ALLEN & HEATH

WZ16:2

16 MIC/LINE INPUT AUDIO MIXING CONSOLE

SERVICE MANUAL

PUBLICATION **AP2918**

INTRODUCTION

The information presented in this manual is intended for competent technical personnel to carry out service and product support for the *Wizard 16:2*. We assume that the reader is familiar with the related electronic theory and audio terminology, and is able to carry out basic servicing, fault-finding and repair of audio equipment of this type. Service personnel should also be familiar with audio systems, mains earthing and power requirements, as well as handling precautions.

For further information on the operation and application of the *Wizard 16:2* please refer to the **USER GUIDE** publication AP2917 supplied with each console.

Whilst we believe the information in this manual to be reliable we do not assume responsibility for inaccuracies. We also reserve the right to make changes in the interest of further product development.

SERVICE AND TECHNICAL SUPPORT

Under normal conditions the *Wizard 16:2* does not require user maintenance or internal calibration. Any service work required should be carried out by qualified technical personnel only.

We are able to offer further product support through our worldwide distribution network. To help us provide the most efficient service please would you quote the console serial number in any communication regarding this product.

SAFETY WARNING !

Mains electricity is dangerous and can kill. Mains voltage is present within the unit. Do not remove any covers with mains connected. Do not carry out any work within the unit while it is powered. High voltage components are insulated for safety but should not be touched with power applied. The mains voltage setting is indicated on the on the rear panel next to the mains socket. Check that this matches your local mains supply. Check your mains wiring and earthing before switching on.

DO NOT REMOVE THE MAINS EARTH CONNECTION!

The chassis is always connected to mains earth. Audio 0V connects to the chassis internally. Should problems be encountered with ground loops operate the audio ground lift switches on other equipment connected to the unit or disconnect the cable screens at one end. Refer to the section on 'EARTHING' in the User Guide.

CONTENTS

Publication ..... AP2918 Issue 1

TECHNICAL DESCRIPTION

The ALLEN & HEATH *WIZARD 16:2* is a stereo rack mount or desk standing mixer with 16 mono inputs plus 2 stereo returns. All input channels have a 4 band 2-sweep EQ with 6 individual aux sends and Direct output. The internal power supply unit is located in the rotating connector module.

CONSTRUCTION

All metal chassis for 19" rack mount in 10U space. Comprises a 16swg steel front panel housing individual channel circuit assemblies interconnected by means of soldered copper wire busbars. The connectors are housed in a rotating connector module for either rack or desk mounted applications. Access to the channel internal assemblies is by removal of the 18swg folded steel base. Access to the connectors and power supply components is by removal of the rear cover of the connector module without the need to remove the console base. The channel assemblies may be removed for servicing.

THE CIRCUIT COMPONENTS

The *WIZARD 16:2* is manufactured using high performance industry standard linear op-amp and discrete semiconductor circuit devices. In particular the switches and potentiometers have proven to be durable and problem free. When operated correctly the normal performance of the unit introduces no noticeable audio signal degradation.

AUDIO INPUTS AND OUTPUTS

All XLR connector inputs and outputs are balanced (differential) with high impedance inputs and low impedance outputs. To use these with unbalanced equipment the -ve signal should be linked to 0V in the cable or input connector. All unbalanced connections are line level 3-pole ¼" jack sockets. All outputs are low impedance and thus capable of driving several high impedance inputs simultaneously. All inputs and outputs are in phase. The Aux send and A-B output ¼" jack sockets have a balance option available. Contact your dealer for details.

THE PFL SYSTEM

The console PFL switches send pre-fade signals to the PFL mix bus. These signals are switched with 4053 CMOS gates located on the RIGHT circuit board (PCB No: AG2896). The supply for the 4053 is ± 8V DC and is derived locally from the ±16V. The gates are switched when a PFL switch is selected.

EARTHING THE AUDIO SYSTEM

The console chassis is connected to mains earth via the mains power cable. Console audio 0V is also connected to chassis 0V.

FOR SAFETY REASONS NEVER REMOVE THE EARTH WIRE FROM THE MAINS PLUG.

Multiple earth paths cause earth (ground) loops which may result in audible hum and interference. These may be avoided by making sure that there is only one path to earth from each piece of equipment, disconnecting audio cable screens at one end if necessary.

INTERCONNECTIONS

Where possible use balanced connections for the CHANNEL inputs, AUX SENDs, L/R and A/B outputs to minimise noise pick-up. Avoid running audio cables near to mains or lighting cables, thyristor dimmer units or power supplies etc. These may cause audible hum and buzz. The use of low impedance sources significantly reduces interference pick-up. Check the cables for correct wiring to avoid problems with phase reversal and unreliable connection. The *WIZARD 16:2* follows the convention for XLR pin 2 and jack tip = signal hot (+).

Always use balanced cables when connecting to phantom powered microphones.

MAKE SURE THAT THE +48V SWITCH IS OFF WHEN THE CHANNEL INPUT XLRs ARE CONNECTED TO NON-PHANTOM POWERED MICROPHONES OR LINE SOURCES.

INDIVIDUAL CHANNELS CAN HAVE +48V DISABLED TO PREVENT ACCIDENTAL DAMAGE TO NON-PHANTOM POWERED MICROPHONES OR LINE SOURCES, REFER TO THE LINK OPTIONS SECTION IN THE USER GUIDE OR SERVICE MANUAL.

If ground loops cause problems, connect the cable screen at one end only. Balanced outputs may be connected to unbalanced inputs and vice versa by linking the signal cold (-) to 0V ground.

SPECIFICATIONS

0 dBu = 0.775 Volts rms 0 dBV = 1 Volt rms

HEADROOM: .....+21dB channels
+23dB mix to output

MAX OUTPUT: .....XLR +27dBu 600 ohm max load
jack +21dBu 2kohm max load

METERS: ..... L, R .....peak reading 12 segment LED

PEAK LEDs: .....Turn on 5dB before clipping

FREQUENCY RESPONSE: 20Hz to 50kHz +0/-1dB

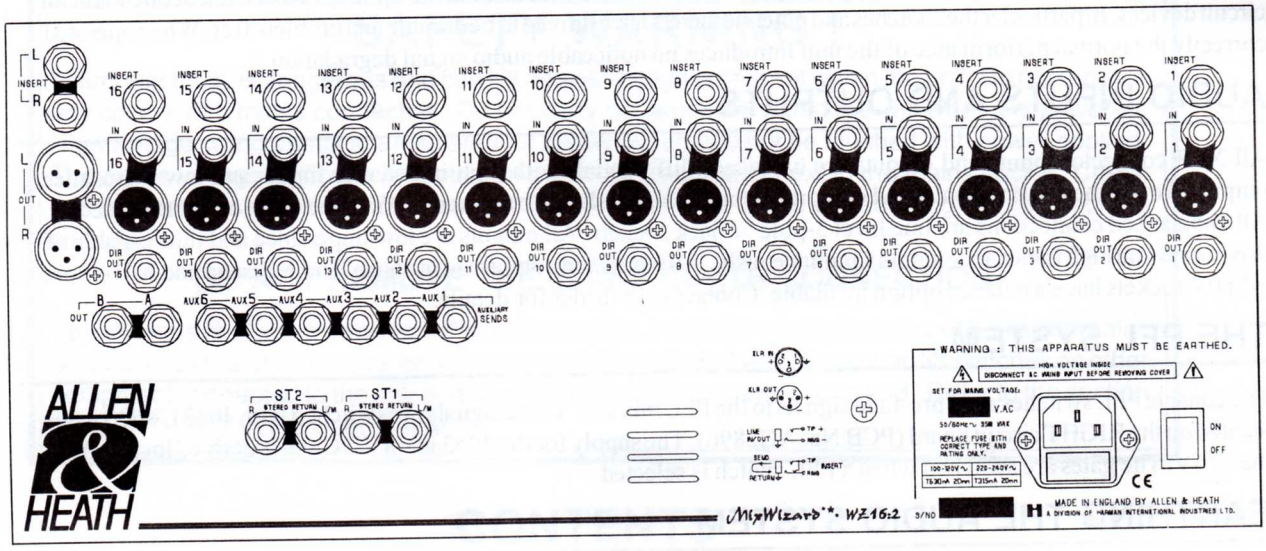
DISTORTION: THD+Noise at +14dBu 1kHz
Channel to mix output.....0.008%

WEIGHT: unpacked 12kg, packed 14kg

CROSSTALK: Referred to driven channel at 1kHz
Channel fader off.....<-90dB
Channel off .....<-90dB

NOISE: Measured rms 22Hz to 22kHz bandwidth
Mic input EIN referred to 150 ohm source.....<-128dB
LR output residual noise.....<-97dBu 101dBS/N
LR faders unity mix noise.....<-84dBu 88dB S/N

POWER SUPPLY:.....internal
AC Mains input:.....IEC socket with lead supplied
100 to 240V AC @ 50/60Hz
factory wired to country voltage
Power consumption.....30W max
Mains Fuse rating:.....100-120V AC use T630mA 20mm
220-240V AC use T315mA 20mm



CONNECTIONS

INPUTS:

Channel 1-16 IN..... XLR .....pin 2 hot, 3 cold, balanced
TRS jack .....tip hot, ring cold, balanced
PAD out ..... 2k ohm.....variable -60 to -20dBu
PAD in ..... >10k ohm .....variable -30 to +10dBu

Stereo Return IN..... TRS jack .....tip hot, ring cold, balanced..... >10k ohm .....-10dBV (+4dBu option)

INSERTS:

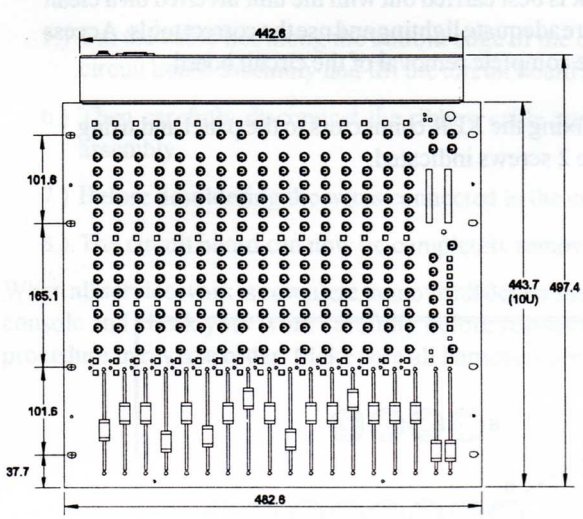
Channel 1-16 Insert..... TRS jack.....tip send, ring return, unbal.....<75 ohm, >10k ohm....0dBu
L-R mix .....TRS jack.....tip send, ring return, unbal.....<75 ohm, >10k ohm....-2dBu

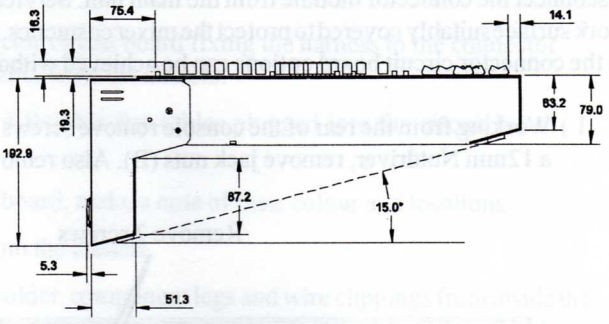
OUTPUTS:

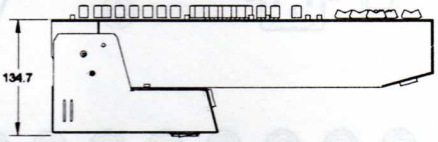
L-R main OUT..... XLR .....pin 2 hot, 3 cold, balanced.....<75 ohm .....+4 dBu
A-B additional OUT..... TRS jack .....tip hot, ring cold, impedance bal..... <75 ohm .....-2dBu
Aux 1-6 OUT ..... TRS jack .....tip hot, ring cold, impedance bal..... <75 ohm .....-2dBu
Balance option for A-B and Aux 1-6 OUT.....<75 ohm .....+4dBu
Direct 1-16 OUT..... TRS jack .....tip hot, ring cold, impedance bal..... <75 ohm 0dBu
PHONES OUT ..... TRS jack .....tip left, ring right.....for stereo headphones 30 to 600 ohms

DIMENSIONS

The diagrams below give the dimensions for flightcasing the console.



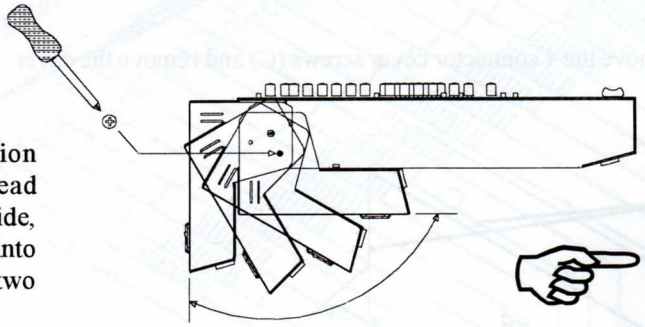




INSTALLING THE CONSOLE

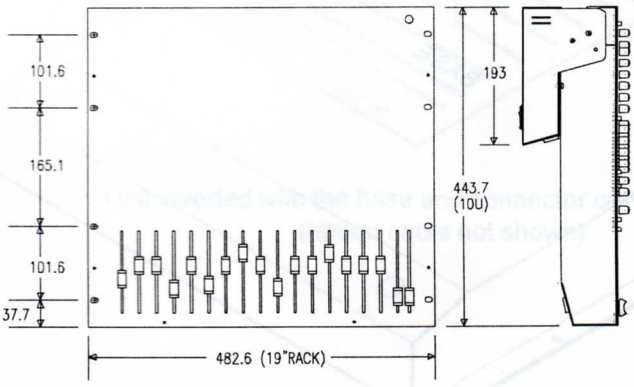
The ***MixWizard Series*** features the ALLEN & HEATH Quick Change Connector (**QCC**) system. The rear connector module may be hinged and locked into either of two positions: **Rear connectors** for desktop operation with the control panel sloped at a convenient 15 degrees, or **Underside connectors** for 19" rack mounting in a compact 10U space. The connector position can be easily changed at any time to fit your application.

To change the position remove the crosshead locking screw on each side, swing the connector pod into position, and refit the two screws.



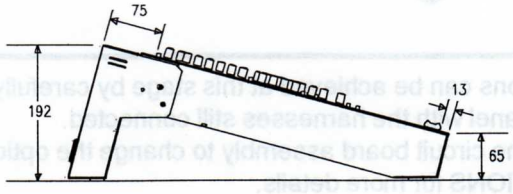
Do not transport or carry the console with the locking screws removed.

Do not attempt to remove the connector pod from the console.



19" Rack Mounting

Mount the console in the rack using 4x M6 bolts each side for maximum strength. We recommend you fit the bolts with plastic cup washers to protect the panel, and they look good... These should be available from the supplier of the rack unit or a good hardware store.



