

# Aura

PERFORMANCE : ART

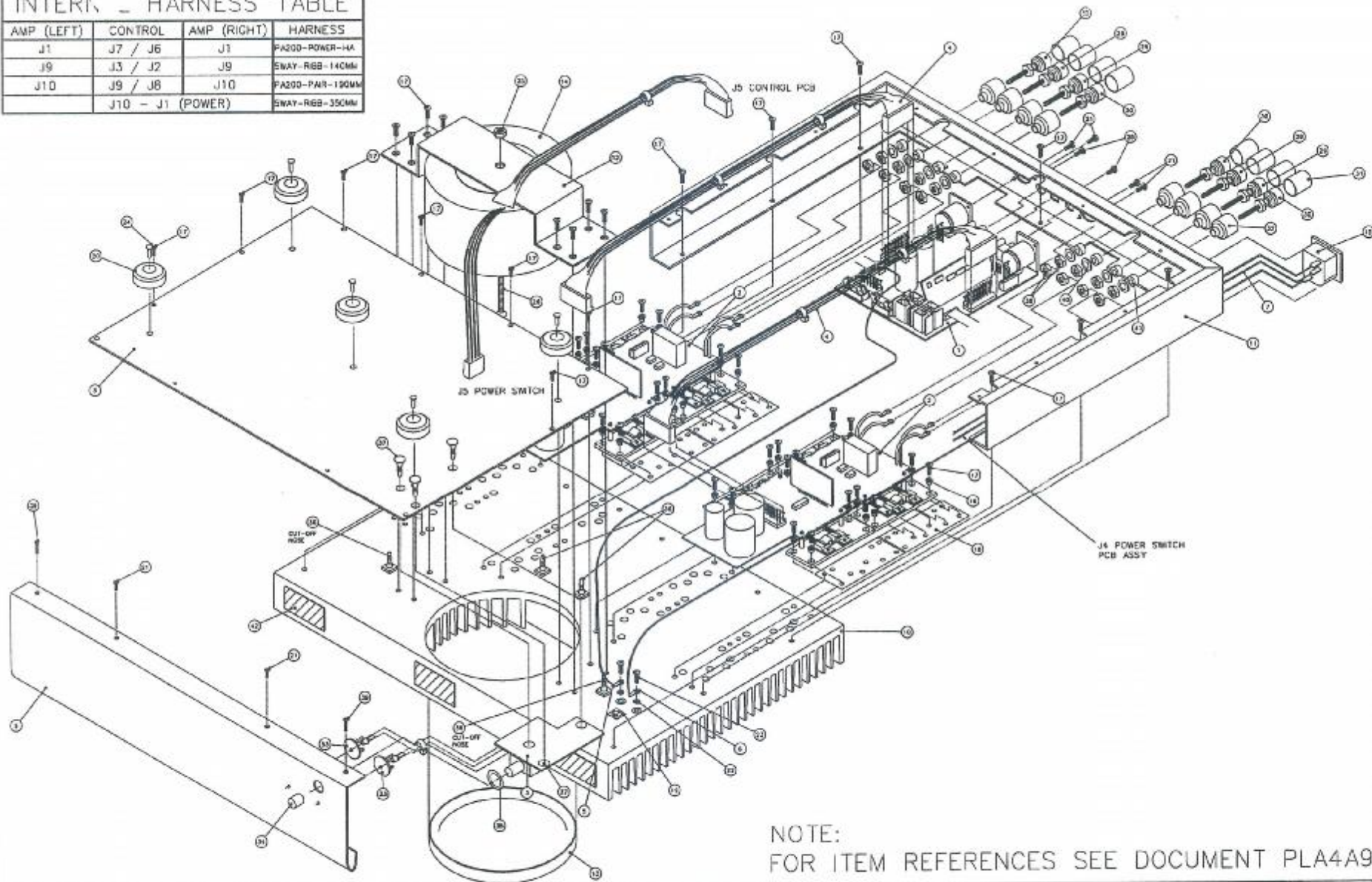


## PA200 Service Manual

Drawing Description	Drawing Number	Current Issue
Final Unit Assembly	A1A9E22	1
Final Unit Parts List	PLA4A9D21	2
Final Unit Performance	A4A9P31	1
Test Specifications	A4A9F13	1
Control PCB Assembly	A2A9E42	1
Control PCB Assembly Parts list	PLA4A9D09	3
Control PCB schematic	A3A9B07-20	3
Control PCB silk screen	A3A9B07-40	3
Control PCB Overlay L1 trackside + silkscreen	A3A9B07-L1	3
Control PCB Overlay L2 trackside + silkscreen	A3A9B07-L2	3
Power Amp PCB Assembly	A2A9E41	1
Power Amp PCB Parts List	PLA4A9D10	3
Power Amp PCB schematic	A3A9B08-20	2
Power Amp PCB silk screen	A3A9B08-40	2
Power Amp PCB Overlay L1 trackside + silkscreen	A3A9B08-L1	2
Power Amp PCB Overlay L2 trackside + silkscreen	A3A9B08-L2	2
Power Switch PCB Assembly	A3A9E43	1
Power Switch PCB Parts List	PLA4A9D28	2
Power Switch PCB schematic	A3A9B27-20	1
Power Switch PCB silk screen	A3A9B27-40	1
Amp Module PCB Assembly Parts List	PLA4A7D40	-
Amp Module PCB schematic	A3A7B39-20	-
Amp Module PCB silk screen	A3A7B39-40	-
Protection Module PCB Assembly Parts List	PLA4A7D42	-
Protection Module PCB schematic	A3A7B38-20	-
Protection Module PCB silk screen	A3A7B38-40	-

# INTERN \_ HARNESS TABLE

AMP (LEFT)	CONTROL	AMP (RIGHT)	HARNESS
J1	J7 / J6	J1	PA200-POWER-HA
J9	J3 / J2	J9	EWAY-RIB-140MM
J10	J9 / J8	J10	PA200-PAIR-190MM
J10 - J1 (POWER)			EWAY-RIB-350MM



NOTE:  
FOR ITEM REFERENCES SEE DOCUMENT PLA4A9D21

<b>USED ON</b>  <b>Aura</b> DESIGNS LIMITED WORTHING ENGLAND	<b>DIMENSIONS IN mm</b> TOLERANCES 0.0 ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED DO NOT SCALE	<b>SCALE</b> 1:1  	<b>MATERIAL</b>  <b>FINISH</b>	1 INITIAL ISSUE ISS AMENDMENT TITLE		15/11/95 ECN DATE		COPYRIGHT © 1995 DRAWN DATE APT 19-12-95 PART NO. DRG. NO. A1A9E22 ① ISS	
				<b>PA-200 FINAL UNIT ASSEMBLY</b>					

## Final Unit Assembly Parts List

Stock Code	Description	Quantity	Reference
	<b>Main Assemblies</b>		
PA200-CTRL-ASSY	PA200 CONTROL ASSEMBLY	1	ITEM - 1
PA200-AMP-ASSY	PA200 AMP ASSEMBLY	2	ITEM - 2
PA200-POWER-ASSY	PA200 POWER SWITCH ASSEMBLY	1	ITEM - 3
	<b>Harnesses</b>		
PA200-POWER-HA	POWER CABLE HARNESS ASSEMBLY		ITEM - 4
EARTH-HA-230MM	EARTH HARNESS 230MM		ITEM - 5
EARTH-HA-300MM	EARTH HARNESS 300MM		ITEM - 6
MAINS-HA-290MM	MAINS INPUT HARNESS 290MM		ITEM - 7
	<b>Metalwork</b>		
PA200-BASE-PLATE	PA200 BASE PLATE	1	ITEM - 8
PA200-FP-CHR	PA200 FRONT PANEL CHROME	1	ITEM - 9
PA200-HEATS	PA200 HEATSINK	1	ITEM - 10
PA200-SIDE-PLATE	PA200 SIDE PLATE	1	ITEM - 11
PA200-TX-BRKT	PA200 TRANSFORMER BRACKET	1	ITEM - 12
TX-CAP-PA200	TRANSFORMER CAP MIRROR	1	ITEM - 13
	<b>Sundry Components</b>		
	<b>Electrical</b>		
PA200-TX-115/230	PA200 DUAL VOLT.90584 P2S4	1	ITEM - 14
MAINSOCKET/SNAP	I.E.C / FUSED SOCKET	1	ITEM - 15
FA5A	FUSE 5 AMP ANTI-SURGE 642509	2	
	<b>Internal Mechanical</b>		
M4-INS-WASHER	M4 SHOULDER WASHER - HEYCO	32	ITEM - 16
M4X8PANT.T	M4 X 8 PAN TAPTITE ZINC & BLK	54	ITEM - 17
THERMAL-WASH-1	THERMAL WASHER SLIPAD600	8	ITEM - 18
EARTHSTICK	EARTH STICKER RS 504-978	1	ITEM - 19
FEET-1001	BLACK FEET BF1001	5	ITEM - 20
M3X6PAN.T.T	M3 X 6 PAN HD. TAPTITE BLACK	6	ITEM - 21
M4WASHSHAKE	M4 WASHER SHAKE PROOF INTERNAL	2	ITEM - 22
M4X8PANPOZI	M4 X 8 PAN POZI BLACK	2	ITEM - 23
SR-4080-BLK	SR-4080 BLACK RIVET	5	ITEM - 24
M6NUT	M6 FULL NUT	1	ITEM - 25
M6X70PANBOLTBLK	M6 X 70 PAN HD BOLT BLACK	1	ITEM - 26
NO4X5/16SITAPPAN	NO4X5/16 PANRECS/TAPTITE BLACK	2	ITEM - 28
4MM-SPKR-BLK	PA200 T/PROOF SPKR TERMINAL BLK	4	ITEM - 29
4MM-SPKR-RED	PA200 T/PROOF SPKR TERMINAL RED	4	ITEM - 30
T/PROOF-CAP	T/PROOF CAP 4MM SPKR TERM	8	ITEM - 31
T/PROOF-HOUSING	T/PROOF HOUSING 4MM SPKR TERM	8	ITEM - 32
LED-LENS	LED BEZEL	2	ITEM - 33
MSB	MAINS SWITCH BUTTON	1	ITEM - 34
SWI-WASHER	PAPER WASHER FOR MAINS SWITCH	1	ITEM - 35
LCBSB-8-01A-RT	LCBSB-8-01A-RT PCB STAND OFF	4	ITEM - 36
CRLCBSRE-4-01	CRLCBSRE-4-01 BLACK W/NOSE	3	ITEM - 37
4MM-SPKR-NUT	PA200 SPEAKER TERM M5 NUT	16	ITEM - 38
M3X10PAN.T.T	M3 X 10 PAN TAPTITE BLACK	2	ITEM - 39
4MM-SPKR-WASH	PA200 SPEAKER TERM M5 WASHER	8	ITEM - 40
SPKR-BASE-WASHER	PA200 SPKR TERM BLK BASE WASH	8	ITEM - 41
CD50-INS-TX	CD50 INSULATION TRANSFORMER	3	ITEM - 42
	<b>Packing</b>		
CPV-BOX	CA,PA & VA150 BOX	1	
CPV-OUTER	OUTER CARTON VA150,CA200,PA200	1	
LRG-POLY-BAG	LRG P/BAG 330x440x580 500g	1	

MICRO-CLOTH	MICROFIBRE CLEANING CLOTHS	1	
PA200-INSTAPACK	PA200 PACKING	1	
PA200-MANUAL	PA200-MANUAL	1	
UNIT-SAF-LABEL	UNIT SAFETY INFO. CIL44-A1524	1	
UNIT-SER-LABEL	UNIT SERIAL LABEL CIL44-A1896	1	

## SPECIFICATIONS

### FINAL UNIT PERFORMANCE:

Inputs:	Unbalanced, True balanced XLR
Input Sensitivity:	1V rms per channel
Power Output:	110W rms per channel into 8 $\Omega$ @ 1kHz 250W rms bridged
Total Harmonic Distortion:	<0.003% (1kHz)
Residual Output Noise:	<-102dB (unweighted, ref 100W)
Mains Power:	100V, 115V, 230V, AC ,50/60Hz  Supplied at correct voltage for country of use

## A4A9F13: PA200 Final Unit Test Spec-Issue 1.

### Initial checks

- 1) Lead orientation and arrangement. Look for stray ends on shielded pair.
- 2) Check output terminal tags are well clear of any contact.
- 3) Transformer should not be able to be turned by hand. Tighten if necessary. Check leads are not fouled by bracket.
- 4) Has correct voltage been selected on power PCB ?
- 5) Check orientation of diodes & electrolytics.
- 6) Using DVM, check for shorts between fetplates and ground.
- 7) Set both potentiometers fully clockwise.
- 7a) Set switch on rear to 'Stereo'.

