

SERVICE MANUAL



STEREO AMPLIFIER

JA 350

(UK)

This is a service manual for model JA 350 (UK) and only items changed from model JA 400 (UK) are indicated.

For other items, refer to Service Manual for model JA 400 (UK, WM-8895).

Δ mark represents a non-interchangeable parts.

Ref. No.	JA 400	JA 350	Description	Remark
	(PACKING & ACCESSORY)			
	141-6-133T-38203	141-6-133T-46001	Individual Carton	Δ
	141-6-410T-80903	141-6-410T-93001	Instruction Manual	Δ
	(CABINET)			
1	141-0-122T-46300	141-0-122T-46301	Front Panel Ass'y	Δ
3	141-2-163T-91900	141-2-163T-91930	Rotary Knob	Δ
4	141-2-163T-81730	141-2-163T-81740	Rotary Knob	Δ
6	141-2-160T-09700	141-2-160T-09701	Push Button	Δ
7	141-2-160T-16500	141-2-160T-16501	Push Button, Power SW	Δ
	(CHASSIS)			
13	141-2-126T-41203	141-2-126T-41208	Back Lid	Δ
	Add	141-2-421T-43900	Special Screw	
	(ELECTRICAL PARTS)			
	Add	4-240T-47673	Socket (Q'ty 12)	
	(GRAPHIC EQUALIZER AMP PCB ASS'Y)			
76	141-4-250T-62103	141-4-250T-62108	PCB Ass'y, Graphic Equalizer Amp.	
	(MAIN AMP PCB ASS'Y)			
77	141-4-250T-62274	141-4-250T-62204	PCB Ass'y, Main Amp	

RTV servis Horvat

Kešinci, 31402 Semeljci

031-856-139

031-856-637

098-788-319

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Croatia

Add this sheet to Model JA 400 Service Manual.

SANYO ELECTRIC TRADING CO., LTD.

33, Hiyoshi-cho 2-chome, Moriguchi-shi,

Osaka-fu, 570, Japan

SERVICE MANUAL



STEREO AMPLIFIER

JA 350A

(UK)

This is a service manual for model JA 350A (UK) and only items changed from model JA 400 (UK) are indicated.
 For other items, refer to Service Manual for model JA 400 (UK, WM-8895).
 Δ mark represents a non-interchangeable parts.

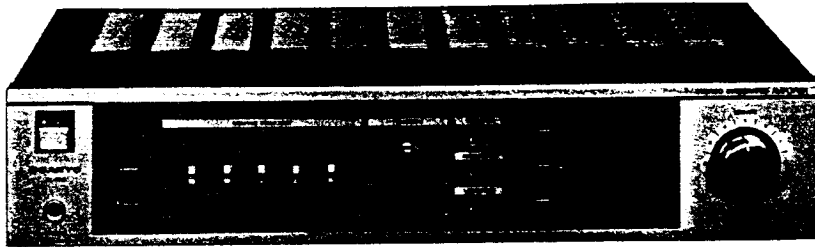
Ref. No.	JA 400	JA 350	Description	Remark
	(PACKING & ACCESSORY)			
	141-6-133T-38203	141-6-133T-46005	Individual Carton	Δ
	141-6-410T-80903	141-6-410T-93005	Instruction Manual	Δ
	(CABINET)			
1	141-0-122T-46300	141-0-122T-46305	Front Panel Ass'y	Δ
3	141-2-163T-91900	141-2-163T-91930	Rotary Knob	Δ
4	141-2-163T-81730	141-2-163T-81740	Rotary Knob	Δ
6	141-2-160T-09700	141-2-160T-09701	Push Button	Δ
7	141-2-160T-16500	141-2-160T-16501	Push Button, Power SW	Δ
	(CHASSIS)			
13	141-2-126T-41203	141-2-126T-41216	Back Lid	Δ
	Add	141-2-421T-43900	Special Screw	
	(ELECTRICAL PARTS)			
	Add	4-240T-47673	Socket (Q'ty 12)	
	(GRAPHIC EQUALIZER AMP PCB ASS'Y)			
76	141-4-250T-62103	141-4-250T-62108	PCB Ass'y, Graphic Equalizer Amp.	
	(MAIN AMP PCB ASS'Y)			
77	141-4-250T-62274	141-4-250T-62204	PCB Ass'y, Main Amp	

Add this sheet to Model JA 400 Service Manual.

SANYO ELECTRIC TRADING CO., LTD.
 33, Hiyoshi-cho 2-chome, Moriguchi-shi,
 Osaka-fu, 570, Japan

SERVICE MANUAL

POWER AMPLIFIER

 **SANYO****JA 400****(UK)**

SPECIFICATIONS

Continuous output power	35W x 2 (at 8 ohms, 0.07% dis)
Total harmonic distortion	0.04% (30W output, 8 ohms)
Input sensitivity and impedance	
PHONO	2.5mV/47k ohms
AUX/TUNER/TAPE PLAY	150mV/47k ohms
Phono overload level	130mV RMS (at 1kHz)
Output level	
TAPE REC	150mV
Frequency response	20 – 20000 Hz (AUX) (± 1.0 dB)
Graphic equalizer controls	±10dB (63/250/1000/4000/16000 Hz)
High filter response	7kHz (–6dB/oct.)
Loudness control response	
100Hz/10kHz	+8dB / +4dB
Signal to noise ratio	90 dB (AUX)
Power requirements	AC: 240V, 50 Hz
Power consumption	170W
AC output socket	AC: 18V, 300mA (max.)
Dimensions (Approx.)	420 (W) x 220 (D) x 85 (H) mm
	(16-1/2" x 8-5/8" x 3-3/8")
Weight (Approx.)	5 kg (11 lbs.)

* Specifications subject to change without notice.

