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# READ THIS FIRST

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INSTALLATION GUIDE

WD1004A-WX1

Winchester Disk Controller Board

FEBRUARY 1989

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***WESTERN DIGITAL***

## IDENTIFY DRIVE

The **WD1004A-WX1** board works with any hard disk drive that has the **ST506/412** drive interface and no more than **1024** cylinders and **16** heads. The Seagate **225** hard disk drive unit is such a drive.

Look in your drive manual to verify that you have an **ST506/412 MFM** drive or check with your dealer.

Then check the drive manual for the drive parameters, such as those listed in Table **1-1**. You'll need this information for the low level format.

**Table 1-1 WD1004A-WX1 Default Drive Parameters**

<b>Formatted Capacity</b>	<b>Number of Heads</b>	<b>Number of Cylinders</b>	<b>Pre-Comp RWC</b>	<b>Step Rate</b>
21MB	4	615	307/none	75 $\mu$ sec

**This board does not work with RLL drives. If you have an RLL drive you need either the WD1004A-27X or WD1004-27X board.**

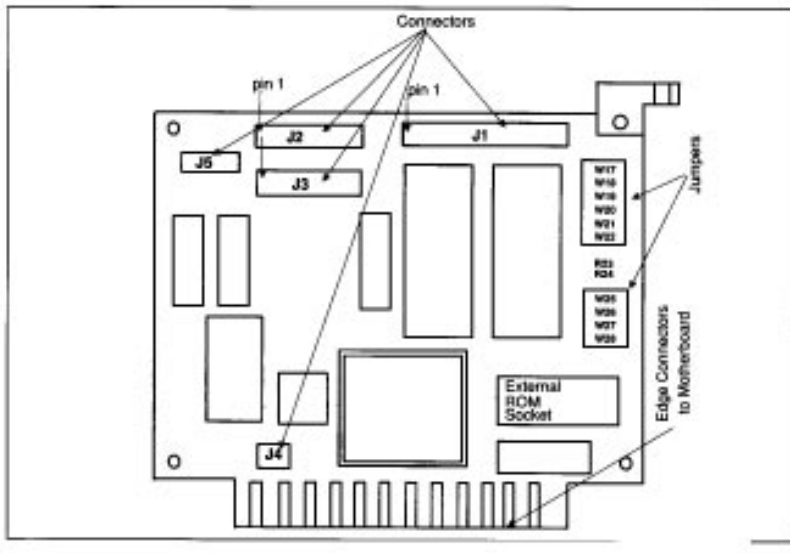
## **IDENTIFY BOARD**

Figure 1-1 shows the connector locations (J1, J2, J3, J4, and J5) on the WD1004A-WX1 board and the location of the jumpers (W17 to W22, R23, and W25 to W28). The (J4) drive power connector is on the WD1004A-WX1 board to connect power to FileCard® drives.

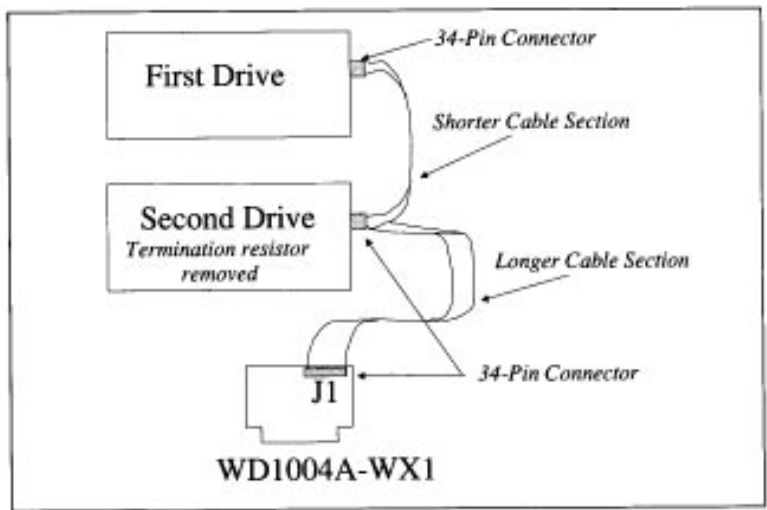
## **BIOS ROM Incompatibility**

BIOS is an acronym for Basic Input Output System. ROM is an acronym for Read Only Memory. The BIOS ROM is a program on a computer chip that tells your computer how to operate devices attached to your computer.

Some XT compatible computers do not operate with the Western Digital BIOS ROM because of an incompatibility. Most of these computers are listed in Appendix A. Check Table A-1 on page A-11 to see if you have one of these computers.



**FIGURE 1-1 WD1004A-WXI CONNECTOR AND JUMPER LOCATIONS**



**FIGURE 2-1. DAISY CHAIN CABLE CONNECTIONS**

# B

## JUMPERS

The WD1004A-WXI board has a row of jumper posts at W17 to W22 and W25 to W28. Adding a jumper shorting plug or bar at any of these locations, selects a hardware configuration that is different from the default value selected by Western Digital.

Thus you can change these jumper settings to match your special hardware configuration.

### **Jumper Functions (W17 to W22, R23, and W25 to W28)**

The following list explains the jumper functions.

- W17 & W18 selects factory drive tables for the first hard disk
- W19 & W20 selects factory drive tables for the second hard disk
- W21 and W22 select the controller and BIOS address ranges
- R23 enables or disables the Western Digital BIOS ROM on the WD1004A board
- W25 and W26 always OUT
- W27 sets the hardware interrupt (IRQ) value for the hard disk drive
- W28 allows the controller to operate with an XT computer when the jumper is OUT

## Default Values

Tables B-1 through B-4 list the jumper settings. Default factory settings are marked with a “†” symbol.

**Table B-1. Pre-selected Drive Tables**

Table Number	First Drive		Second Drive		Capacity	Heads	Cylinders
	W17	W18	W19	W20			
0	in	in	in	in	21MB	4	612
1	out	in	out	in	10MB	4	306
2	in	out	in	out	10MB	2	615
3 <sup>†</sup>	out	out	out	out	21MB	4	615

**Table B-2. Select Controller and BIOS Ranges**

W21	W22	Controller	BIOS
out <sup>†</sup>	out <sup>†</sup>	320-323	C8000-C9FFF
in	out	324-327	CA000-CBFFF
out	in	328-32B	CC000-CDFFF
in	in	32C-32F	CE000-CFFFF

**Table B-3. Select BIOS ROM**

<b>R23</b>	<b>Select BIOS</b>
in	disable Western Digital BIOS (allows external BIOS selection)
out <sup>†</sup>	enable Western Digital BIOS (selects internal BIOS)

**Table B-4. Select Hardware Interrupt (IRQ)**

<b>W27</b>	<b>Select IRQ</b>
in	selects IRQ2
out <sup>†</sup>	selects IRQ5