

easyRAID RAID Management S/W User's Guide

1. Introduction

The RAID management S/W is an easy-to use, user-friendly S/W design for easyRAID solution. User should create the RAID configuration via the RAID unit's front panel button (please refer to your user's manual) and use the RAID management S/W to monitor status or modify configuration.

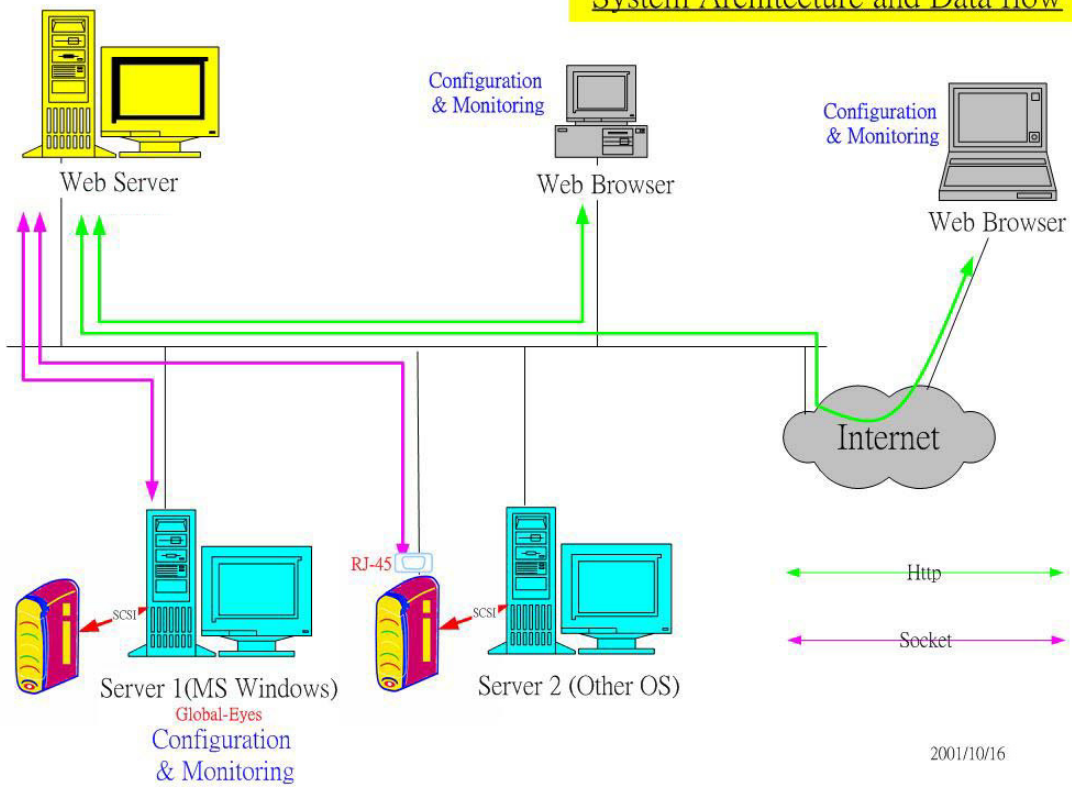
The RAID Management S/W includes 2 programs:

I. SCSI In-band (*Global-Eyes*): *Global-Eyes* supports host connected with Disk Array under Windows 98/Me, NT/2000/XP system. This program should install into the host server so as to monitor status and change configuration locally.

II. Ethernet (*Global-Net*): This program allows users to monitor status and change configuration remotely through web browser. Users should install this program into a Web server. If your RAID set equipped with an Ethernet (RJ45) connector, just connect it with network environment to get access by web browser.

For more info go to **www.easyRAID.com**

System Architecture and Data flow



2. Global-Eyes Revision History

Global-Eyes Ver 2.00

- Add English/Japanese version switching function.
- Add remote RAID configuration.
- Support multiple RAID setting.
- Add firmware update function.
- Add advance setting.
- Add log exportation.

Global-Eyes Ver 1.01

- Remove S/W Terminator option of Array Configuration.

Global-Eyes Ver 1.00

- First version release.

Note: The Global-Eyes is applied to all of the SCSI host RAID systems. But some of the functions may not be applied on some models. (Please see explanation below mark with “*”) Please refer to your “User’s Manual” to get detailed spec.

3. Global-Eyes Local Access

3-1 Hardware:

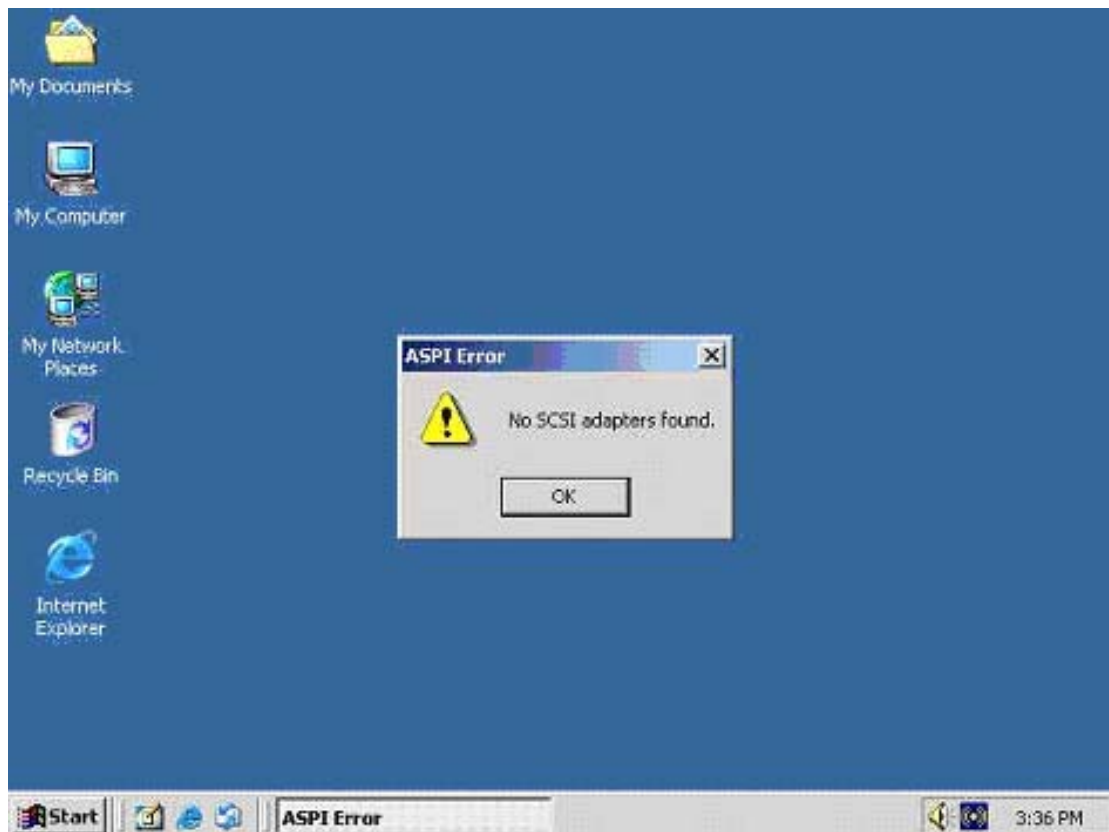
To use *Global-Eyes* you will need to connect the RAID with Host Server installed with SCSI card and cable.

