Backplanes and Board Slots

With the number of different products based on VME, it's important to know which slots in the machines are available for add-in VME boards. For the other systems, the ones with GIO and/or EISA busses, this isn't so difficult, but is important nonetheless.

9U VME Backplanes

The table below shows the various configurations of 9U VME backplanes in SGI systems. Areas of the backplane reserved for CPU, Memory and I/O cards are shown shaded in light grey. Areas of the backplane reserved for Graphics boards are shown shaded in a darker grey. Notations in the table are the names of the SGI boards normally located in that slot.

Twin Tower Backplanes

Slot	12 Slot		15 Slot			
	B, G	GT	B, G	GT	GTX	VGX
1	CPU	CPU			VME	VME
2	Ethernet	Ethernet			VME	VME
3	ESDI Disk Controller	ESDI Disk Controller			VME	VME
4	VME	VME			VME	VME
5	VME	VME			IO2	IO2
6	VME	VME			CPU or MC2	CPU or MC2
7	VME	VME			CPU or MC2 (opt.)	CPU or MC2 (opt.)
8	VME	GE			CPU or MC2 (opt.)	CPU or MC2 (opt.)
9	DE	GM			CPU or MC2 (opt.)	CPU or MC2 (opt.)
10	GF	RM			GM	GM
11	TB	RV		GE	GE	GE
12	ZB[1]	RM	DE	GM	RM	RM
13			GF	RM	RV	RM
14			TB	RV	RM	DG
15			ZB[1]	RM	Video Option	Video Option

Table 69 Twin Tower Backplanes

1. The ZB board was only included in the “G” versions of the graphics set.

Server versions of the 12 and 15 slot chassis were available. For those systems the graphics slots were left empty.

Diehard, Diehard2 and Eveready Backplanes

Slot	GT, GTB	GTX, GTXB	Server	VGX, VGXT	RE	VTX	RE^2
1	CPU	VME	VME	VME	VME	CPU	CPU
2	Ethernet	VME	VME	VME	VME	IMB	IMB
3	VME	VME	VME	VME	VME	PC2	PC2
4	VME	VME	VME	VME	VME	VME64	VME64
5	VME	IO2 or IO3	IO2 or IO3	IO3	IO3	VME64	VME64
6	VME	CPU	CPU	CPU	CPU	VME64	VME64
7	VME	CPU	CPU	CPU	CPU	GE	GE
8	VME	Memory	Memory	Memory	Memory	DG	DG
9	GE	GM	Not Used	GM	GE	RM	RM
10	RM	GE	Not Used	GE	DG		RM (opt.)
11	RM	RM	Not Used	RM	RM		RM (opt.)
12	RV	RV	Not Used	DG	Not Used		RM (opt.)
13	VIdeo Option	RM	Not Used	RM	RM		
14		Video Option	Not Used	Video Option	Not Used		

Table 70 Diehard, Diehard2 and Eveready Backplanes

Predator Backplanes

Slot	Power Center	Power Series			SkyWriter	
	Server	GTX, GTXB	VGX, VGXT	RE	VGX, VGXT	RE
1	VME A	VME	VME	VME	VME	VME
2	VME A	VME	VME	VME	VME	VME
3	VME A	VME	VME	VME	VME	VME
4	VME A	VME	VME	VME	VME	VME
5	VME A	VME	VME	VME	DG	Not Used
6	VME A	VME	VME	VME	RM	RM
7	IO3A	IO2 or IO3	IO2 or IO3	IO2 or IO3	RM	Not Used
8	CPU	CPU	CPU	CPU	Video Option	RM
9	CPU	CPU	CPU	CPU	GE	DG
10	CPU	CPU	CPU	CPU	GM	GE
11	CPU	CPU	CPU	CPU	IO2 or IO3	IO3
12	Memory	Memory	Memory	Memory	CPU	CPU
13	Memory	Memory	Memory	Memory	CPU	CPU
14	IO3B	GM	GM	GE	Memory	Memory
15	VME B	GE	GE	DG	GM	GE
16	VME B	RM	RM	RM	GE	DG
17	VME B	RV	RM	RM	Video Option	RM
18	VME B	RM	DG	RM	RM	RM
19	VME B	Video Option	Video Option	RM	RM	RM
20					DG	RM

Table 71 Predator Backplanes

Eveready (Deskside) Backplanes

Slot	Challenge L	Onyx	
	Server	VTX	RE^2
1	CPU or IMB or PC2	CPU	CPU
2	CPU or IMB or PC2	IMB	IMB
3	CPU or IMB or PC2	PC2	PC2
4	CPU or IMB or PC2	VME64	VME64
5	PC2	VME64	VME64
6	VME64	VME64	VME64
7	VME64	GE	GE
8	VME64	DG	DG
9	VME64	RM	RM
10	VME64		RM (opt.)
11			RM (opt.)
12			RM (opt.)

Table 72 Eveready (Deskside) Backplanes

Terminator (Rack) Backplanes

Slot	Challenge XL	Onyx	
	Server	VTX	RE^2
1	CPU or IMB or PC2	CPU or IMB or PC2	CPU or IMB or PC2
2	CPU or IMB	CPU or IMB	CPU or IMB
3	CPU or IMB or PC2	CPU or IMB or PC2	CPU or IMB or PC2
4	CPU or IMB	CPU or IMB	CPU or IMB
5	CPU or IMB or PC2	CPU or IMB or PC2	CPU or IMB or PC2
6	CPU or IMB	CPU or IMB	CPU or IMB
7	CPU or IMB or PC2	CPU or IMB or PC2	CPU or IMB or PC2
8	CPU or IMB	CPU or IMB	CPU or IMB
9	CPU or IMB or PC2	CPU or IMB or PC2	CPU or IMB or PC2
10	CPU or IMB	CPU or IMB	CPU or IMB
11	CPU or IMB or PC2	PC2	PC2
12	CPU or IMB	VME64	VME64
13	CPU or IMB or PC2	VME64	VME64
14	CPU or IMB	VME64	VME64
15	PC2	GE	GE
16	VME64	DG	DG
17	VME64	RM	RM
18	VME64		RM
19	VME64		RM
20	VME64		RM

Table 73 Terminator (Rack) Backplanes

GIO32/32-bis Board Slots

As shown in the drawing below, in both the Indigo and Indy the GIO32/32-bis slots are side-by-side. This allows installation of a “double wide” GIO board.