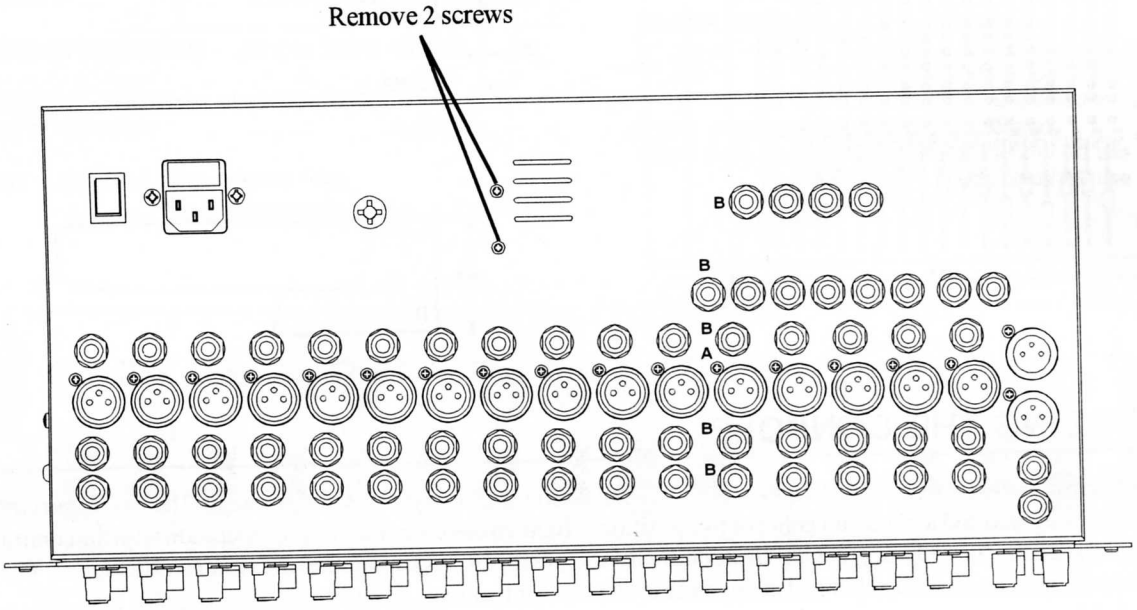
Desktop Operation

The console is fitted with rubber feet to ensure it does not slip or scratch the work surface. The control panel is angled at 15 degrees for operating convenience.

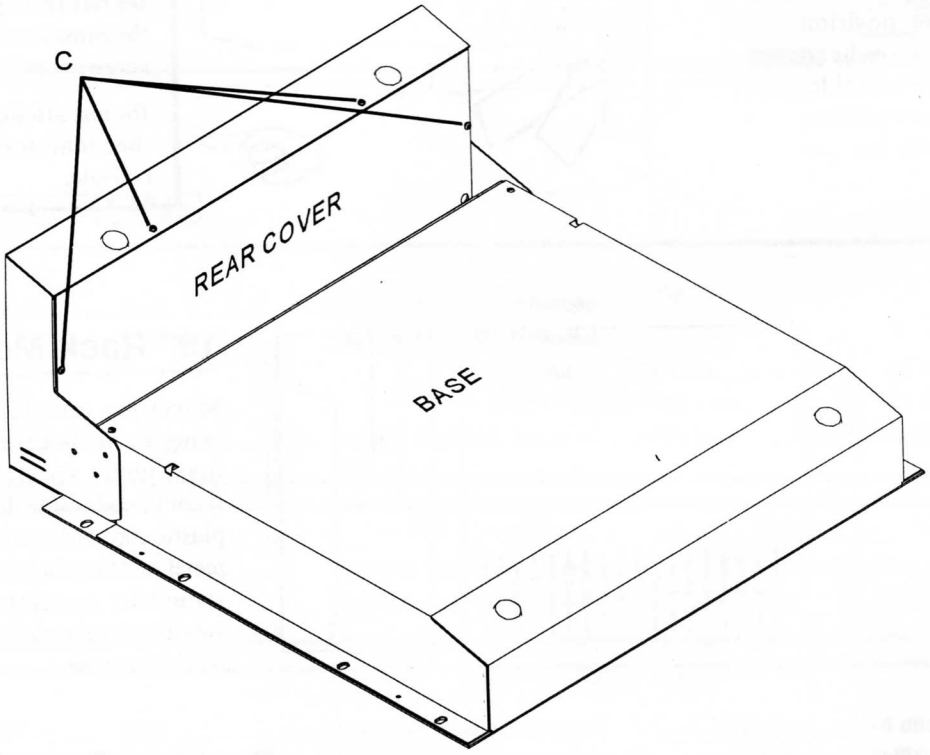
REMOVING THE CONNECTOR CIRCUIT BOARD ASSEMBLY

Before beginning any service work, remove all power to the unit and disconnect any signal cables where necessary. The rotating connector module must be set for desk top operation to gain access to the cover screws. It is not necessary to disconnect the connector module from the main unit. Service work is best carried out with the unit inverted on a clean work surface suitably covered to protect the mixer cosmetics. Ensure adequate lighting and use the correct tools. Access to the connector circuit board options can be achieved without the complete removal of the circuit board.

1.) Working from the rear of the console remove screws (A) fixing the XLR connectors to the panel and using a 12mm Nutdriver, remove jack nuts (B). Also remove the 2 screws indicated.



2.) With the unit inverted, remove the 4 connector cover screws (C) and remove the cover.



Access to the connector circuit board options can be achieved at this stage by carefully easing the circuit board assembly from the rear panel with the harnesses still connected.
It is not necessary to completely remove the circuit board assembly to change the options.
Refer to the section INTERNAL LINK OPTIONS for more details.

To completely remove the connector circuit board assembly

4.) First remove the base cover of the main unit to gain more access. Refer to 2 and 3 in the section REMOVING A CHANNEL, LEFT or RIGHT CIRCUIT BOARD for details on the removal of the base cover.

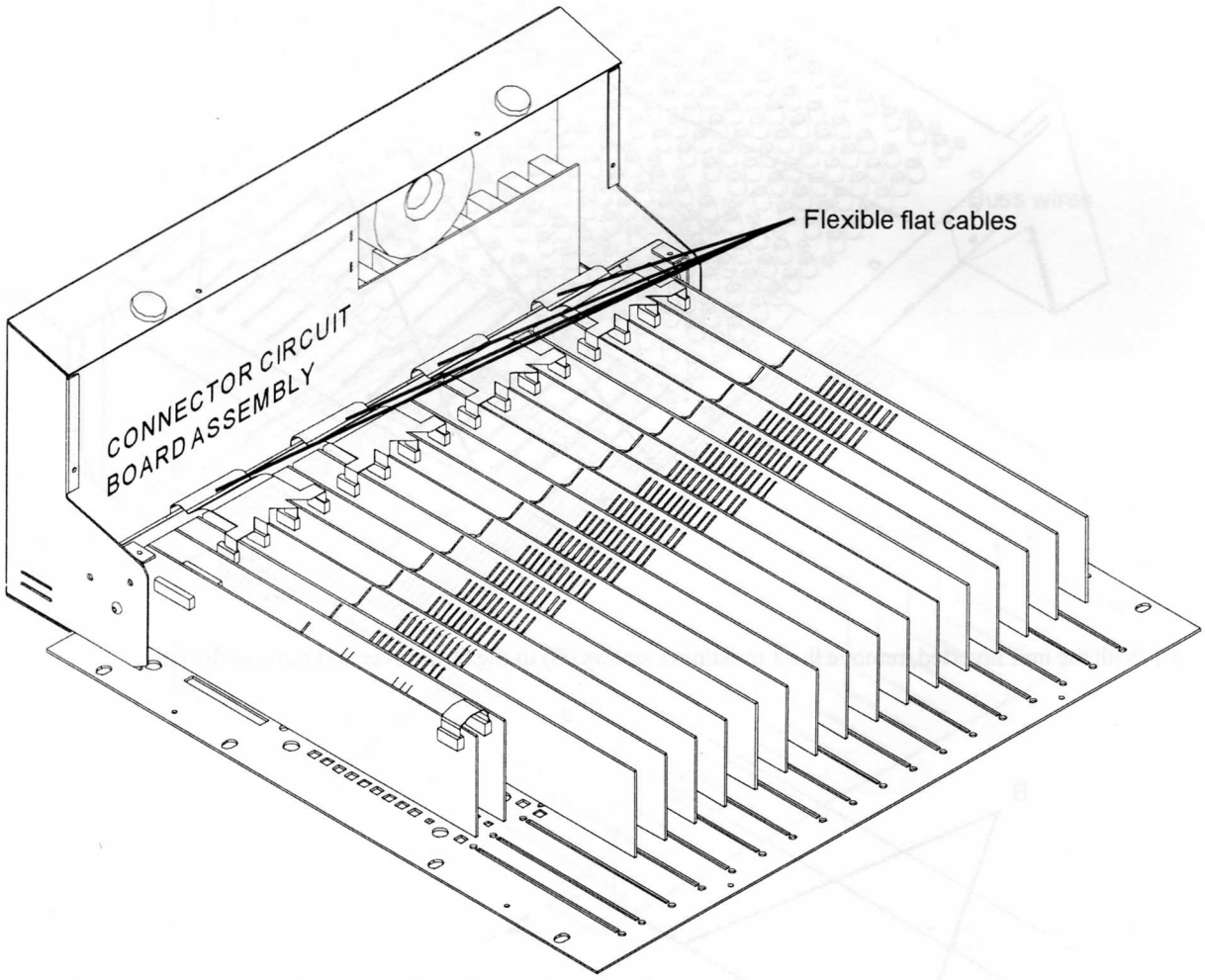
5.) Cut the cable ties along the bottom edge of the connector circuit board fixing the harness to the connector circuit board assembly and lift the circuit board assembly from the chassis.

6.) Then carefully disconnect the ribbon cable and the 4 flexible flat cables plugged into the circuit board assembly.

7.) Before desoldering the wires connected to the circuit board, make a note of their colour and locations.

8.) The circuit board can now be completely removed from the chassis.

When all service work is complete, remove all debris such as solder, component legs and wire clippings from inside the console and check your work carefully before reassembly. To refit the connector circuit assembly follow the above procedure in reverse order. Make sure all harnesses are correctly aligned and plugged on. Test for correct operation.



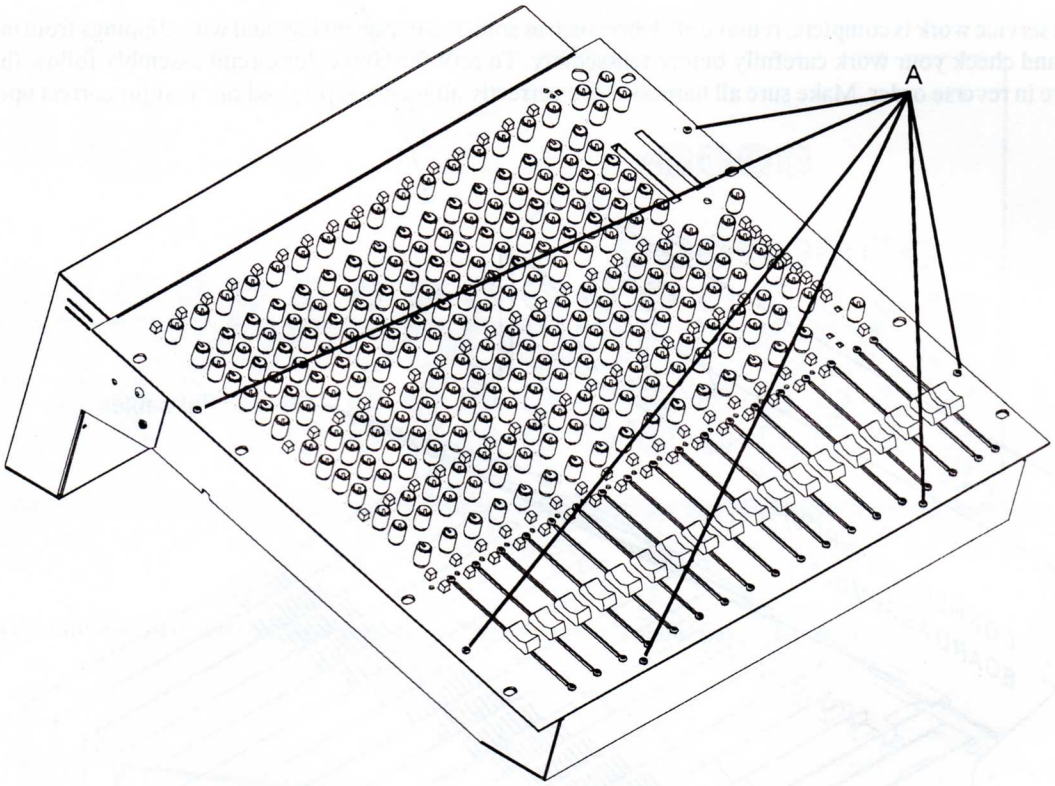
Unit inverted with the base and connector cover removed.
(ribbon cable not shown)

REMOVING AN INPUT, LEFT or RIGHT CIRCUIT BOARD ASSEMBLY

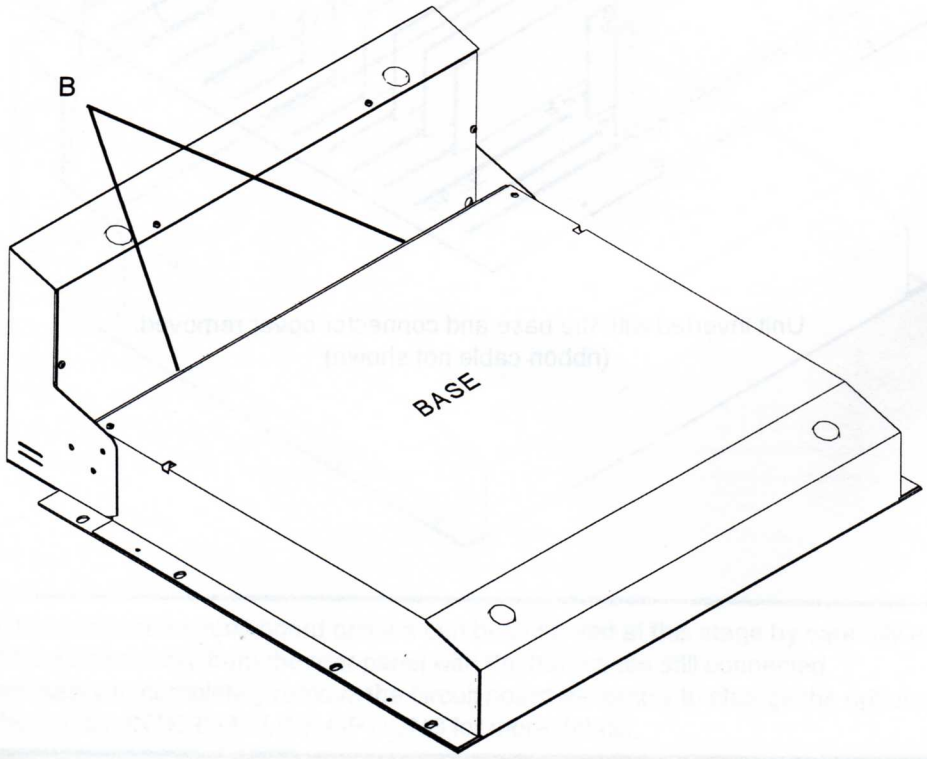
Before beginning any service work, remove all power to the unit and disconnect any signal cables where necessary. The rotating connector module must be set for desk top operation to gain access to the cover. Service work is best carried out with the unit inverted on a clean work surface suitably covered to protect the mixer cosmetics. Ensure adequate lighting and use the correct tools. Access to the channel circuit board options can be achieved without the removal of the circuit board.

1.) If completely removing a circuit board assembly, pull off the knobs and remove the pot nuts and fader screws from the circuit assembly to be removed. The switch caps can remain in place. If removing the RIGHT circuit board assembly remove also nut on the headphone socket.

2.) Working from the front of the mixer remove screws and nuts (A) fixing the base cover to the front panel.