3-2 Software:

Follow the steps below to install *Global-Eyes* on your host computer.

- I. **Adaptec ASPI Package:** This package is required in order to proceed Global-Eyes program, if you have this package installed, please go to next step; otherwise please download from [Adaptec](#) and install it.

Warning!! If you didn't install "*ASPI*" driver before running the GUI program, it will display "*No SCSI Adapters found*"



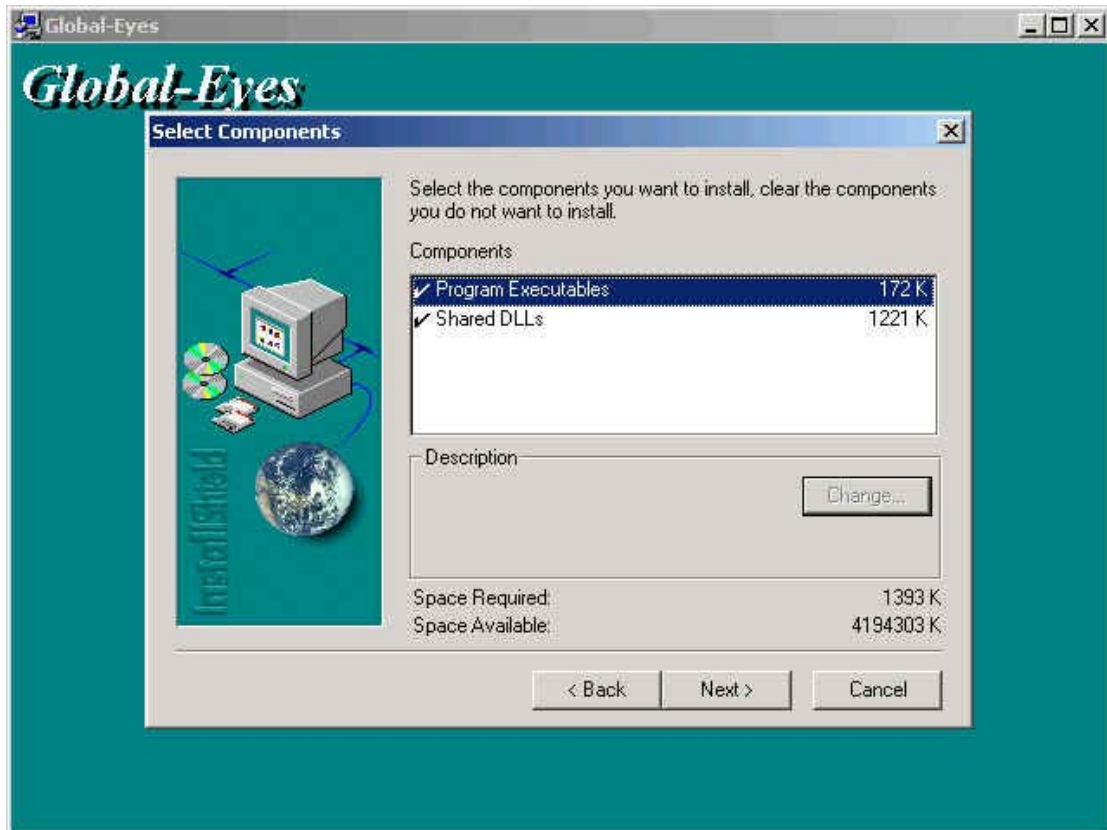
II. Global-Eyes: Insert the CD-ROM.

II.1 Before proceeding, we recommend that you close all applications in use.

II.2 Run "Global-Eyes\disk1\setup.exe" file to start the installation.



Click "**Next**" button to continue the installation, or change the directory you like.



Click "Next" to continue.



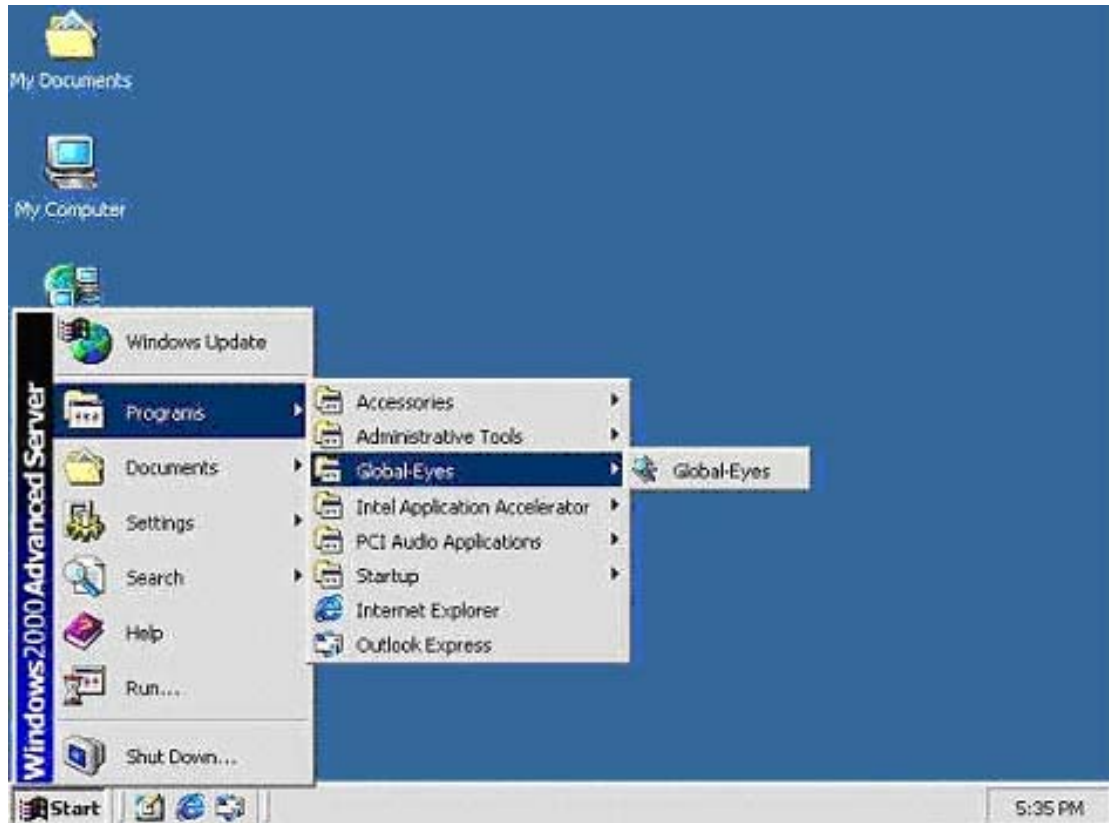
Click "Next" to go to next step.



