

Chapter 5 Disk Array

The following topics are for Mainboards 85DR2+ and 85DR2+-L:

5-0 Before Creating Disk Array

5-1 Creating your Disk Array

5-2 Disk Array Setup

5-3 Install FASTTRAKPCI 133 Driver

5-0 Before Creating Disk Array:

- 1. Please locate the Promise RAID Controller on your mainboard to make sure that you are using the right board.
- 2. Locate the RAID Controller Select Jumper JP17 on board, and make sure this Jumper is set at Pin 1-2 closed for enabling IDE RAID controller. Please refer to the following Setup illustration of JP17 on board:

The diagram shows a top-down view of a computer motherboard. A red circle highlights a small component labeled 'On-Board RAID Controller' near the bottom center. Another red circle highlights two vertical connectors on the right side labeled 'ATA133 RAID Connectors'. Red lines connect these circles to the JP17 jumper table below.

JP17: Raid Controller Select	
1	2-3 closed RAID Controller Disabled
1	1-2 closed (default) RAID Controller Enabled

5-1 Creating Your Disk Array

To create your disk array, you have to open the FastBuild Utility, which should have already been built in your system BIOS through the Promise Controller. You can create two types of array with the help of FastBuild Utility.

1. An array for Performance in Striping type with 1 or 2 drives (or called RAID 0).
2. An array for Data Security in Mirroring type with 2 drives treated as one disk array (or called RAID 1).

WARNING : To create a Security array using an existing hard drive, backup any necessary data. Failure to follow this could result in data loss.

5-1.1 Creating An Array For Performance

FastTrak133-Lite allows users to create striped arrays with 1 or 2 drives.

1. Boot your system with FastTrak133-Lite Controller enabled by JP17 and your hard drive(s) connected to IDE3/IDE4. Suppose this is the first time to create a Disk Array. The Promise BIOS on board with FastBuild Utility built in will scan the IDE devices and display the result as below:

FastTrak133-Lite (tm) BIOS Version 1.xx (Build xxxx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

No array is defined...

Press <Ctrl-F> to enter FastBuild (tm) Utility
Or press <ESC> key to continue booting the system.

2. Press <Ctrl-F> keys to display the FastBuild (tm) Utility Main Menu.

Main Menu

```
Auto Setup.....[ 1 ]
View Drive Assignments.....[ 2 ]
View Array.....[ 3 ]
Delete Array.....[ 4 ]
Rebuild Array.....[ 5 ]
Controller Configuration.....[ 6 ]
```

3. Press “1” to display the Auto Setup Menu below. This is the fastest and easiest method to create your first array.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
[Auto Setup Options Menu]

Optimize Array for: **Performance**
Typical Application usage: Desktop

[Array Setup Configuration]

Mode Stripe
Spare Drive0
Drives used in Array1
Array Disk Capacity38166

[Keys Available]

[↑] Up [↓] Down [←,→, Space] Change Option
[ESC] Exit [Ctrl-Y] Save

4. Using Spacebar, choose “Performance” under “**Optimize Array** for “ section.
5. Select how you will use your PC under the **Typical Application usage** section The choices are A/V Editing, Server, and Desktop (the default).
6. Press <Ctrl-Y> keys to save and create the array.
7. Reboot your system.
8. Once the array has been created on new drive(s), you would need to Fdisk and format the array as if it were a new single hard drive.
9. Also proceed to “Installing Drivers” section of this Chapter (see Section 5-3) for system and FastTrak133 Driver setup.

5-1.2 Creating A Security (Mirror) Array With New Drives

FastTrak133-Lite on board permits only two drives to be used for a single Mirroring array with FastBuild Utility.

1. Boot your system with FastTrak133-Lite Controller enabled by JP17 and your hard drive(s) connected to IDE3/IDE4. Suppose this is the first time to create a Disk Array. The Promise BIOS on board with FastBuild Utility built in will scan the IDE devices and display the result as below:

FastTrak133-Lite (tm) BIOS Version 1.xx (Build xxxx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

No array is defined...

Press <Ctrl-F> to enter FastBuild (tm) Utility
Or press <ESC> key to continue booting the system.

