

If you are installing an intelligent drive and a WDAT adapter board in an IBM PC AT that currently has an original Conner CP342 or CP3022 drive, you will discover that these drives are incompatible. Only one drive can be functional, depending upon the jumper configuration of the WDAT adapter board. This restriction does not apply to AT compatible systems.

J8 Master/Slave Configuration

Verify that the jumper shunts on the drive's J8 jumper block are properly installed to match your configuration choices.

Single installation:

```
Only
+5-3-1+ If this is your first and ONLY intelligent drive in your
|o o o| system their should NO JUMPERS installed on J8.
|o o o|
+6-4-2+
```

Dual installation:

```
Master      Slave
+5-3-1+     +5-3-1+ if you are installing two intelligent drives
|X o o|     |o X o| you must designate one of them as the
|X o o|     |o X o| primary or "master" and the other as the
+6-4-2+     +6-4-2+ secondary or "slave". Jumper your Western
              Digital intelligent drive accordingly: A
              jumper on pins 3-4 designates an intelligent
              drive as a slave; a jumper on pins 5-6
              designates an intelligent drive as a master.
```

Installation with a pre-existing Conner CP342 or CP3022 drive:

```
+5-3-1+ Configure the Western Digital drive as the slave. Install
|o X X| jumpers on the drive's J8 jumper block as shown. The Conner
|o X X| drive should be configured as the master. This configura-
+6-4-2+ tion presumes that you will use the LED indicator 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.
```

WDAT-140 Adapter Board

=====

Provides one hard drive interface

The WDAT-140 board contains one jumper block, W1. When pins 3 and 4 are connected, the DIRQ14 signal is passed directly to the host computer. Do not change this setting. This is the correct setting for any intelligent drive except an original Conner CP342 or CP3022 in an IBM AT.

You cannot use this adapter board with a pre-existing Conner drive and a Western Digital drive under certain special conditions. If you have an IBM AT and an original Conner CP342 or CP3022, your Conner drive will not function with another intelligent drive in the same AT system. Only one drive will be functional, depending on the W1 jumper configuration. This particular restriction DOES NOT APPLY to AT compatibles.

If you have a pre-existing Conner CP342 or CP3022 in an AT compatible system, configure it as the master drive and leave the jumper shunt on pins 3-4 of W1. Configure the Western Digital drive as the slave.

WDAT-240 Adapter Board

=====

Provides one hard drive interface and one floppy drive controller

x = Factory default jumper setting

The WDAT-240 board has four jumper blocks, W1 to W4. Adding or removing a jumper shunt at any of these locations, defines a hardware configuration. The default jumper settings are illustrated below.

These settings are suitable for most system configurations. Do not change any of these settings until you have read the jumper information which follows.

```
+---+W1
|o X|  DIRQ14 passed directly to host bus
|o X|
+1-3+
```

```
+---+W2
|X o| Floppy controller enabled
|X o| Floppy primary address is 3F0-3F7
+1-3+
```

```
+---+W3
|o o| Single speed floppy drive. (Dual speed floppy drive is
+1-2+ selected, if this jumper block is installed and jumpered.)
```

```
+---+W4
|o o| Logic ground is not connected to chassis. (Logic ground is
+1-2+ connected to chassis if this jumper block is installed and
jumpered.)
```

W1 Jumper

When pins 3 and 4 are connected, the DIRQ14 signal is passed directly to the host computer. DO NOT CHANGE THIS SETTING. This is the correct setting for any intelligent drive except an original Conner CP342 or CP3022 in an IBM AT.

You cannot use this adapter card with a pre-existing Conner drive and a Western Digital drive under certain special conditions. If you have an IBM AT and an original Conner CP342 or CP3022, your Conner drive will not function with another intelligent drive in the same AT system. Only one drive will be functional, depending on the W1 jumper configuration. This particular restriction DOES NOT APPLY to AT compatibles.

W2 Jumper

Pins Status Function

1-2 x CLOSED Floppy controller enabled
3-4 x OPEN Floppy primary address 3F0-3F7

1-2 CLOSED Floppy controller enabled
3-4 CLOSED Floppy secondary address 370-377

1-2 OPEN Floppy controller disabled at primary address
3-4 CLOSED

Note: Invalid condition = no jumper installed

W3 Jumper

Pins Status Function

1-2 CLOSED 2-speed drive (300 & 360 rpm)

1-2 x OPEN Single-speed drive*

Note: Most floppy drives are single-speed

W4 Jumper

Pins Status Function

1-2 CLOSED Logic ground connected to chassis

1-2 x OPEN Logic ground independent of chassis

WDAT-440 Adapter Board

=====

Provides one hard drive interface, one floppy controller, two serials ports, and one parallel port

x = Factory default jumper setting

The WDAT-440 board has seven jumper blocks, W3 to W9. Adding or removing a jumper shunt at any of these locations, defines a hardware configuration. The default jumper settings are illustrated below.

