

# Service Manual

Stereo Integrated Amplifier

## SU-8600

(X), (XG), (XGH), (XSD),  
(XSW), (XE), (XAL)

### TECHNICAL SPECIFICATIONS

Specifications are subject to change without notice for further improvement.

#### POWER AMPLIFIER SECTION

1 kHz continuous power output	85W + 85W (4Ω)
both channel driven	76W + 76W (8Ω)
20 Hz ~ 20 kHz continuous power output	80W + 80W (4Ω)
both channel driven	73W + 73W (8Ω)

Total harmonic distortion	0.08% at rated power (20 Hz ~ 20 kHz)
	0.02% at half power (1 kHz)

Intermodulation distortion	0.08%
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Frequency response	20 Hz ~ 20 kHz +0 dB
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S/N (IHF, A)	115 dB
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Residual hum & noise	0.3 mV
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Damping factor	25 (4Ω), 50 (8Ω)
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Input sensitivity & Impedance	1V/47 kΩ
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Load impedance	
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MAIN or REMOTE	4 ~ 16Ω
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MAIN + REMOTE	8 ~ 16Ω
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Power bandwidth (both channels driven at 8Ω)	5 Hz ~ 70 kHz, -3 dB
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#### PREAMPLIFIER SECTION

Input sensitivity & impedance	
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PHONO 1, 2	2.0mV/47kΩ
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TUNER, AUX	150mV/47kΩ
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TAPE DECK 1 REC/PLAY input	150mV/47kΩ
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TAPE DECK 1, 2 PLAYBACK	150mV/47kΩ
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PHONO maximum input voltage (1 kHz, RMS)	200mV
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Total harmonic distortion	0.08%
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S/N (IHF, A)	73 dB
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PHONO 1, 2	92 dB
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TUNER, AUX	
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Frequency response	RIAA standard curve ±0.4 dB
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PHONO 1, 2	20 Hz ~ 20 kHz, ±0.3 dB
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TUNER, AUX	50 Hz, +12 dB ~ -12 dB
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Tone controls	20 kHz, +12 dB ~ -12 dB
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BASS	250 Hz, 500 Hz
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TREBLE	2.5 kHz, 5 kHz
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Turnover frequency	30 Hz, -12 dB/oct.
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Filters	8 kHz, -12 dB/oct.
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LOW	100 Hz, +8 dB
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HIGH	-20 dB
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Loudness control (volume at -30 dB)	
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Muting	
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Output voltage	rated 1V, maximum 8V
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PREOUT	30mV
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TAPE DECK 1 REC/PLAY output	150mV
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TAPE DECK 1, 2 REC OUT	
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#### GENERAL

Power supply	110/120/220/240V
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	240V only (Set for Australia)
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	220/240V (Set for England, Swiss & Scandinavian)
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Power consumption	700W
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Dimensions (W x H x D)	450 x 173 x 352mm (17 3/4" x 6 7/8" x 13 7/8")
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Weight	12.7kg (28.0 lb.)
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### TECHNISCHE DATEN (DIN 45 500)

Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

#### VERS TÄRKERTEIL

RMS-Dauerleistung bei 1 kHz	
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beide Kanäle zusammen angesteuert	2 x 85W (4Ω)
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	2 x 76W (8Ω)
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RMS-Dauerleistung bei 20 Hz ~ 20 kHz	
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beide Kanäle zusammen angesteuert	2 x 80W (4Ω)
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	2 x 73W (8Ω)
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Leistungsbandbreite (beide Kanäle zusammen angesteuert bei 4Ω)	5 Hz ~ 50 kHz, -3 dB
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Harmonische Verzerrungen	
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Nennleistung bei 40 Hz ~ 16000 Hz, 4Ω	0.08%
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Intermodulationsverzerrung	
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Nennleistung bei 250 Hz : 8000 Hz = 4:1, 4Ω	0.08%
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Frequenzgang	20 Hz ~ 20 kHz, ±0.3 dB
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Fremdspannungsabstand	
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Nennleistung	PHONO 60 dB, TUNER AUX 85 dB
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50mW Ausgangsleistung	PHONO 55 dB, TUNER AUX 55 dB
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Hum & Noise	0.3 mV
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Eingangsempfindlichkeit & Impedanz	1V/47 kΩ
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Dämpfungsfaktor	25 (4Ω), 50 (8Ω)
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Endimpedanz	MAIN oder REMOTE 4 ~ 16Ω
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MAIN + REMOTE	8 ~ 16Ω
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#### VORVERSTÄRKERTEIL

Eingangsempfindlichkeit & Impedanz	
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PHONO 1, 2	2mV/47 kΩ
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TUNER, AUX	150mV/47 kΩ
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TAPE DECK 1, 2 PLAYBACK	150mV/47 kΩ
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TAPE DECK 1 REC/PLAY Wiedergabe	150mV/47 kΩ
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PHONO Maximale Eingangsspannungen (1 kHz, RMS)	200mV
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Fremdspannungsabstand (IHF, A)	73 dB
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PHONO 1, 2	92 dB
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TUNER, AUX	
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Harmonische Verzerrungen	RIAA Standardkurve ±0.4 dB
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Frequenzgang	PHONO 1, 2
--------------	------------

TUNER, AUX	20 Hz ~ 20 kHz, ±0.3 dB
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Klangregler	BÄSSE
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HÖHEN	50 Hz, +12 dB ~ -12 dB
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Gehörgerechte Lautstärkekorrektur (Lautstärke - 30 dB)	20 kHz, +12 dB ~ -12 dB
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Tiefenfilter	100 Hz, +8 dB
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Hochtonfilter	30 Hz, -12 dB/oct
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Stummabstimm	8 kHz, -12 dB/oct
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Ausgangsspannungen	PRE OUT Nominal 1V
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Maximal	8V
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TAPE DECK 1, 2 REC OUT	150mV
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TAPE DECK 1 REC/PLAY Aufnahme	30mV
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#### ALLGEMEINE DATEN

