

Service Manual

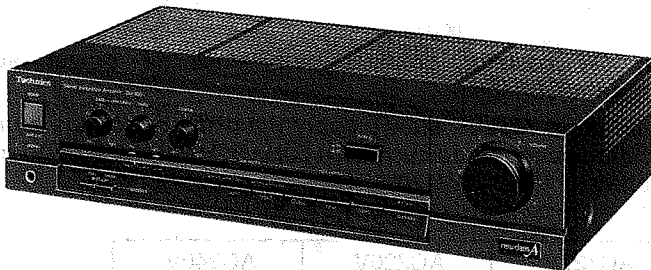
Stereo Integrated Amplifier

Amplifier

SU-800

Color

(S)Silver Type
(K)Black Type



Area

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

SPECIFICATIONS

(DIN 45 500)

■ AMPLIFIER SECTION

40 Hz ~ 20 kHz continuous power output both channels driven (For United Kingdom and Saudi Arabia)	2 x 50W (8Ω)
(For others)	2 x 65W (8Ω)
1 kHz continuous power output both channels driven (THD: 1%) (For United Kingdom and Saudi Arabia)	2 x 60W (8Ω)
(For others)	2 x 80W (8Ω)
Total harmonic distortion rated power at 40 Hz ~ 20 kHz	0.04% (8Ω)
half power at 1 kHz	0.03% (8Ω)
Intermodulation distortion rated power at 60 Hz:7 kHz = 4:1, SMPTE, 8Ω	0.05%
Power bandwidth both channels driven, -3 dB	10 Hz ~ 30 kHz (8Ω, 0.04%)
Damping factor	50 (8Ω)
Input sensitivity and Impedance	
PHONO	2.5 mV/47 kΩ
TUNER, CD/AUX	150 mV/22 kΩ
TAPE 1,2/EXT	150 mV/22 kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power(8Ω)	
PHONO	71 dB (IHF, A:72 dB)
TUNER, CD/AUX, TAPE 1,2/EXT	90 dB (IHF, A:98 dB)
Frequency response	
PHONO	RIAA standard curve ± 0.8 dB(30 Hz ~ 15 kHz)
TUNER, CD/AUX, TAPE 1,2/EXT	5 Hz ~ 90 kHz (-3 dB)

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	
REC OUT	150 mV
Channel balance, CD/AUX 250 Hz ~ 6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	45 dB
Headphones output level and Impedance	560 mV/330Ω
Load impedance	
MAIN or REMOTE	4Ω ~ 16Ω
MAIN and REMOTE	8Ω ~ 16Ω

■ GENERAL

Power consumption	
For United Kingdom and Saudi Arabia	340W
For others	430W
Power supply	
For United Kingdom and Australia	AC 50 Hz/60 Hz, 240V
For continental Europe	AC 50 Hz/60 Hz, 220V
For others	AC 50 Hz/60 Hz, 110V/127V/220V/240V
Dimensions (W x H x D)	430 x 97 x 240 mm (16-15/16" x 3-13/16" x 9-7/16")
Weight	5.8 kg (12.7 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

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BEFORE REPAIR

- Turn off the power supply. Using a 10Ω, 5W resistor connect both ends of power supply capacitors(C901,C902,4700μF) in order to discharge the voltage.
- 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 50Hz/60Hz 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 50Hz	190 ~ 430mA	180 ~ 400mA	100 ~ 220mA	90 ~ 210mA
Consumed current 60Hz	160 ~ 380mA	150 ~ 350mA	90 ~ 200mA	80 ~ 190mA

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.

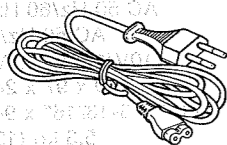
If this occurs, follow the procedure outlined below:

- Switch OFF the power.
- Determine the cause of the problem and correct it.
- 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.

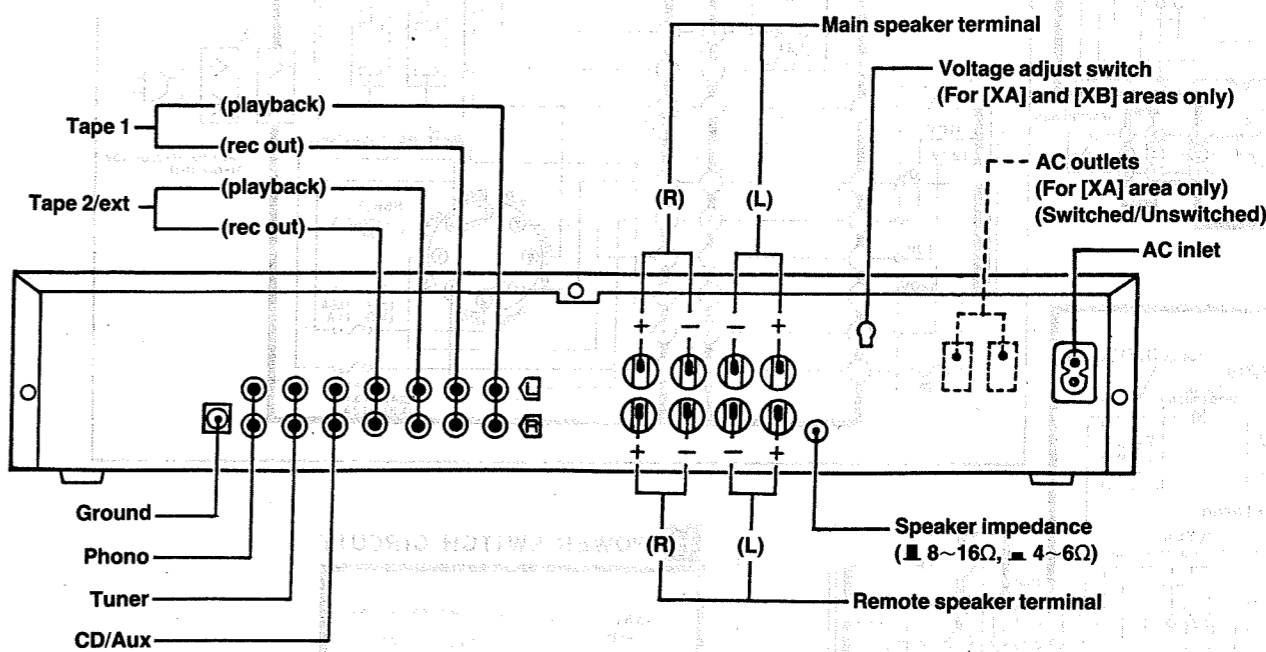
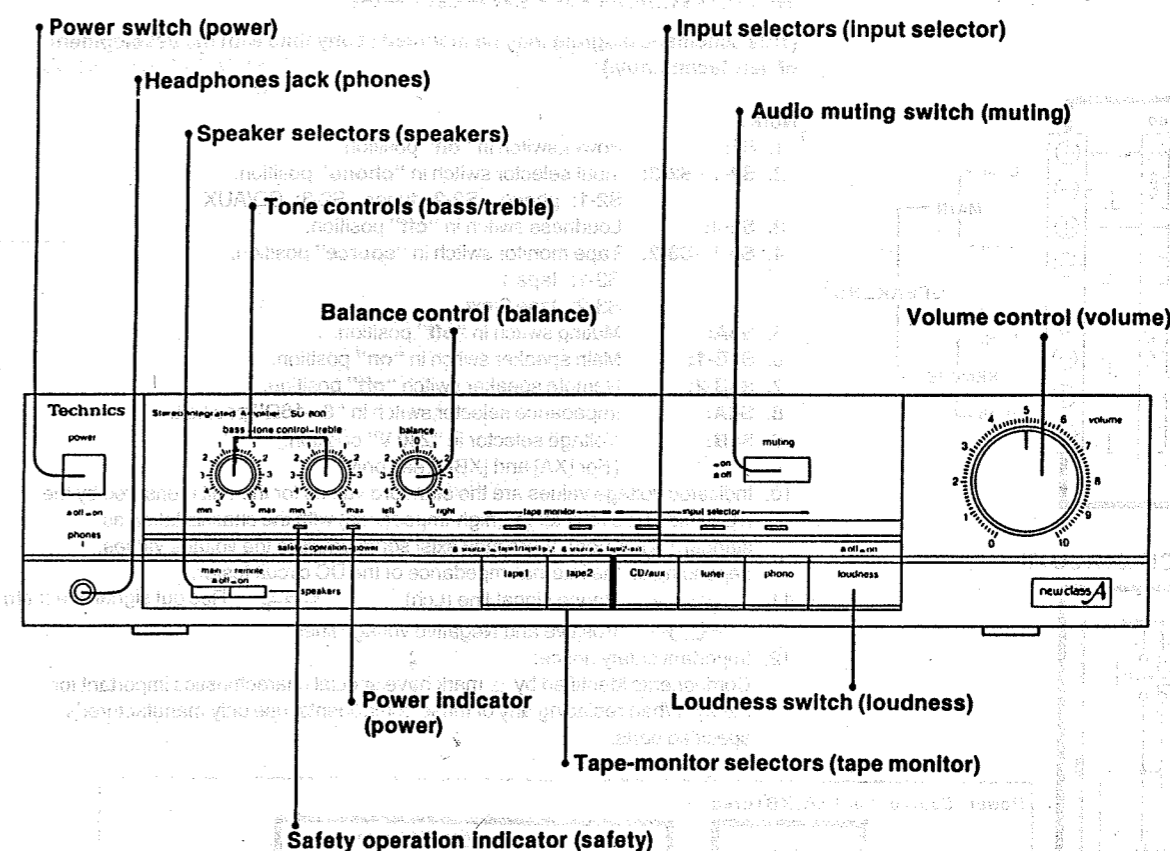
ACCESSORY

