

GL²²⁰⁰

Audio mixing console

**ALLEN
&
HEATH**

SERVICE MANUAL

PUBLICATION: AP3389

CONTENTS

Introduction	3
Service and Technical Support.....	3
Safety Warning & General Precautions	3
The GL2200 Range & Options	4
Flightcasing the Console.....	4
Dimensions	4
Specifications & Connections	5
Ordering a GL2200 Console, Options and Documentation.....	6
Ordering an Assembly	7
Ordering a Spares Kit	8 - 9
Front Panel Layout.....	10
Rear Panel Layout	11
Block Diagram.....	12
GL2200 INPUT Circuit Board component Ident	AG3395
GL2200 INPUT Circuit Diagram	C3395
GL2200 STEREO Circuit Board component Ident	AG3428
GL2200 STEREO Circuit Diagram (Page 1 of 2)	C3428
GL2200 STEREO Circuit Diagram (Page 2 of 2)	C3428
GL2200 GROUP Circuit Board component Ident.....	AG3425
GL2200 GROUP Circuit Diagram (Page 1 of 2)	C3425
GL2200 GROUP Circuit Diagram (Page 2 of 2)	C3425
GL2200 LEFT Circuit Board component Ident	AG3426
GL2200 LEFT Circuit Diagram (Page 1 of 3)	C3426
GL2200 LEFT Circuit Diagram (Page 2 of 3)	C3426
GL2200 LEFT Circuit Diagram (Page 3 of 3)	C3426
GL2200 RIGHT Circuit Board component Ident.....	AG3427
GL2200 RIGHT Circuit Diagram (Page 1 of 2)	C3427
GL2200 RIGHT Circuit Diagram (Page 2 of 2)	C3427
GL2200 OSC/NOISE Circuit Board component Ident	AG3519
GL2200 OSC/NOISE Circuit Diagram	C3519
GL2200 PSU Circuit Board component Ident.....	AG3504
GL2200 PSU Circuit Diagram.....	C3504

Warning to the Service Engineer

Allen & Heath warns that any unauthorised changes or modifications to the **GL2200** unit may invalidate the legal compliance of the unit and could void the user's authority to operate the equipment.

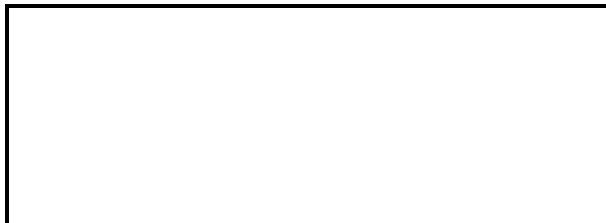
GL2200 Service Manual AP3389 Issue 1. Copyright © 1999 Allen & Heath. All rights reserved

MANUFACTURED IN ENGLAND BY:

ALLEN & HEATH
Kernick Industrial Estate
Penryn, Cornwall, TR10 9LU. UK
<http://www.allen-heath.com>

H A DIVISION OF HARMAN INTERNATIONAL INDUSTRIES Ltd

ALLEN & HEATH AGENT:



Introduction

The information presented in this manual is intended for competent technical personnel to carry out service and product support for the **GL2200** range of consoles. We assume that the reader is familiar with the related electronic theory and audio terminology, and is able to carry out servicing, faultfinding 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 information on the configuration, operation and application of the GL2200 range, please refer to GL2200 User Guide (A&H Part no: AP3388).

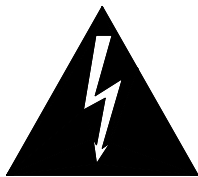
Whilst we believe the information in this manual to be reliable we do not assume responsibility for inaccuracies. We also reserve the right to make changes in the interest of further product development.

Service and Technical Support

Under normal conditions the **GL2200** does not require user maintenance or internal calibration. Any service work required should be carried out by qualified service personnel only.

We are able to offer further product support through our world-wide network of approved dealers and service agents. You can also access our Web site on the Internet for information on our product range, assistance with your technical queries or simply to chat about audio matters. To help us provide the most efficient service please keep a record of the console serial number, the date and place of purchase to be quoted in any communication regarding this product.

SAFETY WARNING!



Mains electricity is dangerous and can kill. Mains voltage is present within the console power supply unit.

Do not remove the power supply cover with mains electricity connected. To ensure your safety, mains earth is connected to the chassis through the power lead. Do not remove this mains earth connection.

To avoid the risk of fire, replace the mains fuse only with the correct value and type as indicated on the power supply unit.



The internal power supply unit contains no serviceable components and must be replaced as a complete unit if a failure occurs.

General Precautions

Your **GL2200** is ruggedly constructed to give many years of reliable operation. However, you will extend the life of the console and preserve its cosmetics by applying these simple common sense precautions.

- Avoid storing or using the mixing console in conditions of excessive heat or cold, or in positions where it is likely to be subject to vibration, dust, dirt or moisture.
- Do not use any liquids to clean the control surface of the console, a soft dry brush or dry lint-free cloth is ideal.
- Use only water or ethyl alcohol to clean the trim and scribble strips. Other solvents may cause damage to paint or plastic parts.
- The faders, switches and potentiometers are lubricated for life. The use of electrical lubricants on these parts is not recommended.
- Avoid using the console close to strong sources of electromagnetic radiation (e.g. video monitors, high power electric cabling): this may cause degradation of the audio quality due to induced voltages in connecting leads and chassis. For the same reason, always site any external power supply away from the unit.

The GL2200 Range

12, 16, 24 and 32 channel models

GL2200-412	10 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L, R, Mono sum
GL2200-416	14 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L, R, Mono sum
GL2200-424	22 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L, R, Mono sum
GL2200-432	30 mono, 2 stereo, 4 groups, 6 aux, 2 stereo returns, L, R, Mono sum

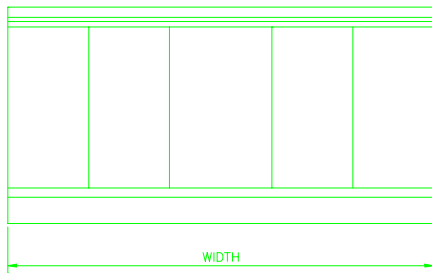
Options

GL2200-SL1	Sys-link buss expander, one kit per console
RPS9	2U rack mount power supply for backup

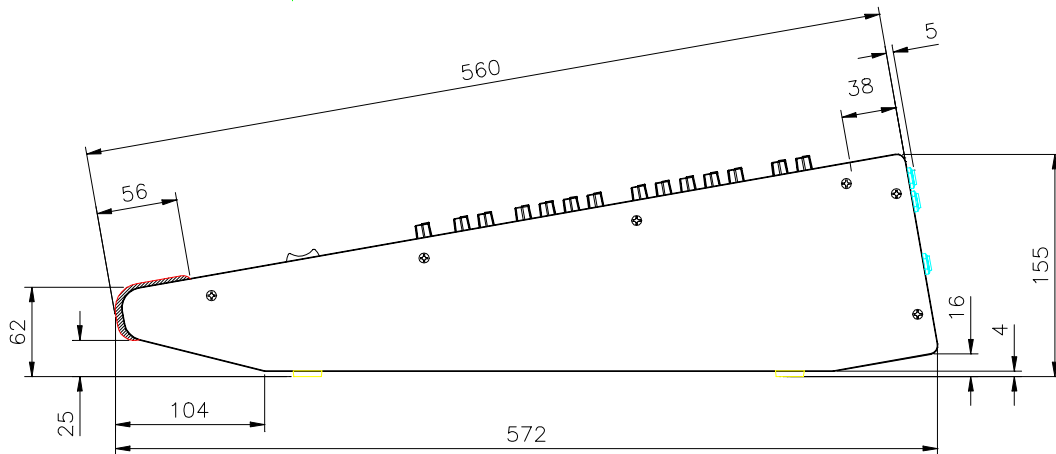
Flightcasing The Console

If the console is to be regularly moved we recommend that it is installed in a foam-lined flightcase. At all times avoid applying excessive force to any knobs, switches or connectors.

Dimensions for flightcasing the console are shown below:



GL2200 - 412	width 548mm
GL2200 - 416	width 668mm
GL2200 - 424	width 920mm
GL2200 - 432	width 1160mm



Dimensions

	Unpacked				Packed			
	Width	depth	height	weight(kg)	Width	depth	height	weight(kg)
GL2200-412	548	572	155	16	700	750	280	20
GL2200-416	668	572	155	18	815	750	280	23
GL2200-424	920	572	155	24	1065	750	280	29
GL2200-432	1160	572	155	30	1325	750	280	35
RPS9 power supply	483	140	96	6	540	270	180	8

Specifications

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

HEADROOM:..... +21dB

MAX OUTPUT:XLR +25dBu 2kohm max load
.....JACK +21dBu 2kohm max load

METERS: L, R.....peak reading 12 bar LED
Groups 1-4.....peak reading 4 segment LED
Channels.....peak reading 4 segment LED

PEAK LEDs: Turn on 5dB before clipping

FREQUENCY RESPONSE referred to 1kHz @ +4dBu:
Any input to any output..... 20Hz to 30kHz +/-1dB

DISTORTION: THD+Noise @ +14dBu 1kHz
Mic in to L-R output, 40dB gain0.010%
Line in to L-R output, 0dB gain0.008%

CMRR
Mic in, 40dB gain @ 1kHz >88dB

CROSSTALK: Referred to driven channel @ 1kHz
Adjacent channel < -94dB
Channel fader off < -90dB
Channel mute on < -90dB
Channel Pan pot isolation < -80dB

NOISE: Measured rms, 22kHz bandwidth
Mic input EIN (150 ohm source)..... < -128dB
Line preamp, 0dB gain..... < -90dBu
L-R output residual noise < -94dBu (98dB S/N)
L-R faders '0', nothing routed..... < -90dBu (94dB S/N)
L-R mix noise (16 channels routed) < -84dBu (88dB S/N)
Group, faders '0', nothing routed..... < -91dBu (95dB S/N)
Group mix noise (16 channels routed). < -84dBu (88dB S/N)

POWER SUPPLY:..... 100 to 240V AC @ 47/63Hz
..... Internal, autosensing AC mains input
Power consumption:60W max
Mains Fuse rating 100-240VAC: T1A 250V 20mm

Connections

INPUTS:

Mic in	.....XLR.....	pin 2 hot, 3 cold, balanced	.....>2k Ohm.....	variable -60 to -20dBu
Line in	.....XLR.....	pin 2 hot, 3 cold, balanced	.....>10k Ohm.....	variable -30 to +10dBu
	or TRS jack	.....tip hot, ring cold, balanced	.....>10k Ohm.....	variable -30 to +10dBu
Stereo Ch Line in	.....TRS jack	.....tip hot, unbalanced.....	>8k Ohm	.....-20dBu min
Stereo Return	.....TRS jack	.....tip hot, unbalanced.....	>6k Ohm	.....-10dBV min
2-Track Return	.....RCA PHONO	.....unbalanced	>10k Ohm	.....-10dBV min
Insert Return	.....TRS jack	.....tip send, ring return, unbalanced	>6k Ohm	.....0dBu (chan), -2dBu (out)

OUTPUTS:

L-R, Group out	.....XLR.....	pin 2 hot, 3 cold, balanced	.....<75 Ohm	.....+4dBu, +27dBu max
Direct out	.....TRS jack	.....tip hot, impedance balanced	.....<75 Ohm	.....0dBu
2-Track sends	.....RCA PHONO	.....unbalanced	.....<75 Ohm	.....variable +21dBu max
Aux out	.....TRS jack	.....tip hot, impedance balanced	.....<75 Ohm	.....variable +21dBu max
Mono out	.....XLR.....	tip hot, ring cold, balanced	.....<75 Ohm	.....+4dBu, +27dBu max
Insert send	.....TRS jack	.....tip send, ring return, unbalanced	.....<75 Ohm	.....0dBu (chan), -2dBu (out)
Monitor out	.....TRS jack	.....tip left, ring right, unbalanced	.....<75 Ohm	.....variable +21dBu max
Phones out	.....TRS jack	.....tip left, ring right	.....	for stereo headphones 30 to 600 Ohms

Ordering a *GL2200* Console

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

MODEL	DESCRIPTION	ORDER CODE
<i>GL2200</i> 12 Channel	10 mono + 2 stereo input channels	GL2200-412/volts
<i>GL2200</i> 16 Channel	14 mono + 2 stereo inputs channels	GL2200-416/volts
<i>GL2200</i> 24 Channel	22 mono + 2 stereo inputs channels	GL2200-424/volts
<i>GL2200</i> 32 Channel	30 mono + 2 stereo inputs channels	GL2200-432/volts

Ordering an Option

To order an option please specify the serial number of the console that is to have the option fitted.

MODEL	DESCRIPTION	ORDER CODE
<i>GL2200-SL1</i>	GL2200 SYS-LINK KIT	GL2200-SL1
	GL2200 Balanced Output IC option	AE0302
<i>RPS9</i>	2U external linear power supply	RPS9/volts

Manuals and Support Documentation

DESCRIPTION	ORDER CODE
<i>GL2200</i> User Guide	AP3388
<i>GL2200</i> Service Manual	AP3389
<i>GL2200</i> Brochure	AP3390
<i>GL2200</i> SYS-LINK Fitting Instructions	AP3622
<i>GL2200</i> SYS-LINK Application Note	AP3623
<i>RPS9</i> User Guide	AP0334

Service Tools

The tools required to service the *GL2200* are standard to an electronic 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)	
12mm AF Nutdriver (jack nuts)	

Ordering an Assembly

The following assemblies are supplied fully tested. Please note that several of these need to be assigned according to their position in the console. This is achieved by soldering wire links or assignment pads. It is best to check the assignment settings of the assembly you are replacing before removing it from the console. Please quote the description and order code for the part required.

