

AMC

SERVICE MANUAL

3150a

STEREO INTEGRATED AMPLIFIER

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SPECIFICATIONS

Output power:

Rated Power into 8 ohm (With both channels driven) 150W

1KHz clipping power into 8 ohm 160W

Rated T.H.D.+ Noise:

20Hz-20Khz 0.03%

Input sensitivity for 1W/Rated Power into 8 ohms:

High level inputs 15mV/200mV

Input impedance:

High level inputs 20K ohms

Frequency response:

Tone bypass 20Hz-20Khz +/-0.2dB

Normal 20Hz-20Khz +/-0.5dB

High level inputs -3dB <10Hz/>100KHz

Signal to noise ratio (ref. 1W/8 ohms):

High level inputs "A" WTD 85dB

Separation 20Hz-20Khz 75dB

Tone control range:

Bass at 100Hz +/-9dB

Treble at 10Khz +/-8dB

OTHERS:

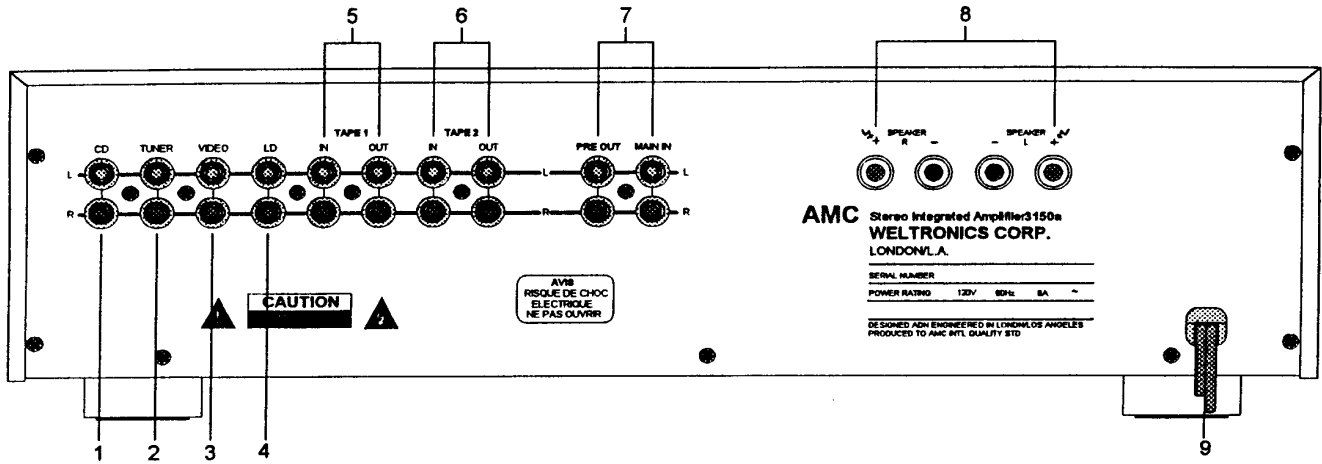
Dimensions (WxHxD) 430x112x288mm

Net weight 12.2Kg

Shipping weight (2 pieces) 26Kg

