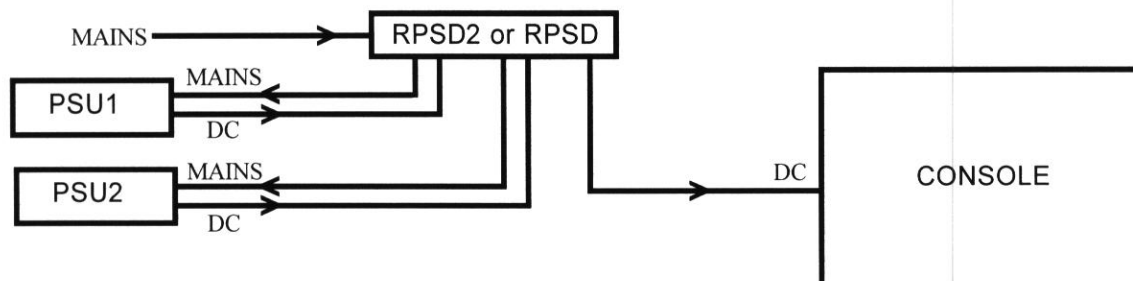


RPSD2 & RPSD

DUAL SUPPLY COMBINER / MONITOR



The **RPSD2 & RPSD** have been designed to compliment the professional series of Allen & Heath Live sound mixing consoles. Its purpose is to monitor the power supply to the console and let a backup supply quickly and silently take over in the event of a fault occurring on one of the supplies. Both units come in a compact 1U rack mount module. The narrow front panel solely serves as an indicator panel as there are no other user controls.

Although the **RPSD** is primarily intended to operate with the **GL4** range of consoles and the **RPSD2** is intended to operate with the **GL4000** range, both are capable of operating with the entire range of A&H G-Series consoles, provided the correct interconnecting cables are used. (see accessories in Specification section). The **RPSD2 & RPSD** have been designed to operate with the following range of A&H power supplies: MPS8&9, RPS5B, RPS9, RPS10 and RPS11. Please note, that when connecting the RPS11 to an **RPSD** a special interconnecting cable (A&H part no: 002-225) will be required. The **RPSD2 & RPSD** can also be used in studio and broadcast environments - whatever the console or application.

Connecting the **RPSD2 or RPSD** into a system only requires the replugging of the mains and DC leads. Each support power supply derives its mains voltage from the **RPSD2 or RPSD** using the leads provided. We do not supply the mains lead from the wall socket outlet to the **RPSD2 or RPSD** as this should already have been provided with the original console power supply. The DC output from each power supply plugs directly into the **RPSD2 or RPSD** which in turn connects to the console through the standard DC power cable provided. Longer lengths should be used with care to avoid external interference pick-up and also the inherent voltage drop caused by the cable resistance.

Each monitor circuit in the **RPSD2 & RPSD** is independently self powered by the power supply it is monitoring. This allows the system to operate with just one supply connected, which can be useful if one has been removed for repair or routine maintenance. As the **RPSD2 & RPSD** do not take power from the mains, both are therefore compatible with all mains voltages from 100V to 240V AC. Make sure of course that both power supplies are set to match the local AC mains supply.

Both the **RPSD2 & RPSD** include an RFI suppression filter on the mains input socket to remove unwanted line interference. A front panel mains switch switches mains through a protection fuse to the 2 IEC outlets that feed the two power supplies. A neon lamp indicates the presence of mains voltage.

As well as monitoring all the DC power rails (+16V, -16V, +48V) the **RPSD2 & RPSD** also provide built-in reverse voltage protection to prevent damage to the console circuits if an incorrectly wired power supply or DC cable is connected.

Each DC rail is continuously monitored for under voltage, over voltage and excessive ripple.

Large 3 colour front panel LED indicators quickly draw attention to the status of each supply. The operator can see at a glance if anything is wrong. Remember this will occasionally be necessary because when a failure occurs, the change over from one supply to another will go unnoticed.

The LED indicator status follows a logical error pattern. All indicator LEDs steady green signifies that both supplies are working correctly. If a main STATUS indicator LED starts flashing red a supply has gone out of voltage range. The faulty supply is indicated by a red rail LED. If a main STATUS indicator LED flashes orange then excessive ripple on a supply has been detected. The faulty supply rail LED will also turn orange. If the LED is permanently off then the supply is either disconnected, switched off or totally dead.

