



## DISK DRIVE INSTALLATION INSTRUCTIONS

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**Read these instructions before  
trying to install your disk drive.**

If you are still having trouble please recheck the applicable instructions in this sheet and your Controller and/or Computer manuals. If, after checking all applicable instructions, you are not able to make your system operate properly we are glad to offer you technical assistance.

Our Technical Department is available to you by calling:

(818) 709-6400

between the hours of:

8:30AM - 12:00 noon

1:30PM - 4:30 PM (Pacific Time)

Monday through Friday

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The logo for jb TECHNOLOGIES, INC. features the lowercase letters 'jb' in a bold, sans-serif font. To the right of 'jb', the words 'TECHNOLOGIES, INC.' are written in a smaller, uppercase, sans-serif font. The entire logo is enclosed within a thick, black horizontal bar.

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The following installation procedures apply to most IBM computers and their compatibles. Please follow the instructions carefully.

We have included a typical low level format (Initialization) procedure for a PC XT computer using a Western Digital Controller. If these instructions do not apply to your controller, refer to your Controller Manual and/or Computer Manual.

## INSTALLATION

Before installing your drive be sure you have:

- 1) The Controller Card,
- 2) TWO Internal Interface Cables, and
- 3) The Hard Disk Drive.

Three cables must be connected to the Hard Disk Drive:

- 1) A 34 pin Control Cable,
- 2) A 20 pin Data Cable and
- 3) The Power Supply Cable.

Pin 1 on both the 34 pin and the 20 pin cables are signified by a blue or red stripe. The Drive Connectors for the 20 and 34 pin cables on the Hard Drive are notched to indicate Pin one. The connectors should attach to the Hard Drive with the Red or Blue stripe positioned nearest the notch. (See Figure I below.)

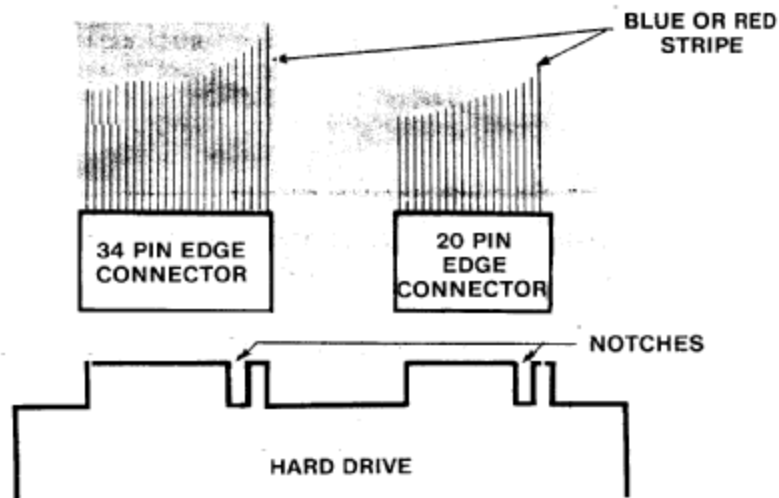


FIGURE I  
HARD DRIVE CONNECTIONS

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### 34 PIN DAISY CHAIN CONTROL CABLE — TWISTED END

If the Control Cable you are using is Daisy Chained (has three connectors, one for the controller and two edge connectors for the Hard Drives) carefully follow the appropriate instructions below.

If your 34 pin Daisy Chain Control Cable does NOT have a twisted end skip this section and proceed to the appropriate instructions following.

#### CONNECTING ONE DRIVE — USING EDGE CONNECTOR "1"

If Edge Connector "1" is used for Drive "C", the Hard Drive Jumper or Dip Switch should be on Drive Select "1" if starting from "1" or Drive Select "0" if starting from "0".

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### CONNECTING ONE DRIVE — USING EDGE CONNECTOR “2”

If edge Connector “2” is used for Drive “C”, the Hard Drive Jumper or Dip Switch should be on Drive Select “2” if starting from “1”, or Drive Select “1” if starting from “0”.

### CONNECTING TWO DRIVES

If two Hard Drives are connected to the computer, Drive “D” should be connected to Edge Connector “1” and Drive “C” should be connected to Edge Connector “2”. Both Drives should be jumped as Drive Select “2” (or Drive Select “1” if starting from “0”). Drive “D” should NOT have a terminating resistor.

