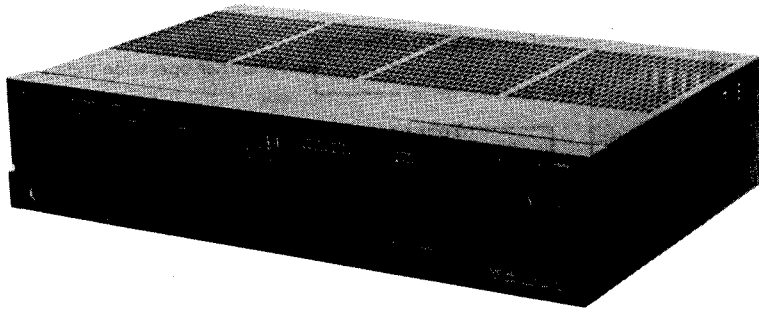


Service Manual

Stereo Integrated Amplifier

Amplifier

SU-V45A



Color

(S)Silver Type
(K)Black Type

Area

Color	Area
(S)(K)	(E)Continental Europe.
(S)(K)	(Ei)Italy.
(S)(K)	(EG)F.R.Germany.
(S)(K)	(EB)Belgium.
(S)(K)	(EK)United Kingdom.
(S)(K)	(EF)France.
(S)(K)	(EH)Holland.
(S)(K)	(XL)Australia.
(S)(K)	(XA)Asia, Latin America, Middle Near East, Africa and Oceania.

SPECIFICATIONS (DIN 45 500)

■ AMPLIFIER SECTION

1 kHz continuous power output both channels driven	2×85 W (4Ω)
20 Hz~20 kHz continuous power output both channels driven	2×45 W (8Ω)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.003% (8Ω)
rated power at 1 kHz	0.005% (4Ω)
	0.0009% (8Ω)
half power at 20 Hz~20 kHz	0.003% (8Ω)
half power at 1 kHz	0.002% (4Ω)
	0.0008% (8Ω)
Intermodulation distortion	
rated power at 250 Hz: 8 kHz=4:1, 8Ω	0.007%
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.007%
Power bandwidth	
both channels driven, -3 dB	5 Hz~60 kHz (4Ω, 0.08%) 5 Hz~65 kHz (8Ω, 0.05%)
Residual hum and noise	0.8 mV
Damping factor	30 (4Ω), 60 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47 kΩ
TUNER, CD, AUX,	
TAPE 1/DA TAPE, TAPE 2/EXT	150 mV/22 kΩ
PHONO maximum input voltage (1 kHz, RMS)	160 mV
S/N	
rated power (4Ω)	
PHONO	76 dB (81 dB: IHF, A)
TUNER, CD, AUX,	
TAPE 1/DA TAPE, TAPE 2/EXT	91 dB (100 dB: IHF, A)
Frequency response	
PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, CD, AUX,	
TAPE 1/DA TAPE, TAPE 2/EXT	5 Hz~120 kHz (-3 dB) +0, -0.2 dB (20 Hz~20 kHz)

Tone controls

BASS	50 Hz, +10 dB~-10 dB
TREBLE	20 kHz, +10 dB~-10 dB
Loudness control (volume at -30 dB)	50 Hz, +9 dB
Output voltage	
TAPE 1, 2 REC OUT	150 mV
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	60 dB
Headphones output level and impedance	450 mV/330Ω
Load impedance	
MAIN or REMOTE	4Ω~16Ω
MAIN and REMOTE	8Ω~16Ω

■ GENERAL

Power consumption	420 W
Power supply	
For United Kingdom and Australia	AC 50 Hz/60 Hz, 240 V
For continental Europe	AC 50 Hz/60 Hz, 220 V
For others	AC 50 Hz/60 Hz, 110 V/127 V/220 V/240 V
Dimensions (W×H×D)	430 × 104 × 290 mm (16-15/16" × 4-3/32" × 11-7/16")
Weight	6.7 kg (14.8 lb.)

Notes:

- Specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

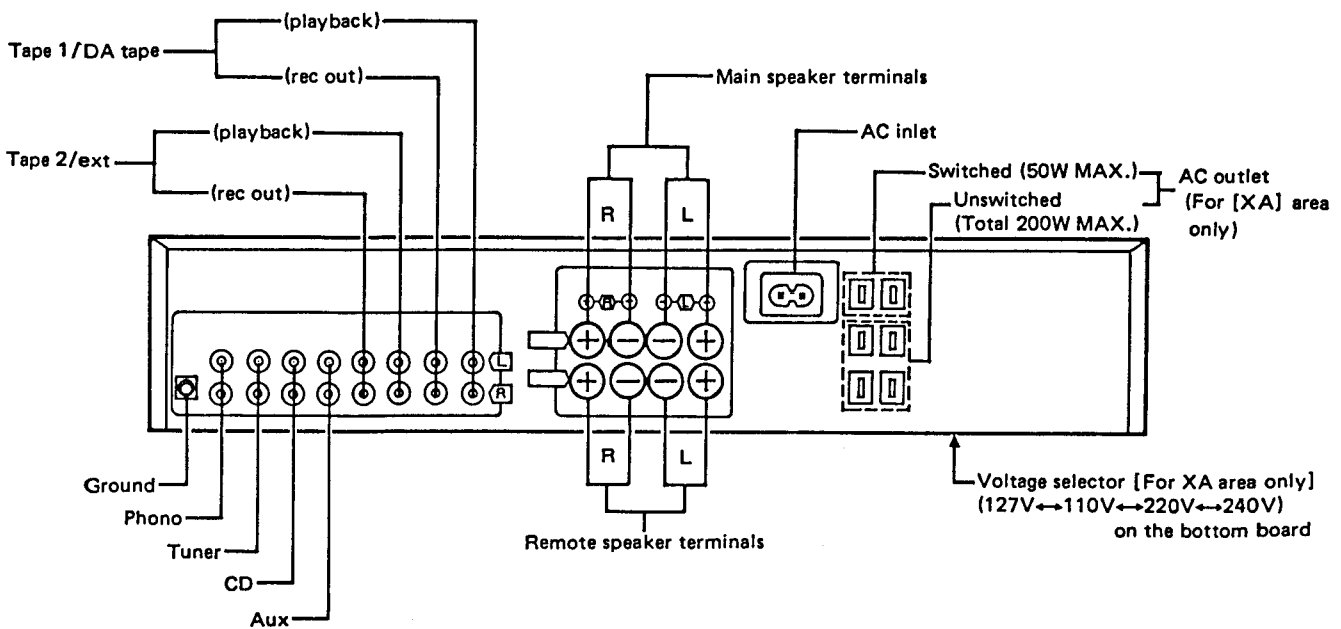
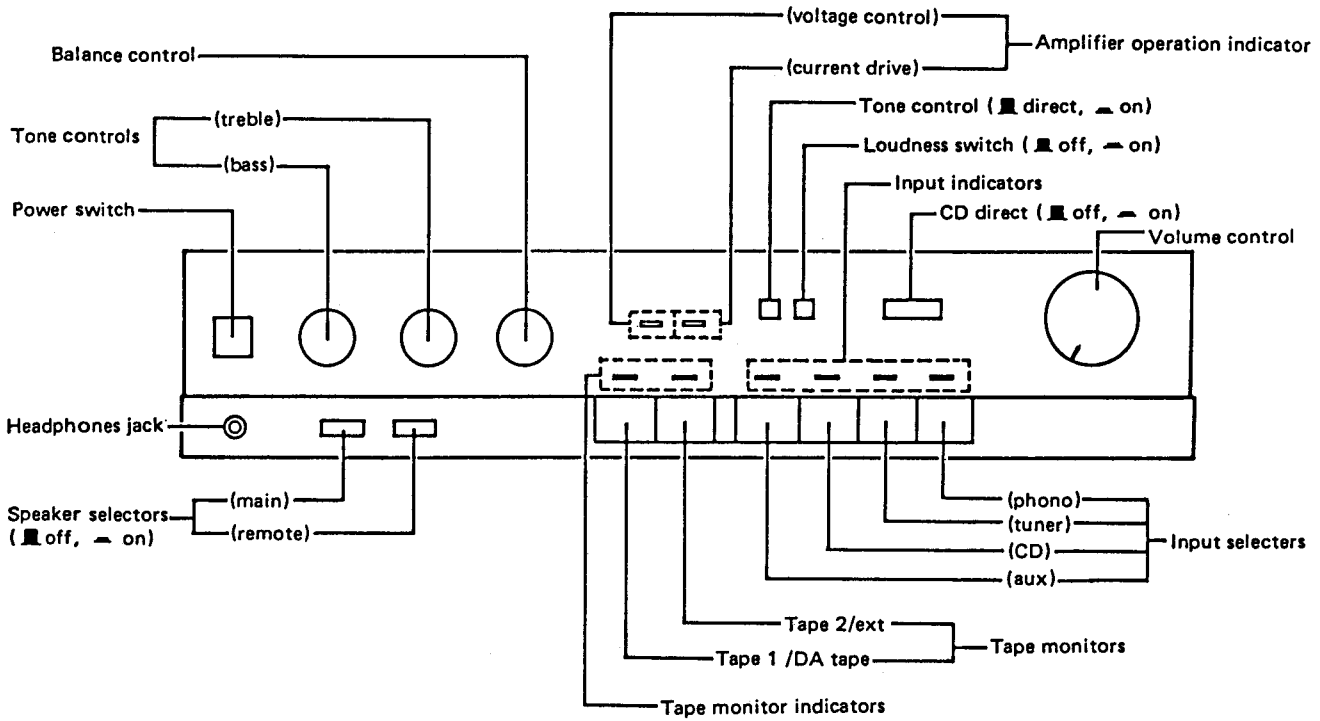
Technics

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

CONTENTS

	Page		Page
LOCATION OF CONTROLS	2	PRINTED CIRCUIT BOARDS AND	
PROTECTION CIRCUITRY	3	WIRING CONNECTION DIAGRAM	7 ~ 10
BEFORE REPAIR AND ADJUSTMENT	3	SCHEMATIC DIAGRAM	11 ~ 15
DISASSEMBLY INSTRUCTIONS	4, 5	BLOCK DIAGRAM	16, 17
MEASUREMENTS AND ADJUSTMENTS	6	REPLACEMENT PARTS LIST	18 ~ 20
		EXPLODED VIEW	21, 22

LOCATION OF CONTROLS



- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and replacement parts list.
- * [XA] area is provided with voltage selector and AC outlets.
- * 240V (50/60Hz) for Australia and United Kingdom.
- * 220V (50/60Hz) for Continental Europe.
- * 110V/127V/220V/240V (50/60Hz) for other [XA] area.
- * Phono input capacitance is about 100pF.

Suggestions

- If noise is very annoying while listening to an FM or AM broadcast, switch OFF the video disc player, compact-disc player and turntable.
- Switch OFF the video disc player power if noise is excessive while listening to an audio tape, compact disc or regular phono disc.

Notes:

- To record sounds from a compact disc, press the input selector marked "CD".
The compact-disc-direct switch is for listening only; it cannot be used to select the compact disc as a recording source.
- Do not press the left tape-monitor selector to the "tape 1/DA tape" position while two tape decks are being used for recording or while tape deck 2 is being used for recording.
This will cause interruptions in the sound and change the recorded signal.

■ PROTECTION CIRCUITRY

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

1. Switch OFF the power.
2. Determine the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

■ BEFORE REPAIR AND ADJUSTMENT

- (1) Turn off the power supply. Using a 10Ω, 5W resistor, shortcircuit both ends of power supply capacitors (C503, C504, 6800μF) in order to discharge the voltage.
- (2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50/60 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 110V/127V/220V/240V.

