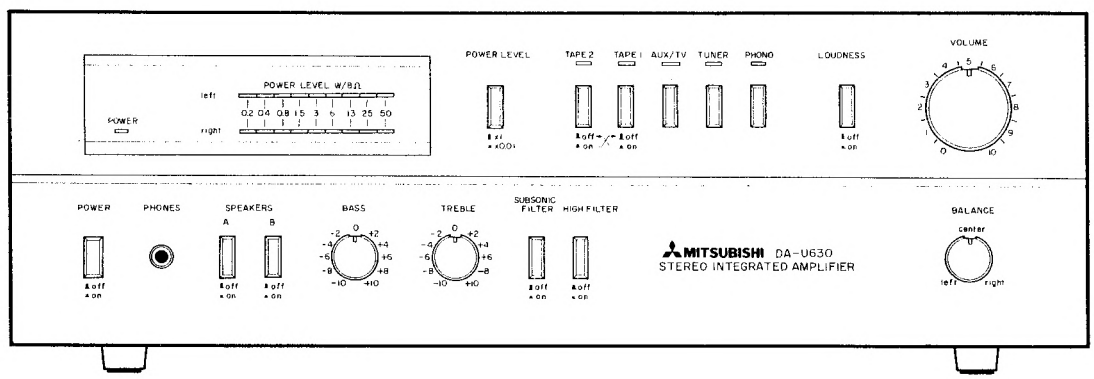
MITSUBISHI
AUDIO SYSTEMS

SERVICE MANUAL

STEREO INTEGRATED AMPLIFIER

MODEL DA-U630



SPECIFICATIONS

1. PREAMPLIFIER SECTION

Input sensitivity/impedance (at continuous rated power output, 8 ohms, 1kHz)
- PHONO . . . . . 2.5mV/50k ohms
- TUNER, AUX, PLAY 1, 2 (PIN) . . . . . 150mV/45k ohms
- PLAY 1 (DIN) . . . . . 150mV/45k ohms

Phono overload level (at 1kHz, with 0.1% THD) (UK)
- PHONO 200mV

Output level/impedance
- REC 1, 2 (PIN) . . . . . 150mV/600 ohms
- REC 1 (DIN) . . . . . 50mV/100k ohms

Frequency response (UK)
- PHONO . . . . . ±0.5dB from 20Hz to 20kHz (RIAASTD)
- TUNER, AUX, PLAY 1, 2 . . . . . $^{+0.5}_{-1}$ dB from 10Hz to 60kHz

Tone control
- BASS . . . . . ± 10dB at 100Hz
- TREBLE . . . . . ± 10dB at 10kHz

Filter
- SUBSONIC 20Hz (6dB/oct)
- HIGH 7kHz (6dB/oct)

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

Hum and noise (A network closed circuit)
- PHONO 74dB
- TUNER, AUX, PLAY 1, 2 . . . . . 90dB

Hum and noise (DIN, 50mW x 2)
- PHONO 63dB
- TUNER, AUX, PLAY 1, 2 . . . . . 65dB

2. POWER AMPLIFIER SECTION

Power output
50W continous power per channel, both channels driven into 8 ohms at 1kHz, with 0.02% THD
64W continous power per channel, both channel, both channels driven into 4 ohms at 1kHz, with 0.05% THD

Total harmonic distortion
0.01% at 25W per channel, both channels driven into 8 ohms at 1kHz

Intermodulation distortion (70Hz and 7kHz, 4 : 1)
0.03% at rated power per channel, 8 ohms 0.02% at 25W per channel, 8 ohms

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

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

3. GENERAL

Power consumption
260W (IEC nominal)

Dimnesions (W x H x D)
424 x 140 x 249 mm (16-3/4 x 5-1/2 x 9-13/16")

Weight
6.1 kg (13.4 lb)

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

MITSUBISHI ELECTRIC CORPORATION

DISASSEMBLY

(NOTE) Excessive tightening of the molded section screws should be avoided.

1. REMOVAL OF TOP AND BOTTOM COVERS

(1) First, remove the 4 set screws of the top cover. Then, remove the cover by sliding it backward with the rear part slightly lifted up.

(NOTE) As the set screw on the right rear side is provided with a crown washer, due attention should be paid when removing it.

(2) The bottom cover will come off when the two set screws are removed.

* In this condition, it is possible to inspect the pattern-side of Board PMA-14. (power AMP and power supply)

2. SETTING OF LEVEL INDICATOR BOARD ASSEMBLY TO UPRIGHT POSITION

a. Following the instructions given in 1-(1), remove the top cover.

b. Unscrew screw ① shown in Fig. 1.
The board can be set upright, by slowly sliding the whole board to the right and raising it.

3. REMOVAL OF PANEL-ASSY (FRONT)

a. Following the instructions given in 1-(1), take off the top cover.

b. Pull off all the VR knobs and remove securing nut from the VR.

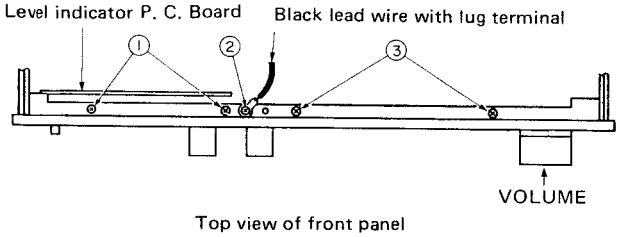
c. Remove the four screws ① , ② and ③ shown in Fig. 1.
The front panel will come off when the two set screws are removed from the bottom side.

4. SETTING OF BOARD PA-89 (PRE AMP AND EQUALISNTION) TO UPRIGHT POSITION.

a. Following the instructions given in 1-(1), remove the top cover.

b. Pull off the VOLUME and BALANCE knobs shown in Fig. 1.
Then remove the securing nut of the VR. Unscrew the two screws ③ shown in Fig. 1.

c. Remove the screw provided behind the SW at the left end of the upper-side board and take off the jack from the board. Now, the board can be set upright.