2. Press <Ctrl-F> keys to display the FastBuild (tm) Utility Main Menu.
3. Press "1" to display the Auto Setup Menu below. This is the fastest and easiest method to create your first array.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
[Auto Setup Options Menu]

Optimize Array for: **Performance**
Typical Application usage: Desktop

[Array Setup Configuration]

Mode Stripe
Spare Drive0
Drives used in Array1
Array Disk Capacity38166

[Keys Available]

[↑] Up [↓] Down [←,→, Space] Change Option
[ESC] Exit [Ctrl-Y] Save

4. Using the Spacebar, choose "Security" under the **"Optimize Array for"** section.
5. Press <Ctrl-Y> keys to save and create the array.
6. The window below will appear:

Do you want the disk image to be duplicated to another? (Yes/No)
Y - Create and Duplicate
N - Create Only

7. Press "N" for the Create Only option.
8. A window will appear almost immediately confirming that your Security array has been created. Press any key to reboot the system.

Array has been created.
<Press Any key to Reboot>

9. Proceed with normal FDISK and format procedures as if you had just installed a new hard drive.
10. Once the arrayed drives have been formatted, proceed to Section 5-3 **"Installing Driver"** to install your operating system and Fast Trak133-Lite driver.

5-1.3 Creating Security Array With Existing Data Drive

FastTrak133-Lite on board permits only two drives to be used for a single Mirroring (Security) array with FastBuild Utility.

Checkpoints before creating a Security Array:

- (1) You may use a drive that is containing data or a bootable O/S. Then you will need another new drive of identical or larger storage capacity.
 - (2) Backup any necessary data before proceeding. Failure to follow this accepted PC practice could result in data loss.
 - (3) If you wish to include your current bootable drive holding Window NT 4.x or Windows 2000 O/S as part of a bootable Mirroring (RAID 1) array on your FastTrak133-Lite controller , you SHOULD first install the Windows NT4 or 2000 driver software to this drive while it is still attached to your system hard drive controller (e.g. IDE1/IDE2). For all other Operating Systems except Win NT4.0 and 2000, you can proceed with your hard driver(s) connected to IDE3/DIE4.
1. Boot your system with FastTrak133-Lite Controller enabled by JP17 and your hard drive(s) connected to IDE3/IDE4. Suppose this is the first time to create a Disk Array. The Promise BIOS on board with FastBuild Utility built in will scan the IDE devices and display the result as below:

FastTrak133-Lite (tm) BIOS Version 1.xx (Build xxxx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

No array is defined...

Press <Ctrl-F> to enter FastBuild (tm) Utility
Or press <ESC> key to continue booting the system.

2. Press <Ctrl-F> keys to display the FastBuild (tm) Utility Main Menu.

3. Press “1” to display the Auto Setup Menu below. This is the fastest and easiest method to create your first array.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
[Auto Setup Options Menu]

Optimize Array for: Performance
Typical Application usage: Desktop

[Array Setup Configuration]

Mode Stripe
Spare Drive0
Drives used in Array1
Array Disk Capacity38166

[Keys Available]

[↑] Up [↓] Down [←,→, Space] Change Option
[ESC] Exit [Ctrl-Y] Save

4. Using the Spacebar, choose “Security” under the **Optimize Array for** section.
5. Press <Ctrl-Y> keys to Save your selection. The window below will appear:

Do you want the disk image to be duplicated to another? (Yes/No)

Y - Create and Duplicate

N - Create Only

6. Press “Y” for the “Create and Duplicate” option. The window below will appear asking you to select the Source drive to use.

Channel: ID	Source Disk Drive Model	Capacity (MB)
Channel: ID	Target Disk Drive Model	Capacity(MB)
Channel: ID	[Please Select A Source Disk] Drive Model	Capacity (MB)
1 : Master	QUANTUMCR8.4A	8063
2 : Master	QUANTUMCR8.4A	8063

[↑] Up [↓] [ESC] Exit [Ctrl-Y] Save

7. Use the arrow keys to choose which drive contains the existing data to be copied. FastBuild will copy all data from the Source drive to the Target drive.
8. Press [Ctrl-Y] keys to save selection and start duplication. The following progress screen will appear:

<p>Start to duplicate the image</p> <p>Do you want to continue? (Yes/No)</p> <p>Y - Continue N - Create Only</p>
--

9. Select “Y” to continue. If you choose “N”, you will return to step 4.
10. Once complete, the following screen will appear confirming that your Security array has been created. Press any key to reboot the system.

<p>Array has been created.</p> <p><Press Any key to Reboot></p>

11. Proceed to Section 5-3 **Installing Driver** to install the FastTrak133-Lite driver and/or operating system.

5-2 Using FASTBUILD™ Configuration Utility

The FastBuild™ Configuration Utility offers several menu choices to create and configure the drive array on the Promise FastTrak133-Lite. In this Section, it is assumed you have already created an array in the previous Section and now wish to make a change to the array or view other status .