Click "**Finish**" to finish the installation.

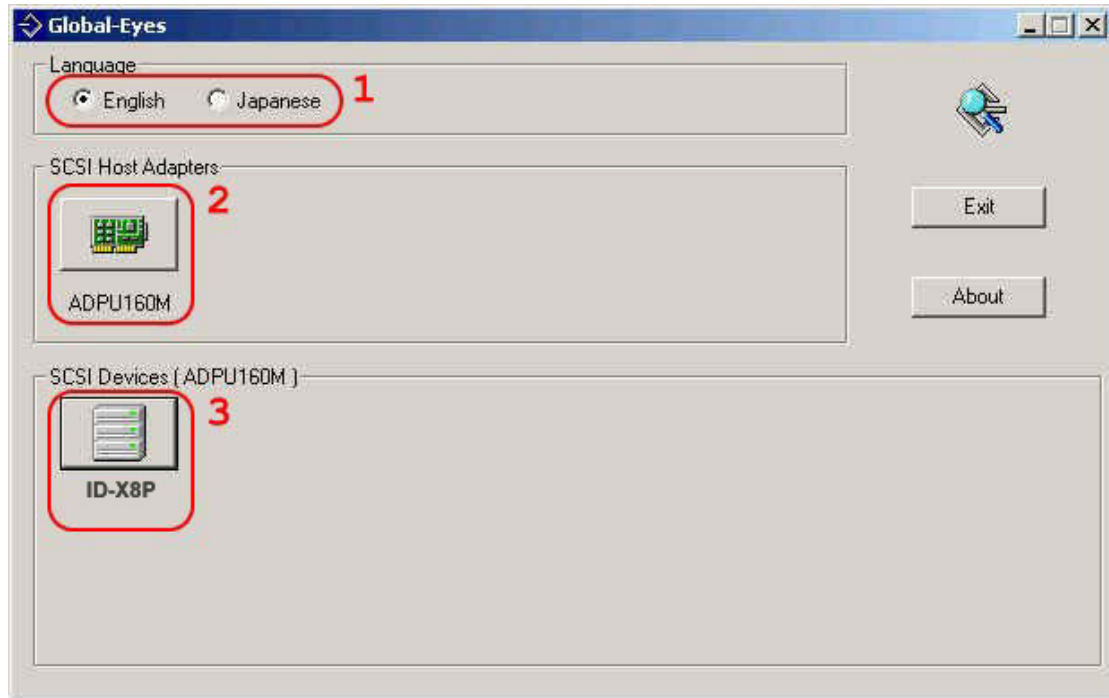
4 Run Global-Eyes Program

Click **Start** -> **Programs** -> *Global-Eyes* -> *Global-Eyes* to start this program.



4-1 "Global-Eyes" Main menu

Global-Eyes main menu will display after starting the program.



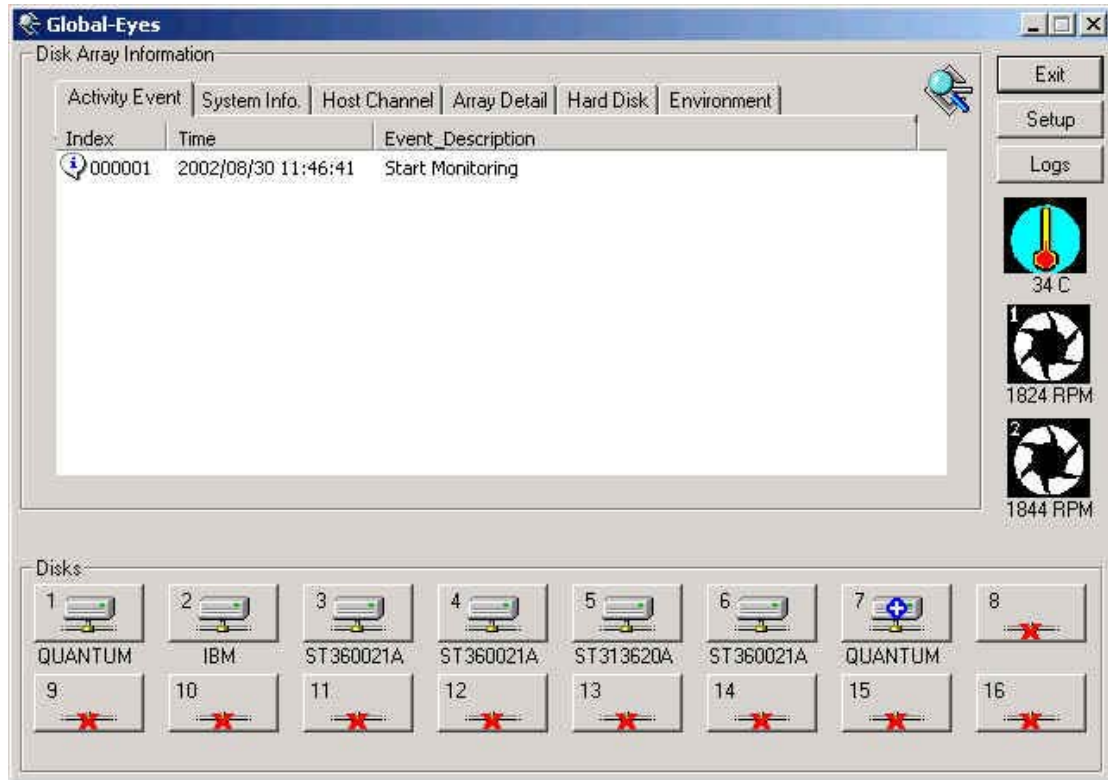
4-1-1 Global-Eyes will detect the SCSI device automatically.

- I. Language: We support English/Japanese language for your choice.
- II. SCSI Host Adapter(s): SCSI card installed in Host computer.
- III. SCSI Device(s): Display all SCSI devices attached at this SCSI card.

