# 6.3 Main Menu

The main menu shows all available functions, accessible by clicking on the appropriate link.

Individual Category	Description
Quick Function	Create a default configuration, which is based on the number of physical disks installed; it can modify the volume set Capacity, Raid Level, and Stripe Size.
Raid Set Functions	Create a customized RAID set.
Volume Set Functions	Create customized volume sets and modify the existed volume sets parameter.
Physical Drives	Create pass through disks and modify the existing pass through drives parameters. Also provides the function to identify disk drives (blinking fault LED).
System Controls	Setting the RAID system configuration.
Information	Viewing the controller information. The Raid Set Hierarchy can be viewed through the "Raid Set Hierarchy" item.

6.4 Quick Function
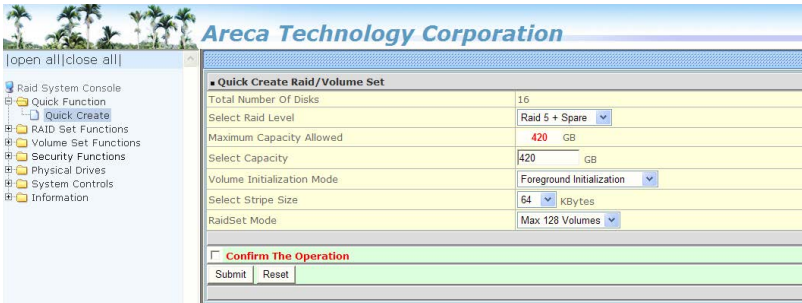
The number of physical drives in the 6Gb/s SAS RAID controller determines the Raid Levels that can be implemented with the RAID set. You can create a RAID set associated with exactly one volume set. The user can change the Raid Level, Capacity, Initialization Mode and Stripe Size. A hot spare option is also created, depending on the exist configuration. Click the "Confirm The Operation" check box and click on the "Submit" button in the "Quick Create" screen, the RAID set and volume set will start to initialize.

> **Note:**
>
> In "Quick Create", your volume set is automatically configured based on the number of disks in your system. Use the "Raid Set Functions" and "Volume Set Functions" if you prefer to customize your volume set, or RAID 30/50/60 volume set.

6.5 Raid Set Functions

Use the "Raid Set Function" and "Volume Set Function" if you prefer to customize your volume set. Manual configuration can provide full control of the RAID set settings, but it will take longer to complete than the "Quick Volume/Raid Setup" configuration. Select the "Raid Set Function" to manually configure the RAID set for the first time or delete and reconfigure existing RAID sets. (A RAID set is a group of disks containing one or more volume sets.)

6.5.1 Create Raid Set

To create a RAID set, click on the "Create Raid Set" link. A "Select The Drive For RAID Set" screen is displayed showing the drive(s) connected to the current controller and enclosures. Click on the selected physical drives within the current RAID set. Enter 1 to 15 alphanumeric characters to define a unique identifier for a RAID set. The default RAID set name will always appear as "Raid Set #". Click the "Confirm The Operation" check box and click on the "Submit" button on the screen; the RAID set will start to initialize. If you have available disk member, you can repeat above procedures to define another RAID sets.
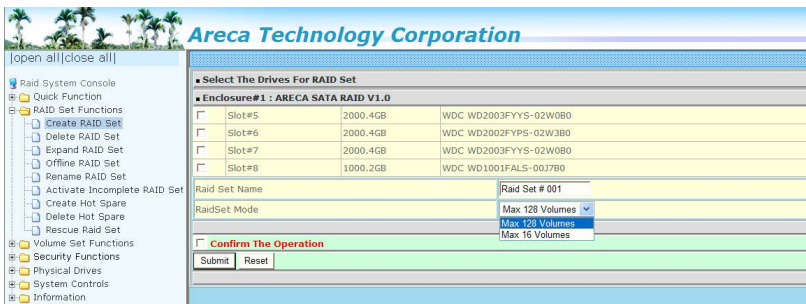
128 volumes is the default mode for SAS RAID controller, the 16 volumes mode is used for support roaming this raidset to 3Gb/s SATA RAID controllers. The 3Gb/s SATA RAID controller is designed to support up to 16 volumes only. You have to use "Max 16 volumes" on the raidset mode if you plan to roam this raidset between 6Gb/s SATA RAID controller and 3Gb/s SATA RAID controller.

> ### Note:
>
> To create RAID 30/50/60 volume, you need create multiple RAID sets first (up to 8 RAID sets) with the same disk numbers on each RAID set. The max no. disk drives per RAID set: 24 for RAID 0/10(1E)/3/5/6/30/50/60.

6.5.2 Delete Raid Set

To delete a RAID set, click on the "Deleted Raid Set" link. A "Select The RAID Set To Delete" screen is displayed showing all exist RAID sets in the current controller. Click the RAID set number which you want to delete in the select column on the delete screen. Then, click the "Confirm The Operation" check box and click on the "Submit" button in the screen to delete it. The volume sets included in the "Delete RAID Set". It will be deleted by this action. But for the Raid 30/50/60, you need to delete the volumes belonging to those RAID sets.
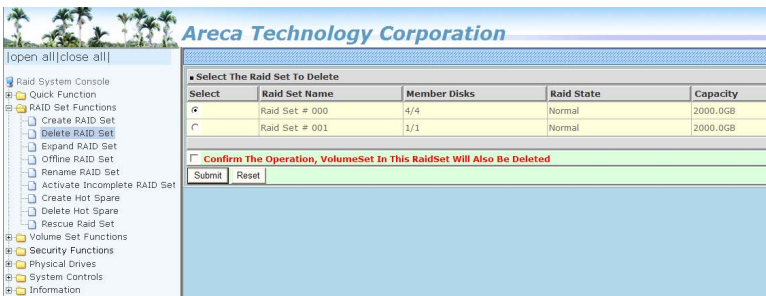

6.5.3 Expand Raid Set

Instead of deleting a RAID set and recreating it with additional disk drives, the "Expand Raid Set" function allows the users to add disk drives to the RAID set that have already been created. To expand a RAID set:

