SGI® InfiniteStorage 11000/15000 RAID User's Guide Addendum

007-5582-001

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3x60 Drive Configuration

This addendum describes how to cable and configure the SGI InfiniteStorage 15000 or SGI InfiniteStorage 11000 disk enclosure for the three-drawer solution with SAS or SATA drives (option **17, SAS 4X** tier mapping mode). Refer to the respective user's guides for detailed information about your system installation, setup, and troubleshooting:

- *SGI InfiniteStorage 15000 User's Guide*, publication number 007-5510-00x
- *SGI InfiniteStorage 11000 User's Guide*, publication number 007-5539-00x

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General Setup Steps

The general steps for setting up the three-drawer solution are the following:

1. Ensure that the controller firmware is 5.03C or higher on both Controller 1 and Controller 2.
2. Ensure that the drive enclosure firmware is C03.001 or higher.
3. Cable the drawers to the controllers.

   See section “Enclosure Cabling” on page 5.
4. Set the tier map on the Controller 1.

   Refer to section “Tier Mapping” on page 8.
5. Select the 3x60 settings for `disk` settings as required for the disk drive interface type (SATA or SAS) installed in your configuration.

   For the correct settings, refer to the release notes for your controller firmware, specifically the section “Settings for ‘disk’ by disk type.” For configurations with a mix of SAS and SATA drives, use the SATA settings. Only use the SAS settings if your configuration contains all SAS drives.

Drive Numbering in the Drawers

As shown in Figure 1-1, Drawer 1 contains Channels A, B, C, and D.

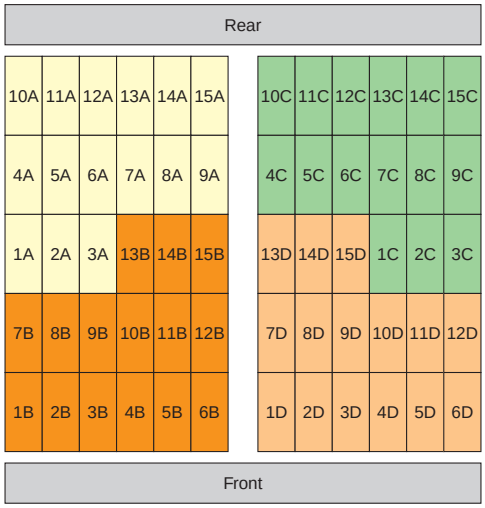

Figure 1-1 Drive Numbering for Drawer 1 of 3

As shown in Figure 1-2, Drawer 2 contains Channels E, F, G, and H.

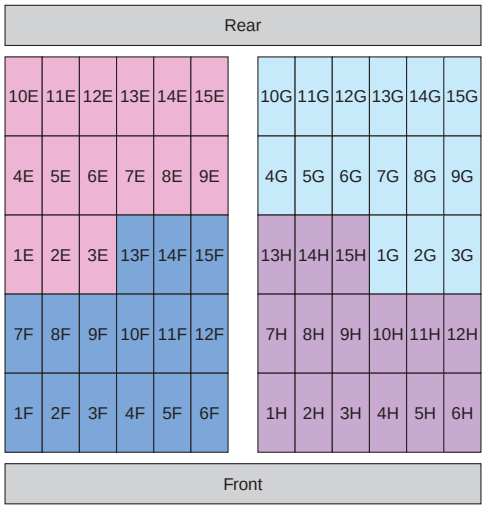

Figure 1-2 Drive Numbering for Drawer 2 of 3

As shown in Figure 1-3, Drawer 3 contains Channels P and S.

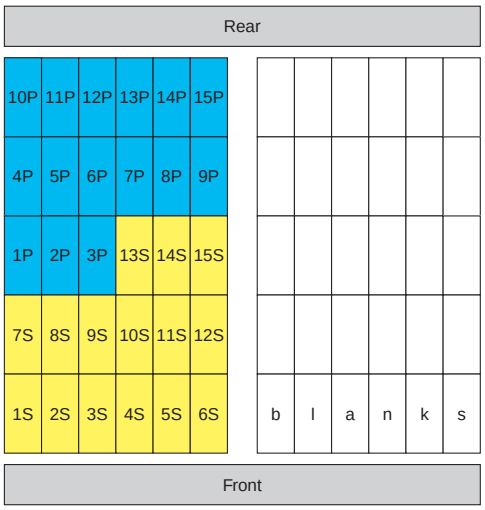

Figure 1-3 Drive Numbering for Drawer 3 of 3

Enclosure Cabling

Drawer 1 specifications as shown in Figure 1-4:

- Drawer 1 contains Channels A, B, C, and D.
- IO module A is cabled to the following:
  - Controller 1
  - Channels A and C and Controller 2
  - Channels B and D
- IO module B is cabled to the following:
  - Controller 1
  - Channel B and D and Controller 2
  - Channels A and C

