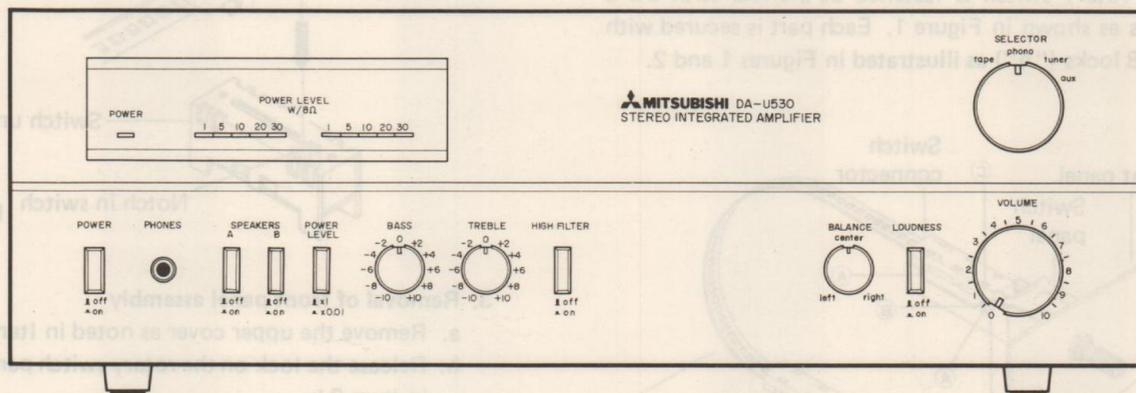




SERVICE MANUAL

STEREO INTEGRATED AMPLIFIER

MODEL DA-U530



SPECIFICATIONS

1. PREAMPLIFIER SECTION

Input sensitivity/impedance at continuous rated power output, 8 ohms, 1 kHz)
 PHONO : 2.5mV/50k ohms
 TUNER, AUX, PLAY (PIN): 150mV/35k ohms
 PLAY (DIN) : 150mV/35k ohms

Phono overload level (at 1 kHz, with 0.1% THD)
 PHONO : 150mV

Output level/impedance
 REC (PIN) : 150mV/600 ohms
 REC (DIN) : 50mV/100k ohms

Frequency Response
 PHONO : ± 0.5 dB from 20 Hz to 20 kHz (RIAA STD)
 TUNER, AUX, PLAY 1 : ± 0.5 dB from 10 kHz to 40 kHz

Tone Control
 BASS : ± 8 dB at 100 Hz
 TREBLE : ± 8 dB at 10 kHz
 High Filter : 7 kHz (6 dB/oct)

Loudness (Volume control set at -30 dB position)
 : +7 dB at 100 Hz
 : +5 dB at 10 kHz

Hum and noise (A network closed circuit)
 PHONO : 74 dB
 TUNER, AUX, PLAY : 95 dB

Hum and noise (DIN, 50mW x2)
 PHONO : 63 dB
 TUNER, AUX, PLAY 1 : 65 dB

2. POWER AMPLIFIER SECTION

Power output : 30W continuous power per channel, both channels driven into 8 ohms at 1 kHz, with 0.05% THD.
 38W continuous power per channel, both channels driven into 4 ohms at 1 kHz, with 0.1% THD.

Total harmonic distortion : 0.03% at 15W per channel, both channels driven into 8 ohms at 1 kHz.

Intermodulation distortion (70 Hz and 7 kHz, 4 : 1)
 : 0.1% at rated power per channel, 8 ohms
 : 0.05% at 15W per channel, 8 ohms

Power bandwidth (IHF) : 10 Hz to 40 kHz at 0.1% THD, 8 ohms

Damping factor : 25 from 20 Hz to 20 kHz, 8 ohms

3. GENERAL

Power consumption : 170W (IEC nominal)
 Dimensions (W x H x D) : 424 x 140 x 249 mm (16-3/4 x 5-1/2 x 9-13/16")
 Weight : 5.4 kg (11.9 lb)

Design and specifications are subject to change without notice for improvement.

DISASSEMBLY INSTRUCTIONS

1. Removal of upper and lower covers

(1) Remove the 4 screws holding the upper cover. Slide the upper cover backward while lifting the rear side slightly up.

Note: A lock washer is used with the screw on the right side.

(2) To remove the lower cover, take out the 2 mount-in screws.

2. Removal of rotary switch mechanism

The rotary switch is fastened at the rear with the 3 parts as shown in Figure 1. Each part is secured with the 8 locks ("A") as illustrated in Figures 1 and 2.

