COMPAQ
STORAGEWORKS

Quick Setup Guide

**RAID Array 8000/ESA12000 Fibre Channel
Storage Subsystem for SGI IRIX**

Before You Begin

In this Quick Setup Guide we tell you how to create an initial hardware configuration for both the *Compaq StorageWorks RAID Array 8000 Fibre Channel Storage Subsystem* and the *Compaq StorageWorks Enterprise Storage Array 12000 Fibre Channel Storage Subsystem* (the "RA8000/ESA12000 storage subsystem" or the "storage subsystem").

To create this configuration you will:

- Install Storage Building Blocks (SBBs) and Program Cards in the RA8000/ESA12000 storage subsystem cabinet;

- Install a fibre channel adapter in the server;

- Connect the fibre channel adapter to the storage subsystem HSG80 controller via a fibre channel hub;

- Connect the StorageWorks Command Console (SWCC) client PC to the HSG80 controller to act as a maintenance terminal;

- Turn on the ac power to the storage subsystem;

- Install StorageWorks Software on the SGI server.

- Install the (SWCC) Client Graphical User Interface;

- Configure a Storageset;

- And reboot the storage system.

Before you start these steps follow the instructions on the shipping container to unpack the RA8000/ESA12000 storage subsystem. Then move the storage subsystem to the operating location you have selected. Refer to the *RA8000/ESA12000 Storage subsystem User's Guide*, EK–SMCPR–UG. A01 (387404-001) for information about selecting a location.

The instructions for installing and connecting storage subsystem components are given for the SW370 pedestal, but apply equally to other Compaq cabinet options. Depending on the storage subsystem you have ordered, you might have to install the storage subsystem in a cabinet and connect the cache module to a cache battery. Refer to the *User's Guide* for more information.

NOTE

You can find complete instructions for unpacking and installing the RA8000/ESA12000 storage subsystem in the User's Guide and in the RA8000/ESA12000 HSG80 Solution Software V8.3 for SGI IRIX Installation Reference Manual, AA–RFBKA–TE (387399–001).
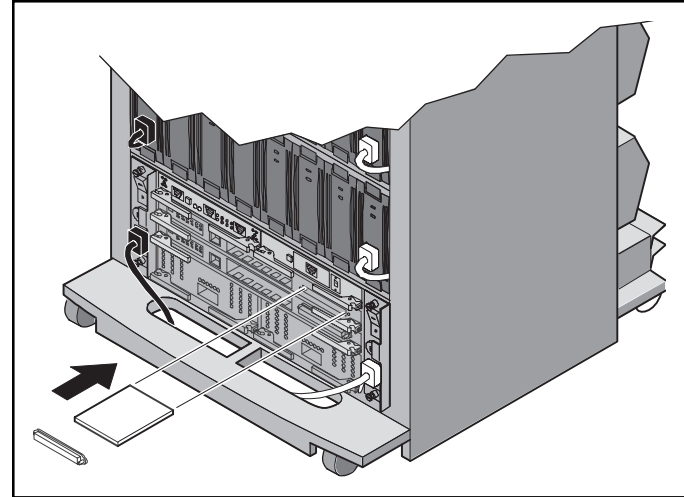
1 Install the SBBs and Program Cards
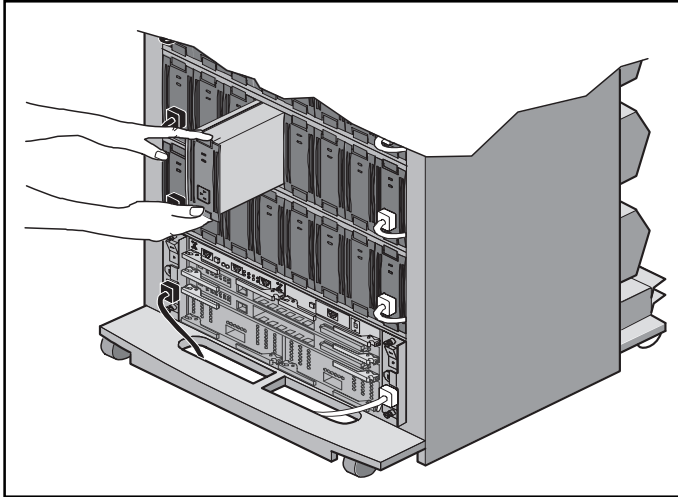
Install the SBBs in the RA8000/ESA12000 Storage Subsystem Cabinet

- Insert an SBB into the shelf guide slots and slide the SBB into the shelf until the mounting tabs snap into place.

