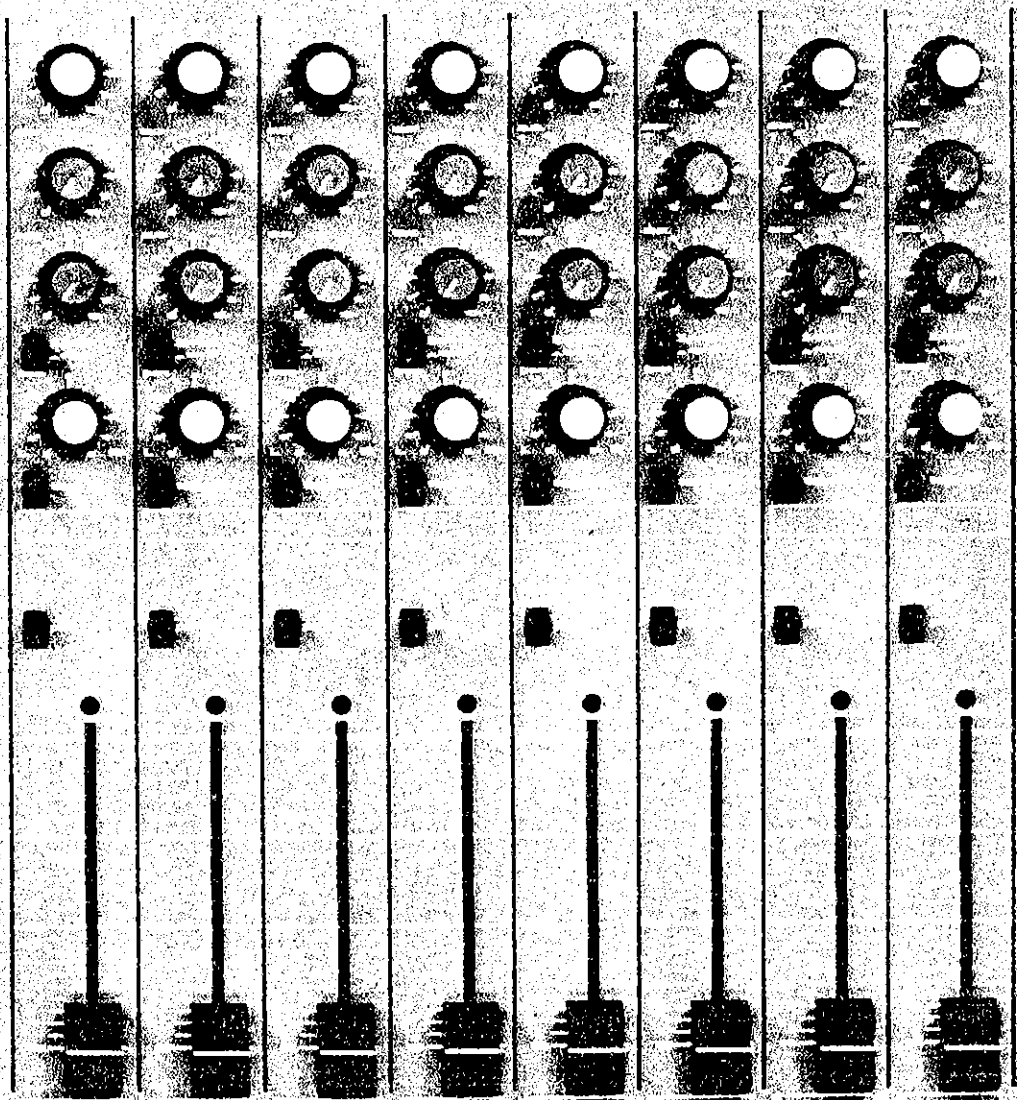
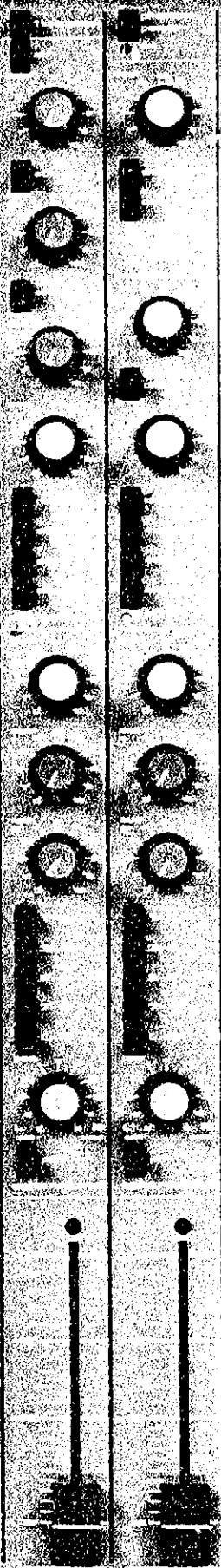




8

SCHEMATICS MARK II
issue 2

ALLEN + HEATH London, England.



AHB SYSTEM 8 SCHEMATICS MARK II ISSUE II

THIS VERSION INCLUDES UP-DATED DRAWING COPIES
WHERE KNOWN ERRORS HAVE BEEN CORRECTED.

T E C H N I C A L B U L L E T I N

AHB SYSTEM 8 JANUARY 1985

SUBJECT: VU METER SERVICE REPLACEMENT

As a result of supply difficulties it has been necessary to introduce a variation in the type of meter fitted. In order to ensure correct supply to you of a replacement should this be necessary it is essential for us to be advised of the SERIAL NUMBER of your unit. This will be checked against records kept by AHB and used to provide you with the correct service part.

AHB

19.1.85

T.R.

AHB SYSTEM 8 PRODUCT RANGE: ALL MODELS

Improvement to the features offered on this range of products have been introduced as follows, the models are referred to as System 8 Mk II and replace the original models.

1. Channel input, group output and left/right faders are now 100mm travel ultra smooth type with improved attenuation characteristics and longer life.
2. Channel input sections all now include an additional push button EQ CUT for switching the equaliser out of action.
3. Connection of the multitrack recorder output is now required only at the TAPE INPUT jack sockets. Internal connections automatically route the programme to channel line inputs. Tape input 1 is internally connected to line input 1 and Tape 2 to line 2 etc. Insertion of a jack plug in the channel line input socket defeats the internal connection and allows the line input to receive a new programme source. See CONNECTIONS section of the OWNER HANDBOOK for details.
4. Power supplies now include +48v Phantom Power as standard.
5. Level matching for low level operation now adopts the nominal standard of 0.30v RMS at OVU in place of 0.32v RMS.
6. Push button 1kHz SLATE has been made white to distinguish it from adjacent controls.
7. TAPE INPUT gain is now increased to boost the loudness of off-tape programme in the stereo mix.
8. General specifications and performance other than the details above are unaltered.
9. Operator' Handbook Mk II and schematics book Mk II are now in use.

AHB Brighton
21.2.84

AHB PARTS DESCRIPTION : SYSTEM 8 RANGE MARK II SPRING 1984

To order spare parts for service replacement specify the items as described below.

FUNCTION	ITEM	AHB STOCK REF
Fader	100mm 10k Alps	AI0091
Fader knob	Black Alps	AJ0048
Fader screw	M3 CSK 5mm	AB0070
Meter	SQ10	AD0011
Meter lamp	8v 50MA SQ10	AD0013
Knob	6mm Brown	AJ0044
Knob cap	Red	AJ0045
	Brown	AJ0046
	Green	AJ0047
Pushbutton cap	4748 Black	AJ0028
Base screw	6AB x $\frac{3}{8}$ PAN	AB0062
Base clip		AB0111
Input Pot Gain	10KC metric bkt	AI0049
H.F.	100KA metric	AI0047
L.F.	100KA metric	AI0047
Mid	100KA metric	AI0047
Mid Freq	100KC x 2 metric	AI0048
Aux 1	47KB metric	AI0050
Aux 2	47KB metric	AI0050
Aux 3	47KB metric	AI0050
Pan	10KA metric bkt	AI0046
Output Pot Level	10KB metric	AI0043
Aux 1	47KB metric	AI0050
Aux 2/3	47KB metric	AI0050
Pan	10KA metric bkt	AI0046
Master Pot Aux 1	47KB metric bkt	AI0045
Aux 2	47KB metric	AI0050
Aux 3	47KB metric	AI0050
Cue	10KB x 2 metric	AI0044
Level	47KB metric	AI0050
Aux 1	47KB metric	AI0050
Aux 2	47KB metric	AI0050
Pan	10KA metric bkt	AI0046
Talkback level	47KB metric bkt	AI0045
Headphone level	10KB x 2 metric	AI0044
Monitor level	10KB x 2 metric	AI0044
Level	47KB metric	AI0050
Aux 1	47KB metric	AI0050
Aux 2	47KB metric	AI0050
Pan	10KA metric bkt	AI0046
Pushbutton Switch	Single	AL0076
Pushbutton Switch	Dual	AL0077
Pushbutton Switch	Four way	AL0082
Pushbutton Switch	Five way	AL0079
Pushbutton Switch	Talkback	AL0078
IC op-amp	TLO72CP	AE0046
Input transistor	ZTX214C	AE0031
Red LED	T1 Red	AE0086
Relay, PFL	NF2-24	AM0205

The following items are not common to Mark II and are still available for service replacement on Mark I models.