Printed Circuit Board (PCB) Assemblies:

* specify position of PCB assembly

	Mono Input & Connector PCB assembly	002-412
	Stereo Input & Connector PCB assembly	002-442
	* Group PCB assembly	002-439
	OSC/Noise PCB assembly	002-453
	Left PCB assembly	002-440
	Right PCB assembly	002-441
	Switch Mode PSU assembly (12 & 16)	002-456
	Switch Mode PSU assembly (24 & 32)	002-457

IDC connector harnesses:

GL2200-412	20 way Main harness	AL3535
GL2200-416	20 way Main harness	AL3536
GL2200-424	20 way Main harness	AL3537
GL2200-432	20 way Main harness	AL3538

The Chassis Trim

GL2200 (all formats)	Left & Right Chassis side trims	AA2539-L/R
	Write-on strip (specify console size)	AK0327

Ordering a Spares Kit

It is recommended that the spares kit order code **002-481** is held and maintained by the service agent to enable in-field service repairs to the **GL2200** 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 are listed below and are supplied in a cabinet of drawers. 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 CSK Pozi Black	AB0059	5
Screw 6AB x 3/8 Pan Pozi Black	AB0062	10
Screw M3 x 6mm Pan Pozi Black	AB0072	5
Screw M3 x 8mm Pan Pozi Black	AB0073	10
Screw M3 x 12mm Pan Pozi Black	AB0078	5
Screw M3 x 16mm Pan Pozi Black	AB0079	5
Nylock Nut M3	AB0102	5
Screw M3 x 4mm Pan Pozi Black	AB0233	10
Screw 4AB x 1/4 Pan Pozi Plated	AB0252	4
Screw 6B x 1/4 Trunc Pozi Zinc	AB2083	10
Screw 4 x 5/16 Pan Pozi Plastite	AB2771	5
Screw 6B x 5/16 Pan Pozi Black	AB2809	5
Screw 4 x 5/16 Poly Pan Pozi	AB2810	10

Knobs and caps:

Knob Red & Grey 11mm D	AJ2074	10
Knob Blue & Grey 11mm D	AJ2075	10
Knob Light Blue & Grey 11mm D	AJ2076	10
Knob Green & Grey 11mm D	AJ2077	10
Knob Dark Grey & Grey 11mm D	AJ2078	10
Knob Yellow & Grey 11mm D	AJ2079	10
Knob Brown & Grey 11mm D	AJ2080	10
Button 5.5mm Square Grey	AJ2864	10
Button 10 x 5mm Rectangular Grey	AJ2865	10
Button Round Black	AJ2887	1
Button 5.5mm Square White	AJ2960	10
Button 5.5mm Square Red	AJ2961	10
Button 10 x 5mm Rectangular White	AJ2962	10
Button 10 x 5mm Rectangular Black	AJ3228	3
Fader Knob 11mm White+Black Line	AJ8078	10
Fader Knob 11mm Red+Black Line	AJ8079	5
Fader Knob 11mm Yellow+Black Line	AJ8080	5
Fader Knob 11mm Blue+Black Line	AJ8081	5

Faders, Potentiometers, Switches and connectors:

Pot 10KC x 2 (103C 14mm wide)	AI0150	5
Pot 20KK (203K 11mm wide)	AI8003	5
Pot 20KB centre click (203B 11mm wide)	AI8004	5
Pot 200KC x 2 (204C 11mm wide)	AI8005	5
Pot 20KB x 2 centre click (14mm wide)	AI8006	5
Pot 20KK x 2 (203K 14mm wide)	AI8007	5

Pot 10K centre click (103AC 14mm wide)	AI8008	5
Pot 5K (502RD 11mm wide)	AI8111	5
Fader 10KA x 2 60mm	AI8051	5
Fader 10KD 100mm	AI8117	10
Fader 10KD x 2 100mm	AI8118	5
Switch 2PCO Latching 90 Deg	AL0162	5
Switch 4PCO Latching	AL0333	5
Switch 2PCO Momentary	AL0374	5
Jack Socket Headphone	AL0328	1
XLR 3 Pin Female Vertical PCB Mount	AL2410	5
XLR 3 Pin Male Vertical PCB Mount	AL2411	5
Molex 0.1" Male 10 Pin 90 Deg	AL2572	3
Molex 0.1" Female 10 way Straight	AL2573	3
Jack Socket ¼" Stereo Unswitched	AL3407	5
Jack Socket ¼" Stereo Switched	AL3410	5
Pot Nut 9mm	AB8050	10

LEDs and Semiconductors:

Transistor BC549 NPN	AE0020	3
Transistor BC638 PNP	AE0037	2
Transistor BC637 NPN	AE0068	2
Transistor 2N4403 PNP	AE0273	5
Transistor BC556B PNP	AE3001	2
Transistor 2SB737 PNP	AE8069	5
IC Op-Amp TL072	AE0046	5
IC LM339N Quad Comparator	AE0071	2
IC CMOS 4053B	AE0117	1
IC Op-Amp NE5532N	AE0221	5
LED 3mm T1 Yellow	AE0084	5
LED 3mm T1 Green	AE0085	5
LED 3mm T1 Red	AE0086	5
LED Bar Rectangular 12 Way	AE2701	1
LED 5 x 2mm Rectangular Red Flat Top	AE3502	10

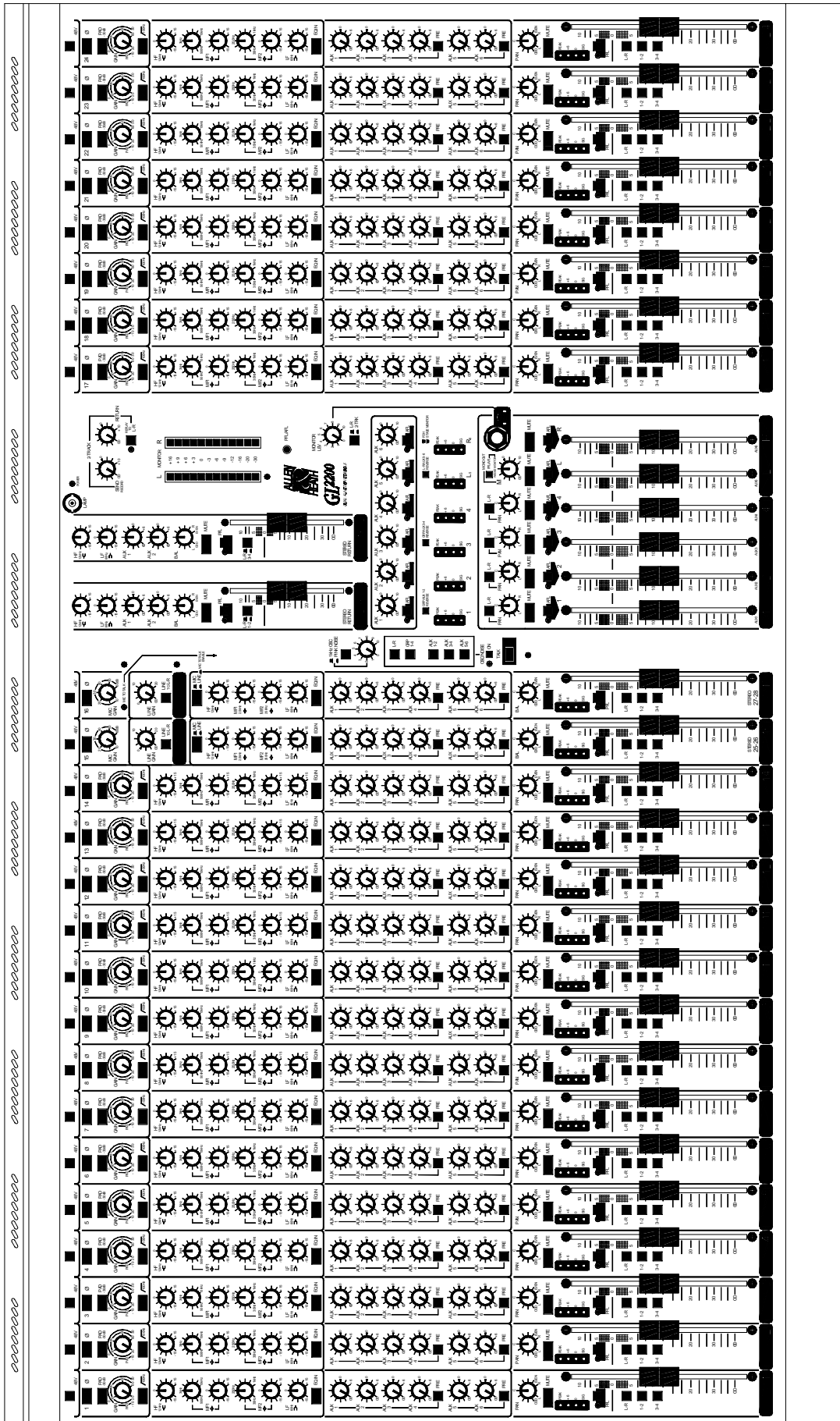
Power Supply:

Mains Lead IEC-2pin EURO	AH0205	-
Mains Lead IEC-3pin UK	AH0206	-
Mains Lead IEC-3pin US (C33)	AH0323	-
Mains Fuse 20mm 1A Anti-Surge	AL0305	10

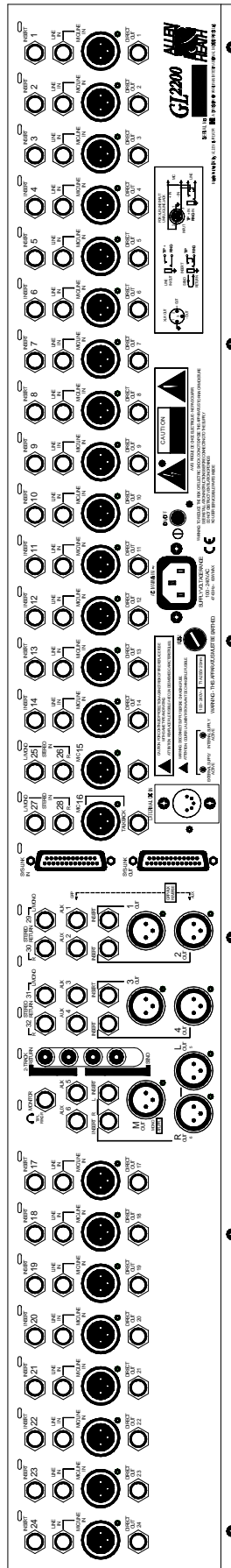
Miscellaneous:

GL2200-412 Packing Assembly	002-435	-
GL2200-416 Packing Assembly	002-436	-
GL2200-424 Packing Assembly	002-437	-
GL2200-432 Packing Assembly	002-438	-
Flex Cable 12 Way 90mm	AH2228	5