3.) With the unit inverted, remove the 2 remaining screws (B) in the base cover and remove the base.



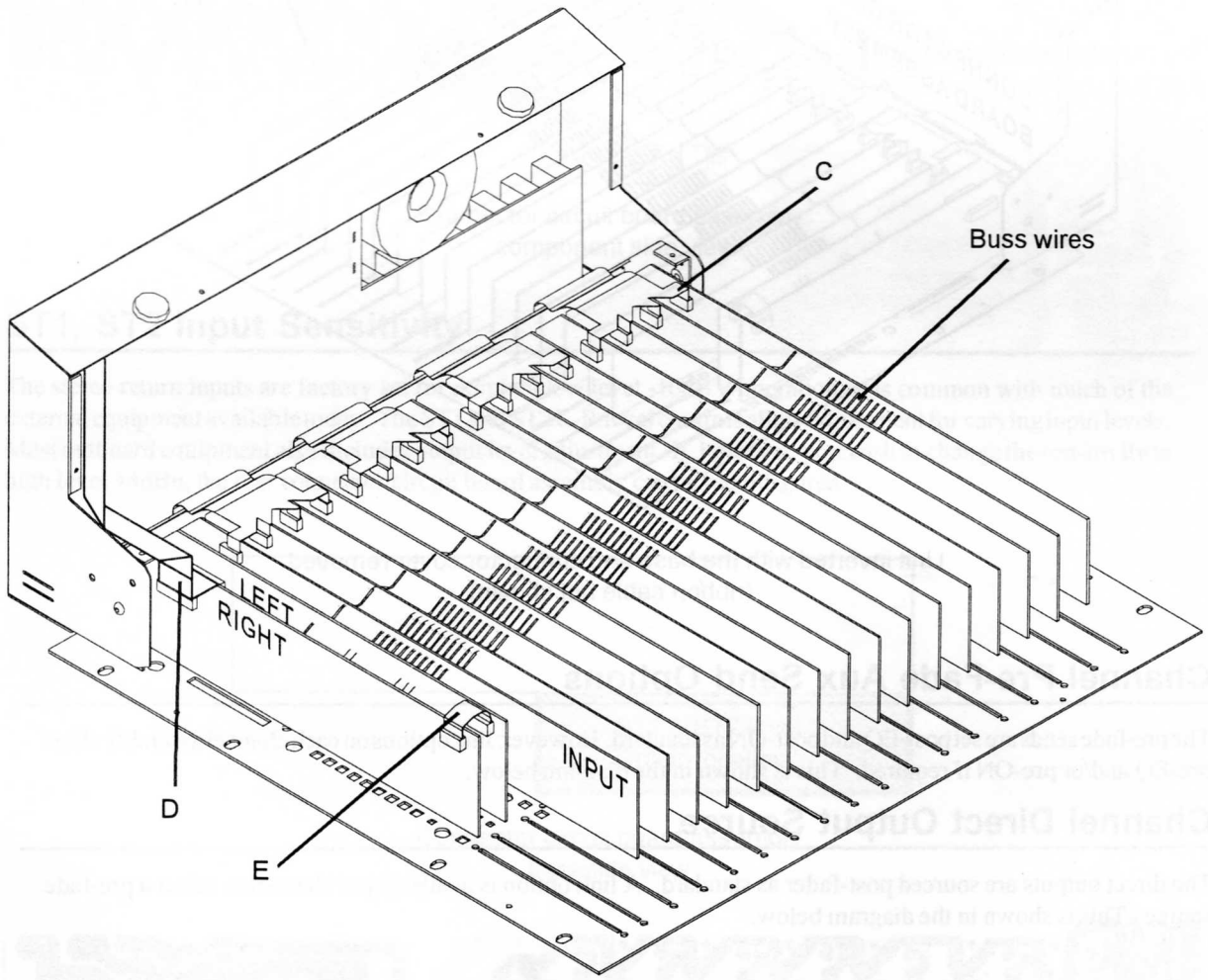
Access to the input channel circuit board options can be achieved at this stage by carefully cutting and resoldering the link options as necessary. It is not necessary to completely remove the circuit board assembly to change the options.
Refer to the section INTERNAL LINK OPTIONS for more details.

To completely remove a circuit board assembly

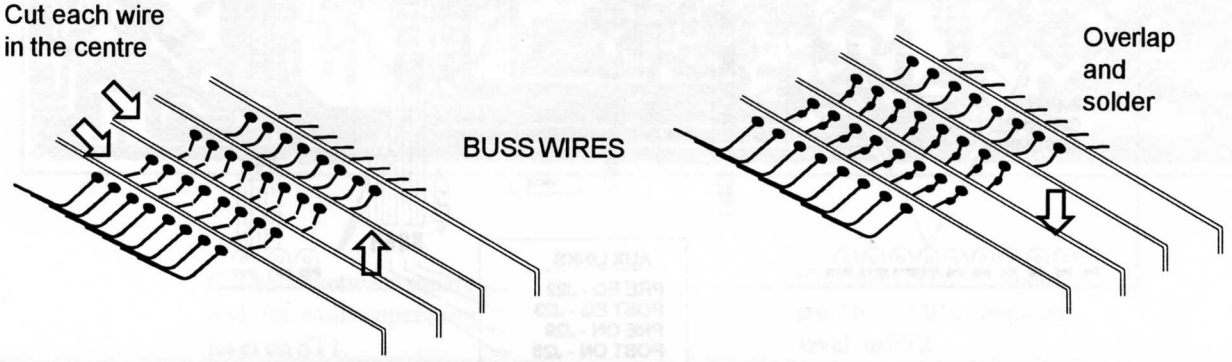
4.) Identify the circuit board assembly to be removed and then cut the buss wires half way between each circuit board. Disconnect the flexible flat cable (C) plugged into the connectors mounted along the edge of the circuit board. If removing the LEFT or RIGHT circuit board assembly, the ribbon cable (D) and flexible flat cable (E) will have to be carefully unplugged as well.

5.) The circuit board can now be removed.

When all service work is complete, remove all debris such as solder, component legs and wire clippings from inside the console and check your work carefully before reassembly. To refit the circuit assembly follow the above procedure in reverse order. Make sure all harnesses are correctly aligned and plugged on. Test for correct operation.

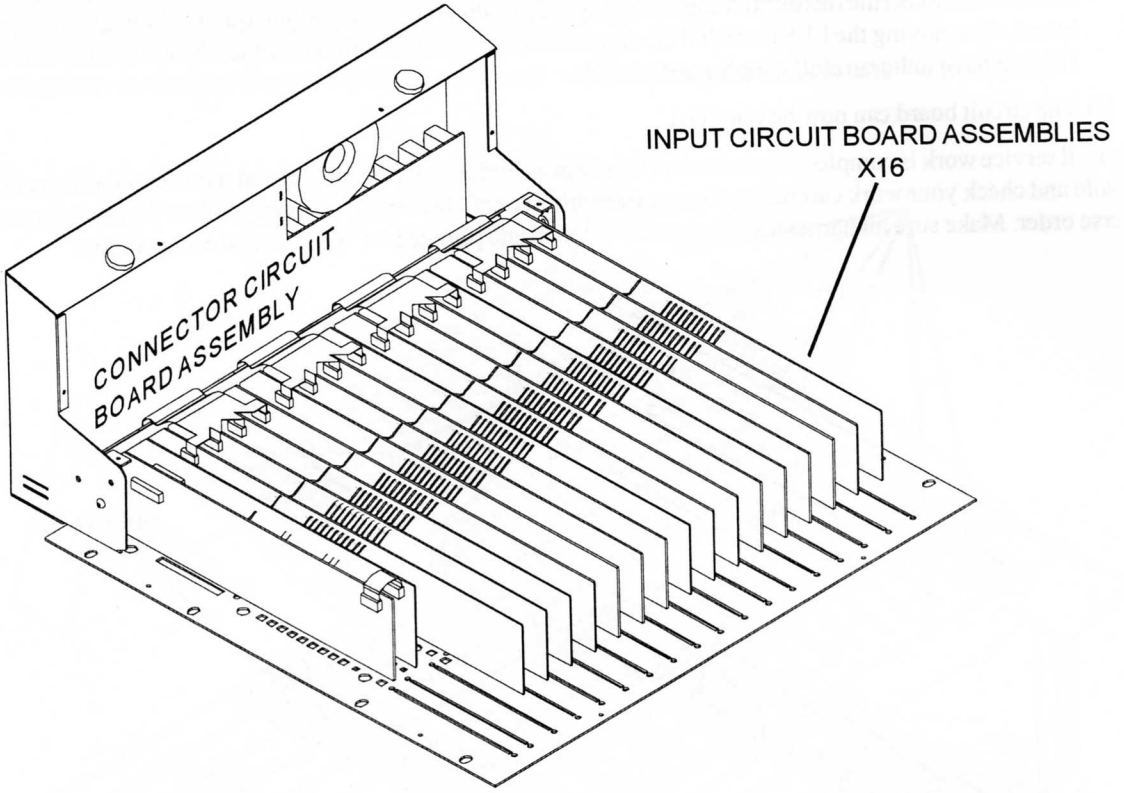


Unit inverted with the base and connector cover removed.



INTERNAL LINK OPTIONS

The console is set to satisfy most applications that should be encountered. However, the following internal link options are offered to provide alternative settings for those applications that may require them. Access to the options requires the removal of the rear covers depending on which option settings are to be altered. Refer to the section for removing circuit board assembly on which the link option is located. Some options involve the cutting of circuit board tracks and soldering of circuit board links and should only be carried out by competent technical personnel. Further information is available from **ALLEN & HEATH** if required.



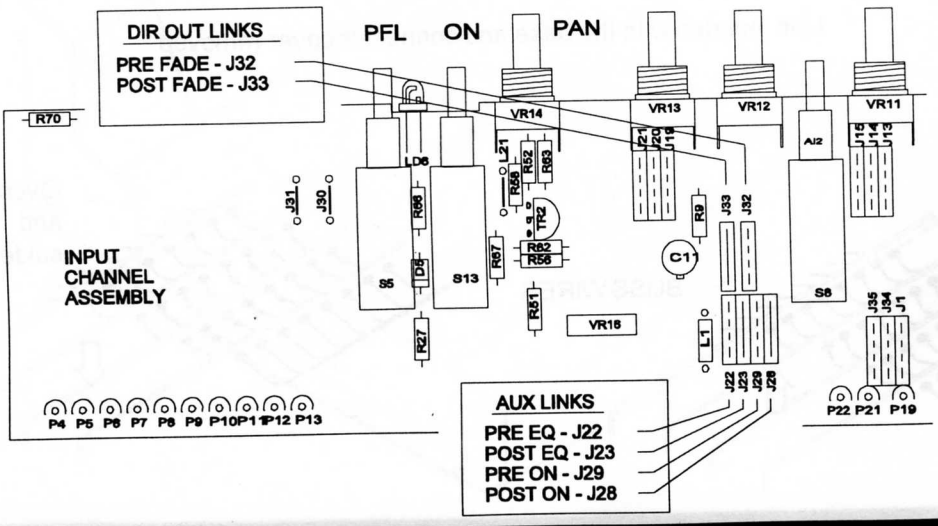
Unit inverted with the base and connector cover removed.
(ribbon cable not shown)

Channel Pre-Fade Aux Send Options

The pre-fade sends are set post-EQ and post-ON as standard. However, link options on each channel assembly allow pre-EQ and/or pre-ON if required. This is shown in the diagram below.

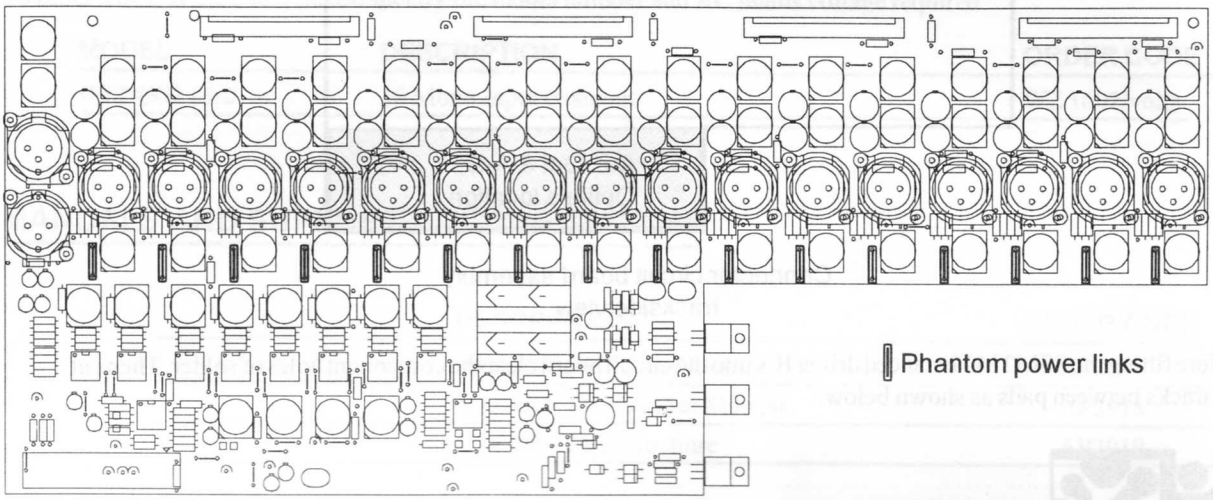
Channel Direct Output Source

The direct outputs are sourced post-fader as standard. A link option is available per channel to select a pre-fade source. This is shown in the diagram below.



Phantom Power Disable

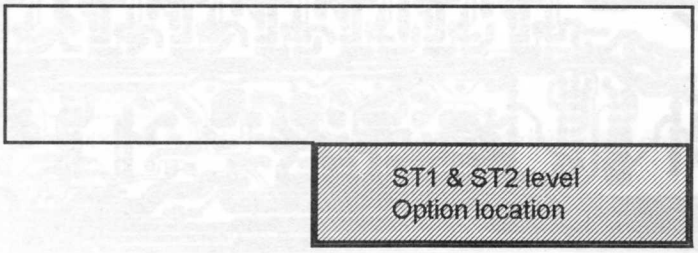
It is perfectly safe to connect non-phantom powered sources such as dynamic microphones to powered XLR sockets providing that balanced leads and sources are used. The +48V supply is current limited through 6.8k ohm resistors to each XLR to prevent damage. However, you can disable phantom power to selected channels by cutting out links on the rear connector circuit assembly.



