

TEAC[®]



SERVICE MANUAL

A-717/A-515/A-313

DC Integrated Stereo Amplifier

1 SPECIFICATIONS

A-717

Type DC Integrated Stereo Amplifier

Rated Output Power

(Both Channels, 8 ohms)

55 W + 55W (1 kHz, 0.1% T.H.D.)

50 W + 50W (30 Hz ~ 20 kHz, 0.05% T.H.D.)

Total Harmonic Distortion

0.05% (30 Hz ~ 20 kHz, at 50 W + 50 W Output Power)

Output Bandwidth

IHF, -3 dB, 10 Hz ~ 50 kHz

Frequency Response

TUNER, CD/AUX, TAPE 1, 2 to SP out

10 Hz ~ 55 kHz +0, -2 dB

PHONO to REC OUT, 20 Hz ~ 20 kHz ± 0.5 dB (RIAA)

Input Sensitivity

PHONO MC 220 μV/100 ohms

PHONO MM 2.5 mV/47 k ohms

TUNER, CD/AUX, TAPE 1, 2 150 mV/47 k ohms

MIC 0.775 mV/4.7 k ohms

Rated Output Voltage/Impedance

TAPE REC 1, 2 150 mV/47 k ohms

Signal-to-Noise Ratio

(IHF A Network, Short Circuit)

PHONO MC 66 dB

PHONO MM 86 dB

TUNER, CD/AUX, TAPE 1, 2 96 dB

Tone Control

Bass ± 10 dB, 100 Hz

Treble ± 10 dB, 10 kHz

Subsonic Filter

15 Hz, 6 dB/oct

Muting 20 dB

Power Requirements

100/120/220/240 V AC 50/60 Hz, 98 W

(General Export Model)

220 V AC 50 Hz, 260 W (Europe Model)

240 V AC 50 Hz, 350 W (U.K./Aus. Model)

Dimensions (W x H x D)

432 x 72 x 298 mm (17" x 2-13/16" x 11-3/4")

Weight 5.5 kg (12-2/16 lbs) net

A-515/A-313

Type DC Integrated Stereo Amplifier

Rated Output Power (Both channels, 8 ohms)

A-515 38 W + 38 W (EIAJ*)

A-313 25 W + 25 W (EIAJ)

A-515 35 W + 35 W (1 kHz, 0.12% T.H.D.)

A-313 22 W + 22 W (1 kHz, 0.16% T.H.D.)

A-515 30 W + 30 W (30 Hz ~ 20 kHz 0.06% T.H.D.)

A-313 20 W + 20 W (40 Hz ~ 20 kHz 0.08% T.H.D.)

Total Harmonic Distortion

A-515 0.06%

(30 Hz ~ 20 kHz at 30 W + 30 W Output Power)

A-313 0.08%

(40 Hz ~ 20 kHz at 20 W + 20 W Output Power)

Output Bandwidth IHF, -3 dB, 10 Hz ~ 50 kHz

Frequency Response

TUNER, CD/AUX, TAPE to SP out

10 Hz ~ 55 kHz +0, -2 dB

PHONO to REC OUT, 20 Hz ~ 20 kHz ± 0.5 dB (RIAA)

Input Sensitivity

PHONO MM 2.5 mV/47 k ohm

TUNER, CD/AUX, TAPE 150 mV/47 k ohms

Rated Output Voltage/Impedance

TAPE REC 150 mV/47 k ohms

Signal-to-Noise Ratio (IHF A Network, Short Circuit)

PHONO MM 72 dB

TUNER, CD/AUX, TAPE 96 dB

Tone Control

Bass ± 10 dB, 100 Hz

Treble ± 10 dB, 10 kHz

Power Requirements

100/120/220/240 V AC 50/60 Hz, 60 W (45 W, A-313)

(General Export Model)

220 V AC 50 Hz, 160 W (120 W, A-313) (Europe Model)

240 V AC 50 Hz, 210 W (150 W, A-313) (U.K./Aus. Model)

Dimensions (W x H x D)

432 x 72 x 298 mm (17" x 2-13/16" x 11-3/4")

Weight A-515 4.5 kg (9-15/16 lbs) net

A-313 4.0 kg (8-13/16 lbs) net

* EIAJ: Electronic Industries Association of Japan.

- Improvements may result in specification or feature changes without notice.
- Photos may differ slightly from production models.

NOTES

1. In this manual, 0 dB is referenced to 1 V.
2. Δ Parts marked with this sign are safety critical components. They must always be replaced with identical components — refer to the appropriate parts list and ensure exact replacements.
3. PC boards shown are viewed from foil side.

2 ADJUSTMENTS

A-717 only

2-1 INITIAL SETTINGS

Without applying AC power, set the controls as shown below.

Control	Position or Setting
SPEAKERS	A
SUBSONIC	OUT
MODE	ST
MUTING	OUT
MIC MIXING	0
BASS	0
TREBLE	0
BALANCE	0
TAPE COPY	OUT

Control	Position or Setting
TAPE 1	OUT
TAPE 2	OUT
TUNER	OUT
CD/AUX	IN
PHONO MM	OUT
PHONO MC	OUT
LOUDNESS	OUT
SCENE	MIN

ADJUSTMENTS LOCATION

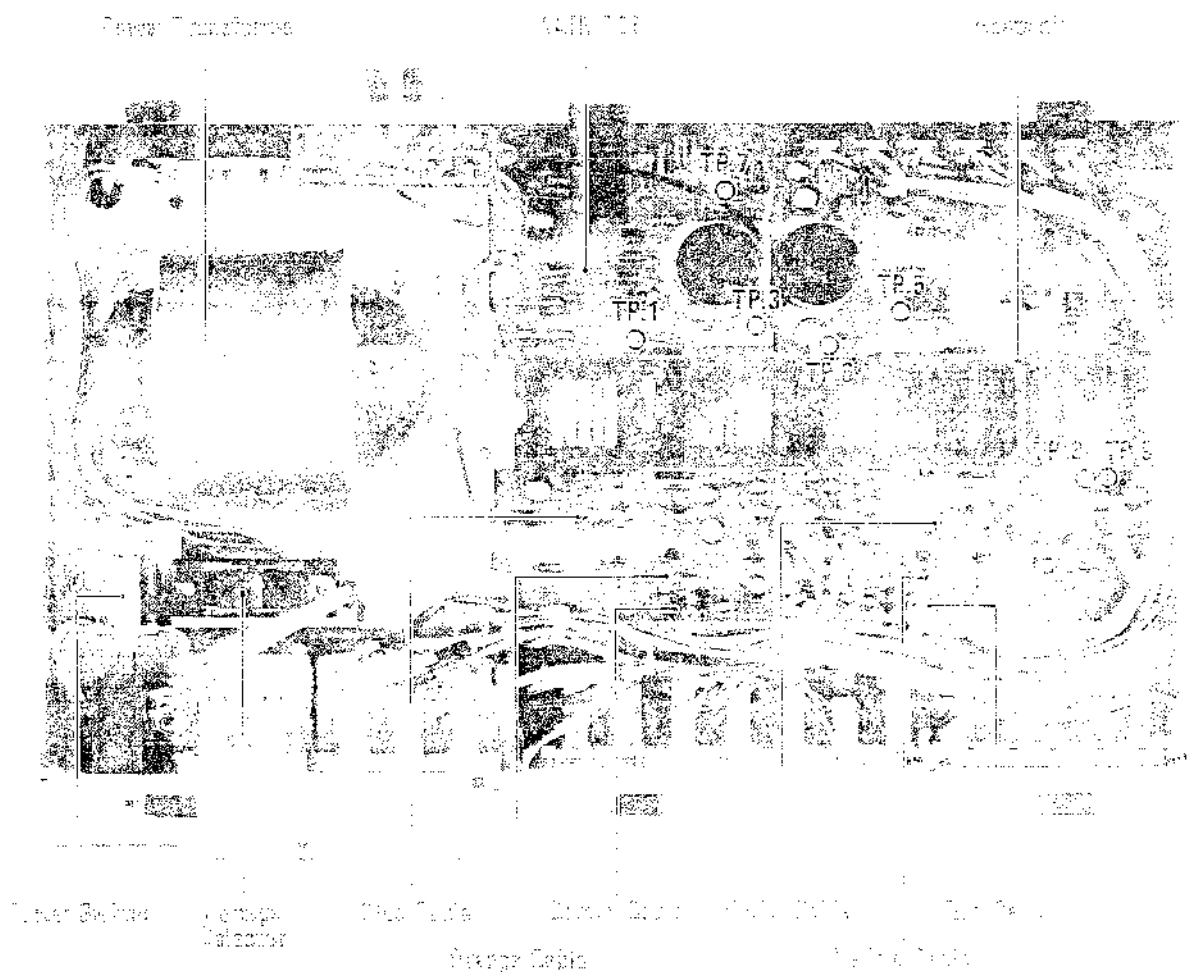


Fig. 2

2-3 DC BALANCE CHECK

1. Connect the DC voltmeter to SPEAKERS A terminal.
2. Depress POWER switch to ON.
3. Confirm the DC voltmeter indication within $0\text{ V} \pm 50\text{ mV}$.
4. If the DC voltmeter indicates over $+50\text{ mV}$, cut the orange cable between 3 and 3 terminals (for L-ch) or the yellow cable between 4 and 4 terminals (for R-ch) on the MAIN PCB.
5. If the DC voltmeter indicates less than -50 mV , cut the brown cable between 1 and 1 terminals (for L-ch) or the red cable between 2 and 2 terminals (for R-ch) on the MAIN PCB.

2-4 IDLING CURRENT CHECK

1. Connect the DC voltmeter between TP-3 (L-ch)/TP-5 (R-ch) and TP-1 (L-ch)/TP-6 (R-ch).
2. Confirm the DC voltmeter indication within 5 mV when POWER is ON after 10 seconds.
3. If the DC voltmeter indicates over 5 mV cut the blue cable between 6 and 6 terminals for LEFT channel or the violet cable between 7 and 7 terminals for RIGHT channel on the MAIN PCB.
4. After the above procedures, allow 10 minutes for the amplifier to warm up completely.
5. Confirm the DC voltmeter indication which should be within 2 to 25 mV .

2-5 REALY OPERATION CHECK

1. Apply $1\text{ kHz}/150\text{ mV}$ (-16.5 dB) to the AUX terminal.
2. Adjust the VOLUME control so that output voltage is 1 V at the SPEAKER terminal.
3. Apply a $+2.5\text{ V}$ or -2.5 V DC to the TP-7 to cause the realy RY1 to break immediately.
4. Remove the DC signal from the TP-7.
5. Adjust the VOLUME control so that output voltage is 0.5 V at the SPEAKER terminal.
6. Shortcircuit the SPEAKER terminal between + and - so that the relay RY1 break immediately.

2-6 PHONO CIRCUIT DC VOLTAGE CHECK

1. Connect the DC voltmeter between TP.7 and GND terminals.
2. Confirm the DC voltmeter indication which should be within $+14.5\text{ mV}$ to $+16.7\text{ mV}$.
3. Connect the DC voltmeter between TP.8 and GND terminals.
4. Confirm the DC voltmeter indication which should be within -14.5 mV to -16.7 mV .

3 VOLTAGE CONVERSION (FOR GENERAL EXPORT MODELS)

BE SURE TO REMOVE THE POWER CORD FROM THE AC OUTLET BEFORE REMOVING THE METAL COVER AND REPOSITIONING THE VOLTAGE CONVERSION PLUG.

1. Remove the metal housing covering the top and sides of the unit by removing the screws from each side of the metal cover.
2. Locate the voltage selector plug on the left side of the unit.
3. Remove the plug by pulling it out, then re-insert it so that the arrow on the plug is aligned with the white line indicating the proper voltage.
4. Replace the cover.