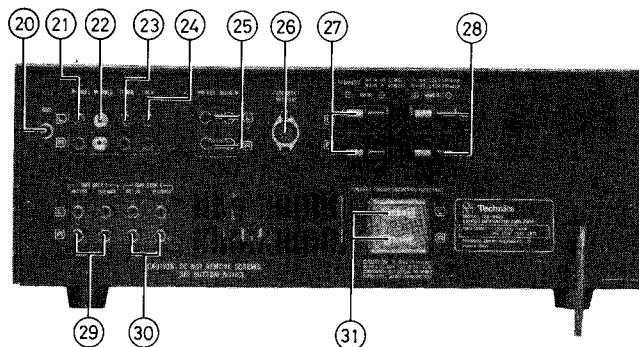
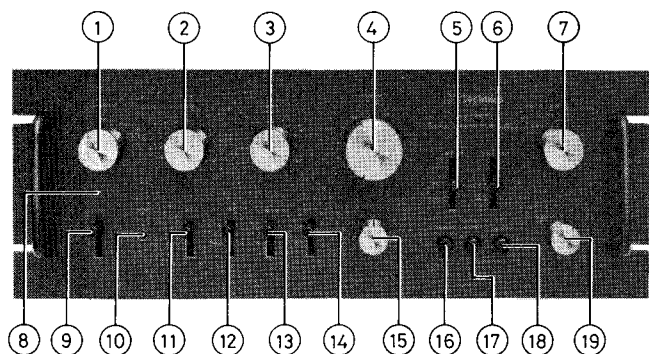
Leistungsaufnahme	700W
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Netzspannung umschaltbar	110/120/220/240V
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Abmessungen (B x H x T)	450 x 173 x 352 mm
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Gewicht	12.7kg
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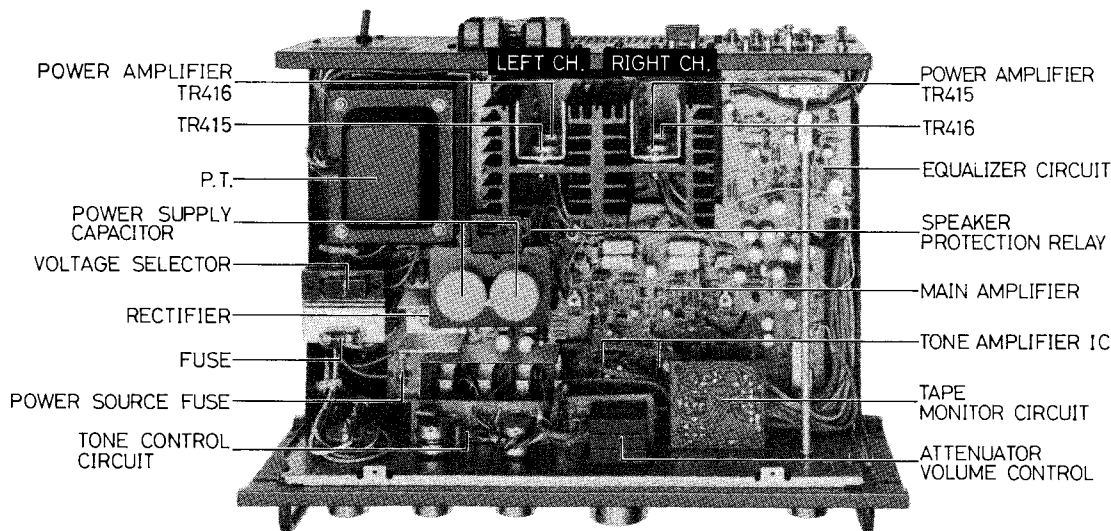
## ■ LOCATION OF CONTROLS



- ① SPEAKERS SELECTOR SWITCH
- ② BASS CONTROL
- ③ TREBLE CONTROL
- ④ VOLUME CONTROL
- ⑤ RECORDING MODE SWITCH
- ⑥ TAPE MONITOR SWITCH
- ⑦ INPUT SELECTOR SWITCH
- ⑧ POWER INDICATOR
- ⑨ POWER SWITCH
- ⑩ HEADPHONES JACK
- ⑪ BASS TURNOVER SWITCH
- ⑫ TONE DEFEAT SWITCH

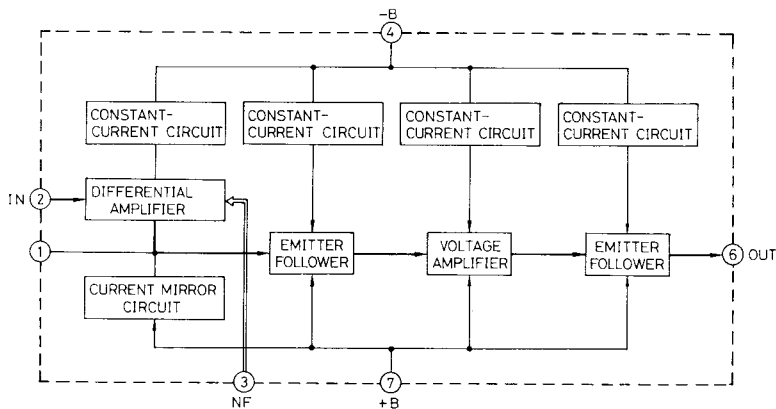
- ⑬ TREBLE TURNOVER SWITCH
- ⑭ AUDIO MUTING SWITCH
- ⑮ BALANCE CONTROL
- ⑯ LOUDNESS SWITCH
- ⑰ LOW FILTER SWITCH
- ⑱ HIGH FILTER SWITCH
- ⑲ MODE SELECTOR SWITCH
- ⑳ GROUND TERMINAL
- ㉑ PHONO 1 INPUT TERMINALS
- ㉒ PHONO 2 INPUT TERMINALS
- ㉓ TUNER INPUT TERMINALS
- ㉔ AUX INPUT TERMINALS

- ㉕ PRE & MAIN AMPLIFIER CONNECTION PLUG
- ㉖ TAPE DECK 1 DIN SOCKET
- ㉗ MAIN SPEAKER TERMINALS
- ㉘ REMOTE SPEAKER TERMINALS
- ㉙ TAPE DECK 1 CONNECTION TERMINALS
- ㉚ TAPE DECK 2 CONNECTION TERMINALS
- ㉛ SPEAKER CIRCUIT PROTECTION FUSES



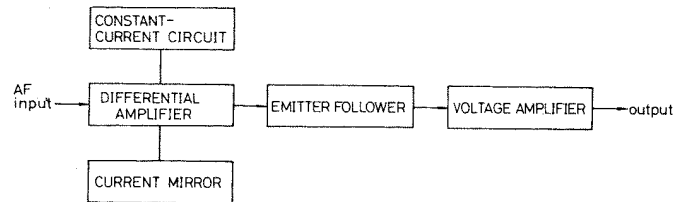
## ■ SERVICE AID

### 1. Block Diagram of I.C. (SVITA7136P)



2. Features of the tone amplifier integrated circuit, SVITA7136P

The first stage utilizes an equivalent-load-resistance, large-current-mirror-circuit differential amplifier, and the output stage, with a constant-current-load emitter follower, is a low-distortion-factor, low-noise integrated circuit.

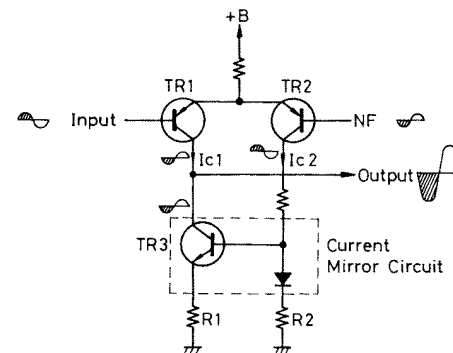


3. Current Mirror Circuit

Utilizing the circuit construction shown in figure 3, the current of the differential amplifier stage is maintained constant, and it is able to obtain a higher gain.

In the case of no signal, the bias of TR1 will change due to some influence, and if Ic1 increases, Ic2 of the differential amplifier will decrease. When Ic2 is decreased, the voltage drop across R2 will also decrease, and because the VBE of TR3 is lowered as a result, Ic1 will decrease and Ic2 will increase. Therefore, a balance will be maintained between Ic1 and Ic2. Conversely, when Ic1 becomes reduced, the same balanced result will be obtained.

A constant current circuit can be considered as a circuit with a high impedance connected to a differential amplifier. Therefore, a high voltage gain can be obtained with this circuit. There is another reason why the high voltage gain can be obtained. In this circuit, TR1 and TR3 make up a push-pull connection, and when there is an input, a reverse-phase signal appears at the collector of TR1, and a signal which is identical in phase to the input can be obtained at the collector of TR2. This signal from the collector of TR2 is applied to TR3 resulting in a reverse-phase signal on the collector of TR3. Therefore, a push-pull circuit consisting of TR1 and TR3 is accomplished.



