

Service Manual

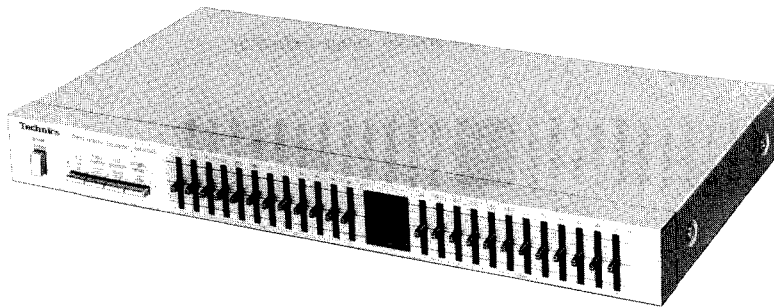
Stereo Graphic Equalizer

SH-8045

[E], [EK], [XA], [XL], [EF], [EB]

SH-8045(K)

[E], [EK], [XA], [XL], [EF], [EB]



- * The cabinet and front panel are available in black color and silver types.
- * The black type model is provided with (K) in the Service Manual.

Areas

- * [E] is available in Switzerland and Scandinavia.
- * [EK] is available in United Kingdom.
- * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
- * [XL] is available in Australia.
- * [EF] is available in France.
- * [EB] is available in Belgium.

Specifications

(Specifications are subject to change without notice for further improvement.)

(DIN 45 500)

Frequency response (center position)	: 5 Hz~100 kHz, -1 dB
Maximum output voltage	: 8 V (1 kHz, THD 0.01%)
Rated output voltage	: 1 V
Rated total harmonic distortion	: 0.005% (20 Hz~20 kHz) 0.003% (1 kHz)
Input sensitivity	: 1 V
Signal-to-noise ratio	: 100 dB (110 dB, IHF' A)
Maximum input voltage	: 8 V (1 kHz)
Input impedance	: 47 k Ω
Gain	: 0 \pm 1 dB
Channel balance	
250 Hz~6300 Hz	: \pm 0.5 dB
Channel separation	
1kHz	: 70 dB

Band level controls	: +12 dB~-12 dB, +3 dB~-3 dB (12 elements continuously variable per channel)
Center frequency	: 16 Hz, 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz, 32 kHz

GENERAL

Power supply	: AC 110 V/120 V/220 V/240 V, 50 Hz/60 Hz. AC 240 V 50 Hz only (For Australia)
Power consumption	: 19 W
Dimensions (H\timesW\timesD)	: 53 \times 430 \times 235 mm (2-3/32" \times 16-29/32" \times 9-1/4")
Weight	: 2.6 kg (5.7lb)

CONTENTS

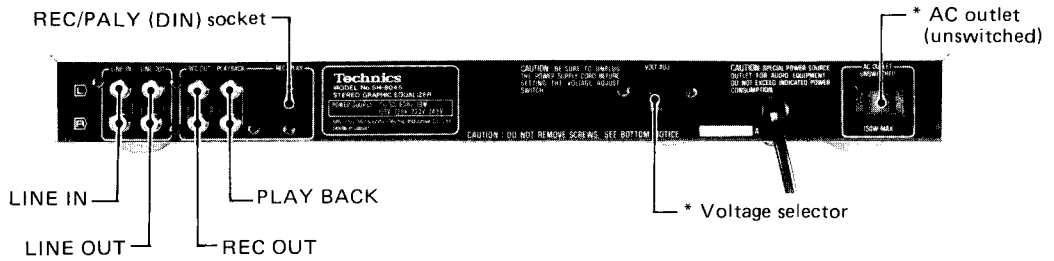
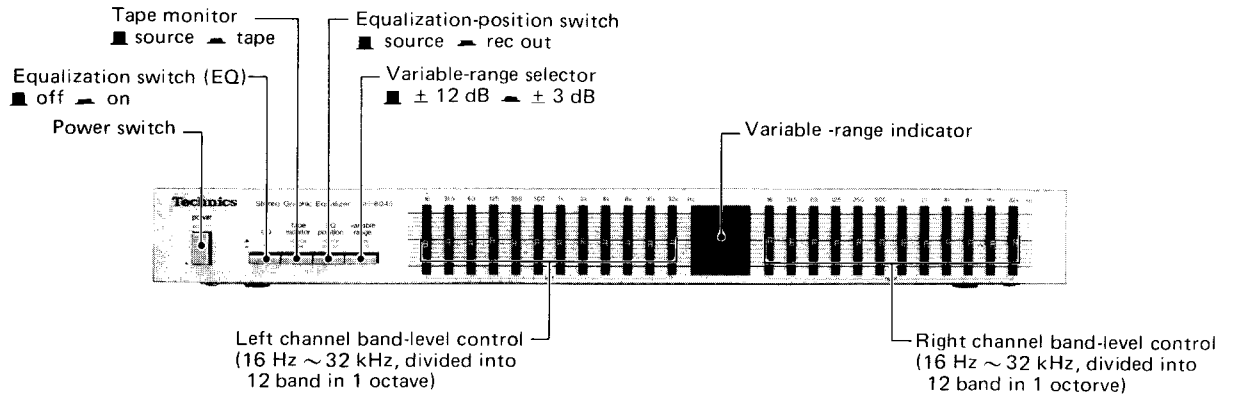
	Page
LOCATION OF CONTROLS	2
TOTAL FREQUENCY RESPONSE	3
DISASSEMBLY INSTRUCTIONS	3
REPLACEMENT PARTS LIST	
Cabinet, Chassis and Packing Parts	5
EXPLODED VIEW	5
BLOCK DIAGRAM	7

	Page
CIRCUIT BOARD AND WIRING	
CONNECTION DIAGRAM	8
SCHEMATIC DIAGRAM	11
REPLACEMENT PARTS LIST	
Electrical Parts	13
RESISTORS & CAPACITORS	13