Top view of front panel

Fig. 1

5. SETTING OF BOARD PMA–14 (POWER AMP AND POWER SUPPLY) TO UPRIGHT POSITION

a. Following the instructions given in "3", remove the front panel.

b. Unscrew the screws descrided in "4-a" and set board DA-89 to an upright position.

c. Unscrew the six screws ① shown in Fig. 2. Now, board PMA-14 can be raised to an upright position.

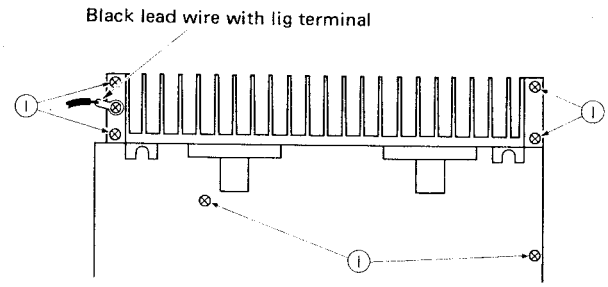
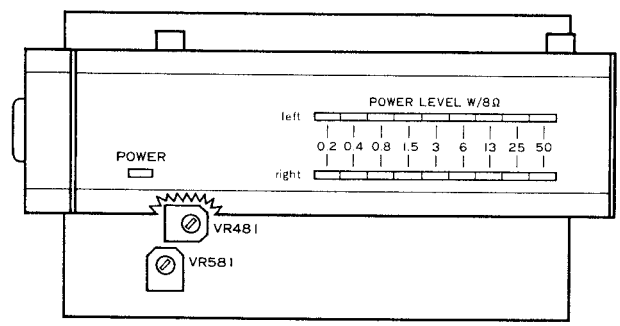


Fig. 2

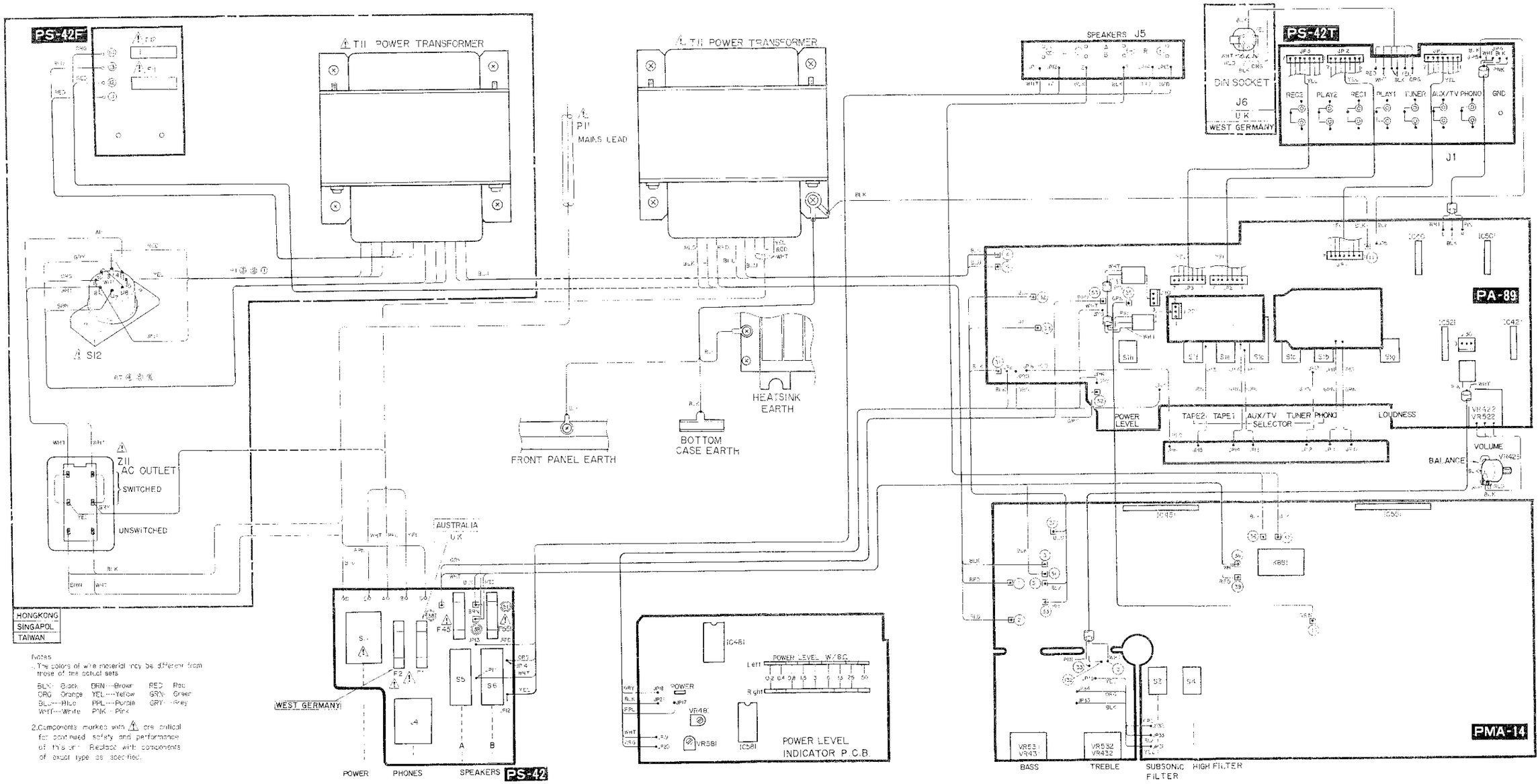
ADJUSTMENT

ADJUSTMENT OF LEVEL METER OFFSET VOLTAGE.