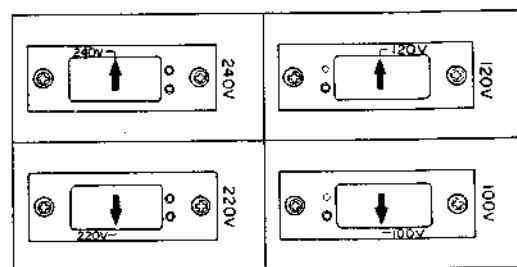


Fig. 3-1

4 BLOCK DIAGRAM

A-717

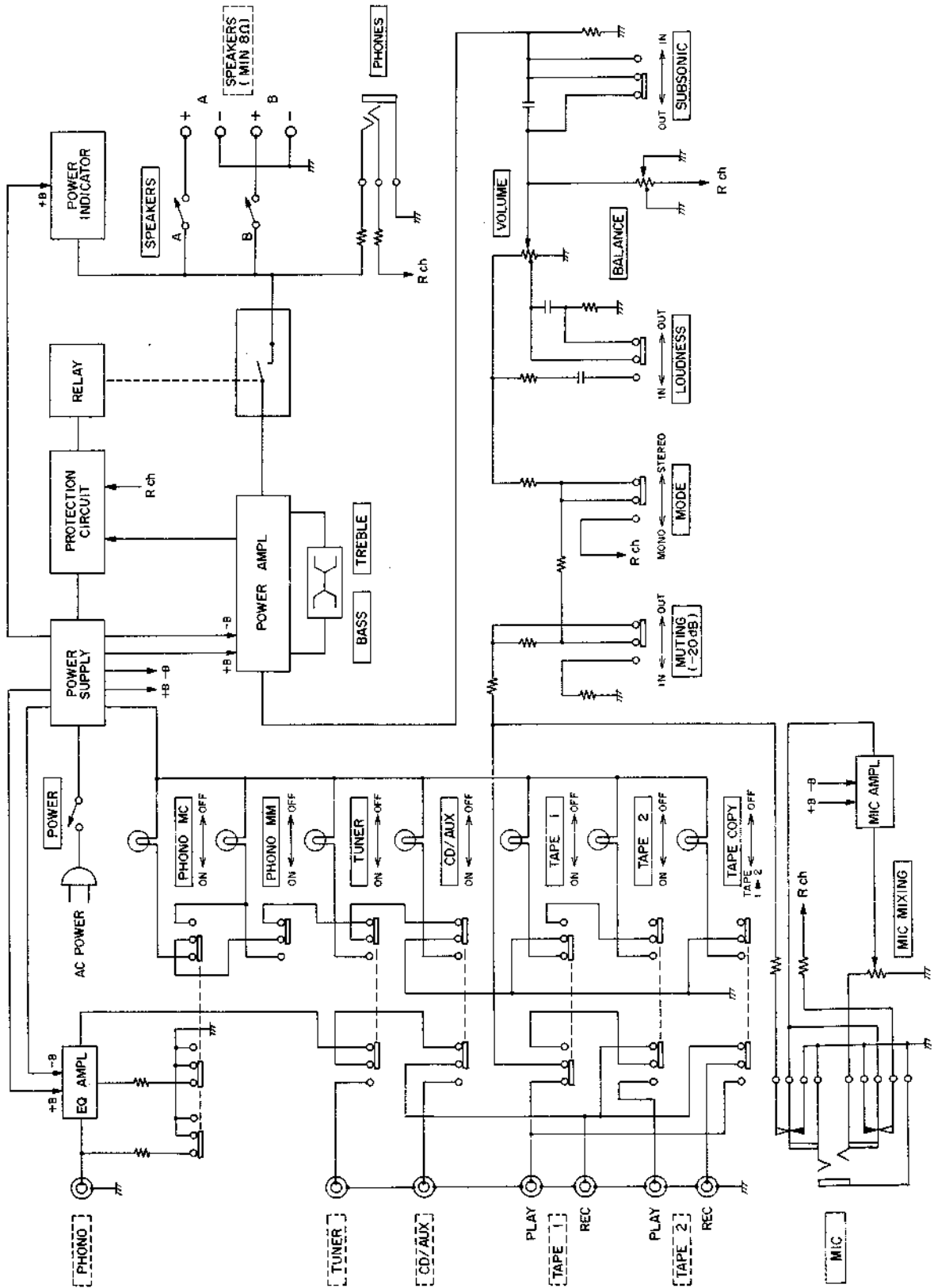


Fig. 4-1

A-515

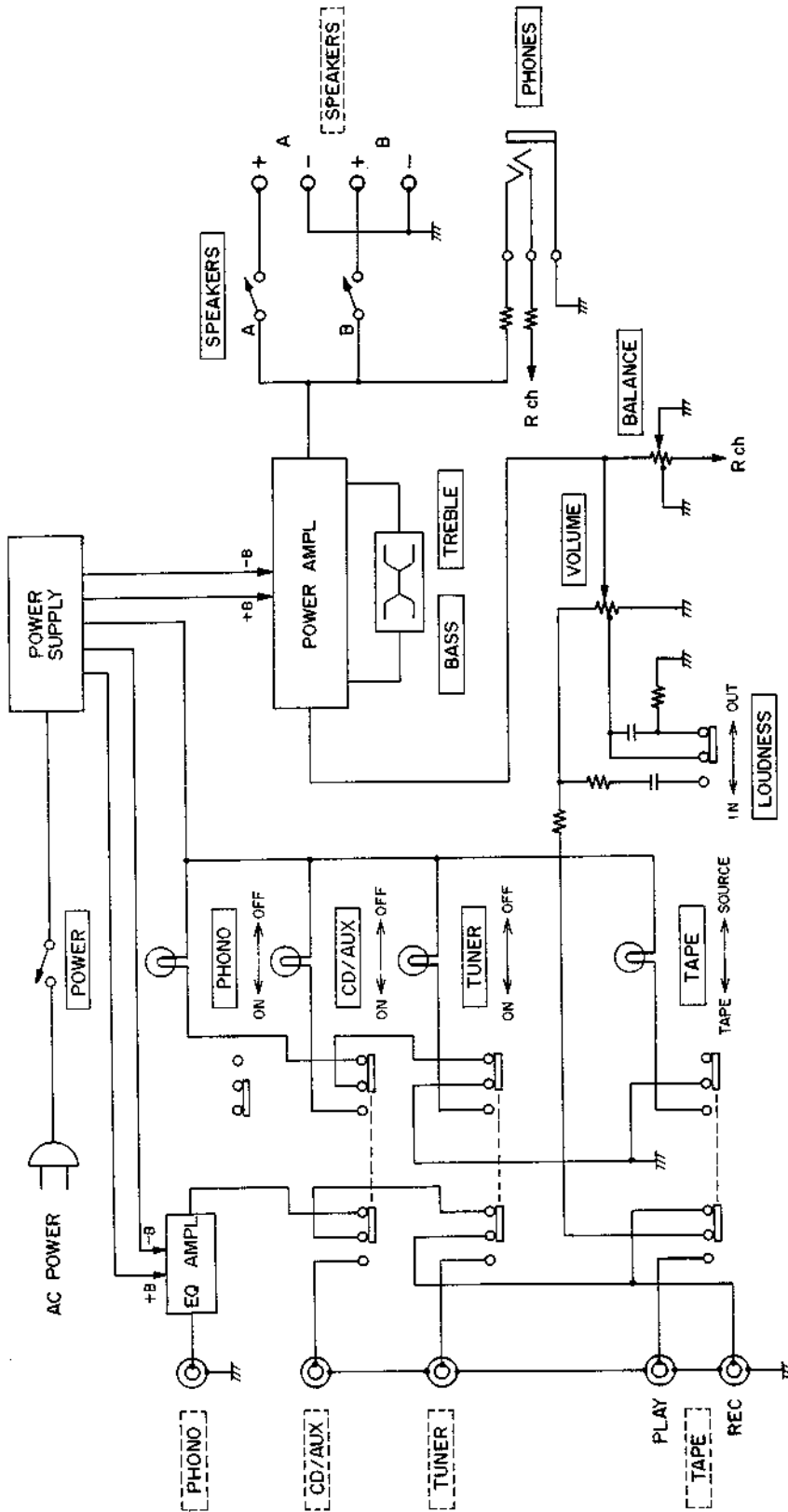


Fig. 4-2

A-313

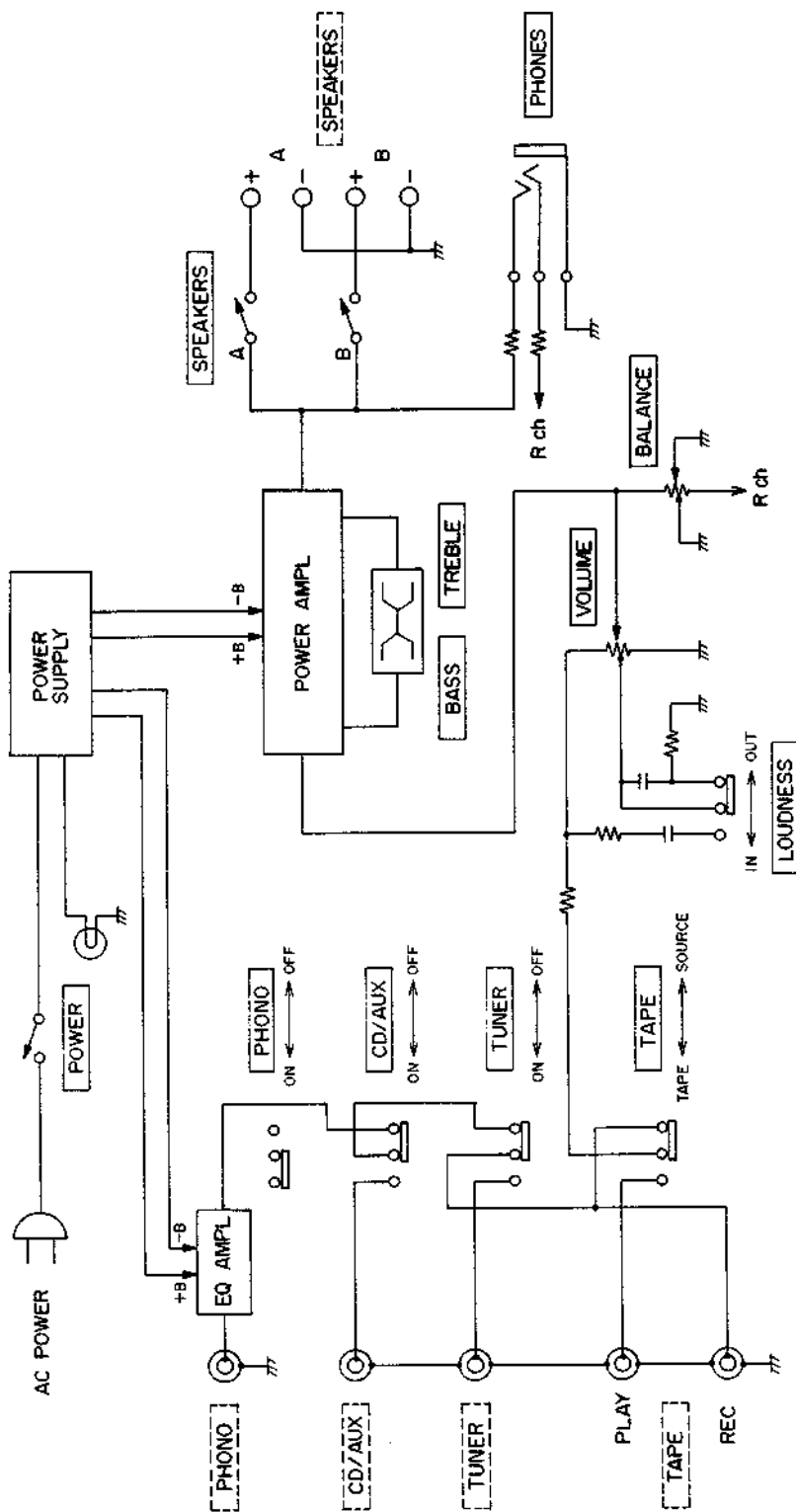
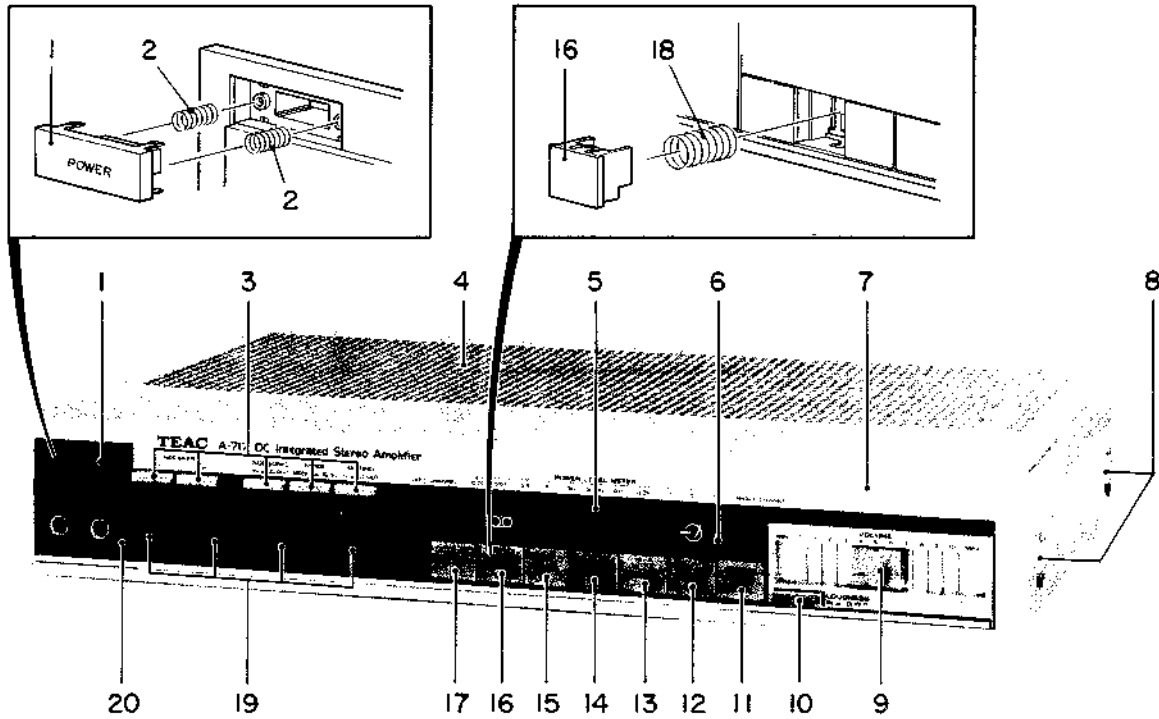


Fig. 4-3

5 PARTS LOCATION AND PARTS LIST

A-717

PARTS LOCATION-1



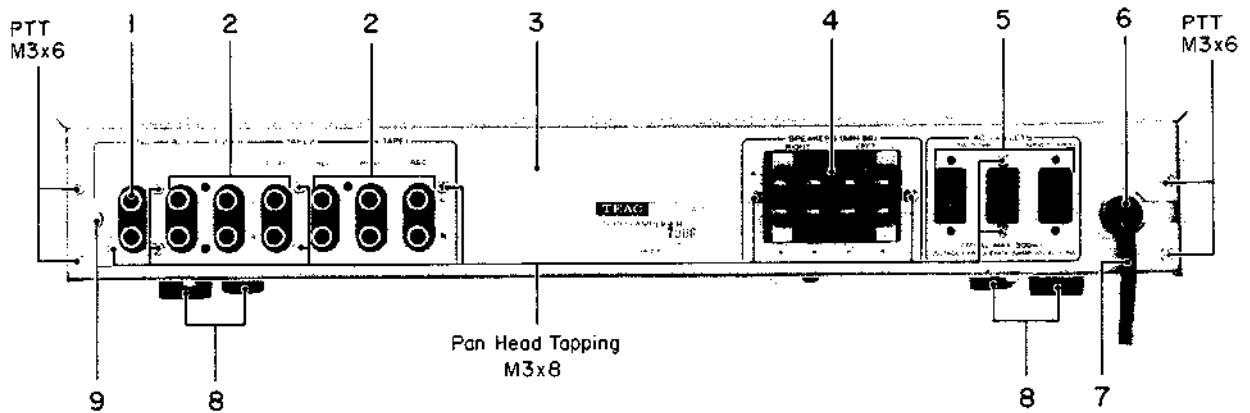
REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
1 - 1	5760429000	Button, Power	
1 - 2	5760425900	Spring, A	
1 - 3	5800379100	Button, Push; A	
1 - 4	*5760108100	Cover, Top	
1 - 5	*5760422400	Plate, Meter; Acrylic	
1 - 6	*5760422300	Plate, Display; Acrylic	
1 - 7	*5760421800	Panel, Front	
1 - 8	*5783114008	Screw, M4 x 8 (BLK Ni)	
1 - 9	5760422600	Knob, Slide	
1 - 10	5760423200	Button, G; LOUDNESS	
1 - 11	5760422700	Button, PHONO MC	
1 - 12	5760422800	Button, PHONO MM	
1 - 13	5760421300	Button, CD/AUX	
1 - 14	5760421200	Button, TUNER	
1 - 15	5760423000	Button, TAPE 2	
1 - 16	5760422900	Button, TAPE 1	
1 - 17	5760423100	Button, TAPE COPY	
1 - 18	5760422200	Spring, B	
1 - 19	5760422500	Knob, VR	
1 - 20	*5760421700	Escutcheon, Panel	

INCLUDED ACCESSORIES

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
	*5700046800	A-717 Owner's Manual	

Parts marked with * require longer delivery time.

