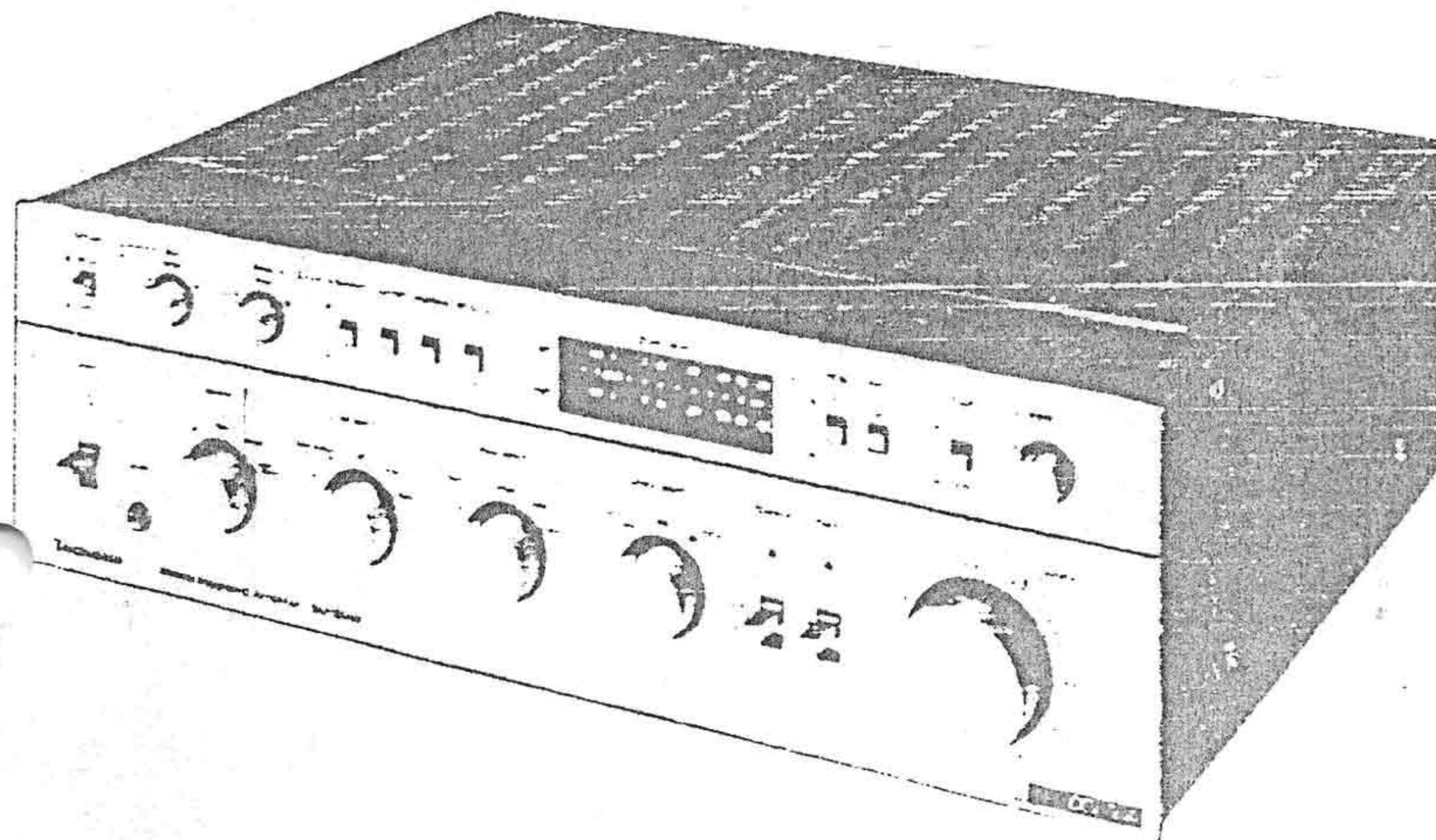


# Service Manual

Stereo Integrated Amplifier

Tentative



## SU-8088K

(D), (DG), (EB), (XSW),  
(XE), (X), (XA), (XAL)

- \* The models SU-8088 (D, DG) and SU-8088K (D, DG) are available in Scandinavia and European only.
- \* The models SU-8088 (EB) and SU-8088K (EB) are available in Belgium only.
- \* The models SU-8088 (XSW) and SU-8088K (XSW) are available in Switzerland only.
- \* The model SU-8088 (XGF) is available in France only.
- \* The model SU-8088 (XGH) is available in Holland only.
- \* The model SU-8088K (XE) is available in United Kingdom only.
- \* The models SU-8088K (X, XA) are available in Asia, Latin America, Middle East and Africa only.
- \* The model SU-8088K (XAL) is available in Australia only.

### TECHNICAL SPECIFICATIONS Specifications are subject to change without notice for further improvement

[DIN 45 500]

#### AMPLIFIER SECTION

20Hz ~ 20kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
40 Hz ~ 16 kHz continuous power output	
both channels driven	2 x 90 W (4Ω), 2 x 80 W (8Ω)
1 kHz continuous power output	
both channels driven	2 x 95 W (4Ω), 2 x 85 W (8Ω)
Power bandwidth both channels driven, -3 dB	
THD 0.02% 5Hz ~ 50 kHz (4Ω)	
THD 0.01% 5 Hz ~ 60 kHz (8Ω)	
Total harmonic distortion	
rated power at 20 Hz ~ 20 kHz	0.02% (4Ω), 0.01% (8Ω)
rated power at 40 Hz ~ 16 kHz	0.01% (4Ω, 8Ω)
rated power at 1 kHz	0.01% (4Ω, 8Ω)
half power at 20 Hz ~ 20 kHz	0.007% (8Ω)
half power at 1 kHz	0.003% (8Ω)
-26 dB power at 1 kHz	0.07% (4Ω)
50mW power at 1 kHz	0.12% (4Ω)
Intermodulation distortion	
rated power at 250 Hz : 8 kHz = 4 : 1, 4Ω	0.02%
rated power at 60 Hz : 7 kHz = 4 : 1, SMPTE, 8Ω	0.01%
Residual hum & noise (Straight DC)	0.3 mV (0.3 mV, IHF A)
Damping factor	25 (4Ω), 50 (8Ω)
Input sensitivity and impedance	
PHONO 1, 2 MM	2.5 mV/47 kΩ
PHONO 1 MC	100 μV/47Ω
TUNER, AUX	200 mV/47 kΩ
TAPE 1, 2 (PLAYBACK), REC/PLAY	200 mV/47 kΩ
MAIN IN	1V/18 kΩ
PHONO maximum input voltage (1 kHz, RMS)	MM 250 mV
	MC 10 mV
S/N	rated power at 4Ω
	PHONO 1, 2 MM
	PHONO 1 MC
	TUNER, AUX
	75 dB (90 dB, IHF A)
	70 dB (78 dB, IHF A)
	92 dB (110 dB, IHF A)

S/N	-26 dB power at 4Ω	
	PHONO 1, 2 MM, PHONO 1 MC	67 dB
	TUNER, AUX	69 dB
S/N	50 mW power at 4Ω	
	PHONO 1, 2 MM, PHONO 1 MC	64 dB
	TUNER, AUX	65 dB
Frequency response	PHONO	RIAA standard curve
		30 Hz ~ 15 kHz, ±0.2 dB
	TUNER, AUX, TAPE	20 Hz ~ 20 kHz, ±0.1 dB
		0.5 Hz ~ 100 kHz, -1 dB
Tone controls	BASS	50 Hz, +7.5 dB ~ -7.5 dB
	TREBLE	20 kHz, +7.5 dB ~ -7.5 dB
Turnover frequency	BASS	125 Hz, 500 Hz
	TREBLE	2 kHz, 8 kHz
High filter		7 kHz, -6 dB/oct.
Subsonic filter		20 Hz, -12 dB/oct.
Loudness control (volume at -30 dB)		50 Hz, +7.5 dB
Output voltage and impedance	PRE OUT	rated 1V, max. 7V
	REC OUT	200 mV
	REC/PLAY	30 mV/32 kΩ
Channel balance (250 Hz ~ 6300 Hz), AUX		±1.0 dB
Channel separation at 1 kHz, AUX		60 dB
Headphones output level and impedance		600 mV/330Ω
Load impedance	MAIN or REMOTE	4 ~ 16Ω
	MAIN + REMOTE	8 ~ 16Ω

#### GENERAL

Power consumption	830 W
Power supply (50 Hz/60 Hz)	110V/120V/220V/240V
Dimensions (W x H x D)	450 x 142 x 360 mm
	(17-23/32" x 5-19/32" x 14-3/16")
Weight	15 kg (33.1 lb.)

**TECHNISCHE DATEN** Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden  
**[DIN 45 500]**

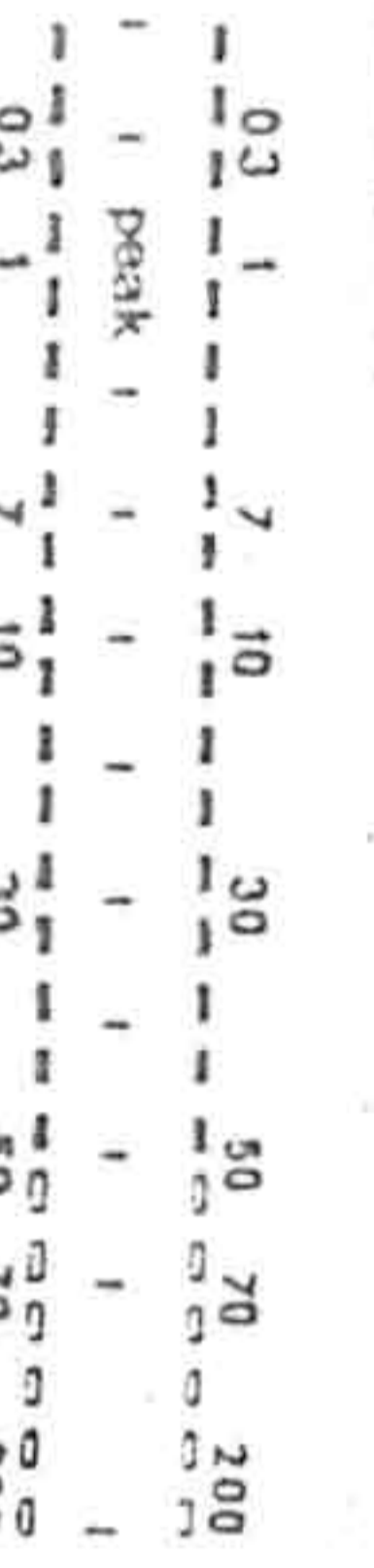
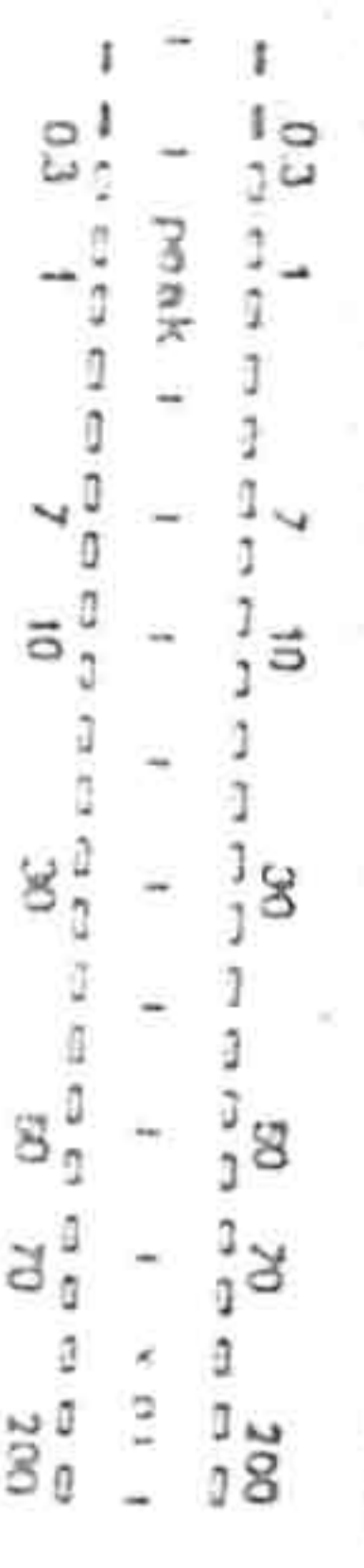
**VERSTÄRKERTEIL**

Dauertonleistung bei 20 Hz ~ 20 kHz beide Kanäle zusammen angesteuert	2 x 90 W (4Ω) 2 x 80 W (8Ω)
Dauertonleistung bei 40 Hz ~ 16 kHz beide Kanäle zusammen angesteuert	2 x 90 W (4Ω) 2 x 80 W (8Ω)
Dauertonleistung bei 1 kHz beide Kanäle zusammen angesteuert	2 x 95 W (4Ω) 2 x 85 W (8Ω)
Leistungsbandbreite beide Kanäle zusammen angesteuert, -3 dB	THD 0,02% 5 Hz ~ 50 kHz (4Ω) THD 0,01% 5 Hz ~ 60 kHz (8Ω)
Harmonische Verzerrungen	
Nennausgangsleistung bei 20 Hz ~ 20 kHz	0,02% (4Ω), 0,01% (8Ω)
Nennausgangsleistung bei 40 Hz ~ 16 kHz	0,01% (4Ω, 8Ω)
Nennausgangsleistung bei 1 kHz	0,01% (4Ω, 8Ω)
Halber Ausgangsleistung bei 20 Hz ~ 20 kHz	0,007% (8Ω)
Halber Ausgangsleistung bei 1 kHz	0,003% (8Ω)
-26 dB Ausgangsleistung bei 1 kHz	0,07% (4Ω)
50 mW Ausgangsleistung bei 1 kHz	0,12% (4Ω)
Intermodulationsverzerrung	
Nennausgangsleistung bei 250 Hz: 8 kHz = 4:1, 4Ω	0,02%
Nennausgangsleistung bei 60 Hz: kHz = 4:1, SMPTE 8Ω	0,01%
Brummen & Rauschen	0,3 mV (0,3 mV, IHF A)
Dämpfungsfaktor	25 (4Ω), 50 (8Ω)
Eingangsempfindlichkeit & Impedanz	
PHONO 1, 2 MM	2,5 mV/47 kΩ
PHONO 1 MC	100µV/47Ω
TUNER, AUX	200 mV/47 kΩ
TAPE 2, REC/PLAY	200 mV/47 kΩ
TAPE 2	200 mV/47 kΩ
MAIN IN	1V/18kΩ
PHONO Maximale Eingangsspannungen	MM 250 mV MC 10 mV
Frequenzgang	PHONO RIAA Standardkurve 30 Hz ~ 15 kHz, ±0,2 dB TUNER, AUX, TAPE 0,5 Hz ~ 100 kHz, -1 dB 20 Hz ~ 20 kHz, +0, -0,1 dB

Fremdspannungsabstand	
Nennausgangsleistung bei 4Ω	
PHONO 1, 2 MM	75 dB (90 dB, IHF A)
PHONO 1 MC	70 dB (78 dB, IHF A)
TUNER, AUX	92 dB (110 dB, IHF A)
-26 dB Ausgangsleistung bei 4Ω	
PHONO 1, 2 MM	67 dB
PHONO 1 MC	67 dB
TUNER, AUX	69 dB
50mW Ausgangsleistung bei 4Ω	
PHONO 1, 2 MM	64 dB
PHONO 1 MC	64 dB
TUNER, AUX	65 dB
Klangregler	
BASSE	50 Hz, +7,5 dB ~ -7,5 dB
HOHEN	20 kHz, +7,5 dB ~ -7,5 dB
Übergangsfrequenz	
BASSE	125Hz, 500Hz
HOHEN	2kHz, 8kHz
Höhenfilter (HIGH)	7 kHz, -6 dB/oct
Unterschallfilter	20 Hz, -12 dB/oct
Gehörgerechte Lautstärkekorrektur (Lautstärke bei -30 dB)	
50 Hz, +7,5 dB	
Ausgangsspannungen & Impedanz	
PRE OUT Nennleistung	1V, max. 7V
REC OUT	200 mV
REC/PLAY	30 mV/82 kΩ
Kanalabweichung (250 Hz ~ 6300 Hz), AUX	±1,0 dB
Kanaltrennung bei 1 kHz, AUX	60 dB
Kopfhörerpegel und Ausgangsimpedanz	600 mV/330Ω
Lautsprecher-Ausgangsimpedanz	
MAIN oder REMOTE	4 ~ 16Ω
MAIN und REMOTE	8 ~ 16Ω

**ALLGEMEINE DATEN**

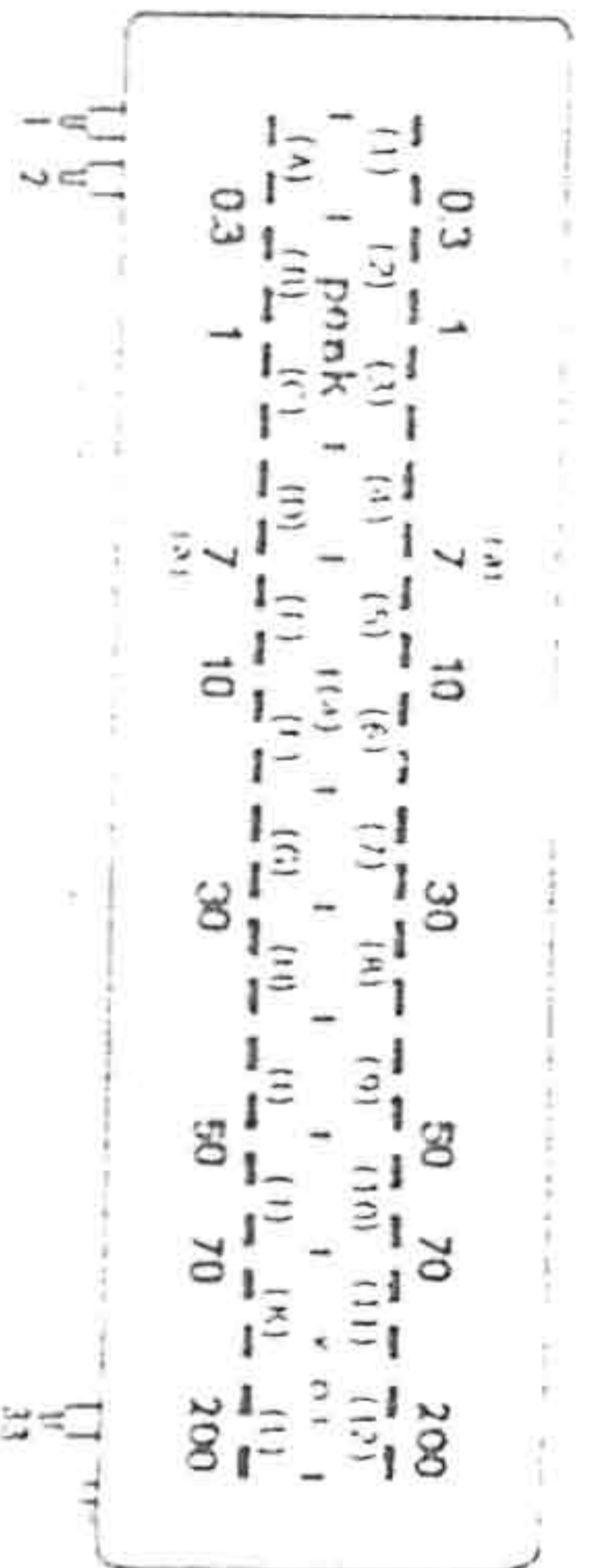
Leistungsaufnahme	830 W
Netzspannung umschaltbar (50 Hz/60Hz)	110V/120V/220V/240V
Abmessungen (B x H x T)	450 x 142 x 360 mm
Gewicht	15 kg



0.03W  
[Fig. 11]

50W  
[Fig. 2]

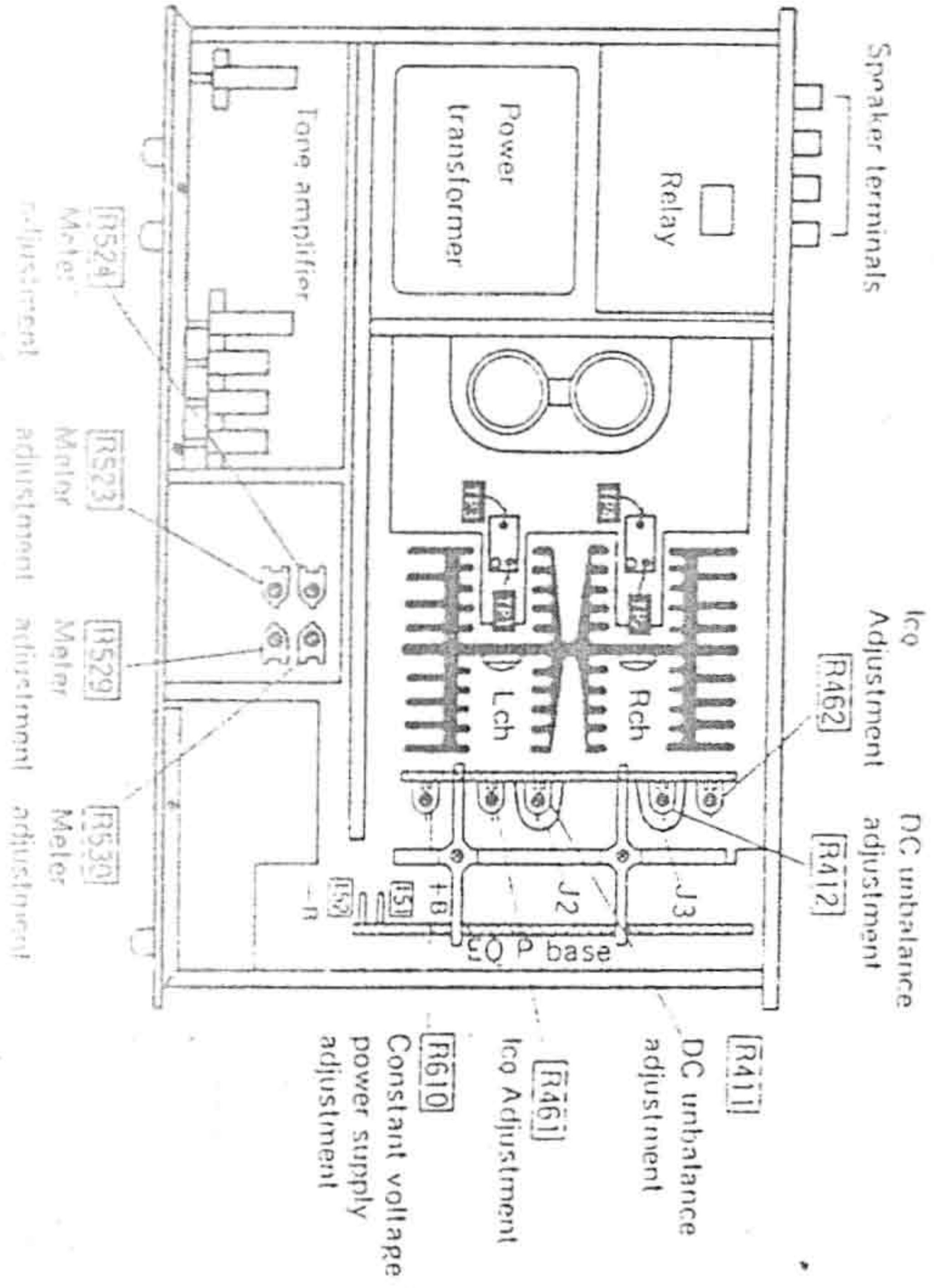
Segment indication pattern



Terminal No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Electrode	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Terminal No.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	
Electrode	8	11	1	1	K	L	7	8	9	10	11	12	13	14	15	16	17

Note: 1. (a) represents the segments for the top and bottom number scales and for central bar scales.  
2. Each segment consists of two bars.  
( — — — — — 1 segment)

ALIGNMENT POINTS



1. Abgleichen der unausgeglichene Gleichspannung und ICG (Leerlauf der Leistung TR)

- Stellungszustand und verwendete Geräte
  - 1. Betriebschalter ..... straight DC (Gleichstrom)
  - 2. Lautsprecherchalter ..... main
  - 3. Lautstärke ..... 0 (Min.)
  - 4. Gleichstrom-Voltmeter
  - 5. 8 Ohm Belastungswiderstand (nur für Abgleichen der unausgeglichene Gleichspannung verwendet.)

Abgleich	Anschluß des Gleichstrom-Voltmeters	Abgleichspunkte	Abgleichsverfahren
Stromzuführung konstanter Spannung	Die (+) - Klemme des Gleichstrom-Voltmeters an die Klemme Nr. 151, und die (-) - Klemme an die Erdung schließen.	R610	(1) Zwischen Klemme 151 und 2 Erdung die Spannung auf (0,48V einstellen. (2) Dabei zwischen Klemme 152 und Erdung überprüfen, daß die Spannung von ( 1 ) 47V bis ( 141 ) V beträgt.
Unausgeglichene Gleichspannung des Leistungsverstärkers	In Parallel mit dem 8-Ohm-Belastungsregister das Meter an die Lautsprecherklemme für L- und R-Kanal schließen. (+) Seite ..... TP3 } L-Kanal (-) Seite ..... TP1 } (+) Seite ..... TP4 } R-Kanal (-) Seite ..... TP2 }	R411 (L) R412 (R) R461 (L) R462 (R)	(1) Mit möglichst kleinem Meßbereich das Meter auf "0" stellen. Anmerkung: Wenn es nicht einstellt werden kann, vor Einstellung den Schalter auf J2 (L-Kanal) und J3 (R-Kanal) abtrennen.
ICG (Leerlauf der Leistung TR)		R461 (L) R462 (R)	Ein paar Minuten nach Schalten auf Leistungszufuhr auf ca. 15 mV einstellen.