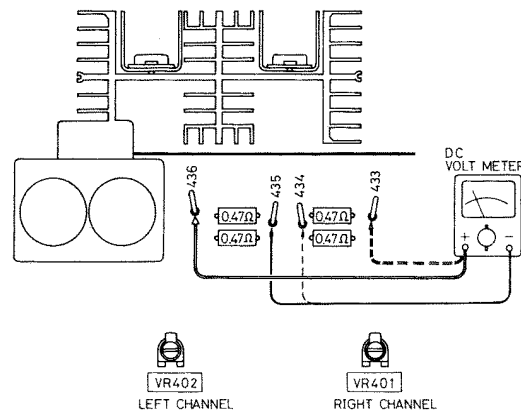
CAUTION

With this unit, a 15,000  $\mu$ F electrolytic capacitor is used in the power source circuit. When servicing, please short-circuit and discharge this capacitor using a resistor of approximately 10 ohms with a power rating of more than 3 watts

ALIGNMENT INSTRUCTIONS

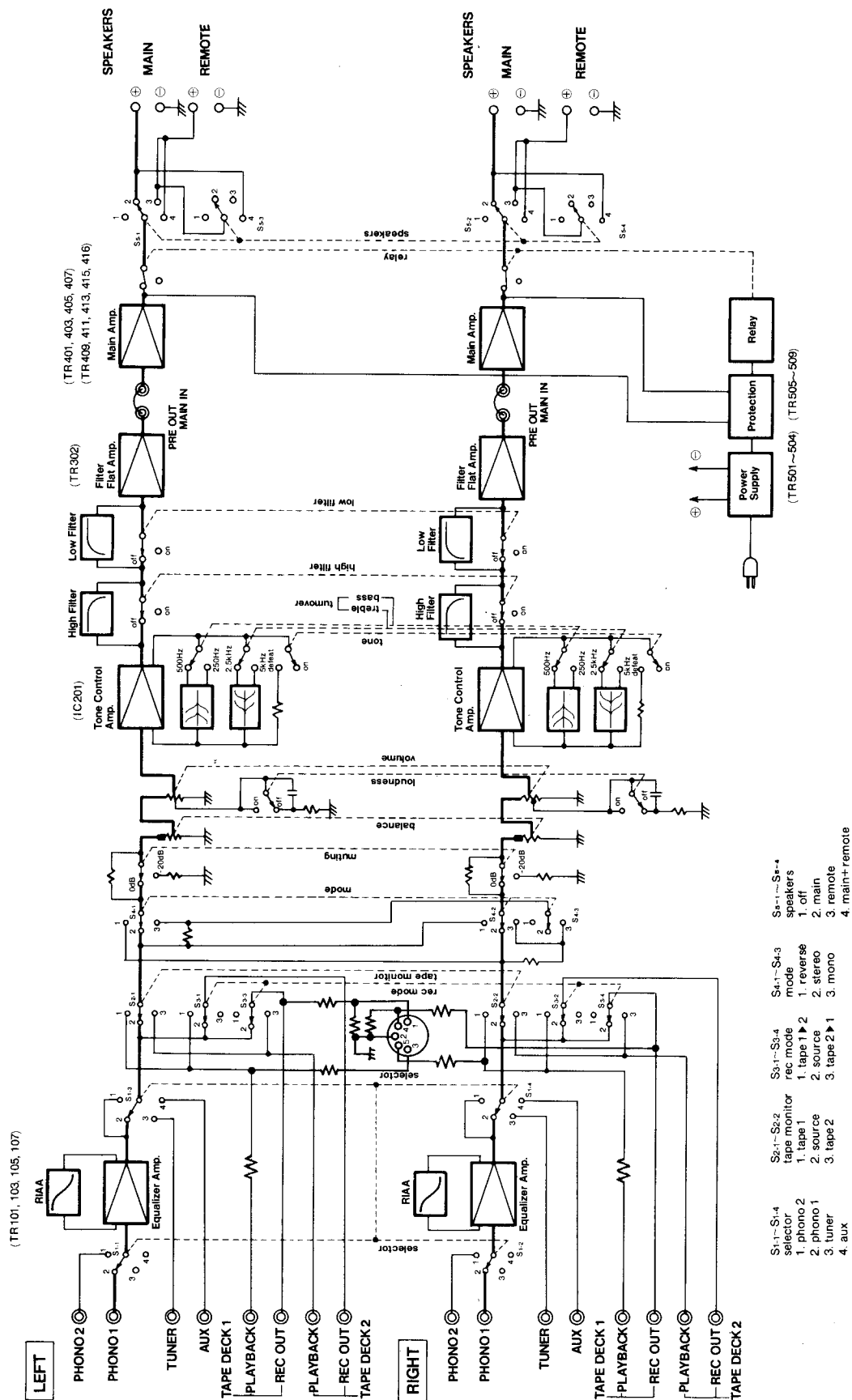
Notes:

- 1. Speaker switch to "off" position
- 2. Maintain line voltage at rated voltage
- 3. Volume control to minimum ( $\infty$ ) position
- 4. The "IcQ" adjustment should be started about 5 minutes after setting the power switch to the "on" position.



CHANNEL	DC VTVM CONNECTION POINT	ADJUSTMENT VOLUME	REMARKS
LEFT	Connect DC VTVM to No. 436 terminal (Positive side) and No. 435 terminal (Negative side).	VR402	Make adjustment so that the indication on DC VTVM becomes 10mV. (Left and Right channel)
RIGHT	Connect DC VTVM to No. 433 terminal (Positive side) and No. 434 terminal (Negative side).	VR401	

# BLOCK DIAGRAM



- S1.1-S1.4 selector  
1. phono 2  
2. phono 1  
3. tuner  
4. aux
- S2.1-S2.2 tape monitor  
1. tape 1  
2. source  
3. tape 2
- S3.1-S3.4 rec mode  
1. tape 1  
2. stereo  
3. tape 2  
4. mono
- S4.1-S4.4 mode  
1. reverse  
2. stereo  
3. mono  
4. main+remote
- S5.1-S5.4 speakers  
1. off  
2. main  
3. remote  
4. main+remote

## ■ TO REMOVE POWER TRANSISTOR (TR415, TR416)

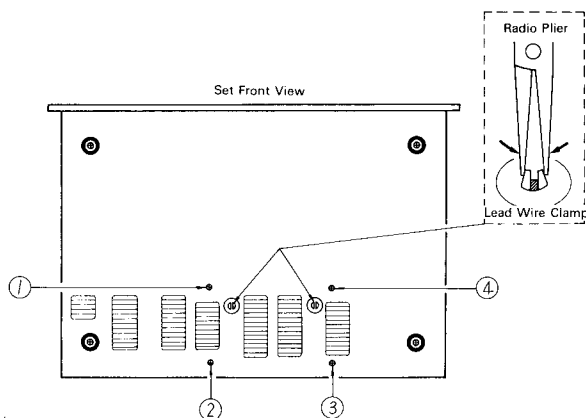


Fig. 1

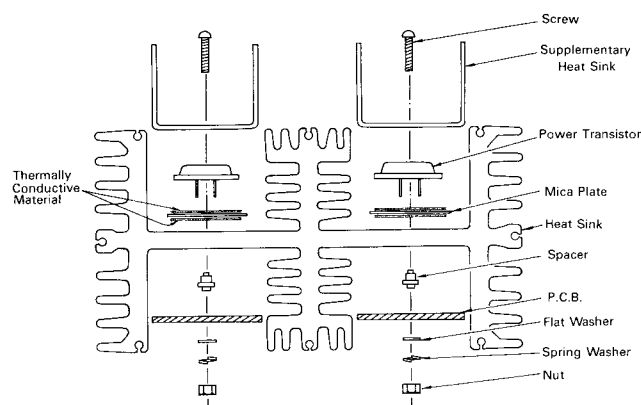
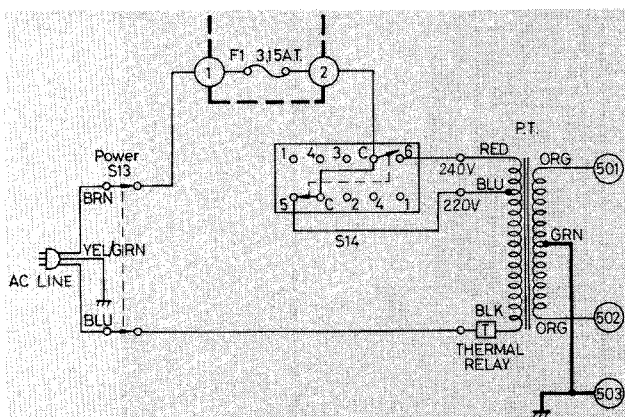