Starts on
p.3

For those who spend much of their lives behind the equipment rack the **RPSD2 & RPSD** units also have main status indicator LEDs (OK) for each supply located on the rear panel. This should prove useful if you need to unplug a faulty unit mid session. A stable green LED will show which supply is still good.

If the **RPSD2 or RPSD** is to be used in an isolated position that obscures direct vision then remote indicators can be connected using the 9 pin D connector on the rear. This includes a feed from each DC rail through a 10 Ohm protection resistor. These may be used to drive remote LED or lamp indicators through suitable current limiting resistors, or alternatively to power low current ancillary circuits up to 100mA. Also included is an open-collector transistor output for each supply status. Logic 0V = 'good'. This can be connected to an indicator powered from one of the positive rails, or drive a suitable relay or other switching circuit.

SPECIFICATION:

Bridge diode power steering / combining. Window comparator voltage detectors, AC ripple detection.

DC IN CONNECTIONS

RPSD		RPSD2	
Two 5 pin XLR male connectors		Two 5 pin XLR male connectors Two 10 pin round male connectors	
5-pin XLR male	+16V 4A max -16V 4A max +48V 200mA max	10-pin male	+16V 5A max -16V 5A max +48V 200mA max

DC OUT CONNECTIONS

RPSD	RPSD2
8-pin locking Cinch socket	10-pin screw locking round socket

MAINS IN	100-240V AC @ 8A max. with RFI filtered input.
MAINS FUSE	T 8A 250V 20mm.
MAINS OUT	100-240V AC @ 5A max on two IEC 3pin sockets.
MONITOR CIRCUITS	2 independent self powered power supply monitor circuits. 4 tricolour flashing LED indicator display per monitor circuit.
Voltage range limits	±16V 13-18V +48V 35-56V
Ripple/noise limits	>500mA

POWER REQUIREMENT (power consumption from each supply)

+16V	25mA
-16V	5mA
+48V	12mA

REMOTE	+/-16V @ 100mA max. from each rail. 'good' status NPN open collector 100mA max.
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DIMENSIONS (unpacked)	482 x 45 x 145mm	19" x 1.75" x 5.7"	width x height x depth
.....(packed)	570 x 75 x 340mm	22.5" x 3" x 13.5"	

WEIGHT (unpacked)	2.5 kg	5lb
..... (packed)	2.6 Kg	5.5lb

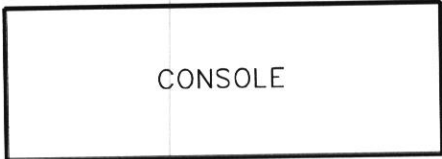
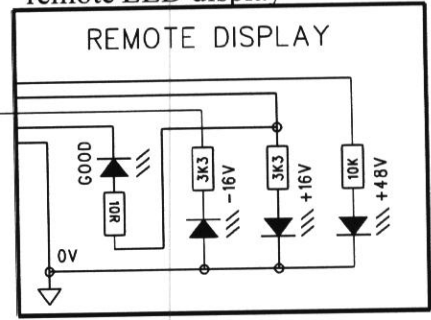
ACCESSORIES	RPSD - GL4 console 3m DC cable (A&H Part no: 002-060)
.....	RPSD - GL4000 console 3m DC cable (A&H Part no: 002-227)
.....	RPSD2 - GL4000 console 3m DC cable (A&H Part no: 002-223)
.....	DC cable 3m 5-pin fem XLR to 10-pin male (A&H Part no: 002-225)
.....	IEC 3-pin male to female mains cables (A&H Part no: AH2262)
.....	User Manual (A&H Part no: AP2263)

SAFETY WARNING !

Mains electricity is dangerous and can kill. Mains voltage is present within the **RPSD2** and the connected power supply units. Do not remove the top cover with mains connected. Check your mains wiring and earthing before switching on. The chassis is always connected to mains earth to ensure your safety.