### Power-up tests

- 8) Set variac to 10Vac\*. Plug in & switch on.
- 9) Check supplies: fetplates @ 1.7V and -1.7V, SMD amp modules @ 2V and -2V.
- 10) Set mains to 100V ac\*. Bicolour LED and LED on control board will glow dimly.
- 11) Check supplies: 20V, -20V, 25V, -25V.
- 12) Measure bias on each channel. Should be 0 mA before adjustment. Check it can be set to approx 400mA. Turn bias down again.
- 13) Set mains to rated voltage. On power-up, bicolour LED will glow orange then after 10s green, & output relays switch over.
- 14) Set bias on each channel to 320-340mA. Check stable. Switch off & unplug.
- 15) Solder two VSPAD6.35, one on each amp board.
- 16) Load each channel with 8 Ohms.

*{ \* for 230V unit. Scale down for other units as appropriate }*

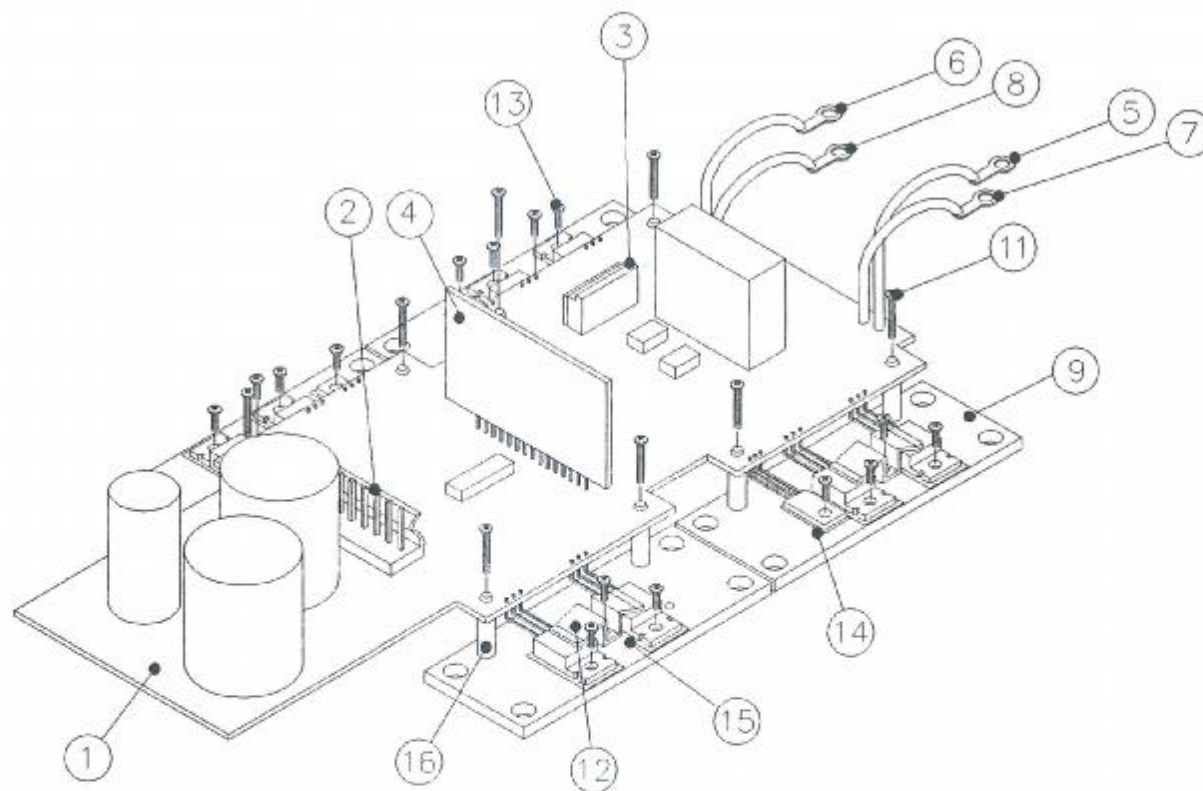
Test each channel using both balanced & unbalanced inputs:

- 17) 100W rms @  $< 0.003\%$  THD+N.
- 18) Increase input level until protection activates (~ 120W). LED goes RED and output relays cut out. Turn input level down.


Bridged operation:

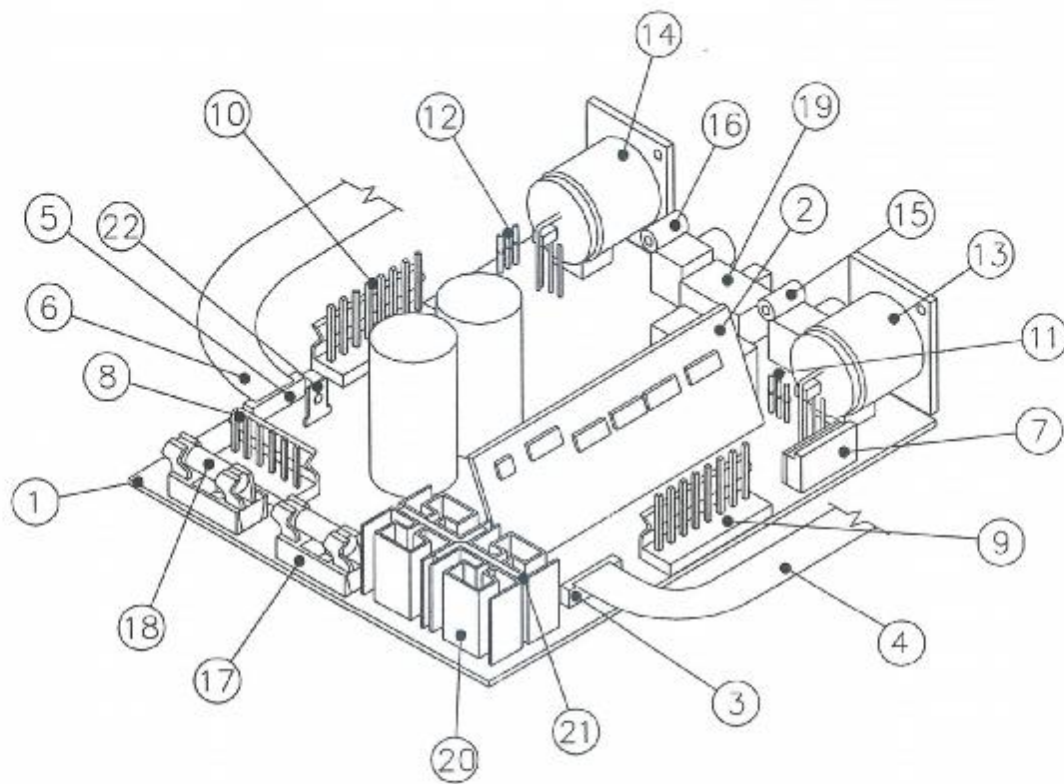
- 19) Switch off. Set switch on rear to 'Bridged'
- 20) Check Blue LED comes on.
- 21) Feed signal to Right XLR input only.
- 22) Protection should activate at ~400W output.
- 23) Switch off and set switch back to 'Stereo'.





NOTE:  
FOR ITEM REFERENCES SEE DOCUMENT PLA4A9D10

USED ON		PA200		MATERIAL		COPYRIGHT © 1995	
						DRAWN DATE	
						A.P.T 13/2/96	
				1 INITIAL ISSUE		13/2/96 PART NO.	
<b>Aura</b> DESIGNS LIMITED WORTHING ENGLAND		DIMENSIONS IN mm TOLERANCES 0. ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED		SCALE  NOT SCALE		FINISH TITLE PA200 AMP PCB ASSEMBLY	
						DRG. NO. 155 A2A9E41 ①	