DISMOUNTING OF CABINET AND FRONT PANEL

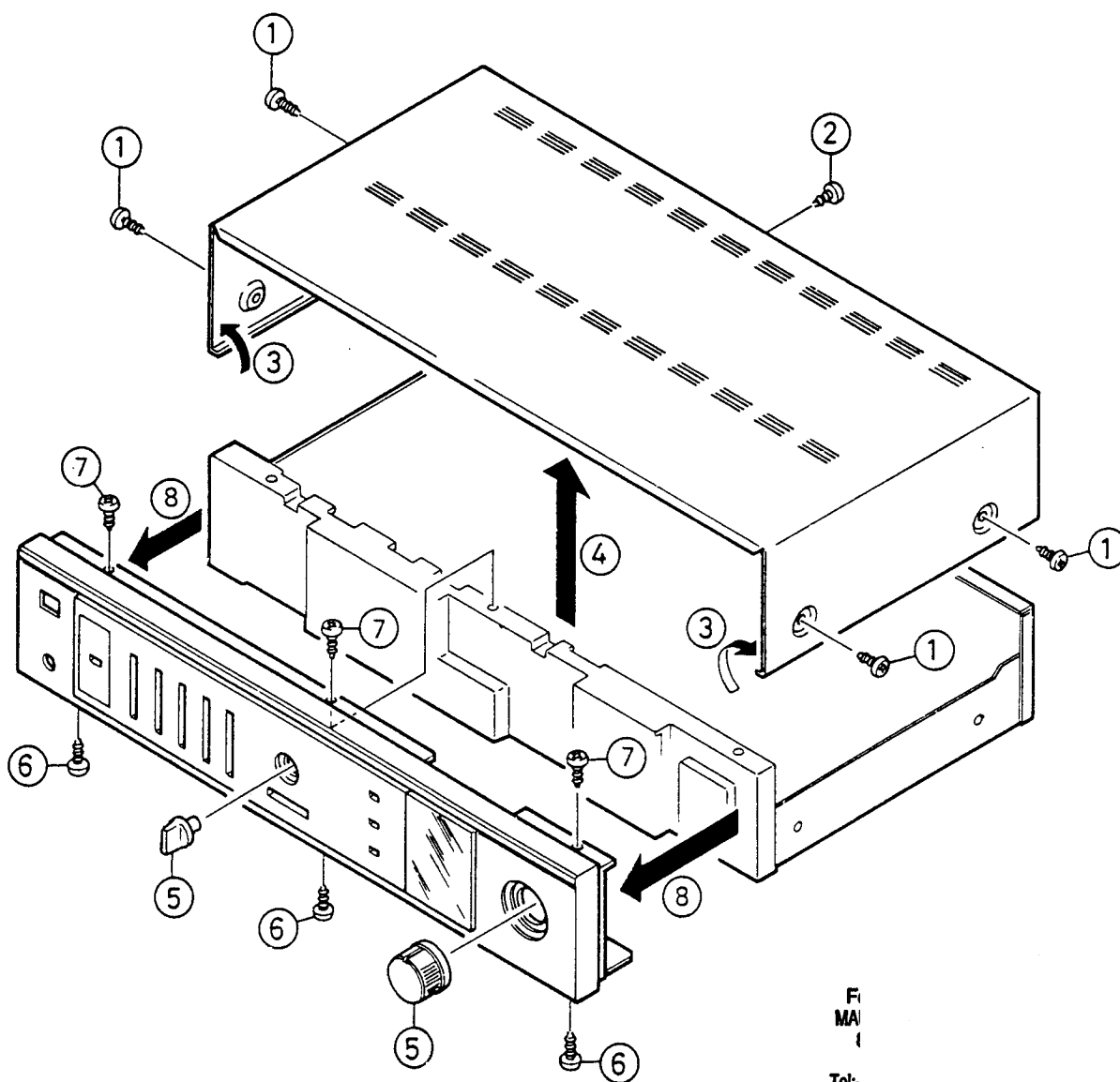
- Perform disassembly of amplifier after removing the power supply cord with out fail.
- Revove parts in order of disassembly as numbered.

1. TO DISMOUNT CABINET

- (1). Take out total 4 screws (Binding head tapping 4 x 8mm 1) from cabinet.
- (2). Take out 1 screw (Binding head tapping 3 x 6mm 2) from cabinet.

2. TO DISMOUNT FRONT – PANEL

- (1). Remove volume control knob and function select knob.
- (2). Take out total 3 screws (Binding head tapping 3 x 12mm 6) from front panel.
- (3). Take out total 3 screws (Binding head tapping 3 x 10mm 7) from front panel.



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ADJUSTMENT OF BIAS

CONDITIONS

VOLUME	:	minimum	MONITOR	:	source
BALANCE	:	center	HIGH FILTER	:	off
GRAPHIC EQUALIZER	:	center	LOUDNESS	:	off
			FUNCTION	:	aux
			SPEAKERS	A	: on
				B	: off

1. BIAS CURRENT ADJUSTMENT (No-Input, No-Load)

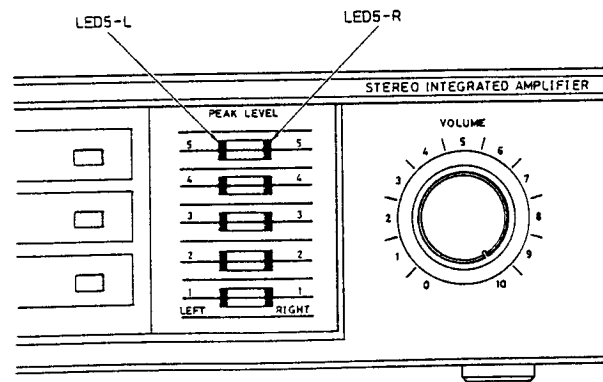
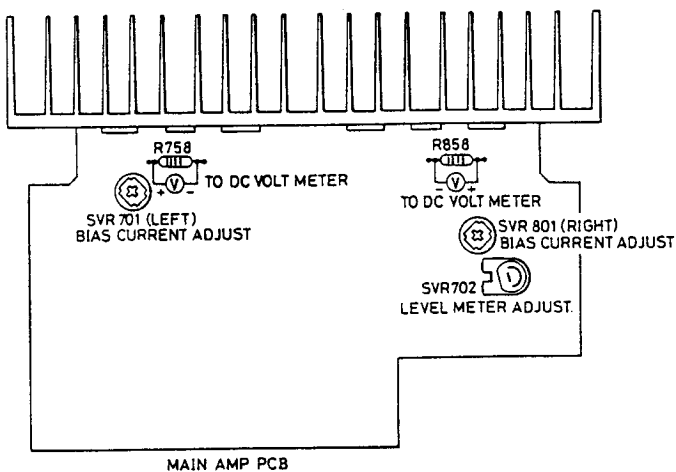
After the power switch is turned on, adjust SVR701 and SVR801 respectively as follows.

- L - Channel : SVR701 for $4 \pm 1\text{mV}$ reading beteen the both leads of R758.
- R - Channel : SVR801 for $4 \pm 1\text{mV}$ reading beteen the both leads of R858.