Power supply voltage		AC110V	AC127V	AC220V	AC240V
Consumed current	50/60Hz	260 ~ 380mA	230 ~ 350mA	110 ~ 230mA	80 ~ 200mA

DISASSEMBLY INSTRUCTIONS

"ATTENTION SERVICER"

SOME CHASSIS COMPONENTS MAY HAVE SHARP EDGES.
BE CAREFUL WHEN DISASSEMBLING AND SERVICING.

Ref. No.
1

How to remove the cabinet

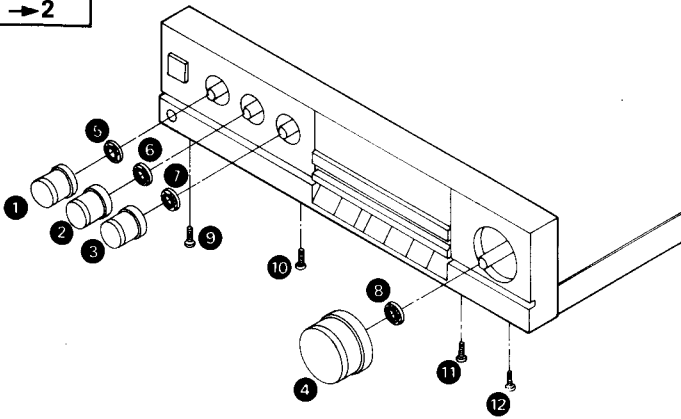
Procedure
1

- Remove the 5 screws.

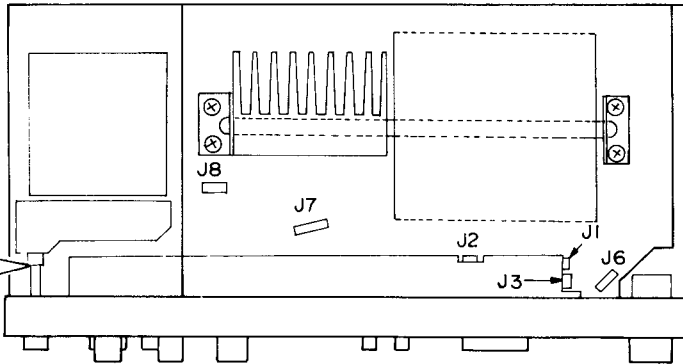
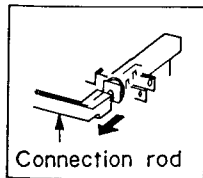
Ref. No.
2

How to remove the front panel

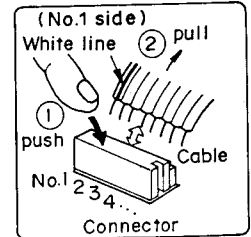
Procedure
1 → 2



1. Remove the 4 knobs (① ~ ④).
2. Remove the 4 nuts (⑤ ~ ⑧).
3. Remove the 4 screws (⑨ ~ ⑫).
4. Remove the connection rod.
5. Remove the connector (J1, J2, J3, J8).
6. Remove the flat cable (J6, J7).



Removing the flat cable

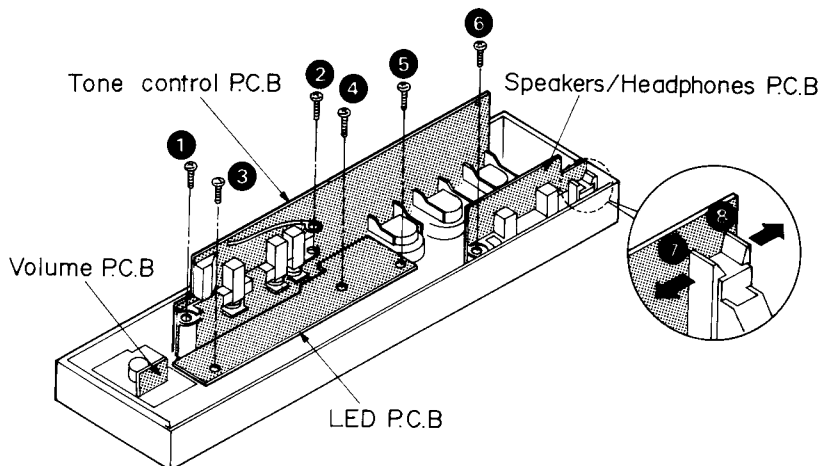


Ref. No.
3

How to remove the P.C.B.

Procedure
1 → 2 → 3

1. Remove the 2 screws (① , ②).
2. Remove the tone control and volume P.C.B.
3. Remove the 3 screws (③ ~ ⑤).
4. Remove the LED P.C.B.
5. Remove the 1 screw (⑥).
6. Push the 2 tabs (⑦ , ⑧).
7. Remove the speakers/headphones P.C.B.



Ref. No. 4	How to remove the main P.C.B.
Procedure 1 → 4	<ol style="list-style-type: none"> 1. Remove the 13 screws (❶ ~ ❸). 2. Remove the connection rod. 3. Remove the main P.C.B.

Connection rod

Ref. No. 5	How to remove the power IC.
Procedure 1 → 4 → 5	<ol style="list-style-type: none"> 1. Unsolder the power IC. 2. Remove the 2 screws (❶ , ❷). 3. Remove the 4 washer (❸ ~ ❹).

Power IC

1. Unsolder the power IC.
2. Remove the 2 screws (❶ , ❷).
3. Remove the 4 washer (❸ ~ ❹).

- When mounting the power IC, apply silicon thermal compound (SZZ0L15 or equivalent) to the rear of the power IC.

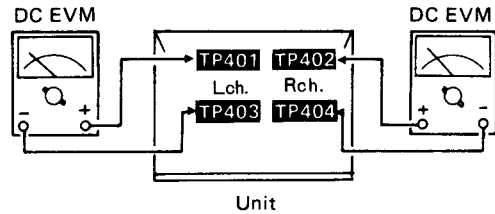
MEASUREMENTS AND ADJUSTMENTS

Control positions and equipment used.

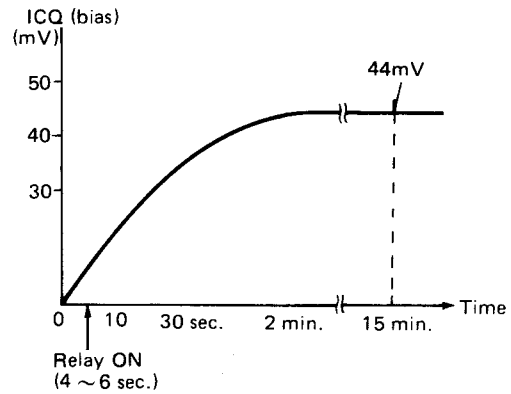
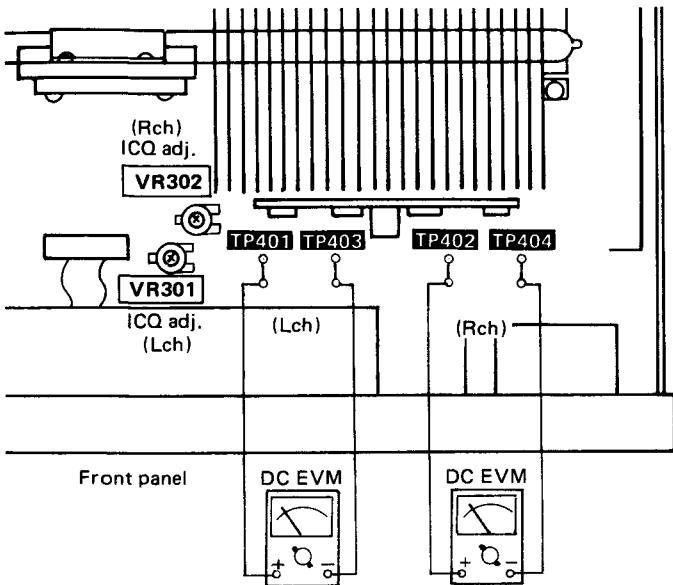
- Volume knob 0 (Minimum)
- Main speaker selector off
- Remote speaker selector off
- DC electronic voltmeter (EVM)

IDLING (ICQ) ADJUSTMENT

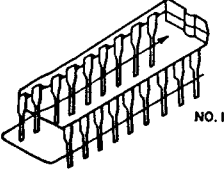
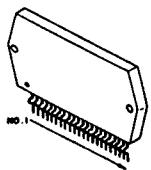
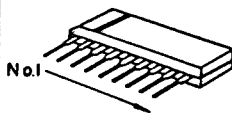
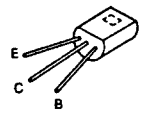
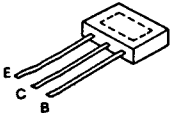
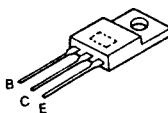
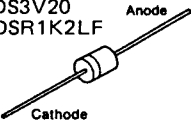
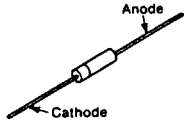
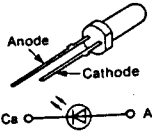
1. Test equipment connection is shown in figure. Connect the DC EVM. on both channels.)
2. Turn the ICQ control volume (VR301, VR302) counter-clockwise.
3. Turn ON the set when it is cold, and 15 sec. later, adjust VR301 and VR302 so that the voltage is **30mV**. Also, check that the voltage is **18 – 47mV** (standard: **44mV**) after lapse of **10 – 15 minutes**. (Below **50mV** after lapse of **60 min.**.)



