

# Hard Drive: WESTERN DIGITAL WD 93028 X 20MB 3.5"

Advertisement

Onboard  
tech  
talent in  
just days

Get Started

W D 9 3 0 2 8 X WESTERN DIGITAL			
NO MORE PRODUCED			
Form	3.5"/HH		
Capacity form/unform	20/ MB		
Seek time / track	70.0/ ms		
Controller	IDE / XT		
Cache/Buffer	KB		
Data transfer rate	0.938 MB/S int MB/S ext		
Recording method	RLL 2/7		
Supply voltage	5/12 V	Temperature	
Power: sleep	W	Humidity	
standby	W	Altitude	
idle	W	Shock	
seek	W	Rotation	RPM 3567
read/write	W	Acoustic	dBa 40
spin-up	W	ECC	Bit 56
		MTBF	h 40000
		Warranty Month	
Lift/Lock/Park	NO	Certificates	FCC

## Layout

WESTERN WD93028/-38/-48-X/95028/-38-48-X INSTALL. GUIDE 79-000-352

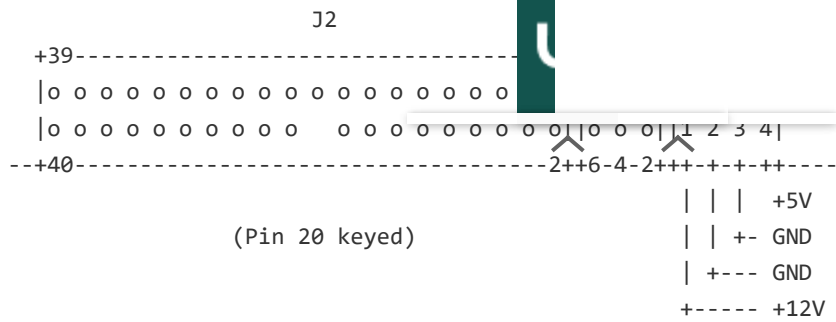


Advertisement

|XX R  
|\*X F J2  
|XX A



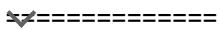
++LED  
++  
|  
+-----



## Jumpers

WESTERN WD93028/38/48-X/WD95028/38/48-X INSTALLATION GUIDE 79-000-35

### Jumper Setting



3, and 5 are connected to the port pins on the 8052 microcomputer IC while pins 2, 4, and 6 are tied to ground.



### Disable Translation

-----

Your drive may be configured for the translation mode in the BIOS. The translation mode allows you to use a hard drive with an older system BIOS and/or system which only support MFM drives with 17 sectors per track. The translation mode accommodates an RLL drive with

A vertical advertisement with a dark green background. The text 'Onboard tech talent in just days' is written in white. Below the text is a bright green button with the text 'Get Started'. At the bottom, there is an illustration of a person with their arm raised, holding a document.

A red advertisement for 'Blau' services. It features the 'Blau' logo, a gift box, and text including 'SPAREN 23 JAHREN!' and 'Z.B. BLAU ALLNET-FLAT AB € 9,99 | B'. The word 'Deal' is visible at the bottom right.