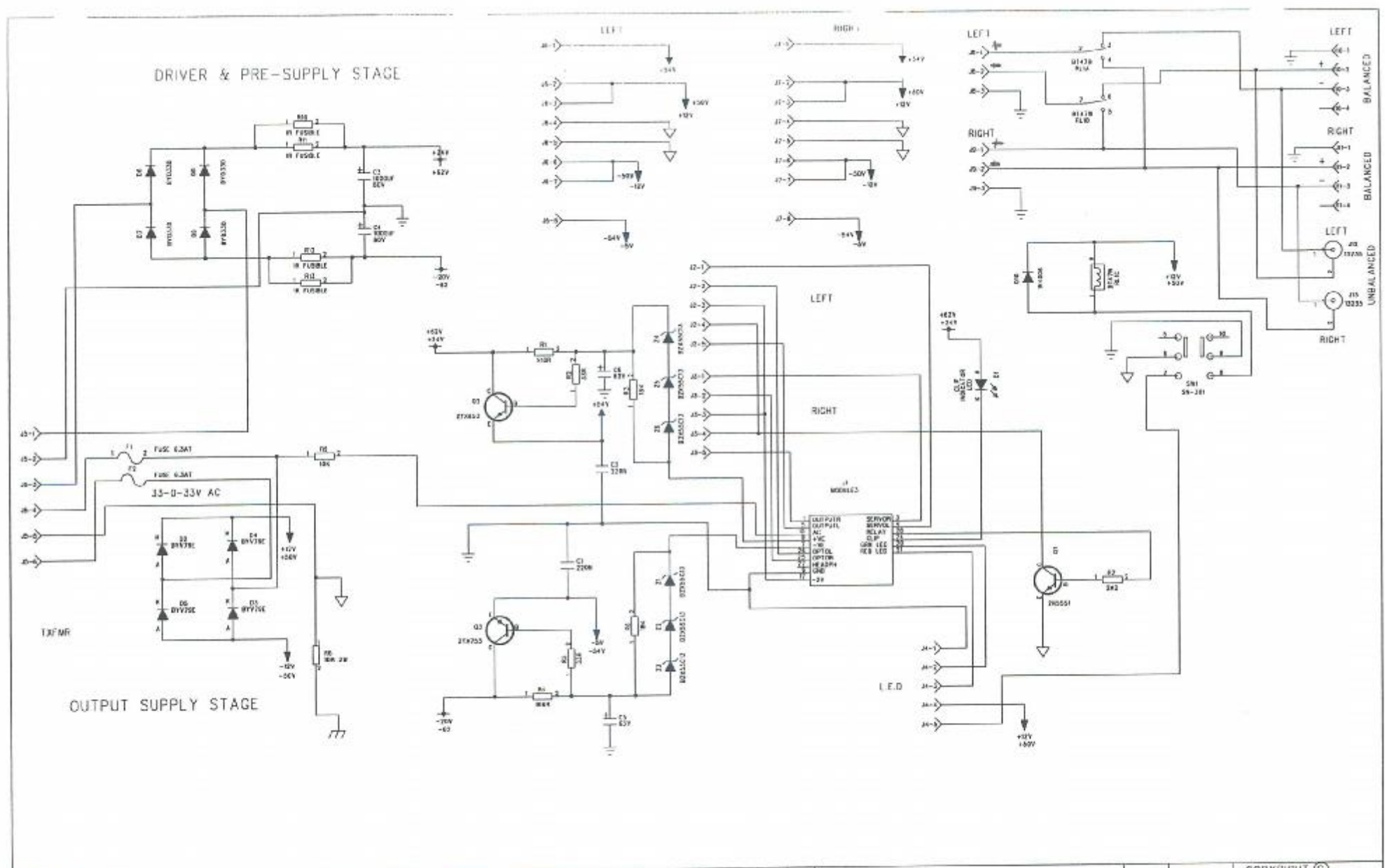
NOTE:  
FOR ITEM REFERENCES SEE DOCUMENT PLA4A9D09

USED ON	PA200	MATERIAL	COPYRIGHT © 1995		
			DRAWN A.P.T	DATE 13/11/95	
1 INITIAL ISSUE			15/2/96	PART NO.	
 DIMENSIONS IN mm TOLERANCES 0. ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED DO NOT SCALE	 SCALE DO NOT SCALE	FINISH	TITLE	DRG. NO	ISS
			PA200 CONTROL PCB ASSEMBLY	A2A9E42	①

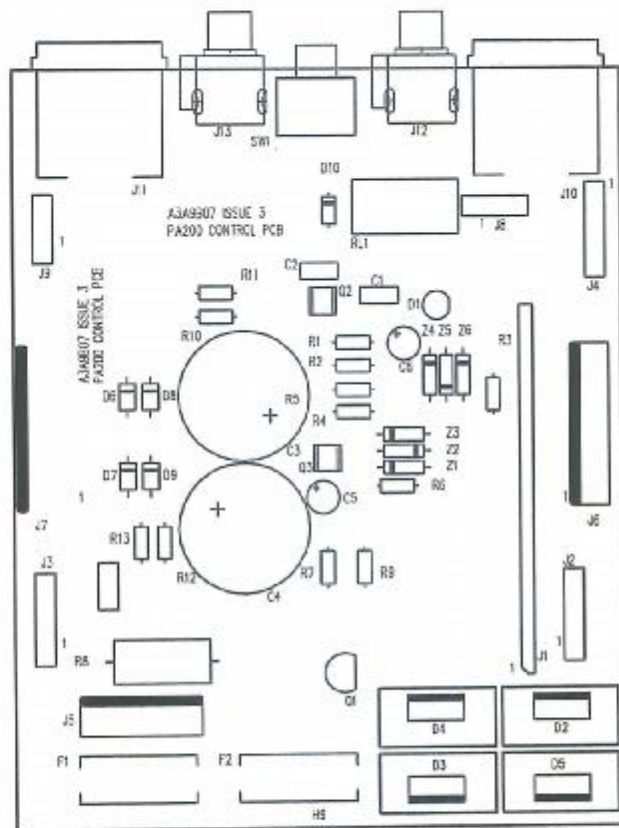
PLA4A9D09 Issue 3  
PA-200 Control PCB Parts List

Ref	Stock Code	Description	Comments
PCB	PA200-CTRL-PCB	PA200 CONTROL PCB A3A9B07	ITEM - 1
C1	C220N5P	C220N 5MM PITCH POLYESTER	
C2	C220N5P	C220N 5MM PITCH POLYESTER	
C3	C1000U100VEL	1000UF 100V 10MM 30H 85°C	
C4	C1000U100VEL	1000UF 100V 10MM 30H 85°C	
C5	C22U63EL	22UF 63V	
C6	C22U63EL	22UF 63V	
D2	BYV79E	BYV79E DIODE	
D3	BYV79E	BYV79E DIODE	
D4	BYV79E	BYV79E DIODE	
D5	BYV79E	BYV79E DIODE	
D6	BYD33D	BYD33D DIODE	
D7	BYD33D	BYD33D DIODE	
D8	BYD33D	BYD33D DIODE	
D9	BYD33D	BYD33D DIODE	
D10	1N4006	1N4006 DIODE	
R1	910RMF	910R MF 1/4W	
	33RMF	33R MF 1/4W	
R3	18KMF	18K MF 1/4W	
R4	910RMF	910R MF 1/4W	
R5	33RMF	33R MF 1/4W	
R6	18KMF	18K MF 1/4W	
R7	2K2MF	2K2 MF 1/4W	
R8	10RC2	10R 2W CARBON	
R9	10KMF	10K MF 1/4W	
R10	1R0-0.5W	1R 0.5W FUSIBLE NFR25H	
R11	1R0-0.5W	1R 0.5W FUSIBLE NFR25H	
R12	1R0-0.5W	1R 0.5W FUSIBLE NFR25H	
R13	1R0-0.5W	1R 0.5W FUSIBLE NFR25H	
J1	PROT-MOD-ASSY	PROTECT MODULE ASSEMBLY	ITEM - 2
J2	5WAY-HOLDER	5 WAY STRAIN MOLEX 51052-0500	ITEM - 3
(For J2)	5WAY-RIBB-140MM	5 WAY RIBBON CABLE 140MM	ITEM - 4
J3	5WAY-HOLDER	5 WAY STRAIN MOLEX 51052-0500	ITEM - 5
(For J3)	5WAY-RIBB-140MM	5 WAY RIBBON CABLE 140MM	ITEM - 6
J4	5WAY-HOLDER	5 WAY STRAIN MOLEX 51052-0500	ITEM - 7
J5	6W-156-HDR	6 WAY 0.156 HDR MOLEX 5414-06A	ITEM - 8
J6	8W-156-HDR	8 WAY 0.156 HDR MOLEX 5414-08A	ITEM - 9
J7	8W-156-HDR	8 WAY 0.156 HDR MOLEX 5414-08A	ITEM - 10
J8 (x3)	PCB-PIN	PCB PIN DOUBLE SIDED 1.0MM	ITEM - 11
J8	PA200-PAIR-190MM	PA200 TWISTED PAIR	
J9 (x3)	PCB-PIN	PCB PIN DOUBLE SIDED 1.0MM	ITEM - 12
J9	PA200-PAIR-190MM	PA200 TWISTED PAIR	
J10	F-XLR	FEMALE XLR PCB MOUNTING CONNECTOR	ITEM - 13
J11	F-XLR	FEMALE XLR PCB MOUNTING CONNECTOR	ITEM - 14
J12	P1WG	SINGLE PHONO SOCKET GOLD	ITEM - 15
J13	P1WG	SINGLE PHONO SOCKET GOLD	ITEM - 16
F1	PCFH	FUSE HOLDER PCB MOUNT	ITEM - 17
F2	PCFH	FUSE HOLDER PCB MOUNT	
For F1	FUSET6.3A	FUSE 6.3A 20MM HRC CERAMIC T FUSE	ITEM - 18
For F2	FUSET6.3A	FUSE 6.3A 20MM HRC CERAMIC T FUSE	
RL1	BT4748	BT47 48V RELAY	
Q1	2N5551	2N5551	
Q2	ZTX653	ZTX653	
Q3	ZTX753	ZTX753	

SW1	SW-SN-301	SW DP SLIDE DEVLIN SN301	ITEM - 19
For D2	TO220-HEATS	TO220 HEATSINK	ITEM - 20
r D3	TO220-HEATS	TO220 HEATSINK	
r D4	TO220-HEATS	TO220 HEATSINK	
For D5	TO220-HEATS	TO220 HEATSINK	
	TO220-HEATS-PAD	TO220 HEATSINK ADHESIVE PAD	ITEM - 21
	TO220-HEATS-PAD	TO220 HEATSINK ADHESIVE PAD	
	PCB-LABEL	PCB LABEL LP1-9700HD-4	
	LEDRED	LED RED RS	
	VSPAD6.35	VERTICAL SPADE 6.35MM	ITEM - 22

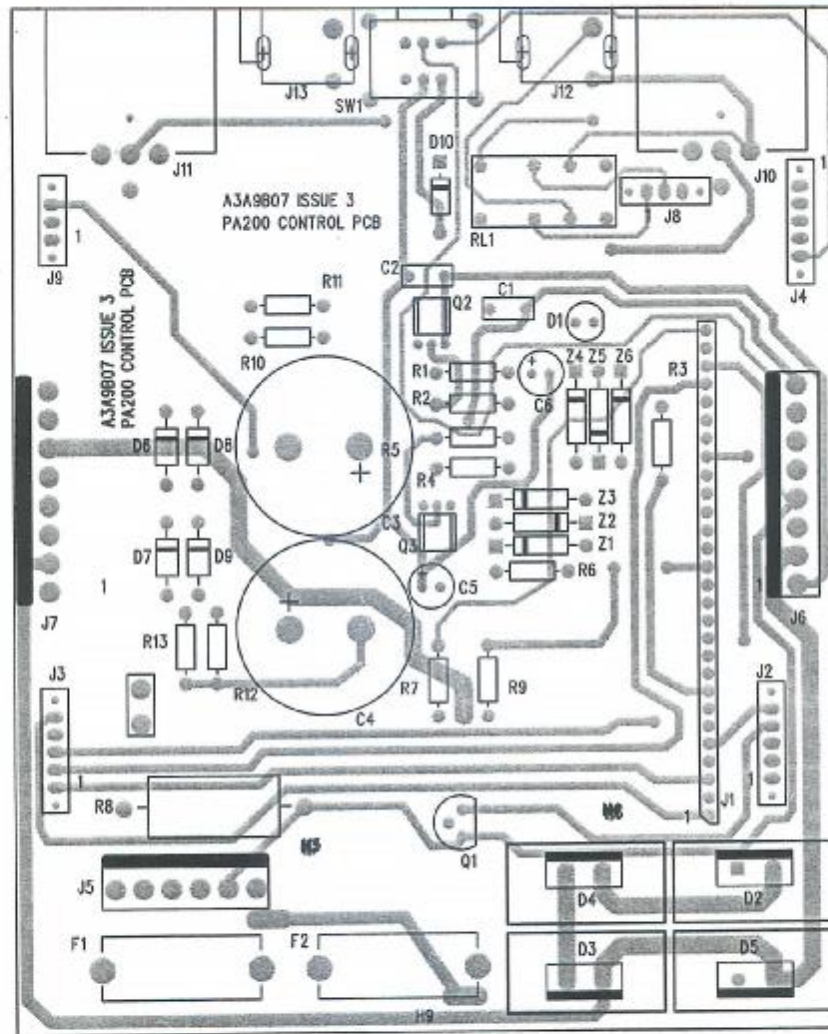


USED ON A3A9B07		MATERIAL	COPYRIGHT (C) DRAWN AP1		DATE 8-6-95
DIMENSIONS IN mm TOLERANCES 0 ± 0.5 0.0 ± 0.3 0.00 ± 0.1		FINISH	22-2-96 16-1-96		PART NO.
		SCALE 	TITLE PA200 POWER AMPLIFIER CONTROL & PROTECT SCHEMATIC		DRG. NO. A3A9B07-203
					ISS