WEB BROWSER-BASED CONFIGURATION

Select the "Expand Raid Set" option. If there is an available disk, then the "Select SATA Drives For Raid Set Expansion" screen appears.
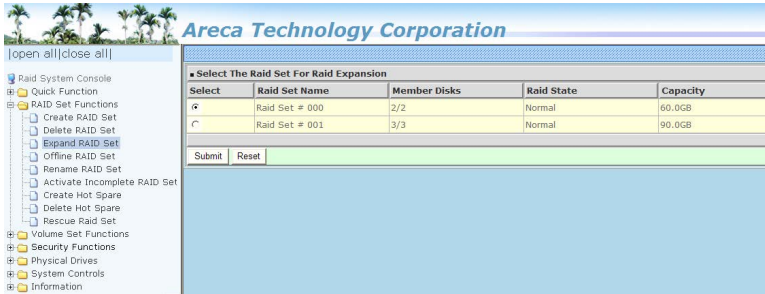

Select the target RAID set by clicking on the appropriate radio button. Select the target disk by clicking on the appropriate check box. Click on the "Submit" button to start the expansion on the RAID set. The new additional capacity can be utilized by one or more volume sets. The volume sets associated with this RAID set appear for you to have chance to modify RAID level or stripe size. Follow the instruction presented in the "Modify Volume Set " to modify the volume sets; operation system specific utilities may be required to expand operating system partitions.

> **Note:**
> 1. Once the "Expand Raid Set" process has started, user can not stop it. The process must be completed.
> 2. If a disk drive fails during RAID set expansion and a hot spare is available, an auto rebuild operation will occur after the RAID set expansion completes.
> 3. RAID 30/50/60 does not support the "Expand Raid set".
> 4. RAID set expansion is a quite critical process, we strongly recommend customer backup data before expand. Unexpected accident may cause serious data corruption.

6.5.4 Offline Raid Set

This function is for customer being able to unmount and remount a multi-disk volume. All Hdds of the selected RAID set will be put into offline state, spun down and fault LED in fast blinking mode. User can remove those Hdds and insert new Hdds on those empty slots without needing power down the controller.
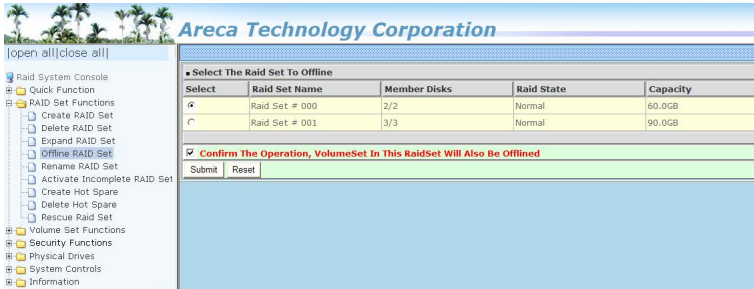
6.5.5 Rename Raid Set

The default RAID set name will always appear as "Raid Set #" when it is first created by the controller. The "Rename Raid Set" function is for customer to rename the default RAID set name. To rename a RAID set from a group of RAID sets:
1. Click on the "Rename Raid Set" link.
2. Click the RAID set check box from the list that you wish to re-name. Click the "Submit" button. The following screen appears. Use this option to rename the RAID set name.
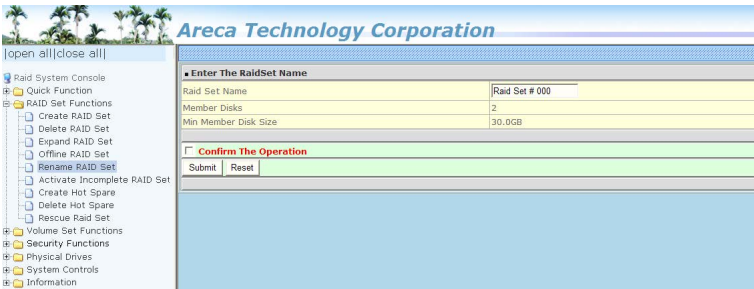

6.5.6 Activate Incomplete Raid Set

If one of the disk drives is removed in power off state, the RAID set state will change to "Incomplete State". If the user wants to continue to operate the controller without power-off the 6Gb/s SAS RAID controller, the user can use the "Activate Incomplete Raid Set" option to active the RAID set. After the user completes this function, the Raid State will change to "Degraded Mode" and start to work.

To activate the incomplete the RAID set, click on the "Activate Raid Set" link. A "Select The RAID SET To Activate" screen is
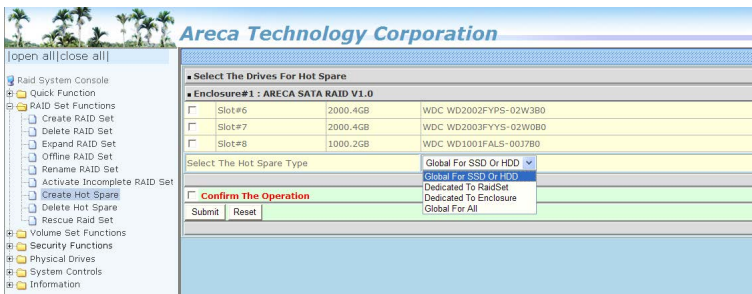
WEB BROWSER-BASED CONFIGURATION

displayed showing all RAID sets existing on the current controller. Click the RAID set number to activate in the select column. Click on the "Submit" button on the screen to activate the RAID set that had a disk removed (or failed) in the power off state. The 6Gb/s SAS RAID controller will continue to work in degraded mode.
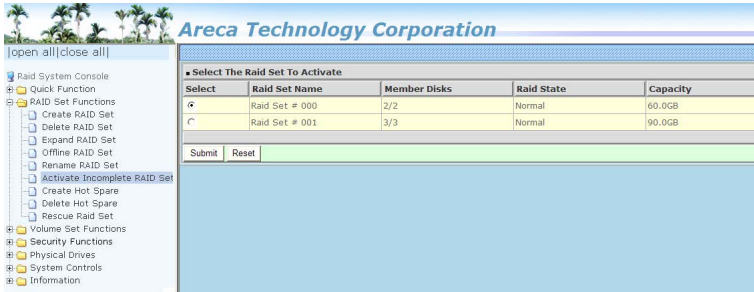