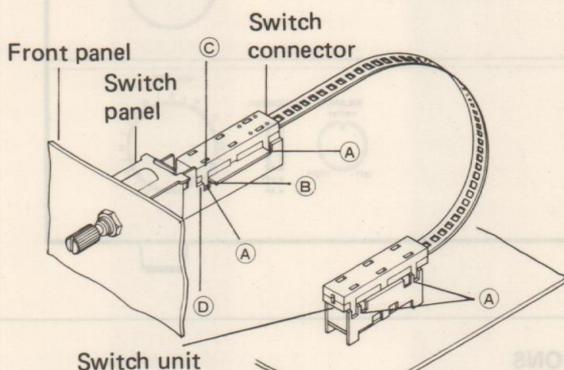


Figure 1

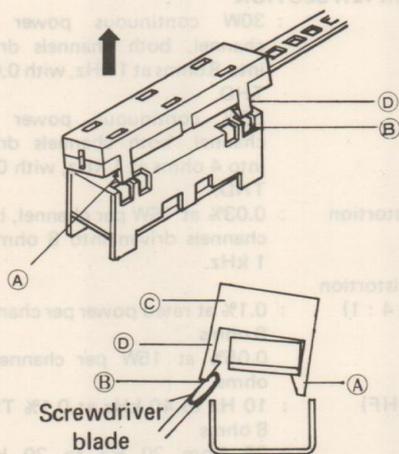


Figure 2

- a. Remove the upper cover as noted in Item 1-(1).
- b. Release the lock "A" shown in Figure 1.
 - (1) Insert a small screwdriver into the "B" section shown in Figures 1 and 2 to remove the "A" section by lifting it up as shown in Figure 2.
 - (2) After lifting, hold the "C" section by hand and insert the screwdriver into the "D" section. By pinching the screwdriver, the "D" section can be removed.
- c. When reassembling, make sure that the "A" section shown in Figure 3 is positioned on the rear side.

Turn the shaft on the panel counterclockwise. Set the notch in the switch to the "A" section shown in Figure 3 and then insert the switch unit. Turn the rotary switch to check that it functions properly.

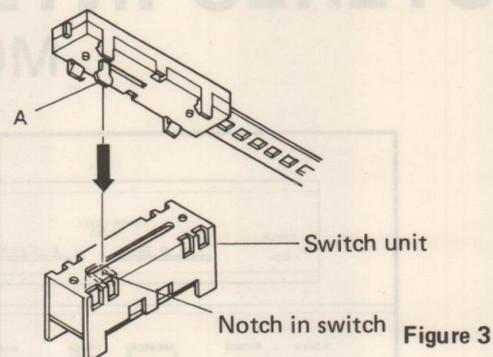


Figure 3

3. Removal of front panel assembly

- a. Remove the upper cover as noted in Item 1-(1).
- b. Release the lock on the rotary switch panel as noted in Item 2-b.
- c. Pull and remove each rotary knob.
- d. Remove the control fixing nuts.
- e. Remove the 2 screws from the bottom of the panel.
- f. While pulling the left side panel outward, slide out the front panel in the forward direction.
- g. To disassemble completely, remove the screw holding the lug terminal with black lead shown in Figure 4, then remove the screw holding the POWER and LEVEL indicating plate.

