floppy drive address (370-377)

■ Dual Speed. 1.2 MB 5.25" floppy drive

Jumper W7

o o EISA Auto-configuration disabled

KEY

o o = OPEN

■ = JUMPERED

JUMPER DESCRIPTIONS

This section lists and describes all jumper settings for the WD1009V.

CHANGING THE CONFIGURATION

In order to change the jumper configuration, you may require a jumper shunt for each setting you plan to change. Jumper shunts are small plastic brackets that fit over the jumper pins. These shunts may be purchased from a computer supply store.

To change the jumper configuration:

1. Refer to Table 1 to determine your configuration.
2. To install a jumper shunt, place the shunt over the pins specified in Table 1.
3. Push the shunt into place until it is flush against the base of the jumper block.

W2 JUMPER - FLOPPY CABLE TYPE FOR THREE FLOPPY DRIVES

The W2 jumper specifies the type of floppy cable you are using in your installation if you are installing a third floppy drive. If you have the WD1009V-SE1 hard drive- only controller, there are no jumper pins to configure at this location. If you are installing one or two floppy drives, do not change the default setting.

The default setting is a jumper installed on pins 2-3, which enables an end-twisted floppy cable for three drives. Remove the jumper shunt from pins 2-3 and install it on pins 1-2 if you are using a center-twisted floppy cable for three floppy drives. If you are unsure of the type of cable you are using, refer to the Introduction to determine your cable type.

W3 JUMPER - FLOPPY DRIVE TYPE

This jumper applies to the WD1009V-SE2 Controller. This option allows you to configure the controller for AT- or PS/2-type, 3 1/2", 1.44MByte floppy drives. The default jumper setting is a jumper shunt installed on pins 1-2 to select an AT-type floppy drive (3 1/2" 1.44MByte). Remove the jumper shunt from pins 1-2 and install it on pins 2-3 to designate a PS/2-type floppy drive (3 1/2" 1.44MByte).

W4 JUMPER - EISA CONTROLLER ENABLE OPTION

This jumper determines how you want the controller enabled in an EISA system. The default setting for W4 is no jumper shunt installed. This enables the WD1009V Controller at all times. Install a jumper shunt on pins 1-2 to allow the EISA host to enable or disable the WD1009V Controller. Leave this jumper off if you are working in an ISA system.

W5 JUMPER - ESDI DRIVE AND BIOS OPTIONS

The W5 jumper block allows you to configure a number of important options, some of which are dependent on your hard disk configuration or operating system capabilities. The default setting for all W5 jumpers is no jumper shunt installed. You may need to refer to your hard disk drive or operating system documentation in order to correctly set the controller card.

ALTERNATE SECTOR PINS 1-2 allow you to enable or disable the alternate sector capability. Install a jumper shunt over these pins to enable the alternate sector, which reserves one sector per track for bad sector swapping.

TRANSLATION MODE PINS 3-4 open enables Translation Mode on the WD1009V Controller. Install a jumper shunt on these pins to disable the Translation Mode. Be sure to check your system capabilities in matching your drive tables before you disable this feature.

SECTORS PER TRACK PINS 5-6 default setting forces your 10 or 15Mb/s drive to 35 or 53 sectors per track (SPT) mode. Installing a jumper on pins 5-6 activates the Physical Mode. Physical Mode parameters are determined by the drive jumper settings.

ERROR CORRECTION CODE PINS 7-8 specify the byte size of the error correction code (ECC). The controller default setting enables a 4-byte ECC. Installing a jumper shunt on pins 7-8 enables the 7-byte ECC, which is only used if you are performing certain diagnostics.

CACHEING PINS 9-10 allow you to enable or disable caching. The default setting (no jumper shunt installed), enables the 64KBytes of multi-segmented adaptive look ahead caching. Caching increases overall system performance by reading ahead and buffering the data sectors likely to be used by the host on subsequent read commands.