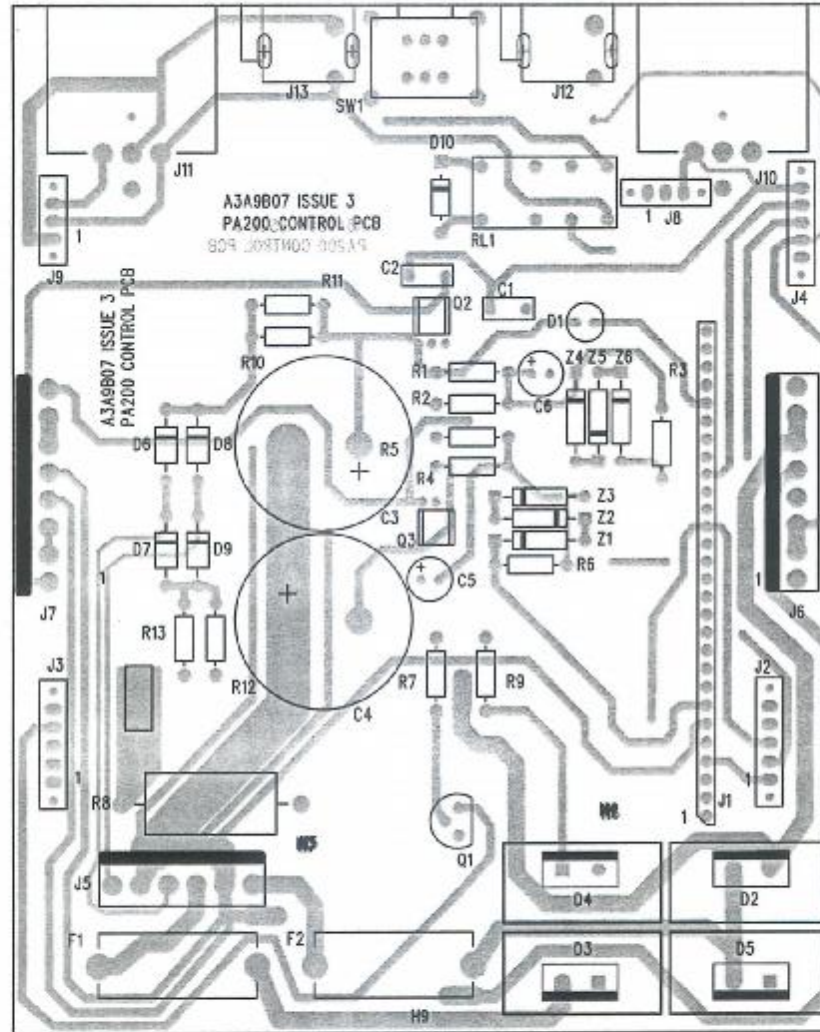


MATERIAL	FINISH			COPYRIGHT © 1996	
		3 INITIAL ISSUE		21/3/96	DRAWN DATE APT 21/3/96
		ISS	AMENDMENT	ECN	DATE
		USED ON			PART NO.
		TITLE			DRG. NO.
		PA200 CONTROL PCB SILK SCREEN			ISS A3A9B07-40 (3)
DIMENSIONS IN mm		SCALE			
TOLERANCES		 DO NOT SCALE			
0. ± 0.5					
0.0 ± 0.3					
0.00 ± 0.1					
UNLESS OTHERWISE STATED					

**Aura**  
DESIGNS LIMITED  
WORTHING ENGLAND



MATERIAL	FINISH					COPYRIGHT © 1996		
						DRAWN	DATE	
			3	INITIAL ISSUE		16/4/96	APT 16/4/96	
			ISS	AMENDMENT	ECN	DATE	PART NO.	
	DIMENSIONS IN mm	SCALE	USED ON PA200				DRG. NO. ISS	
	TOLERANCES	 DO NOT SCALE	TITLE PA200 CONTROL PCB				A3A9B07-L1 (3)	
	0. ± 0.5		OVERLAY L1 TRACKSIDE + SILKSCREEN					
	0.0 ± 0.3							
	0.00 ± 0.1							
	UNLESS OTHERWISE STATED							



MATERIAL	FINISH					COPYRIGHT © 1996		
						DRAWN	DATE	
			3	INITIAL ISSUE		16/4/96	16/4/96	
			ISS	AMENDMENT	ECN	DATE	PART NO.	
			USED ON PA200					
			TITLE PA200 CONTROL PCB				DRG. NO.	ISS
			OVERLAY L2 TRACKSIDE + SILKSCREEN				A3A9B07-L2	③
DIMENSIONS IN mm		SCALE						
TOLERANCES		 DO NOT SCALE						
0. ± 0.5								
0.0 ± 0.3								
0.00 ± 0.1								
UNLESS OTHERWISE STATED								