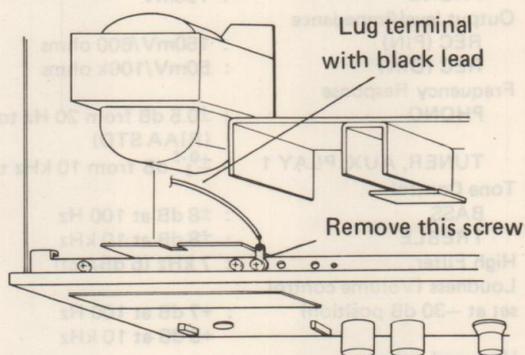
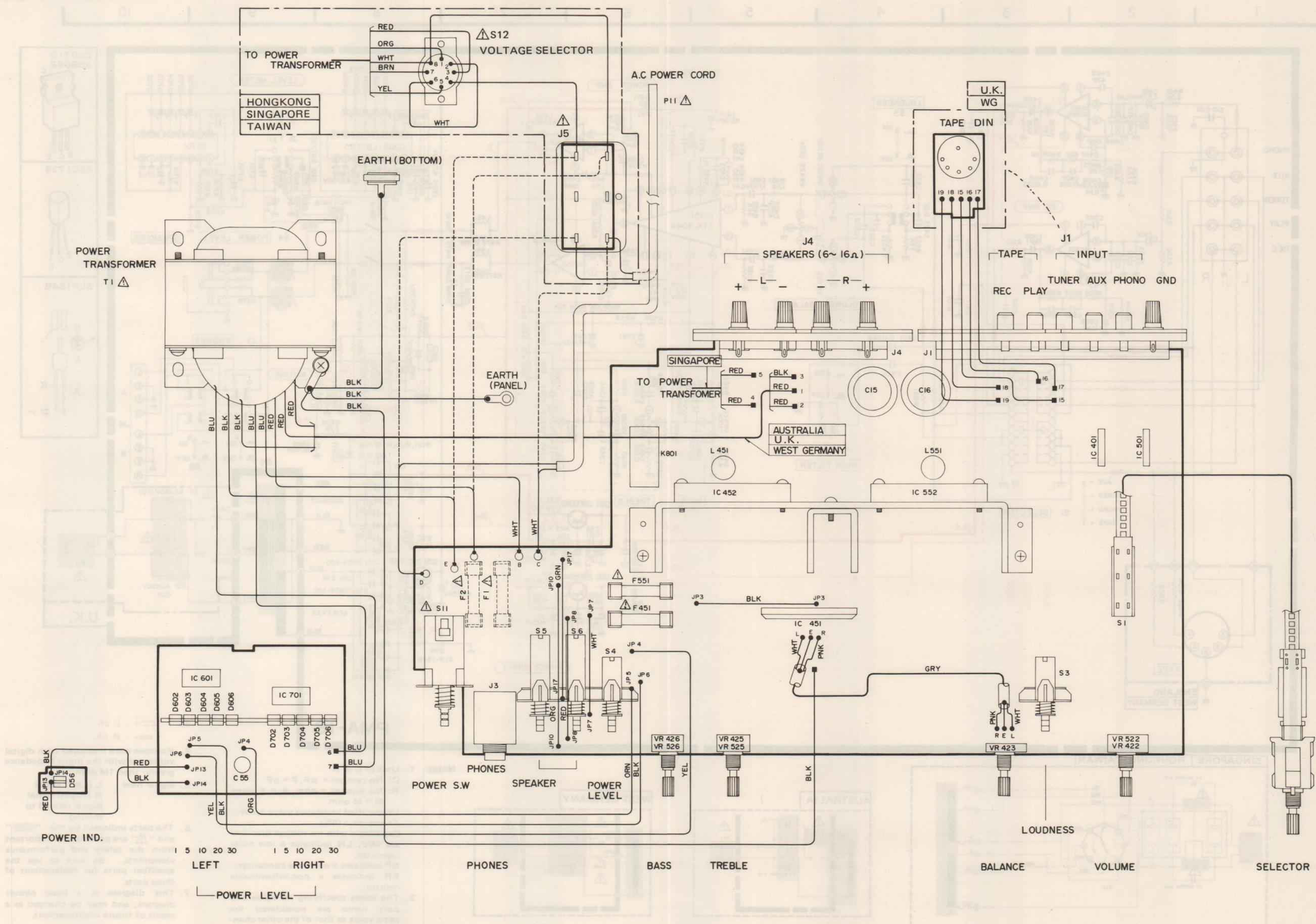
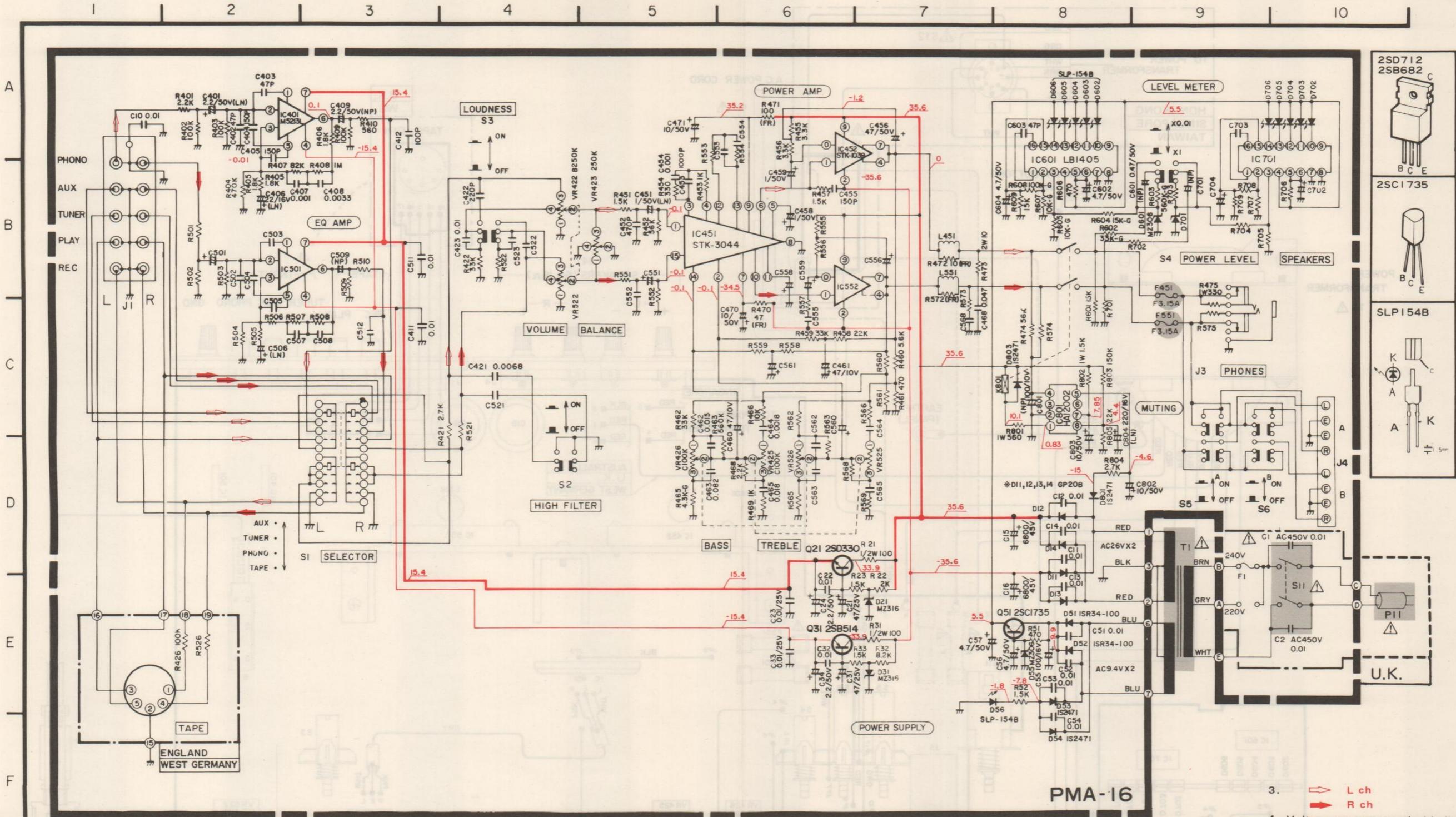