Install a jumper shunt on pins 9-10 if you want to disable caching. In most cases, it is best to leave caching enabled. Refer to your software documentation for information on how caching affects your software performance.

BIOS ADDRESS PINS 11-12 select the primary or secondary BIOS address. Leave the pins open to select the primary BIOS address (C800:0). If a BIOS address conflict exists, install a jumper shunt on pins 11-12 to select the secondary BIOS address (CC00:0).

WD1009V BIOS PINS 13-14 allow you to enable or disable the WD1009V BIOS. You most likely want to enable the WD1009V BIOS, which is the default setting (pins 13-14 open). If you want to disable the WD1009V BIOS, install a jumper shunt over pins 13- 14.

IRQ PINS 15-16 and 17-18 function together to select the interrupt request (IRQ) address. Most operating systems work with IRQ 14, which is the default setting.

If no jumper shunts are placed on pins 15-16 and 17-18, then IRQ 14 is selected. If a jumper shunt is placed on pins 15-16 but not 17-18, IRQ 12 is selected. Leave pins 15-16 open and place a jumper shunt on pins 17-18 to select IRQ 15. If jumper shunts are placed on both sets of pins, IRQ 11 is selected.

EISA DMA PINS 19-20 allow you to select the Direct Memory Access (DMA) channel in your EISA system. When EISA DMA mode is enabled, it uses this DMA channel. The default setting of no jumper shunt installed selects DMA channel 6. Install a jumper shunt on pins 19-20 to select DMA channel 7.

HARD DISK CONTROLLER I/O ADDRESS PINS 21-22 select either the primary or secondary hard disk controller I/O address. Leave pins 21-22 open to select the primary hard disk controller address (1F0-1F7). Install a jumper shunt on pins 21-22 to select the secondary hard disk controller address (170-177).

HARD DISK CONTROLLER PINS 23-24 enable or disable the hard disk controller. Leave pins 23-24 open to enable the hard disk controller. Place a jumper shunt on the pins to disable the hard disk controller.

W6 JUMPER - FLOPPY CONTROLLER OPTIONS

This jumper block allows you to set a number of features related to your floppy controller. These options apply only to the WD1009V-SE2 model. All default settings do not have a jumper shunt installed.

FLOPPY CONTROLLER PINS 1-2 allow you to enable or disable the floppy controller. Leave pins 1-2 open to enable the WD1009V-SE2 floppy controller. Place a jumper shunt on pins 1-2 to disable the WD1009V floppy controller.

FLOPPY DMA PINS 3-4 allow you to select the Direct Memory Access (DMA) channel for the floppy controller. To select DMA channel 2, leave pins open. To select DMA channel 3, install a jumper shunt on pins 3-4.

FLOPPY CONTROLLER I/O ADDRESS PINS 5-6 select either the primary or secondary floppy controller I/O address. Leave pins 5-6 open to select the primary floppy controller address (3F0-3F7). Install a jumper shunt to select the secondary floppy controller address (370-377).

SPINDLE SPEED PINS 7-8 specify the spindle speed of 5 1/4" high density, 1.2MByte floppy drives. Leave pins 7-8 open to designate a single-speed 1.2MB 5 1/4" drive. Install a jumper shunt over these pins to designate a dual-speed 1.2MB 5 1/4" floppy drive.

W7 JUMPER - EISA AUTOCONFIGURATION

The W7 jumper allows you to enable or disable the EISA Auto-configuration feature of your EISA enhanced version of the WD1009V Controller. Refer to the Introduction to identify if your WD1009V Controller is capable of EISA Auto-configuration. Remove the jumper shunt if you want to disable the EISA Auto-configuration capability on your EISA-compatible WD1009V. Leave the jumper shunt on pins 1-2 to enable the EISA Auto-configuration feature.

INSTALLATION

This section provides the steps necessary to install your WD1009V Controller in your PC/AT system.