Fig. 2

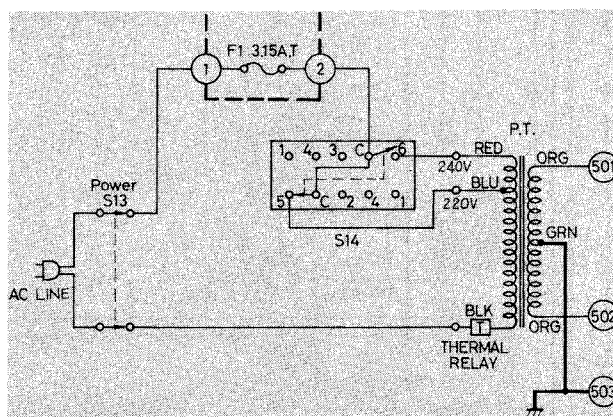
1. Before servicing, turn the power source switch to the "OFF" position, and short-circuit and discharge the 15,000  $\mu\text{F}$  capacitor using a resistor of approximately 10 ohms with a power rating of more than 3 watts.
2. From the underside of the unit, remove the lead wire clamps. Referring to figure 1, hold and push lead wire clamps inside the chassis using radio pliers.
3. Remove the installation screws for the heat sink [ ① ~ ④ of figure 1 ].
4. Remove the installation screws for the power transistors.
5. Unsolder the power transistors.
6. When installing, perform according to the order shown in figure 2. At this time, make certain that both sides of the mica plates are coated with a thermally conductive material (silicone grease or equivalent), and please do not forget to install the supplementary heat sinks.
7. Be sure that transistors TR407 and TR408, which are thermal compensation transistors, are making good contact with the heat sink in between the fins.

## ■ POWER SUPPLY SCHEMATIC DIAGRAM

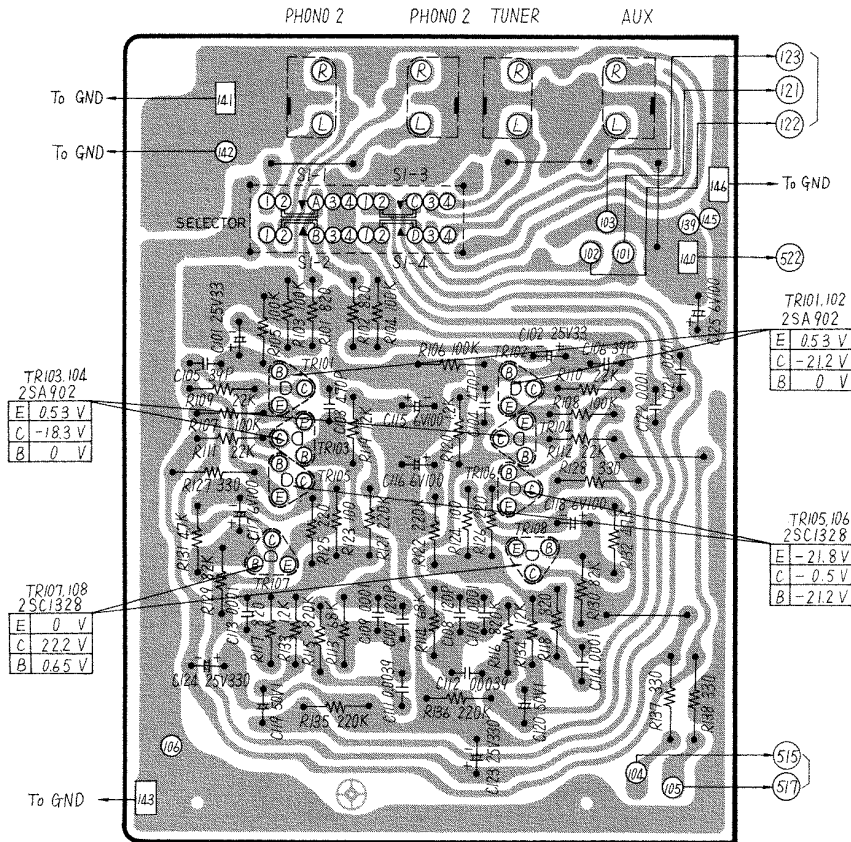
### ● Set for England [XE]



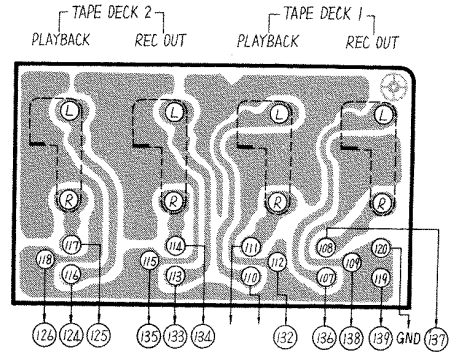
### ● Set for Scandinavian [XSD] & Swiss [XSW]



## ■ INPUT CIRCUIT & EQUALIZER AMPLIFIER CIRCUIT BOARD

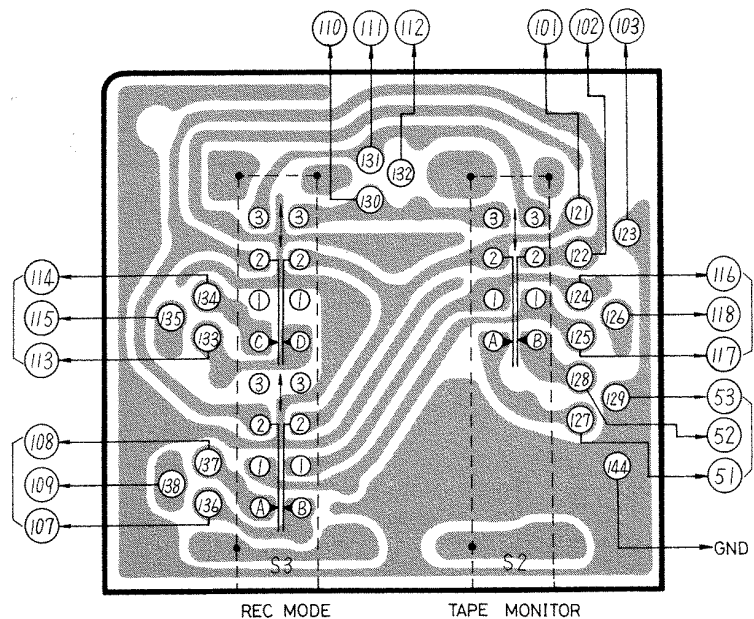
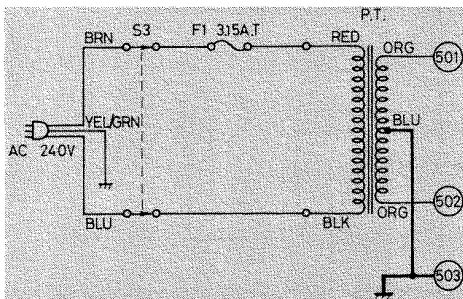