6.5.7 Create Hot Spare

When you choose the "Create Hot Spare" option in the "Raid Set Function", all unused physical devices connected to the current controller appear. Select the target disk by clicking on the appropriate check box. Click the "Confirm The Operation" check box and click the "Submit" button in the screen to create the hot spares. The "Create Hot Spare" gives you the ability to define a global or dedicated hot spare. Unlike "Global Hot Spare" which can be used with any RAID sets, "Dedicated Hot Spare" can only be used with a specific RAID set or Enclosure. Under "Global For SSD or HDD" option, SSD hot spare is used to rebuild failed SSD and HDD hot spare for rebuild failed HDD. When a disk drive fails in the RAID set or enclosure with a dedicated hot spare is pre-set, data on the disk drive is rebuild automatically on the dedicated hot spare disk.

6.5.8 Delete Hot Spare

Select the target hot spare disk to delete by clicking on the appropriate check box. Click the "Confirm The Operation" check box and click the "Submit" button on the screen to delete the hot spares.
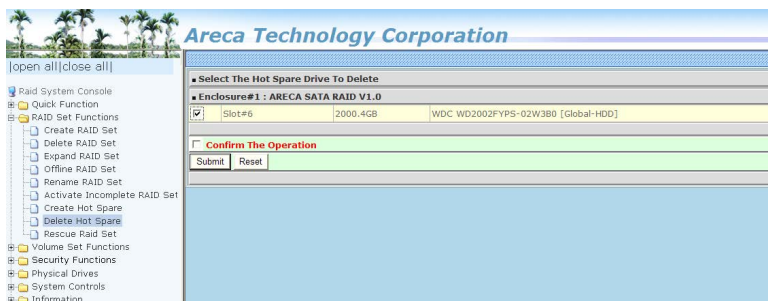
6.5.9 Rescue Raid Set

When the system is powered off in the RAID set update/creation period, the configuration possibly could disappear due to this abnormal condition. The "RESCUE" function can recover the missing RAID set information. The RAID controller uses the time as the RAID set signature. The RAID set may have different time after the RAID set is recovered. The "SIGANT" function can regenerate the signature for the RAID set.
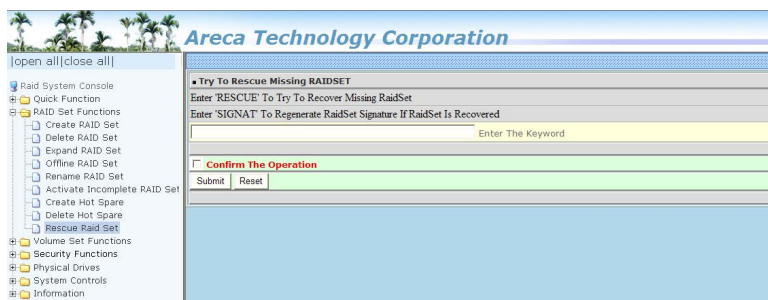
Caution:

Please contact us to make sure if you need to use rescue function. Improperly usage may cause configuration corruption.

6.6 Volume Set Functions

A volume set is seen by the host system as a single logical device. It is organized in a RAID level with one or more physical disks. RAID level refers to the level of data performance and protection of a volume set. A volume set capacity can consume all or a portion of the disk capacity available in a RAID set. Multiple volume sets can exist on a group of disks in a RAID set. Additional volume sets created in a specified RAID set will reside on all the physical disks in the RAID set. Thus each volume set on the RAID set will have its data spread evenly across all the disks in the RAID set.

The following summaries are the volume set features for the 6Gb/s SAS RAID controller.

1. Volume sets of different RAID levels may coexist on the same RAID set and up to 128 volume sets per controller.

2. Up to 128 volume sets can be created in a RAID set.

3. The maximum addressable size of a single volume set is not limited to 2TB, because the controller is capable of 64-bit LBA mode. However the operating system itself may not be capable of addressing more than 2TB.

See Areca website ftp://ftp.areca.com.tw/RaidCards/Documents/Manual_Spec/ Over2TB_050721.ZIP file for details.

6.6.1 Create Volume Set (0/1/10/3/5/6)

To create volume set from RAID set system, move the cursor bar to the main menu and click on the "Create Volume Set" link. The "Select The Raid Set To Create On It" screen will show all RAID set number. Tick on a RAID set number that you want to create and then click on the "Submit" button.

The new create volume set attribute allows user to select the Volume Name, RAID Level, Capacity, Greater Two TB Volume Support, Initialization Mode, Strip Size, Cache Mode, Tagged Command Queuing, and SCSI Channel/SCSI ID/SCSI Lun.

● Volume Name

The default volume name will always appear as "ARC-12x4-VOL". You can rename the volume set providing it does not exceed the 15 characters limit.

● Volume Raid Level

Set the Raid Level for the volume set. Highlight the desired RAID level from the available RAID levels option.

● Capacity

The maximum volume size is the default initial setting. Enter the appropriate volume size to fit your application.

● Greater Two TB Volume Support

Controller uses the "Greater Two TB Volume Support" sub-menu to set the volume capacity and sector size. Greater Two TB Volume Support option: "No", "64bit LBA" and "Use 4K Block".

- No

When this option is enabled, it keeps the volume size with max. 2TB limitation. For any hard disk drives working in the 4K native mode in the Raid set, the volume set directly sets and exposes 4KB sector size to the operating system.

- 64bit LBA

This option uses 16 bytes CDB instead of 10 bytes. The maxi-mum volume capacity is up to 512TB. For any hard disk drives working in the 4K native mode in the Raid set,

the volume set directly sets and exposes 4KB sector size to the operating system. This option works on different OS which supports 16 bytes CDB.

- 4K Block
This option uses 16 bytes CDB and changes the sector size from default 512 bytes to 4k bytes. Windows XP only supports maximum volume capacity is up to 16TB.