FUNCTION	ITEM	AHB STOCK REF
Fader	90mm 5k TBM	AIO089
Fader knobs	Black TBM	AJ0038
Fader screw	M3 CSK 10mm	AB0075
Spacer	M3 CLEAR x 6mm	AB0137

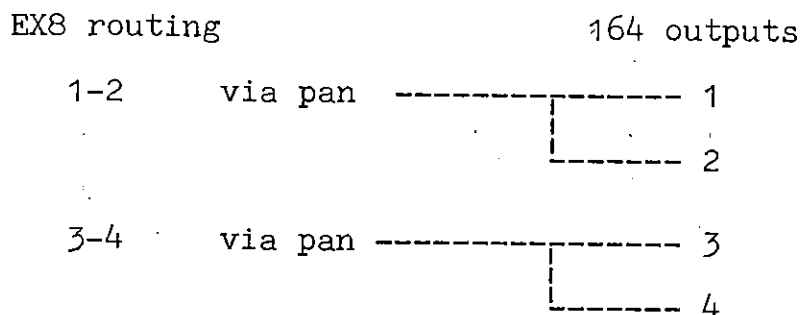
Technical Bulletin:

AHB System 8: Expanding the 164 model

Input routing on the 164 model uses four pushbuttons 1, 2, 3, 4 for assigning inputs to outputs. The pan selects one of the pair chosen if two assigns are made.

Input routing on the EX8 input expander uses four pushbuttons 1-2, 3-4, 5-6, 7-8 for assigning inputs to outputs.

When an EX8 is added to a 164 using the standard Tie Line connector inputs on the EX8 are assigned to the four outputs of the 164 as follows:



EX8 routing pushbuttons 5-6, 7-8 are not used.

If this arrangement is not wanted a modification can be made within the EX8 to match the 164 input routing style, however the function will disagree with the panel markings on the EX8.

Reconnect the internal EX8 pcb harness to the output mix busses so that

- mix bussbar 4 goes to EX8 pcb input 2 (cct. K)
- mix bussbar 5 goes to EX8 pcb input 3 (cct. H)
- mix bussbar 8 goes to EX8 pcb input 4 (cct. I).

Leave mix bussbar 1 as it is. Disconnect mix bussbars 2, 3, 6, 7 from the EX8 pcb.

Allen and Heath Brenell Ltd.,
69 Ship Street,
BRIGHTON,
East Sussex.

20th May 1983

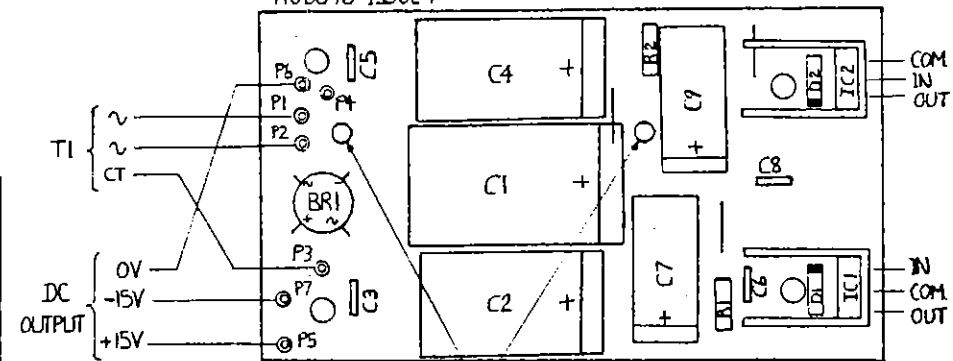
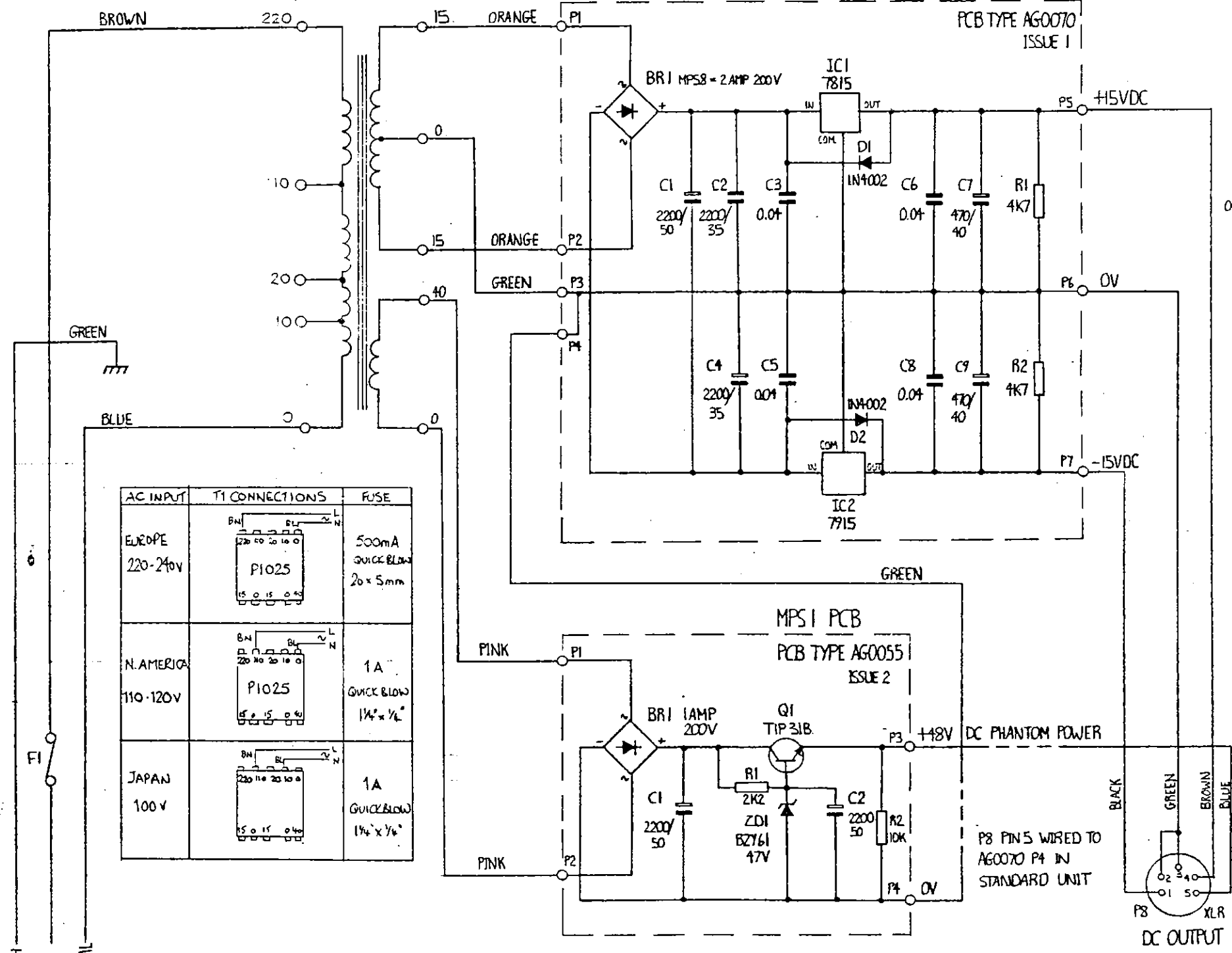
T1