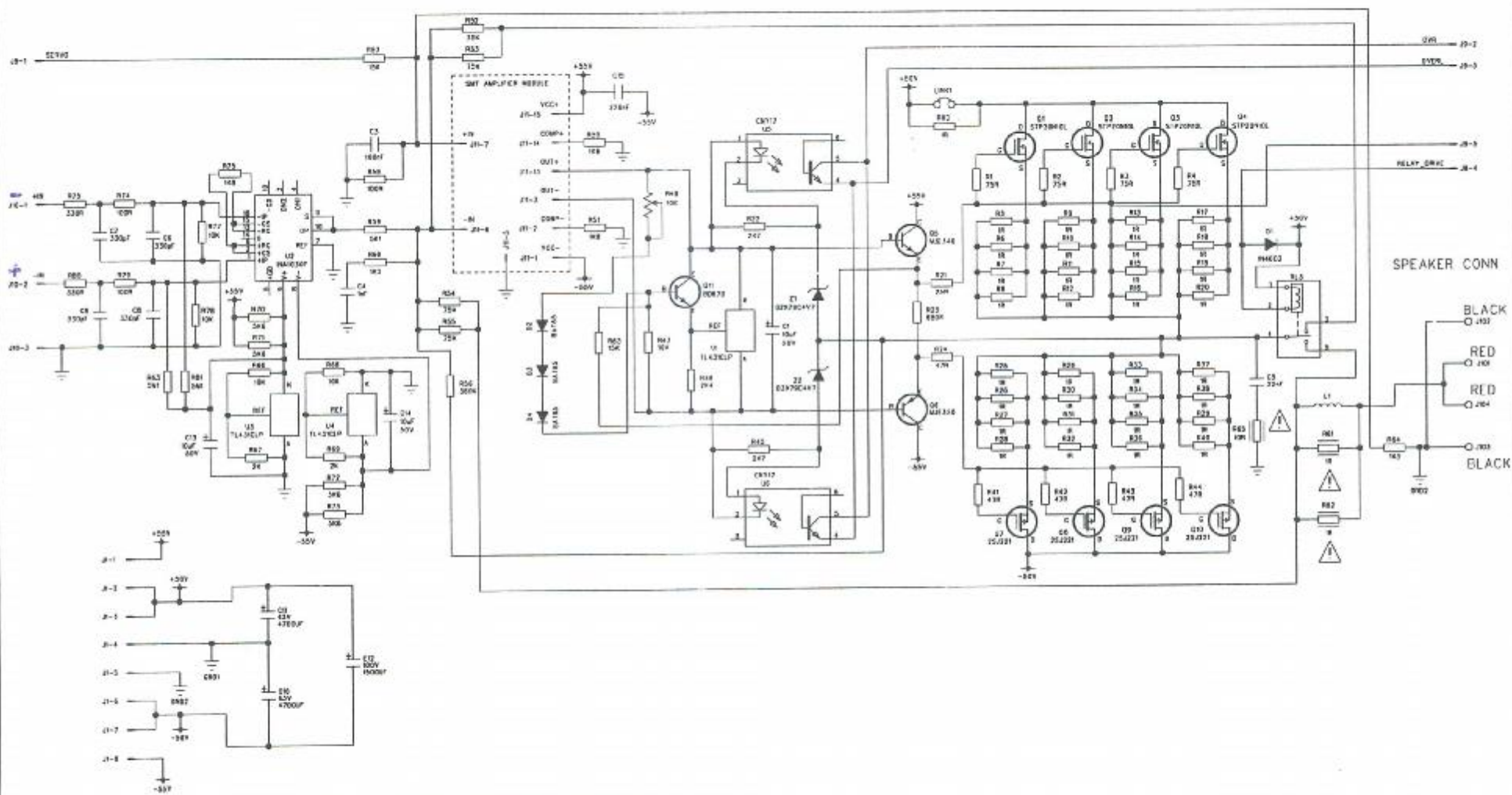


PLA4A9D10 Issue 3  
 PA-200 Power Amp PCB Parts List

Ref	Stock Code	Description	Comments
PCB	PA200-AMP-PCB	PA200 POWER AMP PCB A3A9B08	ITEM - 1
C1	C10U35EL	10UF 35V ELEC	
C2	C220N250P	C220N 10MMP 250V POLY	
C3	C0.1U100MY	0.1uF 63V MYLAR/POLY 071013	
C4	C1N5P	0.001uF 5MMP.RAD POLYBOX 071101	
C5	C22N5P	0.022uF 5MM PITCH RAD. POLYESTER	
C6	C330P	C330P CAPACITOR	
C7	C330P	C330P CAPACITOR	
C8	C330P	C330P CAPACITOR	
C9	C330P	C330P CAPACITOR	
C10	C4700U63PEL	4700UF 63V CAP ALC10A472CC063P	
C11	C4700U63PEL	4700UF 63V CAP ALC10A472CC063P	
C12	C1000U100VEL	1000UF 100V 10MM 30H 85°C	
C13	C10U35EL	10UF 35V ELEC	
C14	C10U35EL	10UF 35V ELEC	
D1	1N4006	1N4006 DIODE	
D2	BAT85	BAT85 DIODE	
D3	BAT85	BAT85 DIODE	
D4	BAT85	BAT85 DIODE	
Q1	STP20N10L	STP20N10L POWER MOSFET-N-CHANNEL	
Q2	STP20N10L	STP20N10L POWER MOSFET-N-CHANNEL	
Q3	STP20N10L	STP20N10L POWER MOSFET-N-CHANNEL	
Q4	STP20N10L	STP20N10L POWER MOSFET-N-CHANNEL	
Q5	MJE340	MJE340 TRANSISTOR	
Q6	MJE350	MJE350 TRANSISTOR	
Q7	2SJ221	2SJ221 POWER MOSFET-P-CHANNEL	
Q8	2SJ221	2SJ221 POWER MOSFET-P-CHANNEL	
Q9	2SJ221	2SJ221 POWER MOSFET-P-CHANNEL	
Q10	2SJ221	2SJ221 POWER MOSFET-P-CHANNEL	
Q11	BD135	BD135 NPN POWER TRANSISTOR	
U1	TL431CLP	TL431CLP REGULATOR	
U2	INA103KP	INA103KP	
U3	TL431CLP	TL431CLP REGULATOR	
U4	TL431CLP	TL431CLP REGULATOR	
U5	CNY17	CNY17-1 OPTO ISOLATOR	
U6	CNY17	CNY17-1 OPTO ISOLATOR	
Z1	BZX79C4V7	BZX79C4V7 ZENER DIODE	
Z2	BZX79C4V7	BZX79C4V7 ZENER DIODE	
R1	75RMF	75R MF 1/4W	
R2	75RMF	75R MF 1/4W	
R3	75RMF	75R MF 1/4W	
R4	75RMF	75R MF 1/4W	
R5	1R0-0.6W	1R MF 0.6W	
R6	1R0-0.6W	1R MF 0.6W	
R7	1R0-0.6W	1R MF 0.6W	
R8	1R0-0.6W	1R MF 0.6W	
R9	1R0-0.6W	1R MF 0.6W	
R10	1R0-0.6W	1R MF 0.6W	
R11	1R0-0.6W	1R MF 0.6W	
R12	1R0-0.6W	1R MF 0.6W	
R13	1R0-0.6W	1R MF 0.6W	
R14	1R0-0.6W	1R MF 0.6W	
R15	1R0-0.6W	1R MF 0.6W	
R16	1R0-0.6W	1R MF 0.6W	
R17	1R0-0.6W	1R MF 0.6W	
R18	1R0-0.6W	1R MF 0.6W	

R19	1R0-0.6W	1R MF 0.6W	
R20	1R0-0.6W	1R MF 0.6W	
R21	75RMF	75R MF 1/4W	
R22	2K7MF	2K7 MF 1/4W	
R23	680RMF	680R MF 1/4W	
R24	47RMF	47R MF 1/4W	
R25	1R0-0.6W	1R MF 0.6W	
R26	1R0-0.6W	1R MF 0.6W	
R27	1R0-0.6W	1R MF 0.6W	
R28	1R0-0.6W	1R MF 0.6W	
R29	1R0-0.6W	1R MF 0.6W	
R30	1R0-0.6W	1R MF 0.6W	
R31	1R0-0.6W	1R MF 0.6W	
R32	1R0-0.6W	1R MF 0.6W	
R33	1R0-0.6W	1R MF 0.6W	
R34	1R0-0.6W	1R MF 0.6W	
R35	1R0-0.6W	1R MF 0.6W	
R36	1R0-0.6W	1R MF 0.6W	
R37	1R0-0.6W	1R MF 0.6W	
R38	1R0-0.6W	1R MF 0.6W	
R39	1R0-0.6W	1R MF 0.6W	
R40	1R0-0.6W	1R MF 0.6W	
R41	47RMF	47R MF 1/4W	
R42	47RMF	47R MF 1/4W	
R43	47RMF	47R MF 1/4W	
R44	47RMF	47R MF 1/4W	
R45	2K7MF	2K7 MF 1/4W	
R46	2K4MF	2K4 MF 1/4W	
R47	10KMF	10K MF 1/4W	
R49	10KPRESET	10K PRESET	
R50	1K8MF	1K8 MF 1/4W	
R51	1K8MF	1K8 MF 1/4W	
R52	75KMF	75K MF 1/4W	
R53	75KMF	75K MF 1/4W	
R54	75KMF	75K MF 1/4W	
R55	75KMF	75K MF 1/4W	
R56	360KMF	360K MF 1/4W	
R57	15KMF	15K MF 1/4W	
R58	100RMF	100R MF 1/4W	
R59	5K1MF	5K1 MF 1/4W	
R60	1K3MF	1K3 MF 1/4W	
R61	1R0-0.5W	1R0 FUSIBLE 0.5W NFR25H	
R62	1R0-0.5W	1R0 FUSIBLE 0.5W NFR25H	
R63	5M1MF	5M1 MF 1/4W	
R64	1K3MF	1K3 MF 1/4W	
R65	10R.5W	10R FUSIBLE 0.5W NFR25H	
R66	10KMF	10K MF 1/4W	
R67	2K0MF	2K MF 1/4W	
R68	10KMF	10K MF 1/4W	
R69	2K0MF	2K MF 1/4W	
R70	5K6MF	5K6 MF 1/4W	
R71	5K6MF	5K6 MF 1/4W	
R72	5K6MF	5K6 MF 1/4W	
R73	5K6MF	5K6 MF 1/4W	
R74	100RMF	100R MF 1/4W	
R75	330RMF	330R MF 1/4W	
R76	1K8MF	1K8 MF 1/4W	
R77	10KMF	10K MF 1/4W	
R78	10KMF	10K MF 1/4W	
R79	100RMF	100R MF 1/4W	
R80	330RMF	330R MF 1/4W	
R81	5M1MF	5M1 MF 1/4W	
R82	1R0-0.6W	1R MF 0.6W	
R83	15KMF	15K MF 1/4W	
RL3	RELAY-SPDT	48V CL 240V/10A SPDT 29 X 13	

L1	PA200IND	PA200 INDUCTOR 10T 1.6MM 15MM	
INK1	VSPAD6.35	VERTICAL SPADE 6.35MM	
	PCB-LABEL	PCB LABEL LP1-9700HD-4	
J1	8W-156-HDR	8 WAY 0.156 HDR MOLEX 6414-08A	ITEM - 2
J9	5WAY-PCBCON	5 WAY PCB CON MOLEX 51052-0500	ITEM - 3
J10 (x3)	PCB-PIN	PCB PIN DOUBLE SIDED 1.0MM	
J11	AMP-MOD-ASSY	AMPLIFIER MODULE ASSEMBLY	ITEM - 4
J101	SPKR-HA-RED	SPEAKER HARNESS RED	ITEM - 5
J102	SPKR-HA-BLK	SPEAKER HARNESS BLACK	ITEM - 6
J103	SPKR-HA-BLK	SPEAKER HARNESS BLACK	ITEM - 7
J104	SPKR-HA-RED	SPEAKER HARNESS RED	ITEM - 8
(x4)	800AS-FET-MOUNT	800ASW MOUNT PLATE A2765	ITEM - 9
(x8)	M3X16PANPOZ	M3 X 16 PANPOZI SCREW	ITEM - 11
(x4)	SPRING-CLIP	TO220 SPRING MOUNTING CLIP	ITEM - 12
(x15)	M3X6PAN.T.T	M3X6 PAN HD. TAP TIGHT BLACK	ITEM - 13
(x3)	THERMAL-WASH-2	THERMAL WASHER TO126	ITEM - 14 (FOR Q5,6,11)
(x8)	THERMAL-WASH-3	CONDUCTIVE THERMAL WASHER TO220	ITEM - 15 (FOR Q1,2,3,4,7,8,9,10)
(x8)	SRS4-5-01	PCB SUPPORT SRS4-5-01	ITEM - 16