- **Initialization Mode**
This option is used to define "Background Initialization", "Foreground Initialization" or "No Init (To Rescue Volume)". When "Background Initialization", the initialization proceeds as a background task, the volume set is fully accessible for system reads and writes. The operating system can instantly access to the newly created arrays without requiring a reboot and waiting the initialization complete. When "Foreground Initialization", the initialization proceeds must be completed before the volume set ready for system accesses. There is no initialization happened when you select "No Init" option. "No Init" is for customer to rescue volume without losing data in the disk.

> **Note:**
>
> Controller starts to initialize the volume in two conditions
> 1. Stay in controller bios manager or
> 2. Boot into OS and the controller driver loaded.

- **Stripe Size**
This parameter sets the size of the stripe written to each disk in a RAID 0, 1, 10, 5, 6, 50 or 60 logical drive. You can set the stripe size to 4KB, 8KB, 16KB, 32KB, 64KB, 128KB, 256KB, 512KB, or 1024KB. A larger stripe size produces better read performance, especially if your computer does mostly sequential reads. However, if you are sure that your computer does random reads more often, select a smaller stripe size.

> **Note:**
> - RAID level 3 and 30 can't modify the cache strip size.
> - Roaming the stripe size 256K/512K/1024K Raid Set to firmware version older than 1.52 will cause data corruption.

- **Cache Mode**
  The 6Gb/s SAS RAID controller supports "Write Through" and "Write Back" cache.

- **Volume Write Protection**
  When "Volume Write Protection" is enabled on the "Modify Volume Set", host commands fail if they are issued to a volume in that RAID controller and attempt to modify a volume's data or attributes. Volume Write Protection is used primarily for customer-initiated disaster recovery testing.

- **Volume IO Mode:**
  The Cache IO and Direct IO cache policies apply to read on a specific virtual disk. The volume IO mode options are as follows:

  - Cache Io
  Specifies that all reads are buffered in the controller cache memory.

  - Direct Io
  Specifies that reads are not buffered in cache memory. When using direct IO mode, data is transferred to the controller cache memory and the host system simultaneously during a read request.

  If a subsequent read request requires data from the same data block, it can be read directly from the controller cache memory.

- **Tagged Command Queuing**
  The "Enabled" option is useful for enhancing overall system performance under multi-tasking operating systems. The Command Tag (Drive Channel) function controls the SATA

command tag queuing support for each drive channel. This function should normally remain "Enabled". "Disabled" this function only when using SATA drives that do not support command tag queuing.

- **SCSI Channel/SCSI ID/SCSI Lun**
  SCSI Channel: The 6Gb/s SATA RAID controller function is simulated as an external SCSI RAID controller. The host bus is represented as a SCSI channel. Choose the SCSI Channel.

  SCSI ID: Each SCSI device attached to the SCSI card, as well as the card itself, must be assigned an unique SCSI ID number. A SCSI channel can connect up to 15 devices. The 6Gb/s SATA RAID controller is a large SCSI device. Assign an ID from a list of SCSI IDs.

  SCSI LUN: Each SCSI ID can support up to 8 LUNs. Most 6Gb/s SATA controllers treat each LUN like a SATA disk.

6.6.2 Create Raid30/50/60 (Volume Set 30/50/60)

To create 30/50/60 volume set from RAID set group, move the cursor bar to the main menu and click on the "Create Raid30/50/60" link. The "Select The Raid Set To Create Volume On It" screen will show all RAID set number. Tick on the RAID set numbers (same disk No per RAID set) that you want to create and then click on the "Submit" button.

The new create volume set attribute allows user to select the Volume Name, Raid Level, Capacity, Greater Two TB Volume Support, Initialization Mode, Strip Size, Cache Mode, Tagged Command Queuing, and SCSI Channel/SCSI ID/SCSI Lun. Please refer to above section for details description of each item.

> **Note:**
>
> RAID level 30 50 and 60 can support up to eight RAID set (four pairs), but it can not support expansion and migration.
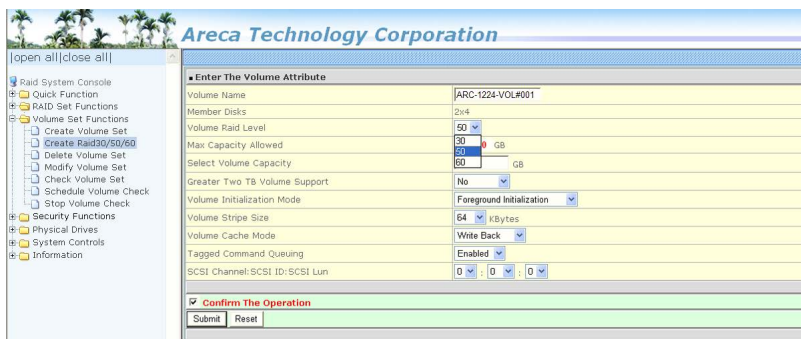
6.6.3 Delete Volume Set

To delete a volume from RAID set, move the cursor bar to the main menu and click on the "Delete Volume Set" link. The "Select The Raid Set To Delete" screen will show all RAID set numbers. Click a RAID set number and the "Confirm The Operation" check box and then click the "Submit" button to show all volume set items in the selected RAID set. Click a volume set number and the "Confirm The Operation" check box and then click the "Submit" button to delete the volume set.
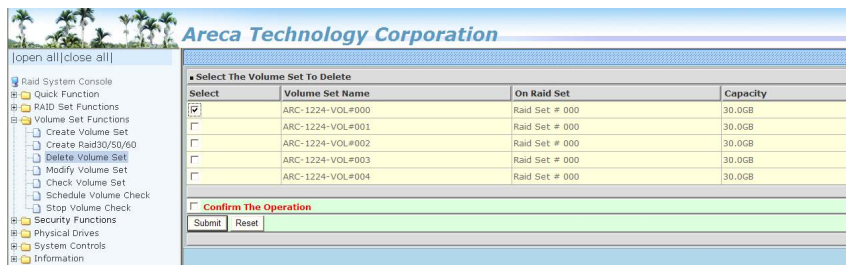
6.6.4 Modify Volume Set

