SIGMA 100

INSTALLATION MANUAL

Issue 6

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Whilst the Company ensures that all details in this document are correct at the time of publication, we reserve the right to alter specifications & equipment without notice. Any changes we make will be reflected in subsequent issues of this document. The latest version will be available upon request.

This publication is for International usage.

Please observe the following:-

After Sales Modifications.

Modifications to this equipment by any party other than Calrec Audio Limited may invalidate EMC and safety features designed into this equipment. Calrec Audio Limited can not be liable for any legal proceedings or problems that may arise relating to such modifications.

If in doubt, please contact Calrec Audio Limited for guidance prior to commencing any such work.

ESD (Static) Handling Procedures.

In its completed form, this equipment has been designed to have a high level of immunity to static discharges. However, when handling individual boards and modules, many highly static sensitive parts are exposed. In order to protect these devices from damage and to protect your warranty, please observe static handling procedures, for example, use an appropriately grounded anti-static wrist band. Calrec will supply an electrostatic cord and wrist strap with all of it's digital products.

All modules and cards should be returned to Calrec Audio Limited in anti-static wrapping.
Calrec Audio Limited can supply these items upon request, should you require assistance.

This applies particularly to digital products due to the types of devices and very small geometries used in their fabrication, analogue parts can however still be affected.

CONTENTS

IMPORTANT HEALTH AND SAFETY INFORMATION

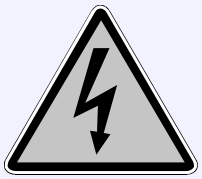
- **This equipment must be EARTHED.**
- **Only suitably trained personnel should service this equipment.**
- **Please read and take note of all warning and informative labels.**
- **Before starting any servicing operation, this equipment must be isolated from the AC supply (mains).**
- **Fuses should only be replaced with ones of the same type and rating as that indicated.**
- **Operate only in a clean, dry and pollutant-free environment.**
- **Do not operate in an explosive atmosphere.**
- **Do not allow any liquid or solid objects to enter the equipment. Should this accidentally occur then immediately switch off the unit and contact your service agent.**
- **Do not allow ventilation slots to be blocked.**
- **Do not leave the equipment powered up with the dust cover fitted.**
- **The rack mounting parts of this equipment must be fitted into an enclosure which complies with local regulations.**

Cleaning

For cleaning the front panels of the equipment we recommend anti-static screen cleaner sprayed onto a soft cloth to dampen it only.

Explanation of Warning Symbols

The triangular warning symbols below contain a black symbol on a yellow background, surrounded by a black border.



The lightning flash with arrow head symbol within an equilateral triangle is intended to alert the user to the presence of dangerous voltages and energy levels within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock or injury.

The exclamation mark within an equilateral triangle is intended to prompt the user to refer to important operating or maintenance (servicing) instructions in the documentation supplied with the product.

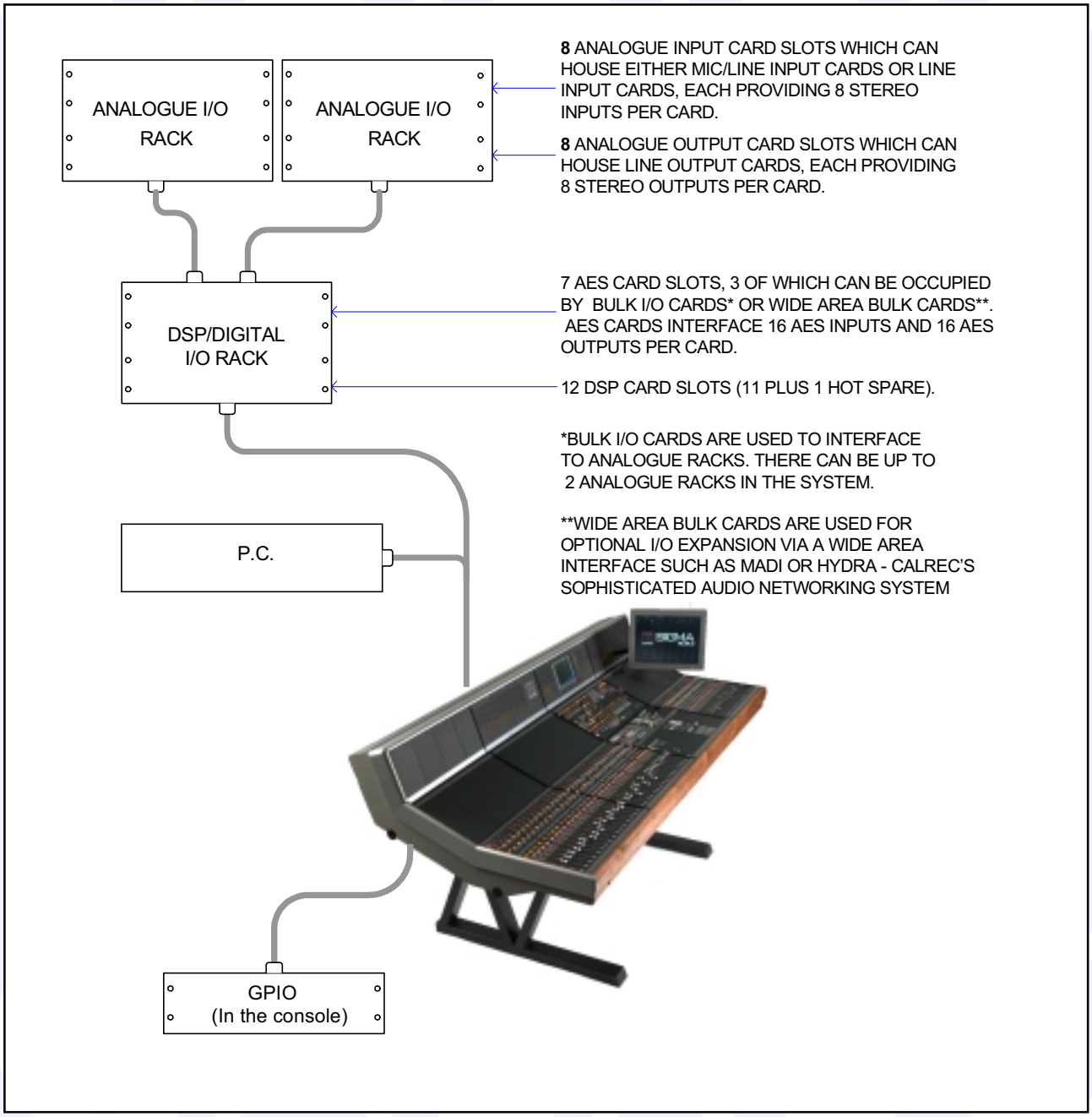
Power Supply Blanking Plates (ZN4849-3 and ZN6020)

If you are in receipt of a ZN4849-3 or ZN6020 power supply unit please do not remove the blanking plates which are fitted to the unused output connectors. The maximum potential between the terminals exceeds 60 volts, the blanking plates are fitted to avoid the risk of electric shock.

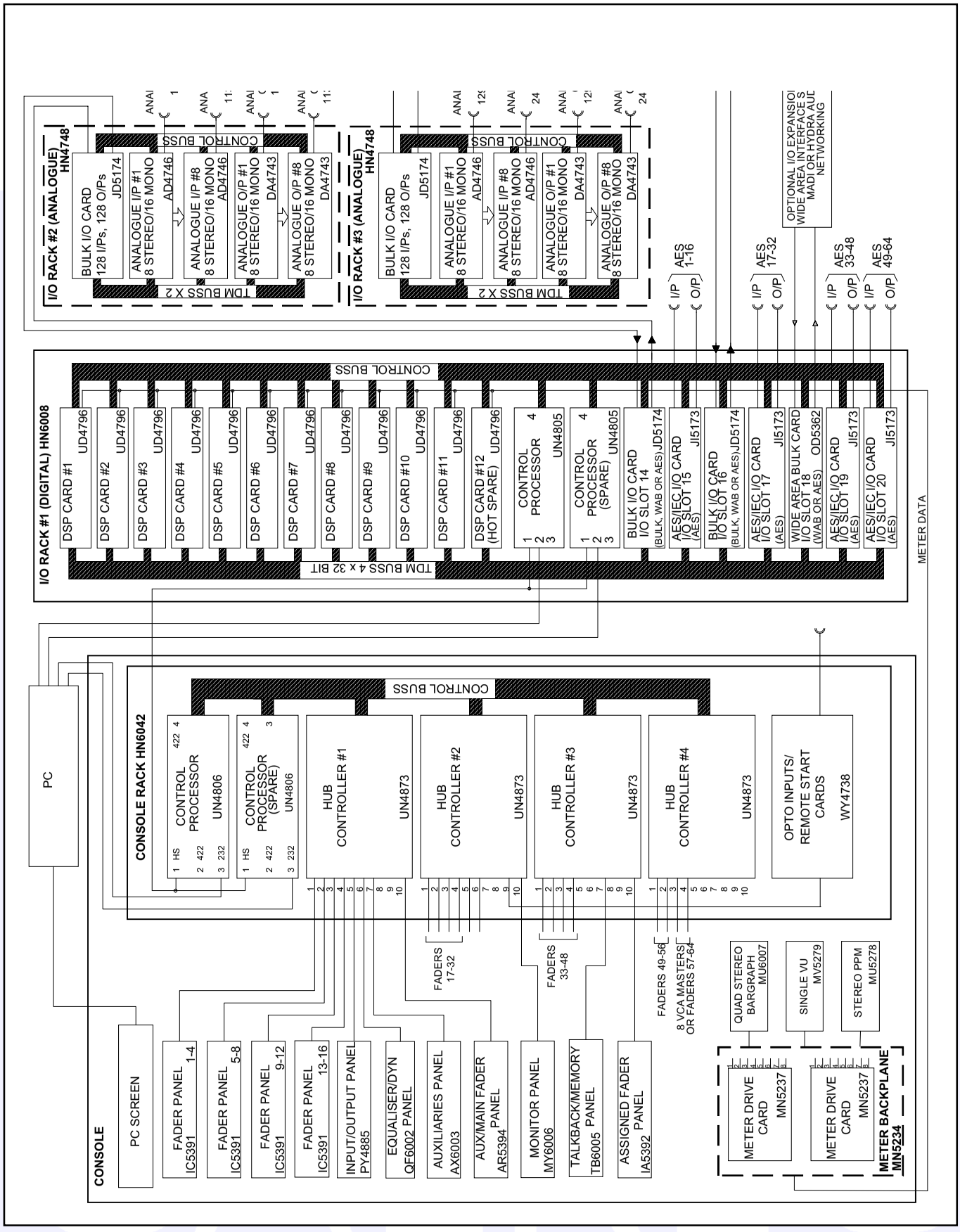
Overview

SYSTEM OVERVIEW

- Available in 3 frame sizes, 32 fader, 48 fader or 64 fader.
- 120 equivalent channels (Up to 48 stereo plus 24 mono channels or 60 stereo channels).
- Desk operates independently of PC.
- Independent DSP operation ensures audio continuity even during PC or control reset.
- Console & racks boot from power on in less than 20 seconds.
- Full control system reset in less than 15 seconds.
- Last settings fully restored on power-up or re-set.
- Automatic change over to hot spares for PSU's, Control cards and DSP cards.
- Hot plugging of every card and module.
- Hot plugged cards initialise upon insertion.



TYPICAL DIGITAL SYSTEM DIAGRAM



EQUIPMENT LIST

Depending on the options purchased, you should expect to receive the following:

1 Control Surface
As specified in the quotation, and including:

- 1 Console Processor (2 if the hot spare option has been purchased)
- 2-4 Relay/Opto cards, in line with the quotation.

1 DSP/Digital I-0 rack

- 1 Rack Control Processor (2 if the hot spare option has been purchased)
- Up to 12 DSP cards (11 plus hot spare), in line with the quotation
- One Bulk I/O card per Analogue I/O Rack in the system
- One Wide Area Bulk I/O card for each optional I/O expansion interface, such as MADI or Hydra (if purchased)

1 or 2 Analogue I-O racks

- 1 Bulk I/O card to interface to the DSP/Digital I/O Rack
- Up to 8 Mic/Line or Line Input cards, in line with the quotation
- Up to 8 Line Output cards, in line with the quotation

1 Bulk PSU rack

- Up to 3 Bulk PSU modules (dependant on size of console and it's distance from the DSP/Digital I/O Rack, and whether a hot spare is required)

A number of Multi-Rail PSU's

- 1 Multi-Rail PSU is required for systems with just one Analogue I/O rack, 2 are required for systems with two Analogue I/O racks, plus 1 or more hot spares if required.

A number of Fan Trays

- 1 Fan Tray will be supplied for each Rack in the system. The Fan Trays are to be positioned above each rack.

1 PSU monitor unit

1 PC

1 Set of system cables

ENVIRONMENTAL CONSIDERATIONS

Temperature Range:
Operating 0°C to +30°C (32°F to +86°F) in the immediate environment.
Non-operating -20°C to +60°C (-4°F to +140°F).

Relative humidity:
Operating 25% to 80% non condensing.
Non-operating 0% to 90% non condensing.

Altitude:
Operating up to 2,000 metres (6562 feet). (This is the limit to which the safety tests are valid).
Non-operating up to 15,000 metres (49213 feet).

EARTHING

The Control Surface, DSP/Digital I-O and Analogue I-O racks are provided with Chassis Earth studs. These must be connected to a common earth buss before any AC power is applied to the system.

The system Power Supplies and PC are earthed via their AC power inlets.

AC (MAINS) POWER

AC (Mains) Power inlets are IEC type.

Each PSU in the Bulk PSU racks has one inlet.
Each Analogue I/O PSU has one inlet.
The PC has one inlet.
There is one inlet on the rear of the control surface, for any AC powered equipment which needs to be housed within it.

The whole system must be powered from the same phase of the AC power supply. All modules, cards and cables are designed to permit Hot Plugging.

Frame Options & Dimensions

3 SECTION FRAME (4:4:4)
TYPICAL LAYOUT WITH 32 FADERS USING LANDSCAPE MONITOR PANEL

4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	CALREC SIGMA 100	4 x Twin Bargraph	DK Audio Meter MSD600		Console Reset	4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	TB Mic Rack Reset		
				Input/ Output Controls	Equaliser & Dynamics	Track Routing Aux O/P 1-4		Main Faders & Routing Aux O/P 5-6	Memory & TB Selector	LCD Screen			
Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Monitor Selector Panel				Track -ball Panel	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	
				Assign-able Fader		Space for Optional Dedicated Group Faders							
									Keyboard in Tray				

The smallest frame size is made up of 3 sections, and can house 32 faders (with the landscape monitor panel). This example shows a 32 fader console, which with 2 audio paths on each fader, allows up to 64 “Channel Faders” within a frame only 1547mm wide. Optional dedicated group faders can be fitted if required. Shaded section denotes the “Assign” Panels.

3 SECTION FRAME (4:5:4)
TYPICAL LAYOUT WITH 48 FADERS USING PORTRAIT MONITOR PANEL

4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	DK Audio Meter MSD600		Console Reset	Single VU Meter	Single VU Meter	4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	TB Mic / Rack Reset	
	CALREC SIGMA 100			Input/ Output Controls	Equaliser & Dynamics	Monitor Selector Panel			Track Routing / Aux O/P 1-4	Main Faders & Routing / Aux O/P 5-6	Memory & TB Selector	LCD Screen	
Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Assign-able Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader	Wild Assign / Channel Fader

Keyboard & Trackball in Tray

This example shows a 48 fader console using a 4:5:4 frame and the portrait monitor panel, which with 2 audio paths on each fader, allows up to 96 “Channel Faders” within a frame only 1672mm wide. Shaded section denotes the “Assign” Panels. “Channel” faders can control channels or groups.

4 SECTION FRAME (4:4:4:4)
TYPICAL LAYOUT WITH 48 FADERS USING LANDSCAPE MONITOR PANEL

	4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph		4 x Twin Bargraph	4 x Twin Bargraph	CALREC SIGMA	4 x Twin Bargraph	DK Audio Meter MSD600	Console Reset	4 x Twin Bargraph			TB Mic / Rack Reset		
								Input/ Output Controls	Equaliser & Dynamics	Track Routing Aux O/P 1-4	Main Faders & Routing Aux O/P 5-6	Memory & TB Selector	LCD Screen			
Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Monitor Selector Panel			Track -ball Panel	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	
								Assign-able Fader		Space for Optional Dedicated Group Faders						

Keyboard in Tray

This frame size is made up of 4 sections, and can house 48 faders (with the landscape monitor panel). This example shows a 48 fader console, which with 2 audio paths on each fader, allows up to 96 “Channel Faders” within a frame only 2053mm wide. Optional dedicated group faders can be fitted if required. Shaded section denotes the “Assign” Panels.

4 SECTION FRAME (4:4:5:4)
TYPICAL LAYOUT WITH 64 FADERS USING THE PORTRAIT MONITOR PANEL

4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	CALREC SIGMA	DK Audio Meter MSD600		Console Reset	Single VU Meter	Single VU Meter	Single VU Meter	Single VU Meter	4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	4 x Twin Bargraph	TB Mic	Rack Reset			
					CALREC SIGMA		Input/ Output Controls	Equaliser & Dynamics	Monitor Selector Panel		Track Routing Aux O/P 1-4	Main Faders & Routing Aux O/P 5-6	Memory & TB Selector				LCD Screen		
Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader		Wild Assign Channel Fader	Wild Assign Channel Fader	Assign-able Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader	Wild Assign Channel Fader

Keyboard & Trackball in Tray

This frame size is made up of 4 sections (4:4:5:4), and can house up to 64 faders (with the portrait monitor panel). This example shows a 64 fader console, which with 2 audio paths on each fader, allows up to 128 “Channel Faders” (more faders than the maximum number of available paths), within a frame only 2178mm wide. Shaded section denotes the “Assign” Panels. “Channel” faders can control channels or groups.

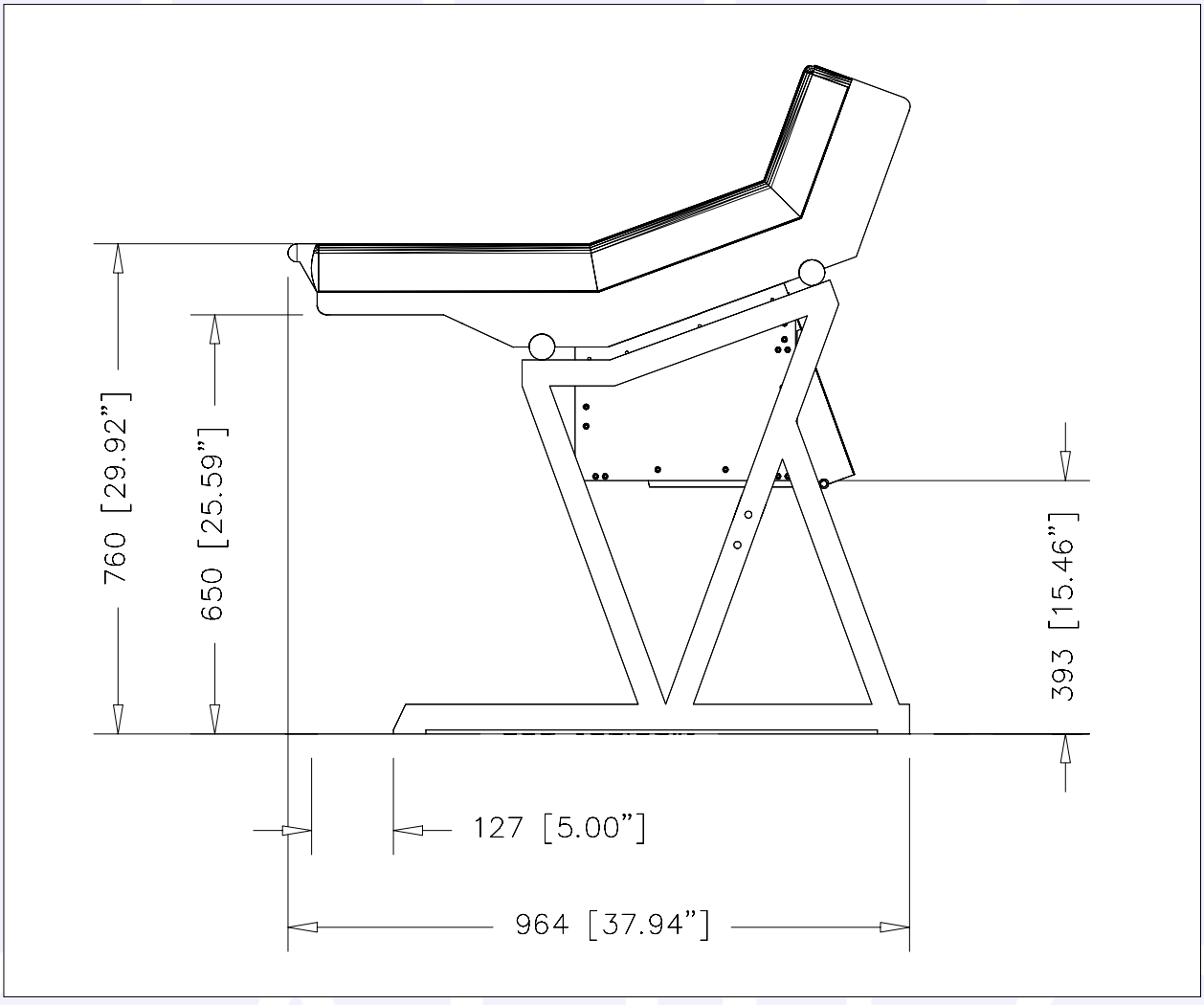
5 SECTION FRAME (4:4:4:4:4)
TYPICAL LAYOUT WITH 64 FADERS USING LANDSCAPE MONITOR PANEL

This frame size is made up of 5 sections, and can house up to 64 faders (The maximum available). This example shows a 64 fader console, which with 2 audio paths on each fader, allows up to 128 “Channel Faders” (more faders than the maximum number of available paths), within a frame only 2559mm wide. Shaded section denotes the “Assign” Panels. “Channel” faders can be used to control channels or groups.