REAR PANEL CONNECTIONS/FRONT PANEL CONTROLS

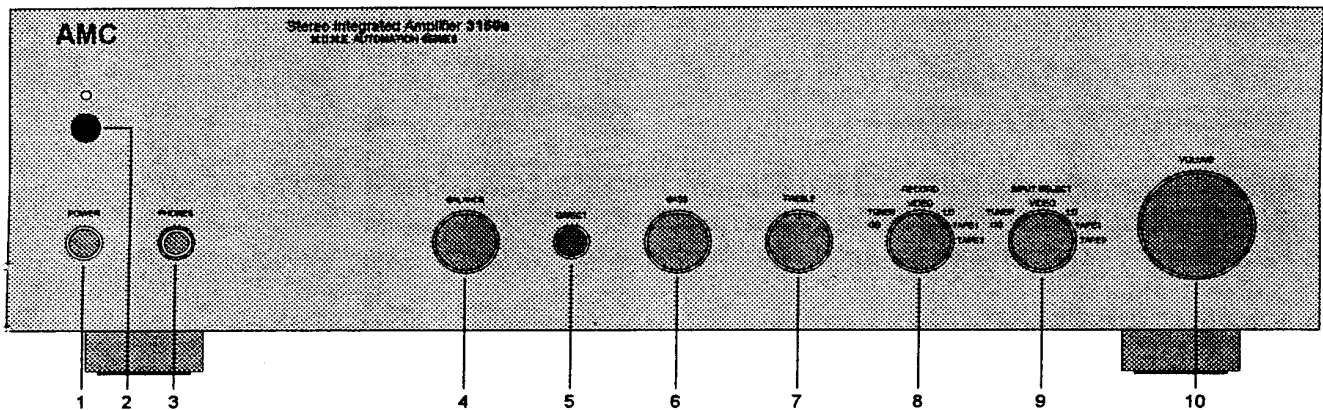
REAR PANEL



- 1. CD INPUT
- 2. TUNER INPUT
- 3. VIDEO INPUT
- 4. LD INPUT
- 5. TAPE 1 IN/OUT

- 6. TAPE 2 IN/OUT
- 7. PRE OUT/MAIN IN
- 8. LOUDSPEAKER TERMINALS
- 9. AC LINE CORD

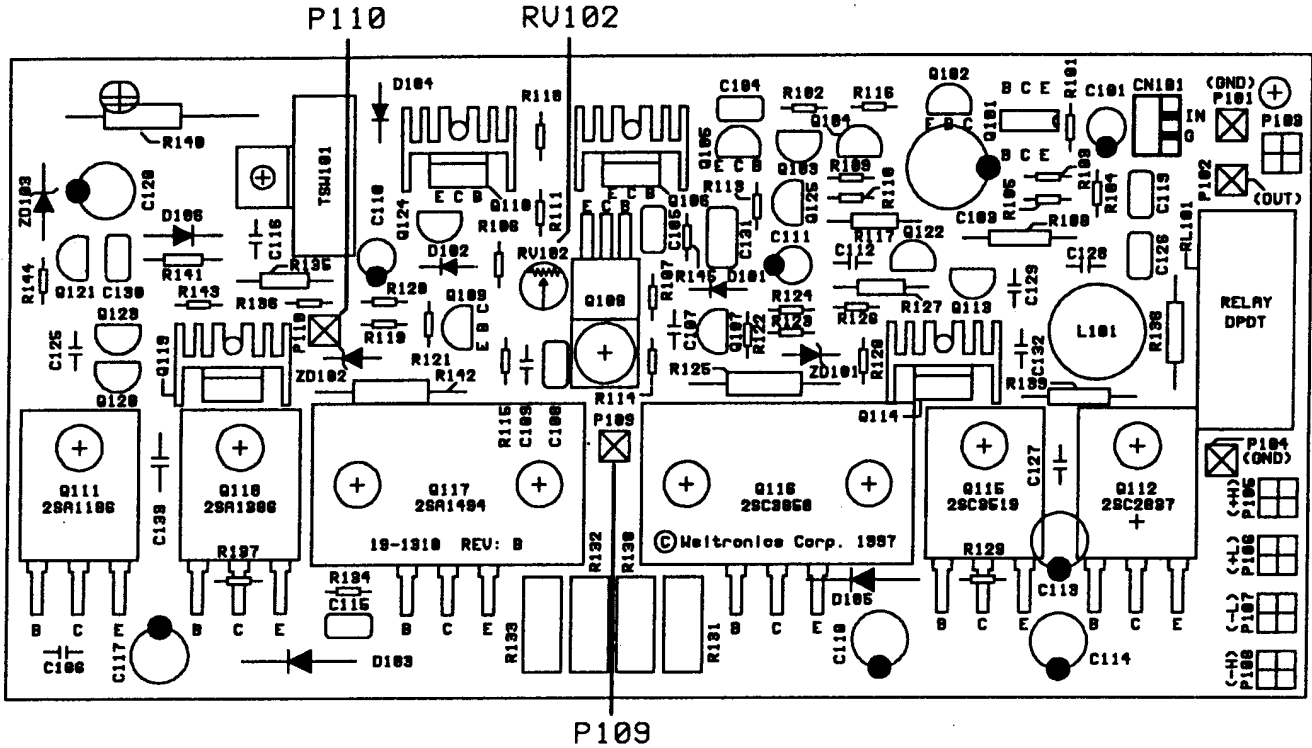
FRONT PANEL



- 1. POWER SWITCH
- 2. INFRARED RECEIVER
- 3. PHONES
- 4. BALANCE CONTROL
- 5. DIRECT SWITCH

- 6. BASS CONTROL
- 7. TREBLE CONTROL
- 8. RECORD SOURCE SELECTOR
- 9. INPUT SELECTOR
- 10. VOLUME CONTROL

AMPLIFIER ADJUSTMENT



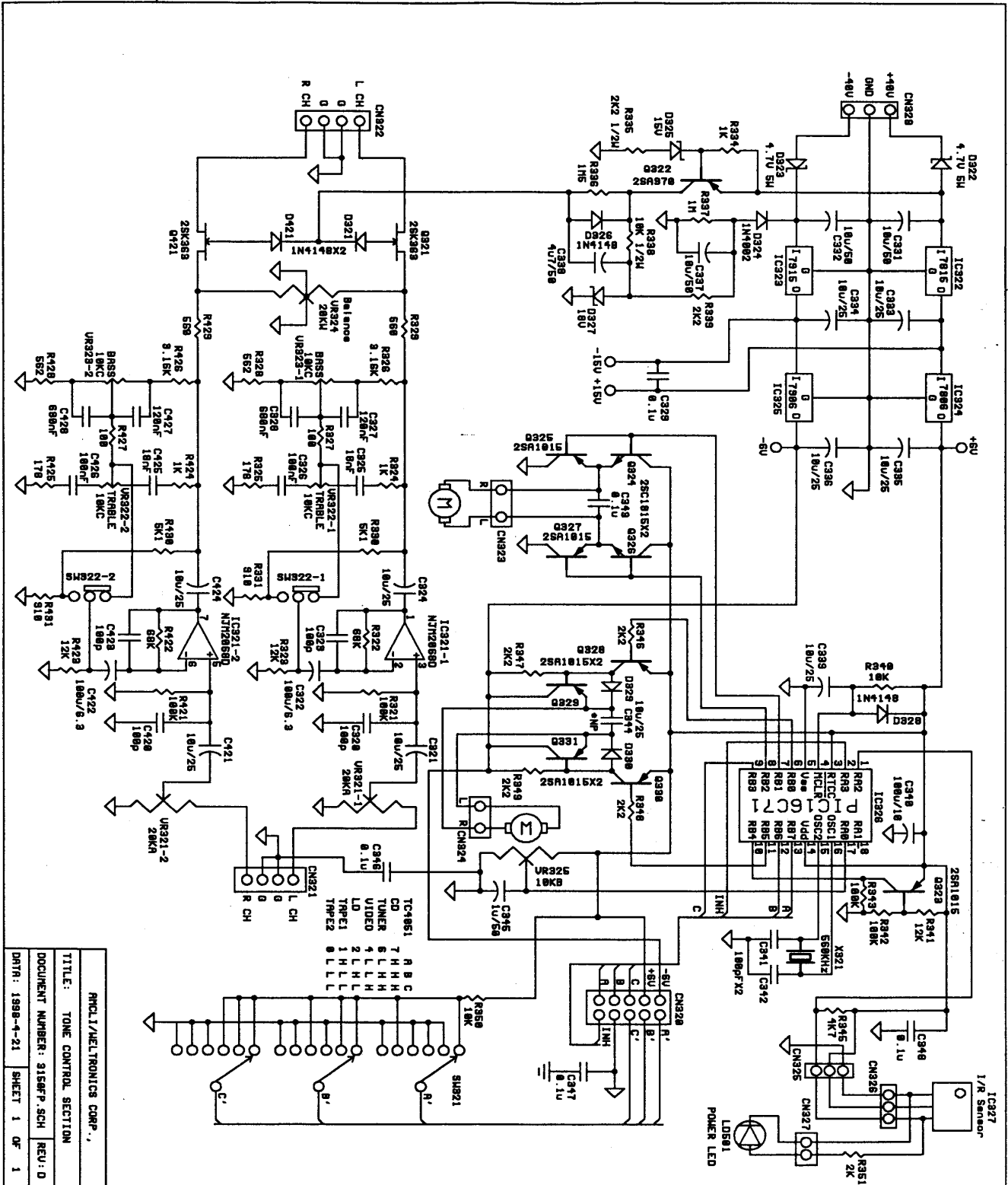
A. IDLE CURRENT ADJUSTMENT

1. Connect DMM across P109 and P110, adjust RV102 for reading of 4.5mV +/- 0.5mV DC. (Without a load across the output terminals.)
2. Repeat above procedures for each amplifier module.