To modify a volume set from a RAID set:
1. Click on the "Modify Volume Set" link.
2. Click the volume set check box from the list that you wish to modify. Click the "Submit" button. The following screen appears.
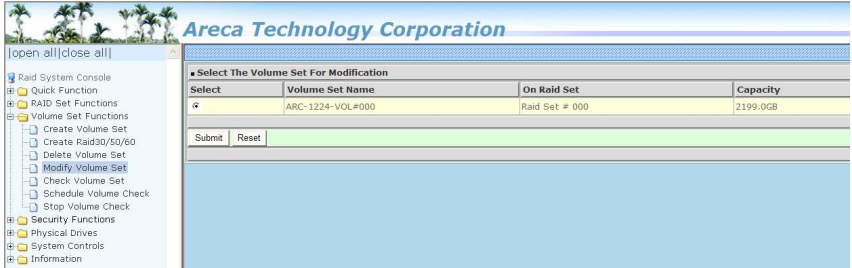
Use this option to modify the volume set configuration. To modify volume set attributes, move the cursor bar to the volume set attribute menu and click it. The "Enter The Volume Attribute" screen appears. Move the cursor to an attribute item and then click the attribute to modify the value. After you complete the modification, click the "Confirm The Operation" check box and click the "Submit" button to complete the action. The user can only modify the last volume set capacity.

6.6.4.1 Volume Growth

Use "Expand RAID Set" function to add disk to a RAID set. The additional capacity can be used to enlarge the last volume set size or to create another volume set. The "Modify Volume Set" function can support the "Volume Modification" function. To expand the last volume set capacity, move the cursor bar to the "Capacity" item and entry the capacity size. When finished the above action, click on the "Sumbit" button to complete the action. The last volume set starts to expand its capacity.

To expand an existing volume noticed:

- Only the last volume can expand capacity.
- When expand volume capacity, you can't modify stripe size or modify RAID level simultaneously.
- You can expand volume capacity, but can't reduce volume capacity size.
- After volume expansion, the volume capacity can't be decreased.

For greater 2TB expansion:

- If your system installed in the volume, don't expand the volume capacity greater 2TB; except your OS and RAID controller can support boot up from a greater 2TB capacity device.
- Expand over 2TB used LBA64 mode. Please make sure your OS supports LBA64 before expand it.

6.6.4.2 Volume Set Migration

Migrating occurs when a volume set is migrating from one RAID level to another, when a volume set strip size changes, or when a disk is added to a RAID set. Migration state is displayed in the volume state area of the "Volume Set Information" screen.

> **Note:**
> 1. If the volume is RAID level 30, 50, or 60, you can not change the volume to another RAID level. If the volume is RAID level 0, 1, 10(1E), 3, 5, or 6, you can not change the volume to RAID level 30, 50, or 60.
> 2. Power failure may damage the migration data. Please backup the RAID data before you start the migration function.

6.6.5 Check Volume Set

To check a volume set from a RAID set:
1. Click on the "Check Volume Set" link.
2. Click on the volume set from the list that you wish to check.

Click on "Confirm The Operation" and click on the "Submit" button. Use this option to verify the correctness of the redundant data in a volume set. For example, in a system with dedicated parity, volume set check means computing the parity of the data disk drives and comparing the results to the contents of the dedicated parity disk drive. The checking percentage can also be viewed by clicking on "RAID Set Hierarchy" in the main menu.

6.6.6 Schedule Volume Check

A volume check is a process that verifies the integrity of redundant data. To verify RAID 3, 5, 6, 30, 50 or 60 redundancy, a volume check reads all associated data blocks, computes parity, reads parity, and verifies that the computed parity matches the read parity.

Volume checks are very important because they detect and correct parity errors or bad disk blocks in the drive. A consistency check forces every block on a volume to be read, and any bad blocks are marked; those blocks are not used again. This is critical and important because a bad disk block can prevent a disk rebuild from completing. We strongly recommend that you run consistency checks on a regular basis—at least once per week (set on 'Scheduler). Volume checks degrade performance, so you can also run them when the system is idle (set by "Checking After System Idle").
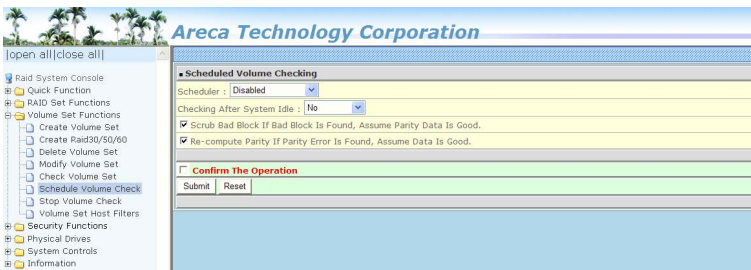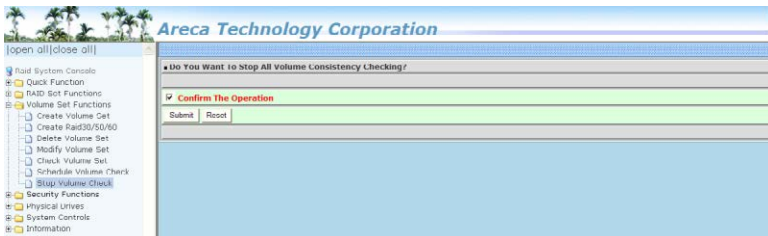
> **Note:**
>
> Please make sure of the inconsistency source generated by parity error or bad block before you click the recovery method. Otherwise, you will lose the recovery data.

6.6.7 Stop Volume Set Check

Use this option to stop the "Check Volume Set" function.

6.7 Security Function

The "Security Function" on the new firmware supports Self-Encrypting Disks (SED) for protection of data against loss or theft of SEDs. Protection is achieved by the use of encryption technology on the drives. The McRAID storage management allows SED keys to be created and managed as well as create/delete RAID sets. The following section provides the "Security Function" instructions to perform the custom configuration tasks. All SED functions are integrated into the intuitive and user friendly McRAID manager interface for easy access. Choose this option from the main menu and then perform the operations listed below.