CONSOLE PLAN DIMENSIONS

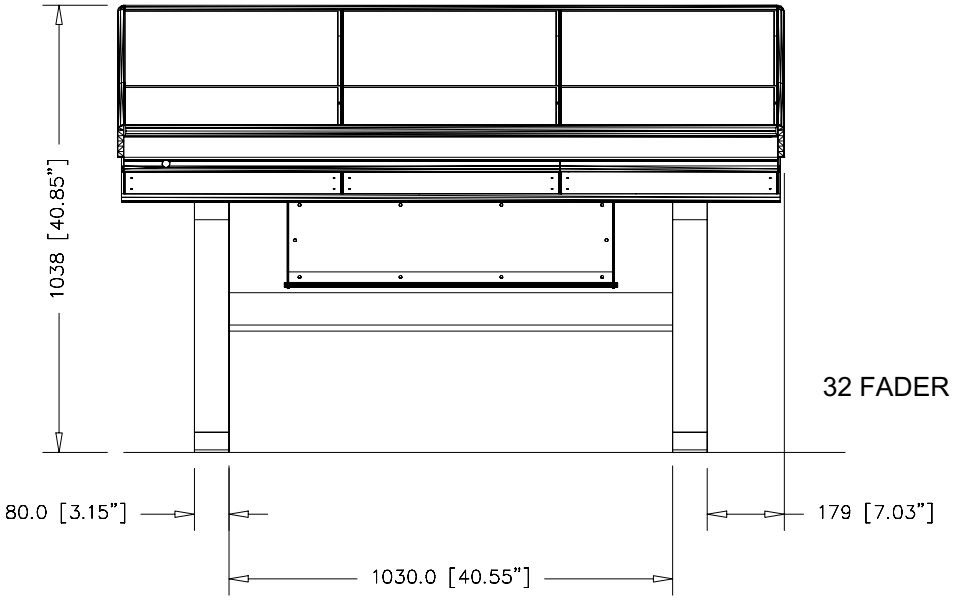
Frame Size	Length		Depth	
	inches	mm	inches	mm
4:4:4 Frame	60.9	1547	38	964
4:5:4 Frame	65.83	1672	38	964
4:4:4:4 Frame	80.83	2053	38	964
4:4:5:4 Fader Frame	85.75	2178	38	964
4:4:4:4:4 Frame	100.8	2559	38	964

END ELEVATION DIMENSIONS

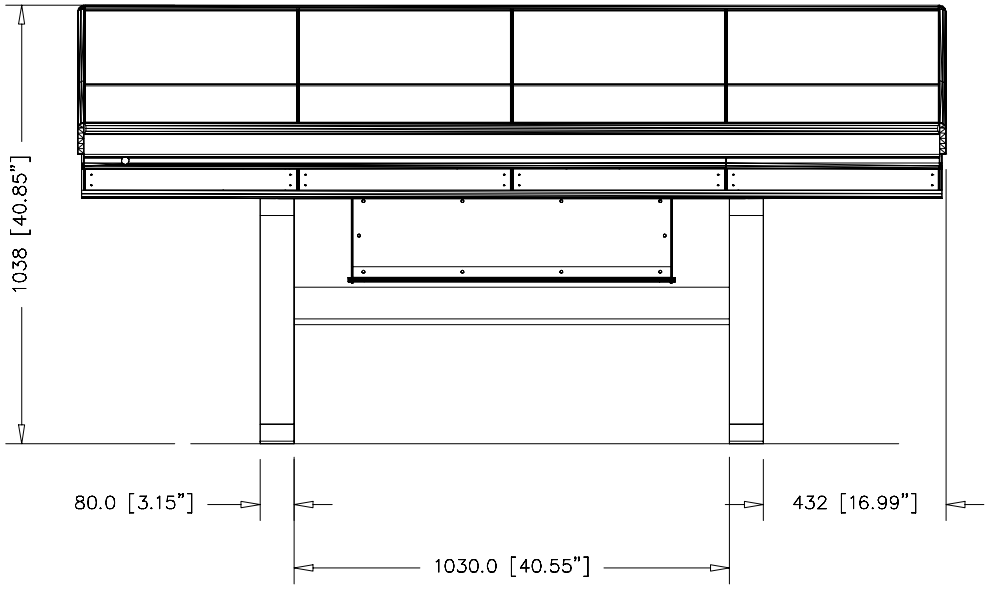


The end elevation dimensions are the same for all frame sizes. The control surface can be seperated from the stand for access to the premises. The control surface sections can also be split apart if required.

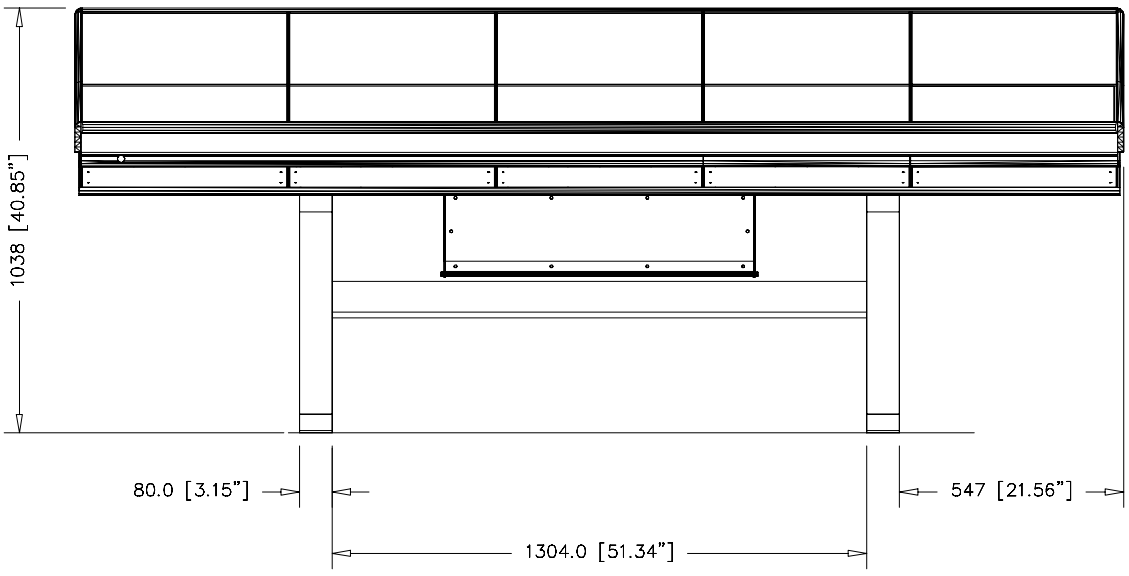
FRONT ELEVATION DIMENSIONS



32 FADER



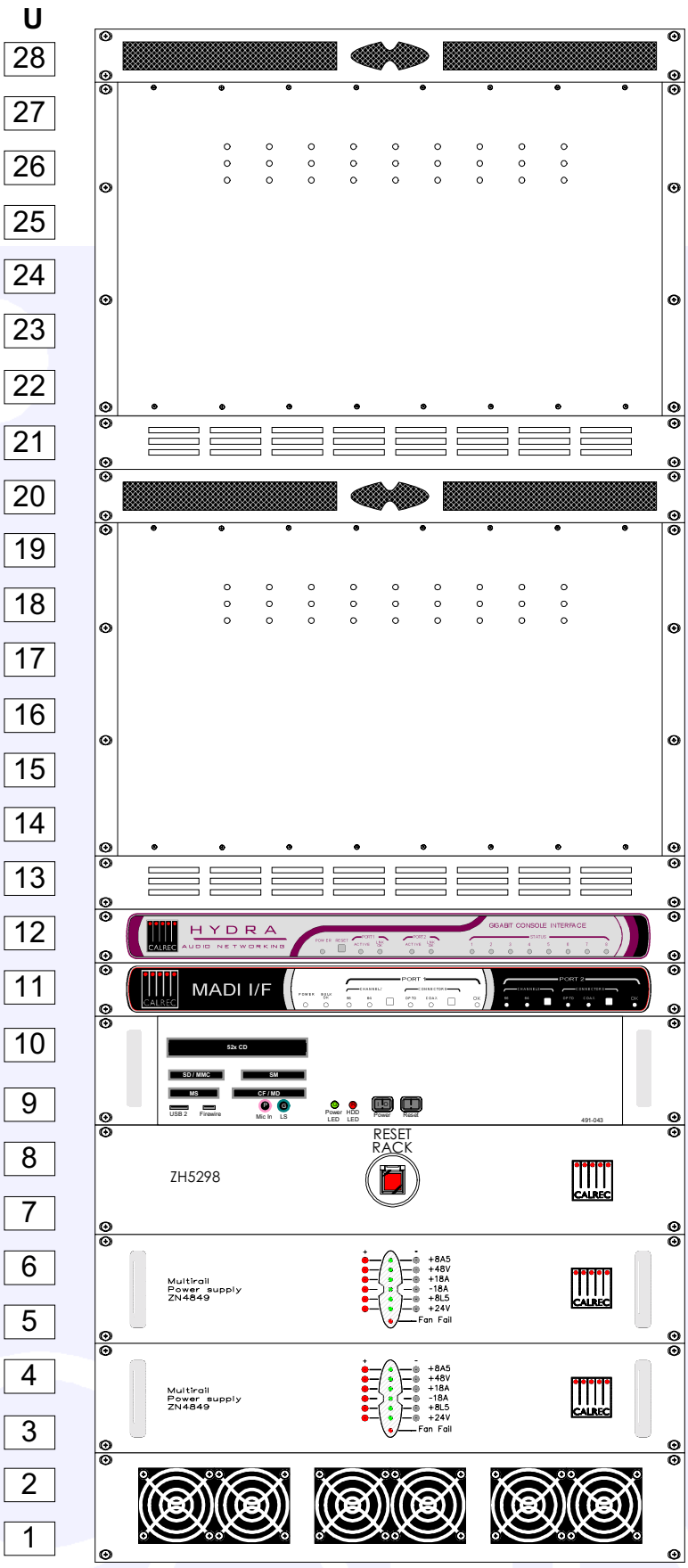
48 FADER



64 FADER

Equipment Installation Information

TYPICAL RACK LAYOUT



RACK SPECIFICATIONS

The company recommends that all equipment over 8Kg (17.5 lbs) in weight, or over 150mm (6 inches) deep is mounted into equipment bays which offer mechanical supports under each of the units. This will allow units to be supported as they slide forward during removal for maintenance purposes.

Equipment can be mounted in separate enclosures. Please refer to the cable lengths table before planning this. The PSU monitor rack can be mounted on the rear of the equipment bay if desired.

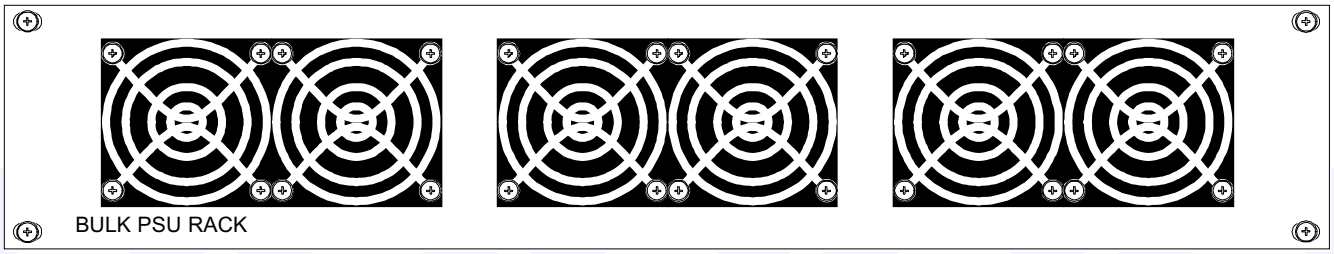
Each audio rack (DSP/Digital I/O, and Analogue) is supplied with a 1U low noise fan tray which should be positioned immediately above the rack. The fan tray incorporates a baffle such that warm air is sucked up out of the rack and out through the rear of the fan tray. A vent in the front of the fan tray allows ambient air to enter. The baffle deflects this air up into the rack above.
The bottom rack should have a 1U vent beneath it to allow ambient air to enter. It should also not be positioned above any equipment producing significant heat.

Items	Height	Approx depth (incl. mating cons)		Approx weight		Approx Power Output (W) (full load)	Approx AC Power (VA) (full load)
		inches	mm	lbs	kgs		
DSP/Digital I/O Rack (fully populated)	6U	18.9	480	38.4	17.4	-	-
Analogue I/O Rack (fully populated)	6U	18.1	460	26	11.8	-	-
Bulk PSU rack * with one PSU	2U	18.5	470	17.4	7.9	1000	1250
Extra PSU for Bulk rack	-	-	-	7.3	3.3	1000	1250
Analogue racks PSU *	2U	18.1	460	22.1	10.0	460	660
Power for Hot spare (any type)	-	-	-	-	-	No extra	Less than 5% extra
Fan Tray	1U	19.7	500	6.6	3.0	-	-
PSU Monitor box	2U	6.7	170	4.4	2.0	-	-
PC*	2U	23.7	600	27	12.2	-	400
MADI Unit	1U	11.9	300	6.6	3	-	-
Hydra Gigabit Interface Unit	1U	10.4	265	5.5	2.6	-	-

* These units have handles protruding approx. 1.3” (32mm) from the surface of the front panel.

BULK PSU

All Power Supplies are rack-mounting and are seperate from the units they power, except for the PC which has a built-in power supply. Diode feeding allows supplies of the same type to be parallelled together.


BULK PSU RACK

The Bulk PSU Rack is a 2U rack which can hold up to three identical plug-in PSU's. The rack has separate AC power inputs and DC outputs for each of the three PSU's. Any one PSU can be removed from the rack without disturbing the operation of the others in the rack. The rack is fan cooled with a fan mounted in the front of each PSU. The warm air is directed out of the rear of the rack.

The console control surface and DSP/Digital I/O Rack are powered as one unit from one of these 2U racks. The number of PSU's required in the rack is dependant upon the size of the system, the distance between console and rack, and the "hot spare" requirement.

Mounting Instructions

This power system should be mounted by means of the side brackets, each of which has two mounting holes. The power system rack should always be mounted in a horizontal position. The rear mounting brackets should be used when no support is provided under the rack assembly. The rack should not be supported by front flanges alone. The rear mounting brackets fix to the rear of the studio equipment bay. Extensions of the rack sides slot into these rear supports, allowing the Bulk PSU rack to be removed without removing the support.

Cooling

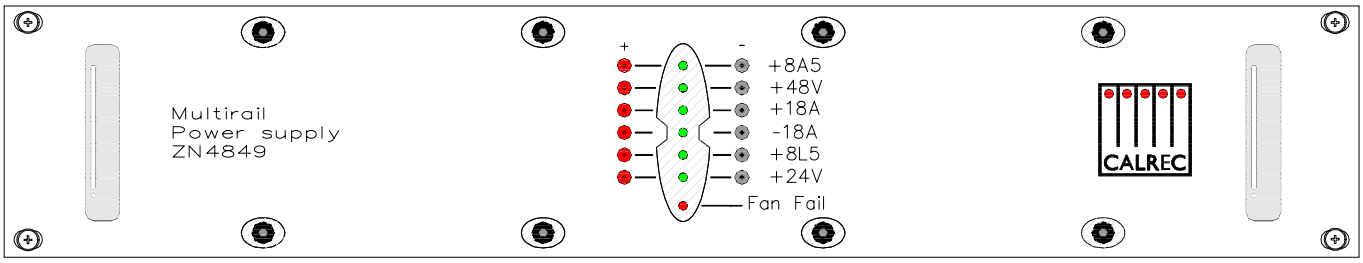
Each of the plug-in power modules has it's own cooling fan. To ensure proper cooling, the power system requires a minimum clearance of two inches (50mm) from the fans and rear air outlets, and also any walls or other surfaces.

Input Power Connections

3-wire safety AC outlet sockets should be located near the power system (number as required). Each line cord will provide AC power to one of the power supply modules. The AC line cord is the mains disconnect for each module. The AC line cords should have an IEC320 connector to plug into the rear of the power system chassis. Each line cord MUST be suitably rated and FUSED (or have an equivalently rated circuit breaker). For 230V mains, the rating is10A for the line cords and breakers. For 115V mains, the rating is 15A, (line cords are known as SVT or SJT type).

Do not remove the ground conductor. The ground conductor is connected to safety ground to minimize electrical shock hazard and ensure low EMI (electromagnetic interference). The grounding lug, located on the rear panel, is abonding for connection of the chassis to other system chassis assemblies. Safety grounding is provided via ground connections in the line cord entry receptacles.

MULTI-RAIL PSU



Analogue racks use a 2U Multi-Rail PSU. The number required will depend on the type of installation. Generally, one Multi-Rail PSU is required for one analogue rack, and two for two fully populated analogue racks. An additional Multi-Rail PSU can serve as the hot spare for several analogue I/O racks, provided they are housed together. If the analogue I/O racks are housed in different locations, each may require a hot spare. This is dependant upon the cable lengths involved. All hot spares are optional. Diode feeding allows supplies of the same type to be parallelled together.

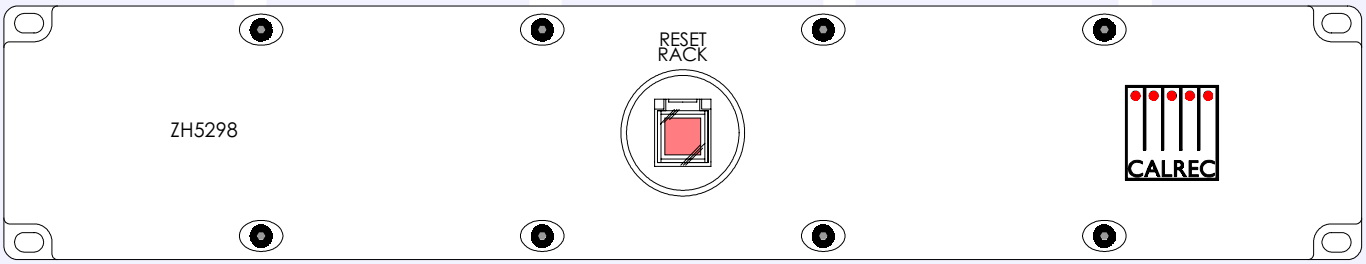
Mounting Instructions

Multi-Rail PSU's are fitted with rear flanges to allow the rear of the unit to be bolted to the studio equipment bay. In Outside Broadcast situations, the unit should ideally be located into an equipment bay which offers mechanical support from underneath.

Cooling

The Multi-Rail PSU is also fan cooled but uses a very low noise fan, drawing air from side to side through the unit, instead of in from the front, to further minimise noise. Should any of the fans slow down or stop, or any voltage rail fall outside specified limits, a PSU fail signal will be sent to the console and PC to warn the operator of a problem.

PSU MONITORING AND DISTRIBUTION UNIT



The Power Monitoring and Distribution rack monitors the power supplies for failures, and ensures "hot" changeover to the spare should a fault develop.
The Reset button reboots the racks only, the control surface is unaffected.