- Power supply cord 1



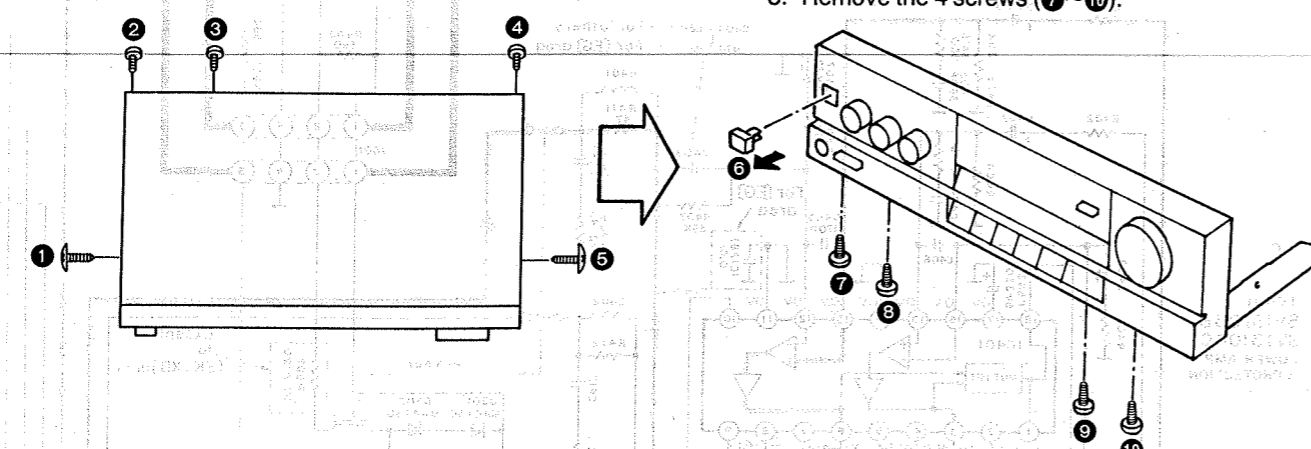
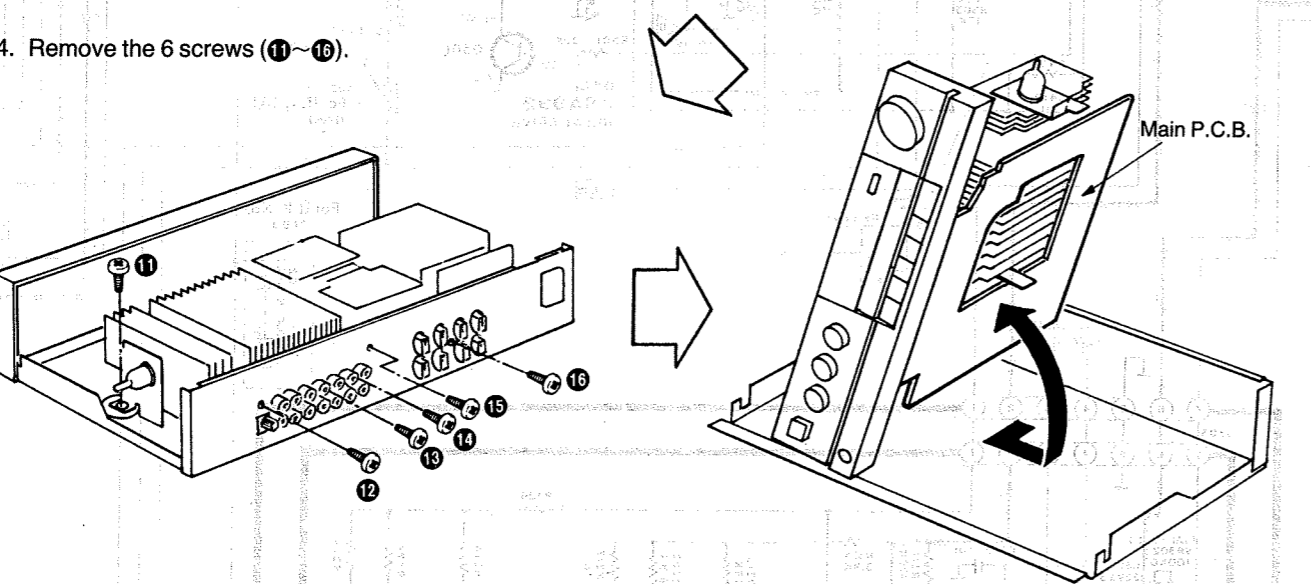
- SJA173...(XL)
- SJA183...(XB)
- SJA185...(XA)
- SFDAC05E03...(E, EG, EF, EH, EB, EI)
- SFDAC05G02...(EK)

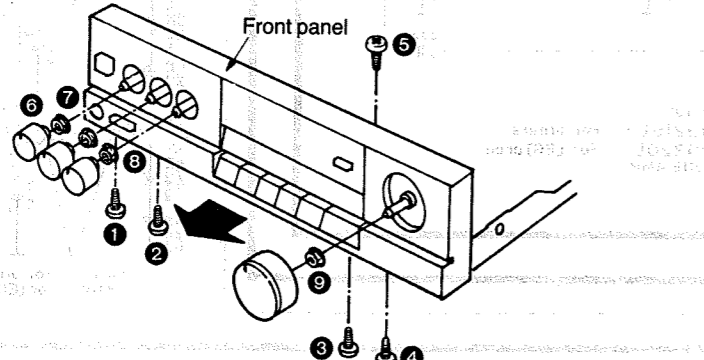
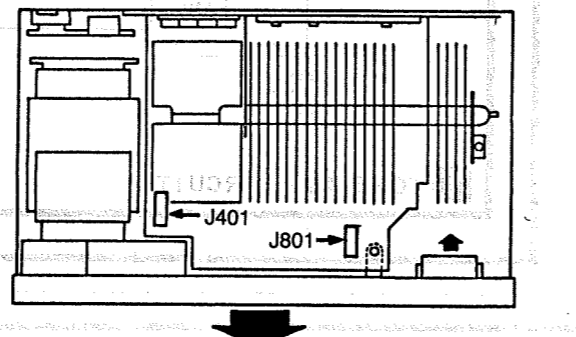
LOCATION OF CONTROLS