- * Step One: Preparing for Installation
- * Step Two: Locating the Expansion Slot
- * Step Three: Connecting the Hard Drives
- * Step Four: Connecting the Floppy Drives
- * Step Five: Installing the Activity LED
- * Step Six: Installing the WD1009V Controller

STEP ONE:

PREPARING FOR INSTALLATION

Be sure the following are complete before installing the WD1009V:

- * The power cord is removed from the computer

- * The computer cover is removed according to the instructions in your system owner's manual
- * The controller, hard disk drives, and floppy drives are correctly configured
- * Your hard disk and floppy drives are correctly installed according to the drive installation manuals
- * A termination resistor is installed on the last hard drive and last floppy drive
- * Connect the power supply connector to the drives
- * Any existing hard drive and floppy drive controller is removed or disabled from your system.

STEP TWO:

LOCATING THE EXPANSION SLOT

Caution: To avoid electrical shock, make sure that all power to your computer is off and the power cord is disconnected from the power outlet prior to opening your computer.

The WD1009V Controller fits into a 16-bit expansion slot or 32-bit EISA expansion slot inside your computer. Once the cover is off the computer, you will recognize an area toward the back of the computer that has expansion slots available for peripheral cards. This area may already have cards installed, such as a video graphics card, or serial port card. When installing the WD1009V, it is best to select the expansion slot that is closest to the drives in your system.

There are two possible types of expansion slots: a motherboard expansion slot, and a vertical side-mounted expansion slot. In this installation, the motherboard is located beneath the expansion slot area, and the cards are seated on the motherboard.

Slimmer systems may have side-mounted vertical expansion slots. Once you locate the desired expansion slot, remove the expansion slot cover by loosening the screw that holds the cover in place.

The inside of your computer may differ from the illustrations in this manual. Refer to your computer installation or user manual for the exact location of your system components.

STEP THREE:

CONNECTING THE HARD DRIVES

Note: Be sure to align pin 1 on the cable connectors to pin 1 on the drive connector, and on the controller connector. Pin 1 on the cable is indicated by a notch on the connector, or the pin 1 line on the cable is color coded. Damage may occur if the cables are not properly connected.

This section provides information on connecting your hard disk drives to the WD1009V Controller. During connection, do not mistake the hard disk drive control cable for the floppy cable. Also make sure that the drives are installed properly before connecting them to the WD1009V Controller.

To connect the hard drives to the controller:

1. Be sure the drives are properly cabled together with the daisy chain cable when installing two hard drives.

2. Connect the 34-pin control cable connector from the hard drives to the J5 connector. Be sure to align pin 1 on the cable connector to pin 1 on the controller connector, and drive connectors.

Do not confuse the hard drive daisy chain cable with a floppy daisy chain cable. They are not interchangeable.

3. Connect the 20-pin data cable from the first drive to the J4 connector on the controller connector. Align pin 1 to pin 1 on the drive and controller. The first drive is the boot drive.
4. If you are installing two drives, connect the second drive (drive 1) data cable to the J3 controller connector. Drive 1 is the second or D: drive in a dual hard drive installation.
5. Connect the power supply connector to the drives.

STEP FOUR:

CONNECTING THE FLOPPY DRIVES

Note: Skip this section if you are disabling the floppy controller or are installing the WD1009V-SE1 Controller.

This section provides information on connecting your floppy disk drives to the WD1009V-SE2 Controller. During connection, do not mistake the hard disk drive control cable for the floppy cable. Also make sure that the drives are installed properly before connecting them to the WD1009V Controller.

To connect the floppy drives to the controller:

1. Be sure the drives are properly cabled together with the daisy chain cable when installing two or more floppy drives.
2. Connect the 34-pin floppy cable connector from the floppy drives to the J1 connector. Be sure to align pin 1 on the floppy cable connector to pin 1 on the controller connector and to the drive connectors.

Do not confuse the hard drive daisy chain cable with a floppy daisy chain cable. They are not interchangeable.