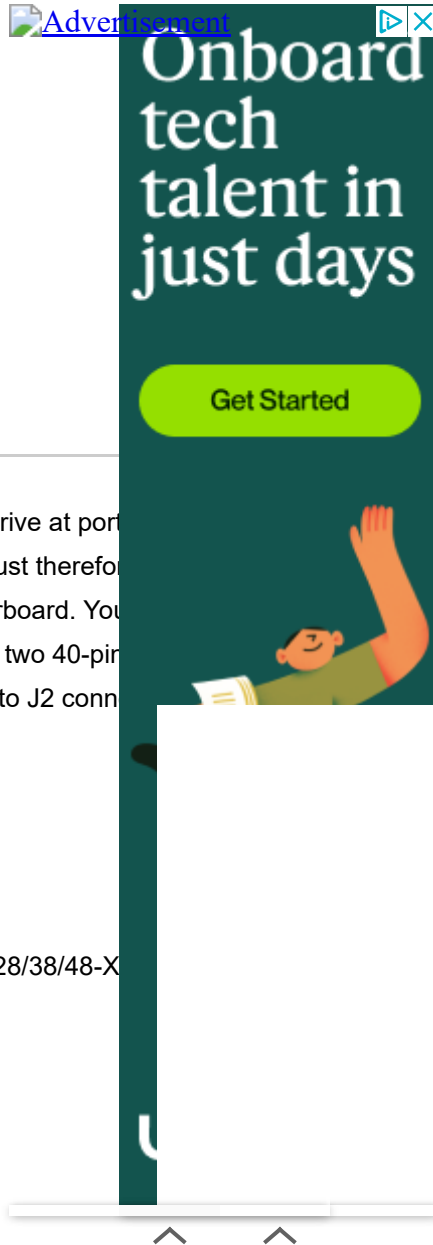
When pins 1 and 2 are shorted together, the translation mode is disabled. If pin 1 is open, the translate option is enabled. A hard drive can be used with any BIOS that has a drive controller that can handle more than total sectors than your Western Digital drive (e.g., 84.4 sectors for the two-head drive assembly; and 84.4 sectors for the four-head drive assembly). For example, a Western Digital drive in translation mode may replace a drive which has 615 cylinders, four heads and 17 sectors.

### Dual Drive Operation

-----

If you are installing two physical drives in your XT system, the first drive must be selected at port address 320H. Its BIOS resides





Advertisement

Onboard  
tech  
talent in  
just days

Get Started

Illustration of a person with arms raised holding a document.

at address C800H. Select the second drive at port  
BIOS resides at CA00H. Both drives must therefore  
cables connectinmg them to the motherboard. You  
Digital's XT140 adapter card which has two 40-pin  
drive 0 into J1 connector and Drive 1 into J2 conn  
adapter card.

## Install

WESTERN WD93028/38/48-X/WD95028/38/48-X 52

Notes on installation  
=====

System Requirements  
-----

You can use your drive in an IMB PC/XT or compatible system that has  
these operating systems: MS-DOS version 2.0 and higher or Novell



about other operating systems.

## Gather Supplies

If your computer's motherboard has a 40-pin connector for the installation of a hard disk drive, you will need the following:

Capacity	3.5 Inch Form Factor	5.25 Inch Frame
20 MBytes	WD93028-X	WD95028-X
30 MBytes	WD93038-X	WD95038-X
40 MBytes	WD93048-W	WD95048-X

- Your Western Digital drive:
- One 40-pin interface cable (Maximum length of 1 meter)
- Optional mounting frame, bezel and LED
- IDE SUPERBIOS program for low-level formatting

If there is not a 40-pin connector on the motherboard, you will need to place two hard disk drives in your system, you will additionally require:

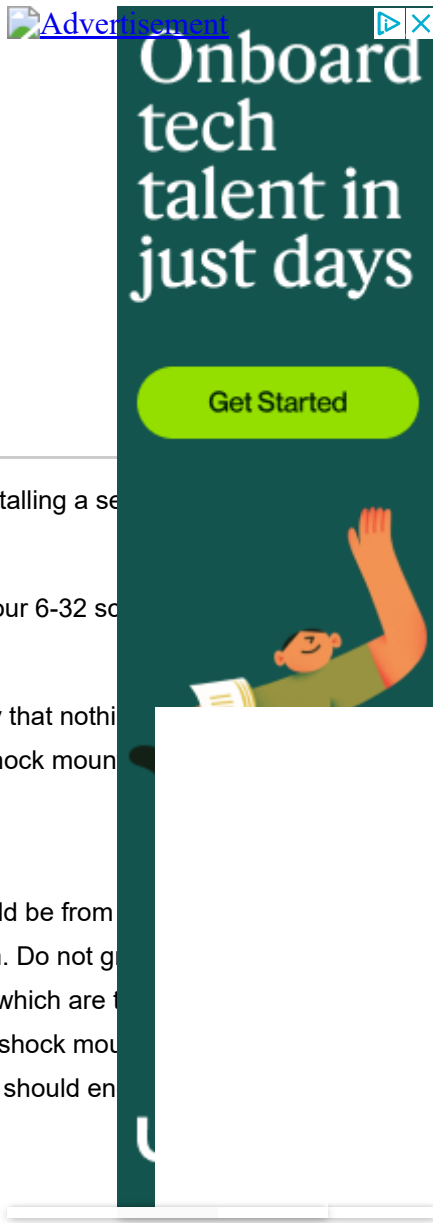
- Western Digital's XT140R adapter card with IDE SUPERBIOS or XT150R adapter card with IDE SUPERBIOS and power connector.