1. Following the disassembly instructions give in "2", set the level indicator board to an upright position.
2. Adjustment is to be performed at "no-signal".
3. Connect a DC voltmeter between the earth and Terminal No. 5 of IC481 and IC581.
4. By turning VR481 and VR581 respectivly, adjust for minimum voltage.



WIRING



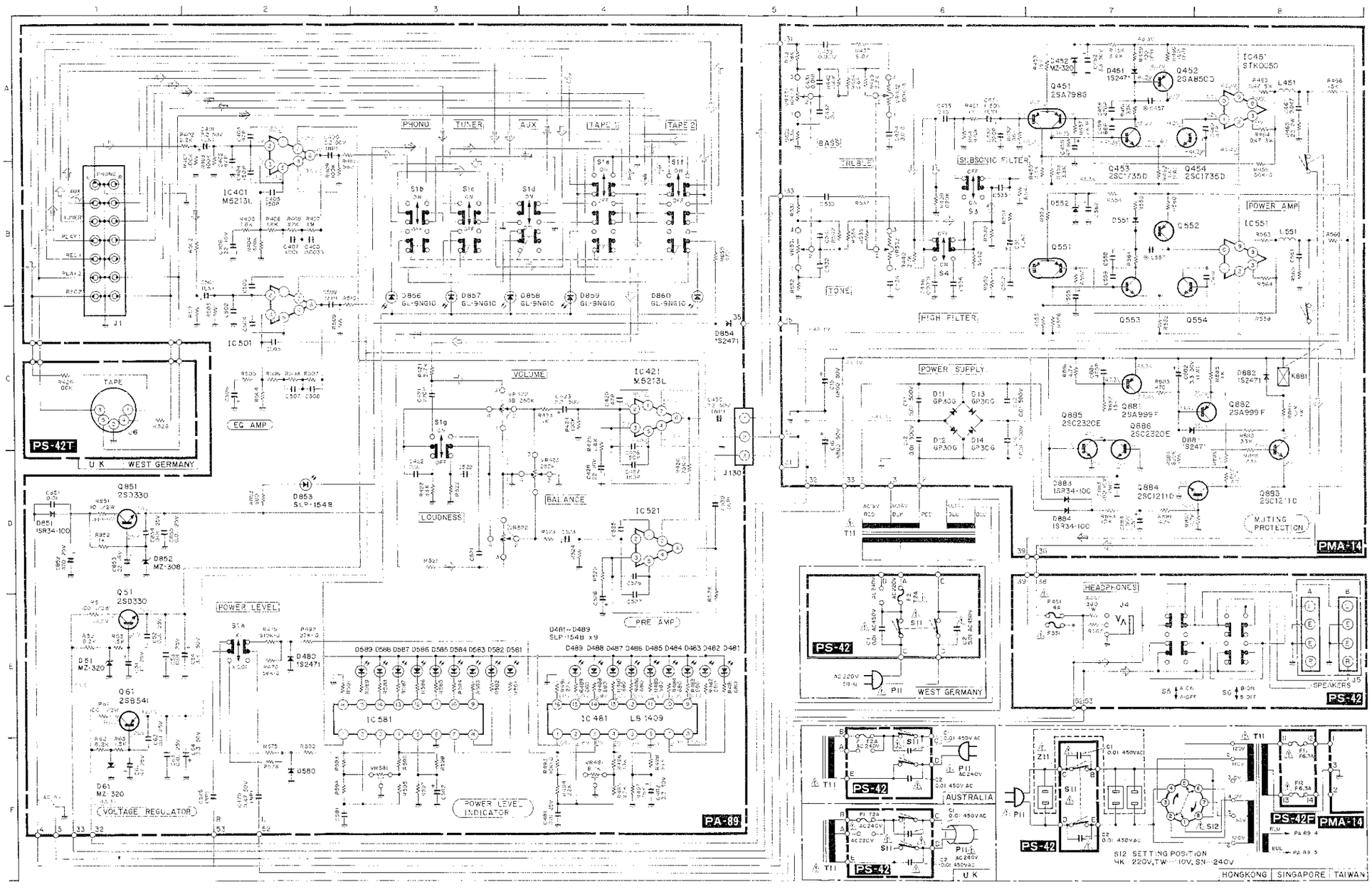
Notes

1. The colors of wire material may be different from those of the actual sets

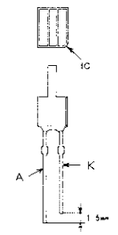
BLK	Black	BRN	Brown	RED	Red
ORG	Orange	YEL	Yellow	GRN	Green
BLU	Blue	PPL	Purple	GRY	Grey
WHT	White	PNK	Pink		

2. Components marked with ⚠ are critical for continued safety and performance of this unit. Replace with components of exact type as specified.

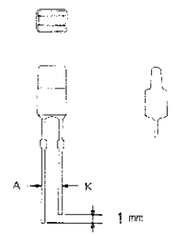
SCHEMATIC DIAGRAM



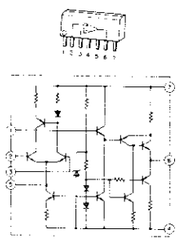
SLP154B(LED)