B. FINAL ADJUSTMENT

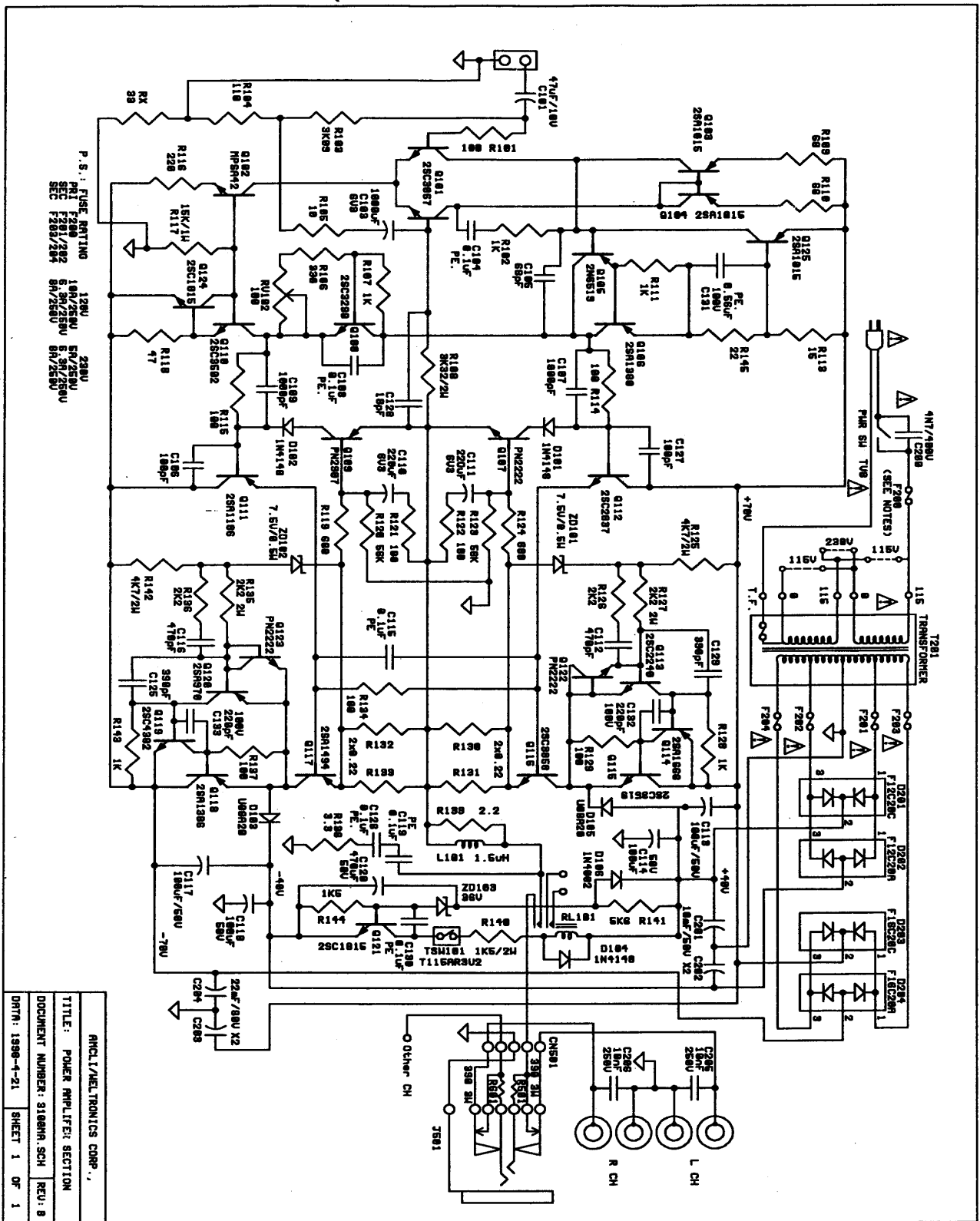
1. Leave power on for minimum 5 minutes.
2. Repeat idle current adjustments.

SCHEMATIC DIAGRAM (TONE CONTROL)

