

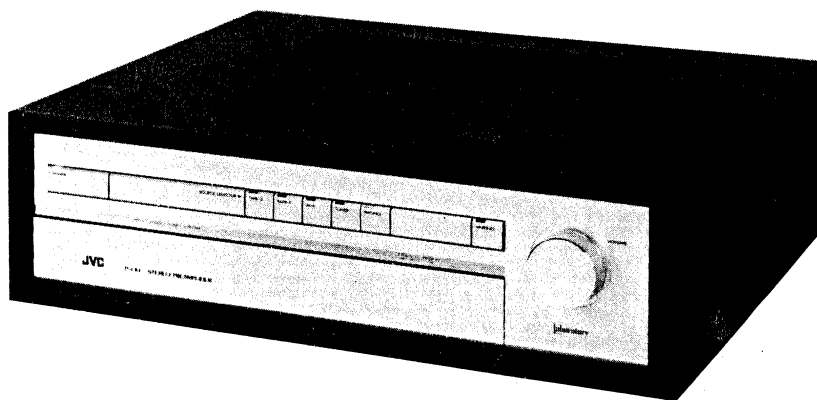
JVC

SERVICE MANUAL

MODEL

P-L10

STEREO PREAMPLIFIER



No. 2619
May. 1982

P-L10
SERVICE MANUAL

Contents

1. Service Precautions
 - 1-(1) For safety
 - 1-(2) Concerning parts replacement
2. Adjustment Procedures
 - 2-(1) Adjustment of the Sub-door
 - 2-(2) Check at test points and adjustment
 - 2-(3) Checking voltage gain and S/N
3. Disassembly
 - 3-(1) Removal Procedures of Cabinet
 - 3-(2) Removal Procedures of Source Selector P.C. Board Ass'y
 - 3-(3) Removal Procedures of Power Switch Shaft
4. Connection Diagram
Schematic Diagram & Block Diagram

1. Service Precautions

1-(1) For safety

1. When replacing the parts marked with \triangle , be sure to use the designated parts to ensure safety.
2. If the power cord has been replaced, fit the subbracket (glued to the rear panel at the inside of the cord stopper) properly and pull the cord in all directions to see that it does not come off.
3. Parts and wires which are related with supply power should be bound and soldered.

1-(2) Concerning parts replacement

1. Two 5,600 μ F capacitors are used in the power supply. Charge will not remain in them since all stages of the P-L10 perform class-A operation. However, keep away from the B-lines for 10 seconds after power-off.
2. Be sure to check the primary fuse after service. If it is deteriorated due to overcurrent, replace it with a new one.

2. Adjustment Procedures

2-(1) Adjustment of the Sub-door

Adjust operation of the sub-door with the screw provided beneath the door. There is an adjustment round hole at the front bottom of the cabinet. Make adjustment with a screwdriver as follows.

When the door is closed, tighten the adjusting screw somewhat hard in such a manner that some gap develops at

the top of the door due to force of the knock pin when the top of the door is pressed. Then, loosen the adjusting screw gradually. The door will open little by little. When the knock pin is fully extended, the door does not open any more with a click. At this time, stop loosening the screw.

2-(2) Check at test points and adjustment

Adjustment item and P.C. board	Connection point (Test point No.)	Adjustment point (Adjustment Volume No.)	Setting voltage	Remarks
Supply voltage Power supply P.C. Board (TXX-306-1)	TP801-Tab ② TP802- "	R813 R814	+38 ± 0.1 V -38 ± 0.1 V	Tan ② : Transformer's black lead is connected
DC balance Volume amplifier P.C. board (TXX-361-1)	TP501-TP603 TP502- " TP503- " TP504- " TP601- " TP602- "	R523 R524 R571 R572 R609 R610	0 ± 0.1 mV " 0 ± 100 mV " 0 ± 0.1 mV "	MASTER VOLUME: minimum Input : TUNER Input : shorted
DC balance Equalizer amplifier P.C. board (TXX-305-1)	TP101-TP103 TP102- " TP201- " TP202- "	R127 R128 R237 R238	0 ± 0.1 mV " " "	Input : PHONO 1 Input : shorted
DC balance Head amplifier P.C. board (TXX-307-3)	TP301-TP103 TP302- "	R325 R326	-400 ± 50 mV	Adjust in 1 ~ 2 minutes after power-on

Note : At TP503 and TP504, adjust voltage to 0 ± 100 mV. It is enough that the voltage is 0 ± 500 mV in stationary state.
Precautions for measurement

- To prevent undesirable oscillation, connect a 1-kohm resistor in series with the probe of the measuring instrument.
- Use a measuring instrument which can measure voltage less than 100 μV accurately.

2-(3) Checking voltage gain and S/N

If something related with voltage gain or S/N has been serviced, be sure to check the following items. In other cases, this is not necessary. If an S/N meter is not available, listen and compare with a proper channel.

Circuit	Input terminal	Output terminal	Voltage gain (dB)		Hum and noise Compensate according to IHF-A	Remark
			20 Hz	1 kHz		
Equalizer amplifier PHONO 1 (MM)	PHONO 1	REC 1	20 Hz	54.8 ± 0.5	Less than 8.5 μV or -101.5 dBV	MASTER VOLUME at MIN.
			1 kHz	35.5 ± 0.5		
			20 kHz	15.9 ± 0.5		
Equalizer amplifier PHONO 1 (MC)	PHONO 1	REC 1	20 Hz	76.9 ± 0.5	Less than 63.3 μV or -84.0 dBV	MASTER VOLUME at MIN.
			1 kHz	57.6 ± 0.5		
			20 kHz	37.9 ± 0.5		
Equalizer amplifier PHONO 2 (MC)	PHONO 2	REC 1	20 Hz	85.6 ± 1	Less than 66.7 μV or -83.5 dBV	MASTER VOLUME at MIN.
			1 kHz	66.4 ± 1		
			20 kHz	46.7 ± 1		
Volume amplifier	TUNER	PREOUT 1	20 Hz	22.4 ± 2	Less than 14.2 μV or -97 dBV	MASTER VOLUME at MAX. DIRECT switch ON
			1 kHz	22.4 ± 2		
			20 kHz	22.4 ± 2		

Note : 0 dBV = 1.0 V

Precautions for measurement

- Measure voltage gain at the output level of 0 dBm (0.775 V). Pay attention to hum which may be induced when making measurement for a circuit whose gain is high.
- Keep the input shorted when measuring hum and noise. Use an S/N meter which is provided with an IHF A network of high sensitivity. Monitoring its output with an oscilloscope, check that measurement is free from induced hum.

3. Disassembly

3-(1) Removal Procedures of Cabinet

Note: In this work, it is recommended that a soft cloth be put on the working table to avoid damage to the cabinet.

- Turn the unit over as shown in Fig. 1, and remove the four screws near the feet.
- Turn the surface of the unit upward as shown in Fig. 2, and take out the chassis.