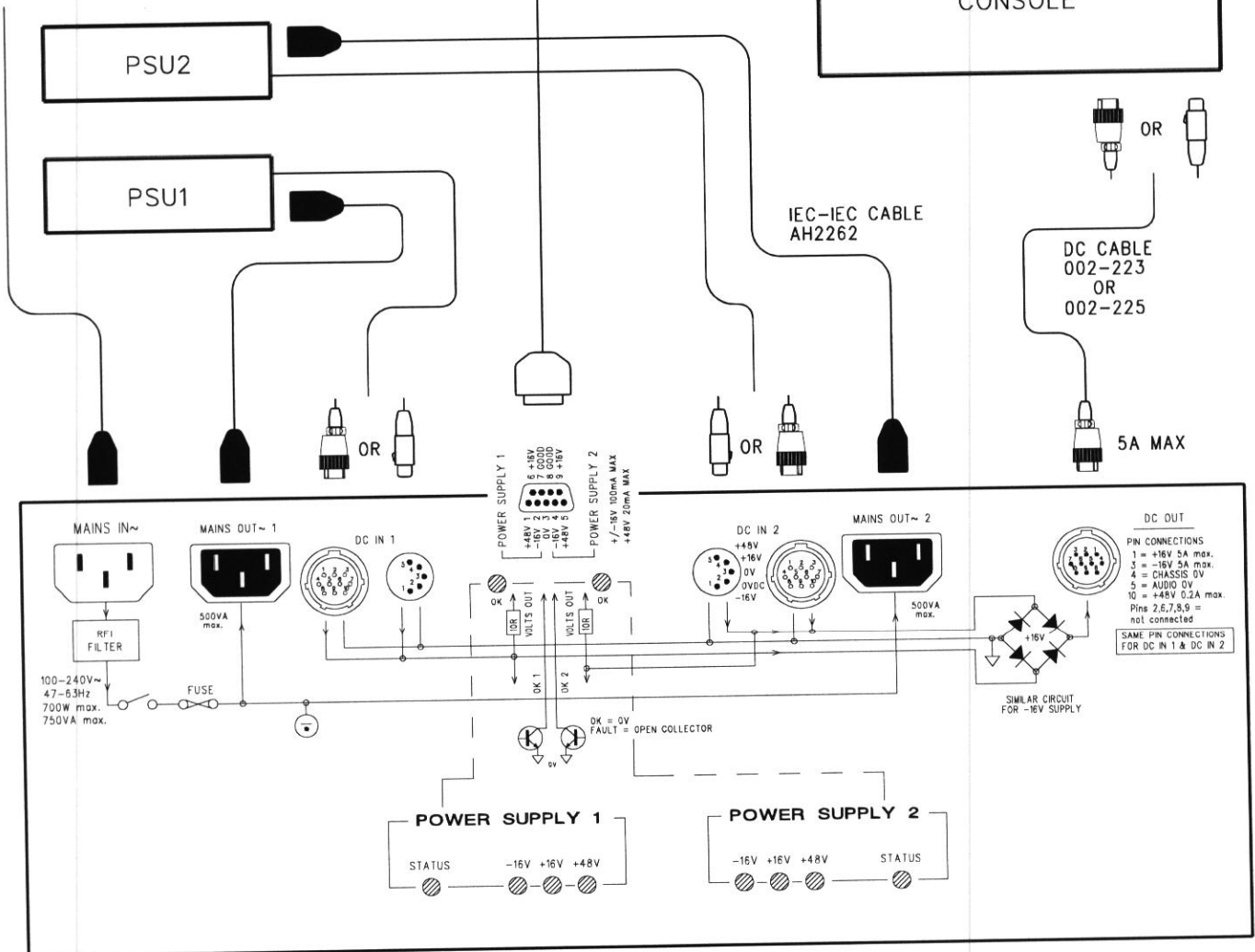
DO NOT REMOVE THE MAINS EARTH CONNECTION!