PARTS LOCATION-2

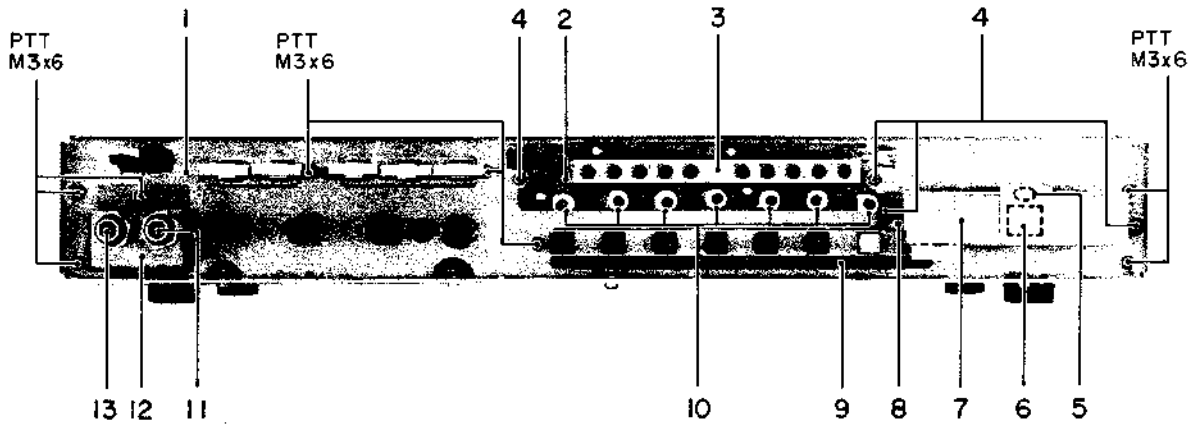


REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
2 - 1	*5760142100	Jack, Pin; 2P	J1
2 - 2	*5330505200	Jack, Pin; 6P	J2, J3
2 - 3	*5760428700	Panel, Rear; Q [GE]	
	*5760428800	Panel, Rear; R [E, UK, A]	
2 - 4	*5760102700	Terminal, Speakers	
2 - 5	‡*5760337300	Socket, AC Outlet [GE]	J7
2 - 6	‡*5800136400	Grommet, Cord; 4P-4 [GE]	
	‡*5800136500	Grommet, Cord; 4K-4 [E, UK, A]	
2 - 7	‡ 5760098100	Cord, AC Power [GE]	
	‡ 5760098200	Cord, AC Power [E]	
	‡ 5760098300	Cord, AC Power [UK]	
	‡ 5760098400	Cord, AC Power [A]	
2 - 8	5760241100	Foot	
2 - 9	*5760081300	Nut, GND Terminal (Ni) Screw, P M3 x 12 (Ni) Nut, M3 (Ni) Washer, Lock; LWE #3	

Parts marked with * require longer delivery time.

[GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K. [A]: AUSTRALIA [SA]: SOUTH AFRICA

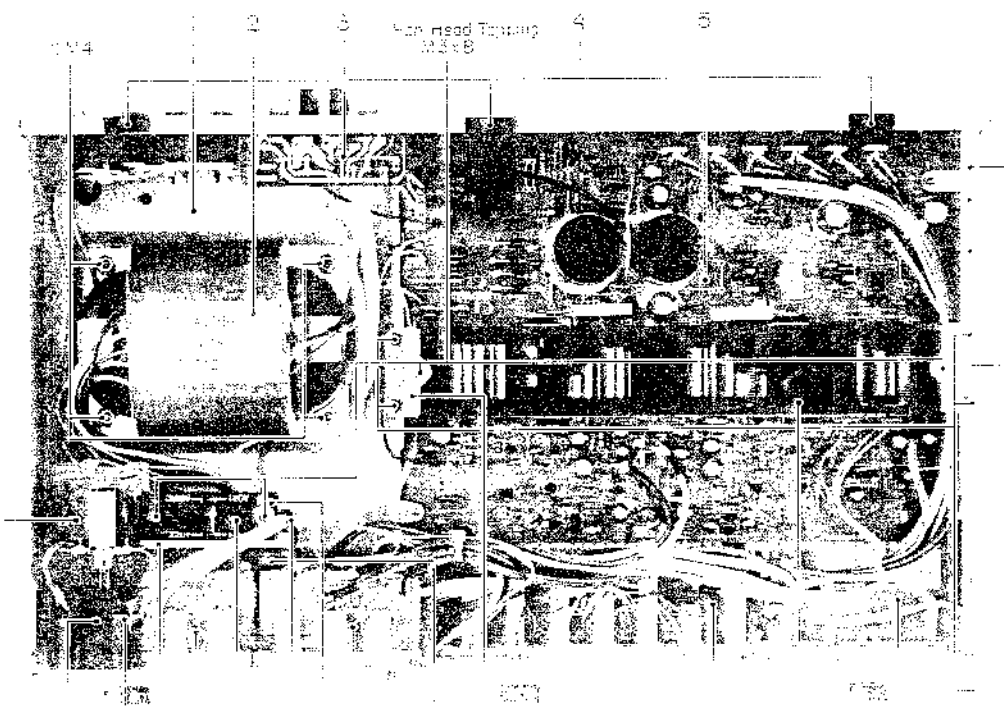
PARTS LOCATION-3



REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	*5760421900	Chassis, Front	
3 - 2	*5760484300	PCB Assy, LED	
3 - 3	*5760426300	Hood, LED; D	
3 - 4	*5534878000	Rivet, Push	
3 - 5	*5760482700	Tube, Rubber	
3 - 6	*5760482600	Spacer, Felt	
3 - 7	*5760422100	Plate, VR Scale	
3 - 8	*5760422000	Guide, VR	
3 - 9	*5760483600	PCB Assy, SELECTOR SW	
3 - 10	*5760430400	Holder, Lamp	
3 - 11	5760485000	Jack, MIC	J4
3 - 12	*5760243900	Bracket, Jack; D	
3 - 13	5760485100	Jack, PHONES	J5

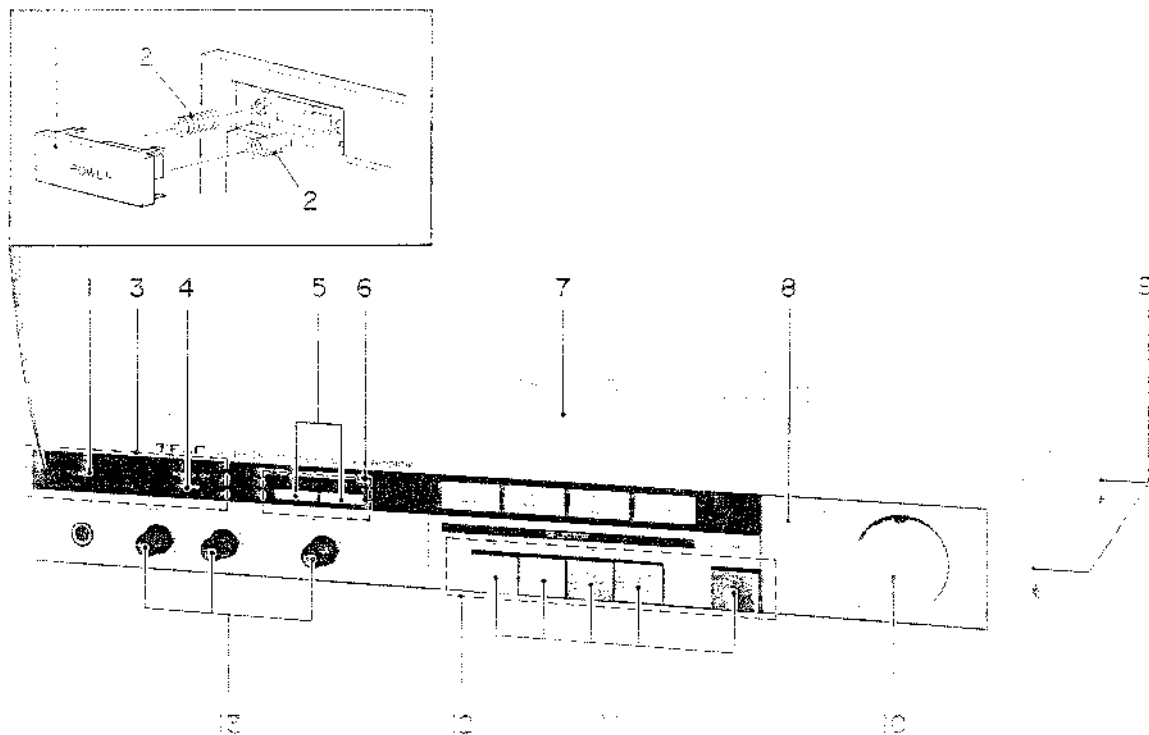
Parts marked with * require longer delivery time.

FARTS LOCATION-4



Part No.	Description	Quantity
1	VALVE SPRING PLATE	1
2	VALVE SPRING PLATE	1
3	VALVE SPRING PLATE	1
4	VALVE SPRING PLATE	1
5	VALVE SPRING PLATE	1
6	VALVE SPRING PLATE	1
7	VALVE SPRING PLATE	1
8	VALVE SPRING PLATE	1
9	VALVE SPRING PLATE	1
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97	VALVE SPRING PLATE	1
98	VALVE SPRING PLATE	1
99	VALVE SPRING PLATE	1
100	VALVE SPRING PLATE	1

PARTS LOCATION-2 (A-313)



CALLOUT	PARTS NO.	DESCRIPTION	REMARKS
1	8780409900	Bracket	
2	8780409900	Bracket	
3	8780409900	Bracket	
4	8780409900	Bracket	
5	8780409900	Bracket	
6	8780409900	Bracket	
7	8780409900	Bracket	
8	8780409900	Bracket	
9	8780409900	Bracket	
10	8780409900	Bracket	
11	8780409900	Bracket	
12	8780409900	Bracket	
13	8780409900	Bracket	

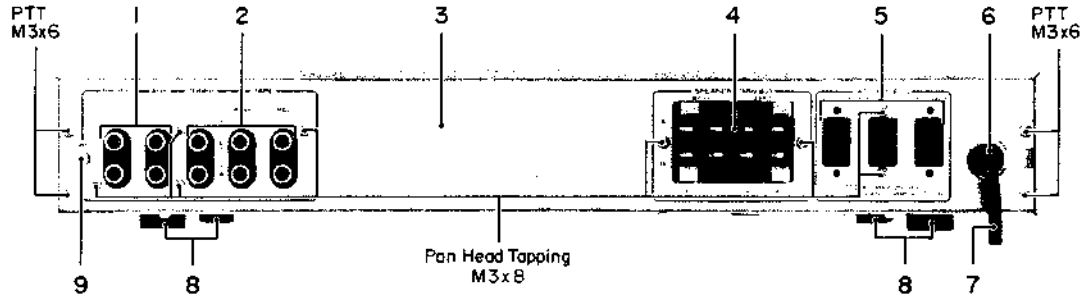
Items marked with * require longer delivery time

REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
3 - 1	± 5760429300	Transformer, Power [GE]	A-515
	± 5760429400	Transformer, Power [E, UK, A]	A-515
	± 5760429100	Transformer, Power [GE]	A-313
	± 5760429200	Transformer, Power [E, UK, A]	A-313
3 - 2	*5760446800	Pad, Transformer; B	A-515
	*5760446700	Pad, Transformer; A	A-313
3 - 3	*5760430500	Chassis, Transformer; B	
3 - 4	*5760481000	PCB Assy, SPEAKER TERMINAL [E]	
	*5760481010	PCB Assy, SPEAKER TERMINAL [GE, UK, A]	
3 - 5	*5760348000	Bracket, Bottom Cover	
3 - 6	*5760244200	Cover, Bottom; A	
3 - 7	*5760095600	Cushion, B	
3 - 8	*5760481900	PCB Assy, MAIN [E]	A-515
	*5760481910	PCB Assy, MAIN [GE, UK, A]	A-515
	*5760480500	PCB Assy, MAIN [E]	A-313
	*5760480510	PCB Assy, MAIN [GE, UK, A]	A-313
3 - 9	*5760092600	Frame, Side	
3 - 10	*5760480800	PCB Assy, VOLUME	
3 - 11	*5760095500	Cushion, A	
3 - 12	*5760255900	Heatsink, IC	
3 - 13	*5760247100	Support, Heatsink	
3 - 14	*5760480700	PCB Assy, SPEAKER SW [E]	
	*5760480710	PCB Assy, SPEAKER SW [GE, UK, A]	
3 - 15	*5760243800	Bracket, Power Switch	
3 - 16	± *5332011200	Socket, Voltage Selector [GE]	
3 - 17	± *5133014000	Plug, Voltage Selector [GE]	
3 - 18	*5760480600	PCB Assy, TONE	
3 - 19	*5760482000	PCB Assy, HEADPHONE	A-515
	*5760480900	PCB Assy, HEADPHONE	A-313
3 - 20	*5760424400	Shaft, Power Switch	
3 - 21	*5760481100	PCB Assy, POWER SW [GE]	
	*5760481110	PCB Assy, POWER SW [E]	
	*5760481120	PCB Assy, POWER SW [UK, A]	

Parts marked with * require longer delivery time.

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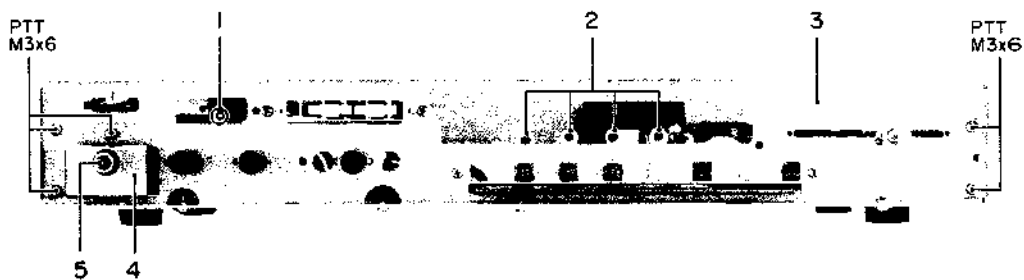
PARTS LOCATION-4



REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
4 - 1	*5760339000	Jack, Pin; 4P	
4 - 2	*5760338900	Jack, Pin; 6P	
4 - 3	*5760428600	Panel, Rear; P	
4 - 4	*5760102700	Terminal, Speakers; 8P	
4 - 5	Δ*5760337300	Socket, AC Outlet [GE]	
4 - 6	Δ*5800136400	Grommet, Cord; 4P-4 [GE]	
	Δ*5800136500	Grommet, Cord; 4K-4 [E, UK, A]	
4 - 7	Δ 5760098100	Cord, AC Power [GE]	
	Δ 5760098200	Cord, AC Power [E]	
	Δ 5760098300	Cord, AC Power [UK]	
	Δ 5760098400	Cord, AC Power [A]	
4 - 8	5760241100	Foot	
4 - 9	*5760081300	Nut, GND Terminal (Ni) Screw, P M3 x 12 (Ni) Nut, M3 (Ni) Washer, Lock; LWE φ3	

Parts marked with * require longer delivery time.