GL2200 FRONT PANEL

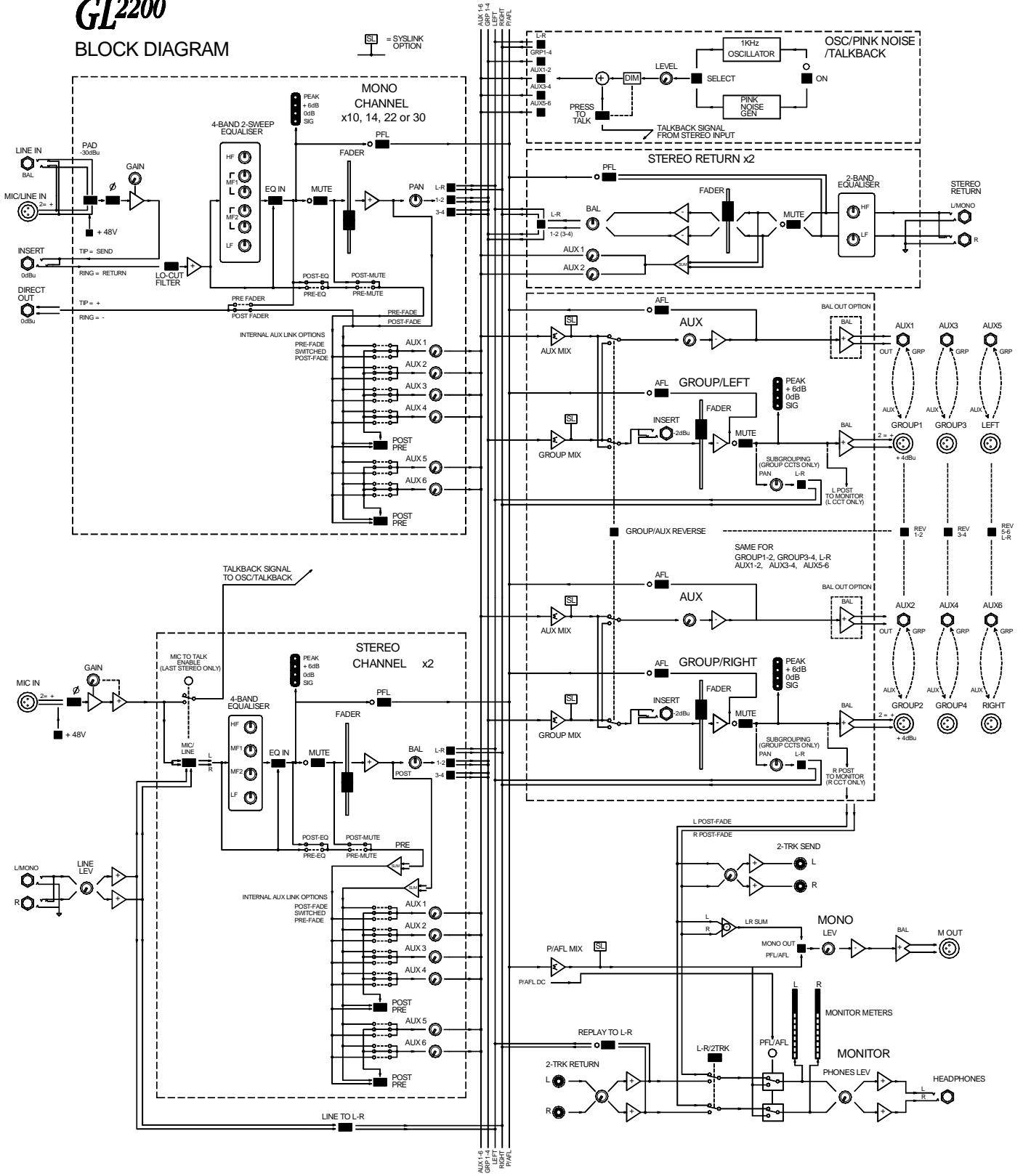


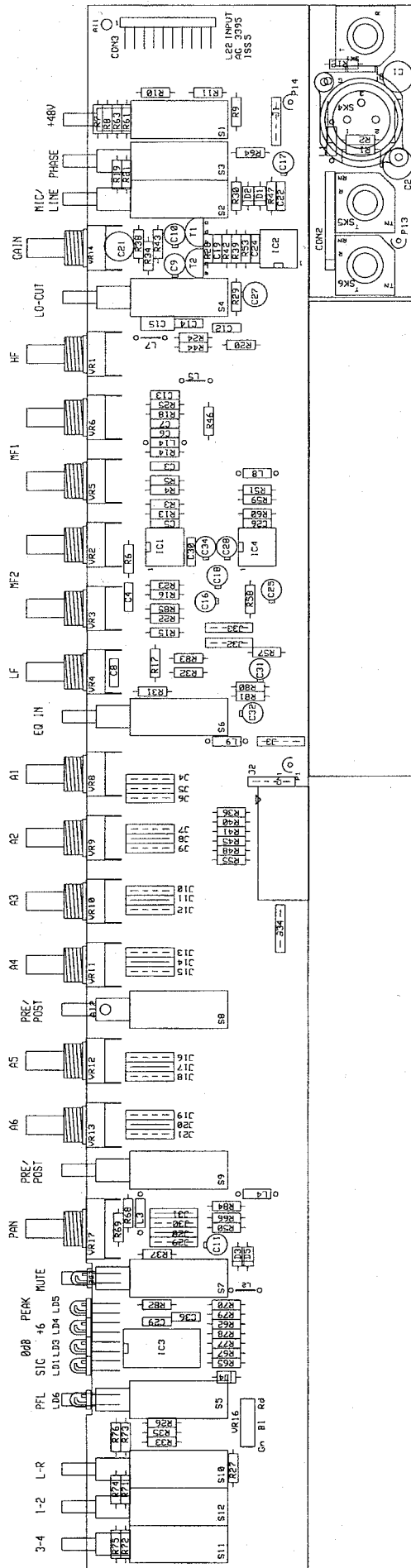
GL2200 REAR PANEL



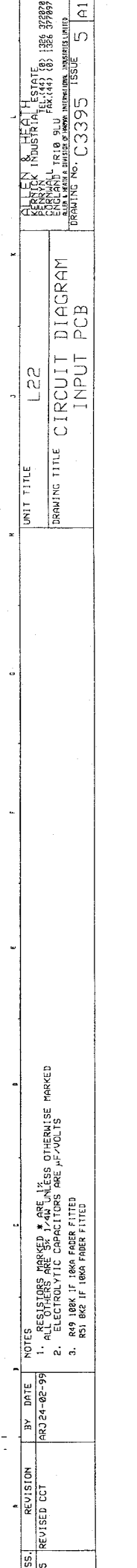
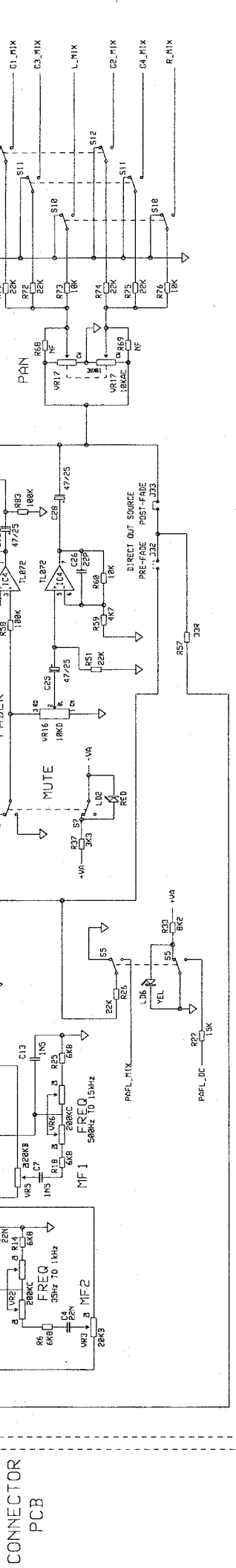
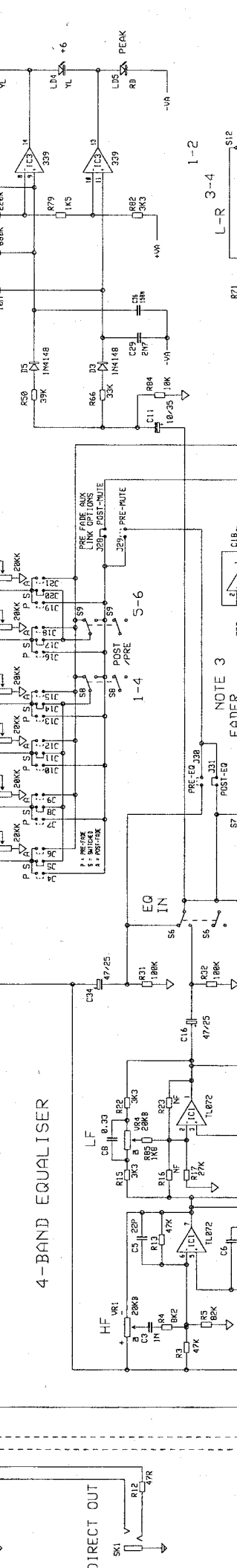
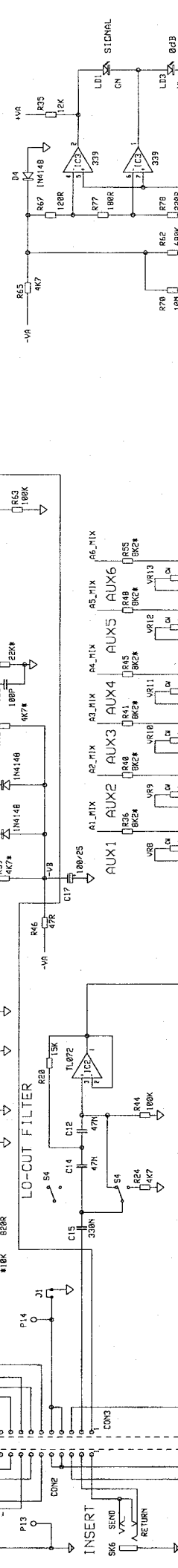
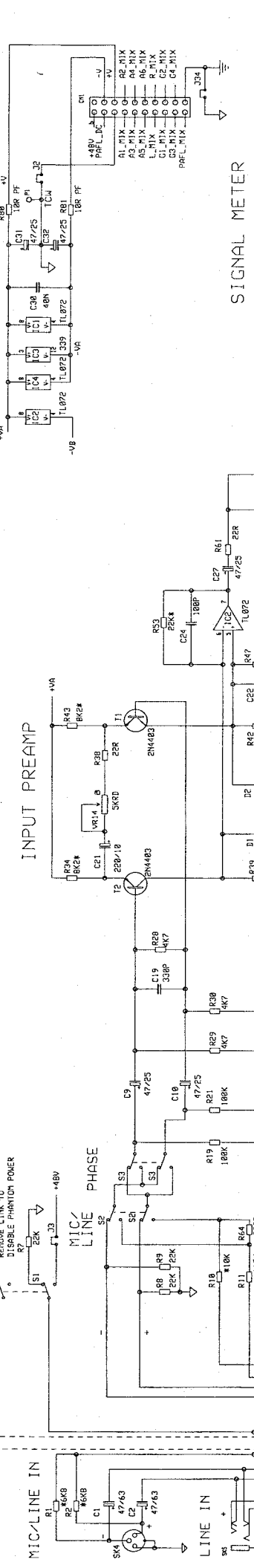
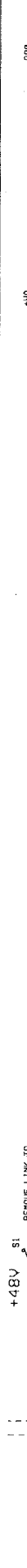
GL2200

BLOCK DIAGRAM





20 WAY MAIN RIBBON



CONNECTOR PCB

ISS. 5

REVISION AR224-02-99

REVISED CCT

UNIT TITLE L22

DRAWING TITLE CIRCUIT DIAGRAM

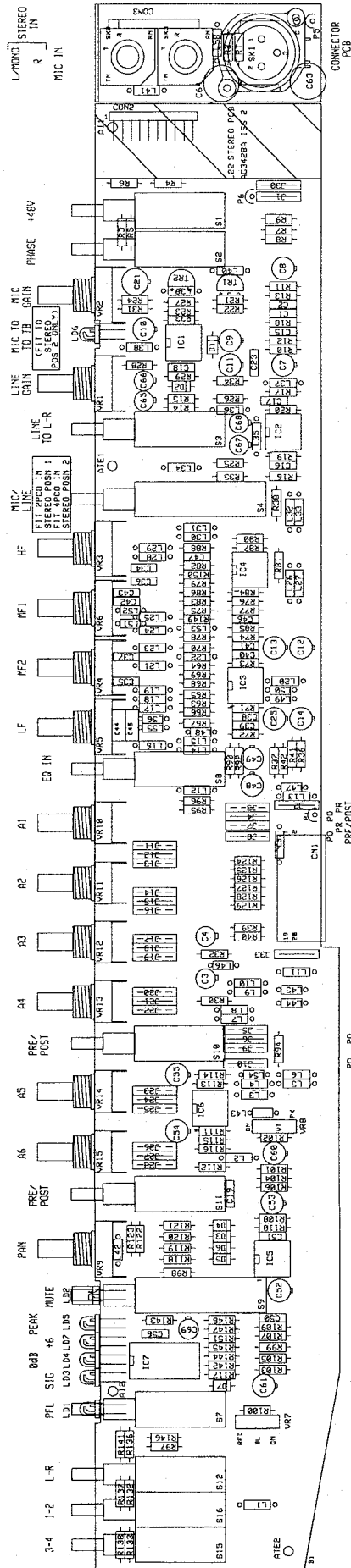
DRAWING NO. C3395

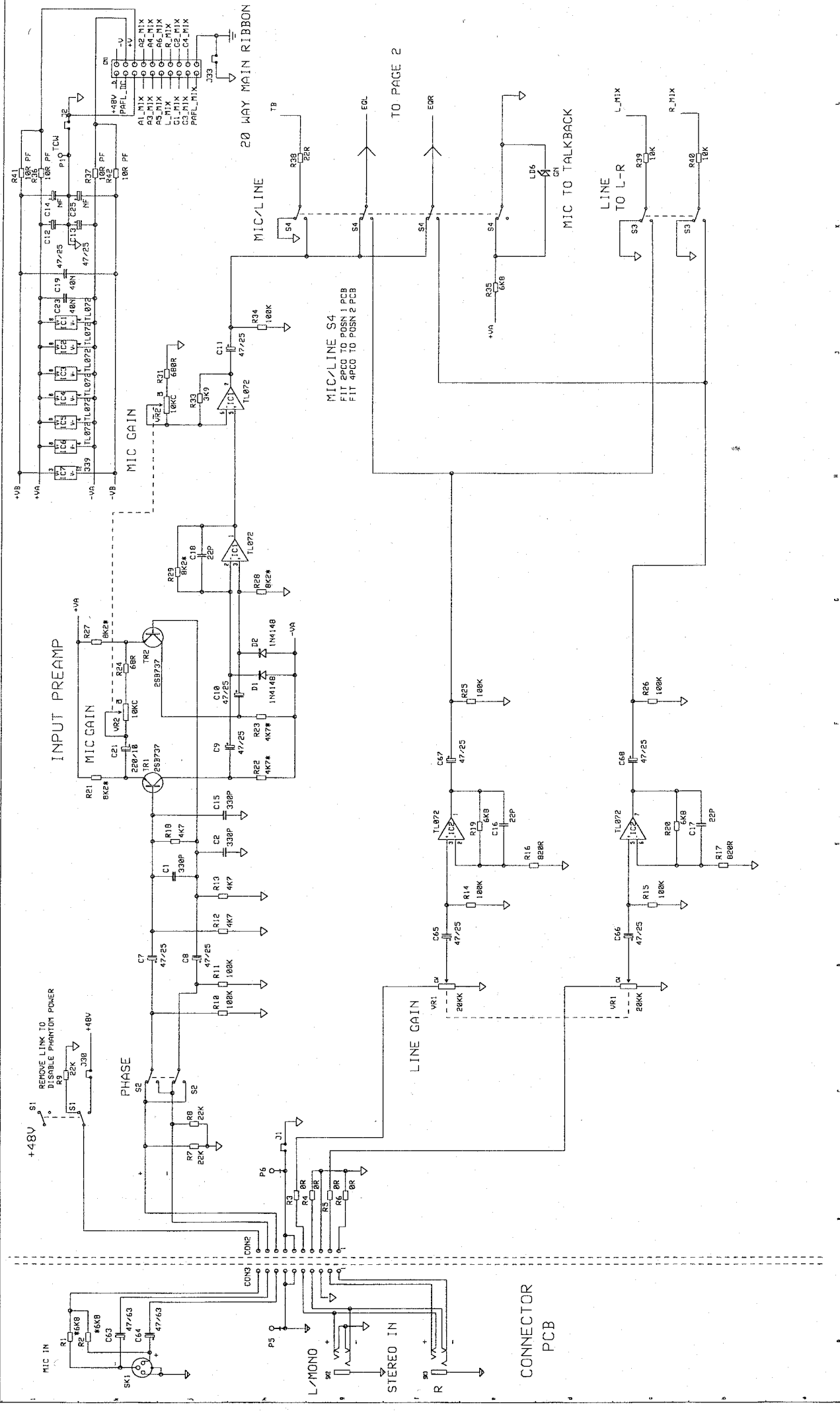
ISSUE 5

AI

NOTES

- RESISTORS MARKED * ARE UNLESS OTHERWISE MARKED
- ELECTROLYTIC CAPACITORS ARE MF/VOLTS
- R49 100K IF 100K FADER FITTED
- R51 82K IF 100K FADER FITTED