6.7.1 Create SED RAID Set
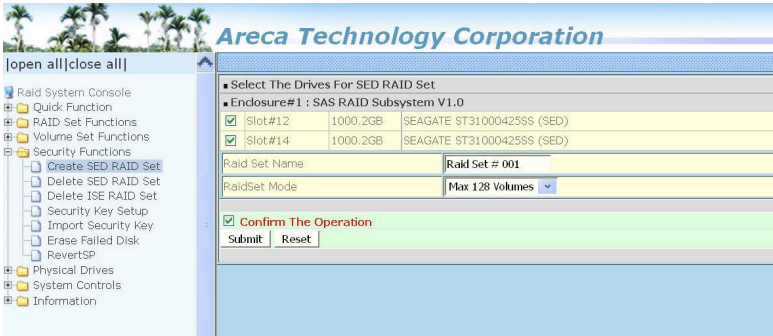
To create a SED RAID set, click on the "Create SED Raid Set" link. A "Select The Drive For SED RAID Set" screen is displayed showing the SED drive(s) connected to the current controller and enclosures. Click on the selected physical drives within the current RAID set. Enter 1 to 15 alphanumeric characters to define a unique identifier for a SED RAID set. The default RAID set name will always appear as "Raid Set #". Tick on the "Confirm The Operation" check box and click on the "Submit" button on the screen; the RAID set will start to initialize. If you have available disk member, you can repeat above procedures to define another RAID sets. The Max 128 Volumes is the default mode for RAID controller.

6.7.2 Delete SED RAID Set
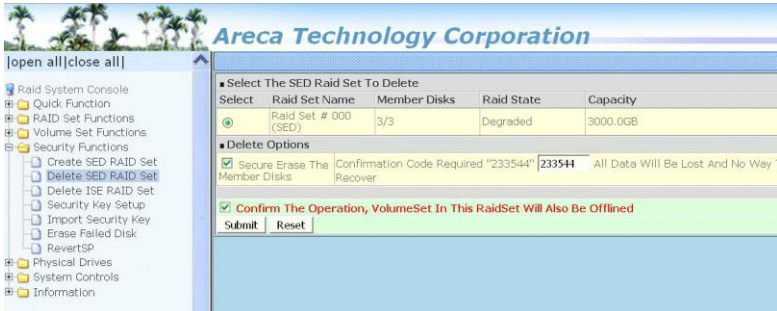
A SED RAID Set is a RAID Set that has been locked on a controller that holds a security key. When you delete existing SED RAID sets, there has one option available to perform an Instant Secure Erase. The "Secure Erase The Member Disks" function is the process of permanently erasing all data on the SED disks and resetting the security attributes. The data on the SED disk is lost.

To delete a SED RAID set, click on the "Deleted Raid Set" link; a "Select The SED RAID Set To Delete" screen is displayed showing all exist SED RAID sets in the current controller. Click on the SED RAID set num¬ber which you want to delete in the select column on the delete screen. Then, tick on the "Confirm The Operation" check box and click on the "Submit" button in the screen to delete it. The volume sets included in the "Delete SED RAID Set". It will be deleted by this action. But for the Raid 30/50/60, you need to delete the volumes belonging to those SED RAID sets.

6.7.3 Delete ISE RAID Set

Instant Secure Erase (ISE) or Crypto Erase allows a drive to be instantly erased using industry-standard commands and options. An ISE RAID Set is a RAID Set that has been created by a group of ISE only SAS hard disks on a controller. When you delete existing SED RAID sets, there has one option available to perform an Instant Secure Erase. The "Secure Erase The Member Disks" function is the process of permanently erasing all data on the ISE disks and resetting the security attributes. The data on the ISE disk is lost.

To delete an ISE RAID set, click on the "Deleted ISE Raid Set" link. A "Se¬lect The ISE RAID Set To Delete" screen is displayed showing all exist ISE RAID sets in the current controller. Click on the RAID set num-ber which you want to delete in the select column on the delete screen. Then, tick on the "Confirm The Operation" check box and click on the "Submit" button in the screen to delete it. The volume sets included in the "Delete ISE RAID Set". It will be deleted by this action. But for the Raid 30/50/60, you need to delete the volumes belonging to those ISE RAID sets.

6.7.4 Security Key Setup

The Areca RAID controllers support Self-Encrypting Disks (SED) for protection of data against loss or theft of SEDs. Protection is achieved by the SED hard drive that automatically and continuously encrypts the data on the drive without any user interaction. There is one SED key per controller. You can manage the SED key under McRAID manager. Local SED key management in the controller firmware is designed to protect data from security breaches with minimal cost and complexity. The key can be escrowed in to a file using McRAID manager. Creating and managing SED key is an important part of the cryptographic process. The key must be kept secret from anyone who should not decrypt your data. This section describes how to generate and manage keys.

6.7.4.1 SED Key Management-Creation

There is one SED key per controller which stores in the controller flash memory. Areca provides both automatically or password methods to generate a key.

1. SED Key is generated automatically by internal random number for a SED RAID set use without needing a password input.
2. SED Key is generated by user supplied password for a SED RAID set use.

6.7.4.2 SED Key Management-Modification

If you have evidence that the SED key is known to unauthorized users, you can change the SED key again. The 'Disable SED Key" function is used to clear SED key on controller and RAID set members.


In some cases, you may want to export a SED key to store on removable media or to use on a different computer. If you want to create a backup copy of the SED key or use it on another computer, you must first export the SED key. Exporting the SED key puts it in a file (filename.bin) that you can then transfer to another computer or put in a safe place.