5-2.1 Viewing FastTrak133-Lite BIOS Screen

When you boot your system with the FastTrak133-Lite Controller enabled and drives connected to RAID IDE3 / IDE4, the Promise BIOS on board will detect the drives attached and show the following screen.

```
FastTrak133-Lite (tm) BIOS Version1.xx (Build xx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

Scanning IDE drives .....
```

If an array exists already, the BIOS will display the following screen showing the Promise BIOS version and status of the array.

```
FastTrak133-Lite (tm) BIOS Version1.xx (Build xxxx)
(c) 1995-2000 Promise Technology, Inc. All Rights Reserved.

  ID      MODE SIZE      TRACK-MAPPING      STATUS
  1*      2+0 Stripe  16126M   611/128/32  Functional

      Press <Ctrl-F> to enter FastBuild (tm) Utility .....
```

The array status consists of three possible conditions: Functional, Critical, Off-line.

Functional - The array is operational.

Critical - A mirroring array contains a drive that has failed or disconnected.

The remaining drive member in the array is functional. However, the array has temporarily lost its ability to provide fault tolerance. The user should identify the failed drive through the FastBuild™ Setup utility, and then replace the problem drive.

Off-line - A striped array having only 1 drive has failed or been disconnected.

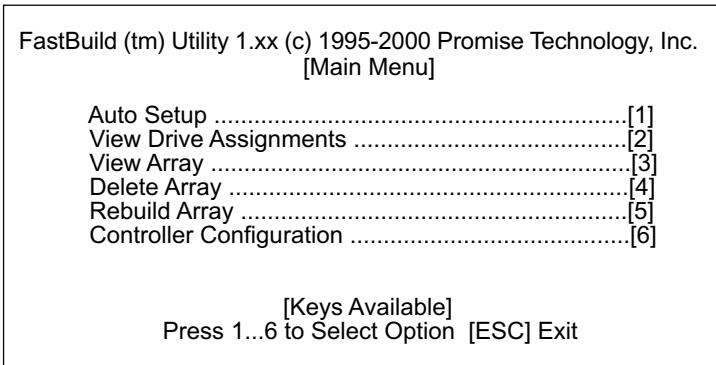
When the array condition is "Off-line", the user must replace the failed drive (s) , then restore data from a backup source.

5-2.2 Navigating the FastBuild™ Setup Menu

When using the menus, there are some of the basic navigation tips: Arrow keys highlights through choices; [ESC] key is used to abort or exit the current menu.

5-2.3 Using the Main Menu

This is the first option screen when entering the FastBuild™ Setup.



To create a new array automatically, follow the setups under “Creating Arrays Automatically” in Section 5-1. Promise recommends this option for most users.

To view drives assigned to arrays, see “Viewing Drive Assignments” in Section 5-2.5.

To delete an array (but not delete the data contained on the array), select “Deleting An Array” in Section 5-2.12.

To rebuild a mirroring array, see “Rebuilding an Array” in Section 5-2.13.

To view controller settings, see “Viewing Controller Configuration” in Section 5-2.14.

NOTE: After configuring an array of new blank drive(s) using FastBuild, you should FDISK and format the arrayed drive(s) , in a way depending on the type of system you are using.

5-2.4 Creating Arrays Automatically

The Auto Setup <1> selection from the Main Menu can intuitively help create your disk array. It will assign all available drives appropriate for the disk array you are creating. After making all selections, use Ctrl-Y to save selections. FastBuild will automatically build the array.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
[Auto Setup Option Menu]

Optimize Array for: Performance
Typical Application usage: A/V Editing

[Auto Setup Option Menu]

Mode Stripe
Spare Drive Count 1
Drives used in Array 2
Array Disk Capacity 16126

[Keys Available]

Press 1...6 to Select Option [ESC] Exit

5-2.4-1 Optimize Array For

Select whether you want Performance (RAID 0), or Security (RAID 1) under the “Optimize Array for” setting.

(1) Performance (RAID 0 Striping)

Supports the maximum performance. The storage capacity equals the number of drives times the capacity of the smallest drive in the disk array.

NOTE: FastTrak133-Lite permits striped arrays of 1 or 2 drives attached in Auto Setup mode.

(2) Security (RAID 1 Mirroring)

Creates a mirrored (or fault tolerant) array for data security.