Shown wired for typical remote LED display



FROM AC MAINS SUPPLY

100-240V.AC TO MATCH PSU MAINS SETTING
47/63Hz



DC OUT
PIN CONNECTIONS
1 = +16V 5A max.
3 = -16V 5A max.
4 = CHASSIS 0V
5 = AUDIO 0V
10 = +48V 0.2A max.
Pins 2,6,7,8,9 = not connected
SAME PIN CONNECTIONS FOR DC IN 1 & DC IN 2

GOOD	GREEN	✓
FAULT	OFF	—
	ORANGE	~
	RED	V
		PSU OFF OR DEAD
		HIGH RIPPLE >500mV
		VOLTS UNDER OR OVER
		+/-16V 13-18
		+48V 35-56

All LEDs steady green = supplies good.
Status LED flashing = supply fault
Status LED off = supply not connected or dead.

Shown wired for typical remote LED display

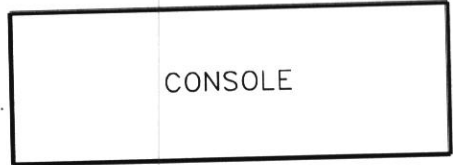
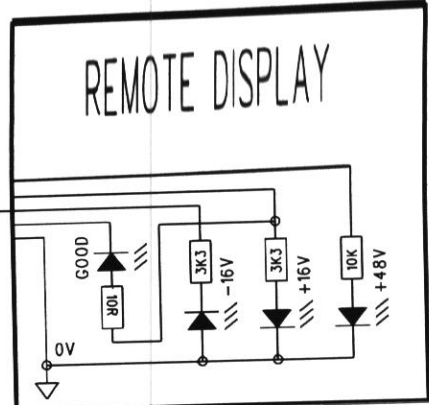
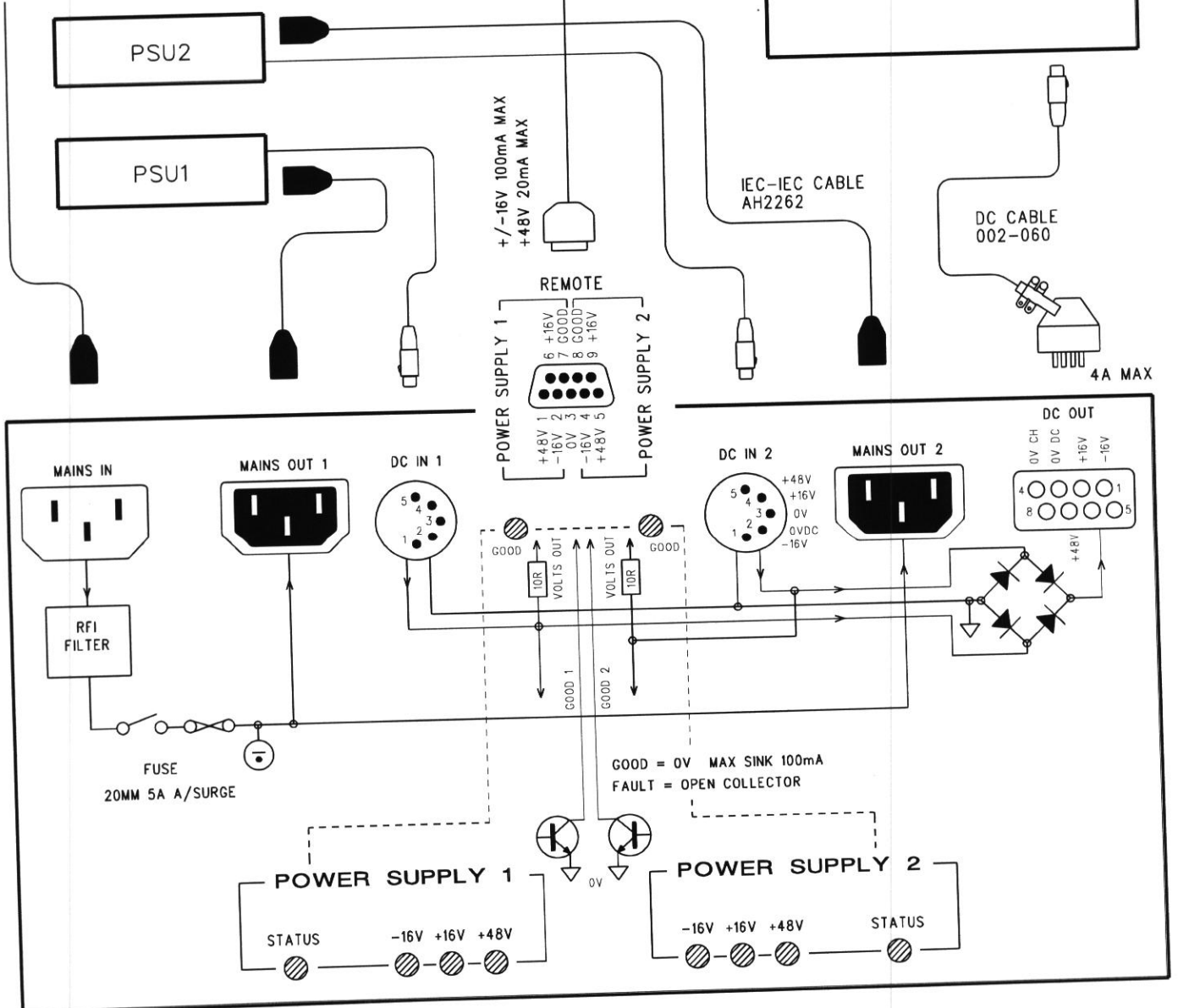
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DO NOT REMOVE THE MAINS EARTH CONNECTION!