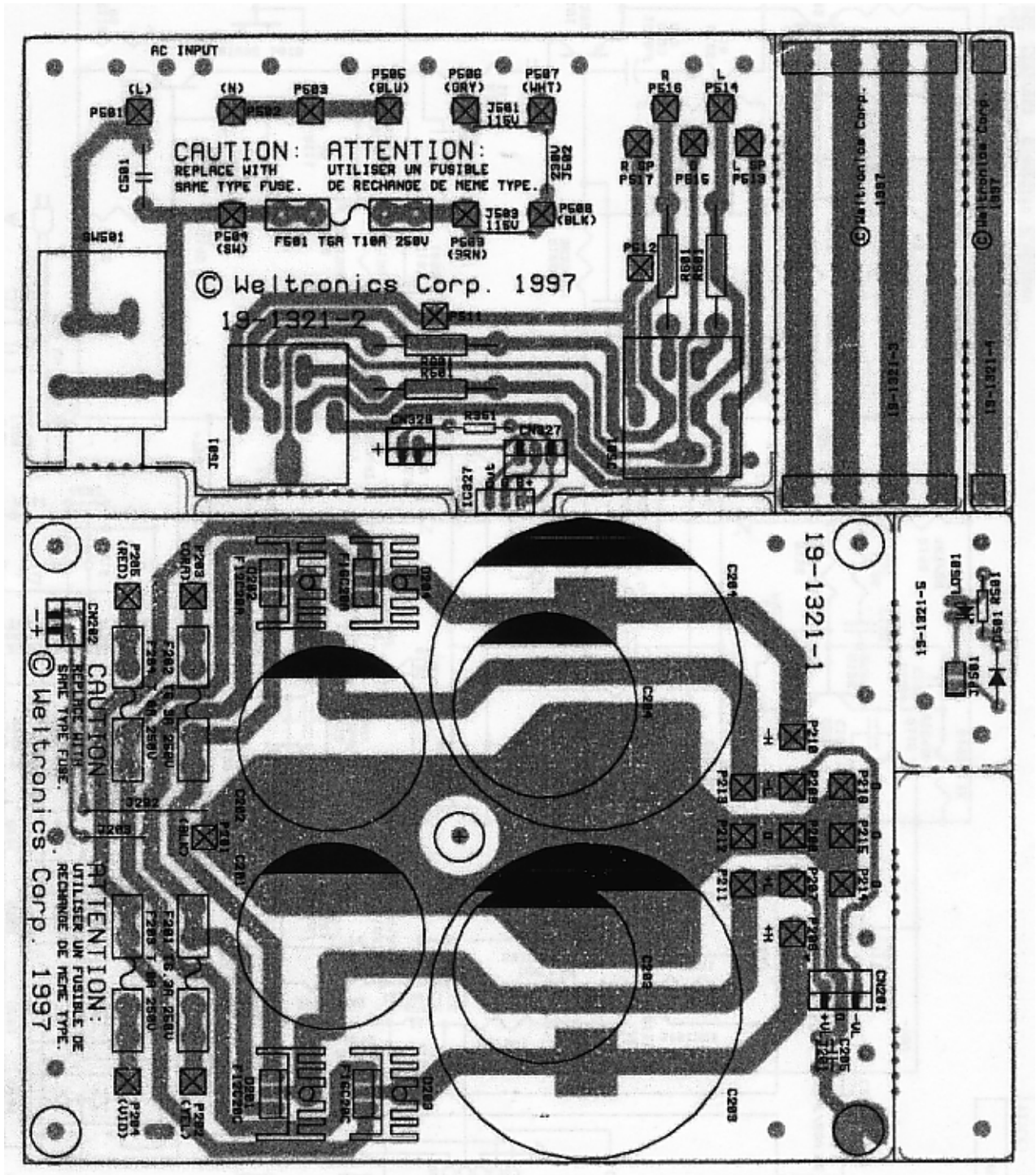


ARCL/ELTRONICS CORP.
 TITLE: TONE CONTROL SECTION
 DOCUMENT NUMBER: 3156P-SCH REV: 0
 DATA: 1998-4-21 SHEET 1 OF 1

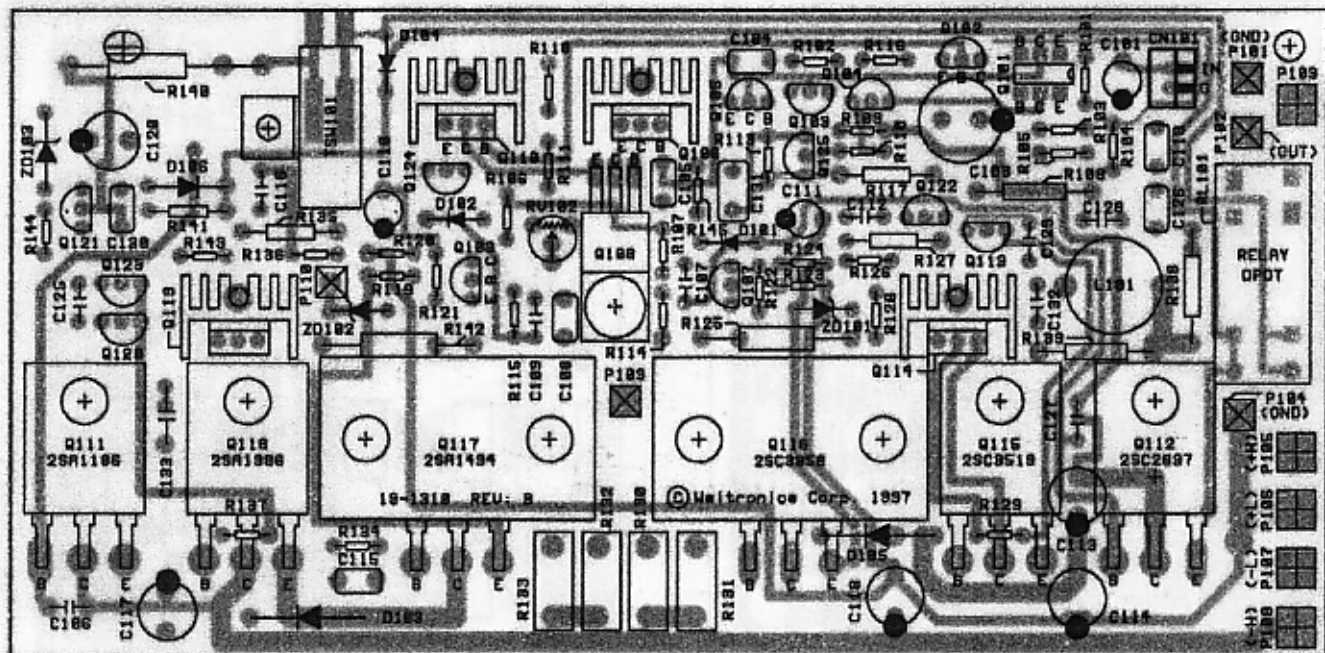
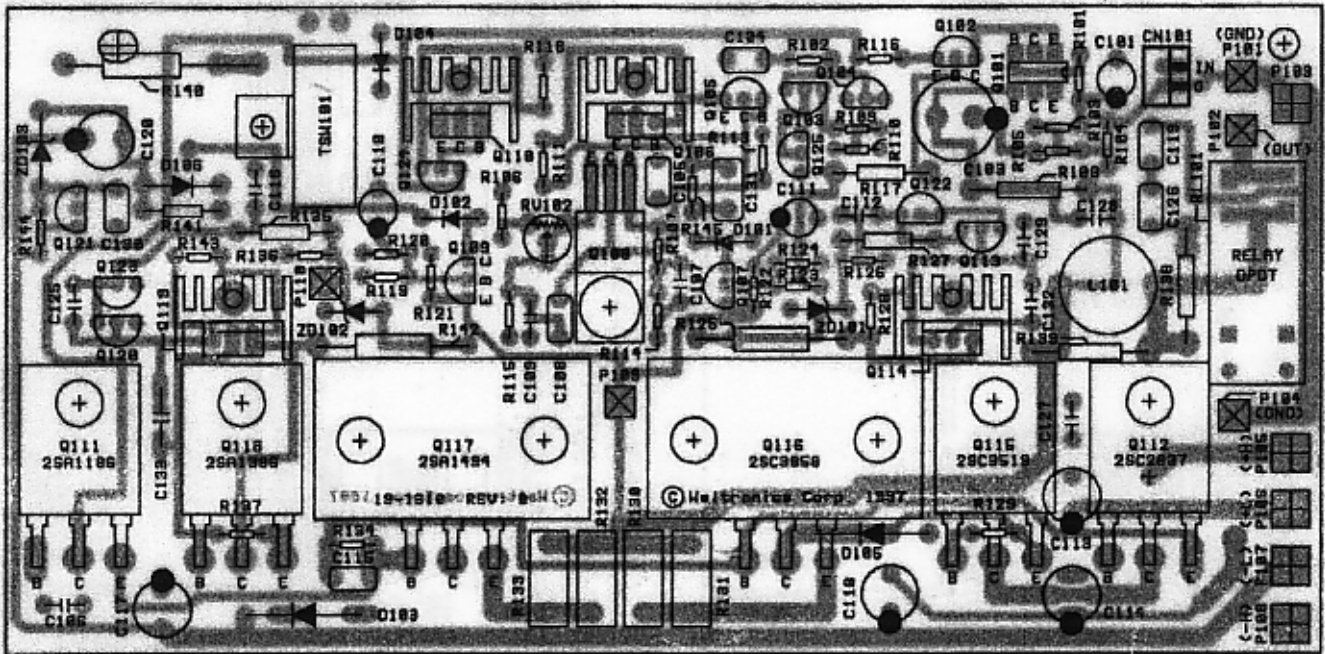
SCHEMATIC DIAGRAM (AMPLIFIER & POWER SUPPLY)