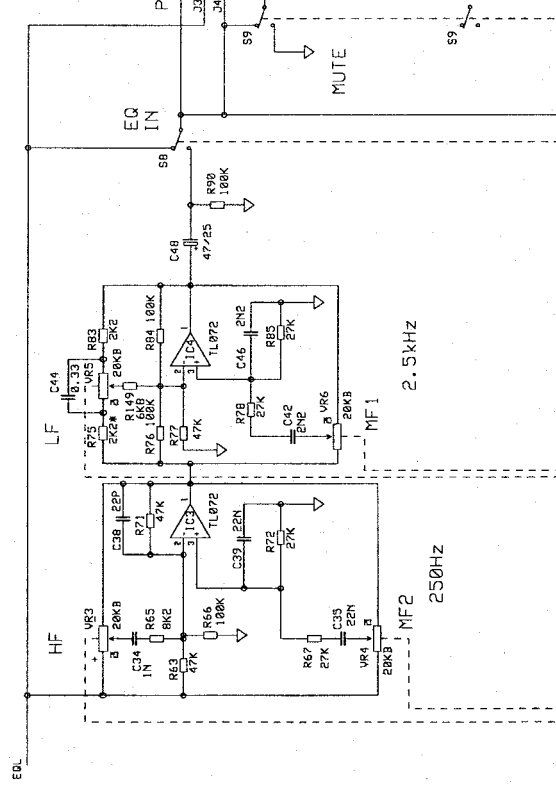


ISS.	REVISION	BY	DATE	NOTES
1	ORIGIN PRODUCTION	DRP	12-9-98	1. RESISTOR VALUES ARE IN ALL UNITS ARE IN OHMS UNLESS OTHERWISE NOTED
2	FABER CORRECTION	ART	05-02-99	2. ELECTRONIC COMPONENTS ARE J-DATE

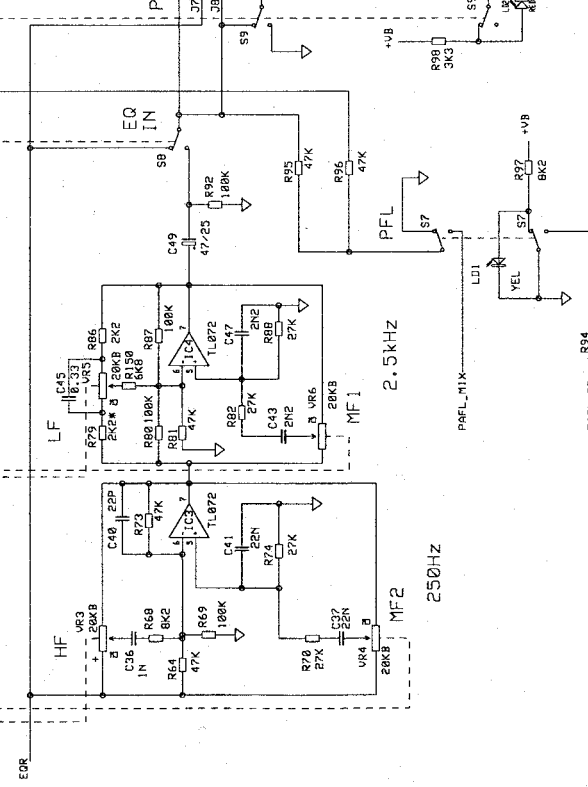
UNIT TITLE	L22	PAGE 1 OF 2
DRAWING TITLE	CIRCUIT DIAGRAM	
	STEREO PCB	

ALLEN & HEATH	TEL: (441) 61 124 7000
ALLEN & HEATH ELECTRONICS LTD	TEL: (441) 61 124 7007
CONWAY ROAD	
ALLEN & HEATH ELECTRONICS LTD	
SHIPPING No. C3428	
ISSUE	2

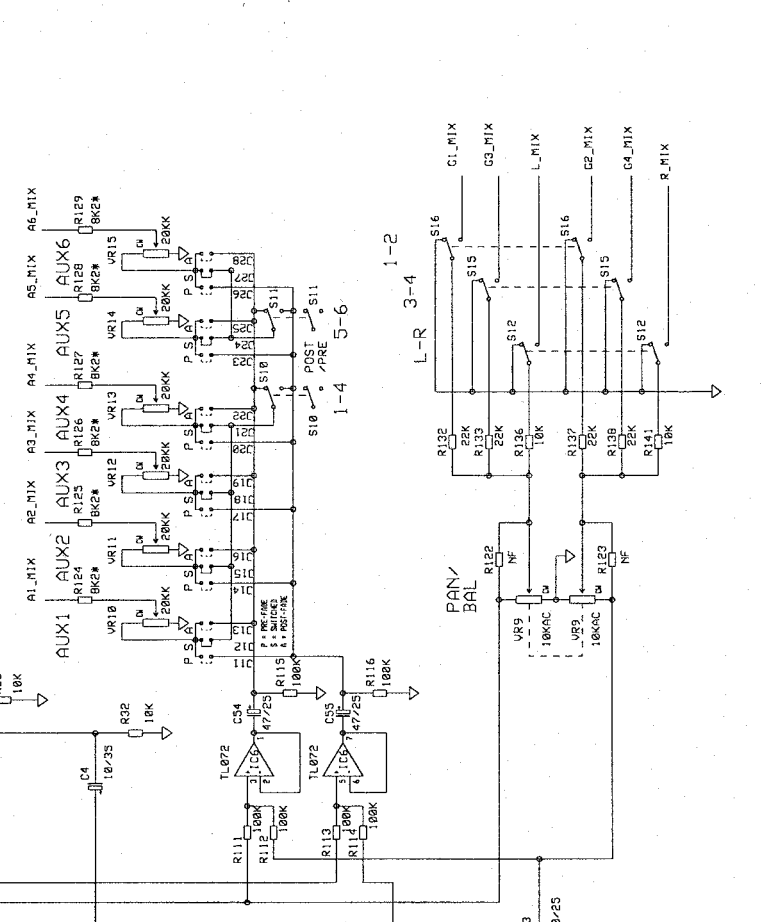
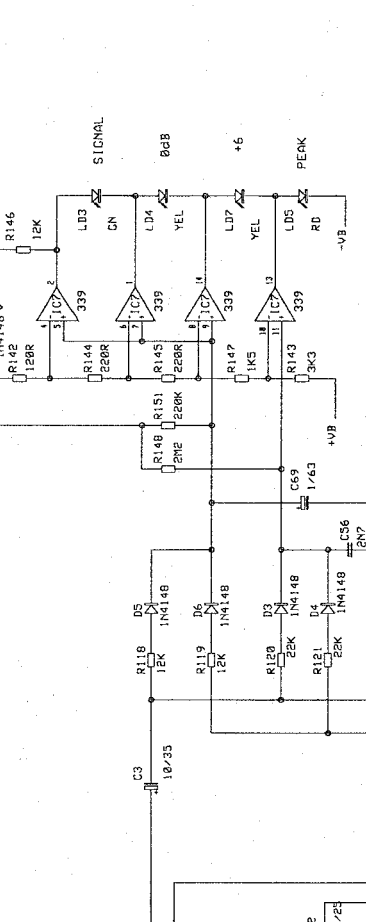
4-BAND EQUALISER



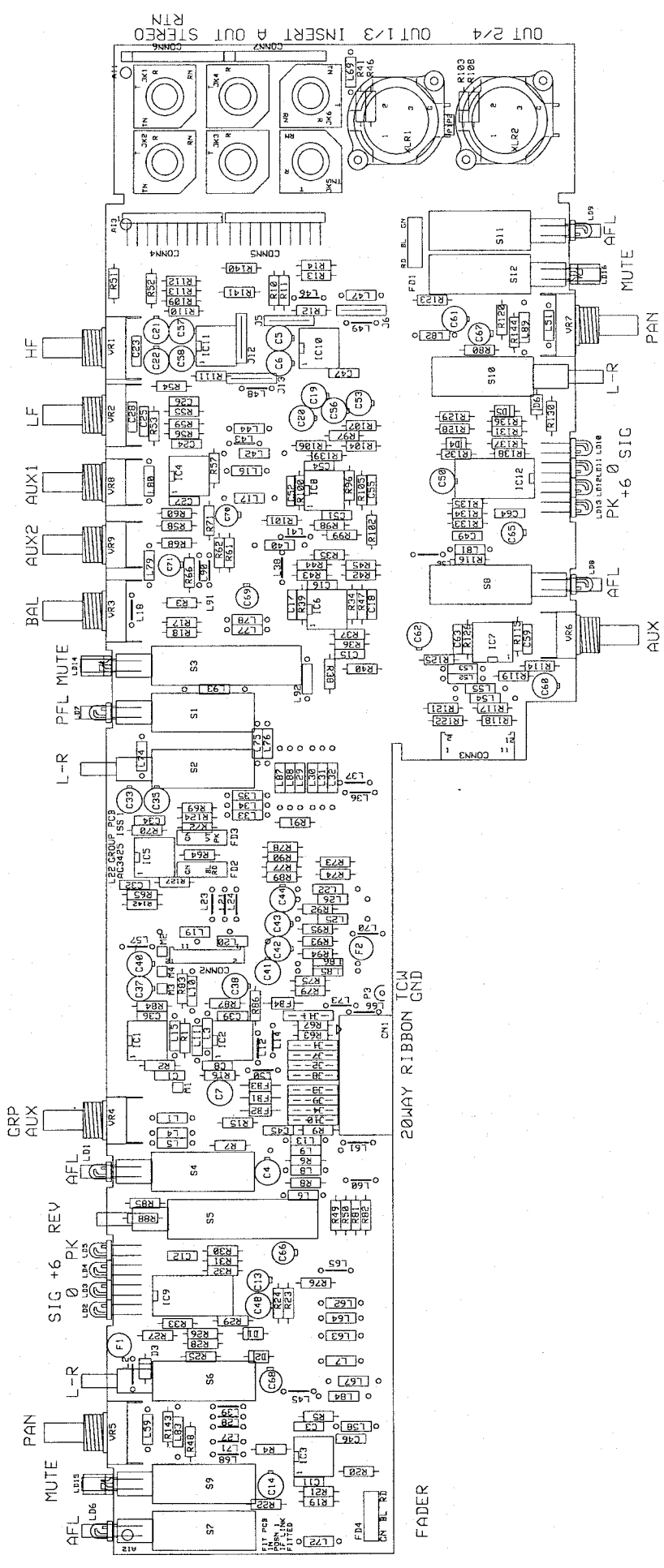
4-BAND EQUALISER



SIGNAL METER



ISS.	REVISION	BY DATE	NOTES
A	ORIGIN	DRP 12-8-98	1. REVISIONS WERE MADE IN
1	PRODUCTION	DRP 15-9-98	ALL DIMS ARE IN UNLESS OTHERWISE NOTED
2	FADER CORRECTION	ART 05-02-99	2. ELECTROLYTIC CAPACITORS ARE 50V/10%
UNIT TITLE			L22
DRAWING TITLE			CIRCUIT DIAGRAM
PAGE 2 OF 2			STEREO PCB
ALLEN & HEATH			ISSUE 2
KENTON INDUSTRIAL ESTE			TEL (44) (0) 1336 37898
CENTRAL			FAX (44) (0) 1336 37897
ENGLAND, TIVERTON			ALL RIGHTS RESERVED. NO PARTS TO BE REPRODUCED WITHOUT PERMISSION.
DRAWING NO.			C3428