These settings are suitable for most system configurations. Do not change any of these settings until you have read the jumper informations as follows.

```
+---+W3
|o X|  DIRQ14 passed directly to host bus
|o X|
+1-3+
```

```
+---+W4
|X o|  Floppy controller enabled
|X o|  Floppy primary address is 3F0-3F7
```

+1-3+

+---+W5

|o o| Single speed floppy drive.

+1-2+

+---+W6

|o o| Logic ground is not connected to chassis.

+1-2+

+-----+W7

2o X X X| COM1 Interrupt = IRQ4

1o X X X| COM2 Interrupt = IRQ3

+-----+ Parallel printer interrupt = IRQ7

+---+W8

|o o| Internal serial port = COM2 (2F8-2FF)

|xxx| External serial port = COM1 (3F8-3FF)

|o o| Printer address, LPT1 = 378-37F

|xxx| Printer enabled

|o o|

|xxx|

+2-1+

+---+W9

|X X| Hard disk drive enabled

|X X|

+----+

W3 Jumper

When pins 3 and 4 are connected, the DIRQ14 signal is passed directly to the host computer. **DO NOT CHANGE THIS SETTING.** This is the correct setting for any intelligent drive except an original Conner CP342 or CP3022 in an IBM AT.

You cannot use this adapter board with a pre-existing Conner drive and a Western Digital drive under certain special conditions. If you have an IBM AT and an original Conner CP342 or CP3022, your Conner

drive will not function with another intelligent drive in the same AT system. Only one drive will be functional, depending on the W3 jumper configuration. This particular restriction does not apply to AT compatibles.

If you have a pre-existing Conner CP342 or CP3022 in an AT compatible system, configure it as the master drive and leave the jumper shunt on pins 3-4 of W3. Configure the Western Digital drive as the slave.

W4 Jumper

Pins Status Function

1-2 x CLOSED Floppy controller enabled

3-4 x OPEN Floppy primary address 3F0-3F7

1-2 OPEN Floppy controller enabled

3-4 CLOSED Floppy secondary address 370-377

Note: Invalid condition = no jumper installed

W5 Jumper

Pins Status Function

1-2 CLOSED 2-speed drive

1-2 x OPEN Single speed drive*

*Note: Most floppy drives are single speed.

W6 Jumper

Pins Status Function

1-2 CLOSED Logic ground connected to chassis

1-2 x OPEN Logic ground independent of chassis

W7 Jumper

Pins Status Function

1-2 CLOSED PRN INT = IRQ5

3-4 x CLOSED PRN INT = IRQ7

5-6 x CLOSED COM2 INT = IRQ3

5-7 CLOSED COM2 INT = IRQ4

6-8 CLOSED COM1 INT = IRQ3
 7-8 x CLOSED COM1 INT = IRQ4

W8 Jumper

Pins Status Function

- 1-2 x CLOSED PRN enable
- 1-2 OPEN PRN disable
- 3-4 x OPEN PRN address, LPT1 = 378-37F
- 3-4 CLOSED PRN address, LPT2 = 278-27F
- 5-6 x CLOSED Ext COM = COM1 (3F8-3FF)
- 7-8 CLOSED Ext COM = COM3 (3E8-3EF)
- 9-10 x CLOSED Int COM = COM2 (2F8-2FF)
- 11-12 CLOSED Int COM = COM4 (2E8-2EF)

W9 Jumper

Pins Status Function

- 1-2 OPEN Disable intelligent drive interface
- 1-2 & 3-4 x CLOSED Enable intelligent drive interface