## ■ TAPE DECK CONNECTION TERMINAL



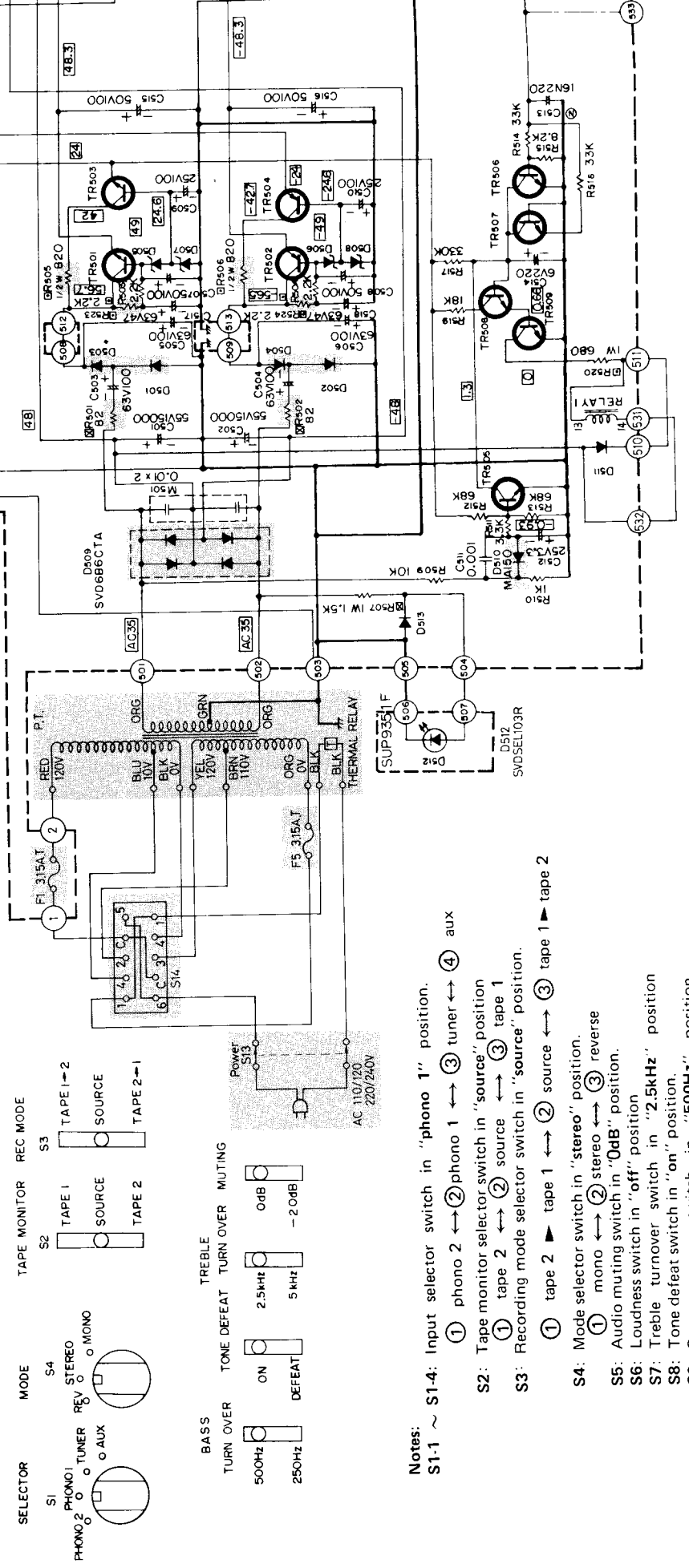
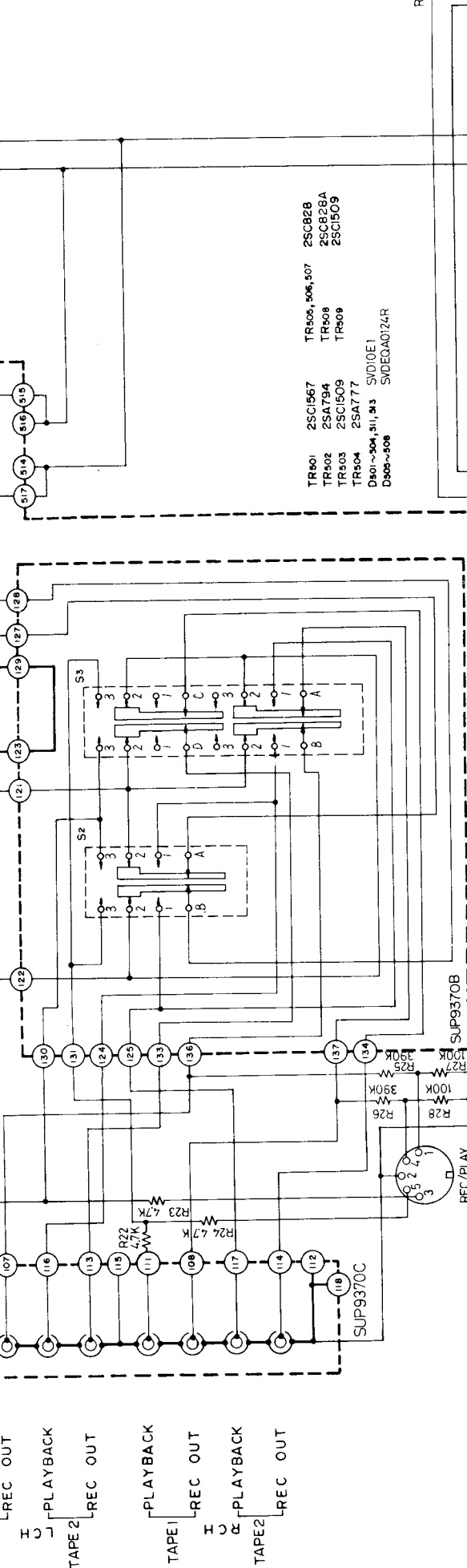
## ■ TAPE MONITOR SWITCH CIRCUIT BOARD

- Set for Australia [XAL]