PARTS LOCATION-5



REF. NO.	PARTS NO.	DESCRIPTION	REMARKS
5 - 1	*5760430400	Holder, Lamp	A-313
5 - 2	*5760430400	Holder, Lamp	A-515
5 - 3	*5760421900	Chassis, Front	
5 - 4	*5760421000	Bracket, Jack; N	
5 - 5	5760485100	Jack, PHONES	A-515
	5760481700	Jack, PHONES	A-313

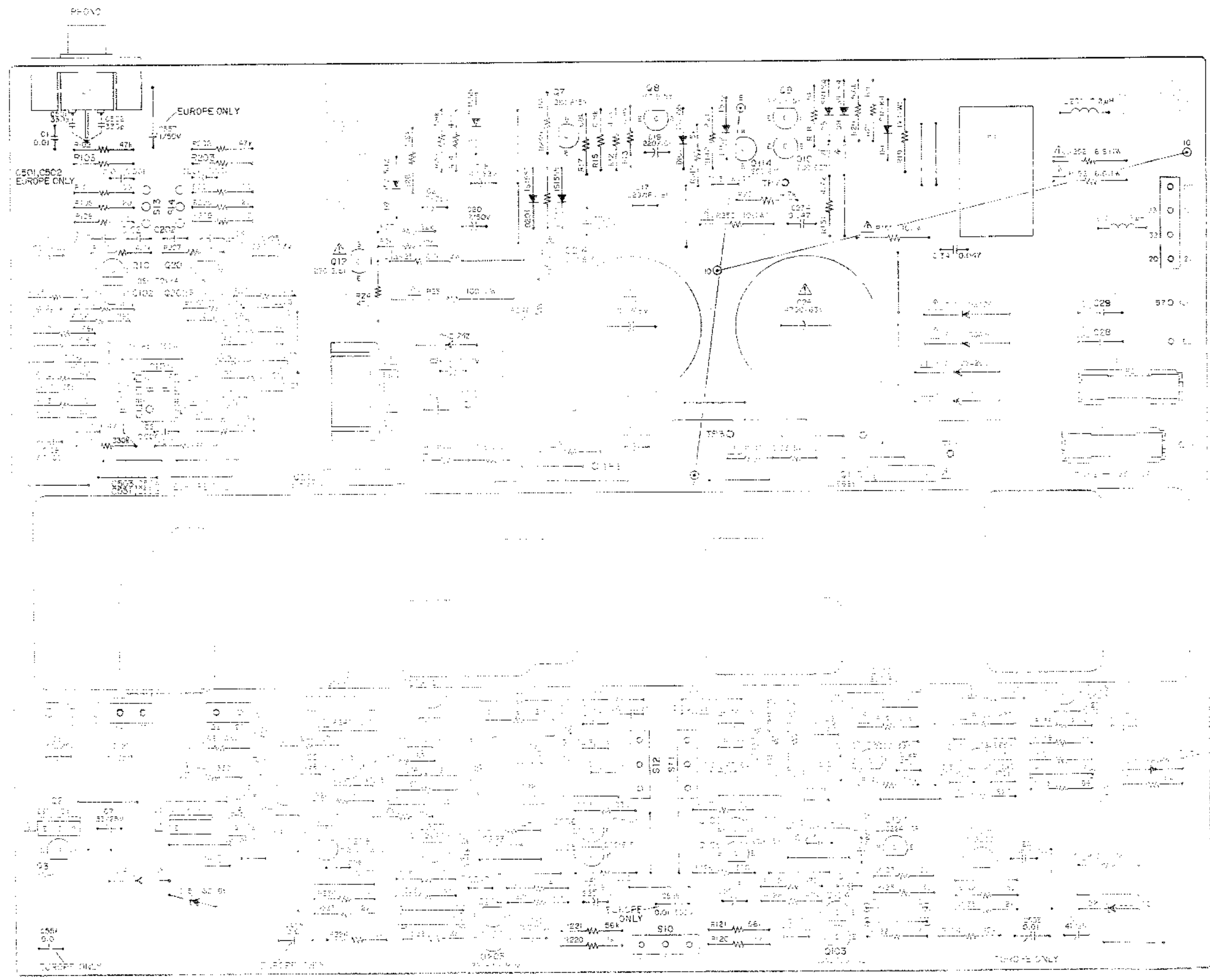
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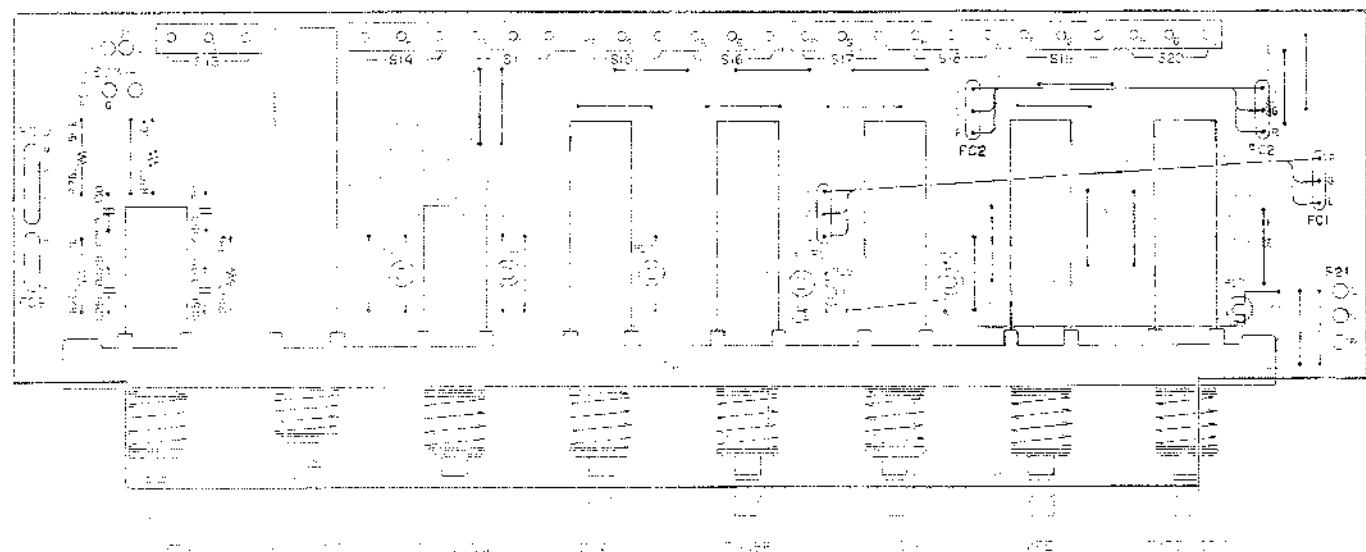
3 PC BOARDS AND PARTS LIST

2-717

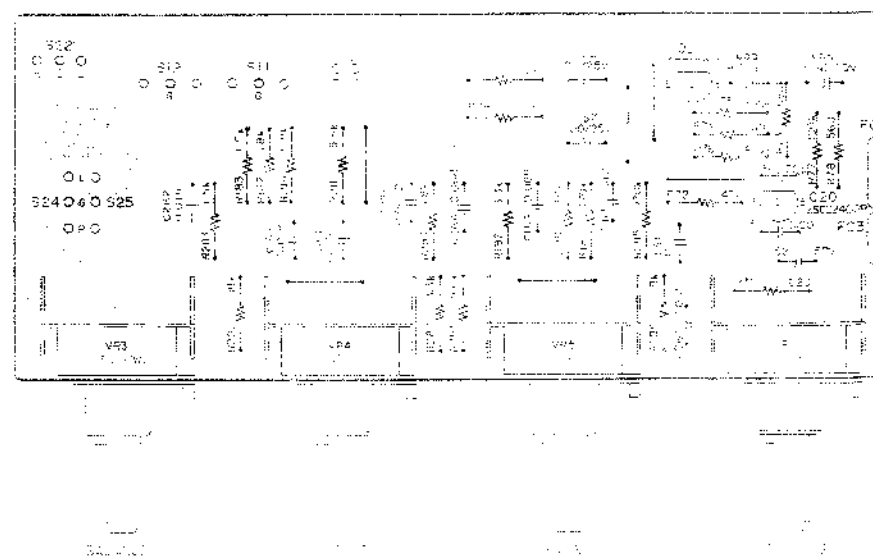
MAIN PCB ASSY



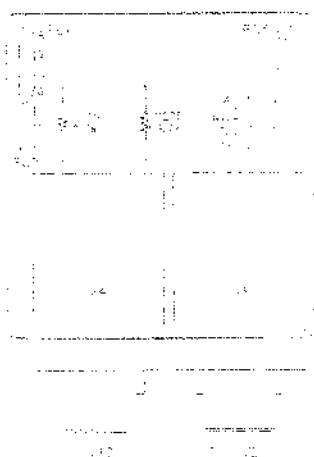
SELECTOR SW PCB ASSY



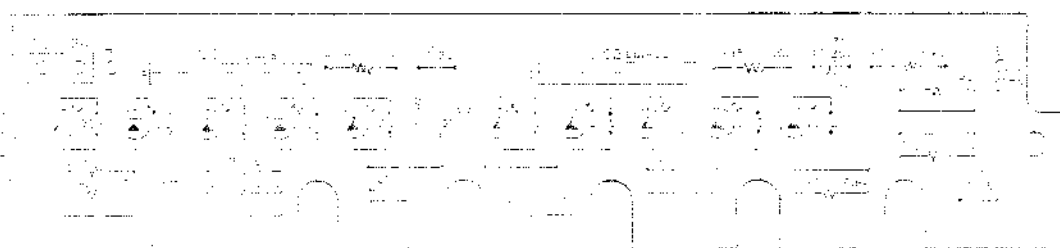
TONE & MIC PCB ASSY



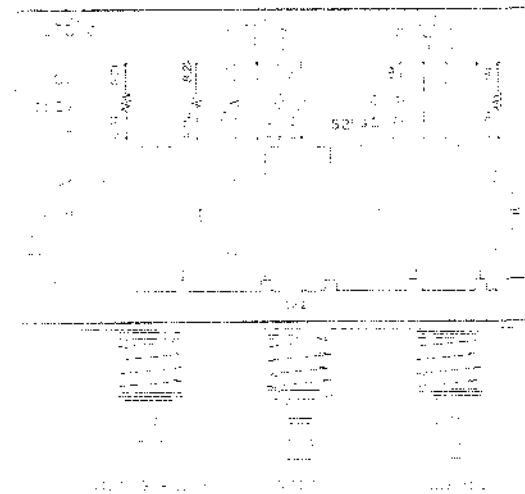
LOCK PCB ASSY



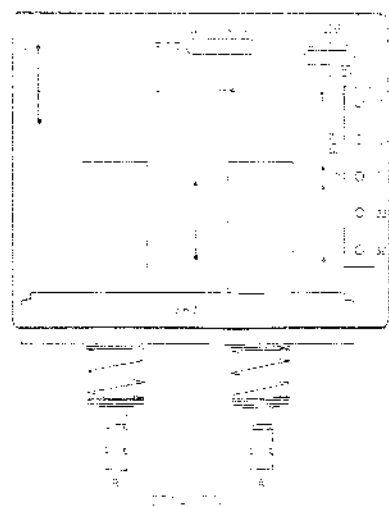
LED PCB ASSY



PLATING PCB ASSY



TREASER SW ASSY



SPEAKER TERMINAL PCB ASSY



VOLUME PCB ASSY



NOTES

1. The as used on the PCB dimensions are as follows:
 - R none supply point
 - R none supply stroke
 - R none
 - Other
2. Resistor values are in ohms (R), 1,000 ohms (K), 100,000 ohms (M).
3. Capacitor values are in microfarads (µF), millifarads (mF), and farads (F).
4. Parts marked with the sign are safety critical components. They must always be replaced with identical components. Refer to the appropriate parts list and ensure exact replacement.

MAIN PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760483500	PCB Assy [E]
	5760483510	PCB Assy [GE, UK, A]
	5760431300	PCB
	IC	
IC101	5760337400	LA6458DS
	TRANSISTORS	
Q2	△ 5231755100	2SD880Y
Q3	5232005100	FET 2SK246Y
Q5	△ 5230505700	2SB834Y
Q6	5232005100	FET 2SK246Y
Q7~Q9	5230770300	2SC1815Y
Q10	5760121800	2SC1627AY
Q11	△ 5231755100	2SD880Y
Q12	△ 5230770300	2SC1815Y
Q101, Q201	5760102300	FET 2SK170Y
Q102, Q202	5760102300	FET 2SK170Y
Q103, Q203	5145149000	2SA970GR
Q104, Q204	5145149000	2SA970GR
Q105, Q205	5230770300	2SC1815Y
Q106, Q206	5230770300	2SC1815Y
Q107, Q207	5145153000	2SC2240GR
Q108, Q208	5145169000	2SC2235Y
Q109, Q209	5230770300	2SC1815Y
Q110, Q210	△ 5145169000	2SC2235Y
Q111, Q211	△ 5145168000	2SA965Y
Q112, Q212	△ 5145171000	2SD7180
Q113, Q213	△ 5145170000	2SB6880
Q114, Q214	5230770300	2SC1815Y
	DIODES	
D2	5224557106	Zener 05Z-20Z
D3	5042220000	1S1555
D4, D5	△ 5760494400	SR1K-4
D6	5224557706	Zener 05Z-24Z
D7	5224552906	Zener 05Z-5.1Z
D8	△ 5760494400	SR1K-4
D9~D12	△ 5760340000	DSA-26C
D13	5760494400	SR1K-4
D14, D15	5224556400	Zener 05Z-16Y
D101, D201	5042220000	1S1555
D102, D201	5042220000	1S1555
	RESISTORS	
All resistors are rated ±5% tolerance, ¼ watt and are carbon type unless otherwise noted.		
R4	△ 5184261000	330Ω Nonflammable
R8	△ 5184261000	330Ω Nonflammable
R10	△ 5182032000	2.7kΩ ½W Nonflammable
R11	△ 5184249000	100Ω Nonflammable
R12	5181298000	4.7kΩ
R13	5181302000	6.8kΩ
R14	5181322000	47kΩ
R15	5181302000	6.8kΩ
R16	5181348000	560kΩ
R17	5181326000	68kΩ

REF. NO.	PARTS NO.	DESCRIPTION
R18	5181312000	18kΩ
R19	5760340500	1kΩ 1W Metal Film
R20	5181296000	3.9kΩ
R21	5181306000	10kΩ
R22	5185211000	2.2kΩ Fusible
R23	△ 5760494900	100Ω 1W Metal Film
R24	5181274000	470Ω
R25	△ 5182032000	2.7kΩ ½W
R26	5181326000	68kΩ
R27	5181314000	22kΩ
R28	5181300000	5.6kΩ
R29	5181300000	5.6kΩ
R101, R201	5181258000	100Ω
R102, R202	5181322000	47kΩ
R103, R203	5181242000	22Ω [GE, UK, A]
R103, R203	5181270000	330Ω [E]
R104, R204	5181298000	4.7kΩ
R105, R205	5181298000	4.7kΩ
R106, R206	5181272000	390Ω
R107, R207	5181298000	4.7kΩ
R108, R208	5181260000	120Ω
R109, R209	5181234000	10Ω
R110, R210	5181326000	68kΩ
R111, R211	5181300000	5.6kΩ
R112, R212	5181300000	5.6kΩ
R113, R213	5181260000	120Ω
R114, R214	5181276000	560Ω
R115, R215	5181342000	330kΩ
R120, R220	5181282000	1kΩ
R121, R221	5181324000	56kΩ
R122, R222	5181246000	33Ω
R123, R223	5181246000	33Ω
R124, R224	5181306000	10kΩ
R125, R225	5181274000	470Ω
R126, R226	5181270000	330Ω
R127, R227	5181270000	330Ω
R128, R228	5181322000	470kΩ
R130, R230	5181276000	560Ω
R131, R231	5181306000	10kΩ
R132, R232	5181274000	470kΩ
R133, R233	5181258000	100Ω
R134, R234	5181306000	10kΩ
R135, R235	5181308000	12kΩ
R136, R236	5181292000	2.7kΩ
R137, R237	5181262000	150Ω
R138, R238	5181254000	68Ω
R139, R239	5181284000	1.2kΩ
R140, R240	5180088000	1.8kΩ ½W
R141, R241	5180096000	3.9kΩ ½W
R142, R242	5181280000	820Ω
R143, R243	5181280000	820Ω
R144, R244	△ 5184259000	270Ω Nonflammable
R145, R245	△ 5184257000	220Ω Nonflammable
R146, R246	△ 5184257000	220Ω Nonflammable
R147, R247	△ 5760120600	0.33Ω 5W x 2 10% Cement
R148, R248	5181290000	2.2kΩ
R149, R249	5181310000	15kΩ

[GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K. [A]: AUSTRALIA [SA]: SOUTH AFRICA

REF. NO.	PARTS NO.	DESCRIPTION
R150, R250	△5760140900	10Ω 1W Metal Film
R151, R251	5181298000	4.7kΩ
R152, R252	△5760140800	6.8Ω 1W Metal Film
CAPACITORS		
C1	5172336000	Ceramic 0.01μF 50V
C3	5260162650	Elec. 100μF 25V
C7	5260164452	Elec. 33μF 25V
C11	5260164452	Elec. 33μF 25V
C12	5173054800	Elec. 220μF 16V
C13	5260165252	Elec. 47μF 25V
C16	5173312000	Elec. 220μF 63V
C17	5260071400	Elec. 220μF 16V (BP)
C18	5173310000	Elec. 47μF 63V
C19	5260166852	Elec. 220μF 10V
C20	5260162150	Elec. 4.7μF 50V
C21	5260162150	Elec. 4.7μF 50V
C24	5260162150	Elec. 4.7μF 50V
C25	5260162750	Elec. 10μF 35V
C26, C27	△5760494300	Elec. 4700μF 63V
C28, C29	△5760334200	Mylar 0.033μF 250V AC [E]
C28, C29	△5760348600	Ceramic 0.01μF 250V AC [All except E]
C101, C201	5172324000	Ceramic 0.001μF 50V [All except E]
C102, C202	5172310000	Ceramic 68pF 50V [All except E]
C103, C203	5172324000	Ceramic 0.001μF 50V
C104, C204	5172320000	Ceramic 470pF 50V
C105, C205	5173086000	Elec. 2200μF 6.3V
C106, C206	5054738800	Mylar 0.047μF 50V
C107, C207	5054877800	Mylar 0.01μF 50V
C108, C208	5054881800	Mylar 0.0033μF 50V
C109, C209	5260161550	Elec. 3.3μF 50V
C110, C210	5054813000	Mylar 0.0047μF 50V
C115, C215	5260161550	Elec. 3.3μF 50V
C117, C217	5172320000	Ceramic 470pF 50V [All except E]
C117, C217	5172324000	Ceramic 0.001μF 50V [E]
C118, C218	5260166852	Elec. 220μF 10V
C119, C219	5172306000	Ceramic 33pF 50V
C120, C220	5172310000	Ceramic 68pF 50V
C121, C221	5260165252	Elec. 47μF 16V
C122, C222	5260165252	Elec. 47μF 16V
C123, C223	5172313000	Ceramic 120pF 50V [All except E]
C123, C223	5172318000	Ceramic 330pF 50V [E]
C124, C224	5760219100	Ceramic 5pF 500V
C125, C225	5173047800	Elec. 100μF 35V
C126, C226	5760225900	Ceramic 100pF 500V
C127, C227	5172324000	Ceramic 0.001μF 50V
C128, C228	5260162650	Elec. 100μF 25V
C129, C229	5172320000	Ceramic 470pF 50V
C130, C230	5172320000	Ceramic 470pF 50V
C131, C231	5760225100	Ceramic 47pF 500V
C132, C232	5760225100	Ceramic 47pF 500V
C133, C233	5054827000	Mylar 0.047μF 50V
C134, C234	5054827000	Mylar 0.047μF 50V
C501, C502	5172318000	Ceramic 330pF 50V [E]
C503, C504	5172303000	Ceramic 18pF 50V [E]

REF. NO.	PARTS NO.	DESCRIPTION
C551 ~ C554	5172336000	Ceramic 0.01μF 50V [E]
C555	5760496100	Ceramic 0.01μF 500V [E]
C556	5172336000	Ceramic 0.01μF 50V [E]
C557	5260160750	Elec. 1μF 50V [E]
MISCELLANEOUS		
L101, L201	5760120900	Coil, 2.2μH
RY1	5760121000	Relay, G2Z-222P-US
J1	5760142100	Jack, Pin; 2P
F1, F2	△5142174000	Fuse, F5A 250V
	5142087000	Holder, Fuse
	5760121500	Heatsink, B
	5760102200	Heatsink
	5760115500	Pin, Lapping (9 used)
	5760115600	Pin, Lapping; 2P (2 used)
	5760115700	Pin, Lapping; 3P (3 used)
	5760115800	Pin, Lapping; 4P (1 used)

SELECTOR SW PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760483600	PCB Assy
	5760431500	PCB
CARBON RESISTORS		
R161, R261	5181324000	56kΩ ¼W 5%
R162, R262	5181312000	18kΩ ¼W 5%
CAPACITORS		
C150, C250	5172318000	Ceramic 330pF 50V
C151, C251	5054855000	Mylar 0.018μF 50V
MISCELLANEOUS		
SW1	5760340900	Switch, Push
	5760341000	Pin, Lapping; 12P (2 used)
	5760115700	Pin, Lapping; 3P (1 used)
PL1 ~ PL7	5760481500	Lamp, 28V 24 mA

JACK PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760483800	PCB Assy
	5760431700	PCB
RESISTORS		
R175, R275	5181298000	Carbon 4.7kΩ ¼W 5%
R176, R276	△5760339500	Metal Film 220Ω 1W 5%
JACKS		
J4	5760485000	MIC
J5	5760485100	PHONES

[GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K. [A]: AUSTRALIA [SA]: SOUTH AFRICA

TONE & MIC PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760483700	PCB Assy
	5760431600	PCB
TRANSISTORS		
Q20	5145153000	2SC2240GR
Q21	5230770300	2SC1815Y
CARBON RESISTORS All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt unless otherwise noted.		
R71	5181280000	820 Ω
R72	5181322000	47k Ω
R73	5181350000	680k Ω
R74	5181314000	22k Ω
R75	5181330000	100k Ω
R76	5181274000	470 Ω
R77	5181330000	100k Ω
R78	5181276000	560 Ω
R79, R80	5184273000	1k Ω Nonflammable
R181, R281	5181300000	5.6k Ω
R182, R282	5181312000	18k Ω
R183, R283	5181286000	1.5k Ω
R184, R284	5181302000	6.8k Ω
R185, R285	5181346000	470k Ω
R186, R286	5181312000	18k Ω
R187, R287	5181294000	3.3k Ω
CAPACITORS		
C51	5172336000	Ceramic 0.01 μ F 50V
C52	5260160750	Elec. 1 μ F 50V
C53	5172324000	Ceramic 0.001 μ F 50V
C54	5172304000	Ceramic 22pF 50V
C55	5260165252	Elec. 47 μ F 16V
C56	5260160550	Elec. 0.47 μ F 50V
C57, C58	5260166152	Elec. 100 μ F 25V
C161, C261	5054845000	Mylar 0.0022 μ F 50V
C162, C262	5054855000	Mylar 0.018 μ F 50V
C163, C263	5054862000	Mylar 0.012 μ F 50V
C164, C264	5054854000	Mylar 0.068 μ F 50V
VARIABLE RESISTORS		
VR1	5760341200	10k Ω (B)
VR3	5760339100	500k Ω (W)
VR4, VR5	5760339200	100k Ω (C)

LED PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760484300	PCB Assy
	5760432300	PCB
IC's		
IC102	5760336500	LB1403
IC202	5760336500	LB1403
DIODES		
D110, D210	5042213000	1N60FM
D111, D211	5042220000	1S1555
D112, D212	5760334700	LED, LN31GPH
D113, D213	5760334700	LED, LN31GPH
D114, D214	5760334700	LED, LN31GPH
D115, D215	5760334700	LED, LN31GPH
D116, D216	5760334700	LED, LN31GPH
CARBON RESISTORS All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R190, R290	5181300000	5.6k Ω
R191, R291	5181260000	120 Ω
R192, R292	5181302000	6.8k Ω
R193, R293	5181284000	1.2k Ω
R194, R294	5181292000	2.7k Ω
R195, R295	5181306000	10k Ω
CAPACITORS		
C170, C270	5260165252	Elec. 4.7 μ F 25V
C171, C271	5260165252	Elec. 4.7 μ F 25V
	5760485400	Pin, Lapping; 2P

MUTING PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760484000	PCB Assy
	5760431900	PCB
CARBON RESISTORS All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R165, R265	5181298000	4.7k Ω
R166, R266	5181326000	68k Ω
R167, R267	5181304000	8.2k Ω
R168, R268	5181282000	1k Ω
R169, R269	5181282000	1k Ω
R170, R270	5181354000	1M Ω
CAPACITORS		
C155, C255	5172024000	Tant. 0.15 μ F 16V
SWITCH		
SW2	5760341500	Push

VOLUME PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760484200	PCB Assy
	5760432200	PCB
	5760485300	Var. Res., 250kΩ (B) x 2

SPEAKER SW PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760484100	PCB Assy
	5760432000	PCB
	5760485200	Switch, Push
	5760116100	Pin, Lapping; 5P

SPEAKER TERMINAL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760483900	PCB Assy [E]
	5760483910	PCB Assy [All except E]
	5760431800	PCB
CAPACITORS		
C535~C538	5172336000	Ceramic 0.01μF 50V [E]
C581, C582	5172336000	Ceramic 0.01μF 50V [E]
J6	5760102700	Terminal, Push; 8P

POWER SW PCB ASSY (PC Board Omitted)

REF. NO.	PARTS NO.	DESCRIPTION
	5760481100	PCB Assy [GE]
	5760481110	PCB Assy [E]
	5760481120	PCB Assy [UK, A]
	5760252600	PCB
SW4	± 5300030800	Switch, Power
Z2	± 5760335600	Spark Killer 0.01μF/250V AC [GE]
Z2	± 5267703100	Spark Killer 0.01μF/250V AC [UK, A]
Z1, Z2	± 5267703100	Spark Killer 0.01μF/250V AC [E]
	5760115500	Pin, Lapping [E, UK, A]

[GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K. [A]: AUSTRALIA [SA]: SOUTH AFRICA

MAIN PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760481900	PCB Assy (A-515) [E]
	5760481910	PCB Assy (A-515) [All except E]
	5760480500	PCB Assy (A-313) [E]
	5760480510	PCB Assy (A-313) [All except E]
	5760430700	PCB
	IC's	
IC101	5760337400	LA6458DS
IC102	±5760337500	STK465 (A-515)
IC102	±5760404100	STK460A (A-313)
	TRANSISTOR	
Q1	5230505700	2SB834Y (A-515)
	DIODES	
D1, D2	5224556406	Zener 05Z-16Y
D3	5224557706	Zener 05Z-24Z (A-515)
D10~D13	±5760495000	1BZ61 (A-515)
D10~D13	±5760494400	SR1K-4 (A-313)
	RESISTORS	
All resistors are rated ± 5% tolerance, ¼ watt and are carbon type unless otherwise noted.		
R1, R2	±5182028000	1.8kΩ ¼W Nonflammable (A-515)
R1, R2	±5182026000	1.5kΩ ¼W Nonflammable (A-313)
R3	±5184249000	100Ω Nonflammable
R4	±5182028000	1.8kΩ ¼W Nonflammable (A-515)
R5	±5184143000	56Ω Nonflammable (A-515)
R101, R201	5181330000	100kΩ
R102, R202	5181250000	47Ω [All except E]
R102, R202	5181292000	2.7kΩ [E]
R103, R203	5181330000	100kΩ
R104, R204	5181278000	680Ω
R105, R205	5181310000	15kΩ
R106, R206	5181310000	15kΩ
R107, R207	5181344000	390kΩ
R108, R208	5181278000	680Ω
R109, R209	5181274000	470Ω
R110, R210	5181322000	47kΩ
R121, R221	5181290000	2.2kΩ
R122, R222	5181324000	56kΩ
R123, R223	5181312000	18kΩ
R141, R241	5181282000	1kΩ
R142, R242	5181324000	56kΩ
R143, R243	5181300000	5.6kΩ
R144, R244	5181276000	560Ω (A-515)
R144, R244	5181278000	680Ω (A-313)
R145, R245	5181272000	390Ω (A-515)
R145, R245	5181274000	470Ω (A-313)
R146, R246	5181324000	56kΩ
R147, R247	5181298000	4.7kΩ
R148, R248	±5180094000	3.3kΩ ¼W
R149, R249	±5184273000	1kΩ Nonflammable
R150, R250	±5760338500	0.33Ω 3W Cement (A-515)
R150, R250	±5760494700	0.33Ω 2W Metal Film (A-313)
R151, R251	±5760140900	10Ω 1W Metal Film

REF. NO.	PARTS NO.	DESCRIPTION
CAPACITORS		
C1	5172336000	Ceramic 0.01µF 50V
C2, C3	5260165252	Elec. 47µF 25V
C4	5260165452	Elec. 47µF 50V
C5, C6	5260162150	Elec. 4.7µF 50V (A-515)
C7, C8	±5760337900	Elec. 3300µF 50V (A-515)
C7, C8	±5260190500	Elec. 2200µF 35V (A-313)
C9, C10	±5760348600	Ceramic 0.01µF 250V AC
C101, C201	5172316000	Ceramic 220pF 50V
C102, C202	5260161150	Elec. 2.2µF 50V
C103, C203	5260165952	Elec. 100µF 10V
C104, C204	5054886800	Mylar 0.0012µF 50V
C105, C205	5054886800	Mylar 0.0012µF 50V
C106, C206	5054894800	Mylar 0.0082µF 50V
C107, C207	5260160750	Elec. 1µF 50V
C121, C221	5172318000	Ceramic 330pF 50V
C122, C222	5054855000	Mylar 0.018µF 50V
C141, C241	5260160750	Elec. 1µF 50V
C142, C242	5172316000	Ceramic 220pF 50V
C143, C243	5172313000	Ceramic 120pF 50V
C144, C244	5760338000	Ceramic 5pF 50V
C145, C245	5760225100	Ceramic 47pF 500V
C146, C246	5760338100	Ceramic 2pF 50V
C147, C247	5260162750	Elec. 10µF 35V
C148, C248	5260165252	Elec. 47µF 16V
C149, C249	5260165352	Elec. 47µF 35V
C150, C250	5054827000	Mylar 0.047µF 50V
C501, C502	5172318000	Ceramic 330pF 50V [E]
C505~C510	5172318000	Ceramic 330pF 50V [E]
C511, C512	5172316000	Ceramic 220pF 50V [E]
C551, C552	5172336000	Ceramic 0.01µF 50V [E]
C557	5172344000	Ceramic 0.047µF 50V [E]
C558	5172313000	Ceramic 120pF 50V [E]
C559	5172318000	Ceramic 330pF 50V [E]
C560	5260160750	Elec. 1µF 50V [E]
C562, C563	5172344000	Ceramic 0.047µF 50V [E]
C564	5172318000	Ceramic 330pF 50V [E]
MISCELLANEOUS		
PL1	5760482500	Lamp, 28V 24 mA (A-313)
PL2~PL5	5760481500	Lamp, 28V 24 mA (A-515)
SW1	5760338800	Switch, Push
F1, F2	±5142174000	Fuse, F4.0A 250V (A-515)
F1, F2	±5142172000	Fuse, F3.15A 250V (A-313)
J1	5142087000	Holder, Fuse
J2	5760339000	Jack, Pin; 4P
	5760338000	Jack, Pin; 6P
	5760115500	Pin, Lapping