- For optimum SCSI bus distribution, install the SBBs from left-to-right and from bottom-to-top.
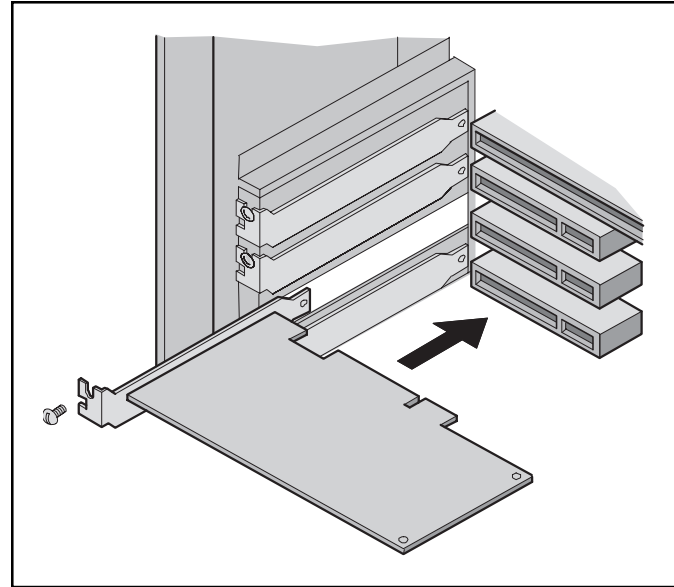
Install the PCMCIA Card in the HSG80 Controller

- Remove the ESD cover from the controller PCMCIA slot.

- Insert the PCMCIA card in the controller slot.

- Replace the ESD cover over the controller slot.

- Repeat the steps if you have two controllers.

Install the Fibre Channel Adapter
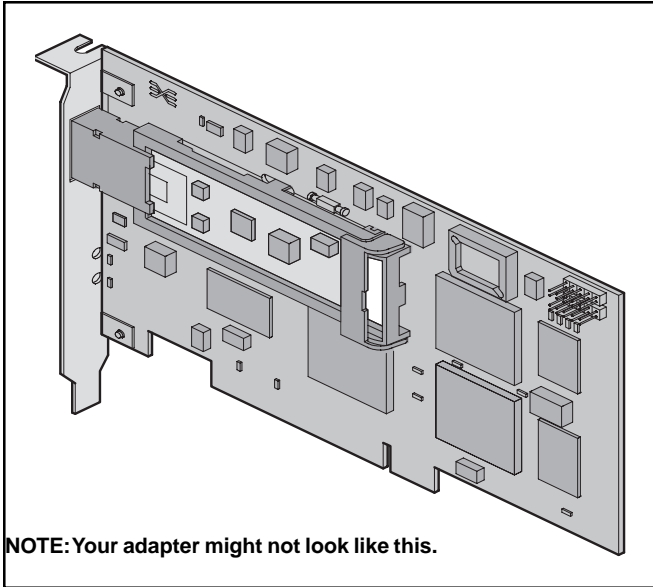
NOTE: Your adapter might not look like this.

Turn Off the Server

- Shut down the operating system running on your server.

- Turn off the power to the server and all attached peripherals.

- Disconnect power cables from the server.

Insert the Adapter in the SGI Server

- Open the server to gain access to the expansion slots.

- Insert the adapter in an empty PCI or XIO expansion slot.