3. The hard drive connections are also displayed since the hard drives are connected to the controller before the floppy drives are connected.
4. Route the floppy and hard drive cables in your system between the drive area and selected controller expansion slot. Do not force the cables between system components. The cables should not obstruct any air flow paths or rest between the controller and computer cover.

STEP FIVE:

INSTALLING THE ACTIVITY LED

This is an optional step. If your system provides an activity light emitting diode (LED) indicator for your hard drives, install the connector into the J6 connector on the WD1009V Controller.

STEP SIX: INSTALLING THE WD1009V CONTROLLER

Once all of the drives are correctly cabled to the WD1009V, you are ready to install the controller in your system.

1. Carefully slide the controller board into the selected expansion slot.
2. Press evenly on the edges of the controller board as you insert it into the expansion slot. You will feel the controller slip into place and seat firmly in the slot.
3. After the board is firmly seated in the expansion slot, secure the controller to the computer by tightening the screw on the expansion slot cover.
4. Make sure that all cables and power cords inside the computer are reattached before closing the computer.
5. Replace and install the computer cover according to the instructions provided in your computer installation manual.
6. Attach all cables and connectors to the back of the computer. Plug in the power cord.

The WD1009V is now installed. You now need to prepare the drives for use by performing some setup routines.

PREPARING THE WD1009V FOR USE

Your drive needs to be prepared for use. You will need your operating system diskettes for this phase of installation. This section describes the disk preparation procedures for your system using the WD1009V BIOS routine and DOS operating system. If you are using a different operating system, refer to your operating system documentation for set up procedures.

The WD1009V BIOS routine allows you to:

- * perform a low-level format
- * read and mark the hard drive defect tables
- * perform a read verify
- * perform a surface analysis
- * show the configuration information
- * set the BIOS options and drive parameters

Your DOS Debug utility allows you to access the WD1009V BIOS set up routines. The set up routines are displayed in an easy-to-use menu on your screen.

ACCESSING THE WD1009V BIOS MAIN MENU

The WD1009V Setup Screen is accessed through the DOS Debug utility.

1. Turn the system power on.
2. Boot the system from the bootable DOS diskette.

3. Insert the diskette that contains the Debug utility into drive A:.
4. Type Debug at the screen prompt. Press [Return].
5. A dash (-) prompt is displayed. Type g=C800:5. This tells the system to access the WD1009V BIOS routine from the Controller.

If you set the WD1009V BIOS to the secondary BIOS address, (jumper W5 with a jumper shunt installed on pins 11-12), type g=CC00:5.

6. Press [Return]. The WD1009V BIOS routine finds the drive parameters and displays the BIOS Main Menu.

```

* * * WESTERN DIGITAL UTILITIES COPYRIGHT 1990,Rev.X.XX * * *

PHYSICAL DRIVE PARAMS.
DRIVE 0 CYLINDERS 1632 HEADS 15 SPT 53
DRIVE 1 *** NONE SELECTED or NO DRIVE PRESENT ! ***
DRIVE 2 *** NONE SELECTED or NO DRIVE PRESENT ! ***
DRIVE 3 *** NONE SELECTED or NO DRIVE PRESENT ! ***

1)  HELP.
2)  LOW LEVEL FORMAT ALL OF DRIVE.
3)  MARK DEFECT LIST AUTOMATICALLY.
4)  MARK DEFECT LIST BY HAND.
5)  VERIFY ALL OF DRIVE.
6)  SURFACE ANALYSIS ON ALL OF DRIVE.
7)  SHOW CONFIGURATION IINFORMATION.
8)  SET BIOS OPTIONS, DRIVE TYPE & EXIT.
Enter Choice (1-8) ----->

```

1009V BIOS Main Menu - Single Drive Installation

If only numbers are displayed in place of the drive parameters and Main Menu, the drive select or cable connections may be wrong. If this occurs, you need to check your drive configuration and installation. Make sure the drive select is correct for the type of cables used. Also be sure that pin 1 on each cable is properly connected to pin 1 on the drive and controller connectors.