PLEASE NOTE: Resetting the racks will result in a brief audio interruption.

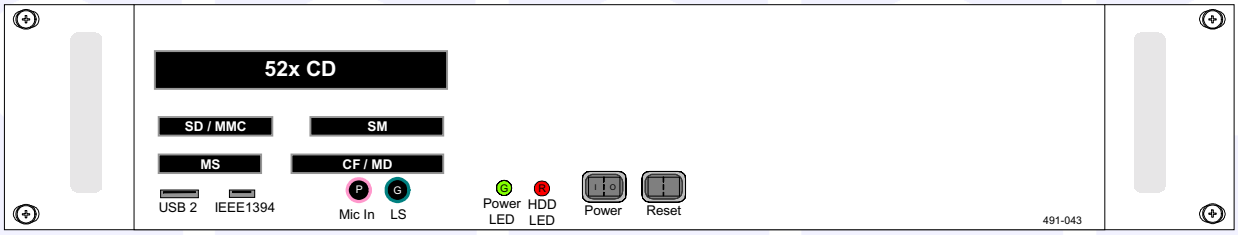
Mounting Instructions

This unit should be secured into the front of the bay by the two standard fixing holes in each of the two 2RU front angles. The unit/s should always be mounted in a horizontal position. It is recommended that the rack is not be supported by the front flanges alone.

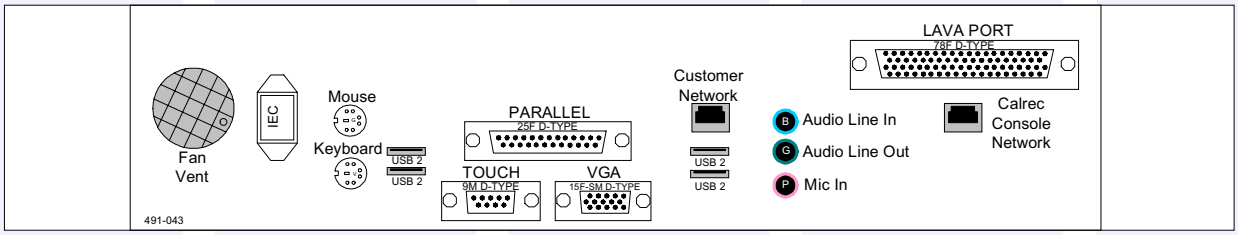
PC INFORMATION

Operating System	Windows 2000
CPU	Intel Celeron Processor (2GHz)
RAM	256 MB DDR RAM
HDD	40GB
CD ROM	52x
Network Ports	2 x 10/100
Card Slots	Compact Flash/Microdrive, SmartMedia, Memory Stick, Secure Digital/Multimedia Card
USB 2 Ports	4 (Rear of Unit), 1 (Front of Unit)
IEEE1394 Port	1 (Front of Unit)
Additional Hardware	Lava Octopus 8 Port Serial Card
Additional Software	PC Antywhere

Front



Rear



Mounting Instructions

The PC should be mounted by means of the side brackets, each of which has two mounting holes. The PC rack should always be mounted in a horizontal position. The sliders should be used when no support is provided under the PC assembly. The PCshould not be supported by front flanges alone. Failure to follow these instructions may invalidate the warranty. The PC is earthed via it's AC power inlet.

Remote Access

USB connectors are provided on both the front & the rear of the PC for the option to add an external modem of your choice. If a modem is added, and a suitable telephone line installed, the console can be remotely accessed by Calrec Support Engineers to aid software upgrades and diagnostic work. This can greatly enhance the level of service and support we can provide. A dial-up facility must first be activated at the PC before this is possible, to ensure that connections are not made at inappropriate times or without the user's knowledge and consent.

Network Ports

A network port is provided to enable the user to connect to their own LAN. Calrec will not be responsible for the configuration of this port or for any performance issues arising from its use.
A second Ethernet port is provided to enable the PC to be connected to a Calrec Hydra Audio Network, which is an option which can either be purchased with the console or in the future.

Software Supplied

An OEM PC Operating System license is supplied with each console, and the operating system software is pre-installed. The Sigma 100 console software is also pre-installed, and supplied on a CD-ROM.

3rd Party Software

Calrec recommends that the PC is regarded as an integral control device for the console, and not as a general purpose PC. If 3rd party software is installed on the PC, care must always be taken to ensure that it does not interfere with the normal performance of the PC. The installation of inappropriate software on the PC may invalidate the console warranty.

Usernames and Passwords

The PC will be set up with two sets of usernames and passwords:

Username	Password	Description
CalrecAudio	(None)	This user can install and run programs, but not change PC hardware settings, (i.e. set-up network, install drivers). This user is intended to be used during normal operation of the PC.
CalrecAudioAdmin	calrec	This user has full rights to the PC, and can install and change PC hardware settings. This user is intended for use during re-configuration of the PC and to set up Hydra Audio Networking.

File Backup

A number of flash card slots are provided on the front of the PC for file backup. In addition, backup could also be to a customer's LAN or to a USB device which can be plugged into the front or rear of the PC. It is recommended that the following files are backed up in case of PC failure:

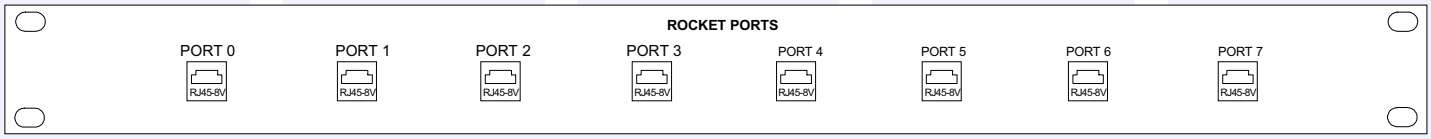
File	Location
Config.ini	C:\Alpha 100\cust1
Setup.ini	C:\Alpha 100\cust1
a100fe1.ini	C:\Alpha 100\cust1
Options.bin	C:\Alpha 100\cust1\options
Alphaprg.ini	C:\Alpha 100\alphaprg

For Hydra Netork users, it is advisable to back up the Network folder, found on **c:alpha100/cust1.**

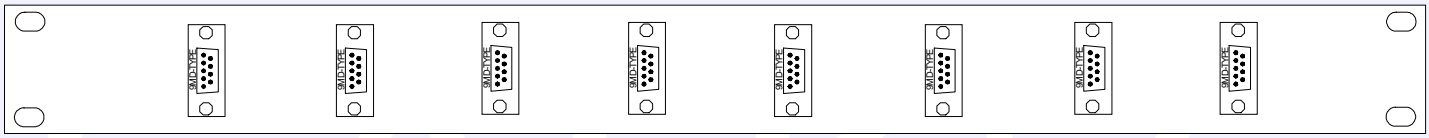
It is also advisable to back up any user memories (.mem) created and saved onto the PC's hard drive. These will be found on **c:alpha100/cust1/memories.**

RS232/RS422 INTERFACE PANEL

Front



Rear

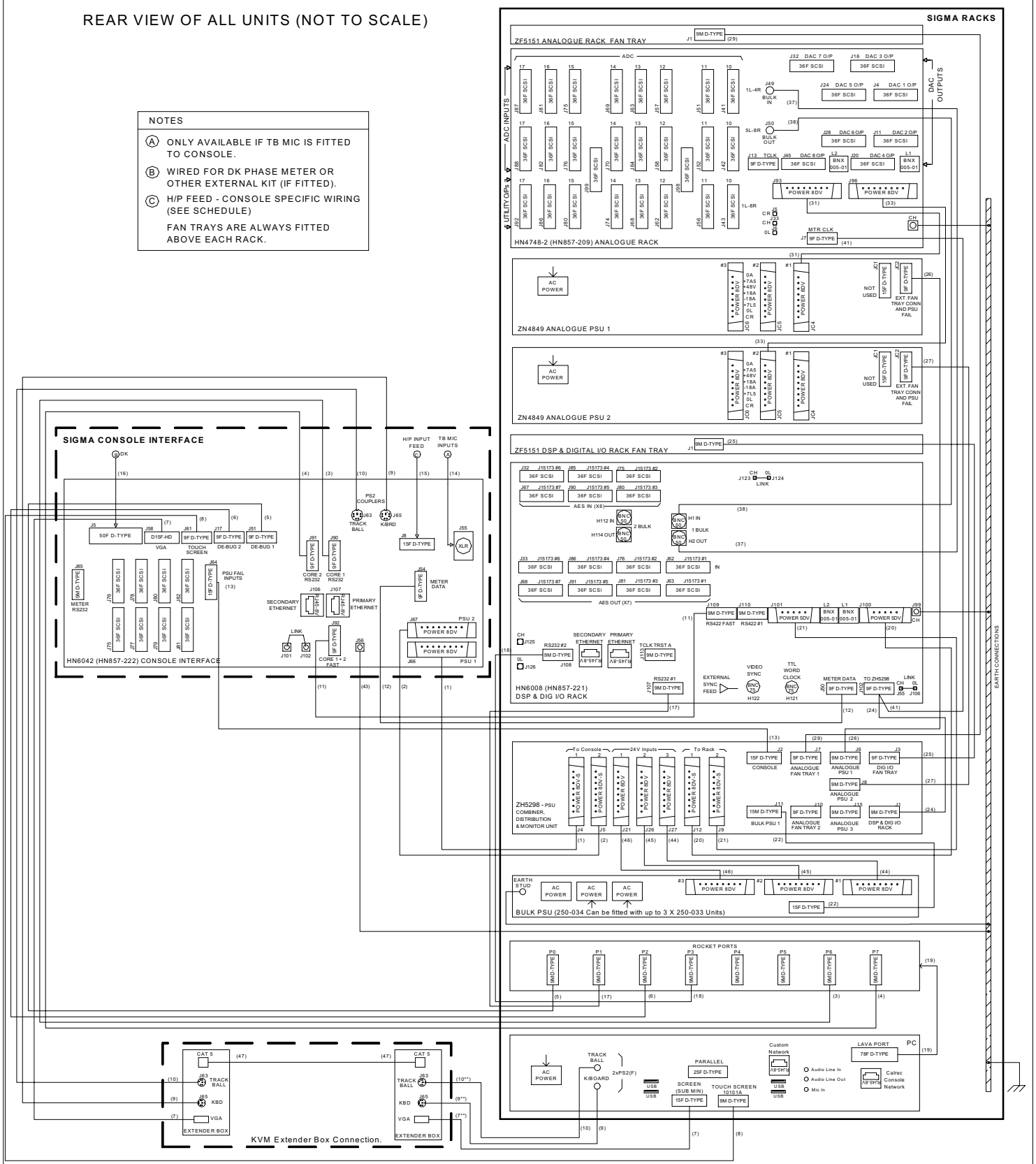


This unit/s should be secured into the rear of the bay by the two standard fixing holes in each of the two 1RU front angles.

Wiring and Cabling Information

TYPICAL SYSTEM WIRING DIAGRAM

REAR VIEW OF ALL UNITS (NOT TO SCALE)



(0759-22)

CABLE RUN SCHEDULE

CABLE No	CABLE TYPE	FROM	CONNECTOR	CON TYPE	TO	CONNECTOR	CON TYPE	CIRCUIT	NOTE
1	8C2.5 (310-372)	ZH5298	Desk 1	8way D (M)	HN6042	J66	8way D (F)	Console DC pwr 1	CONSOLE
2	8C2.5 (310-372)	ZH5298	Desk 2	8way D (M)	HN6042	J67	8way D (F)	Console DC pwr 2	CONSOLE
3	BEL5 8135 (310-377)	PC	PORT #6	9way D (F)	HN6042	J90	9way D (F)	Console RS232-1	CONSOLE
4	BEL5 8135 (310-377)	PC	PORT #7	9way D (F)	HN6042	J91	9way D (F)	Console RS232-2	CONSOLE
5	BEL5 8135 (310-377)	PC	PORT #0	9way D (F)	HN6042	J51	9way D(M)	Console debug 1	CONSOLE
6	BEL5 8135 (310-377)	PC	PORT #2	9way D (F)	HN6042	J17	9way D(M)	Console debug 2	CONSOLE
7**	(491-020/1) VGA	PC	SCREEN	15way HD D (M)	HN6042	J58	15way HD D (M)	Console screen	CONSOLE
7	(491-020/1) VGA	PC	SCREEN	15way HD D (M)	Screen Repeater	Screen	15way HD D (M)	Console screen	CONSOLE
8	BEL5 9505 (310-379)	PC	10101A	9way D (F)	HN6042	J61	9way D(M)	C.Touch Screen	CONSOLE
8 **	BEL5 9505 (310-379)	PC	10101A	9way D (F)	Screen Repeater	VGA	9way D(M)	C.Touch Screen	CONSOLE
9	(491-022/3) PS2	PC	KBD	PS2	HN6042	J65	PS2	Console keyboard	CONSOLE
9 **	(491-022/3) PS2	PC	KBD	PS2	Screen Repeater	KBD	PS2	Console keyboard	CONSOLE
10	(491-022/3) PS2	PC	MOUSE	PS2	HN6042	J63	PS2	Console trackball	CONSOLE
10 **	(491-022/3) PS2	PC	MOUSE	PS2	Screen Repeater	MOUSE	PS2	Console keyboard	CONSOLE
11	BEL5 9505 (310-379)	HN6008	J109	9way D (F)	HN6042	J92	9way D(M)	C.RS422 FAST	CONSOLE
12	BEL5 9505 (310-379)	HN6008	J50	9way D (M)	HN6042	J54	9way D(F)	C.Meter Data	CONSOLE
13	DMP10 (310-366)	ZH5298	CONSOLE	15way D (M)	HN6042	J64	15way D (M)	Console PSU fail	CONSOLE
14	PSF4/1 (310-140)	HN4748	???	SCSI36	HN6042	J51	XLR 3 (F)	C.TB mic out	CONSOLE
15	BEL5 9505 (310-379)	HN4748	???	SCSI36	HN6042	J18	25way D (M)	Console H/P in	CONSOLE
16	DMP10 (310-366)	HN4748/6008	???	SCSI36	HN6042	J52	50way D (M)	C.Phase Mtr In	CONSOLE
17	BEL5 8135 (310-377)	HN6008	J107	9way D (F)	PC	PORT #1	9way D (F)	I/O_DSP RS232-1	PC
18	BEL5 8135 (310-377)	HN6008	J108	9way D (F)	PC	PORT #3	9way D (F)	I/O_DSP RS232-2	PC
19	Supplied	Bay PC	PORTS 1-8	8x9way D(M)	PC	Rocket Port	78way HD D (F)	Rocket Port Lead	PC
20	4C2.5 (310-371)	ZH5298	Rack 1	8way D (M)	HN6008	J100	5way D (F)	Digi rack supply 1	I/O_DSP
21	4C2.5 (310-371)	ZH5298	Rack 2	8way D (M)	HN6008	J101	5way D (F)	Digi rack supply 2	I/O_DSP
22	BEL5 9505 (310-379)	Bulk PSU	D1	15way D(M)	ZH5298	BULK PSU	15way D(F)	Racks PSU mon	Pwr Mon
24	BEL2 9502 (310-380)	HN6008	J102	9way D(M)	ZH5298	DIG RACK	9way D(F)	I/O_DSP fan pwr	Pwr Mon
25	BEL2 9502 (310-380)	ZF5151-I/O	D1	9way D (F)	ZH5298	DIG FAN	9way D (M)	I/O_DSP fan pwr/fail mon	Pwr Mon
26 *	BEL2 9502 (310-380)	ZN4849-No.1	EXT FAN	9way D(M)	ZH5298	ANALOGUE PSU 1	9way D(F)	A1 fan pwr / PSU fail	Pwr Mon
27 *	BEL2 9502 (310-380)	ZN4849-No.2	EXT FAN	9way D(M)	ZH5298	ANALOGUE PSU 2	9way D(F)	A2 fan pwr / PSU fail	Pwr Mon
28 *	BEL2 9502 (310-380)	ZN4849-No.3	EXT FAN	9way D(M)	ZH5298	ANALOGUE PSU 3	9way D(F)	A3 fan pwr / PSU fail	Pwr Mon
29 *	BEL2 9502 (310-380)	ZF5151-An1	D1	9way D (F)	ZH5298	ANALOGUE FAN 1	9way D (M)	A1 fan pwr / fail ind	Pwr Mon
30 *	BEL2 9502 (310-380)	ZF5151-An2	D1	9way D (F)	ZH5298	ANALOGUE FAN 2	9way D (M)	A2 fan pwr / fail ind	Pwr Mon
31 *	8C1.5 (310-373)	ZN4849-No.1	O/P 1	8way D (M)	HN4748-No.1	J93	8way D (F)	Analogue PSU 1/1	Analogue Rack 1
32 *	8C1.5 (310-373)	ZN4849-No.2	O/P 1	8way D (M)	HN4748-No.2	J93	8way D (F)	Analogue PSU 2/1	Analogue Rack 2
33 *	8C1.5 (310-373)	ZN4849-No.2	O/P 2	8way D (M)	HN4748-No.1	J96	8way D (F)	Analogue PSU 2/2	Analogue Rack 1
34 *	8C1.5 (310-373)	ZN4849-No.3	O/P 2	8way D (M)	HN4748-No.2	J96	8way D (F)	Analogue PSU 3/2	Analogue Rack 2
35 *	8C1.5 (310-373)	ZN4849-No.2	O/P 2	8way D (M)	HN4748-No.2	J96	8way D (M)	Analogue PSU 1/2	Analogue Rack 2
36 *	8C1.5 (310-373)	ZN4849-No.3	O/P 2	8way D (M)	HN4748-No.1	J96	8way D (F)	Analogue PSU 1/2	Analogue Rack 1
37 *	(312-083) SMB50-1m	HN6008	H2	SMB	HN4748-No.1	J49	SMB	Bulk Link in 1	Analogue Rack 1
38 *	(312-083) SMB50-1m	HN6008	H1	SMB	HN4748-No.1	J50	SMB	Bulk Link out 1	Analogue Rack 1
39 *	COAX 50 Ohm (310-374)	HN6008	H114	SMB 50 (P)	HN4748-No.2	J49	SMB 50 (P)	Bulk Link in 2	Analogue Rack 2
40 *	COAX 50 Ohm (310-374)	HN6008	H112	SMB 50 (P)	HN4748-No.2	J50	SMB 50 (P)	Bulk Link out 2	Analogue Rack 2
41	BEL2 9502 (310-380)	HN6008	J102	9way D(M)	HN4748-No.1	J7	9way D(M)	Analogue Reset	Analogue Rack 1
42	BEL2 9502 (310-380)	HN4748-No.1	J7	9way D(M)	HN4748-No.2	J7	9way D(M)	Analogue Reset	Analogue Rack 2
43	GRN/YEL 6 (310-333)	Eqpt Bay	-	-	Console	-	-	System Earth	CONSOLE
44	8C2.5 (310-372)	Bulk PSU 1	1	8way D (M)	ZH5298	I/P 1	8way D (F)	Bulk Output 1	PWR
45	8C2.5 (310-372)	Bulk PSU 2	1	8way D (M)	ZH5298	I/P 2	8way D (F)	Bulk Output 2	PWR
46	8C2.5 (310-372)	Bulk PSU 3	1	8way D (M)	ZH5298	I/P 3	8way D (F)	Bulk Output 3	PWR
47	Cat 5 (310-391)	PC Extender	Cat 5	RJ45	PC Extender	Cat 5	RJ45	PC Extender CAT 5	-

* Note: (regarding cables 26 - 42)

on 2 analogue rack / 3 PSU systems fit cable nos 26 - 34, 37 - 42
on 2 analogue rack / 2 PSU systems fit cable nos 26, 27, 29 - 33, 35, 37 - 42
on 1 analogue rack / 2 PSU systems fit cable nos 26, 27, 29, 31, 33, 37, 38 , 41
on 1 analogue rack / 1 PSU systems fit cable nos 26, 29, 31, 37, 38 , 41

MAXIMUM CABLE LENGTHS

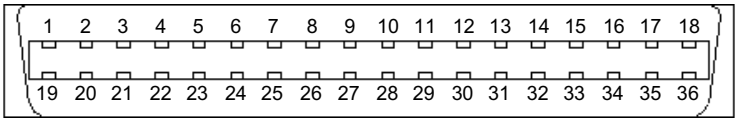
Cables from	To	Maximum length	
		feet	metres
Control surface	Control Surface Bulk PSU's	100.0	30.0
Control surface	PC	500.0	150.0
Control surface *	DSP/Digital I/O rack *	100.0	30.0
PC	DSP/Digital I/O rack	100.0	30.0
DSP/Digital I/O Rack	Racks Bulk PSU's	100.0	30.0
DSP/Digital I/O Rack	Analogue I/O Rack	33.0	10.0
DSP/Digital I/O Rack	BNC/XLR I/O Interface Panels	9.8	3
Analogue I/O Rack	EDAC I/O Interface Panels	9.8	3
Analogue I/O Rack	Multi-Rail PSU	33.0	10.0
Multi-Rail PSU	Other Multi-Rail PSU's	1.3	0.4
MADI Unit	Digital I/O rack	16.5	5
Hydra Unit	Digital I/O Rack	16.5	5

* Extenders can be supplied to provide console data connections up to 150 metres (500 feet) at an additional cost.