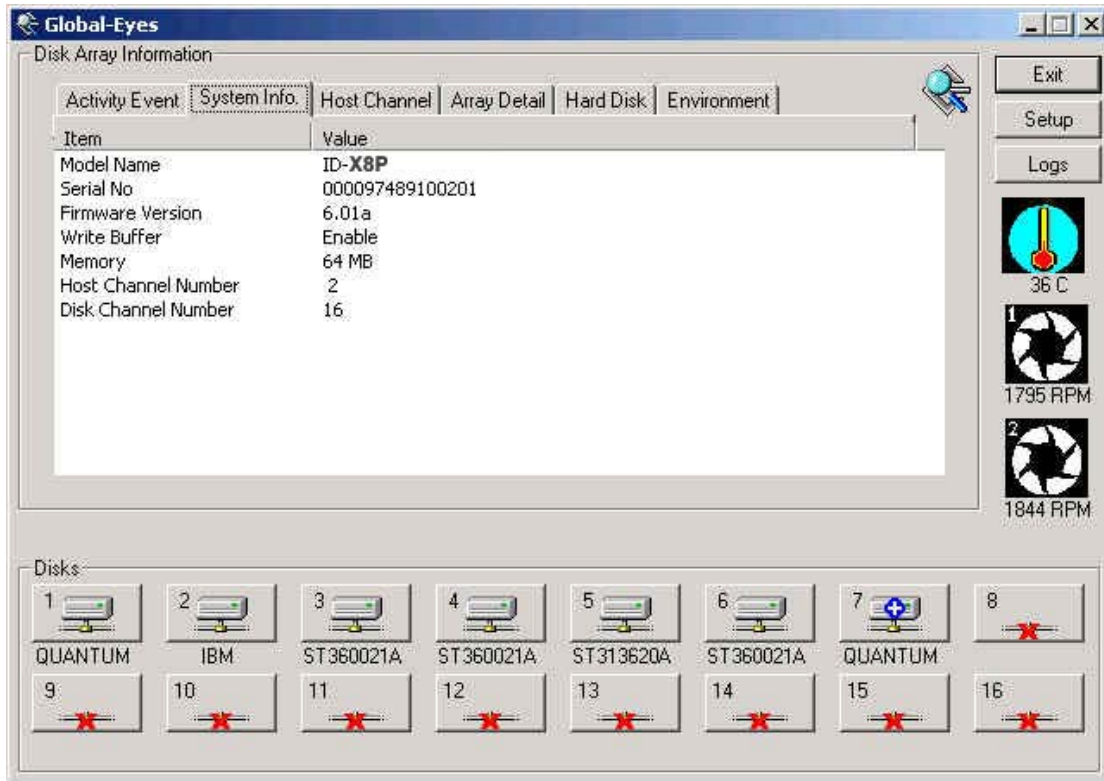
Press "**ID-X8P**" (it depends on the model name) icon to start monitoring.

4-1-2 The "Disk Array Information" windows will pop-up, and temperature, fan status will display.

I. **Activity Event:** Information about activity events.



II. System Info: Display RAID hardware information such as Model Name, Serial Number, Firmware Version, Write Buffer, Memory Size, Host Channel Number and Disk Channel Number.



	HDD is On-line		HDD Failed
	HDD is Spare Disk		Spare HDD Failed
	HDD is Rebuilding or On-line Expanding		Not Install HDD

III. Host Channel: Display information about SCSI ID, S/W Termination, Command Tag, Transfer rate, Ultra Wide info and Lun mapping.

The screenshot shows the 'Global-Eyes' software interface. The main window is titled 'Disk Array Information' and has several tabs: 'Activity Event', 'System Info', 'Host Channel' (selected), 'Array Detail', 'Hard Disk', and 'Environment'. The 'Host Channel' tab displays a table with the following data:

Item	Value (channel 1)	Value (channel 2)
SCSI ID	0	0
S/W Termination	Disable	Disable
Command Tag	Enable	Enable
Transfer Rate	Ultra 3	Ultra 3
Wide	Enable (16-bit)	Enable (16-bit)
Lun-0	Array-1 Slice-0 (976 MB)	-
Lun-1	-	-
Lun-2	-	-
Lun-3	-	-
Lun-4	-	-
Lun-5	-	-
Lun-6	-	-
Lun-7	-	-

On the right side of the window, there are several controls and status indicators: 'Exit', 'Setup', 'Logs', a temperature gauge showing '36 C', and two fan speed indicators showing '1824 RPM'.

At the bottom of the window, there is a 'Disks' section showing a grid of 16 disk slots. Slots 1 through 7 are populated with disk icons and labels: 1 (QUANTUM), 2 (IBM), 3 (ST360021A), 4 (ST360021A), 5 (ST313620A), 6 (ST360021A), and 7 (QUANTUM). Slots 8 through 16 are empty and marked with a red 'X'.

IV. Array Detail: Display information about Raid Level, Disk Number, Raid Member, Hot Spare Disk, Stripe Size, Total Capacity and Each Slice Size.

The screenshot shows the 'Global-Eyes' software interface. The main window is titled 'Disk Array Information' and has several tabs: 'Activity Event', 'System Info.', 'Host Channel', 'Array Detail' (selected), 'Hard Disk', and 'Environment'. The 'Array Detail' tab displays a table with RAID configuration parameters for two arrays.

Item	Value(Array-1)	Value(Array-2)
Raid Level	5	5
Disk Number	3	3
Raid Member	1,2,3	4,5,6
Hot spare disk	No	No
Stripe Size	128	128
Total Capacity	976 MB	976 MB
Slice-0 size	976 MB	976 MB
Slice-1 size	-	-
Slice-2 size	-	-
Slice-3 size	-	-
Slice-4 size	-	-
Slice-5 size	-	-
Slice-6 size	-	-

On the right side of the window, there are several controls: 'Exit', 'Setup', 'Logs', a temperature gauge showing '36 C', and two fan speed indicators showing '1824 RPM' and '1834 RPM'. At the bottom, there is a 'Disks' section with a grid of 16 disk icons. Disks 1 through 7 are active, while disks 8 through 16 are marked with a red 'X', indicating they are not part of the array.

V. Hard Disk:

The screenshot shows the 'Global-Eyes' software interface for monitoring disk array information. The main window is titled 'Disk Array Information' and has several tabs: 'Activity Event', 'System Info.', 'Host Channel', 'Array Detail', 'Hard Disk', and 'Environment'. The 'Hard Disk' tab is selected, displaying a table with the following data:

Disk ID	Status	Model	Volume(MB)	Bad Blocks
1	O	QUANTUM FIREBALLP KA13.6	488	0
2	O	IBM-DPTA-353750	488	0
3	O	ST360021A	488	0
4	O	ST360021A	488	0
5	O	ST313620A	488	0
6	O	ST360021A	488	0
7	S	QUANTUM FIREBALLP KA13.6	488	0
8	X	unknown	-	-
9	X	unknown	-	-
10	X	unknown	-	-
11	X	unknown	-	-
12	X	unknown	-	-
13	X	unknown	-	-
14	X	unknown	-	-
15	X	unknown	-	-
16	X	unknown	-	-

Below the table, there is a 'Disks' section showing a visual representation of the disk array. It consists of 16 slots, each with a small icon and a label. The labels are: 1: QUANTUM, 2: IBM, 3: ST360021A, 4: ST360021A, 5: ST313620A, 6: ST360021A, 7: QUANTUM, 8: (empty), 9: (empty), 10: (empty), 11: (empty), 12: (empty), 13: (empty), 14: (empty), 15: (empty), 16: (empty). The status of each disk is indicated by a small icon above the label: 'O' for On-line, 'S' for Spare Disk, 'A' for Rebuilding or On-line Expanding, 'R' for Failed, and 'X' for Not Install HDD. Disks 1-7 are On-line, disk 8 is Spare Disk, and disks 9-16 are Not Install HDD.