NOTE: Under the Security setting, FastTrak133-Lite permits two drives to be used for a single Mirrored array.

5-2.4-2 Defining Typical Application Usage

Allows the user to choose the type of PC usage that will be performed in order to optimize how FastTrak133-Lite handles data blocks to enhance performance. Your choice will determine the block size used. You may choose from: A/V Editing (for audio/video applications, or any similar application that requires large file transfers), Server (for numbers of small file transfers), or Desktop (a combination of large and small file sizes).

5-2.5 Viewing Drive Assignments

The View Drive Assignments <2> option in the Main Menu displays whether drives are assigned to a disk array or are unassigned.

Under the "Assignment" column, drives are labeled with their assigned disk array or shown as "Free" if unassigned. Such "Free" drives can be used for a future array or used as a spare drive when a drive fails in a mirrored array. Unassigned drives are not accessible by the OS. The menu also displays the data transfer mode that relates to speed used by each drive (U5 refers to 100MB/sec transfers, U4 refers to 66MB/sec transfers, etc ...)

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
[View Drive Assignments]

Channel:	ID	Drive Model	Capacity (MB)	Assignment	Mode
1:	Master	QUANTUMCR8.4A	8063	Array 1	U5
1:	Slave	QUANTUMCR8.4A	8063	Free	U5
2:	Master	QUANTUMCR8.4A	8063	Array 1	U5

[Keys Available]

[↑] Up [↓] Down [ESC] Exit Mode (U=UDMA, P=PIO, D=DMA)

5-2.6 View an Array

The View Array <3> option from the Main Menu allows users to view the defined elements and RAID status that have already been defined by FastBuild Utility.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
[View Array Menu]

Array No	RAID Mode	Total drv	Capacity(MB)	Status
*Array 1	Stripe	2	16126	Functional
Array 2	---	---	---	---
Array 3	---	---	---	---
Array 4	---	---	---	---

[Keys Available]

Note:* ---Bootable Array

[↑] Up [↓] Down [ESC] Exit [Enter] Select
[Space] Change Boot Drive

3. Use the arrow keys to choose which drive containing the existing data to be copied.

WARNING : All target drive data will be erased. Make sure you choose the correct drive.

4. Press <Ctrl-Y> keys to save selection and start duplication. The following confirmation screen will appear.

Start to duplicate the image ...
Do you want to continue? (Yes/No)
Y - Continue N - Abort

5. Select “Y” continue. If you choose “N”, you will be returned to step 1.
6. Once “Y” is selected, the following progress screen will appear. The process will take a few minutes.

Please Wait While Duplicating The Image

Complete

10%

7. Once mirroring is complete, the following screen will appear confirming that your Security array has been created. Press any key to reboot the system.

Array has been created.
<Press Any key to Reboot>

5-2.8 Making a FastTrak133-Lite Disk Array Bootable

WARNING : In order for you to boot from an array on the FastTrak133-Lite, your PC or server must be configured in the CMOS Setup to use the FastTrak133-Lite as a bootable device (versus the on board controller or another add-in card). This option is not available if the FastTrak133-Lite is being used as a secondary controller.

1. Once you have returned to the Define Array Menu window (below), you will see the array(s) you have created. You now may use the menu to select which previously-defined array will be used as the bootable array.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc. [Define Array Menu]				
Array No	RAID Mode	Total Drv	Capacity(MB)	Status
* Array 1	Stripe	2	13044	Functional
Note: * --- Bootable Array				
[↑] Up [↓] Down [ESC] Exit [Enter] Select [Space] Change Boot Drive				

2. Use the [↑] Up [↓] Down keys to highlight the array which you want to from boot.
3. Press the [Space] bar.
4. An* asterisk will appear next to the array number indicating it as bootable. The system will now recognize this array as the first array seen.
5. The system will then use this bootable array as the (fixed) boot C: drive.

NOTE: *The bootable array must contain your configured operating system.*

5-2.9 Creating a “Hot” Spare Drive for Mirroring Arrays

For automatic rebuilds of a mirroring array, attach an extra “spare” drive to the FaskTrak100-Lite. Drives that are not assigned to an array and are the same size or larger than the original will be used for the automatic rebuild. This is performed in the background under all supported operating systems, except DOS. At a later time, the system can be turned off and the failed drive can be physically removed.