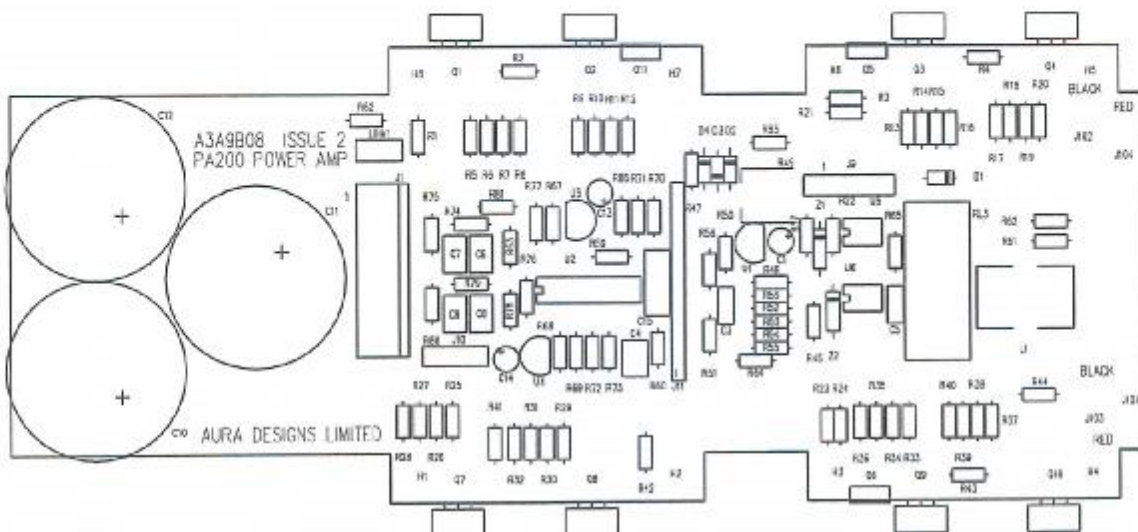


USED ON	PA200
DIMENSIONS IN mm	SCALE
TOLERANCES	
0.1 ± 0.5	
0.0 ± 0.3	
0.00 ± 0.1	

MATERIAL	
FINISH	

TITLE	PA200 POWER AMPLIFIER SCHEMATIC
2	CHANGED R48 TO D2,3,4 & ADDED CONN J8-5 TO R10
	10-12-95

COPYRIGHT © 1995	
DRAWN	DATE
PLB	23-2-95
PART NO.	
DWG. NO.	ISS
A.3A9R08-202	

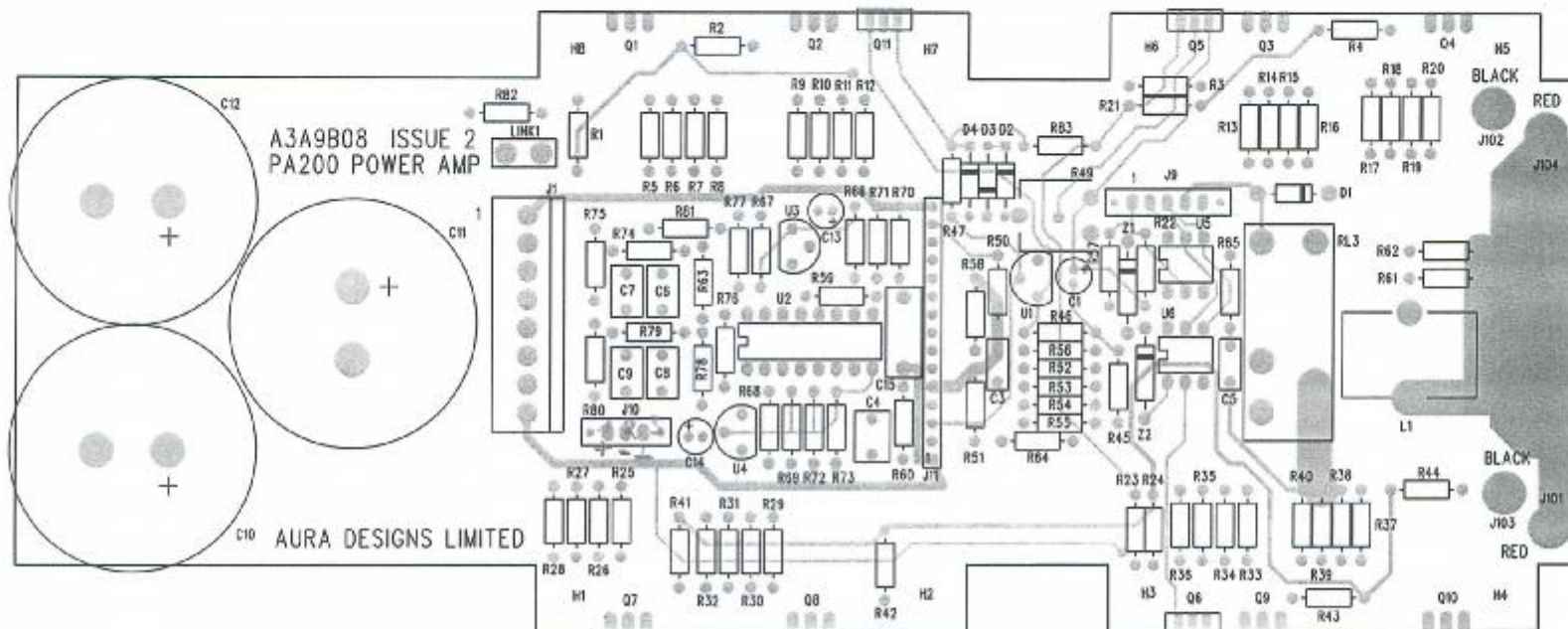


A3A9B08 ISSUE 2  
PA200 POWER AMP

AURA DESIGNS LIMITED

AURA DESIGNS LTD  
PA200 POWER AMPLIFIER PCB  
A3A9B08 - 40 ISSUE 2 LAYER 1 COMPONENTS  
REV 7-3-96

MATERIAL	FINISH			COPYRIGHT © 1996	
				DRAWN APT	DATE 15/2/96
		2	INITIAL ISSUE	ECN	DATE
		ISS	AMENDMENT	ECN	DATE
		USED ON			PART NO.
		TITLE			DRG. NO.
		PA200 POWER AMP PCB SILK SCREEN			ISS A3A9B08-40 (2)
<p>Aura DESIGNS LIMITED WORTHING ENGLAND</p>		DIMENSIONS IN mm TOLERANCES 0. ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED		<p>SCALE DO NOT SCALE</p>	



A3A9B08 ISSUE 2  
PA200 POWER AMP

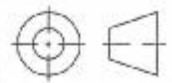
AURA DESIGNS LIMITED

CHINCH AUF MASSE LEGEN

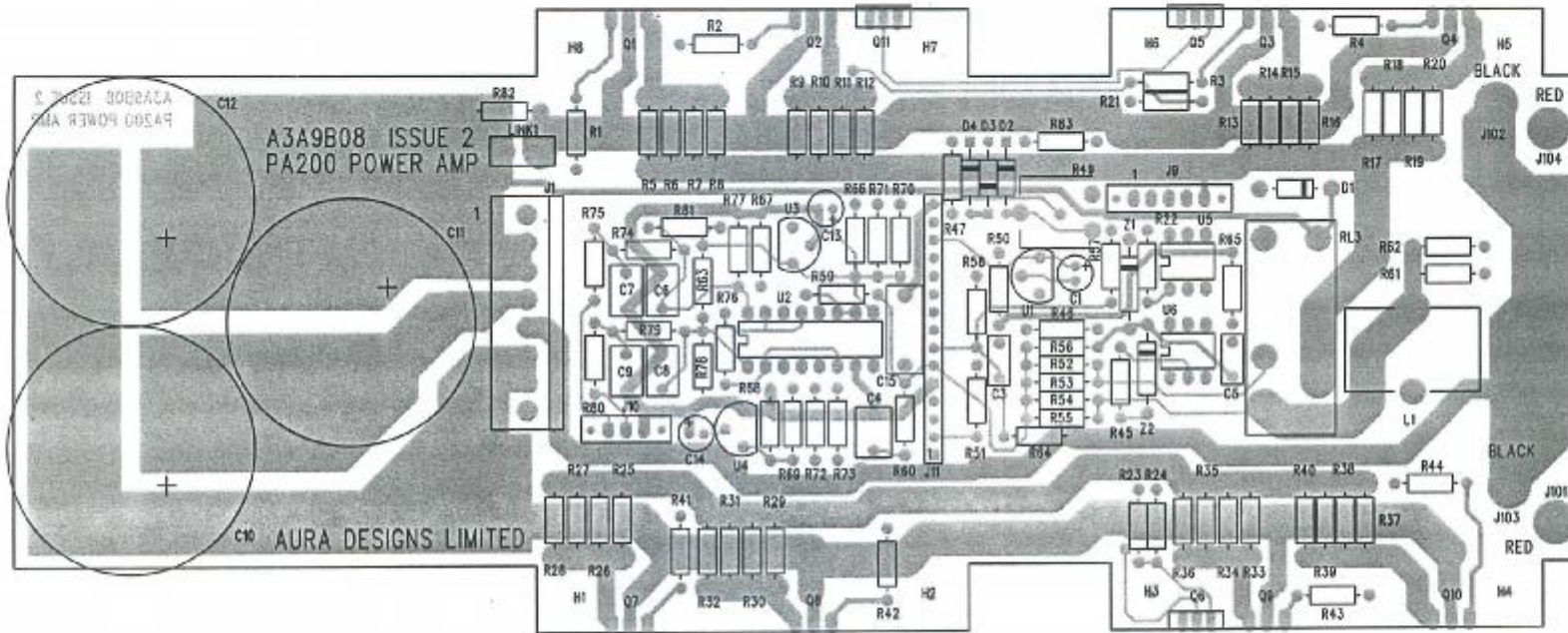
NEG. SIGNALLEITUNG TRENNEN UND AUF MASSE LEGEN (VERBUNDEN) PIN 2 MIT 3  
09/00

MATERIAL	FINISH					COPYRIGHT © 1996	
						DRAWN	DATE
			2	INITIAL ISSUE		16/4/96	16/4/96
			ISS	AMENDMENT	ECN	DATE	PART NO.
				USED ON			
				PA200			
				TITLE			DRG. NO.
				PA200 POWER AMP PCB			ISS
				OVERLAY L1 TRACKSIDE + SILKSCREEN			A3A9B08-L1 (2)

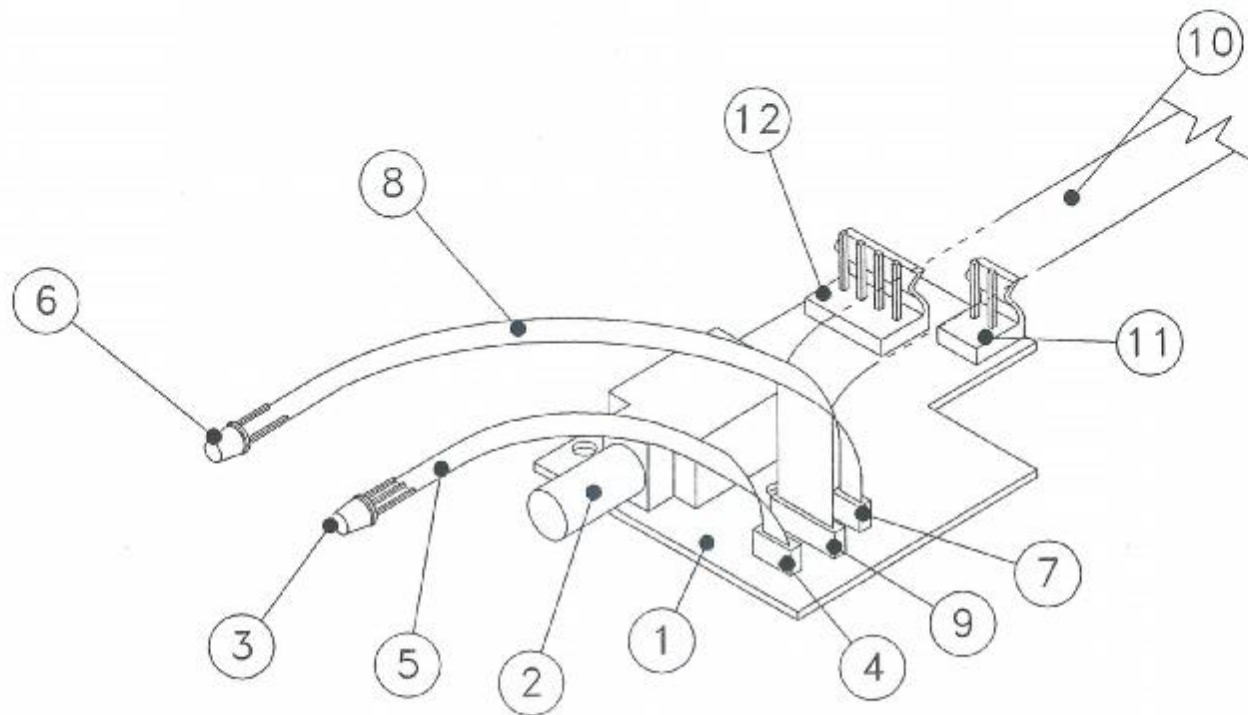
DIMENSIONS IN mm  
TOLERANCES  
0. ± 0.5  
0.0 ± 0.3  
0.00 ± 0.1  
UNLESS OTHERWISE STATED





DO NOT SCALE



MATERIAL	FINISH			COPYRIGHT © 1996	
		2 INITIAL ISSUE		16/4/96	DATE 16/4/96
DIMENSIONS IN mm	SCALE	ISS AMENDMENT		ECN DATE	
		USED ON PA200		PART NO.	
TOLERANCES		TITLE		DRG. NO.	
0. ± 0.5		PA200 POWER AMP PCB		ISS	
0.0 ± 0.3		OVERLAY L2 TRACKSIDE + SILKSCREEN		A3A9B08-L2 (2)	
0.00 ± 0.1					
UNLESS OTHERWISE STATED		DO NOT SCALE			