- Secure the adapter in the slot with the screw provided.
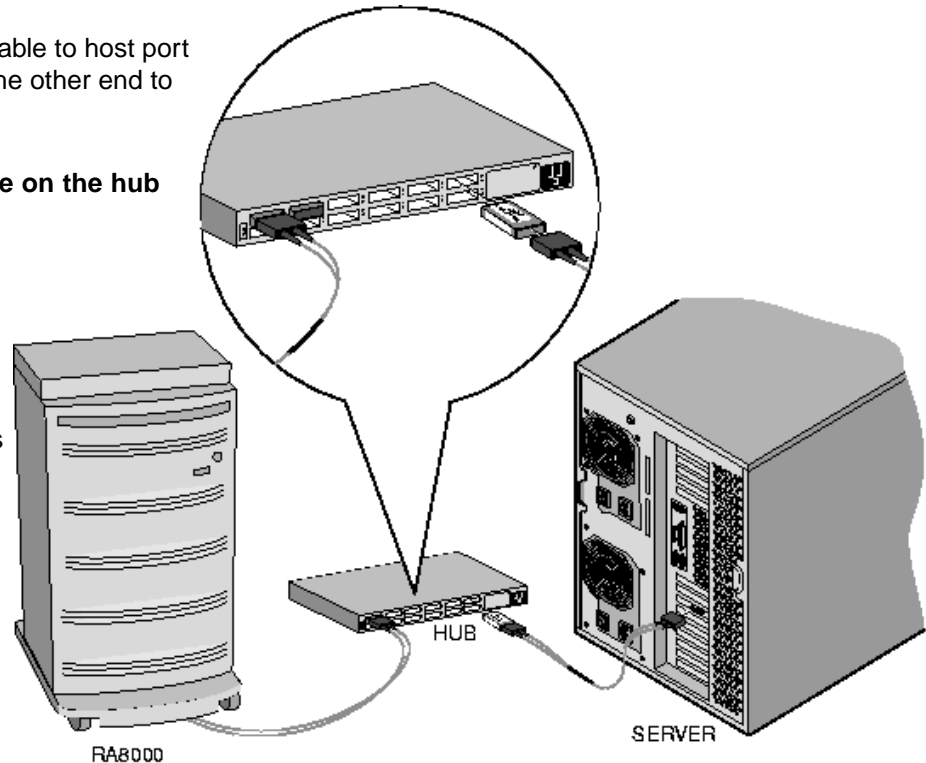
3 Connect the Fibre Channel Adapter to the Storage Subsystem Controller

- Connect one end of the SGI Media Interface Adapter (X–F–OE–KIT) to the SGI fibre channel host adapter; connect the other end to the fibre channel hub.

- Connect one end of a fibre channel cable to host port 1 on the HSG80 controller; connect the other end to the fibre channel hub.

Be sure to install a GBIC–SW module on the hub end of each cable.

The following page illustrates the adapter-to controller connections for the four possible configurations:
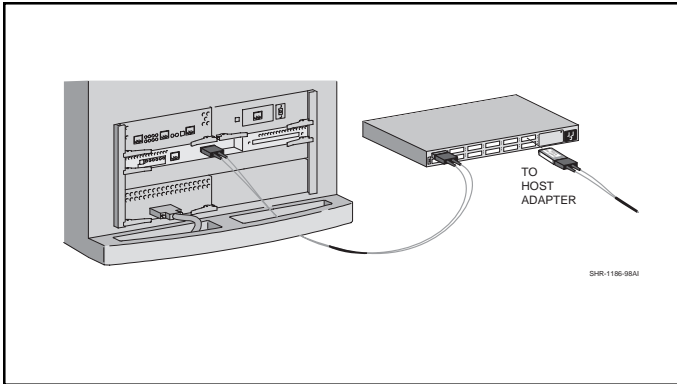
- single controller, one host adapter
- single controller, two host adapters
- dual controller, one host adapter
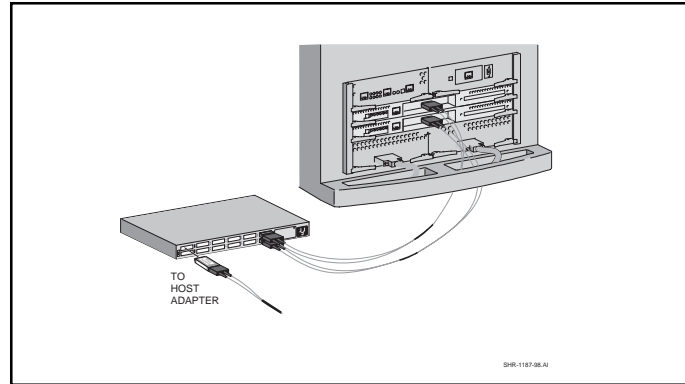- dual controller, two host adapters