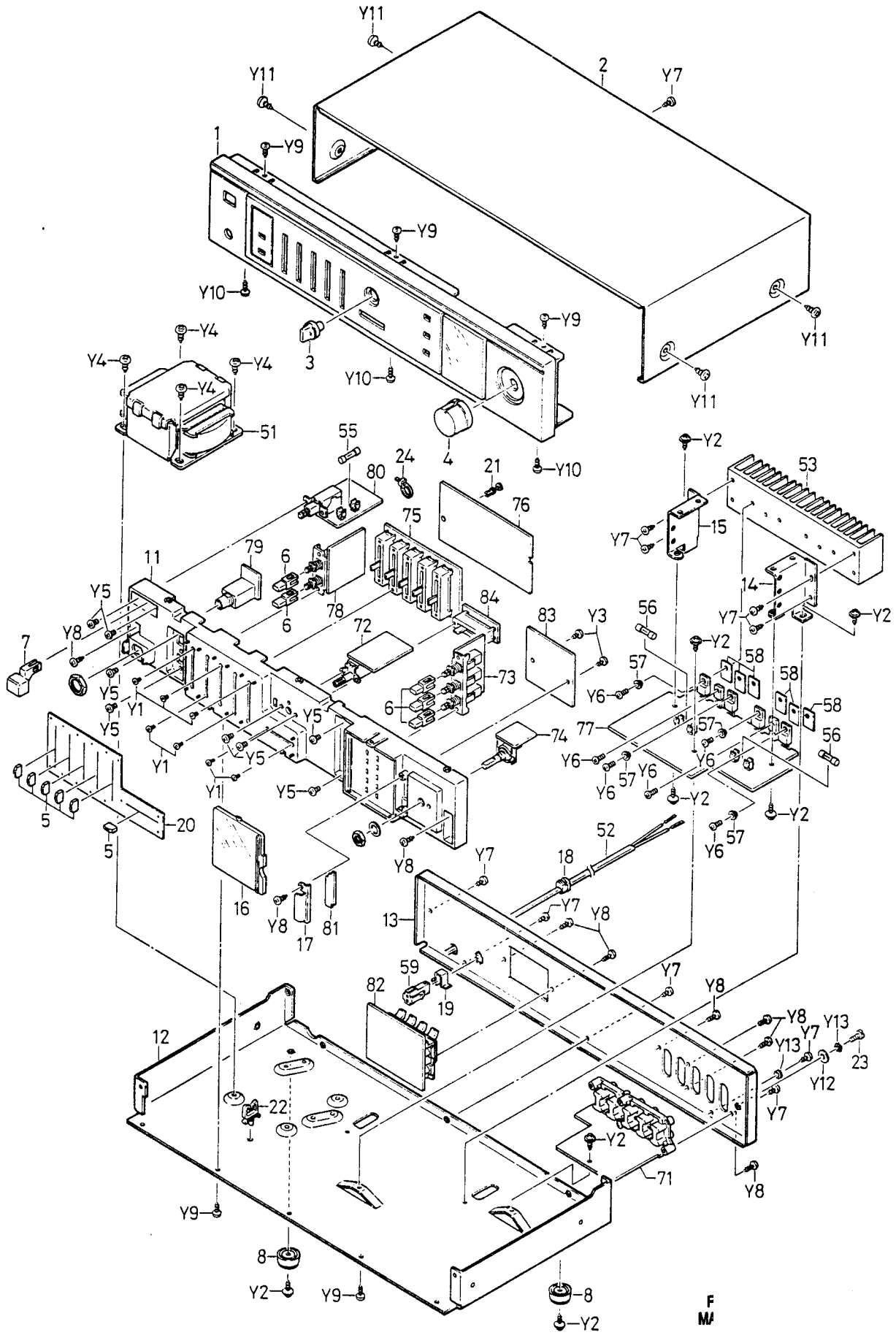
2. LEVEL METER ADJUSTMENT

- (1) Connect a 8 ohm load to the speaker terminals.
- (2) Input 1 kHz sine wave to the AUX terminals by means of an oscillator.
- (3) Set the main volume in the maximum position, and adjust the attenuator of oscillator so that 3.8V output voltage is applied to the load.
- (4) Turn the main volume counterclockwise until the 5th right channel LED of LEVEL METER (LED5-R) lights up faintly.
- (5) Adjust SVR702 so that the 5th left channel LED (LED5-L) lights up in the same way as the 5th right channel LED (LED5-R).