On the right side of the window, there are several control buttons: 'Exit', 'Setup', 'Logs', a temperature gauge showing '36 C', and two fan speed indicators showing '1824 RPM'.

『O』: HDD is On-line

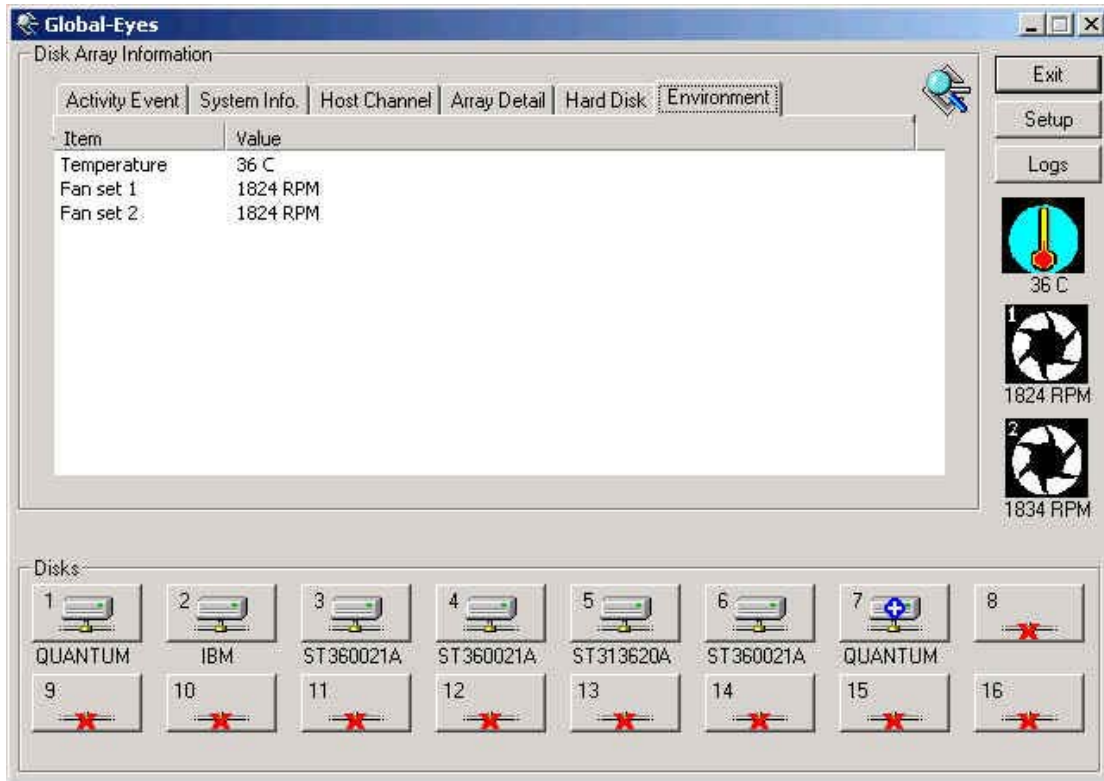
『S』: HDD is Spare Disk







『A』: HDD is Rebuilding or On-line Expanding

『R』: HDD Failed

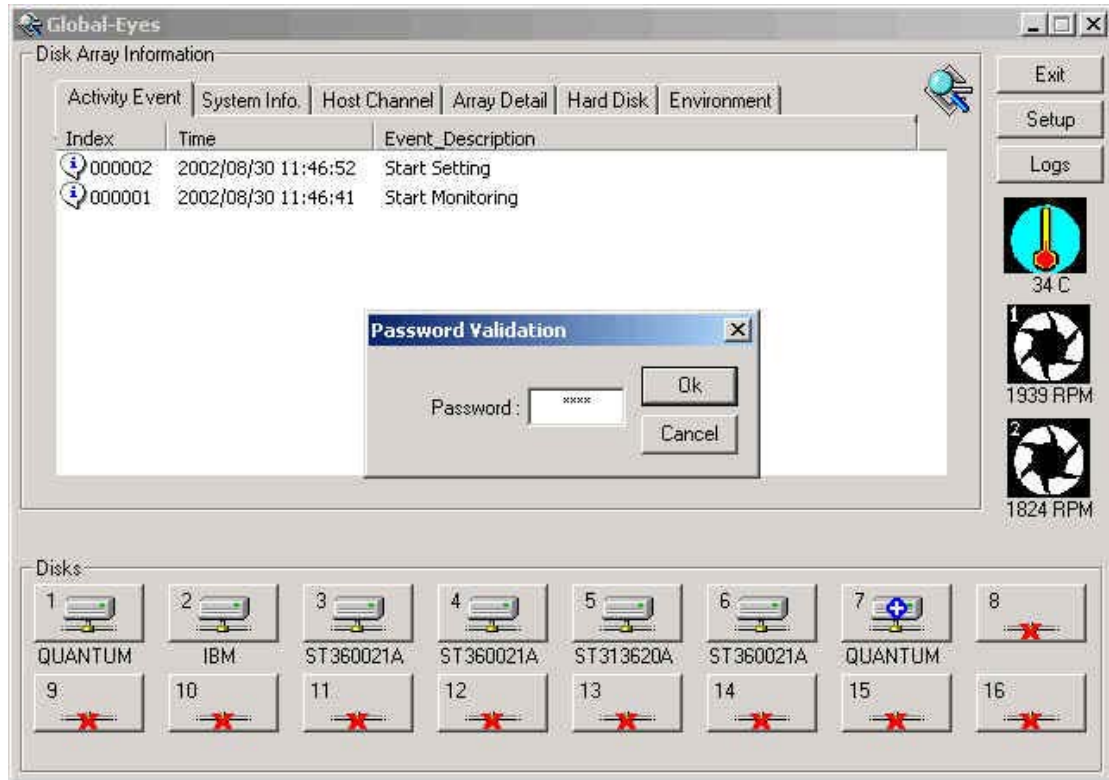
『X』: Not Install HDD

VI. Environment(*): Automatically detect environmental status, i.e. Temperature and Fan set status. (Support for some models with environmental sensing)