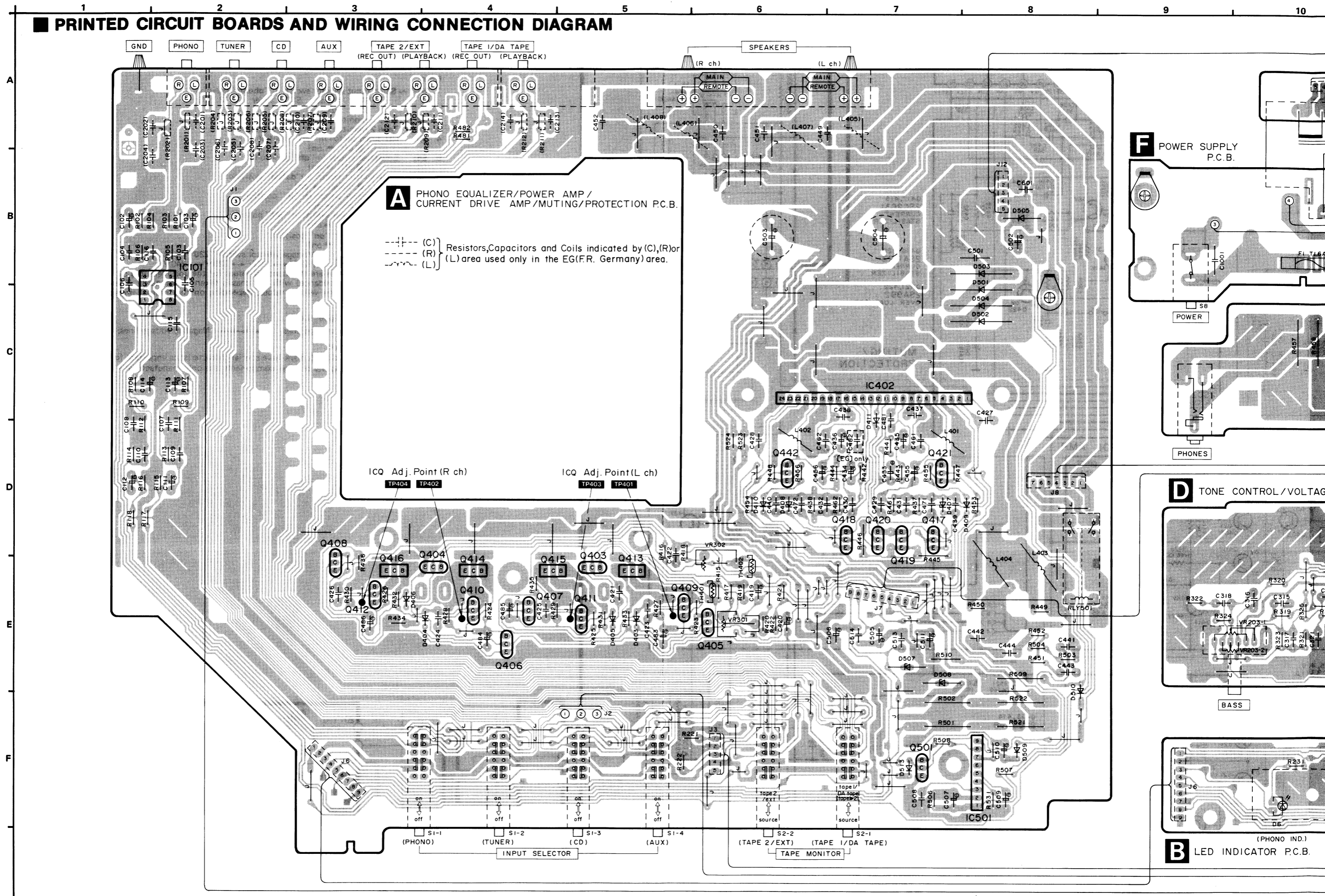
● Adjustment points



● Terminal guide of IC, transistor and diodes

 <table border="1" data-bbox="383 1601 622 1691"> <tr> <td>SVINJM2043DD</td> <td>8pin</td> </tr> <tr> <td>μPC4570C</td> <td>8pin</td> </tr> <tr> <td>AN7062N</td> <td>18pin</td> </tr> </table>	SVINJM2043DD	8pin	μPC4570C	8pin	AN7062N	18pin	SVI4004 24pin 	AN7073 9pin 	2SA1123, 2SA992 2SC1685, 2SC2631 
SVINJM2043DD	8pin								
μPC4570C	8pin								
AN7062N	18pin								
2SA1309 2SC3311 	2SA1306 2SC3298 	MA165, MA162 MA29WA SVDS3V20 SVDSR1K2LF 	MA4062M MA2150B 	LN021315P LN014314PH1 LN064316P 					

PRINTED CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

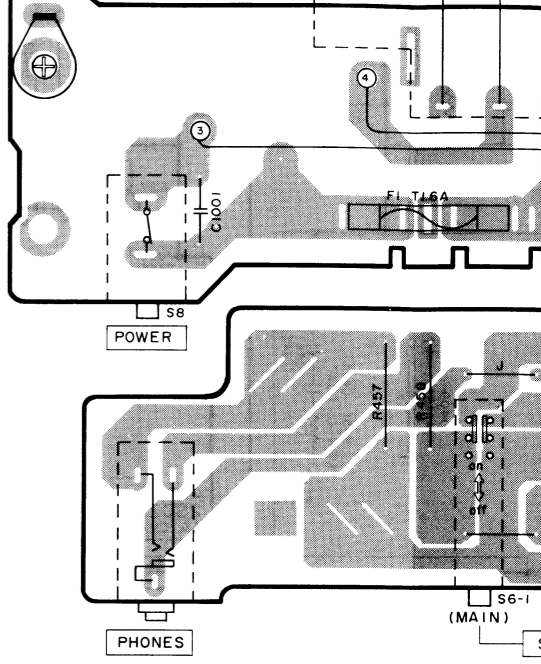


A PHONO EQUALIZER/POWER AMP / CURRENT DRIVE AMP/MUTING/PROTECTION P.C.B.

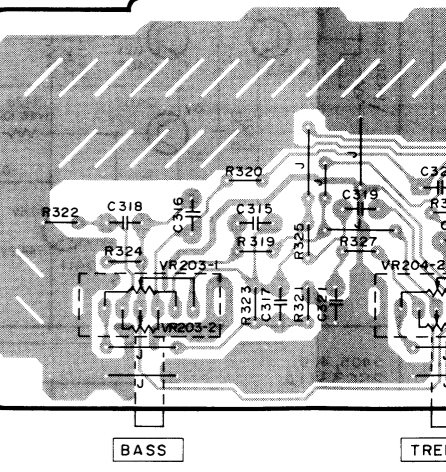
--- (C) --- Resistor, Capacitor and Coils indicated by (C), (R) or (L) area used only in the EG(F.R. Germany) area.

ICQ Adj. Point (R ch) TP404 TP402
ICQ Adj. Point (L ch) TP403 TP401

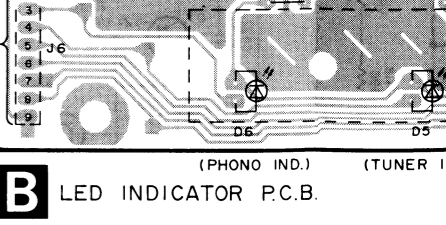
F POWER SUPPLY P.C.B.

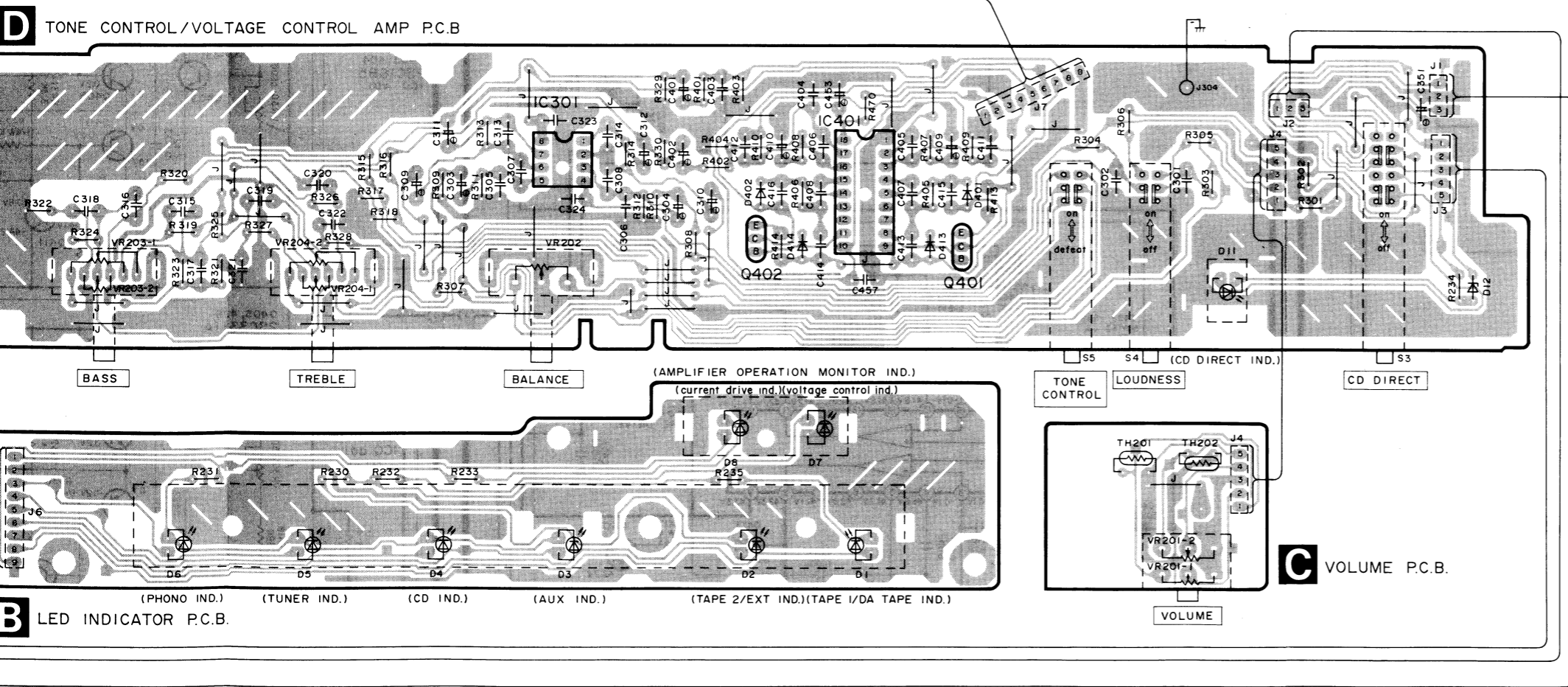
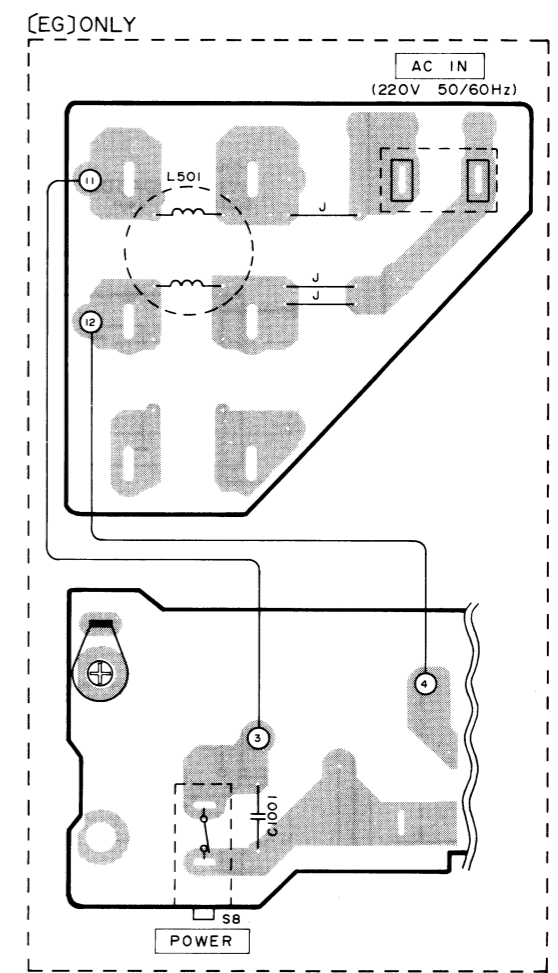
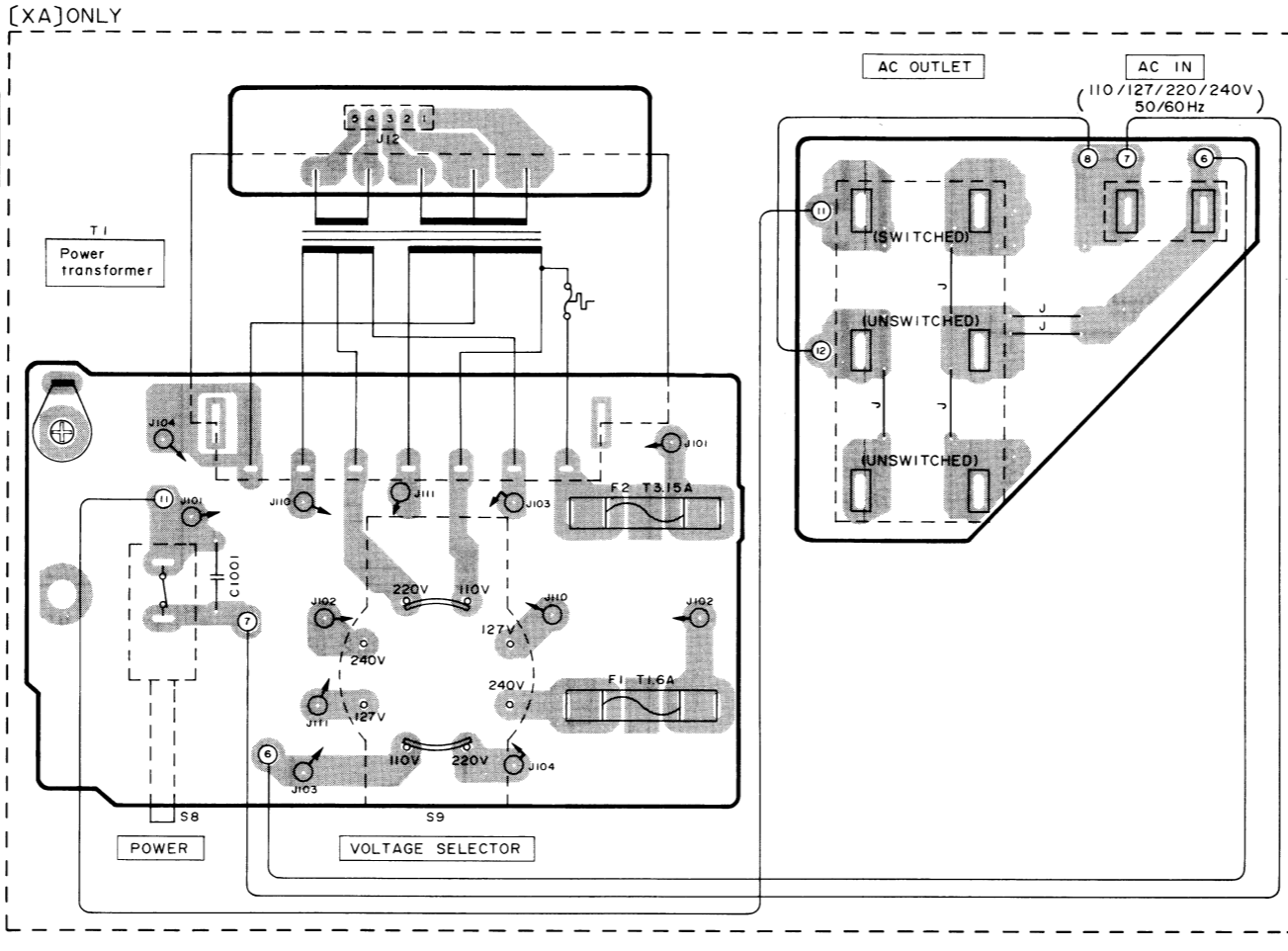
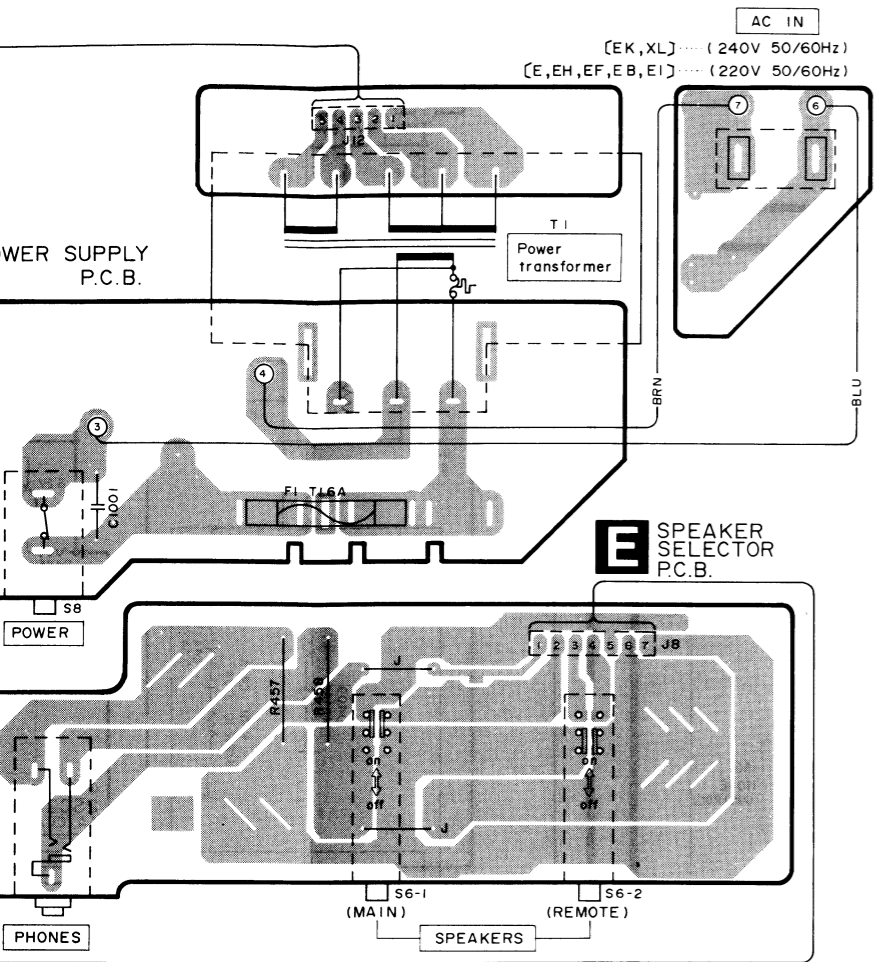