MPS8 = TRANS-TRONIC P1025

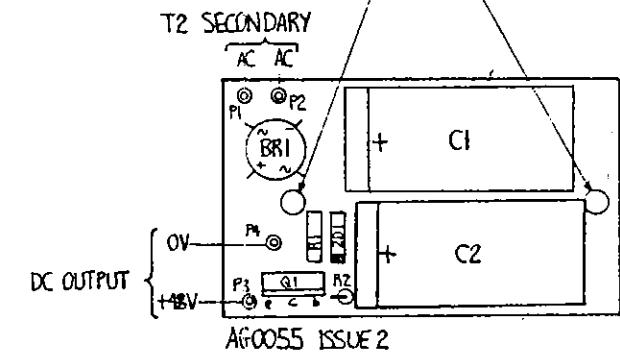
MPS 7-8 PCB

PCB TYPE AG0070
ISSUE 1

AG0070 ISSUE 1



LOCATING HOLES FOR MPS1 PCB



AC INPUT	T1 CONNECTIONS	FUSE
EUROPE 220-240V		500mA QUICK BLOW 20 x 5mm
N.AMERICA 110-120V		1A QUICK BLOW 1 1/4" x 1/4"
JAPAN 100V		1A QUICK BLOW 1 1/4" x 1/4"

MPS1 PCB
PCB TYPE AG0055
ISSUE 2

P8 PINS WIRED TO
AG0070 P4 IN
STANDARD UNIT

DC OUTPUT

MPS8P DETAIL.

EARTH LIVE NEUTRAL
DANGER HIGH VOLTAGE!
AC MAINS INPUT 50/60 HZ SEE NOTE ABOVE

No.	DESCRIPTION	CHKD	APPD	DATE
5	MPS8P ONLY.			12.84
REVISIONS				

AHB POWER SUPPLY MPS8P CIRCUITS AND GENERAL ARRANGEMENT
INCLUDING PHANTOM POWER.

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
CD				9-9-82	

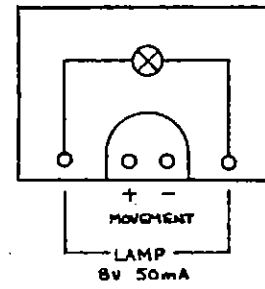
DRAWING No. 283 ISSUE 5

SYSTEM 8: METERPOD BUSBAR CONNECTIONS

DWG. 282 iss. 1

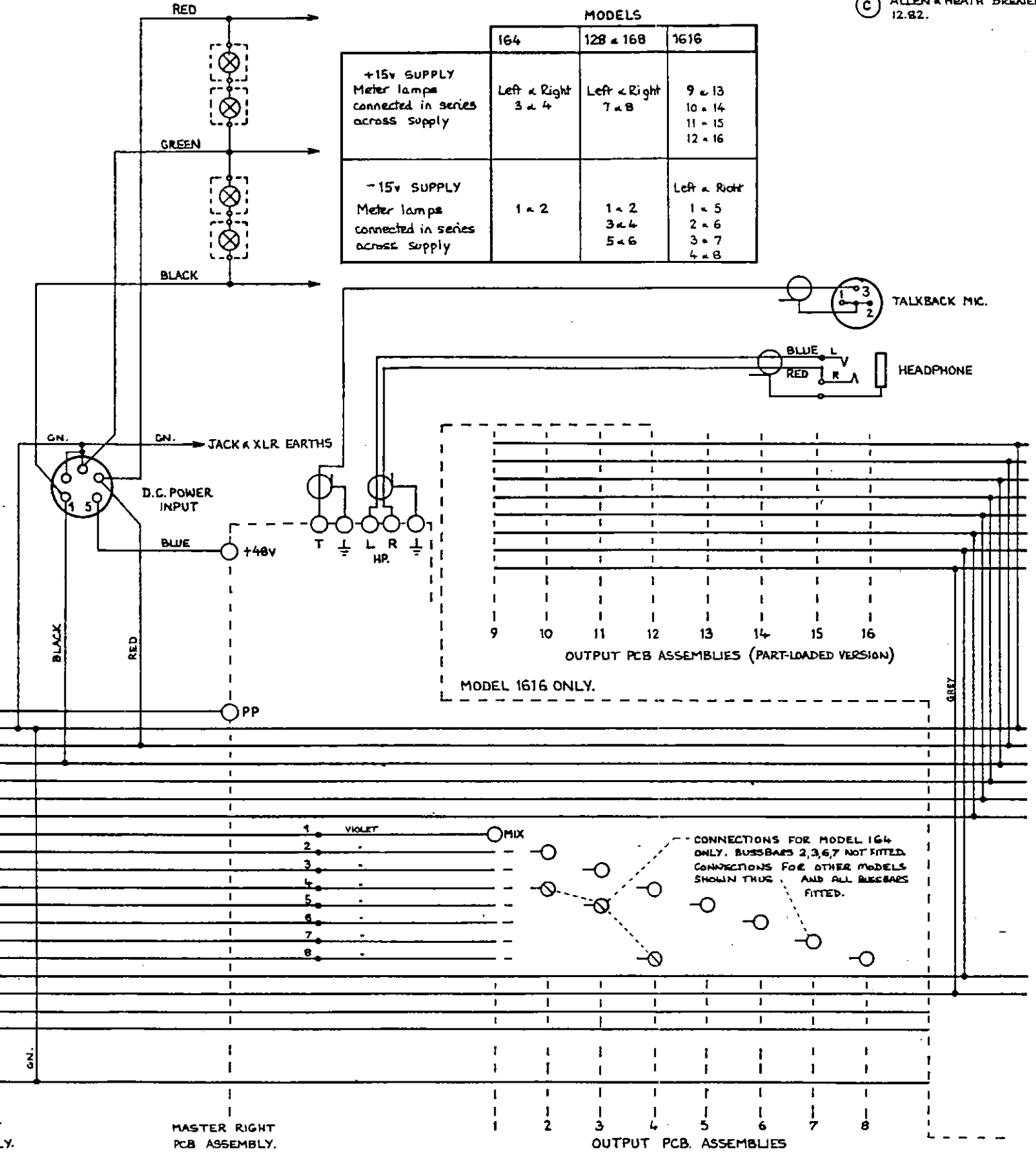
© ALLEN & HEATH BRENNELL LTD. 12.82.

DRG. No. 282 iss. 1



METER TYPE SQ10

	MODELS		
	164	128 & 168	1616
+15v SUPPLY Meter lamps connected in series across supply	Left & Right 3 & 4	Left & Right 7 & 8	9 & 13 10 & 14 11 & 15 12 & 16
-15v SUPPLY Meter lamps connected in series across supply	1 & 2	1 & 2 3 & 4 5 & 6	Left & Right 1 & 5 2 & 6 3 & 7 4 & 8



COMMON BUSBARS	
FUNCTION	CODE
PHANTOM POWER SUPPLY +48V.	P.
ELECTRONIC SUPPLY 0v.	0v.
" +15v.	+15v.
" -15v.	-15v.
AUXILIARY MIX 1	A1.
" 2	A2.
" 3	A3.
OUTPUT MIX 1	1.
" 2	2.
" 3	3.
" 4	4.
" 5	5.
" 6	6.
" 7	7.
" 8	8.
STEREO MIX LEFT	L.
" RIGHT	R.
PRE-FADE LISTEN MIX	PFL MIX.
" D.C.	PFL D.C.
FADER EARTH	-

CONNECTIONS FOR MODEL 164 ONLY. BUSBARS 2,3,6,7 NOT FITTED. CONNECTIONS FOR OTHER MODELS SHOWN THUS AND ALL BUSBARS FITTED.

No.	DESCRIPTION	CHKD	APPD.	DATE
REVISIONS				

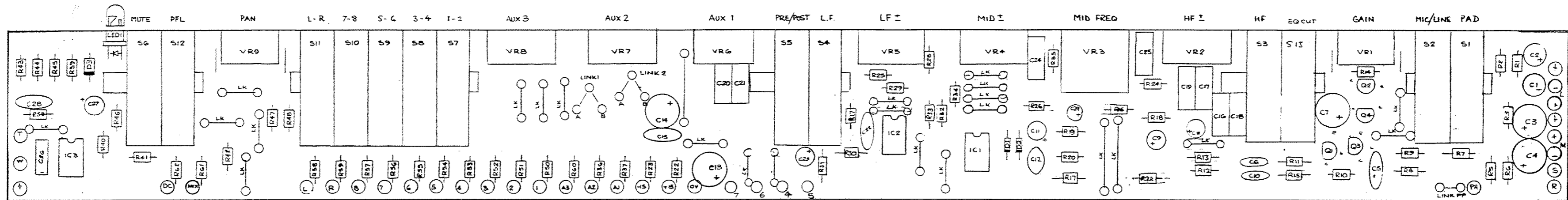
SYSTEM 8 Mk. II
ALLEN & HEATH BRENNELL LTD.