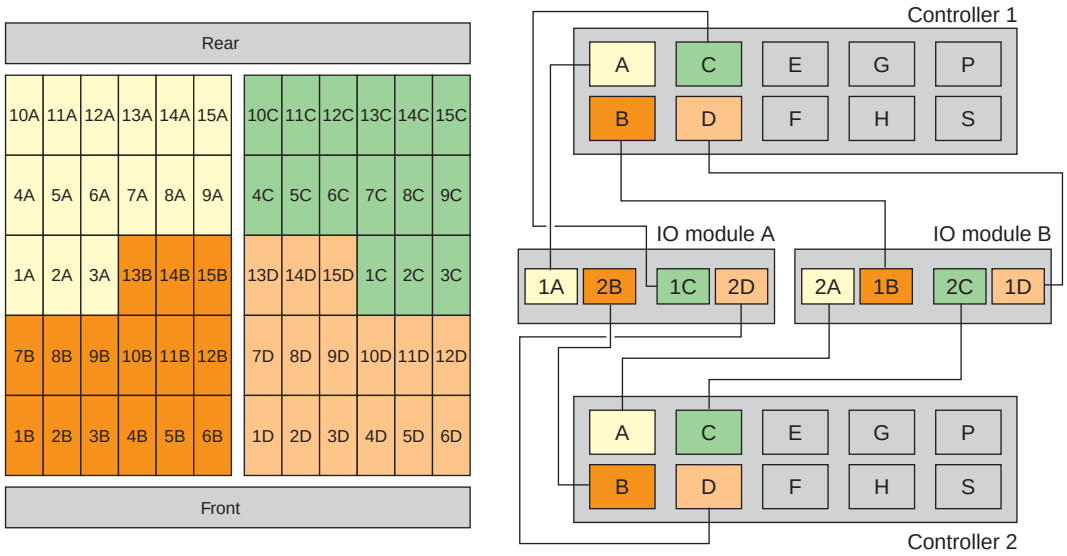

Figure 1-4 Drive Numbering and Cabling for Drawer 1, Channels A, B, C, and D (back view)

Drawer 2 specifications as shown in Figure 1-5:

- Drawer 2 contains Channels E, F, G, and H.
- IO Module A is cabled to the following:
  - Controller 1
  - Channels E and G and Controller 2
  - Channels F and H
- IO Module B is cabled to the following:
  - Controller 1
  - Channel F and H and Controller 2
  - Channels E and G

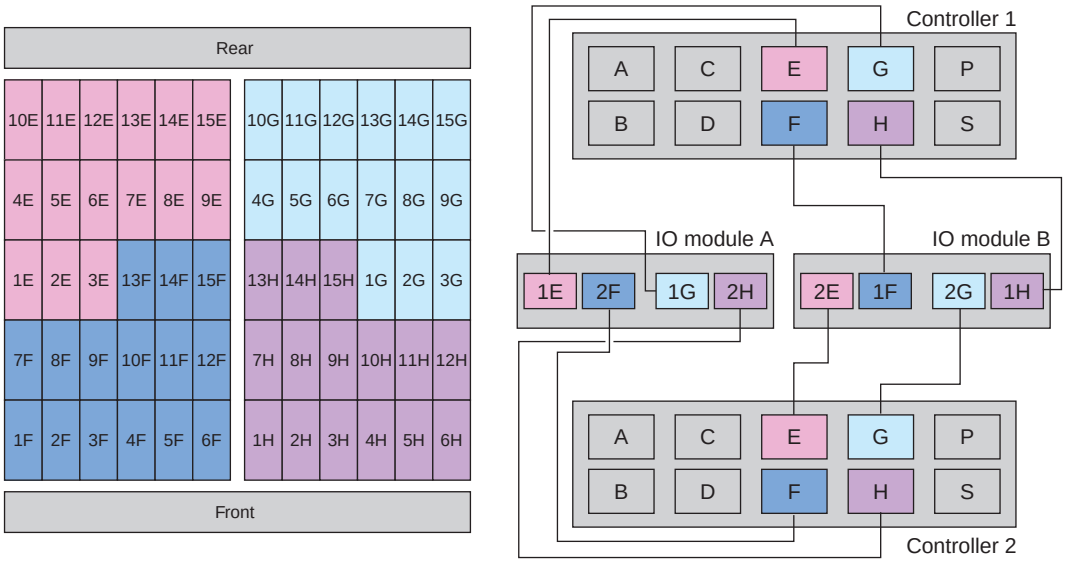

Figure 1-5 Drive Numbering and Cabling for Drawer 2, Channels E, F, G, and H (back view)

Drawer 3 specifications as shown in Figure 1-6:

- Drawer 3 contains Channels P and S.
- IO Module A is cabled to the following:
  - Controller 1
  - Channel P and Controller 2
  - Channel S
- IO Module B is cabled to the following:
  - Controller 1
  - Channel S and Controller 2
  - Channel P