Advertisement

# Onboard tech talent in just days

Get Started





- Additional 40-pin interface cable, if installing a se

Mount the disk drive to the host using four 6-32 sc

After securely mounting the drive, verify that nothi  
with the free movement of the drive's shock moun

#### WARNING

The only electrical ground contact should be from  
bracket to the frame on the host system. Do not g  
drive assembly (HDA) casting. Screws which are t  
ground loop to the HDA and defeat the shock mou  
damage board components. The screw should en  
threads (3/16 inch).

#### Connectors

-----

Interface Connector: 2 x 20 pin right angle .1" Berg stick (pin 20  
keyed)

Cable type: 40-conductor mass terminated flat ribbon

Cable length: 18 inches maximum

## Features

WESTERN WD93028/38/48-X/WD95028/38/48-X INSTALL. GUIDE 79-000-352

#### Product Description



controller on a single printed circuit board that is mounted on the disk drive's chassis. The integration of disk drive and controller increases reliability and performance by eliminating redundant circuitry. Models WD93028-X, WD93038-X, and WD93048-X have 20 MB and 40 MB of storage, respectively, in a 3.5 inch form factor. Drives are also available in 5.25-inch frame (WD95028-X and WD95048-X).

Advertisement

Onboard  
tech  
talent in  
just days

Get Started

## Formatting Your Drive

Use the IDE SUPERBIOS program to perform a low-level format on a hard drive. The WDXT140R or WDXT150R adapter card provides the SUPERBIOS program. If you have an XT compatible with a hard drive connector on the motherboard, it must provide a SUPERBIOS connector. Do not use the IBM Advanced Diagnostic Format Utility.

The low-level format is performed just once for each drive. When you dynamically configure a drive as two virtual drives (partitions), perform the low-level format only on drive C and then run the DOS FDISK and FORMAT utilities on both logical drives (C and D).

### MFM Drive Tables (Translation Mode)

```
-----  
+-----+-----+-----+-----+  
|TABLE 1 |TABLE 2 |TABLE 3 |TABLE 0 |  
+-----+-----+-----+-----+  
|20 MB   |30 MB   |40 MB   |20 MB   |  
+-----+-----+-----+-----+  
|615 Cy1.|615 Cy1.|977 Cy1.|612 Cy1.|  
|4 Heads |6 Heads |5 Heads |4 Heads |
```

Advertisement

RLL Drive Tables (Non-translation Mode)

TABLE 4	TABLE 5	TABLE 6	TABLE 0
20 MB	30 MB	40 MB	20 MB
782 Cyl.	782 Cyl.	782 Cyl.	615 Cyl.
2 Heads	3 Heads	4 Heads	4 HEads
784 RWC	784 RWC	784 RWC	616 RWC
784 WPC	784 WPC	784 WPC	616 WPC
11 EBL	11 EBL	11 EBL	11 EBL
7 CCB	7 CCB	7 CCB	7 CCB

Onboard  
tech  
talent in  
just days

Get Started

### Interleave

5:1 interleave for optimum data throughput (3:1 in burst mode)