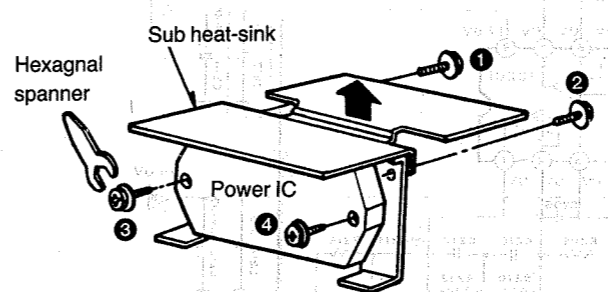


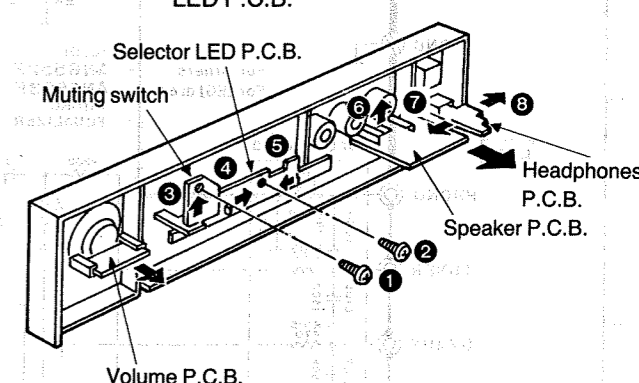
- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. So, refer to the circuit diagram and replacement parts list.
- [XA] area is provided with voltage selector and AC outlets.
- 240 V (50/60 Hz) for Australia and United Kingdom.
- 220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

DISASSEMBLY INSTRUCTIONS

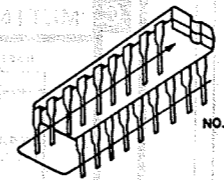
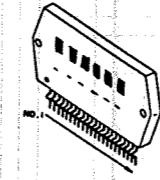
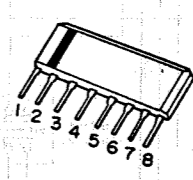
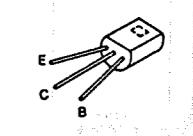
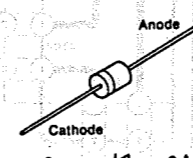
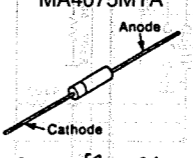
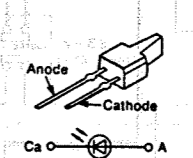
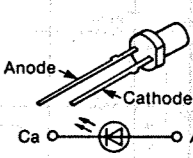
Ref. No. 1	How to remove the main P.C.B.
Procedure 1	<ol style="list-style-type: none"> 1. Remove the 5 screws (1~5). 2. Remove the power switch button (6) in the direction of the arrow. 3. Remove the 4 screws (7~10).  <ol style="list-style-type: none"> 4. Remove the 6 screws (11~16). 

Ref. No. 2	How to remove the front panel
Procedure 2	<ol style="list-style-type: none"> 1. Remove the cabinet. 2. Remove the 5 screws (1~5). 3. Pull out the knobs and remove the 4 nuts (6~9). 4. Remove the tone control P.C.B., operation LED P.C.B. 5. Remove the connector (J401, J801) 6. Remove the front panel in the direction of the arrow.  

Ref. No. 3	How to remove the Power IC
Procedure 1 → 3	<ol style="list-style-type: none"> 1. Remove the 2 screws (1, 2). 2. Remove the sub heat-sink. 3. Unsolder the power IC. 4. Remove the 2 screws (3, 4).  <p>●When mounting the power IC, apply silicon thermal compound (SZZ0L15 or equivalent) to the rear of the power IC.</p>

Ref.No. 4	How to remove the P.C.B.
Procedure 2 → 4	<ol style="list-style-type: none"> 1. Remove the 2 screws (1, 2). 2. Remove the 6 tabs (3~8). 3. Remove the volume P.C.B., muting switch, selector LED P.C.B., speaker P.C.B. and headphones P.C.B. in the direction of the arrow. 4. Remove the tone control P.C.B. operation LED P.C.B. 

Terminal guide of transistors, diodes and IC's

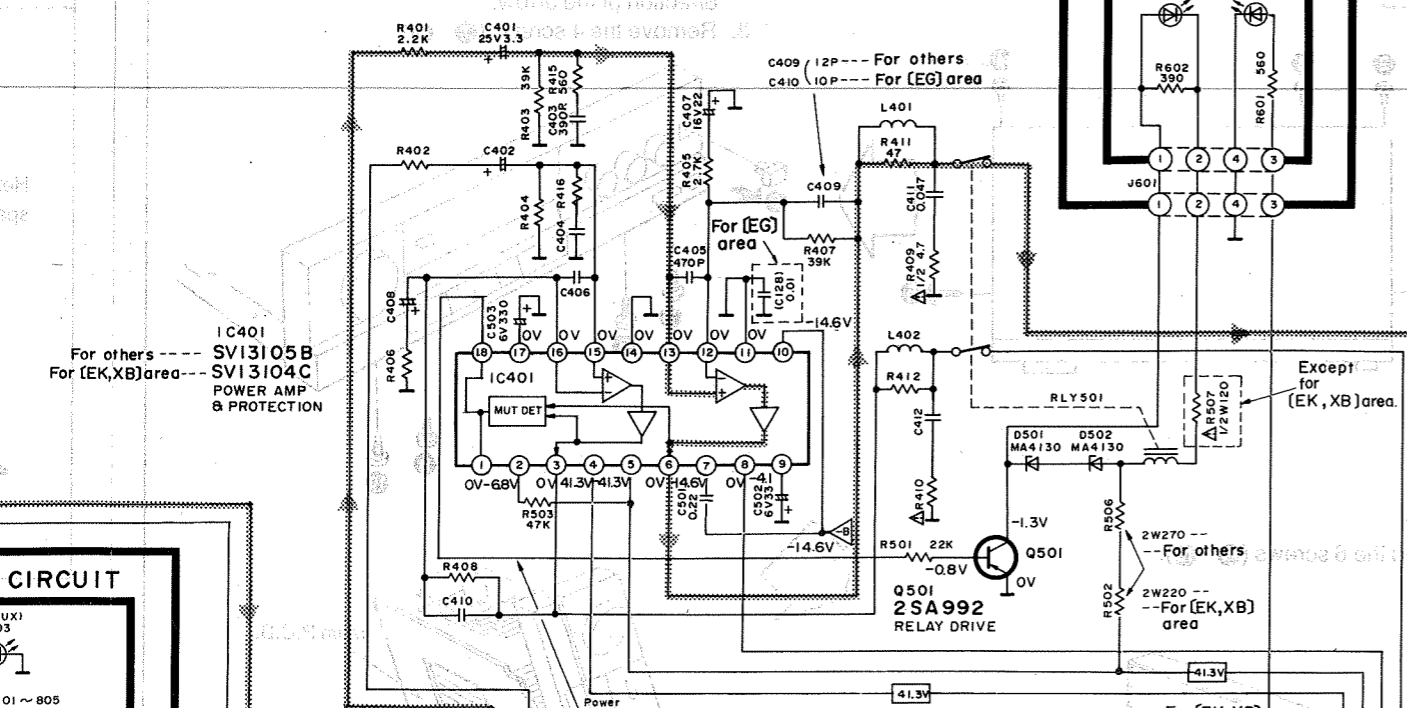
<p>AN6552F 8 pin AN6558F 8 pin</p> 	<p>SVI3104C 18 pin SVI3105B 18 pin</p> 	<p>M5218L M5220L</p> 	<p>2SA992EF</p> 
<p>1SR35200TB SVDS3V20</p> 	<p>MA4130MTA MA4068MTA MA4075MTA</p> 	<p>LN846RP-C LN446YP-C</p> 	<p>LN051330P</p> 

SCHEMATIC DIAGRAM

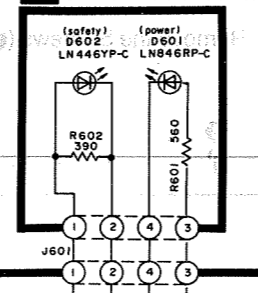
(This schematic diagram may be modified at any time with the development of new technology.)