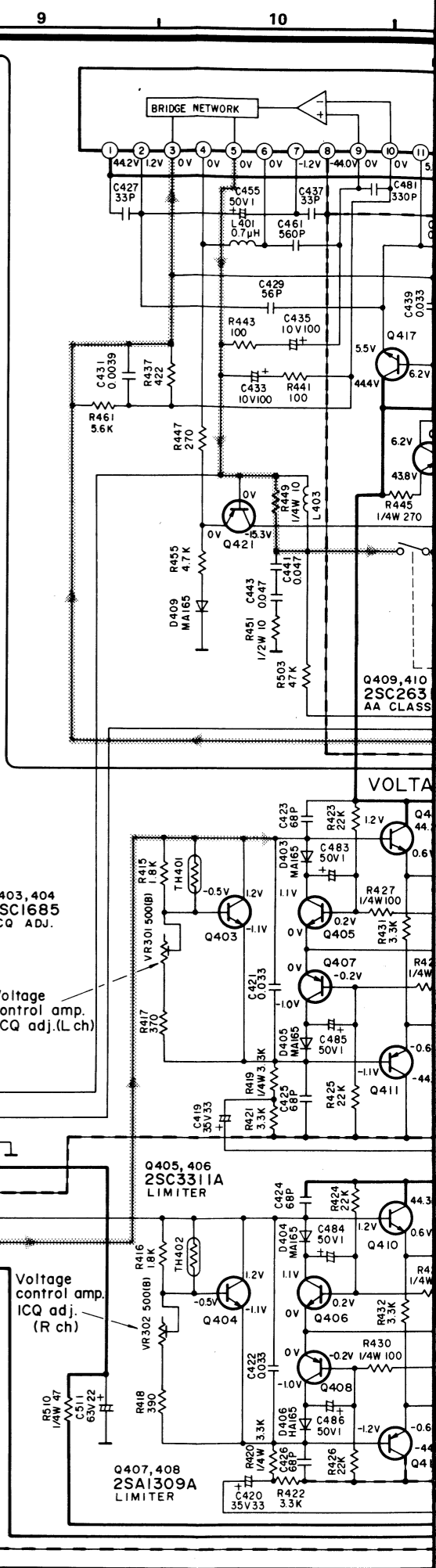
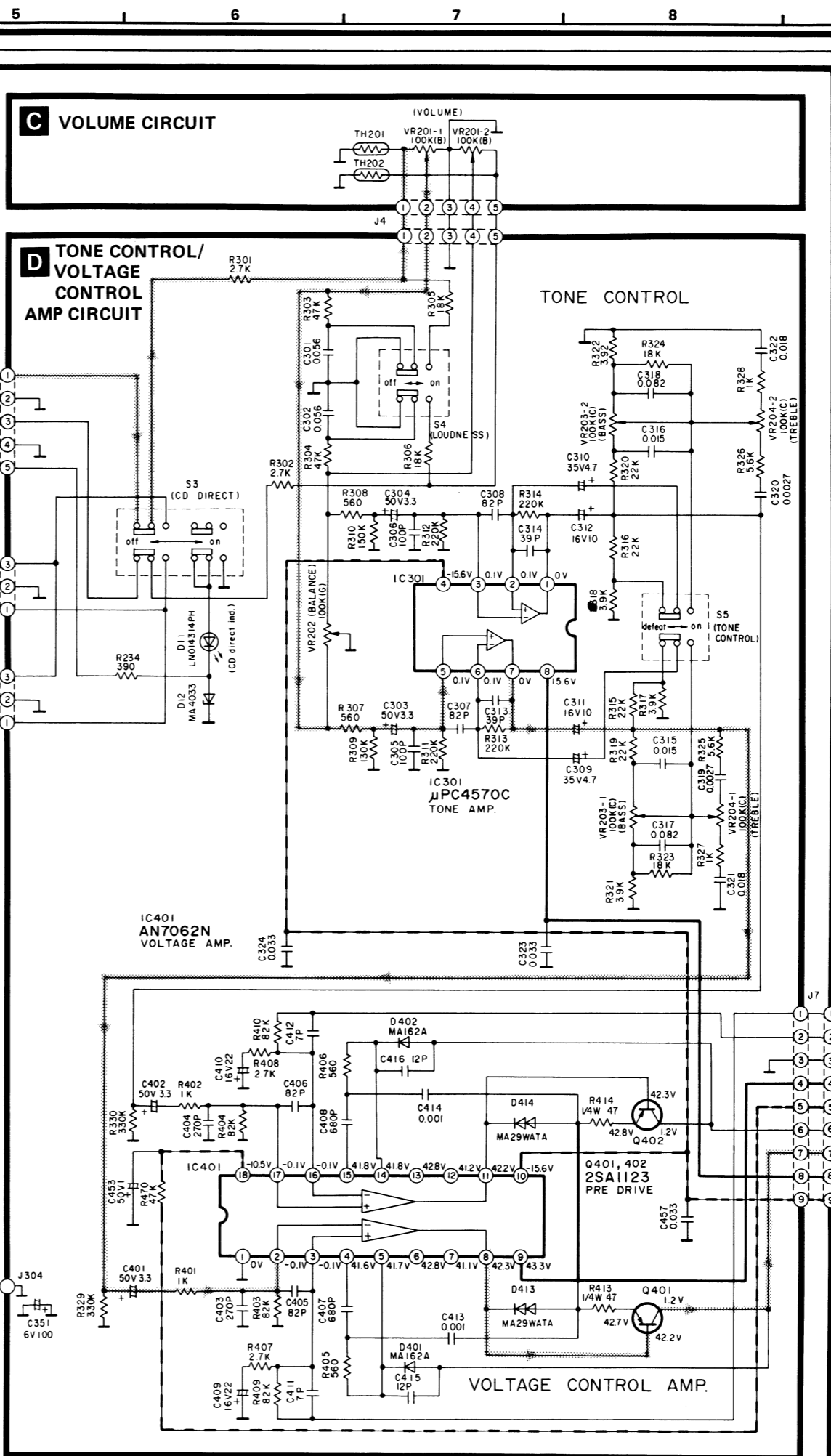
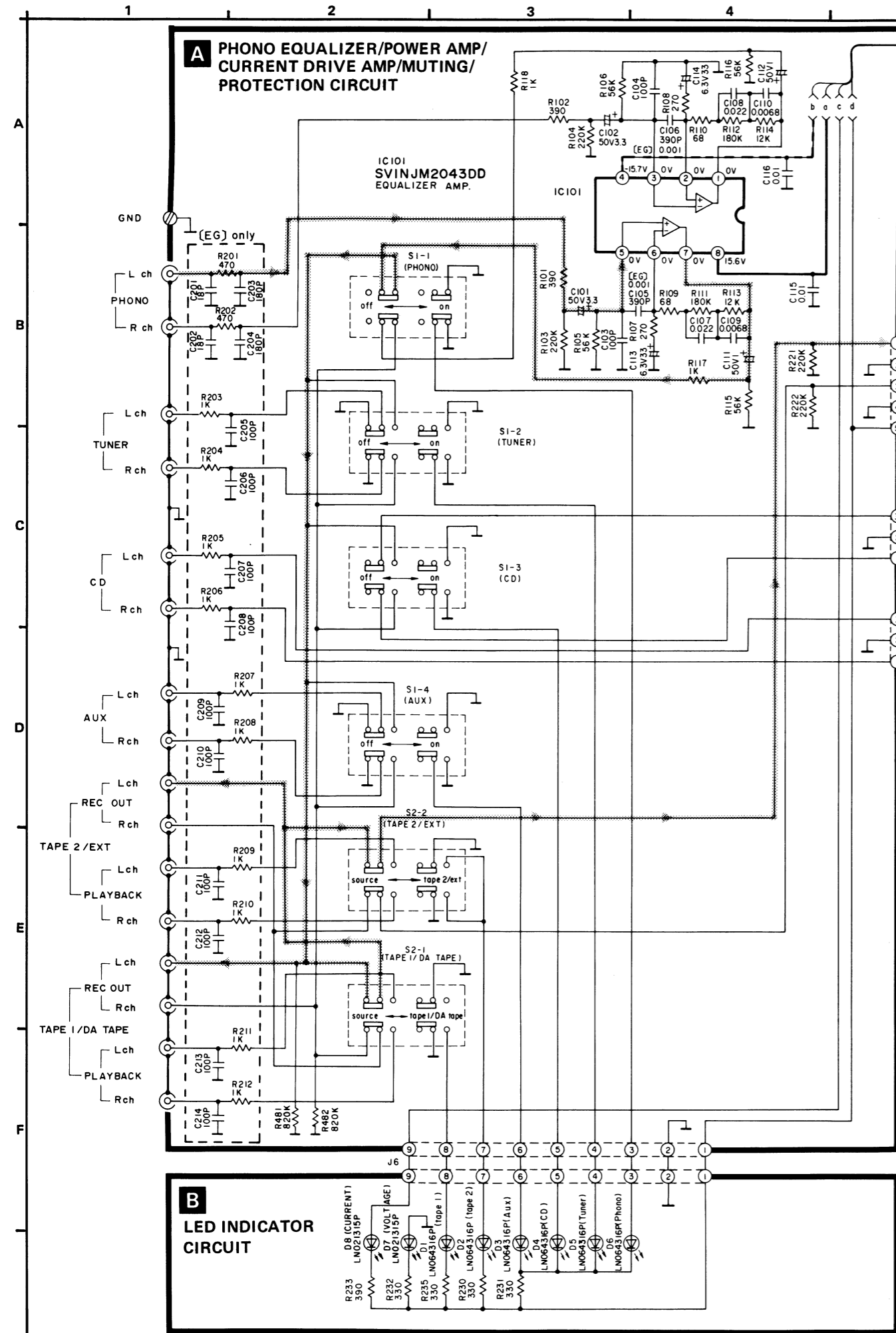
D TONE CONTROL / VOLTAGE CONTROL P.C.B.