HUB

RA8000

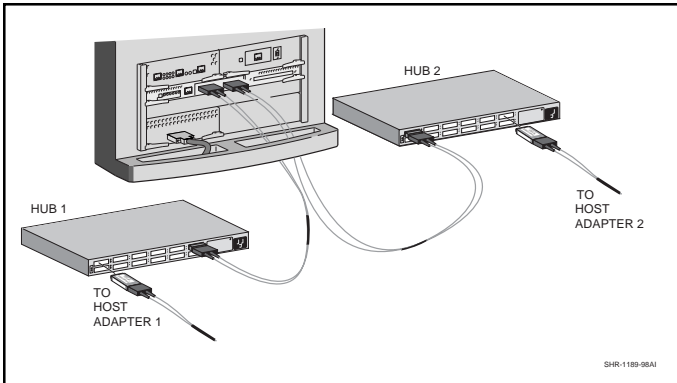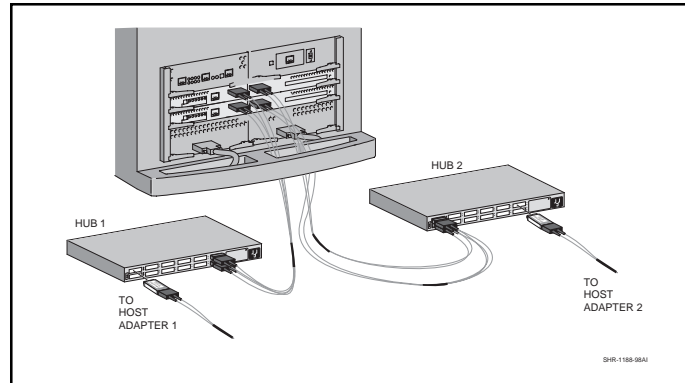SERVER