PART SOCATION



EXPLODED VIEW



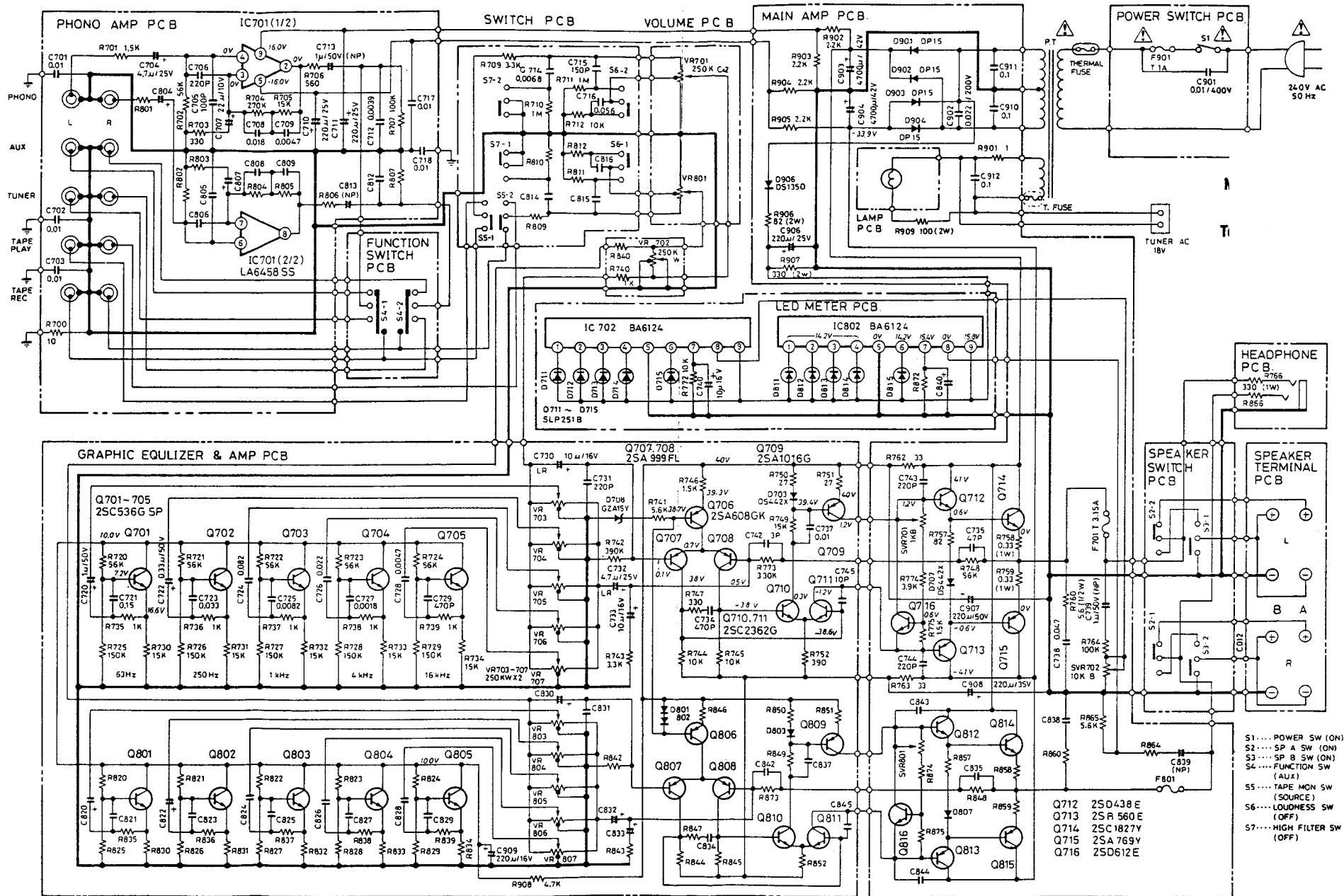
PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PACKING & ACCESSORY				PHONO AMP P. C. B. ASS'Y			
	141-6-133T-38203	Individual Carton	1	71	141-4-250T-61601	P.C.B. Ass'y, Phono Amp	1
	141-6-144T-85000	Foam Plastic Case	2		4-240T-06900	Socket, 4p RCA	1
	141-6-331T-11600	Protector Sheet	1		4-240T-07000	Socket, 6p RCA	1
	141-6-231T-35601	Inner Poly Cover	1	IC701		IC LA6458SS	1
	141-6-410T-80903	Instruction Manual	1	CAPACITORS			
CABINET				C704.804		Electrolytic 4.7μF 25V	2
1	141-0-122T-46300	Front Panel Ass'y	1	C713.813		Electrolytic 1μF (Nonpolar) 50V	2
2	141-2-111T-54901	Cabinet	1	C710.711		Electrolytic 220μF 25V	2
3	141-2-163T-91900	Rotary Knob	1	C707.807		Electrolytic 22μF 10V	2
4	141-2-163T-81730	Rotary Knob	1	C708.808		Mylar 0.018μF ±5% 50V	2
5	141-2-164T-30700	Slide Knob	6	C709.809		Mylar 0.0047μF ±5% 50V	2
6	141-2-160T-09700	Push Button	5	C712.812		Mylar 0.0039μF ±10% 50V	2
7	141-2-160T-16500	Push Button, POWER SW	1	C706.806		Ceramic 220pF ±10% 50V	2
8	141-2-174T-11200	Stand	2	C705.805		Ceramic 100pF ±10% 50V	2
CHASSIS				C702.703		Ceramic 0.01μF +80-20%	3
11	141-2-311T-42900	Chassis	1	701		50V	
12	141-2-125T-29600	Bottom Lid	1	C717.718		Ceramic 0.01μF ±10% 50V	2
13	141-2-126T-41203	Back Lid	1	RESISTORS			
14	141-2-310T-68400	Bracket, Heat Sink, Right	1	All Resistors are Carbon T-type ±5% ¼W, unless otherwise noted.			
15	141-2-310T-68500	Bracket, Heat Sink, Left	1	R703.803		330 ohm	2
16	141-2-143T-92600	Marking Plate	1	R706.806		560 ohm	2
17	141-2-329T-08700	Reflector	1	R701.801		1.5K ohm	2
18	141-2-464T-11400	Fixer, AC Cord	1	R705.805		15K ohm	2
19	141-2-310T-69700	Bracket	1	R702.802		56K ohm	2
20	141-2-135T-86702	Cover	1	R707.807		100K ohm	2
21	141-2-464T-40500	Fixer	1	R704.804		270K ohm	2
22	141-2-464T-29900	Fixer	1	R700		10 ohm	1
23	141-2-421T-28800	Special Screw	1	FUNCTION SWITCH P. C. B. ASS'Y			
24	141-2-464T-20600	Fixer	5	72	141-4-250T-61771	P.C.B. Ass'y, Function Switch	1
FIXING PARTS				S4	4-238T-56000	Rotary Switch	1
Y 1		Pan Hd. Screw 2 x 4mm	7	SWITCH P. C. B. ASS'Y			
Y 2		Pan. Hd. Tapping Screw W/Washer 3 x 6mm	8	73	141-4-250T-61871	P.C.B. Ass'y, Switch	1
Y 3		Pan. Hd. Tapping Screw W/Washer 3 x 8mm	2	S5.6.7	4-238T-56100	Push Switch	1
Y 4		Pan. Hd. Tapping Screw W/Washer 4 x 8mm	4	CAPACITORS			
Y 5		Binding Hd. Screw 3 x 6mm	8	C716.816		Mylar 0.056μF ±10% 50V	2
Y 6		Binding Hd. Screw 3 x 8mm	6	C714.814		Mylar 0.0068μF ±10% 50V	2
Y 7		Binding Hd. Tapping Screw 3 x 6mm	10	C715.815		Ceramic 150pF ±10% 50V	2
Y 8		Binding Hd. Tapping Screw 3 x 8mm	9	RESISTORS			
Y 9		Binding Hd. Tapping Screw 3 x 10mm	5	R710.711		1M ohm	4
Y10		Binding Hd. Tapping Screw 3 x 12mm	3	810.811		10K ohm	2
Y11		Binding Hd. Tapping Screw 4 x 8mm	4	R712.812		3.3K ohm	2
Y12		Spring Washer 3 x 10 x 1t	1	R709.809			
Y13		External Tooth Lock Washer 3 x 6.5t x 0.45t	2	VOLUME P. C. B. ASS'Y			
ELECTRICAL PARTS				74	141-4-250T-61971	P.C.B. Ass'y, Volume	1
51	4-300T-60900	Power Transformer	1	VR701.801	4-220T-03400	Variable Resistors	1
52	4-243T-85273	Power Cord	1	GRAPHIC EQUALIZER CONTROL P. C. B. ASS'Y			
53	141-2-368T-26200	Heat Sink	1	75	141-4-250T-62071	P.C.B. Ass'y, Graphic Equalizer	1
55	4-234T-10584	Fuse, 2A (F901)	1	VR703.704	4-220T-03500	Variable Resistor	5
56	4-234T-10589	Fuse, 2.5A (F701,801)	2	705.706.707			
57	141-2-243T-09800	Base	4	CAPACITORS			
58	141-2-327T-26100	Insulator	6	C720.820		Electrolytic 1μF 50V	2
59	4-240T-16571	Socket	1	C722.822		Electrolytic 0.33μF 50V	2
				C724.824		Mylar 0.082μF ±10% 50V	2
				C726.826		Mylar 0.022μF ±10% 50V	2
				C728.828		Mylar 0.0047μF ±10% 50V	2