Figure 4

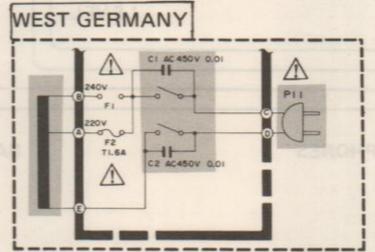
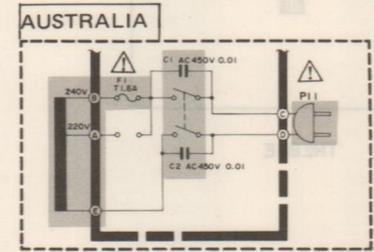
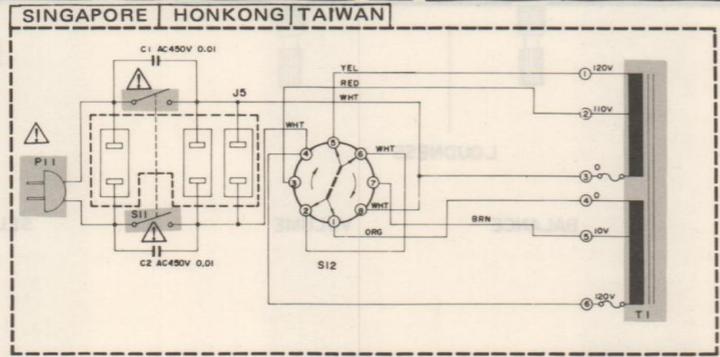
- (AS) Australia
- (SN) Singapore
- (U.K.) United Kingdom
- (WG) West Germany



SCHEMATIC DIAGRAM



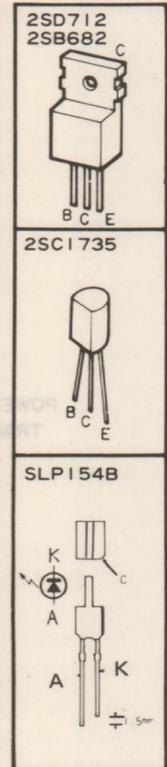
PMA-16



Notes:

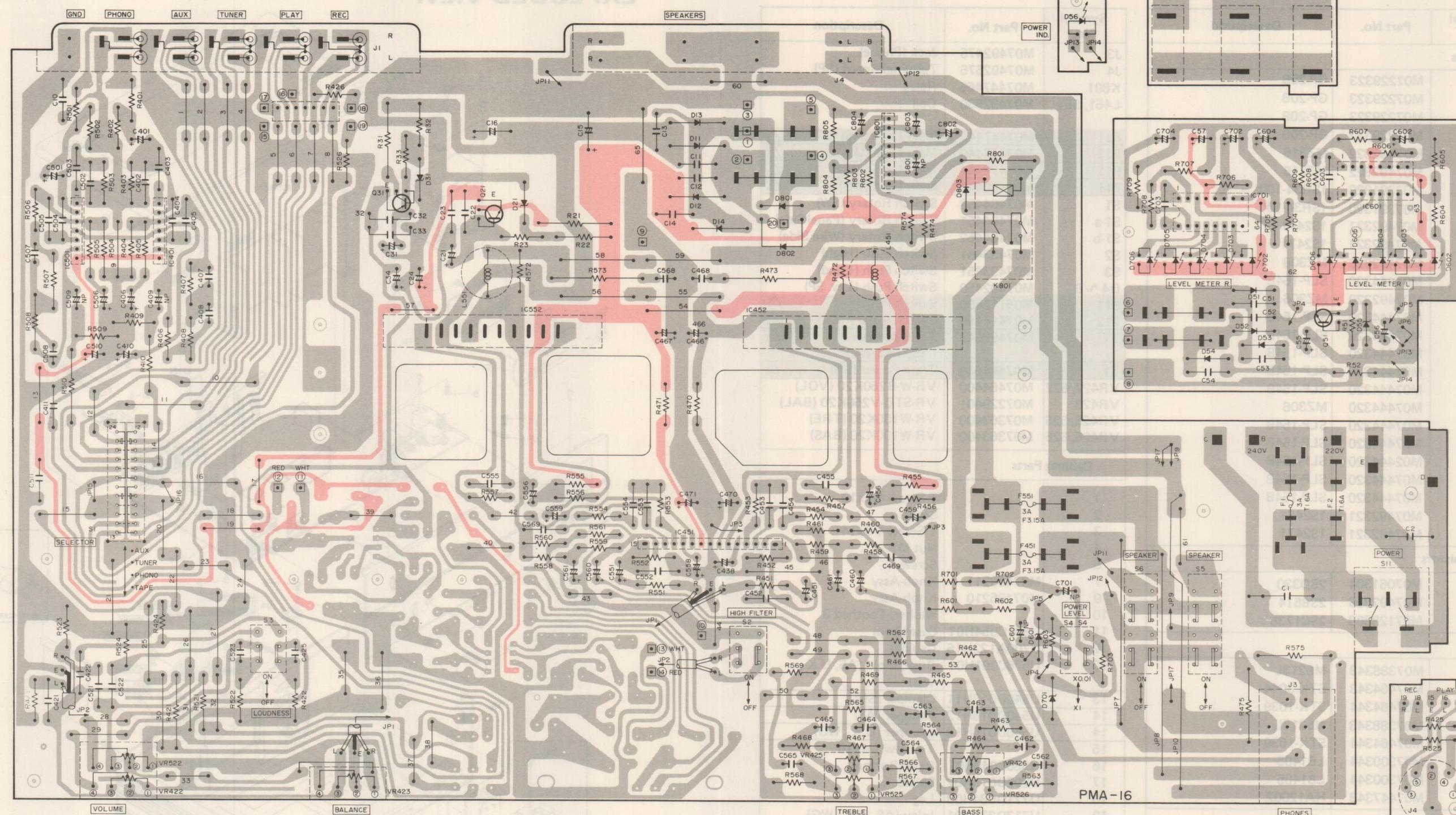
- Unit of C & R
 C: No symbol = μF , P = pF
 R: No symbol = ohm, K = K ohm, M = M ohm
 Unspecified resistance value 1/4W
 Tolerance J (5%)
 Capacitors with no voltage specified are 50V. LN indicates a low noise capacitor. NP indicates a non-pole condenser. FR indicates a non-inflammable resistor.
- The items specifying no value and part name are considered the same value as that of the other channel.

- L ch
 R ch
- Voltages were measured with digital voltmeter with the input impedance greater than 1M ohm.
- Signal flow
 L (Left) signal
 R (Right) signal
 Signal related to mixing
- The parts indicated by the " " and " " are particularly important from the safety and performance viewpoints. Be sure to use the specified parts for replacement of these parts.
- This diagram is a basic circuit diagram, and may be changed as a result of future improvement.



PRINTED CIRCUIT BOARD

Symbol	Address
C1	G-4
C2	H-4
C10	A-1
C11	D-2
C12	D-2
C13	D-1
C14	D-2
C15	D-1
C16	C-1
C21	C-2
C22	C-2
C23	C-2
C24	C-2
C31	C-2
C32	C-2
C33	C-2
C34	C-2
C51	G-2
C52	G-2
C53	G-3
C54	G-3
C55	H-3
C56	H-3
C57	G-1
C401	A-1
C402	A-2
C403	A-2
C404	A-2
C405	A-2
C406	A-2
C407	B-2
C408	B-2
C409	A-2
C410	A-3
C411	A-3
C421	A-5
C422	A-5
C425	B-4
C438	D-4
C451	E-4
C452	E-4
C453	E-4
C454	E-4
C455	E-3
C456	E-4
C459	E-4
C460	E-4
C461	E-4
C463	F-5
C464	E-5
C465	E-5
C466	D-3
C467	D-3
C468	D-2
C469	E-4
C470	D-4
C471	D-4
C501	A-2
C502	A-2
C503	A-2
C505	A-2
C506	A-2
C507	A-2
C508	A-3
C509	A-2
C510	A-3
C511	A-3
C521	A-5
C522	A-5
C523	B-4
C551	D-4
C552	D-4
C553	D-4
C554	D-4
C555	C-4
C556	C-4
C558	D-4
C559	C-4
C560	D-4
C561	D-4
C562	F-5
C563	E-5
C564	E-5