Board Location Drawings

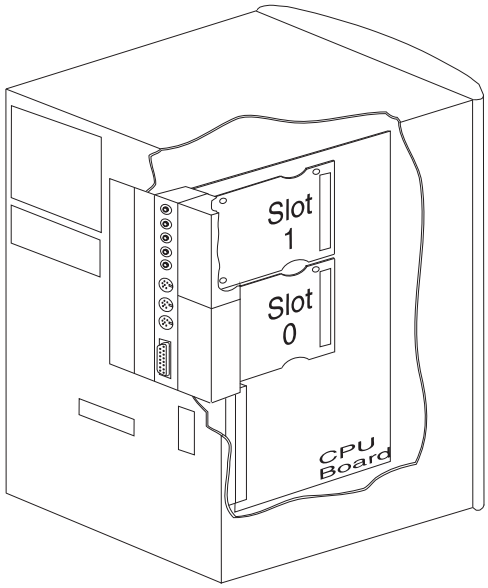

Figure 49 Indigo GIO Board Slots

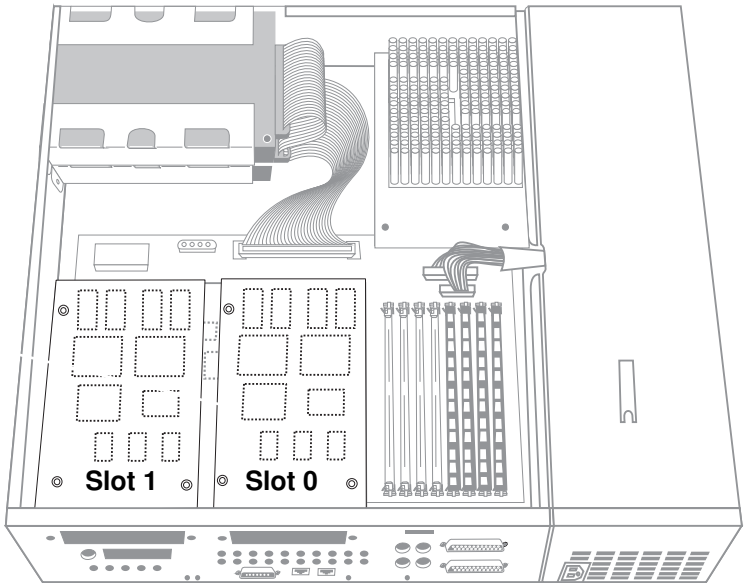

Figure 50 Indy GIO Board Slots

EISA/GIO64 Backplane

There are four physical slots in the Indigo2. The backplane is designed such that for three of the slots either an EISA board or a GIO64 board may be installed.

However, unlike the GIO32 and GIO32-bis slots in the Indigo and Indy, the GIO64 slots in the Indigo2 are used for the graphics boards for the system. Some of these boards take up more that one physical slot even though their connection to the GIO64 bus is through only one connector. This results in some of the physical slots being used by the graphics and, therefore, not available for either an additional GIO board or additional EISA board. The drawing below shows the connector locations for this backplane.

Note that while there are three GIO64 connectors, two of them are wired identically. This makes it possible to only install two different GIO64 boards.

Backplane Layout

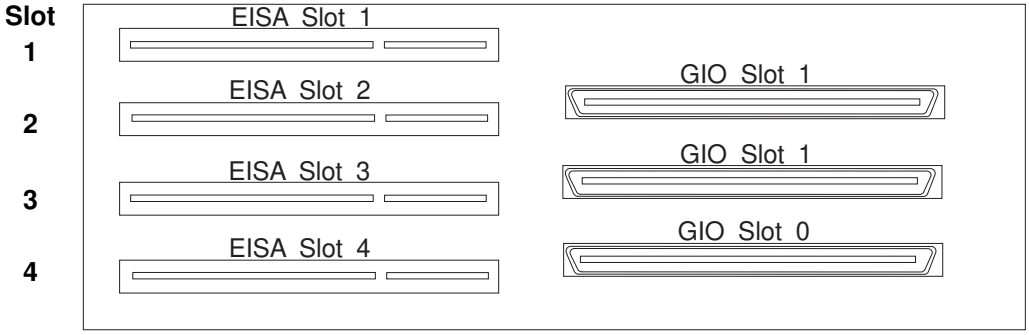

Figure 51 EISA/GIO Backplane

Board Combinations

The table below shows the various combinations of graphics boards, video boards and available option slots.

Slot	Extreme		XZ			XL		
1	EISA	Extreme	EISA	EISA	XZ	EISA	EISA	EISA
2	Extreme		EISA/ GIO	XZ		EISA/ GIO[1]	EISA	XL
3			XZ		EISA	EISA/ GIO[1]	XL	EISA
4		EISA/ GIO		EISA/ GIO	EISA/ GIO	XL	EISA/ GIO	EISA/ GIO

Table 74 EISA/GIO64 Backplane Board Combinations

1. In this case, only one GIO64 board could be installed between the two slots. The other remaining slot of the two could be used for an EISA board.