Chapter 4 Controller

This chapter is primarily a description and explanation of the system firmware and the commands and information available via the LCD.

4.1 Basic Features

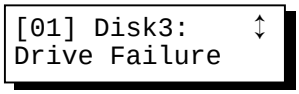
The controller firmware's basic features allow you to create, monitor and maintain a RAID array directly via the LCD panel. This section describes the basic displays and functions provided via the LCD.

Front Panel Ready Mode

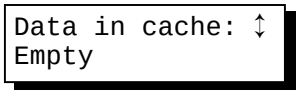
After a RAID has been setup and is operating normally, the controller will operate in ready mode and will display the following information via the LCD, pressing the up and down arrow keys on the front panel navigates from one display to another:

Ready – indicates what RAID level the array is currently operating at and shows the status of each drive bay. (Default display.)

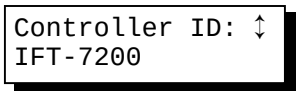
Event [01] – if there is a currently pending serious error event, the error event log entry will be listed immediately after the Ready screen. Note that if no errors are pending, the display immediately after Ready will be the cache status below.



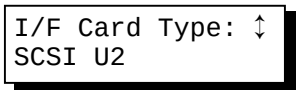
Data in Cache – displays how much of the cache is currently used.



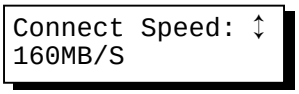
Controller ID – displays which type of controller is installed.



I/F Card Type – indicates the type of host interface currently installed in the unit (SCSI Ultra2, SCSI Ultra160, or Fibre).

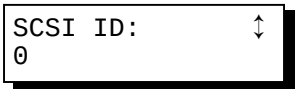


Connect Speed – indicates the optimum host speed (based on the type of interface) of the currently connected host.

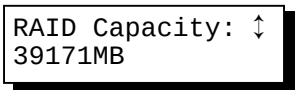


IMPORTANT NOTE : At this point, Fibre-to-IDE subsystems will display three readouts that are not necessary for SCSI operations. Fibre subsystem operators should refer to Chapter 6 for more information.

SCSI ID – displays the current SCSI ID assigned to the RAID array. *(Fibre models will display "Fibre ID" – see Chapter 6.)*

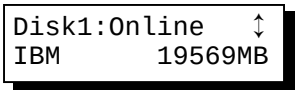


RAID Capacity – indicates the size of the RAID array storage (does not include capacity of spares).

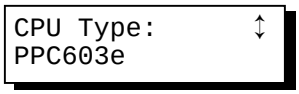


LUN # – shows the size of a partition (possibly followed by other partitions up to eight total).

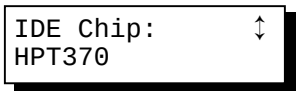
Disk # – displays information about a hard drive, including the manufacturer (if known) and the size. Each drive bay will be listed regardless of whether or not it has a drive installed. Empty bays will be listed as "Vacant."



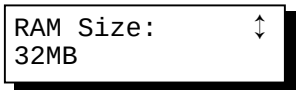
CPU Type – lists an abbreviation of the name of the controller CPU (e.g., "PPC603e" means PowerPC 603e).



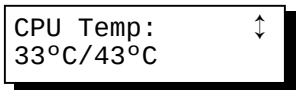
IDE Chip – lists an abbreviation of the name of the IDE interface control chip.



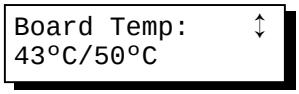
RAM Size – indicates the size of the controller RAM.



CPU Temperature – a constant, real-time measurement of the controller CPU temperature. The first number is the current CPU surface temperature, the second number is the peak temperature since the unit was last powered on.

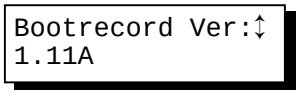


Board Temperature – a constant, real-time measurement of the controller temperature. The first number is the current board temperature, the second number is the peak temperature since the unit was last powered on.

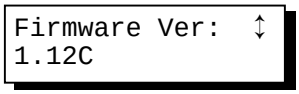


Backplane ID – describes the type of backplane installed in the subsystem. Useful when contacting tech support for troubleshooting.

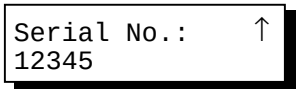
Bootrecord Version – provides important information for technical support troubleshooting.



Firmware Version – shows the version number of the currently running firmware.



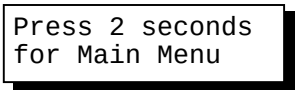
Serial Number – shows the manufacturer's serial number for this controller/subsystem unit.



Front Panel Configuration Options

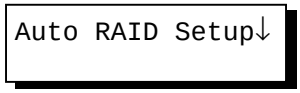
This section explains how to use the basic setup and configuration functions available via the LCD panel. Choices are displayed in order.