OUT 2/4 OUT 1/3 INSERT A OUT STEREO RTN

20WAY RIBBON ICW GND

FADER

CRP AUX

SIG +6 PK

PAN

MUTE

AFL

L-R

REV

AFL

VR4

CONNR

CONNR

CONNR

L-R

PFL MUTE

BAL

AUX2

AUX1

LF

HF

VR1

CONNR

AUX

AFL

PK +6 SIG

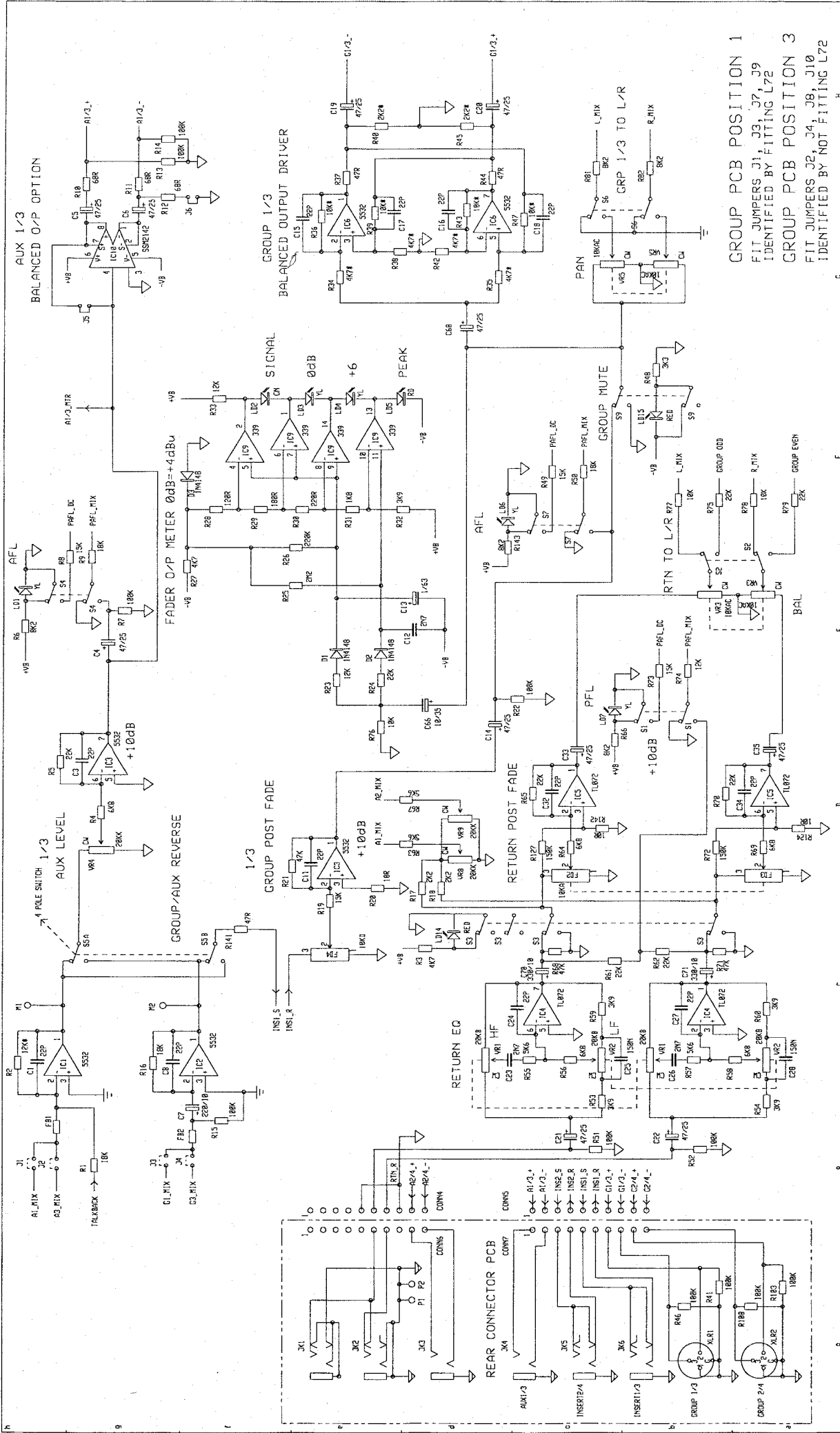
L-R

MUTE

PAN

AFL

CONNR



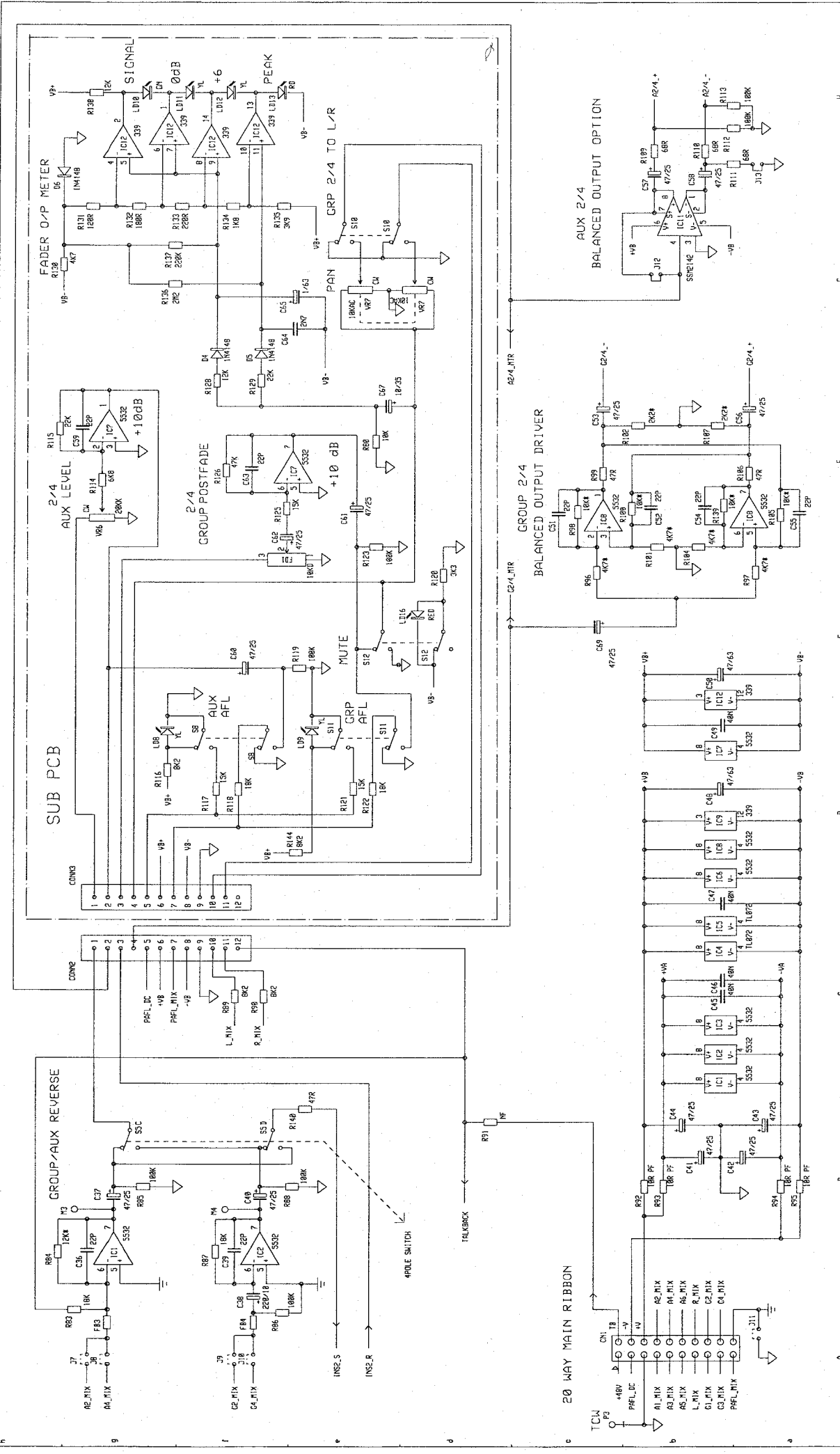
ISS.	REVISION	BY	DATE	NOTES
1	ORIGIN	DRP	24-8-98	1. RESISTORS MARKED * ARE 1% ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2	PRODUCTION	AAT	21-09-98	2. ELECTROLYTIC CAPACITORS ARE 4% VAULTS
	REVISION	DWD	25-02-99	

UNIT TITLE	L22	PAGE 1 OF 2
DRAWING TITLE	CIRCUIT DIAGRAM GROUP PCB	
DRAWING NO.	AC3425	ISSUE 2

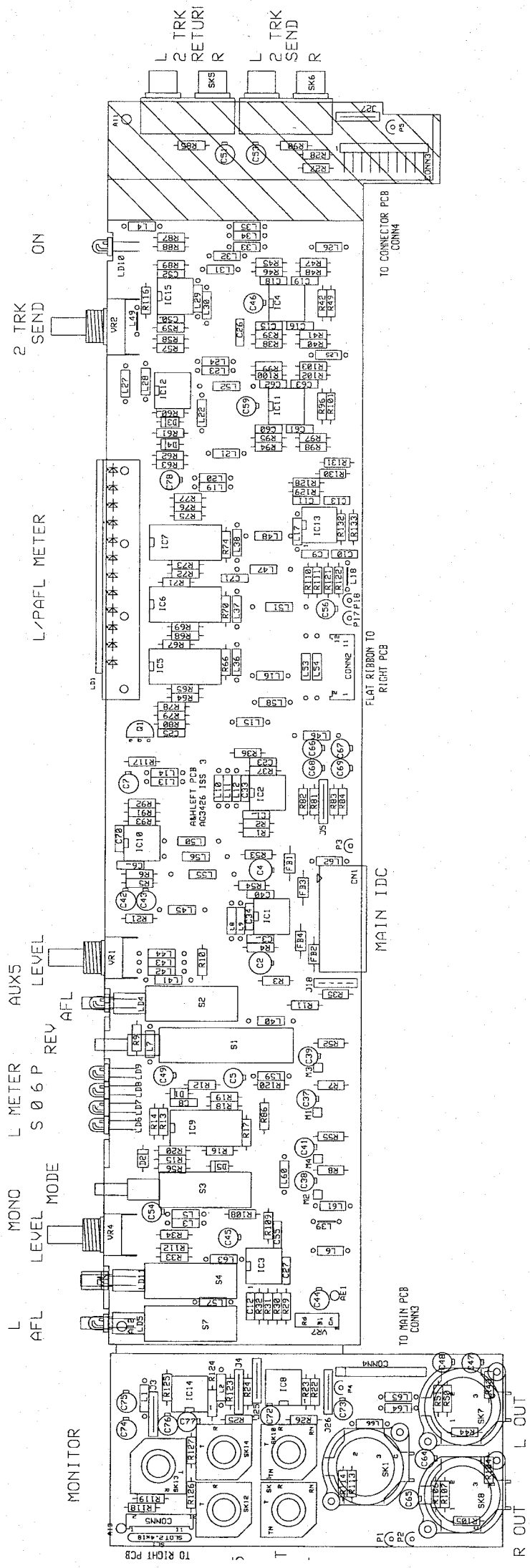
ALLEN & HEATH KERNUX INDUSTRIAL ESTATE PENRYN CORNWALL ENGLAND TR10 9LU	TEL. (44) (0) 1326 372818 FAX. (44) (0) 1326 378877 CORNWALL ENGLAND TR10 9LU ALLEN & HEATH A DIVISION OF HARMAN INTERNATIONAL INDUSTRIES LIMITED
---	---

GROUP PCB POSITION 1
FIT JUMPERS J1, J3, J7, J9
IDENTIFIED BY FITTING L72

GROUP PCB POSITION 3
FIT JUMPERS J2, J4, J8, J10
IDENTIFIED BY NOT FITTING L72



ISS.	REVISION	BY	DATE	NOTES	UNIT TITLE	SCALE	DATE	ISSUE
1	ORIGIN	DRP	24-8-98	1. RESISTORS MARKED # ARE 1% ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED	L22			
2	PRODUCTION	AAT	21-09-98	2. ELECTROLYTIC CAPACITORS ARE µF/ALTS	CIRCUIT DIAGRAM			
	REVISION				GROUP PCB			
					AG3425			
					PAGE 2 OF 2			
					ALLEN & HEATH KENTUCK INDUSTRIAL ESTATE PENRYN ENGLAND TR18 9LU ALLEN & HEATH IS A DIVISION OF HARROLD INTERNATIONAL INDUSTRIES LIMITED			
					DRAWING NO.			
					C3425			
					ISSUE			
					2			