SET UP PROCEDURES

Warning: A low-level format erases all data on your hard disk drive. Be sure to back up all of your data before proceeding.

The set up procedures are easy to perform. The Main Menu and related screens prompt you for input and display related information on screen. To select an option from the Main Menu, simply type the desired number. We recommend you follow the order displayed on the Main Menu when initially preparing your system for use.

HELP

The Help screen lists the options available on the WD1009V Main Menu. If you are unsure of the function of a particular selection, press 1 to display the on-screen Help menu.

LOW-LEVEL FORMAT

You need to perform a low-level format on the hard drives installed in your system. Press 2

from the Main Menu to perform a low-level format on your drive. The prompt at the bottom of the screen asks you to enter the drive number you want to format. In most systems, the C: drive is Drive 0.

1. Enter the drive number.
2. You are asked if you are sure you want to perform this function, since all files on this drive will be written over by the format procedure. Enter Y for yes if you want to perform a low-level format on the drive and erase any existing files.
3. The next prompt provides you the final opportunity to quit the low-level format procedure if you do not want to destroy the files on the drive. Enter Y to continue with the format routine.
4. Once the low-level format is complete the screen prompt notifies you that the format was successful. Press any key to continue.

If the format failed, the screen notifies you of the format failure. Check all hardware connections and installation procedures.

DEFECT TABLE

There are two ways to read the drive defect map and create a defect table that marks all bad sectors on the ESDI disk drive: automatically, or by hand.

To create the defect table and mark all bad sectors on the drive automatically:

1. Press 3 from the Main Menu.
2. Enter the drive number.
3. The following prompt asks if you are sure you want to perform this operation, since files will be written over. Enter a Y to continue.

The defect table is automatically generated based on the drive manufacturer's defect list. If you have enabled alternate sectors, a bad sector can be moved to the alternate sector without having to mark the sector as bad. This allows a near error-free drive to be presented to the operating system.

Mark the defect list by hand if you are unable to enter the defect list automatically. To mark the defect list by hand:

1. Locate the manufacturer's defect table provided on the physical drive, or in the drive documentation.
2. Press 4 from the Main Menu.
3. Enter the drive number.
4. The following prompt asks if you are sure you want to perform this operation. Enter a Y to continue.
5. Enter each bad sector separately:
 - a. enter the cylinder number and press [Return].
 - b. enter the head number and press [Return].
 - c. enter the byte offset from index and press [Return].

Continue this procedure until all bad sectors are entered and marked.

VERIFY DRIVE

This verification checks all readable sectors. If a bad sector is found during this process it is added to the defect table and marked as bad. This operation takes time.

1. Press 5 from the Main Menu.
2. Enter the drive number.
3. The following prompt asks if you are sure you want to perform this operation since all files will be lost. Enter a Y to continue and confirm the selection.

SURFACE SCAN ANALYSIS

This operation is similar to verifying the drive, only the Surface Scan is more complete and takes more time. To perform a surface scan:

1. Enter 6 from the Main Menu.
2. Enter the drive number.
3. The following prompt asks if you are sure you want to perform this operation since files will be lost. Enter a Y to confirm the selection. Be sure to allow at least a few hours for this operation to complete.

SHOW CONFIGURATION INFORMATION

Press 7 to display the Configuration menu. This menu allows you to display the controller or drive configuration information.

Enter your selection from this menu by pressing the desired number. The configuration information displays on screen. This information can also be accessed through the Set BIOS Options Setup Screen selection.

```
*** WESTERN DIGITAL UTILITIES COPYRIGHT 1990,Rev.X.XX ***  
  
CONFIGURATION MENU  
  
1. HELP.  
2. SHOW CONTROLLER CONFIGURATION.  
3. SHOW DRIVE CONFIGURATION.  
4. RETURN TO PREVIOUS MENU.  
  
ENTER CHOICE (1-4) ----->
```

1009V BIOS Show Configuration Menu

BIOS SETUP OPTIONS

Note: Not all non-DOS operating systems currently support the WD1009V BIOS INT 13 handler, Block Mode, or EISA DMA. Refer to your operating system manual before enabling these features.