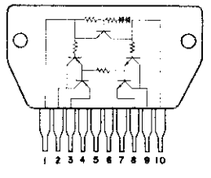
GL-9NG 10



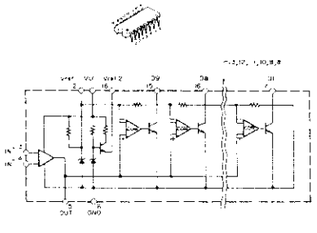
IC-M5213L



IC-STK-0050

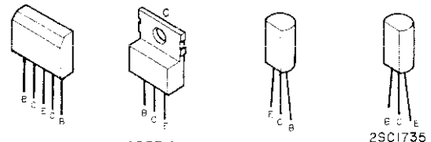


LB1409



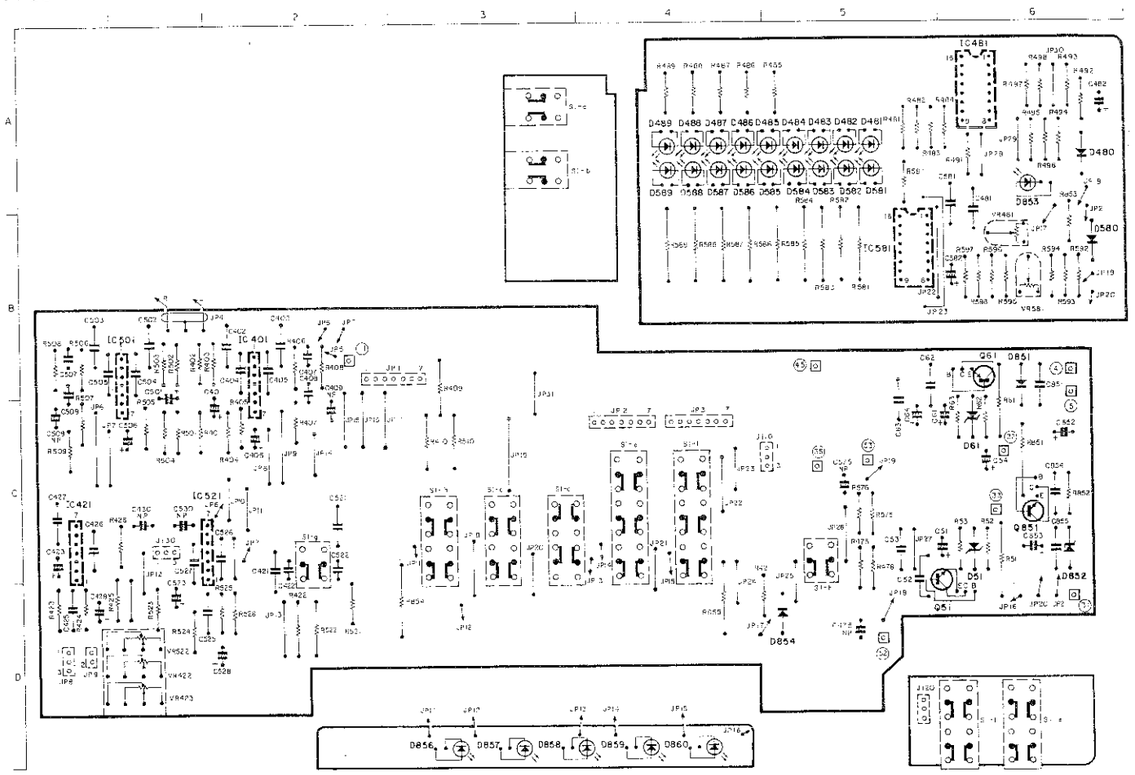
NOTE)

1. Units of Capacitor & Resistor
   C . . . . No symbol:μF R . . . . No symbol:Ω
   p-symbol:pF k-symbol:kΩ
2. Unless otherwise specified, resistors are ¼W resistors. Capacitors without any voltage indication have a 50V withstand voltage.
3. Values of components without any specific figure indication are the same as those of the other channel.
4. Of the indicated values, LN denotes "Low Noise" and NP the "No polarity" type.
5. The voltages of the respective sections are those measured with a DC 1MΩ/V digital voltmeter.
6. ( ) of marked components are those that are critical for the continued safety and perfomance of this unit. Replace only with components of the exact type as specified. As this is a basic schematic diagram, the specified figures are subject to change without prior notice for improvement.
7. Indicates signal flow.
   L-ch signal
   R-ch signal

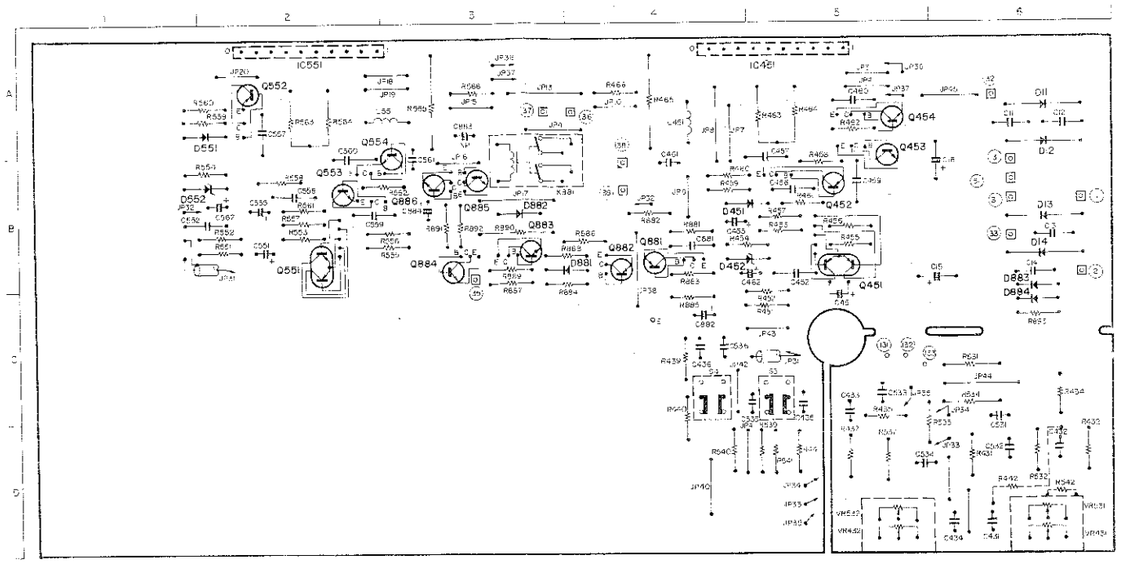


PRINTED CIRCUIT BOARD

PA-89



PMA-14



Symbol No.	Address
C51	C-5
C52	C-5
C53	C-5
C54	C-6
C61	C-5
C62	B-5
C63	C-5
C64	C-5
C401	B-2
C402	B-2
C403	B-2
C404	B-2
C405	B-2
C406	C-2
C407	B-2
C408	B-2
C409	B-2
C421	C-2
C422	D-2
C423	C-1
C425	D-1
C426	C-1
C427	C-1
C428	D-1
C430	C-1
C475	D-5
C481	A-6
C482	A-6
C501	B-1
C502	B-1