SPECIFICATION FOR SCSI STYLE CABLING

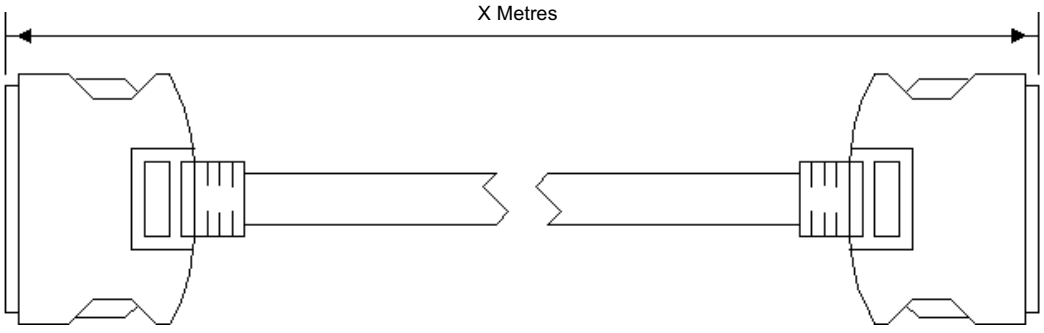
FRONT VIEW OF MATING CONNECTOR

CABLE PAIRS WIRED AS:
1 . 19
2 . 20
3 . 21
4 . 22
5 . 23
6 . 24
7 . 25
8 . 26
9 . 27
10 . 28
11 . 29
12 . 30
13 . 31
14 . 32
15 . 33
16 . 34
17 . 35
18 . 36



EITHER 3M 10236-55G3VC R/A THROUGH HOLE,
OR 3M 10236-2200VE VERTICAL SMT,

- ν 18 PAIR 28 AWG CABLE
- ν UL APPROVED MATERIALS
- ν FULLY SCREENED



36W MDR PLUG
3M10136-6000EL
OR EQUIVALENT

36W SHIELDED COVER
3M 103336-3210-00
OR EQUIVALENT

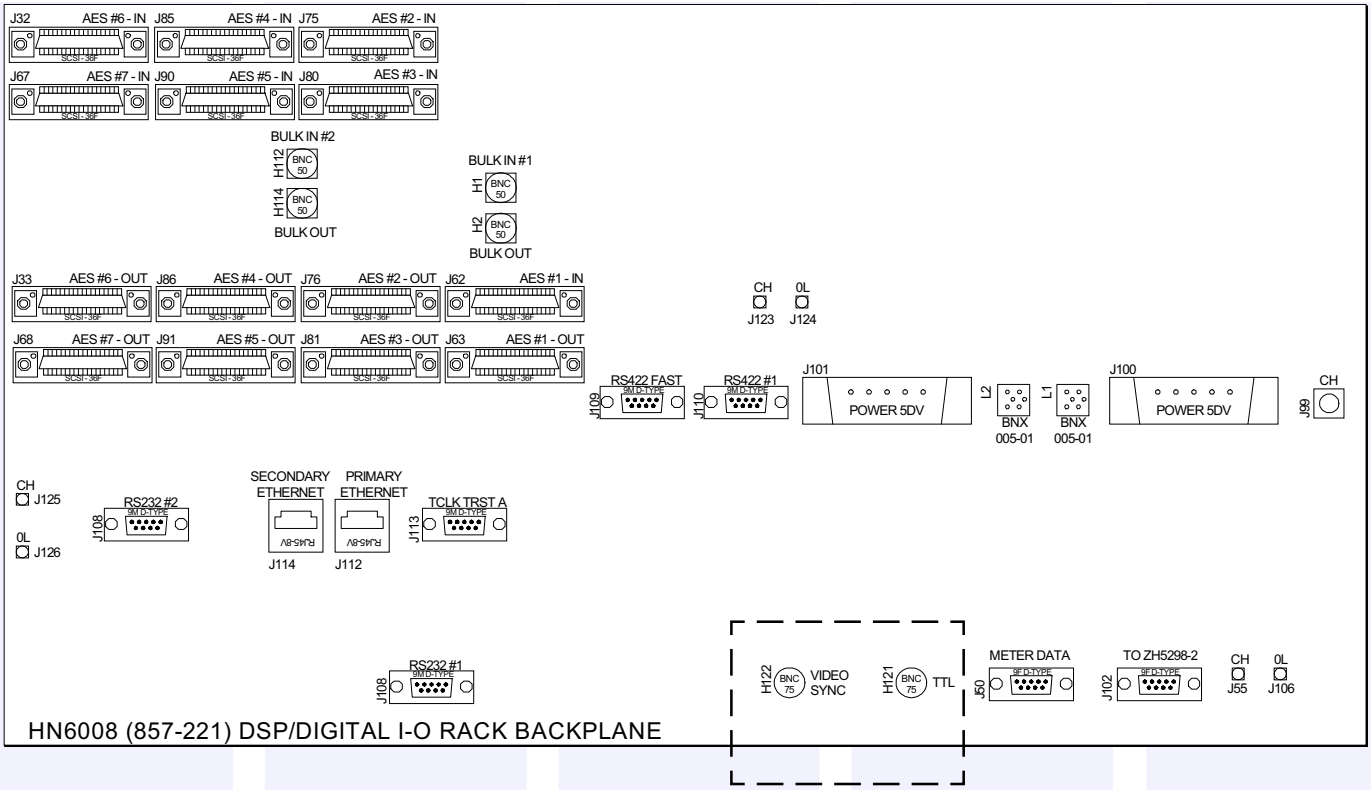
STOCK CODES

312-079 1M
312-078 3M
312-077 5M

External Connections to Console

SYNCHRONISATION

The system can be pre-set with up to five external sync sources, plus internal, such that if the 1st source fails, it will automatically switch to the 2nd, and so on. Please note that the facility for locking to external AES sources is restricted to the first six inputs of each AES card in the console. One of the external sources can be Video, (PAL or NTSC). TTL Wordclock is another possible external source. Synchronisation inputs for Video Sync (PAL or NTSC) and TTL Wordclock are provided on the rear of the DSP/Digital I-O rack, on 75Ω BNC connectors.



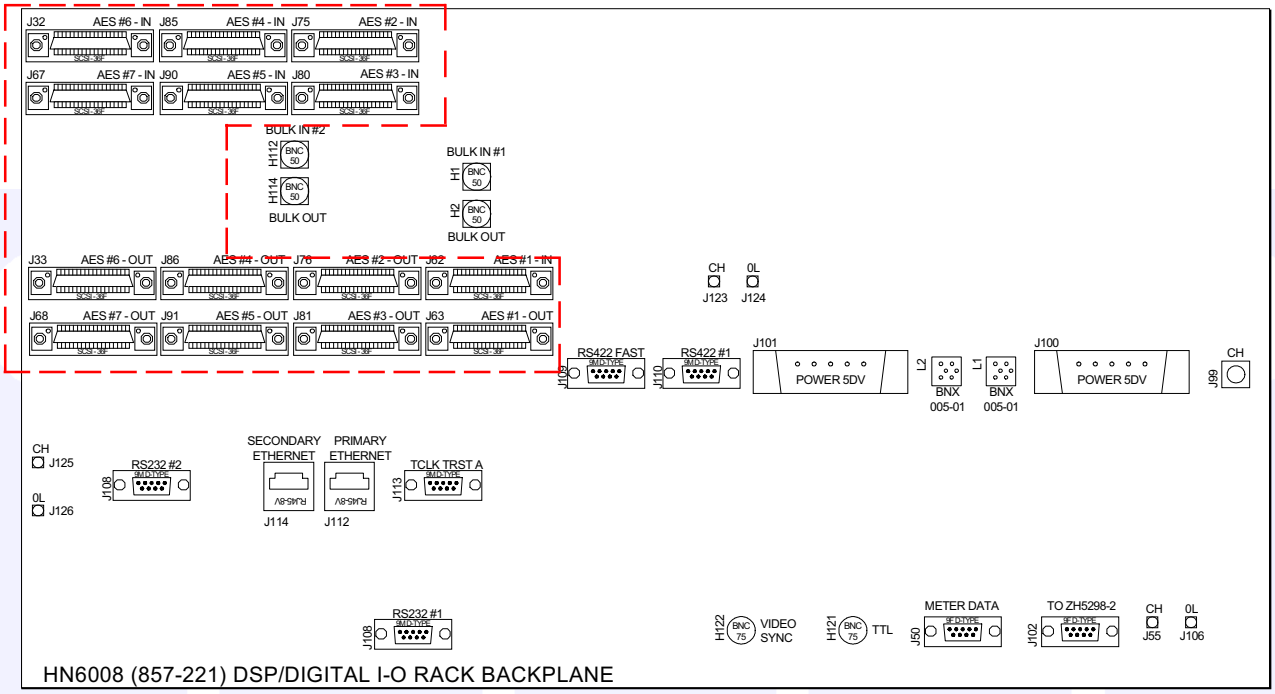
When using a digital input or wordclock as a source, the system will tolerate a variation of up to +/- 100 Hz in the frequency of the source. The console may also be synchronised from its internal crystal oscillator (48 kHz).

It is strongly recommended that all items of digital equipment connected digitally, to the Sigma 100 are synchronised to the same sync signal.

If the Sigma 100 internal sync is to be the master, other digital equipment should be synchronised to the digital outputs of the console.

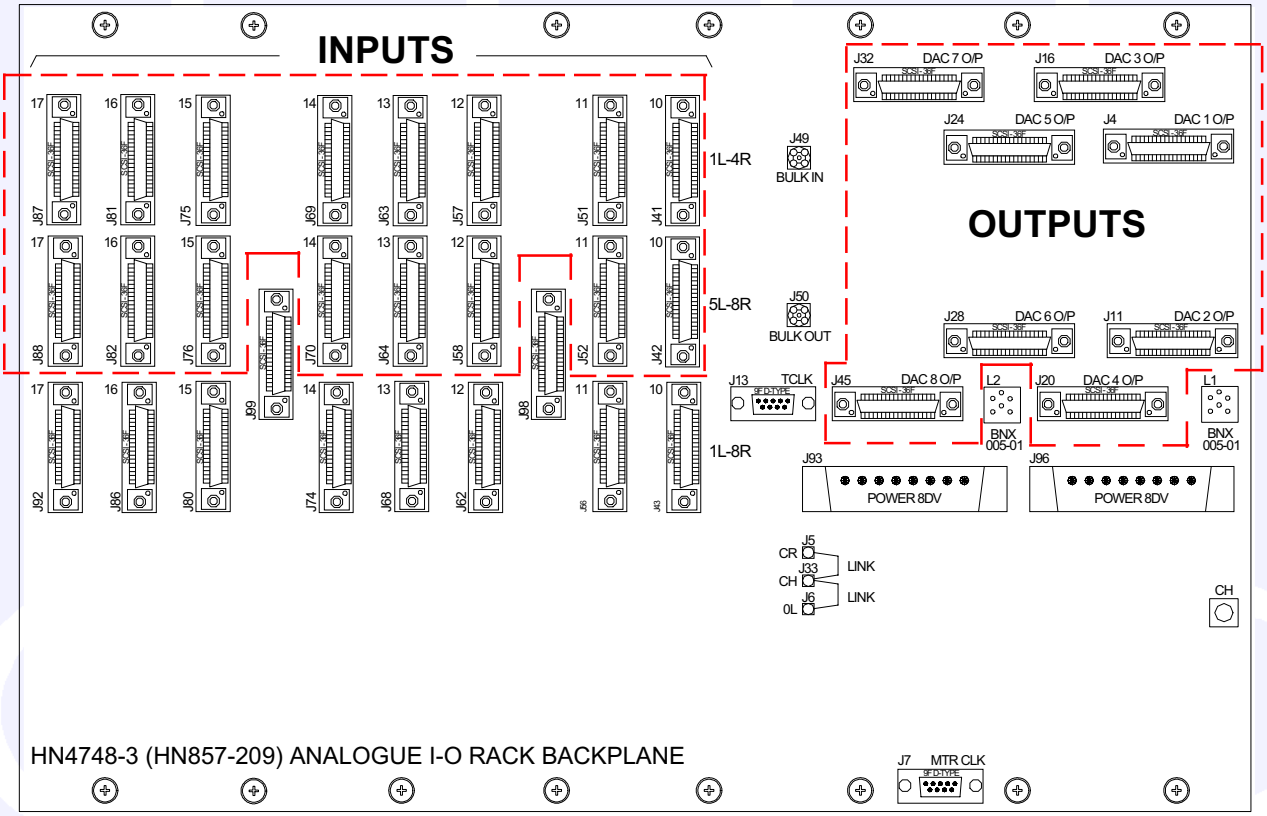
AUDIO INPUTS AND OUTPUTS

All Digital inputs and outputs are provided on 36 way female SCSI connectors on the rear of the DSP/Digital I-O rack (16 AES pairs of inputs or outputs per connector).



HN6008 (857-221) DSP/DIGITAL I-O RACK BACKPLANE

All Analogue inputs and outputs (including Mic/Line inputs) are provided on 36 way, female SCSI-style connectors on the rear of the Analogue I/O racks (4 pairs of inputs or 8 pairs of outputs per connector).



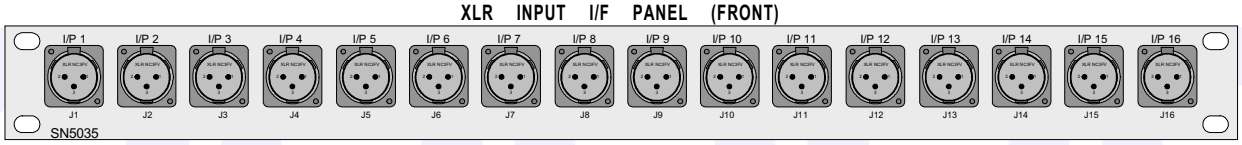
HN4748-3 (HN857-209) ANALOGUE I-O RACK BACKPLANE

INTERFACE CONNECTOR PANELS

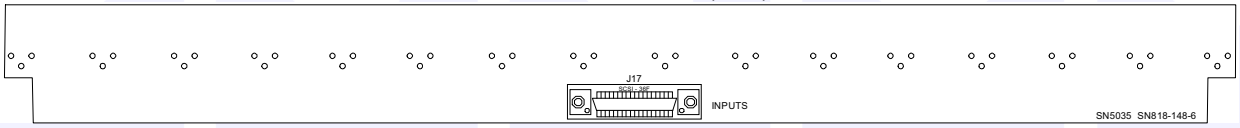
Customers may connect directly to the Sigma 100 using 36 way SCSI mating connectors. Optionally, for Digital & Analogue I/O, break out connector panels and cabling can be provided. Please note that interface panels must be fitted within 1m (3.2ft) of the backplane they connect to.

- For Digital I/O, either XLR (16 male or female, on a 1U panel) or BNC (32 on a 1U panel).

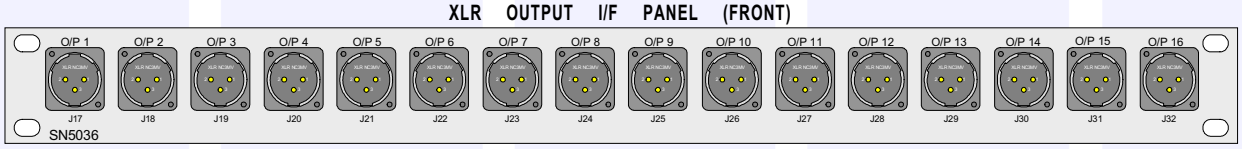
XLR INPUT I/F PANEL (FRONT)



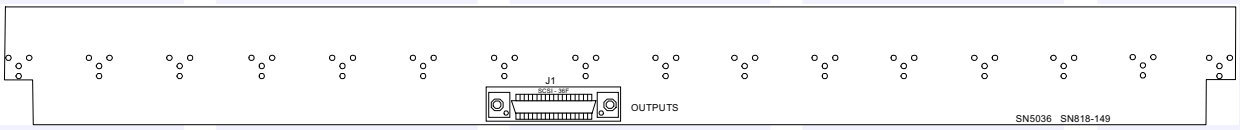
XLR INPUT I/F PANEL (REAR)



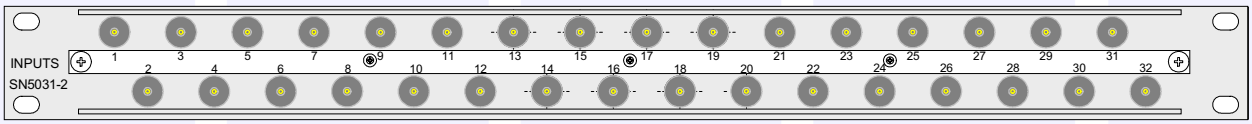
XLR OUTPUT I/F PANEL (FRONT)



XLR OUTPUT I/F PANEL (REAR)

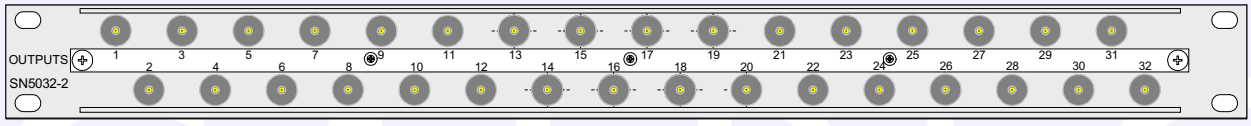


BNC INPUT I/F PANEL (FRONT)



BNC INPUT I/F PANEL (REAR)

BNC OUTPUT I/F PANEL (FRONT)



BNC OUTPUT I/F PANEL (REAR)

- For Analogue I/O, 8 or 12 way EDAC connector 2U panels are available in one of the following styles:

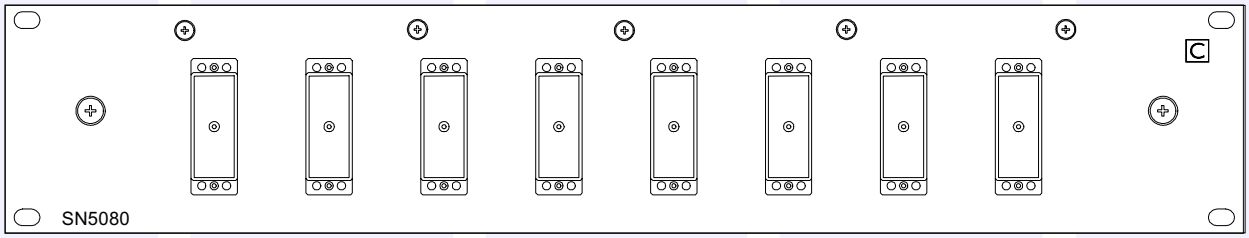
	Style 1	Style 2
Mic/Line or Line I/P's	4 pairs per EDAC	6 pairs per EDAC
Line only I/P's	8 pairs per EDAC	6 pairs per EDAC
Line O/P's	8 pairs per EDAC	6 pairs per EDAC

The choice of style will depend on the installation requirements. Limiting factors to be considered are:

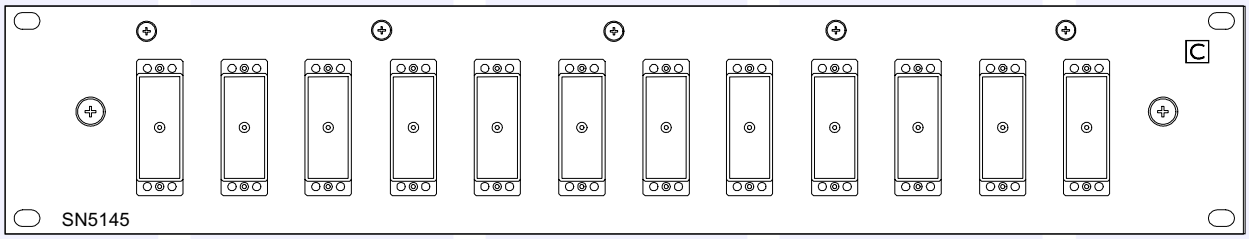
- The number of connections available in the external cabling
- Restricted amount of interface space available within 1m(3.2ft) of the backplane.

