Drive Sleds/Modules

There are six different drive sleds and/or modules used on IRIS systems. All of them were designed by Silicon Graphics. All the designs are proprietary. All these designs share one aspect - they allow drives to be installed or removed from the system without taking the covers off of the system.

There are some differences between the way the drives were jumpered for various systems. For the early 4D systems (Twin Tower, Single Tower, and Predator) the drives would be jumpered to spin up as soon as power was applied to the drive. For systems starting with the Personal IRIS, drives were jumpered so that drives would spin up one at a time while the system was booting. This saved on power supply load during the boot process.

Note that Indy is not included in the table below. The Indy has two 1” high drive brackets, but the system cover must be removed and the drives must be screwed or unscrewed to install or remove a drive.

There are also a few drive mounting schemes that are not covered here. For instance, captive drives can be found in the 15 Slot Twin Tower chassis, the Predator Rack as well as drive bays in add-on SCSI drive trays.

The table below denotes which style is used for the various IRIS chassis.

Chassis Style	Twin Tower Module	Personal IRIS	Indigo	Indigo^2	Onyx/ Challenge
Twin Tower (All)	X				
Single Tower (Diehard)		X			
Rack (Predator)					
Single Tower (Diehard2)		X			
Rack (Terminator)					X
Single Tower (Eveready)					X
Personal IRIS		X			
Indigo			X		
Indigo^2				X	

Table 80 Drive Sleds on IRIS Systems

Twin Tower Drive Module

This module design accomodates a single 5 1/4” full height drive. A SCSI (8 bit, SCSI-1) connection was available via the paddle card that connected the drive module to the power supply module. This paddle card connection also carried the +5V and +12 V power for the drive.

For ESDI drives, data and control connections were made via a panel on the back of the module. For an example of this panel, consult the section on the ESDI Disk Drive interface, page 72.

The drive modules included a power lock out switch that would prevent the power supply from working unless the top hat was in place.

Drive Module Drawing

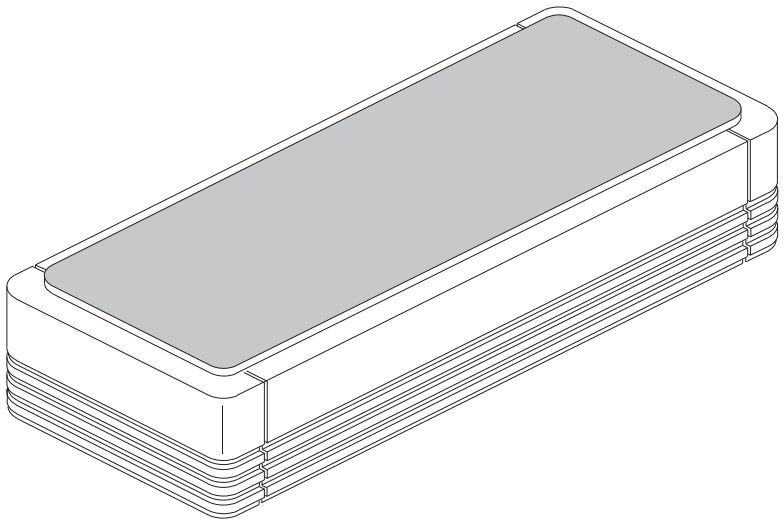

Figure 59 Drive Module for Twin Tower Chassis

Personal IRIS Drive Sled

This drive sled arrangement would accomodate either a half-height or full height 5 1/4” SCSI based drive. The connection to the chassis was via a 3 row, 50 pin “D” type connector. Power for the drive was via a 4 pin molex style connector.

Some, but not all, drive modules provided by SGI had small selector switches used for defining the SCSI ID number of the drive. Drives in Personal IRIS chassis were jumpered for drive spin up on command while those drives in Diehard and Diehard2 chassis were jumpered for immediate drive spin up.