SHR-1179-98AI

Single Controller, One Host Adapter

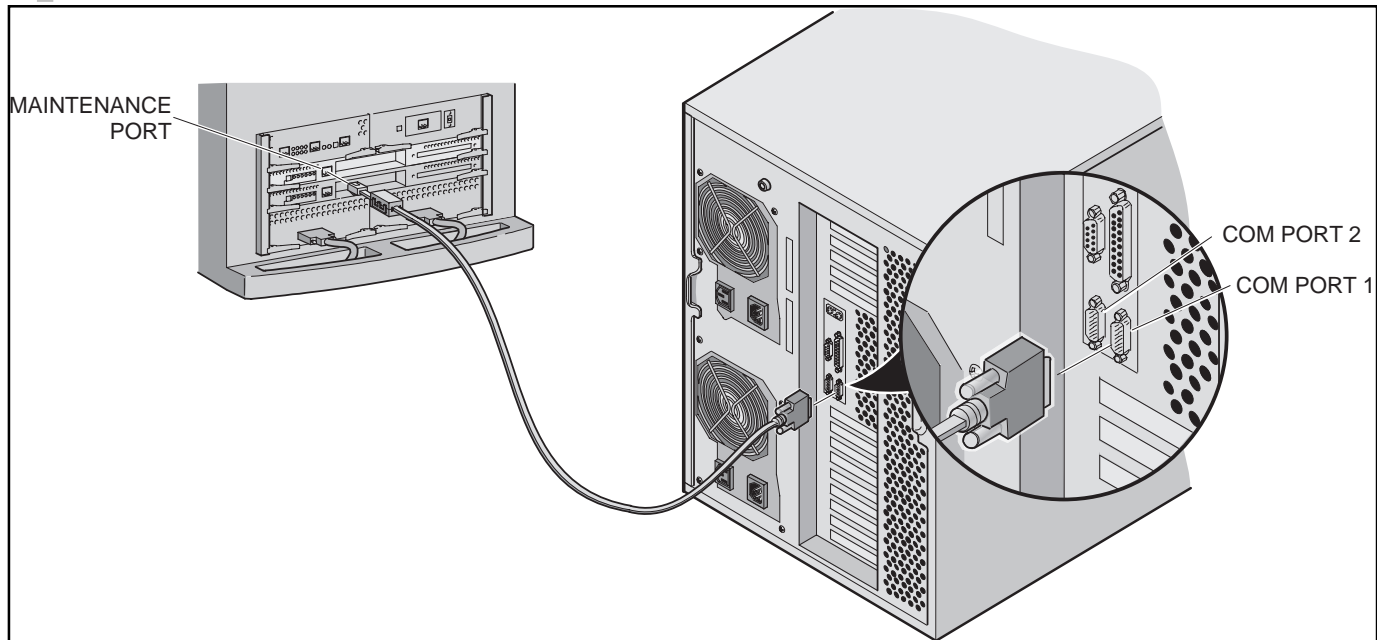Dual Controller, One Host Adapter

Single Controller, Two Host Adapters

Dual controller, Two Host Adapters

4 Connect the PC as a Maintenance Terminal

Connect the PC to the HSG80 Controller to Provide for a Maintenance Terminal

- Connect the RJ12 connector on the communications cable to the maintenance port on the HSG80 controller.

- Connect the 9-pin serial connector on the communications cable to either the COM1 or COM2 port on the PC that will be used for the SWCC client.

NOTE

Make a note of the serial port you use; you need to know it when you set up your communication program and configure the controller.

5 Turn on the Subsystem Power

Connect the Hub to an AC Power Outlet

- Connect one end of the hub ac power cord to the hub.

- Connect the other end of the ac power cord to an ac outlet.

Turn on the Storage Subsystem Power

- Connect one end of the storage subsystem cabinet ac power cord to the cabinet ac receptacle.

- Connect the other end of the power cord to an ac outlet.

- Push in the "1" side of the cabinet ac power switch.

- When the RESET LED on the HSG80 controller blinks at a rate of once per second the storage subsystem is ready to operate.
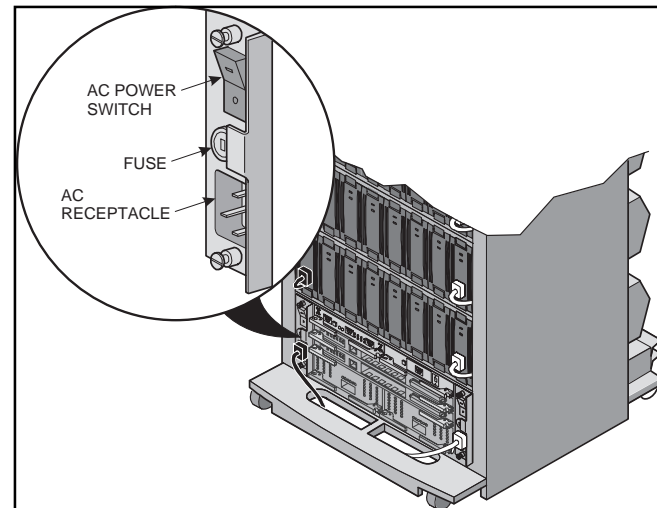
6 Install StorageWorksCommand Console (SWCC) Client on the PC

Install the SWCC Client

- Insert the storage subsystem CD–ROM in the CD–ROM drive.

- Run *File Manager* or Windows *Explorer*.

- Navigate to the folder *drive_letter:\SWCC\Client*.

- Choose *Intel client*; then double–click on *Setup*.

- When the setup wizard appears, follow the instructions to complete the installation.

HSG80 Controller Setup

- Using a serial communications program on your PC, connect to the HSG80 using the COM port connected in Step 4.

- Select a baud rate of 9600.

- At the *HSG80>* prompt
  Type:
  ```
  SET THIS_CONTROLLER PORT_1_AL_PA=71
  SET THIS_CONTROLLER PORT_2_AL_PA=72
  ```
  Type:
  ```
  SET THIS_CONTROLLER PORT_1_PROFILE=PLDA
  SET THIS_CONTROLLER PORT_2_PROFILE=PLDA
  ```
  Type:
  ```
  SET THIS_CONTROLLER PORT_1_TOPOLOGY=LOOP_HARD
  SET THIS_CONTROLLER PORT_2_TOPOLOGY=LOOP_HARD
  ```
  Type:
  ```
  SET THIS_CONTROLLER SCSI_VERSION=SCSI-2
  SET THIS_CONTROLLER SCSI_VERSION=SCSI-2
  ```
  Type:
  ```
  SET THIS_CONTROLLER COMMAND_CONSOLE_LUN
  ```
  Type:
  ```
  RESTART OTHER
  RESTART THIS
  ```

7 Install the StorageWorks Software on the SGI Host System

Turn on the SGI Server

- Connect ac power to the SGI server and boot the IRIX operating system.