VOLUME PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760480800	PCB Assy
	5760430800	PCB
	5760339400	Var. Res., 250 kΩ (B) x 2

[GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K. [A]: AUSTRALIA [SA]: SOUTH AFRICA

PHONE PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760480600	PCB Assy
	5760430900	PCB
CARBON RESISTORS		
All resistors are rated $\pm 5\%$ tolerance and $\frac{1}{4}$ watt.		
R165, R265	5181276000	560 Ω
R166, R266	5181288000	1.8k Ω
R167, R267	5181306000	10k Ω
R168, R268	5181332000	120k Ω
R169, R269	5181284000	1.2k Ω
CAPACITORS		
C165, C265	5054830000	Mylar 0.0033 μ F 50V
C166, C266	5054824000	Mylar 0.033 μ F 50V
C167, C267	5054829000	Mylar 0.022 μ F 50V
C168, C268	5054866000	Mylar 0.22 μ F 50V
VARIABLE RESISTORS		
VR2	5760339100	500k Ω (W)
VR3, VR4	5760339200	100k Ω (C) x 2

HEADPHONE PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760482000	PCB Assy (A-515)
	5760480900	PCB Assy (A-313)
	5760431000	PCB
J3	5760485100	Jack, PHONES (A-515)
J3	5760481700	Jack, PHONES (A-313)
R175, R275	5760339500	Resistor, 220 Ω 1W Metal Film

SPEAKER SW PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760480700	PCB Assy [E]
	5760480710	PCB Assy [All except E]
	5760431100	PCB
R531, R532	5760140800	Resistor, 6.8 Ω 1W 5% Metal Film [E]
L531, L532	5760120900	Coil, 2.2 μ H [E]
SW2	5760481600	Switch, Push

SPEAKER TERMINAL PCB ASSY

REF. NO.	PARTS NO.	DESCRIPTION
	5760481000	PCB Assy [E]
	5760481010	PCB Assy [All except E]
	5760431200	PCB
C535~C538	5172336000	Capacitor, Ceramic 0.01 μ F 50V [E]
C571, C572	5172336000	Capacitor, Ceramic 0.01 μ F 50V [E]
J4	5760102700	Terminal, Push; 8P

POWER SW PCB ASSY (PC Board Omitted)

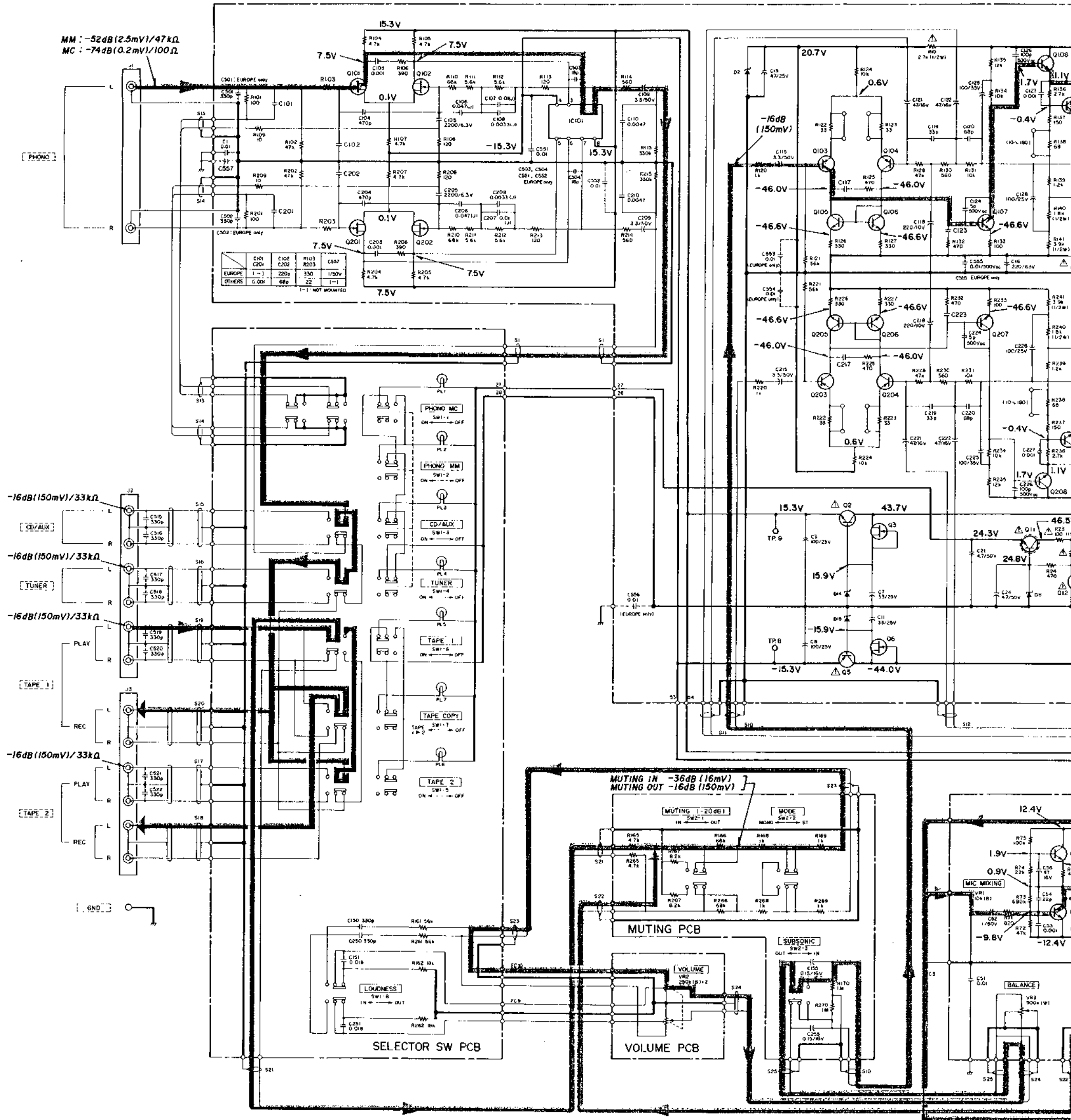
REF. NO.	PARTS NO.	DESCRIPTION
	5760481100	PCB Assy [GE]
	5760481110	PCB Assy [E]
	5760481120	PCB Assy [UK, A]
	5760252600	PCB
SW4	57600030800	Switch, Power
Z2	5760335600	Spark Killer 0.01 μ F/250V AC [GE]
Z2	57627703100	Spark Killer 0.01 μ F/250V AC [UK, A]
Z1, Z2	57627703100	Spark Killer 0.01 μ F/250V AC [E]
	5760115500	Pin, Lapping [E, UK, A]

[GE]: GENERAL EXPORT [E]: EUROPE [UK]: U.K. [A]: AUSTRALIA [SA]: SOUTH AFRICA

1 2 3 4 5 6

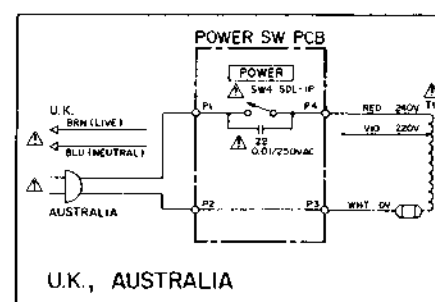
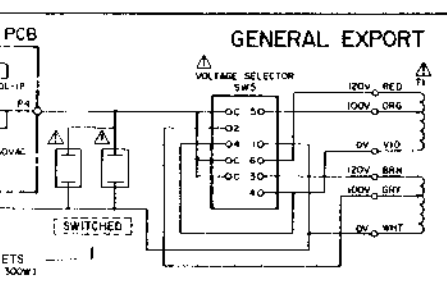
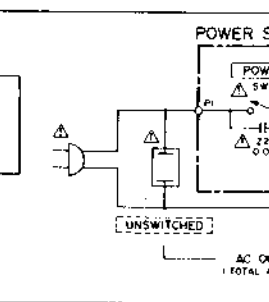
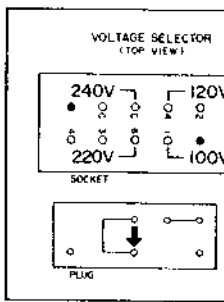
A
B
C
D
E
F
G
H

MM: -52dB(2.5mV)/47kΩ
MC: -74dB(0.2mV)/100Ω



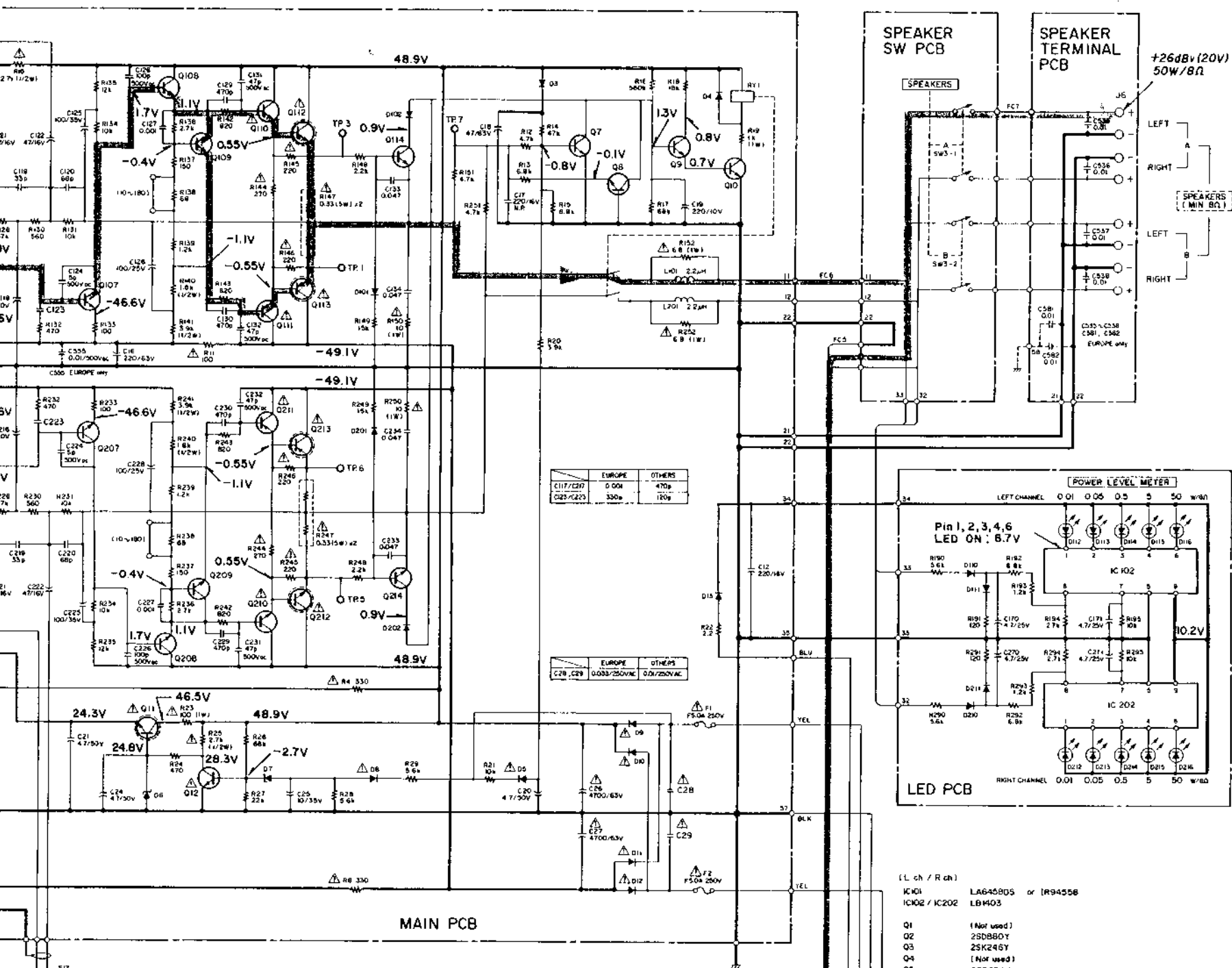
C101	C201	R103	R203	C557
EUROPE	1-1	220	330	1/50V
OTHERS	0.001	68	22	1-1