Drive Sled Drawing

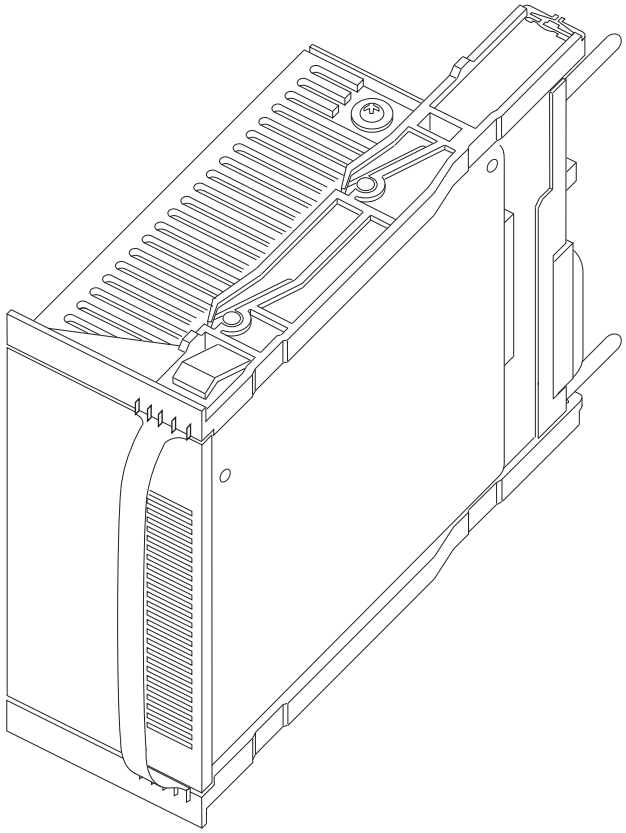

Figure 60 Personal IRIS Drive Sled

Indigo Drive Sled

This drive sled accomodates a single 3 1/2” drive. It connects to the SCSI bus and derives power from the Indigo backplane. Rather than have SCSI ID switches on the drive module, the design connects the ID signals from the drive to the backplane. The backplane defines the ID number by it’s location - SCSI ID 1 is always the bottom of the three drive slots, SCSI ID 2 is the middle slot, and ID 3 is always the top slot. External drives can set their own SCSI ID’s as long as they don’t conflict with any ID’s used in the Indigo chassis.

Drive Sled Drawing

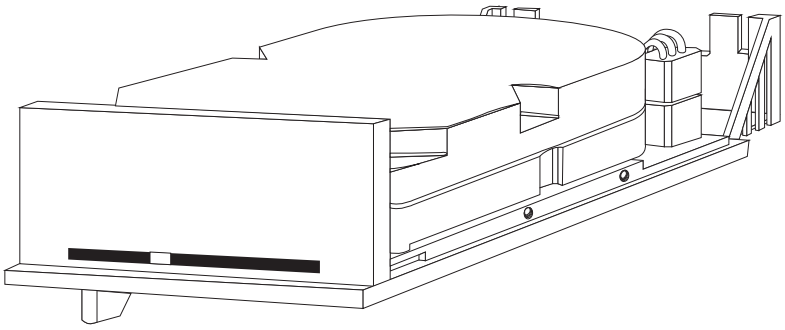

Figure 61 Indigo Drive Sled

Indigo^2 Drive Sled

There are actually two drive sleds for Indigo^2. One is for 5 1/4”, half height drives. The other is for 3 1/2” drives. The Indigo^2 has two 3 1/2” drive slots and one 5 1/4” drive slot.

In a manner similar to the Indigo, the SCSI ID for the three available drive slots is determined by their physical location. The bottom 3 1/2” drive slot is always SCSI ID 1. The upper 3 1/2” drive slot is always SCSI ID 2 and the 5 1/4” drive slot is always SCSI ID 3. The SCSI bus these internal drives use (controller 0) is not brought out to the outside of the chassis. The SCSI connection on the back of the Indigo^2 (controller 1) is available for external drives or devices.