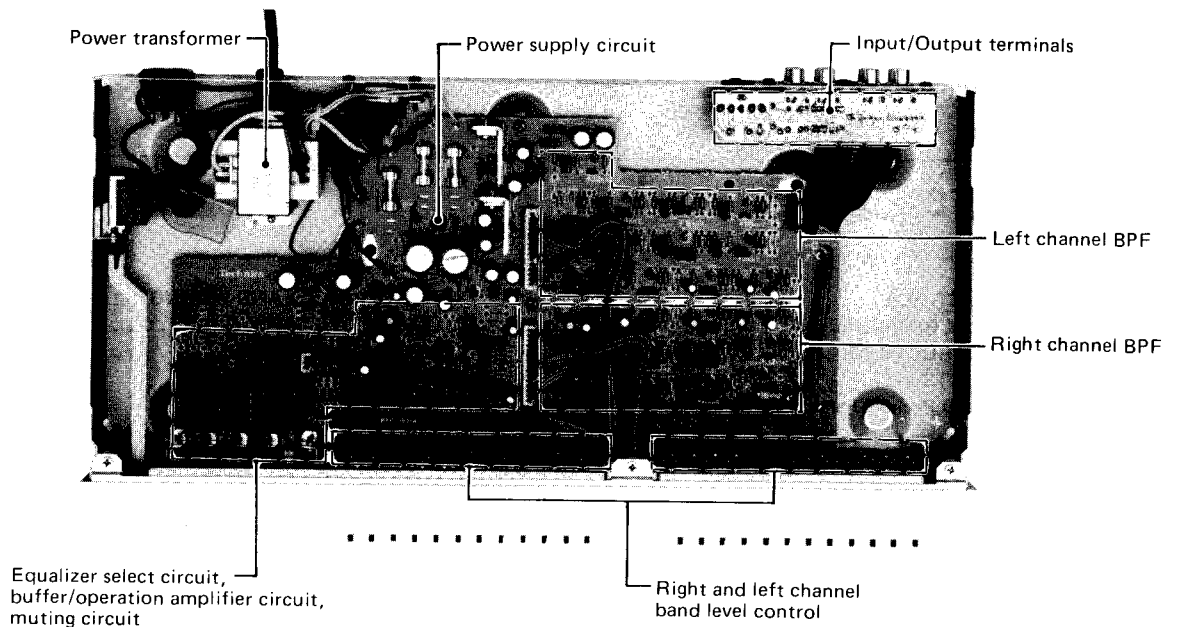
Technics

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

LOCATION OF CONTROLS



* This power supply for this unit varies depending the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and replacement part list.
 * [XA] area is provided with AC outlet.
 * [XL] area is not provided with voltage selector.



Stereo Graphic
Equalizer

SH-8045/SH-8045(K)

This booklet contains the specifications for SH-8045, written in Germany, French and Spanish, and the circuits to be changed according to the areas.

File this manual together with the SH-8045 service manual (Order No. SD82042179C8).

DEUTSCH

FRANÇAIS

DEUTSCH

■ TECHNISCHE DATEN (Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.)

(DIN 45 500)

Frequenzgang (mittelstellung)	: 5 Hz ~ 100 kHz, -1 dB
Maximalausgangsspannung	: 8 V (1 kHz, THD 0.01%)
Nennausgangsspannung	: 1 V
Nennklirrfaktor	: 0.005% (20 Hz ~ 20 kHz) 0.003% (1 kHz)
Eingangsspannung	: 1 V
Geräuschabstand	: 100 dB (110 dB, IHF, A)
Maximaleingangsspannung	: 8 V (1 kHz)
Eingangsimpedanz	: 47 kΩ
Verstärkung	: 0 ± 1 dB
Kanalsymmetrie 250 Hz ~ 6300 Hz	: ± 0.5 dB

Kanaltrennung 1kHz	: 70 dB
Frequenzgangregler	: +12 dB ~ -12 dB, +3 dB ~ -3 dB (12 Regler, stufenlos verstellbar)
Mittelfrequenzen	: 16 Hz, 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz, 32 kHz

ALLGEMEINE DATEN

Stromversorgung	: Wechselstrom, 110 V/120 V/220 V/ 240 V, 50 Hz/60 Hz
Leistungsaufnahme	: 19 W
Abmessungen (H×B×T)	: 53×430×235 mm (2-3/32"×16-29/32"×9-1/4")
Gewicht	: 2.6 kg (5.7 lb)

FRANÇAIS

■ CARACTERISTIQUES (Sujet à changement sans préavis.)

(DIN 45 500)

Courbe de réponse (position centrale)	: 5 Hz ~ 100 kHz, -1 dB
Tension de sortie maximale	: 8 V (1 kHz, THD 0.01%)
Tension de sortie nominale	: 1 V
Distortion harmonique totale	: 0.005% (20 Hz - 20 kHz) 0.003% (1 kHz)
Sensibilité d'entrée Signal/Bruit	: 100 dB (110 dB, IHF, A)
Tension d'entrée maximale	: 8 V (1 kHz)
Impédance d'entrée	: 47 kΩ
Gain	: 0 ± 1 dB
Equilibrage de canal 250 Hz ~ 6300 Hz	: ± 0.5 dB
Séparation de canal 1 kHz	: 70 dB

Commandes de niveau de gamme

	: +12 dB ~ -12 dB, +3 dB ~ -3 dB (12 éléments, continuellement variables)
Fréquences charnières	: 16 Hz, 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz, 32 kHz

GENERALITES

Alimentation	: CA, 110 V/120 V/220 V/240 V, 50 Hz/60 Hz
Consommation	: 19 W
Dimensions (h×l×pr) mm	: 53×430×235 mm (2-3/32"×16-29/32"×9-1/4")
Poids	: 2.6 kg (5.7 lb)

ESPAÑOL

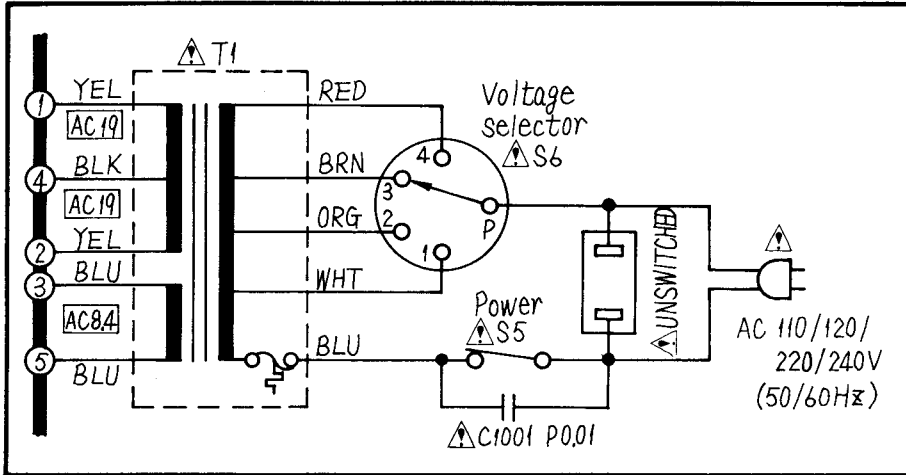
■ ESPECIFICACIONES (Estas especificaciones están sujetas a cualquier cambio sin previo aviso.)

(DIN 45 500)			
Respuesta de frecuencia (posición central)	: 5 Hz ~ 100 kHz, -1 dB	Controles de nivel de banda	: +12 dB ~ -12 dB, +3 dB ~ -3 dB :(12 elementos, continuamente variables)
Tensión de salida máxima	: 8 V (1 kHz, THD 0.01%)	Frecuencia central	: 16 Hz, 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz, 32 kHz
Tensión de salida de régimen	: 1 V	EN GENERAL	
Distorsión armónica total nominal :	0.005% (20 Hz ~ 20 kHz) 0.003% (1 kHz)	Alimentación de corriente	: C.A. de 110 V/120 V/220 V/ 240 V, 50 Hz/60 Hz
Sensibilidad de entrada	: 1 V	Consumo de corriente	: 19 W
Relación de señal ruido	: 100 dB (110 dB, IHF 'A')	Dimensiones (alto x ancho x prof.)	: 53 x 430 x 235 mm (2-3/32" x 16-29/32" x 9-1/4")
Tensión de entrada máxima	: 8 V (1 kHz)	Peso	: 2.6 kg (5.7 lb)
Impedancia de entrada	: 47 kΩ		
Ganancia	: 0 ± 1 dB		
Equilibrio de canales 250 Hz ~ 6300 Hz	: ± 0.5 dB		
Separación de canales 1 kHz	: 70 dB		