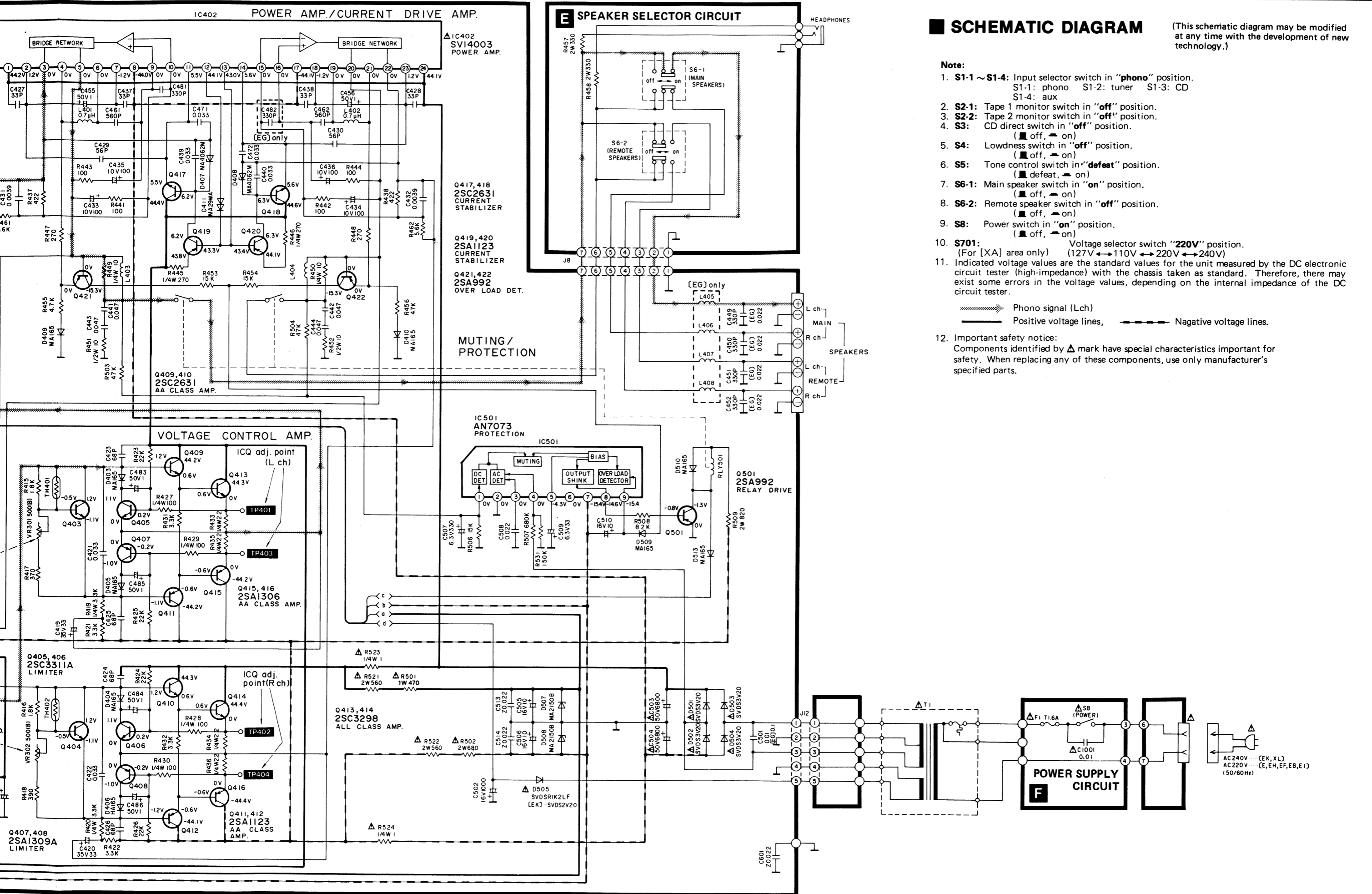


B LED INDICATOR P.C.B.









SCHEMATIC DIAGRAM

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

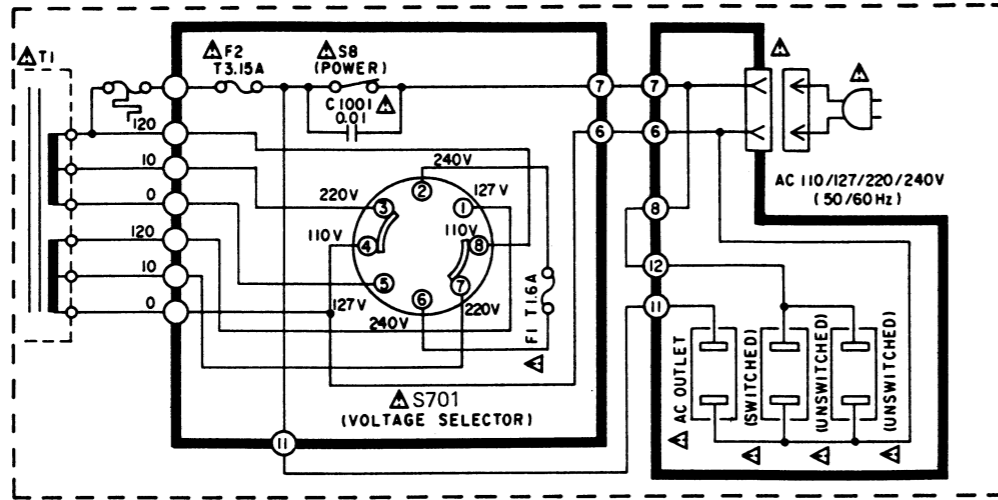
- Note:**
- S1-1 ~ S1-4:** Input selector switch in "phono" position.
S1-1: phono S1-2: tuner S1-3: CD S1-4: aux
 - S2-1:** Tape 1 monitor switch in "off" position.
 - S2-2:** Tape 2 monitor switch in "off" position.
 - S3:** CD direct switch in "off" position.
(off, on)
 - S4:** Lowdness switch in "off" position.
(off, on)
 - S5:** Tone control switch in "defeat" position.
(defeat, on)
 - S6-1:** Main speaker switch in "on" position.
(off, on)
 - S6-2:** Remote speaker switch in "off" position.
(off, on)
 - S8:** Power switch in "on" position.
(off, on)
 - S701:** Voltage selector switch "220V" position.
(For [XA] area only) (127V ↔ 110V ↔ 220V ↔ 240V)
 - 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.

Phono signal (Lch) Positive voltage lines, Negative voltage lines.