2. Abgleichen des FL-Leistungsmeßgerätes

Stellungszustand und verwendete Geräte

- 1. Eingangsumschalter ..... tuner
- 2. Lautsprecherchalter ..... main
- 3. Meßbereichschalter ..... X 0,1 oder X 1
- 4. Schalter für Meßgeräteleuchtungsstärke ..... dim oder bright
- 5. Lautstärke ..... 10 (Max.)
- 6. Niederfrequenz-Oszillator
- 7. Wechselstrom-Elektronen-Voltmeter
- 8. 8 Ohm Belastungswiderstand

2-1. Abgleichen von 0,03W

- An die Tunerklemmen der beiden Kanäle Niederfrequenz-Oszillator anschließen, und an die Lautsprecherklemmen parallel mit Belastungswiderstand den Wechselstrom-Elektronen-Voltmeter anschließen.
  - Meßbereichschalter auf "x 0,1" und Schalter für Geräteleuchtungsstärke auf "dim" stellen.
  - Vom Niederfrequenz-Oszillator 1 KHz Signal speisen, und Eingangspegel so einstellen, daß Wechselstrom Flutonen Voltmeter 0,75 anzeigt.
  - Unter Beobachten auf FL-Leistungsmeßgerät RS23 (L-Kanal) einstellen, bis das erste Segment fast aufzuleuchten beginnt. (0,3 x 0,1 W)
  - Anschließend RS24 (R-Kanal) in gleicher Weise abgleichen. Wenn sich dabei die Anzeige des L-Kanals ändert, RS23 berichtigen.
- Anmerkung: Wenn das Abgleichen so erfolgt, daß das zweite Segment fast aufzuleuchten beginnt, so leuchtet das erste Segment ohne Eingang auf.

2-2. Abgleichen von 50 W

- Meßbereichschalter auf "X 1", und Schalter für Geräteleuchtungsstärke auf "bright" stellen.
- Eingangspegel so einstellen, daß Wechselstrom-Flutonen-Voltmeter 19 V anzeigt.
- Unter Einstellung von RS29 (L-Kanal) und RS30 (R-Kanal) in gleicher Weise wie oben in 2-1 so abgleichen, daß 9. Segment fast aufzuleuchten beginnt.
- Dann Eingangsspegel einstellen und wie in 2-1 (0,03W) abgleichen.
- Eingangsspegel wieder einstellen, damit der Eingang 19 V wird, und sicherstellen, daß das Segment bei 19 V aufleuchtet.

- Before repairing this unit, disconnect the power supply line and then short-circuit between the poles of electrolytic capacitor 15,000µF with resistor (about 100Ω, 3W) to discharge the capacitor.
- When replacing the power transistor, use 2SA1065 and 2SC2489 which are same in type (Common Emitter Direct Current Gain) rank.
- When connecting the indicator connecting sockets for operation and muting to indicator LED's (D608, 609), be careful of the polarity. (See Fig. 1)

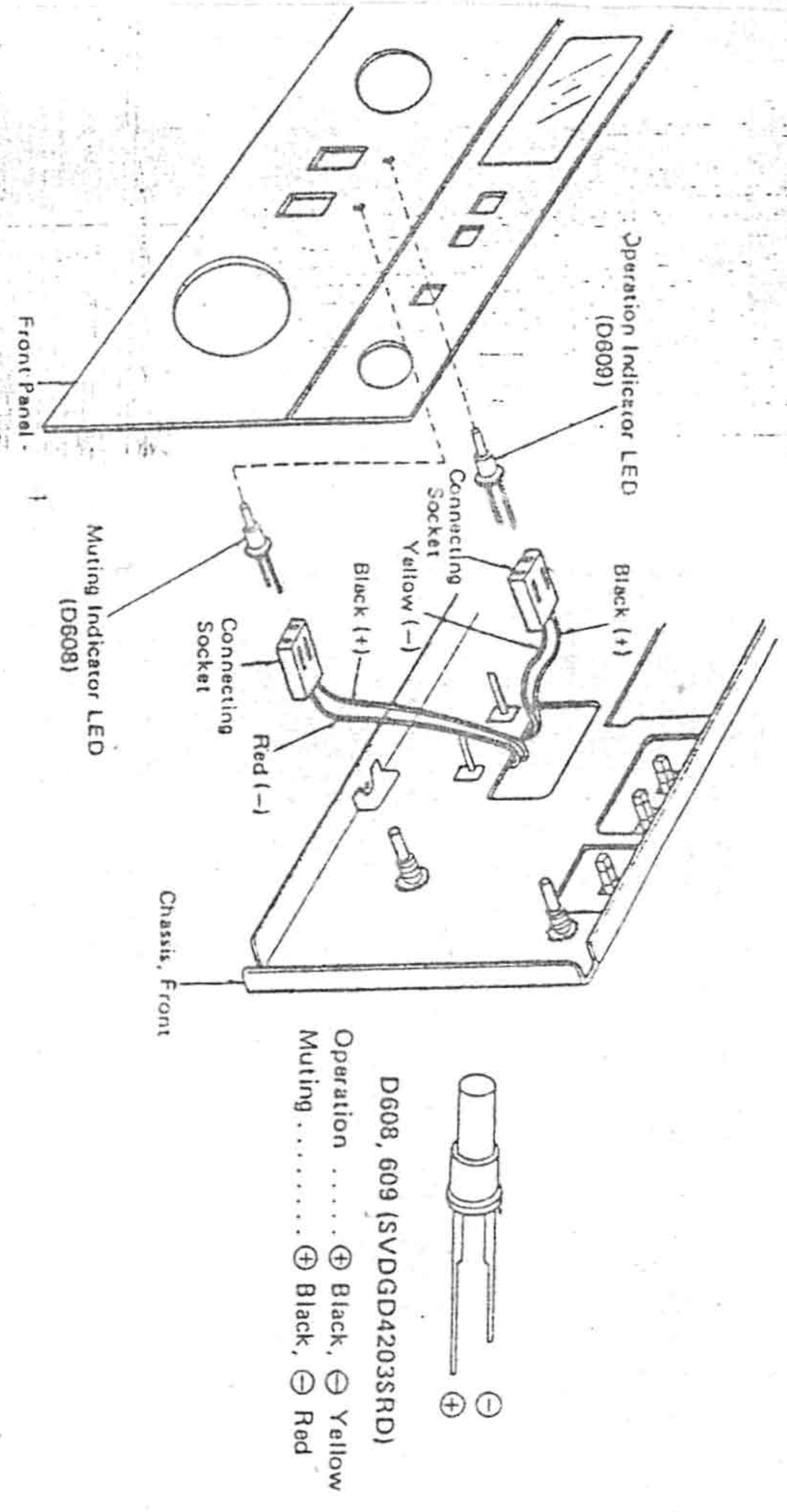


Fig. 1

### HOW TO REMOVE THE REMOTE-SWITCH BANDS

1. Use a small screwdriver to push the projection of the remote-switch bands in the direction shown by the arrow in figure 2, and remove them from the remote switch.
2. When removing, remove (A) in figure 3 first.
3. When attaching, attach (B) in figure 3 first, and then install (A).
4. Check to be sure that the remote-switch bands are securely attached to the remote switch.

Note: When removing the remote-switch bands, be careful not to hold them as shown in (C) of figure 2, because to do so may result in damage. Also be careful not to bend or twist the bands excessively.

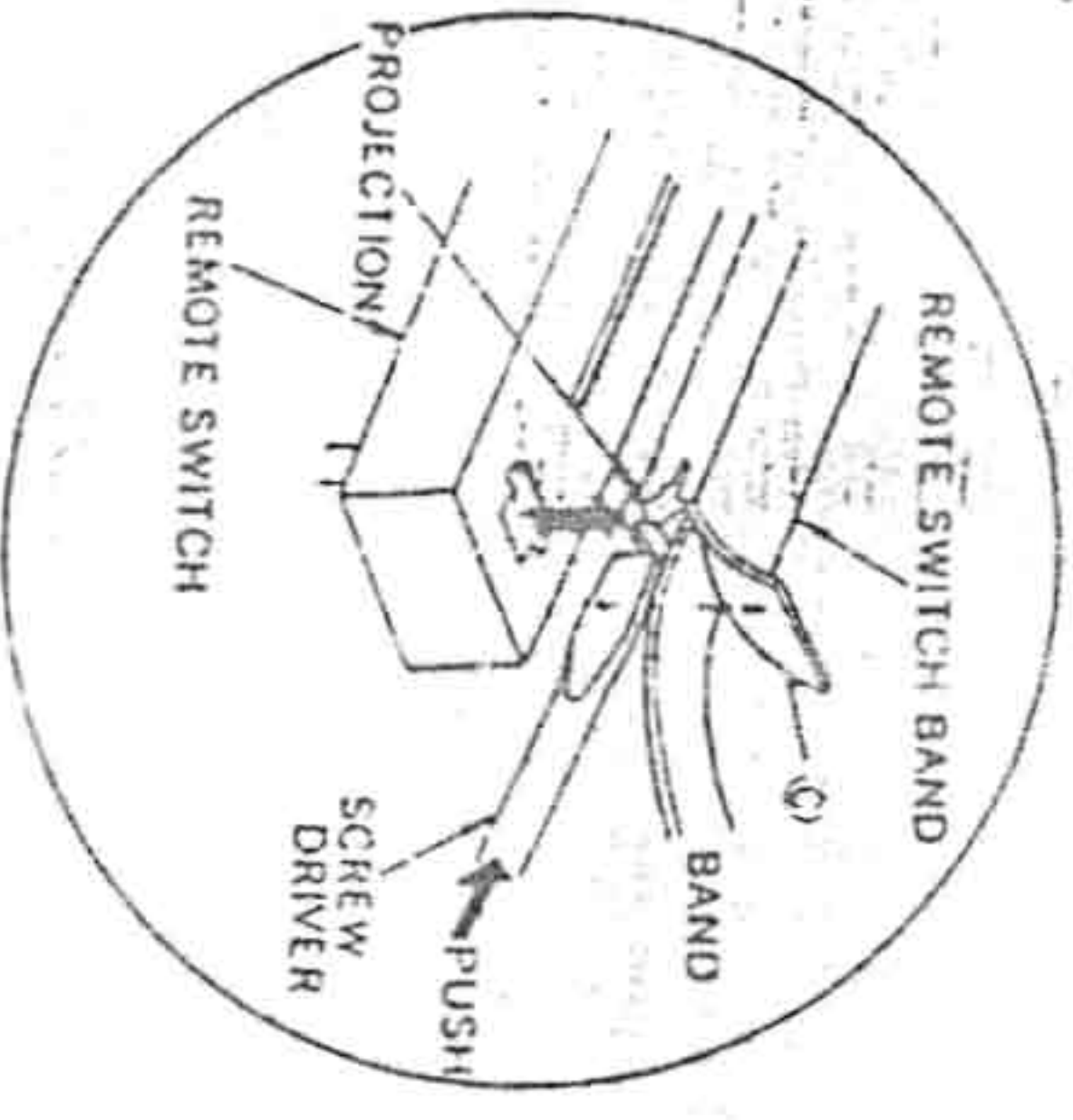


Fig. 2

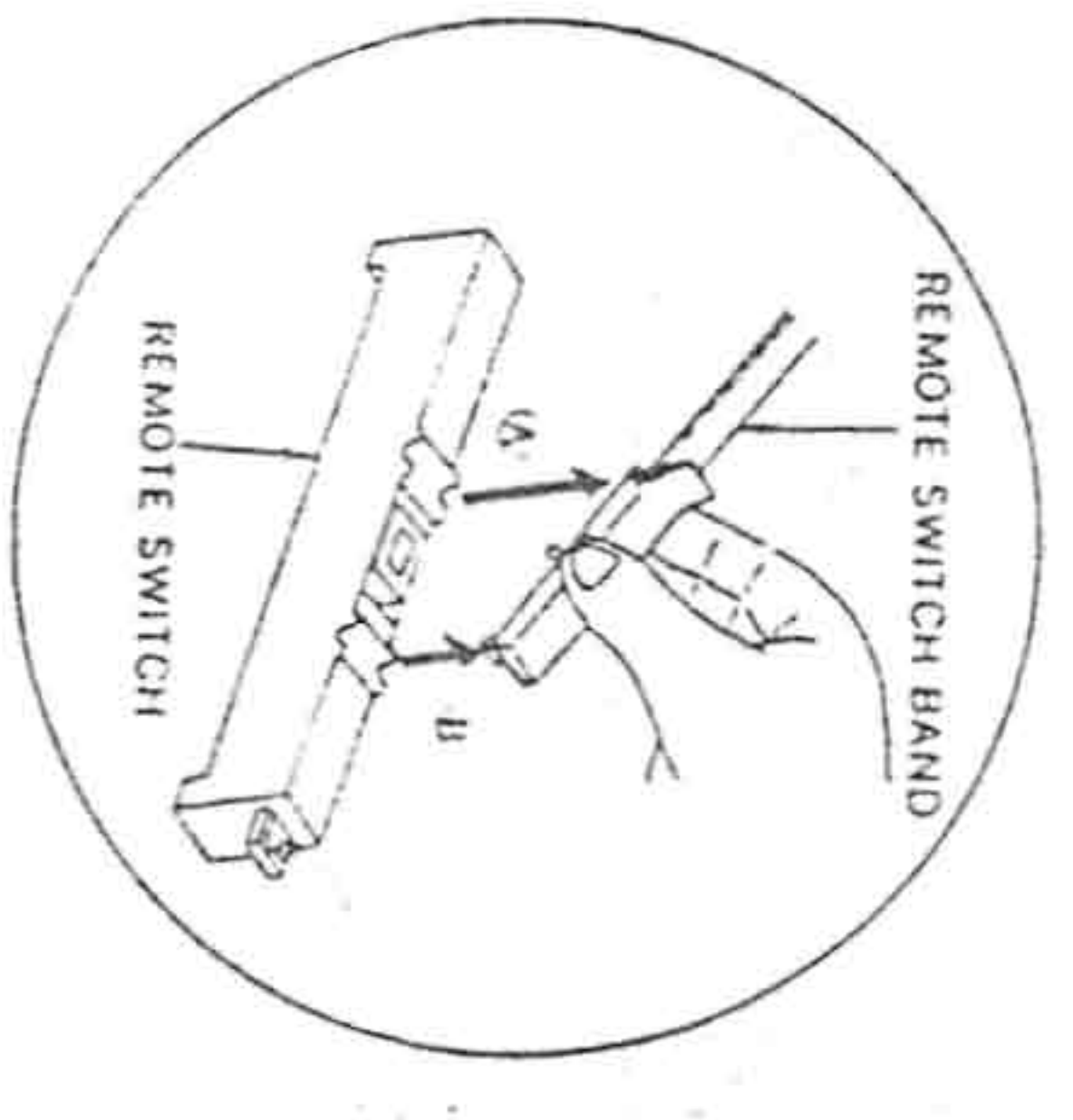


Fig. 3

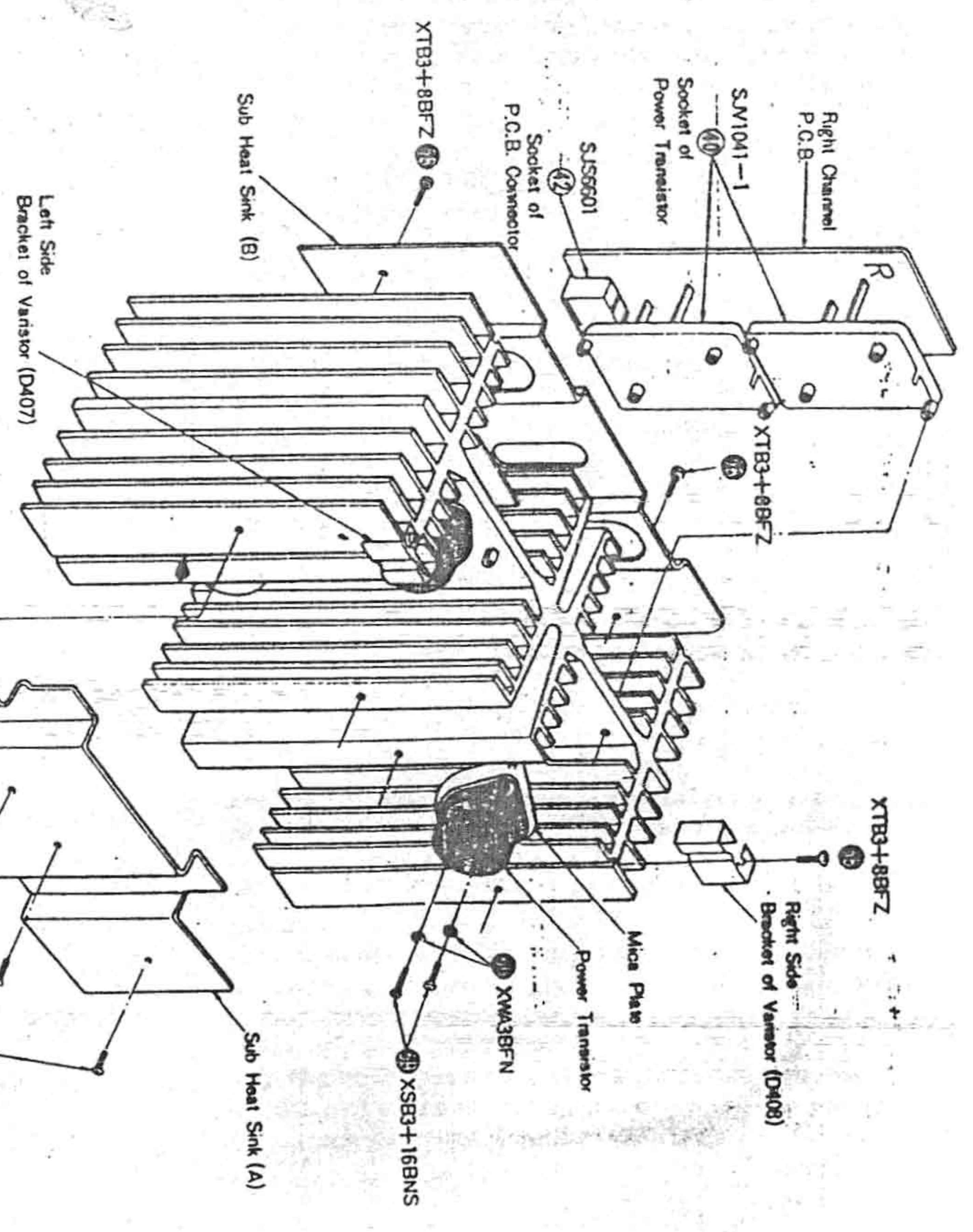


Fig. 8

### HOW TO REMOVE EQUALIZER AMPLIFIER P.C.B.

1. Remove two metal fittings used to secure the equalizer amplifier P.C.B. and the main amplifier P.C.B. (Fig. 9)
2. Pull out the 2-pin socket inserted into the equalizer amplifier P.C.B. And then remove the lug terminal fastening the electric capacitor.
3. Remove six setscrews used to secure the tuner, aux, tape deck 1 and 2 connection terminal of rear panel. (Fig. 9)
4. Remove the equalizer amplifier P.C.B.
5. The main amplifier P.C.B. can be detached by removing two setscrews used to secure the chassis. (Screws (B) and (C) in Fig. 9)