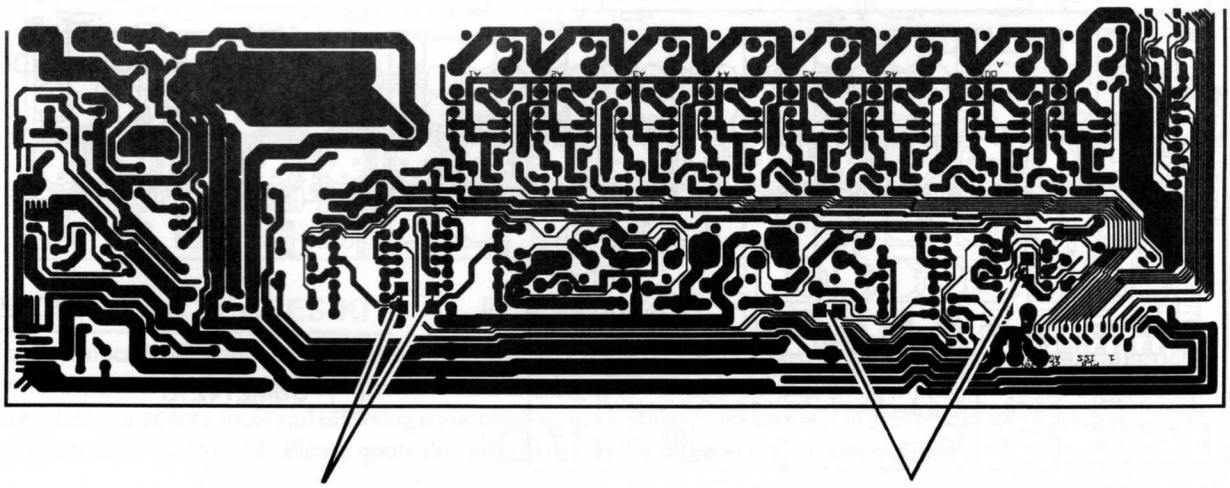
Connector circuit board assembly.
component side view

ST1, ST2 Input Sensitivity

The stereo return inputs are factory set for nominal low level -10dBV operation as is common with much of the external equipment available today. The ST1 and ST2 L-R level controls allow adjustment for varying input levels. Most outboard equipment also includes output level adjustment. If, however, you wish to change the sensitivity to high level +4dBu, the rear connector circuit board assembly can be reconfigured.



Connector circuit board assembly
trackside view

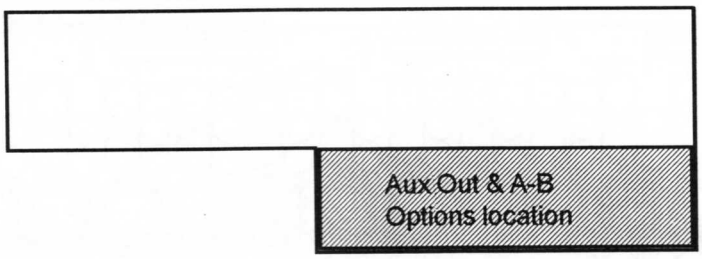


Cut tracks between square pads for +4dBu operating level on ST1.

Cut tracks between square pads for +4dBu operating level on ST2.

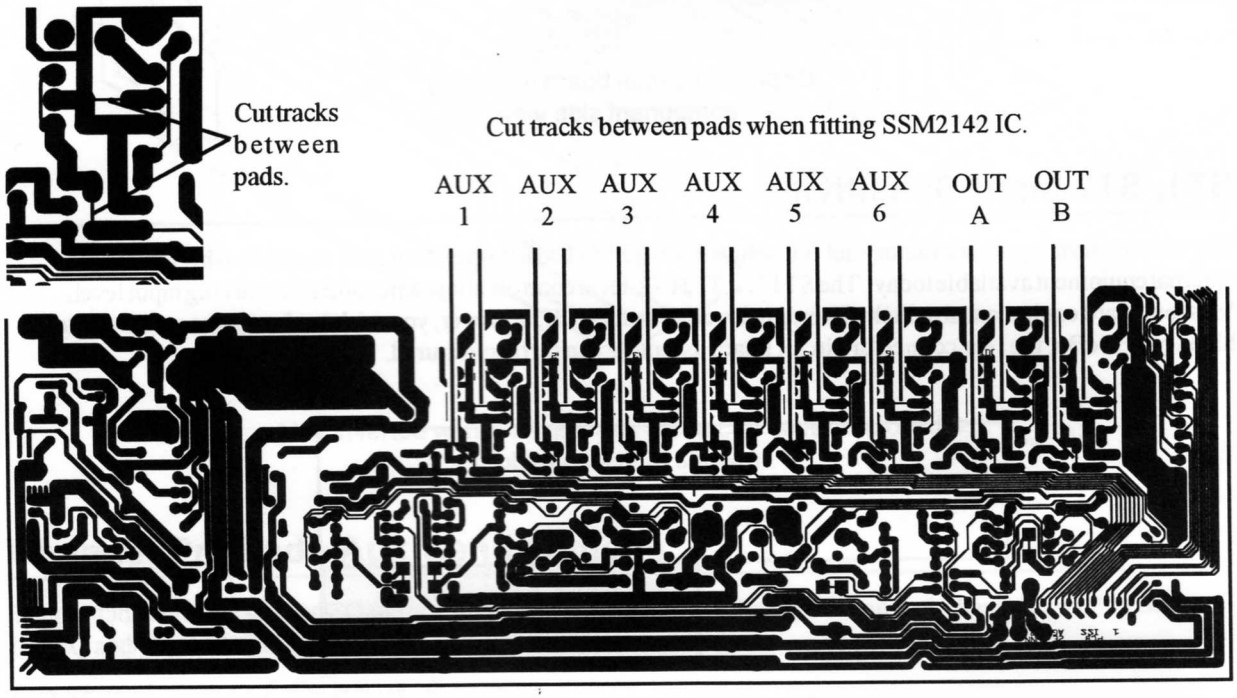
Aux Out and A-B Out Balance Option

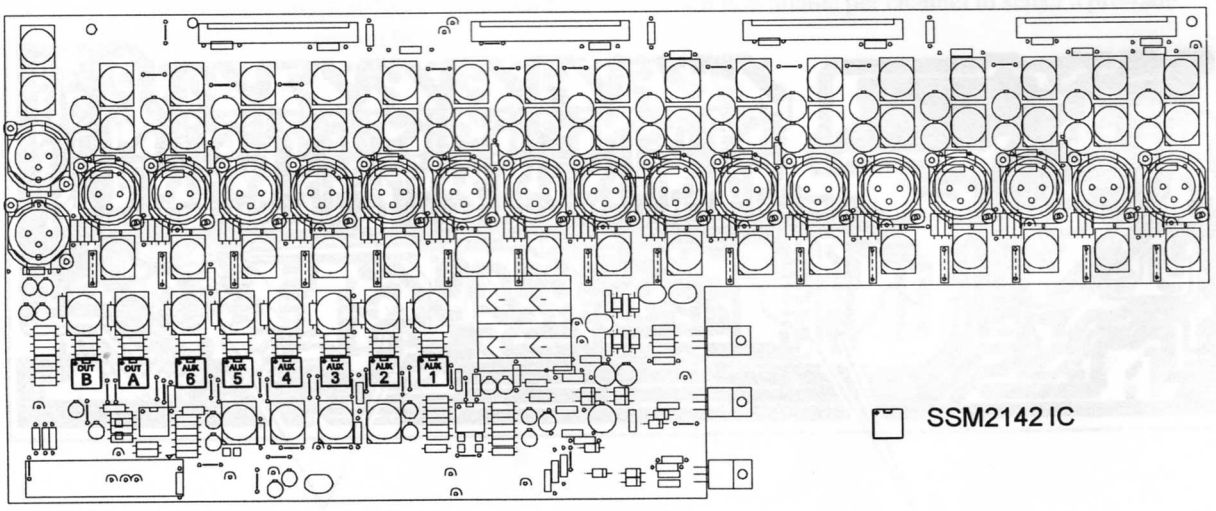
These outputs are impedance balanced on TRS jacks to provide interference rejection when plugged into equipment with balanced inputs. If, however, you wish to fit the electronic balance option and also increase the output level to a nominal +4dBu, the rear connector circuit board assembly can be reconfigured. This involves cutting tracks and inserting SSM2142 8 pin dual in line balanced ICs. .



Connector circuit board assembly
trackside view

Before fitting the SSM2142 balanced driver ICs into the circuit board clear the component holes of solder. Then cut the tracks between pads as shown below.





Connector circuit board assembly.
component side view

ORDERING SPARE PARTS

ORDERING A CONSOLE

To order a new Wizard unit please specify the model number and AC mains voltage required.

MODEL	DESCRIPTION	ORDER CODE
WIZARD 16:2	16 Mono Input channels	WZ 1602/volts

MANUALS AND SUPPORT DOCUMENTATION

	DESCRIPTION	ORDER CODE
	WIZARD 16:2 User Guide	AP2917
	WIZARD 16:2 Service Manual	AP2918
	WIZARD 16:2 Brochure	AP2919

SERVICE TOOLS

The tools required to service the *WIZARD 16:2* are standard to an electronics service workshop and are easily obtainable. The following items are necessary for disassembly and service access:

	1-point Crosshead screwdriver (M3, 4AB)	AT0004
	2-point Crosshead screwdriver (M4, 6AB)	AT0002
	11mm AF Nutdriver (potentiometer nuts, headphone socket nuts)	
	12mm AF Nutdriver (jack nuts)	

ORDERING AN ASSEMBLY

The following assemblies are supplied fully tested. Please quote the description and order code for the part required.

Printed circuit (PCB) assemblies:

	Mono Input PCB assembly	002-250
	Left PCB assembly	002-251
	Right PCB assembly	002-252
	Connector PCB assembly	002-253

IDC connector harnesses:

WIZARD 16:2	34 way Master harness	AL2907

ORDERING A SPARES KIT

It is recommended that the spares kit order code **002-247** is held and maintained by the service agent to enable in-field service repairs to the *WIZARD 16:2* independent of the ALLEN & HEATH factory. Commonly available items such as resistors, capacitors, tools and soldering equipment are not included. The contents of the kit is listed below. Individual spare parts may be ordered. Please quote the description and order code for the part required.

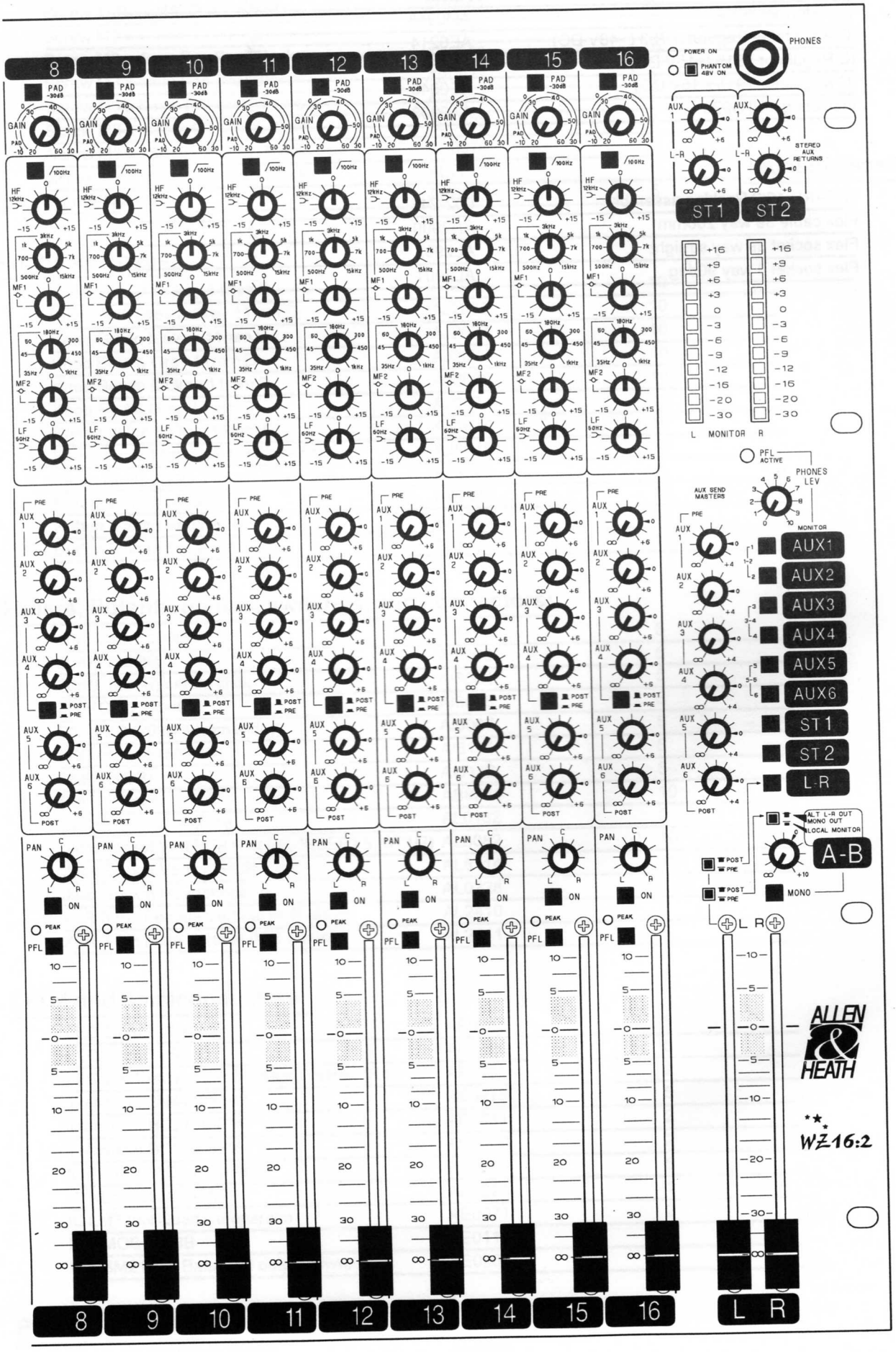
DESCRIPTION	ORDER CODE	QTY
Fixings:		
Screw 4AB x 5/16" Pan Pozi Black	AB0057	10
Screw M2.5 x 4mm Pan Pozi Black	AB2944	10
Screw M3 x 4mm Pan Pozi Black	AB0233	10
Screw M3 x 8mm Pan Pozi Black	AB0073	5
Screw M3 x 6mm TT Pan Pozi Black	AB0071	5
Screw M3 x 10mm CSK Pozi Black	AB0093	5
Screw M3 x 10mm Pan Pozi Black	AB0076	5
Screw M3 x 12mm Pan Pozi Black	AB0078	5
Nylock Nut M3	AB0102	5
Knobs and caps:		
Knob Yellow & Grey 11mm D	AJ2079	10
Knob Dark Grey & Grey 11mm D	AJ2078	10
Knob Green & Grey 11mm D	AJ2077	10
Knob Blue & Grey 11mm D	AJ2075	10
Knob Brown & Grey 11mm D	AJ2080	10
Knob Red & Grey 11mm D	AJ2074	10
Knob L./blue & Grey 11mm D	AJ2076	10
Fader Knob 11mm White+Black line	AJ8078	10
Fader Knob 11mm Yellow+White line	AJ8080	5
Button 5.5mm Square Grey	AJ0363	10
Button 5.5mm Square Red	AJ0364	10
Button 5.5mm Square White	AJ0373	10
Faders, Potentiometers, switches, and connectors:		
10KD fader 100mm	AI8108	5
20KK (203K)	AI8003	5
20KB (203B) centre click	AI8004	5
200KC x 2 (204C)	AI8005	5
20KK x 2 (203K 14mm wide))	AI8007	5
5KD reverse (502RD)	AI8111	5
5KB (502B)	AI8112	5
Pot Nut 9mm	AB8050	10
Switch 2PCO Latching	AL0162	5
Jack Socket Vert PCB+nut (IN, INSERTS, ST1/2)	AL8082	10
Jack Socket Vertical PCB + nut	AL8114	10
Jack Socket Headphone	AL0328	1
XLR 3 Pin Female Vertical PCB Mount	AL2410	5
XLR 3 Pin Male Vertical PCB Mount	AL2411	5
LEDs and Semiconductors:		
LED 3mm T1 Green	AE0085	5
LED 3mm T1 Red	AE0086	5
LED Bar Rectangular 8Green/3Yellow/1Red	AE2701	2
Transistor 2N4403 PNP	AE0273	5
Transistor BC214C PNP	AE0031	2
Transistor BC549 NPN	AE0020	2
IC TL072CP Dual Op Amp	AE0046	5
IC NE5532N OP-AMP	AE0221	1
IC LM339N Quad Comparator	AE0071	2
IC CMOS 4053B	AE0117	1
IC SSM2142P Balanced output driver	AE0302	-
POWER SUPPLY:		
Mains lead IEC-2pin EURO	AH0205	-
Mains lead IEC-3pin UK	AL0206	-