PMA-16

Symbol	Address																										
C565	E-5	C802	F-1	D52	G-3	D702	G-2	IC501	A-2	R21	D-2	R406	A-2	R452	E-4	R464	F-5	R501	A-1	R524	A-4	R563	F-5	R602	F-4	R805	E-1
C568	D-2	C803	E-1	D53	G-3	D703	G-2	IC552	C-2	R22	D-2	R407	A-2	R453	E-4	R465	F-5	R502	A-1	R525	H-5	R564	E-5	R603	F-4		
C554	D-4	C804	E-1	D54	G-3	D704	G-2	IC601	H-2	R23	C-2	R408	A-2	R454	E-4	R466	E-4	R503	A-2	R526	B-2	R565	E-5	R604	H-2	VR351	D-5
C555	C-4			D55	H-3	D705	G-2	IC701	G-2	R31	C-1	R409	A-2	R455	E-3	R467	E-5	R504	A-2	R551	D-4	R566	E-5	R605	H-2	VR421	C-5
C556	C-4			D56	F-4	D706	G-2	IC801	E-1	R32	C-1	R410	A-2	R456	E-4	R468	E-5	R505	A-2	R552	D-4	R567	E-5	R606	H-2	VR422	A-5
C558	D-4			D601	H-2					R33	C-2	R421	A-5	R457	E-4	R469	E-5	R507	A-2	R553	D-4	R568	E-5	R607	H-1	VR423	C-5
C559	C-4			D602	F-1	F1	H-4	Q21	C-2	R51	H-3	R422	B-5	R458	E-4	R470	D-3	R508	A-3	R554	D-4	R569	E-5	R608	H-2	VR425	E-5
C560	D-4			D603	H-2	F2	H-4	Q31	C-2	R52	H-3	R423	A-5	R459	E-4	R471	D-3	R509	A-3	R555	D-4	R572	C-2	R609	H-2	VR426	F-5
C561	D-4			D604	H-2	F451	F-4	Q51	H-3	R401	A-1	R424	A-4	R460	E-4	R472	E-2	R510	A-3	R557	C-4	R573	D-2	R801	F-2	VR521	C-5
C562	F-5			D605	H-2	F551	F-4			R402	A-1	R425	H-5	R461	E-4	R473	E-2	R521	B-5	R558	C-4	R574	E-2	R802	E-2	VR522	A-5
C563	E-5			D606	H-2			L451	E-2	A404	A-2	R426	B-1	R462	F-4	R474	F-2	R522	B-5	R559	D-4	R575	G-4	R803	E-2	VR525	E-5
C564	E-5			D701	F-5			L551	C-2	R405	A-2	R451	E-4	R463	F-5	R475	G-5	R523	A-4	R561	D-4	R601	F-4	R804	E-2	VR526	F-5

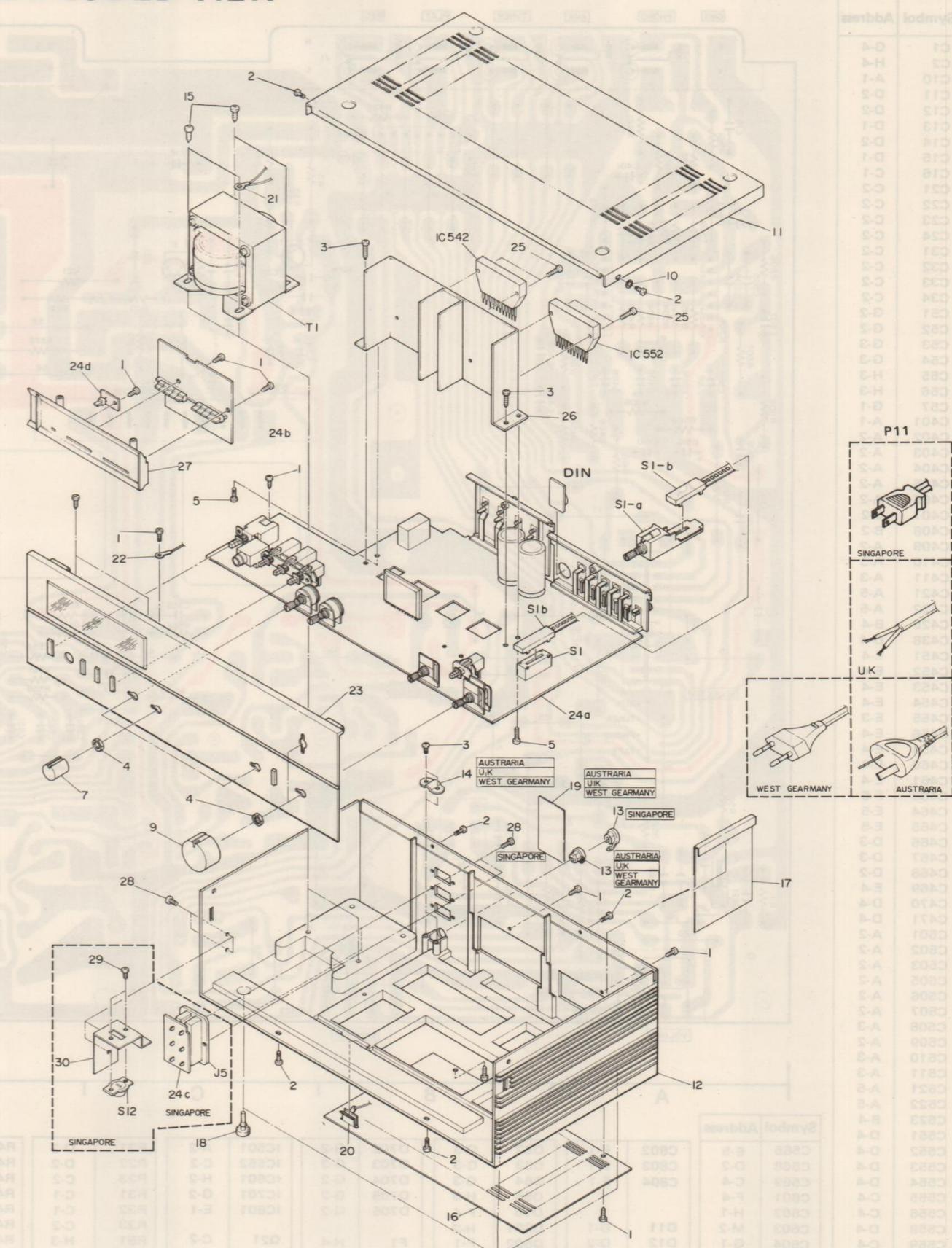
PARTS LIST

NOTE:  and  marks indicate components critical to safety performance. Replace only with components specified.