5-2.10 How FastTrak133-Lite Orders Arrays

During startup, the disk arrays on the FastTrak133-Lite are recognized in this order: 1) The array set to bootable in the FastBuild™ Setup, and 2) the Array number (i.e. Array 0, Array 1 ...). This would involve determining which drive letters will be assigned to each disk array.

5-2.11 How FastTrak133-Lite Saves Array Information

All disk array data are saved into the reserved sector on each array member. Promise suggests that users record their disk array information for future reference.

Another feature of the FastTrak133-Lite disk array system is to recognize drive members even if drives are moved between different FastTrak133-Lite card connectors. Since each drive's array data identifies itself to the array, it is possible to move or swap drives without modifying the array setup. This is valuable when adding drives, or during a rebuild.

5-2.12 Deleting An Array

The Delete Array <4> Menu option allows for deletion of disk array assignments. This is not the same as deleting data from the drives themselves. If you delete an array by accident (and before it be used again), the array can normally be recovered by defining the array identically as deleted array (by Using Auto Setup).

WARNING: *Deleting an exiting disk array could result in its data loss. Make sure to record all array information including the array type, the disk members, and stripe block size in case you wish to undo a deletion.*

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc. [Delete Array Menu]				
Array No	RAID Mode	Total Drv	Capacity(MB)	Status
Array 1	Stripe	2	16126	Functional
Array 2	-----	-----	-----	-----
Array 3	-----	-----	-----	-----
Array 4	-----	-----	-----	-----
[Keys Available]				
[↑] Up [↓] Down [Esc] Exit [Del] Delete				

1. To delete an array, highlight the Array you wish to delete and press the [Del] key.
2. The View Array Definition menu will appear (see below) showing which drives are assigned to this array.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc. [Delete Array Menu]				
Array No	RAID Mode	Total Drv	Capacity(MB)	Status
Array 1	-----	-----	-----	-----
Stripe Block: 64 KB				
[Drive Assignments]				
Channel : ID	Drive Model	Capacity (MB)	Assignment	
1 : Master	QUANTUMCR8.4A	8063	Y	
2 : Master	QUANTUMCR8.4A	8063	Y	

3. Confirm yes to the follow warning message with the <Ctrl-Y> key to continue array deletion:

Are you sure you want to delete this array ?
Press Ctrl-Y to Delete, others to Abort

4. After deleting the array, you should create a new array using Auto Setup.

5-2.13 Rebuilding A Mirroring Array

The Rebuild Array <5> Menu option is necessary for recovering from an error in a mirrored disk array. You will receive an error message when booting your system from the FastTrak BIOS.

***NOTE:** Drives **MUST** be replaced if they contain any physical errors.*

Follow these steps BEFORE using the Rebuild Array menu option:

- 1. On bootup, the FastTrak133-Lite Startup BIOS will display an error message identifying which drive has failed.
- 2. Press <Ctrl-F> keys to enter FastBuild Main Menu.
- 3. Select submenu Define Array <3>.
- 4. Select the failed array and identify the Channel and ID of the failed drive.
- 5. Power off and physically remove the failed drive.
- 6. Replace the drive with an identical model.
- 7. Reboot the system and enter the FastBuild Main Menu.
- 8. Select the <5> Rebuild Array option. The following screen will appear.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.				
[Delete Array Menu]				
Array No	RAID Mode	Total Drv	Capacity(MB)	Status
Array 1	Mirror	2	16126	Critical
Array 1	-----	--	-----	-----
Array 1	-----	--	-----	-----
Array 1	-----	--	-----	-----
[Keys Available]				
[^U] Up [^I] Down [Esc] Exit [Del] Delete				

- 9. Highlight the array whose Status is "Critical".
- 10. Press [Enter]. The following screen will then appear (see next page).

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.
 [Delete Array Menu]

Array No	RAID Mode	Total Drv	Status
Array 2	Mirror	2	Critical


Stripe Block: Not Available
 [Select Drive for Rebuild]

Channel : ID	Drive Model	Capacity (MB)	Assignment
1 : Slave	QUANTUMCR8.4A	8063	Y

[Keys Available]
 [↑] Up [↓] Down [Esc] Exit [Del] Delete

11. Under [Select Drive for Rebuild], highlight the replacement drive.
12. Press [Enter] and confirm that the data will be copied on to the selected drive. All data on the replacement drive will be written over with mirrored information from the array drive. A progress bar will appear as below.