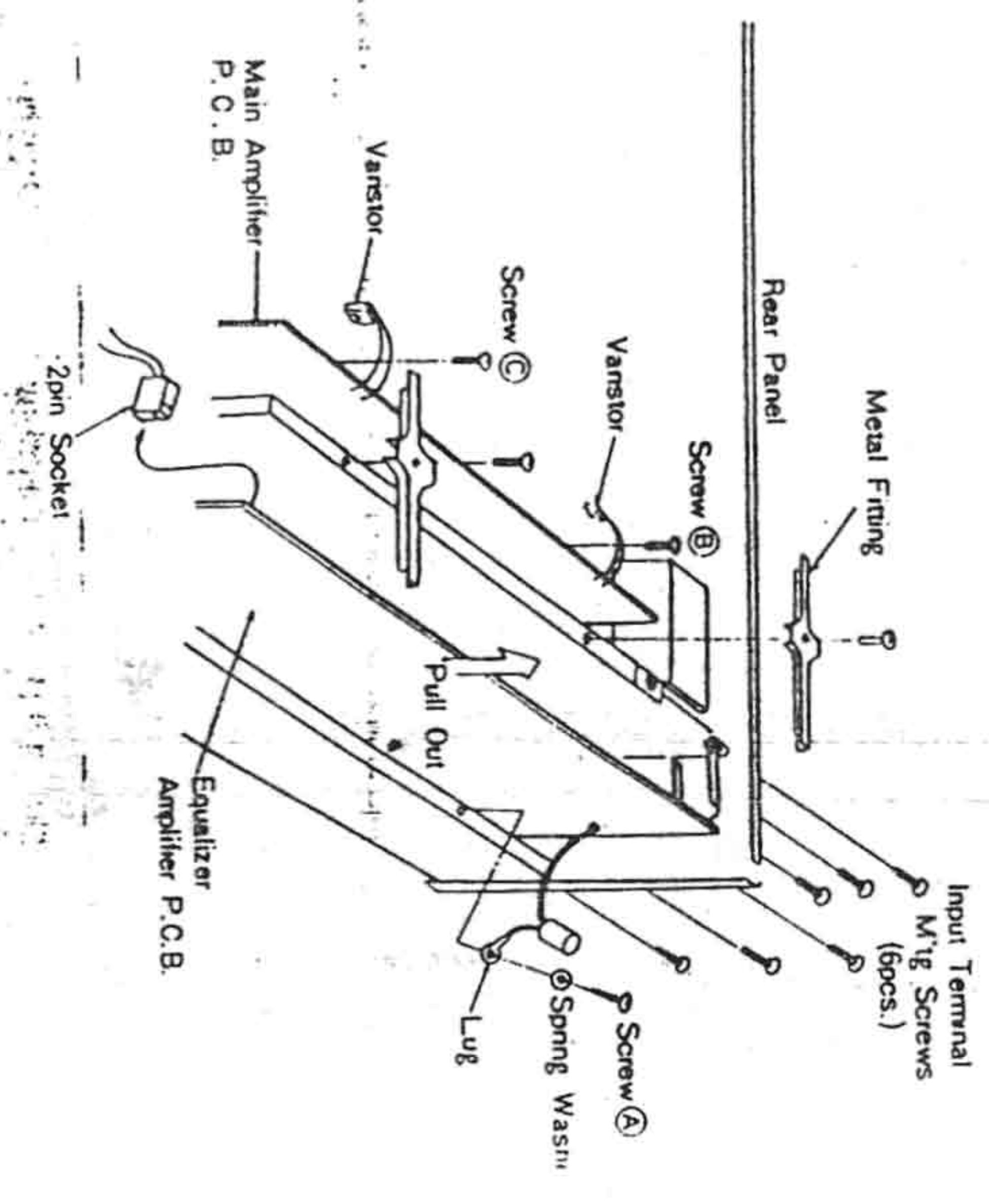
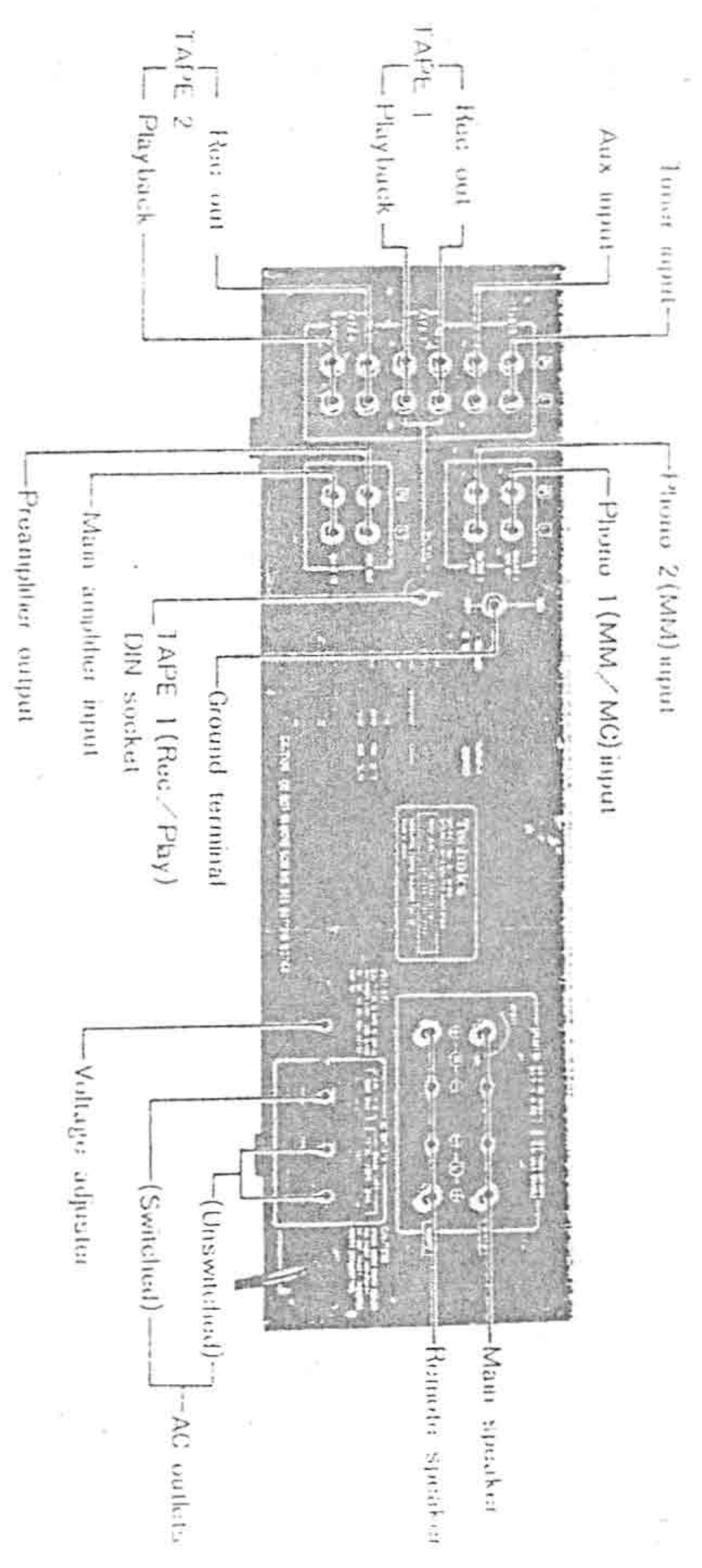
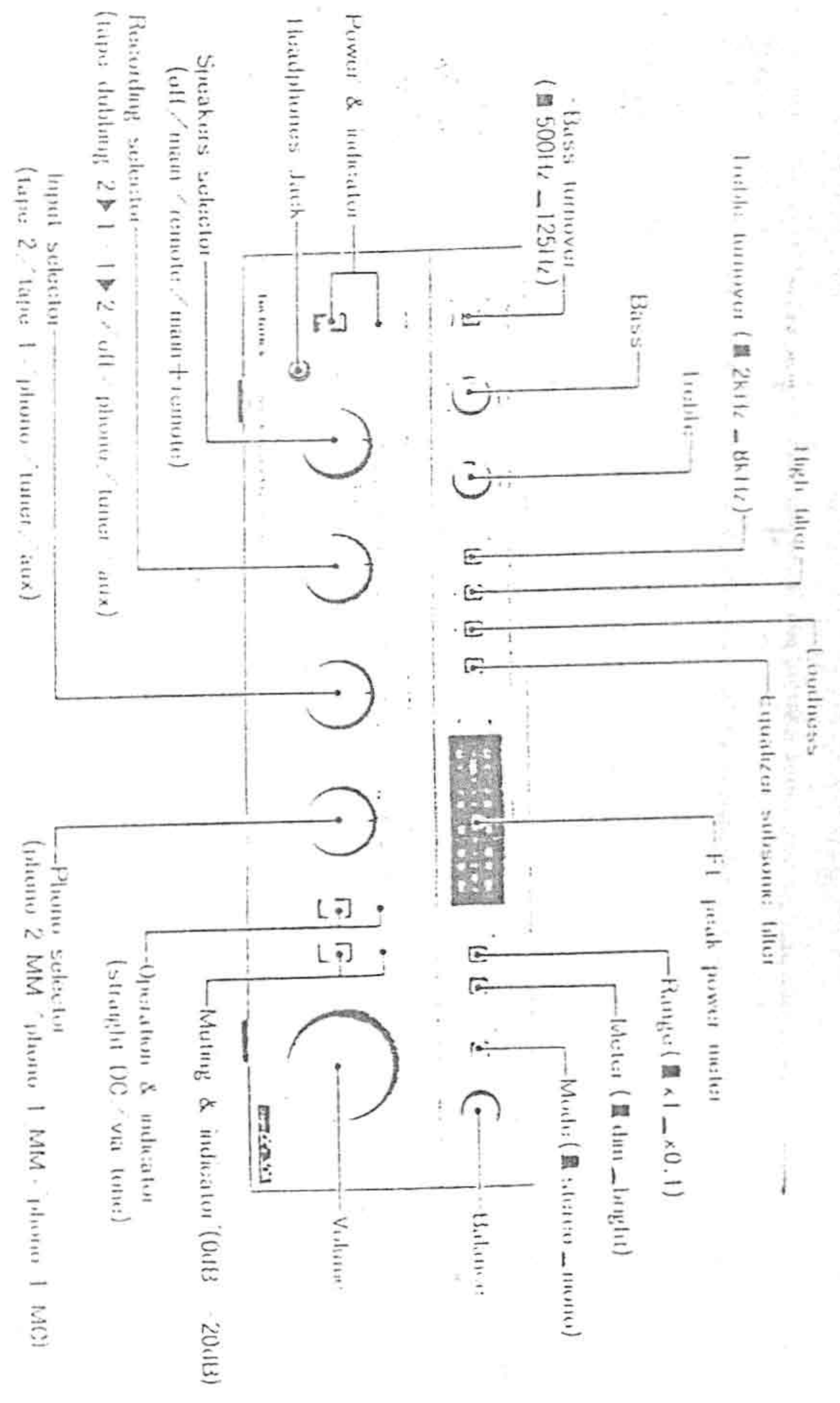


Fig. 9

## LOCATION OF CONTROLS



This rear panel photo shows only the products for SU-8088K (X) and SU 8088K (XA).  
 The products for other destinations except SU-8088K (X) and SU 8088K (XA) are not equipped with AC outlets.

## HOW TO PREPARE LEAD-CONNECTOR SOCKETS

1. As shown in figure 4 (A), insert the lead wire into the terminal (part no. SJTA/12).
2. As shown in figure 4 (B), press the terminal to secure the lead wire.
3. As shown in figure 4 (C), insert into a 3-pin socket (part no. SJS5317) or 2-pin socket (part no. SJS5209).
4. To remove from the socket, hold the terminal with a sharp-point tool such as a needle, as shown in figure 5, and pull out the lead wire at the same time.

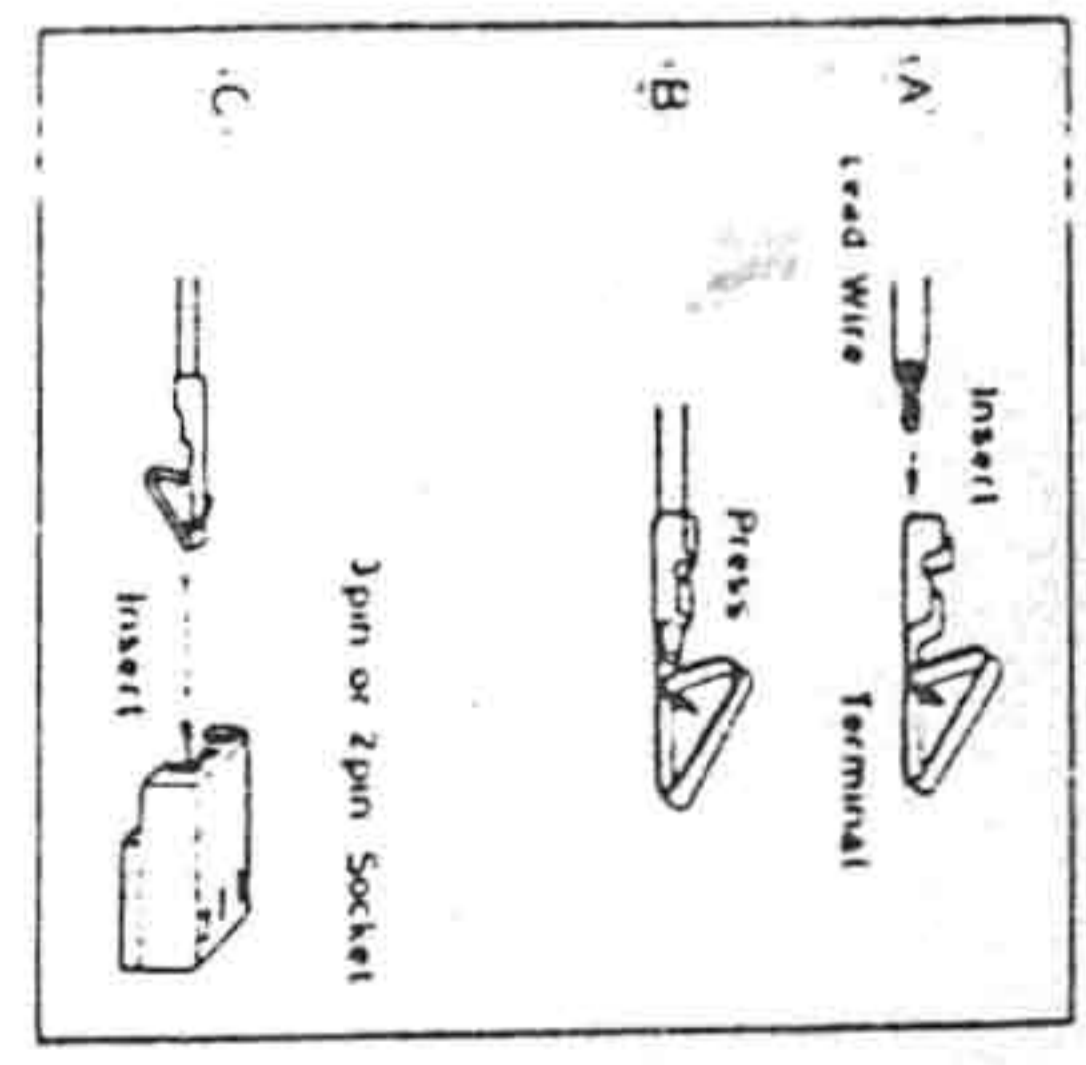


Fig. 4

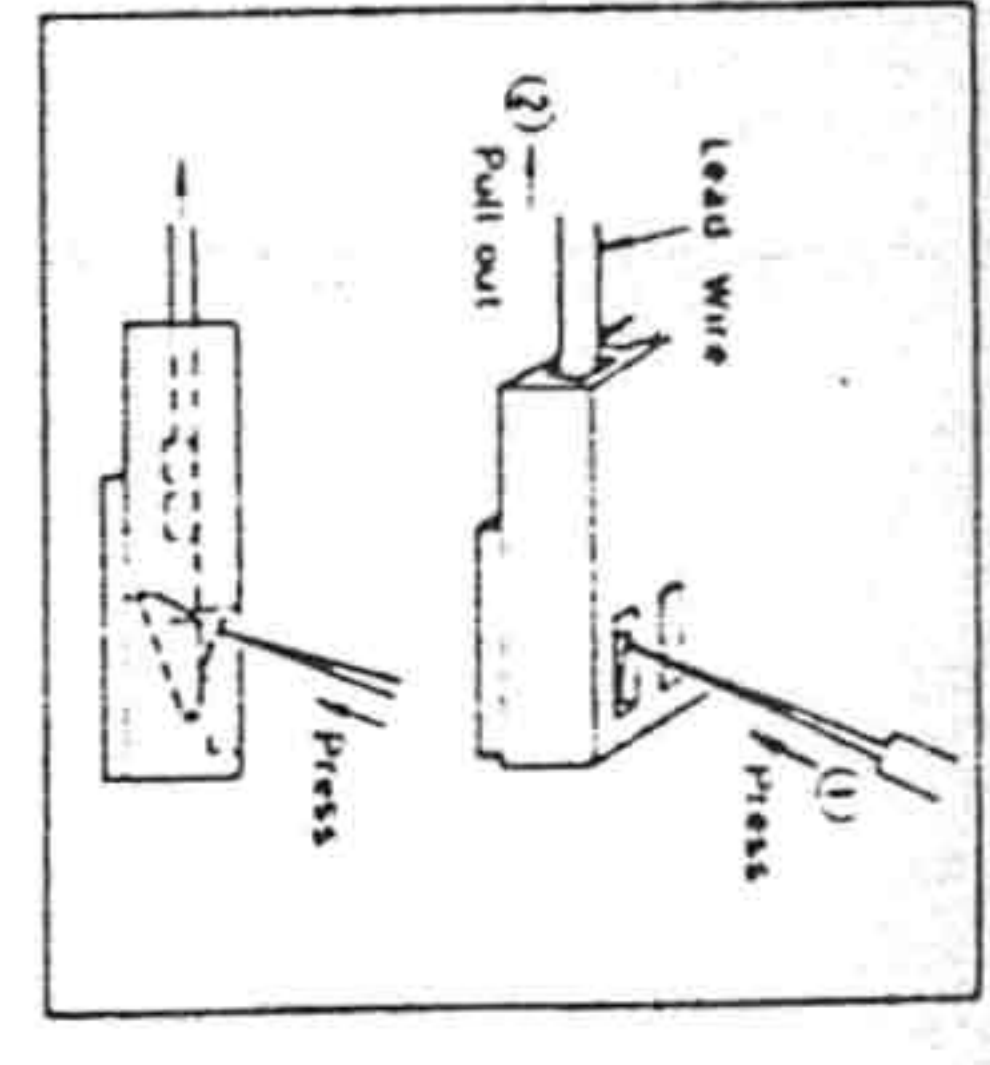


Fig. 5

## TO REMOVE POWER TRANSISTOR

1. Remove the bottom board.
2. Remove four heat sink screws from the back of the set. (Fig. 6)
3. Pull out varistors (D407, D408) for thermal compensation which is inserted into the heat sink. (Fig. 7)
4. Pulling the heat sink upwards removes the 6-pin socket of P.C.B. Then the heat sink can be removed from the chassis.
5. Remove sub heat sinks (A) and (B) from the heat sink. (Fig. 8)
6. Remove the power transistor set screws and pull it out of the heat sink. (Fig. 8)
7. When installing the power transistor, apply a heat diffuser to both sides of the mica plate beforehand.

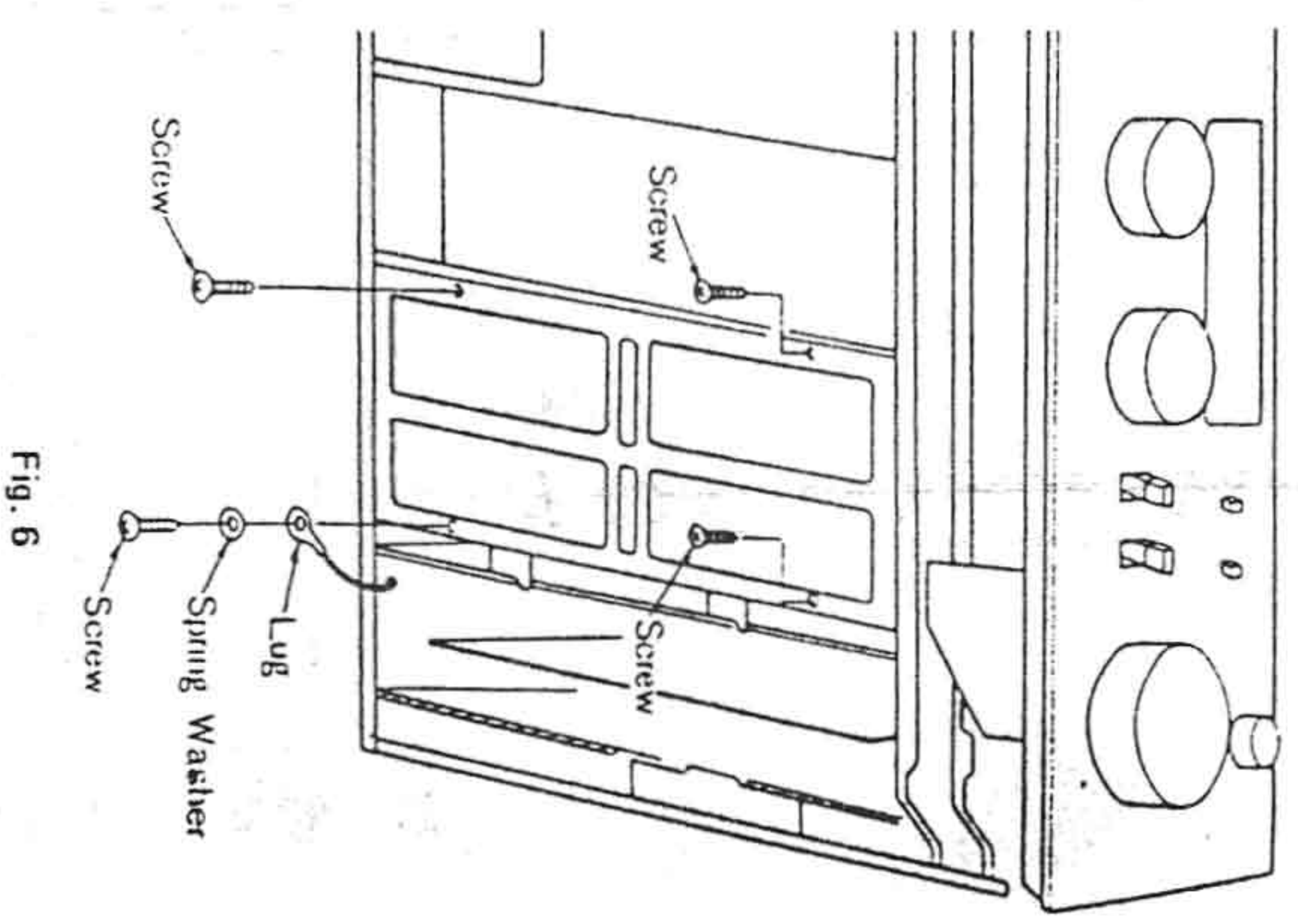


Fig. 6

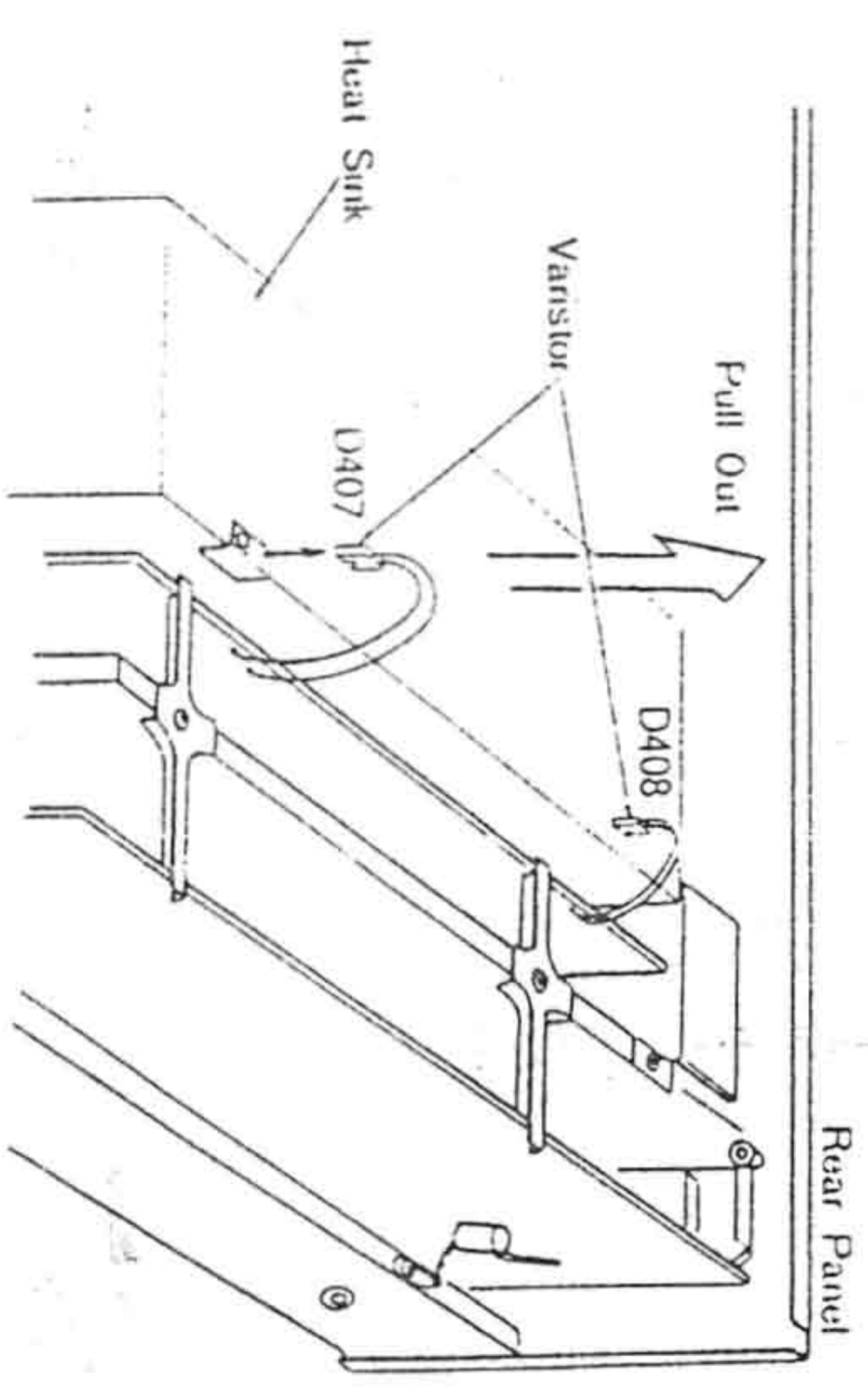


Fig. 7

This unit employs a DC Amplifier system ever since Model SU-8080, intending to achieve a wave transmitting characteristic as faithful as possible. Also, it is the straight DC system that has realized, the reproduction by DC Amplifier from high-level inputs such as tuner, aux, etc.

**2. Concentrated power block and SLPT (Super Linear Power Transistor) that have greatly improved the high frequency (up to 100 kHz) reproducing ability.**

The main amplifier output stage and the current supply section of this unit are concentrated on one block (concentrated power block) in order to eliminate high frequency distortion completely. This system minimizes the worsening of distortion of high frequency band due to electromagnetic waves, connecting the output, power source and power supply line at the shortest distance. In addition, a large current section is provided by using copper plate to make the most of the effects, thus breaking up the general idea of conventional wiring.

Furthermore, SLPT (Super Linear Power Transistors 2SA1065, 2SC2489) is employed at the output stage in an attempt to improve the high frequency characteristic. The SLPT, developed by utilizing the high frequency transistor technology employed for high frequency (100 MHz) power amplification, is a nearly ideal power transistor for audio equipment; and its gain band-width product frequency  $f_r$  is as high as 50 ~ 60 megahertz, the linearity of  $h_{FE}$  (Common emitter dc current gain) is excellent, and ASO (Area of safety operation) is very wide.

**3. High S/N ratio MC pre-pre-amp that permits direct reproduction of MC cartridge.**

This unit is equipped with a pre-pre-amp for MC cartridge so that an MC cartridge can be directly reproduced at a high S/N ratio and low distortion factor. Also, due to the extra-low noise transistor, the S/N ratio is 78 dB (250µV input) that is equivalent to a conventional MM equalizer's.

**4. Complete electronic FL (Fluorescence) power meter of accurate, quick response**

This unit employs a complete electronic FL power meter which is optimum for checking the amplifier output. Unlike a mechanical meter, the FL power meter indicates the output with light, therefore it assures quick, accurate response, and is most suitable for checking signal levels varying incessantly.

Because of the meter range and the meter brightness changeover switch, it is easy to read the indication in case of a minute output, and possible to change the brightness as needed.

**5. Low leakage power transformer:**

The power transformer of this unit is a high efficiency transformer with the coil floating in special resin, which is stored in a sufficiently shielded case. The power capacity is provided with a sufficient allowance, and the generation of leakage flux is minimized, therefore the influence due to hum, etc. is extremely slight, and these advantages make a great contribution to the high S/N ratio design of the unit. Also, the floating coil in special resin greatly contributes to the reduction of mechanical vibration of the transformer.

**6. Equalizer circuit that has realized high S/N ratio (90 dB), using extra-low noise FET at the initial stage.**

The MM equalizer circuit with extra-low noise FET (2SK155) at the initial stage has disused the coupling capacitor at the input stage.

This equalizer circuit is designed in low circuit impedance in order to minimize the generation of noise. Consequently, a high S/N ratio of 90 dB (2.5mV input) that will cause almost no noise has been achieved. Also, a metallic film resistor and polypropylene capacitor of less than ±2% deviation are used for the RIAA element that determines the sound quality (frequency characteristic) of the equalizer circuit.

This has realized a very accurate frequency characteristic with RIAA deviation of 20 Hz ~ 20 KHz ± 0.2 dB.

**7. High efficiency tone control circuit of turn-over-2-step selection and mid-point complete defeat type**

The tone control can be used with the operation switch of this unit set to via tone. The circuit includes high efficiency IC's and two steps (125 Hz, 500 Hz) for bass and two steps (2 kHz, 8 kHz) for treble to set the turn-over frequency that determines the alteration characteristic.

Also, since parts such as capacitors, etc. which may affect the frequency characteristic are completely isolated from the adjusting volume by means of a special switch mechanism at the mechanical center, the frequency characteristic is flat.