Symbol No.	Address
C503	B-1
C504	B-1
C505	B-1
C506	C-1
C507	B-1
C508	C-1
C509	C-1
C521	C-2
C522	C-2
C523	C-1
C525	D-1
C526	C-2
C527	C-1
C528	D-2
C530	C-1
C575	C-5
C581	A-6
C582	B-6
C851	B-6
C852	C-6
C853	C-6
C854	C-6
C855	C-6
D51	C-6
D61	C-6
D480	A-6
D481	A-5
D482	A-5
D483	A-5

Symbol No.	Address
D484	A-5
D485	A-5
D486	A-4
D487	A-4
D488	A-4
D489	A-4
D580	B-6
D581	A-5
D582	A-5
D583	A-5
D584	A-5
D585	A-5
D586	A-4
D857	A-4
D588	A-4
D589	A-4
D851	B-6
D852	C-6
D853	A-6
D854	D-5
D856	D-3
D857	D-3
D858	D-3
D859	D-4
D860	D-4
IC401	B-2
IC421	C-1
IC481	A-6
IC501	B-1

Symbol No.	Address
IC521	C-1
IC581	B-5
Q51	D-5
Q61	B-6
Q851	C-6
R51	C-6
R52	C-6
R53	C-6
R61	C-6
R62	C-6
R63	C-6
R401	C-1
R402	B-1
R403	B-2
R404	C-2
R405	C-2
R406	B-2
R407	C-2
R408	B-2
R409	B-3
R410	C-3
R421	C-4
R422	D-2
R423	D-1
R424	D-1
R425	D-1
R426	C-1
R475	C-5

Symbol No.	Address
R476	C-5
R481	A-5
R482	A-5
R483	A-5
R484	A-6
R485	A-5
R486	A-4
R487	A-4
R488	A-4
R489	A-4
R491	A-6
R492	A-6
R493	A-6
R494	A-6
R495	A-6
R496	A-6
R497	A-6
R498	A-6
R501	C-1
R502	B-1
R503	B-1
R504	C-1
R505	C-1
R506	B-1
R507	B-1
R508	B-1
R509	C-1
R510	C-3
R521	D-2
R522	D-2

Symbol No.	Address
R523	D-1
R524	D-1
R525	D-2
R526	D-2
R575	C-5
R576	C-5
R581	B-5
R582	A-5
R583	B-5
R584	A-5
R585	B-4
R586	B-4
R587	B-4
R588	B-4
R589	B-4
R591	A-5
R592	B-6
R593	B-6
R594	B-6
R595	B-6
R596	B-6
R597	B-6
R598	B-6
R851	C-6
R852	C-6
R853	A-6
R854	D-3
R855	D-4
S1-b	C-3

Symbol No.	Address
S1-b	A-3
S1-c	C-3
S1-c	A-3
S1-d	C-3
S1-e	C-4
S1-e	D-6
S1-f	C-4
S1-f	D-6
S1-g	C-2
VR422	D-1
VR423	D-1
VR481	B-6
VR522	D-1
VR581	B-6
4	C-6
5	C-6
11	B-2
31	D-6
32	C-6
33	C-6
35	C-5
45	B-5
52	D-5
53	C-5

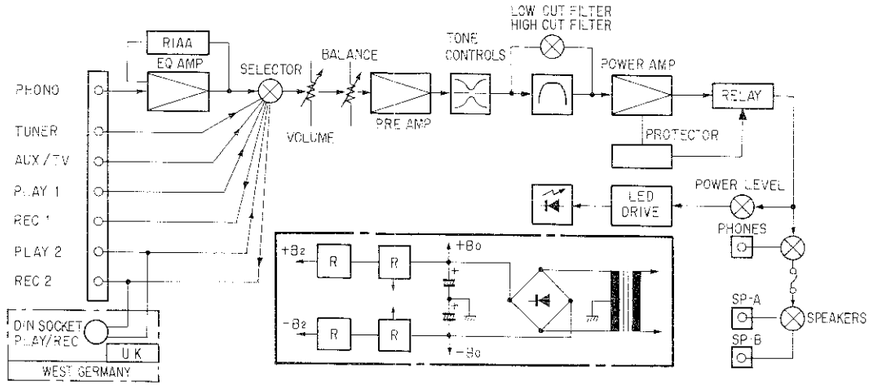
Symbol No.	Address
C11	A-6
C12	A-6
C13	B-6
C14	B-6
C15	B-6
C16	B-6
C431	D-6
C432	D-6
C433	C-5
C434	D-6
C435	C-5
C436	C-4
C451	C-5
C452	B-5
C455	B-4
C457	A-5
C458	B-5
C459	B-5
C460	A-5
C461	A-4
C462	B-4
C531	D-6
C532	D-6
C533	C-5
C534	D-5
C535	C-4
C536	C-4
C551	B-2
C552	B-1
C555	B-2
C557	A-2
C558	B-2
C559	B-2
C560	A-2
C561	B-3
C562	B-2
C881	B-4
C882	C-4
C883	A-3
C884	B-3