© 1982

METERPOD & BUSBAR CONNECTIONS

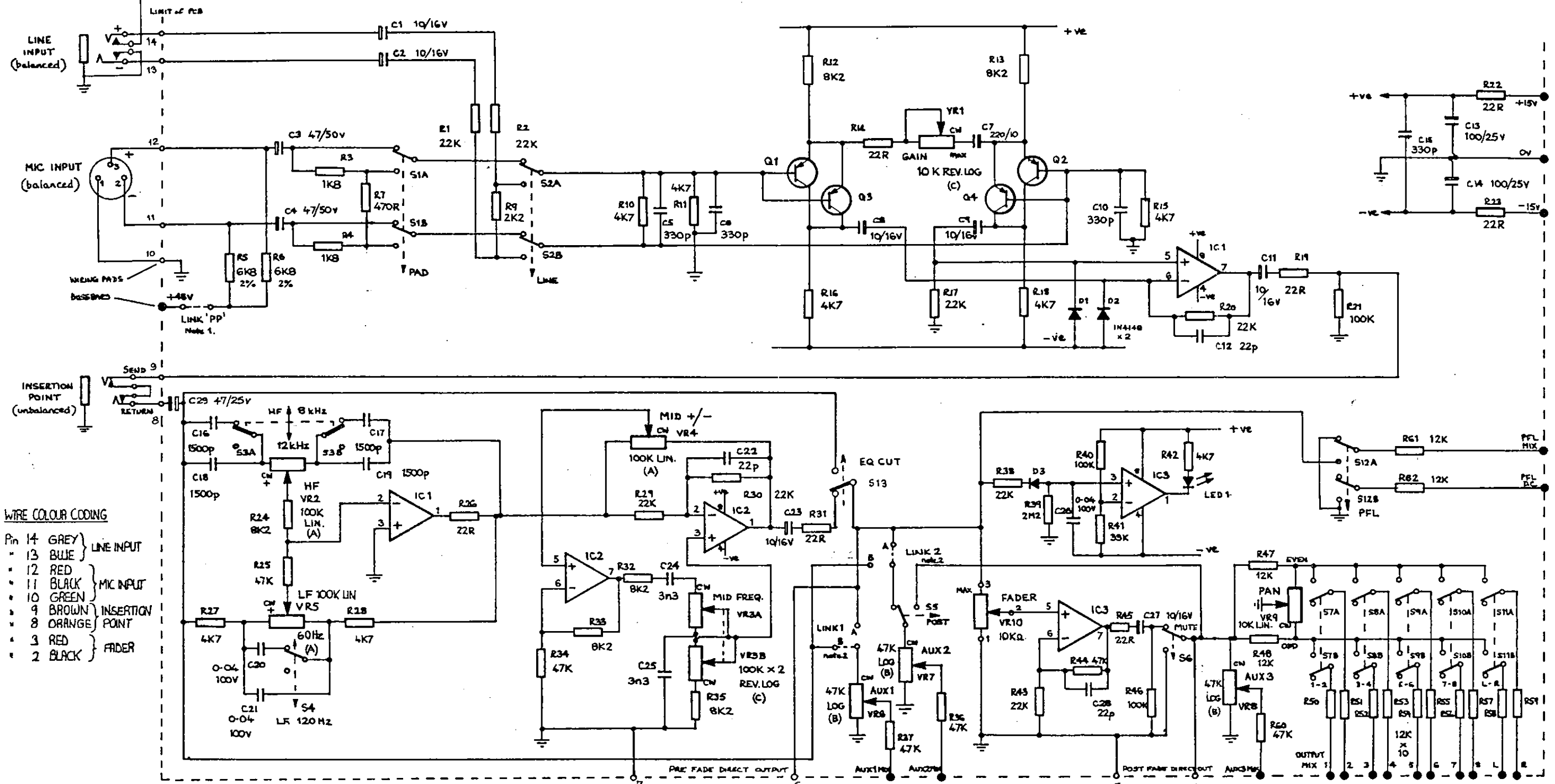
DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
R		R	R	2.84	

DRAWING No. 282 issue 1



PCB ASSEMBLY DIAGRAM: INPUT PCB TYPE AG0060 ISSUE 2 NOV 83 AHB LTD.

FROM TAPE I/P cct. (channels connected correspond to the number of the tape input)

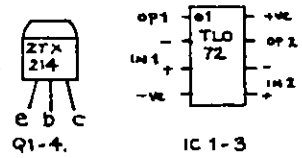


WIRE COLOUR CODING

Pin 14 GREY } LINE INPUT
 Pin 13 BLUE }
 Pin 12 RED }
 Pin 11 BLACK } MIC INPUT
 Pin 10 GREEN }
 Pin 9 BROWN } INSERTION POINT
 Pin 8 ORANGE }
 Pin 3 RED } FADER
 Pin 2 BLACK }

- NOTES:
- 1 Link 'PP' is fitted at time of manufacture and may be removed by cutting to disconnect +48volt phantom power from the mic input.
 - 2 Link 1 is fitted at time of manufacture in position A (AUX1 POST-EQ) and may be changed by soldering to position B (AUX1 PRE-EQ)
 Link 2 position A (AUX2 POST-EQ) to position B (AUX2 PRE-EQ)
 - 3 Switches are shown in the OUT position.
 - 4 R8, C28 not fitted.
 - 5 Resistors 1/4W 5% unless specified.
 - 6 After S/N 513 added and VR10 changed to 10KΩ (ALPS).

© ALLEN & HEATH BRENNELL LTD. 1982.



SYSTEM 8: INPUT CHANNEL CIRCUIT
 DWG 277 iss.3 PCB TYPE AG0060 iss.2 NOV 1983

No.	DESCRIPTION	CHKD	APPD	DATE
2	155.3 CORRECTIONS AND EQ CUT SWITCH ADDED	g.h.r.	q.h.r.	11.83
1	155.2 CORRECTIONS	g	h	1.83.

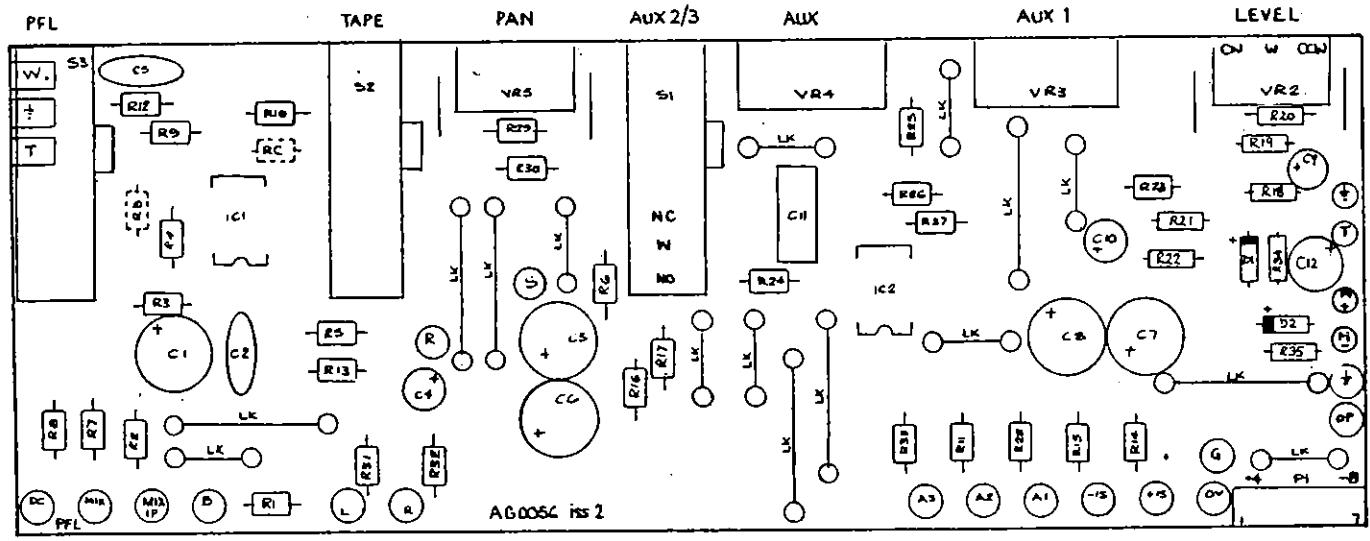
ALLEN & HEATH SYSTEM 8 Mk II

CIRCUIT DIAGRAM: INPUT PCB AG0060 ISS 2.