Please Wait While Duplicating The Image


10%

Complete

13. Once the rebuild process is complete, user will be asked to reboot the system.

5-2.14 Viewing Controller Settings

The Controller Configuration <6> menu selection allows you to enable or disable the halting function of FastTrak133-Lite BIOS (the default) if it detects an error on boot up. You may also view the system resources (Interrupt and I/O port address) of FastTrak's data channels.

FastBuild (tm) Utility 1.xx (c) 1995-2000 Promise Technology, Inc.		
[Adapter Configuration - Options]		
Halt On Error:	Enable	
[System Resources Configuration]		
Channel 1 (IDE1)	Interrupt : A	I/O Port : FFF0
Channel 2 (IDE2)	Interrupt : A	I/O Port : FFA8
[Keys Available]		
[←, →, Space] Change Option		[Esc] Exit

5-2.15 Halting FastTrak BIOS On Bootup Errors

The [Adapter Configuration ---- Options] section allows you to enable or disable FastTrak133-Lite to Halt operation at the BIOS startup screen should an error be detected. This is the only option that can be changed on this screen.

5-3 Installing Drivers

This section details the FastTrak133-Lite driver installation for various operating systems. The driver should have been included either into the Support CD or into a Support Floppy Diskette.

Checkpoints for the driver installation:

1. To install FastTrak133-Lite Driver for an operating system, you must use *the driver in Floppy Diskette instead of the one in CD. If you are not provided with a Driver Diskette, you should create one by copying the driver files through the support CD with the path:*
 "E \Driver\Promise\FastTrak133-Lite. (Suppose that CD-ROM title is E).
2. Set JP17 on board enabled (Pin 1-2 closed) for RAID Controller Select. The following sections describe the detailed procedures of installing FastTrak133-Lite Driver for windows 2000/XP, Windows 95/98, Windows NT4.0, and Windows 3.1 / DOS.

5-3.1 For Windows 2000 / Windows XP

5-3.1-1 Installing Driver During New Windows 2000 / XP Installation

1. Connect your hard driver(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17.
 Boot from the windows 2000 CD. Press <F6> after the message " Press F6 if you need to install third party SCSI or RAID driver" appears.
2. Then, the "Windows 2000/XP Setup" starts to load files from CD-ROM until it asks for "Specify Additional Device". Press "S" to Specify an Additional Device.
3. Then, "Windows 2000/XP Setup will ask for the hardware support disk, that is, the Promise RAID Driver. Insert into drive A the Support Floppy Disk containing the Promise FastTrak133 Lite RAID Controller Driver and then press "Enter" to continue.
4. Next, choose "Win2000/XP Promise MBFastTrak133-Lite Controller" from the list that appears on screen, then press the "Enter" key.
5. The Windows 2000/XP Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "Win2000 Promise FastTrak133-Lite controller".

Note: *If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to step 7.*

6. From the Windows 2000/XP Setup screen, press the Enter key. Setup will now load all device files and then continue the installation.

5-3.1-2 Installing Driver To Existing Windows 2000/XP System

WARNING: You must first complete installing the driver before moving the boot drive containing the existing Windows 2000 operating system on to the FastTrak133-Lite controller (e.g. IDE3/IDE4). On this series, IDE1/0 are for system IDE controller, while IDE3 & IDE4 are for RAID IDE controller.

At booting with Windows 2000/XP system with Jp17 enabled, and your hard drive(s) connected to IDE1/2, Windows 2000/XP setup will show a "New Hardware Found" dialog box. Under Windows 2000, the "PCI RAID Controller" will be displayed.

1. In the dialog box, choose "Driver from disk provided by hardware manufacturer" button.
2. In the A: drive, insert the FastTrak133-Lite driver diskette.
3. Type "A:\WIN2000" in the text box. Press "Enter".
4. Choose "Win2000 Promise FastTrak133-Lite Controller" from the list that appears on screen, then press the "Enter" key.
5. The Windows 2000 setup screen will appear again saying "Setup will load support for the following mass storage device - Win2000 Promise FastTrak133-Lite controller. The FastTrak133-Lite driver will now be copied on to the system and entered into the Windows 2000 driver database.
6. When the "System Setting Change" dialog box appears, remove the floppy diskette and click on "Yes" to restart the system. Windows 2000 will then restart for the driver installation to take effect.
7. Power off your system, then connect your hard drive to the FastTrak IDE3/IDE4 for Disk Array setup.

