RAID Array 200 Dual Internal PCI to SCSI Cable Assembly Installation

StorageWorks™

Installation Guide

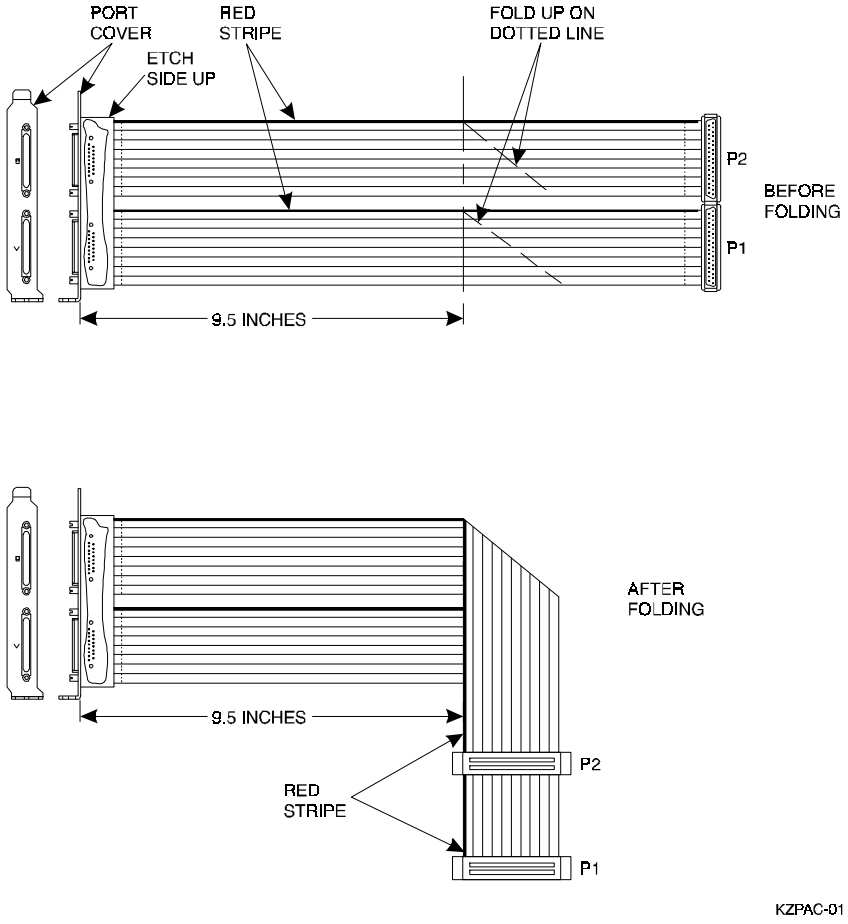
EK–KZPAC–IG. A01

This Installation Guide describes how to install the dual internal PCI to SCSI cable assembly. It requires an unused bulkhead position preferably between two PCI RAID Array 200 controller boards. The addition of this cable allows the external utilization of channel 2 on two PCI RAID Array 200 controller boards from one bulkhead position.

Preparing the Cable Assembly

The dual cable assembly should be folded before installing it in the computer system. Fold each cable of the dual cable assembly as shown in Figure 1. Be sure that the red stripe on each cable is towards the bulkhead connector after folding. This will ensure that the cable connector and the controller connector are properly aligned (Pin 1 to Pin 1).

Figure 1 Folding the Dual Cable Assembly



1. Place the dual cable assembly on a flat surface with the etch side of the interconnecting printed circuit board to your left and facing up.
2. Measure along the cables 9.5 inches from the port cover plate. This coincides with the placement of the PCI channel-2 connector.
3. Fold up the PCI dual cable connector "P1" along the 45 degree dotted line shown in Figure 1. This should place the red stripe of the cable along the 9.5 inch location as shown.
4. Repeat the process with the second cable connector "P2".

Installing the Dual Cable Assembly to the Bulkhead

CAUTION

To avoid static damage, wear a grounded wrist strap while installing the dual cable assembly.

To install the dual cable assembly, follow these steps.

1. Turn off power to the computer system and disconnect the power cable.
2. Remove the cover from the host computer system. Refer to the host system manual for general instructions on removing the cover and installing adapter boards.
3. Attach the folded dual cable assembly to the bulkhead of the computer system as shown in Figure 2. Select a bulkhead position that is between two PCI RAID Array 200 controllers if possible.