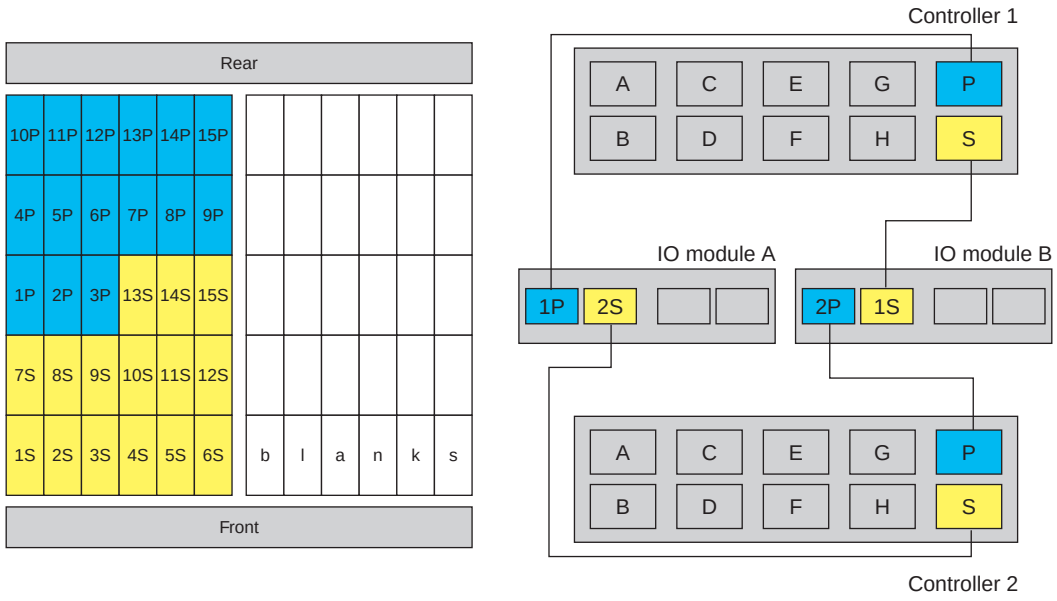

Figure 1-6 Drive Numbering and Cabling for Drawer 3, Channels P and S (back view)

Tier Mapping

When the SGI InfiniteStorage 15000 or SGI InfiniteStorage11000 system is first configured, it is necessary to select a tier mapping mode for the attached enclosures. To select the tier mapping mode, follow these steps:

1. Log onto the controller.
2. Enter this command:

   `tier changemap``<Enter>`

3. Enter the appropriate mapping mode.

   For 3-drawer solutions, choose option **17, SAS_4X**.

4. For the changes to take affect, enter this command:

   `restart``<Enter>`

Disk Drive Placement Considerations

Consider the following when populating a drive enclosure:

- SAS drives generate more heat than the SATA drives. Populate the drive enclosure with SAS drives starting in the front of each section.
- Populate the enclosures in full rows (with one drive type or with blanks) in order to maintain proper air flow in the enclosure (Figure 1-7).
- After initial population, drives may be added only in full rows of the same type or blanks. Therefore, plan the initial population of the enclosure with an eye toward future expansion (Figure 1-8).

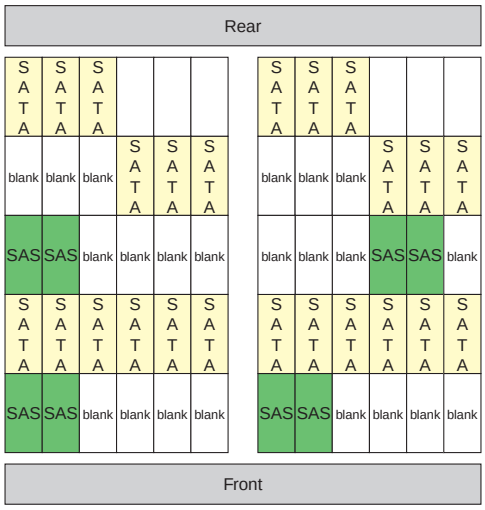

Figure 1-7 Suggested Configuration for Two SAS Tiers and Six SATA Tiers

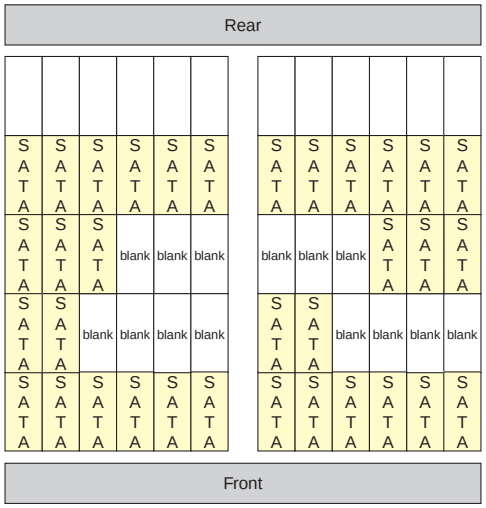

Figure 1-8 Suggested Configuration for Eight SATA Tiers