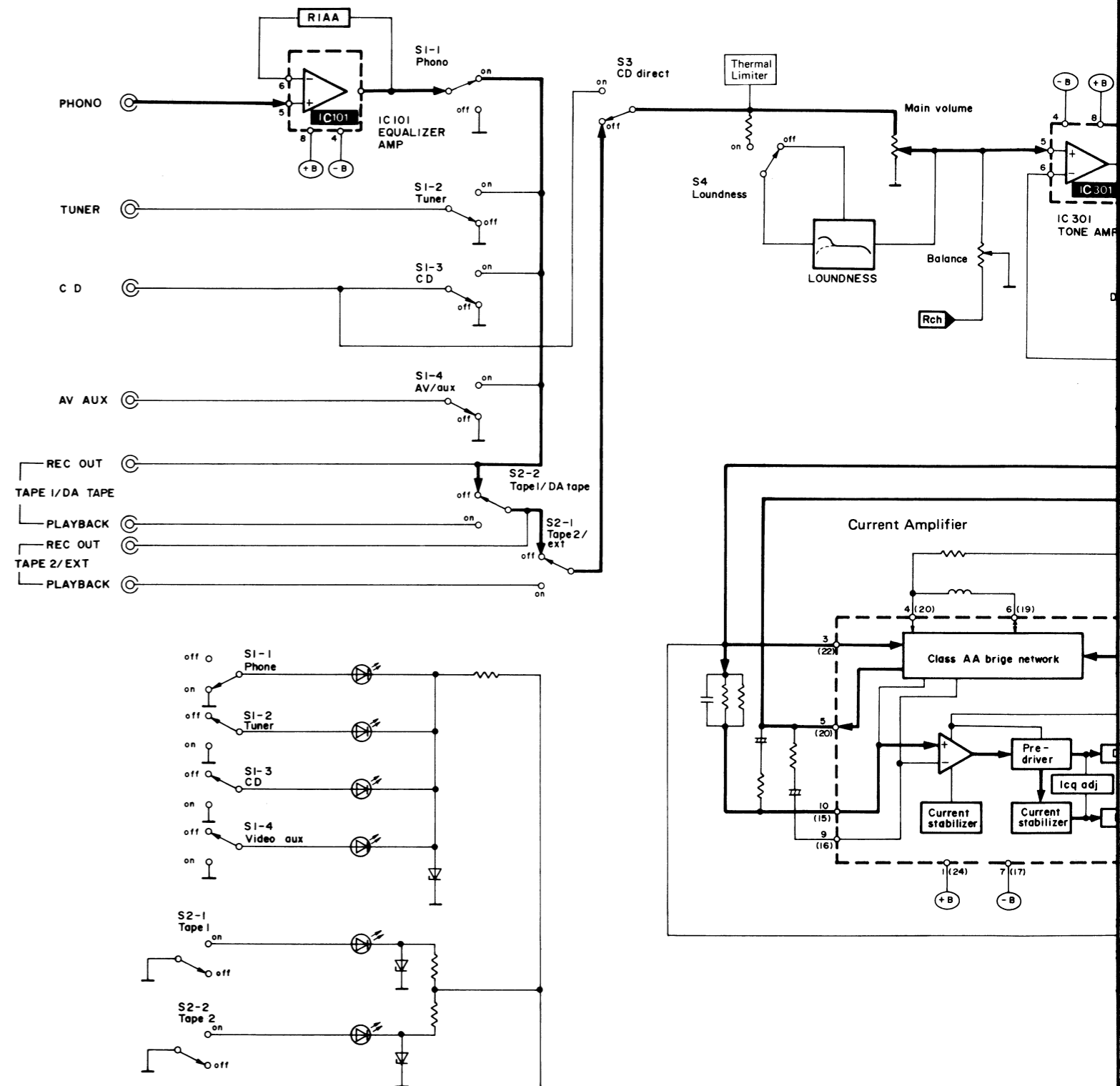
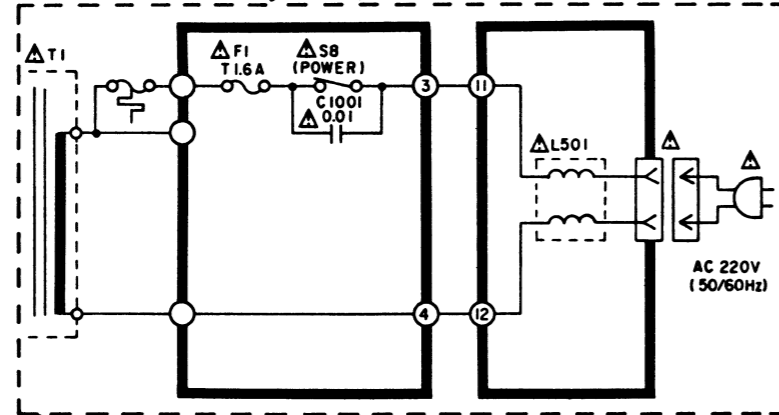
- Important safety notice:** Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

■ BLOCK DIAGRAM

For other areas (XA)



For F.R. Germany (EG)



REPLACEMENT PARTS LIST

Notes: * 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.
 * Bracketed indications in Ref. No. columns specify the area.
 Parts without these indications can be used for all areas.

Resistor Type	Wattage	Tolerance
ERD : Carbon	10 : 1/8W	J : $\pm 5\%$
ERG : Metal Oxide	12 : 1/2W	F : $\pm 1\%$
ERX : Metal Film	25 : 1/4W	G : $\pm 2\%$
ERQ : Fuse Type Metal	1A : 1W	K : $\pm 10\%$
ERD [] L : Carbon (chip)	18 : 1/8W	
ERO [] K : Metal Film (chip)	S2 : 1/4W	
ERC : Solid	S1 : 1/2W	
	2F : 1/4W	
	50 : 1/2W	
	2A : 2W	

Numbering System of Resistor

Example

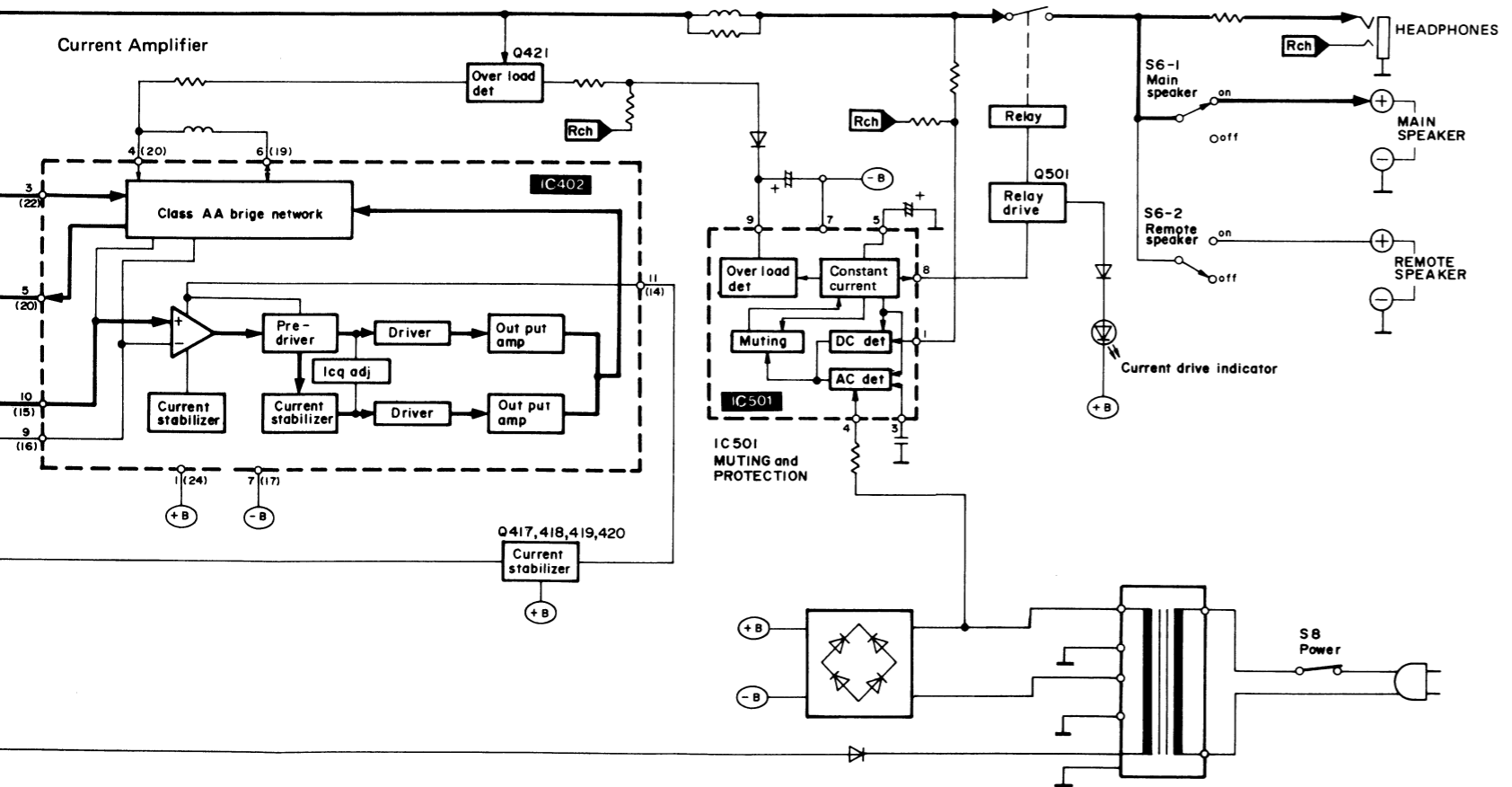
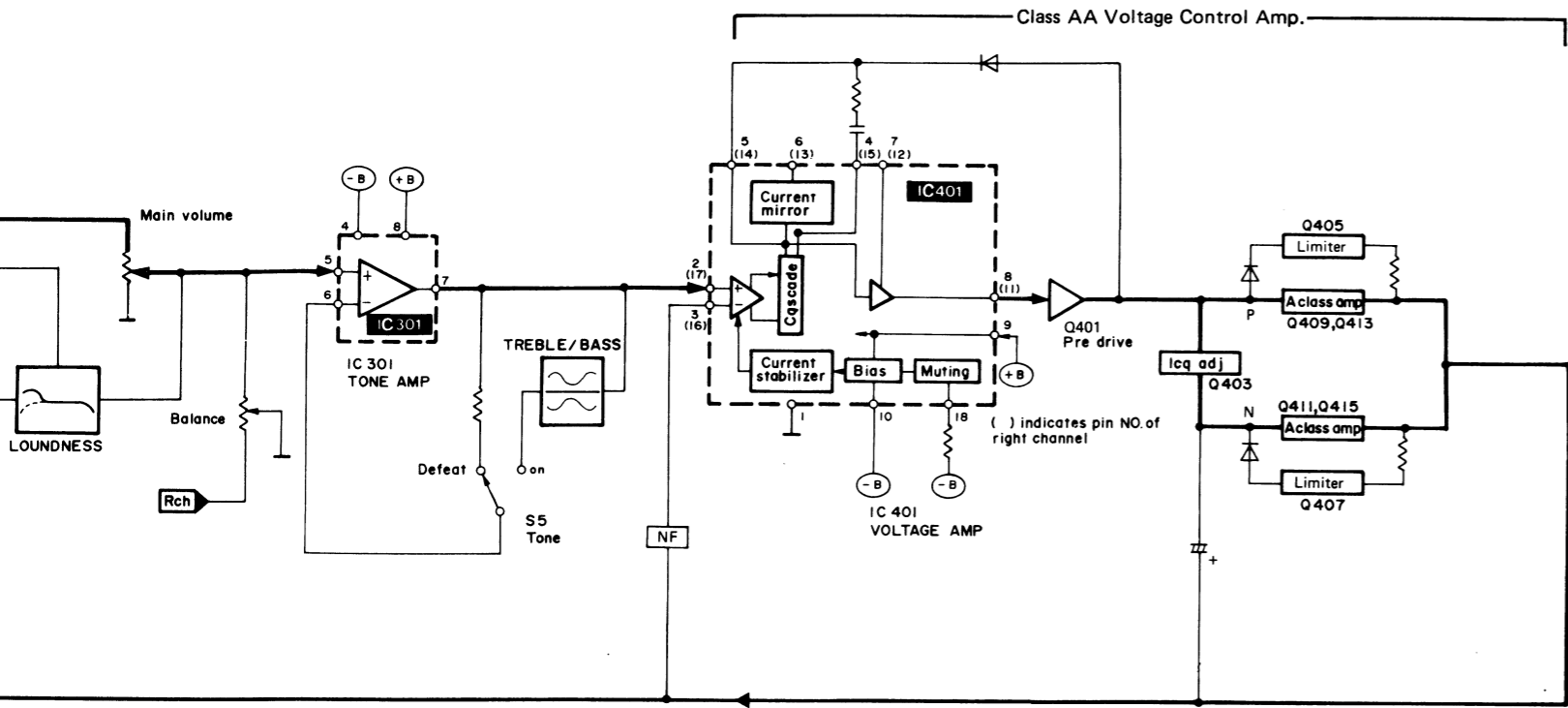
ERD Type	25 Wattage	F Shape	J Tolerance	102 Value
ERX Type	2 Wattage	AN Shape	J Tolerance	471 Value
				47×10^1 (ohm)