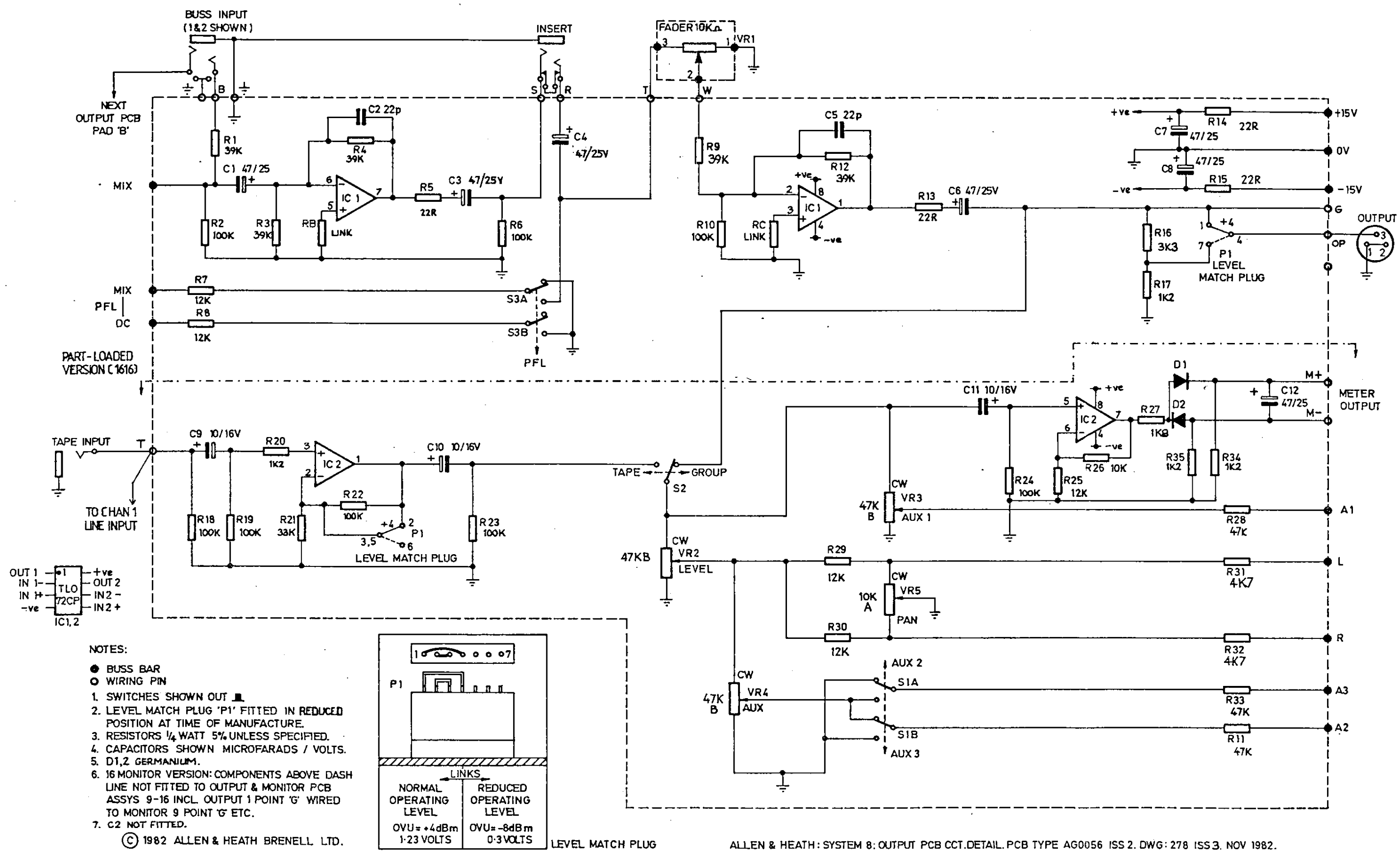
DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
R	R	R	R	2.84	-

DRAWING No. 277, iss. 3

OUTPUT PCB



PCB ASSEMBLY DIAGRAM: OUTPUT PCB TYPE AG005C issue 2 Nov. 1992. AME Ltd.



No.	DESCRIPTION	CHKD	APP'D	DATE
REVISIONS FOR MK II MODEL				
REVISIONS				

ALLEN & HEATH SYSTEM 8 mk II

CIRCUIT DETAIL; OUTPUT PCB
TYPE AHB 82 OUTPUT
AG0056 ISS. 2.

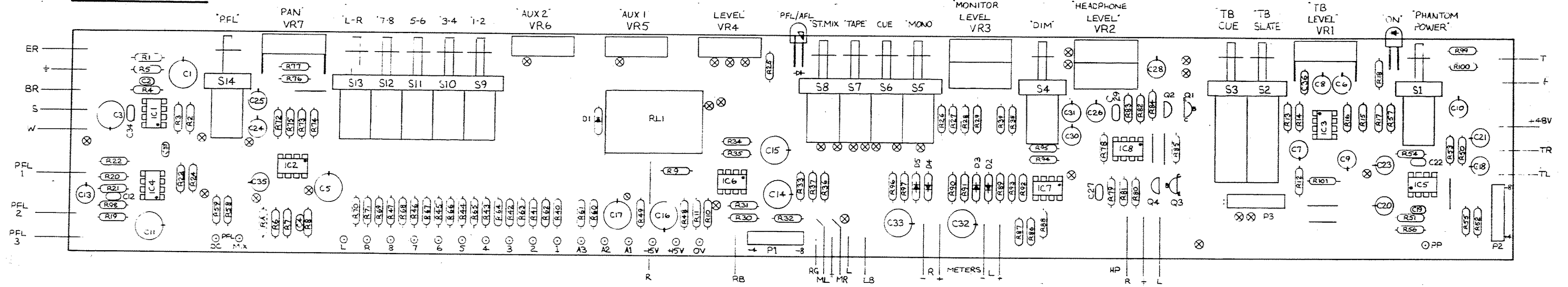
DRAWN R	TRACED RA6.WDS	CHECKED R	APPROVED R	DATE FEB 84	SCALE —
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DRAWING No. 278 ISS. 3.