1-1 NOT MOUNTED



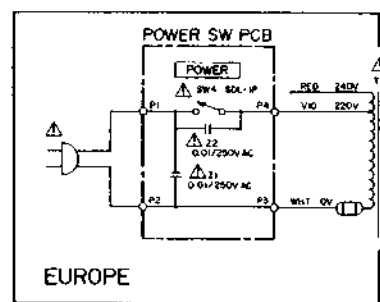
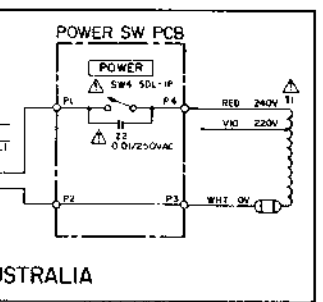
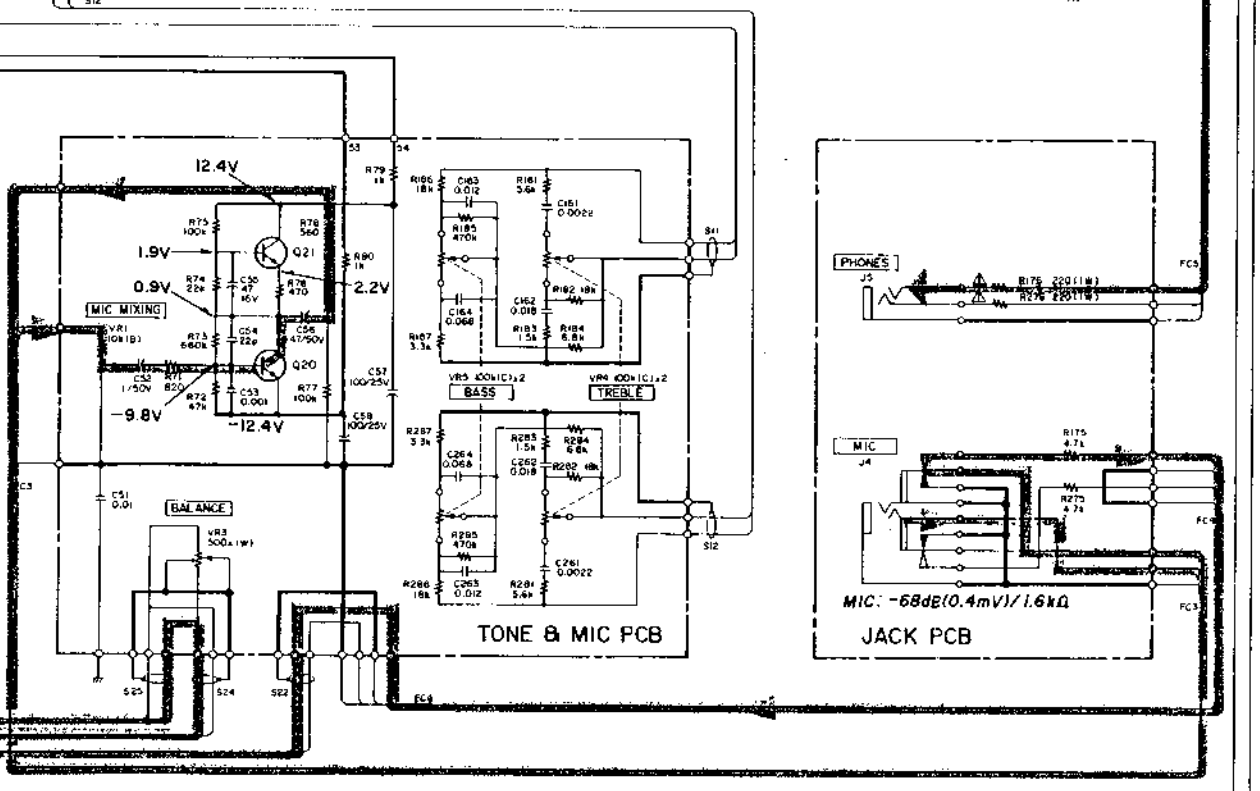
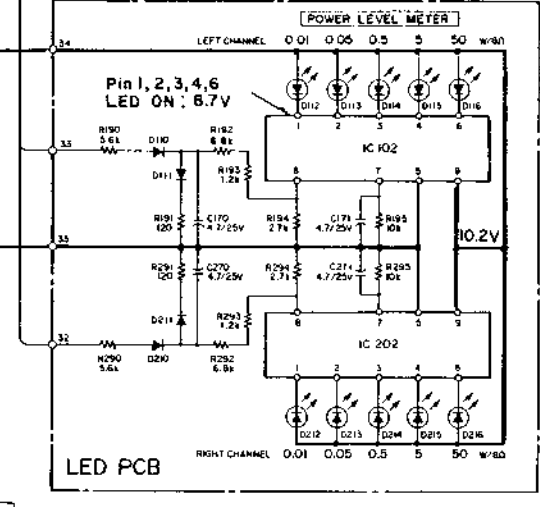
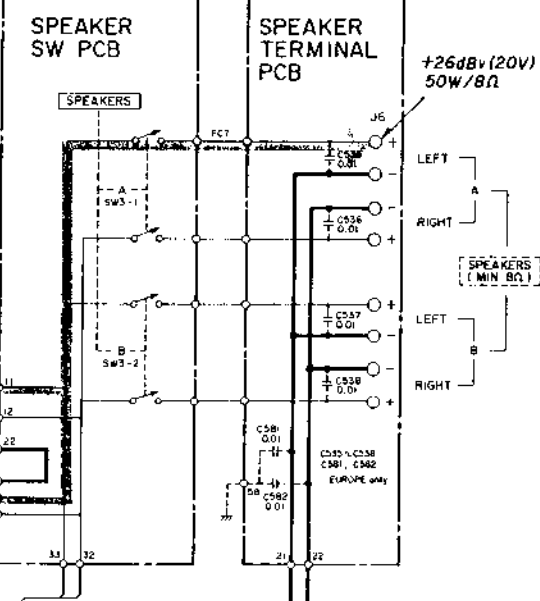
INSTRUCTIONS FOR SERVICE PERSONNEL
BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

- NOTES**
- All resistors are 1/4W, ±5%, unless otherwise noted. Resistor values are in ohms (k = kilo-ohms, M = meg-ohms).
 - All capacitor values are in microfarads (p = pico-farads).
 - 0 dB = 1 V
 - The DC voltages given in each portion are reference values measured under no-signal conditions.
 - Parts marked with this symbol must always be replaced with appropriate parts list and ensure.
 - : +B power supply
 - : -B power supply
 - : Audio signal path
 - : Front panel indicator
 - : Rear panel indicator



IC17/IC20	0.00h	470h
IC23/IC25	330h	120h

C28, C29	0.003/250VAC	0.001/250VAC
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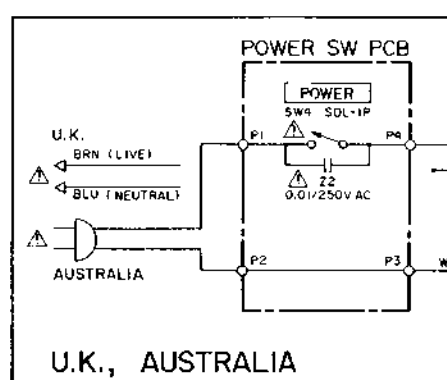
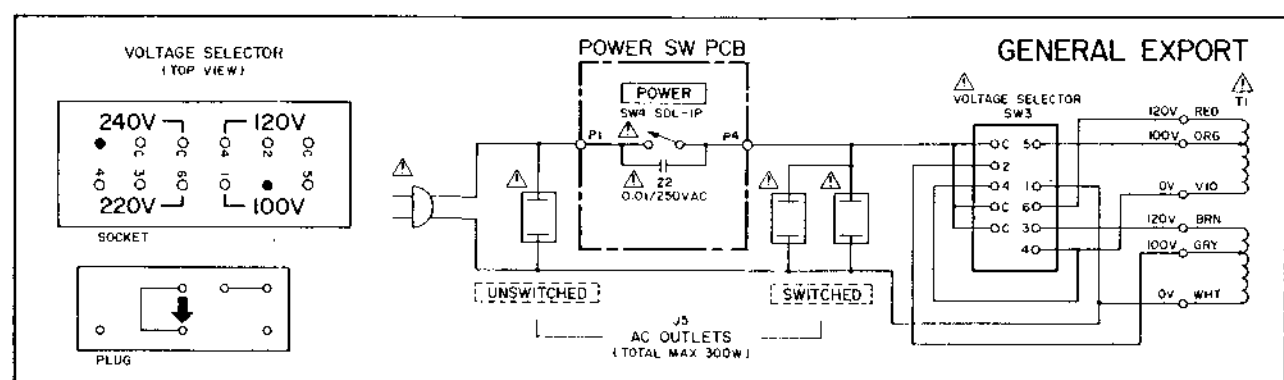
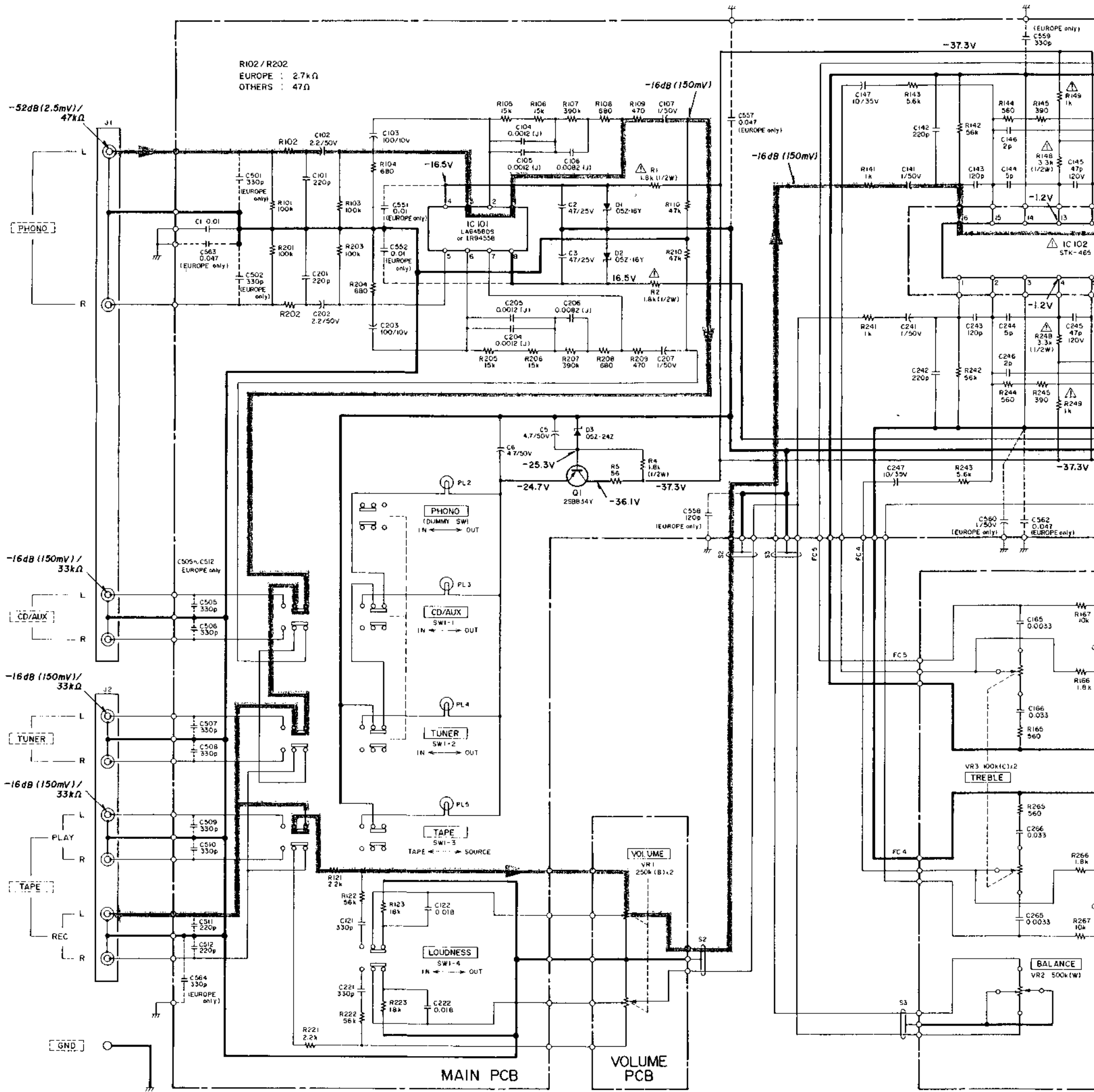
- (L ch / R ch)
- IC101 LA645B05 or IR94556
 - IC102 / IC202 LB1403
 - Q1 (Not used)
 - Q2 2SC850Y
 - Q3 2SK245Y
 - Q4 (Not used)
 - Q5 2SB834Y
 - Q6 2SK246Y
 - Q7 ~ Q9 2SC1815Y or 2SC1815GR
 - Q10 2SC1627AY
 - Q11 2SD880Y
 - Q12 2SC1815Y or 2SC1815GR
 - Q20 2SC22406R
 - Q21 2SC1815Y
 - Q101 / Q201 2SK170Y or 2SK170GR
 - Q102 / Q202 2SK170Y or 2SK170GR
 - Q103 / Q203 2SA970GR or 2SA970BL
 - Q104 / Q204 2SA970GR or 2SA970BL
 - Q105 / Q205 2SC1815Y or 2SC1815GR
 - Q106 / Q206 2SC1815Y or 2SC1815GR
 - Q107 / Q207 2SC22406R or 2SC22406L
 - Q108 / Q208 2SC2235Y or 2SD3581D
 - Q109 / Q209 2SC1815Y
 - Q110 / Q210 2SC2235Y or 2SD3581D
 - Q111 / Q211 2SA965Y or 2SB5261D
 - Q112 / Q212 2SD718 0
 - Q113 / Q213 2SB686 0
 - Q114 / Q214 2SC1815Y or 2SC1815GR
 - D1 (Not used)
 - D2 OS2-20Z
 - D3 IS1555
 - D4, D5 SR-1K-4
 - D6 OS2-24Z
 - D7 OS2-51Z
 - D8 SR-1K-4
 - D9 ~ D12 DSA-26C
 - D13 SR-1K-4
 - D14, D15 OS2-16Y
 - D101 / D201 IS1555
 - D102 / D202 IS1555
 - D110 / D210 INSOFM
 - D111 / D211 IS1555
 - D112 / D212 LN31GP-H
 - D113 / D213 LN31GP-H
 - D114 / D214 LN31GP-H
 - D115 / D215 LN31GP-H
 - D116 / D216 LN31GP-H

- 5. ⚠ Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
- 6. — : +B power supply
- 7. — : -B power supply
- 8. — : Audio signal path (shown for L ch only)
- 9. — : Front panel indication
- 0. — : Rear panel indication

TEAC SCHEMATIC DIAGRAM A-515

1 2 3 4 5 6

A
B
C
D
E
F



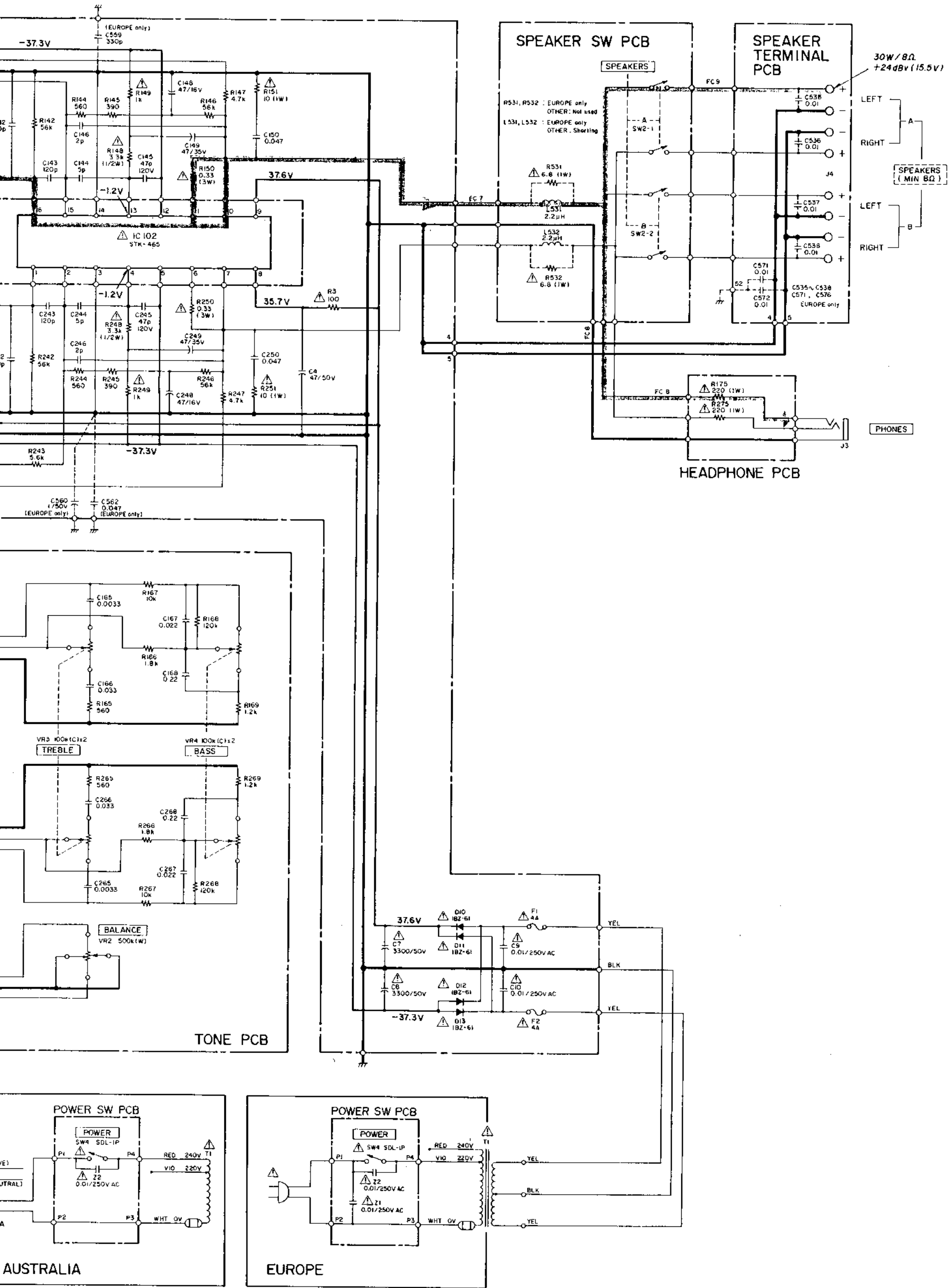
INSTRUCTIONS FOR SERVICE PERSONNEL

BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

NOTES

- All resistors are 1/4W, ±5%, unless otherwise noted. Resistor values are in ohms (k = kilo-ohms, M = meg-ohms).
- All capacitor values are in microfarads (p=pico-farads).
- 0 dB = 1 V
- The DC voltages given in each portion are reference values measured under no-signal conditions.
- Parts marked with the symbol must always be replaced with appropriate parts list and enclosure.
- : +B power supply
- : -B power supply
- : Audio signal path
- : Front panel indicator
- : Rear panel indicator

