
READ THIS FIRST

INSTALLATION GUIDE

WD1004-27X

WD1004A-27X

Winchester Disk Controller Boards

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WESTERN DIGITAL

IDENTIFY DRIVE

The WD1004-27X and WD1004A-27X boards work with any hard disk drive that has the ST506/412 drive interface and no more than 1024 cylinders and 16 heads. The Seagate 238 hard disk drive unit is such a drive.

Look in your drive manual to verify that you have an ST506/412 RLL 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 to select the proper low level format.

Table 1-1. WD1004 and WD1004A Default Drive Parameters

Formatted Capacity	Number of Heads	Number of Cylinders	Sectors per Track
32MB	4	615	26

This board does not work with RLL drives. If you have an MFM drive you need either the WDXT-GEN2 or WD1004A-WX1 board.

IDENTIFY BOARD

This document describes the installation of the two controller boards, WD1004-27X and WD1004A-27X. These controllers are similar functionally, except for a few features. These boards are described below.

WD1004-27X Board

Figure 1-1 shows the connector locations (J1, J2, J3, J4, and J5) on the WD1004-27X board and the location of the jumpers (W17 to W22, R23, and W25 to W28).

The WD1004-27X board has a connector at J4, which allows the controller to connect power to FileCard® drives and jumpers W17 to W22, which permit selection of additional options. Also the WD1004-27X board can be used as a secondary controller.

WD1004A-27X Board

Figure 1-2 shows the connector locations (J1, J2, J3, and J5) on the WD 1004A-27X board and the location of the jumpers (R23, and W25 to W28). The WD1004A-27X board cannot be used as a secondary controller.