Note: Block Mode and EISA DMA cannot be enabled at the same time.

Press 8 from the Main Menu to Set BIOS Options and Drive Type, and to display the BIOS Options screen. It is important to configure the WD1009V BIOS correctly, according to your system configuration.

```

* * * WESTERN DIGITAL UTILITIES COPYRIGHT 1990,Rev.X.XX * * *

PHYSICAL DRIVE PARAMS.
DRIVE 0 CYLINDERS 1632 HEADS 15 SPT 53
DRIVE 1 *** NONE SELECTED or NO DRIVE PRESENT ! ***
DRIVE 2 *** NONE SELECTED or NO DRIVE PRESENT ! ***
DRIVE 3 *** NONE SELECTED or NO DRIVE PRESENT ! ***

                OPTIONS MENU

1)  HELP.
2)  SHOW CONFIGURATION.
3)  WESTERN DIGITAL INT 13 BIOS      : DISABLED
4)   BLOCK MODE SIZE                : DISABLED
5)   EISA DMA Mode                  : DISABLED
6)  POWER UP SCAN FOR DRIVE 2&3:    DISABLED
7)  SET DRIVE TYPE AND EXIT.

ENTER CHOICE (1-7) ----->
```

1009V BIOS Options Menu

HELP

Press 1 from the BIOS Menu to display a help screen that lists and briefly describes the BIOS set up options.

SHOW CONFIGURATION

Press 2 from the BIOS Menu to list the configuration information for the drive or the controller.

WESTERN DIGITAL INT 13 BIOS

Press 3 from the BIOS Menu to enable or disable the WD1009V BIOS INT 13 handler. The INT 13 handler allows the use of Block Mode, EISA DMA for the EISA enhanced version of the WD1009V, and the operating system to recognize ESDI drives that exceed the 528MByte limit.

BLOCK MODE SIZE

Press 4 from the BIOS Menu to enable and set the Block Mode size. Block Mode determines the amount of data transferred at one time. We recommend setting the Block Mode size to the maximum 16. If you want to disable the Block Mode option, set Block Mode to 0.

EISA DMA MODE

Press 5 from the BIOS Menu to enable the DMA mode for your EISA-capable WD1009V.

POWER UP SCAN FOR DRIVES 2 & 3

Press 6 from the BIOS Menu to enable power up scan for your third and fourth ESDI drives. This option is used when installing two WD1009V Controllers.

SET DRIVE TYPE AND EXIT

Press 7 f from the BIOS Menu to display the drive translation tables for the selected drive. The translation table selected determines how the system will see the drive. The available translation tables are displayed on screen.

Your translation tables (the actual numbers for the cylinders, heads, and sectors per track) may be different from those displayed below.

```
* * * WESTERN DIGITAL UTILITIES COPYRIGHT 1990,Rev.X.XX * * *

PHYSICAL DRIVE PARAMS.
DRIVE 0 CYLINDERS 1632 HEADS 15 SPT 53
DRIVE 1 *** NONE SELECTED or NO DRIVE PRESENT ! ***
DRIVE 2 *** NONE SELECTED or NO DRIVE PRESENT ! ***
DRIVE 3 *** NONE SELECTED or NO DRIVE PRESENT ! ***

DRIVE TYPES FOR DRIVE: 0

*** NONE SELECTED or NO DRIVE PRESENT ! ***
CYLINDERS 1023 HEADS 15 SPT 53
CYLINDERS 1023 HEADS 16 SPT 17
> CYLINDERS 1023 HEADS 16 SPT 63
CYLINDERS 1630 HEADS 15 SPT 53      NEEDS CUSTOM DRIVER FOR THIS TABLE
CYLINDERS 321  Heads 64 SPT 63      MUST HAVE CUSTOM INT 13 BIOS INSTALLED

USE ↑ Or ↓ TO PICK DRIVE TYPES <ENTER> TO SET DRIVE TYPE.
```

1009V BIOS Drive Translation Tables

The following five choices are offered to provide flexibility for your operating system and drive configuration. We recommend you use the third table for ESDI drives with less than 528Mbytes, and the fifth table for drives over 528Mbytes. If you select the fifth table, you must enable WD1009V BIOS INT 13. Refer to BIOS Setup Options for more information.