Symbol No.	Address
D11	A-6
D12	A-6
D13	B-6
D14	B-6
D451	B-4
D452	B-4
D551	A-2
D552	B-1
D881	B-4
D882	B-3
D883	B-6
D884	C-6
IC451	A-5
IC551	A-2
K881	B-3
L451	A-4
L551	A-3
Q451	B-5
Q452	B-5
Q453	A-5
Q454	A-5
Q551	B-2
Q552	A-2
Q553	B-2
Q554	A-2
Q881	B-4
Q882	B-4
Q883	B-3
Q884	B-3
Q885	B-3
Q886	B-3
R431	D-6
R432	D-6
R434	C-6
R435	C-5
R437	D-5
R439	C-4

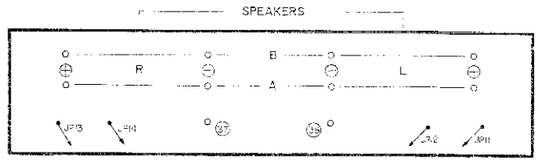
Symbol No.	Address
R440	C-4
R441	D-5
R442	D-6
R451	C-5
R452	C-5
R453	B-5
R454	B-4
R455	B-5
R456	B-5
R457	B-5
R458	B-5
R459	B-4
R460	B-4
R461	B-5
R462	A-5
R463	A-5
R464	A-5
R465	A-4
R466	A-4
R531	C-6
R532	D-6
R534	C-6
R535	C-6
R537	D-5
R539	D-5
R540	D-4
R541	D-5
R542	D-6
R551	B-2
R552	B-2
R553	B-2
R554	B-2
R555	B-3
R556	B-3
R557	B-2
R558	B-2
R559	A-2
R560	A-2
R561	B-2
R562	B-3
R563	A-2
R564	A-2

Symbol No.	Address
R565	A-3
R566	A-3
R881	B-4
R882	B-4
R883	B-4
R884	B-3
R885	C-4
R886	B-4
R887	C-3
R888	B-4
R889	B-3
R890	B-3
R891	B-3
R892	B-3
R893	C-6
S3	C-5
S4	C-4
R431	C-6
R432	C-5
R531	C-6
R532	C-5
1	B-6
2	B-6
3	B-6
31	B-6
32	A-6
33	B-6
35	B-3
36	A-4
37	A-3
38	A-4
39	B-4
51	B-6
131	C-5
132	C-5
133	C-6