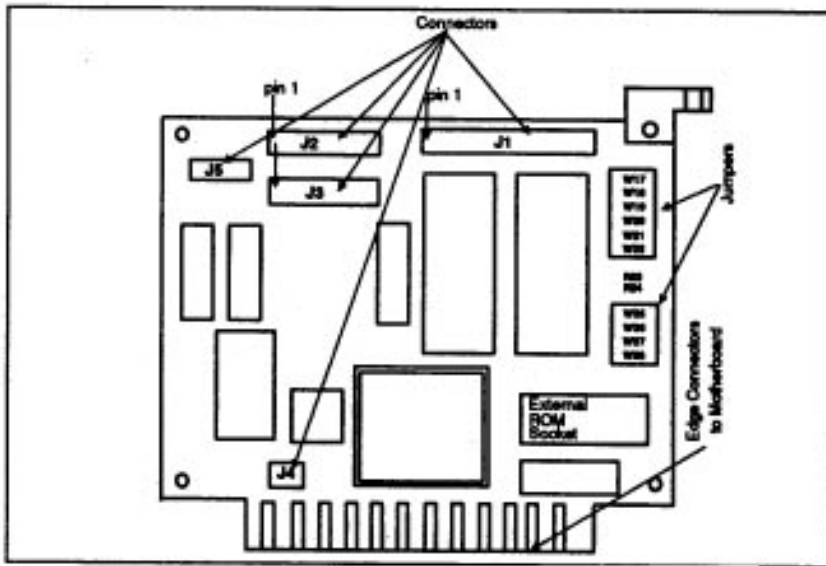


FIGURE 1-1 WD1004-27X CONNECTOR AND JUMPER LOCATIONS

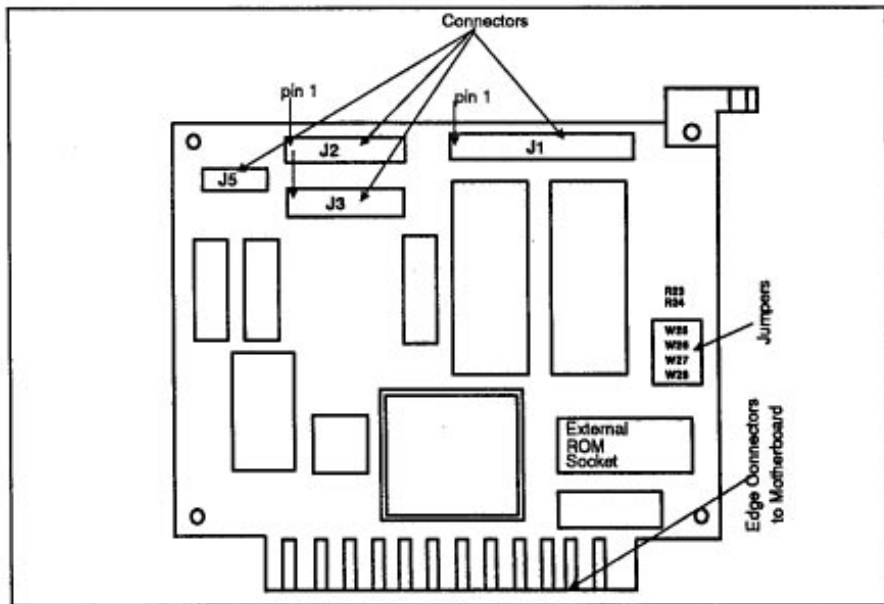


FIGURE 1-2 WD1004A-27X CONNECTOR AND JUMPER LOCATIONS

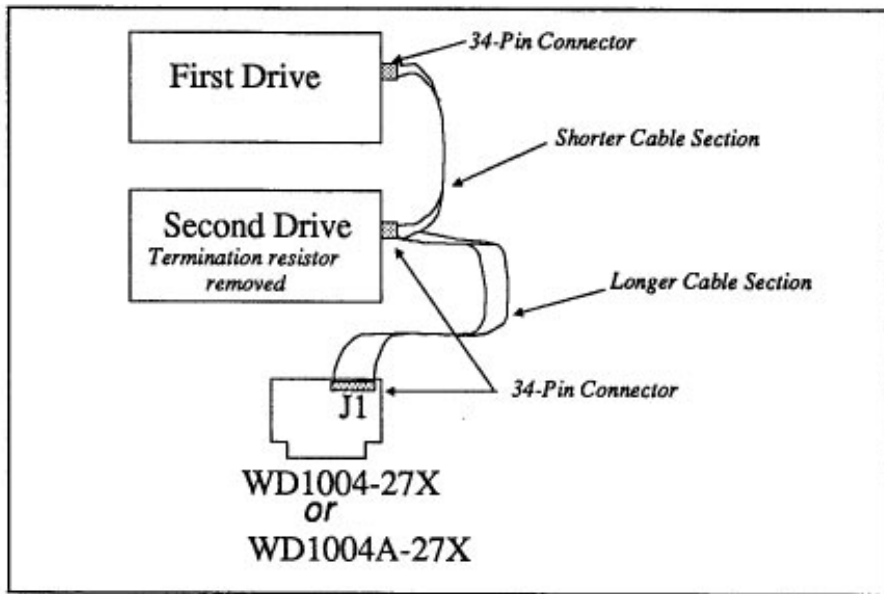


FIGURE 2-1. DAISY CHAIN CABLE CONNECTIONS

B

JUMPERS

The WD1004 board has a row of jumper pins at W17 to W22 and W25 to W28. The WD1004A board has a row of jumper pins at W25 to W28. Adding a jumper shorting plug at any of these locations, selects a hardware configurations that is different from the default value selected by Western Digital.

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 selects the controller and BIOS address ranges
- R23 disables the Western Digital BIOS ROM on WD1004 and WD1004A boards
- W25 and W26 set sector translation and dynamic configuration
- 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

[†]Not available on the WD1004A-27X board.

Default Values

Tables B-1 through B-5 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	65MB	6	820
1	out	in	out	in	42MB	4	782
2	in	out	in	out	21MB	2	782
3 [†]	out	out	out	out	32MB	4	615

Table B-2. Select Controller and BIOS Ranges

W21	W22	Controller	BIOS
out [†]	out [†]	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

R23	Select BIOS
in	selects external BIOS
out [†]	selects internal BIOS

Table B-4. Select Sectors and Configuration Option

W25	W26	Table	Sectors	Translate	Dynamic
in [†]	out	RLL	17	yes	no
out	in	RLL	26	no	yes

Table B-5. Select Hardware Interrupt (IRQ)

W27	Select IRQ
in	selects IRQ2
out [†]	selects IRQ5