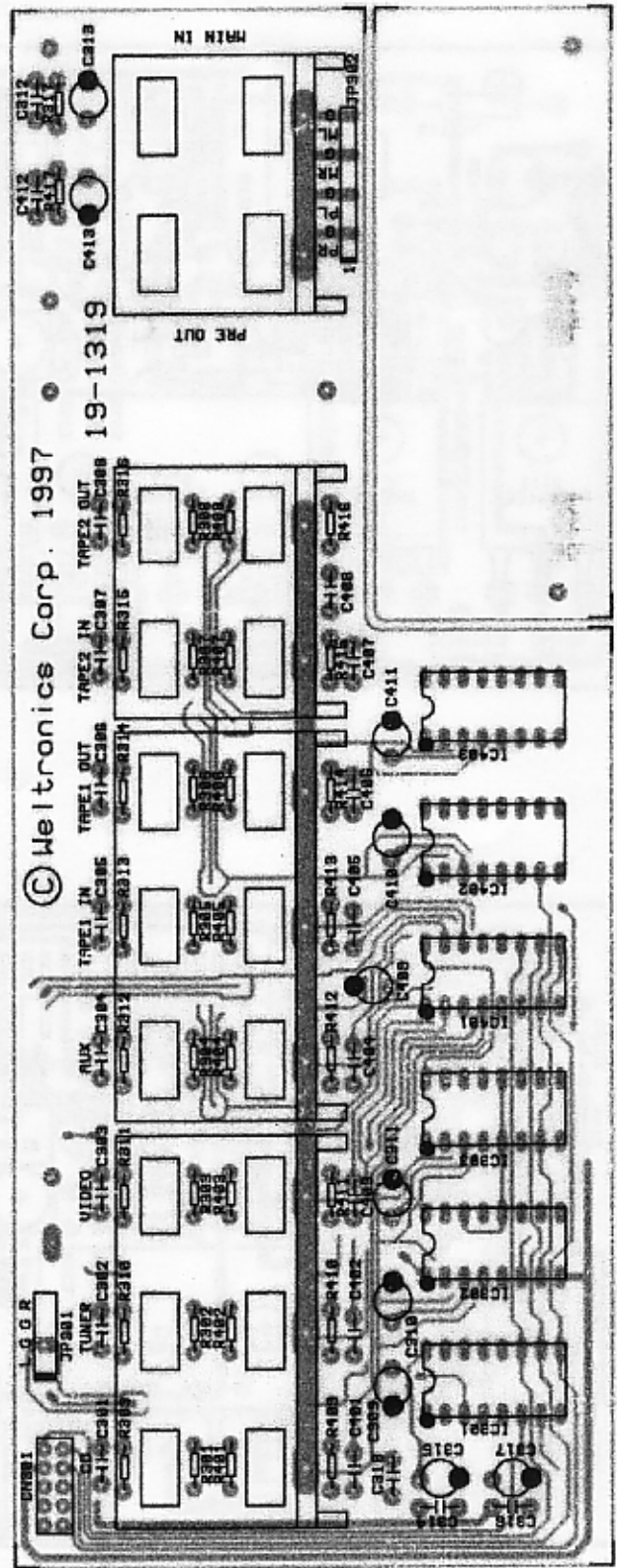
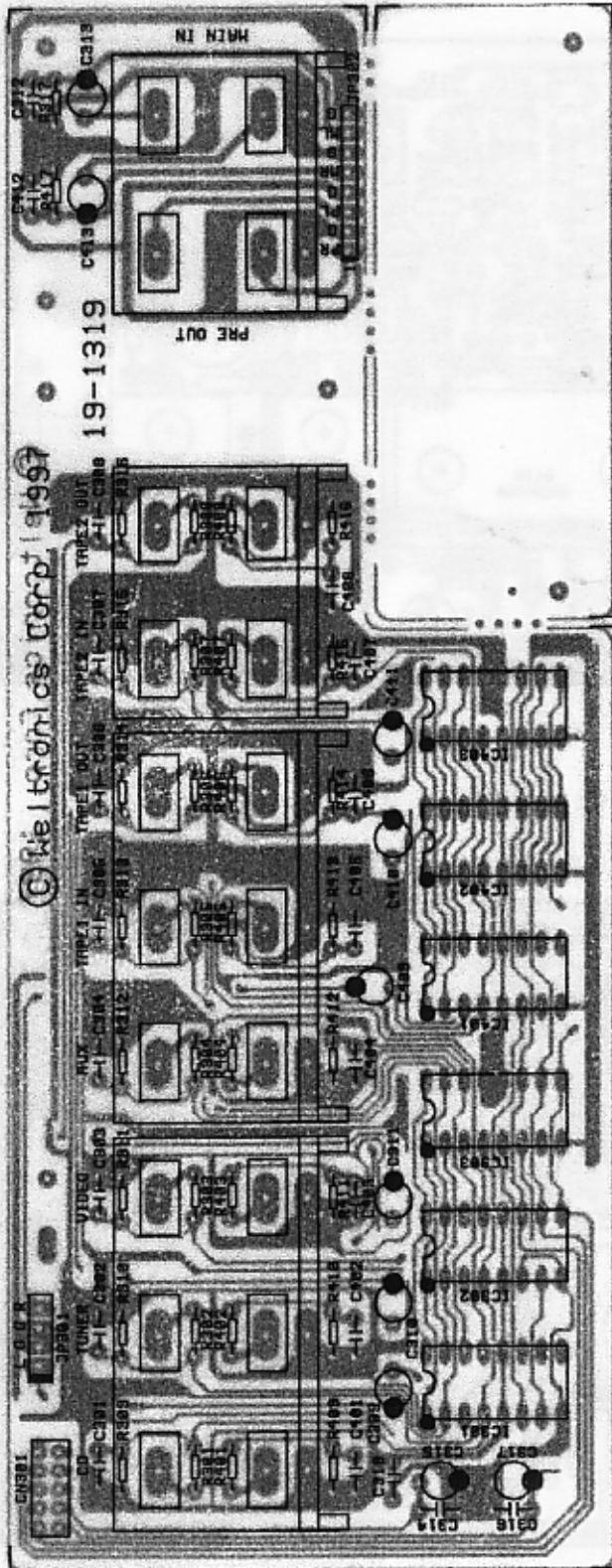
PCB LAYOUT: POWER SUPPLY & PHONES MODULES (90-1321)



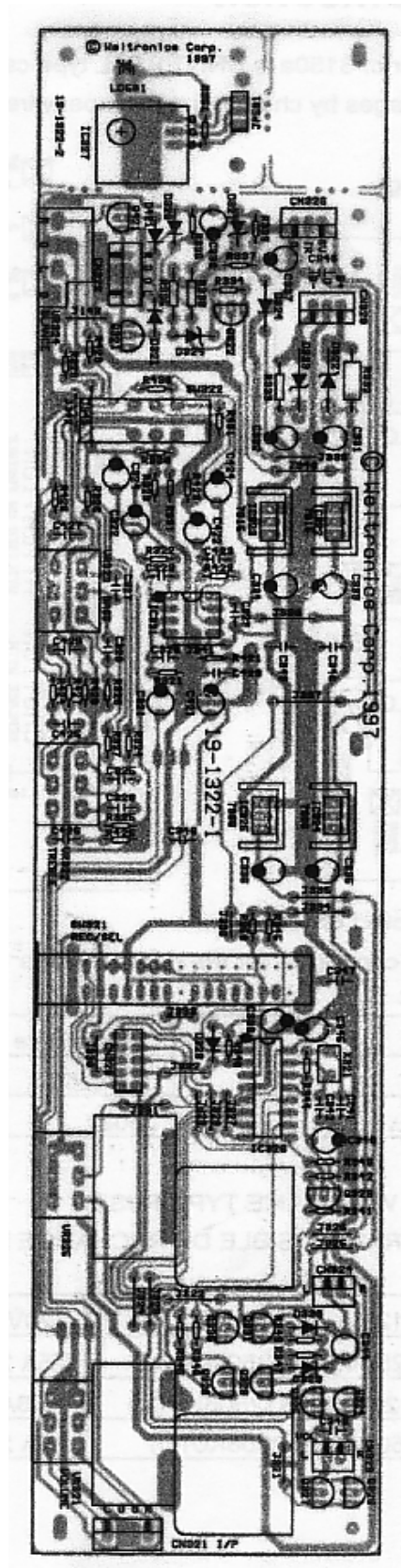
PCB LAYOUT: AMPLIFIER MODULE (90-1310)



PCB LAYOUT: INPUT MODULE (90-1319)



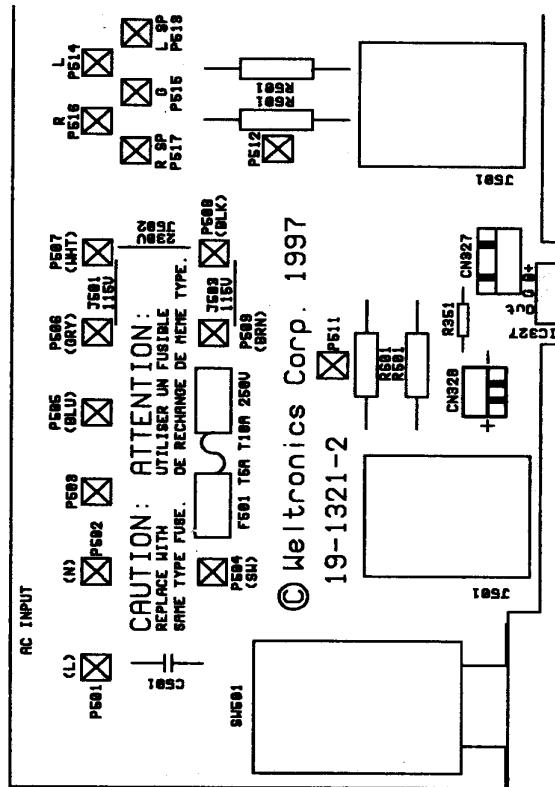
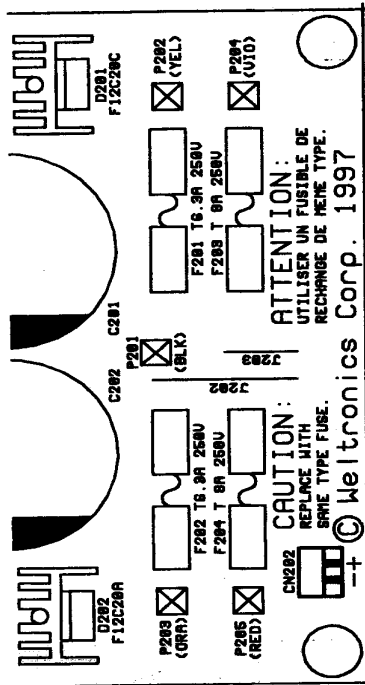
PCB LAYOUT: TONE CONTROL MODULE (90-1322)



