

1.0 DESCRIPTION AND SPECIFICATIONS

1.1 GENERAL DESCRIPTION

Western Digital's family of intelligent storage peripherals provides a choice of data storage capacities for the IBM PC/AT and compatibles. Because of their small size, the WD93024-A and WD93044-A are easily incorporated into the newest generation of small desktop and portable PC/AT computer systems.

These intelligent storage peripherals offer proven stepper technology coupled with Western Digital's advanced LSI circuitry to achieve maximum reliability and optimum performance. The intelligent storage peripherals have an average seek time of 28 milliseconds and operate in high speed, AT compatible systems (80286, 80386SX, and 80386). They are fully compatible with the AT Task File and maintain a 1:1 interleave on large multi-block transfers. Your intelligent storage peripheral is preformatted (low-level) and defect-free. A translation feature provides support for logical drive types in systems that do not recognize 27 sectors per track. The WD93024-A and WD93044-A support dual (master/slave) configurations of intelligent storage peripherals.

Western Digital offers a reliable, cost effective storage solution by optimizing the vertical integration of the design and manufacturing process. By designing and manufacturing the LSI components, printed circuit board, media and head disk assembly (HDA), Western Digital ensures product quality and reliability.

Models WD93024-A, and WD93044-A offer 20 and 40 megabytes of storage, respectively, in a 3.5 inch form factor. These intelligent storage peripherals are also available in 5.25 inch frames (WD95024-A and WD95044-A).

Capacity	3.5 Inch Form Factor	5.25 Inch Form Factor
20 MBytes 40 MBytes	WD93024-A WD93044-A	WD95024-A WD95044-A

Bezel and LED indicator options are available. Contact your Western Digital representative for the part number required for your configuration.

1.2 PHYSICAL SPECIFICATIONS

1.2.1 SUMMARY

	<u>20 MByte</u>	<u>40 MByte</u>
Actuator Type	Rack & Pinion	Rack & Pinion
Number of Disks	1	2
Data Surfaces	2	4
Number of Heads	2	4
Servo Type	Closed loop	Closed loop
Tracks per Surface	782	782
Average Track Density	1021 TPI	1021 TPI
Bytes per Sector	512	512
Sectors per Drive	42,228	84,456
Sectors per Track	27	27
Formatted Capacity	21.6 MBytes	43.2 Mbytes
interface	40-pin PC/AT	40-pin PC/AT
Recording Method	RLL 2,7	RLL 2,7
Recording Density	22,175 BPI	22,175 BPI
Flux Density	14,783 FCI	14,783 FCI
Reduce Write Current Cyl.	570	570
Sectoring	Soft	Soft
Head Type	Mini -composite or Mini-mono	Mini-composite or Mini-mono
Media Type	Plated	Plated
Head Park Cylinder	862	862
(physical)		

Do not exceed the maximum sector capacity of the WD93024-A or WD93044-A when specifying the number of cylinders, heads and sectors per track. Exceeding the specified limits will result in an ID NOT FOUND error.