6.7.5 Import Security Key

SED RaidSet created on an Areca RAID adapters can be migrated to another RAID adapter. If you are importing a RaidSet originally secured with a SED key, you need to import the foreign SED key files to secure or unlock that RaidSet. The "Import Security Key" file is for Raidset Roaming or Change SED Key function. If you roam a RaidSet from old controller to another new (with Security Functions support), the foreign SED key file must be imported before it can be used.
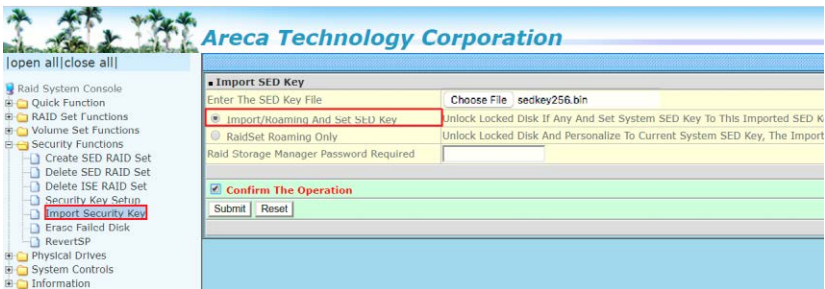
1. Select the "Import/Roaming And Set SED Key" option to unlock the locked disk and change to foreign SED key.

2. Select the "RaidSet Roaming Only" option to unlock the locked disk and personalize to new controller's SED key. If there is an existing SED key on new controller, RaidSet is updated with the new security key. If there is not an existing SED key on new controller, RaidSet is updated to unlock RaidSet.

6.7.6 Erase Failed Disk

To erase the failed encryption-capable physical disk, move the cursor bar to the main menu and click on the "Erase Failed Disk " link. The "Select The Device To Erase" screen will show all failed encryption-capable physical disks. Tick on the failed disk that you want to erase and then click on the "Submit" button. In case controller successfully performs an Instant Secure Erase, it will erase all data on the encryption-capable physical disk disks and reset the security attributes. The data on the encryption-capable physical disk is lost.

6.7.7 RevertSP

SED models will support the RevertSP feature which erases all data in all bands on the device and returns the contents of all SPs (Security Providers) on the device to their original factory state. In order to execute the RevertSP method the unique PSID (Physical Secure ID) printed on the drive label must be provided. PSID is not electronically accessible and can only be manually read from the drive label.

6.8 Physical Drive

Choose this option to select a physical disk from the main menu and then perform the operations listed below.

6.8.1 Create Pass-Through Disk

To create pass-through disk, move the mouse cursor to the main menu and click on the "Create Pass-Through" link. The relative setting function screen appears. A pass-through disk is not controlled by the 6Gb/s SAS RAID controller firmware; it can't be a part of a volume set. The disk is available to the operating system as an individual disk. It is typically used on a system where the operating system is on a disk not controlled by the RAID firmware. The user can also select the Volume Cache Mode, Write Protection, Tagged Command Queuing, and SCSI channel/SCSI_ID/SCSI_LUN for this pass-through disk.
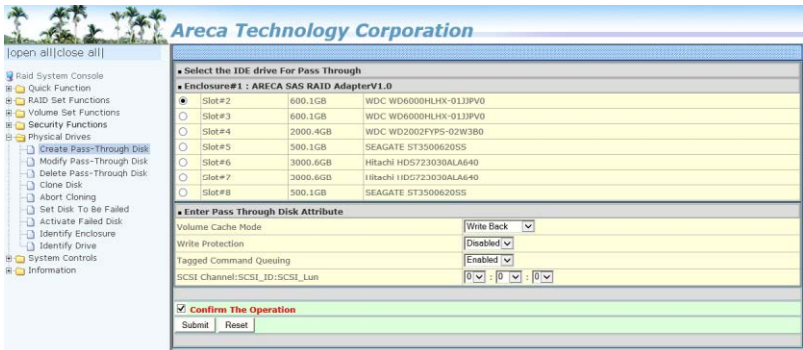

6.8.2 Modify Pass-Through Disk

Use this option to modify the pass-through disk attribute. The user can modify the Cache Mode, Tagged Command Queuing, and SCSI Channel/ID/LUN on an existing pass-through disk.
To modify the pass-through drive attribute from the pass-through drive pool, move the mouse cursor bar and click on the "Modify Pass-Through" link. The "Select The Pass Through Disk For Modification" screen appears mark the check box for the pass-through disk from the pass-through drive pool and click on the "Submit" button to select drive. When the "Enter Pass-Through Disk Attri-

bute" screen appears, modify the drive attribute values, as you want. After you complete the selection, mark the check box for "Confirm The Operation" and click on the "Submit" button to complete the selection action.
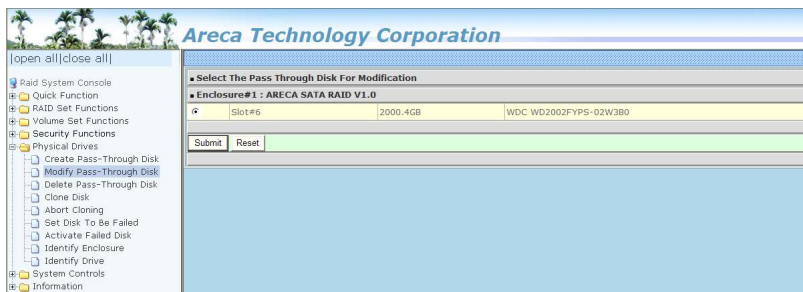

6.8.3 Delete Pass-Through Disk

To delete a pass-through drive from the pass-through drive pool, move the mouse cursor bar to the main menus and click the "Delete Pass Through" link. After you complete the selection, mark the check box for "Confirm The Operation" and click the "Submit" button to complete the delete action.
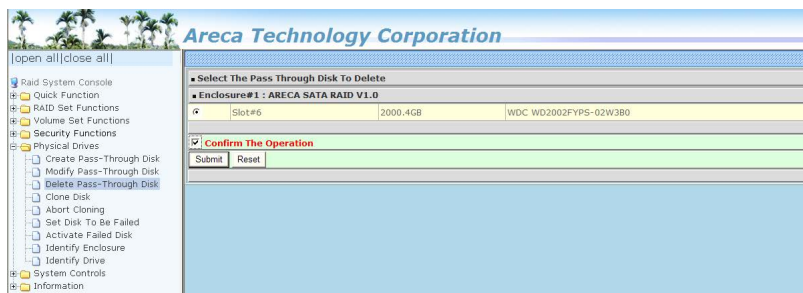
6.8.4 Clone Disk

Instead of deleting a RAID set and recreating it with larger disk drives, the "Clone Disk" function allows the users to replace larger disk drives to the RAID set that have already been created. Click the "Clone Disk" option on the "Physical Drives" link to enable the clone function. If there is an available disk, then the "Select The Drives For Cloning" screen appears. There are two "Clone Disk" function options: "Clone And Replace " and "Clone Only."