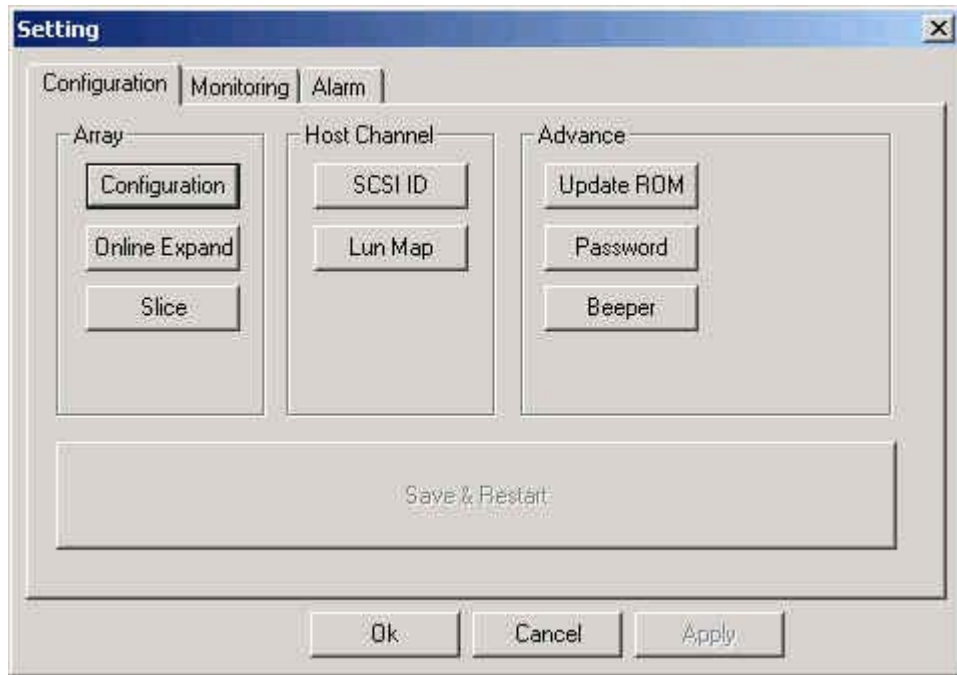


	Temperature status		High Temperature
	Fan1 status		Fan1 Failed
	Fan2 status		Fan2 Failed

4-1-3 Setup: Setup function includes Array configuration, monitoring, Alarm. (Before accessing the function you need to enter the password, the password is same as you've defined from front panel setup.)



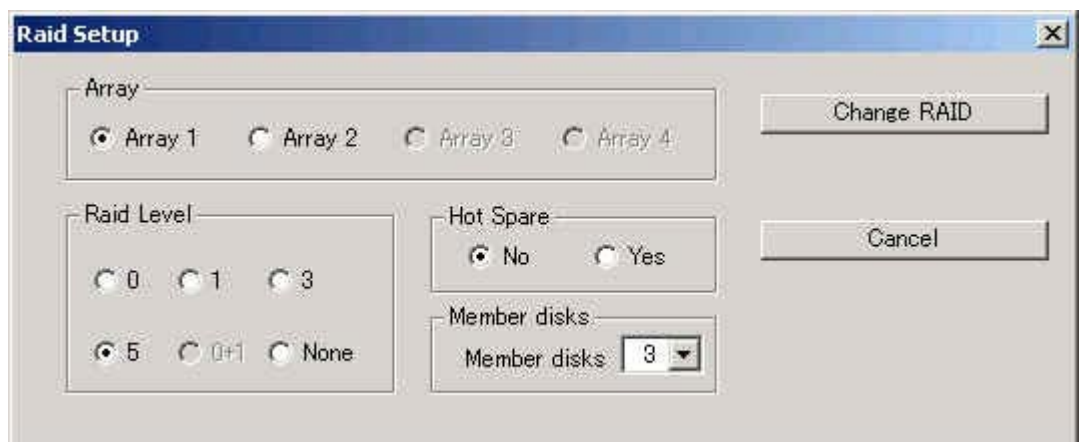
I. Configuration:



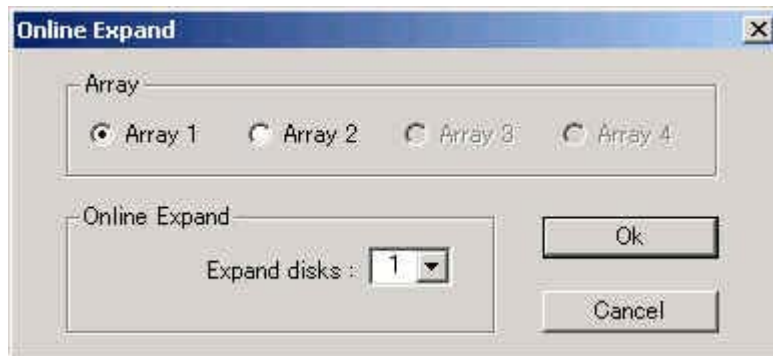
➤ Array:

1. Configuration: Select Array Group, RAID Level, Hot Spare disk and number of Member disks. **(You would setup a RAID level from front panel, then change the configuration to "Multiple RAID" here.) (*)**

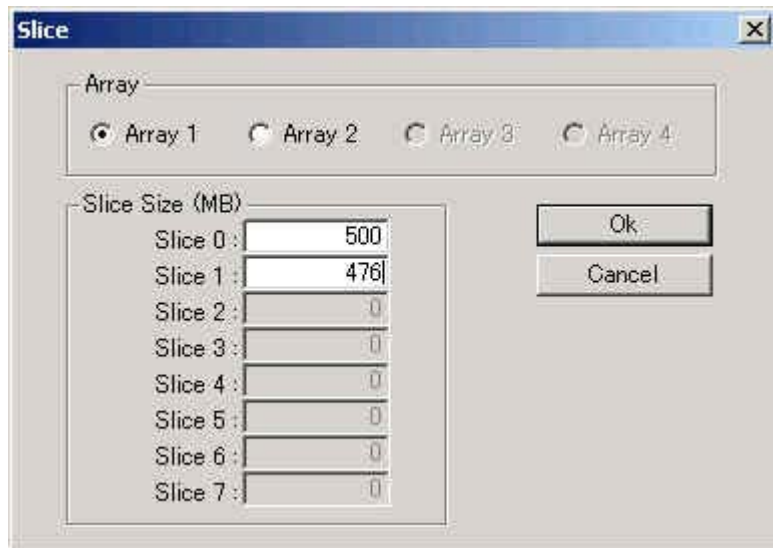
Warning!! Please backup your data first before processing any change of the configuration.



2. Online Expand: Select Array Group (*) and expanded Disk number to set capacity expansion.



3. Slice: Select the Array Group (*) and define slice to partition the capacity.



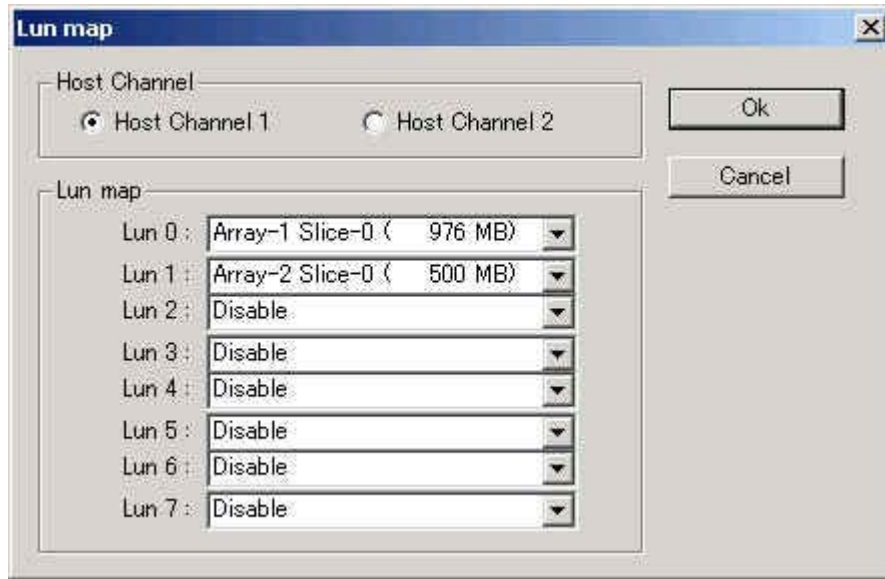
- Host Channel:
 1. SCSI ID: Setup Host Channel and SCSI ID.