5-3.1-3 Confirming Windows 2000 Installation

1. From Windows 2000, open the Control Panel from "My Computer" followed by the System icon.
2. Choose the "Hardware" tab, then click the "Device Manager" tab.
3. Click the "+" in front of "SCSI & RAID Controllers hardware type." The driver "Win2000 Promise FastTrak/FastTrak133-Lite Controller" should appear, informing user that the controller driver is already installed.

5-3.2 Windows 95/98

The following three sections detail the installation of the FastTrak133-Lite drivers while installing Windows 95/98. If you're installing the FastTrak133-Lite drivers on a system with Windows 95/98 already installed, see "Installing Drivers with Existing Windows 95/98".

5-3.2-1 Installing Drivers During Windows 98 Installation

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive(s), partition and format your hard driver(s).
2. Install Windows 98 normally.
3. After installation, go to "Start" menu and choose "Settings."
4. From the "Settings" menu, choose "Control Panel."
5. In the "Control Panel" window, double-click on the "System" icon.
6. In the "System" window, choose the "Device Manager" tab.
7. In the hierarchical display under "Other Devices" is a listing for "PCI RAID Controller." Choose it and then press the "Properties" button.
8. Choose the "Driver" tab in the "Properties" window, choose "Update Driver," and then press "Next."
9. Choose "Search for a better driver than the one your device is using now (recommended)," then press "Next".
10. Choose "Specify Location," and then type "A:\WIN95-98" in the text box.
11. Insert the "FastTrak133-Lite Driver" diskette into the A: drive.
12. Press the "Next" button. A message informing you that Windows 98 has found "Win95-98 Promise FastTrak133-Lite (tm) Controller" should appear.
13. Press "Next," then "Finish," then "Yes" when asked if you want to restart your computer. Be sure to remove the diskette from drive A:.

5-3.2-2 Installing Drivers During Windows 95 Installation

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive(s) for RAID Array, partition and format your hard driver(s).
2. Install Windows 95 normally.
3. After installation, go to "Start" menu and choose "Settings."
4. Form the "Settings" menu, choose "Control Panel."
5. In the "Controller Panel" window, double-click on the "System" icon,
6. In the "System" window, choose the "Device Manager" tab.
7. In the hierarchical display under "Other Devices" is a listing for "PCI RAID Controller." Choose it and then press the "Properties" button.
8. Choose the "Driver" tab in the "Properties" window, and then press the "Update Driver" button.
9. When asked if you want Windows to research for the driver, choose "Yes (recommended)."
10. Insert the "FastTrak133-Lite Driver" diskette into the A: drive, then press "Next."
11. When Windows informs you that it was unable to find the drivers, press "Other Locations..."
12. In the "Select Other Location" dialog box, type "A:\WIN9x-ME".
13. Press "Next" button. A message informing you that Windows 95 has found "Win95-98 Promise FastTrak133-Lite (tm) Controller" should appear.
14. Press "Finish." (If Windows can't find the "FastTrak133-Lite.MPD" file, type "A:\WIN9x-ME" in the copy files from:" text box).
15. Choose "Yes" when asked if you wish to restart the system, and remove the diskette from Drive A.

5-3.3 Installing Drivers With Existing Windows 95/98

The following three sections detail the installation of the FastTrak133-Lite drivers on a system that has Windows 95/98 already installed. If you're installing the FastTrak133-Lite drivers on a system during a Windows 95/98 installation, see "Installing Drivers During Windows 95/98 Installation".

5-3.3-1 Windows 98

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive(s) for RAID Array, power up the system and boot Windows.
2. The "Add New Hardware Wizard" will appear, informing you that it has found a "PCI RAID Controller."
3. Check the "Search for the best driver for your device" box and click the Next button.
4. Check the "Specify a Location" box and click the Next button.
5. Type "A:\WIN9x-ME" in the text box that appears.
6. Insert the "FastTrak133-Lite Driver" diskette in drive A:.
7. Click on "Next." The Add New Hardware wizard will say it has found "Win95-98 Promise FastTrak133-Lite Controller".
8. Click on "Next," and then on "Finish."
9. Choose "Yes" when asked if you want to restart your computer. Be sure to remove the diskette from drive A:.

5-3.3-2 Windows 95

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Configure the hard drive(s) for RAID Array, power up the system and boot Windows.
2. The "Update Device Drive Wizard" will appear, informing you that it has found a "PCI Mass Storage Controller."
3. Insert the "FastTrak133-Lite Driver" diskette in drive A:.
4. Type "A:\WIN9x-ME" in the text box, then click on "Next." Windows will inform you that it has found the "Win95/98 Promise FastTrak133-Lite controller".
5. Click on "Finish," and when prompted to insert the "FastTrak133-Lite Driver" diskette, click on "OK."
6. If a message informing you that the file "Win95/98 Promise FastTrak133-Lite.MPD" cannot be found, go to the "Copy files from:" text box and type: "A:\WIN9x-ME".