The different styles are achieved using different interface cards which attach to the rear of the 2U panels to provide different combinations of SCSI connectors per varicon (Except in the case of Mic/Line inputs where a custom cable is provided).

8X38W EDAC PANEL



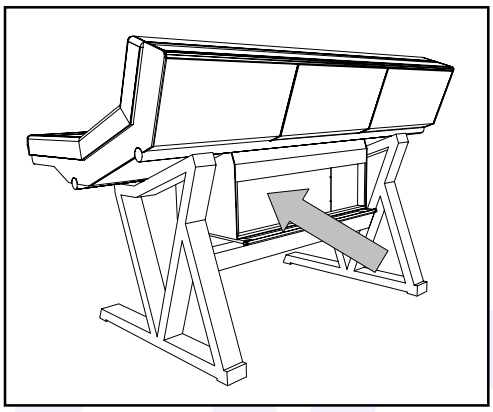
12X38W EDAC PANEL

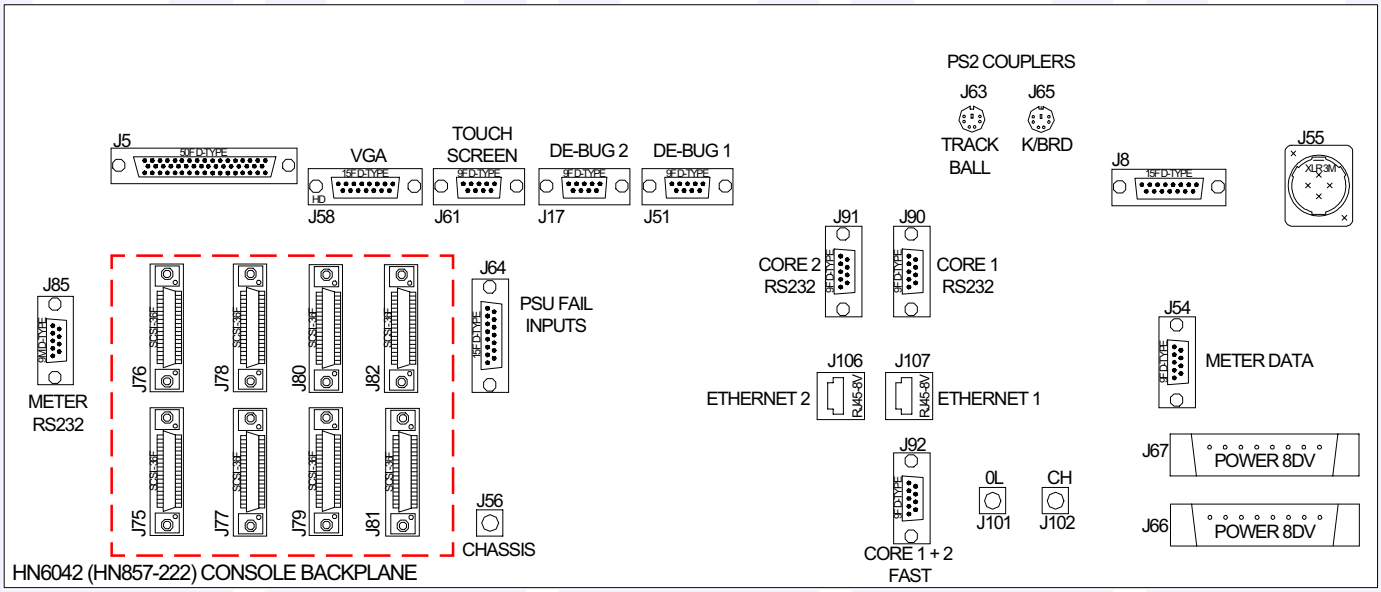


RELAY AND OPTO ISOLATOR CONNECTIONS

Connections to the Relays & Opto Isolators are provided on 36 way female SCSI connectors on the rear of the Console. Up to 4 cards can be fitted, each of which can provide up to 16 Relay isolated outputs and 8 Opto isolated inputs.

* Note that on Relay/Opto card 1, relays 1 - 4 are not available, as they are used for TX, RX, PSU Fail and APFL facilities.



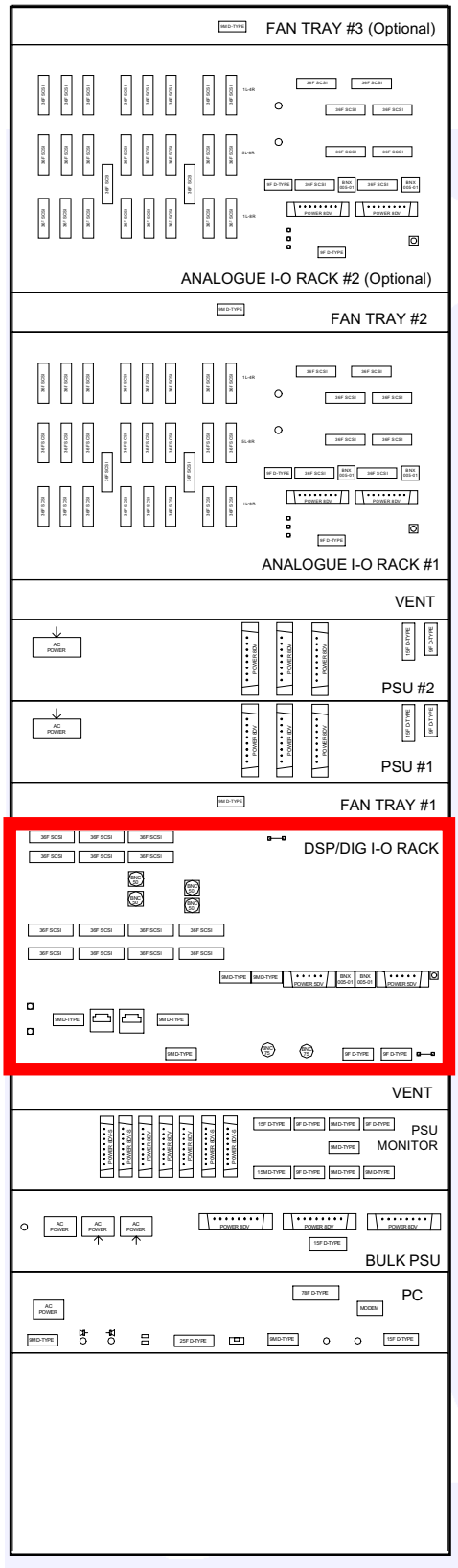


Connector Pin-Out Information

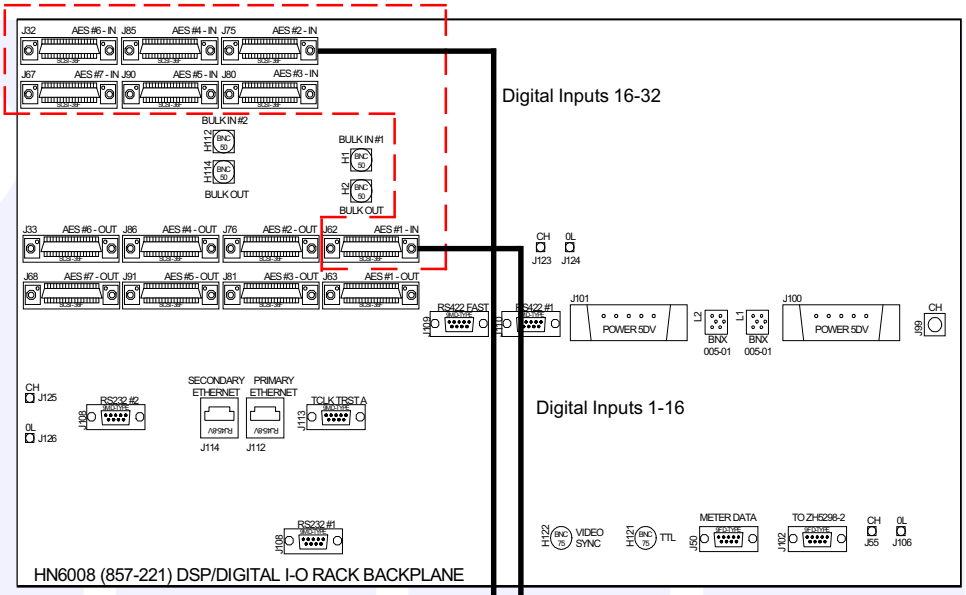
AES INPUTS - BNC INTERFACE

7 AES card slots exist within the DSP/Digital I/O Rack, which house AES I/O cards, each providing 16 AES inputs and 16 AES outputs. Each analogue rack in the system requires a bulk card in one of these slots. Similarly, if I/O expansion is incorporated in the system (such as MADI or Hydra Networking), then a wide area bulk card must occupy one of these slots.

REAR OF RACK



The diagram below shows how the AES input connectors (shown within dotted border) are connected to BNC input Interface panels via SCSI cabling. For clarity, input connections from just 2 AES cards to an interface panel are shown here.

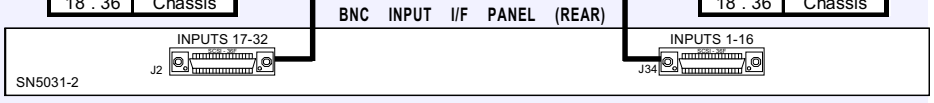


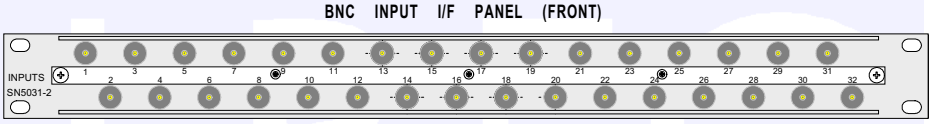
CABLE 2
Digital Inputs 16-32

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	17
3 . 21	18
4 . 22	19
5 . 23	20
6 . 24	21
7 . 25	22
8 . 26	23
9 . 27	24
10 . 28	25
11 . 29	26
12 . 30	27
13 . 31	28
14 . 32	29
15 . 33	30
16 . 34	31
17 . 35	32
18 . 36	Chassis

CABLE 1
Digital Inputs 1-16

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1
3 . 21	2
4 . 22	3
5 . 23	4
6 . 24	5
7 . 25	6
8 . 26	7
9 . 27	8
10 . 28	9
11 . 29	10
12 . 30	11
13 . 31	12
14 . 32	13
15 . 33	14
16 . 34	15
17 . 35	16
18 . 36	Chassis



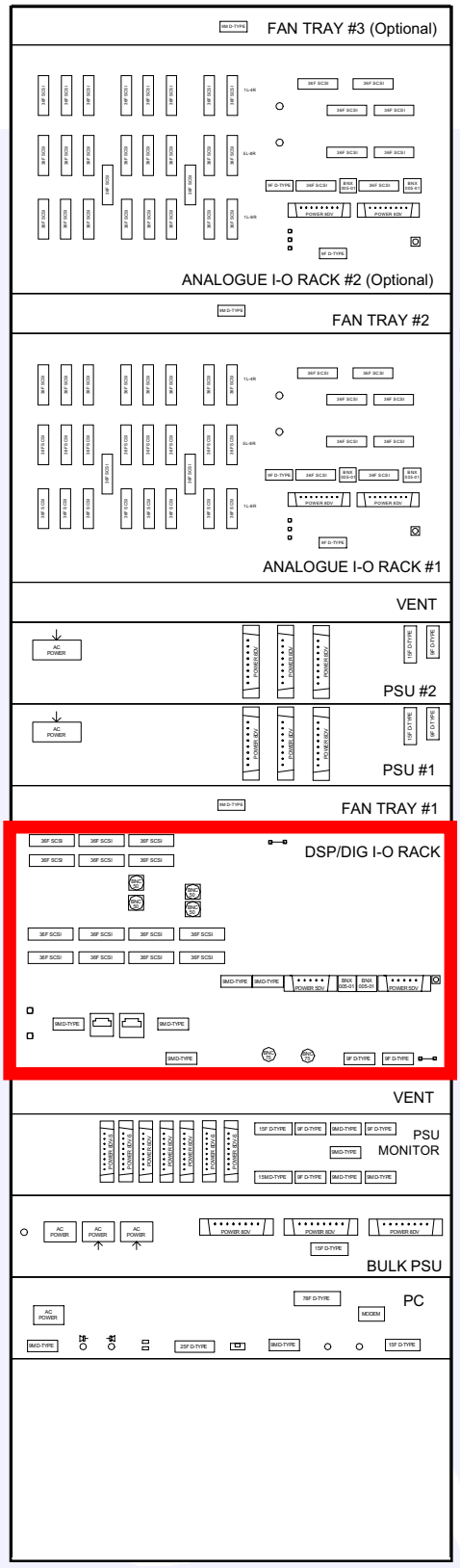


The BNC input interface panels must be located within 1m (3.2ft) of the DSP/Digital I-O backplane. Each panel can interface 32 AES inputs. Therefore if all AES inputs are used, 3 panels would be needed.

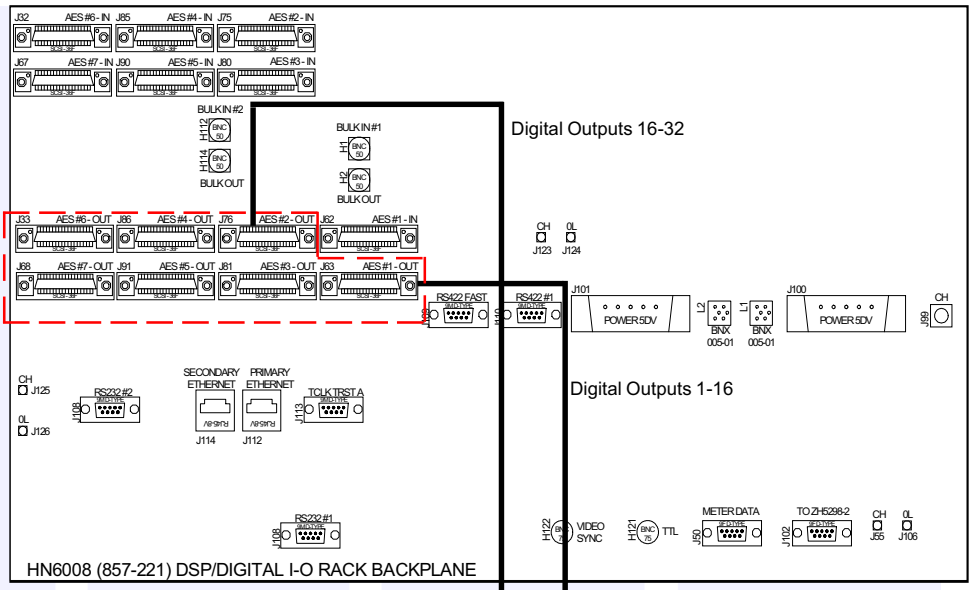
AES OUTPUTS - BNC INTERFACE

7 AES card slots exist within the DSP/Digital I/O Rack, which house AES I/O cards, each providing 16 AES inputs and 16 AES outputs. Each analogue rack in the system requires a bulk card in one of these slots. Similarly, if I/O expansion is incorporated in the system (such as MADI or Hydra Networking), then a wide area bulk card must occupy one of these slots.

REAR OF RACK



The diagram below shows how the AES outputs connectors (shown within dotted border) are connected to BNC output Interface panels via SCSI cabling. For clarity, output connections from just 2 AES cards to an interface panel are shown here.



CABLE 2
Digital Outputs 17-32

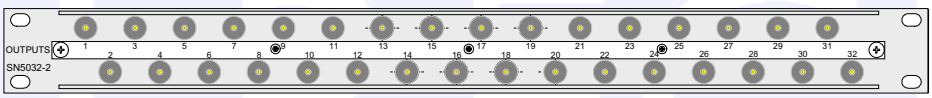
SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	17
3 . 21	18
4 . 22	19
5 . 23	20
6 . 24	21
7 . 25	22
8 . 26	23
9 . 27	24
10 . 28	25
11 . 29	26
12 . 30	27
13 . 31	28
14 . 32	29
15 . 33	30
16 . 34	31
17 . 35	32
18 . 36	Chassis

CABLE 1
Digital Outputs 1-16

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1
3 . 21	2
4 . 22	3
5 . 23	4
6 . 24	5
7 . 25	6
8 . 26	7
9 . 27	8
10 . 28	9
11 . 29	10
12 . 30	11
13 . 31	12
14 . 32	13
15 . 33	14
16 . 34	15
17 . 35	16
18 . 36	Chassis

BNC OUTPUT I/F PANEL (REAR)

BNC OUTPUT I/F PANEL (FRONT)

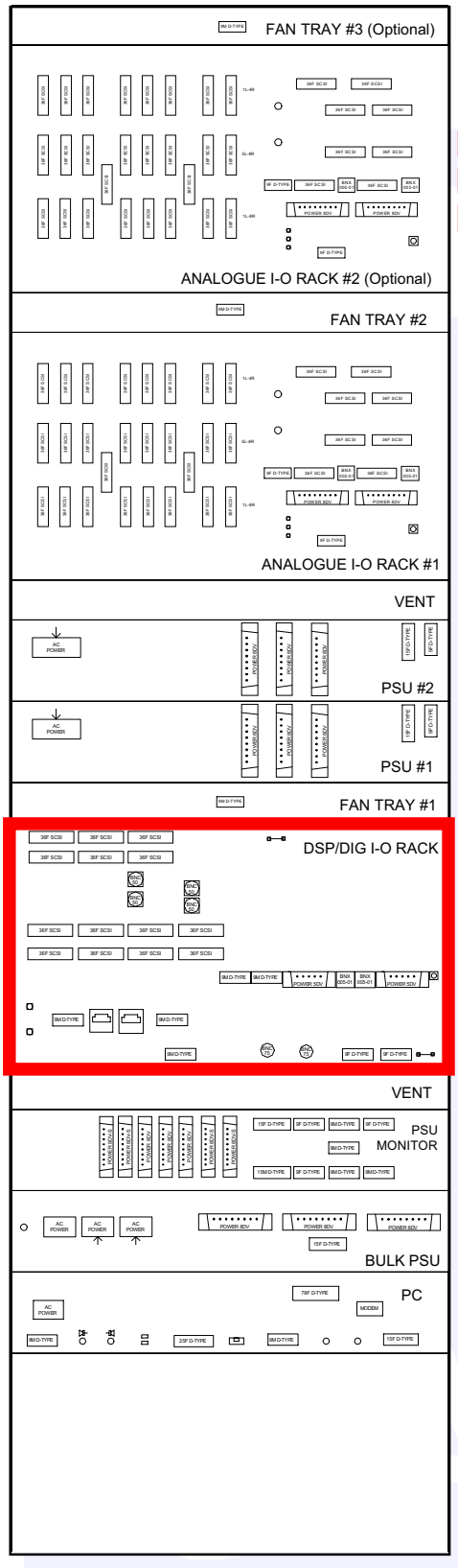


The BNC output interface panels must be located within 1m (3.2ft) of the DSP/Digital I-O backplane. Each panel can interface 32 AES outputs. Therefore if all AES outputs are used, 3 panels would be needed.