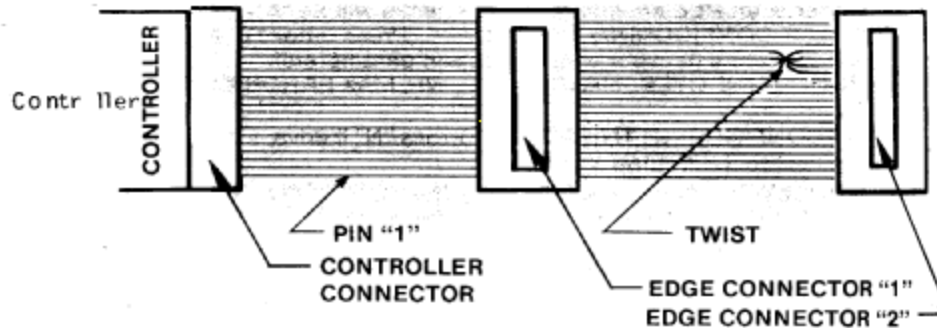


FIGURE II  
34 PIN DAISY CHAIN CABLE

### 34 PIN DAISY CHAIN CONTROL CABLE — NON-TWISTED END

The non-twisted 34 pin Daisy Chain Control Cable is just like the cable illustrated in Figure II except it does not have the twist. For the following instructions refer back to Figure II.

#### ONE DRIVE — ONE CONTROLLER

When one drive and one controller is used, Drive “C” should be terminated and connected to Edge Connector “1”.

#### TWO DRIVES — ONE CONTROLLER

When two drives are used with one controller, Drive “C” should be connected to Edge Connector “1” and Drive “D” should be connected to Edge Connector “2”. ONLY Drive “D” should be terminated.

#### FLOPPY DRIVES

The above instructions for the non-twisted Daisy Chain Control Cable also apply for Floppy Drives (“A” and “B”).

## TYPICAL XT LOW LEVEL FORMATTING INSTRUCTIONS

Warning: This procedure will delete all data previously stored on the Hard Disk.

- 1) Boot DOS diskette.
- 2) At the DOS A: Type the following: "DEBUG" (Press "Return"). The Debug Program is on the DOS supplemental program diskette.
- 3) At the Debug prompt "-" type "G=C800:5". This accesses the controller ROM BIOS format routine.
- 4) The BIOS will respond with "CURRENT DRIVE IS C. SELECT NEW DRIVE OR HIT RETURN FOR CURRENT". (Press "Return").
- 5) "CURRENT INTERLEAVE IS 3, SELECT NEW INTERLEAVE OR HIT RETURN FOR CURRENT". (Press "Return"). If the controller is an RLL encoding, the interleave will be "4".
- 6) "ARE YOU DYNAMICALLY CONFIGURING THE DRIVE?" (Press letter "Y" then enter.)
- 7) At Cursor enter drive parameters (leave a space between parameters).  
Example (for typical 20mb drive): CYLS., HEADS, RWC, WP, MAX ERROR BURST, CCB OPTION BYTE would be "615 4 615 300 11 5".
- 8) "ARE YOU VIRTUALLY CONFIGURING THE DRIVE?" (Press "N" if drive is below 33 mb formatted capacity.) If you answered no for this step, go to step #10.
- 9) If you answered "Yes" to the virtual configuration inquiry, the ROM BIOS of the controller will respond with "KEY IN VIRTUAL DRIVE SIZE." (Enter the number of cylinders for Drive "C". This number should not exceed the total number of cylinders.)
- 10) Press letter "Y" followed by the "Return" key to begin the formatting.
- 11) At the end of the formatting you will see "DO YOU WANT TO FORMAT BAD TRACKS?" (Press "N" and enter.)
- 12) "FORMAT SUCCESSFUL." System will now restart. (Press "Return".)
- 13) Insert DOS diskette in Drive "A" and type "FDISK". (Press "Return" four times.)  
Note: If you virtually configured the Hard Drive (step #9), you should run FDISK twice (the second time choose option 5, then press "Return" four times).
- 14) When the system reboots, type "FORMAT C:/S". Again if you virtually configured the Hard Drive, you should format Drive "D" by entering "FORMAT D:" after formatting Drive "C". The drive is now partitioned and formatted ready for use.

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## TROUBLE SHOOTING GUIDE

MESSAGE/PROBLEM	POSSIBLE SOLUTION
1. Invalid drive specification Error Code 80 (XT). Error code 1714 or 1701 (AT).	1. A. Drive not initialized. B. Pin "1" not matched to color coded side of cable. C. Drive Select not properly set. Drive Select "2" if 34 pin twisted cable used otherwise Drive Select "1".
2. LED always on	2. On AT system this is normal. On XT system 34 pin cable is installed backwards.
3. XT system low level format does not complete.	3. 20 pin cable plugged in backwards.
4. XT system error code 20.	4. 34 pin cable plugged in backwards.
5. AT system Hard Disk failure message.	5. Drive not initialized or incorrect drive type specification.
6. Drive does not "spin up".	6. Fault in power connection or power supply.
7. Drive does not come up to speed.	7. Check 5 volt and 12 volt power connections. (5 VDC should not be less than 4.75VDC and 12 VDC not less than 11.75VDC.)