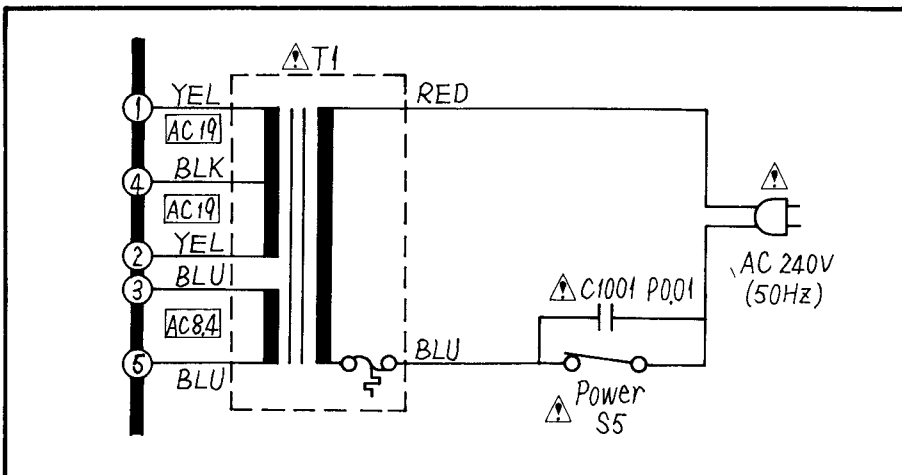
■ CIRCUITS TO BE CHANGED AND THE AREAS

- Power source circuit

[XA] area

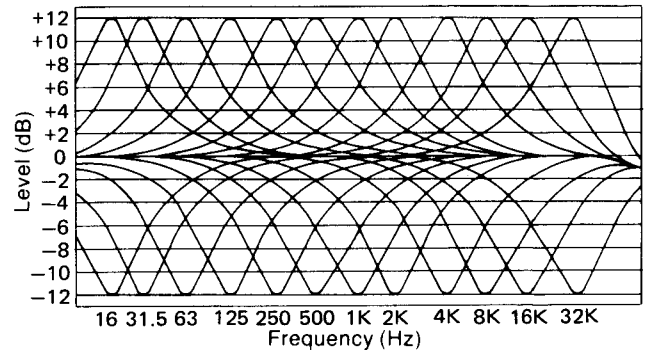


[XL] area



■ TOTAL FREQUENCY RESPONSE

Frequency response (± 12 dB position)



■ DISASSEMBLY INSTRUCTIONS

● How to remove the front panel

1. Remove the setscrews ① ~ ④ in Fig. 1 to remove the cabinet.
2. Remove the 6 setscrews (Fig. 1 : ⑤ ~ ⑪) of the front panel.
3. Pull the connector out of the main P.C.B.
4. Remove the front panel with care not to damage the knobs.

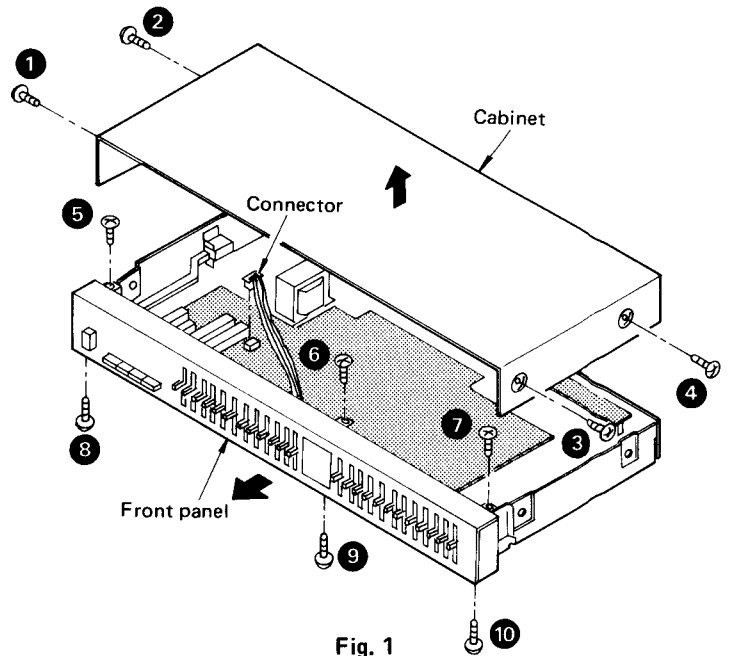


Fig. 1

● How to remove the P.C.B.

1. Remove the cabinet and front panel.
2. Remove the power supply knob and 4 setscrews (Fig. 1 : ⑪ ~ ⑭) of the front plate.
3. Remove the 5 setscrews (Fig. 2 : ⑮ ~ ⑲) of the P.C.B.
4. Remove the front plate from the chassis as in Fig. 3.

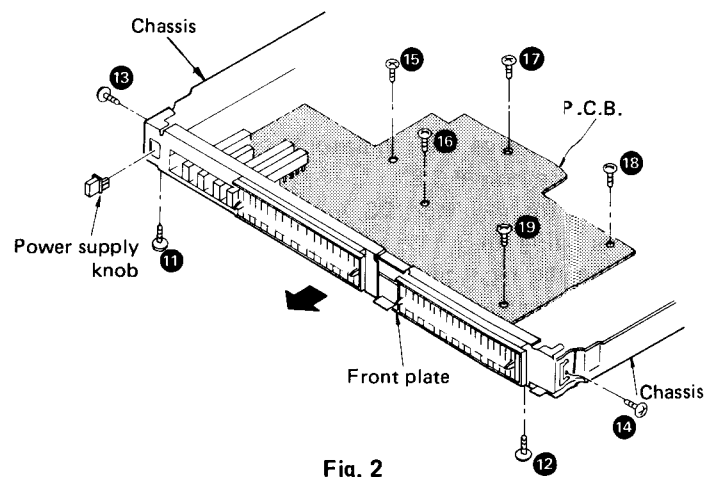


Fig. 2

Push the chassis by hand and pull the front plate toward you while releasing the stopper of front plate.

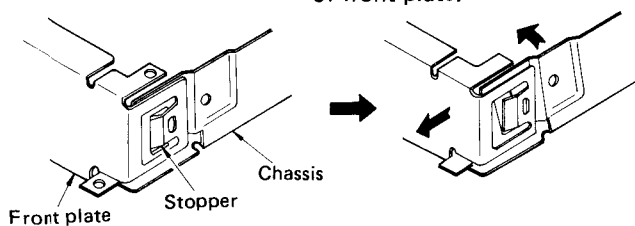


Fig. 3

● How to remove the slide volume

1. Remove the cabinet and front panel.
2. Remove the power supply knob and 4 setscrews (Fig. 4 : ⑪ ~ ⑭) of the front plate.
3. Pull the 2 connectors out of the main P.C.B.
4. Remove the 2 setscrews (Fig. 4 : ⑳, ㉑) of the switch and remove the front plate from the chassis as in Fig. 3.
5. Pull out the 12 knobs for the right and left channels, totalling 24 knobs.
6. Remove the ornament panel by pressing the right and left claws (A & B) from the inside of the chassis as in Fig. 5. (There are 2 ornament panel. Remove another panel in the same manner.)
7. Remove the 8 setscrews for the volume and detach the volume along with the P.C.B. from the front plate.