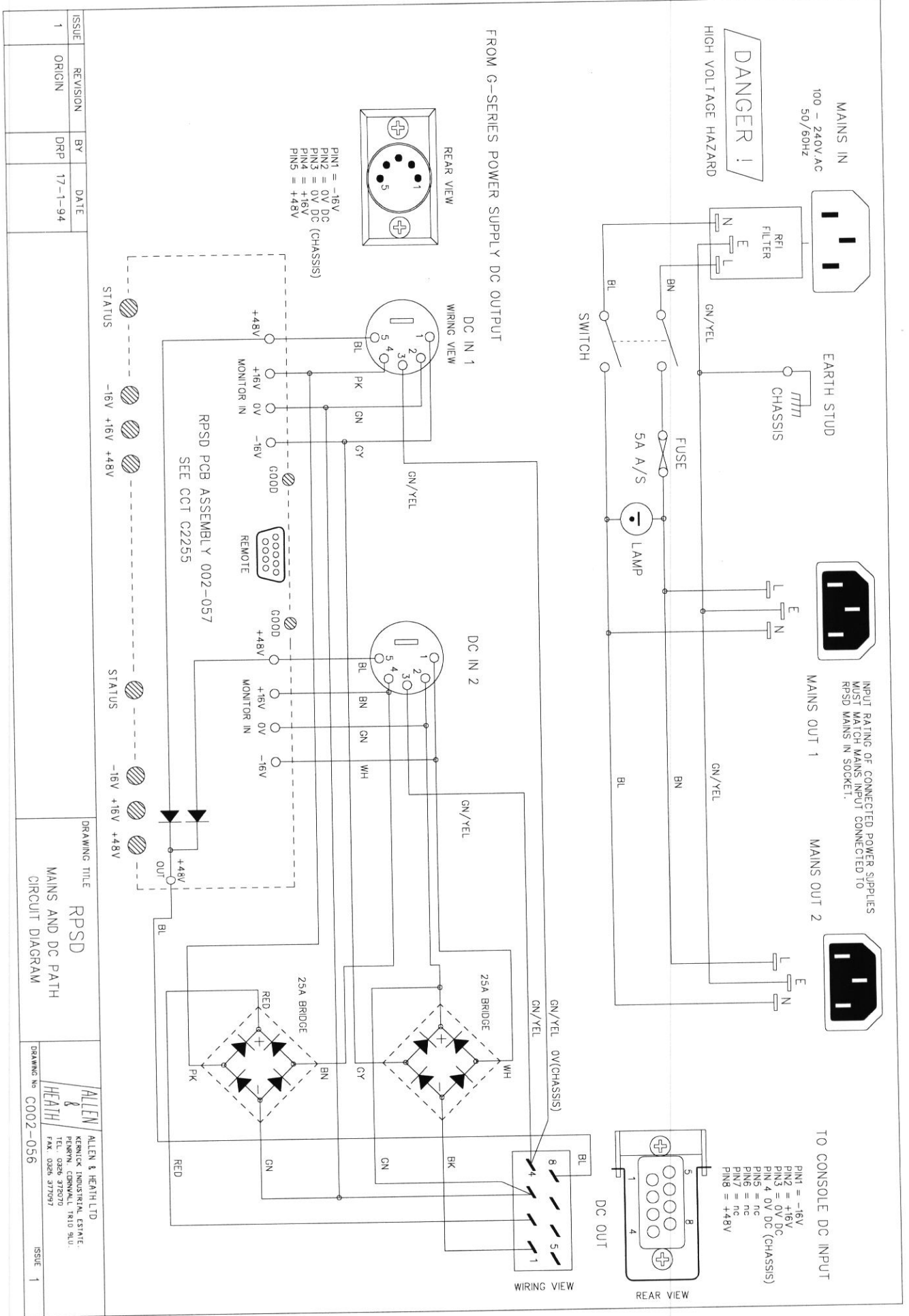
FROM MAINS

100-240V.AC TO MATCH PSU MAINS SETTING
50/60Hz



GOOD GREEN ✓

All LEDs steady green = supplies good.



ISSUE	REVISION	BY	DATE
1	ORIGIN	DRP	17-1-94

DRAWING TITLE
RPSD
MAINS AND DC PATH
CIRCUIT DIAGRAM