**8. Recording selector that has greatly improved tape handling convenience, separating the recording signal line from the input selector.**

**9. Remote action switch that has reduced the wiring and brought about high efficiency performance.**

**1. Adjustment of unbalanced DC voltage and Ico (idling current of power transistor)**

• **Conditions of the set, and equipment used**

- 1. Operation switch..... straight DC
- 2. Speaker switch..... main
- 3. Sound volume..... 0 (minimum)
- 4. DC voltmeter.....
- 5. 8-ohm load resistor (used only for unbalanced DC voltage adjustment)

Adjustments	DC voltmeter connections	Adjusting portions	Adjusting procedure
Constant voltage power supply	Connect the (+) terminal of a DC voltmeter to No. 151 terminal, and the (-) terminal to ground.	R610	(1) Adjust voltage for (+) 48V between terminal 151 and ground. (2) At this time, check voltage between terminal 152 and ground be (-) 47V to (-) 48.5V.
Unbalanced DC voltage of power amplifier	Connect the meter to the speaker terminals for L and R channels in parallel with the 8 ohm load resistor.	R411 (L ch) R412 (R ch)	(1) Set the meter to "0" with measuring range as small as possible. Note: If it cannot be adjusted, cut off the jumper wire J2 (L ch.) and J3 (R ch.) before adjustment.
Ico (idling current of power transistor)	(+) side... TP3 (-) side... TP1 (+) side... TP4 (-) side... TP2	R4E1 (L ch) R4G2 (R ch)	Adjust it to about 15mV a few minutes after turning on the power supply.

**2. Adjustment of FL power meter**

• **Conditions of the set, and equipment used**

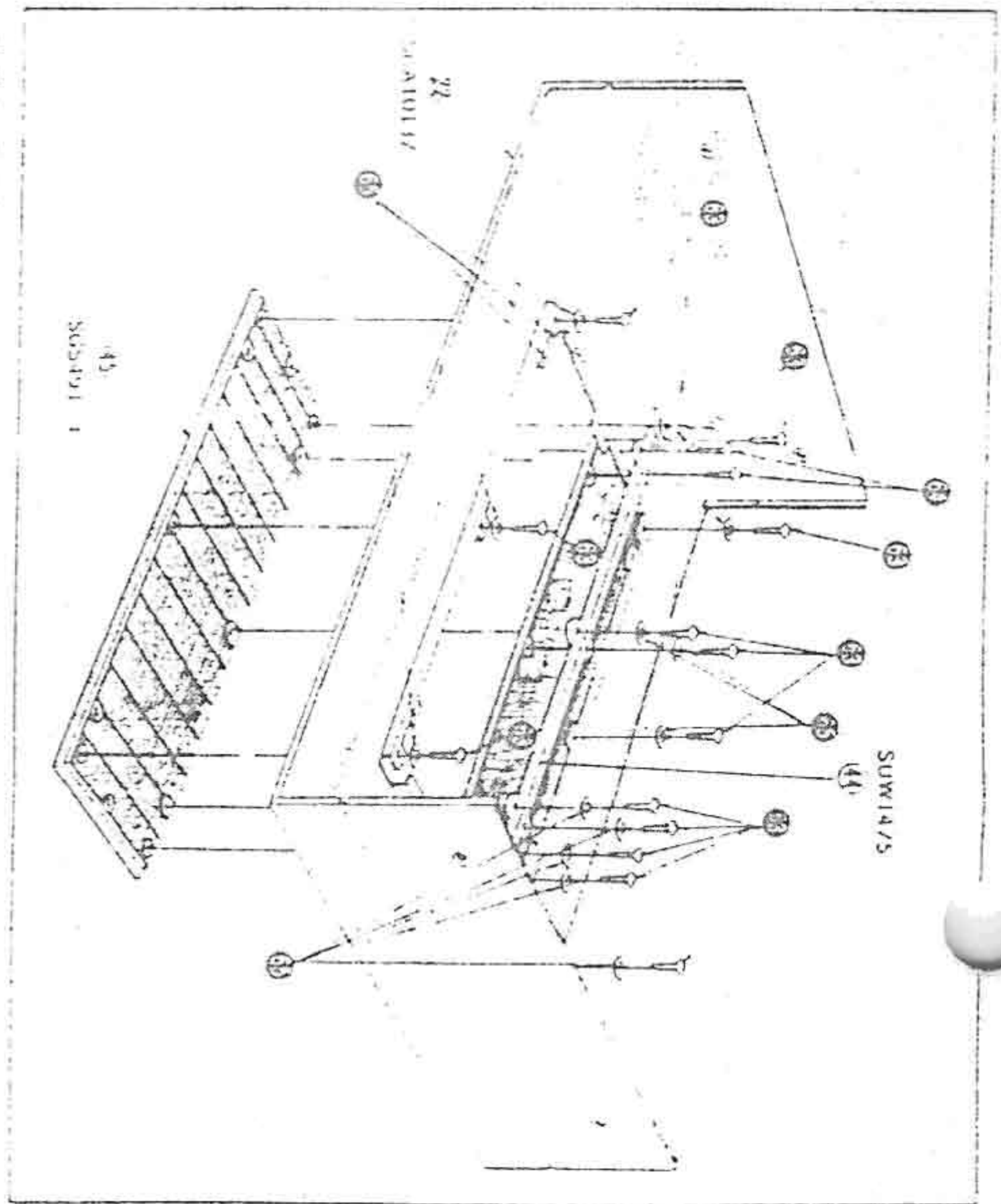
- 1. Input selector..... tuner
- 2. Speaker switch..... main
- 3. Meter range switch..... X0.1 or X1
- 4. Meter brightness switch..... dim or bright
- 5. Sound volume..... 10 (max.)
- 6. Low frequency oscillator
- 7. AC electronic voltmeter
- 8. 8-ohm load resistor

**2-1. Adjustment of 0.03W**

- 1) Connect the low frequency oscillator to the tuner terminals for both channels, and the AC electronic voltmeter to the speaker terminals in parallel with the load resistor.
  - 2) Set the meter range switch to "X0.1", and the meter brightness switch to "dim".
  - 3) Add 1 KHz signal from the low frequency oscillator, and regulate the input level so that the AC electronic voltmeter indicates 0.75V.
  - 4) Adjust R523 (L ch) while observing the FL power meter until the first segment is about to turn on. (0.3W position of X0.1 range). Refer to fig. 1.
  - 5) Similarly, make the adjustment of R524 (R ch). At that time, if the indication of L ch varies, correct R523.
- Note: When the adjustment has been made so that the second segment is about to turn on, the first segment turns on without input.

**2-2. Adjustment of 50W**

- 1) Set the meter range switch to "X1", and the meter brightness switch to "bright".
- 2) Regulate the input level so that the AC electronic voltmeter indicates 19V.
- 3) Make the adjustment in the same way as mentioned in 2-1 by regulating R529 (L ch) and R530 (R ch) so that the 9th segment (at 50W position) is about to turn on. Refer to fig. 2.
- 4) Next, make the adjustment in 2-1 (0.03W) by regulating the input level.
- 5) Again regulate the input level to make the output 19V, and make sure that the segment at 50W position is on.



(This Cabinet is available in SU-8088K [XE] only.)

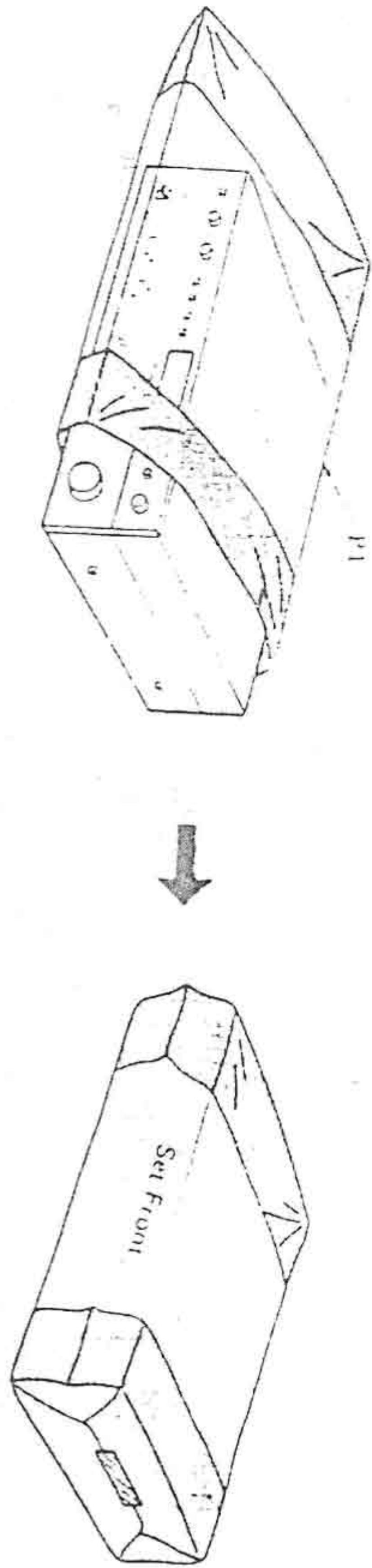
# SU-8088K

(D), (DG), (EB), (XSW), (XE), (X), (XA), (XAL)

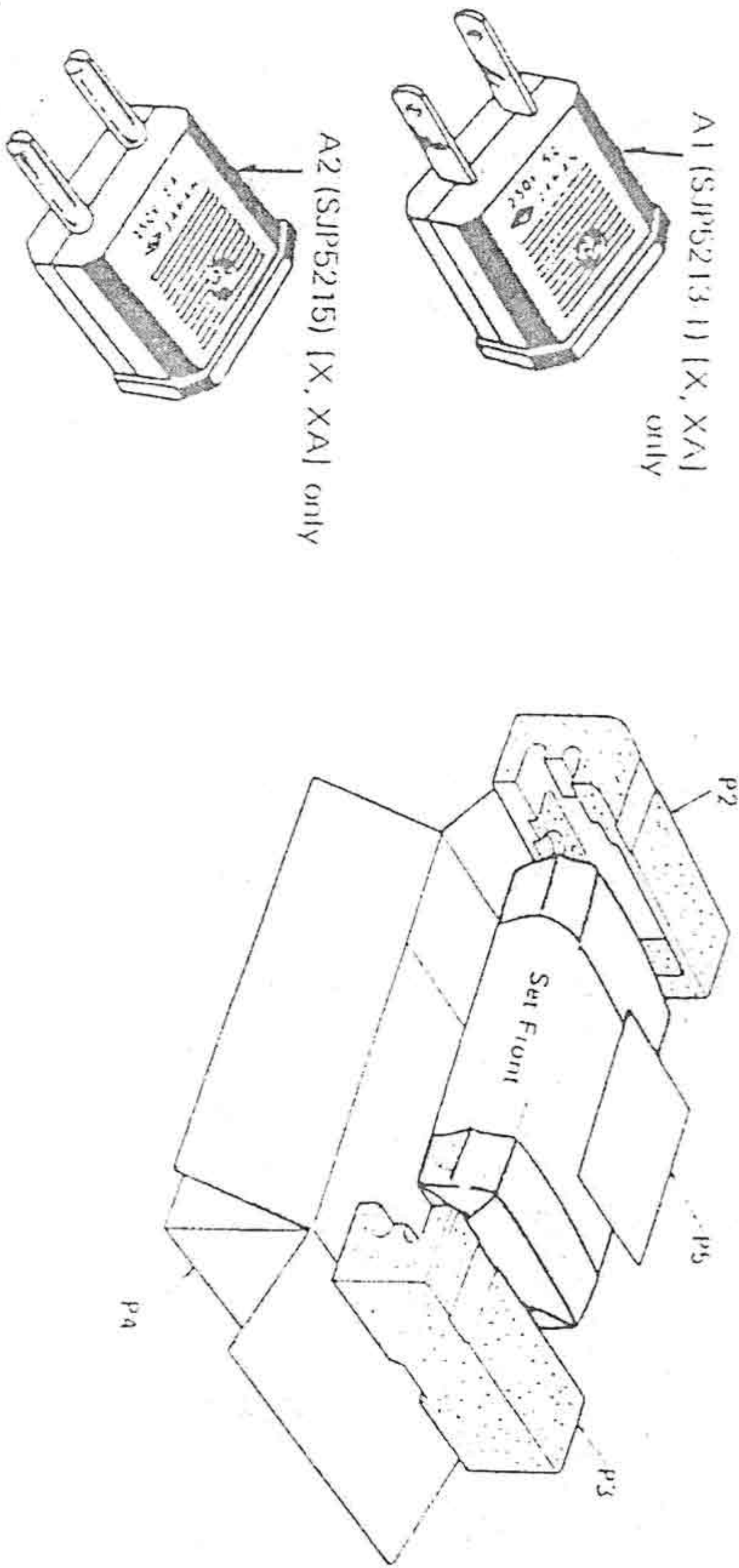
Note: This parts list included only the changes of the model SU-8088 parts list

Ref. No.	Change of Part No.	Part Name & Description
	SU-8088 → SU-8088K	
		<b>TRANSFORMER</b>
11	S115Q99	Transformer, Power Source (except for [X11])
	S115Q101	Transformer, Power Source
		<b>FUSE</b>
F2	XBA2C25TH0	Fuse, T2 5A (250V) E except for [XE]
	XBAS2A2502	Fuse, T2 5A (250V)
		<b>CABINET and CHASSIS PARTS</b>
1	SBN773	Knob, Volume Control
2	SBN771	Knob, Balance, Bass & Treble Control
3	SBN769	Knob, Selector Switches
4	SGWUB088M	Panel, Front Assy (Black)
10	SBD19	Knob, Lower Switches
	SBD19-1	
22	SKA10131	Cabinet
	SJA97	AC Cord, with Plug (except for [XSW, XAL, XE])
24	SJA111	AC Cord, with Plug
	QFC1207M	AC Cord, with Plug
	RJA452C	AC Cord
25	SHR127	Bushing, AC Cord (except for [XAL, XE])
	SHR131	Bushing, AC Cord
	SHR129	Bushing, AC Cord
	SGPU8088KD	Rear Panel, SGPUB088W with Name Plate (SGT19430)
	SGPU8088KX	Rear Panel, SGP1530 1A with Name Plate (SGT19430)
29	SGPUB088D	Rear Panel, SGP1530 2B with Name Plate (SGT19430)
	SGPUB088KL	Rear Panel, SGP1530 2B with Name Plate (SGT19430)
43	Addition	Socket, AC Outlet
	SJS601	Socket, AC Outlet
		<b>SCREWS and WASHERS</b>
⑩	XTB318BFN	Screw, Front Panel Mt'g
⑪	XTB418BFZ	Screw, Cabinet Mt'g
	XTB418BFZ	Screw, Cabinet Mt'g
		<b>PACKING PARTS</b>
P4	SPG1979 [XSW]	Carton Box
	SPG1997 [XGF]	Carton Box, Except for [XSW]
	SPG2009	Carton Box, Except for [XSW]
		<b>ACCESSORIES</b>
A1	Addition	Plug Adapter, Power Source
A2	Addition	Plug Adapter, Power Source

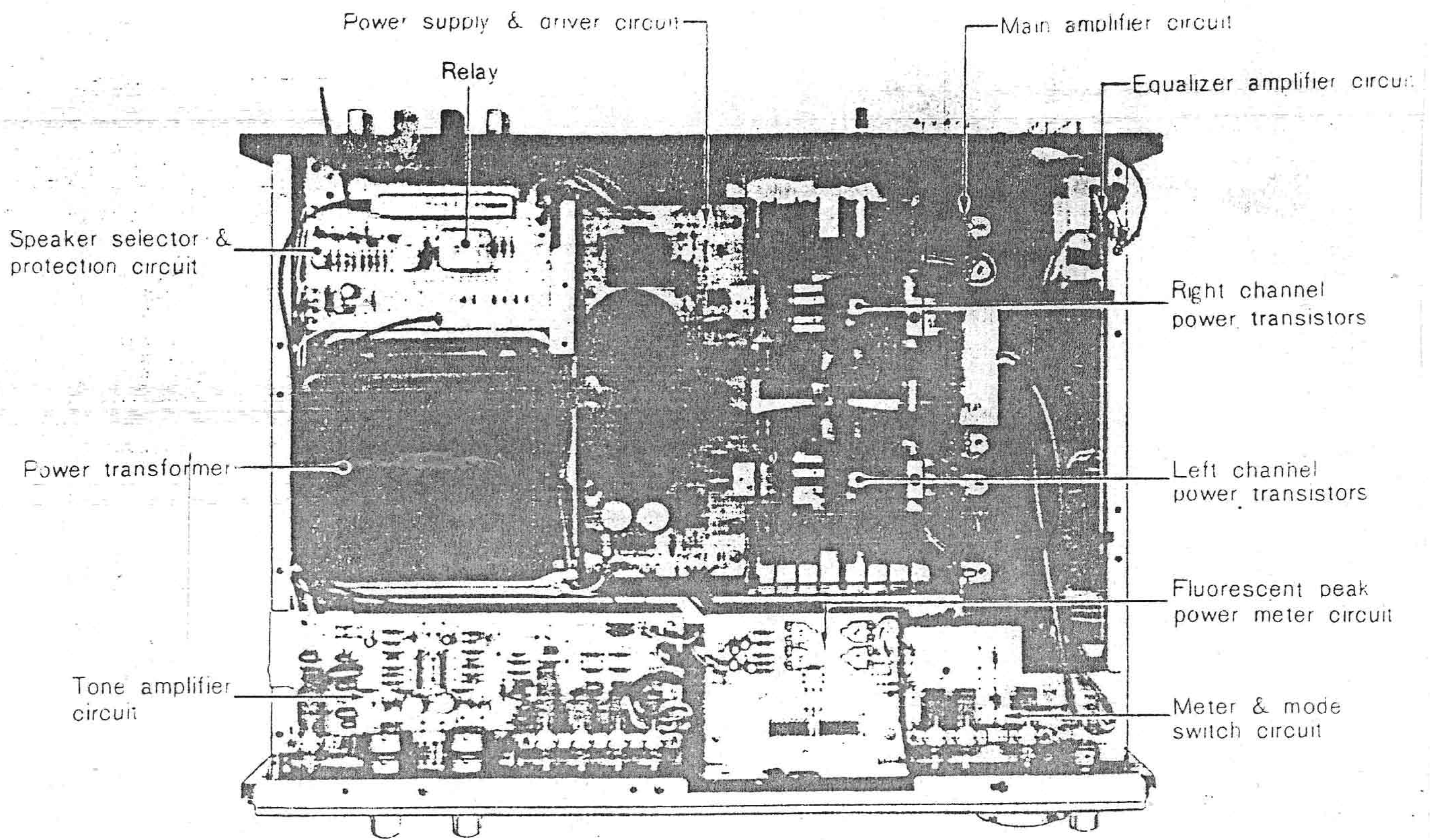
## PACKINGS



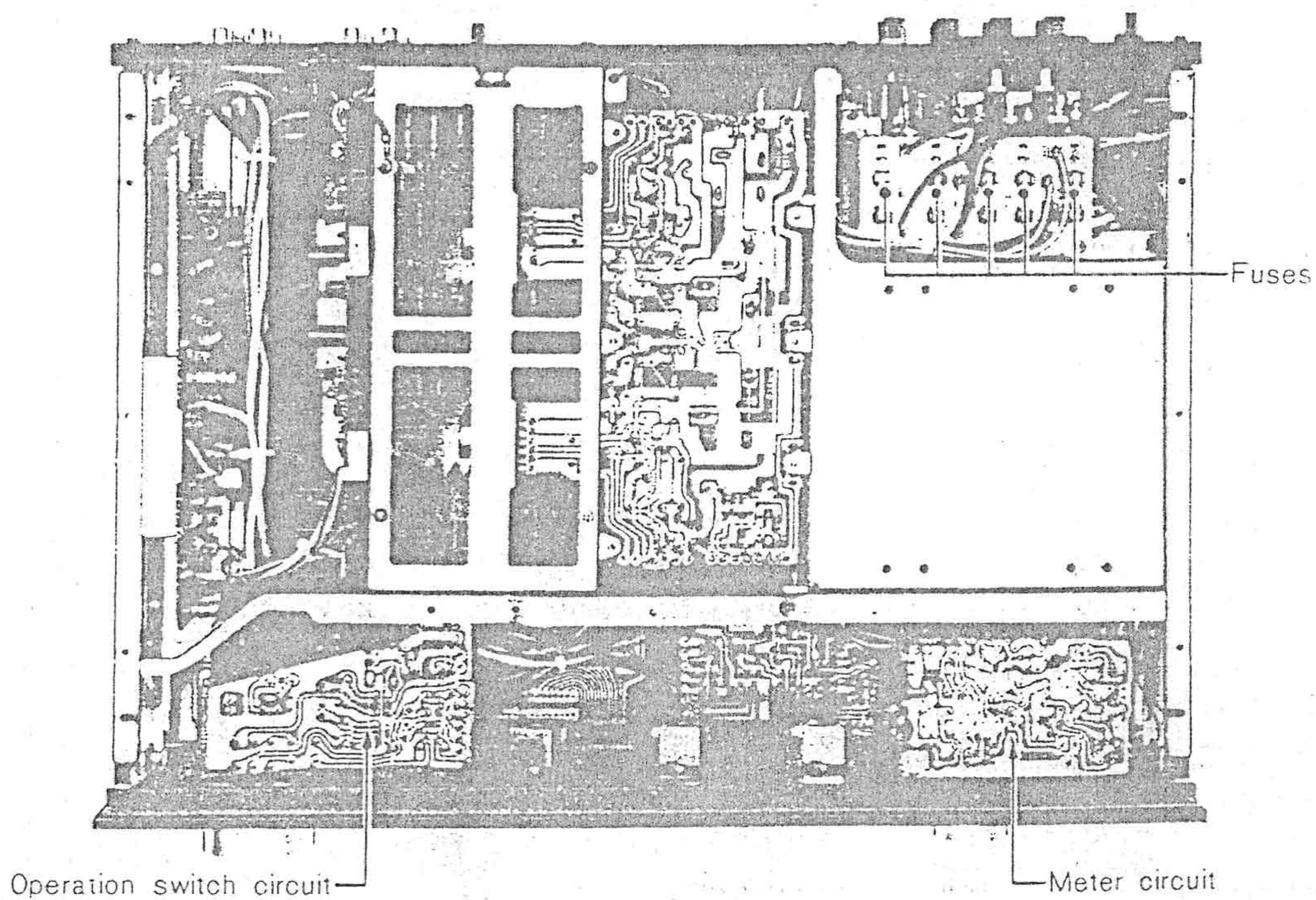
## ACCESSORIES



(X) and (XA) are available in Asia, Latin America, Middle East and Africa only.