Mains lead IEC-3pin US (C33)	AL0323	-
Mains Fuse 20mm T315mA (UK,EU)	AL0349	5
Mains Fuse 20mm T630mA (USA,CAN)	AL0297	5
Transformer 30VA	AM0918	-
IC Adjustable Regulator 783 (+48V DC)	AE0214	2
IC Regulator 7815 (+15V DC)	AE0047	2
IC Regulator 7915 (-15V DC)	AE0048	2
Insulating kit TO220	AA0693	2

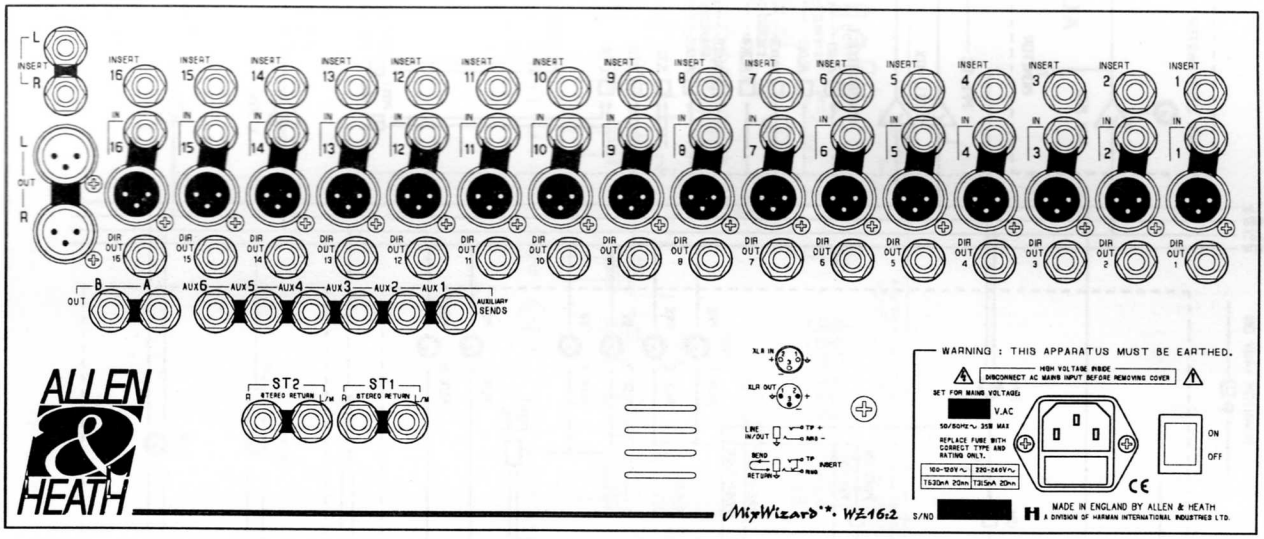
Miscellaneous:

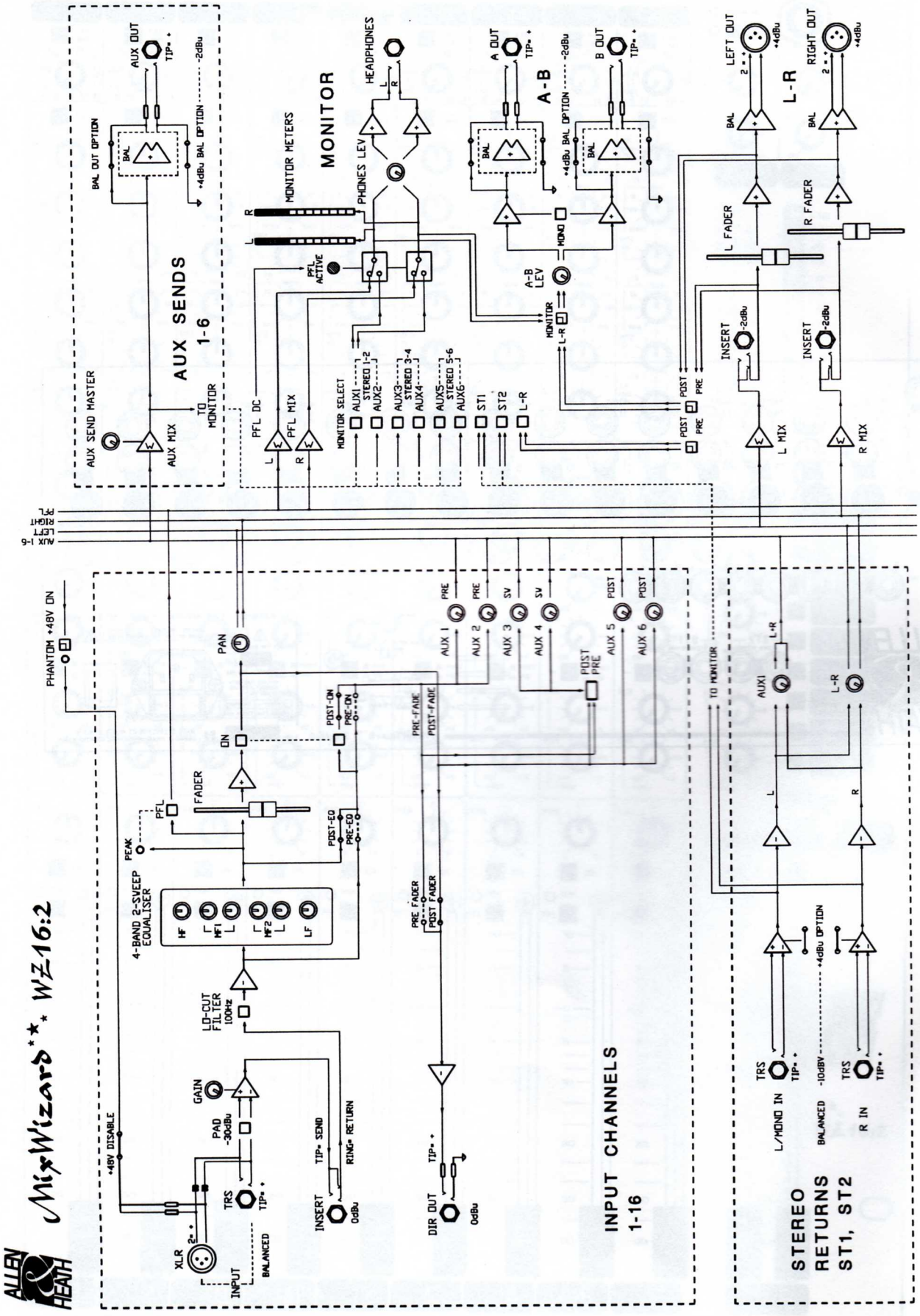
WIZARD 16:2 Packing assembly	002-245	-
Flex cable 39 way 200mm	AH2900	2
Flex socket 39 way straight	AL2902	-
Flex socket 8 way 90deg	AL2901	-

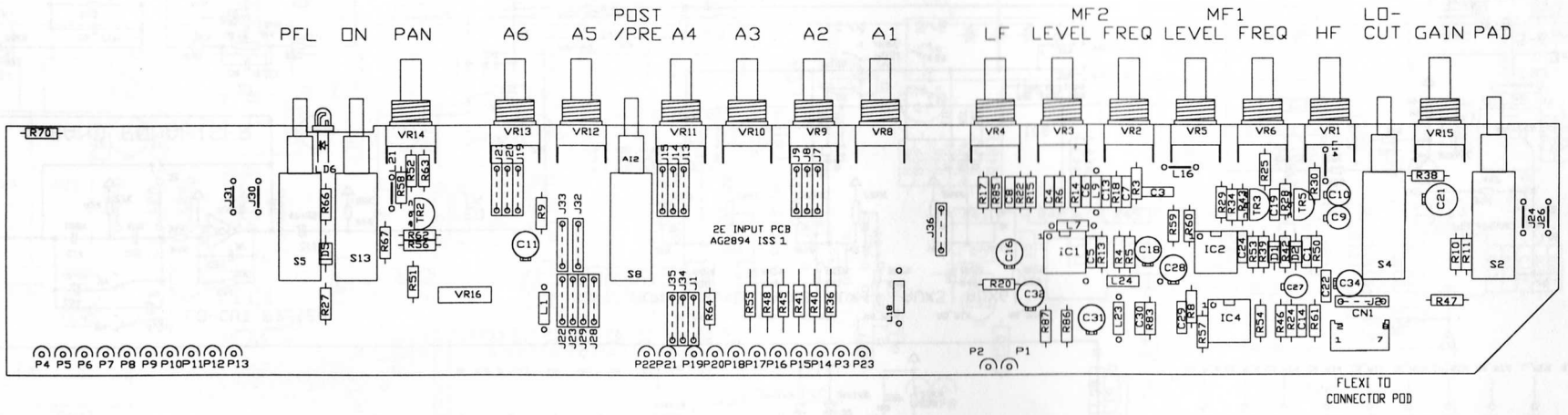
FRONT PANEL

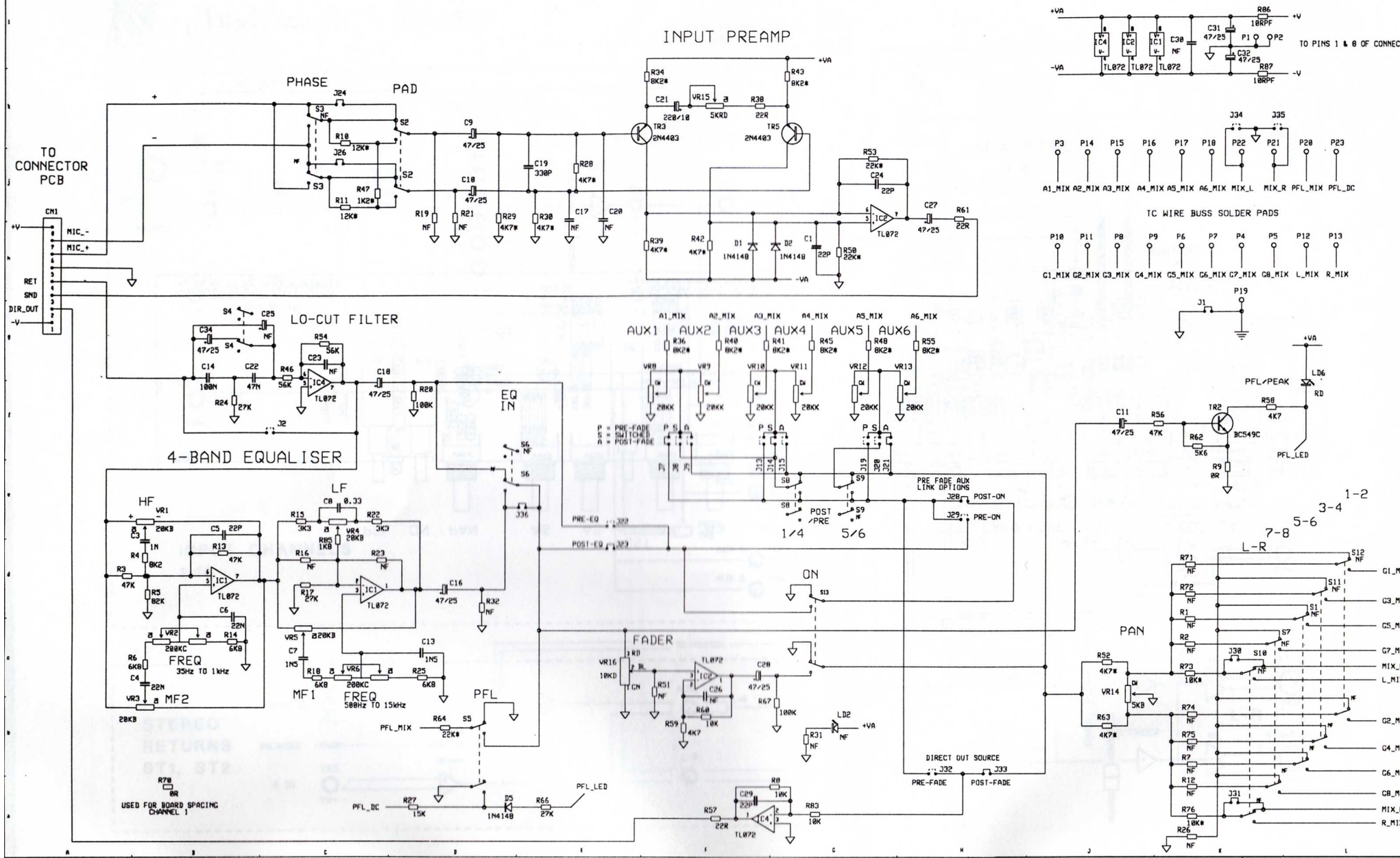

8
9
10
11
12
13
14
15
16
PAD -30dB
GAIN
100Hz
HF 12kHz
MF1
MF2
LF 60Hz
PRE
AUX 1
AUX 2
AUX 3
AUX 4
AUX 5
AUX 6
POST
PAN
ON
PEAK
PFL
POWER ON
PHANTOM 48V ON
PHONES
AUX
L-R
ST1
ST2
STEREO AUX RETURNS
L MONITOR R
PFL ACTIVE
PHONES LEV
AUX SEND MASTERS
MONITOR
AUX1
AUX2
AUX3
AUX4
AUX5
AUX6
ST1
ST2
L-R
ALT L-R OUT
MONO OUT
LOCAL MONITOR
A-B
MONO
L R
ALLEN & HEATH
WZ16:2

REAR PANEL


L
INSERT
R
L
OUT
R
INSERT 16
INSERT 15
INSERT 14
INSERT 13
INSERT 12
INSERT 11
INSERT 10
INSERT 9
INSERT 8
INSERT 7
INSERT 6
INSERT 5
INSERT 4
INSERT 3
INSERT 2
INSERT 1
IN 16
IN 15
IN 14
IN 13
IN 12
IN 11
IN 10
IN 9
IN 8
IN 7
IN 6
IN 5
IN 4
IN 3
IN 2
IN 1
DIR OUT 16
DIR OUT 15
DIR OUT 14
DIR OUT 13
DIR OUT 12
DIR OUT 11
DIR OUT 10
DIR OUT 9
DIR OUT 8
DIR OUT 7
DIR OUT 6
DIR OUT 5
DIR OUT 4
DIR OUT 3
DIR OUT 2
DIR OUT 1
B
OUT
A
AUX6
AUX5
AUX4
AUX3
AUX2
AUX1
AUXILIARY SENDS
ALLEN & HEATH
ST2
D STEREO RETURN L/M
ST1
D STEREO RETURN L/M
XLR IN
XLR OUT
LINE IN/OUT
SEND
RETURN
TIP +
RING -
TIP
RING
INSERT
MixWizard* WZ16:2
WARNING : THIS APPARATUS MUST BE EARTHED.
HIGH VOLTAGE RISK
DISCONNECT AC MAINS INPUT BEFORE REMOVING COVER
SET FOR MAINS VOLTAGE:
V.AC
50/60Hz ~ 35B MAX
REPLACE FUSE WITH CORRECT TYPE AND RATING ONLY.
100-120V ~
T630mA 20mm
220-240V ~
T315mA 20mm
ON
OFF
S/NO
MADE IN ENGLAND BY ALLEN & HEATH
A DIVISION OF HARMAN INTERNATIONAL INDUSTRIES LTD.