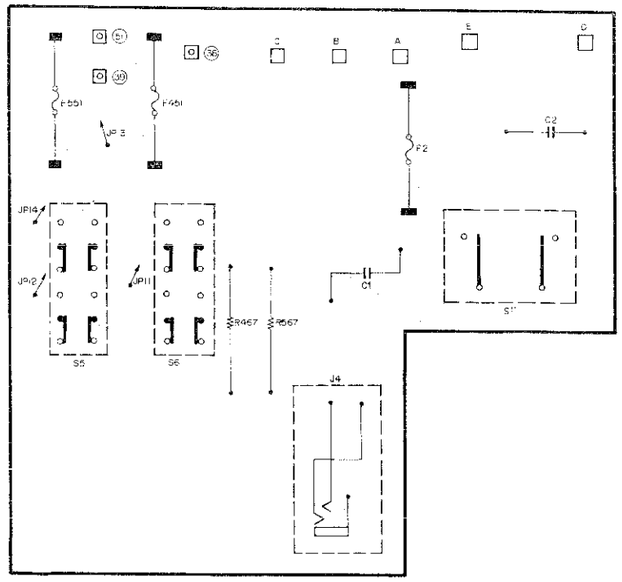
BLOCK DIAGRAM



PRINTED CIRCUIT BOARD



PS-42



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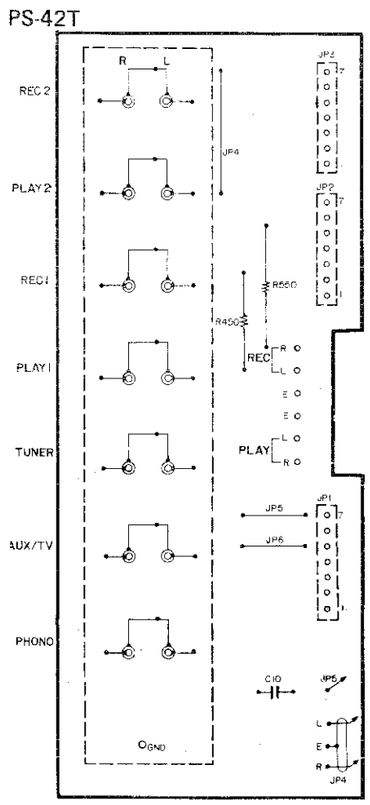
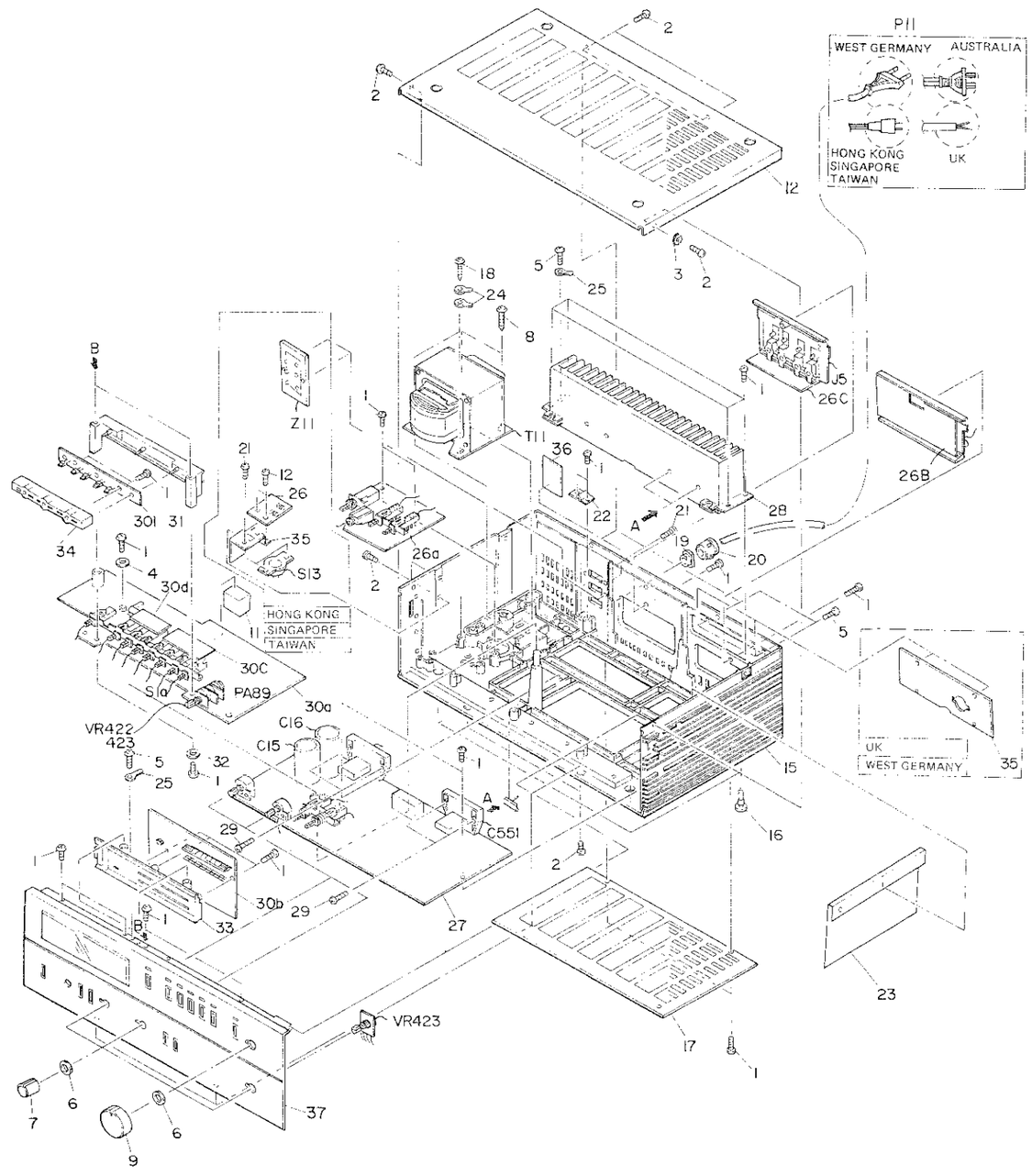


EXPLODED VIEW



PARTS LIST

AS . . .for Australia
SN . . .for Singapore
UK . . .for United Kingdom
WG . . .for West Germany

NOTE: ⚠ and [illegible] marks components on Parts list have special characteristics to keep safety performance of this unit. When replacing any of these parts, be sure to use only specified parts.

Symbol No.	Part No.	Description
1		T-SCREW (1-3X10)
2		SCREW
3		WASHER-TOOTHED 3
4		WASHER
5		SCREW
6		NUT M7
7	M07496211	KNOB-ASSY
8		
9	M07493210	KNOB-ASSY
10		
11		CUSHION
12	U561C054H04	CASE
13		SCREW
14		HOLDER
15	U700A122H12	CABINET
16	U771D084H03	LEG
17	U580C048H01	BASE
18		T-SCREW (1-4X16)
19	U540D013H11	CLAMPER (AS) (SN)
20	U576C001H01	BUSH-MOLD (UK, WG)
21		SCREW-B (M3 x 8)
22	U540D016H13	CLAMPER (UK,WG)
23	U292D066H02	SHIELD
24		LUG-TERMINAL
25		LUG-TERMINAL
26a ~ c		PCB-ASSY
26d		PCB-ASSY
27		PCB-ASSY
28		RADIATOR
29		SCREW-B (M3 X 14)
30a ~ e		PCB-ASSY
31		WASHER-PAPER
32		WASHER-PAPER
33		HOLDER-ASSY
34		HOLDER
35		HOLDER-L
36	U713D231H01	INLAY (AS, UK, WG)
37	U712C202G01	PANEL-ASSY (Front)