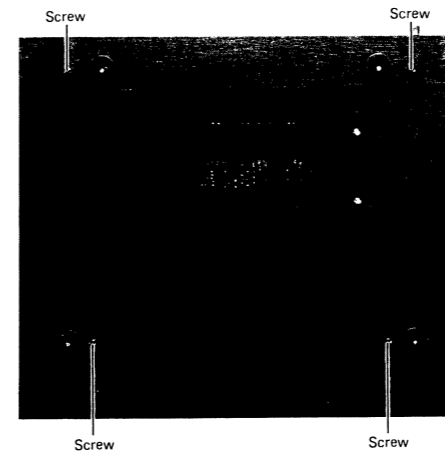


Fig. 1

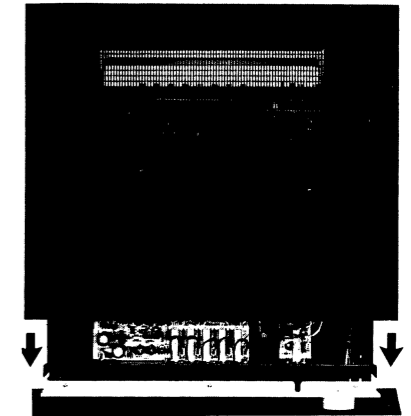


Fig. 2

3-(2) Removal Procedures of Source Selector P.C. Board Ass'y

- Remove the cabinet and remove the front panel.
- Remove the lamp sockets.
- Remove six screws ① - ⑥ of the front bracket, and pull out the front bracket forward by 3 to 4 cm.
- Remove two screws ⑦ and ⑧ of the push switches and screw ⑨
- Remove the board fasteners and take up the board.

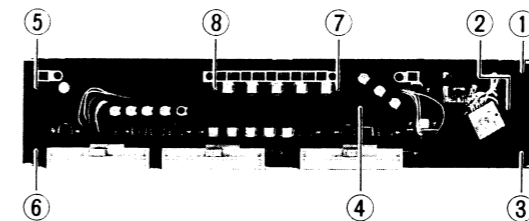


Fig. 3

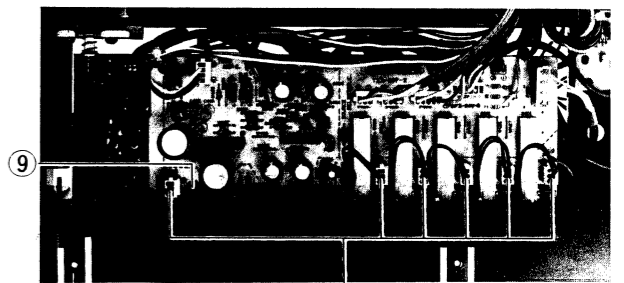


Fig. 4

3-(3) Removal Procedures of Power Switch Shaft

- Remove the screws securing the shaft to the switch bracket, and hold the switch up.
- Put a screwdriver to the cut-out section of the shaft, open the fitting section of the shaft and take out the shaft.

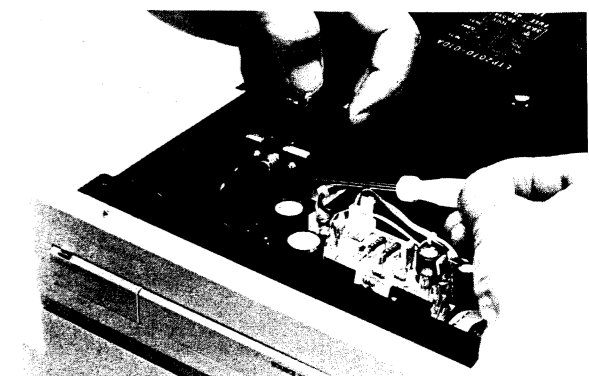
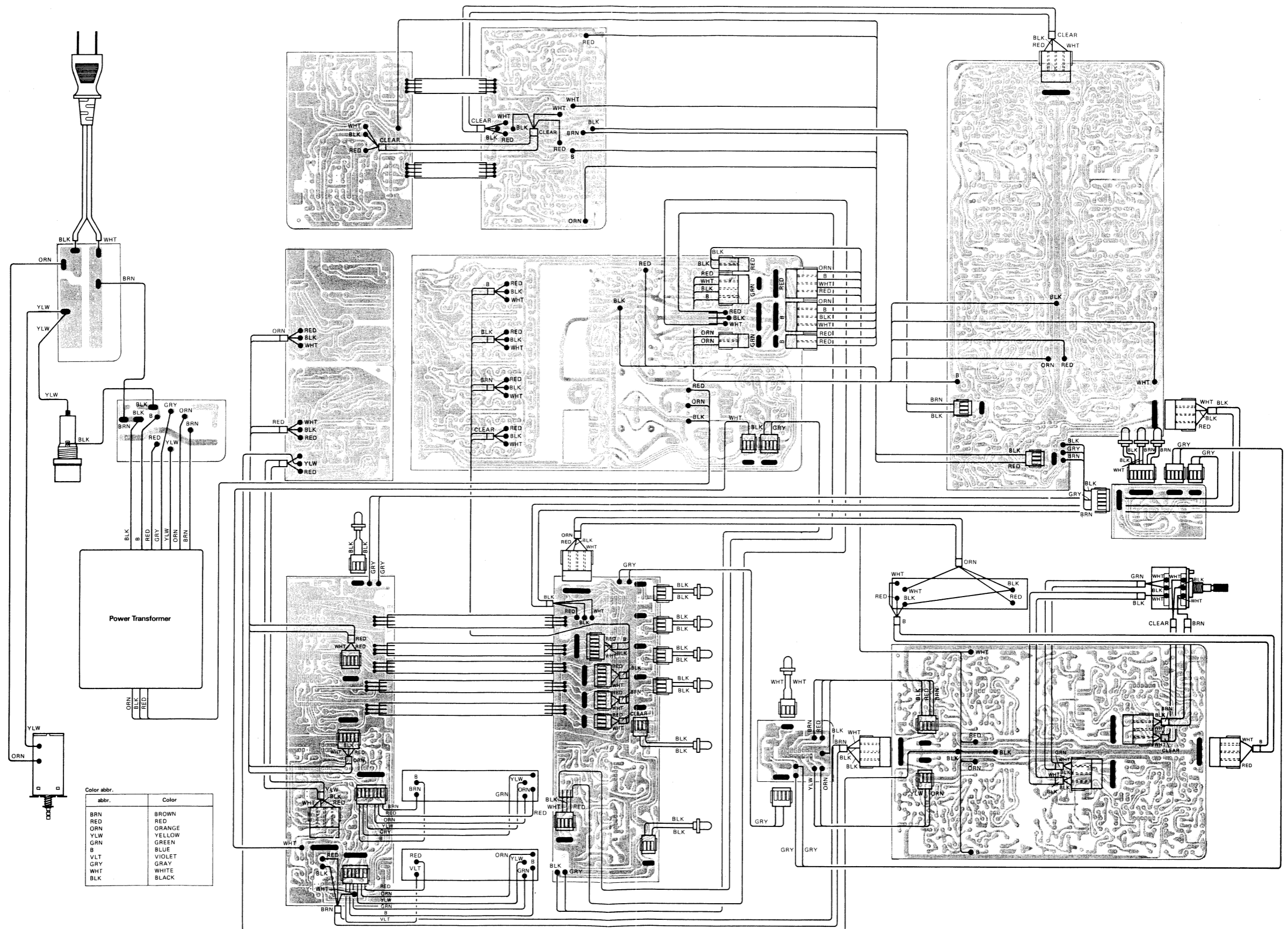