To access these menus, press the Menu/Exit button for two seconds. The following display will appear prior to the first menu:



Set SCSI ID## – *(see 4.2 below) (For information about setting* **Fibre IDs** *for Fibre-to-IDE subsystems, see Chapter 6.)*

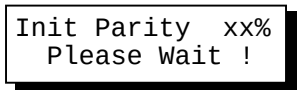
Auto RAID Setup – to start an Auto RAID installation, press the Enter button. You will be asked to confirm. Use the arrow keys to display your choice and press the Enter button again.



WARNING!

Creating a new RAID will destroy all currently stored data.

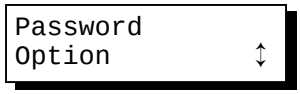
If you choose Yes, the display will show a parity initialization percentage.

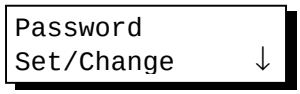


Menu RAID Setup – *(see 4.2 below)*

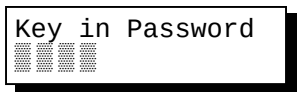
RAID Expansion – *(see 4.2 below)*

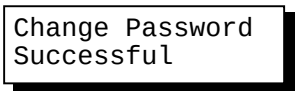
Password Option – if you would like to set a controller password, press the Enter button. The Set/Change screen will be displayed. Press the Enter button to create or change the password. If you would like to cancel an existing password, scroll down to the Cancel screen and press the Enter button.





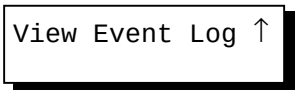
The password is a four-digit code consisting of numbers from 0 to 9. To change a digit, use the arrow keys to scroll to your choice and press Enter to move to the next digit. You will be asked to re-type the password to confirm and will receive an error message if the two passwords do not match. Otherwise, you will see a confirmation that the password was successfully changed.





If later you want to modify the password, it will be necessary for you to enter the old password in order to set a new one.

View Event Log – if you would like to view the contents of the current event

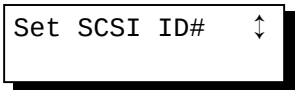


log press the Enter button.

Event log items will be listed, most recent first, and numbered from 01 to 99. All items are as of the last time the unit was powered on. Press the arrow buttons to navigate through the list of events to display the one you want. Note that the events listed will match the listings in both the terminal manager and RAIDGuide event logs.

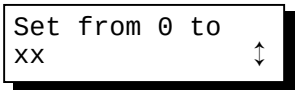
4.2 Advanced Functions

This section explains how to use advanced features of the controller firmware via the LCD panel. Because misuse of these functions can cause operational problems including data loss, we recommend that only experienced users access them.



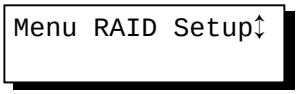
Set SCSI ID# – SCSI IDs permit SCSI devices to be daisy-chained onto the same bus. The default ID is 0. The SCSI ID can be set to any number from 0 to 15 but no two SCSI devices on the same bus can have the same ID.

Select an ID from 0 to 15 choose yes and press the Enter button.

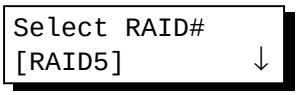


The new ID setting will not take effect until the unit is reset or powered down and then back on. *(For information about setting* **Fibre IDs** *for Fibre-to-IDE subsystems, see Chapter 6.)*

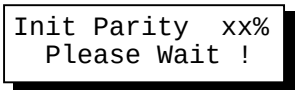
Menu RAID Setup – this menu allows users to control the parameters of the RAID setup including the RAID level. Press the Enter button to access it.



First, you will be prompted to select a RAID level. Display the level you want to use (only those levels for which there are sufficient drives installed will be displayed) and press the Enter button. You will be prompted to confirm. Display Yes and press the Enter button to confirm the selected RAID level.

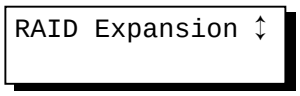


The LCD will display the parity

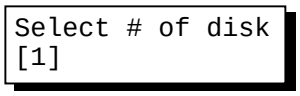


percentage as the new RAID is created.

RAID Expansion – if, after adding a new drive, you would like to make your RAID bigger, select RAID expansion. Note that you can also use an already installed spare drive to do a RAID expansion although this method will leave your array without a backup spare and is not recommended.



You will first be prompted to select how many drives to add to the RAID. The number available will depend on how many new drives or spares are installed. Scroll through the available numbers using the arrow buttons and press Enter to select.



Next, you will be asked to confirm the new LUN1 size. Choose Cancel or OK and press the Enter button. The creation of the new RAID will be displayed as an expansion percentage complete until the process is finished.