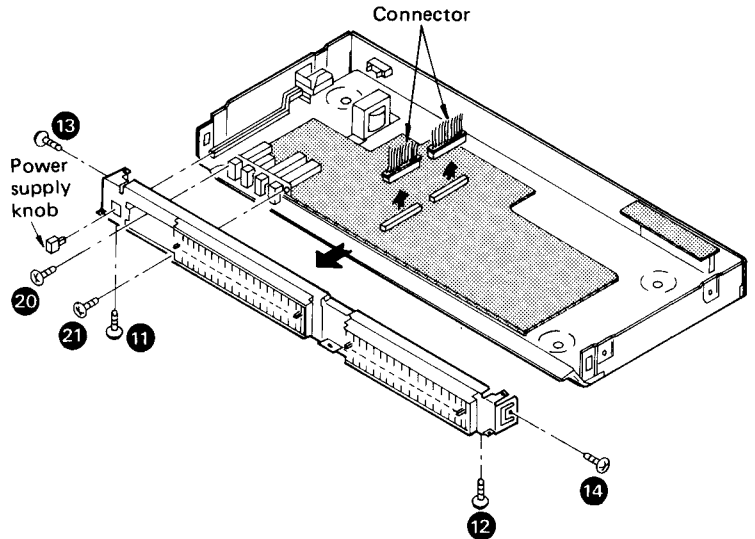


Fig. 4

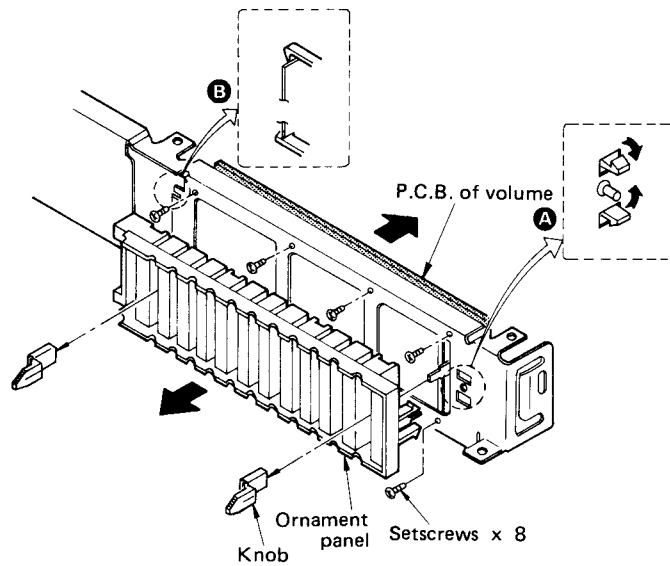


Fig. 5

● How to remove the regulator

1. Remove the main P.C.B.
2. Unsolder the regulator (Q3, 4) at 3 portions and the radiation plate at 1 portion. (Fig. 6)
3. Remove the regulator along with the radiation plate, and the setscrews.
4. When soldering the regulator, apply silicone compound (or equivalent heat diffusing agent) to the back of regulator.

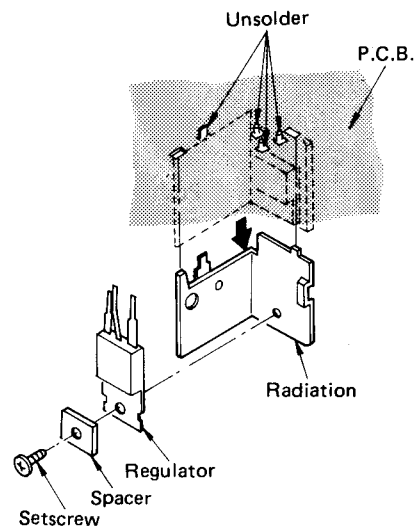


Fig. 6

REPLACEMENT PARTS LIST.....Cabinet, Chassis and Packing Parts

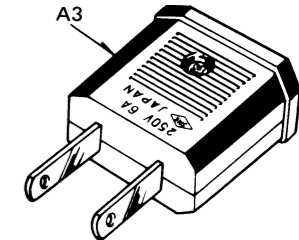
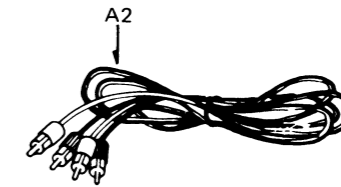
Notes:

- Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
- Important safety notice: Components identified by Δ make have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
- Bracketed indications Ref. No. columns specify the area. Parts without these indications can be used for all areas.

- The "S" mark is service standard parts and may differ from production parts.
- \square -marked parts are used for black type only, while \circ -marked parts are for silver type only.
- Parts other than \square and \circ -marked are used for both black and silver types.
- The parenthesized numbers in the columns of description stand for the quantity per set.

Black type model No. : SH-8045 (K)

Accessories

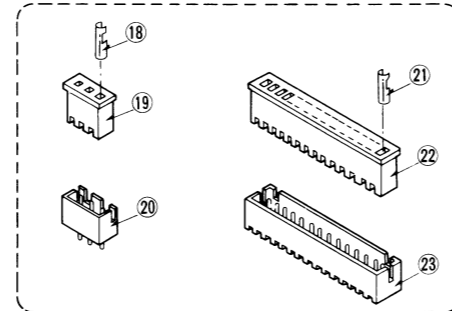


Areas

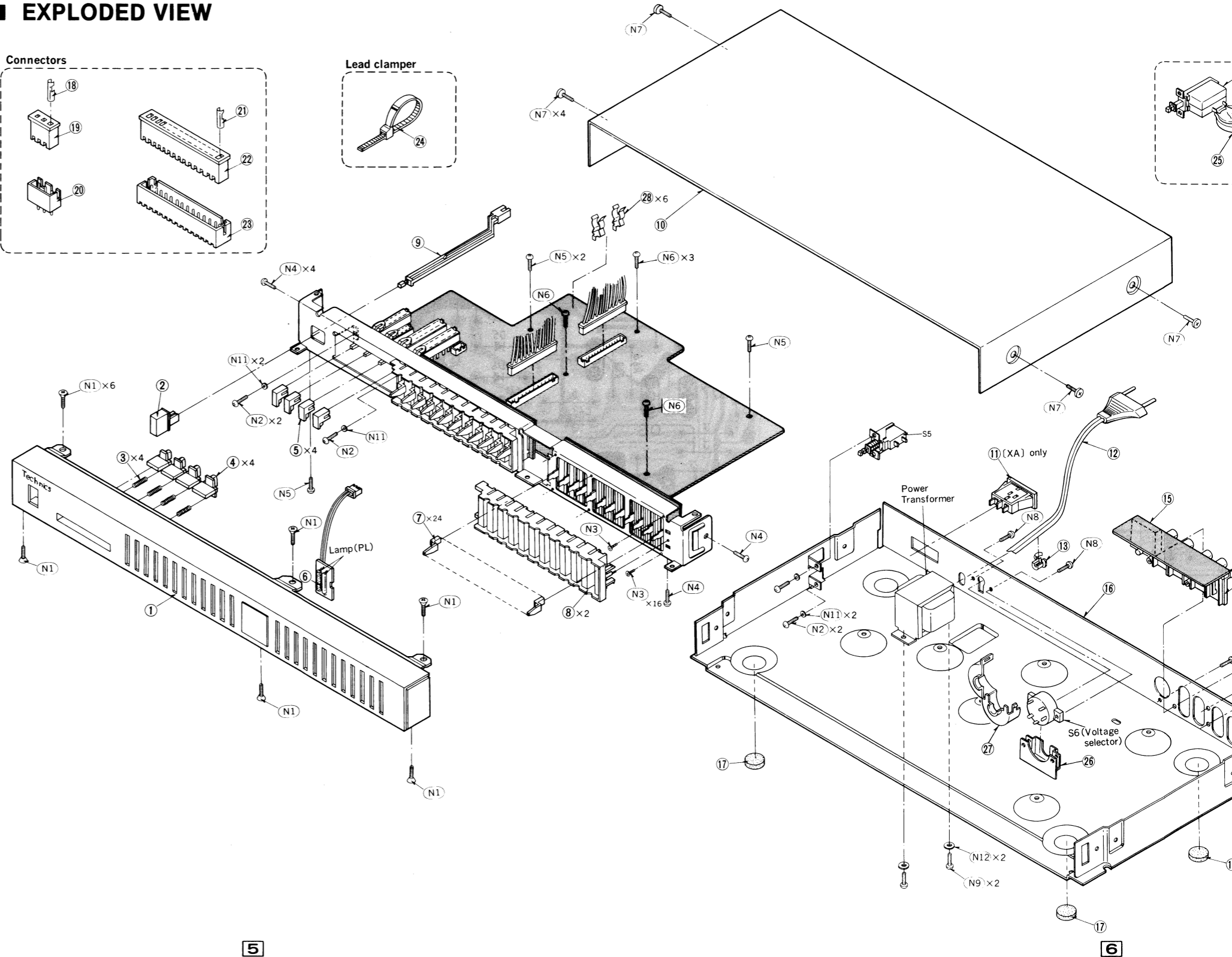
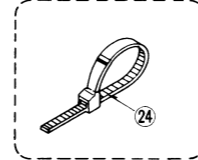
- * [E] is available in Switzerland and Scandinavia.
- * [EK] is available in United Kingdom.
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- * [XL] is available in Australia.
- * [EF] is available in France.
- * [EB] is available in Belgium.