WEB BROWSER-BASED CONFIGURATION
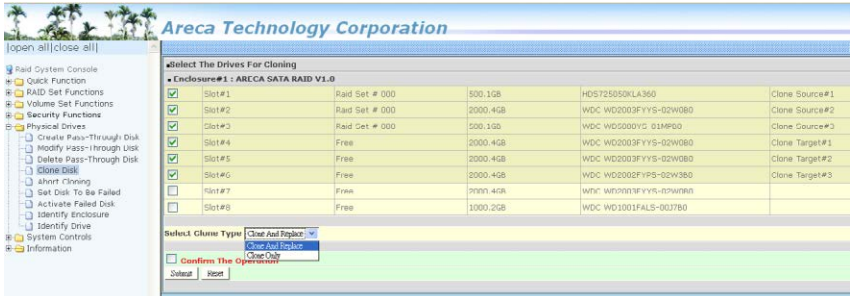
Clone Disk Procedure

(a) Select one of the members as the "Clone Source" (status indi
cated as Raid Set #) by clicking on the appropriate check
box.

(b) Select a "Clone Target" (status indicated as Free or Hot
Spare) by clicking on the appropriate check box.

(c) If you have available disk member, you can repeat above pro
cedures to define another clone pair.

(d) Select Clone Type.

The pair number for both the "Clone Source" and the "Clone Tar-
get" will be indicated in the screen. Click the "Confirm The Opera-
tion" check box and click on the "Submit" button on the screen;
the controller will automatically start the cloning process using
the existing "stand-by" (Free or Hot Spare drive) to clone the
source drive (the Raid Set member drive). The cloning process
percentage will be indicated in the "Volume State" area of the
"Volume Set Information" screen. Completion of the Clone func-
tion process will be indicated by a notification message on the
event log.

6.8.4.1 Clone And Replace

You can enlarge your logical drives by copying and replacing all
member drives with drives of higher capacity. The existing data
in the logical drives is copied onto the new drives, and then the
original members are marked as "Offlined".

6.8.4.2 Clone Only

The stand-by disk will clone the logical drives without substituting it. The status of the stand-by drive will be marked as "Offlined" after the cloning process. The source drive will remain a member of the logical drive.

6.8.5 Abort Cloning

Use this function to stop the ongoing clone disk action.

6.8.6 Set Disk To Be Failed

It sets a normal working disk as "failed" so that users can test some of the features and functions.
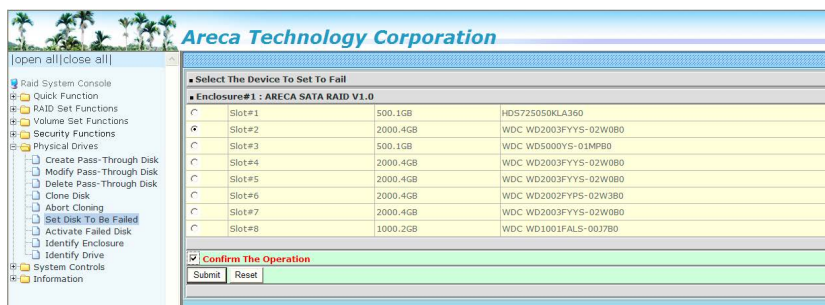

6.8.7 Activate Failed Disk

It forces the current "failed" disk in the system to be back online. "Activate Failed Disk" function has no effect on the removed disks, because a "removed" disk does not give the controller a chance to mark it as "failure".

Followings are considered as "Removed-Disk":
1. Manually removed by user
2. Losing PHY connection due to bad connector, cable, backplane
3. Losing PHY connection due to disk fail
Basically, in the eyes of the controller, the disk suddenly disappears due to whatever reason.
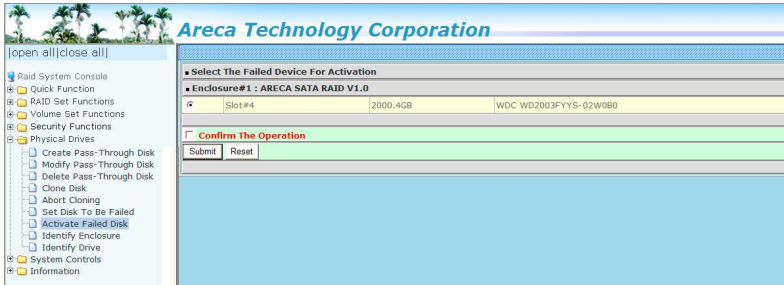
6.8.8 Identify Enclosure

To prevent removing the wrong enclosure, the selected Areca expander enclosure all disks fault LED indicator will light for physically locating the selected enclosure when the "Identify Enclosure" is selected. This function will also light the enclosure LED indicator, if it is existed.
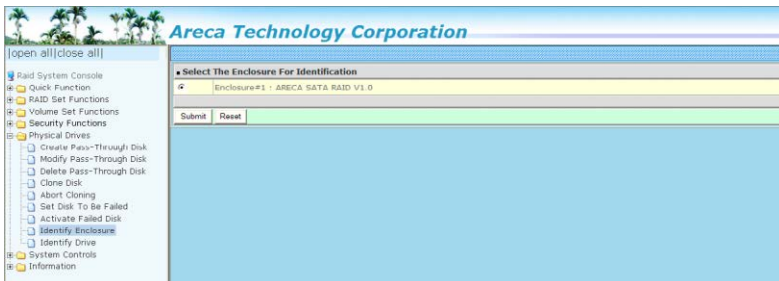
6.8.9 Identify Drive

To prevent removing the wrong drive, the selected disk fault LED indicator will light for physically locating the selected disk when the "Identify Selected Device" is selected.