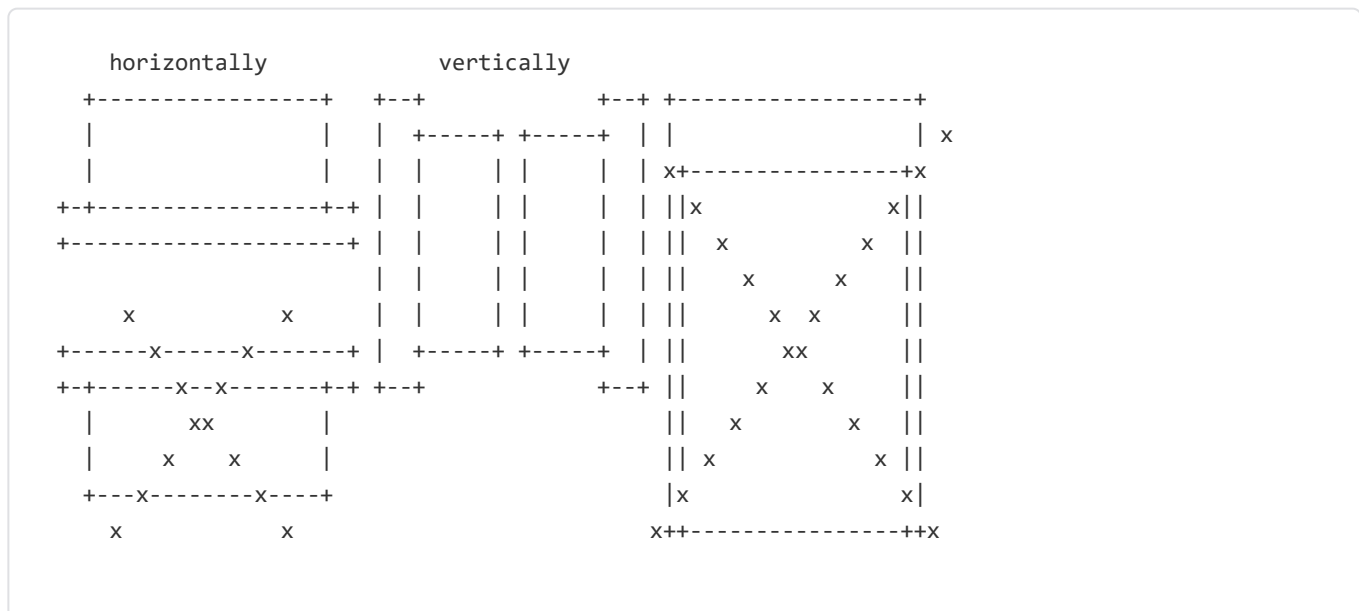
Install

WESTERN WD93024/93044/95024/95044-A INSTALLATION GUIDE WD0052S 11/89

Notes on Installation

=====

Drive mounting



Mounting

Mount the drive to the chassis using four 6-32 (3/16 inch) screws, or attach slide rails and mount.

If your drive installation requires the use of slide rails or other mounting device, your computer manufacturer or dealer will provide these. Typically, 5.25-inch drives use slide rails.

After securely mounting the drive, verify that nothing interferes with the free movement of the shock mounts.

WARNING: The only electrical ground contact should be from the mounting bracket to the frame on the host system. Do not ground to the casting of the intelligent drive. Screws which are too long will cause a ground loop to the drive and defeat the shock mounting or possibly damage board components. The screw should engage no more than six threads (3/16 inch).

Bezel (face plate) and LED indicator options are available. Contact your Western Digital dealer for the part number required for your configuration.

System Requirements

You can use your intelligent drive in an IBM PC/AT or compatible system that has Disk Operating System (DOS) versions 3.0 or later. Contact your Western Digital dealer if you need information about other operating systems.

If there is not a compatible 40-pin connector on the motherboard for interfacing with Western Digital's intelligent drive, you require an adapter card such as those available from Western Digital. The hard drive interface and the floppy controller on these boards each support two daisy chained peripherals. Other system considerations will influence your choice of adapter card. Determine whether you require a floppy controller or serial/parallel ports.

Make certain your system provides an adequate method of supplying power to your drive. Dual installations may require a Y-adapter if your system only provides one power connector.

Western Digital's intelligent drive is compatible with other intelligent drives that support a master/slave configuration. (Master/slave configurations require one drive to be configured as the primary drive and the other drive to be configured as the secondary drive.) ST-506 hard drives using a standard AT controller are not compatible.

Screwdriver and four 6-32 screws (3/16 inch) for mounting to the chassis or slide rails, if required. Slide rails are provided by your computer manufacturer or dealer.

40-pin interface cable

Pin 20 position should be keyed (small plug placed in female connector) at both ends of the cable to prevent accidental reversal of the cable and thus damage to the drive. The cable must be of the "untwisted" type and not more than 12 inches long. If your installation requires a longer cable, you may use a maximum cable length of 18 inches, provided that you split the cable at pins 31/32 along the entire length of the cable. This minimizes the introduction of noise from the host system into the I/O channel. Noise may cause erratic operation of the host system. A daisy-chain cable is required for dual installations.

Cabling

Connect the host interface cable to the drive's J2 connector and thread the cable through the front panel slot.

Warning: Damage to the intelligent drive may occur if the interface cable is attached incorrectly. To prevent an incorrect connection, make certain you are using an interface cable which has been keyed at both the drive and the host ends.

Park Utility

At the end of each computer session you should park the drive heads. Parking the heads moves the heads to safe, non-data landing zone. This helps protect the media and the heads from accidental damage due to vibration, moving or shipping. If your operating system does not provide a park routine, Western Digital offers a park utility called PARKIDE.

Features

Product Description

Western Digital's intelligent drives, WD93024-A and WD93044-A, 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 drive 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 drives.

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

Selecting Drive Tables

Your system's BIOS contains standard drive tables. While the first 15 drive type tables are fairly standard for most computer brands, parameter tables for other drive types vary from one computer manufacturer to another. To ensure the optimal performance of your intelligent drive, select a drive table whose parameters most closely match those of your Western Digital drive.

Formatting

You do not need to perform a low-level format. Western Digital's intelligent drive has already been preformatted at the factory. However, if you ever find it necessary to perform the low-level format again, contact your Western Digital dealer. Western Digital offers a format utility, ISPFMT, which allows you to perform a low-level format on Western Digital's intelligent drive. Do not use any other low-level formatting utility.