Attention!! Change SCSI ID needs to restart Windows to activate it.



2. Lun Map: This function allow user to map the Host Channel ID to the partitioned Lun size.



➤ Advance:

1. Update ROM: Click this button and select a firmware file for updating.

(**Warning!!** Unpredictable results will occur if firmware update is attempted during Host computer and Disk Array activity. All activity to the controller should be stopped before updating firmware.)



2. Password: Setup new password.



3. Beeper: Enable/Disable beeper for initial, rebuild, HDD failed, HDD too many bad blocks, fan failed, temp. warning..etc.



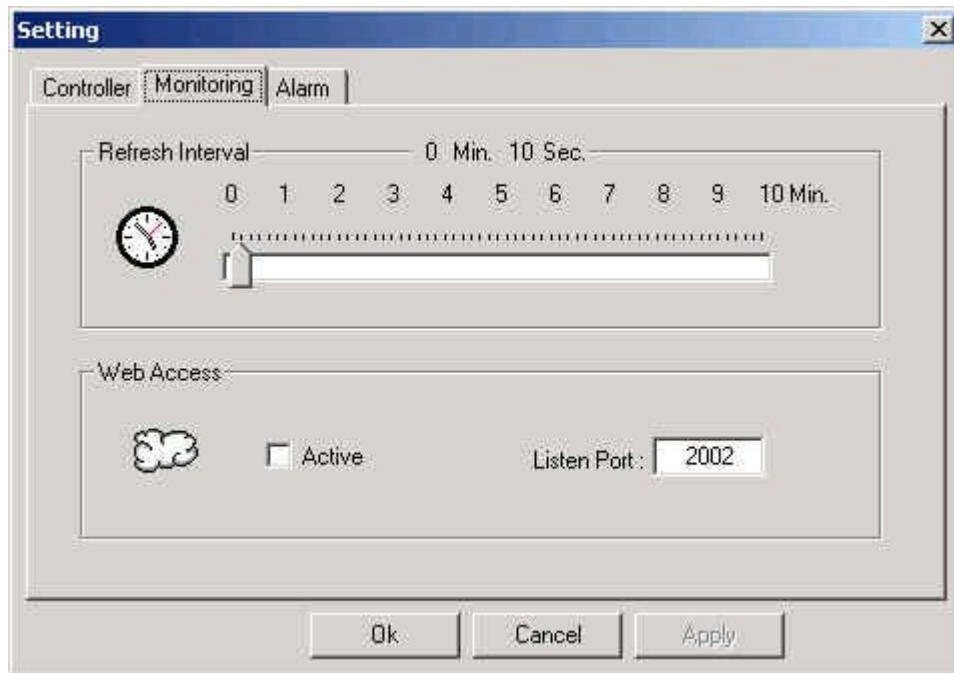
- **Save & Restart:** Save and restart to activate new setup.

If you tried to change the configuration, a warning dialogue will be pop-up **“Warning!! All data on the disk drivers will be lost by changing the RAID Level.”**



II. Monitoring:

1. **Refresh Interval**- Allow to change the RAID Status Refresh Interval from 10/Sec to 10/Min.
2. **Web Access**- Enable/Disable Web Access function and setup listened port. If Web Access function is active, it will allow user to monitor and configure via browser.



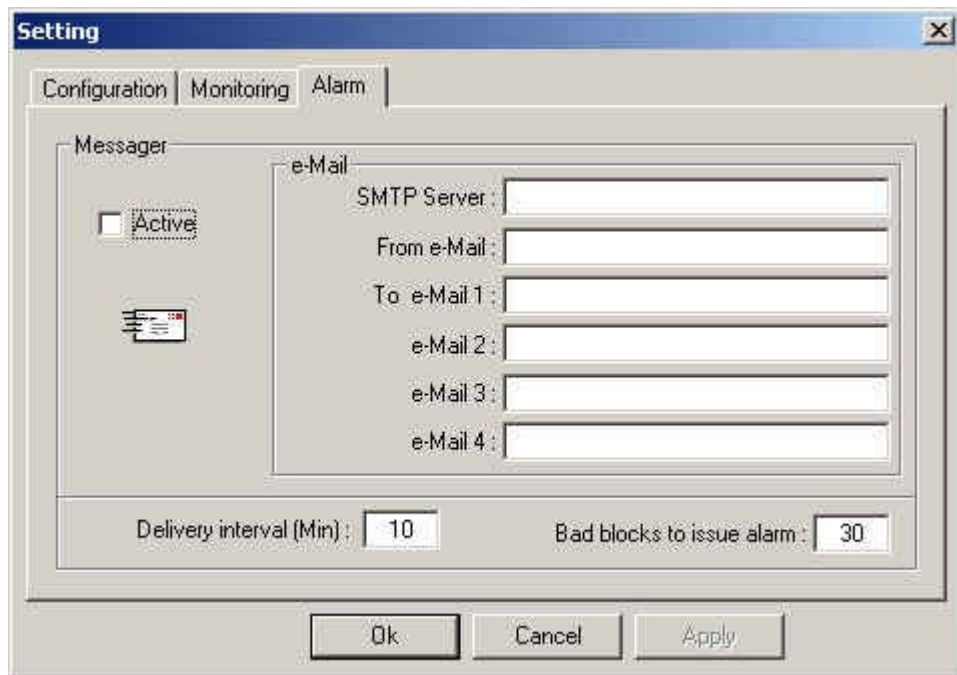
III. Alarm:

Enable the "Active" function of Messenger, *Global-Eyes* will send e-Mail to the defined address when error occurred.

➤ e-Mail

1. **SMTP Server**- The SMTP server of your ISP.
2. **From e-Mail**- You don't need to setup in normal condition. Only requested when ISP need mail account.
3. **To e-Mail**- E-Mail address for system to alert when error occurred (**).
4. **Delivery Interval**- Setup alert mail delivery interval. (Default is 10 minutes i.e. same message will not resend in 10 minutes.)
5. **Bad blocks to issue alarm**- Setup bad block number then system will alert when detect bad blocks over defined numbers.

** . HDD failed, HDD too many bad blocks, Fan failed, Temperature warning, Rebuild done or transmission interrupt from Array Controller.