Fig. 5

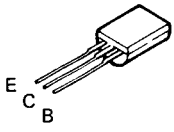
4. Connection Diagram



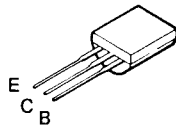
P-L10 Schematic Diagram & Block Diagram

Appearance of Transistors, ICs and Diodes

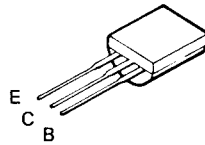
Transistors



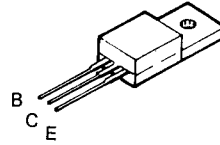
2SA872AV(D,E)
2SA970(GR,BL)
2SA1015(Y,GR)
2SA1084(D,E)
2SC1775AV(E,F)
2SC2546(E,F)



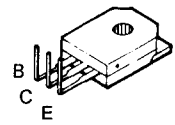
2SA965(O,Y)
2SC2235(O,Y)



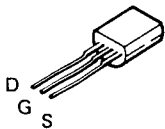
2SA1208(S,T)
2SC2910(S,T)



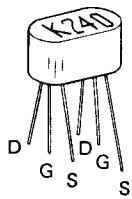
2SB507V(D,E)



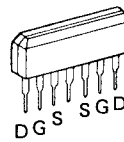
2SA1146(O)
2SC2706(O)



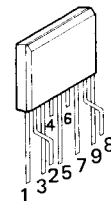
2SK 147(BL)
2SK 170(BL)
2SK246(V,BL)



2SK240(BL,V)



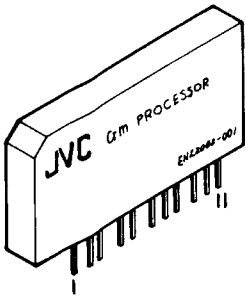
2SK150(GR)



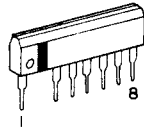
μ PA75V

1... B1
2... C1
3... E1
4... NC
5... SUB
6... NC
7... E2
8... C2
9... B2

Integrated Circuits

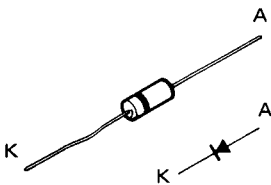


ENZ2002-001

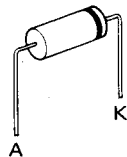


HA12017

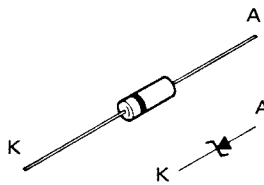
Diodes



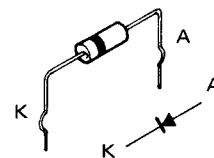
1S2076-31
1SS81



30DF2FA-2



RD2.7EB2
RD5.6EB3
RD6.2EB3
HZ3ALL
HZ4B



10DF2FD

2. Exploded View and Part Numbers

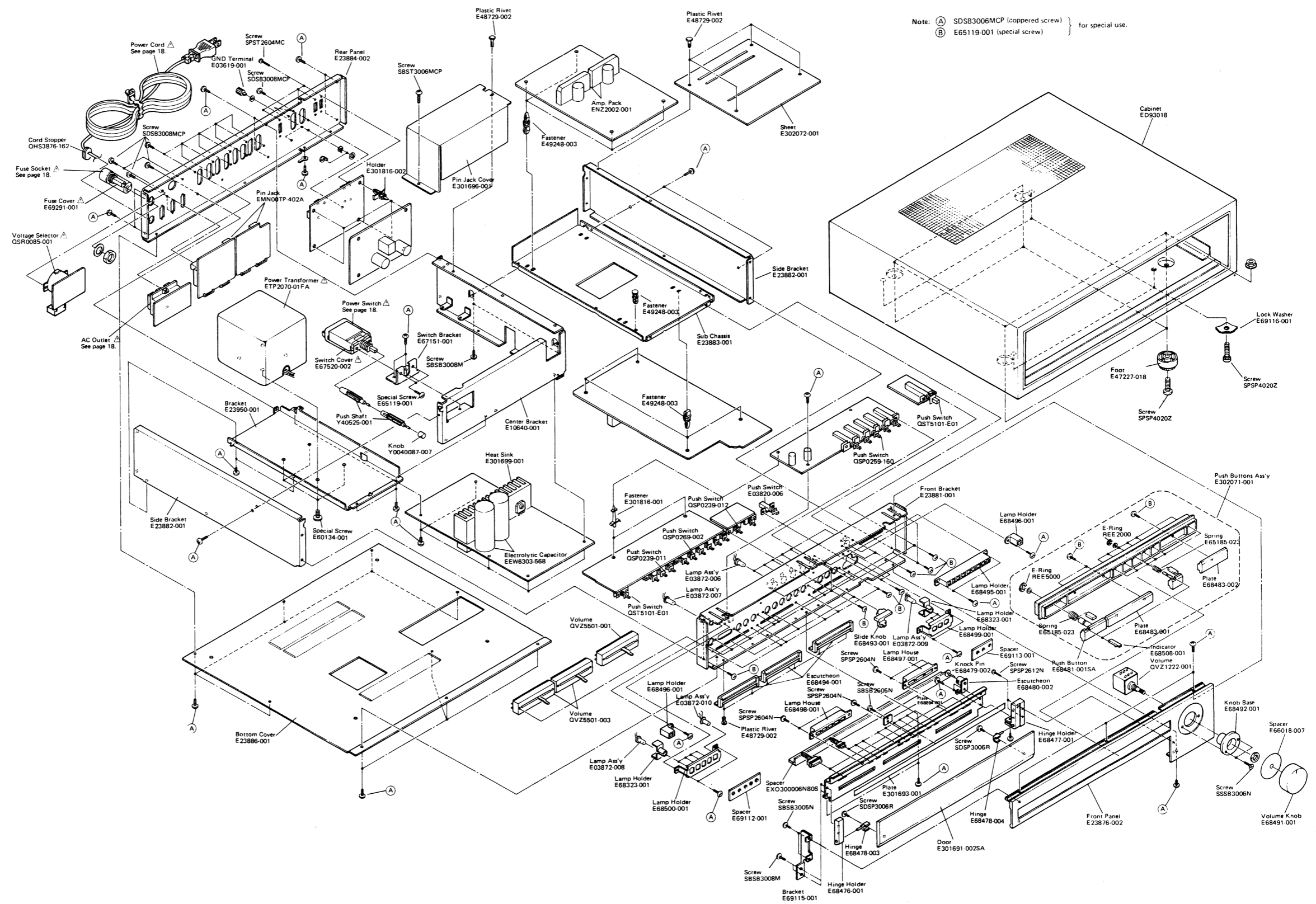


Fig. 4

3. Printed Circuit Board Ass'y and Parts List

3-(1) TXX-361 □ Volume Amp. P.C. Board Ass'y

Note: TXX-361□-1 varies according to the areas employed. See note (1) when placing an order.