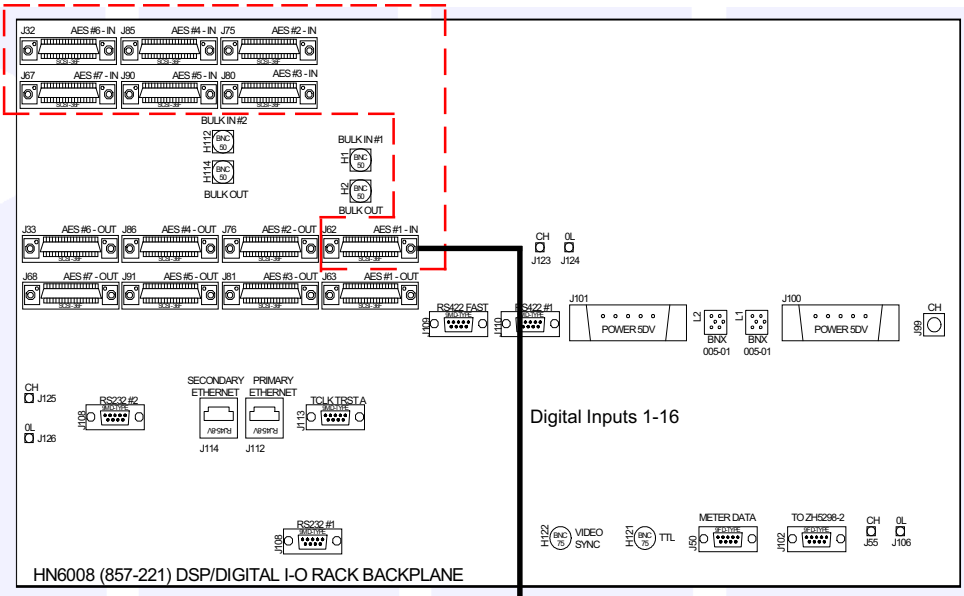
AES INPUTS - XLR INTERFACE

7 AES card slots exist within the DSP/Digital I/O Rack, which house AES I/O cards, each providing 16 AES inputs and 16 AES outputs. Each analogue rack in the system requires a bulk card in one of these slots. Similarly, if I/O expansion is incorporated in the system (such as MADI or Hydra Networking), then a wide area bulk card must occupy one of these slots.

REAR OF RACK



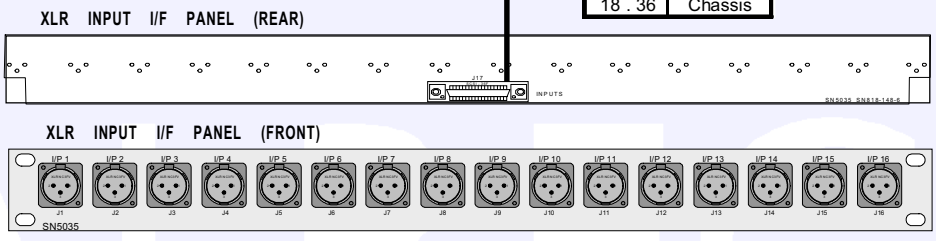
The diagram below shows how the AES input connectors (shown within dotted border) are connected to XLR input interface panels via SCSI cabling. For clarity, input connections from just one AES card to an interface panel are shown here.



On 3 pin XLR, pin 2 is HOT (phase), pin 3 is COLD (anti-phase) and pin 1 is chassis connections.

CABLE 1
Digital Inputs 1-16

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1
3 . 21	2
4 . 22	3
5 . 23	4
6 . 24	5
7 . 25	6
8 . 26	7
9 . 27	8
10 . 28	9
11 . 29	10
12 . 30	11
13 . 31	12
14 . 32	13
15 . 33	14
16 . 34	15
17 . 35	16
18 . 36	Chassis

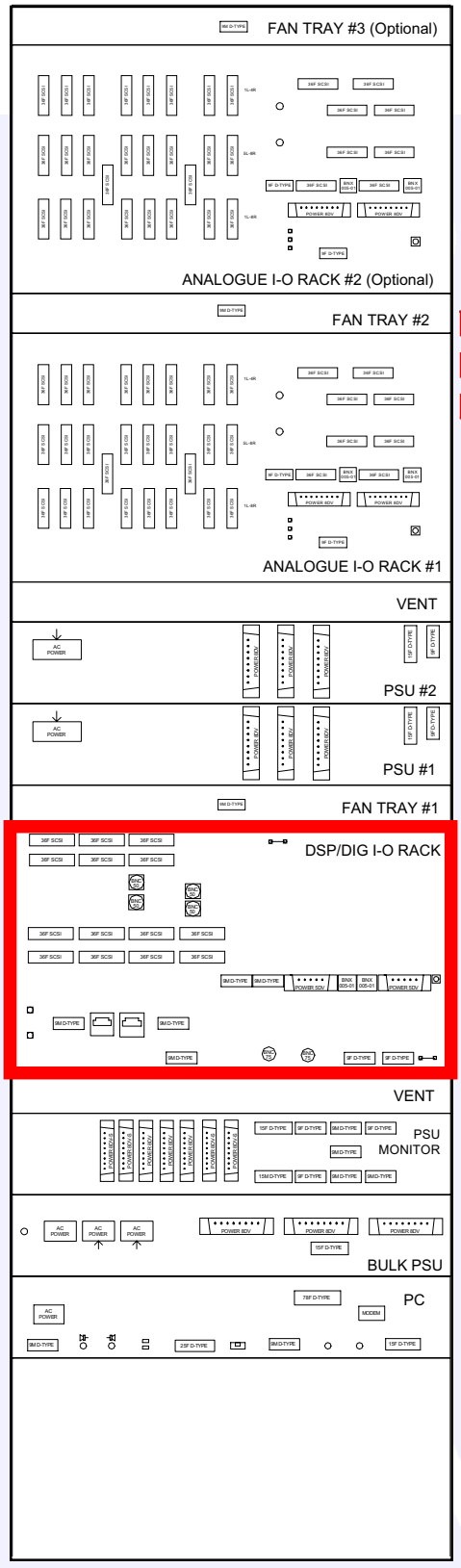


The XLR input interface panels must be located within 1m (3.2ft) of the DSP/Digital I-O backplane. Each panel can interface 16 AES inputs. Therefore if all AES inputs are used, 6 panels would be needed.

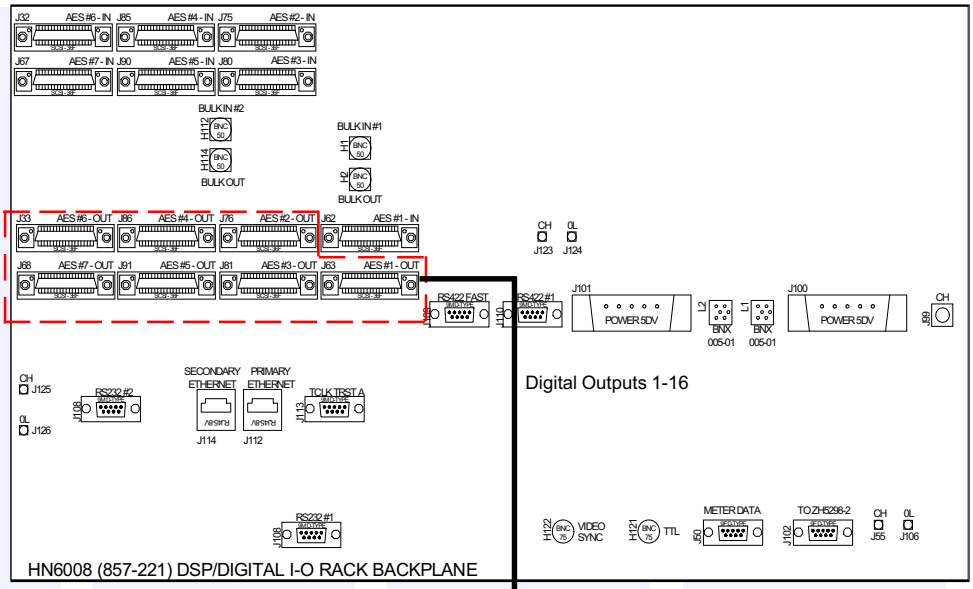
AES OUTPUTS - XLR INTERFACE

7 AES card slots exist within the DSP/Digital I/O Rack, which house AES I/O cards, each providing 16 AES inputs and 16 AES outputs. Each analogue rack in the system requires a bulk card in one of these slots. Similarly, if I/O expansion is incorporated in the system (such as MADI or Hydra Networking), then a wide area bulk card must occupy one of these slots.

REAR OF RACK



The diagram below shows how the Digital output connectors (shown within dotted border) are connected to XLR output interface panels via SCSI cabling. For clarity, output connections from just one AES card to an interface panel are shown here.

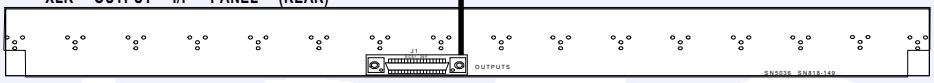


On 3 pin XLR, pin 2 is HOT (phase), pin 3 is COLD (anti-phase) and pin 1 is chassis connections.

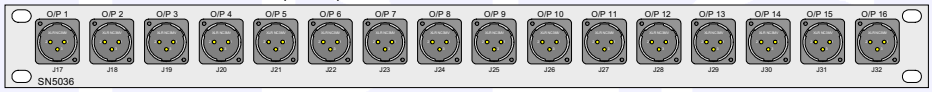
CABLE 1
Digital Outputs 1-16

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1
3 . 21	2
4 . 22	3
5 . 23	4
6 . 24	5
7 . 25	6
8 . 26	7
9 . 27	8
10 . 28	9
11 . 29	10
12 . 30	11
13 . 31	12
14 . 32	13
15 . 33	14
16 . 34	15
17 . 35	16
18 . 36	Chassis

XLR OUTPUT I/F PANEL (REAR)



XLR OUTPUT I/F PANEL (FRONT)

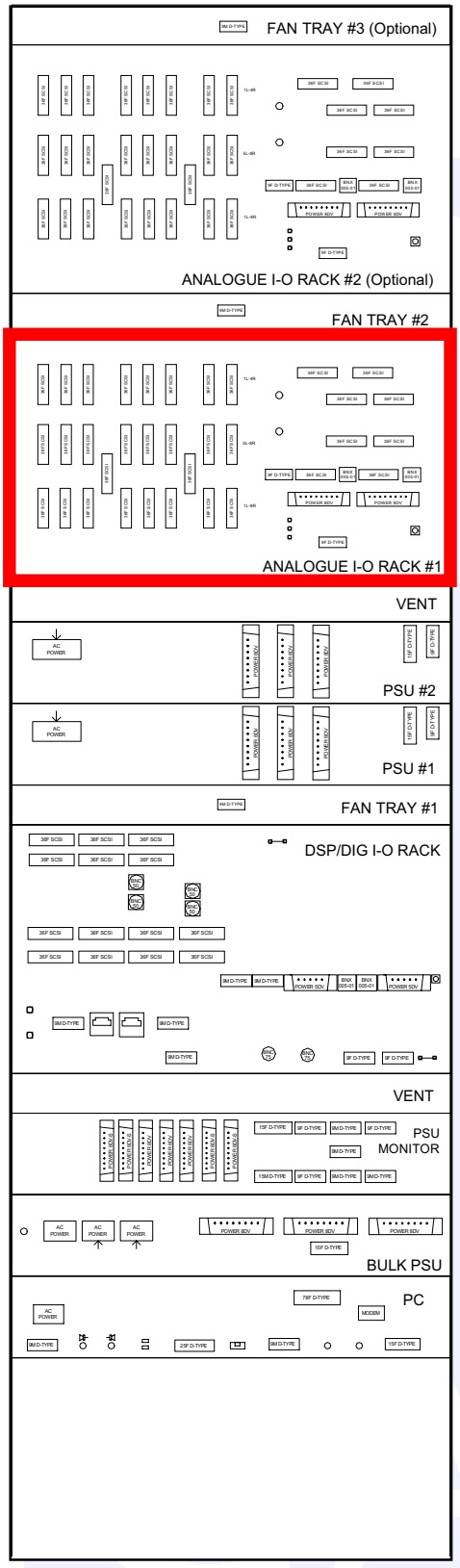


The XLR output interface panels must be located within 1m (3.2ft) of the DSP/Digital I-O backplane. Each panel can interface 16 AES outputs. Therefore if all AES outputs are used, 6 panels would be needed.

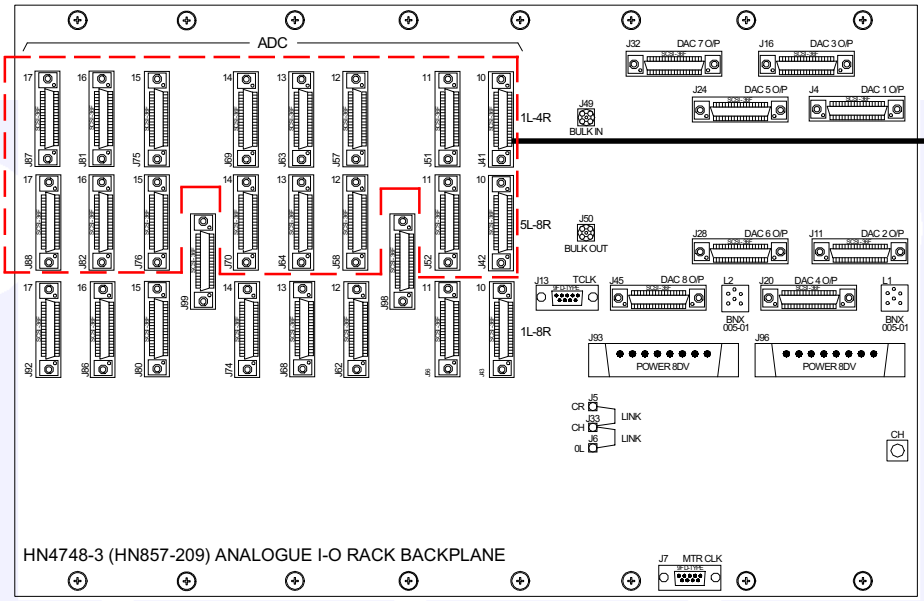
ANALOGUE MIC/LINE INPUTS (FOR MIC/LINE OR LINE ADC CARDS) - STYLE 1

Up to 8 Mic/Line or Line cards can be fitted into the analogue I-O rack each providing 8 stereo inputs. There are 4 stereo inputs on each of the Mic/Line input connectors (shown within dotted border).

REAR OF RACK



The diagram below shows how these connectors are connected to 8 or 12 way EDAC interface panels via Calrec custom cabling to achieve Style 1 as mentioned earlier (4 pairs per Varicon).



Calrec Custom Cabling (312-113)

Wired into Varicon - Rear of Interface Panel	
A.E (B)	Mic/Line IP 1L (screen)
D.K (C)	Mic/Line IP 1R (screen)
L.R (M)	Mic/Line IP 2L (screen)
P.U (N)	Mic/Line IP 2R (screen)
Z.DD (AA)	Mic/Line IP 3L (screen)
CC.HH (BB)	Mic/Line IP 3R (screen)
JJ.PP (KK)	Mic/Line IP 4L (screen)
NN.TT (MM)	Mic/Line IP 4R (screen)
F.J.S.T.H.LL EE.FF.RR.SS	Chassis

Style 1 - 4 pairs per 38 way Varicon

Stereo I/Ps 1-4

CABLE 1 STEREO I/Ps 1-4

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	Chassis
4 . 22	1R
5 . 23	Chassis
6 . 24	2L
7 . 25	Chassis
8 . 26	2R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	3L
12 . 30	Chassis
13 . 31	3R
14 . 32	Chassis
15 . 33	4L
16 . 34	Chassis
17 . 35	4R
18 . 36	Chassis

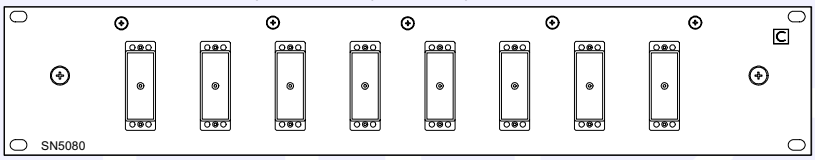
CABLE 2 STEREO I/Ps 5-8 (NOT SHOWN)

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	5L
3 . 21	Chassis
4 . 22	5R
5 . 23	Chassis
6 . 24	6L
7 . 25	Chassis
8 . 26	6R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	7L
12 . 30	Chassis
13 . 31	7R
14 . 32	Chassis
15 . 33	8L
16 . 34	Chassis
17 . 35	8R
18 . 36	Chassis

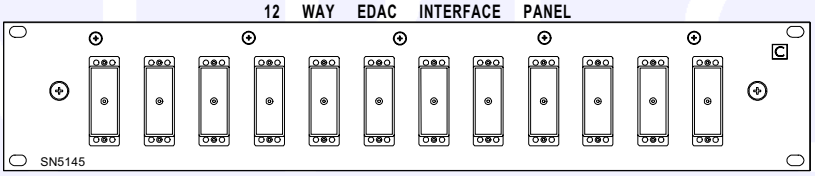
2 cables for each ADC card fitted - 4 stereo inputs on each cable (Just one shown here). Please note that cables can be no longer than 1m (3.2ft).

On Varicons, pin 1 (A) is HOT (phase), pin 2 (E) is COLD (anti-phase) and pin 3 (B) is chassis connections.

8 WAY EDAC INTERFACE PANEL



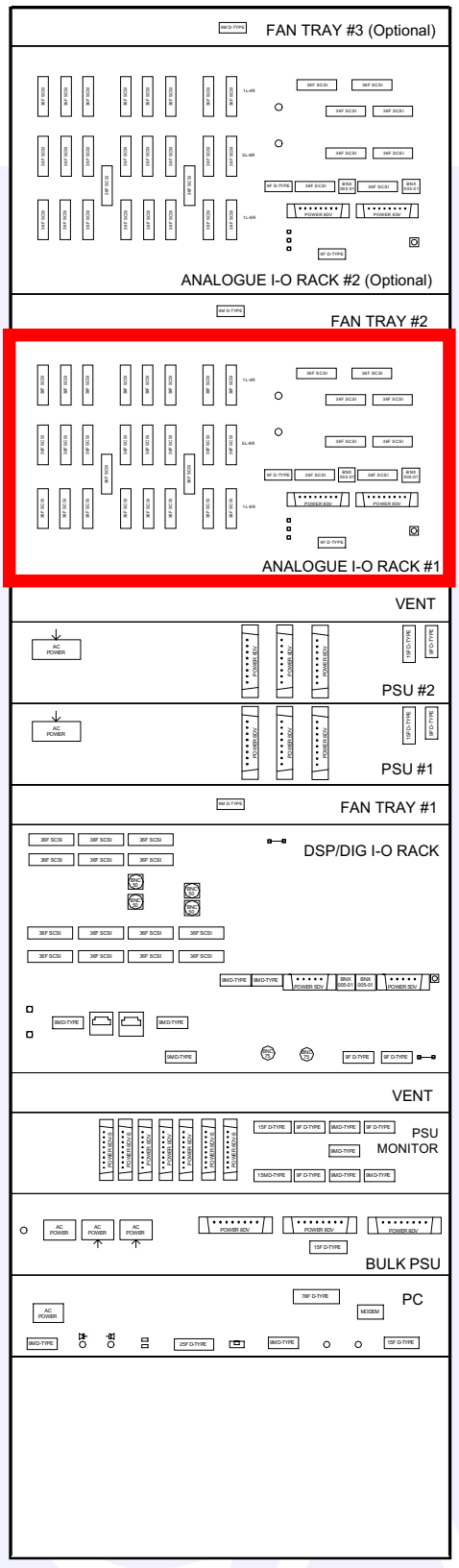
12 WAY EDAC INTERFACE PANEL



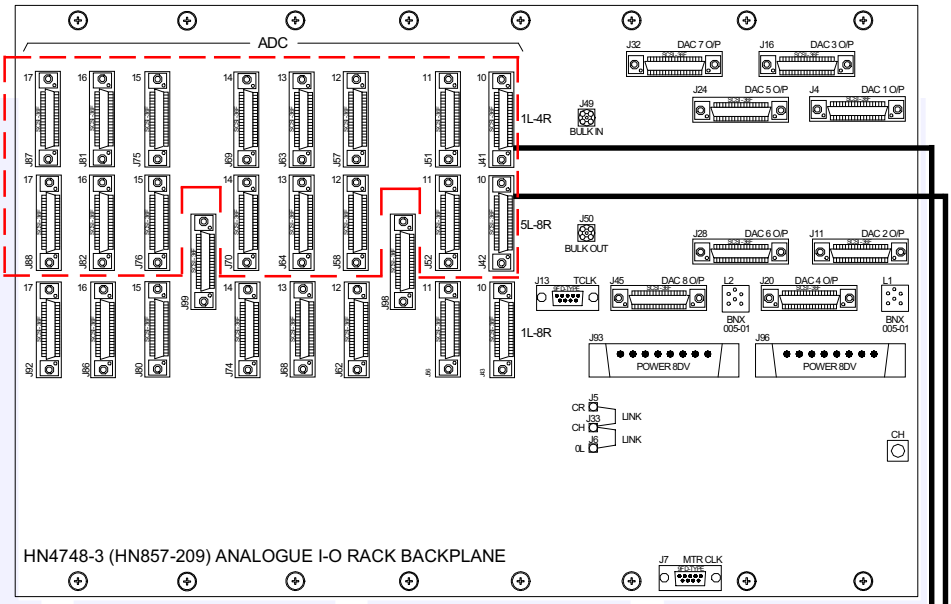
ANALOGUE MIC/LINE INPUTS (FOR MIC/LINE OR LINE ADC CARDS) - STYLE 2

Up to 8 Mic/Line or Line cards can be fitted into the analogue I-O rack each providing 8 stereo inputs. There are 4 stereo inputs on each of the Mic/Line input connectors (shown within dotted border).