- Notes:**
- S1:** Power switch in "on" position.
 - S2-1~S2-3:** Input selector switch in "phono" position.
S2-1: phono S2-2: tuner S2-3: CD/AUX
 - S2-4:** Loudness switch in "off" position.
 - S3-1~S3-2:** Tape monitor switch in "source" position.
S3-1: tape 1
S3-2: tape 2/ext
 - S4A:** Muting switch in "off" position.
 - S4B-1:** Main speaker switch in "on" position.
 - S4B-2:** Remote speaker switch "off" position.
 - S6A:** Impedance selector switch in "8~16Ω" position.
 - S6B:** Voltage selector in "240 V" position.
(For [XA] and [XB] areas only)
10. 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.
11. Phono signal line (Lch) Rec out signal line (Lch)
 Positive and Negative voltage lines
12. 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.

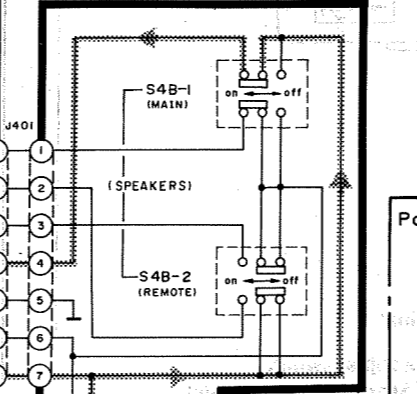
MP/INPUT SELECT/POWER AMP/POWER SOURCE CIRCUIT