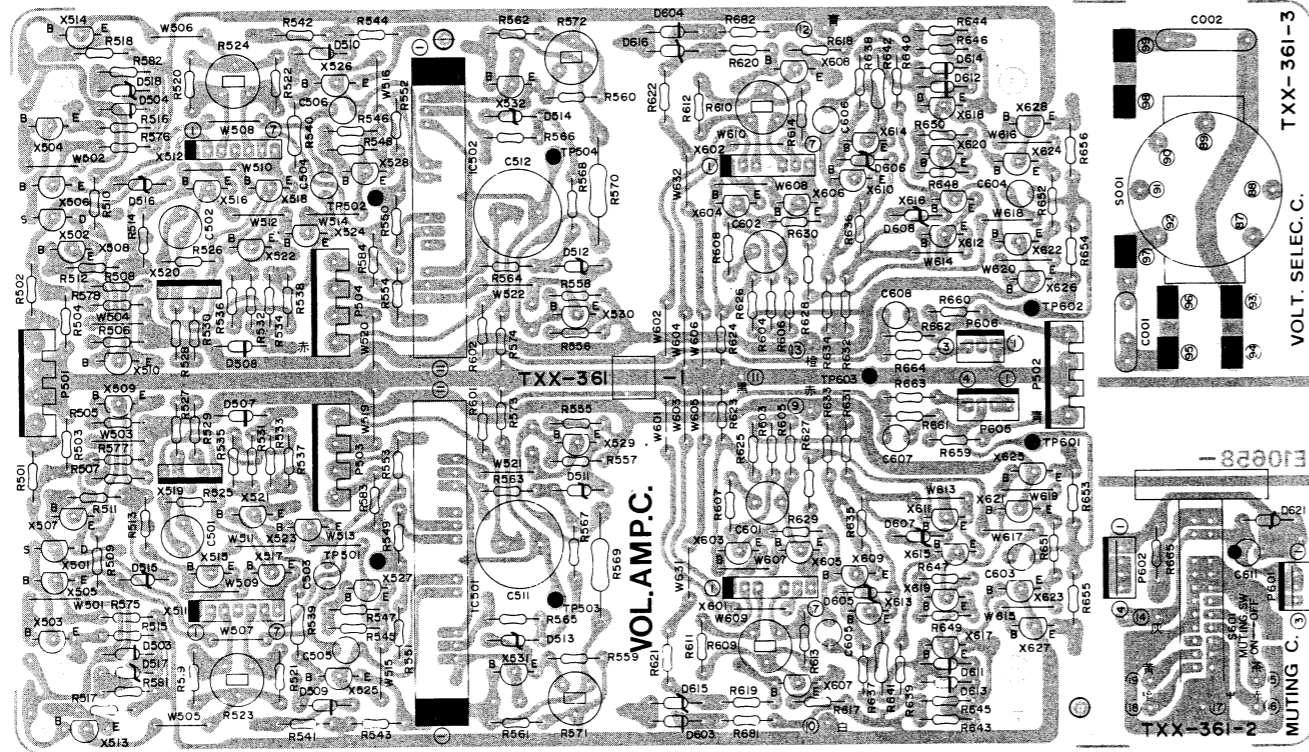


Fig. 5

Note (1)

Designated Areas	P.C. Board Ass'y
Europe & U.K.	TXX-361□-1
U.S.A. & other areas	TXX-361□-1

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT	F.E.T.	Maker
X501	2SK 246(BL,V)			F.E.T.	Toshiba
X502	2SK 246(BL,V)			"	"
X503	2SC1775AV(E,F)			Silicon	Hitachi
X504	2SC1775AV(E,F)			"	"
X505	2SA965(O,Y)			"	Toshiba
X506	2SA965(O,Y)			"	"
X507	2SC1775AV(E,F)			"	Hitachi
X508	2SC1775AV(E,F)			"	"
X509	2SA1084(D,E)			"	"
X510	2SA1084(D,E)			"	"
X511	2SK150A(GR)			F.E.T.	Toshiba
X512	2SK150A(GR)			"	"
X513	2SC2546(E,F)			Silicon	Hitachi
X514	2SC2546(E,F)			"	"
X515	2SC2546(E,F)			"	"

Note (2)

The symbols (赤、黒、白 etc.) on P.C. Board surface are factory process only.

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT	Silicon	Maker
X516	2SC2546(E,F)			Silicon	Hitachi
X517	2SC2546(E,F)			"	"
X518	2SC2546(E,F)			"	"
X519	UPA 75V(P,F)			"	NEC
X520	UPA 75V(P,F)			"	"
X521	2SA872AV(D,E)			"	Hitachi
X522	2SA872AV(D,E)			"	"
X523	2SA872AV(D,E)			"	"
X524	2SA872AV(D,E)			"	"
X525	2SC1775AV(E,F)			"	"
X526	2SC1775AV(E,F)			"	"
X527	2SC2546(E,F)			"	"
X528	2SC2546(E,F)			"	"
X529	2SA1084(D,E)			"	"
X530	2SA1084(D,E)			"	"

Transistors

Item No.	Part Number	Rating		Description	
		Pc	fT	Silicon	Maker
X531	2SC2546(E,F)			Silicon	Hitachi
X532	2SC2546(E,F)			"	"
X601	2SK150A(GR)			F.E.T.	Toshiba
X602	2SK150A(GR)			"	"
X603	2SC2546(E,F)			Silicon	Hitachi
X604	2SC2546(E,F)			"	"
X605	2SC2546(E,F)			"	"
X606	2SC2546(E,F)			"	"
X607	2SC2546(E,F)			"	"
X608	2SC2546(E,F)			"	"
X609	2SA1084(D,E)			"	"
X610	2SA1084(D,E)			"	"
X611	2SA1084(D,E)			"	"
X612	2SA1084(D,E)			"	"
X613	2SA872AV(D,E)			"	"
X614	2SA872AV(D,E)			"	"
X615	2SA872AV(D,E)			"	"
X616	2SA872AV(D,E)			"	"
X617	2SC1775AV(E,F)			"	"
X618	2SC1775AV(E,F)			"	"
X619	2SC2546(E,F)			"	"
X620	2SC2546(E,F)			"	"
X621	2SC1775AV(E,F)			"	"
X622	2SC1775AV(E,F)			"	"
X623	2SA872AV(D,E)			"	"
X624	2SA872AV(D,E)			"	"
X625	2SC2235(O,Y)			"	Toshiba
X626	2SC2235(O,Y)			"	"
X627	2SA965(O,Y)			"	"
X628	2SA965(O,Y)			"	"