Install the Storageworks Software

- Insert the storage subsystem CD–ROM in the CD–ROM drive.

- Mount the CD–ROM with the command
    ```
    mount –t iso9660 –r /dev/rdsk/dks0d7vol /mnt
    ```
    (Note: The name of dks0d7vol might be different on your system.)

- Create a directory in which the file archive can be loaded
    ```
    mkdir /tmp/hsg80
    ```

- Change to the directory
    ```
    cd /tmp/hsg80
    ```

- Extract the file archive with the command
    ```
    tar xvf /mnt/agent/sgi/stm_sgi.tar
    ```

- Execute the installation script
    ```
    ./stgwks_sgi.sh
    ```

```
StorageWorks and Command Console Agent
Installation and Configuration Menu

StorageWorks Options:
- - - - - - - - - - -
1)   Install Storageworks software
2)   StorageWorks Maintenance


Agent Options:
- - - - - - - -


3)   Install Agent
4)   Agent Maintenance

Q)   Quit
```

- Choose option 1) in the *Installation* menu to install the StorageWorks software.

- Choose option 3) in the *Installation* menu to install the Comand Console Agent. Follow the text-based prompts and enter appropriate information using Table 2–2, Section 2.1.3 of the *RA8000/ESA12000 HSG80 Solution Software V8.3 for SGI IRIX Installation Reference Manual.*
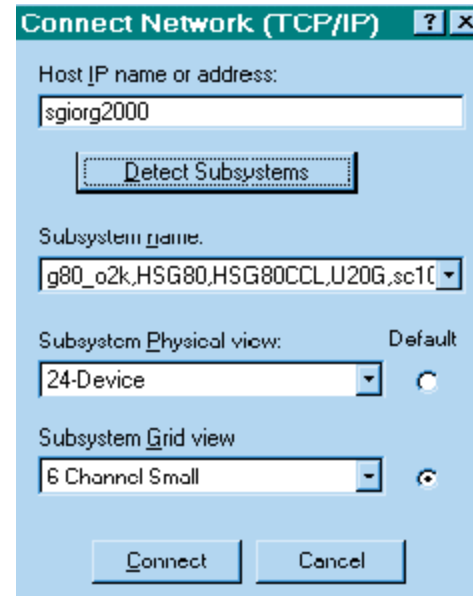
8 Launch the SWCC Client

Launch the Client

- Click on the Windows taskbar *Start* button.

- Move the pointer to *Programs –> Command Console –> HSG80 Storage Window*; click on *HSG80 Storage Window* to display the *Connection Selection* dialog box.
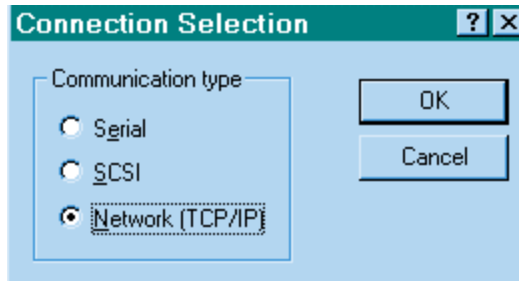
- Click on the *Network [TCP/IP]* button and *OK* to display the *Connect Network (TCP/IP)* dialog box.

- Enter the SGI host IP name; then click *Detect Subsystems*. Client searches and finds the storage subsystems connected to your SGI host and displays them in the *Subsystem Name* text box.

- Select a storage subsystem and click the *Connect* button; after two to three minutes the *StorageWindow* is displayed.

9 Verify Controller Properties

Display SCSI Devices in the Devices Windowpane

- Click on *Storage* in the *Storage Window* menu line.