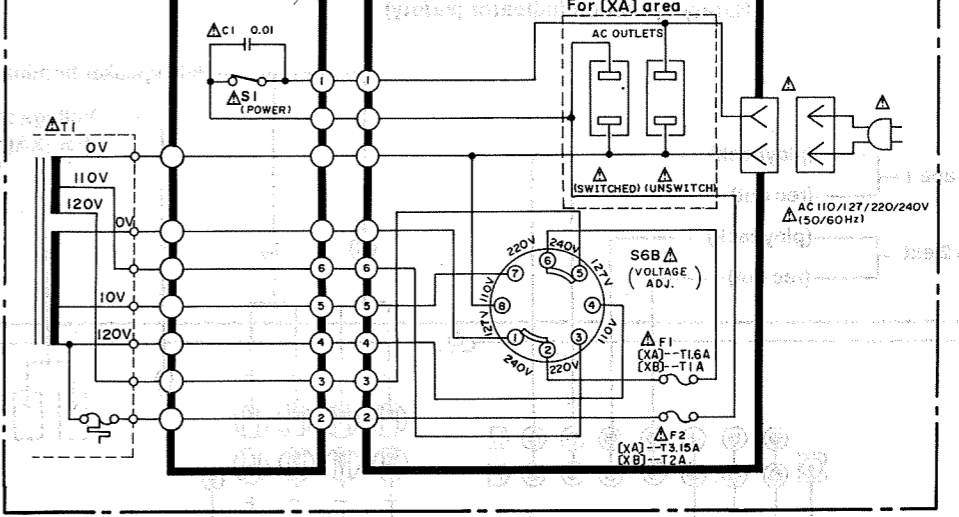
F LED CIRCUIT



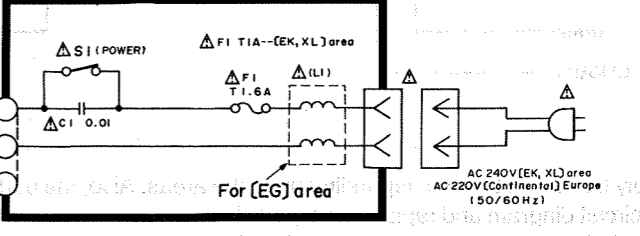
G SPEAKER SWITCH CIRCUIT



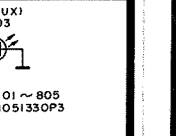
Power Source For [XA, XB] area



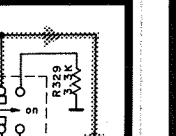
H POWER SWITCH CIRCUIT



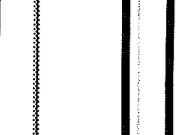
I CIRCUIT



VITCH CIRCUIT



LUME CIRCUIT



E TONE AMP CIRCUIT



1 2 3 4 5 6 7 8 9 10 11 12 13

A B C D E F G H

A PHONO EQ. AMP/INPUT SELECT/POWER AMP/POWER SOURCE CIRCUIT