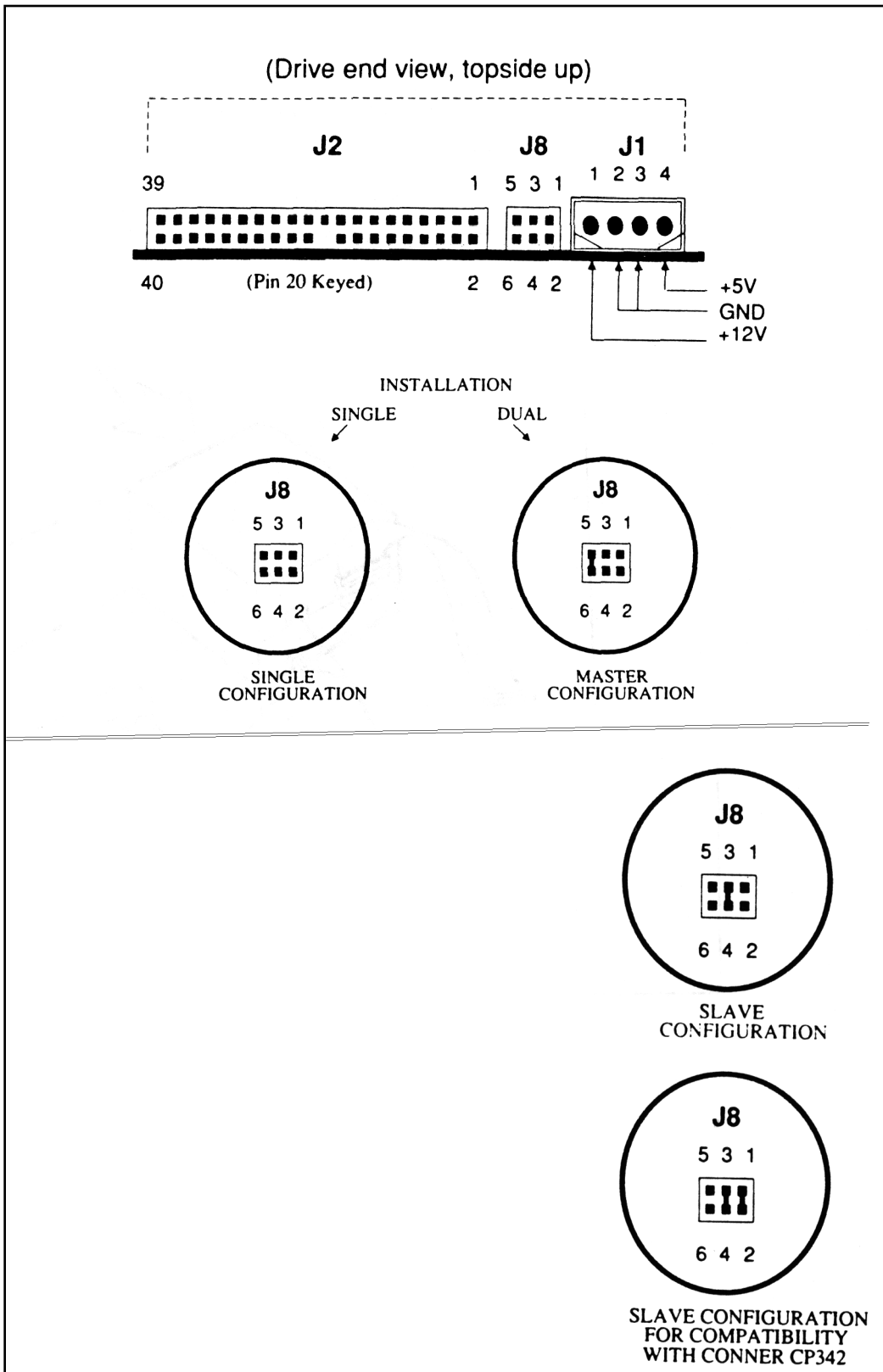


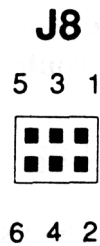
Figure 2-4. Jumper Configuration

2.3 CONFIGURATION

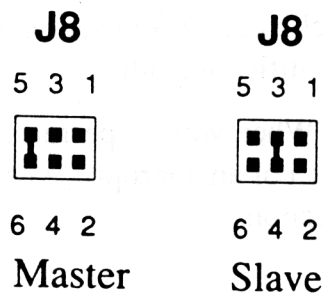
2.3.1 JUMPER SELECTION FOR SINGLE AND DUAL INSTALLATIONS

1. Verify that the jumpers on the intelligent storage peripheral's J8 connector are properly installed to match your configuration choices. (Refer to Figure 2-4.)

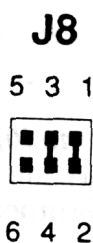
Single intelligent storage peripheral installation: If this is your first and only intelligent storage peripheral in your system, there should be **no jumpers** installed on J8 connector.



Dual intelligent storage peripheral installation: If you are installing two intelligent storage peripherals, you must designate one as the primary or "master" intelligent storage peripheral and the other as the secondary or "slave" intelligent storage peripheral. Jumper each accordingly: A jumper on pins 3-4 designates an intelligent storage peripheral as a slave; a jumper on pins 5-6 designates an intelligent storage peripheral as a master.



Intelligent storage peripheral installation with a pre-existing Conner CP342 drive: Configure the intelligent storage peripheral as the slave. Install jumpers on the J8 connector as shown below. The Conner drive must be configured as the master. This configuration presumes that you will use the LED on your WD93024-A or WD93044-A. However, if the host system requires a front panel LED, then configure the WD93024-A/44-A as the master and the Conner drive as the slave. (Refer to section 3.3.13 for further discussion.)



2. **Daisy-chain the intelligent storage peripheral and Conner drive as you would for a dual intelligent storage peripheral installation.**

2.3.2 INITIAL SETUP

Your system's setup utility performs numerous tasks that are essential to the definition of your system. Whether this is an initial setup or a change to your existing system, you need to run the Setup utility to tell the system what types of hardware are installed.

Follow the setup instructions in your operating system manual (MS-DOS or other operating system) or system BIOS manual for your particular system. If later you experience problems with any hardware device, be sure to check your system setup. You may have incorrectly defined a device or not identified it at all.

When you are performing set-up, one of the tasks you perform is the selection of an appropriate drive table. Follow the recommendations in the next section.

2.3.3 SELECTING DRIVE TABLES

Your system's BIOS contains standard drive tables. To ensure the optimal performance of your intelligent storage peripheral, select a drive table whose parameters most closely match those of your Western Digital intelligent storage peripheral. Western Digital recommends that you use the parameters listed in the drive tables shown in Table 2-1. If your system

Table 2-1. Standard AT Drive Tables

20 MByte Drive	40 MByte Drive
<i>(Physical Mode)</i>	<i>(Physical Mode)</i>
782 Cylinders 2 Heads 27 Sectors Precomp (Not Used) Landing Zone = 862	782 Cylinders 4 Heads 27 Sectors Precomp (Not Used) Landing Zone = 862
<i>(Translate Mode)</i>	<i>(Translate Mode)</i>
615 Cylinders 4 Heads 17 Sectors Precomp (Not Used) Landing Zone = 615	977 Cylinders 5 Heads 17 Sectors Precomp (Not Used) Landing Zone = 977

recognizes 27 sectors per track, you can use the tables identified as "physical mode". **The physical mode presents the intelligent storage peripheral's actual physical parameters. If your system only recognizes 17 sectors per track, use the translate mode tables.**