MixWizard WZ16:2
INPUT CHANNELS 1-16
STEREO RETURNS ST1, ST2
AUX SENDS 1-6
AUX SEND MASTER
MONITOR
A-B
L-R
PHANTOM +48V ON
+48V DISABLE
4-BAND 2-SWEEP EQUALISER
LO-CUT FILTER 100Hz
GAIN
PAD -30dBu
PAN
FADER
PFL
PEAK
INSERT
XLR
TRS
BALANCED
INPUT
DIR OUT
0dBu
PRE FADER
POST FADER
PRE-FADE
POST-FADE
PRE-EQ
POST-EQ
PRE-ON
POST-ON
AUX 1
AUX 2
AUX 3
AUX 4
AUX 5
AUX 6
PRE
SV
POST
TO MONITOR
L/MONO IN
R IN
-10dBV
+4dBu OPTION
AUX OUT
BAL OUT OPTION
+4dBu BAL OPTION
-2dBu
MONITOR METERS
HEADPHONES
PHONES LEV
PFL ACTIVE
PFL DC
PFL MIX
AUX MIX
MONITOR SELECT
AUX1-STEREO 1-2
AUX3-STEREO 3-4
AUX5-STEREO 5-6
ST1
ST2
A OUT
B OUT
MONO
A-B LEV
MONITOR
L FADER
R FADER
LEFT OUT
RIGHT OUT
+4dBu
+2dBu
L MIX
R MIX
AUX 1-6
LEFT
RIGHT
PFL


PFL
ON
PAN
A6
A5
POST /PRE
A4
A3
A2
A1
LF
MF2 LEVEL
MF2 FREQ
MF1 LEVEL
MF1 FREQ
HF
LO-CUT
GAIN PAD
2E INPUT PCB
AG2894 ISS 1
FLEXI TO CONNECTOR POD



ISS.	REVISION	BY	DATE
A	ORIGIN	ARJ	20/01/97
B	UPISSUE	DWD	06/02/97
C	VALUE CHANGES	DWD	14/02/97
1	PRODUCTION	DWD	13/03/97

NOTES

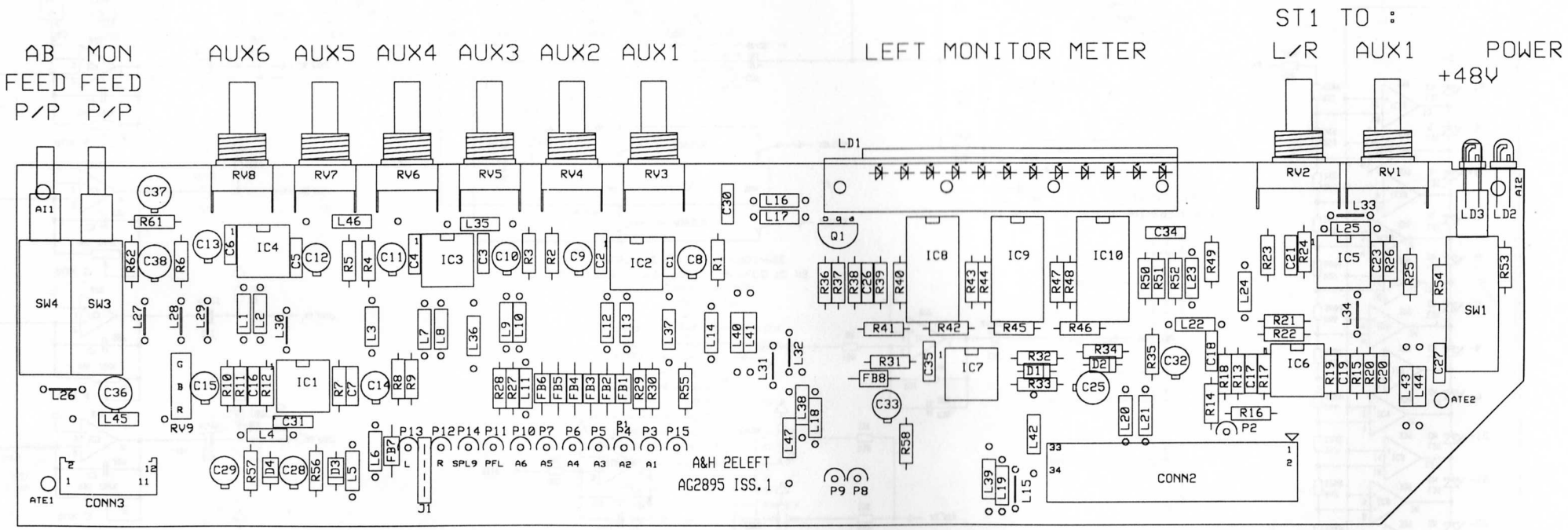
1. RESISTORS MARKED * ARE 1% ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS
3. DO NOT MODIFY THIS CCT. WITHOUT REFERENCE TO OTHER WIZARD INPUT CCTs.

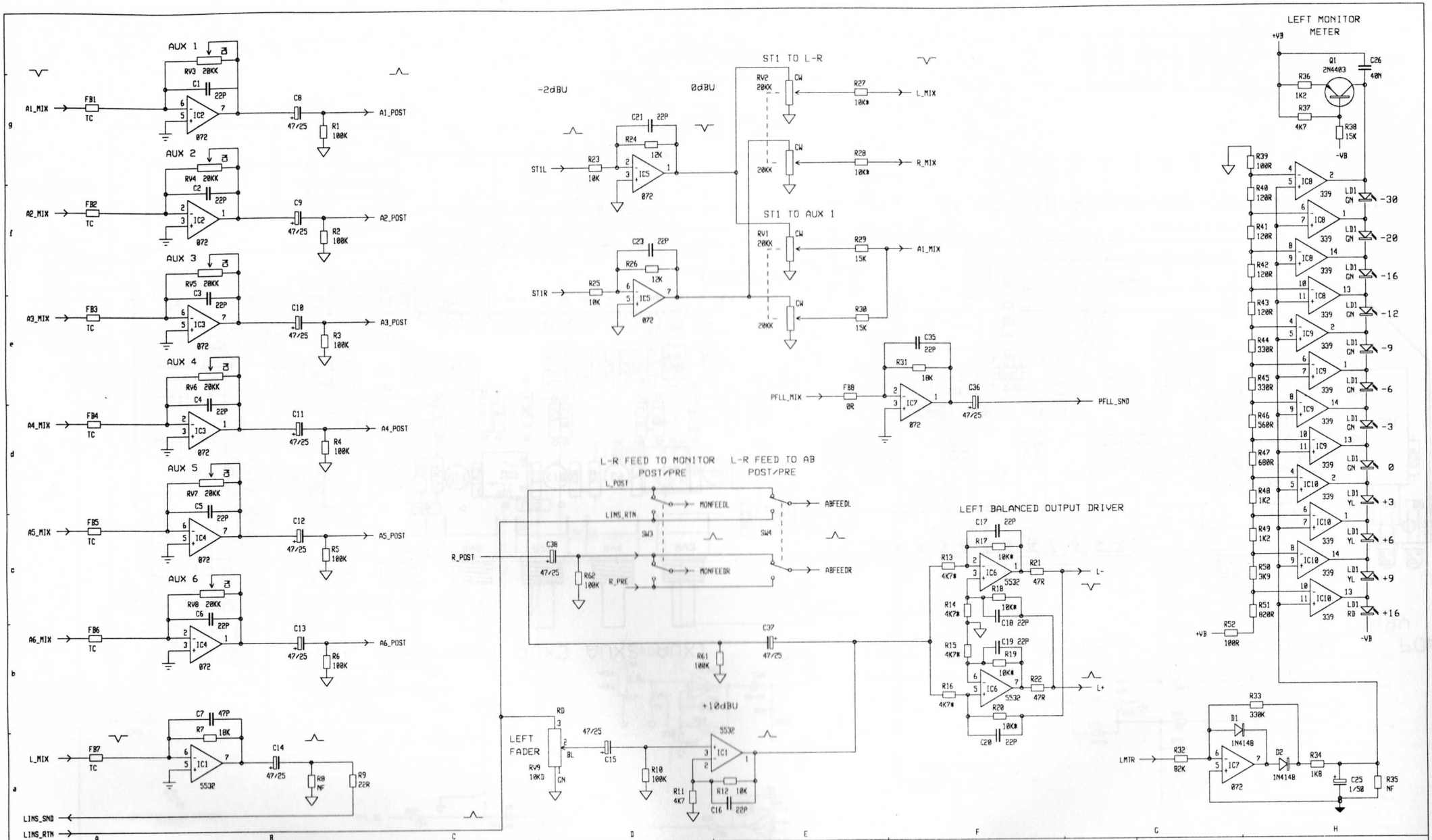
UNIT TITLE 2E-M R/G316

DRAWING TITLE
INPUT CIRCUIT DIAGRAM
PCB TYPE AG2894

MANUFACTURED IN ENGLAND BY
ALLEN & HEATH

DRAWING No. C2894 ISSUE


AB FEED P/P
MON FEED P/P
AUX6
AUX5
AUX4
AUX3
AUX2
AUX1
LEFT MONITOR METER
ST1 TO :
L/R
AUX1
POWER +48V
RV8
RV7
RV6
RV5
RV4
RV3
RV2
RV1
LD1
LD3
LD2
SW4
SW3
SW1
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
Q1
RV9
CONN3
CONN2
ATE1
ATE2
J1
A&H 2ELEFT
AG2895 ISS.1
FLEXI TO RIGHT
TC BUS
34 WAY TO RIGHT AND CONNECTOR PCB



ISS.	REVISION	BY	DATE
A	ORIGIN	DLP	24/01/97
B	RE DESIGN	DRP	07/02/97
1	PRODUCTION	DWD	13/03/97

NOTES

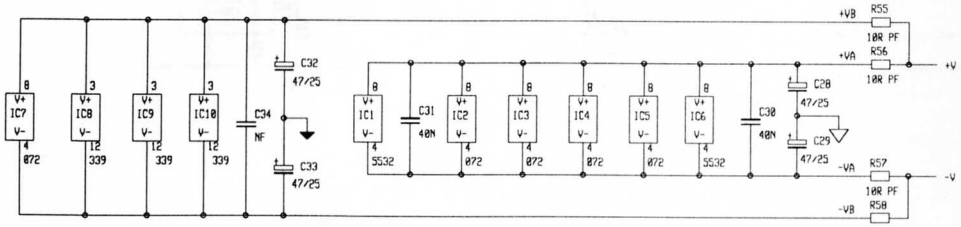
1. RESISTORS MARKED * ARE 1%
   ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS

UNIT TITLE: 2E-M — SHEET 1 OF 2

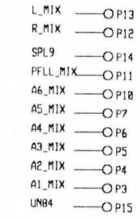
DRAWING TITLE: LEFT PCB — PCB TYPE AG2895

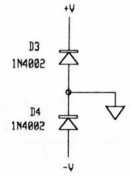
MANUFACTURED IN ENGLAND BY: ALLEN & HEATH — RG316

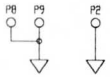
DRAWING No. C2895 — ISSUE 1 — A2

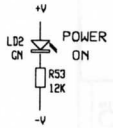


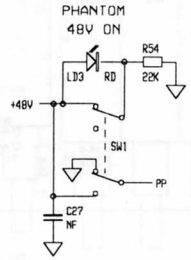
TC BUS

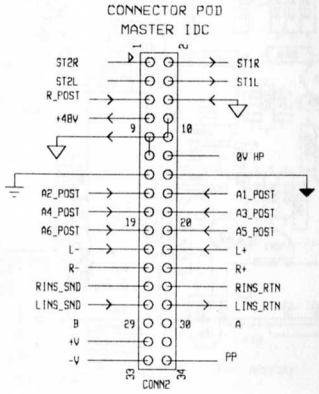


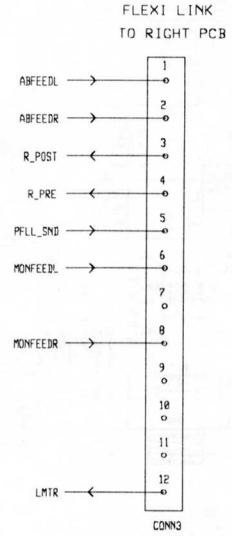












ISS.	REVISION	BY	DATE
A	ORIGIN	DLP	24/01/97
B	RE DESIGN	DRP	07/02/97
1	PRODUCTION	DWD	13/03/97

NOTES

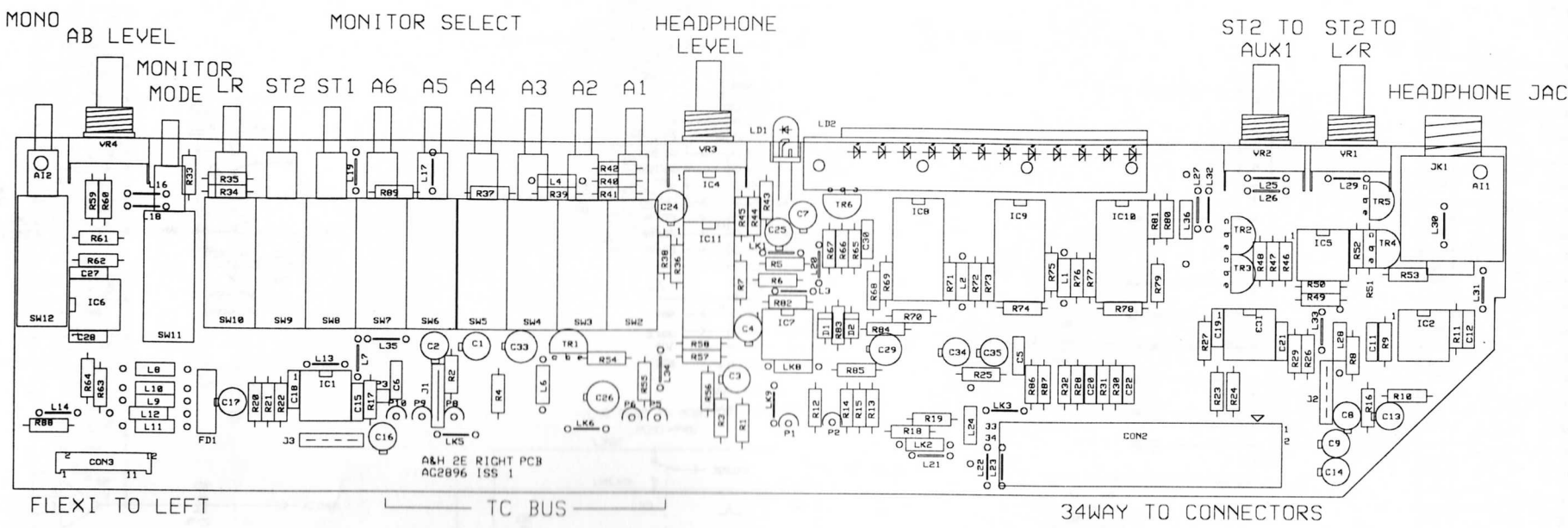
1. RESISTORS MARKED * ARE 1%
   ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS

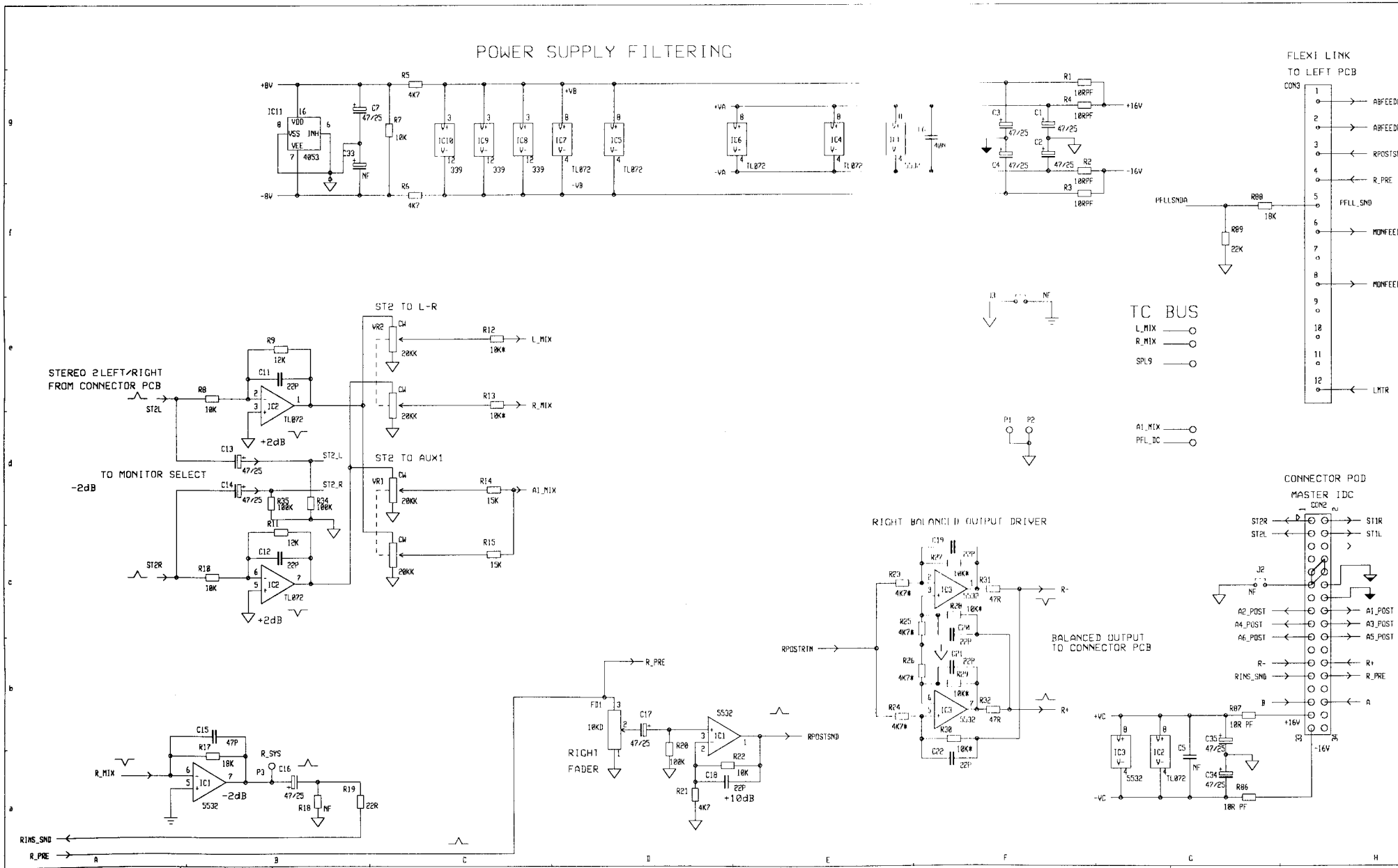
UNIT TITLE 2E-M SHEET 2 OF 2

DRAWING TITLE

MANUFACTURED IN ENGLAND BY

ALLEN & HEATH


MONO
AB LEVEL
MONITOR SELECT
HEADPHONE LEVEL
ST2 TO AUX1
ST2 TO L/R
MONITOR MODE
LR
ST2
ST1
A6
A5
A4
A3
A2
A1
HEADPHONE JAC
A&H 2E RIGHT PCB
AC2896 ISS 1
FLEXI TO LEFT
TC BUS
34WAY TO CONNECTORS



ISS.	REVISION	BY	DATE
A	ORIGIN	ARJ	24/01/97
B	RE DESIGN	AAT	06/02/97
C	VALUE CHANGES	DWD	18/02/97
1	PRODUCTION	DWD	13/03/97

NOTES

1. RESISTORS MARKED * ARE 1%
   ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS

UNIT TITLE

2E-M PAGE 1 OF 2

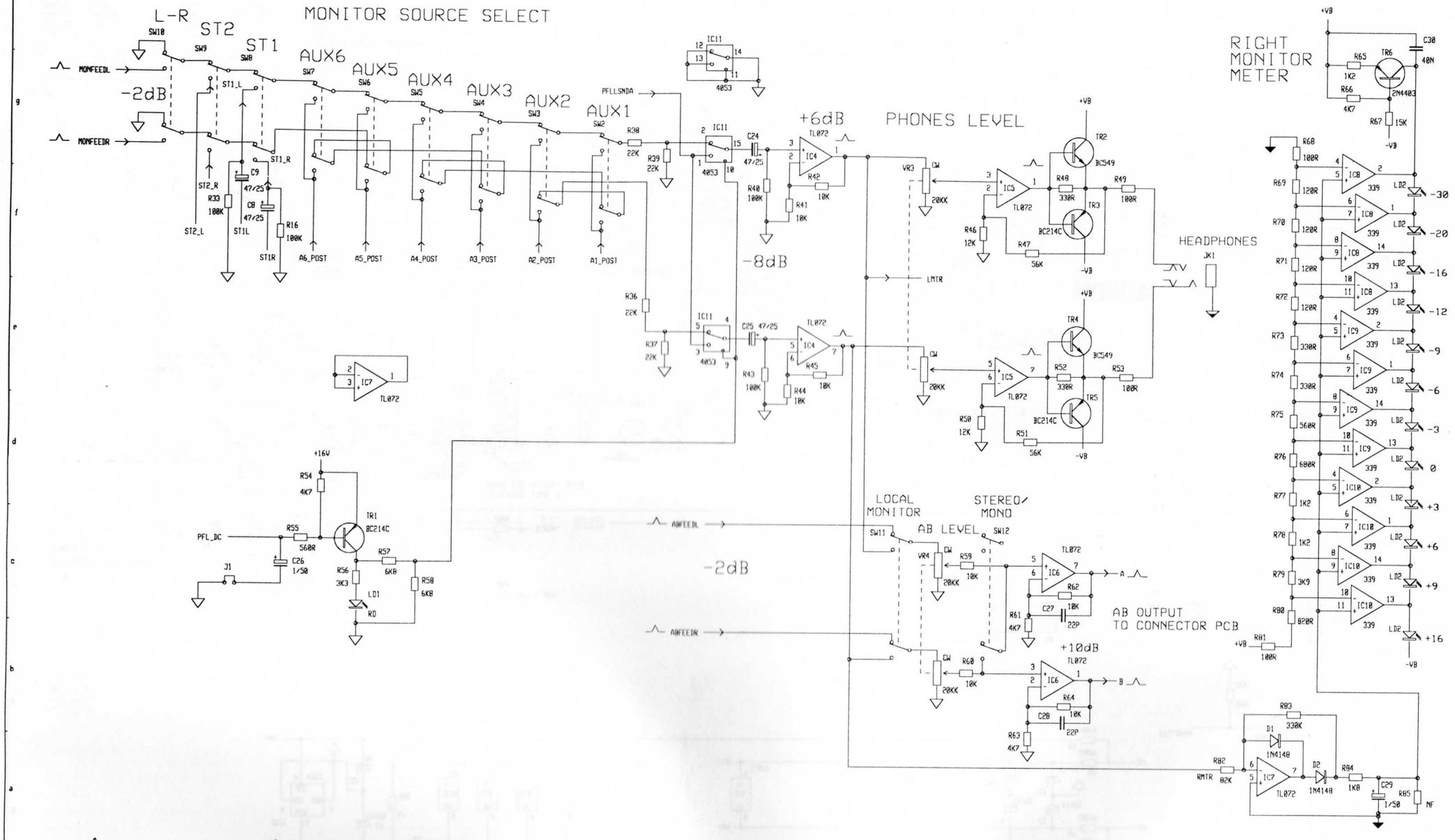
DRAWING TITLE

RIGHT PCB

MANUFACTURED IN ENGLAND BY

ALLEN & HEATH

DRAWING No. C2896 ISSUE



ISS.	REVISION	BY	DATE
A	ORIGIN	ARJ	24/01/97
B	RE DESIGN	AAT	06/02/97
C	VALUE CHANGES	DWD	18/02/97
1	PRODUCTION	DWD	13/03/97

NOTES

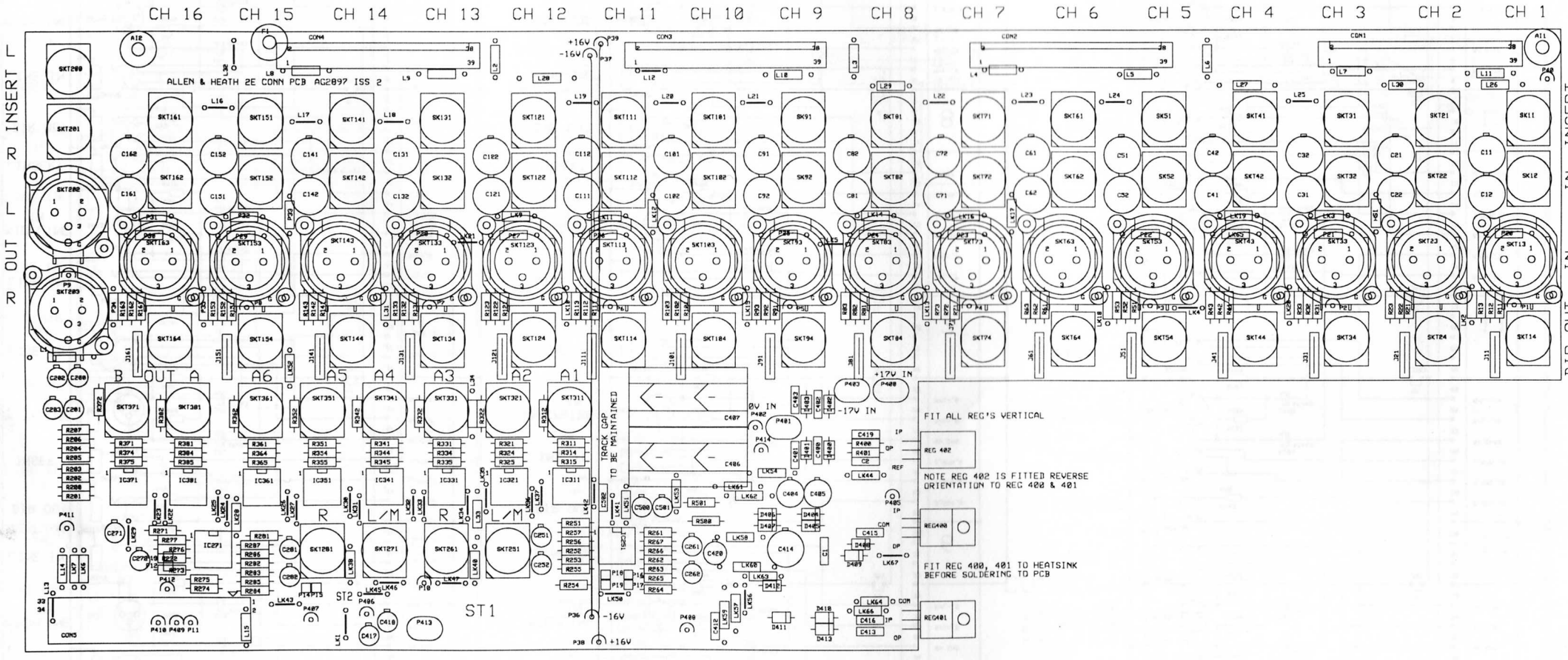
1. RESISTORS MARKED * ARE 1%
   ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS

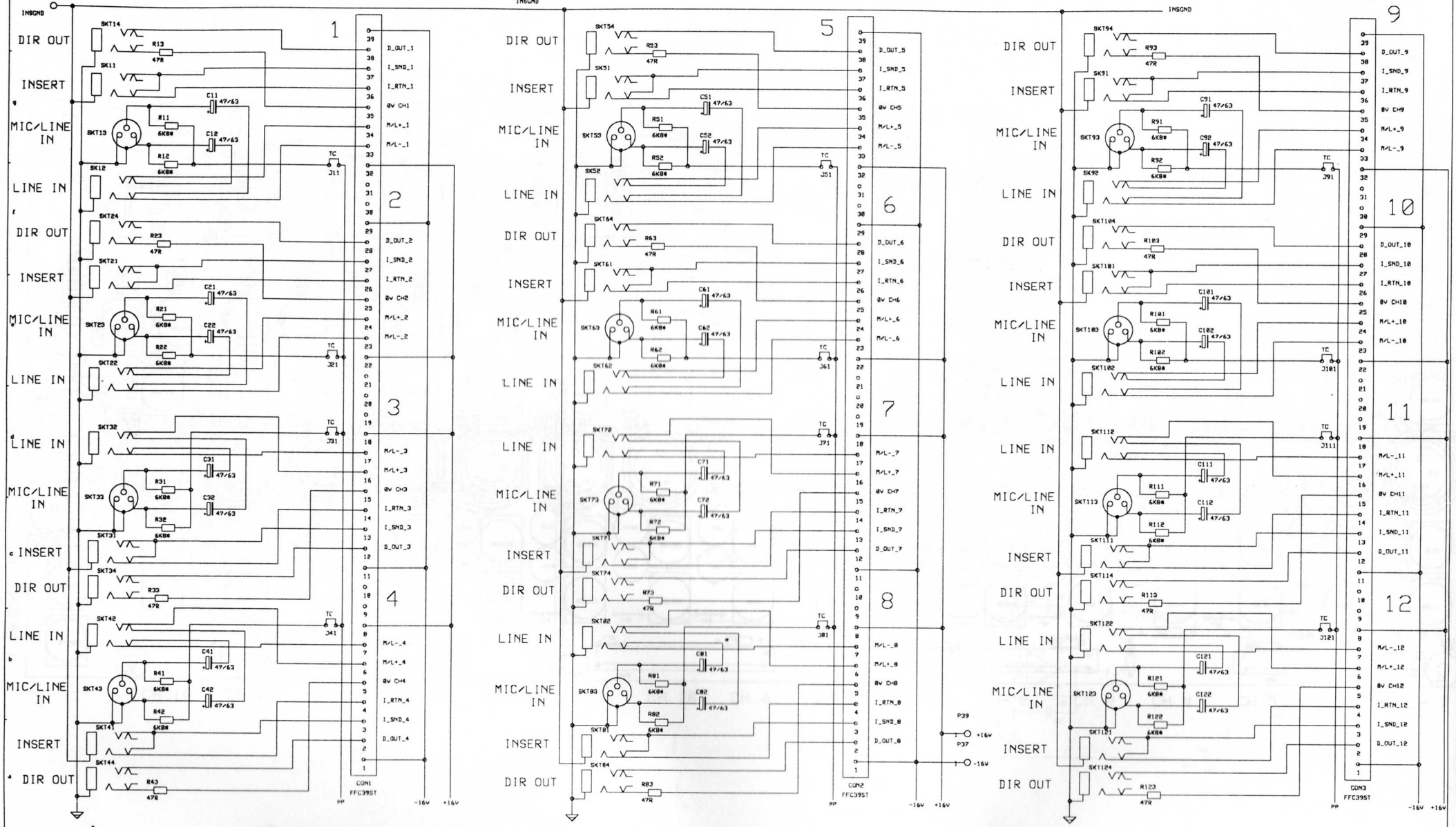
UNIT TITLE: 2E-M PAGE 2 OF 2

DRAWING TITLE: RIGHT PCB

MANUFACTURED IN ENGLAND BY: ALLEN & HEATH

DRAWING No. C2896 ISSUE 1 A2


CH 16
CH 15
CH 14
CH 13
CH 12
CH 11
CH 10
CH 9
CH 8
CH 7
CH 6
CH 5
CH 4
CH 3
CH 2
CH 1
R OUT
R INSERT
ALLEN & HEATH 2E CONN PCB AG2897 ISS 2
B OUT A
A6
A5
A4
A3
A2
A1
TRACK GAP TO BE MAINTAINED
+16V
-16V
0V IN
+17V IN
-17V IN
FIT ALL REG'S VERTICAL
NOTE REG 402 IS FITTED REVERSE ORIENTATION TO REG 400 & 401
FIT REG 400, 401 TO HEATSINK BEFORE SOLDERING TO PCB
REG 402
REG400
REG401
ST1
ST2