TOP VIEW



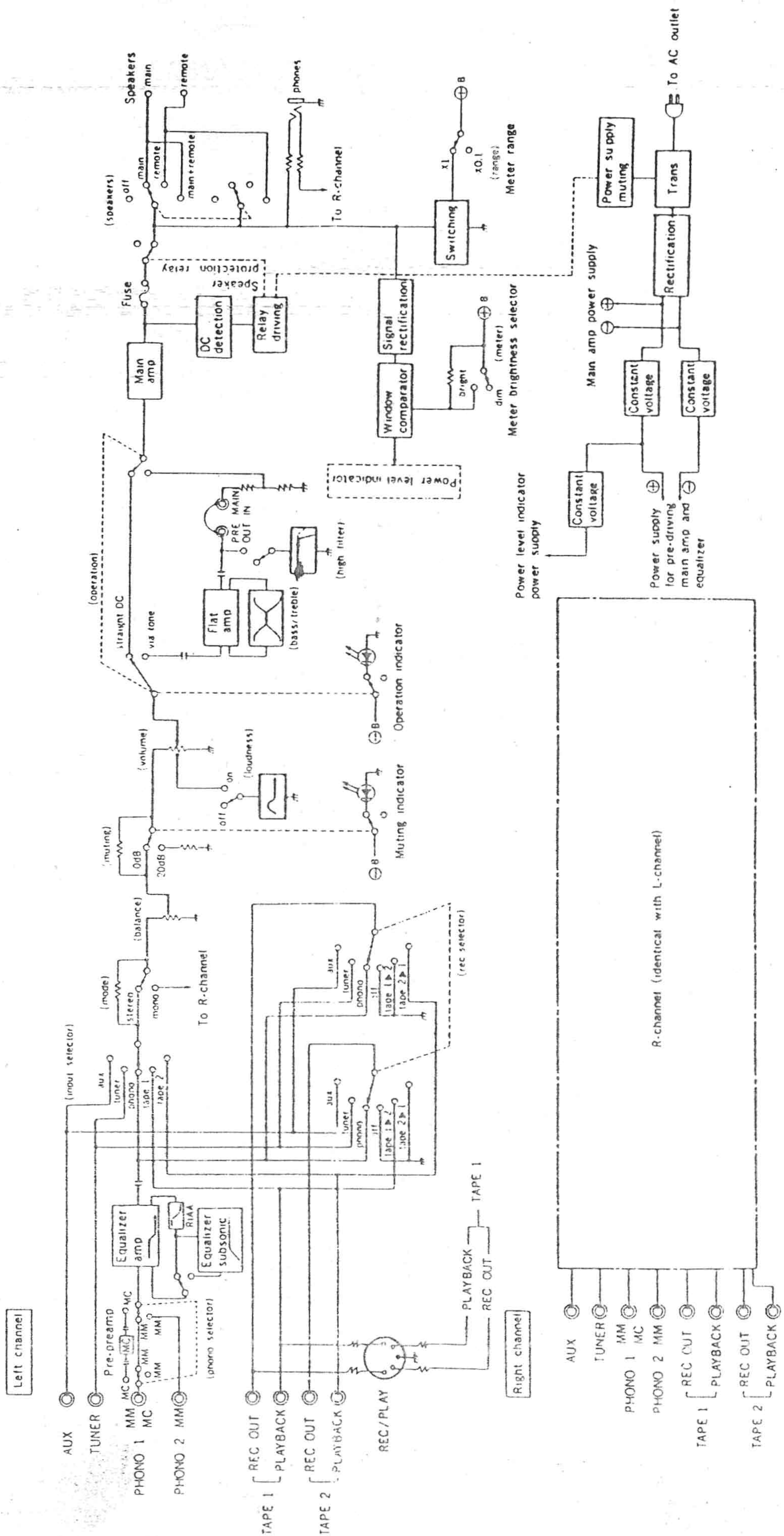
BOTTOM VIEW

## ■ OUTLINE OF THIS UNIT

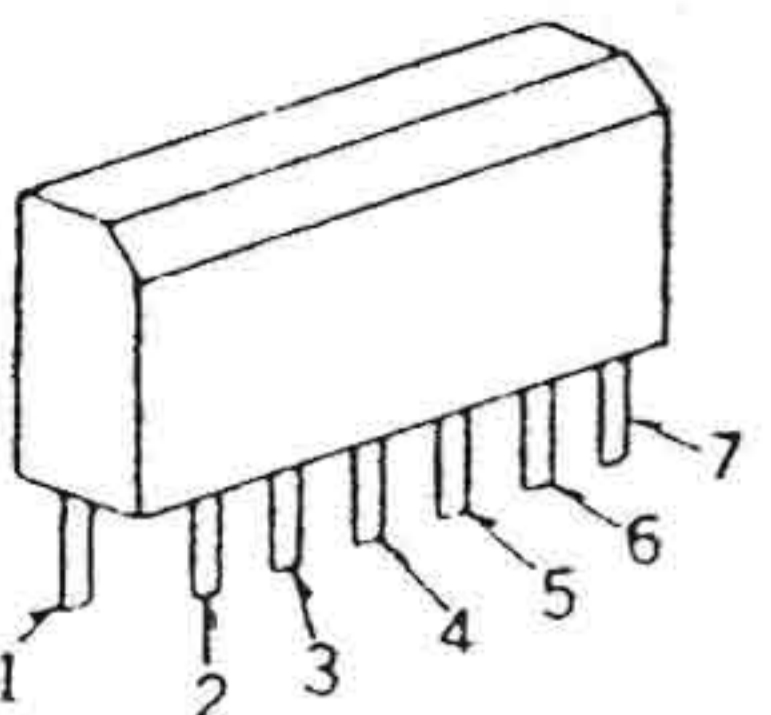
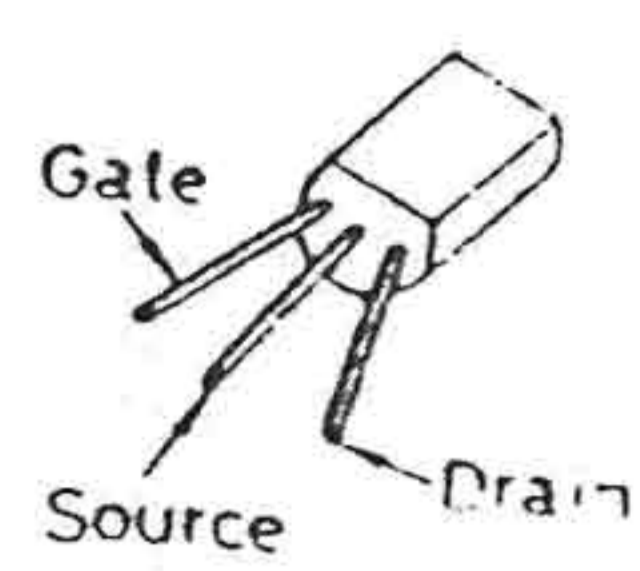
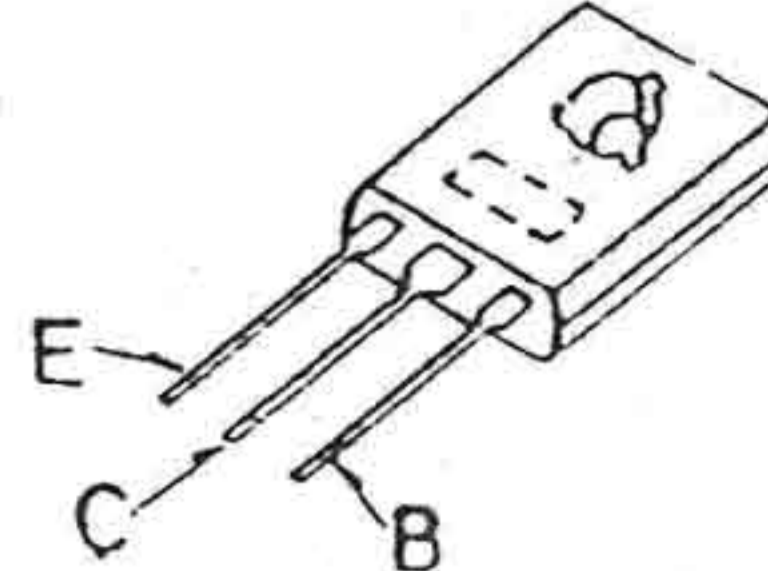
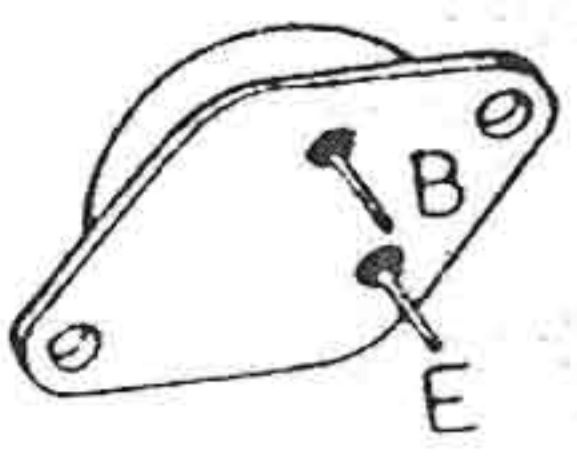
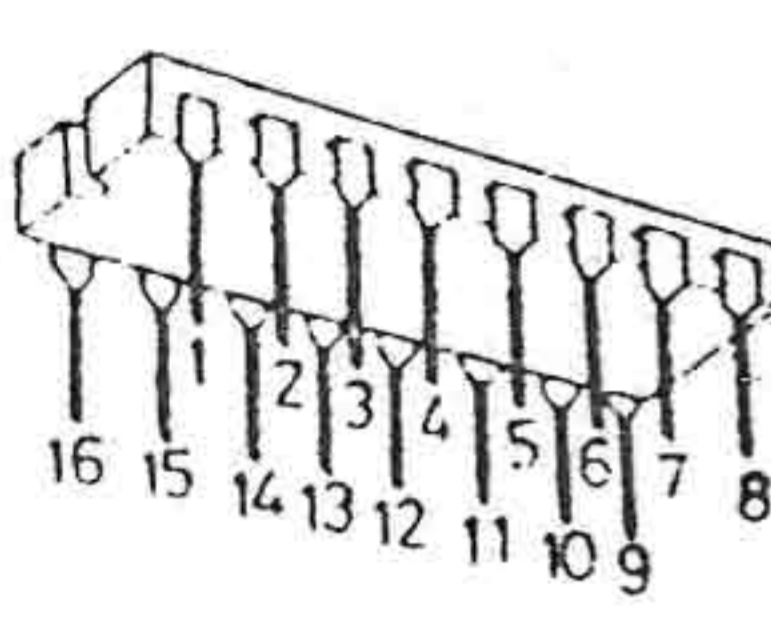
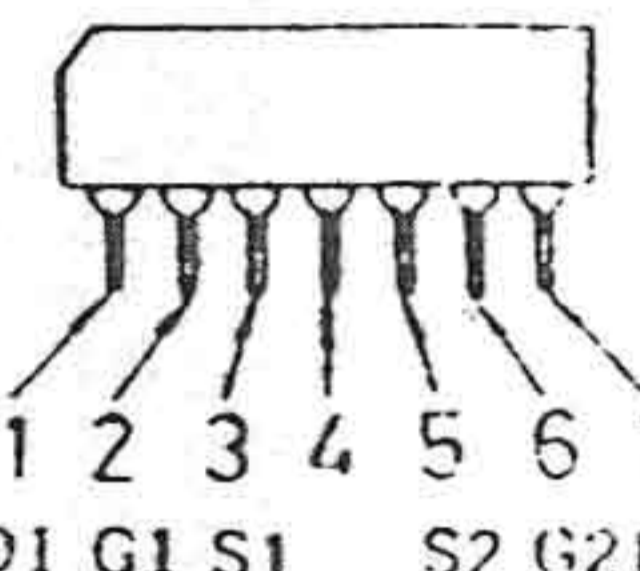
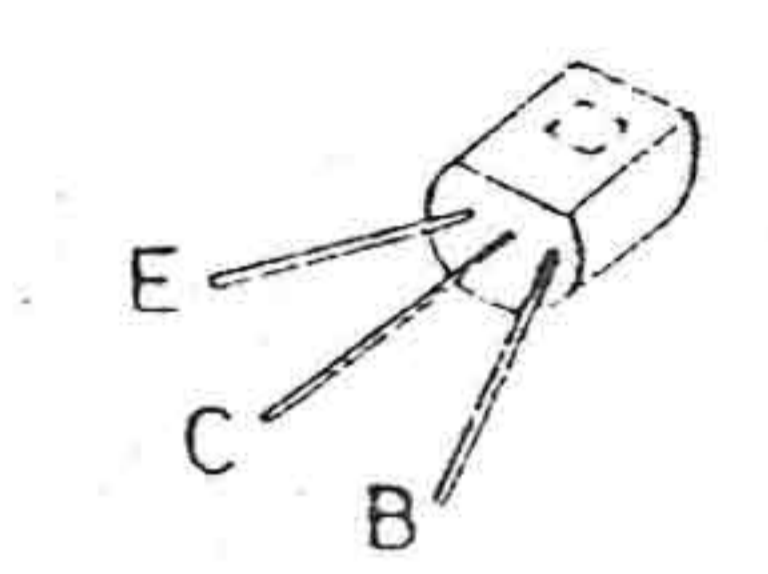
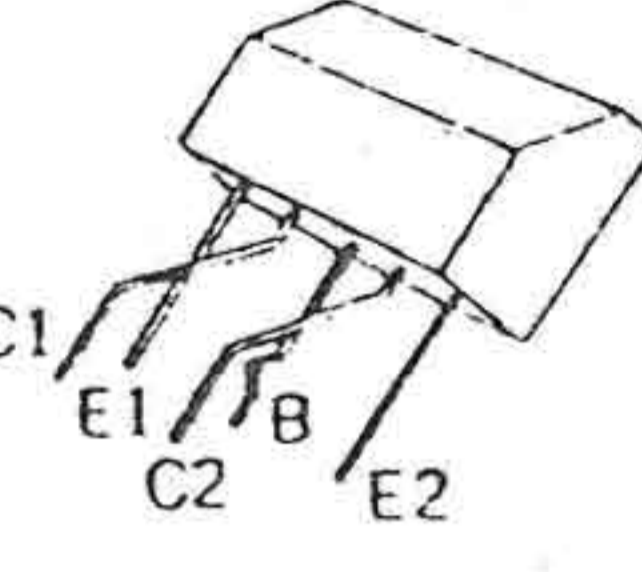
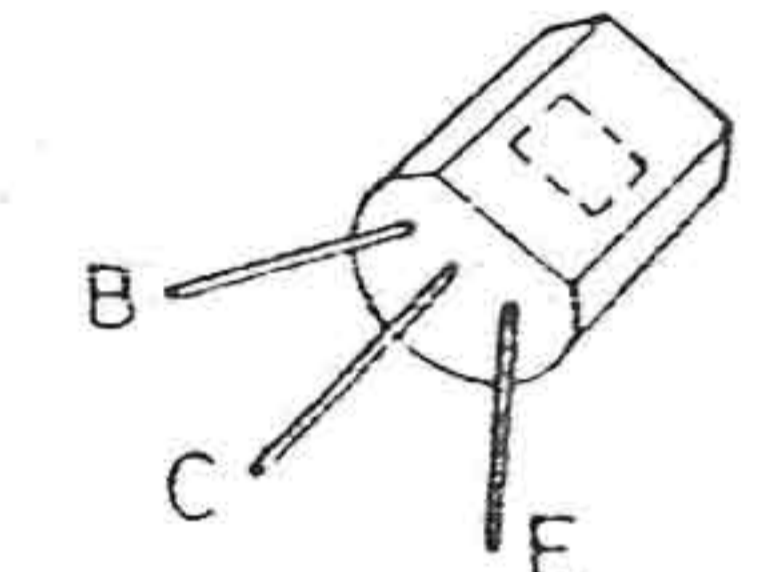
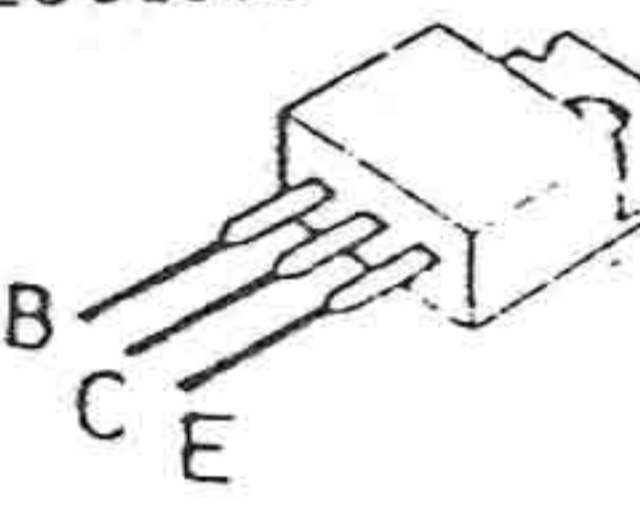
This is a straight DC amplifier which has been developed in quest of ideal sound quality while scientifically verifying the results of hearing tests with the best use of the 3DA (3 Dimension Analysis) to make analyses in relation to the three factors of amplifier (frequency characteristic, distortion, dynamic range) that determine the sound quality, and an I/O (Input/Output) distortion analyser which enabled us to analyze amplifier distortion by using musical signals.



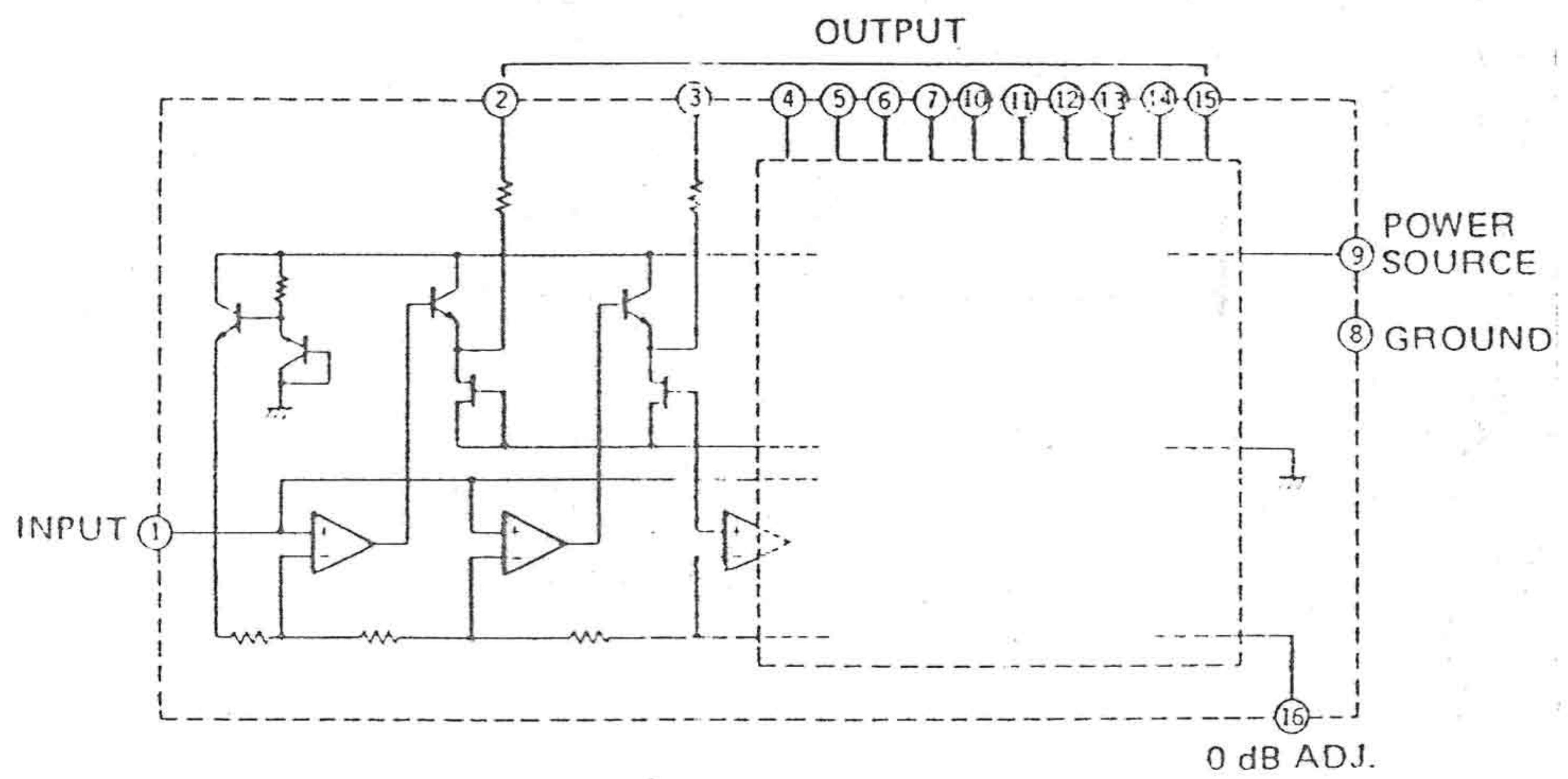
# ■ BLOCK DIAGRAM



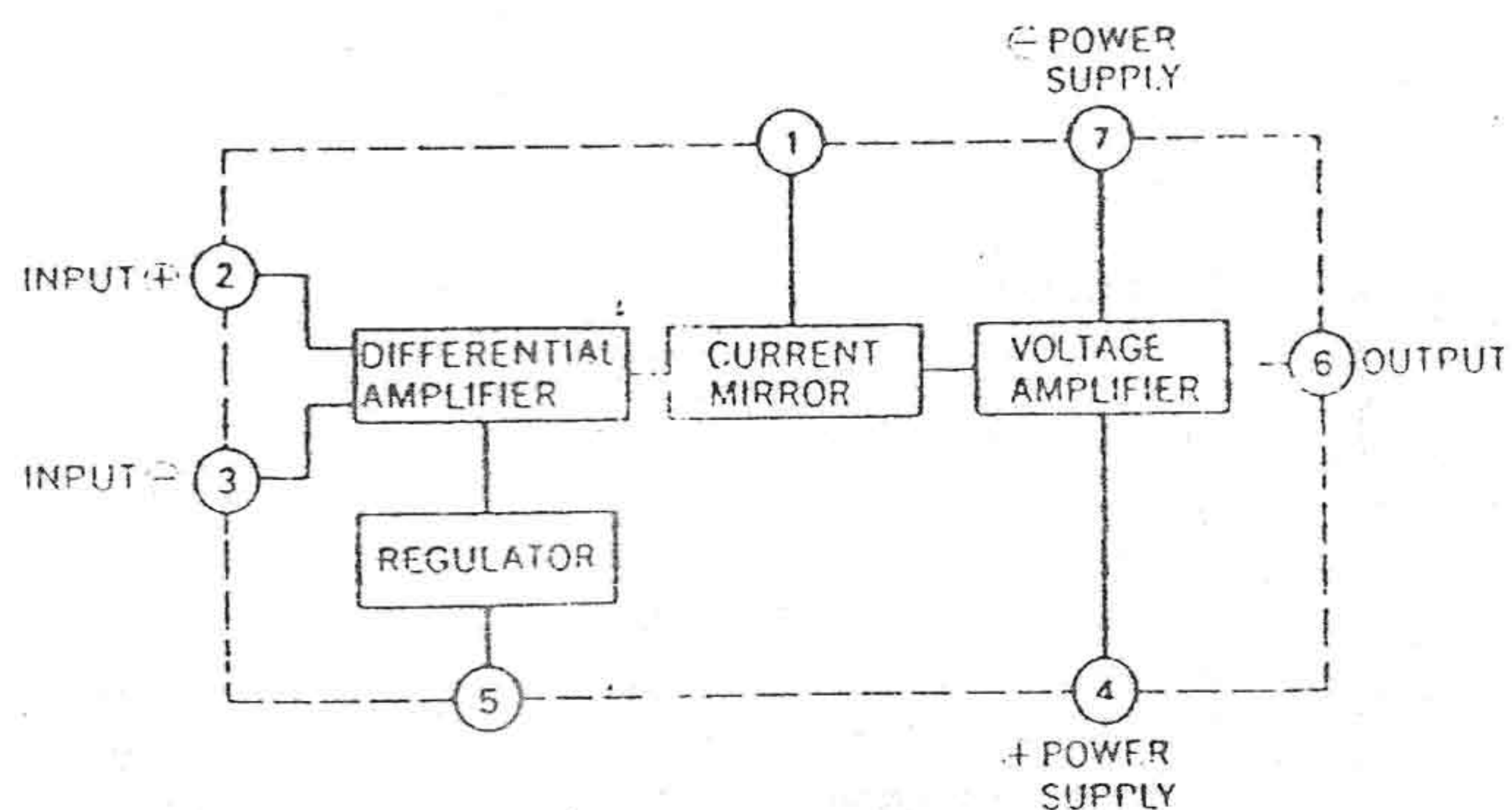
## ■ TERMINAL GUIDE OF TRANSISTORS AND IC'S

<p>SVIM5213L</p> 	<p>2SK155</p> 	<p>2SA794, 2SC1567</p> 	<p>2SA1065, 2SC2489</p> 
<p>SVIBA658</p> 	<p>2SK150</p> 	<p>2SA564, 2SA722 2SA777, 2SA912 2SA921, 2SA1015 2SC1318, 2SC1328 2SC1815, 2SC1885 2SC1980</p> 	<p>2SA995, 2SC2291</p> 
<p>2SA978, 2SC2385</p> 	<p>2SA913, 2SC1913 2SC1983</p> 		

## ■ BLOCK DIAGRAM OF IC'S

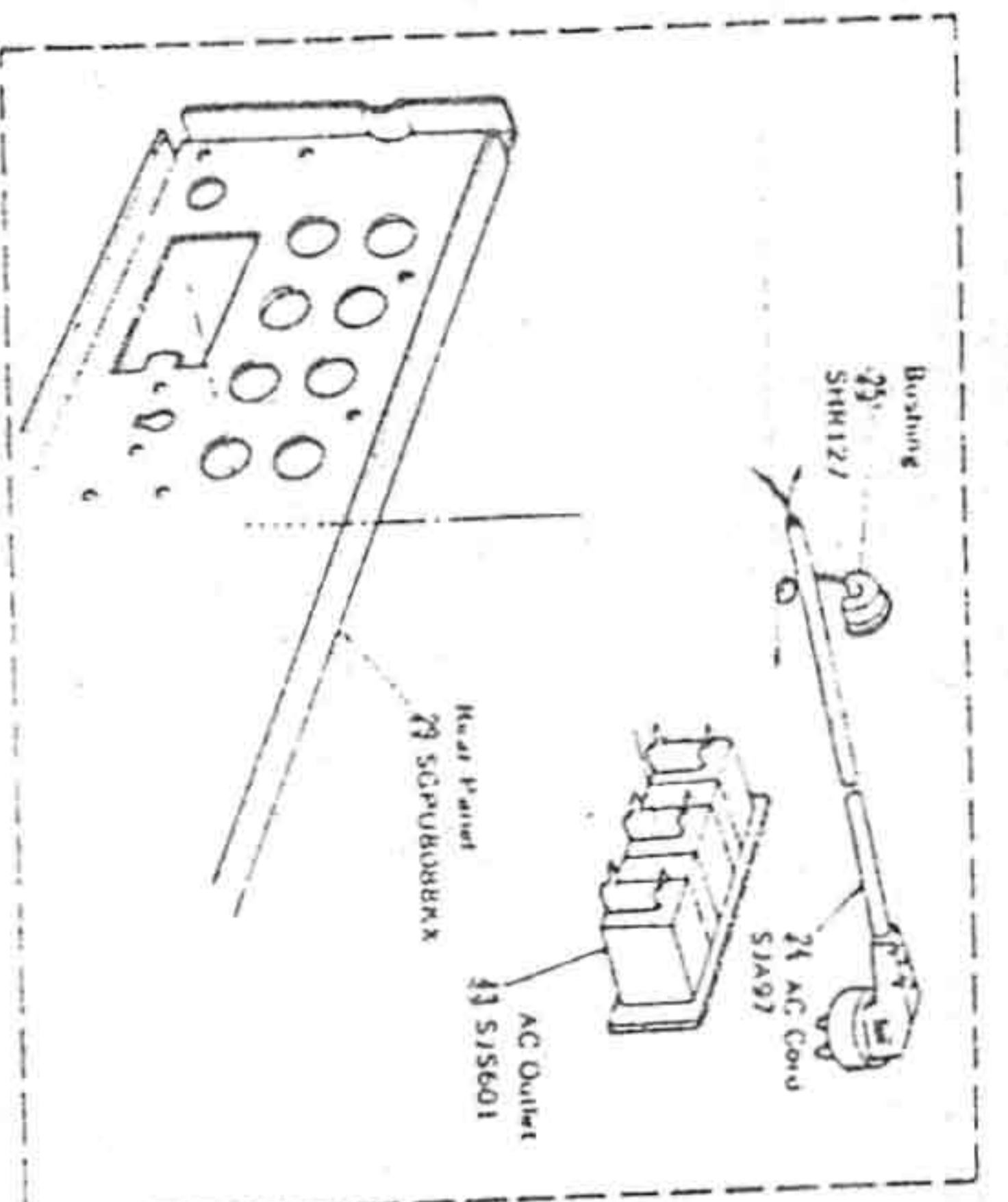


IC501, 502 (SVIBA658)  
Level comparator



IC301, 302 (SVIM5213L)  
Tone amplifier





## REPLACEMENT PARTS LIST ..... Cabinet and Chassis Parts

Notes: 1. Part numbers are indicated on most mechanical parts.  
 Please use this part number for parts order.  
 2. Δ indicates that only parts specified by the manufacturer be used for safety.