Diodes

Item No.	Part Number	Rating	Description	
			Silicon	Maker
D503	1S2076-31		Silicon	Hitachi
D504	1S2076-31		"	"
D507	1S2076-31		"	"
D508	1S2076-31		"	"
D509	1S2076-31		"	"
D510	1S2076-31		"	"
D511	HZ3ALL		Zener	"
D512	HZ3ALL		"	"
D513	HZ3ALL		"	"
D514	HZ3ALL		"	"
D515	HZ3ALL		"	"
D516	HZ3ALL		"	"
D517	HZ6B1L		"	"
D518	HZ6B1L		"	"
D603	1S2076-31		Silicon	"
D604	1S2076-31		"	"
D605	HZ3ALL		Zener	"
D606	HZ3ALL		"	"
D607	HZ3ALL		"	"
D608	HZ3ALL		"	"
D611	1SS81		Silicon	"
D612	1SS81		"	"
D613	1S2076-31		"	"
D614	1S2076-31		"	"
D615	HZ6B1L		Zener	"
D616	HZ-6B1L		"	"
D621	RD5.6EB3		"	NEC

Capacitors

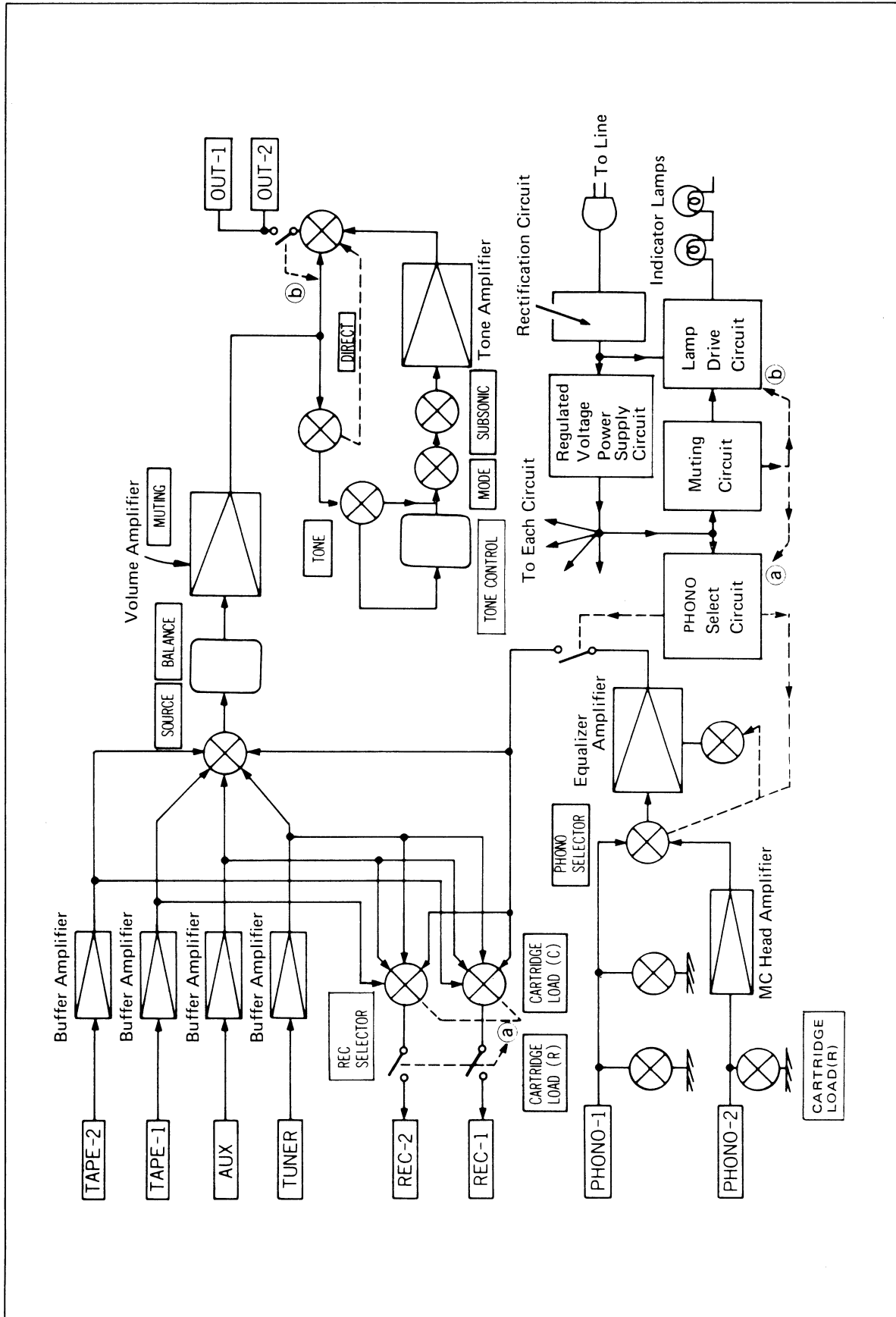
Item No.	Part Number	Rating		Description
		0.01 μF	250 V	
C002	QFZ9010-103	0.01 μF	250 V	Film (for c only)
C501	QFS81HJ-103	"	50 V	Polystyrene
C502	QFS81HJ-103	"	"	"
C503	QFS81HJ-470	47 pF	"	"
C504	QFS81HJ-470	"	"	"
C505	QFS81HJ-470	"	"	"
C506	QFS81HJ-470	"	"	"
C511	EEN1001-225	2.2 μF	100 V	Non-Pole
C512	EEN1001-225	"	"	"
C601	QFS81HJ-682	6800 pF	50 V	Polystyrene
C602	QFS81HJ-682	"	"	"
C603	QFS81HJ-6R0	6 pF	"	"
C604	QFS81HJ-6R0	"	"	"
C605	QFS81HJ-3R0	3 pF	"	"
C606	QFS81HJ-3R0	"	"	"
C607	QFS81HJ-560	56 pF	"	"
C608	QFS81HJ-560	"	"	"
C611	QET51AR-476	47 μF	10 V	Electrolytic