ISS.	REVISION	BY	DATE
A	ORIGIN	AAT	09-01-97
B	EARTH+POWER MODS	AAT	11-02-97
C	IC AND SKT MODS	DWD	18/02/97
1	PRODUCTION	DRP	13/03/97

NOTES

1. RESISTORS MARKED * ARE 1k
   ALL OTHERS ARE 5k 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS

UNIT TITLE: 2E-M

DRAWING TITLE: CONNECTOR PCB

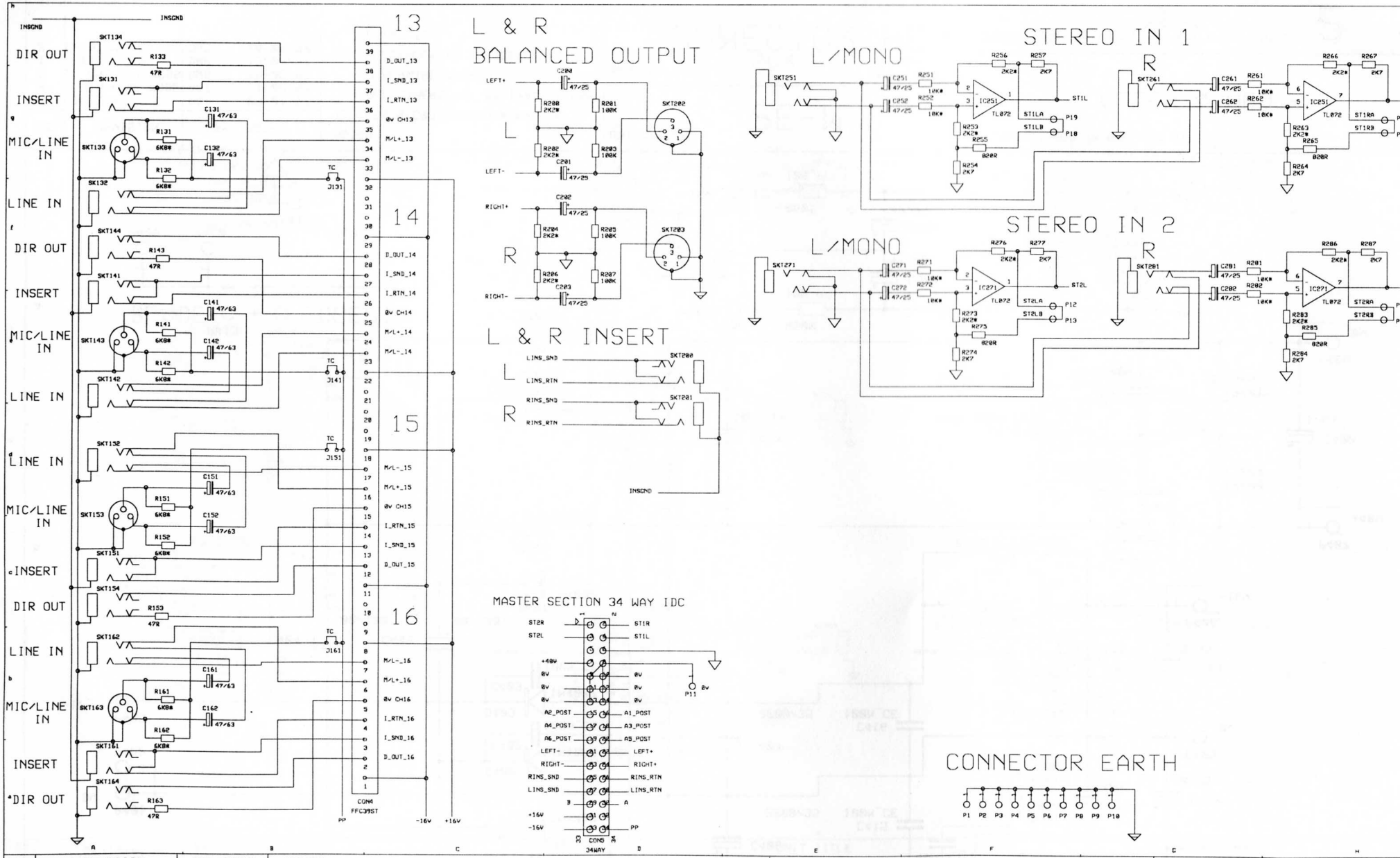
PAGE 1 OF 4

PCB TYPE AG2897

MANUFACTURED IN ENGLAND BY

ALLEN & HEATH

DRAWING No. C2897 ISSUE 1 A2



ISS.	REVISION	BY	DATE
A	ORIGIN	AAT	09-01-97
B	EARTH+POWER MODS	AAT	11-02-97
C	IC AND SKT MODS	DWD	18/02/97
1	PRODUCTION	DRP	13/03/97

NOTES

1. RESISTORS MARKED * ARE 1%
   ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS

UNIT TITLE: 2E-M

DRAWING TITLE: CONNECTOR PCB

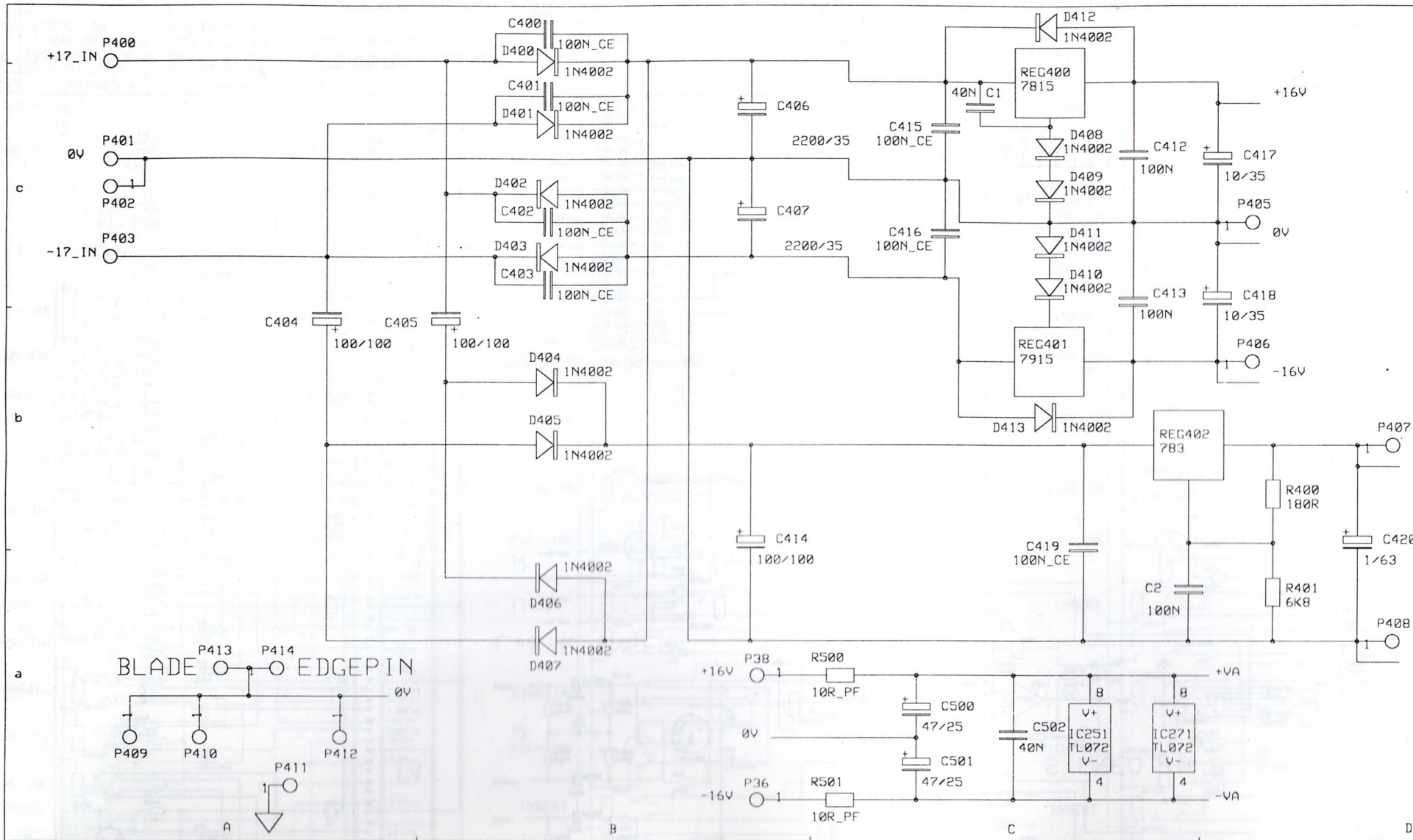
PAGE 2 OF 4

MANUFACTURED IN ENGLAND BY

ALLEN & HEATH

DRAWING No.

ISSUE



ISS.	REVISION	BY	DATE
A	ORIGIN	AAT	09-01-97
B	EARTH+PWR MODS	AAT	11-02-97
C	IC AND SKT MODS	DWD	18-02-97
1	PRODUCTION	DRP	13/03/97
2	PHANTOM PWR MOD	DWD	14-04-97

NOTES

1. RESISTORS MARKED * ARE 1%
   ALL OTHERS ARE 5% 1/4W UNLESS
   OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE
   µF/VOLTS

UNIT TITLE

2E-M

DRAWING TITLE

CONNECTOR PCB

PAGE 3 OF 4

PCB TYPE AG2897

MANUFACTURED IN ENGLAND BY

ALLEN & HEATH

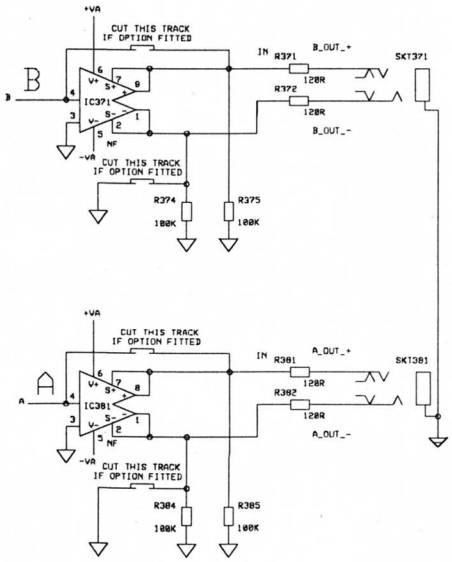
DRAWING No. C2897 ISSUE 2

AUX OUT 1-6

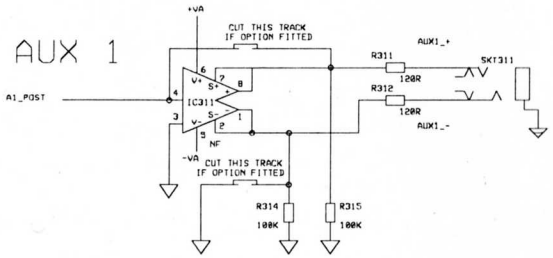
BALANCED OUTPUT OPTION.
FOR BALANCED OPTION FIT SSM2142
INTO POSITIONS IC311,321,331,341,
351,361,371 AND 381.

NOTE:CUT TRACK AS NOTED IN 16
POSITIONS

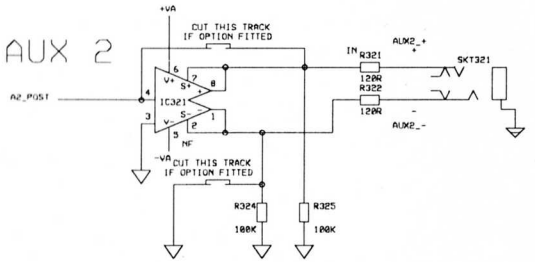
A & B OUT



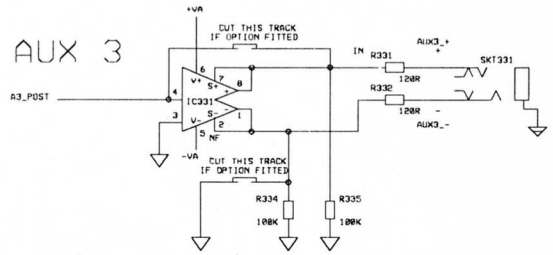
AUX 1



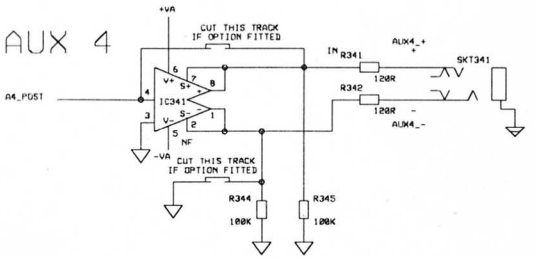
AUX 2



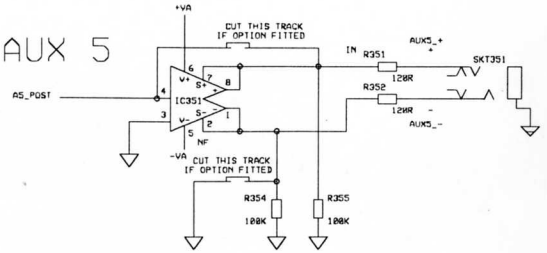
AUX 3



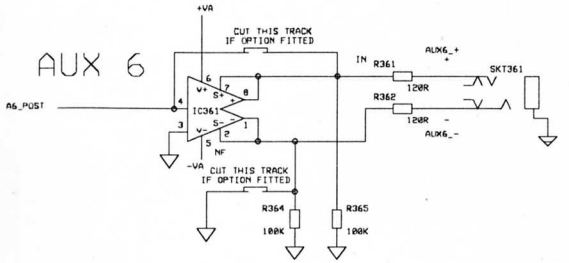
AUX 4



AUX 5



AUX 6



ISS.	REVISION	BY	DATE
A	ORIGIN	AAT	09-01-97
B	EARTH + POWER MODS	AAT	11-02-97
C	IC AND SKT MODS	DWD	18/02/97
1	PRODUCTION	DRP	13/03/97

NOTES

1. RESISTORS MARKED * ARE 1%
   ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS

UNIT TITLE: 2E-M

DRAWING TITLE: CONNECTOR PCB

PAGE 4 OF 4

MANUFACTURED IN ENGLAND BY

ALLEN & HEATH

DRAWING No. C2897 ISSUE 1 A2

ALLEN & HEATH

WZ16:2

16 MIC/LINE INPUT AUDIO MIXING CONSOLE

SERVICE MANUAL

PUBLICATION **AP2918**