NOTE

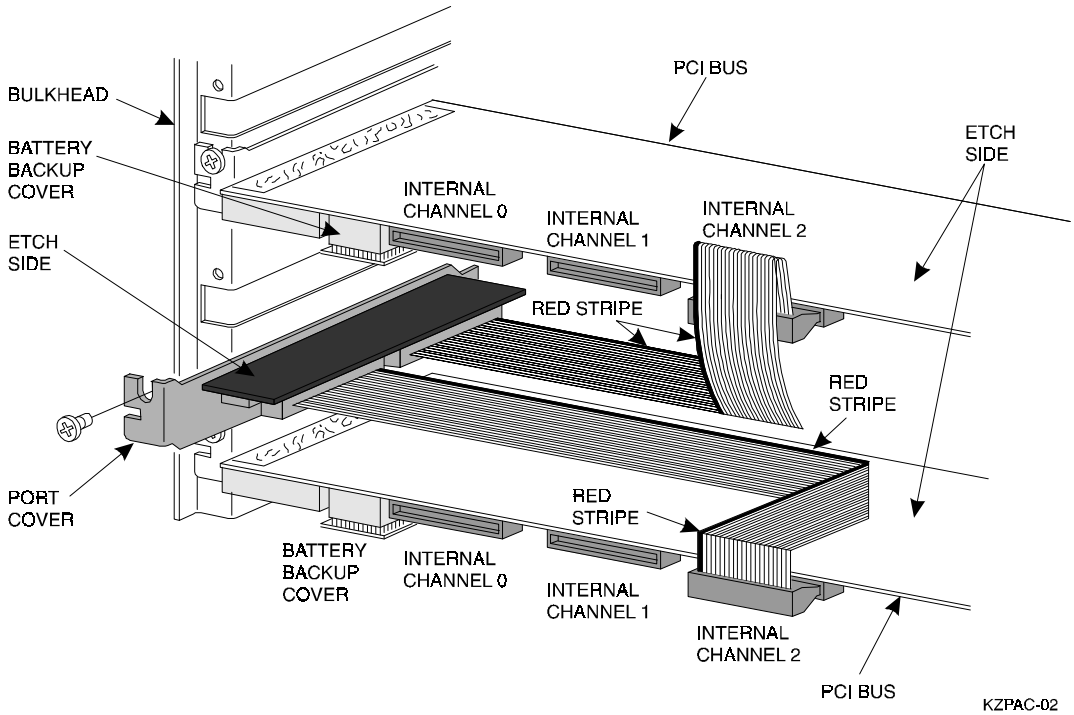
On most computer system bulkheads, filler panels are used to cover the bulkhead slots until the slot is occupied. To use a slot for mounting the channel-2 PCI dual cable assembly connectors, remove the screw holding the filler panel and discard the filler panel. Save the screw for mounting the PCI dual cable assembly

CAUTION

DO NOT move any controller board or other active device to satisfy suggested placement of the dual cable assembly. Under certain operating systems, device recognition will be lost or in incorrect order.

4. The etch side of all printed circuit boards should be facing in the same direction. Insert the port cover with the dual cable assembly attached, into the selected bulkhead opening and attach it to the system bulkhead. Tighten the screw. The bulkhead connectors are 0.8-mm 68-pin connectors.

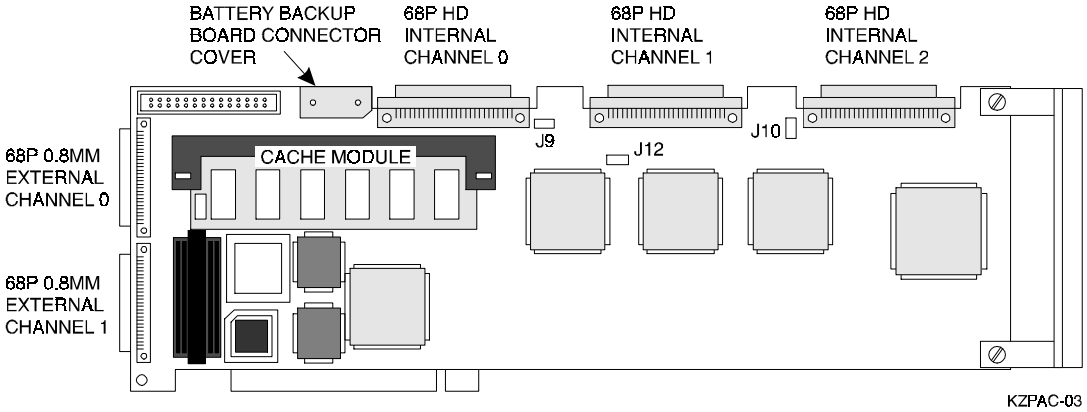
Figure 2 Internal Dual Cable Connections for the 3-Channel PCI Controller



PCI Controller Internal Cabling

The PCI board has five connectors: two channel-0 connectors, two channel-1 connectors, and one channel-2 connector. Channel-0 and channel-1 each have a connector on the PCI board's edge and an external second connector. After adding the dual cable assembly to the computer system, the channel-2 connector will only be available for external use.The connectors for each channel are electrically identical and mutually exclusive - only one of the connectors for each channel can be used. The edge connectors on the PCI board are of the 0.8 mm, 68-pin high-density type.

Figure 3 Board Layout of the 3-Channel PCI Controller



The bulkhead connectors are labeled "A" and "B" on the port cover and are associated with 90 degree edge connectors "P1" and "P2" respectively. Connector "P1" and its cable are located furthest from the

system motherboard. Use this connector to attach to the furthest PCI controller. Connector "P2" and its cable are located closest to the system motherboard. Use this connector to attach to the closest PCI controller.

1. Any 90 degree edge connector used for connecting to a PCI controller that is in the etch side direction away from the dual cable assembly, will have to be folded under itself when inserted into the internal channel-2 edge connector on the PCI controller.
2. Any 90 degree edge connector used for connecting to a PCI controller that is in the component side direction away from the dual cable assembly, may be inserted directly into the internal channel-2 edge connector on the PCI controller.

Cabling Considerations

Cabling from the RAID controller board can be to an internally mounted storage array or to the Expansion Storage Pedestal. If the board is connected to an internal array, refer to the documentation that came with the array to see that it is properly configured. Refer to the appropriate StorageWorks Storage Pedestal User's Guide for general setup and cabling information.

Depending on your configuration, you can install one, two, or three storage pedestals on the RAID controller. Label the first pedestal as Pedestal 0. The other pedestals are labeled Pedestal 1 and Pedestal 2, respectively. Pedestal 0 connects to Channel 0, Pedestal 1 connects to Channel 1, and Pedestal 2 connects to Channel 2. The total length of the cabling for a specific installation should be as short as possible.

The inter-device cabling of SCSI devices is critical to proper operation of the system. A fast, single-ended SCSI bus can have a maximum length of 3 meters, including internal wiring and external cabling. The PCI channel-2 internal cable connected to the computer system backplane adds approximately 0.5 meter to the length of the SCSI bus. Cabling external to the Expansion Storage Pedestal cannot exceed 2 meters.