MONITOR

L LEVEL

AFL

MODE

S 0 6 P

REV AFL

AUX5 LEVEL

L/PAFL METER

2 TRK SEND ON

TO RIGHT PCB

TO MAIN PCB CONNS

TO CONNECTOR PCB CONNA

MAIN IDC

FLAT RIBBON TO RIGHT PCB

TO MAIN PCB CONNS

TO CONNECTOR PCB CONNA

2 TRK RETURN

2 TRK SEND

R OUT

L OUT

IC1

IC2

IC3

IC4

IC5

IC6

IC7

IC8

IC9

IC10

IC11

IC12

IC13

IC14

IC15

IC16

IC17

IC18

R1

R2

R3

R4

R5

R6

R7

R8

R9

R10

R11

R12

R13

R14

R15

R16

R17

R18

R19

R20

R21

R22

R23

R24

R25

R26

R27

R28

R29

R30

R31

R32

R33

R34

R35

R36

R37

R38

R39

R40

R41

R42

R43

R44

R45

R46

R47

R48

R49

R50

R51

R52

R53

R54

R55

R56

R57

R58

R59

R60

R61

R62

R63

R64

R65

R66

R67

R68

R69

R70

R71

R72

R73

R74

R75

R76

R77

R78

R79

R80

R81

R82

R83

R84

R85

R86

R87

R88

R89

R90

R91

R92

R93

R94

R95

R96

R97

R98

R99

R100

C1

C2

C3

C4

C5

C6

C7

C8

C9

C10

C11

C12

C13

C14

C15

C16

C17

C18

C19

C20

C21

C22

C23

C24

C25

C26

C27

C28

C29

C30

C31

C32

C33

C34

C35

C36

C37

C38

C39

C40

C41

C42

C43

C44

C45

C46

C47

C48

C49

C50

L1

L2

L3

L4

L5

L6

L7

L8

L9

L10

L11

L12

L13

L14

L15

L16

L17

L18

L19

L20

L21

L22

L23

L24

L25

L26

L27

L28

L29

L30

L31

L32

L33

L34

L35

L36

L37

L38

L39

L40

L41

L42

L43

L44

L45

L46

L47

L48

L49

L50

L51

L52

L53

L54

L55

L56

L57

L58

L59

L60

L61

L62

L63

L64

L65

L66

L67

L68

L69

L70

L71

L72

L73

L74

L75

L76

L77

L78

L79

L80

L81

L82

L83

L84

L85

L86

L87

L88

L89

L90

L91

L92

L93

L94

L95

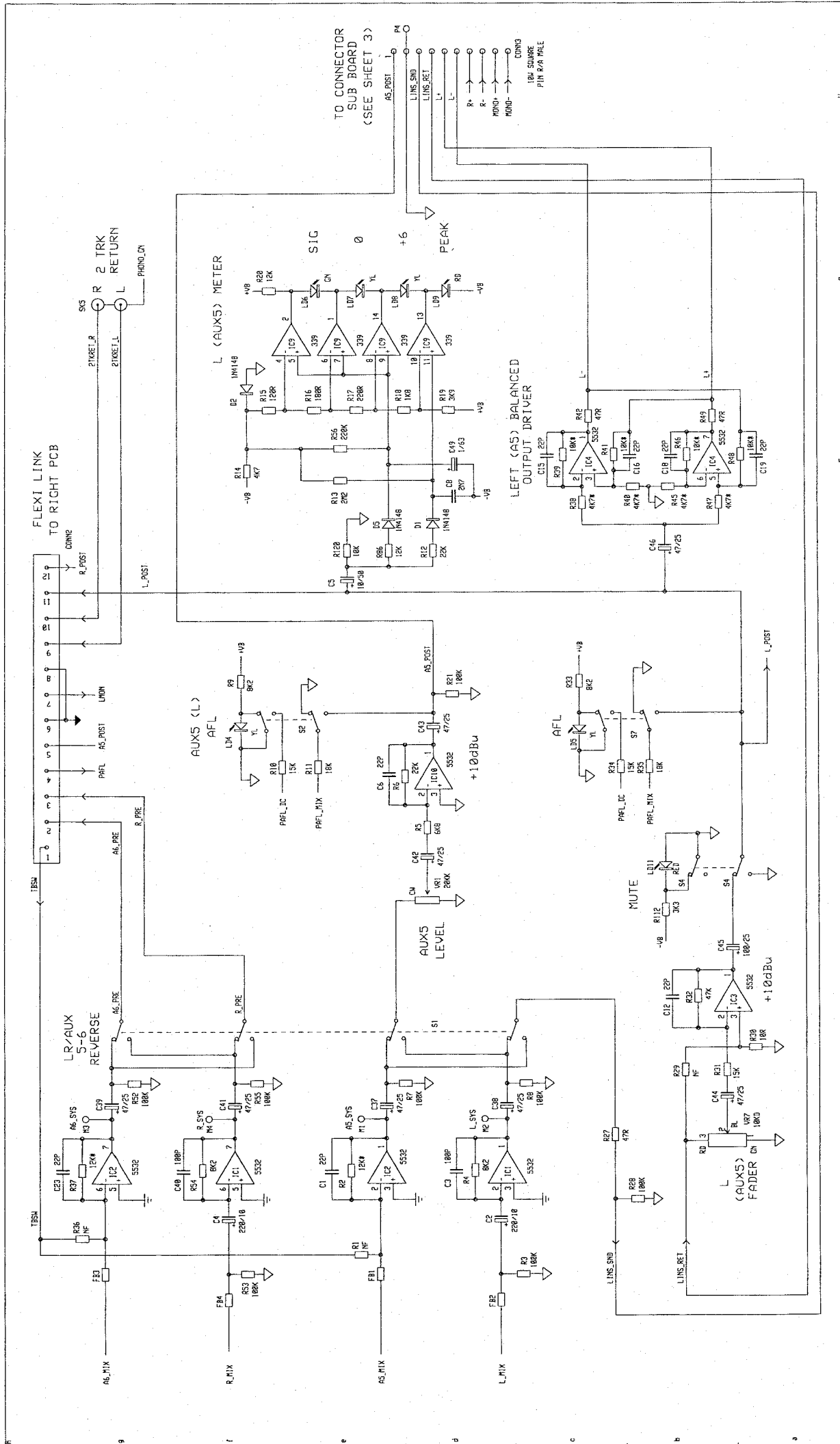
L96

L97

L98

L99

L100



ISS.	REVISION	BY	DATE	NOTES
A	ORIGIN PRODUCTION	DRP	27-7-98	1. RESISTORS MARKED 'A' ARE 1% ALL OTHERS ARE 5% UNLESS OTHERWISE MARKED
1	CONN GND MOD	DRP	9-10-98	2. ELECTROLYTIC CAPACITORS ARE 'A' MULTS
2		AAAT	26-01-99	

UNIT TITLE	ISSUE
L22	2

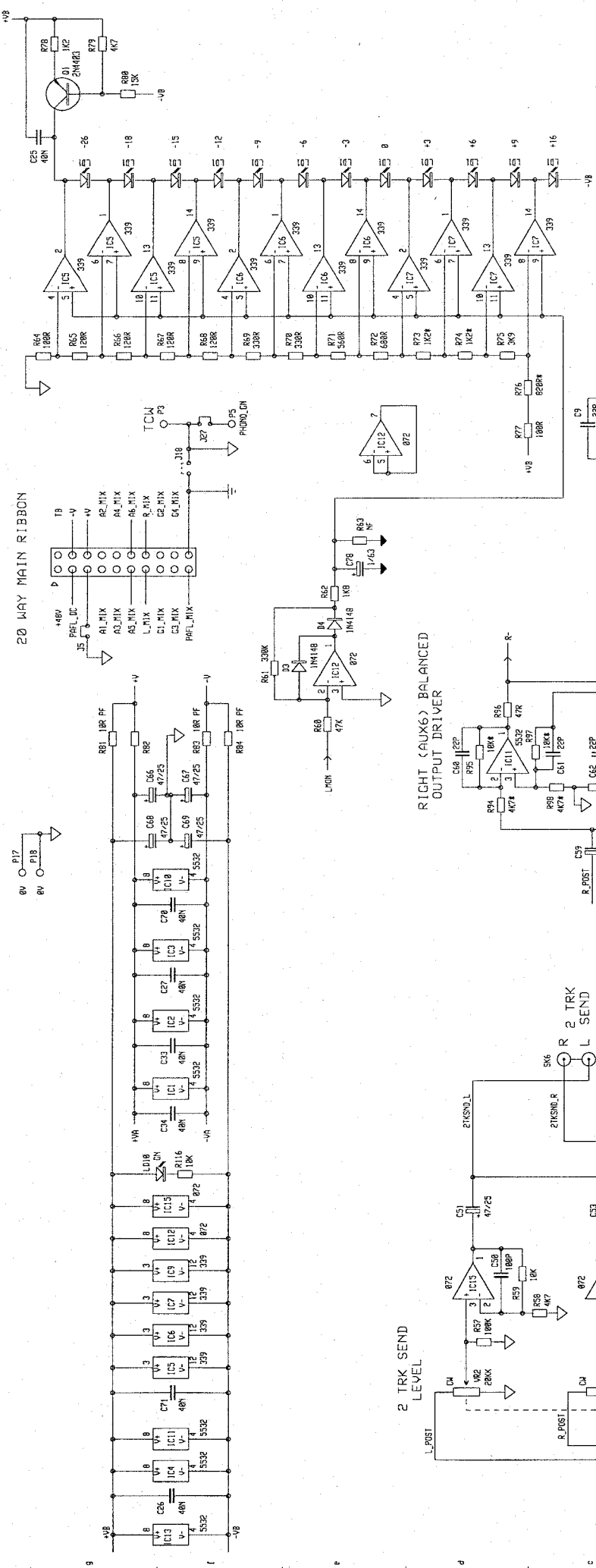
DRWING TITLE	ISSUE
CIRCUIT DIAGRAM LEFT PCB	2

DRWING No.	ISSUE
C3426	2

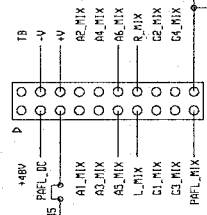
ALLEN & HEATH
RESEARCH INDUSTRIAL ESTATE PENRYN CORNWALL ENGLAND TR10 8LU ALLEN & HEATH A DIVISION OF HARMON INTERNATIONAL INDUSTRIES LIMITED DRAWING No. C3426

ALLEN & HEATH
RESEARCH INDUSTRIAL ESTATE PENRYN CORNWALL ENGLAND TR10 8LU ALLEN & HEATH A DIVISION OF HARMON INTERNATIONAL INDUSTRIES LIMITED TEL. (44) (0) 1366 378070 FAX. (44) (0) 1366 378079

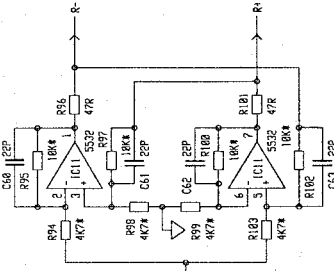
20 WAY MAIN RIBBON



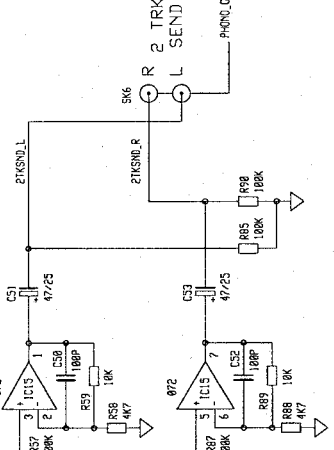
0V P17
0V P18



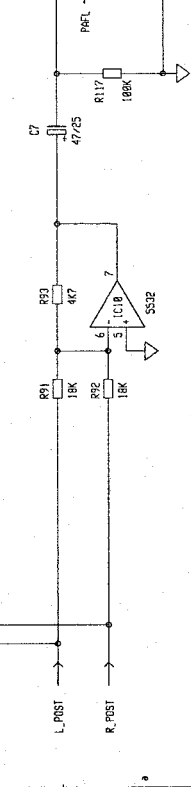
RIGHT (AUX6) BALANCED OUTPUT DRIVER



2 TRK SEND LEVEL



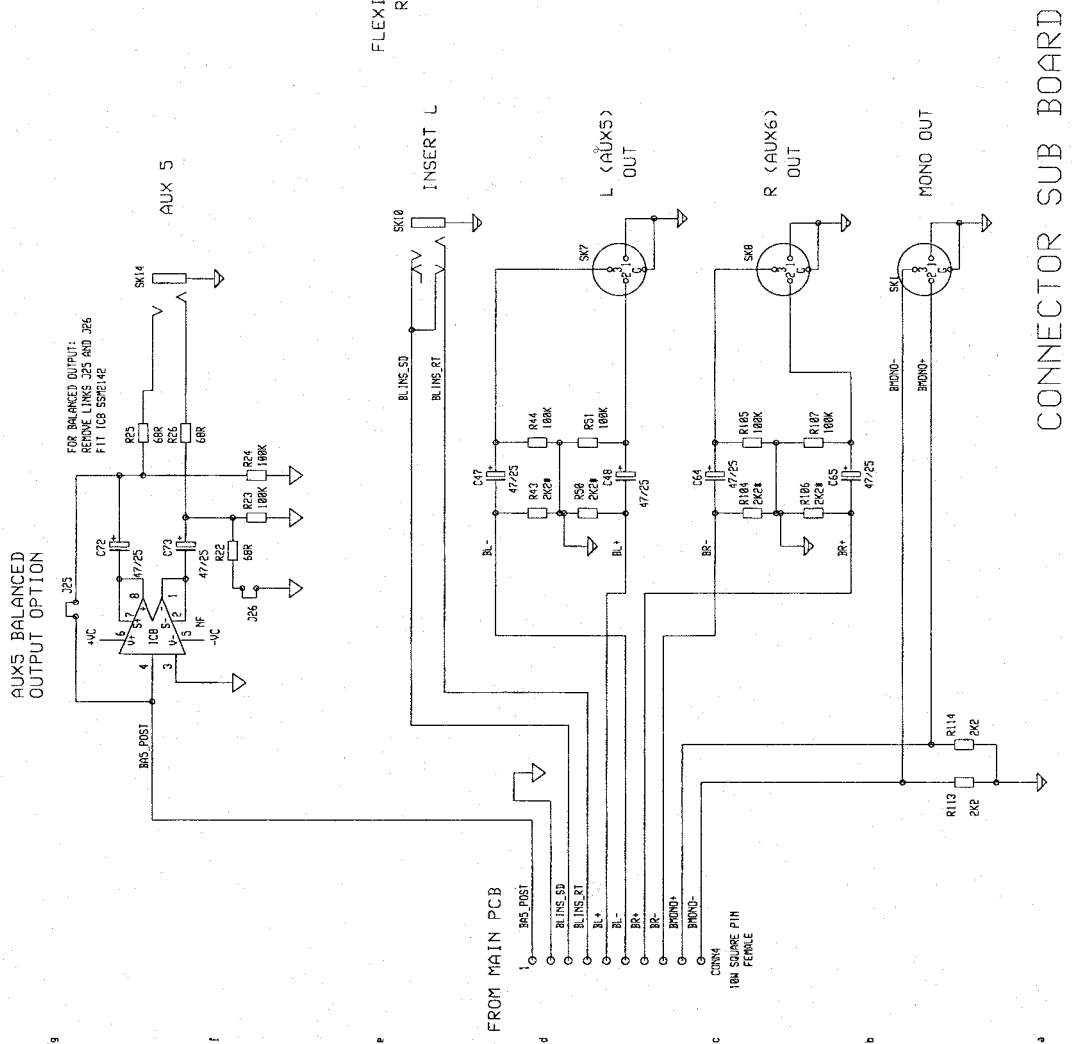
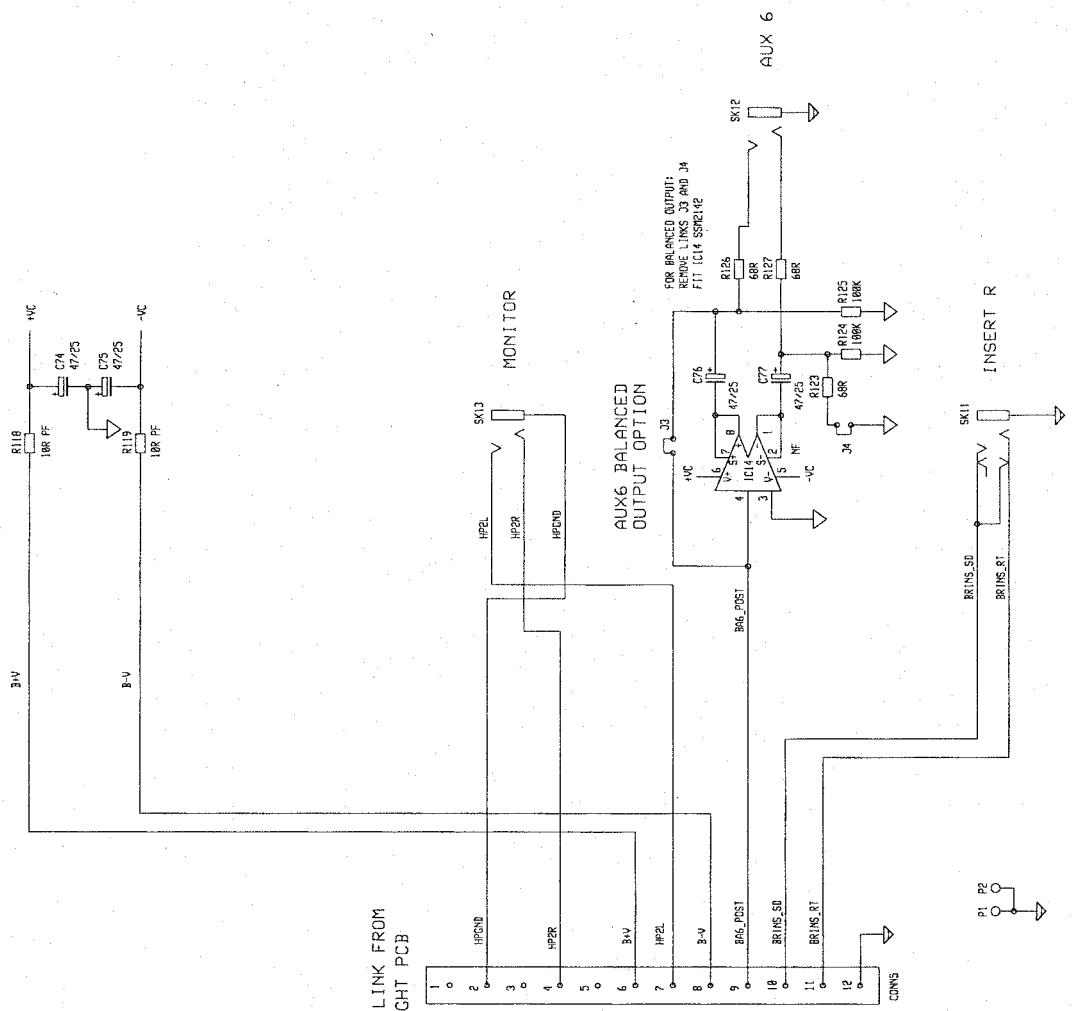
MONOOUT PFL/AFL LEVEL