F LED CIRCUIT

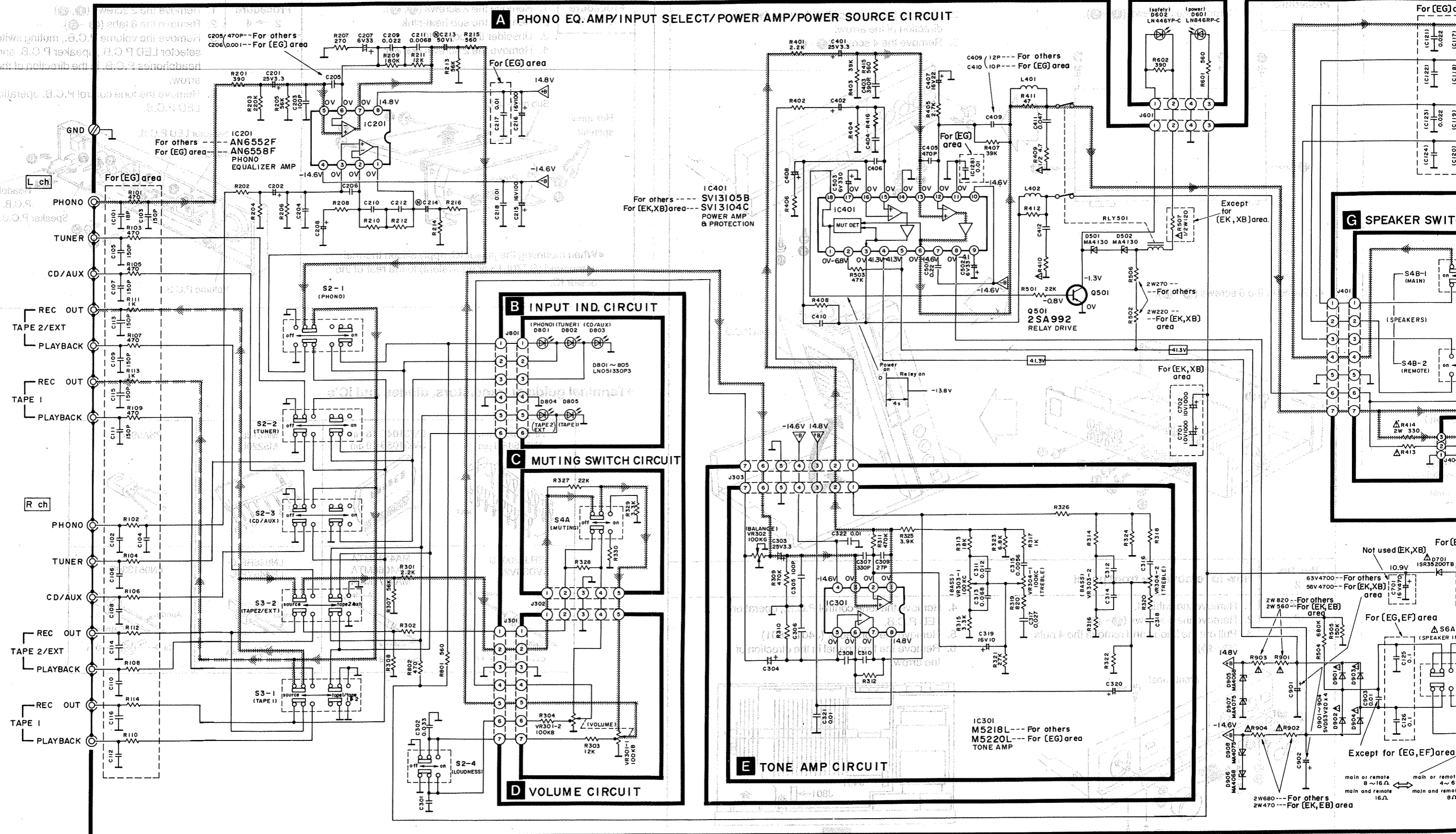
G SPEAKER SWITCH

B INPUT IND. CIRCUIT

C MUTING SWITCH CIRCUIT

D VOLUME CIRCUIT

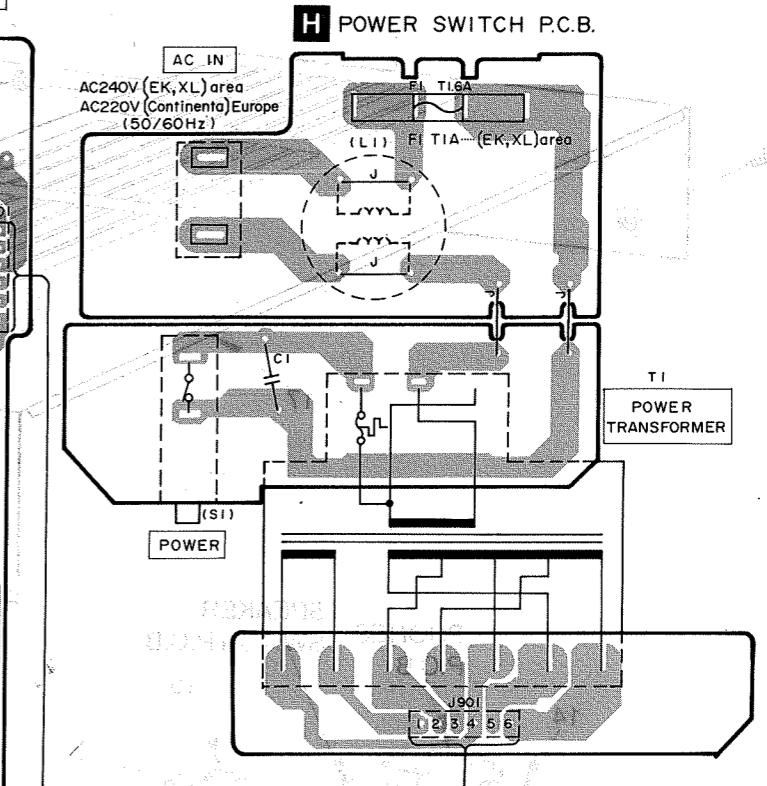
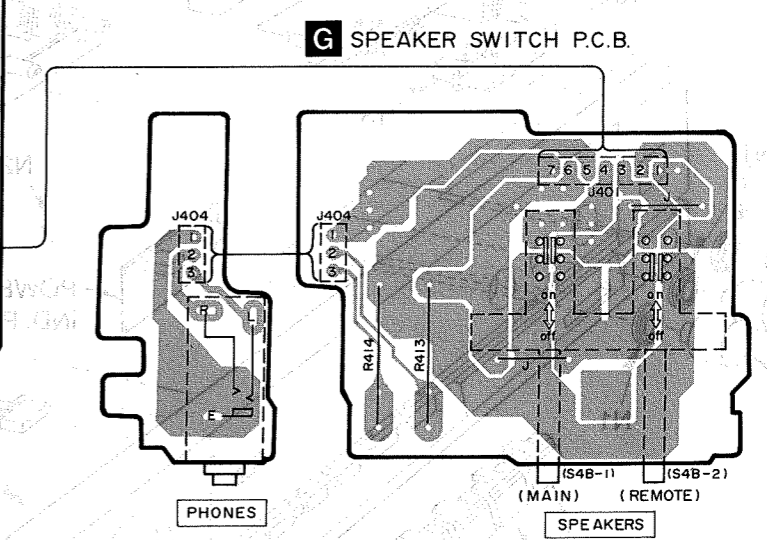
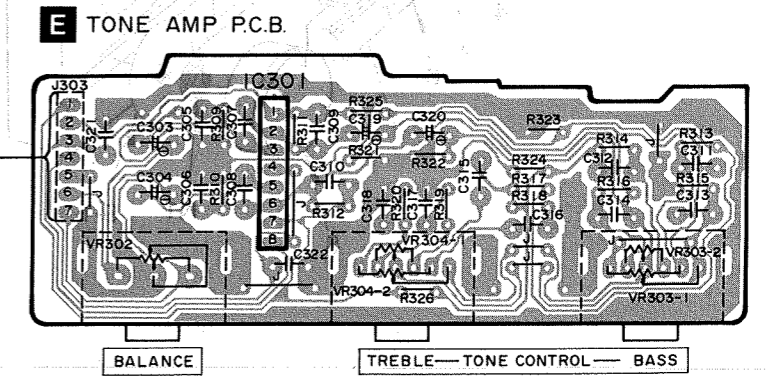
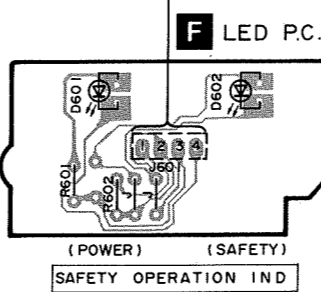
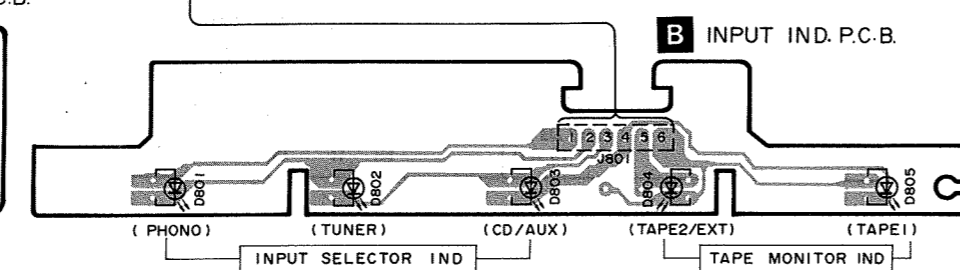
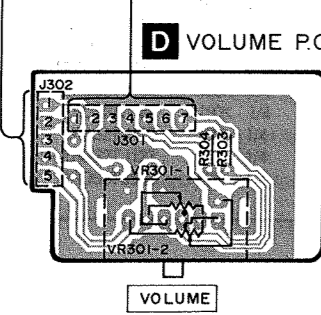
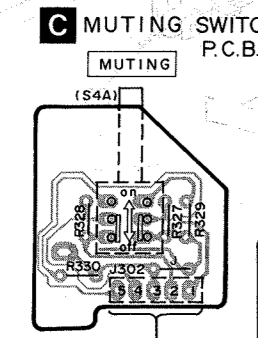
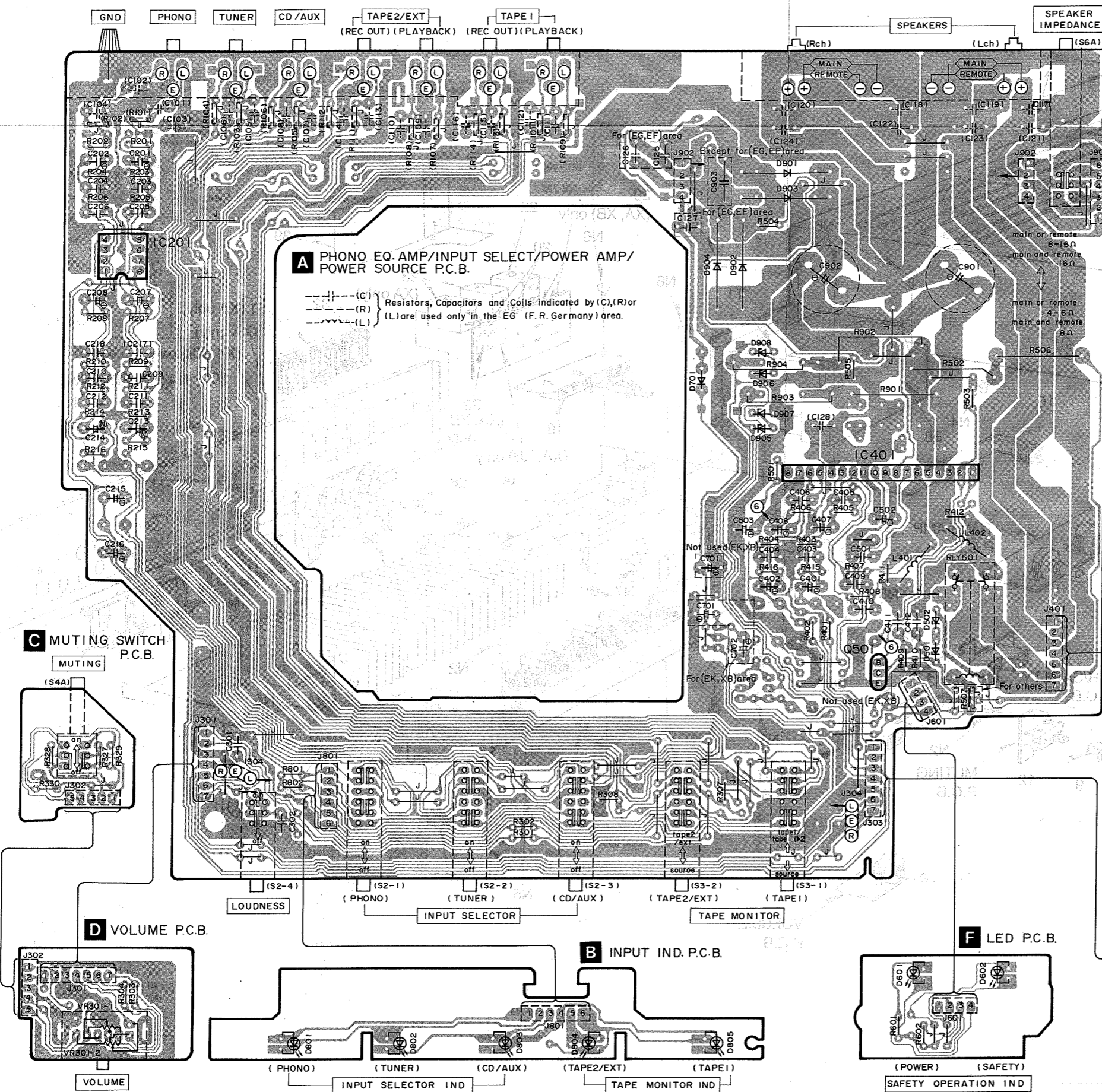
E TONE AMP CIRCUIT