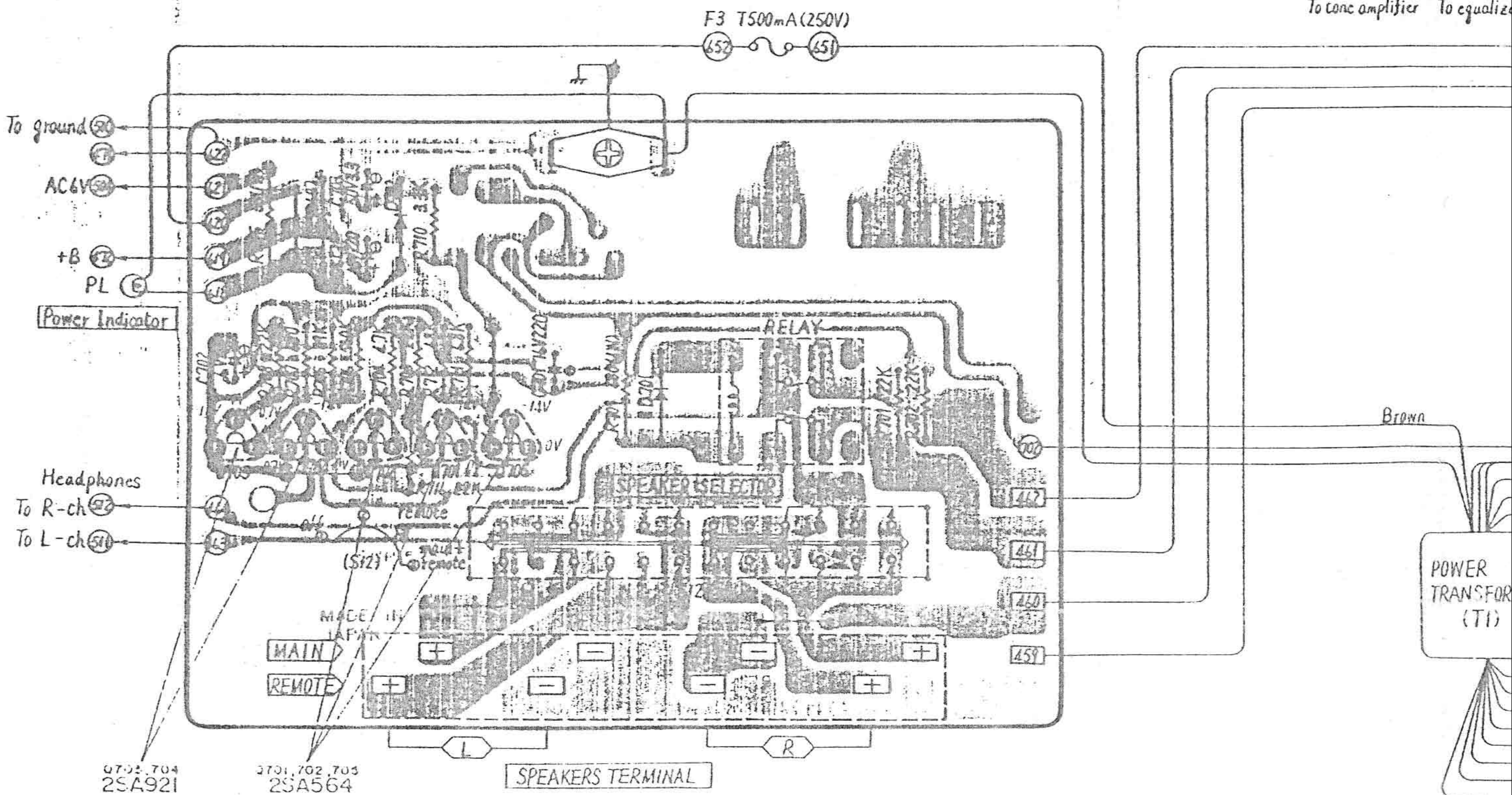
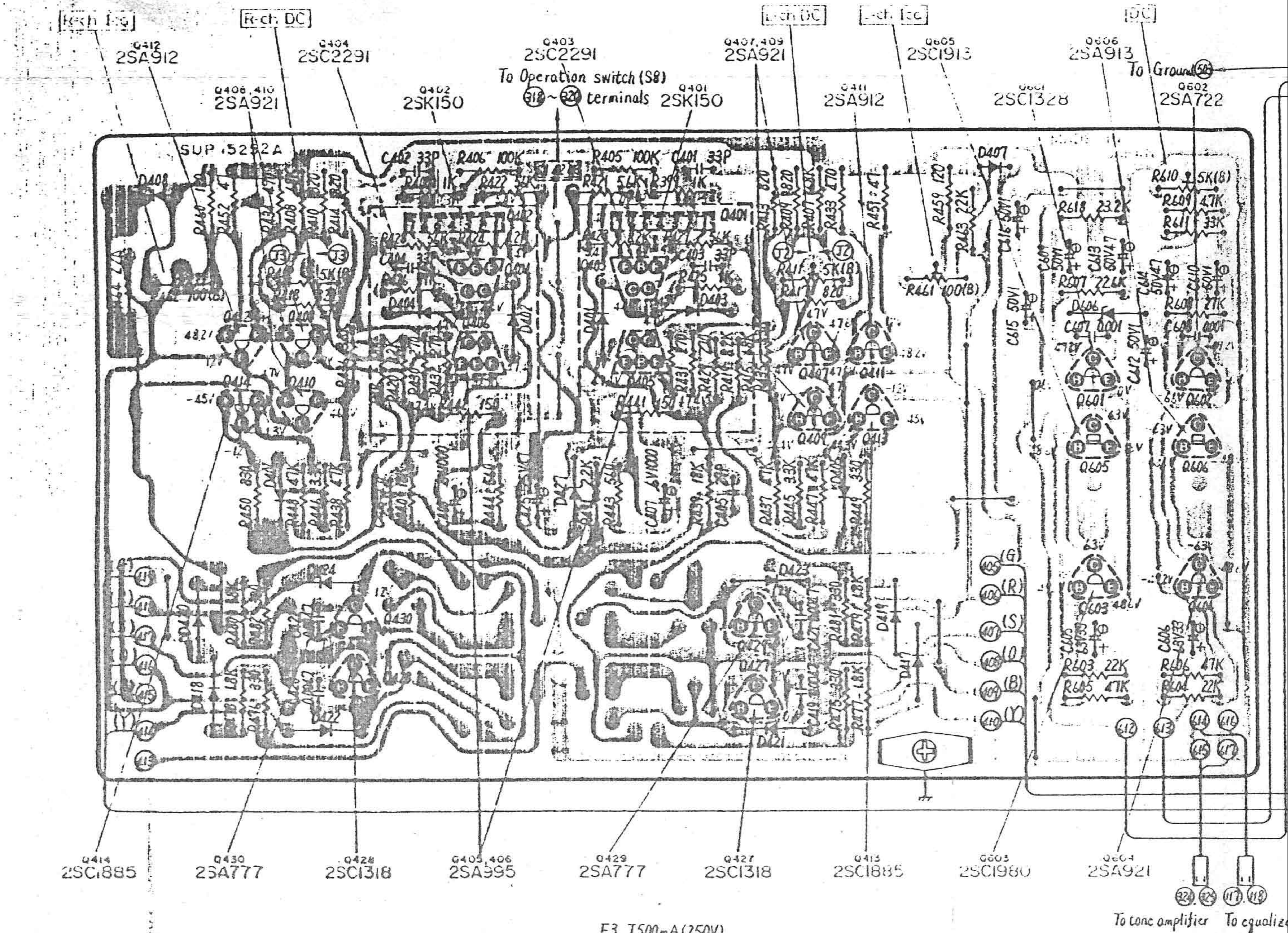
Ref. No.	Part No.	Part Name & Description
<b>CABINET and CHASSIS PARTS</b>		
1	SBH773	Knob, Volume Control
2	SBH771	Knob, Balance, Bass & Treble Control
3	SBH770	Knob, Selection Switches
4	SCW008B004	Panel, Front Assy
5	SDU1481	Bracket, LED Indicators
6	SDU1475	Filter, F.C. Peak Power Meter
7	SGU1479	Rubber Cushion, Filter
8	SUC1232	Spring, Push Switches
9	SBC1197	Button, Push Switches
10	SBD119	Knob, Lever Switches
11	SRE14021	Not. Volume & Balance Switches Mfg
12	XMS12	Not. Headphones Jack Mfg
13	SRE14021	Not. Headphones Jack Mfg
14	X-CEB21B A	Jack Headphones
15	ESG23821	Remote Switch, Speakers Selector
16	ESG2388	Remote Switch, Recording Selector (w/Volume)
17	ESG2382	Remote Switch, Recording Selector (w/Volume)
18	ESG2385	Remote Switch, Input Selector (w/Volume)
19	ESG2387	Remote Switch, Speakers (w/Volume)
20		
21	SJF1407	Terminal, Speakers
22	SFE14011	Capacitor
23	SJF14000	AC Cord, Power Source (w/Panel Plug)
24	SJAF7	AC Cord, Power Source (w/Panel Plug)
25	SJA111	AC Cord, Power Source (w/Panel Plug)
26	SJF14127	Headphone, AC Cord
27	SJH004	DMR Socket, Tape Deck Connection
28	SJH1101	Terminal, Tape Deck (Ground)
29	SJH1301	Log Ear, (Ground)
30	SGP14088W	Front Panel, SGP14088 W with Plug (SGP14017)
31	SGP14088W	Rear Panel, SGP14088 W with Plug (SGP14017)
32	SGP14088W	Panel, SGP14088 W
33	SJH12115	Terminal, PHONO 1 Input
34	SJH12114	Terminal, PHONO 2 Input

Ref. No.	Part No.	Part Name & Description
<b>CAPACITORS</b>		
R901	ERD251447Z	Carbon, 4.7kΩ, 1/4W, ±5%
R903, 904	ERD251447Z	Carbon, 4.7kΩ, 1/4W, ±5%
R905, 906	ERD251447Z	Carbon, 500kΩ, 1/4W, ±5%
R907, 908	ERD251447Z	Carbon, 100kΩ, 1/4W, ±5%
CT 2, 3	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C4	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C100	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C101, 102	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C103, 104	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C105, 106	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C107, 108	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C109, 110	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C111, 112	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C113, 114	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C115, 116	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C117, 118	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C119, 120	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C121, 122	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C151, 152	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C153, 154	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C155	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C201, 202	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C203, 204	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C205, 206	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C207, 208	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C209, 210	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C211, 212	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C213, 214	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C215, 216	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C217, 218	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C219, 220	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C221, 222	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C223, 224	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C225, 226	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C227, 228	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C229, 230	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C231, 232	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C233, 234	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C235, 236	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C237, 238	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C301, 302	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C303, 304	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C305, 306	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C307, 308	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C309, 310	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C311, 312	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C313, 314	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C315, 316	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C317, 318	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C319, 320	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C321, 322	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C323, 324	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C325, 326	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C327, 328	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C329, 330	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C331, 332	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C333, 334	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C400	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C401, 402	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C403, 404	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C405, 406	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C407, 408	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C415, 416	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C417, 418	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C419, 420	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C421, 422	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C423, 424	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C425	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C431, 432	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C441, 442	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C501, 502	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C503, 504	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C505, 506	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C507, 508	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C509, 510	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C511	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C512	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C601, 602	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C603, 604	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C605, 606	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C607, 608	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C609, 610	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C612	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C613, 614	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C615, 616	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C617	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C701	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C702	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%
C703	ECEA1A5331	Ceramic, 0.01μF, 400VAC, ±5%