EXPLODED VIEW

Connectors



Lead clasper



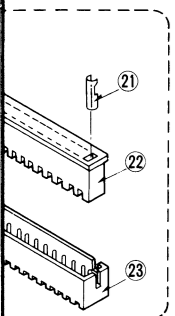
Ref. No.	Part No.	Description	Quantity
CABINET and CHASSIS PARTS			
1	\circ SGWH8045N	Front Panel Ass'y (Silver)	(1)
1	\square SGWH8045KN	Front Panel Ass'y (Black)	(1)
2	SBC337-1	Button, Power Source	(1)
3	SUS159	Spring, Push Switch	(4)
4	SBC413	Button, Push Switch	(4)
5	SUBK7	Coupling Rod, Push Switch	(4)
6	SDUK4	Tube, Lamp	(1)
7	SBCK32	Knob, Band Level Control	(24)
8	SGXK43	Ornament, Slide Volume	(2)
9	SUBK6	Coupling Rod, Power Switch	(1)
10	\circ SKCH8045N	Cabinet (Silver)	(1)
10	\square SKCH8045KN	Cabinet (Black)	(1)
11 [XA] only	SJS9221-1	Socket, AC Outlet	(1)
12 Δ S	SJA88	AC Cord	(1)
12 [EK] Δ	RJA45YA	AC Cord	(1)
12 [XL] Δ S	OFC1208M	AC Cord	(1)
13	SHR127	Bushing, AC Cord	(1)
13 [EK] only	SHR129	Bushing, AC Cord	(1)
14	SJF3431-4N	Terminal, Input & Output	(2)
15	SJS6513	Terminal, REC/PLAY (DIN)	(1)
16	SGPKH8045E	Bottom Board, W/Feet	(1)
16 [XA] only	SGPKH8045X	Bottom Board, W/Feet	(1)
16 [XL] only	SGPKH8045L	Bottom Board, W/Feet	(1)
17	SKL245-2	Foot, Set	(4)
18	SJT783	Terminal, Socket	(3)
19	SJS5331	Socket (3 Pin)	(1)
20	SJT3319	Connector (3 Pin)	(1)
21	SJT783	Terminal, Socket	(30)
22	SJS5047	Socket (15 Pin)	(2)
23	SJT3027	Connector (15 Pin)	(2)
24	SHR301	Clamper, Lead Wire	(5)
25 [E, XA]	SAMA65	Cover, Capacitor	(1)
25 [EK, XL, EB, EF]	SMXK26	Cover, Capacitor	(1)
26	SMN1635	Bracket, Voltage Selector Switch	(1)
27	SUV473	Cover, Voltage Selector Switch	(1)
28	SJT347	Fuse Clip	(6)
SCREWS			
N1	\circ S XTS3+6B	Tapping, \oplus 3 x 6 (Silver)	(6)
N1	\square XTS3+6BFZ	Tapping, \oplus 3 x 6 (Black)	(6)
N2	S XSN3+6S	\oplus 3 x 6	(4)
N3	S XSN2+4BV	\oplus 2 x 4	(12)
N4	S XTBS3+10BFZ	Tapping, \oplus 3 x 10	(9)
N5	S XTBS3+8BFZ1	Tapping, \oplus 3 x 8	(2)
N6	S XTBS3+10BFN	Tapping, \oplus 3 x 10	(3)

Ref. No.	Part No.	Description	Quantity
N7	\circ S XTB4+8BFN	Tapping, \oplus 4 x 8 (Silver)	(4)
N7	\square S XTB4+8BFZ	Tapping, \oplus 4 x 8 (Black)	(4)
N8	S XTB3+16BFZ	Tapping, \oplus 3 x 16	(2)
N9	S XTNB+10B	Tapping, \oplus 3 x 10	(2)
WASHERS			
N11	S XWA3B	Spring, ϕ 3	(4)
N12	S XWG3	Plain, ϕ 3	(2)
PACKING PARTS			
P1	SPGK90	Carton Box	(1)
P1 [EF] only	SPGK89	Carton Box	(1)
P2	\square SGK1413	Label, (Black type only)	(2)
P3	SPSK38	Pad, Right	(1)
P3	SPSK39	Pad, Left	(1)
P5	\circ SPP697	Polyethylene Bag, (Silver)	(1)
P5	\square SPP647	Polyethylene Bag, (Black)	(1)
ACCESSORIES			
A1 [E, EK, EF, EB]	SQFK10011	Instructions Book	(1)
A1 [XA, XL]	SQFK10018	Instructions Book	(1)
A2	SJP2129-5	Pin Cord	(2)
A3 [XA] only	SJP5213-1	Plug, Power Source	(1)

Parts

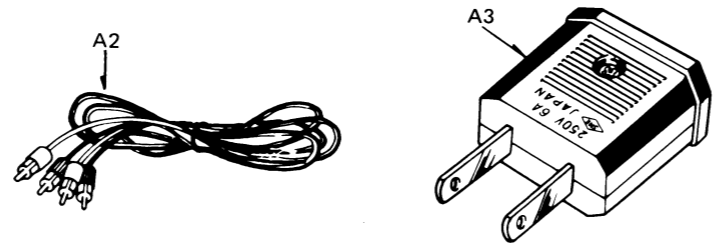
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VIEW