## Schematic Diagram ..... Model SU-8600

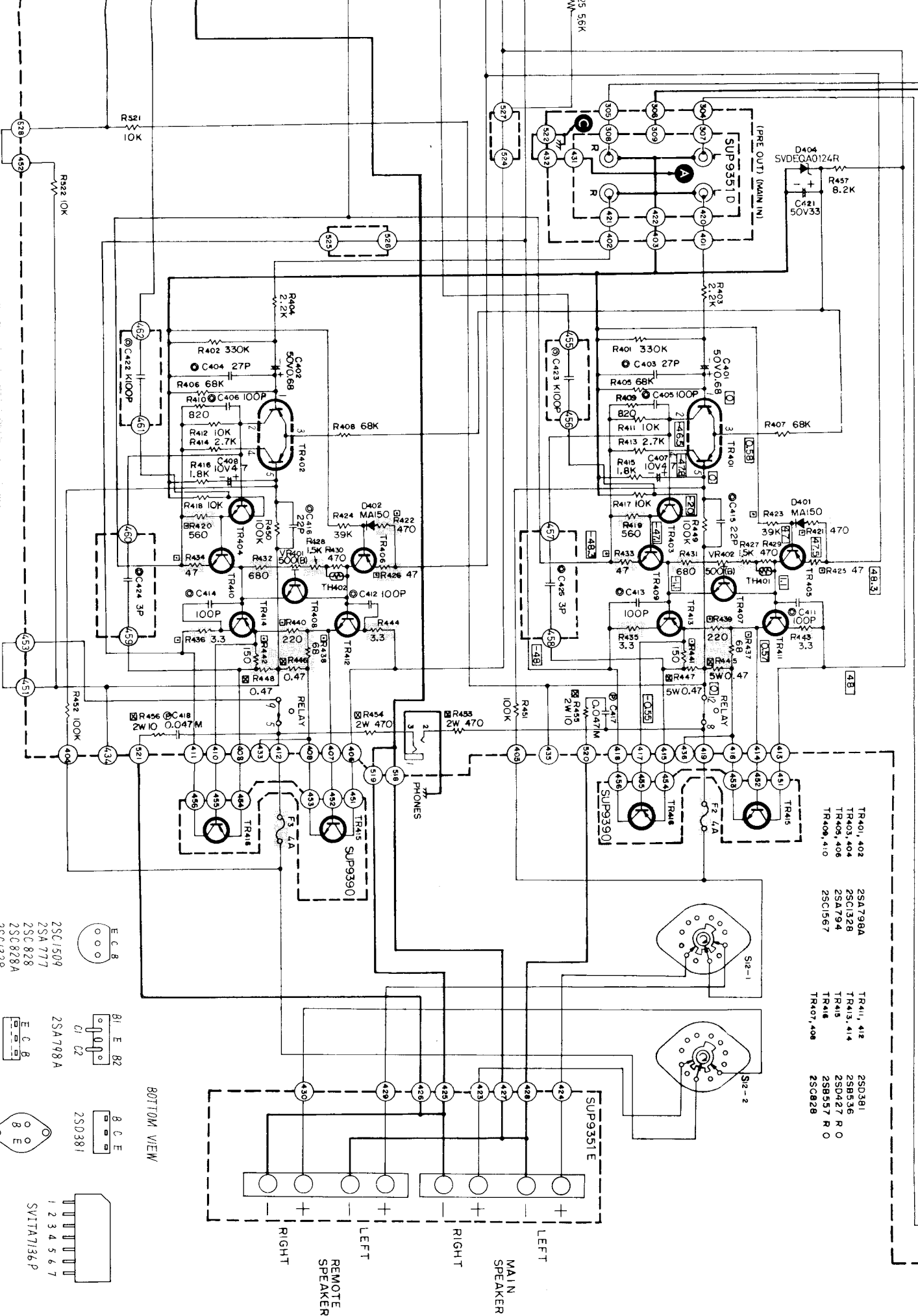




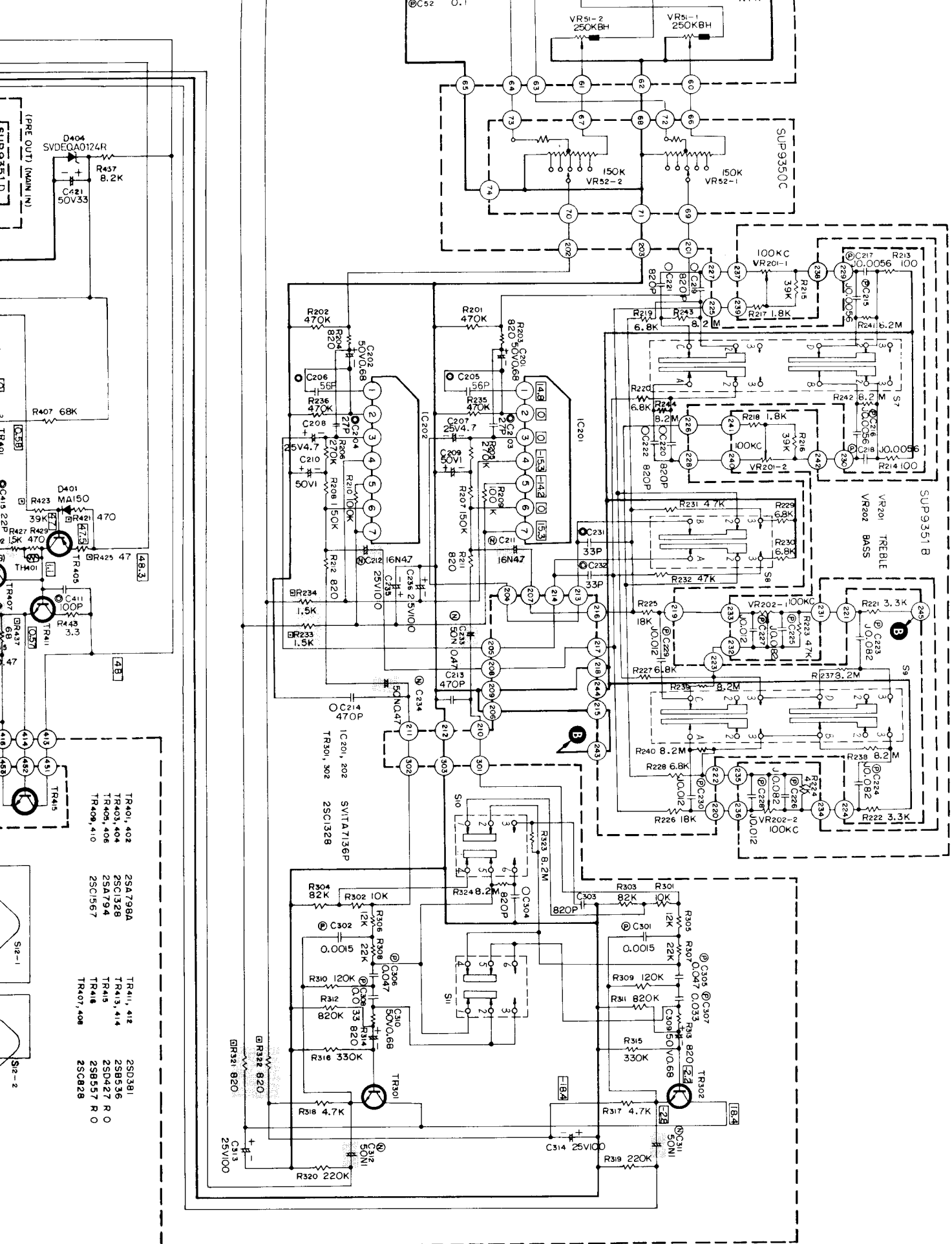
- Notes:**
- S1-1 ~ S1-4: Input selector switch in "phono 1" position.
- S2: Tape monitor selector switch in "source" position
- S3: Recording mode selector switch in "source" position.
- S4: Mode selector switch in "stereo" position.
- S5: Mono ↔ stereo ↔ reverse
- S6: Audio muting switch in "off" position
- S7: Loudness switch in "off" position
- S8: Treble turnover switch in "2.5kHz" position
- S9: Tone defeat switch in "on" position.
- S10: Bass turnover switch in "500Hz" position
- S11: High-filter switch in "off" position
- S12-1, S12-2: Low-filter switch in "off" position
- S13: Power switch in "on" position
- S14: Voltage selector switch (110→120→220→240V).
- DC voltage measurements are taken with DC VTVM from chassis ground.