MAINS WIRING INSTRUCTION

- The power transformer of 3150a is UNIVERSAL type can be wired to 115V/230V mains voltages by changing the jumper wires on the the MAINS PCB.

2. MAINS P.C.B. drawing:



3. Jumper wires connected chart:

Jumper wires shall be connected for the mains voltage

Mains Voltage	Jumper wire
115V	J501, J503
230V	J502

4. CAUTION: REPLACE WITH SAME TYPE FUSE.

ATTENTION: UTILISER UN FUSIBLE DE RECHANGE MEME TYPE.

MAINS	100V-120V	220V-240V
F501	T10A 250V(32S125010KTU)	T5A 250V(32S12505K0TS)
F201/F202	T6.3A 250V(32S12506K3TU)	T6.3A 250V(32S12506K3TS)
F203/F204	T8A 250V(32S12508K0TU)	T8A 250V(32S12508K0TS)

T: TIME LAG FUSE.

PARTS LIST

AMC 3150a SERVICE PARTS LIST				
SYMBOL NO.	PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
		PACKING ASS'Y		
	26-0016	POLY BAG	235x368x0.07mm	1
	26-0018	POLY BAG	100x260x0.07mm	1
	26-4162	POLY BAG	525x610x0.07mm	1
	34-2002	EPE PROTECTOR	435x45x120mm	1
	RC-0023	REMOTE CONTROL	CC7/81HTc/THXc	1
	37-C1.5V4	BATTERY	"AAA" 1.5V (NO:4)	2
	21-4119	OWNER'S MANUAL	A3150/A3100	1
	34-1065-1*A	POLYLONE	POLYLONE I-1500/A3150	1
	34-1065-2*A	POLYLONE	POLYLONE I-1500/A3150	1
	CT-5276	CARTON, INNER		1
	CT-5277	CARTON, OUTER		0.5
		CHASSIS ASS'Y		
	11-6120	CHASSIS, FRONT	I-1500/A3150	1
	11-6166	CHASSIS, MAIN	I-1500/A3150	1
	11-8060	PANEL, FRONT	A3150a	1
	11-8061-1	PANEL, REAR	A1 VERSION	1
	11-8061-2	PANEL, REAR	EC/B VERSION	1
	11-4024	U FOR MAIN IN		2
	12-2168-1	BANANA SOCKET	RED TEXTURE	2
	12-2168-2	BANANA SOCKET	BLK TEXTURE	2
	12-3110	KNOB, PUSH	BLACK	1
	12-3151	KNOB, CONTROL		5
	12-3152GN	BUTTON, POWER SW	GREEN	1
	12-3167	KNOB, VOLUME		1
	13-8263	SPACER SUPPORT	SCT-14	3
	13-1044*A	I/R LENS	A3025a/50a/A.7	1
	13-8227B	BUSHION, PW KNOB		2
	14-1240-1	PIN HEAD WIRE	10P(5Px2) 360mm	1
	14-5027	POWER CORD	GP A1 110-120V	1
	14-5028	POWER CORD	WG C/EC 220-240V	1
	14-5029-1	POWER CORD	BS1360 FUSE=13A B VER.	1
	14-5003	CORD BUSH	4N-4	1
	15-2079	SCREW	M10*100L	1
	15-2080	NUT	M10	1
	15-2081	WASHER	10*28	1
	16-1.6CA220J	RES., CARBON FILM	22 1/6W +5%	1
	17-50DR103Z	CAP., CERAMIC	10nF/500V +80%-20%	2
	21-2441	LABEL, "CE" MARK		1
	21-2315	LABEL, FLASH LIGHT	A1 ONLY	1
	21-3015	AMC LIMITED WARRANTY CARD	A1 ONLY	1
	21-2426	LABEL, POWER COLD	B VERSION	1
	28-1046-1B	FOOT	H=17 M/M	2
	28-1046-2B	FOOT	H=17 M/M	2
	28-1049-1	CUSHION, CONTROL KNOB		5
	28-1049-3	CUSHION, VOLUME	B 35.9*14.4mm	1
	28-2078-BK	CAP, BINDING POST	BLK SILICON	2
	28-2078-RD	CAP, BINDING POST	RED SILICON	2
	29-2171-1	POWER TRANSFORMER	2N100-2	1
	30-1115	LED, POWER	CSL300GIDT L>20mm	1
	50-1038-1	CABINET, BLACK	CVT3030	1
	AA4.5B16I2.0SL	WASHER	4.5x16x2T	6
	AC04B15I0.8	FIBER, WASHER	RED 4*15*0.8T	6
F200	32S125010KTU	FUSE, T10A/250V	T-LAG UL/CSA A1	1
F200	32S12505K0TS	FUSE, T5A/250V	T-LAG SMEKO EC/B	1
F201 F202	32S12506K3TU	FUSE, 6.3A/250V	T-LAG UL/CSA A1	2
F201 F202	32S12506K3TS	FUSE, 6.3A/250V	T-LAG UL/CSA EC/B	2

