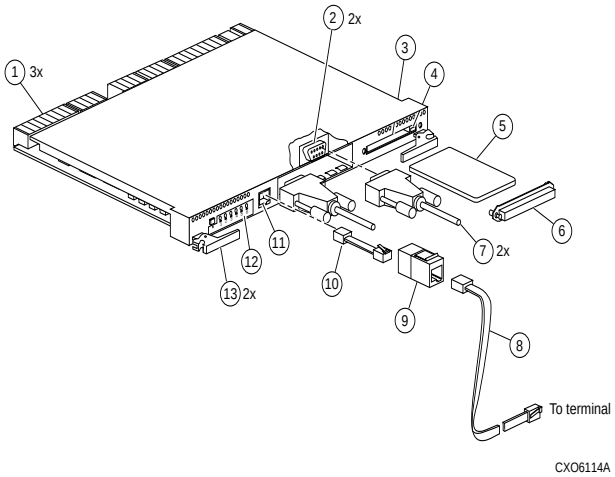
Installing an HSG80 Fibre Channel Controller Module

Follow these instructions to replace a controller in a single or dual-redundant configuration. See the *HSG80 Array Controller ACS Version 8.0 User's Guide* for instructions on upgrading a subsystem to a dual-redundant configuration.

Figure 1. HSG80 Array Controller



1 Backplane connectors
2 Host ports
3 Program-card slot
4 Program-card ejection button
5 Program card
6 ESD/PCMCIA card cover
7 5-meter Fibre Channel cables or 10-meter Fibre Channel cables
8 Maintenance Port Cable
9 RJ-11 adapter
10 DECconnect office cable
11 Local connection port
12 Operator control panel (OCP)
13 Lever for removing, installing, and retaining controller

Dual-Redundant Configurations

To remove the controller...

1. Connect a local terminal to the operational controller. The controller to which you're connected is "this controller;" the controller that you're removing is the "other controller."
2. Shut down the controllers. First shut down the "other controller," then shut down "this controller" with the following commands:

   SHUTDOWN OTHER_CONTROLLER

   SHUTDOWN THIS_CONTROLLER
3. When the controllers shut down, their reset buttons and their first three LEDs are lit continuously. This may take several minutes, depending on the amount of data that needs to be flushed from the cache modules.
4. Turn off the power to the subsystem.
5. Unplug the subsystem's power cord.
6. Disengage the two retaining levers, and remove the "other controller."

To install the new controller...

1. Insert the new controller module.
2. Ensure that the program card is not in the new controller, and insert the new controller into its slot. Engage its retaining levers.
3. Connect the hub cables to the new controller.
4. Plug in the subsystem's power cord.
5. Turn on the subsystem.
6. Hold both reset buttons while inserting the program cards into both controllers, and replace the ESD covers.
7. If the subsystem worldwide name (node ID) is all zeroes (0000-0000-0000-0000), you must set the ID using this step: (Use this step only if the worldwide name is all zeroes.)

   SET THIS_CONTROLLER NODE_ID=*NNNN-NNNN-NNNN-NNNN CHECKSUM*
8. Set the port topology for each port.

   SET THIS_CONTROLLER PORT_1_TOPOLOGY=*"TOPOLOGY"*

   SET THIS_CONTROLLER PORT_2_TOPOLOGY=*"TOPOLOGY*

   Since this is a dual-redundant configuration, the "other controller" inherits "this controller's" port topology. See *HSG80 Array Controller ACS Version 8.0 User's Guide* for more information about this command.

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9. If you selected LOOP_HARD for the port topology, specify the arbitrated loop physical address (ALPA) for the host ports.

   SET THIS_CONTROLLER PORT_1_ALPA=*"ADDRESS"*

   SET THIS_CONTROLLER PORT_2_ALPA=*"ADDRESS"*

   The "other controller" inherits "this controller's" port ALPA addresses.

   See *HSG80 Array Controller ACS Version 8.0 User's Guide* for more information about this command.

10. Enable failover, and re-establish the dual-redundant configuration with the following command:

    SET FAILOVER COPY=THIS_CONTROLLER

    This command copies the subsystem's configuration from "this controller" to the new controller.

Single Configurations

To remove the controller...

1. From the host console, dismount the logical units in the subsystem. (If you are using a Windows NT platform, shut down the PC.)
2. If the controller is operating, connect a local terminal to the controller to obtain the last failure codes, if desired.

   If the controller is not operating, you must turn off power to the subsystem before removing the controller. Go to Step 4 to turn off power and proceed.

3. Shut down the controller with the following command:

   SHUTDOWN THIS_CONTROLLER

   When the controller shuts down, its reset button and first three LEDs are lit continuously.

4. Turn off the power to the subsystem.
5. Remove the ESD cover and program card. Save them for the new controller.
6. Disconnect the hub cables from the controller.
7. Disengage the two retaining levers, and remove the controller.

To install the new controller...

You can save the configuration of your controller before you replace it by using the SAVE_ CONFIGURATION switch. This allows you to automatically load the subsystem's configuration from that device. Otherwise, reconfigure the controller as described in the *HSG80 Array Controller ACS Version 8.0 User's Guide*.

***CAUTION**: Make sure you align the controller and cache module in the appropriate pedestal guide rails. If you do not align the modules appropriately, damage to the backplane can occur.*

1. Insert the new controller into its slot, and engage its retaining levers.
2. Connect the hub cables to the new controller.
3. Restore power to the subsystem.
4. Hold the reset button while inserting the program card into the new controller.
5. Release the reset button, and replace the ESD cover.
6. When the CLI prompt reappears, you can display details about the controller you configured. Use the following syntax:

   SHOW THIS_CONTROLLER FULL

   See the SHOW THIS_CONTROLLER FULL command in the *HSG80 Array Controller ACS Version 8.0 User's Guide*, for more information about using this command.

7. If the subsystem worldwide name (node ID) is all zeroes (0000-0000-0000-0000), you must set the ID using this step: (Use this step only if the worldwide name is all zeroes.)

SET THIS_CONTROLLER NODE_ID=*NNNN-NNNN-NNNN-NNNN CHECKSUM*

8. Set the port topology for port 1.

SET THIS_CONTROLLER PORT_1_TOPOLOGY=*"TOPOLOGY"*

9. Set the port topology for port 2 OFFLINE.

SET THIS_CONTROLLER PORT_2_TOPOLOGY=*"TOPOLOGY"*

10. If you selected LOOP_HARD for the port topology, specify the arbitrated loop physical address (ALPA) for the host ports.

    SET THIS_CONTROLLER PORT_1_ALPA=*"ADDRESS"*

    SET THIS_CONTROLLER PORT_2_ALPA=*"ADDRESS"*

    See the *HSG80 Array Controller ACS Version 8.0 User's Guide* for more information about this command.

11. To restore a configuration saved with the SAVE_CONFIGURATION switch, hold button 6 while releasing the reset button.

    If the controller you're installing was previously used in another subsystem, it will restart with the configuration that resides in its nonvolatile memory. If this differs from the subsystem's current configuration, you can purge the controller's old configuration with the following command:

    SET THIS_CONTROLLER INITIAL_CONFIGURATION

    The controller shuts down after returning to its initial configuration. Press its reset button to restart the controller.

12. To restore the configuration, use the CONFIGURATION RESTORE command.
13. Install any patches that you had installed on the previous controller.
14. Mount the logical units on the host. (If you are using a Windows NT platform, restart the PC.)