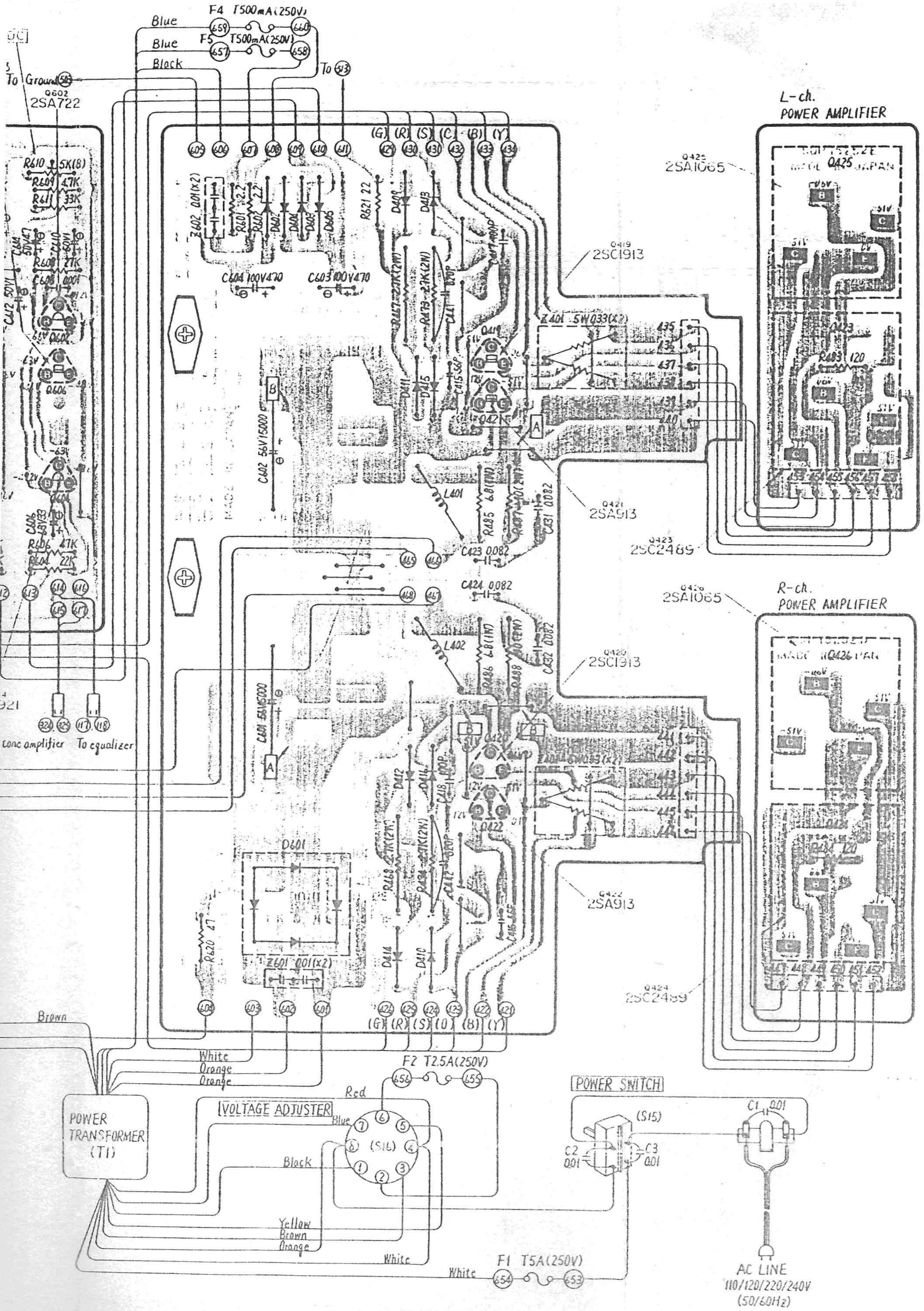


# PRINTED CIRCUIT BOARD WIRING VIEW ..... POWER SUPPLY & POWER AMPL

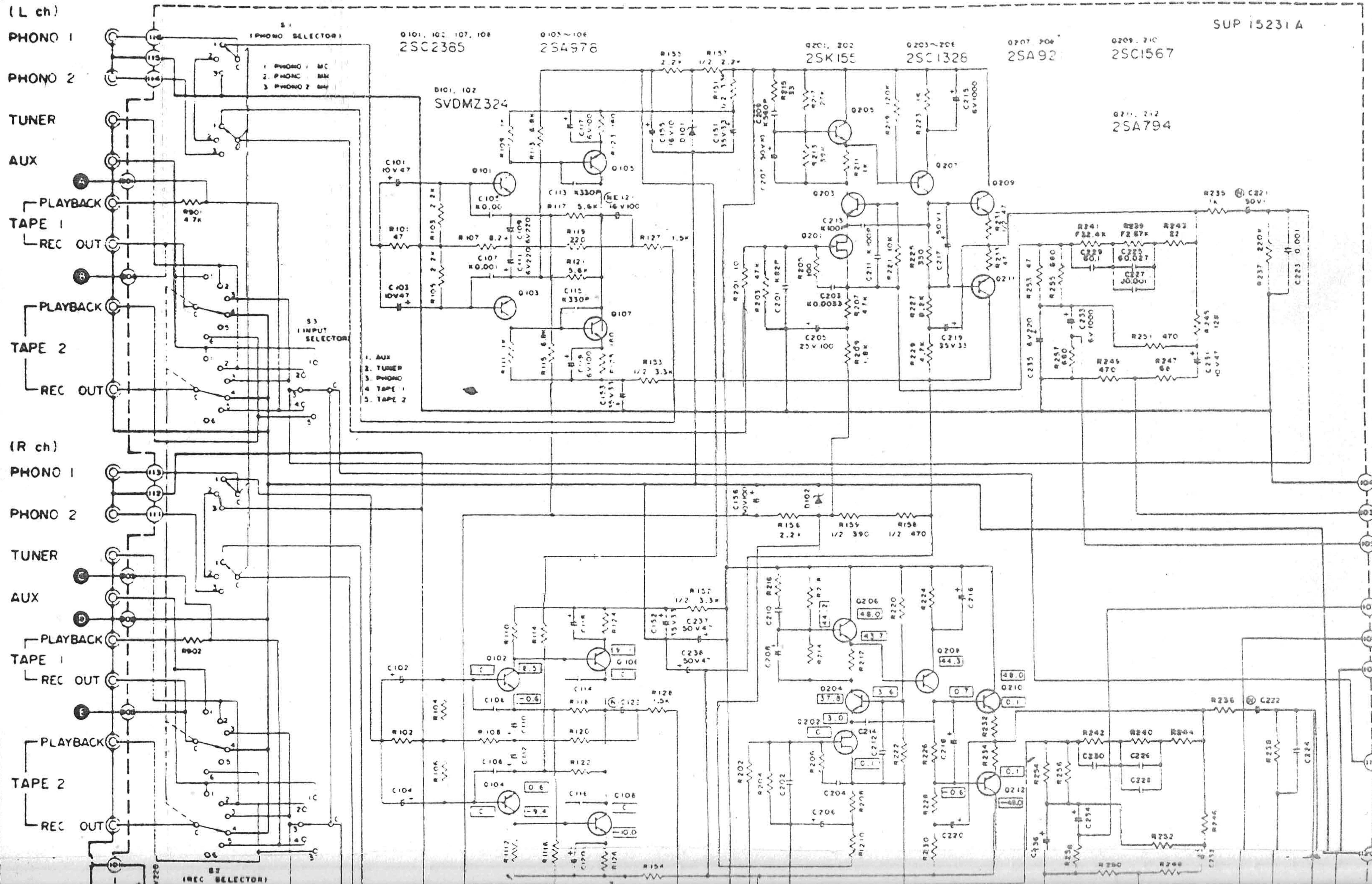


# ER AMPLIFIER CIRCUITS

Earth (Ground) Lines



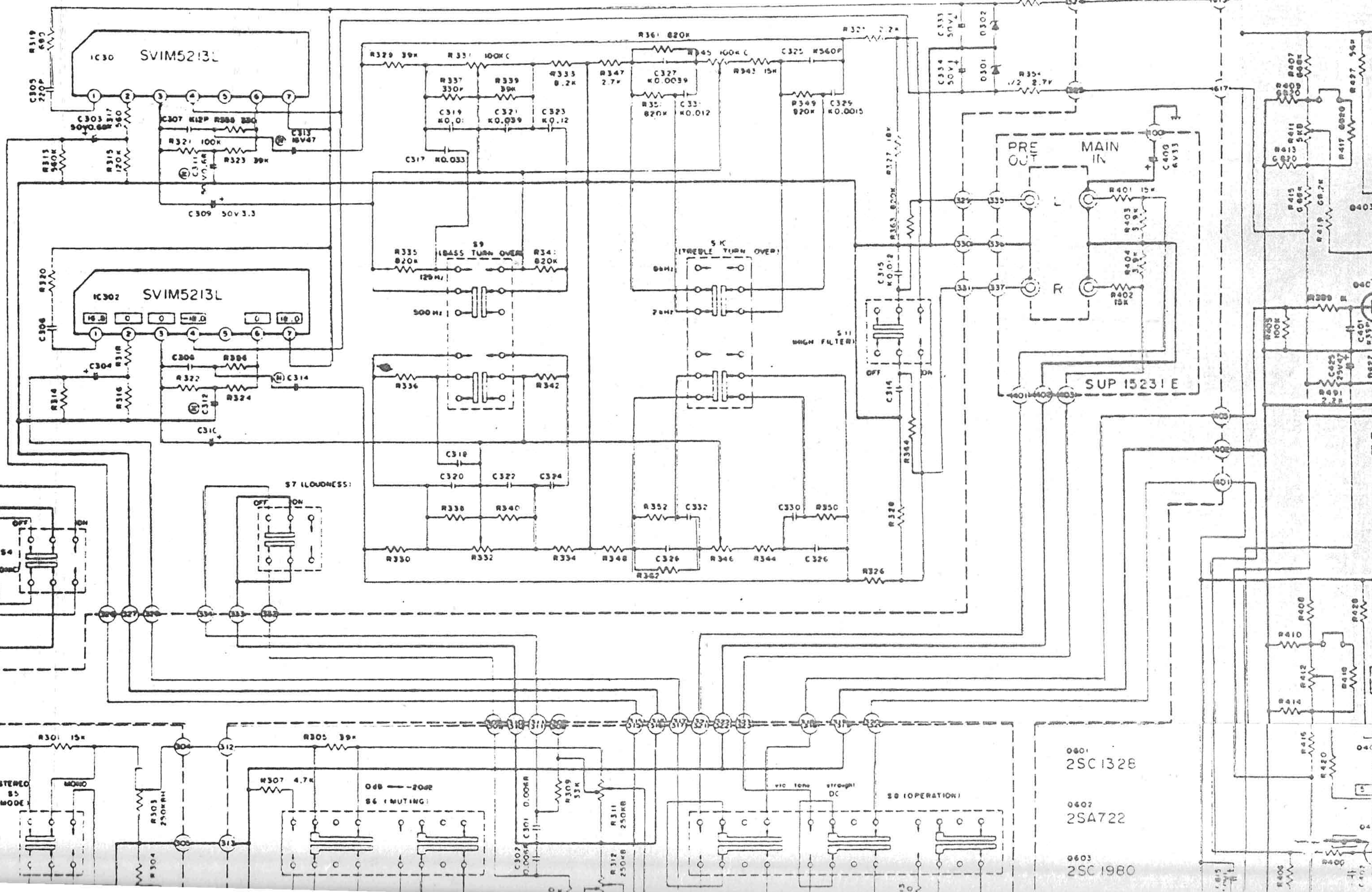




SUP 15231B

D301 302  
SVDMZ 318

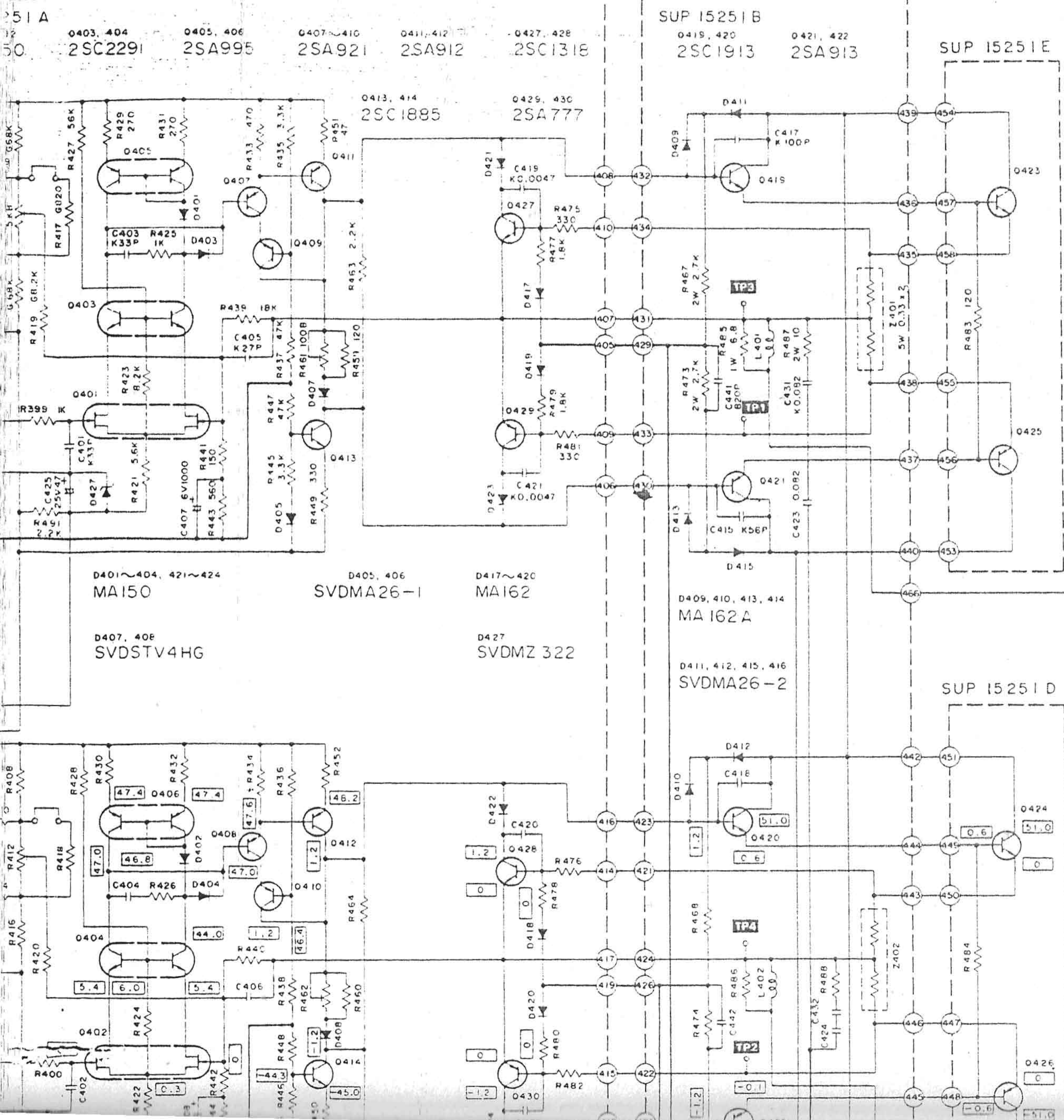
SUP 15251A  
0401 402  
25K 150 25C



0401 25C 132E  
 0402 25A 722  
 0403 25C 1980

0223 0001

0221



51 A  
 0403, 404 2SC2291  
 0405, 406 2SA995  
 0407~410 2SA921  
 0411, 412 2SA912  
 0427, 428 2SC1318

SUP 1525 | B  
 0419, 420 2SC1913  
 0421, 422 2SA913

SUP 1525 | E

0413, 414 2SC1885  
 0429, 430 2SA777

0423, 424 2SC2489

0425, 426 2SA1065

D401~404, 421~424 MA150

D405, 406 SVDMA26-1

D417~420 MA162

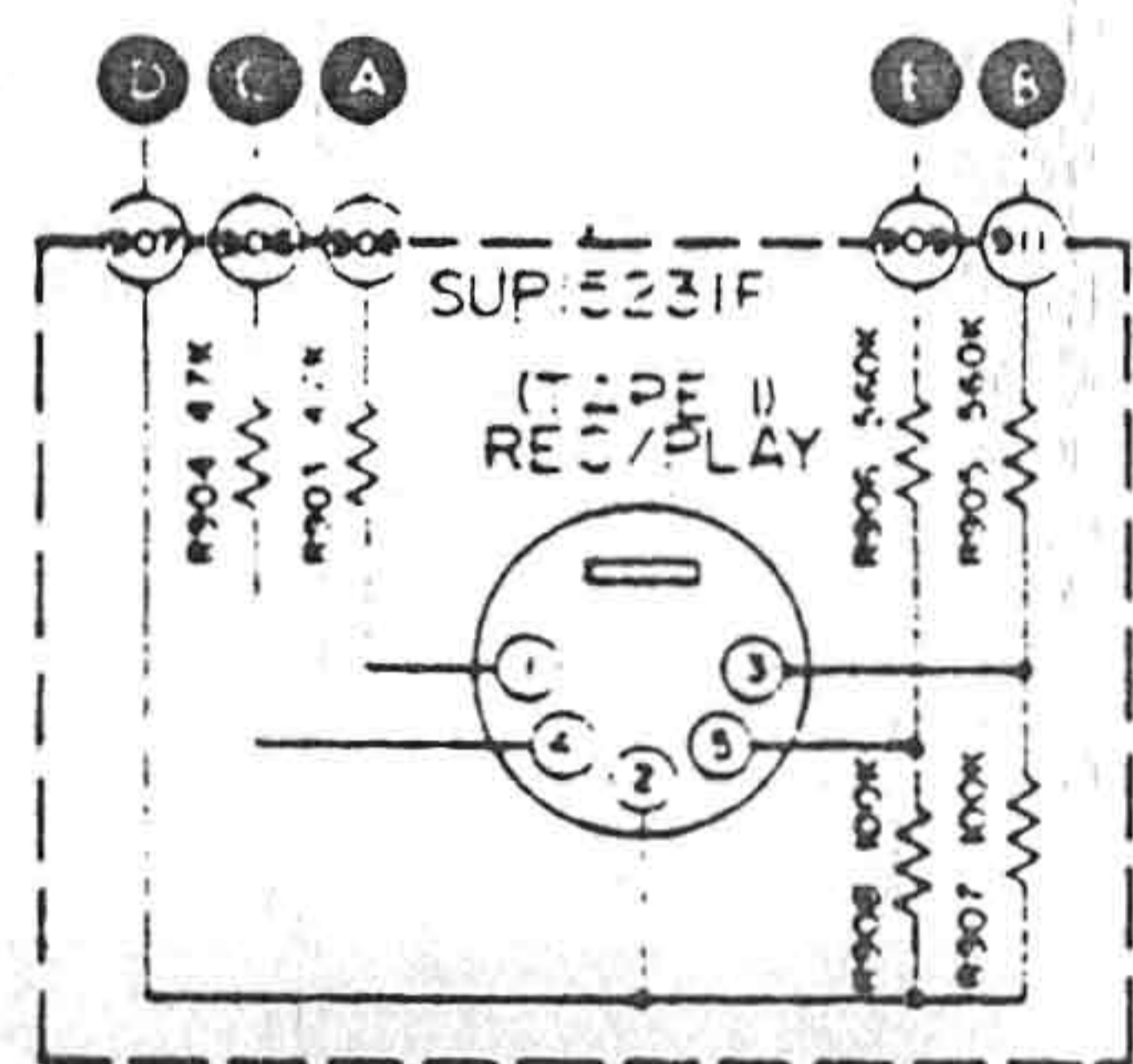
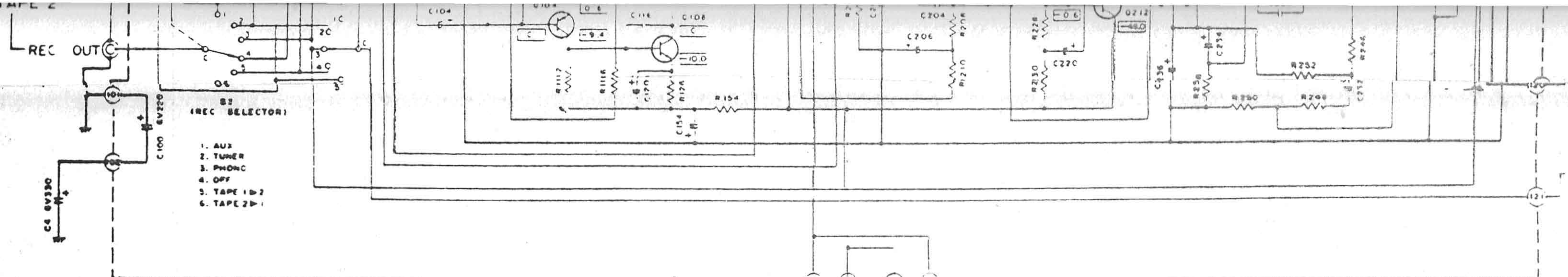
D409, 410, 413, 414 MA 162 A

D427 SVDMZ 322

D411, 412, 415, 416 SVDMA26-2

SUP 1525 | D

A  
 B  
 C  
 D  
 E

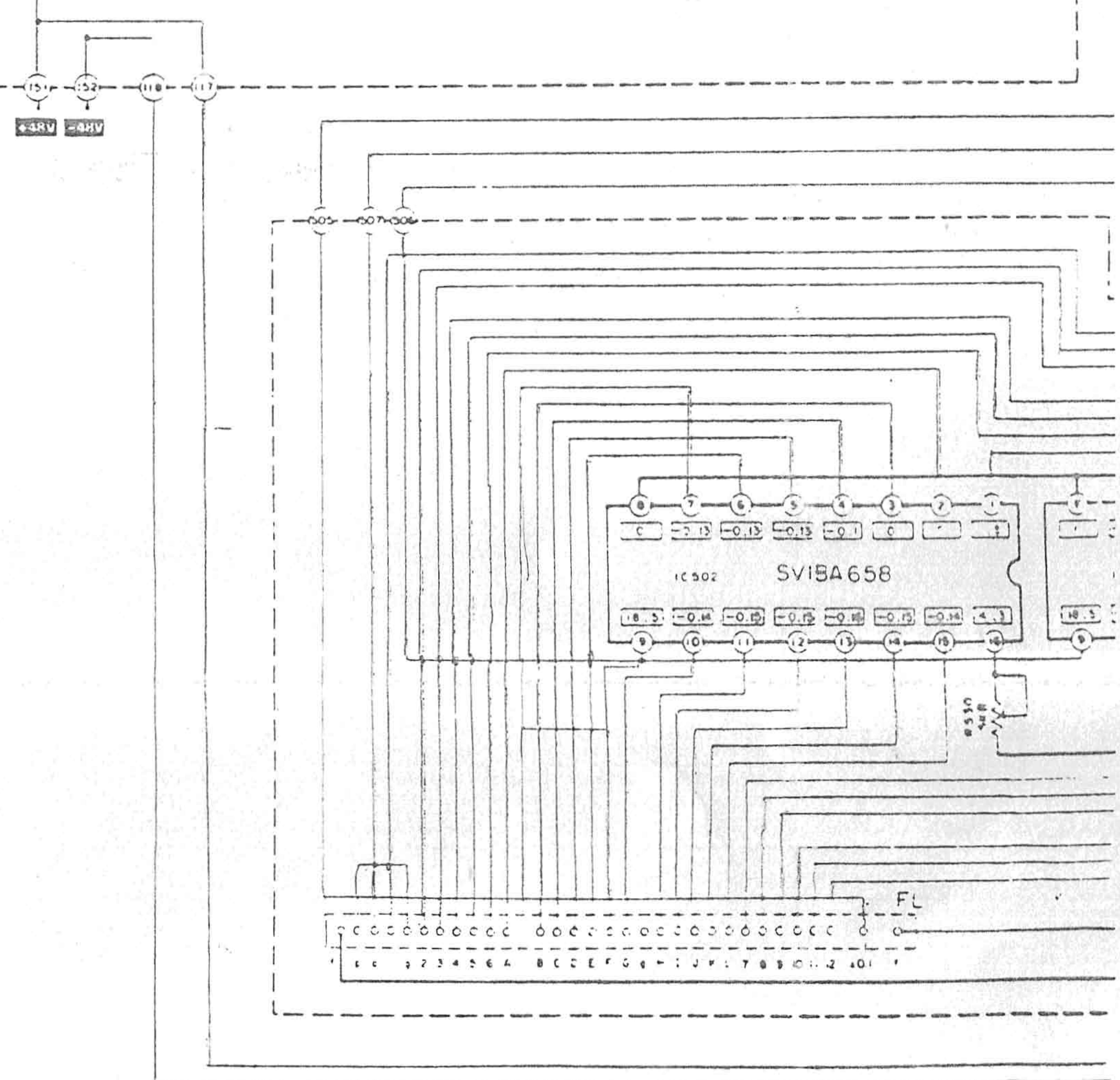


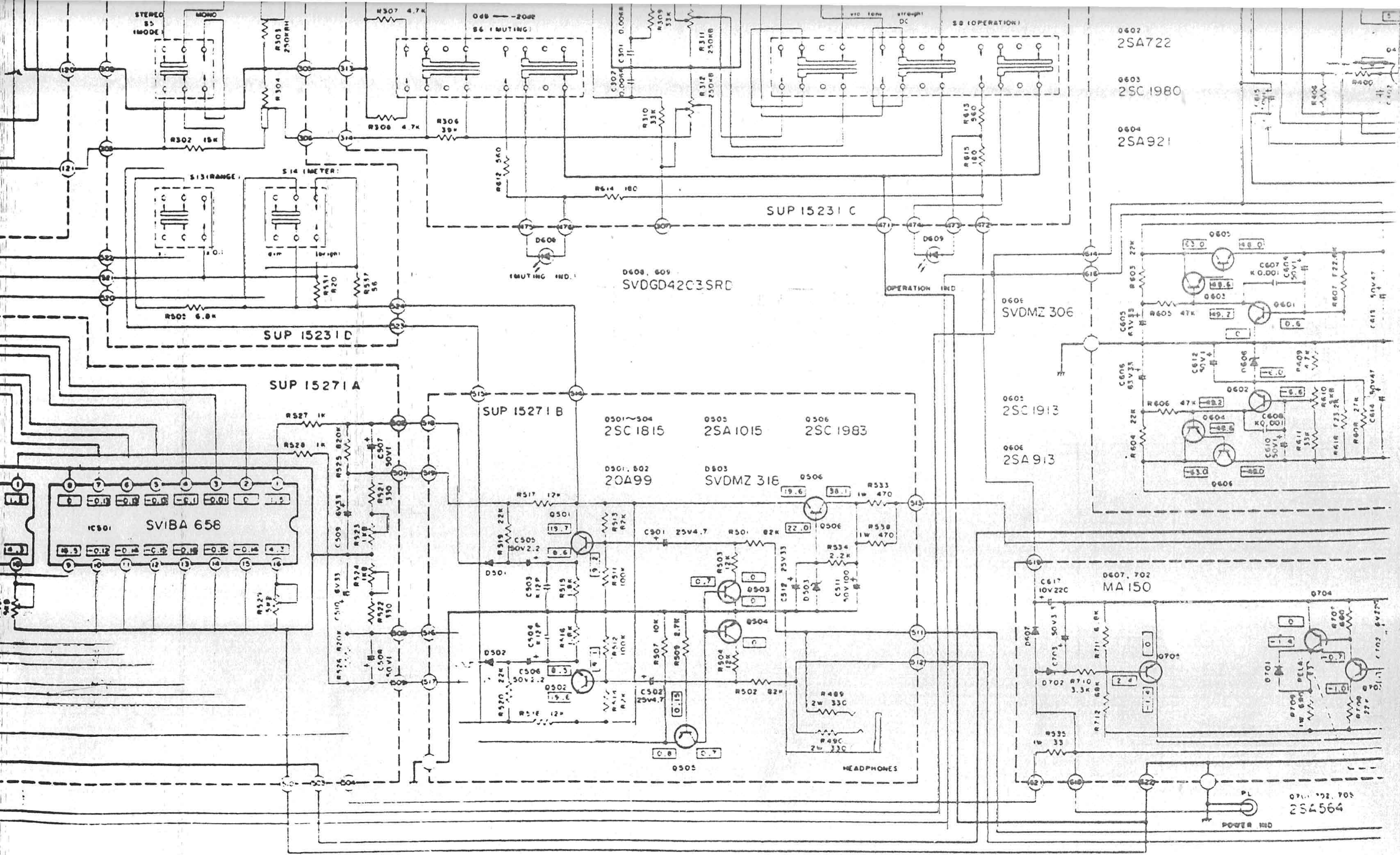
**NOTES**

1. **S1** : Phono selector switch in "phono 1 MC" position.  
 1 phono 1 MC → 2 phono 1 MM → 3 phono 2 MM
2. **S2** : Recording selector switch in "off" position.  
 1 aux → 2 tuner → 3 phono → 4 off → 5 tape dubbing 1 > 2  
 → 6 tape dubbing 2 > 1
3. **S3** : Input selector switch in "phono" position.  
 1 aux → 2 tuner → 3 phono → 4 tape 1 → 5 tape 2
4. **S4** : Equalizer subsonic filter switch in "off" position
5. **S5** : Mode switch in "stereo" position. (stereo → mono)
6. **S6** : Muting switch in "0 dB" position. (0 dB → 20 dB)
7. **S7** : Loudness switch in "off" position.
8. **S8** : Operation switch in "straight DC" position. (straight DC → via tone)
9. **S9** : Bass turnover frequency switch in "500 Hz" position. (500Hz → 125 Hz)
10. **S10** : Treble turnover frequency switch in "2 kHz" position. (2 kHz → 8 kHz)
11. **S11** : High filter switch in "off" position
12. **S12** : Speakers switch in "off" position.  
 1 off → 2 main → 3 remote → 4 main + remote
13. **S13** : Meter range switch in "X1" position.
14. **S14** : Meter switch in "dim" position.
15. **S15** : Power switch in "on" position.
16. **S16** : Voltage adjuster switch in "240V" position.  
 120V (1 5 8 1) → 110V (2 3 7 8) → 220V (3 3 6 7) → 240V (1 2 5 6)

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.

17. This schematic diagram may be modified at any time with the development of new technology.
18. To represent transistors, Q is used instead of TR (E, TR1 → Q).





STEREO  
S5  
IMODE

MONO

068 -20dB  
S6 IMUTING

SS (OPERATION)

Q602  
2SA722

Q603  
2SC1980

Q604  
2SA921

S13 RANGE

S14 IMETER

SUP 15231 C

D608, 609  
SVDGD42C3SRD

D606  
SVDMZ 306

SUP 15231 D

SUP 15271 A

SUP 15271 B

Q501~Q504  
2SC1815

Q505  
2SA1015

Q506  
2SC1983

D501, 502  
20A99

D503  
SVDMZ 316

Q605  
2SC1913

Q606  
2SA913

IC501  
SVIBA 658

Q501  
19.7

Q502  
8.6

Q503  
19.2

Q504  
72.0

Q505  
19.6

Q506  
38.1

Q607, 702  
MA150

Q505  
0.8

Q506  
0.7

Q701, 702, 703  
2SA564

POWER IND



1

2

3

4

5

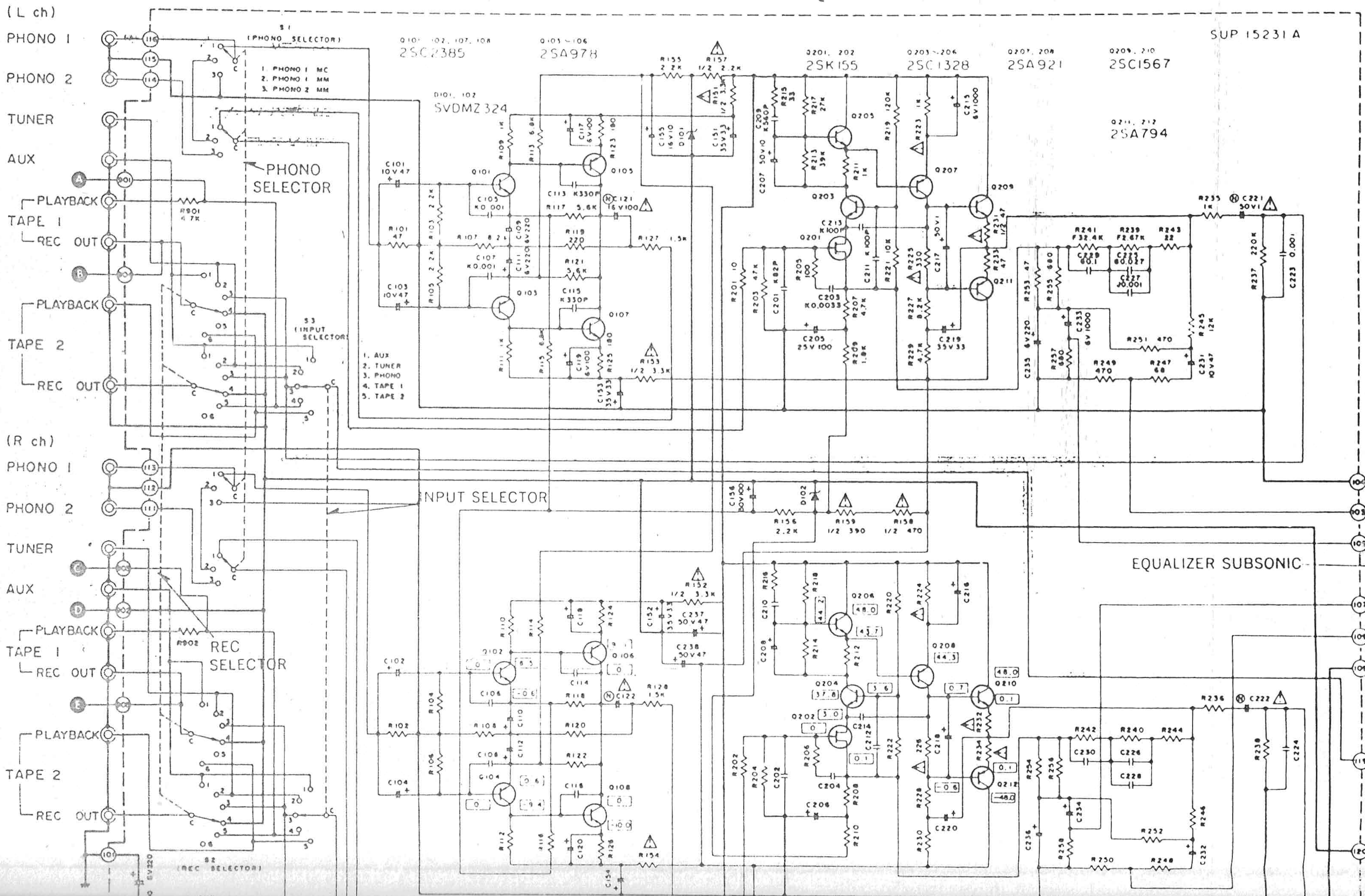
6

7

MC AMPLIFIER

EQUALIZER AMPLIFIER

SUP 15231 A



# TONE AMPLIFIER

SUP 15231 B

BASS

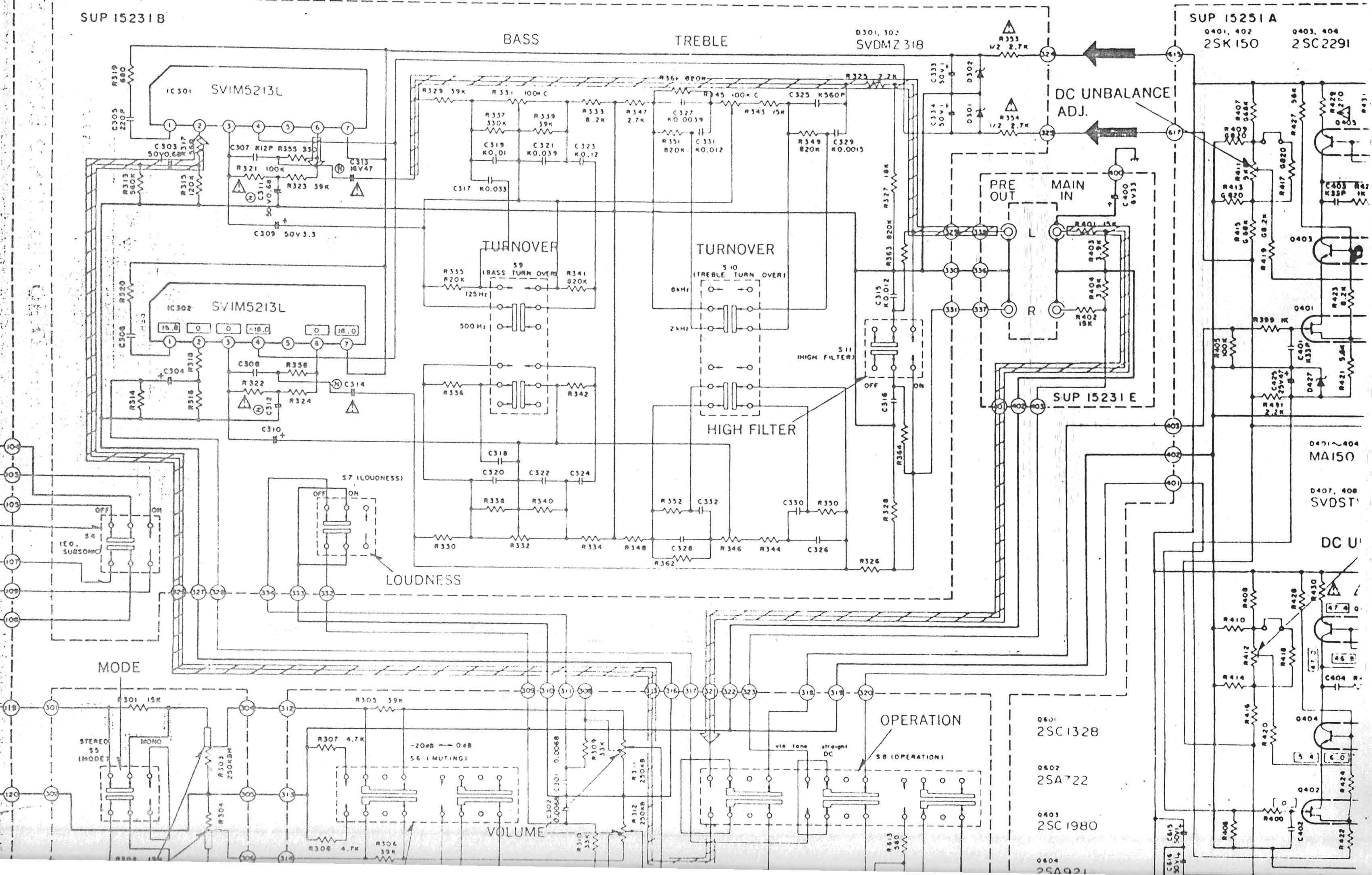
TREBLE

D301, 302  
SVDMZ 318

SUP 15251 A

0401, 402  
2SK150

0403, 404  
2SC2291



DC UNBALANCE  
ADJ.