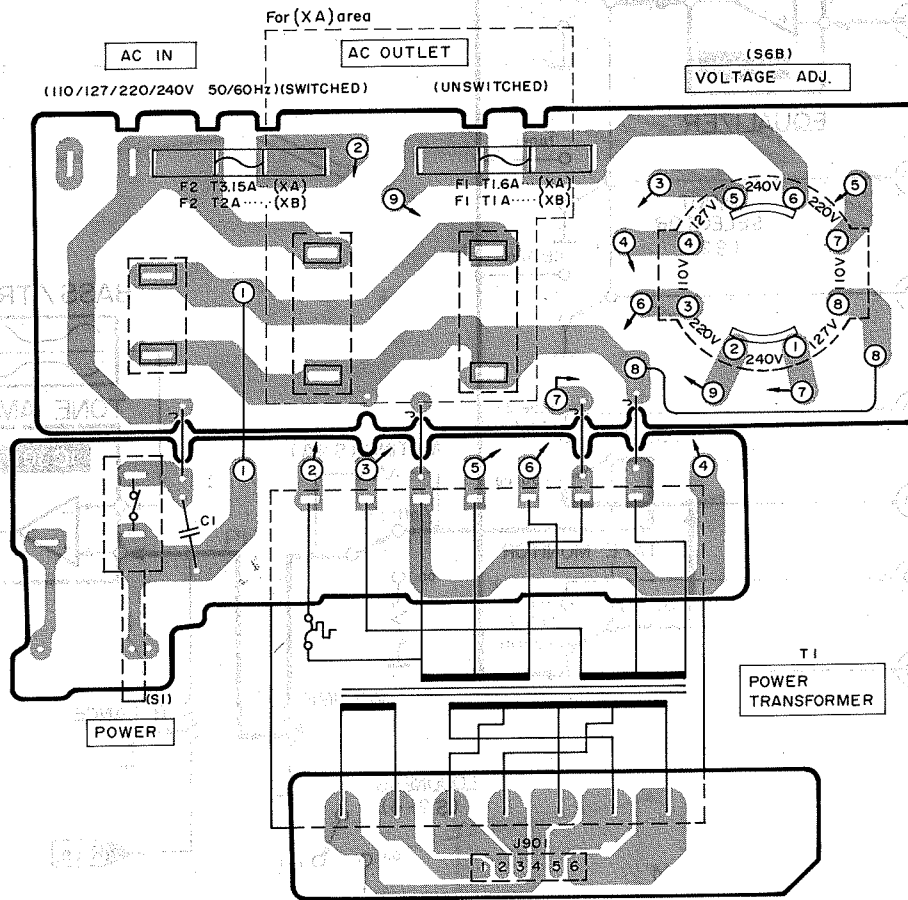
PRINTED CIRCUIT BOARDS

1 2 3 4 5 6 7 8 9 10 11 12 13

A
B
C
D
E
F
G
H

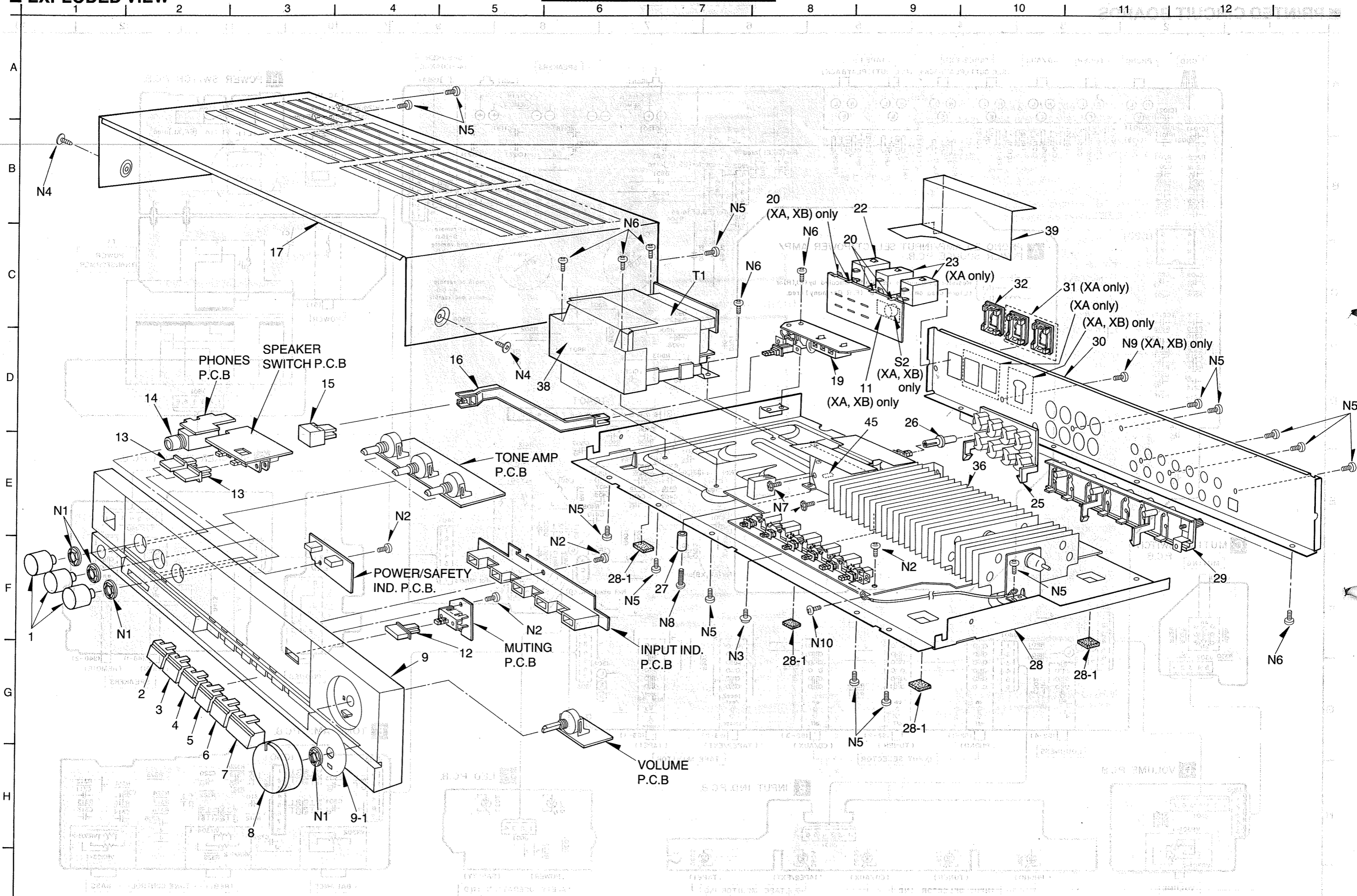


●Power Source for [XA] and [XB] areas

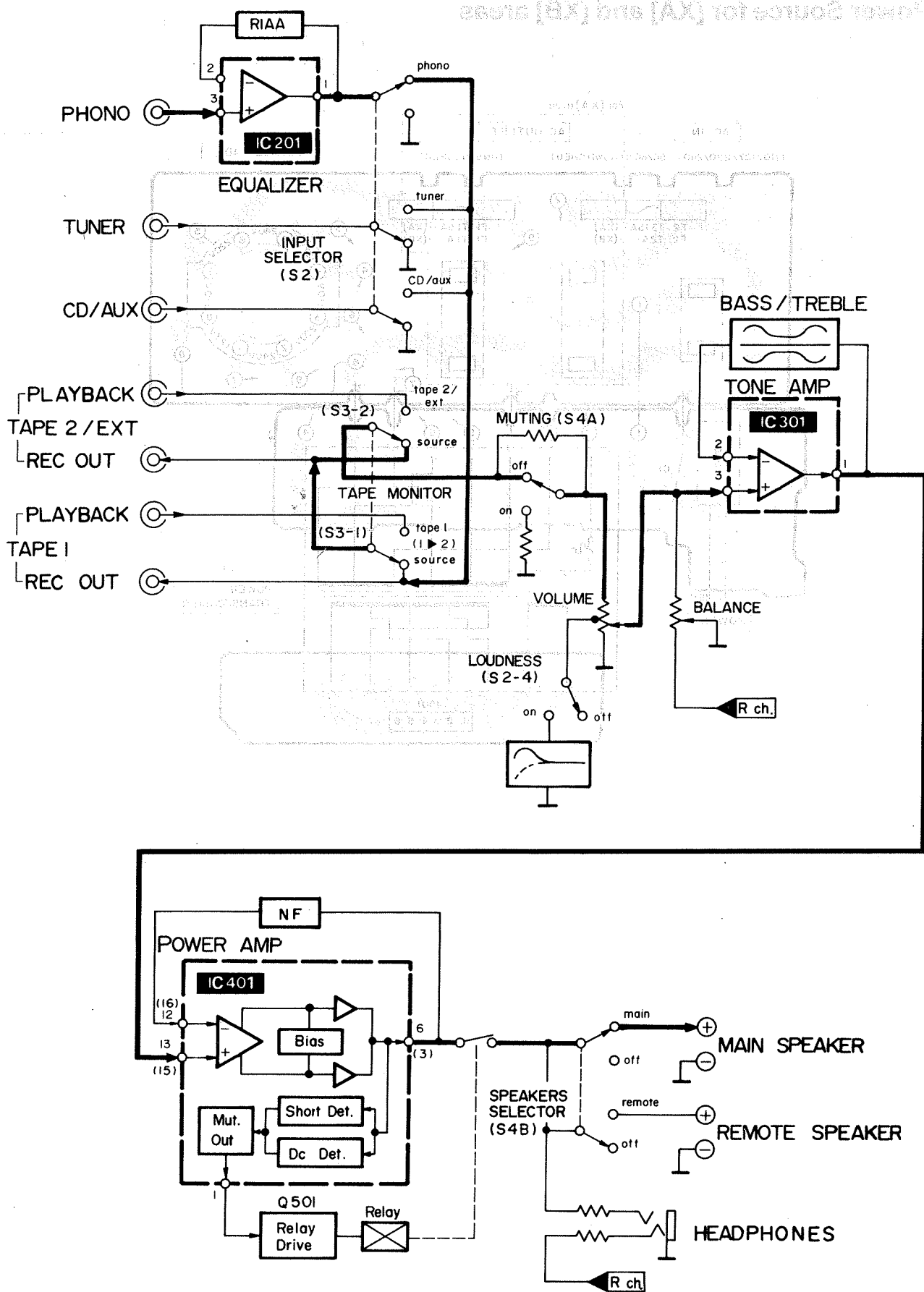


EXPLODED VIEW

SU-800 SU-800



■ BLOCK DIAGRAM



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. (Refer to the first page for area.)
 * Parts without these indications can be used for all areas.
 * Remote Control Ass'y:
 Supply period for three years from termination of production.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
INTEGRATED CIRCUITS					
IC201 (E, EK, EF, EH) (EB, E1, XL) (XA, XB)	AN6552F	I.C. EQUALIZER	VR304	EWCS6A020C15	VR. TONE VR
IC201 (EG)	AN6558F	I.C. EQUALIZER	COILS AND TRANSFORMERS		
IC301 (E, EK, EF, EH) (EB, E1, XL) (XA, XB)	M5218L	I.C. TONE AMP	L1 (EG)	SLQ2650MH49	CHOKE COIL
IC301 (EG)	M5220L	I.C. TONE AMP	L401	SLQY07G-40	CHOKE COIL
IC401 (EK, XB)	SV13104C	I.C. POWER IC	L402	SLQY07G-40	CHOKE COIL
IC401 Δ (E, EG, EF, EH) (EB, E1, XL) (XA)	SV13105B	I.C. POWER IC	T1 (E, EG, EF, EH) (EB, E1)	SLT5M524-W	POWER TRANSFORMER
TRANSISTORS					
Q501	2SA992E	TRANSISTOR	T1 (XB)	SLT5M525-W	POWER TRANSFORMER
DIODES					
D501	MA4130M	DIODE	T1 (E, EG, EF, EH) (EB, E1, XL) (XA)	SLT5N474	POWER TRANSFORMER
D502	MA4130M	DIODE	T1 (E, EG, EF, EH) (EB, E1)	SLT5N474	POWER TRANSFORMER
D601	LN846RP-C	L.E.D	T1 (XL)	SLT5M475	POWER TRANSFORMER
D602	LN446YP	L.E.D	T1 (XA)	SLT5N476	POWER TRANSFORMER
D701 Δ	SV01SR35200A	RECTIFIER	FUSES		
D801	LN051330P	DIODE, GAASP	F1 Δ	XBA2C10T80	FUSE 250V, T1A
D802	LN051330P	DIODE, GAASP	F1 (EK, XB)	XBA2C16T80	FUSE 250V, A1.6A
D803	LN051330P	DIODE, GAASP	F2 Δ	XBA2C20T80	FUSE 250V, T2A
D804	LN051330P	DIODE, GAASP	F2 (XB)	XBA2C31T80	FUSE 250V, T3.15A
D805	LN051330P	DIODE, GAASP	F2 Δ	XBA2C31T80	FUSE 250V, T3.15A
D901 Δ	SVDS3V40	RECTIFIER	SWITCHES		
D902 Δ	SVDS3V40	RECTIFIER	S1 Δ	ESB8248V	SW, POWER SW
D903 Δ	SVDS3V40	RECTIFIER	S1 (XA, XB)	ESB8249V	SW, POWER SW
D904 Δ	SVDS3V40	RECTIFIER	S1 Δ	ESB8249V	SW, POWER SW
D905	MA4068M	DIODE	(E, EG, EK, EF) (EH, EB, E1) (XL)	SSH659	SW, INPUT SW
D906	MA4068M	DIODE	(XA, XB)	SSH1198	SW, MUTING
D907	MA4075M	DIODE	S4	SSH2122	SW, SPEAKER SW
D908	MA4075M	DIODE	S5	SSH1193	SW, SPEAKER IMPEDANCE
VARIABLE RESISTORS					
VR301	EWCXUAF20B15	VR, MAIN VR	S7 Δ	ESE37263	SW, VOLTAGE SELECTOR
VR302	EWHF5AF20G15	VR, BALANCE VR	(XA, XB)		
VR303	EWCS6A020C15	VR, TONE VR	RELAYS		
			RLY501	SSY126	RELAY