Symbol No.	Part No.	Description
Diodes		
D11	M07229323	GP-20B
D12	M07229323	GP-20B
D13	M07229323	GP-20B
D14	M07229323	GP-20B
D21	M07492322	MZ316
D31	M07492322	MZ316
D51	M07391320	1SR34-100
D52	M07391320	1SR34-100
D53	M07492321	1S2471
D54	M07492321	1S2471
D55	M07492320	MZ306
D56	M07444320	SLP-154B
D601	M07492320	MZ306
D602	M07444320	SLP-154B
D603	M07444320	SLP-154B
D604	M07444320	SLP-154B
D605	M07444320	SLP-154B
D606	M07444320	SLP-154B
D701	M07444320	MZ306
D702	M07444320	SLP-154B
D703	M07444320	SLP-154B
D704	M02444320	SLP-154B
D705	M07444320	SLP-154B
D706	M07444320	SLP-154B
D801	M07492321	1S2471
D803	M07492321	1S2471
Transistors		
Q21	M07061304	2SD330
Q31	M07492303	2SB514
Q51	M07128303	2SC1735
ICs		
IC401	M07388343	M5213L
IC451	M07464343	STK-3044
IC452	M07464344	STK-1039
IC501	M07388343	M5213L
IC552	M07464344	STK-1039
IC601	M07300344	LB1405
IC701	M07300344	LB1405
IC801	M07447343	HA12002
Electrical Parts		
C1, 2	M07470360	C-Paper-450V 103M 
C11, 12	M07492360	C-Paper-500V 103M
C13, 14		
C15, 16	M07492361	C-Elect-45V 6800
F1, 2	M07362492	Fuse, 1.6A - Semko (AS, U.K., WG)
F451	M07362491	Fuse 3.15A - Semko 
F551	M07362491	Fuse 3.15A - Semko 
J1	M07492576	Terminal Board (Input) (U.K., WG)
J1	M07494575	Terminal Board (Input) (AS, SN)

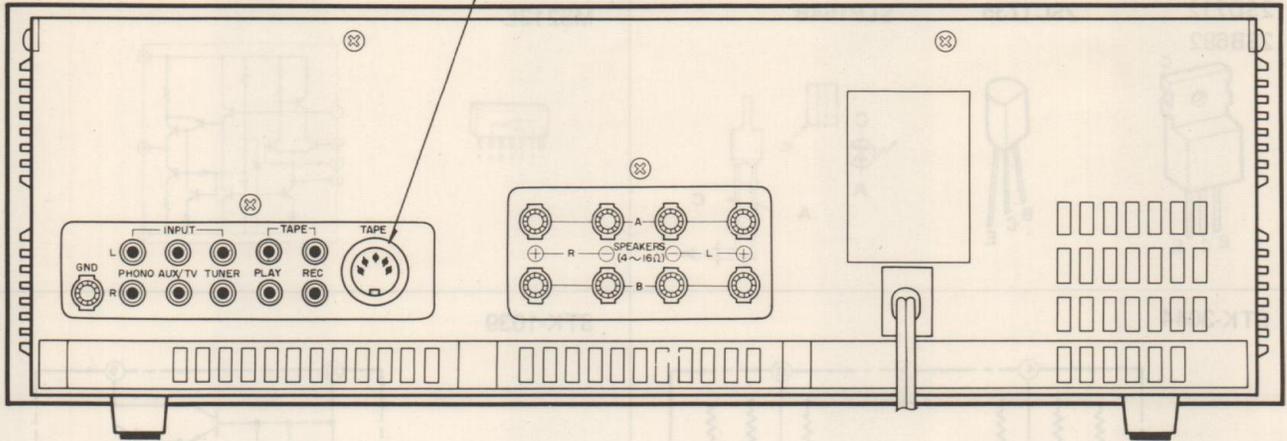
Symbol No.	Part No.	Description
J3	M07492475	Jack (Phone)
J4	M07492575	Terminal Board (SP)
K801	M07447465	Relay
L451, 551	M07492530	Coil
P11	M07447442	Main Load (AS) 
P11	M07447440	Main Lead (U.K.) 
P11	M07478440	Main Lead (SN) 
P11	M07459440	Main Lead (WG) 
S1	M07464453	Switch Rotary (SW)
S1-a	M07464451	Switch Rotary (Panel Side)
S1-b	M07464452	Switch Rotary (Wire Side)
S2	M07433451	Switch Push (High)
S3	M07433451	Switch Push (Loud)
D4 ~ 6	M07492450	Switch Push (Lev. SP)
S11	M05113430	Switch Push 
S12	M07414450	Switch Rotary (SN) 
T1	M07492549	Trans-power (AS, U.K., WG) 
T1	M07494549	Trans-Power (SN) 
VR422, 522	M07464400	VR-W-B250K20 (VOL)
VR423	M07229401	VR-STD-V250K20 (BAL)
VR425, 525	M07363400	VR-W100K20 (TRE)
VR426, 526	M07363400	VR-W100K20 (BAS)
Cabinet Parts		
1		T-Screw 1-3x10
2		Screw
3		T-Screw 1-3x14
4		Nut M7
5		Screw
7	M07496211	Knob-Assy
9	M07496210	Knob-Assy
10		Washer, Toothed 3
11	U561C054H01	Case (Top)
12	U700A122H16	Cabinet
13	U576C001H01	Bush, Mold (AS, U.K., WG)
13	U540D013H11	Clamper (SN)
14	U540D016H12	Clamper (AS)
14	U540D016H13	Clamper (U.K., WG)
15		T-Screw 1-4x16
16	U580C048H01	Base (Bottom)
17	U292D075H02	Shield
18	U771D084H03	Leg
19	U713D231H01	Inlay (AS, U.K., WG)
20		Terminal
21		Lug Terminal
22		Lug Terminal
23	U712C200G02	Panel Assembly
24-a ~ d		P.C.B. Assembly
25		Screw-B M3x14
26		Radiator
27		Holder Assembly
28		Screw 3x6
29		Screw M3x8
30		Holder-L