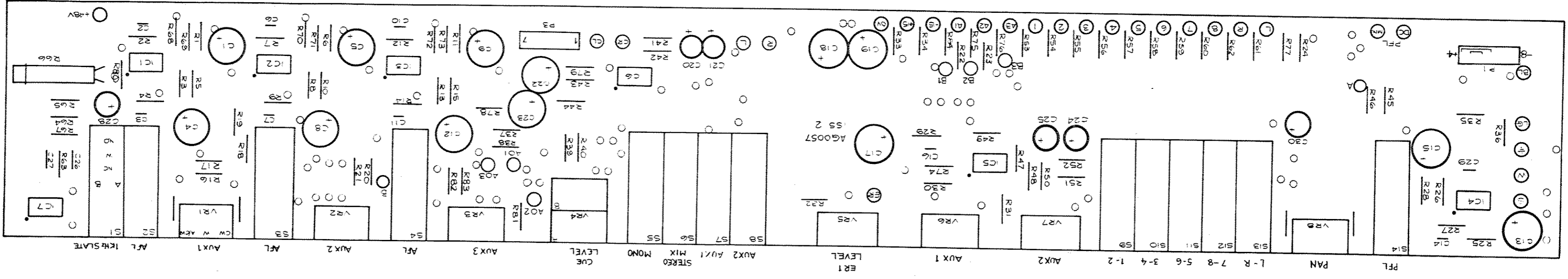
MASTER RIGHT PCB

PCB ASSEMBLY DIAGRAM: MASTER RIGHT PCB TYPE AG0058 ISSUE 3

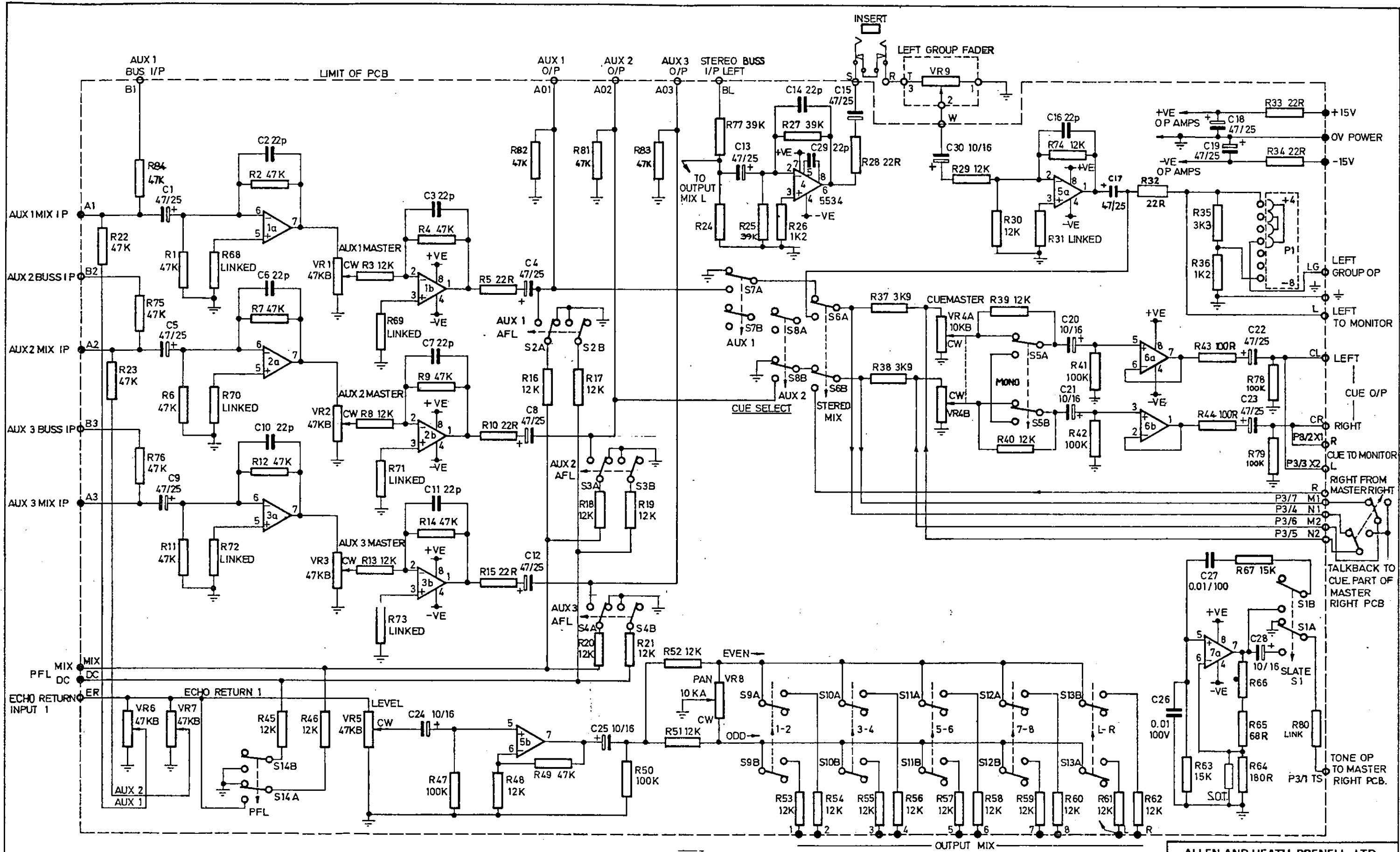
1984 AHB LTD.



MASTER LEFT PCB



PCB ASSEMBLY DIAGRAM : MASTER LEFT PCB TYPE AG0057 ISSUE 3 NOV. 1984 AHB LTB.



© 1982

○ WIRING PAD

● BUS BAR

Switches shown in OUT position.
Resistors 1/4W 5% unless specified.
P1 fitted - 8 position in manuf'c.

ICs 1,2,3,5,6,7, TL072CP.

IC 4 NE5534.

Capacitors C3,7,11,29 not fitted.
Resistor R24 not fitted.

WIRE COLOUR CODING

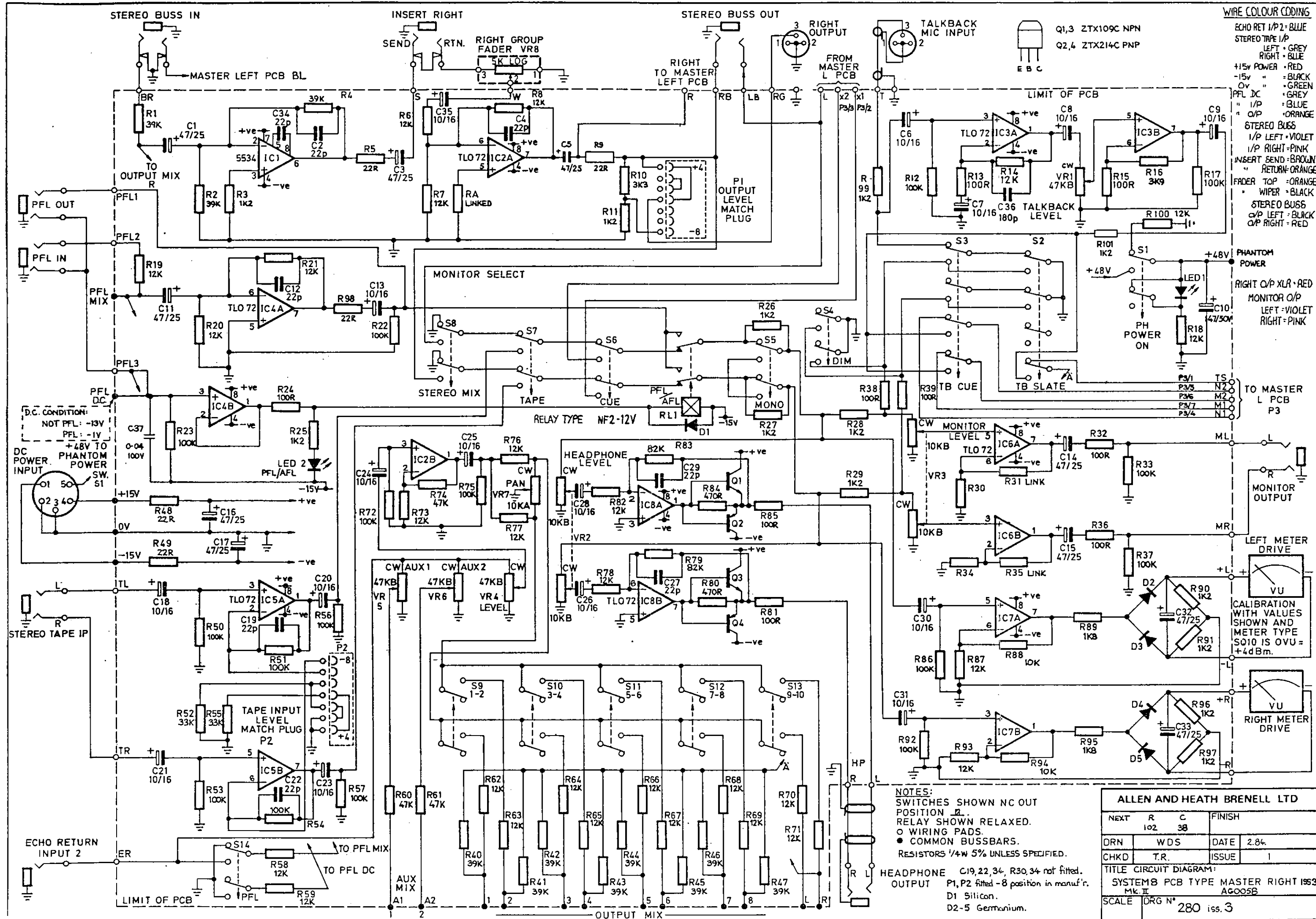
Pin 1 ORANGE
Pin 2 BROWN } AUX O/P
Pin 3 VIOLET