PRE  
OUT

MAIN  
IN

SUP 15231 E

0401 ~ 404  
MA150

0407, 408  
SVDST

DC U

OPERATION

0601  
2SC1328

0602  
2SA722

0403  
2SC1980

0404  
2SA921

MODE

STEREO  
SS (MODE)

MONO

-20dB - 0dB  
SE (MUTING)

VOLUME

via tone  
straight  
DC

SB (OPERATION)

ST (LOUDNESS)

LOUDNESS

TURNOVER  
59  
(BASS TURN OVER)

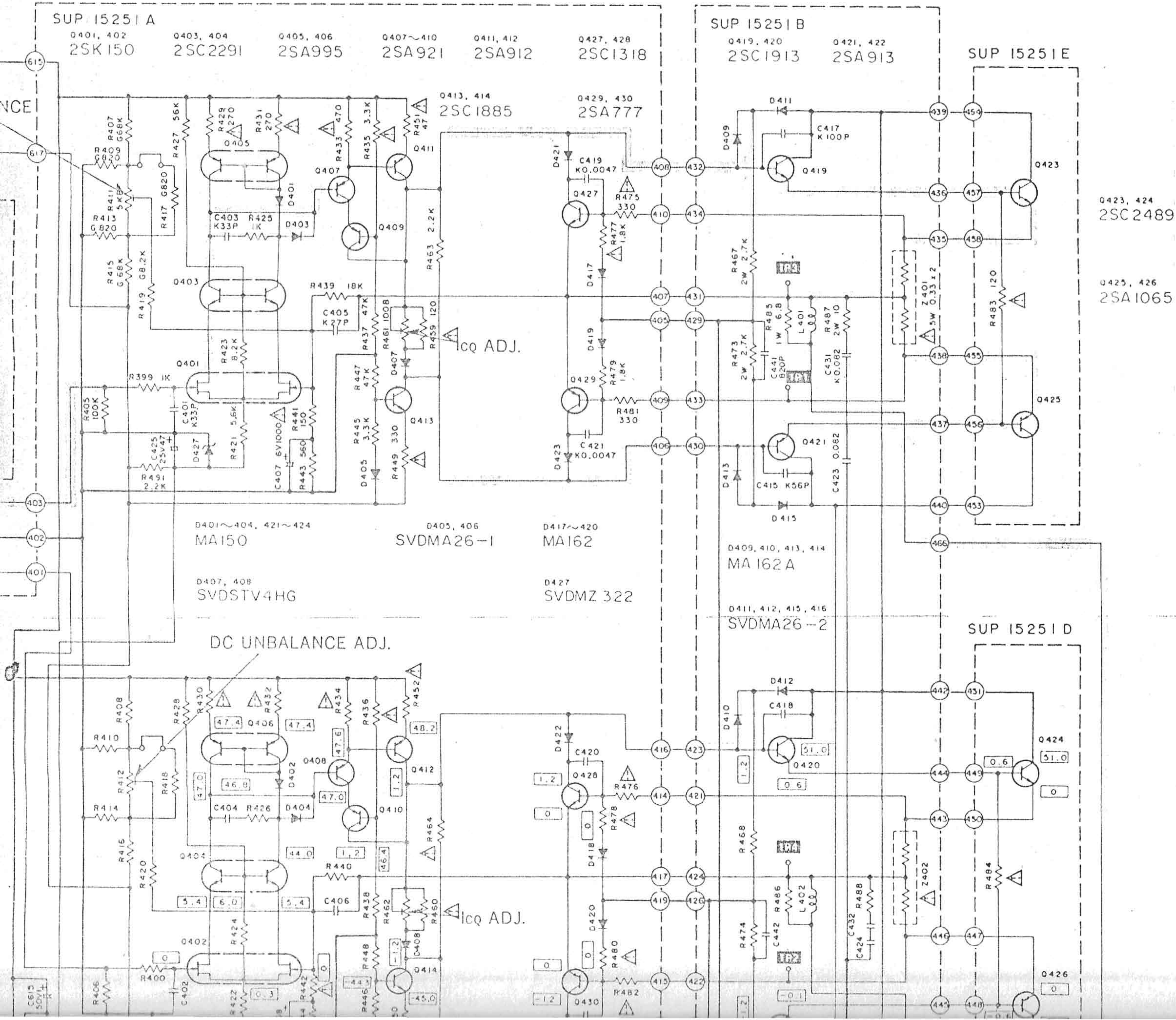
TURNOVER  
510  
(TREBLE TURN OVER)

HIGH FILTER

HIGH FILTER



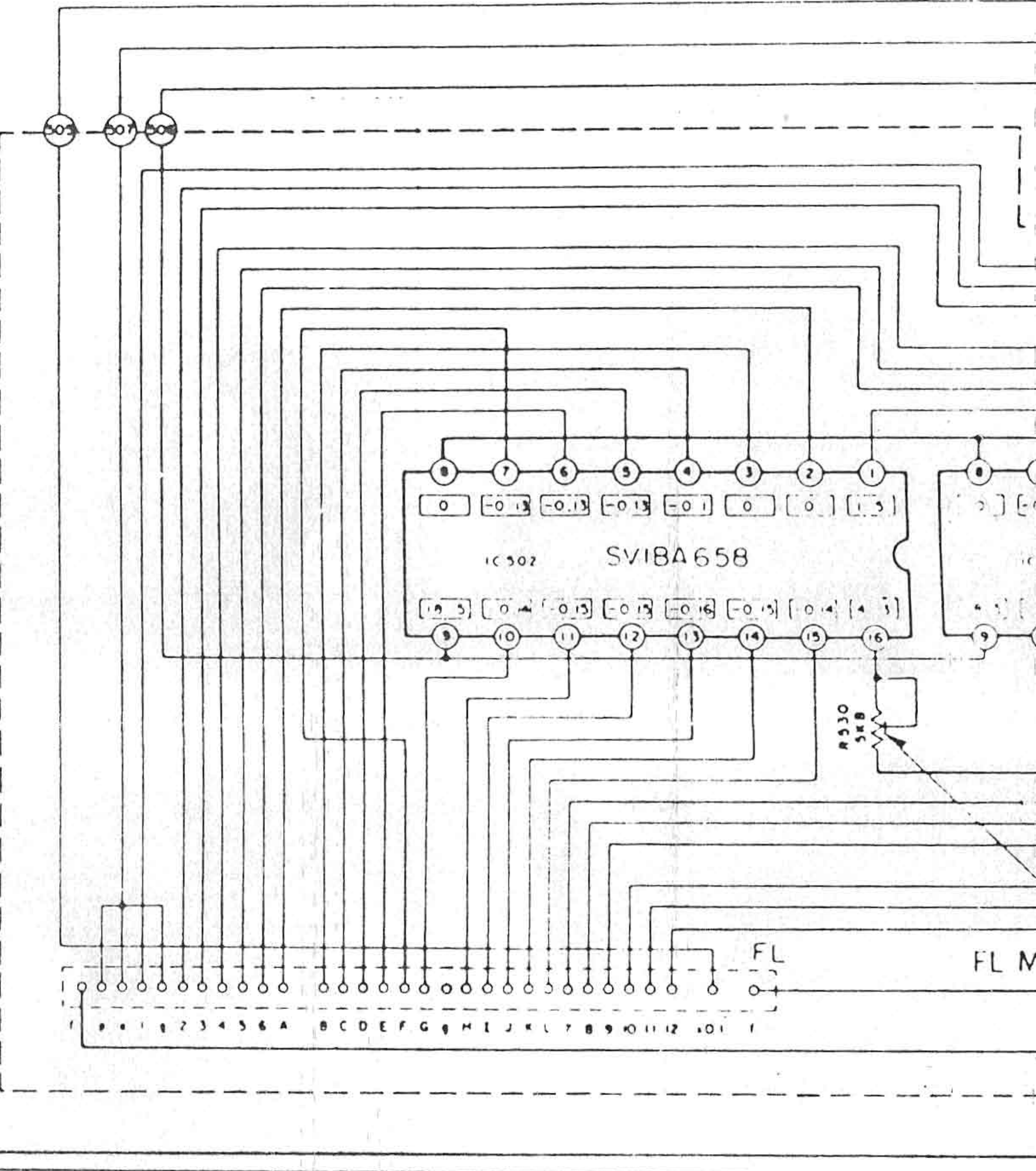
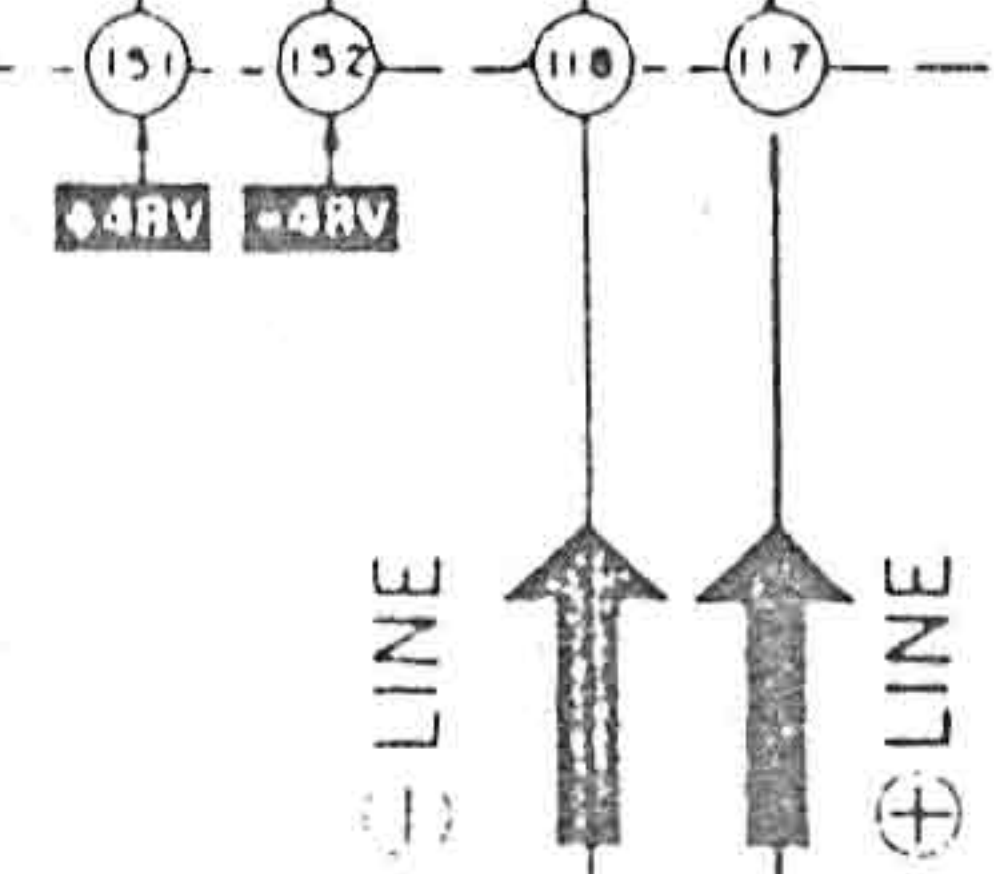
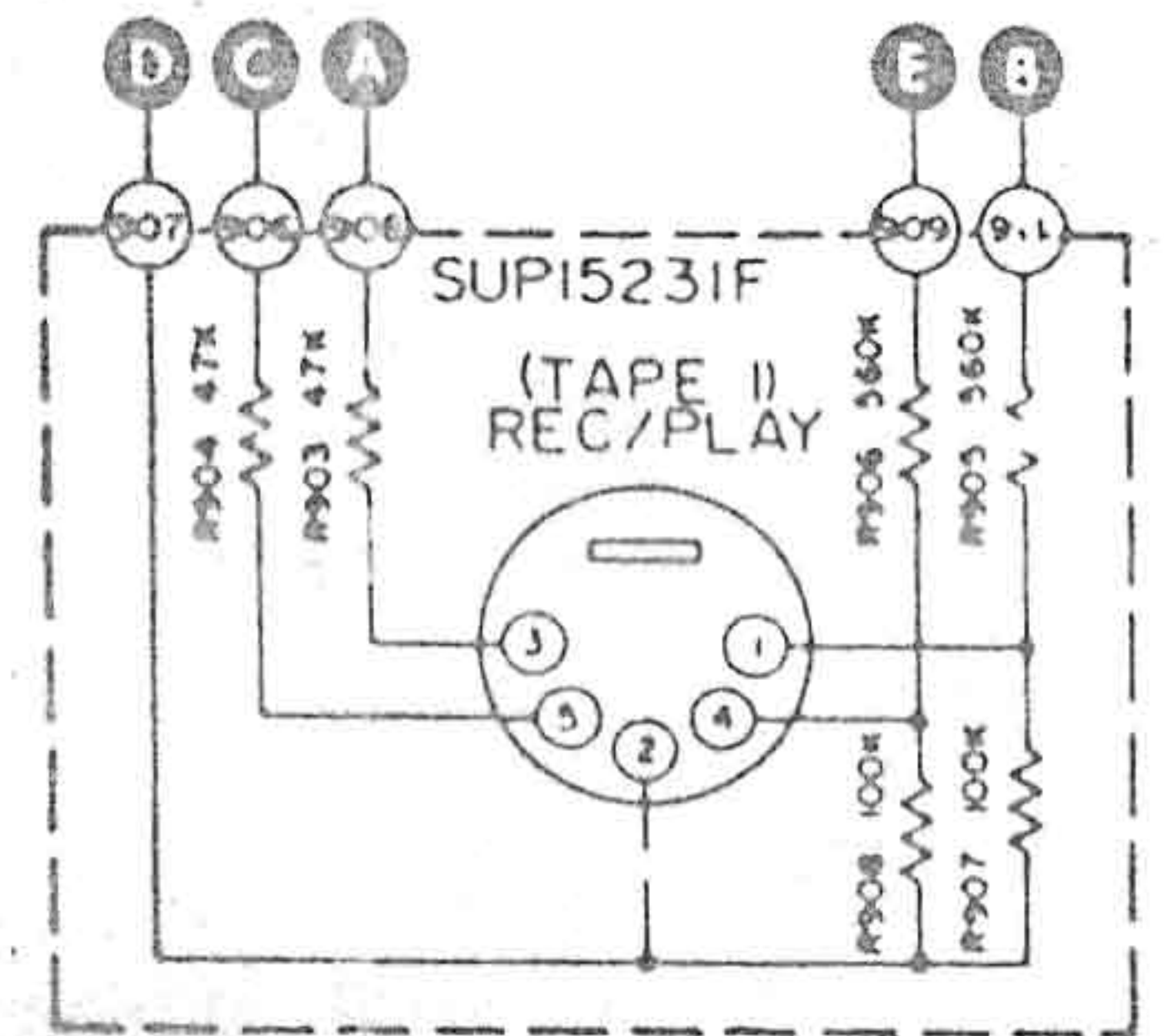
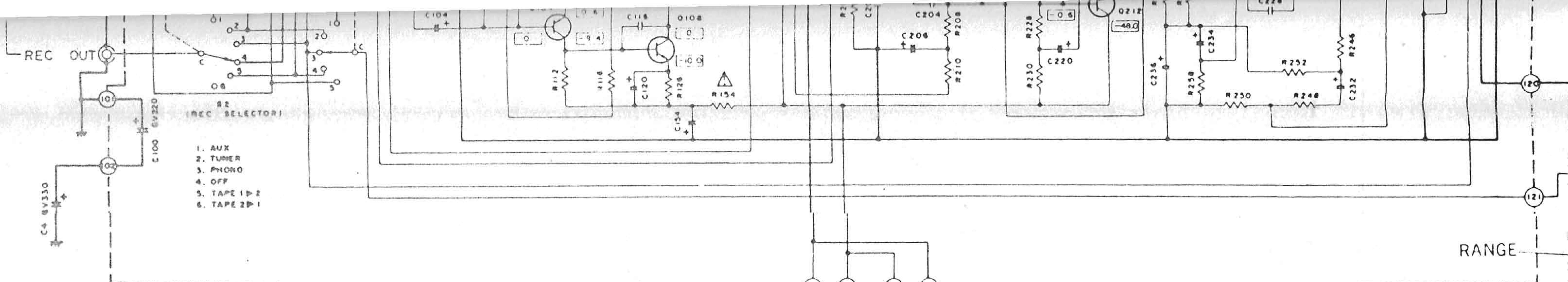
# MAIN AMPLIFIER



Ref. No.	Production Part	Standard Part
Q602	2SA722-T	2SA902S-F
Q701, 702, 705	2SA564-P	2SA666AI-R

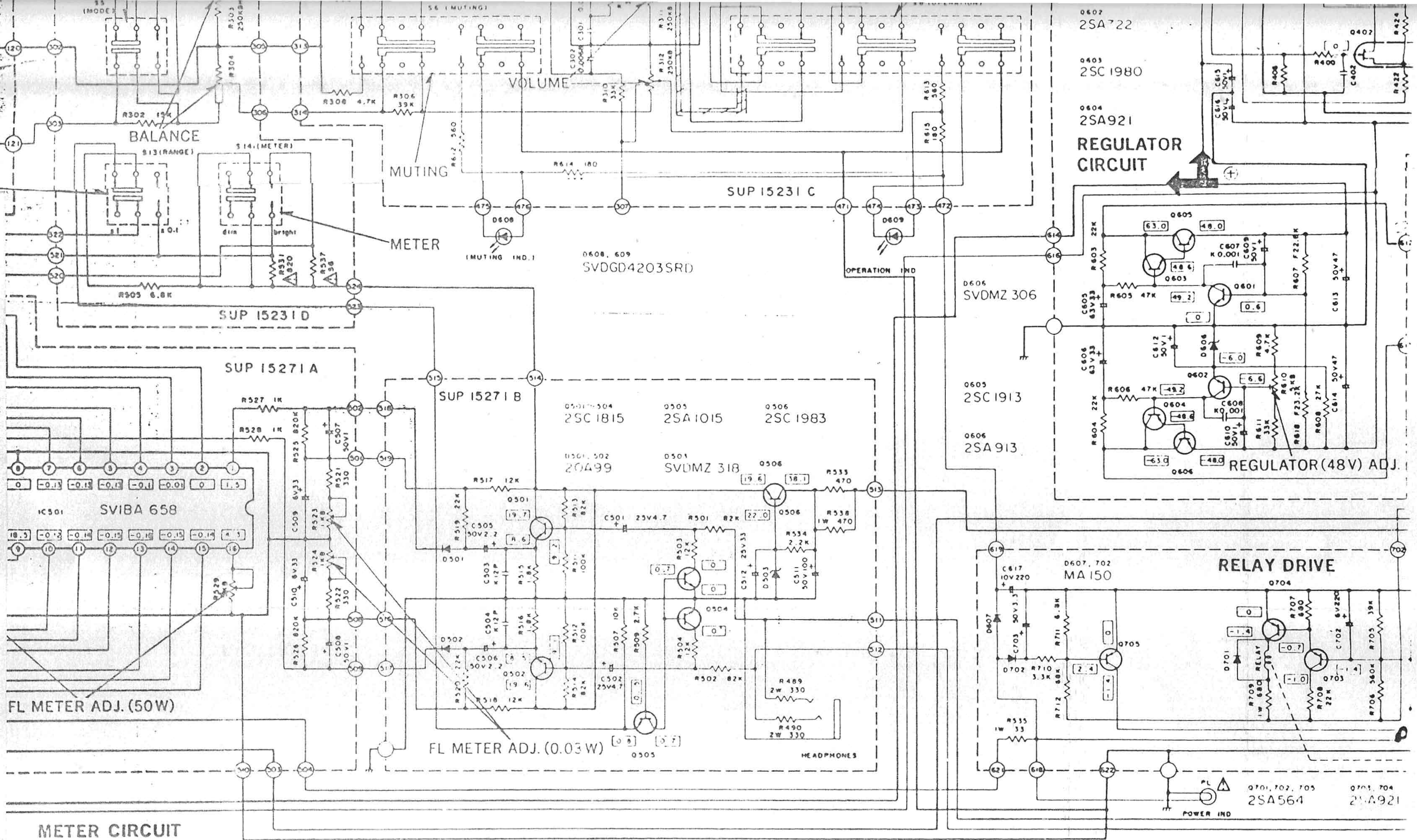
Q423, 424  
2SC2489

Q425, 426  
2SA1065



**NOTES**

1. S1 : Phono selector switch in "phono 1 MC" position.  
 ① phono 1 MC ↔ ② phono 1 MM ↔ ③ phono 2 MM
  2. S2 : Recording selector switch in "off" position.  
 ① aux ↔ ② tuner ↔ ③ phono ↔ ④ off ↔ ⑤ tape dubbing 1 > 2  
 ↔ ⑥ tape dubbing 2 > 1
  3. S3 : Input selector switch in "phono" position.  
 ① aux ↔ ② tuner ↔ ③ phono ↔ ④ tape 1 ↔ ⑤ tape 2
  4. S4 : Equalizer subsonic filter switch in "off" position
  5. S5 : Mode switch in "stereo" position. (stereo ↔ mono)
  6. S6 : Muting switch in "0 dB" position. (0 dB ↔ 20 dB)
  7. S7 : Loudness switch in "off" position.
  8. S8 : Operation switch in "straight DC" position. (straight DC ↔ via tone)
  9. S9 : Bass turnover frequency switch in "500 Hz" position. (500Hz ↔ 125 Hz)
  10. S10 : Treble turnover frequency switch in "2 kHz" position. (2 kHz ↔ 8 kHz)
  11. S11 : High filter switch in "off" position.
  12. S12 : Speakers switch in "off" position.  
 ① off ↔ ② main ↔ ③ remote ↔ ④ main + remote
  13. S13 : Meter range switch in "X1" position.
  14. S14 : Meter switch in "dim" position.
  15. S15 : Power switch in "on" position.
  16. S16 : Voltage adjuster switch in "240V" position.  
 120V (④⑤⑥①) ↔ 110V (③④⑦⑧) ↔ 220V (②③⑥⑦) ↔ 240V (①②⑤⑥)
- 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.
17. Phono MM signal lines of left channel.
  18. Via tone signal lines of left channel.
  19. To represent transistors, Q is used instead of TR (Ex TR1 → Q)
  20. indicates that only parts specified by the manufacturer be used for safety.



BALANCE

VOLUME

MUTING

METER

REGULATOR CIRCUIT

REGULATOR (48V) ADJ.

RELAY DRIVE

METER CIRCUIT

POWER IND

SUP 1523 I C

SUP 1523 I D

SUP 1527 I A

SUP 1527 I B

0606 SVDMZ 306

0605 2SC1913

0606 2SA913

0608, 609 SVDGD4203SRD

0501 2SC1815

0505 2SA1015

0506 2SC1983

0501 20499

0501 SVDMZ 318

0506

0607, 702 MA150

0701, 702, 705 2SA564

0703, 704 2SA921

IC501 SVIBA 658

8	7	6	5	4	3	2	1
0	-0.13	-0.15	-0.15	-0.1	-0.01	0	1.5
9	10	11	12	13	14	15	16
18.5	-0.3	-0.16	-0.15	-0.15	-0.14	4	5

FL METER ADJ. (50W)

FL METER ADJ. (0.03W)

HEADPHONES