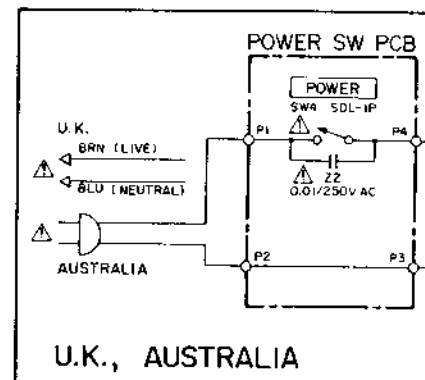
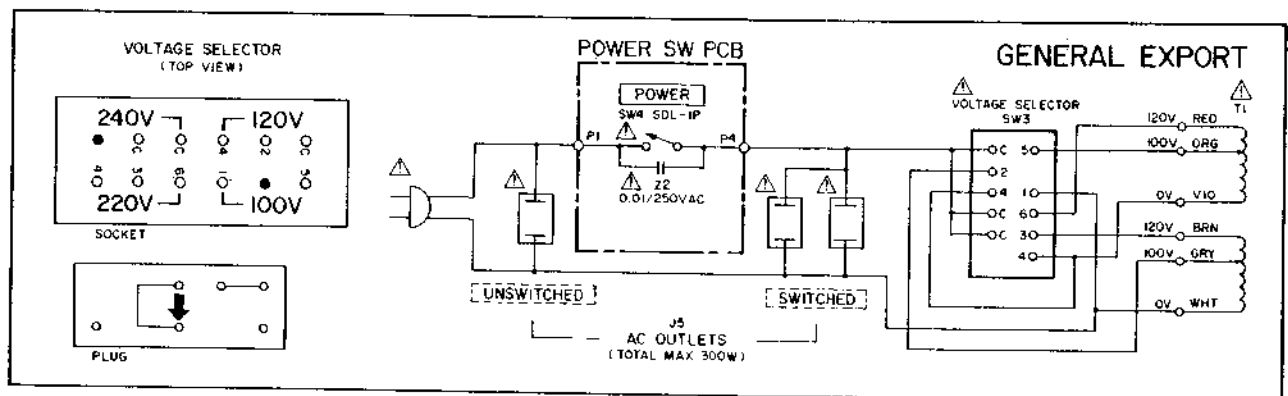
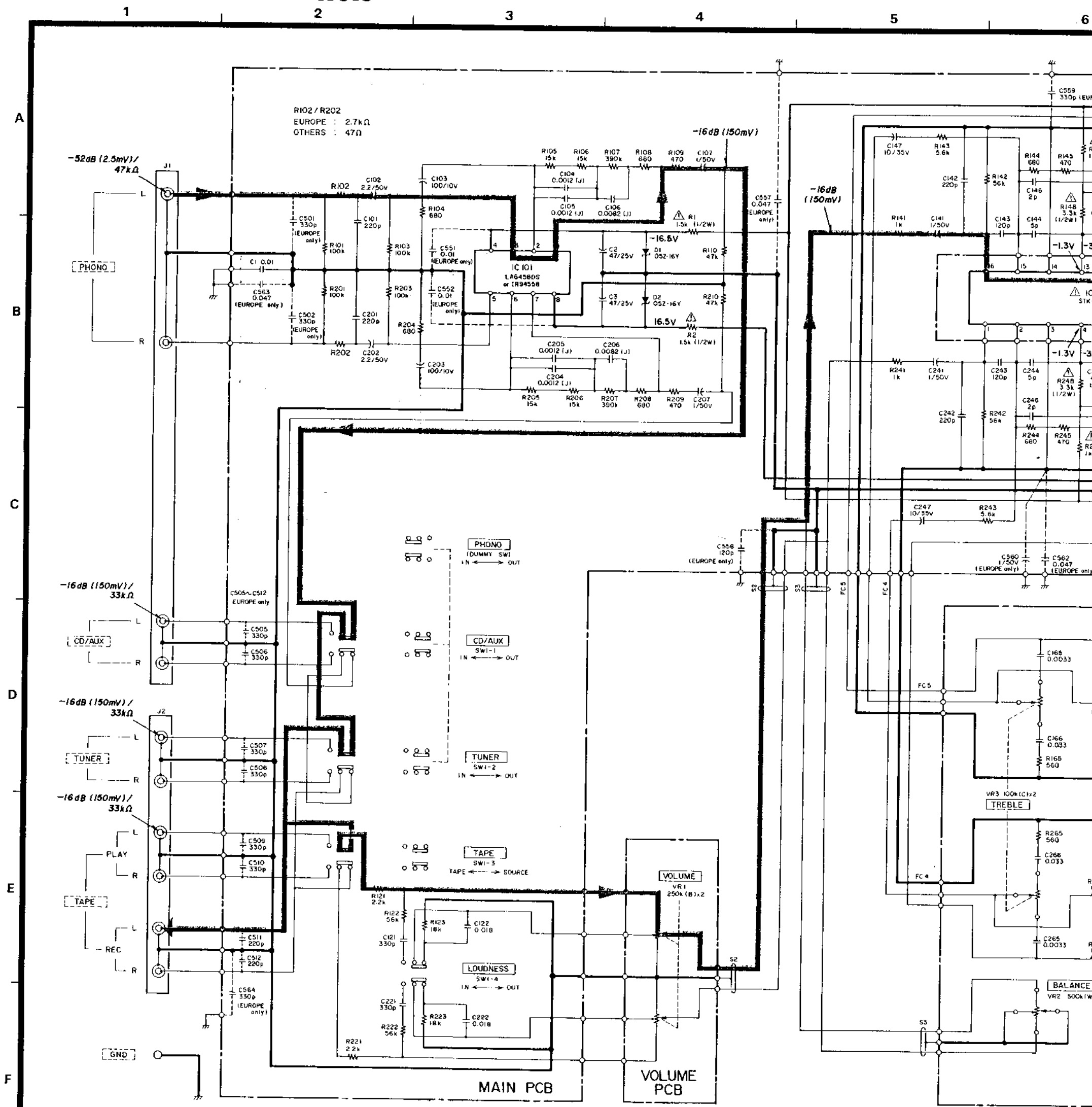
H



5. Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
6. : +B power supply
7. : -B power supply
8. : Audio signal path (shown for L ch only)
9. : Front panel indication
10. : Rear panel indication

A-515 DC Integrated Stereo Amplifier

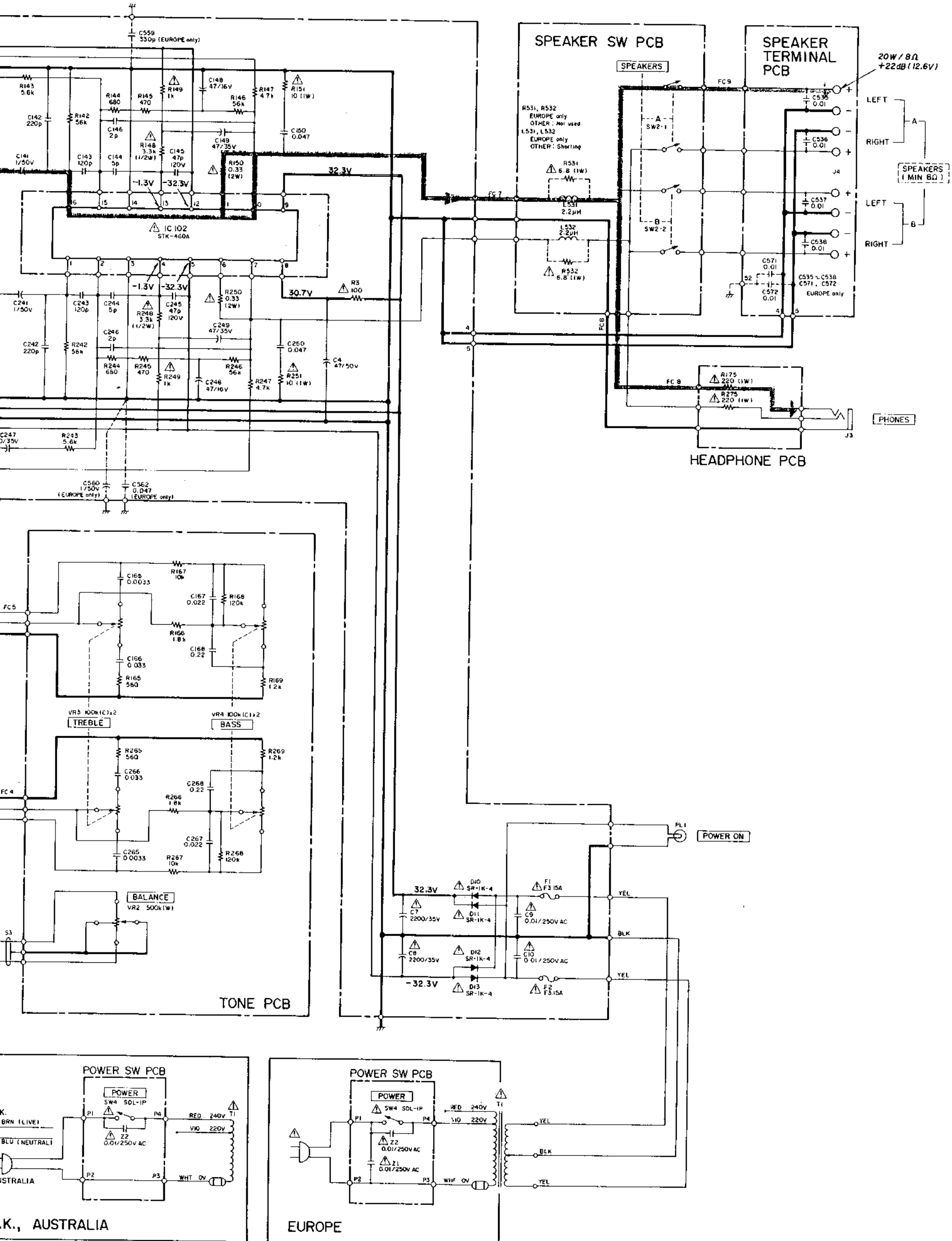
TEAC SCHEMATIC DIAGRAM A-313



INSTRUCTIONS FOR SERVICE PERSONNEL
 BEFORE RETURNING APPLIANCE TO THE CUSTOMER, MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT.

- NOTES**
1. All resistors are 1/4W, ±5%, unless otherwise noted. Resistor values are in ohms (k = kilo-ohms, M = meg-ohms).
 2. All capacitor values are in microfarads (p = pico-farads).
 3. 0 dB = 1 V
 4. The DC voltages given in each portion are reference values measured under no-signal conditions.

5. Δ Parts marked with must always be replaced with appropriate parts list and part number.
6. $\text{---}+$ +B power supply
7. $\text{---}-$ -B power supply
8. --- Audio signal path
9. --- Front panel indicator
10. --- Rear panel indicator



5. Parts marked with this sign are safety critical components. They must always be replaced with identical components - refer to the appropriate parts list and ensure exact replacement.
6. +B power supply
7. -B power supply
8. Audio signal path (shown for L ch only)
9. Front panel indication
10. Rear panel indication

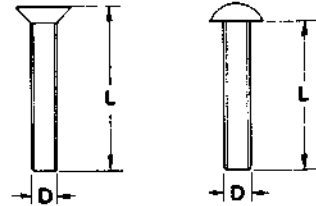
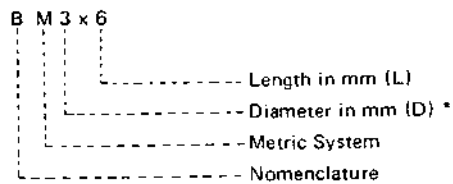
A-313 DC Integrated Stereo Amplifier

ASSEMBLING HARDWARE CODING LIST

All screws conform to ISO standards, and have crossrecessed heads, unless otherwise noted. ISO screws have the head inscribed with a point as in the figure to the right.



FOR EXAMPLE:



* Inner dia. for washers and nuts

	Code	Name	Type		Code	Name	Type
MACHINE SCREW	R	Round Head Screw		TAPPING SCREW	BTA	Binding Head Tapping Screw(A Type)	
	P	Pan Head Screw			BTB	Binding Head Tapping Screw(B Type)	
	T	Stove Head Screw (Truss)			RTA	Round Head Tapping Screw(A Type)	
	B	Binding Head Screw			RTB	Round Head Tapping Screw(B Type)	
	F	Flat Countersunk Head Screw		SETSCREW	SF	Hex Socket Setscrew(Flat Point)	
	O	Oval Countersunk Head Screw			SC	Hex Socket Setscrew(Cup Point)	
WOOD SCREW	RW	Round Head Wood Screw		SS	Slotted Socket Setscrew(Flat Point)		
TAPTITE SCREW	PTT	Pan Head Taptite Screw		WASHER	E	E-Ring (Retaining Washer)	
	WTT	Washer Head Taptite Screw			W	Flat Washer (Plain)	
SEMS SCREW	BSA	Binding Head SEMS Screw(A Type)			SW	Lock Washer (Spring)	
	BSB	Binding Head SEMS Screw(B Type)			LWI	Lock Washer (Internal Teeth)	
	BSF	Binding Head SEMS Screw(F Type)			LWE	Lock Washer (External Teeth)	
	PSA	Pan Head SEMS Screw(A Type)		TW	Trim Washer (Countersunk)		
	PSB	Pan Head SEMS Screw(B Type)		NUT	N	Hex Nut	