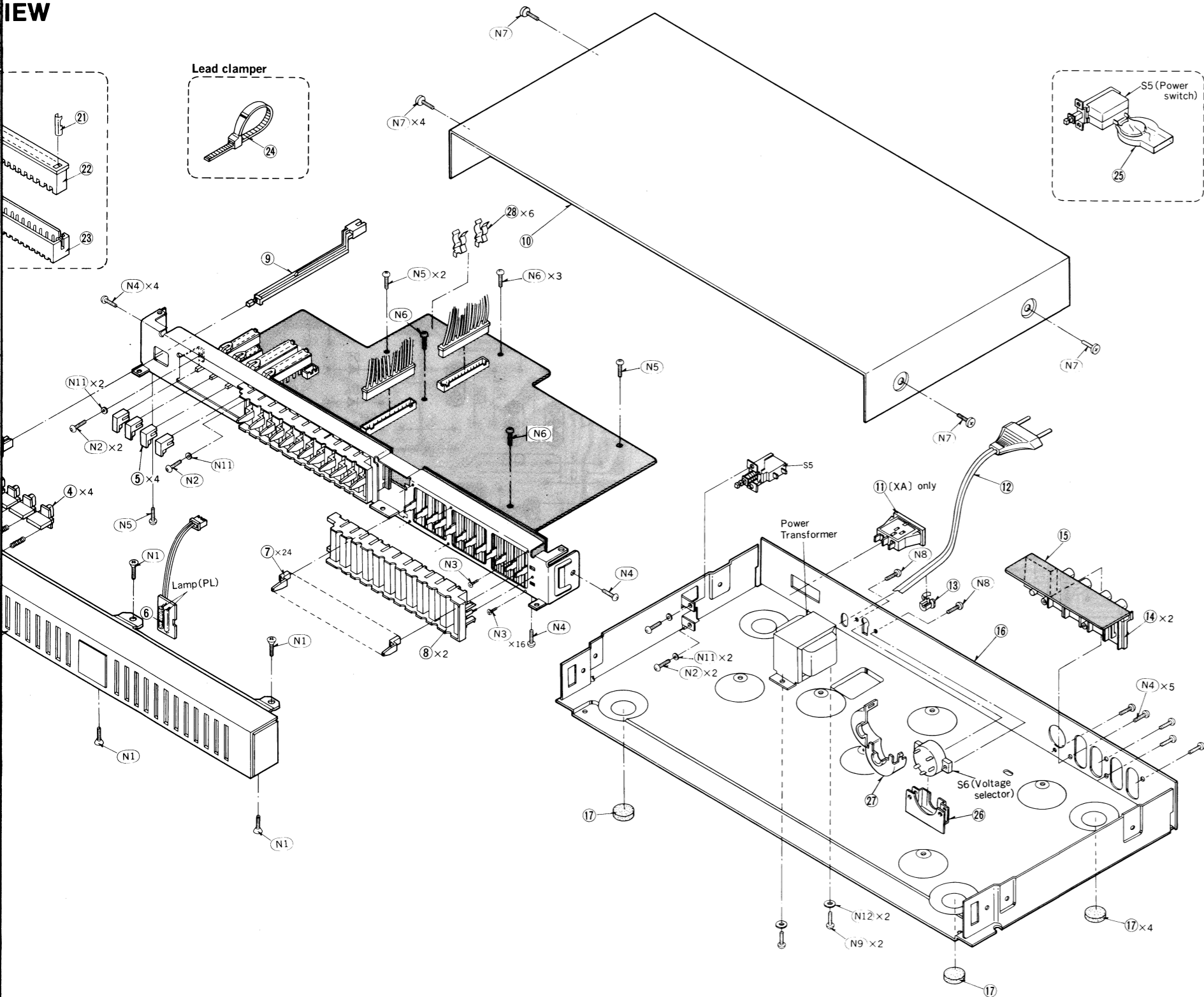
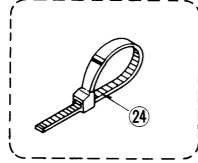


- Areas**
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 - * [EK] is available in United Kingdom.
 - * [XA] is available in Southeast Asia, Oceania, Africa, Middle Near East and Central South America.
 - * [XL] is available in Australia.
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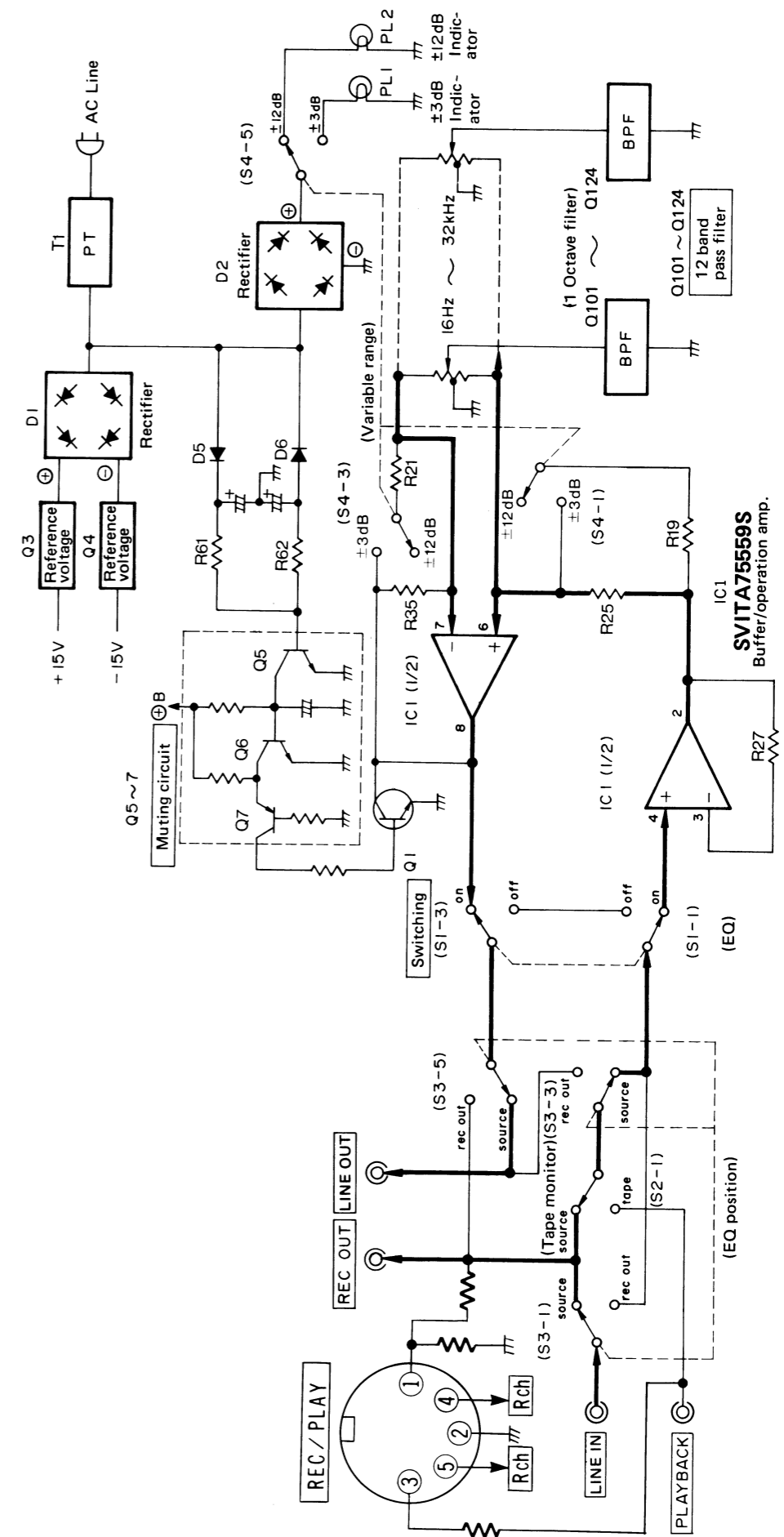
• Accessories