PARTS LIST

AMC 3150a SERVICE PARTS LIST				
SYMBOL NO.	PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
F203 F204	32S12508K0TU	FUSE, T8A/250V	T-LAG UL/CSA A1	2
F203 F204	32S12508K0TS	FUSE, T8A/250V	T-LAG SMEKO EC/B	2
	90-1319*A	INPUT SELECT MODULE	3150a	1
	19-1319	PCB	207x79.5x1.6T	1
R301-R308 R401-R408	16-1.6CA101J	RES., CARBON FILM	100 1/6W +-5%	16
R309-R316 R409-R416	16-1.6CA224J	RES., CARBON FILM	220K 1/6W +-5%	16
R317 R417	16-1.6CA223J	RES., CARBON FILM	22K 1/6W +-5%	2
C301-C308 C401-C408	17-5DR101J	CAP., CERAMIC	100pF/50V +-5%	16
C309-C311 C409-C411	17-2.5ER106M	CAP., ELECTROLYTIC	10uF/25V +-20%	6
C312 C412	17-5DR151K	CAP., CERAMIC	50pF/50V +-10%	2
C313 C413	17-2.5ER226M	CAP., ELECTROLYTIC	22uF/25V +-20%	2
C315 C317	17-1.6ER476M	CAP., ELECTROLYTIC	47uF/16V +-20%	2
C314 C316 C318	17-5MD104M	CAP., MULTILAYER CERAMIC	0.1UF/50V +-20%	3
PRE.OUT/MAIN IN.CD.TUN	12-2192G	RCA JACK, GOLD PLATED	4P CPS-054GA-H	2
TAPE IIN/OUT.AUX.	12-2193G	RCA JACK, GOLD PLATED	6P CPS-056GA-H	2
CN301	12-1103-10	PIN HEADERS	10P(5Px2) L TYPE	1
IC301-IC303 IC401-IC403	30-TC4051BP	IC.	TC4051BP	6
	90-1321*A	POWER SUPPLY MODULE	A3150a	1
	19-1321*A	PCB	152x137x1.6T	1
J501	13-3060-1	HEADPHONE	7P, GOLD PLATED	1
R501 R601	16-3AN391J	RES., METAL OXIDE	390 3W +-5%	2
C501	17-40CR472M	CAP., CERAMIC, AC	4700P/400V +-20%	1
C201 C202	17-5EG109M	CAP., ELECTROLYTIC	10000uF/50V +-20%	2
C203 C204	17-8EG229M	CAP., ELECTROLYTIC	22000/80V +-20%	2
SW501	31-1240	SWITCH, POWER	TV-8 5A/250V	1
F201 F202 F203 F204 F501	32S2016	FUSE HOLDER	5x20mm	10
D202 D204	30-F16C20A	DIODE, BRIDGE	F16C20A MOSPEC	2
D201 D203	30-F16C20C	DIODE, BRIDGE	F16C20C MOSPEC	2
FOR D201-D204	11-5104	HEATSINK	L=25mm W=15mm	4
	90-1322	TONE MODULE	A3150a	1
	19-1322	PCB	258x65x1.6T	1
R334 R324 R424	16-1.6CA102J	RES., CARBON FILM	1K 1/6W +-5%	3
R336	16-1.6CA155J	RES., CARBON FILM	1.5M 1/6W +-5%	1
R337	16-1.6CA105J	RES., CARBON FILM	1M 1/6W +-5%	1
R339 R346-R349	16-1.6CA222J	RES., CARBON FILM	2K2 1/6W +-5%	5
R340 R350	16-1.6CA103J	RES., CARBON FILM	10K 1/6W +-5%	2
R341 R323 R423	16-1.6CA123J	RES., CARBON FILM	12K 1/6W +-5%	3
R342 R343 R321 R421	16-1.6CA104J	RES., CARBON FILM	100K 1/6W +-5%	4
R345	16-1.6CA472J	RES., CARBON FILM	4K7 1/6W +-5%	1
R322 R422	16-1.6CA683J	RES., CARBON FILM	68K 1/6W +-5%	2
R325 R425	16-1.6MA1780F	RES., METAL FILM	178 1/6W +-1%	2
R326 R426	16-1.6MA3161F	RES., METAL FILM	3.16K 1/6W +-1%	2
R327 R427	16-1.6CA101J	RES., METAL FILM	100 1/6W +-5%	2
R328 R428	16-1.6MA5620F	RES., METAL FILM	562 1/6W +-1%	2
R329 R429	16-1.6CA561J	RES., CARBON FILM	560 1/6W +-5%	2
R331 R431	16-1.6CA911J	RES., CARBON FILM	910 1/6W +-5%	2
R330 R430	16-1.6MA512F	RES., METAL FILM	5K1 1/6W +-1%	2
R351	16-1.6CA202J	RES., CARBON FILM	2K 1/6W +-5%	1
R338	16-1.2CA103J	RES., CARBON FILM	10K 1/2W +-5%	1
R335	16-1.2CA222J	RES., CARBON FILM	2K2 1/2W +-5%	1
C331 C332 C337	17-5ER106M	CAP., ELECTROLYTIC	10uF/50V +-20%	3
C333-C336	17-2.5ER106M	CAP., ELECTROLYTIC	10uF/25V +-20%	4
C321 C324 C424 C421 C339	17-2.5ER106M	CAP., ELECTROLYTIC	10uF/25V +-20%	5
C345	17-5ER105M	CAP., ELECTROLYTIC	1uF/50V +-20%	1
C338	17-5ER475M	CAP., ELECTROLYTIC	4.7uF/50V +-20%	1

PARTS LIST

AMC 3150a SERVICE PARTS LIST				
SYMBOL NO.	PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
C320 C323 C341 C342 C420 C423	17-5DR101J	CAP., CERAMIC	100pF/50V +-5%	6
C322 C422	17-0.63ER107M	CAP., ELECTROLYTIC	100uF/6.3V ±20%	2
C325 C425	17-6.3GR183J	CAP., METALIZED POLYESTER	18nF/63V 5% (BOX)	2
C327 C427	17-6.3GR124J	CAP., METALIZED POLYESTER	120nF/63V 5% (BOX)	2
C328 C428	17-6.3GR684J	CAP., METALIZED POLYESTER	680nF/63V 5% (BOX)	2
C326 C426	17-6.3GR104J	CAP., METALIZED POLYESTER	100nF/63V 5% (BOX)	2
C329	17-5DR104Z	CAP., CERAMIC	100nF/50V +80%-20%	1
C343 C344 C348 C347 C346	17-5MD104M	CAP., MULTILAYER CERAMIC	0.1UF/50V +-20%	5
C340	17-1ER107M	CAP., ELECTROLYTIC	100uF/10V +-20%	1
Q322	30-2SA970GR	TR., PNP	2SA970GR/BL	1
Q323 Q325 Q327-Q331	30-2SA1015GR	TR., PNP	2SA1015GR	7
Q324 Q326	30-2SC1815GR	TR., NPN	2SC1815GR	2
Q321 Q421	30-2SK363GR	TR., FET	2SK363GR	2
D326 D321 D421 D328-D330	30-1N4148	DIODE, SWITCHING	1N4148	6
D324	30-1N4002	DIODE	1N4002 100V 1A	1
D325	30-1.2Z15V	DIODE, ZENER	15V 0.5W HZ15-2	1
D327	30-1.2Z18V	DIODE, ZENER	18V 0.5W HZ18-2	1
X321	30-4011	RESONATOR	CERAMIC 560KHz	1
IC322	30-LM7815A	IC., REGULATOR	LM/AN/JRC/7815FA 1A	1
IC323	30-LM7915A	IC., REGULATOR	LM/AN/JRC/7915FA 1A	1
IC324	30-LM7806A	IC., REGULATOR	LM/AN/JRC/7806FA 1A	1
IC325	30-LM7906A	IC., REGULATOR	LM/AN/JRC/7906FA 1A	1
IC321	30-NJM2068D	IC., OPAMP	NJM2068D	1
IC327	30-LTM9052-4	IR	LTM9052-4 OR SBX1610-52	1
IC326	30-16C71-31513A	PIC16C71	MARKED 31513A	1
D322 D323	30-5DZ4V7	DIODE, ZENER	5W 4V7	2
VR321	29-4212	VR/MOTOR	20KA*2 A3025a/50a/A.7	1
VR322 VR323	29-4127	VR., TONE	RK163121A125-10KCx2	2
VR324	29-4128*A	VR., BALANCE	RK163111E281-20KW	1
VR325	29-4213	VR/MOTOR	10KB*2 A3025a/50a/A.7	1
CN321 CN322	12-1087-4WT	CONNECTOR	4P WHITE	2
CN323 CN324	12-1087-2WT	CONNECTOR	2P WHITE	2
CN326 CN328	12-1087-3WT	CONNECTOR	3P WHITE	2
CN320	12-1102-10	PIN HEADER	10P(5Px2)	1
SW322	31-1211	SWITCH, PUSH	1P N302	1
SW321	31-1242	SWITCH, ROTARY	SRRZS46N08-EK	1
	90-1310	AMPLIFIER MODULE	3150a	2
	19-1310	PCB	85x173x1.6T FR4 DBL	1
R141	16-1.4MA562F	RES., METAL FILM	5K6 1/6W +-1%	1
R101 R114 R115 R129 R137	16-1.6MA101F	RES., METAL FILM	100 1/6W +-1%	5
R102 R111 R107	16-1.6MA102F	RES., METAL FILM	1K 1/6W +-1%	3
R104	16-1.6MA111F	RES., METAL FILM	110 1/6W +-1%	1
R113	16-1.6MA150F	RES., METAL FILM	15 1/6W +-1%	1
R144	16-1.6MA152F	RES., METAL FILM	1K5 1/6W +-1%	1
R122 R121 R134	16-1.6MA181F	RES., METAL FILM	180 1/6W +-1%	3
R145	16-1.6MA220F	RES., METAL FILM	22 1/6W +-1%	1
R116	16-1.6MA221F	RES., METAL FILM	220 1/6W +-1%	1
R126 R136	16-1.6MA222F	RES., METAL FILM	2K2 1/6W +-1%	2
R106	16-1.6MA331F	RES., METAL FILM	330 1/6W +-1%	1
R118	16-1.6MA470F	RES., METAL FILM	47 1/6W +-1%	1
R123 R120	16-1.6MA563F	RES., METAL FILM	56K 1/6W +-1%	2
R109 R110	16-1.6MA680F	RES., METAL FILM	68 1/6W +-1%	2
R119 R124	16-1.6MA681F	RES., METAL FILM	680 1/6W +-1%	2
R103	16-1.6MA3091F	RES., METAL FILM	3K09 1/6W +-1%	1
R128 R143	16-1.6MA103F	RES., METAL FILM	10K 1/6W +-1%	2
R117	16-1AN153J	RES., METAL OXIDE	15K 1W +-5%	1
R140	16-3AN152J	RES., METAL OXIDE	1K5 3W +-5%	1