- Move the pointer to *Device –> Add*; click on *Add*. SWCC finds installed drives and displays them in a grid by CHANNEL and SCSI TARGET ID number.
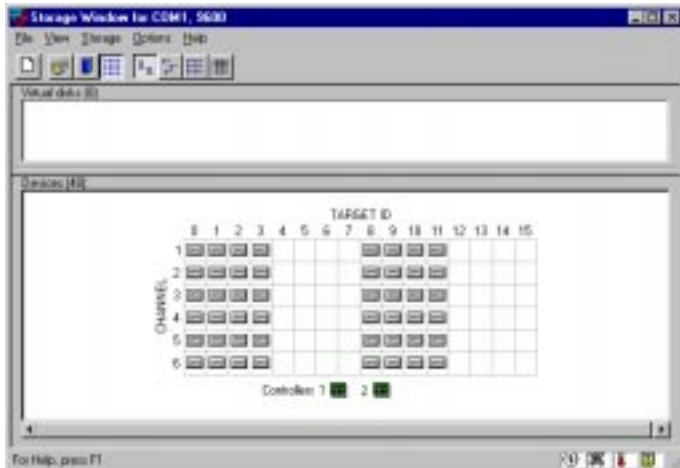

Verify Properties

- Double-click on a controller icon in the *Storage Window*; the *Controller Properties* screen is displayed.

- Click on the tabs of the *Controller Properties* screen successively and confirm that the following values are set:

General tab	Allocation class: 0
	SCSI version: SCSI–2
Host Ports tab	
Host Port 1	Requested Topology: LOOP_HARD
	Requested Port Address: 71
Host Port 2	Requested Topology: LOOP_HARD
	Requested Port Address: 72
Cache tab	Cache flush time (seconds): 10
	Respond to internal cache battery condition: selected
Battery tab	Confirm that the battery is fully charged
Communications LUN tab	Confirm that the SWCC virtual LUN is enabled.
Connection tab	SGI: Selected
	Unit Offset: 0 for Port 1
	Unit Offset: 100 for Port 2

10 Configure a Storageset

• Click on *Storage* in the *Storage Window* menu selection line and select *Add Virtual Disk* to begin Step 1 of the *Add Virtual Disk Wizard*.

• Click the *Striped parity device group (RAID 3/5)* radio button; click *Next>* for Step 2.

• Select the devices you want to include in the virtual disk by clicking on the disks listed in the *Available storage* windowpane; as you select a disk it is added in the *Selected devices* windowpane.

• Click Next> for Step 3.
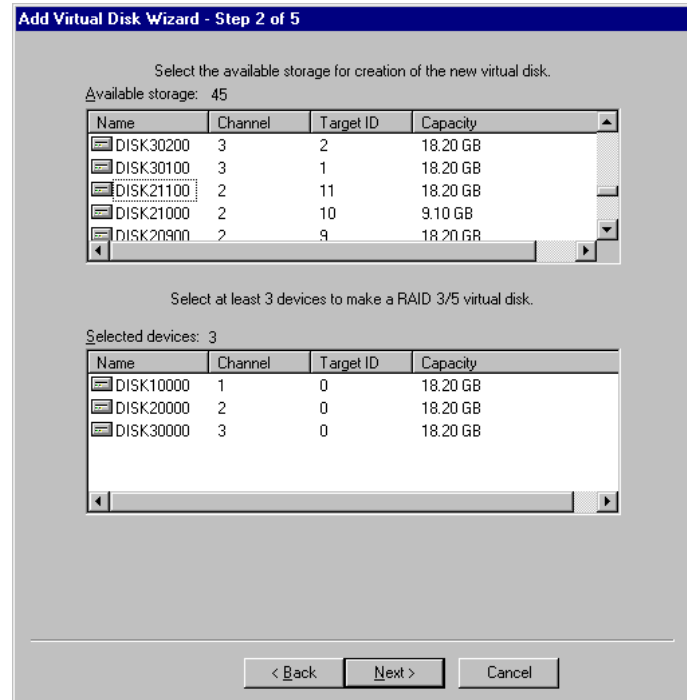
• Select the capacity for the virtual disk. You can select the maximum capacity or create partitions by selecting only a portion of the available maximum. If you create partitions, complete all steps for this partition; then access the Wizard again, make the same choices and create another partition.