RESISTORS AND CAPACITORS

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
CABINET AND CHASSIS					
1	SBN1032-4	KNOB	30 (XA)	SGP7290-1A	REAR PANEL
2	SBN1032-2	KNOB	30	SGP7290-2A	REAR PANEL
2	SBC839E	BUTTON	(XB)		
2	SBC839-1E	BUTTON	30	SGP7290A	REAR PANEL
3	SBC839D	BUTTON	(E, EF, EH, EB) (E1)		
3	SBC839-1D	BUTTON	30	SGP7290B	REAR PANEL
4	SBC839C	BUTTON	(EK)		
4	SBC839-1C	BUTTON	30	SGP7290C	REAR PANEL
5	SBC839B	BUTTON	(EG)		
5	SBC839-1B	BUTTON	30	SGP7290D	REAR PANEL
6	SBC839A	BUTTON	(XL)		
6	SBC839-1A	BUTTON	31	SJS9330A	OUTLET COVER
7	SBC840A	BUTTON	(XA)		
7	SBC840-1A	BUTTON	32	SJS9231A	AC INLET COVER
8	SBN1208	KNOB	(E, EG, EK, EF) (EH, EB, E1) (XA, XB)		
8	SBN1111	KNOB	32	SJS9234A	AC INLET COVER
9	SGWJ800-KE	FRONT PANEL	(XL)		
9	SGWJ800-SE	FRONT PANEL	36	SXE1167	HEAT SINK
9-1	SMCG424-1	SHIELD COVER	36	SXE1168	HEAT SINK
11	SHW35K150-1	WASHER	(E, EG, EF, EH) (EB, E1, XL) (XA)		
(XA, XB)			38	SMC1195-4	SHIELD COVER
12	SBC820	BUTTON	(EK, XB)		
12	SBC820-1	BUTTON	38	SMC1195-5	SHIELD COVER
13	SBC315-7	BUTTON	(E, EG, EF, EH) (EB, E1, XL) (XA)		
13	SBC315-4T	BUTTON	39	SMX943	RECTIFIER
14	SJJ134B	JACK	42	SJT30640LX-V	CONNECTOR
15	SBC666-5	BUTTON	42	SJT30740LX-V	CONNECTOR
15	SBC666	BUTTON, POWER	45	SJS702-1	JACK, SOCKET
16	SUB275	ROD	(XA, XB)		
17	SKC1880K993	CABINET BODY	A3 Δ	RJP120ZBS-H	AC PLUG ADAPTOR
17	SKC1880S993	CABINET BODY	(XA, XB)		
19	SJS305-1	JACK	N1	SNE4021	NUT
(E, EG, EK, EF) (EH, EB, E1) (XL)			N2	XTB348G	SCREW
20	SJT388	FUSE HOLDER	N3	XTW348T	SCREW
22 Δ	SJS9231-1B	AC INLET	N4	SNE2129-3	SCREW
(E, EG, EK, EF) (EH, EB, E1) (XA, XB)			N4	SNE2129-2	ORNAMENT SCREW
22 Δ	SJS9234B	AC INLET	N5	XTB348JFZ1	SCREW
(XL)			N6	XTB346FFZ	SCREW
23 Δ	SJS9232B	AC, OUTLET	N7	SNE2118	SCREW
(XA)			N8	XTB3416J	SCREW
25	SJF4818-1	TERMINAL BOARD	N9	SNE2095-5	NUT
26	SBC165	BUTTON, IMPEDANCE	(XA, XB)		
27	SUD472	SPACER	N10	XSN346S	SCREW
28	SKJUJ600-KE	BOTTOM BOARD			
28-1	SKL293	FOOT			
29	SJF3062NK1	TERMINAL BOARD			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
PACKING MATERIAL					
P1	SPG6186	PACKING CASE	A1 Δ	SFDAC05G02	POWER CORD
(EF)			(EK)		
P1	SPG6184	PACKING CASE	A1 Δ	SJA173	POWER CORD
(E, EG, EK, EH) (EB, E1, XL) (XA, XB)			(XL)		
P1	SPG6185	PACKING CASE	A1 Δ	SJA183	POWER CORD
(E, EG, EK, EH) (EB, E1, XL) (XA)			(XB)		
P2	SPS5104	PAD	A1 Δ	SJA185	POWER CORD
P3	SPS5105	PAD	(XA)		
P4	SPS5106	PAD	A2	SQF13129	INSTRUCTION BOOK
P5	SPP719	PROTECTION COVER	(E, EH, EB)		
ACCESSORIES					
A1 Δ	SFDAC05E03	POWER CORD	A2	SQF13130	INSTRUCTION BOOK
(E, EG, EF, EH) (EB, E1)			(EG)		
			A2	SQF13131	INSTRUCTION BOOK
			(EK)		
			A2	SQF13132	INSTRUCTION BOOK
			(XA)		
			A2	SQF13133	INSTRUCTION BOOK
			(XB)		
			A2	SQF13162	INSTRUCTION BOOK
			(EF, XL)		
			A2	SQF13163	INSTRUCTION BOOK
			(E1)		

RESISTORS AND CAPACITORS

Numbering System of Resistor

Numbering System of Capacitor

Table showing Resistor numbering examples: ERD, ERJ, Type, Wattage, Shape, Tolerance, Value.

Table showing Capacitor numbering examples: ECKD, ECEA, Type, Voltage, Value, Peculiarity, Tolerance.

Table of Resistor Types: ERD, ERC, ERF, ERG, ERM, ERO, ERX, RRJ, ERJ with Wattage, Tolerance, and Description.

Table of Capacitor Types: ECKD, ECFD, ECEC, ECSC, ECQC, ECQS, ECQV, ECU, ECBT with Voltage, Tolerance, and Description.

* Capacity are in microfarads (µF) unless specified otherwise, P=Pico-farads. * Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

Main table listing Resistor parts (R101-R412) with columns for Ref. No., Part No., Value, and Description.

Main table listing Capacitor parts (C101-C313) with columns for Ref. No., Part No., Value, and Description.

SPI DIN AI bo (F kH: bot (F total rat hal nter: rat owe bot amp nput PH: TUI TAI HON /N rate PH: TU req: PH: TUN TAF