Resistors

Item No.	Part Number	Rating		Description
		47 Ω	1/4 W	
R501	QRV141F-47R0	47 Ω	1/4 W	Metal Film △
R502	QRV141F-47R0	47 Ω	"	"
R503	QRV141F-2203	220 kΩ	"	"
R504	QRV141F-2203	"	"	"
R505	QRZ0052-182	1.8 kΩ	"	Fusible △
R506	QRZ0052-182	"	"	"
R507	QRZ0052-561	560 Ω	"	"
R508	QRZ0052-561	"	"	"
R509	QRD141J-333S	33 kΩ	"	Carbon
R510	QRD141J-333S	33 kΩ	"	"
R511	QRD149J-561S	560 Ω	"	UNF. Carbon △
R512	QRD149J-561S	560 Ω	"	"
R513	QRD141J-222S	2.2 kΩ	"	Carbon
R514	QRD141J-222S	"	"	"
R515	QRD149J-222S	"	"	UNF. Carbon △
R516	QRD149J-222S	"	"	"
R517	QRD149J-202S	2 kΩ	"	"
R518	QRD149J-202S	"	"	"
R519	QRD141J-220S	22 Ω	"	Carbon
R520	QRD141J-220S	"	"	"
R521	QRD141J-220S	"	"	"
R522	QRD141J-220S	"	"	"
R523	QVP4A0B-101	100 Ω	"	Variable
R524	QVP4A0B-101	"	"	"
R525	QRD141J-620S	62 Ω	1/4 W	Carbon
R526	QRD141J-620S	"	"	"
R527	QRD141J-561S	560 Ω	"	"
R528	QRD141J-561S	"	"	"
R529	QRD141J-561S	"	"	"
R530	QRD141J-561S	"	"	"
R531	QRD149J-271S	270 Ω	"	UNF. Carbon △
R532	QRD149J-271S	"	"	"
R533	QRD149J-271S	"	"	"
R534	QRD149J-271S	"	"	"
R535	QRD141J-331S	330 Ω	"	Carbon
R536	QRD141J-331S	"	"	"
R537	QRD141J-331S	"	"	"
R538	QRD141J-331S	"	"	"
R539	QRD129J-123	12 kΩ	1/2 W	UNF. Carbon △
R540	QRD129J-123	"	"	"
R541	QRZ0052-471	470 Ω	1/4W	Fusible △
R542	QRZ0052-471	"	"	"
R543	QRZ0052-471	"	"	"
R544	QRZ0052-471	"	"	"
R545	QRD141J-302S	3 kΩ	"	Carbon
R546	QRD141J-302S	"	"	"
R547	QRD141J-102S	1 kΩ	"	Carbon