## IMPORTANT SAFETY NOTICE



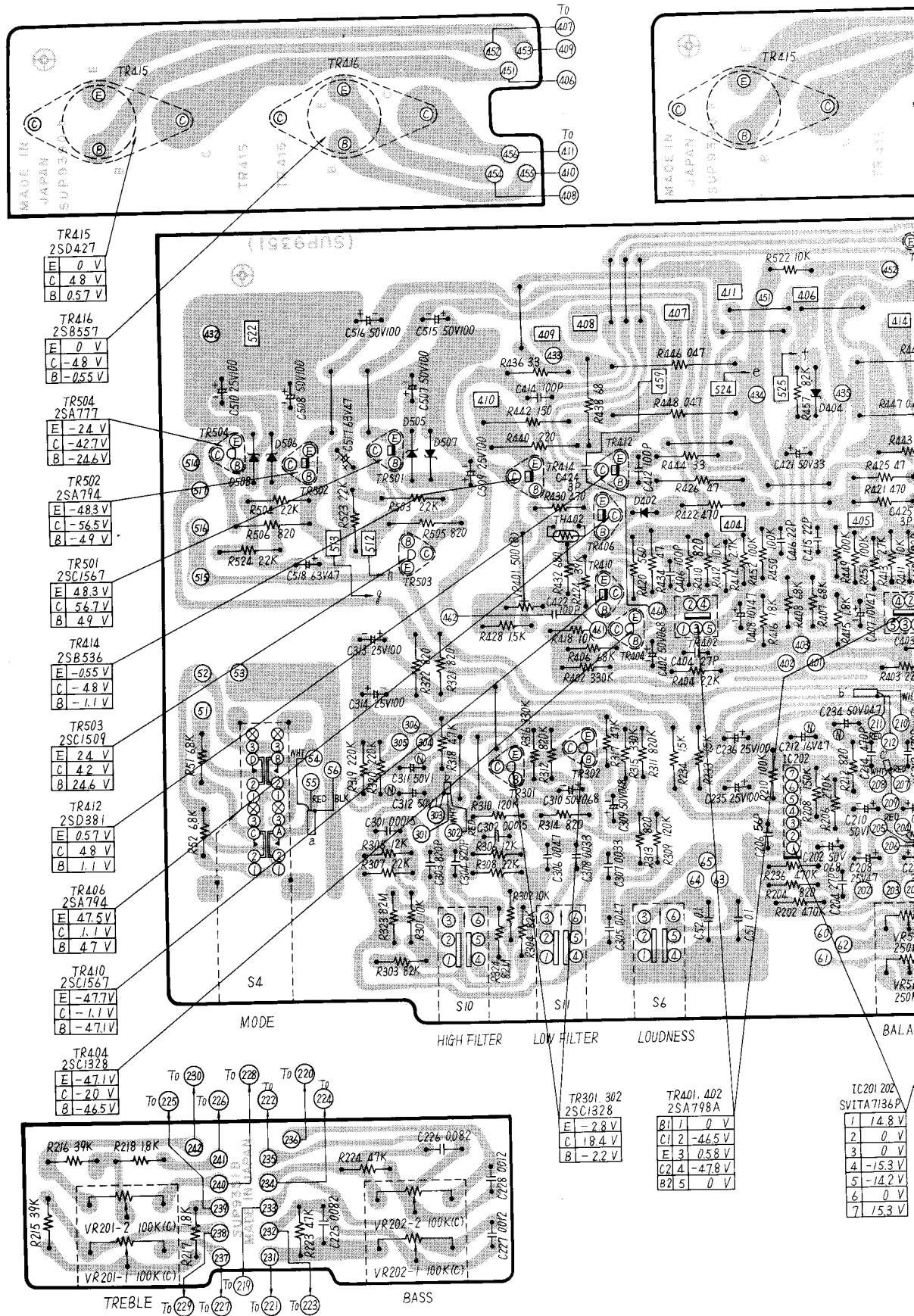
with the development of new technology).



## ■ MAIN AMPLIFIER, TONE CONTROL & POWER SUPPLY CIRCUIT BOARD

### ● Right Channel Power Transistor

● **Left Channel P**

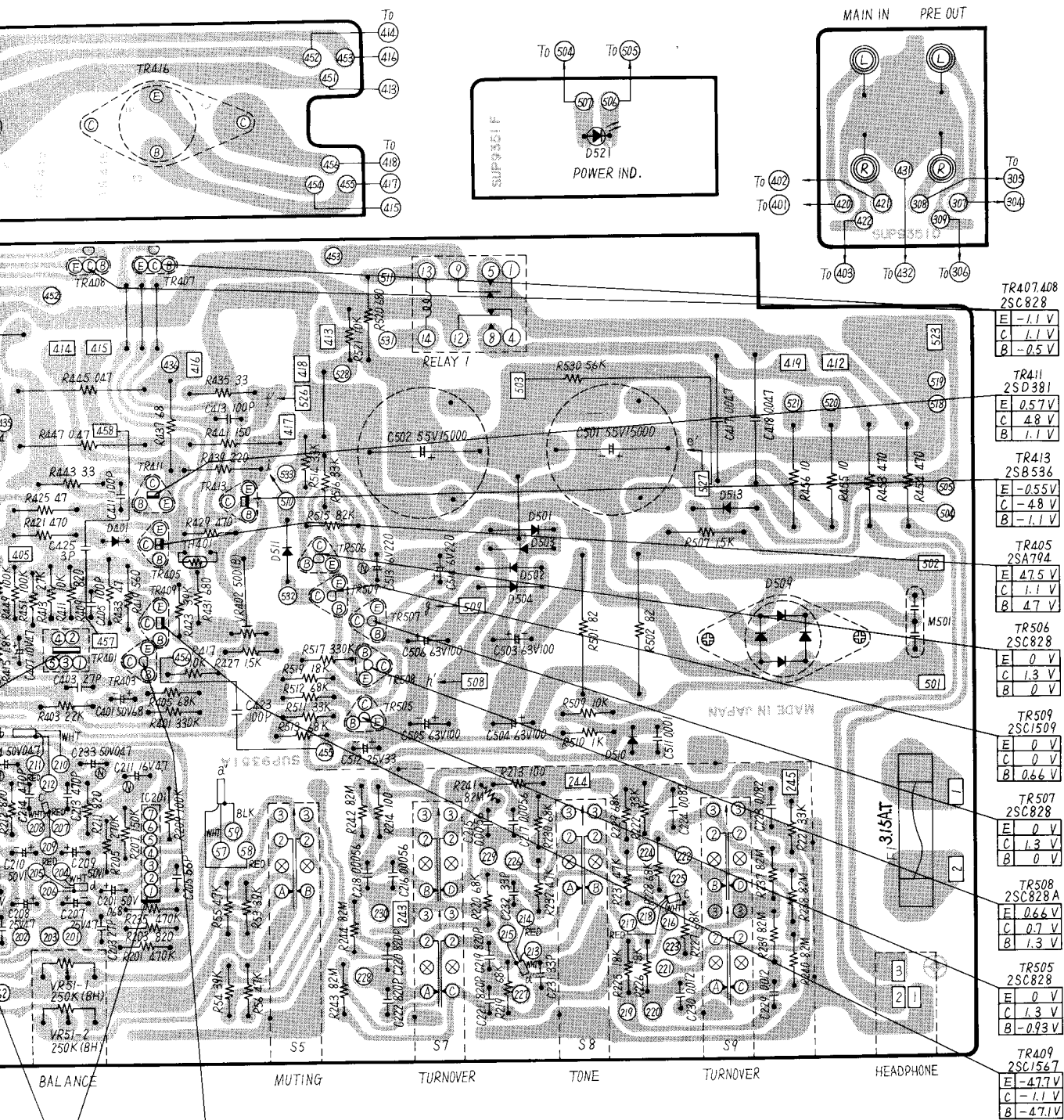


## ● Tone Control

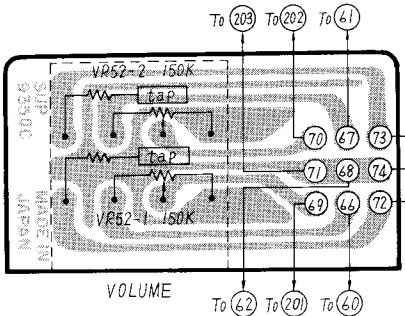
# Channel Power Transistor

## ● Power Indicator

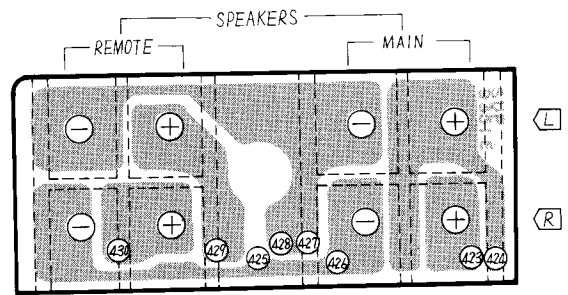
## ● Main Amp & Pre Amp Connection Terminal