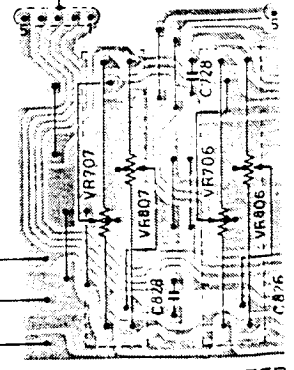
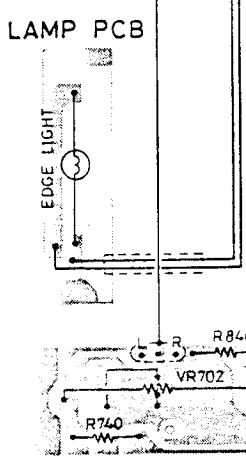
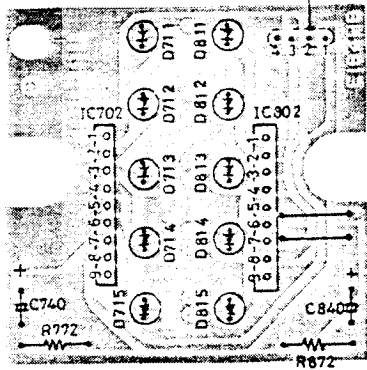
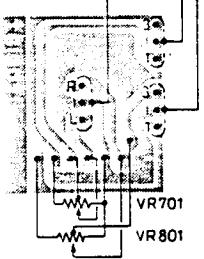
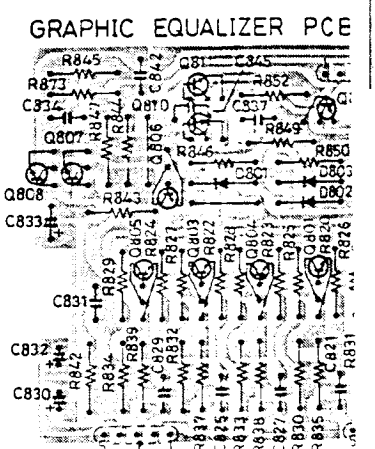
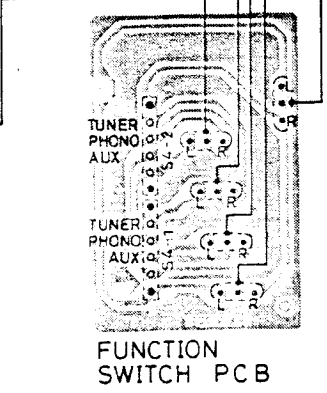
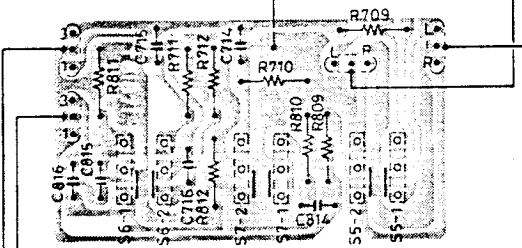
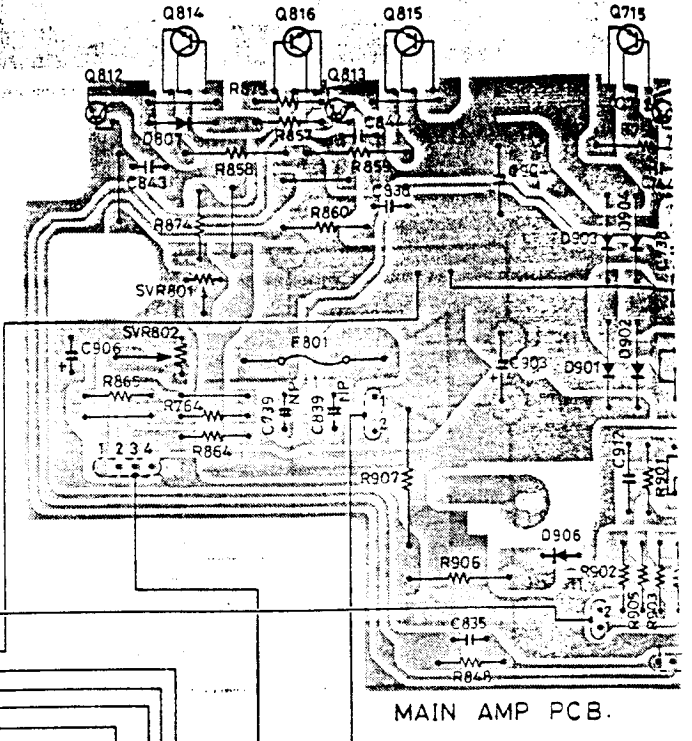
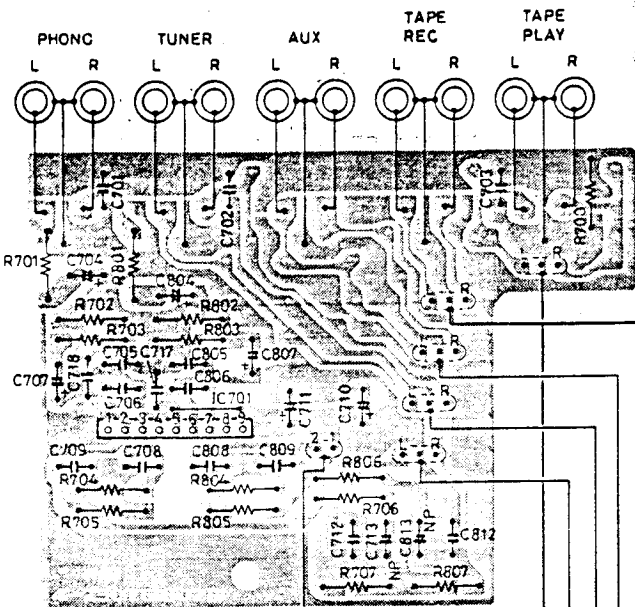
PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
GRAPHIC EQUALIZER AMP P. C. B. ASS'Y				MAIN AMP P. C. B. ASS'Y			
76	141-4-250T-62103	P.C.B. Ass'y, Graphic Equalizer Amp	1	77	141-4-250T-62274	P.C.B. Ass'y, Main Amp	1
Q709.809		Transistor 2SA1016	2	SVR701.801	141-2-381T-04200	Bracket Fuse	4
Q710.711		Transistor 2SC2362	4	SVR702	4-222T-73573	Semi-Variable Resistor 1K ohm	2
810.811					4-222T-97575	Semi-Variable Resistor 10K ohm	1
Q706.806		Transistor 2SA608K	2	Q714.814	4-240T-11271	Socket, 4p	1
Q701.702		Transistor 2SC536 AUD SP	5	Q715.815		Transistor 2SC1827	2
703.704				Q712.812		Transistor 2SA769	2
705.805				Q713.813		Transistor 2SD438	2
Q801.802		Transistor 2SC536 AUD SP	5	Q716.816		Transistor 2SB560	2
803.804				D707.807		Diode DS442 X	2
805				D901.902		Diode GP150	4
Q707.708		Transistor 2SA999 NF	4	903.904			
807.808				D906		Diode DS135	1
D703.801		Diode DS442X	4	CAPACITORS			
802.803				C903.904	4-163T-10200	Electrolytic 4700μF 42V	2
D708		Zener Diode GZA15	1	C907.908		Electrolytic 220μF 50V	2
CAPACITORS				C906		Electrolytic 220μF 25V	1
C909		Electrolytic 220μF 16V	1	C739.839	4-223T-13771	Electrolytic 1μF (Nonpolar) 50V	2
C733.833		Electrolytic 10μF 16V	2	C902		Capacitor 0.022μF ±20% 200V	1
C730.830		Electrolytic 10μF 16V	2	C738.838		Mylar 0.047μF ±10% 50V	2
C732.832		Electrolytic 4.7μF 25V	2	C910.911		Mylar 0.1μF ±20% 100V	2
C721.821		Mylar 0.15μF ±10% 50V	2	C812		Ceramic 0.1μF ±10% 50V	1
C723.823		Mylar 0.033μF ±10% 50V	2	C735.835		Ceramic 47pF ±10% 50V	2
C725.825		Mylar 0.0082μF ±10% 50V	2	C743.744		Ceramic 220pF ±10% 50V	4
C727.827		Mylar 0.0018μF ±10% 50V	2	843.844			
C729.829		Mylar 470pF ±10% 50V	2	RESISTORS			
C734.834		Mylar 470pF ±10% 50V	2	All Resistors are Carbon T-type ±5%, ¼W unless otherwise noted.			
C737.837		Mylar 0.01μF ±10% 50V	2	R758.759		Metal 0.33 ohm P-type 1W	4
C731.831		Ceramic 220pF ±10% 50V	2	858.859		FP-Carbon 5.6 ohm P-type ¼W	2
C742.842		Ceramic 3pF ±10% 50V	2	R760.860		FP-Carbon 1 ohm P-type	2
C745.845		Ceramic 10pF ±10% 50V	2	R901		FP-Carbon 82 ohm P-type	1
RESISTORS				R752.852		FP-Carbon 4.7K ohm P-type	1
All Resistors are Carbon T-type ±5% ¼W, unless otherwise noted.				R908		15K ohm	2
R749.849		FP-Carbon 390 ohm P-type	2	R742.842		390K ohm	2
R742.842		FP-Carbon 4.7K ohm P-type	2	R725.726		150K ohm	5
R725.726		15K ohm	2	727.728			
R727.728				729			
R825.826		150K ohm	5	827.828			
827.828				829			
829				R720.721		56K ohm	5
R720.721		56K ohm	5	722.723			
R907				724			
R820.821		56K ohm	5	822.823			
822.823				824			
824				R730.731		15K ohm	5
R730.731		15K ohm	5	732.733			
R748.848		15K ohm	5	734			
R764.864				R830.831		15K ohm	5
R903.904				832.833			
R775.875		1.5K ohm	2	834			
R774.874		3.9K ohm	2	R744.745		10K ohm	4
R885		5.6K ohm	1	844.845			
R907		Metal 330 ohm P-type 2W	1	R735.736		1K ohm	5
R902.905		FP-Carbon 2.2K ohm P-type	2	737.738			
SPEAKER SWITCH P. C. B. ASS'Y				739			
78	141-4-250T-62372	P.C.B. Ass'y, Speaker Switch	1	R835.836		1K ohm	5
S-2-S-3	4-238T-56200	Switch	1	837.838			
HEADPHONE P. C. B. ASS'Y				839			
79	141-4-250T-62471	P.C.B. Ass'y, Headphone	1	R746.846		1.5K ohm	2
R766.866	4-240T-29971	Socket Metal 330 ohm P-type 1W	2	R747.847		330 ohm	2
AC POWER SWITCH P. C. B. ASS'Y				R750.751		27 ohm	4
80	141-4-250T-62501	P.C.B. Ass'y, AC Power Switch	1	850.851			
S1	4-238T-30100	Switch, Power	1	R773.873		330K ohm	2
C901	4-222T-12100	Capacitor 0.01μF 400V	1	R743.843		3.3K ohm	2
	141-4-381T-04200	Bracket Fuse	2	R741		5.6K ohm	1
	141-2-382T-18900	Terminal	2				