The first table lists the physical parameters but truncates the number of cylinders to a maximum of 1023, which could cause a loss of capacity on a large drive.

The second table truncates the number of cylinders to 1023, increases the number of heads to 16, and decreases the sectors per track to 17.

The third table allows the DOS maximum number of cylinders, heads, and sectors per track. This table affords a maximum of 528MBytes.

The fourth table lists the actual physical parameters for the drive. Select this translation table only if you have an operating system or a custom driver that supports the physical drive parameters of your drive.

The fifth drive translation table allows you to use the full capacity of drives with more than 528MBytes. You need to enable the WD1009V INT 13 to use this table.

SELECTING THE TRANSLATION TABLE

To select a translation table, use the up and down arrow keys to move through the tables

listed. Place the pointer that appears on the left side of the screen in front of the desired translation table. Press [Return] to select the translation table for each drive. If there is another drive installed, the screen displays the translation tables for that drive. Select the appropriate translation table and press [Enter]. This process continues until all installed drives have an assigned translation table.

If you only have one drive installed, or when you have completed selecting the translation table for the last drive installed, press [Return] a few times to exit the BIOS Menu. The system automatically reboots.

PARTITIONING

You need to partition the hard disk once the system is rebooted. The Fdisk program on your DOS diskette sets up partitions on your drive.

To partition your ESDI drives:

1. Boot from a bootable DOS diskette.
2. Install the DOS diskette that contains the Fdisk program.
3. Type Fdisk at the prompt.
4. Press [Enter].
5. Follow the instruction displayed on screen to partition your ESDI drives. Be sure to make the boot partition the active partition in order to boot from your hard drive.

For more information on partitioning and Fdisk, refer to your operating system documentation.

HIGH-LEVEL FORMATTING

High-level formatting installs the operating system and prepares your disk to accept files.

To perform a high-level format:

1. Reboot from a bootable diskette.
2. Install the DOS diskette that contains the Format program in drive A:.
3. At the prompt, type Format C:/S to install DOS on the C: partition.
4. Press [Return].
5. Enter Y to format.

Once the format procedure is complete, you can use your hard drive in your system, and boot from the hard drive. Remove the DOS diskette from drive A:.. Press [Ctrl], [Alt], and [Del] simultaneously to reboot your system from the first hard drive.

Once you reboot your system, the screen should display the C: prompt. If this does not occur, or if you encounter error messages, refer to your operating system manual or the Troubleshooting section for information on resolving problems.

Your WD1009V installation is now complete and your system is ready for use.

TROUBLESHOOTING

Note: If your system CMOS set up is erased and the WD1009V BIOS was used to low-level format your hard drive, use your system configuration utility to reset the hard drive type to Type 1 for each ESDI drive.

This section describes problems and lists procedures to resolve some common difficulties you may encounter with the WD1009V Controller. A table of possible error messages and solutions is also provided.