PARTS LIST

AMC 3150a SERVICE PARTS LIST				
SYMBOL NO.	PARTS NO.	DESCRIPTION	SPECIFICATION	Q'TY
R127 R135	16-2AN222J	RES., METAL OXIDE	2K2 +-5% 2W	2
R139	16-2AN2R2J	RES., METAL OXIDE	2R2 2W +-5%	1
R108	16-2AN332J	RES., METAL OXIDE	3K3 2W +-5%	1
R125 R142	16-2AN472J	RES., METAL OXIDE	4K7 2W +-5%	2
R138	16-2AN3R3J	RES., METAL OXIDE	3R3 2W +-5%	1
R130 R131 R132 R133	16-5GSR22J	RES., METAL PLATE	0R22 5W	4
C125 C129	17-5DR391J	CAP., CERAMIC	390pf/50V +-5%	2
C106 C127	17-5DR101J	CAP., CERAMIC	100pf/50V +-5%	2
C112 C116	17-5DR471J	CAP., CERAMIC	470pf/50V +-5%	2
C132 C133	17-5DR221J	CAP., CERAMIC	220pf/50V +-5%	2
C128	17-5DR180J	CAP., CERAMIC	18pf/50V +-5%	1
C105	17-5DR680J	CAP., CERAMIC	68pf/50V +-5%	1
C107 C109	17-6.3GR102J	CAP., METALIZED POLYESTER	1nF/63V 5% (BOX)	2
C104 C108 C115 C119 C126 C130	17-6.3GR104J	CAP., METALIZED POLYESTER	100nF/63V 5% (BOX)	6
C131	17-10GR564J	CAP., METALIZED POLYESTER	0.56UF/100V +-5%	1
C101	17-1ER476M	CAP., ELECTROLYTIC	47uF/10V +-20%	1
C110 C111	17-0.63ER227M	CAP., ELECTROLYTIC	220uF/6.3V +-20%	2
C113 C114 C117 C118	17-5ER107M	CAP., ELECTROLYTIC	100uF/50V +-20%	4
C103	17-0.63EF108M	CAP., ELECTROLYTIC	1000uF/6.3V +-20%	1
C120	17-5EF477M	CAP., ELECTROLYTIC	470uF/50V +-20%	1
D106	30-1N4002	DIODE	1N4002 100V 1A	1
D101 D102 D104	30-1N4148	DIODE, SWITCHING	1N4148	3
ZD103	30-1.2Z36V	DIODE, ZENER	36V 0.5W HZ36-2	1
ZD101 ZD102	30-1.2Z7V5	DIODE, ZENER	7V5 0.5W HZ7C-2	2
Q105	30-2N6519	TR., PNP	2N6519	1
Q103 Q104 Q125	30-2SA1015GR	TR., PNP	2SA1015GR	3
Q121 Q124	30-2SC1815GR	TR., NPN	2SC1815GR	2
Q113	30-2SC2240GR	TR., NPN	2SC2240GR/BL	1
Q102	30-MPSA42	TR., NPN	MPSA42	1
Q107 Q122 Q123	30-PN2222	TR., NPN	PN2222A	3
Q109	30-PN2907	TR., PNP	PN2907A	1
Q120	30-2SA970GR	TR., PNP	2SA970GR/BL	1
Q106	30-2SA1380D	TR., PNP	2SA1380D/E	1
Q114	30-2SA1668	TR., PNP	2SA1668	1
Q101	30-2SC3067G	TR., NPN	2SC3067G 120V 50mA	1
Q110	30-2SC3502E	TR., NPN	2SC3502E	1
Q119	30-2SC4382	TR., NPN	2SC4382	1
D103 D105	30-U08A20	DIODE, FAST	U08A20 MOSPEC	2
Q111	30-2SA1186	TR., PNP	2SA1186	1
Q112	30-2SC2837	TR., NPN	2SC2837	1
Q108	30-2SC3298	TR., NPN	2SC3298/2SC4793	1
Q118	30-2SA1386	TR., PNP	2SA1386	1
Q117	30-2SA1494	TR., PNP	2SA1494	1
Q115	30-2SC3519	TR., NPN	2SC3519	1
Q116	30-2SC3858	TR., NPN	2SC3858	1
CN101	12-1087-2WT	CONNECTOR	2P WHITE	1
Q114 Q119 Q106 Q110	11-5104	HEATSINK	L=25mm W=15mm	4
FOR EACH AMP MODULE	11-5105	HEATSINK	170.5*100mm	1
	11-2156	BKT, THERMAL	2N100-2/-3/5	1
P103	12-1103-4	PIN HEADER	4P(2Px2)	1
P105 P108	12-1103-22	PIN HEADER	22P(11Px2)	2
	13-T03P	MICA	L=23mm W=18mm	2
L101	29-3072	COIL	1.5uH P=12.5mm	1
VR102	29-R6V101B-1	VR., SEMI-FIX	101B RH0614C101	1
	29-8004	SWITCH, THERMAL	2N100	1
RL101	35-3044-1	RELAY	DC24V OMI-SS-224LM	1

NOTES:

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