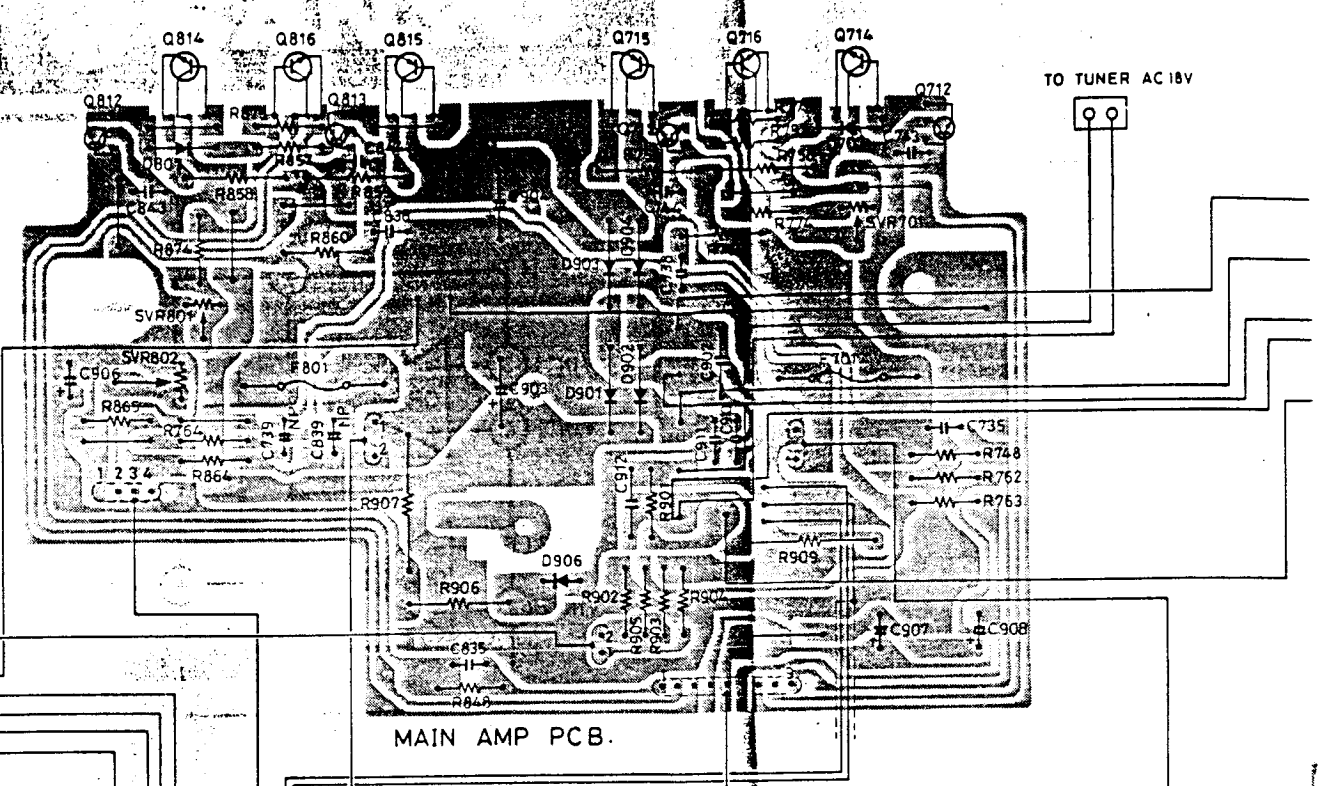
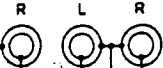
SCHEMATIC DIAGRAM