Lead clasper

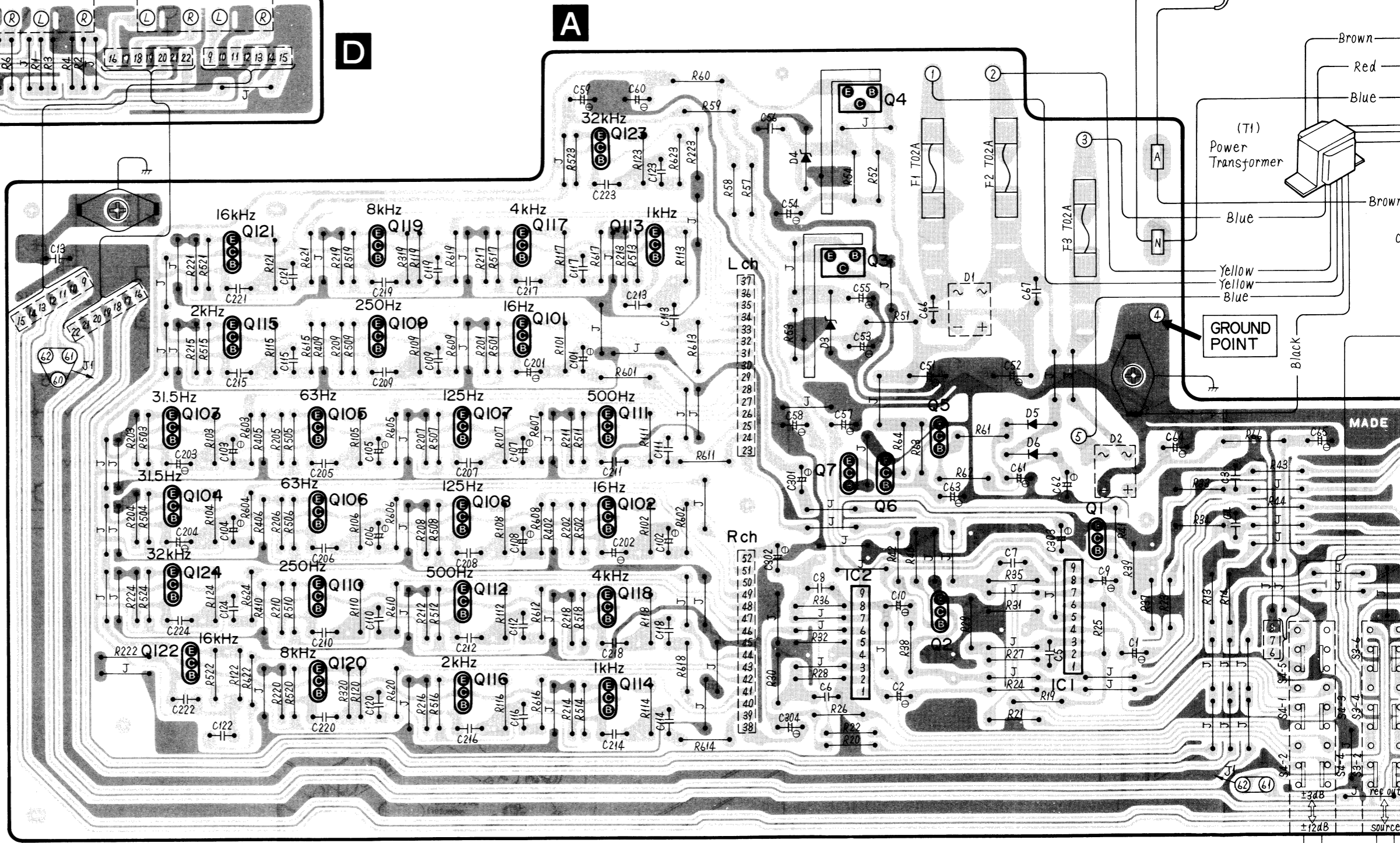
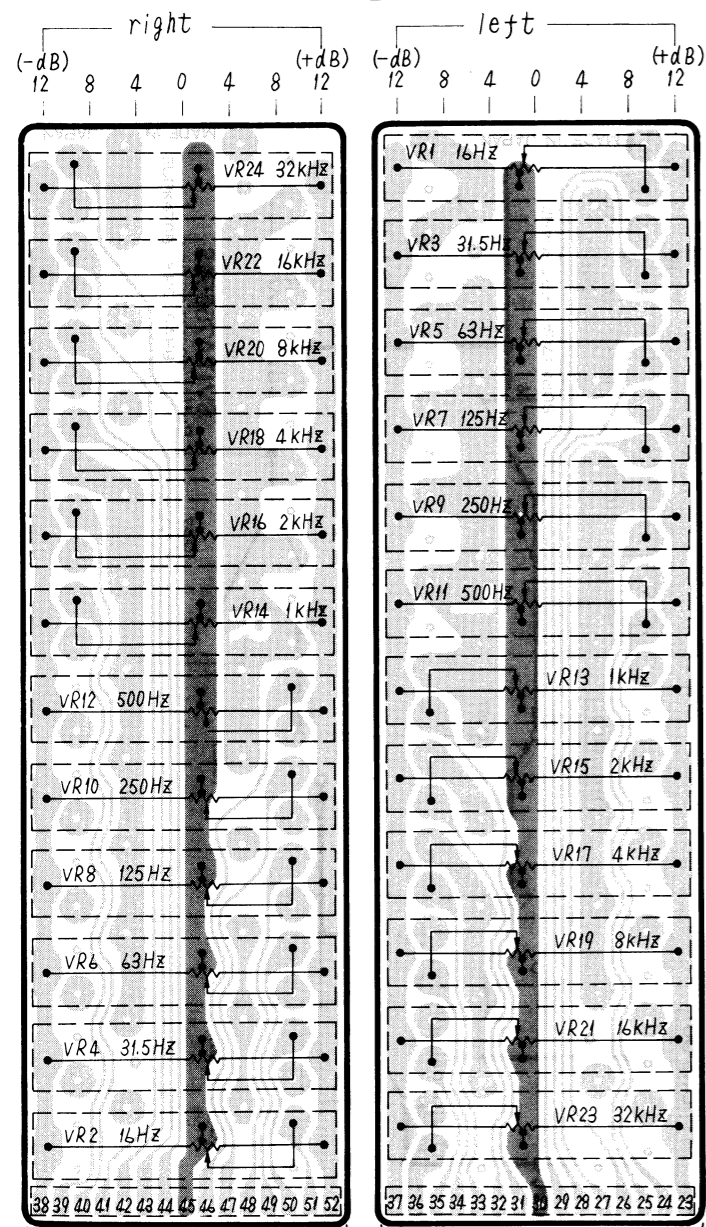
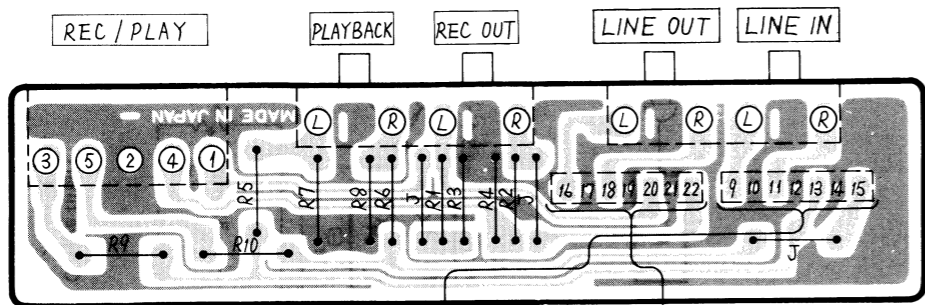