7. Choose "Yes" when asked whether you want to start your computer. Be sure to remove the diskette from drive A.

5-3.3-3 Confirming Driver Installation in Windows 98/95

To confirm that the driver has been properly loaded in Win 95/98, perform the following steps:

1. Choose "Settings" from the "Start" menu.
2. Choose "Controller Panel", and then double-click on the "System" icon.
3. Choose the "Device Manager" tab, and click the "+" in front of "SCSI & RAID controllers." "Win95-98 Promise FastTrak133-Lite controller" should appear.

5-3.4 DOS/Windows 3.1x

For first -time installation, follow the standard procedure of installing DOS on to your hard disk (partition all hard drive with FDISK and format before performing the following procedure):

1. Insert "Disk 1" of your DOS installation diskettes into drive A:.
2. Type "A:\SETUP" at the "A:\>" prompt.
3. Continue with normal DOS installation procedure, and refer to your DOS manual for additional details.

Note: *The FastTrak133-Lite BIOS supports both DOS and Windows 3.1x without software drivers installed.*

5-3.5 Windows NT4.0

5-3.5-1 Installing Drivers During Windows NT 4.0 Installation

1. Connect your hard drive(s) for RAID Array to IDE3/IDE4, and enable FastTrak133-Lite Controller with JP17. Start the system installation by booting from the Windows NT disk:
 - a) Floppy install: boot the system with the Windows NT installation diskettes.
 - b) Other bootable Floppy: boot from the bootable floppy and type "WINNT /B". After files have been copied, the system will reboot. On the reboot, press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears.
 - c) CD-ROM disk install: boot from the CD-ROM disk and press the "F6" key when the message "Setup is inspecting your computer's hardware configuration..." appears.
2. When the "Windows NT Setup" window is generated, press "S" to specify an Additional Device(s).
3. Press "O" to select "Other" and press the "Enter" key.
4. Insert into drive A the Promise Technology ® FastTrak133-Lite driver diskette that you have made from the support CD: and press "Enter" key.
5. Choose "Win NT Promise FastTrak133-Lite (tm) Controller" from the list that appears on screen, then press the "Enter" key.
6. The Windows NT Setup screen will appear again saying "Setup will load support for the following mass storage devices:" The list will include "Win NT Promise FastTrak133-Lite (tm) controller".

Note: *If you need to specify any additional devices to be installed, do so at this time. Once all devices are specified, continue to step 7.*

7. From the Windows NT Setup screen, press the Enter key. Setup will now load all device files and then continue the Windows NT installation.
8. After a successful installation, the "SCSI Adapter Setup" box will show that the "Win NT Promise FastTrak133-Lite (tm) Controller" driver has been installed.

5-3.5-2 Installing Drivers With Existing Windows NT4.0

WARNING: You must first complete installing the driver before moving the boot drive containing the existing Windows NT operating system on to the FastTrak133-Lite controller (e.g. IDE3/IDE4). On this series, IDE1/0 are for system IDE controller, while IDE3 & IDE4 are for RAID IDE controller.

With your bootable hard drive connected to IDE1/IDE2 and FastTrak133-Lite enabled by JP17, boot Win NT4.0.

1. Choose "Settings" from the "Start" menu.
2. Choose "Controller Panel" from the "Settings" menu.
3. Double-click on the "SCSI Adapters" icon, which generates the "SCSI Adapters" dialog box.
4. Choose "Drivers," and then press "Add."
5. In the "Install Drivers" dialog box, press "Have Disk..."
6. When the "Install From Disk" appears, insert into Drive A the "FastTrak133-Lite Driver" diskette that you have made from support CD:.
7. Type "A:\NT4" in the text box window, then choose "OK."
8. When the "Install Driver" dialog box appears, select "Win NT Promise FastTrak133-Lite controller" and then press "OK."
9. When the "Select SCSI Adapter Option" dialog box appears, press "Install".
10. After a successful installation, the "SCSI Adapter Setup" box will show that the "Win NT Promise FastTrak133-Lite (tm) Controller" driver has been installed.
11. Power off your system.
12. Now you can move the boot drive to the FastTrak133-LiteController.