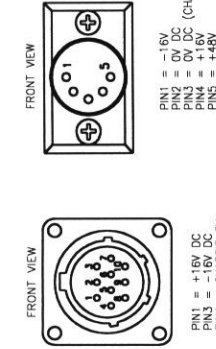
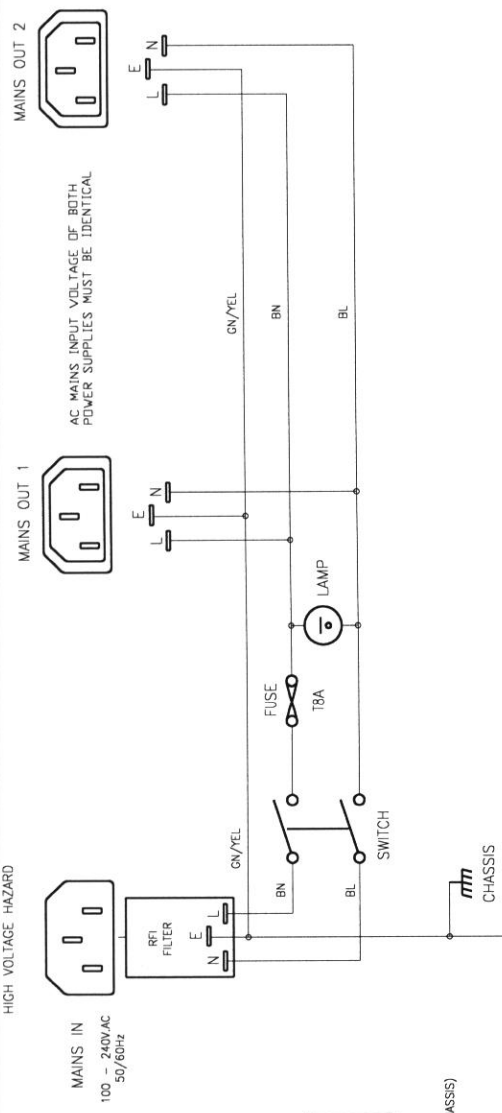
ALLEN & HEATH LTD
KERLUCK INDUSTRIAL ESTATE
PERMAN, LONDON, E14 9LJ
TEL. 0283 37797
FAX. 0283 37797

DRAWING No C002-056

ISSUE 1

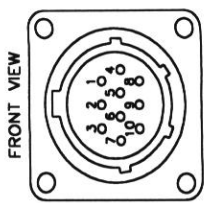
! DANGER !