EXPLODED VIEW

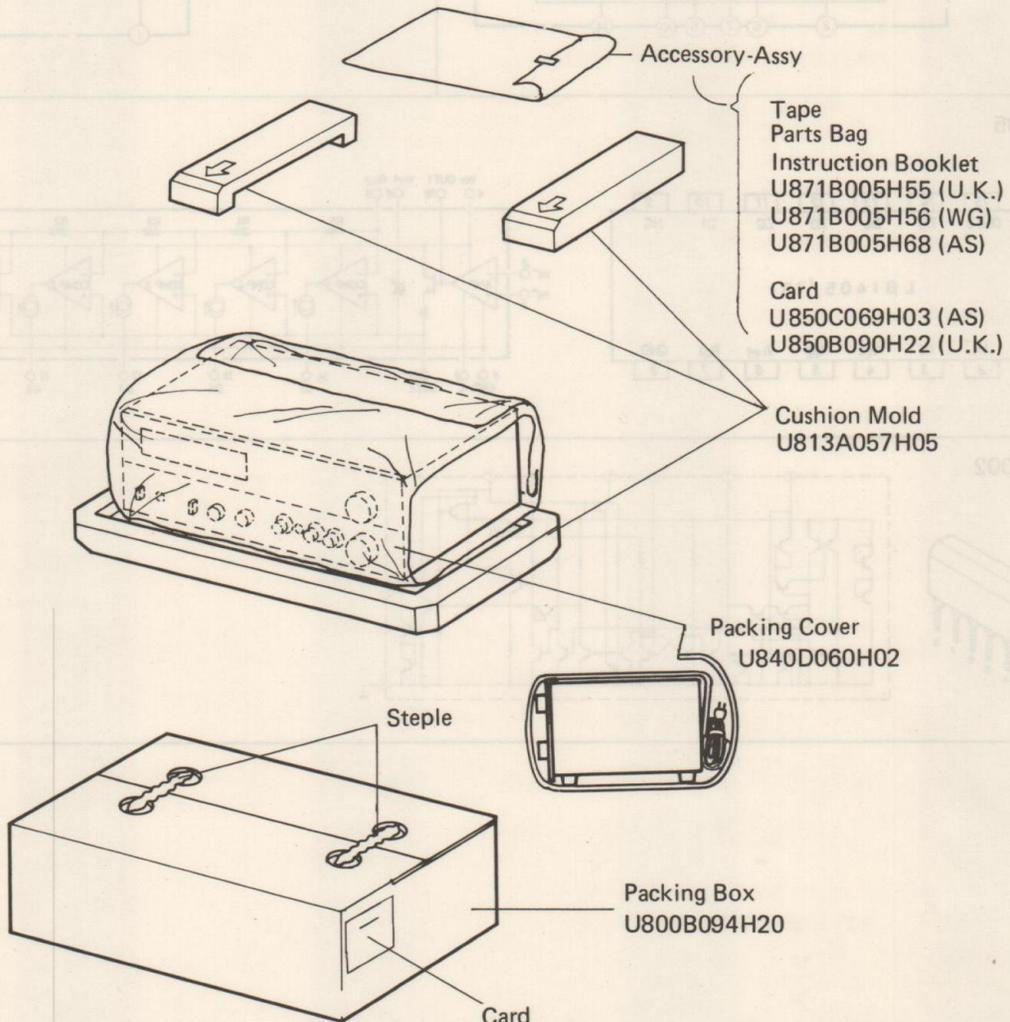


BACK PANEL

Note: (AS) (SN) Not used.



PACKING METHOD



SEMICONDUCTOR LEAD IDENTIFICATION