Numbering System of Capacitor

Example

ECKD Type	1H Voltage	102 Value	Z Tolerance	F Peculiarity
ECEA Type	50 Voltage	M Peculiarity		330 Value
				$(33 \times 10^0 \text{ microfarad})$

Capacitor Type	Voltage	Tolerance
ECE : Electrolytic	0J : 6.3V	C : $\pm 0.25\text{pF}$
ECCD : Ceramic	1A : 10V	J : $\pm 5\%$
ECKK : Ceramic	1C : 16V	K : $\pm 10\%$
ECQM : Polyester	1E : 25V	Z : $\pm 80\%$
	1H : 50V	P : $\pm 100\%$
	1V : 35V	-0%
	50 : 50V	
	05 : 50V	M : $\pm 20\%$
ECEAD [] N : Non Polar Electrolytic	2H : 500V	
QCU [] : Ceramic (Chip Type)	2A : 100V	D : $\pm 0.5\text{pF}$
ECUX : Ceramic (Chip Type)	1 : 100V	G : $\pm 2\%$
ECF : Semiconductor	KC : 400V AC	
	KC : 125VAC (UL)	
	1J : 63V	
EECW : Liquid electrolyte double layer capacitor		



Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
RESISTORS								
R101, R102	ERDS2TJ391	001 152 2360 6	R401, R402	FSR25TJ102T2		C101, C102	ECEA1HPS3R3	001 120 6064 3
R103, R104	ERDS2TJ224	001 152 2433 6	R403, R404	ERDS2TJ823	001 152 2456 9	C103, C104	ECCD1H101K	001 103 0341 2
R105, R106	ERDS2TJ563	001 152 2446 1	R405, R406	ERDS2TJ561	001 152 2364 2	C105	ECKD1H102KB	001 103 1414 8
R107, R108	ERDS2TJ271	001 152 2435 4	R407, R408	FSR25TJ272T2		(EG)		
R109, R110	ERDS2TJ680	001 152 2448 9	R409, R410	FSR25TJ823T2		C105	ECKD1H391KB	001 103 1544 9
R111, R112	ERDS2TJ184	001 152 2588 8	R413, R414	ERD25FJ470	001 152 0309 7	(E, EK, EF)		
R113, R114	ERDS2TJ123	001 152 2424 7	R415, R416	ERDS2TJ182	001 152 2352 6	(EH, EB, E1)		
R115, R116	ERDS2TJ563	001 152 2446 1	R417, R418	ERDS2TJ391	001 152 2360 6	(XL, XA)		
R117, R118	ERDS2TJ102	001 152 2346 4	R419, R420	ERD25FJ332	001 152 0287 6	C106	ECKD1H102KB	001 103 1414 8
R201, R202	ERDS2TJ471	001 152 2361 5	R421, R422	ERDS2TJ332	001 152 2357 1	(EG)		
(EG)			R423, R424	ERDS2TJ223	001 152 2432 7	C106	ECKD1H391KB	001 103 1544 9
R203, R204	ERDS2TJ102	001 152 2346 4	R425, R426	ERDS2TJ223	001 152 2432 7	(E, EK, EF)		
(EG)			R427, R428	ERD25FJ101	001 152 0214 3	(EH, EB, E1)		
R205, R206	ERDS2TJ102	001 152 2346 4	R429, R430	ERD25FJ101	001 152 0214 3	(XL, XA)		
(EG)			R431, R432	ERDS2TJ332	001 152 2357 1	C107, C108	ECQM1H223JZ	001 106 0739 9
R207, R208	ERDS2TJ102	001 152 2346 4	R433, R434	ERD25FJ2R2	001 152 0251 8	C109, C110	ECQM1H682JZ	001 106 0832 3
(EG)			R435, R436	ERD25FJ2R2	001 152 0251 8	C111, C112	ECEA1HPS010	001 120 6063 4
R209, R210	ERDS2TJ102	001 152 2346 4	R437, R438	ERDS2TKF4220	001 151 5927 2	C113, C114	ECEA0JU330	001 120 3162 4
(EG)			R441, R442	ERDS2TJ101	001 152 2421 0	C115, C116	ECKD1H103PF	001 103 1449 7
R211, R212	ERDS2TJ102	001 152 2346 4	R443, R444	ERDS2TJ101	001 152 2421 0	C201, C202	ECCD1H180KC	001 103 0448 2
(EG)			R445, R446	ERD2FCG271	001 152 6537 3	(EG)		
R221, R222	ERDS2TJ224	001 152 2433 6	R447, R448	ERDS2TJ271	001 152 2435 4	C203, C204	ECCD1H181K	001 103 0466 0
R230, R231	ERDS2TJ331	001 152 2356 2	R449, R450	ERD25FJ100	001 152 0213 4	(EG)		
R232	ERDS2TJ331	001 152 2356 2	R451, R452	ERDS1FJ100	001 152 2612 5	C205, C206	ECCD1H101K	001 103 0341 2
R233, R234	ERDS2TJ391	001 152 2360 6	R453, R454	ERDS2TJ153	001 152 2351 7	(EG)		
R235	ERDS2TJ331	001 152 2356 2	R455, R456	ERDS2TJ472	001 152 2362 4	C207, C208	ECCD1H101K	001 103 0341 2
R301, R302	FSR25TJ272T2		R457, R458	ERG2S.J331	001 151 3570 9	(EG)		
R303, R304	ERDS2TJ473	001 152 2363 3	R461, R462	ERDS2TJ562	001 152 2445 2	C209, C210	ECCD1H101K	001 103 0341 2
R305, R306	ERDS2TJ183	001 152 2429 2	R470	ERDS2TJ473	001 152 2363 3	(EG)		
R307, R308	FSR25TJ561T2		R481, R482	ERDS2TJ824	001 152 2457 8	C211, C212	ECCD1H101K	001 103 0341 2
R309, R310	ERDS2TJ154	001 152 2427 4	R501 Δ	ERG2S.J681	001 151 3164 9	(EG)		
R311, R312	ERDS2TJ224	001 152 2433 6	R502 Δ	ERG1ANJ471	001 151 0071 5	C213, C214	ECCD1H101K	001 103 0341 2
R313, R314	ERDS2TJ224	001 152 2433 6	R503, R504	ERDS2TJ473	001 152 2363 3	(EG)		
R315, R316	FSR25TJ223T2		R506	ERDS2TJ153	001 152 2351 7	C301, C302	ECQM1H563JZ	001 106 0827 0
R317, R318	FSR25TJ392T2		R507	ERDS2TJ684	001 152 2451 4	C303, C304	ECEA1HPS3R3	001 120 6064 3
R319, R320	ERDS2TJ223	001 152 2432 7	R508	ERDS2TJ822	001 152 2455 0	C305, C306	ECCD1H101K	001 103 0341 2
R321, R322	ERDS2TJ392	001 152 2439 0	R509	ERG2S.J821	001 151 4940 9	C307, C308	ECCD1H820K	001 103 0703 6
R323, R324	ERDS2TJ183	001 152 2429 2	R510	ERD2FCG470	001 152 0197 7	C309, C310	ECEA1VPS4R7	
R325, R326	ERDS2TJ562	001 152 2445 2	R521, R522 Δ	ERG2S.J561	001 151 3163 0	C311, C312	ECEA1CPS100	001 120 6036 7
R327, R328	ERDS2TJ102	001 152 2346 4	R523, R524 Δ	ERD25FJ1R0	001 152 0208 1	C313, C314	ECCD1H390K	001 103 0597 0
R329, R330	ERDS2TJ334	001 152 2438 1	R531	ERDS2TJ154	001 152 2427 4	C315, C316	ECQM1H153JZ	001 106 0704 0
			CAPACITORS					
			C317, C318	ECQM1H223JZ				001 106 0852 9
			C319, C320	ECQM1H272JZ				001 106 0753 1

Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code	Ref. No.	Part No.	Part Code
C321, C322	ECQM1H183JZ	001 106 0723 7	C449	ECKD1H331KB	001 103 1523 4	C471, C472	ECKD1H333PF	001 103 1539 6
C323, C324	ECKD1H333PF	001 103 1539 6	(E, EK, EF)			C481, C482	ECKD1H331KB	001 103 1523 4
C351	ECEA0JU101	001 120 2829 8	(EH, EB, E1)			C483, C484	ECEA1HU010	001 120 2842 1
C401, C402	ECEA1HPS3R3	001 120 6064 3	(XL, XA)			C485, C486	ECEA1HU010	001 120 2842 1
C403, C404	ECKD1H271KB	001 103 1515 4	C450	ECKD1H223PF	001 103 1510 9	C501	ECKD2H103PE	001 103 1626 8
C405, C406	ECCD1H820K	001 103 0703 6	(EG)			(E, EK, EF)		
C407, C408	ECKD1H681K	001 103 1580 5	C450	ECKD1H331KB	001 103 1523 4	(EH, EB, E1)		
C409, C410	ECEA1CPS220	001 120 6060 7	(E, EK, EF)			(XL, XA)		
C411, C412	ECCD1H070CC	001 103 0271 9	(EH, EB, E1)			C501	ECQE2104MS	001 106 2217 2
C413, C414	ECKD1H102KB	001 103 1414 8	(XL, XA)			(EG)		
C415, C416	ECCD1H120KC	001 103 0370 7	C451	ECKD1H223PF	001 103 1510 9	C502	ECEA16V1000	001 120 2545 7
C419, C420	ECEA1VU330	001 120 3273 8	(EG)			C503, C504 Δ	ECES1HV682UM	
C421, C422	ECKD1H333PF	001 103 1539 6	C451	ECKD1H331KB	001 103 1523 4	C505, C506	ECEA1CU100	001 120 2905 3
C423, C424	ECCD1H680K	001 103 0682 4	(E, EK, EF)			C507	ECEA0JS331	001 120 2975 9
C425, C426	ECCD1H680K	001 103 0682 4	(EH, EB, E1)			C508	ECFTD223KXL	001 108 0342 6
C427, C428	ECCD1H330K	001 103 0567 6	(XL, XA)			C509	ECEA0JU330	001 120 3162 4
C429, C430	ECCD1H560K	001 103 0660 0	C452	ECKD1H223PF	001 103 1510 9	C510	ECEA1CU100	001 120 2905 3
C431, C432	ECQM1H392JZ	001 106 0790 6	(EG)			C511	ECEA1JU220	001 120 3779 7
C433, C434	ECEA1AU101	001 120 2830 5	C452	ECKD1H331KB	001 103 1523 4	C513, C514	ECKD1H223PF	001 103 1510 9
C435, C436	ECEA1AU101	001 120 2830 5	(E, EK, EF)			C601	ECKD1H223PF	001 103 1510 9
C437, C438	ECCD1H330K	001 103 0567 6	(EH, EB, E1)			C1001 Δ	ECKDNS103ZV	001 103 9321 4
C439, C440	ECKD1H333PF	001 103 1539 6	(XL, XA)			(EK)		
C441, C442	ECQM1H473JZ	001 106 0810 9	C453, C455	ECEA1HU010	001 120 2842 1	C1001 Δ	ECKWNS103ZVS	001 103 9317 6
C443, C444	ECQM1H473JZ	001 106 0810 9	C456	ECEA1HU010	001 120 2842 1	(E, EG, EF)		
C449	ECKD1H223PF	001 103 1510 9	C457	ECKD1H333PF	001 103 1539 6	(EH, EB, E1)		
(EG)			C461, C462	ECKD1H561KB	001 103 1576 1	(XL, XA)		