• Click *Next>* for Step 4.

• Enter the *Virtual Disk Name*; IRIX recognizes D1 through D99 for Port 1 and D100 through D199 for Port 2. D0 is the Command Console LUN and should not be used.

• Click on the box *Save controller configuration to virtual disk*.

10 *Configure a Storageset (Cont"d)*

- Step 5 recaps your choices; if you are not satisfied, you can return to the applicable Wizard step using the *Back* button. When you are satisfied with your choices click *Finish*.

- When you return to the Storage Window you see the virtual disk you created illustrated in the *Virtual disks* windowpane. The hourglass on the disk icon indicates the Storageset is being initialized. The drives you used to create the RAIDset are highlighted in the *Devices* windowpane.

Compaq StorageWorks RA8000/ESA12000 Fibre Channel Storage Subsystem for SGI IRIX
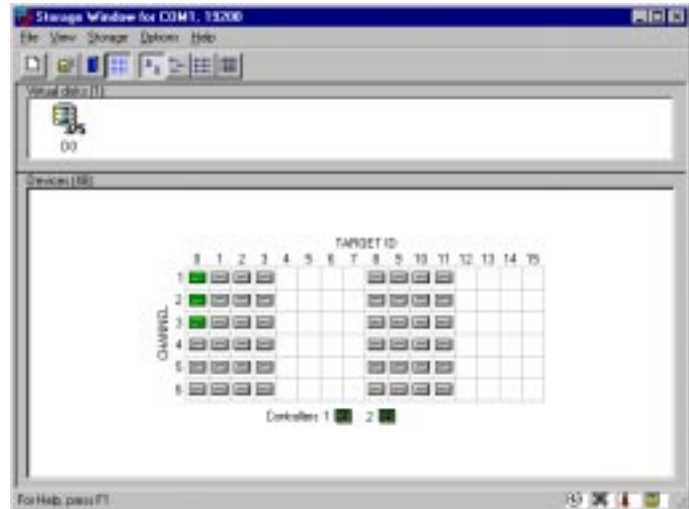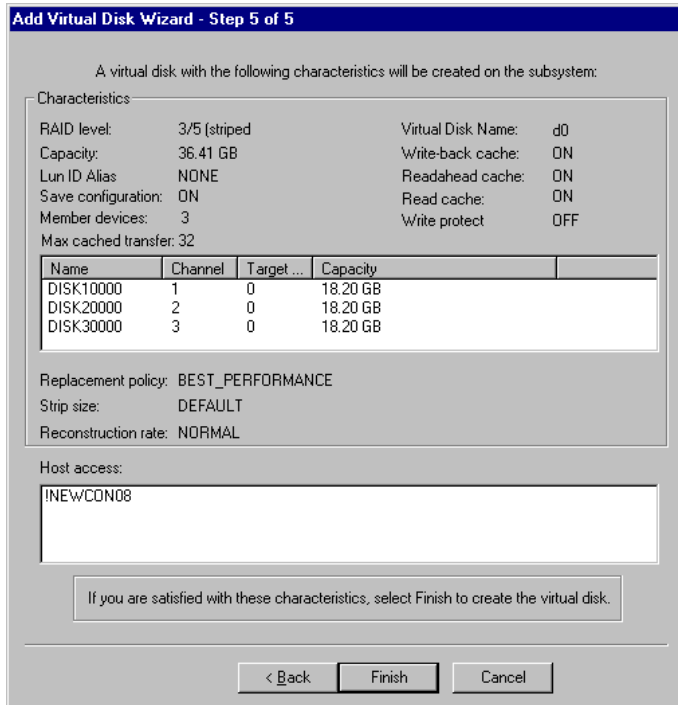
Congratulations!

You have now completed all the steps required to create an initial hardware configuration for your controller. For more information about using the SWCC software on the SGI host refer to *RA8000/ ESA12000 HSG80 Solution Software V8.3 for SGI IRIX Software Installation Guide.* For more information about using the SWCC software on the Windows host refer to the *Command Console User's Guide.*

COMPAQ recommends that you verify and record your configuration for future reference.