ISS.	A	ORIGIN	DRP 27-7-98	UNIT TITLE	L22	SHEET 2 OF 3	ALLEN & HEATH KERRICK INDUSTRIAL ESTATE PENRYN CORNWALL TR18 9LU	ISSUE	2
1	PRODUCTION	DRP 9-10-98		CIRCUIT DIAGRAM LEFT PCB	DRAWING NO. C3426				
2	CONN GND MOD	AAT 26-01-99							

NOTES
 1. RESISTORS MARKED * ARE 1%
 ALL OTHERS ARE 3% UNLESS OTHERWISE MARKED
 2. ELECTROLYTIC CAPACITORS ARE µF/ALTS

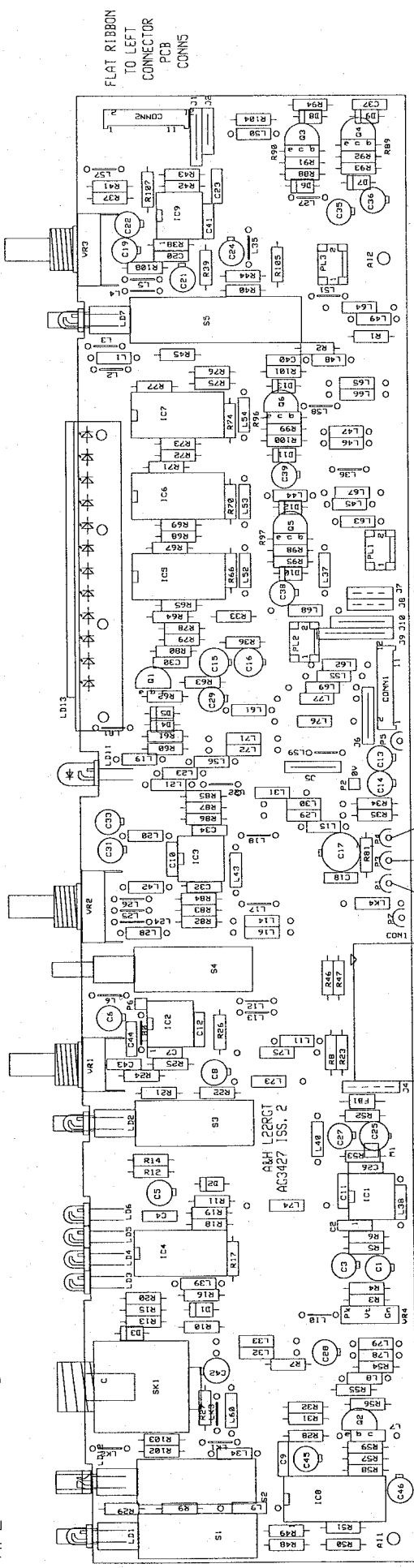
ALLEN & HEATH
 KERRICK INDUSTRIAL ESTATE
 PENRYN
 CORNWALL TR18 9LU
 TEL: (44) (3) 1236 372078
 FAX: (44) (3) 1236 377897
 A DIVISION OF HARMAN INTERNATIONAL INDUSTRIES LIMITED



CONNECTOR SUB BOARD

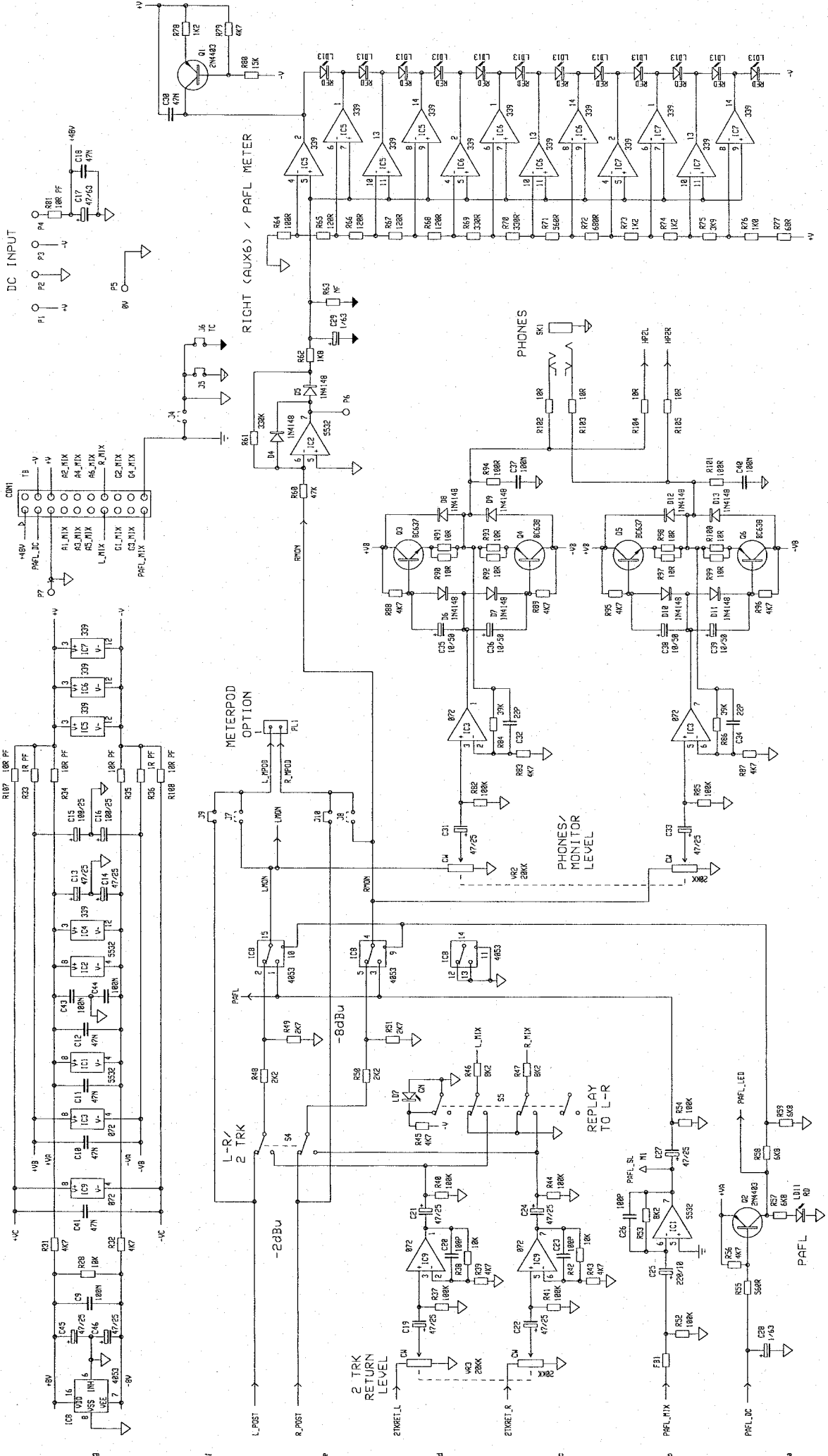
ISS.	A	REVISION	BY	DATE	NOTES
1		ORIGIN	DRP	27-7-98	1. RESISTORS MARKED * ARE 1% ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2		PRODUCTION	DRP	9-10-98	2. ELECTROLYTIC CAPACITORS ARE µF/VOLTS
		CONN GND MOD	AAT	26-01-99	
UNIT TITLE					
L22 SHEET 3 OF 3					
DRAWING TITLE					
CIRCUIT DIAGRAM LEFT PCB					
DRAWING No. C3426 ISSUE 2					
ALLEN & HEATH PERVEX INDUSTRIAL ESTABLISHMENT CONWAY ENGLAND TR18 9LU ALLEN & HEATH, A DIVISION OF HARROCK INTERNATIONAL INDUSTRIES LIMITED.					
TEL. (44) (0) 1326 378278 FAX. (44) (0) 1326 378979					

R AFL HPHONE S 0 6 P R METER AUX6 LR/ HP 2 TRK TO LR LEVEL R/PAFL METER PAFL



FLAT RIBBON TO LEFT PCB CONNE
 MAIN IDC RA BL YEL
 FLAT RIBBON TO LEFT PCB CONNE

FLAT RIBBON TO LEFT CONNECTOR PCB CONNS



MANUFACTURED IN ENGLAND BY

UNIT TITLE
L22

SH2 2 OF 2

ISS. A
1
2

ORIGIN PRODUCTION UPDATES

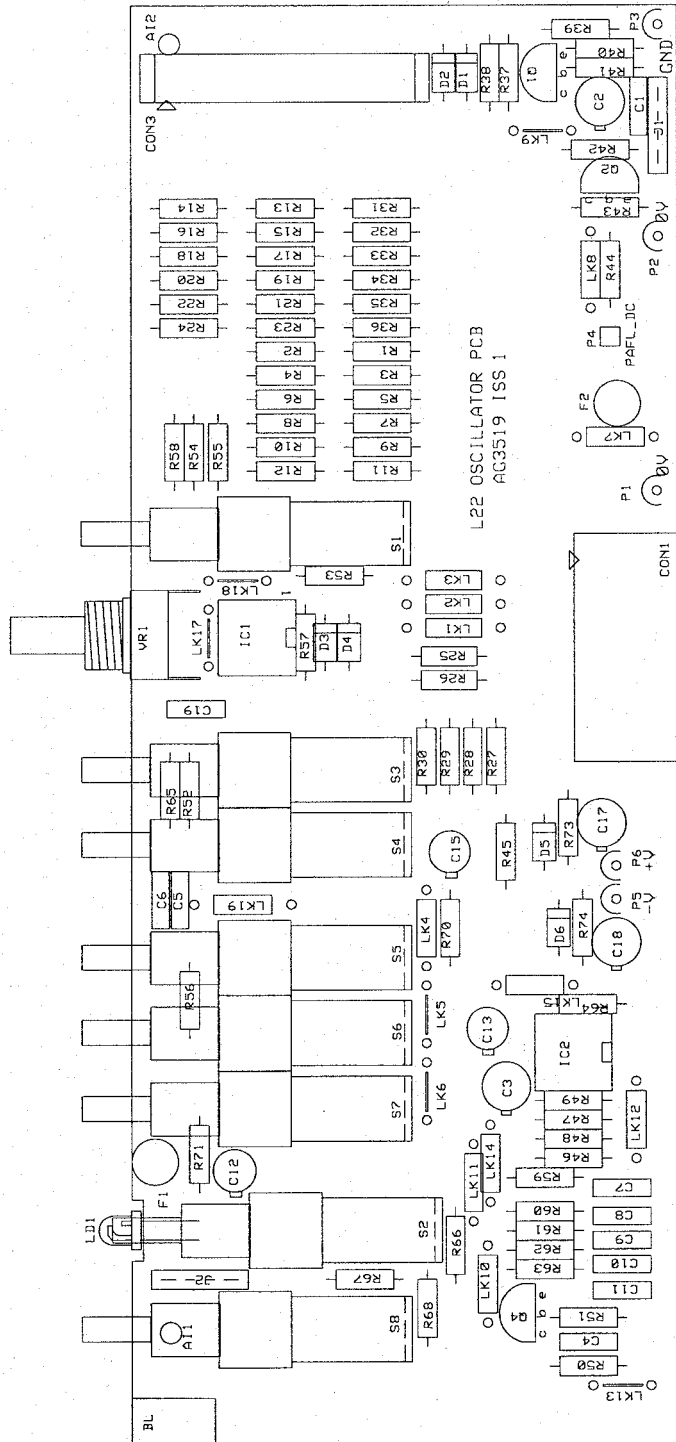
NOTES
1. RESISTORS MARKED * ARE 1%
ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED
2. ELECTROLYTIC CAPACITORS ARE µF-VOLTS