If your system does not correctly boot and display the C: prompt:

- * Check your hard disk and floppy disk drive configurations to be sure the drives are properly configured for use in your system, and for use with the WD1009V Controller. Refer to Configuring Your Drive and your drive installation manual to be sure you followed configuration and installation instructions correctly.
- * Check your WD1009V Controller configuration to be sure the controller is properly configured for use in your system. Refer to Configuring The WD1009V Controller to be sure you followed the configuration instructions correctly.
- * Re-read the installation instructions provided in this manual to be sure that you followed all installation procedures.
- * Refer to your system documentation and Preparing The WD1009V For Use to be sure you correctly followed set up, partitioning, and formatting procedures.
- * Check the hardware installation of your system. Check the following:
 - Are the cables correctly connected? Did you use the correct cables when connecting the hard disks and floppy drives?
 - Check the controller card installation. Is it properly seated, and connected?
 - Is the system power supply sufficient? Is the system power supply working? Is the power properly connected to your system and drives?
 - Is the activity LED always on? Check the LED cable connection.

The following table lists possible error messages and solutions.

If you have further questions or trouble, contact your dealer or Western Digital Technical Support.

ERROR MESSAGES

<u>Problem</u>	<u>Solution</u>
No Response Screen does not display C:\	<ol style="list-style-type: none">1. Check your cable connections. Make sure you did not interchange floppy disk drive cables with hard drive cables.2. Check your system set up configuration.3. Make sure the power supply is connected to each drive.

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Physical Drive Params
Cylinders 65535
Heads 65535 SPT 65535

Physical Drive Params
Drive 0 Testing Drive
Please Wait
Divide Overflow

Hard Disk 0 Failure
Non System Disk or
Drive Error

Missing Operating
System

4. Check your video card connection.
1. Check the Drive Select Jumpers on the hard drive. (DRIVE 0)
2. Be sure that the drive cables are connected properly. Is pin 1 connected to pin 1?
3. Verify the hard drive cable type. Make sure the hard drive cable has five twisted wires and not seven if you are using a twisted cable.

Make sure the systems CMOS is set to Drive Type 1 if you are using the WD1009V BIOS. Consult your system manual.

1. Make sure the hard drive cable is connected from pin 1 to pin 1 on the drive and controller.
2. Make sure power is connected to each drive.

If the controller has been replaced or changed, make sure controller jumper settings match.

EISA AUTOCONFIGURATION

There are two versions of the WD1009V controller. This section discusses the enhanced EISA Auto-configuration-capable version. While either version of the WD1009V may be used in an EISA or ISA system, only the enhanced version is capable of EISA Auto-configuration.

To determine if you have the enhanced version, check location U51 on the controller. If there is a chip present, you have the enhanced version capable of EISA Auto-configuration.

Figure 2 shows the WD1009V with the chip installed at location U51. The following instructions are for the EISA enhanced version of the WD1009V only.

Most systems require jumper W4 to be left open so that the WD1009V is always enabled. Install a jumper shunt on jumper W7, pins 1-2 to enable the EISA Auto-configuration features of the WD1009V Controller.

Remember that jumpers W1, W2, W3, W4, and W7 need to be set manually. They cannot be controlled through the auto-configuration.

To use your EISA system's Auto-configuration, you need to load the WD1009V-SE1/SE2 Auto-configuration files on to your system during configuration. These files are on a diskette included with the enhanced controller. They may also be downloaded from the Technical Support Bulletin Board.

Follow your EISA system configuration utilities manual for instructions on configuring your

EISA system.

INSTALLING THREE OR FOUR HARD DRIVES

You can install up to four hard drives in your system with the use of two WD1009V Controllers. Each WD1009V Controller can interface two ESDI drives.

Most operating systems do not support more than two hard drives. This installation will probably require software drivers. Refer to your operating system or third party software vendor for more information.

When installing three or four hard drives, each pair of drives are cabled according to the installation instructions in Installing The WD1009V Controller. Connect two drives to each controller.

When preparing and installing the controllers and drives in your system, you need to determine which controller will be designated as the second controller. Configure the second controller to the secondary I/O Address and DMA channel. Also configure the second controller with a different IRQ address. The BIOS and floppy controller must both be disabled on the second controller.

When preparing the drives for use through the BIOS options in the WD1009V BIOS Main Menu, be sure to enable the Power Up Scan for Drives 2 & 3 option. This enables the power up scan for your third and fourth drives.