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
INTEGRATED CIRCUITS							
IC101	SV1NJM2043DD	001 060 4244 2	I.C., EQUALIZER	L403, L404	SLQY18G-10	001 211 2185 5	CHOCK COIL
IC301	SV1UPC4570C	001 060 8992 7	I.C., EQUALIZER, TONE AMP	L405, L406	SLQY07G-40	001 211 2149 9	CHOKE COIL
IC401	AN7062N	001 060 8240 0	I.C., AMP	L407, L408	SLQY07G-40	001 211 2149 9	CHOKE COIL
IC402 Δ	SV14003	001 061 0887 4	I.C., POWER AMP	(EG)			
IC501	AN7073	001 060 8241 9	I.C., PROTECTION	L501	SLQZ650MH49	001 210 7126 1	COIL
TRANSISTORS							
Q401, Q402	2SA1123-R	001 030 0242 8	TRANSISTOR	T1 Δ	SLT5N464	001 202 9075 3	POWER TRANSFORMER
Q403, Q404	2SC1685-QNC	001 030 2729 2	TRANSISTOR	(E, EG, EF)			
Q405, Q406	2SC3311A-Q	001 030 5279 5	TRANSISTOR	(EH, EB, E1)			
Q407, Q408	2SA1309Q	001 030 4058 0	TRANSISTOR	T1 Δ	SLT5N465	001 202 9076 2	POWER TRANSFORMER
Q409, Q410	2SC2631-Q	001 030 2505 6	TRANSISTOR	(EK, XL)			
Q411, Q412	2SA1123R	001 030 0242 8	TRANSISTOR	T1 Δ	SLT5N466	001 202 9101 8	POWER TRANSFORMER
Q413, Q414	2SC3298AY	001 030 4986 9	TRANSISTOR	(XA)			
Q415, Q416	2SA1306AY	001 030 4845 1	TRANSISTOR	FUSES			
Q417, Q418	2SC2631-Q	001 030 2505 6	TRANSISTOR	F1 Δ	XBA2C16TB0	002 380 1377 1	FUSE, T1.6A250V
Q419, Q420	2SA1123R	001 030 0242 8	TRANSISTOR	(EK)			
Q421, Q422	2SA92E	001 030 0513 4	TRANSISTOR	F1 Δ	XBA2C16TR0	002 380 0408 5	FUSE, T1.6A250V
Q501	2SA92E	001 030 0513 4	TRANSISTOR	(E, EG, EF)			
DIODES							
D12	MA4033M	001 032 5623 9	DIODE	(EH, EB, E1)			
D401, D402	MA162A	001 032 0493 1	DIODE	(XL, XA)			
D403, D404	MA165	001 032 0494 0	DIODE	F2 Δ	XBA2C31TR0	002 380 0415 6	FUSE 250V, T3.15A
D405, D406	MA165	001 032 0494 0	DIODE	(XA)			
D407, D408	MA4062-M	001 032 7211 7	DIODE	SWITCHES			
D409, D410	MA165	001 032 0494 0	DIODE	S1	ESE37263	003 430 2327 2	SWITCH
D411, D413	MA29WA	001 032 7250 0	DIODE	S1	SSH4102	003 435 5648 1	SWITCH, INPUT
D414	MA29WA	001 032 7250 0	DIODE	S2	SSH2111	003 435 5644 5	SWITCH, INPUT
D501, D502 Δ	SVDS3V40	001 032 1347 6	RECTIFIER	S3, S4	SSH3703	003 435 5647 2	SWITCH, CD
D503, D504 Δ	SVDS3V40	001 032 1347 6	RECTIFIER	S5	SSH3703	003 435 5647 2	SWITCH, TONE
D505	SVDSR1K2	001 032 1343 0	DIODE	S6-1, S6-2	SSH2112	003 435 5645 4	SWITCH, SPEAKER
(E, EG, EF)				S8 Δ	ESB8215V	003 435 4958 4	PUSH SWITCH
(EH, EB, E1)				S701 Δ	ESE37263	003 430 2327 2	SWITCH, AC VOLT
(XL, XA)				(XA)			
D505 Δ	SVDS2V20	001 032 1343 0	RECTIFIER	RELAYS			
(EK)				LY501	SSY126	003 450 2686 0	RELAY
D507, D508	MA2150B	001 032 0499 5	DIODE	CABINET AND CHASSIS			
D509, D510	MA165	001 032 0494 0	DIODE	1	SBC666	016 702 5545 6	BUTTON, POWER
D513	MA165	001 032 0494 0	DIODE	1	SBC666-5	016 702 6679 9	BUTTON, POWER
VARIABLE RESISTORS							
VR201	EWJKA090B15	001 174 8555 1	VARIABLE RESISTOR, MAIN	2	SBN1206	016 700 1846 2	KNOB
VR202	EWJUA008G15	001 174 8553 3	VARIABLE RESISTOR, BALANCE	2	SBN1207-1	016 700 1845 3	KNOB
VR203, VR204	EWCEA020C15	001 174 8552 4	VARIABLE RESISTOR, BASS	3	SBN1227	016 700 2002 4	KNOB
VR301, VR302	EVNK6A00852	001 180 0496 1	VARIABLE RESISTOR, CONTROL	3	SBN1227-1	016 700 2003 3	KNOB
THERMISTORS AND VARIATORS							
TH201, TH202	ERTD2WHL104S		THERMISTOR	4	SGMUV45A-KE	016 840 7885 0	FRONT PANEL
TH401, TH402	ERTD2WHL104S		THERMISTOR	4	SGMUV45A-SE	016 840 7884 1	FRONT PANEL
COILS AND TRANSFORMERS							
L401, L402	SLQY07G-40	001 211 2149 9	CHOKE COIL	5	SGX7913	016 846 3858 9	ORNAMENT
				6	SGL246	016 846 3894 5	ORNAMENT
				7	SGXUV45A-KE	016 846 3905 9	ORNAMENT
				7	SGXUV45A-SE		ORNAMENT
				8	SMC6407-1	016 601 0633 9	SHIELD COVER

Ref. No.	Part No.	Part Code	Description	Ref. No.	Part No.	Part Code	Description
9	SBC439	016 702 0595 6	BUTTON	35	SJF4818-1	003 410 7347 0	TERMINAL BOARD
9	SBC439-2	016 702 6011 7	BUTTON	36	SMX477-1	016 600 0601 5	SHIELD SPACER
10	SJJ126B	003 400 5920 7	JACK	(EG)			
11	LN064316P	001 032 8373 6	DIODE, GAASP	37	SJF3057-5N	003 410 6144 3	TERMINAL BOARD
12	LN021315P	001 032 8371 8	DIODE, GAASP	38	SJF3062N	003 410 6082 0	TERMINAL BOARD
13	SBC719	016 702 6143 6	BUTTON	39	SHR415	016 652 0088 7	LOCK PIN
13	SBC719-1	016 702 1277 3	BUTTON	40	SNE4021	005 507 0372 5	NUT
14	SBC820	016 702 6431 1	BUTTON	41	XTBS3+10JFZ1	005 501 3413 1	TAPPING SCREW
14	SBC820-1	016 702 6432 0	BUTTON	42	XTB3+10GFR	005 501 3126 5	SCREW
15	LN14314PH	001 032 8375 4	DIODE, GAASP	43	XTW3+10T	005 501 0996 9	SCREW
16	SUB253	016 712 0317 0	ROD	44	SNE2129	005 500 8058 5	SCREW
17	SJT388	003 410 6092 8	LUG TERMINAL	44	SNE2129-1	005 500 7938 6	SCREW
(E, EG, EK)				45	XTBS3+10JFZ1	005 501 3413 1	TAPPING SCREW
(EF, EH, EB)				46	XTB3+8FFZ	005 501 2531 0	TAPPING SCREW
(E1, XL)				47	XTB3+16J	005 501 2648 8	SCREW
18	SJS305-1		JACK, SOCKET	48	XTBS3+16F1	005 501 2606 8	TAPPING SCREW
(E, EG, EK)				49	XYNG+F14	005 503 0346 7	TAPPING SCREW
(EF, EH, EB)				50	XYNG+F8	005 503 0513 0	SCREW
(E1, XL)				51	XTW3+8T	005 501 1358 9	SCREW
19	SKC1910K991	016 800 2546 0	CABINET	52	SXE1159		HEAT SINK
19	SKC1910S991	016 800 2548 8	CABINET	54	SHR301	016 645 0044 0	CLAMPER
20	SUB254	016 712 0318 9	ROD	55	SJS5531	003 400 4285 5	SOCKET 5P
21	SKL308	016 828 0330 0	FOOT	56	SJT3513	003 410 6952 9	POST(5P)
22	SKL309	016 828 0329 3	FOOT	57	SJT30840LX-V	003 410 6150 5	LUG TERMINAL
23	SKU11280-3	016 802 1927 5	BOTTOM BOARD	58	SJT783	003 410 6001 7	CONTACT
(XA)				59	SJS5331	003 400 5924 3	CONNECTOR
23	SKU11280-4	016 802 1889 4	BOTTOM BOARD	59	SJS5715	003 400 6034 4	SOCKET(7P)
(E, EG, EK)				60	SJT3321	003 410 5999 8	POST(3P)
(EF, EH, EB)				60	SJT3709	003 403 4232 3	CONNECTOR
(E1, XL)				PACKINGS			
24	SHE186	016 918 0330 9	SPACER	P1	SPG5955	016 971 5121 5	CARTON BOX
25	SMX911	016 600 0488 5	SHIELD SPACER	(E, EG, EK)			
(XA)				(EH, EB, E1)			
26	SUS227	016 727 0111 1	SPRING	(XL, XA)			
27	SJT347	003 410 1830 8	FUSE HOLDER	P1	SPG5956		CARTON BOX
(XA)				(E, EG, EK)			
28	SJS702-1		JACK, SOCKET	(EH, EB, E1)			
(XA)				(XL, XA)			
29	SGP6780-4A	016 840 8021 6	REAR PANEL	P1	SPG5957	016 971 5143 9	CARTON BOX
(E)				(EF)			
29	SGP6780-4B	016 840 7907 1	REAR PANEL	P2	SPS4459-3	016 977 3352 0	PAD
(EG, EF, EH)				P3	SPS4460-8	016 977 3353 9	PAD
(EB, E1)				P4	SPS4613-1	016 977 2865 4	PAD
29	SGP6780-4C	016 840 7868 1	REAR PANEL	P5	SPP723	016 978 0207 5	PROTECTION COVER
(EK)				ACCESSORIES			
29	SGP6780-4D	016 840 7968 8	REAR PANEL	A1	SJP9215	003 402 1437 9	AC PLUG ADAPTOR
(XL)				(XA)			
29	SGP6780-5A	016 840 7832					

EXPLODED VIEW