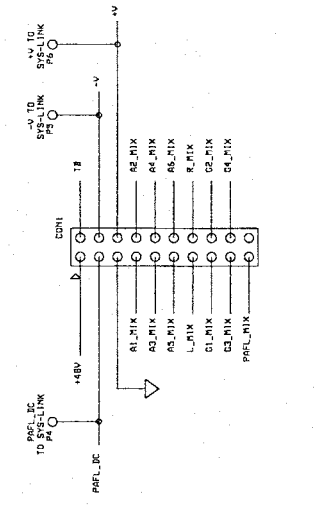
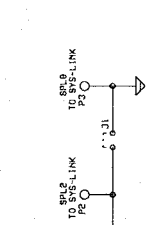
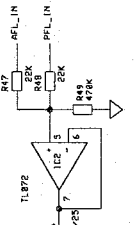
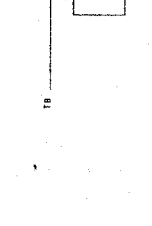
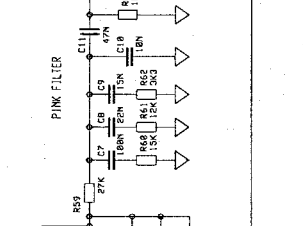
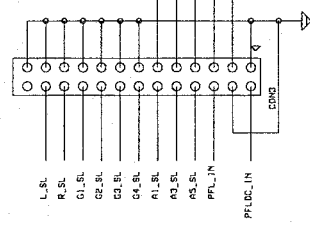
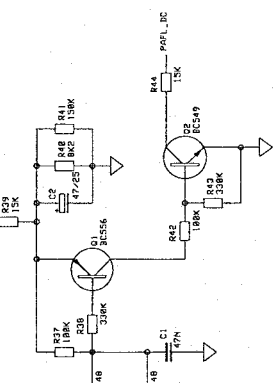
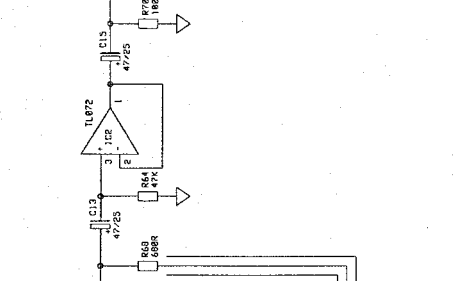
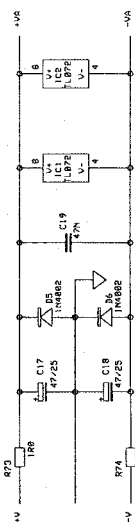
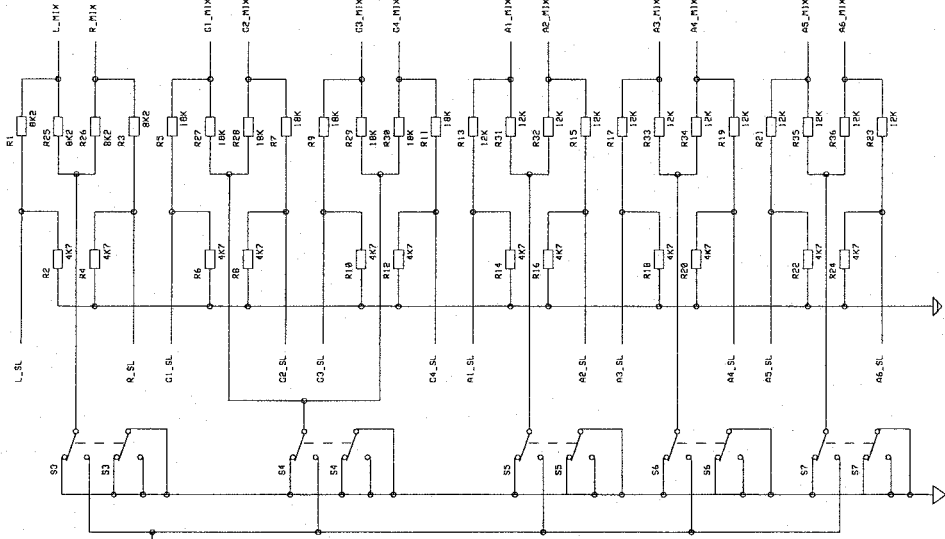
DRAWING TITLE
RIGHT PCB

ALLEN & HEATH
A DIVISION OF HARMON INTERNATIONAL INDUSTRIES LTD

PCB TYPE AG3427

ISSUE 2

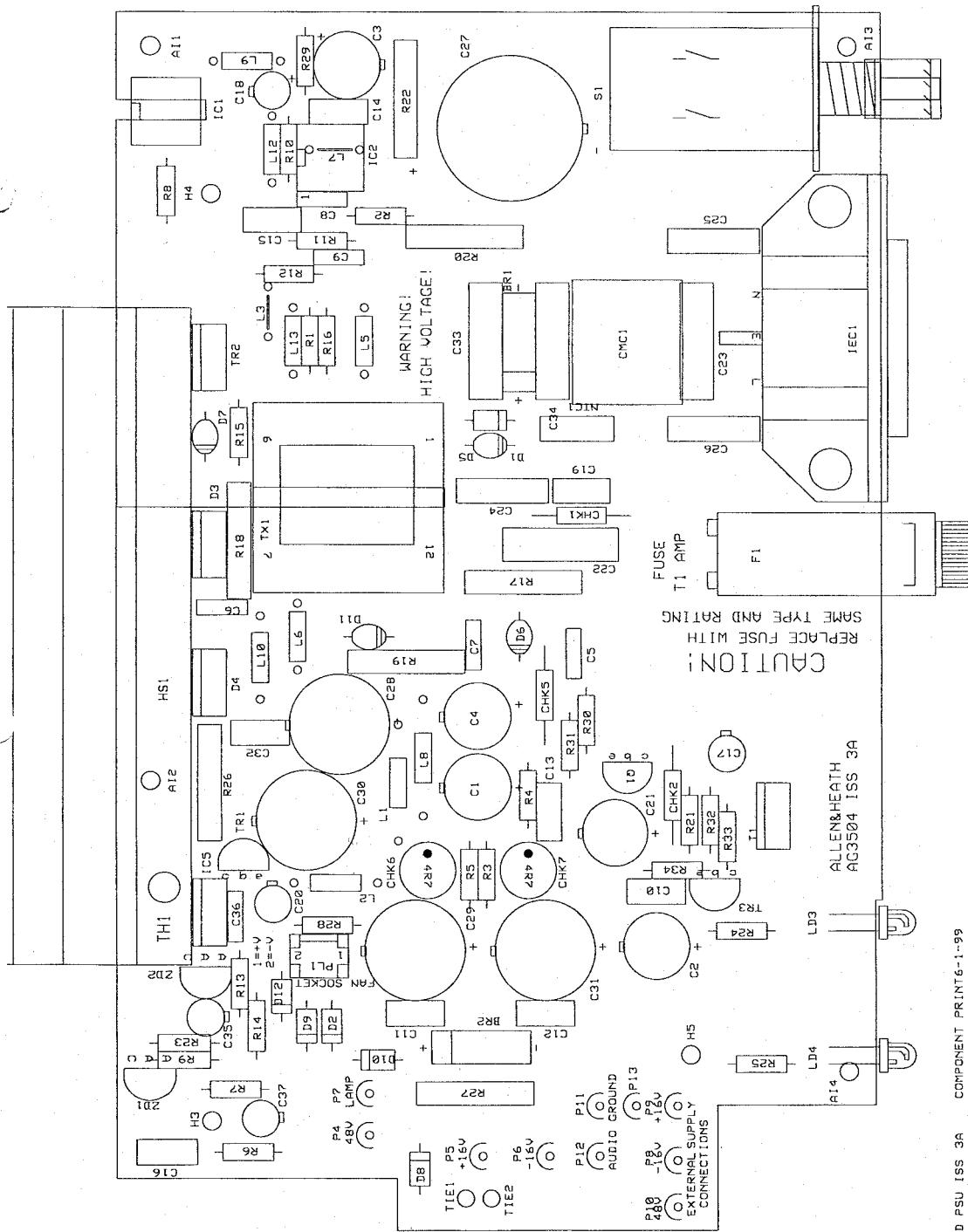




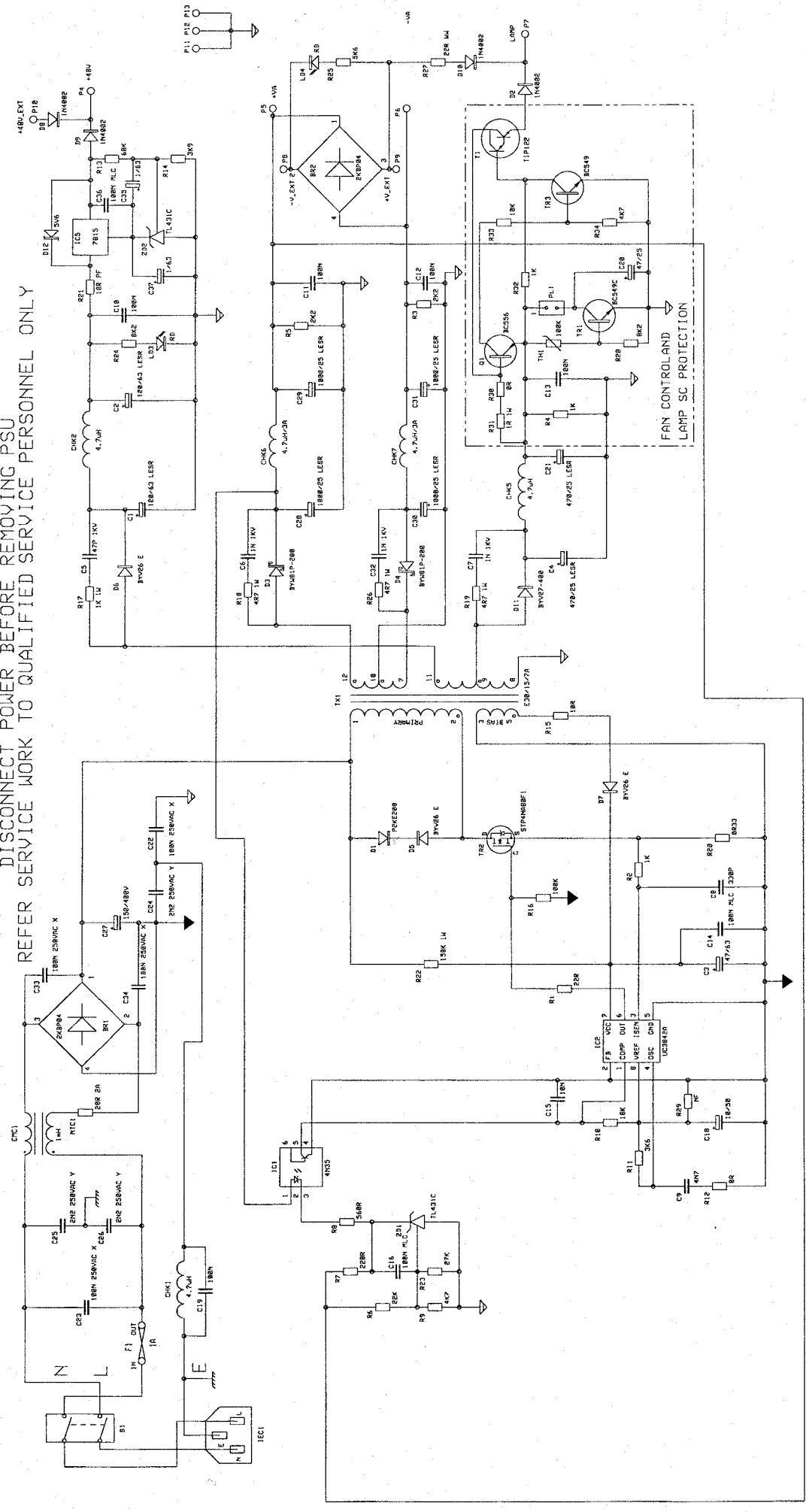
ISS.	REVISION	BY	DATE	NOTES
1	ORIGIN	AAT	18-08-98	
2	PRODUCTION	AAT	17-09-98	
2	SYS-LINK MOD. (R45)	DWD	26-02-99	
NOTES 1. RESISTORS MARKED * ARE 1% ALL OTHERS ARE 5% 1/4W UNLESS OTHERWISE MARKED 2. ELECTROLYTIC CAPACITORS ARE 40% TOL				
UNIT TITLE				GL2200
DRAWING TITLE				OSC/NOISE/SYS IN
DRAWING No. C3519				ISSUE 2
PCB TYPE AG3519				A2

ALLEN & HEATH
 SERVICE INDUSTRIAL ESTATE
 BERNAY
 CORMAIL
 ENGLAND TR18 9U
 ALLEN & HEATH A DIVISION OF HARMON INTERNATIONAL INDUSTRIES LIMITED.

TEL. (44) (0) 1326 379079
 FAX. (44) (0) 1326 379077



DANGER - HIGH VOLTAGE
DISCONNECT POWER BEFORE REMOVING PSU
REFER SERVICE WORK TO QUALIFIED SERVICE PERSONNEL ONLY



ISS.	REVISION	BY	DATE	NOTES
A	PROTOTYPE	ARJ	7-08-98	1. RESISTORS MARKED * ARE 1% ALL OTHERS ARE 5% UNLESS OTHERWISE MARKED
B	REVISED	ARJ	23-9-98	2. ELECTROLYTIC CAPACITORS ARE JF7401'S
1	PRODUCTION	ARJ	12-10-98	
2	UPDATES	ARJ	28-10-98	
3	LAMP PROTECTION	ARJ	25-1-99	

UNIT TITLE	60W PSU
DRAWING TITLE	GL2200
PCB AC3504	FRANING NO. C3504
ISSUE	3

MANUFACTURED IN ENGLAND BY

ALLEN & HEATH