△ : Safety Parts

Block Diagram



P-L10 Schematic Diagram

A

B

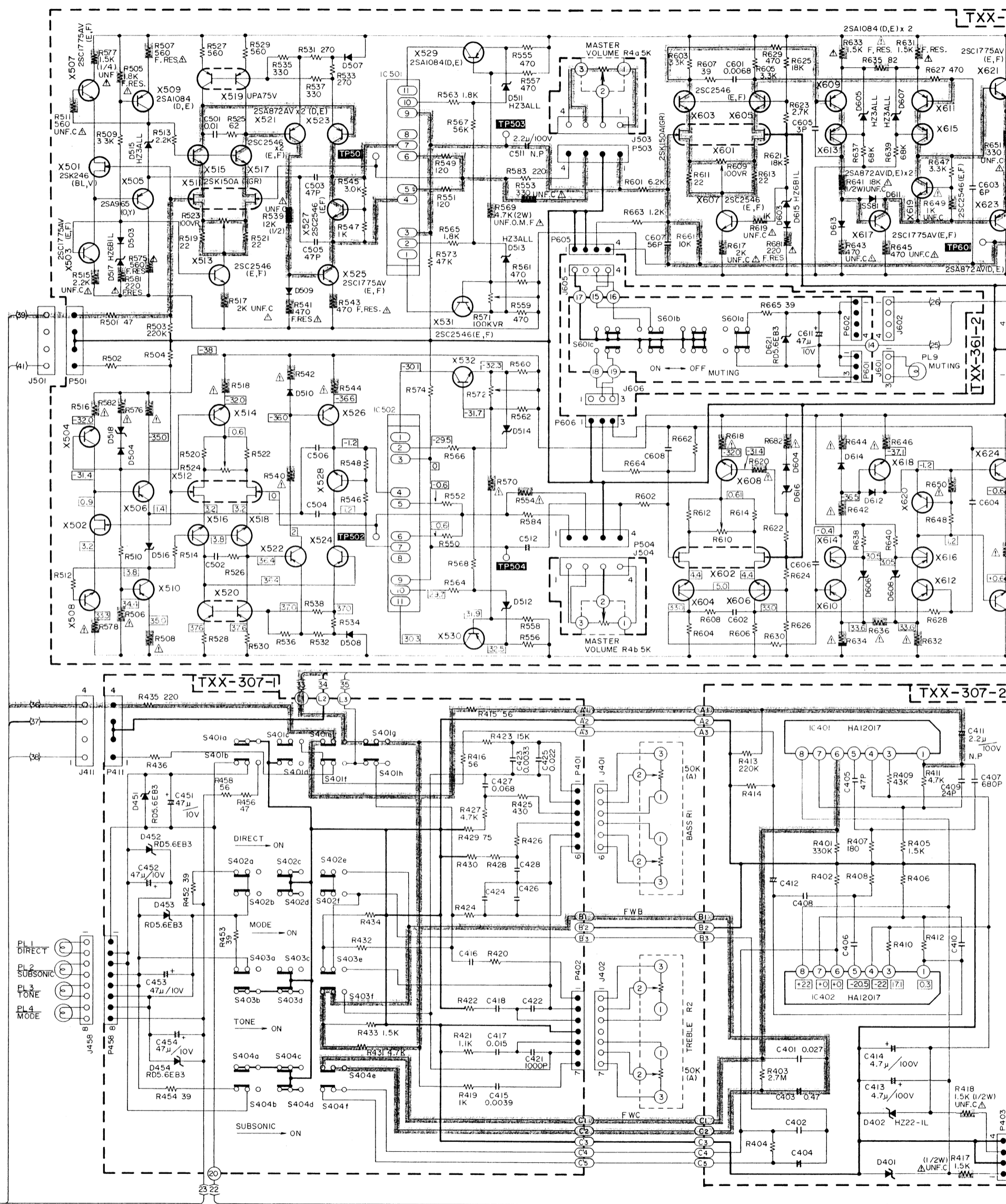
C

1

2

3

4



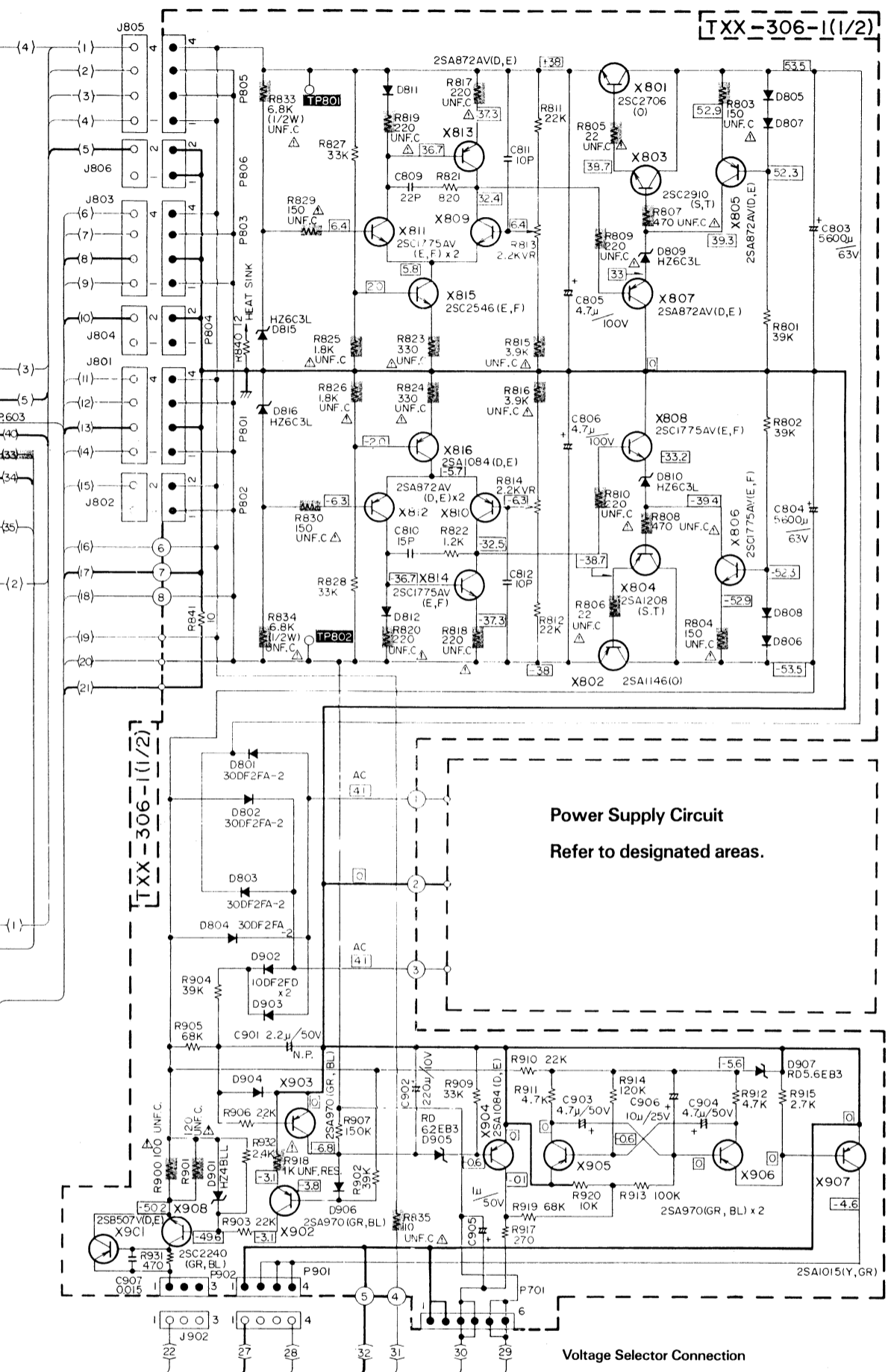
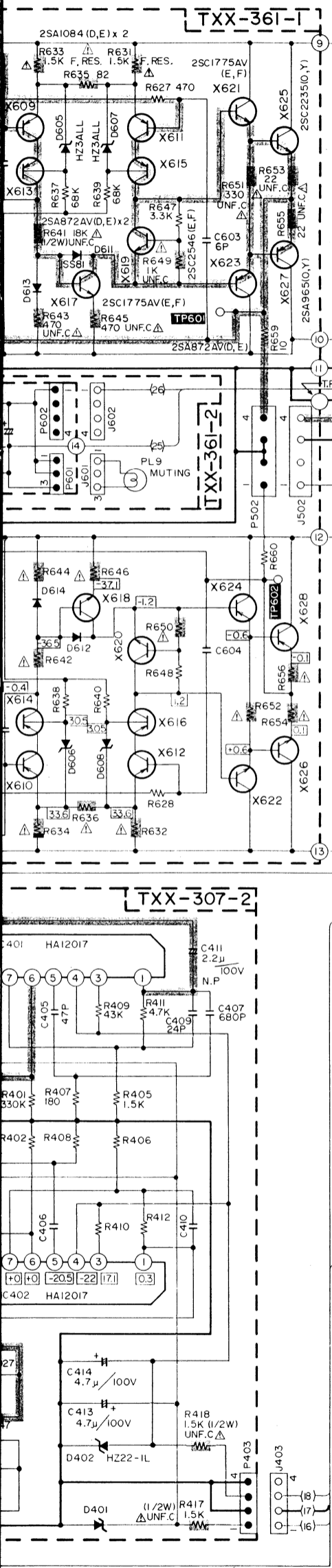
Notes:

1. Voltage values are measured by a VTVM.
 2. Voltage values in are positive.
 3. Voltage values in are negative.
 4. indicates positive B power supply.
 5. indicates negative B power supply.
 6. indicates signal path.
 7. When replacing the parts in the darkened area () and those marked with , be sure to use the designated parts to ensure safety.
 8. Parts in red indicate transistors or ICs.
 9. This is the standard circuit diagram.
- The design and contents are subject to change without notice.

D

E

F



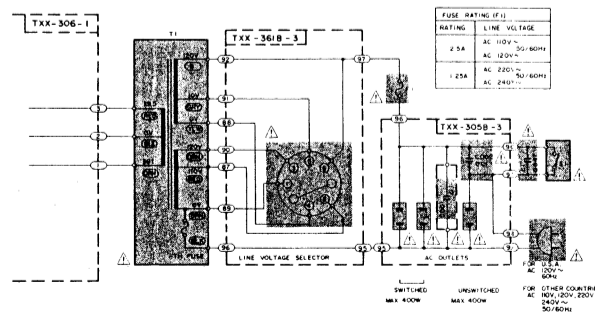
Power Supply Circuit
Refer to designated areas.

Voltage Selector Connection

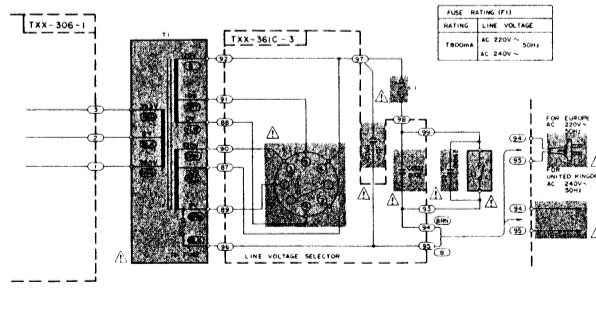


Power Supply Circuit

(J) (U) (J) For U.S.A.
(U) For Other Countries



(E) (B) (E) For Europe
(B) For U.K.