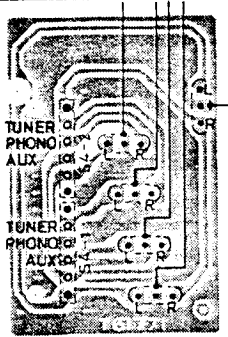
WIRING DIAGRAM



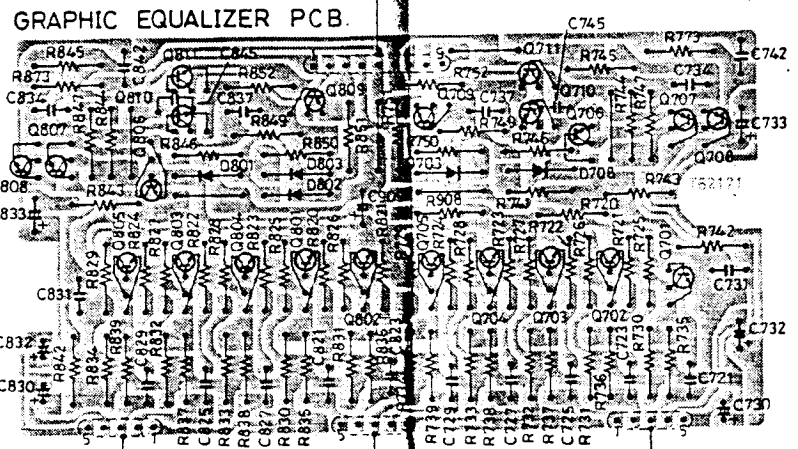
TAPE PLAY
R L R



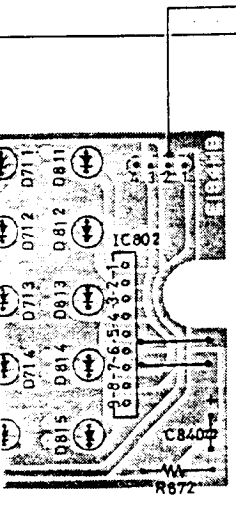
MAIN AMP PCB.



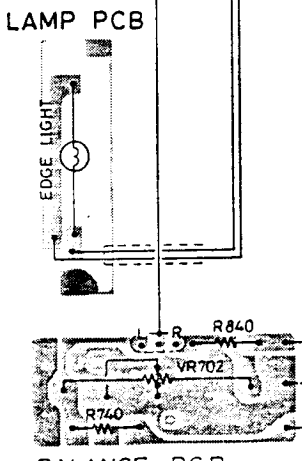
FUNCTION SWITCH PCB



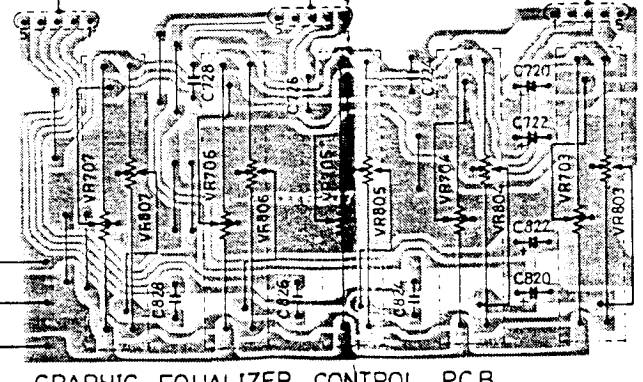
GRAPHIC EQUALIZER PCB.



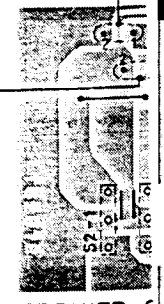
R PCB.



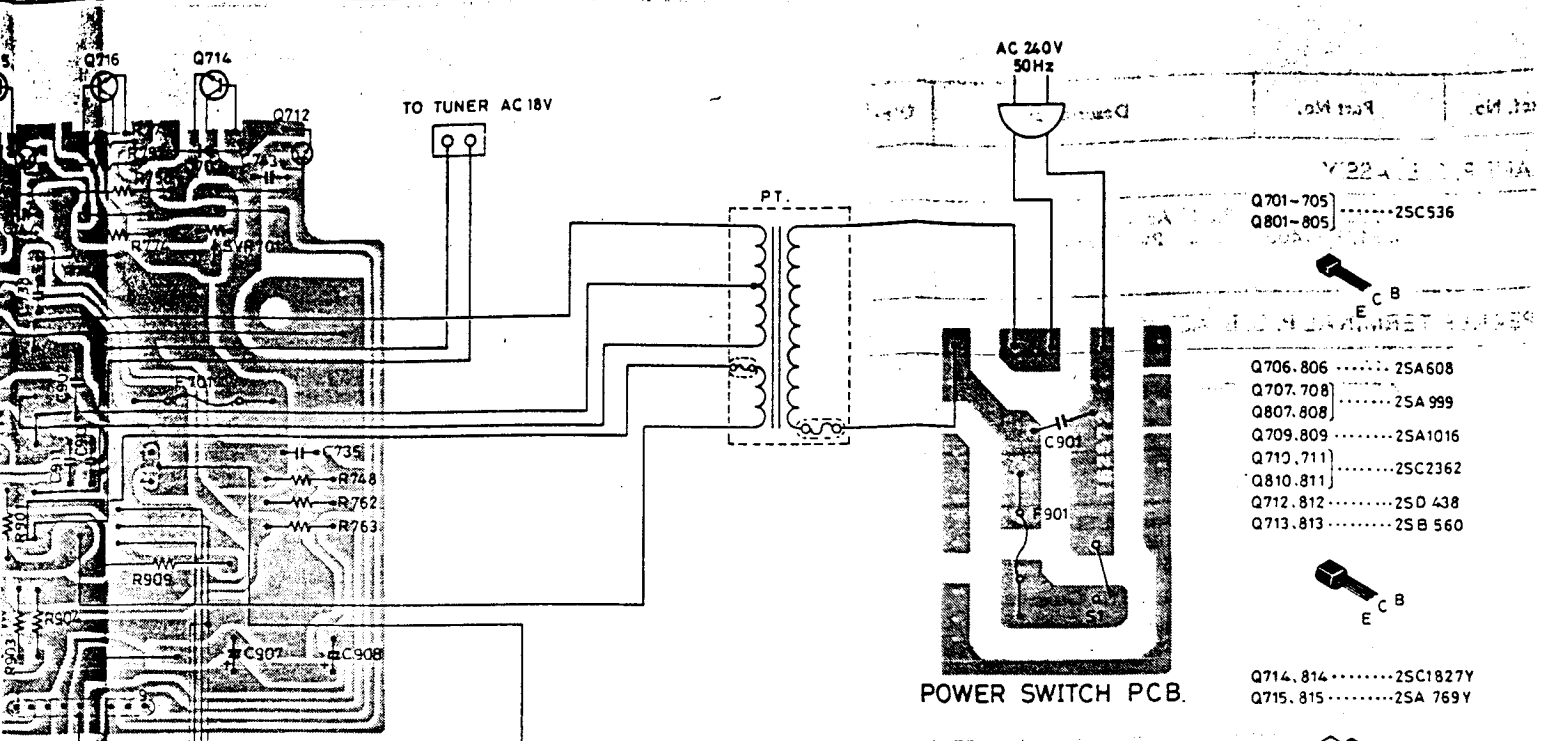
BALANCE PCB.