■ BLOCK DIAGRAM



CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

Ground (Earth) lines



C To A PCB terminal (38)~(52) (Rch)
B To A PCB terminal (23)~(37) (Lch)

103	121	105	119	107	117	123	113	4	
104	115	106	109	108	101	111		3	5
124		110		112		102		7	6
	122	120		116		118	114		2

S4 S3
 VARIABLE EQ
 RANGE POSITION

SH-8045 SH-8045

Ground (Earth) lines

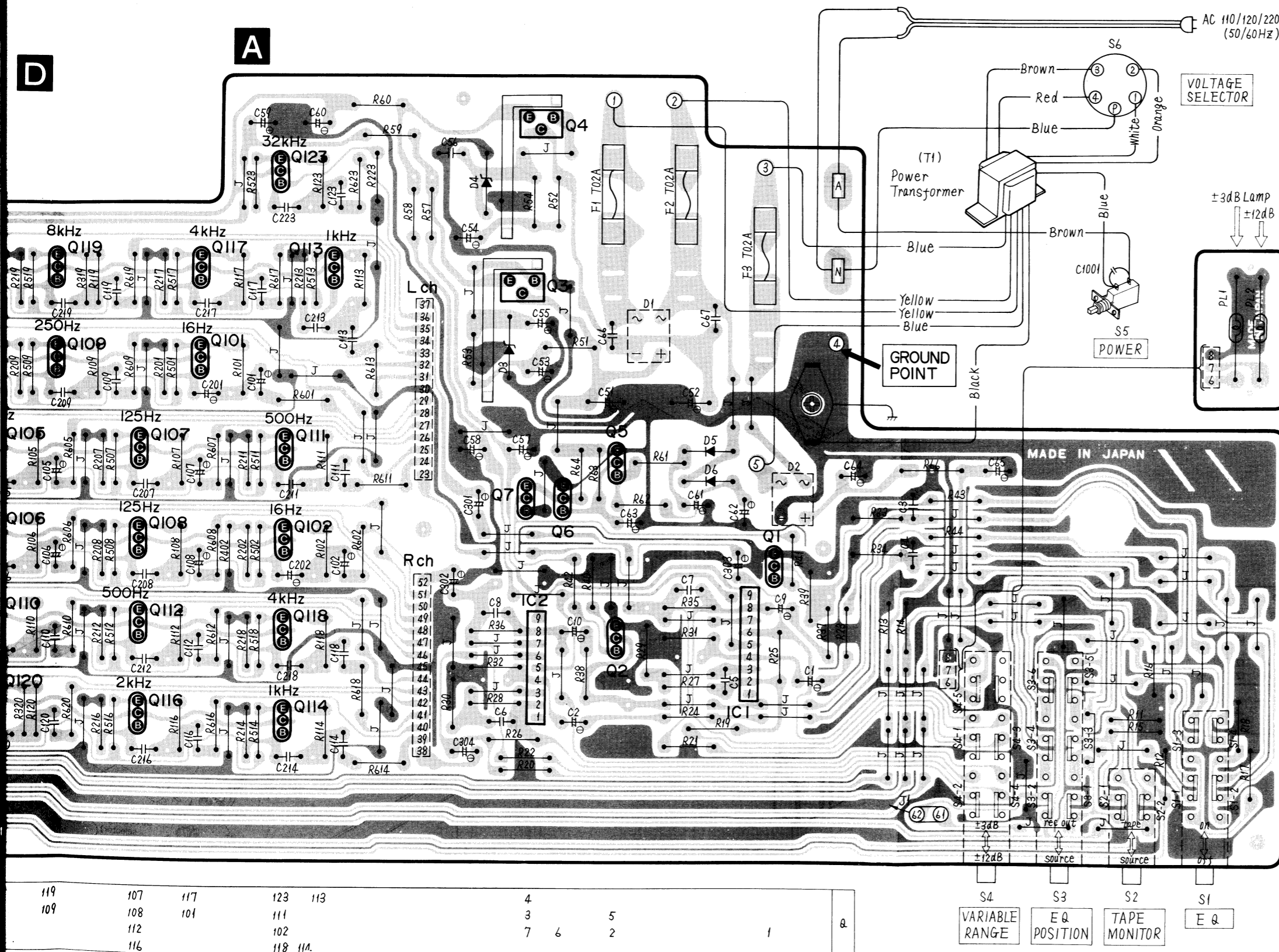
Notes:

* The part No. of transistors, IC and diodes mentioned in schematic diagram stand for production Part No.
Regarding the Part No. without \star mark, the production Part No. are different from the replacement part No.
Therefore, when placing an order for replacement parts, please use the Part No. in the replacement part list.

- This is the basic circuit diagram (For continental Europe) of this unit.
Note that part of the circuit is subject to change depending on the areas.
- Regarding the circuits to be changed in the basic circuit diagram (For continental Europe) and related areas [XL] and [XA], refer to the separated service manual (Order No. SD82042179C8-A).
- S1-1 ~ S1-4** : Equalization (EQ) switch in "on" position.
- S2-1, S2-2** : Tape monitor switch in "source" position.
source \leftrightarrow tape
- S3-1 ~ S3-6** : Equalization position (EQ position) switch in "source" position.
source \leftrightarrow rec out
- S4-1 ~ S4-6** : Variable range switch in " ± 12 dB" position.
 ± 12 dB \leftrightarrow ± 3 dB
- S5** : Power switch in "on" position.
- S6** : Voltage selector switch in "220V" position.
110V \leftrightarrow 120V \leftrightarrow 220V \leftrightarrow 240V
- The R and L channels use the same circuit.
For the resistance and capacity of the R channel operation amp. (IC2), refer to the L channel (IC1). The R channel of B.P.F. circuit is omitted.
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
- Signal lines of left channel.
- Positive (+ B) voltage lines. \dashrightarrow Negative (- B) voltage lines.
- Important safety notice:
Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

Terminal guide of transistors, IC's and diodes

SVITA75559S 	2SA1015 2SC1815 2SC2878 	2SA968 2SC2238
SVDIB4B42 	MA1160 	MA150



119	107	117	123	113	4					
109	108	101	111		3		5			
	112		102		7	6	2			
	116		118 11A.							

SCHEMATIC DIAGRAM (This schematic diagram may be modified at any time with the development of new technology.)