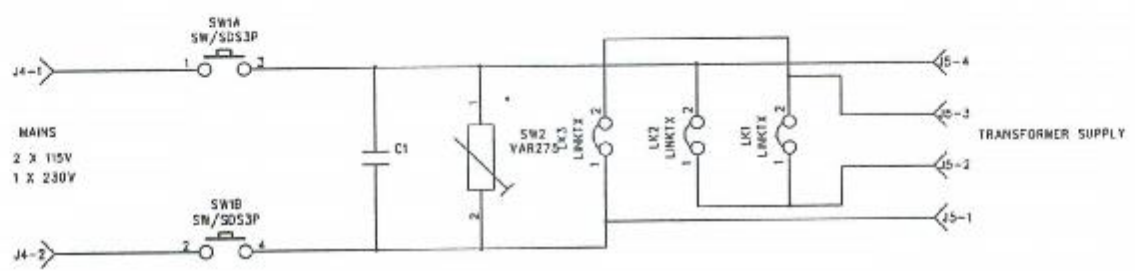
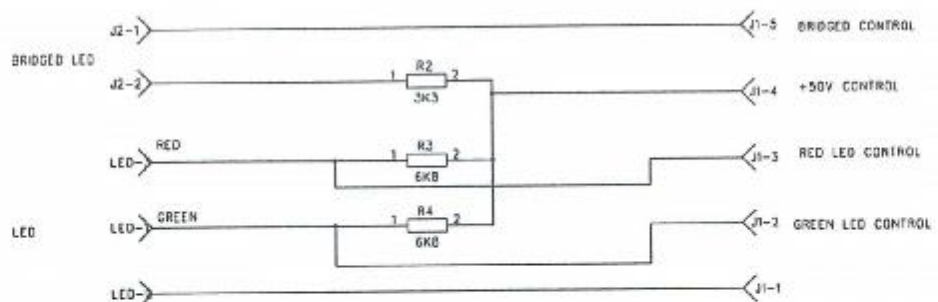
NOTE:  
FOR ITEM REFERENCES SEE DOCUMENT PLA4A9D28

MATERIAL	FINISH					COPYRIGHT © 1995		
						DRAWN	DATE	
						A.P.T	15/2/96	
			1	INITIAL ISSUE				
			ISS	AMENDMENT	ECN	DATE	PART NO.	
<b>Aura</b> DESIGNS LIMITED WORTHING ENGLAND	DIMENSIONS IN mm	SCALE 1 : 1	USED ON				DRG. NO.	ISS
	TOLERANCES		TITLE				A3A9E43	①
	0. ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED	  DO NOT SCALE	PA-200 POWER SWITCH PCB ASSY					



PLA4A9D28 Issue 2  
PA-200 Power Switch PCB Parts List

Ref	Stock Code	Description	Comments
PCB	PA200-POW-PCB	PA200 POWER SWITCH PCB A3A9B27	ITEM - 1
SW1	MSALP	ALPS SDDSA3289A MAINS SWITCH	ITEM - 2
C1	C0.1U250X2	C0.1UF 250V CLASS X 098707	
V1	VAR-275V	VARISTOR 275V	
R2	3K3MF0.6W	3K3 MF MRS25 0.6W	
R3	6K8-0.6W	6K8 0.6W MRS25	
R4	6K8-0.6W	6K8 0.6W MRS25	
LED1	LUGR59M	LED LUGR59M BI-COLOUR	ITEM - 3
For LED1	3WAY-HOLDER	3 WAY STRAIN MOLEX 51052-0300	ITEM - 4
For LED1	3WAY-RIBB-VA150	3 WAY RIBBON CABLE 110MM	ITEM - 5
(LED2)	BLUELED	BLUE LED	ITEM - 6
J2	2WAY-HOLDER	2 WAY STRAIN MOLEX 51052-0200	ITEM - 7
For J2	2WAY-RIBB-50MM	2 WAY RIBBON CABLE 50MM	ITEM - 8
J1	5WAY-HOLDER	5 WAY STRAIN MOLEX 51052-0500	ITEM - 9
For J1	5WAY-RIBB-350MM	5 WAY RIBBON CABLE A3A9G33	ITEM - 10
J4	2W-156-HDR	2 WAY 0.156 HDR MOLEX 5414-02A	ITEM - 11
J5	4W-156-HDR	4 WAY 0.156 HDR MOLEX 5414-04A	ITEM - 12



MATERIAL	FINISH	COPYRIGHT ©		
		DRAWN	DATE	
		1	INITIAL ISSUE	24-2-95
		ISS	AMENDMENT	ECN DATE
		USED ON		
		TITLE		
		PA200 POWER SWITCH PCB SCHEMATIC		
		PART NO.		ISS
		ORG. NO.		ISS
		A3A9B27-20		1



DIMENSIONS IN mm

TOLERANCES

0. ± 0.5

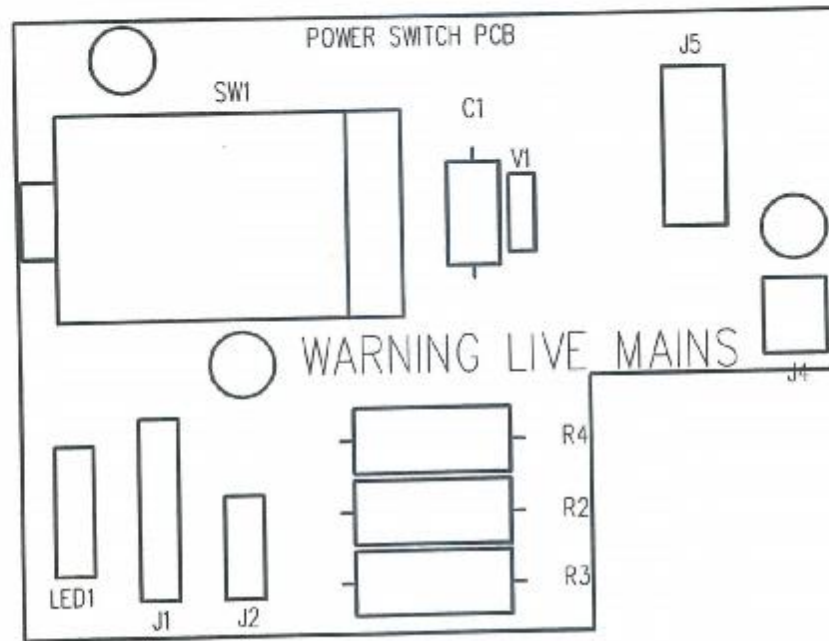
0.0 ± 0.3

0.00 +\_ 0.1

UNLESS OTHERWISE STATED

SCALE

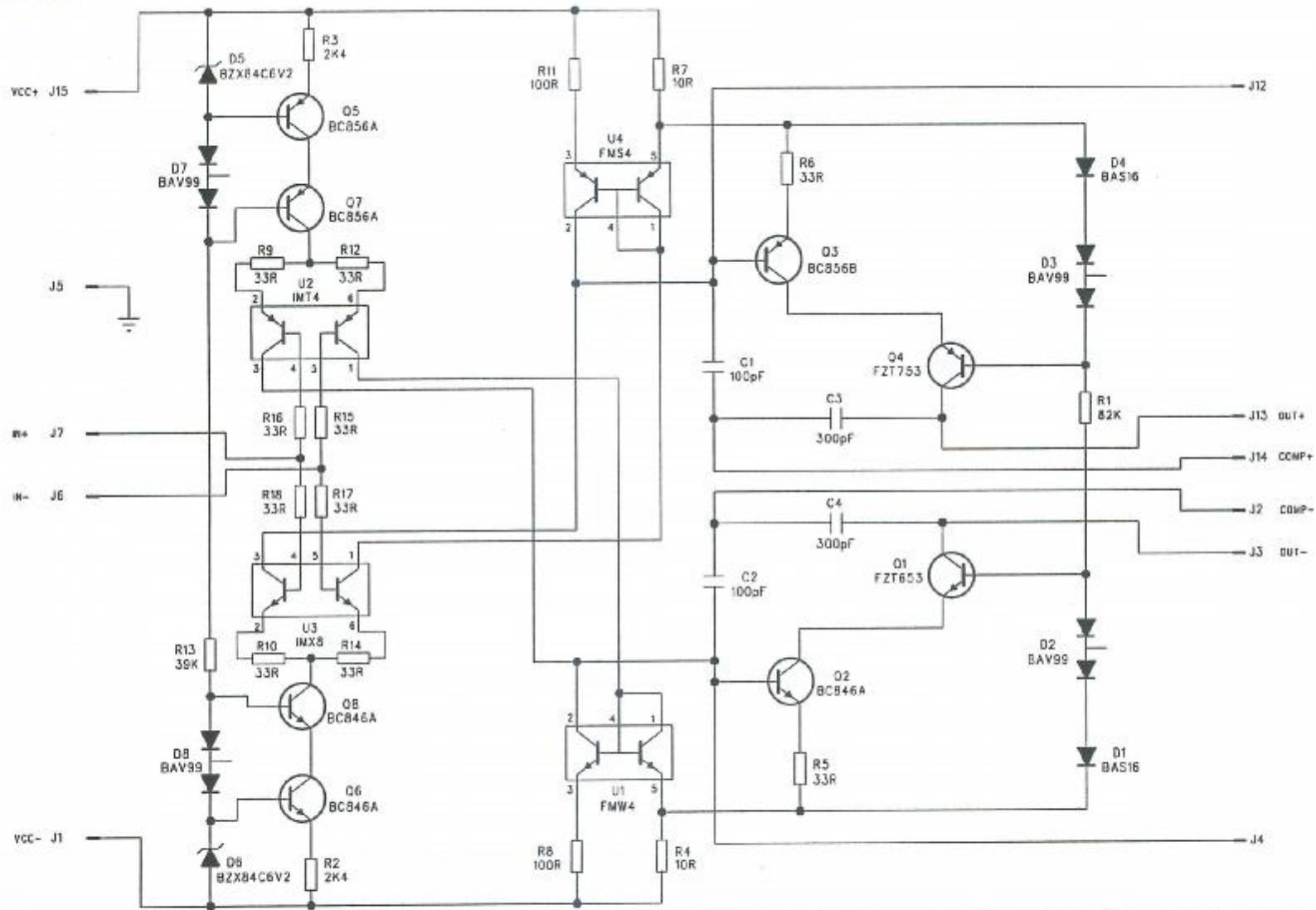
DO NOT SCALE



MATERIAL	FINISH	COPYRIGHT © 1996					
		DRAWN APT	DATE 13/2/96				
1 INITIAL ISSUE		ISS	AMENDMENT	ECN	DATE	PART NO.	
DIMENSIONS IN mm		SCALE 2 : 1	USED ON PA200		DRG. NO. ISS		
TOLERANCES		 DO NOT SCALE	TITLE PA200 POWER SWITCH PCB SILK SCREEN			A3A9B27-40 ①	
0. ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED						13/2/96	