HIGH VOLTAGE HAZARD

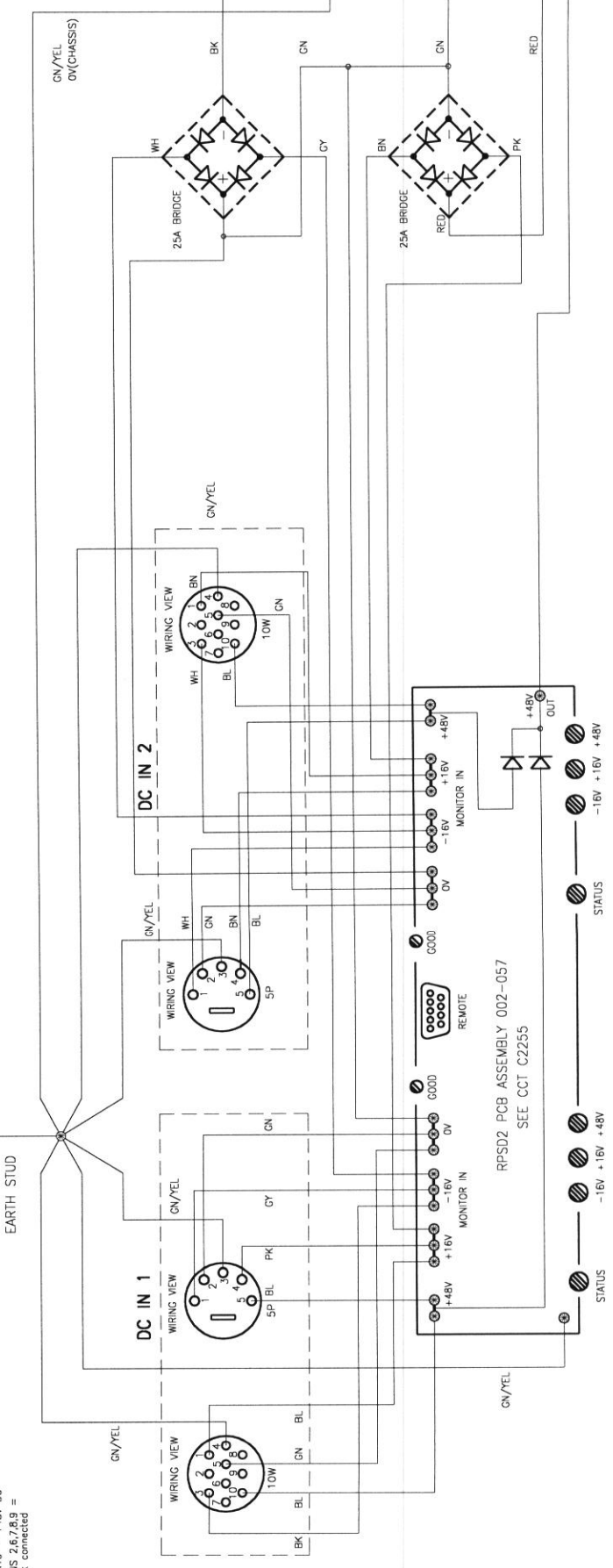
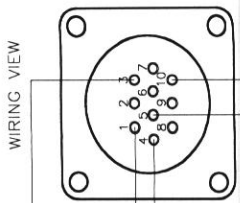


PIN1 = +16V DC
 PIN2 = -16V DC
 PIN3 = OV DC (CHASSIS)
 PIN4 = +16V
 PIN5 = +48V
 PINS 2,6,7,8,9 = not connected

TO CONSOLE DC INPUT
 PIN1 = +16V 5A max.
 PIN3 = -16V 5A max.
 PIN4 = CHASSIS OV
 PIN5 = AUDIO OV
 PIN10 = +48V 0.2A max.
 PINS 2,6,7,8,9 = not connected



DC OUT



RPSD2 PCB ASSEMBLY 002-057
SEE CCT C2255

ISSUE	REVISION	BY	DATE
1	ORIGIN	DRP	17-1-94
2	RPSD2 ADDED	IMCB	10-1-97

DRAWING TITLE RPSD2
 AC MAINS AND DC WIRING
 SCHEMATIC DIAGRAM

ALLEN & HEATH
 KERNICK INDUSTRIAL ESTATE,
 PENRYN, CORNWALL TR10 9LU
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DRAWING No C002-056

ISSUE 2