ECHO RETURN - BLUE
STEREO BUSS I/P LEFT - VIOLET
INSERT SEND - BROWN
" RETURN - ORANGE

FADER TOP - ORANGE
" WIPER - BLACK
LEFT O/P - BLACK
LEFT TO MON - GREY
CUE O/P LEFT - BLACK
" RIGHT - RED

ALLEN AND HEATH BRENNELL LTD

NEXT:	R	C	FINISH
	85	31	
DRN	RAG	WDS	DATE 2.84.
CHKD			ISSUE 3
TITLE SYSTEM 8 PCB TYPE MASTER			
LEFT. AG0057 ISS 3. MK.II			
SCALE	DRG N° 279 ISS. 3		



WIRE COLOUR CODING

ECHO RET I/P2 - BLUE
 STEREO TAPE I/P
 LEFT - GREY
 RIGHT - BLUE
 +15v POWER - RED
 -15v " - BLACK
 0v " - GREEN
 PFL DC - GREY
 " I/P - BLUE
 " O/P - ORANGE
 STEREO BUSS
 I/P LEFT - VIOLET
 I/P RIGHT - PINK
 INSERT SEND - BROWN
 " RETURN - ORANGE
 FADER TOP - ORANGE
 " WIPER - BLACK
 STEREO BUSS
 O/P LEFT - BLACK
 O/P RIGHT - RED

Q1,3 ZTX109C NPN
 Q2,4 ZTX214C PNP

E B C

PHANTOM POWER
 +48V
 LED1
 PH POWER ON
 R18 12K
 C10 47/50V

RIGHT O/P XLR - RED
 MONITOR O/P
 LEFT - VIOLET
 RIGHT - PINK

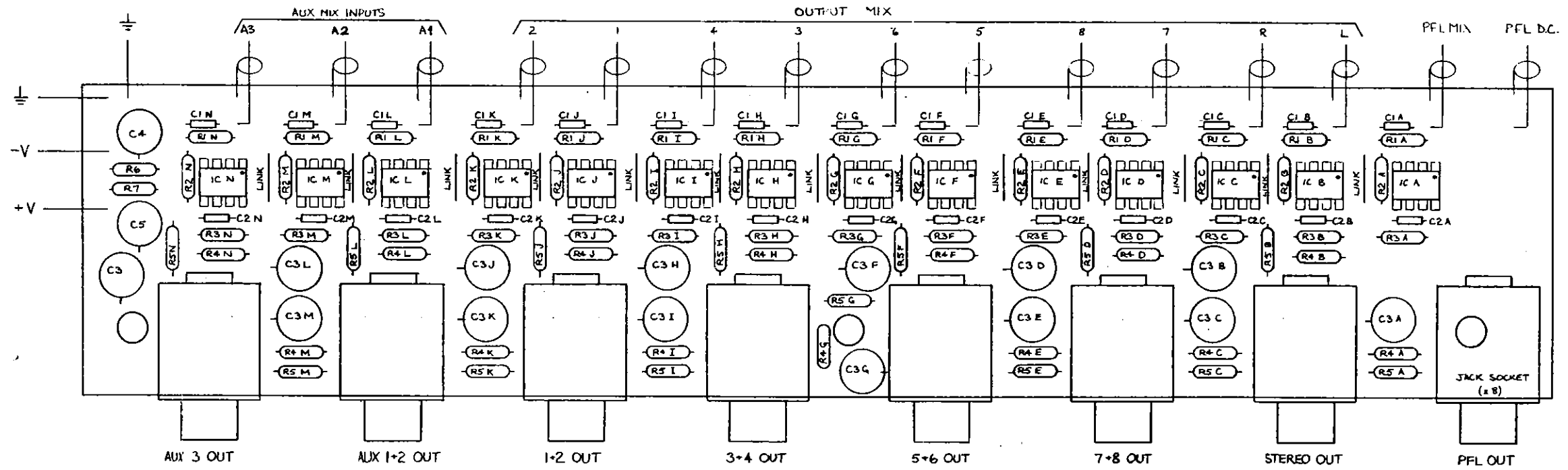
TO MASTER L PCB
 P3

NOTES:
 SWITCHES SHOWN NC OUT POSITION \downarrow .
 RELAY SHOWN RELAXED.
 ○ WIRING PADS.
 ● COMMON BUSSBARS.
 RESISTORS 1/4W 5% UNLESS SPECIFIED.

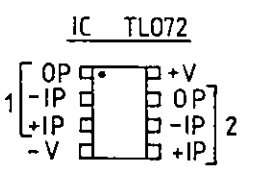
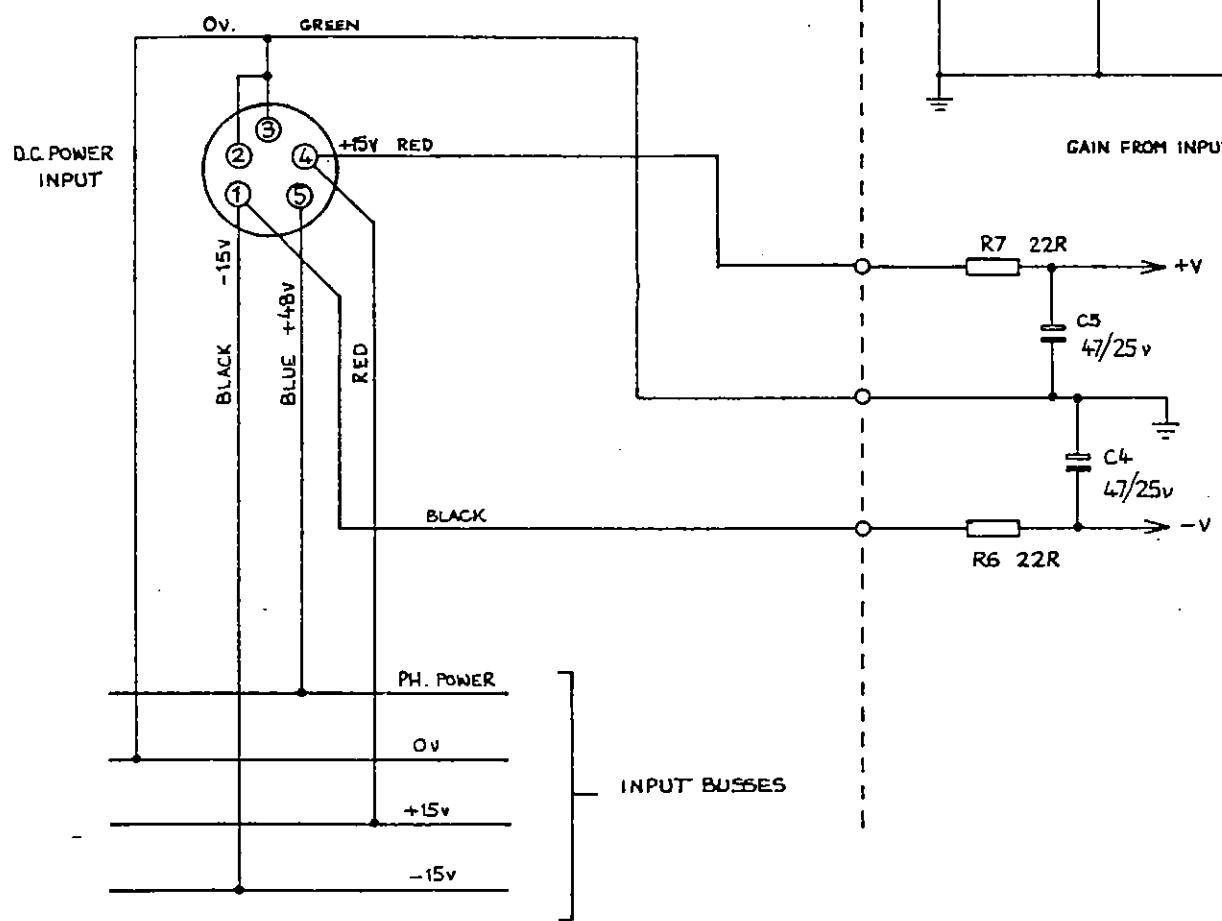
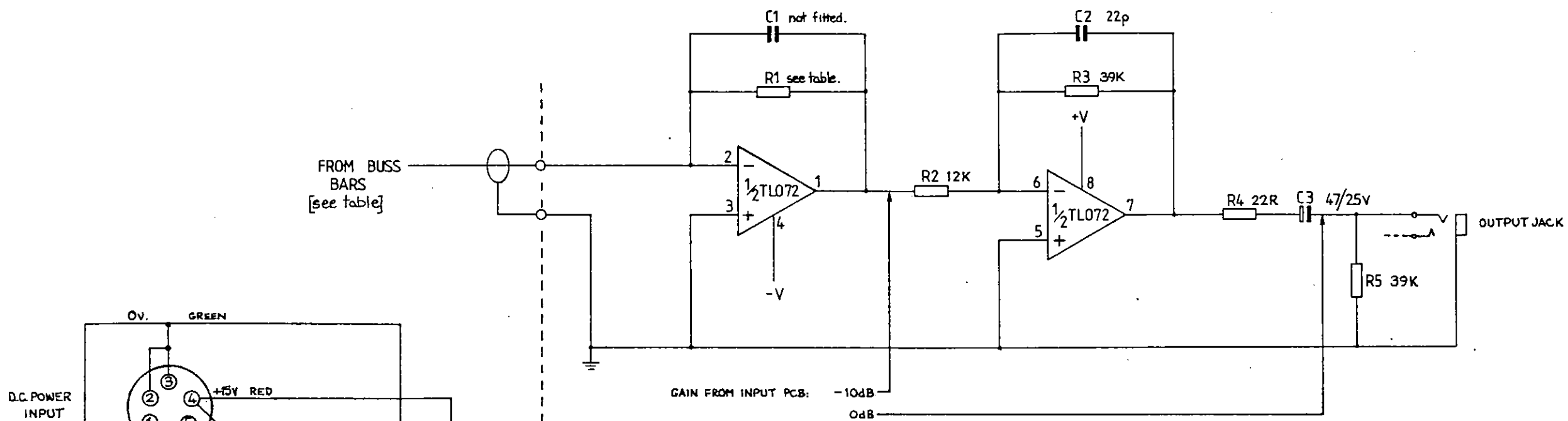
HEADPHONE OUTPUT C19, 22, 34, R30, 34 not fitted.
 P1, P2 fitted - 8 position in manuf'r.
 D1 Silicon.
 D2-5 Germanium.