PLA4A7D40 Issue 1  
 VA-150 AMP Module PCB Parts List

Ref	Stock Code	Description	Comments
CB	AMP-MOD-PCB	A3A7B39 AMPLIFIER MODULE PCB	
C1	C100PCECOG1206	1206 NPO/COG (FLINT MCH315A101J)	
C2	C100PCECOG1206	1206 NPO/COG (FLINT MCH315A101J)	
C3	C330PCECOG1206	1206 NPO/COG (FLINT MCH315A331J)	
C4	C330PCECOG1206	1206 NPO/COG (FLINT MCH315A331J)	
D1	BAS16	BAS16	
D2	BAV99	BAV99	
D3	BAV99	BAV99	
D4	BAS16	BAS16	
D5	BZX84C6V2	BZX84C6V2	
D6	BZX84C6V2	BZX84C6V2	
D7	BAV99	BAV99	
D8	BAV99	BAV99	
U1	FMV4	FMV4	
U2	IMT4	IMT4	
U3	IMX8	IMX8	
U4	FMS4	FMS4	
Q1	PZT5551 T/R		
Q2	BC846A		
Q3	BC856A		
Q4	PZT5401 T/R		
Q5	BC856A		
Q6	BC846A		
Q7	BC856A		
Q8	BC846A		
R1	82KSMF	82K SMD MINI-MELF (MMA0204-50F823)	
R2	2K4MF	2K4 SMD MINI-MELF (MMA0204-50F242)	
R3	2K4MF	2K4 SMD MINI-MELF (MMA0204-50F242)	
R4	10RSMF	10R SMD MINI-MELF (MMA0204-50F100)	
R5	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R6	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R7	10RSMF	10R SMD MINI-MELF (MMA0204-50F100)	
R8	51RSMF	51R SMD MINI-MELF (MMA0204-50F510)	
R9	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R10	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R11	51RSMF	51R SMD MINI-MELF (MMA0204-50F510)	
R12	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R13	39KSMF	39K SMD MINI-MELF (MMA0204-50F393)	
R14	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R15	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R16	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R17	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
R18	33RSMF	33R SMD MINI-MELF (MMA0204-50F330)	
J1	EDGE PIN	EDGE PIN CONNECTOR	
J2	EDGE PIN	EDGE PIN CONNECTOR	
J3	EDGE PIN	EDGE PIN CONNECTOR	
J4	EDGE PIN	EDGE PIN CONNECTOR	
J5	EDGE PIN	EDGE PIN CONNECTOR	
J6	EDGE PIN	EDGE PIN CONNECTOR	
J7	EDGE PIN	EDGE PIN CONNECTOR	
J8	EDGE PIN	EDGE PIN CONNECTOR	
J9	EDGE PIN	EDGE PIN CONNECTOR	
J10	EDGE PIN	EDGE PIN CONNECTOR	
J11	EDGE PIN	EDGE PIN CONNECTOR	
J12	EDGE PIN	EDGE PIN CONNECTOR	
J13	EDGE PIN	EDGE PIN CONNECTOR	
J14	EDGE PIN	EDGE PIN CONNECTOR	
J15	EDGE PIN	EDGE PIN CONNECTOR	



MATERIAL	FINISH			COPYRIGHT ©	
		1	INITIAL ISSUE	19-3-96	DATE
		ISS	AMENDMENT	ECN	DATE
		USED ON			PART NO.
		TITLE			DRG. NO.
		VA150/PA200 SMT AMPLIFIER MODULE			ISS
					A3A7B39-20 (1)



DIMENSIONS IN mm

TOLERANCES  
 0. ± 0.5  
 0.0 ± 0.3  
 0.00 ± 0.1

SCALE



VA150/PA200 SMT AMPLIFIER MODULE

DRG. NO. A3A7B39-20 (1) ISS

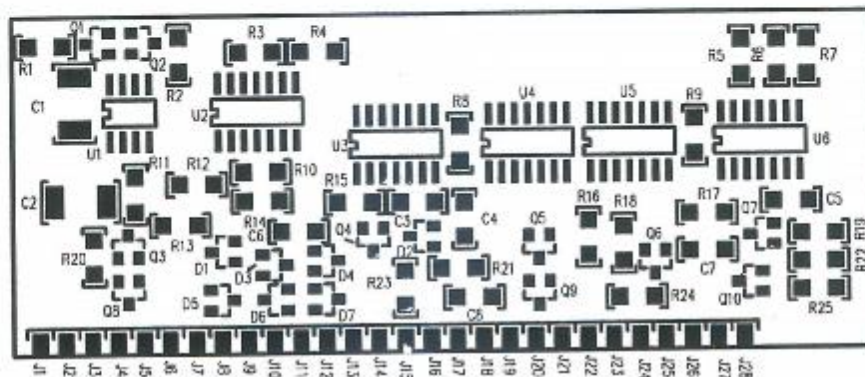
PLA4A7D42 Issue 1  
 VA-150 Protection Module PCB Parts List

Ref	Stock Code	Description	Comments
CB	PROT-MOD-PCB	A3A7B38 PROTECT MODULE PCB	
C1	C220NPOLY1812	1812 POLYESTER (FLINT 224STK051812)	
C2	C220NPOLY1812	1812 POLYESTER (FLINT 224STK051812)	
C3	C220NCEX7R1206	1206 MCR18 (FLINT CC1206CX7R224KTR)	
C4	C220NCEX7R1206	1206 MCR18 (FLINT CC1206CX7R224KTR)	
C5	C220NCEX7R1206	1206 MCR18 (FLINT CC1206CX7R224KTR)	
C6	C220NCEX7R1206	1206 MCR18 (FLINT CC1206CX7R224KTR)	
C7	C220NCEX7R1206	1206 MCR18 (FLINT CC1206CX7R224KTR)	
C8	C220NCEX7R1206	1206 MCR18 (FLINT CC1206CX7R224KTR)	
D1	BZX84C13	BZX84C13	
D2	BAS16	BAS16	
D3	BAS16	BAS16	
D4	BAV99	BAV99	
D5	BZX84C13	BZX84C13	
D6	BAS16	BAS16	
D7	BAV99	BAV99	
U1	TL062CD/SM	TL062CD SMD	
U2	LM339/SM	LM339 SMD	
U3	GD4093BD/SM	GD4093BD SMD	
U4	GD4001BD/SM	GD4001BD SMD	
U5	GD74HC04D/SM	GD74HC04D SMD	
U6	GD4093BD/SM	GD4093BD SMD	
R1	330KSMF	330K SMD 1206 (MCR18EZHJ334)	
R2	330KSMF	330K SMD 1206 (MCR18EZHJ334)	
R3	100KSMF	100K SMD	
R4	390KSMF	390K SMD 1206 (MCR18EZHJ394)	
R5	10KSMF	10K SMD 1206 (MCR18EZHJ103)	
R6	10KSMF	10K SMD 1206 (MCR18EZHJ103)	
R7	10KSMF	10K SMD 1206 (MCR18EZHJ103)	
R8	10MSMF	10M SMD 1206 (MCR18EZHJ106)	
R9	2M2SMF	2M2 SMD 1206 (MCR18EZHJ225)	
R10	100KSMF	100K SMD	
R11	330KSMF	330K SMD 1206 (MCR18EZHJ334)	
R12	100KSMF	100K SMD	
R13	100KSMF	100K SMD	
R14	680KSMF	680K SMD 1206 (MCR18EZHJ684)	
R15	10MSMF	10M SMD 1206 (MCR18EZHJ106)	
R16	22KSMF	22K SMD 1206 (MCR18EZHJ223)	
R17	10KSMF	10K SMD 1206 (MCR18EZHJ103)	
R18	10KSMF	10K SMD 1206 (MCR18EZHJ103)	
R19	100KSMF	100K SMD	
R20	330KSMF	330K SMD 1206 (MCR18EZHJ334)	
R21	330KSMF	330K SMD 1206 (MCR18EZHJ334)	
R22	220KSMF	220K SMD 1206 (MCR18EZHJ224)	
R23	330KSMF	330K SMD 1206 (MCR18EZHJ334)	
R24	22KSMF	22K SMD 1206 (MCR18EZHJ223)	
R25	10KSMF	10K SMD 1206 (MCR18EZHJ103)	
J1	EDGE PIN	EDGE PIN CONNECTOR	
J2	EDGE PIN	EDGE PIN CONNECTOR	
J3	EDGE PIN	EDGE PIN CONNECTOR	
J4	EDGE PIN	EDGE PIN CONNECTOR	
J5	EDGE PIN	EDGE PIN CONNECTOR	
J6	EDGE PIN	EDGE PIN CONNECTOR	
J7	EDGE PIN	EDGE PIN CONNECTOR	
J8	EDGE PIN	EDGE PIN CONNECTOR	
J9	EDGE PIN	EDGE PIN CONNECTOR	
J10	EDGE PIN	EDGE PIN CONNECTOR	
J11	EDGE PIN	EDGE PIN CONNECTOR	
J12	EDGE PIN	EDGE PIN CONNECTOR	
J13	EDGE PIN	EDGE PIN CONNECTOR	

J14	EDGE PIN	EDGE PIN CONNECTOR	
J15	EDGE PIN	EDGE PIN CONNECTOR	
J16	EDGE PIN	EDGE PIN CONNECTOR	
J17	EDGE PIN	EDGE PIN CONNECTOR	
J18	EDGE PIN	EDGE PIN CONNECTOR	
J19	EDGE PIN	EDGE PIN CONNECTOR	
J20	EDGE PIN	EDGE PIN CONNECTOR	
J21	EDGE PIN	EDGE PIN CONNECTOR	
J22	EDGE PIN	EDGE PIN CONNECTOR	
J23	EDGE PIN	EDGE PIN CONNECTOR	
J24	EDGE PIN	EDGE PIN CONNECTOR	
J25	EDGE PIN	EDGE PIN CONNECTOR	
J26	EDGE PIN	EDGE PIN CONNECTOR	
J27	EDGE PIN	EDGE PIN CONNECTOR	
J28	EDGE PIN	EDGE PIN CONNECTOR	







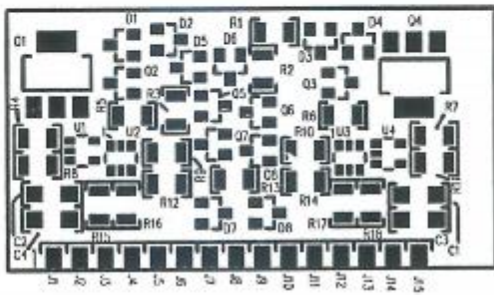
AURA DESIGNS LTD  
 VA150/PA200 SMT PROTECT MODULE  
 A3A7B38-40 ISSUE LAYER SILK SCREEN

*4 Stück*

MATERIAL	FINISH	COPYRIGHT © 1996	
		DRAWN APT	DATE 19/3/96
1 INITIAL ISSUE		ISS	AMENDMENT
DIMENSIONS IN mm		SCALE	ECN
TOLERANCES			DATE
0. ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED			USED ON VA150/PA200
DO NOT SCALE		TITLE PROTECTION MODULE PCB SILK SCREEN	
PART NO.			ISS
A3A7B38-40			①

- Schaltkennliste EN-5551

20 Stück



AURA DESIGNS LTD  
 VA150/PA200 AMPLIFIER MODULE  
 PLD 24-1-95  
 A3A7B39-40 ISSUE LAYER 1 SILK SCREEN

4 Stück

MATERIAL	FINISH			COPYRIGHT © 1996		
		1 INITIAL ISSUE		19/3/96	DRAWN APT DATE 19/3/96	
DIMENSIONS IN mm	SCALE	ISS	AMENDMENT	ECN	DATE	PART NO.
	TOLERANCES 0. ± 0.5 0.0 ± 0.3 0.00 ± 0.1 UNLESS OTHERWISE STATED	DO NOT SCALE	USED ON	VA150/PA200		
		TITLE			A3A7B39-40 ①	
		AMPLIFIER MODULE PCB				
		SILK SCREEN				