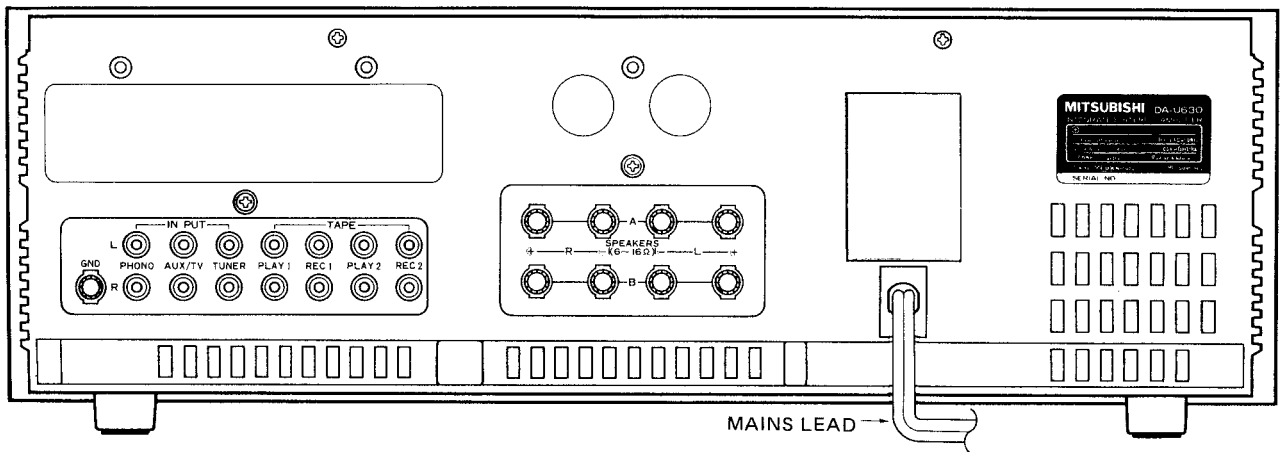
Symbol No.	Part No.	Description
	DIODES	
D11	M07447321	GP-30D
D12	M07447321	GP-30D
D13	M07447321	GP-30D
D14	M07447321	GP-30D
D51	M07493320	MZ320
D61	M07493320	MZ320
D451	M07492321	IS2471
D452	M07493320	MZ320
D480	M07492321	IS2471
D481	M07444320	SLP-154B
D482	M07444320	SLP-154B
D483	M07444320	SLP-154B
D484	M07444320	SLP-154B
D485	M07444320	SLP-154B
D486	M07444320	SLP-154B
D487	M07444320	SLP-154B
D488	M07444320	SLP-154B
D489	M07444320	SLP-154B
D551	M07492321	IS2471
D552	M07493320	MZ320
D580	M07492321	IS2471
D581	M07444320	SLP-154B
D582	M07444320	SLP-154B
D583	M07444320	SLP-154B
D584	M07444320	SLP-154B
D585	M07444320	SLP-154B
D586	M07444320	SLP-154B
D587	M07444320	SLP-154B
D588	M07444320	SLP-154B
D589	M07444320	SLP-154B
D851	M07391320	1SR34-100
D852	M07493321	MZ308
D853	M07444320	SLP-154B
D854	M07492321	1S2471
D856	M07444321	GL-9NG10
D857	M07444321	GL-9NG10
D858	M07444321	GL-9NG10
D859	M07444321	GL-9NG10
D860	M07444321	GL-9NG10
D881	M07492321	1S2471
D882	M07492321	1S2471
D883	M07391320	1SR34-100
D884	M07391320	1SR34-100
	TRANSISTORS	
Q51	M07061304	2SD330
Q61	M07493303	2SB514
Q451	M07133303	2SA798

PARTS LIST

Symbol No.	Part No.	Description
Q452	M07133304	2SA850
Q453	M07128303	2SC1735
Q454	M07128303	2SC1735
Q551	M07133303	2SA798
Q552	M07133304	2SA850
Q553	M07128303	2SC1735
Q554	M07128303	2SC1735
Q851	M07061304	2SD330
Q881	M07390304	2SA999
Q882	M07390304	2SA999
Q883	M07071307	2SC1211D
Q884	M07071307	2SC1211D
Q885	M07390303	2SC2320
Q886	M07390303	2SC2320
	IC's	
IC401	M07363343	M5213L
IC401	M07363343	M5213L
IC451	M07444343	STK0050
IC481	M07447344	LB1409
IC501	M07363343	M5213L
IC521	M07363343	M5213L
IC551	M07444343	STK0050
IC581	M07447344	LB1409
	ELECTRICAL PARTS	
C1	M07470360	C-PAPER-450V 103M ⚠
C2	M07470360	C-PAPER-450V 103M ⚠
C11	M07492360	C-CERAMIC-500V 103M
C12	M07492360	C-CERAMIC-500V 103M
C13	M07492360	C-CERAMIC-500V 103M
C14	M07492360	C-CERAMIC-500V 103M
C15	M07493360	C-ELECT-50V 6800
C16	M07493360	C-ELECT-50V 6800
F1	M07325492	FUSE-2A-SEMKO (AS, UK) ⚠
F2	M07325492	FUSE-2A-SEMKO (WG) ⚠
F11	M07495490	FUSE-6.3A (SN) ⚠
F12	M07495490	FUSE-6.3A (SN) ⚠
F451	M07362490	FUSE-4A-SEMKO ⚠
F551	M07362490	FUSE-4A-SEMKO ⚠
J1	M07493576	TERMINAL BOARD (INPUT)
J4	M07492475	JACK (HEADPHONES)
J5	M07493575	TERMINAL BOARD (Speakers)
J6	M07496471	CONNECTOR-DIN (UK, WG)
K881	M07447465	RELAY

Symbol No.	Part No.	Description
L451	M07492530	COIL
L551	M07492530	COIL
P11	M07447442	MAINS LEAD (AS) ⚠
P11	M07478440	MAINS LEAD (SN) ⚠
P11	M07447440	MAINS LEAD (UK) ⚠
P11	M07459440	MAINS LEAD (WG) ⚠
S1b~f	M07493450	SWITCH-PUCH (Selecter)
S3, S4	M07493431	SWITCH-PUSH (Filter)
S5, S6	M07493430	SWITCH-PUSH (Speakers)
S11	M07113430	SWITCH-PUSH (Power) ⚠
S12	M07414450	SW-ROTARY (SN) ⚠
⚠ T11	M07495549	POWER TRANSFORMER(SN)
⚠ T11	M07493549	POWER TRANSFORMER(AS,UK,WG)
VR422 (VR522)	M07493401	VR-W-B250K20
VR423	M07493400	VR-STD-W250K20
VR431 (VR531)	M07444402	VR-W-A100K20
VR432 (VR532)	M07444403	VR-W-A100K20
VR481	M07440435	VR-SEMI-B1K
VR581	M07440435	VR-SEMI-B1K

REAR PANEL


IN PUT
TAPE
L
R
GND
PHONO
AUX/TV
TUNER
PLAY 1
REC 1
PLAY 2
REC 2
SPEAKERS
A
B
MITSUBISHI
MAINS LEAD

PACKAGE INSTRUCTION