Drive Sled Drawings

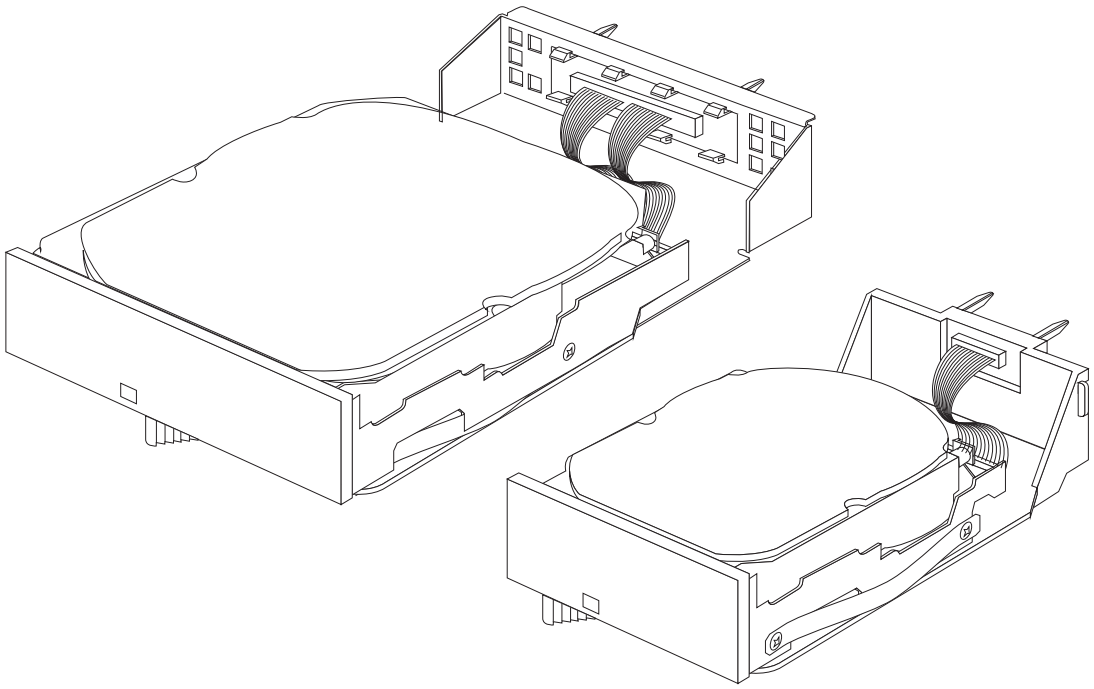

Figure 62 Indigo^2 Drive Sleds

Onyx/Challenge Drive Sled

Drive Sled Drawing

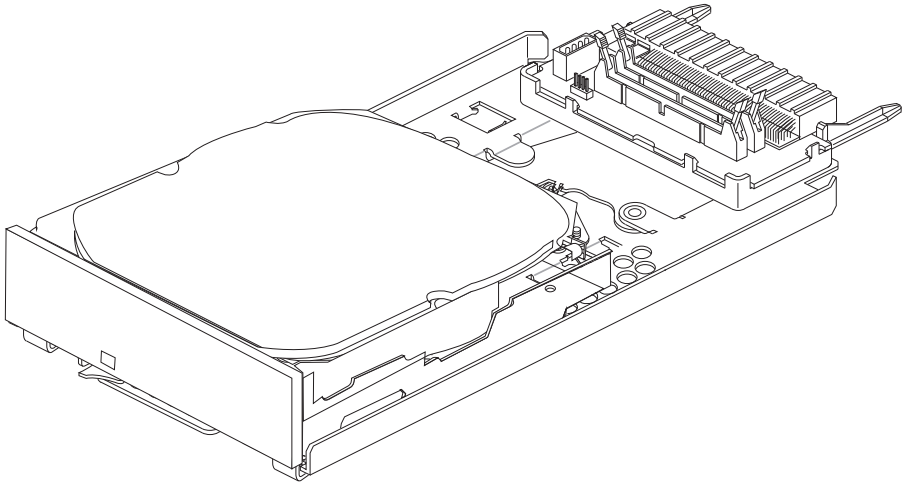

Figure 63 Onyx/Challenge Drive Sled