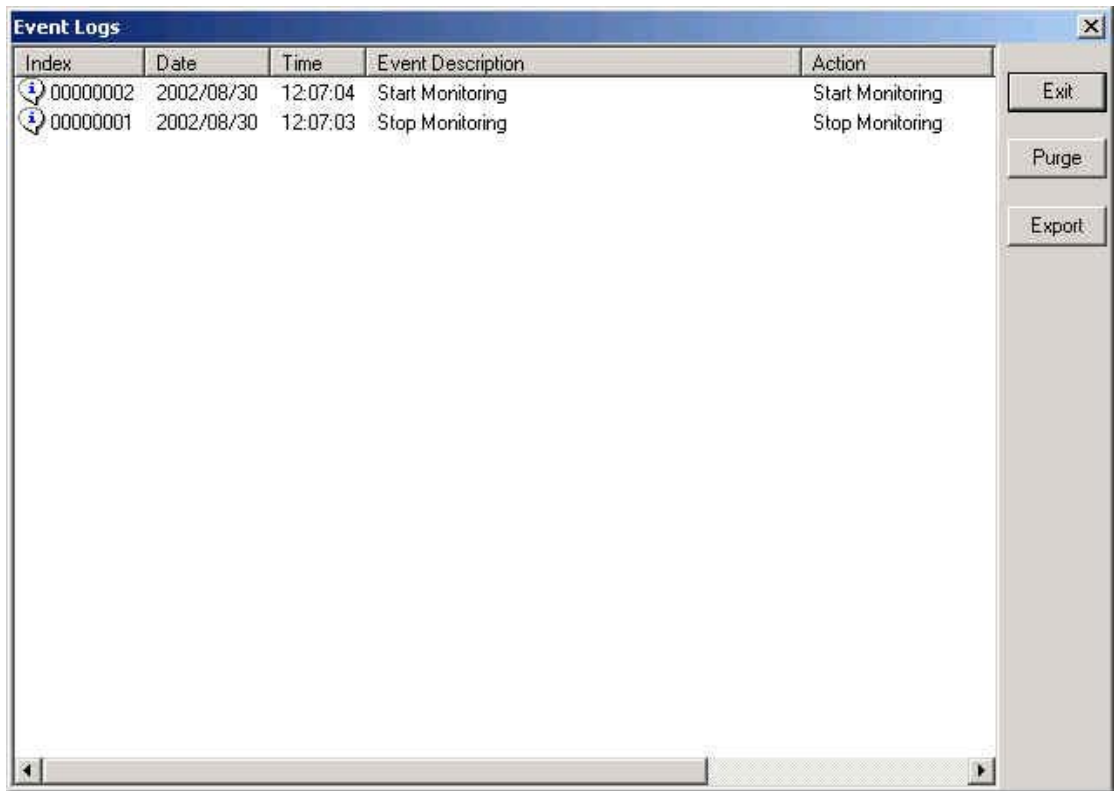
The screenshot shows a 'Setting' dialog box with three tabs: 'Configuration', 'Monitoring', and 'Alarm'. The 'Alarm' tab is selected. Inside the dialog, there is a 'Messenger' section with an 'Active' checkbox (unchecked) and a mail icon. To the right is an 'e-Mail' section with five text input fields: 'SMTP Server', 'From e-Mail', 'To e-Mail 1', 'e-Mail 2', 'e-Mail 3', and 'e-Mail 4'. At the bottom, there are two numeric input fields: 'Delivery interval (Min):' set to '10' and 'Bad blocks to issue alarm:' set to '30'. At the very bottom are 'Ok', 'Cancel', and 'Apply' buttons.

➤ **Message Description:**

1. Time: Event happened time by host server.
2. Host Name: Name of server which attached RAID unit.
3. IP Address: IP address of host server.
4. Port No: Port of web access.
5. Model: Model name of RAID unit.
6. Serial#: Serial number of RAID unit.
7. Event: Event description.
8. Web Access: Web access is enable/disable.

4-1-4 Logs

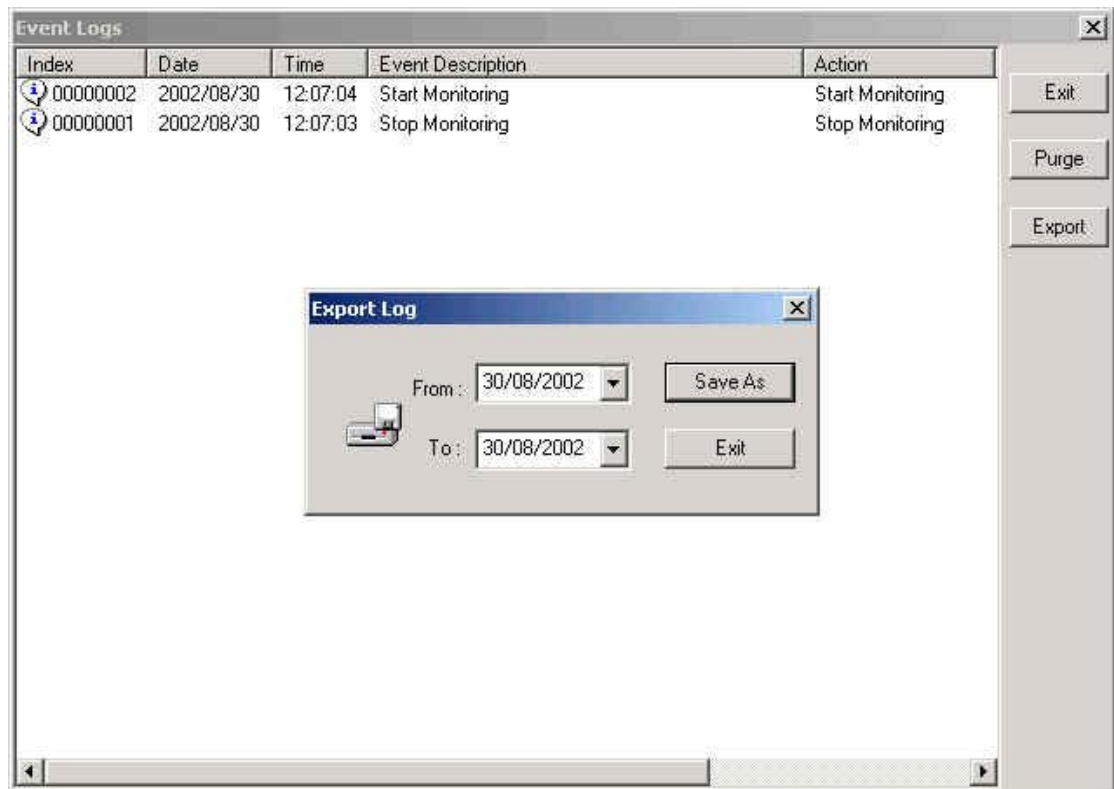
1. **Event Logs:** To display the time logs and error message.



2. **Purge Logs:** You can delete the log by press purge logs icon and choose the day.



3. **Export Logs:** Export logs to file.



For more info go to www.easyRAID.com.