REAR OF RACK



The diagram below shows how these connectors are connected to 8 or 12 way EDAC Interface panels via Calrec custom cabling to achieve Style 2 as mentioned earlier (6 pairs per Varicon).



Calrec Custom Cabling (312-113)

Wired into Varicon - Rear of Interface Panel

A.B (E)	Mic/Line IP 1L
C.D (K)	Mic/Line IP 1R
L.M (F)	Mic/Line IP 2L
N.P (J)	Mic/Line IP 2R
R.S (V)	Mic/Line IP 3L
T.U (W)	Mic/Line IP 3R
Z.AA (X)	Mic/Line IP 4L
BB.CC (Y)	Mic/Line IP 4R
DD.EE (KK)	Mic/Line IP 5L
FF.HH (MM)	Mic/Line IP 5R
PP.RR (JJ)	Mic/Line IP 6L
SS.TT (NN)	Mic/Line IP 6R
H.LL	Chassis

Style 2 - 6 pairs per 38 way Varicon

Stereo IPs 1-4

Stereo IPs 5-8

7-8 To Next Varicon

CABLE 1 STEREO I/Ps 1-4

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	Chassis
4 . 22	1R
5 . 23	Chassis
6 . 24	2L
7 . 25	Chassis
8 . 26	2R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	3L
12 . 30	Chassis
13 . 31	3R
14 . 32	Chassis
15 . 33	4L
16 . 34	Chassis
17 . 35	4R
18 . 36	Chassis

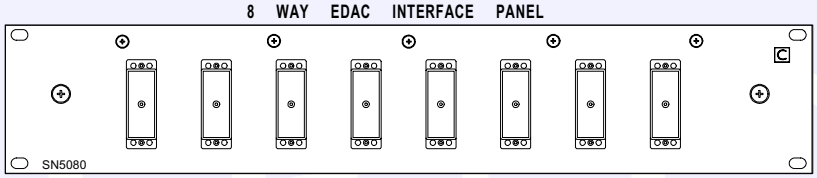
CABLE 2 STEREO I/Ps 5-8

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	5L
3 . 21	Chassis
4 . 22	5R
5 . 23	Chassis
6 . 24	6L
7 . 25	Chassis
8 . 26	6R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	7L
12 . 30	Chassis
13 . 31	7R
14 . 32	Chassis
15 . 33	8L
16 . 34	Chassis
17 . 35	8R
18 . 36	Chassis

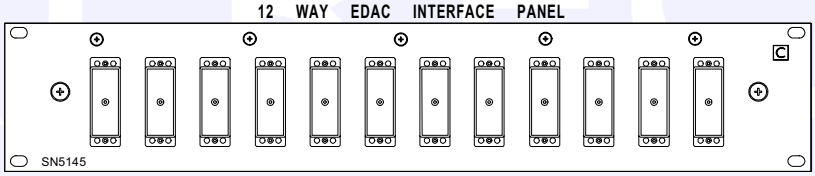
2 Cables for each ADC card fitted - 4 Stereo Inputs on each cable. Please Note that cables can be no longer than 1m (3.2ft). Cable 2 also wires into the varicon to provide circuits 5 and 6.

On Varicons, pin 1 (A) is HOT (phase), pin 2 (E) is COLD (anti-phase) and pin 3 (B) is chassis connections.

8 WAY EDAC INTERFACE PANEL



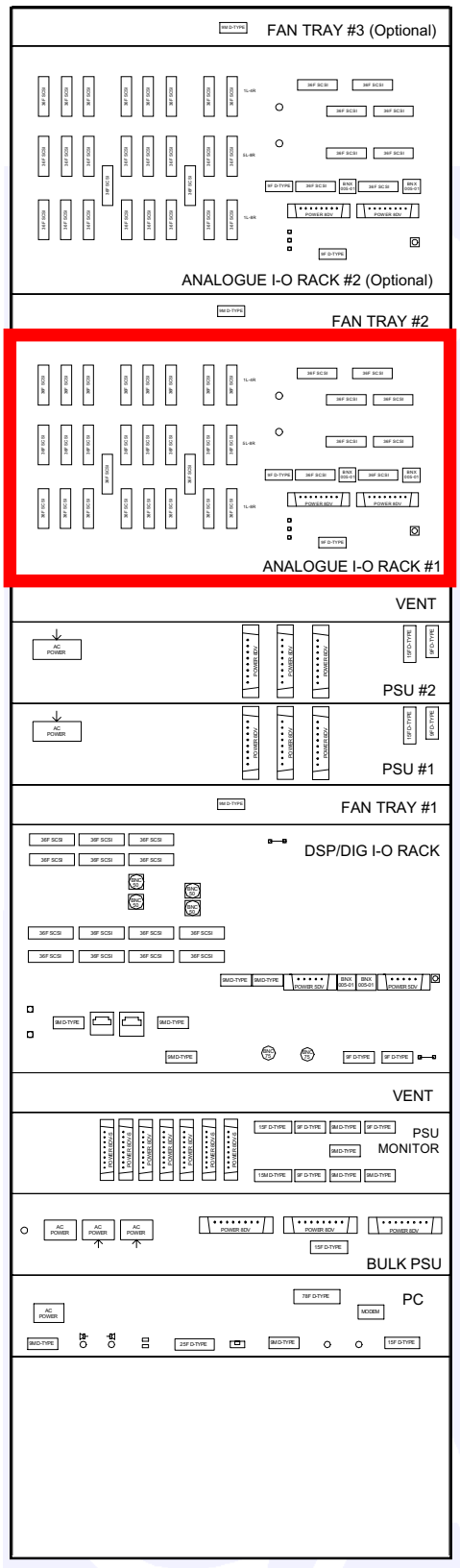
12 WAY EDAC INTERFACE PANEL



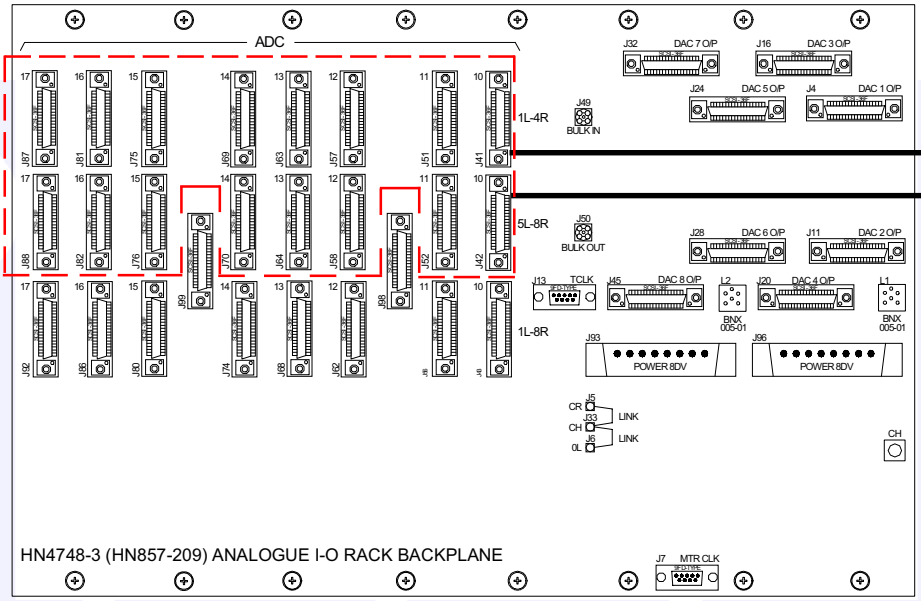
ANALOGUE LINE ONLY INPUTS (FOR LINE ADC CARDS ONLY) - STYLE 1

Up to 8 Mic/Line or Line cards can be fitted into the analogue I-O rack each providing 8 stereo inputs. There are 4 stereo inputs on each of the Mic/Line input connectors (shown within dotted border).

REAR OF RACK



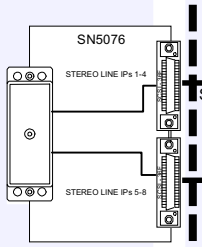
The diagram below shows how the Line inputs can be connected to 8 way EDAC interface panels via SCSI cabling to achieve Style 1 as mentioned earlier (8 pairs per Varicon).



Via SN5076 SCSI to 38W Varicon converter card - Rear of Interface Panel

A.B	Line IP 1L
C.D	Line IP 1R
E.F	Line IP 2L
J.K	Line IP 2R
L.M	Line IP 3L
N.P	Line IP 3R
R.S	Line IP 4L
T.U	Line IP 4R
Z.AA	Line IP 5L
BB.CC	Line IP 5R
DD.EE	Line IP 6L
FF.HH	Line IP 6R
JJ.KK	Line IP 7L
MM.NN	Line IP 7R
PP.RR	Line IP 8L
SS.TT	Line IP 8R
H.LL	Chassis

Style 1 - 8 pairs per 38 way Varicon



CABLE 1 STEREO I/Ps 1-4

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	Chassis
4 . 22	1R
5 . 23	Chassis
6 . 24	2L
7 . 25	Chassis
8 . 26	2R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	3L
12 . 30	Chassis
13 . 31	3R
14 . 32	Chassis
15 . 33	4L
16 . 34	Chassis
17 . 35	4R
18 . 36	Chassis

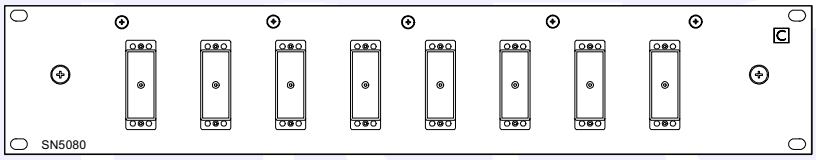
CABLE 2 STEREO I/Ps 5-8

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	5L
3 . 21	Chassis
4 . 22	5R
5 . 23	Chassis
6 . 24	6L
7 . 25	Chassis
8 . 26	6R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	7L
12 . 30	Chassis
13 . 31	7R
14 . 32	Chassis
15 . 33	8L
16 . 34	Chassis
17 . 35	8R
18 . 36	Chassis

2 Cables for each ADC card fitted - 4 Stereo Inputs on each cable. Please note that cables can be no longer than 1m (3.2ft).

On Varicon, the first pin is HOT (phase), the second pin is COLD (anti-phase) and H.LL are chassis connections.

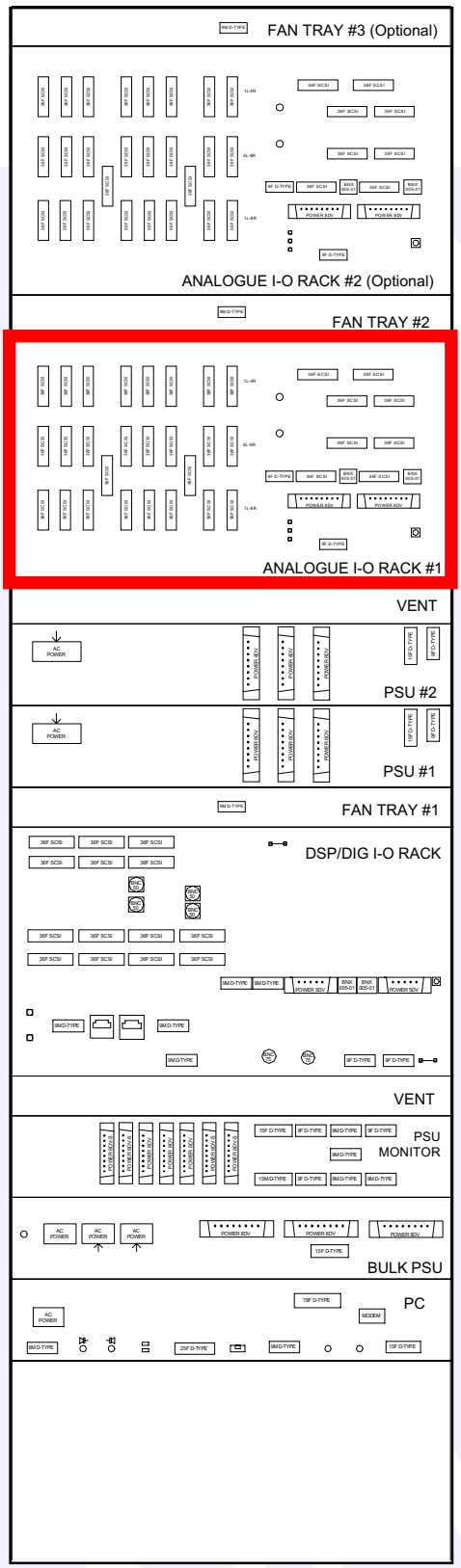
8 WAY EDAC INTERFACE PANEL



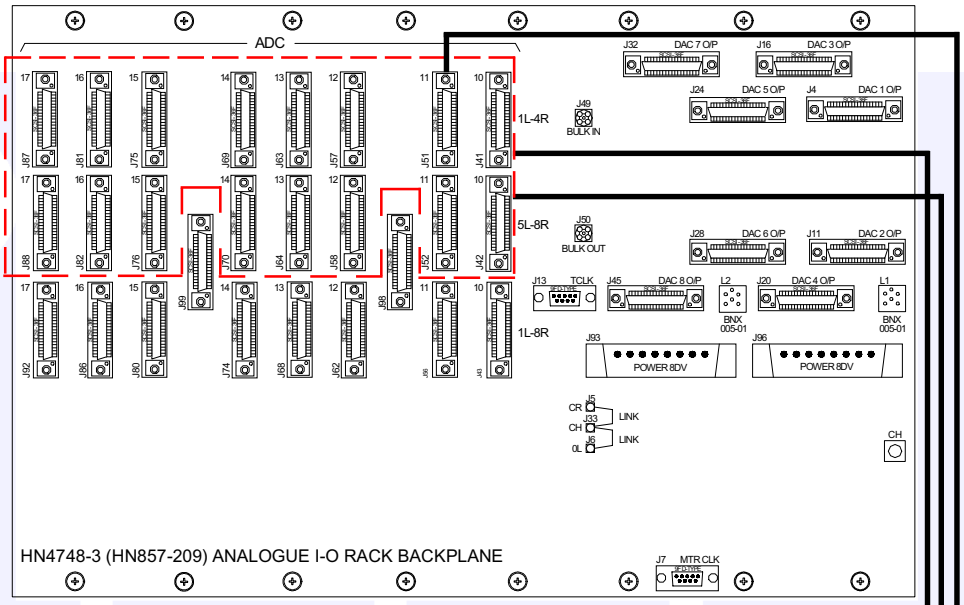
ANALOGUE LINE ONLY INPUTS (FOR LINE ADC CARDS ONLY) - STYLE 2

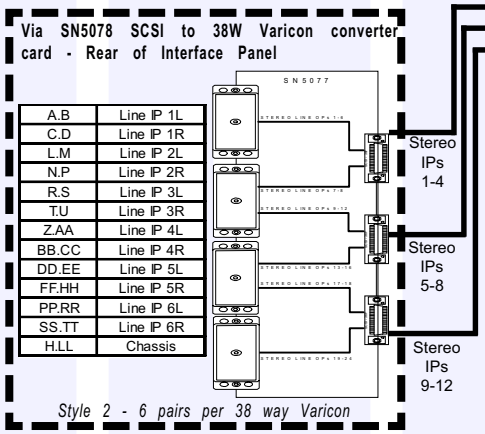
Up to 8 Mic/Line or Line cards can be fitted into the analogue I-O rack each providing 8 stereo inputs. There are 4 stereo inputs on each of the Mic/Line input connectors (shown within dotted border).

REAR OF RACK



The diagram below shows how the Line inputs can be connected to 8 way EDAC interface panels via SCSI cabling to achieve Style 2 as mentioned earlier (6 pairs/Varicon).





A.B	Line IP 1L
C.D	Line IP 1R
L.M	Line IP 2L
N.P	Line IP 2R
R.S	Line IP 3L
T.U	Line IP 3R
Z.AA	Line IP 4L
BB.CC	Line IP 4R
DD.EE	Line IP 5L
FF.HH	Line IP 5R
PP.RR	Line IP 6L
SS.TT	Line IP 6R
H.LL	Chassis

CABLE 1 STEREO I/Ps 1-4

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	Chassis
4 . 22	1R
5 . 23	Chassis
6 . 24	2L
7 . 25	Chassis
8 . 26	2R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	3L
12 . 30	Chassis
13 . 31	3R
14 . 32	Chassis
15 . 33	4L
16 . 34	Chassis
17 . 35	4R
18 . 36	Chassis

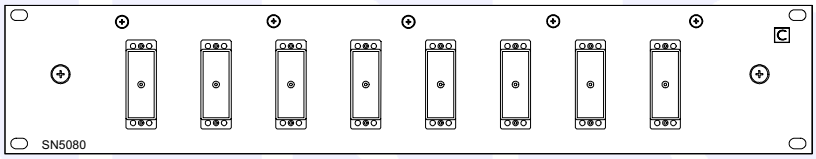
CABLE 2 STEREO I/Ps 5-8

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	5L
3 . 21	Chassis
4 . 22	5R
5 . 23	Chassis
6 . 24	6L
7 . 25	Chassis
8 . 26	6R
9 . 27	Chassis
10 . 28	Chassis
11 . 29	7L
12 . 30	Chassis
13 . 31	7R
14 . 32	Chassis
15 . 33	8L
16 . 34	Chassis
17 . 35	8R
18 . 36	Chassis

2 Cables for each ADC card fitted - 4 Stereo Inputs on each cable. Please note that cables can be no longer than 1m (3.2ft).

On Varicon, the first pin is HOT (phase), the second pin is COLD (anti-phase) and H.LL are chassis connections.

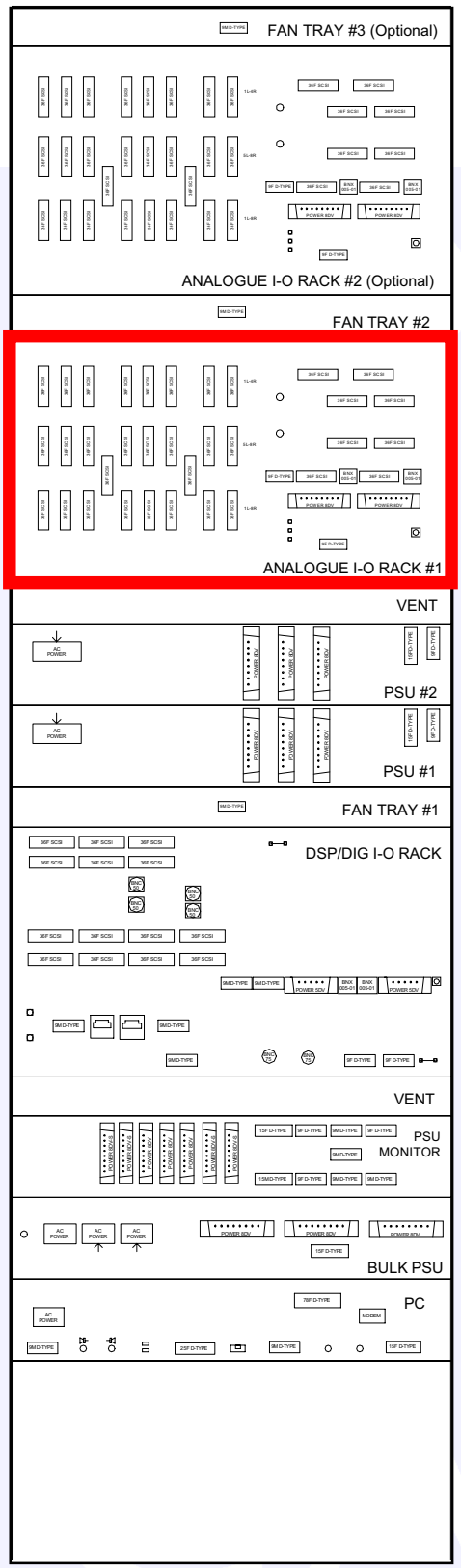
8 WAY EDAC INTERFACE PANEL



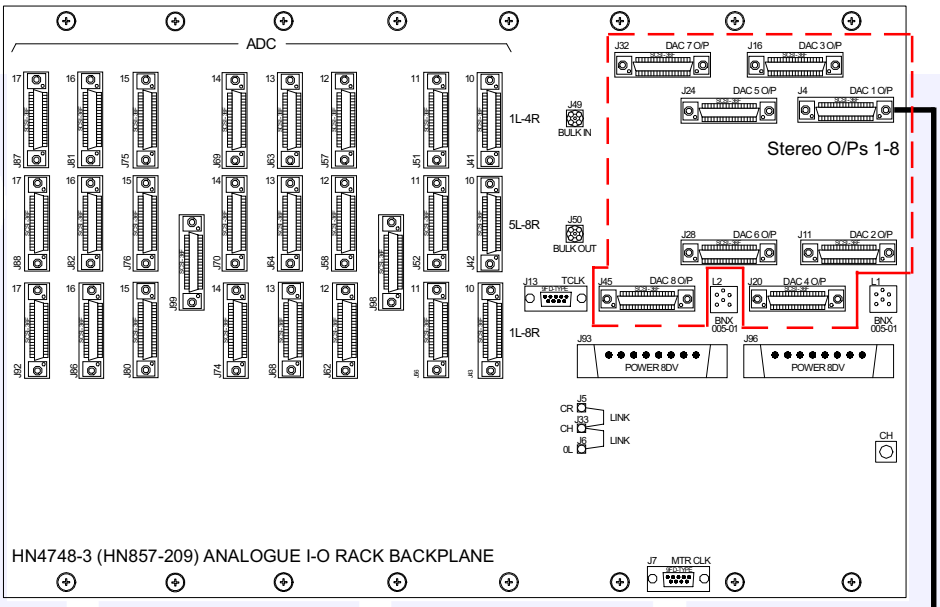
ANALOGUE LINE OUTPUTS (FOR DAC CARDS ONLY) - STYLE 1

Up to 8 DAC cards can be fitted into the analogue I-O rack providing 8 stereo outputs on each of the Line output connectors on the analogue I-O rack (shown within dotted border).