GRAPHIC EQUALIZER CONTROL PCB.



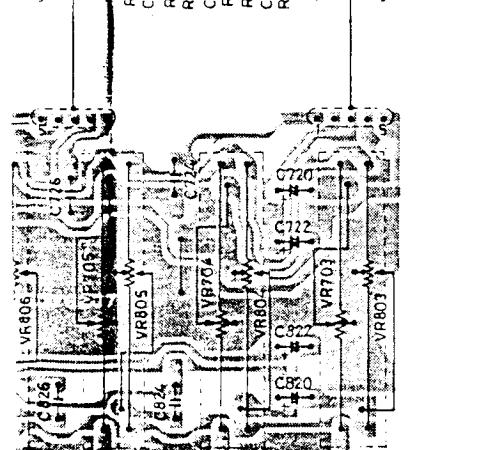
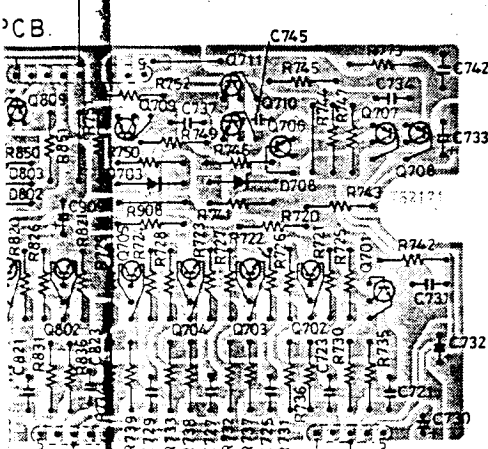
SPEAKER S



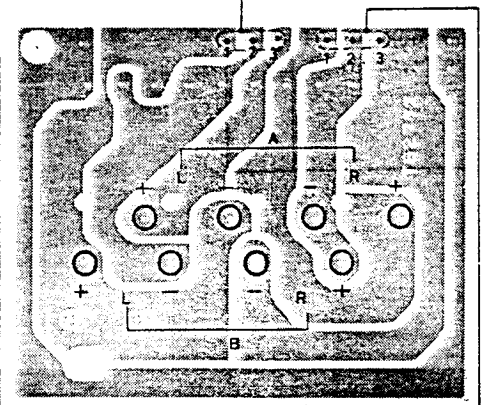
POWER SWITCH PCB.

- Q701-705 2SC536
- Q801-805 2SC536
- Q706, 806 2SA608
- Q707, 708 2SA999
- Q807, 808 2SA999
- Q709, 809 2SA1016
- Q710, 711 2SC2362
- Q810, 811 2SC2362
- Q712, 812 2SD438
- Q713, 813 2SB560

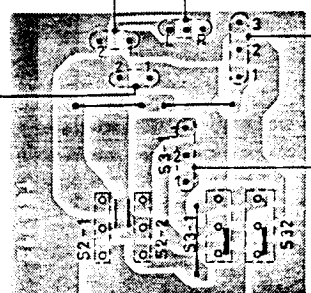
- Q714, 814 2SC1827Y
- Q715, 815 2SA769Y



TUNER CONTROL PCB.

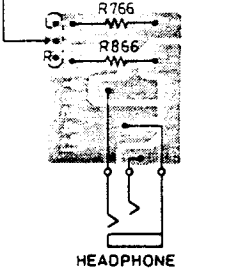


SPEAKER TERMINAL PCB



SPEAKER SWITCH PCB.

HEADPHONE PCB.



HEADPHONE

- Q716, 816 2SD612

- IC701 LA6458

- IC702, 802 BA6124

PARTS LIST

Ref. No.	Part No.	Description	Q'ty
LAMP P. C. B. ASS'Y			
81	141-4-250T-62671 4-612T-17400	P.C.B. Ass'y, Lamp Lamp 12V, 100mA	1 1
SPEAKER TERMINAL P. C. B. ASS'Y			
82	141-4-250T-62701 4-237T-09871	P.C.B. Ass'y, Speaker Terminal Terminal Board	1 1
LED METER P. C. B. ASS'Y			
83	141-4-250T-64500	P.C.B. Ass'y, LED Meter	1
IC702,802		IC LB1403	2
IC702,802		IC BA6124 or	2
D711 ~ 715, D811 ~ 815		LED SLP251B Green	10
C740,840		Electrolytic 10µF 16V	2
R722,872		Carbon 10K ohm P-type ¼W	2
BALANCE P. C. B. ASS'Y			
84	141-4-250T-64671	P.C.B. Ass'y, Balance	1
VR702	4-220T-03600	Variable Resistor	1
R840		Carbon 1K ohm T-type ¼W	1
R740		Carbon 1K ohm P-type ¼W	1

RTV servis Horvat

Kešinci, 31402 Semeljci

031-856-139

031-856-637

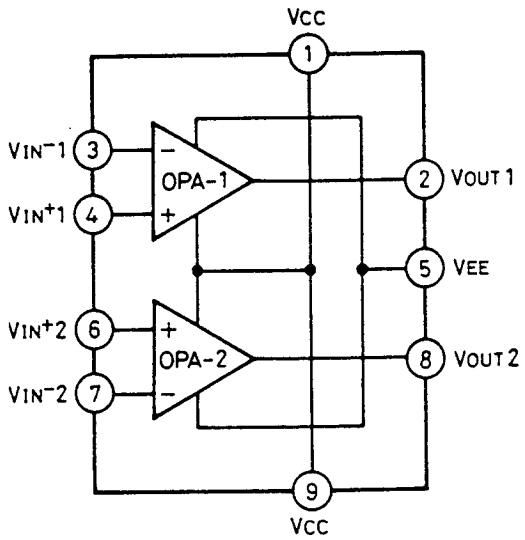
098-788-319

rtv-servis-horvat@os.tel.hr

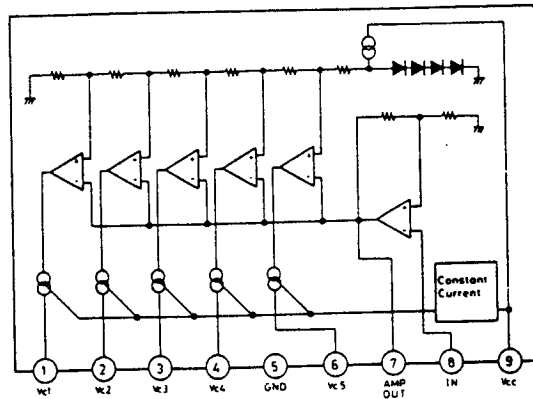
Croatia

C BLOCK DIAGRAM

LA 6458S (Dual Operation Amplifier)



BA6124 (LED Level Meter)



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 33, Hiyoshi-cho 2-chome, Moriguchi-shi,
 Osaka-fu, 570 Japan.