ALLEN AND HEATH BRENELL LTD			
NEXT	R	C	FINISH
DRN	WDS	DATE	2.84.
CHKD	T.R.	ISSUE	1
TITLE CIRCUIT DIAGRAM: SYSTEM8 PCB TYPE MASTER RIGHT 1953 Mk. II AGO05B			
SCALE	DRG N°	280 iss. 3	

EX 8 PCB



PCB ASSEMBLY DIAGRAM: PCB TYPE EX 8 AG0059 iss 1 AHB Ltd. Nov 1982.



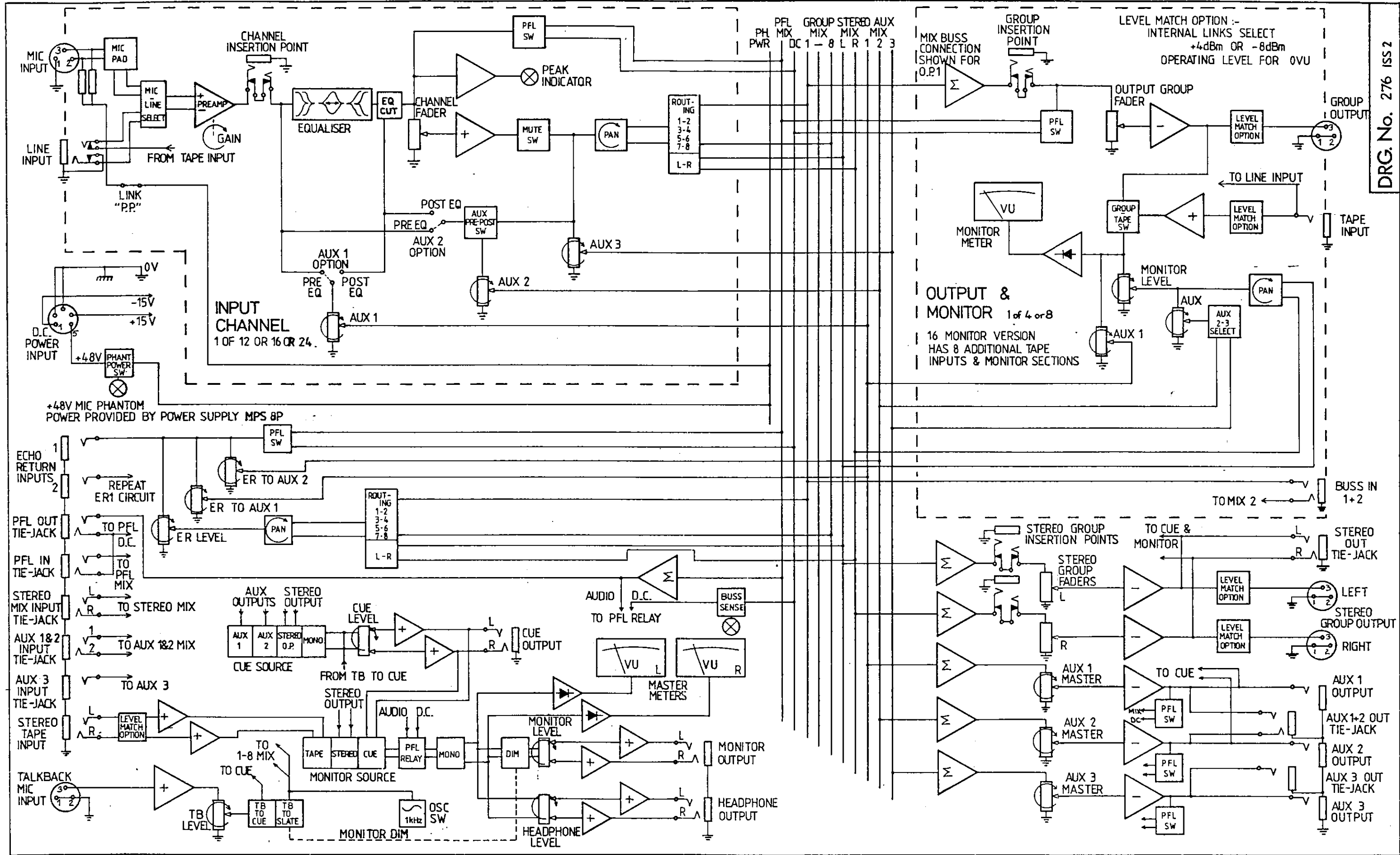
MIXER BUSS BAR	CIRCUIT SUFFIX	JACK SOCKET	R1
PFL SENSE	-	PFL OUT Ring	-
PFL (AUDIO)	A	" Tip	3K9
GROUP BUSS LEFT	B	STEREO OUT T	12K
" RIGHT	C	" R	12K
" 7	D	7+8 OUT T	12K
" 8	E	" R	12K
" 5	F	5+6 OUT T	12K
" 6	G	" R	12K
" 3	H	3+4 OUT T	12K
" 4	I	" R	12K
" 1	J	1+2 OUT T	12K
" 2	K	" R	12K
AUX 1	L	AUX 1+2 OUT T	15K
AUX 2	M	" R	15K
AUX 3	N	AUX 3 OUT T	15K

GAIN FROM INPUT PCB: -10dB
0dB

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SYSTEM 8 : CIRCUIT DIAGRAM PCB TYPE EX8 AG0059 iss 1. DWG. 281 iss.2. DEC. 1982.

CIRCUIT DIAGRAM: PCB TYPE AG0059 EX8 iss 1.		DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
ALLEN & HEATH SYSTEM 8		MA		R	R	2.84	
AHB LTD. DEC. 1982.		DRAWING No. 281 issue 2					
No.	DESCRIPTION						
REVISIONS							



SYSTEM 8: SYSTEM SCHEMATIC mk II

No.	DESCRIPTION	CHKD	APPD	DATE

DRAWN	TRACED	CHECKED	APPROVED	DATE	SCALE
R	MA	R	R		

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DRAWING No. 276 ISS 2 2-84