1

2

3

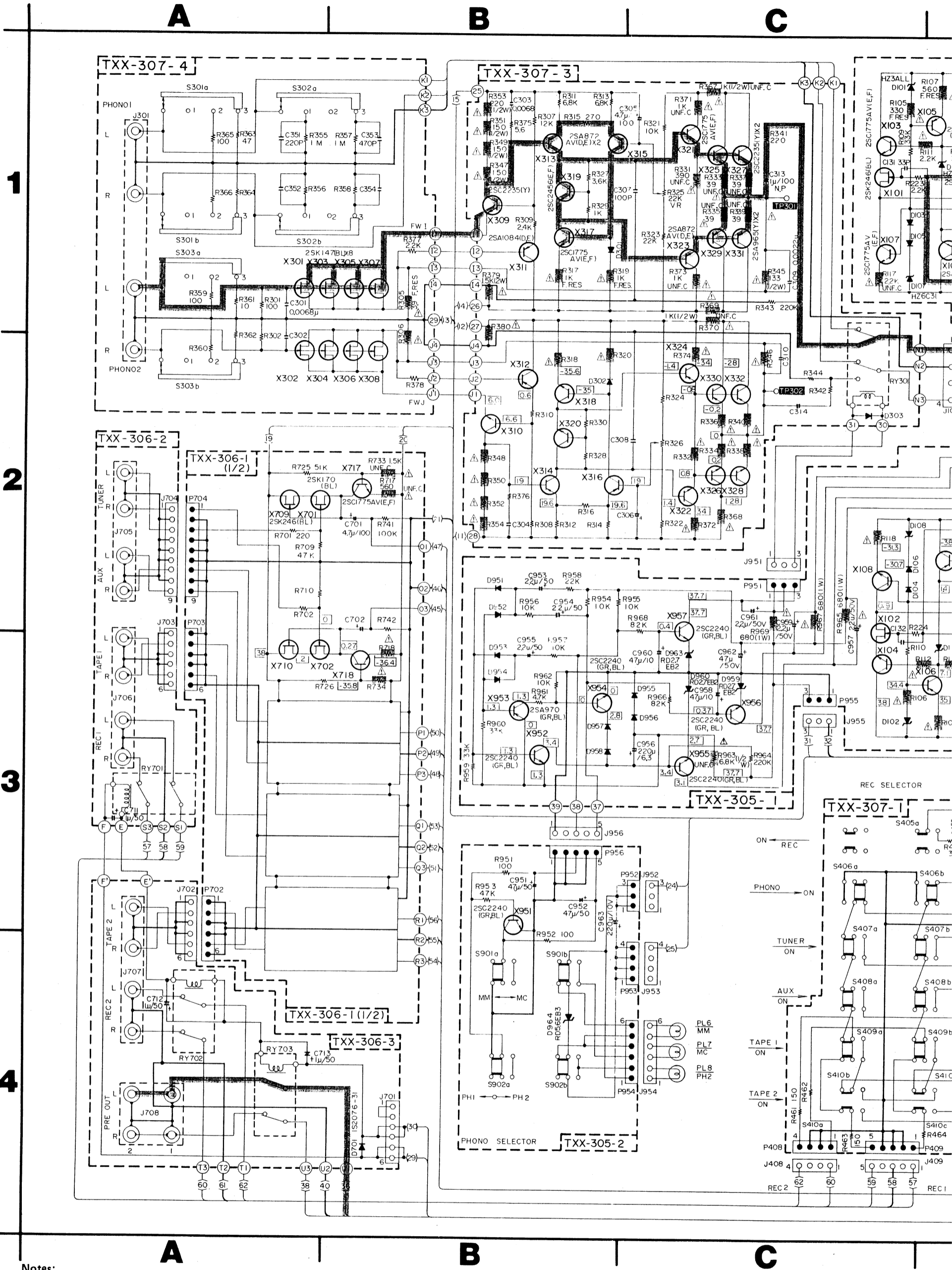
4

D

E

F

P-L10 Schematic Diagram



Notes:

1. Voltage values are measured by a VTVM.
 2. Voltage values in are positive.
 3. Voltage values in are negative.
 4. — indicates positive B power supply.
 5. — indicates negative B power supply.
 6. indicates signal path.
 7. When replacing the parts in the darkened area () and those marked with Δ , be sure to use the designated parts to ensure safety.
 8. Parts in red indicate transistors or ICs.
 9. This is the standard circuit diagram.
- The design and contents are subject to change without notice.

C

D

E

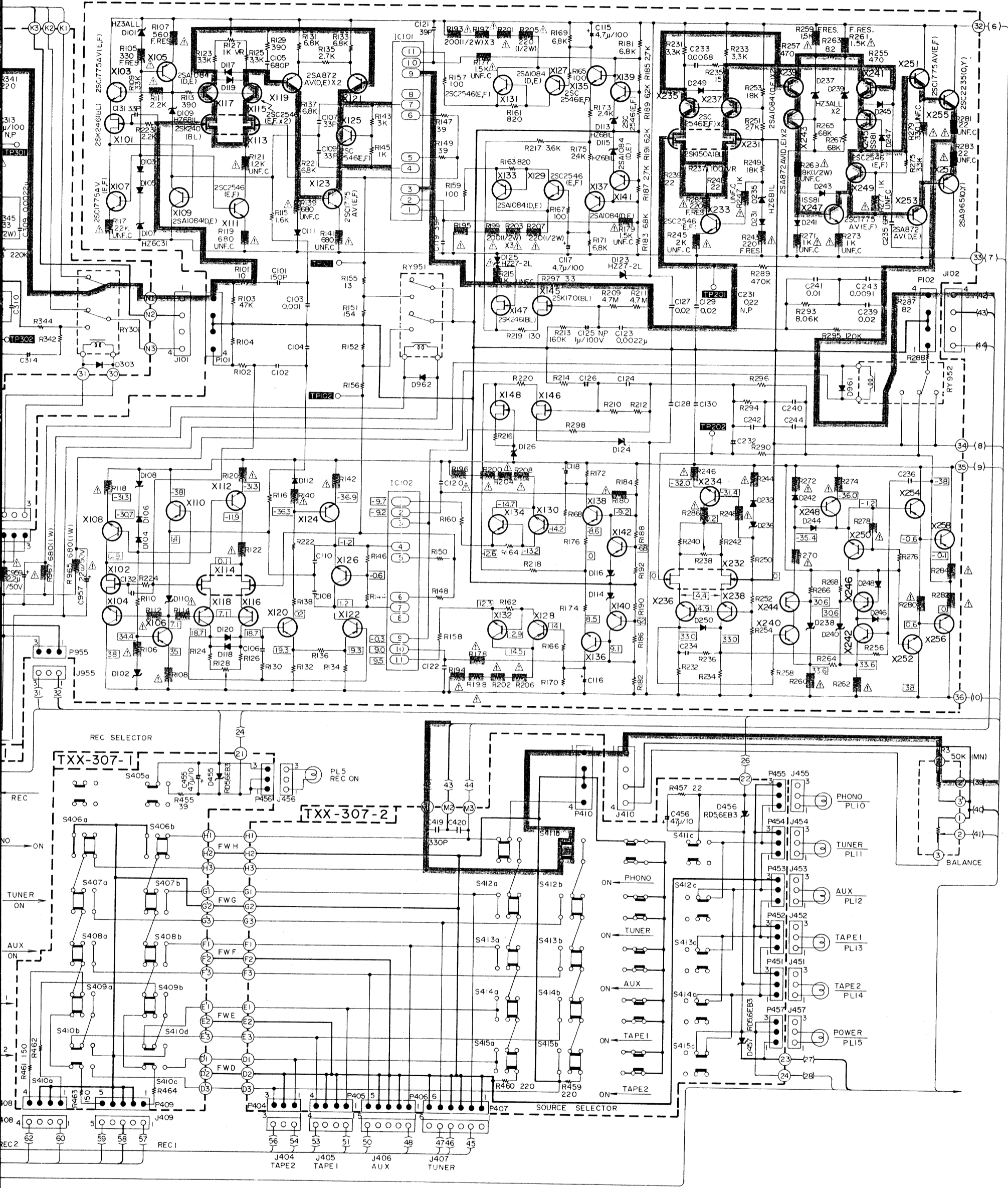
F

1

2

3

4



D

E

F