REAR OF RACK



The diagram below shows how the Line outputs can be connected to 8 way EDAC interface panels via SCSI cabling to achieve Style 1 as mentioned earlier (8 pairs per Varicon).



Via SN5075 SCSI to 38W Varicon converter card - Rear of Interface Panel

A.B	Line OP 1L
C.D	Line OP 1R
E.F	Line OP 2L
J.K	Line OP 2R
L.M	Line OP 3L
N.P	Line OP 3R
R.S	Line OP 4L
T.U	Line OP 4R
Z.AA	Line OP 5L
BB.CC	Line OP 5R
DD.EE	Line OP 6L
FF.HH	Line OP 6R
JJ.KK	Line OP 7L
MM.NN	Line OP 7R
PP.RR	Line OP 8L
SS.TT	Line OP 8R
H.LL	Chassis

SN5075

STEREO LINE OPs 1-8

1-8

Style 1 - 8 pairs per 38 way Varicon

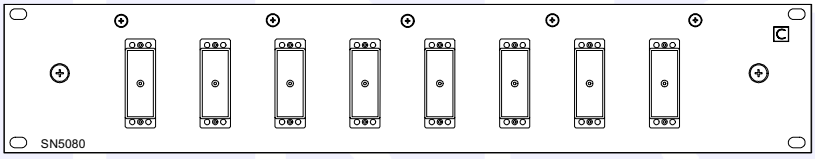
CABLE 1
STEREO O/Ps 1-8

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	1R
4 . 22	2L
5 . 23	2R
6 . 24	3L
7 . 25	3R
8 . 26	4L
9 . 27	4R
10 . 28	5L
11 . 29	5R
12 . 30	6L
13 . 31	6R
14 . 32	7L
15 . 33	7R
16 . 34	8L
17 . 35	8R
18 . 36	Chassis

1 Cable for each DAC card fitted - 8 Stereo Outputs on each cable. Please note that cables can be no longer than 1m (3.2ft).

On Varicon, the first pin is HOT (phase), the second pin is COLD (anti-phase) and H.LL are chassis connections.

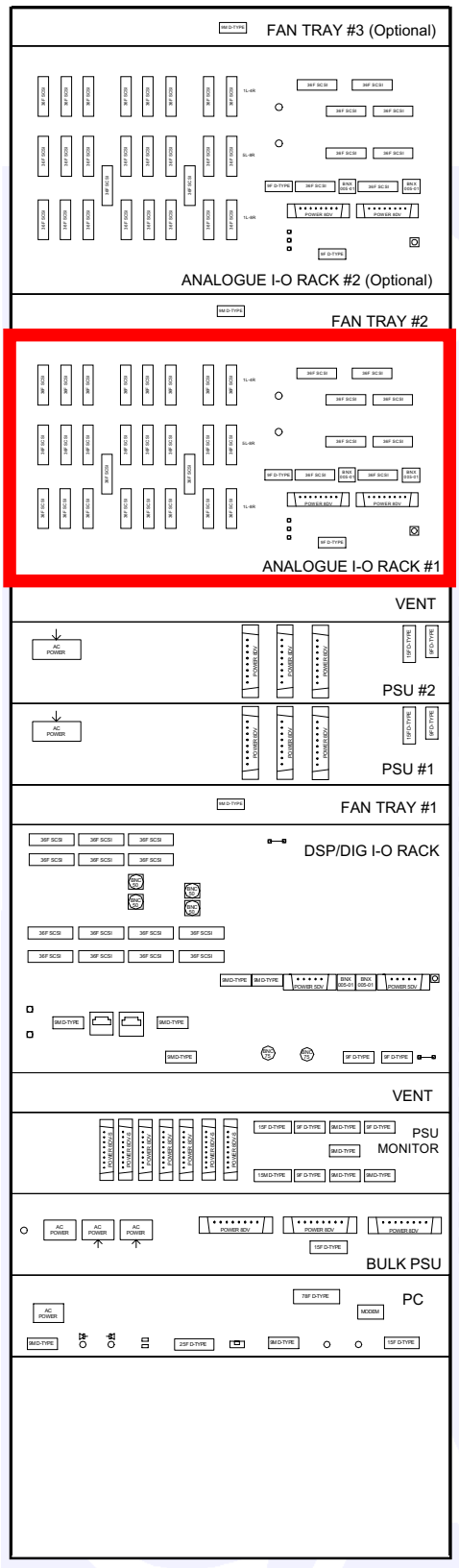
8 WAY EDAC INTERFACE PANEL



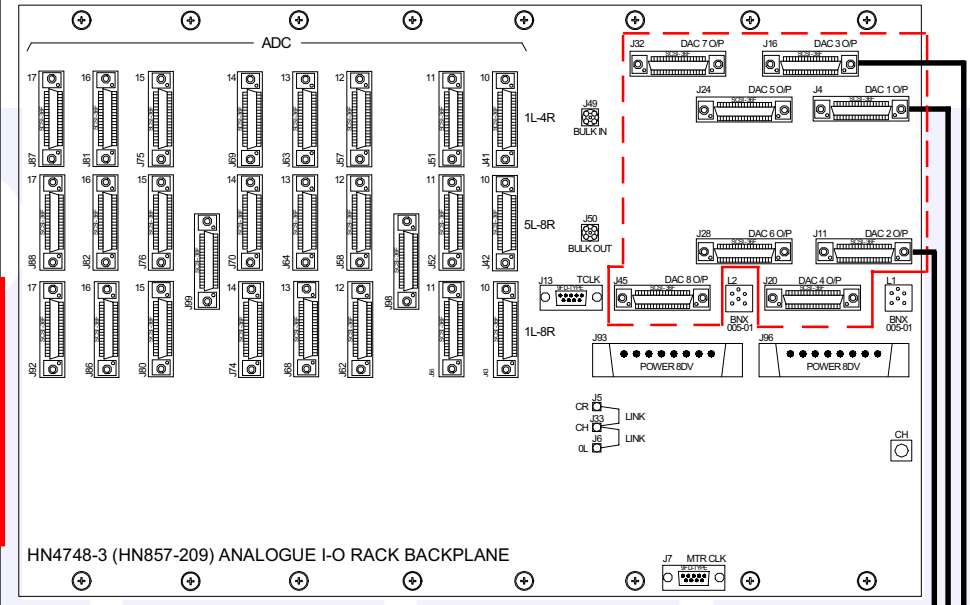
ANALOGUE LINE OUTPUTS (FOR DAC CARDS ONLY) - STYLE 2

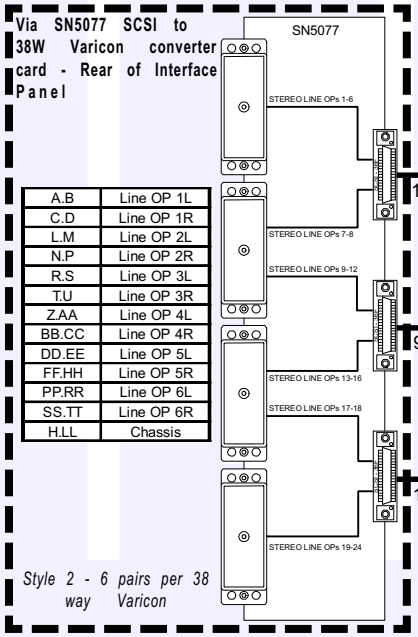
Up to 8 DAC cards can be fitted into the analogue I-O rack. Each card provides 8 stereo outputs on each of the Line output connectors on the analogue I-O rack (shown within dotted border).

REAR OF RACK



The diagram below shows how the Line outputs can be connected to 8 way EDAC interface panels via SCSI cabling to achieve Style 2 as mentioned earlier (6 pairs per Varicon).





A.B	Line OP 1L
C.D	Line OP 1R
L.M	Line OP 2L
N.P	Line OP 2R
R.S	Line OP 3L
T.U	Line OP 3R
Z.AA	Line OP 4L
BB.CC	Line OP 4R
DD.EE	Line OP 5L
FF.HH	Line OP 5R
PP.RR	Line OP 6L
SS.TT	Line OP 6R
H.LL	Chassis

CABLE 1 STEREO O/Ps 1-8

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	1R
4 . 22	2L
5 . 23	2R
6 . 24	3L
7 . 25	3R
8 . 26	4L
9 . 27	4R
10 . 28	5L
11 . 29	5R
12 . 30	6L
13 . 31	6R
14 . 32	7L
15 . 33	7R
16 . 34	8L
17 . 35	8R
18 . 36	Chassis

CABLE 2 STEREO O/Ps 9-16

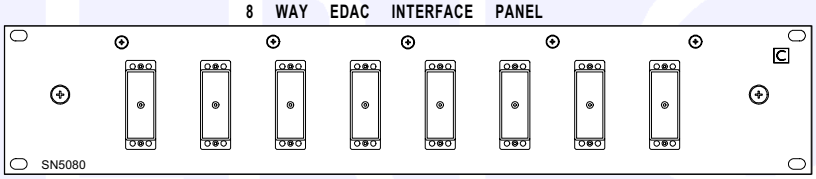
SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	1R
4 . 22	2L
5 . 23	2R
6 . 24	3L
7 . 25	3R
8 . 26	4L
9 . 27	4R
10 . 28	5L
11 . 29	5R
12 . 30	6L
13 . 31	6R
14 . 32	7L
15 . 33	7R
16 . 34	8L
17 . 35	8R
18 . 36	Chassis

CABLE 3 STEREO O/Ps 17-24

SCSI Pins	Circuit
1 . 19	Chassis
2 . 20	1L
3 . 21	1R
4 . 22	2L
5 . 23	2R
6 . 24	3L
7 . 25	3R
8 . 26	4L
9 . 27	4R
10 . 28	5L
11 . 29	5R
12 . 30	6L
13 . 31	6R
14 . 32	7L
15 . 33	7R
16 . 34	8L
17 . 35	8R
18 . 36	Chassis

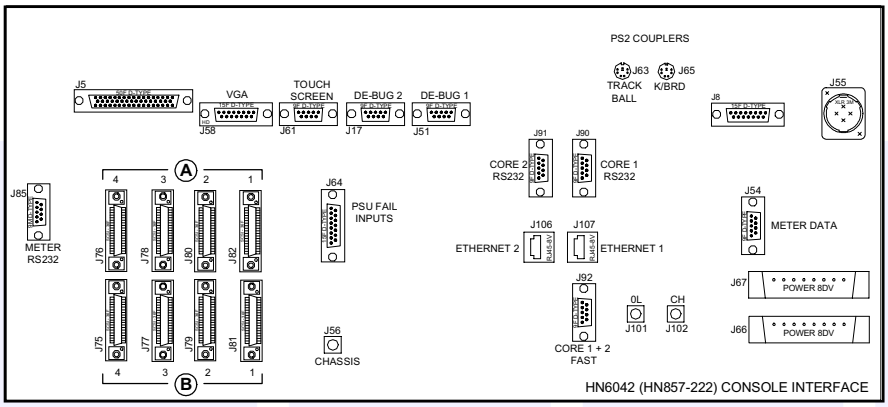
1 Cable for each DAC card fitted - 8 Stereo Outputs on each cable. Please note that cables can be no longer than 1m (3.2ft).

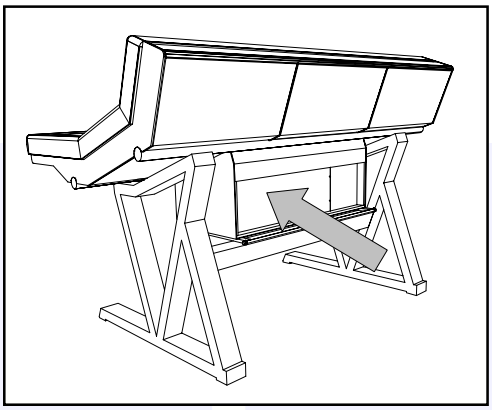
On Varicon, the first pin is HOT (phase), the second pin is COLD (anti-phase) and H.LL are chassis connections.



RELAY AND OPTO ISOLATOR CONNECTORS

Connections to the Relays & Opto Isolators are provided on 36 way female SCSI connectors on the rear of the Console. Up to 4 cards can be fitted.





A

SCSI (conn 1 of 2)	
Pins	Circuit
1 . 19	5V
2 . 20	Opto 1
3 . 21	Opto 2
4 . 22	Opto 3
5 . 23	Opto 4
6	* Relay 1 No
24	Nm
7	Com
25	* Relay 2
8	Nm
26	Com
9	* Relay 3
27	Nm
10 .	Com
28	* Relay 4
11	Nm
29	Com
12	Relay 5
30	Nm
13	Com
31	Relay 6
14	Nm
32	Com
15	Relay 7
33	Nm
16	Com
34	Relay 8
17	Nm
35	Com
18 . 36	0V

B

SCSI (conn 2 of 2)	
Pins	Circuit
1 . 19	5V
2 . 20	Opto 5
3 . 21	Opto 6
4 . 22	Opto 7
5 . 23	Opto 8
6	Relay 9
24	Nm
7	Com
25	Relay 10
8	Nm
26	Com
9	Relay 11
27	Nm
10 .	Com
28	Relay 12
11	Nm
29	Com
12	Relay 13
30	Nm
13	Com
31	Relay 14
14	Nm
32	Com
15	Relay 15
33	Nm
16	Com
34	Relay 16
17	Nm
35	Com
18 . 36	OV

* Note that on Relay/Opto card 1, relays 1 - 4 are not available

Planning the Use and Labelling of I/O

INPUT/OUTPUT PORT LABELLING

The system allows the user to pre-define labels for all the I/O, using their own preferred names and numbers.

The only rules imposed on this are that:

- The I/O is labelled in pairs.
- The label must be no more than six characters.
- The same label cannot be used more than once (but an input can have the same label as an output).

I/O is labelled in pairs to make it easier to use with any type of signal; Mono, Stereo or Surround. In addition to this, Digital I/O is wired in pairs and it makes sense to deal with all the I/O in the same way.

The input port label is used as the default name for the channel input and will be shown on the display above the fader.

The system automatically adds a left (ᴸ) and right (ᴿ) suffix to the label to distinguish the two halves of the pair, or an ᴸᴿ suffix when the pair is used together.

The pairs can be used either for two mono signals, or a stereo signal, or parts of a surround signal.

One exception to these rules is allowed:

This is for I/O which is dedicated to mono signals only (phone lines, mono reverbs, mono distribution feeds, etc). This I/O can be marked as being mono in which case the two halves of the pair have separate labels and the ᴸ & ᴿ suffixes are not applied.

Note that I/O marked in this way cannot be connected in pairs to stereo paths from the I/O Matrix panel on the control surface.

A Stereo channel input can only be connected to the L - R of a pair of ports, or to one mono port in which case the mono signal will be fed to both L & R of the channel.

A Stereo channel direct output can only be connected to the L - R of a pair of ports.

A Mono channel input or direct output can be connected to any of: The L or R of a pair of ports, or any mono port.

Mono ports should therefore be considered as unusual. If there is any doubt as to the use of ports, they should be treated as a pair.

SUITABLE LABELS

Generally, I/O Ports should be labelled with the name which appears at the other end of the cable, which is connected to the port.

Ideally, the port will be connected directly to a device (Mic splitter box, Video Tape Recorder, Echo unit, Transmission Control Suite, etc).

Alternatively, some I/O may be wired to a patch. This will be done, for example, to allow for hired devices to be connected and may also be done to aid maintenance and operator familiarity with analogue consoles.

When planning the use and labelling of I/O, you should also bear in mind that the Sigma 100 includes an internal electronic Input Patch and Output Patch. These allow ports to be used for different purposes on different shows and also, the patch connections are stored with the snapshot memories.

INPUT/OUTPUT LABELLING SHEETS

AES Inputs - DSP/Digital I-O Rack

Card Slot No..... SCSI Connector No.....

Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

Card Slot No..... SCSI Connector No.....

Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

INPUT/OUTPUT LABELLING SHEETS

AES Inputs - DSP/Digital I-O Rack

Card Slot No..... SCSI Connector No.....

Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

Card Slot No..... SCSI Connector No.....

Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

INPUT/OUTPUT LABELLING SHEETS

AES Inputs - DSP/Digital I-O Rack

Card Slot No..... SCSI Connector No.....

Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

Card Slot No..... SCSI Connector No.....

Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

INPUT/OUTPUT LABELLING SHEETS

AES Outputs - DSP/Digital I-O Rack

Card Slot No..... SCSI Connector No.....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

Card Slot No..... SCSI Connector No.....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

INPUT/OUTPUT LABELLING SHEETS

AES Outputs - DSP/Digital I-O Rack

Card Slot No..... SCSI Connector No.....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

Card Slot No..... SCSI Connector No.....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

INPUT/OUTPUT LABELLING SHEETS

AES Outputs - DSP/Digital I-O Rack

Card Slot No..... SCSI Connector No.....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

Card Slot No..... SCSI Connector No.....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		
9L + 9R							L R		
10L + 10R							L R		
11L + 11R							L R		
12L + 12R							L R		
13L + 13R							L R		
14L + 14R							L R		
15L + 15R							L R		
16L + 16R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Inputs - Analogue I-O Rack 1

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Inputs - Analogue I-O Rack 1

Card Slot No................... SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No................... SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No................... SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No................... SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Inputs - Analogue I-O Rack 2 (if fitted)

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Inputs - Analogue I-O Rack 2 (if fitted)

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

Card Slot No.................. SCSI Connectors .... and ....

Connector Number	Input	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
	1L + 1R							L R		
	2L + 2R							L R		
	3L + 3R							L R		
	4L + 4R							L R		
	5L + 5R							L R		
	6L + 6R							L R		
	7L + 7R							L R		
	8L + 8R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Outputs - Analogue I-O Rack 1

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Outputs - Analogue I-O Rack 1

Card Slot No.................. SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No.................. SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No.................. SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No.................. SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Outputs - Analogue I-O Rack 2 (if fitted)

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

INPUT/OUTPUT LABELLING SHEETS

Analogue Outputs - Analogue I-O Rack 2 (if fitted)

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

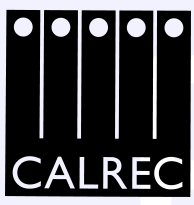
Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Card Slot No................... SCSI Connector No ....

Output	Label for LR pair (or 1st of 2 mono) 6 characters							Circuit Description	2nd Label (only if pair dedicated to 2 mono signals)
1L + 1R							L R		
2L + 2R							L R		
3L + 3R							L R		
4L + 4R							L R		
5L + 5R							L R		
6L + 6R							L R		
7L + 7R							L R		
8L + 8R							L R		

Notes

Notes



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