IC201 202	TR403
1 14.8 V	E -47.1 V
2 0 V	C -20 V
3 0 V	B -46.5 V
4 -15.3 V	
5 -12.2 V	
6 0 V	
7 15.3 V	



## ● Volume Control



## ● Speaker Terminal



Ref. No.	Part No.	Part Name & Description	Per Set	Remarks	
R205	ERD25TJ274	270kΩ, 1/4W, ±5%, Carbon	1		
R206	ERD25TJ274	270kΩ, 1/4W, ±5%, Carbon	1		
R207	ERD25TJ154	150kΩ, 1/4W, ±5%, Carbon	1		
R208	ERD25TJ154	150kΩ, 1/4W, ±5%, Carbon	1		
R209	ERD25TJ104	100kΩ, 1/4W, ±5%, Carbon	1		
R210	ERD25TJ104	100kΩ, 1/4W, ±5%, Carbon	1		
R211	ERD25TJ821	820Ω, 1/4W, ±5%, Carbon	1		
R212	ERD25TJ821	820Ω, 1/4W, ±5%, Carbon	1		
R213	ERD25TJ101	100Ω, 1/4W, ±5%, Carbon	1		
R214	ERD25TJ101	100Ω, 1/4W, ±5%, Carbon	1		
R215	ERD25TJ393	39kΩ, 1/4W, ±5%, Carbon	1		
R216	ERD25TJ393	39kΩ, 1/4W, ±5%, Carbon	1		
R217	ERD25TJ182	18kΩ, 1/4W, ±5%, Carbon	1		
R218	ERD25TJ182	18kΩ, 1/4W, ±5%, Carbon	1		
R219	ERD25TJ682	68kΩ, 1/4W, ±5%, Carbon	1		
R220	ERD25TJ682	68kΩ, 1/4W, ±5%, Carbon	1		
R221	ERD25TJ332	33kΩ, 1/4W, ±5%, Carbon	1		
R222	ERD25TJ332	33kΩ, 1/4W, ±5%, Carbon	1		
R223	ERD25TJ473	47kΩ, 1/4W, ±5%, Carbon	1		
R224	ERD25TJ473	47kΩ, 1/4W, ±5%, Carbon	1		
R225	ERD25TJ183	18kΩ, 1/4W, ±5%, Carbon	1		
R226	ERD25TJ183	18kΩ, 1/4W, ±5%, Carbon	1		
R227	ERD25TJ682	68kΩ, 1/4W, ±5%, Carbon	1		
R228	ERD25TJ682	68kΩ, 1/4W, ±5%, Carbon	1		
R229	ERD25TJ682	68kΩ, 1/4W, ±5%, Carbon	1		
R230	ERD25TJ682	68kΩ, 1/4W, ±5%, Carbon	1		
R231	ERD25TJ473	47kΩ, 1/4W, ±5%, Carbon	1		
R232	ERD25TJ473	47kΩ, 1/4W, ±5%, Carbon	1		
R233	ERD14FJ152	15kΩ, 1/4W, ±5%, Carbon	1		
R234	ERD14FJ152	15kΩ, 1/4W, ±5%, Carbon	1		
R235	ERD18TSJ474	470kΩ, 1/8W, ±5%, Carbon	1		
R236	ERD18TSJ474	470kΩ, 1/8W, ±5%, Carbon	1		
R237	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R238	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R239	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R240	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R241	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R242	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R243	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R244	ERC14GK825	82MΩ, 1/4W, ±10%, Solid	1		
R301	ERD25TJ103	10kΩ, 1/4W, ±5%, Carbon	1		
R302	ERD25TJ103	10kΩ, 1/4W, ±5%, Carbon	1		
R303	ERD25TJ823	82kΩ, 1/4W, ±5%, Carbon	1		
R304	ERD25TJ823	82kΩ, 1/4W, ±5%, Carbon	1		
R305	ERD25TJ123	12kΩ, 1/4W, ±5%, Carbon	1		
R306	ERD25TJ123	12kΩ, 1/4W, ±5%, Carbon	1		
R307	ERD25TJ223	22kΩ, 1/4W, ±5%, Carbon	1		
R308	ERD25TJ223	22kΩ, 1/4W, ±5%, Carbon	1		
R309	ERD25TJ124	120kΩ, 1/4W, ±5%, Carbon	1		
R310	ERD25TJ124	120kΩ, 1/4W, ±5%, Carbon	1		
R311	ERD25TJ824	820kΩ, 1/4W, ±5%, Carbon	1		
R312	ERD25TJ824	820kΩ, 1/4W, ±5%, Carbon	1		
R313	ERD25TJ821	820Ω, 1/4W, ±5%, Carbon	1		
R314	ERD25TJ821	820Ω, 1/4W, ±5%, Carbon	1		
R315	ERD25TJ334	330kΩ, 1/4W, ±5%, Carbon	1		
R316	ERD25TJ334	330kΩ, 1/4W, ±5%, Carbon	1		
R317	ERD25TJ472	47kΩ, 1/4W, ±5%, Carbon	1		
R318	ERD25TJ472	47kΩ, 1/4W, ±5%, Carbon	1		
R319	ERD25TJ224	220kΩ, 1/4W, ±5%, Carbon	1		
R320	ERD25TJ224	220kΩ, 1/4W, ±5%, Carbon	1		
R321	ERD14FJ821	820Ω, 1/4W, ±5%, Carbon	1		
R322	ERD14FJ821	820Ω, 1/4W, ±5%, Carbon	1		
R323	ERC14GK825	8.2MΩ, 1/4W, ±10%, Solid	1		
R324	ERC14GK825	8.2MΩ, 1/4W, ±10%, Solid	1		
R401	ERD25TJ334	330kΩ, 1/4W, ±5%, Carbon	1		
R402	ERD25TJ334	330kΩ, 1/4W, ±5%, Carbon	1		
R403	ERD25TJ222	2.2kΩ, 1/4W, ±5%, Carbon	1		
R404	ERD25TJ222	2.2kΩ, 1/4W, ±5%, Carbon	1		
R405	ERD25TJ683	68kΩ, 1/4W, ±5%, Carbon	1		
R406	ERD25TJ683	68kΩ, 1/4W, ±5%, Carbon	1		
R407	ERD25TJ683	68kΩ, 1/4W, ±5%, Carbon	1		
R408	ERD25TJ683	68kΩ, 1/4W, ±5%, Carbon	1		
R409	ERD25TJ821	820Ω, 1/4W, ±5%, Carbon	1		
R410	ERD25TJ821	820Ω, 1/4W, ±5%, Carbon	1		
R411	ERD25TJ103	10kΩ, 1/4W, ±5%, Carbon	1		
R412	ERD25TJ103	10kΩ, 1/4W, ±5%, Carbon	1		
R413	ERD25TJ272	2.7kΩ, 1/4W, ±5%, Carbon	1		
R414	ERD25TJ272	2.7kΩ, 1/4W, ±5%, Carbon	1		
R415	ERD25TJ182	18kΩ, 1/4W, ±5%, Carbon	1		
R416	ERD25TJ182	18kΩ, 1/4W, ±5%, Carbon	1		
R417	ERD25TJ103	10kΩ, 1/4W, ±5%, Carbon	1		
R418	ERD25TJ103	10kΩ, 1/4W, ±5%, Carbon	1		
R419	ERD14FJ561	560Ω, 1/4W, ±5%, Carbon	1		
R420	ERD14FJ561	560Ω, 1/4W, ±5%, Carbon	1		
R421	ERD14FJ471	470Ω, 1/4W, ±5%, Carbon	1		
R422	ERD14FJ471	470Ω, 1/4W, ±5%, Carbon	1		
R423	ERD25TJ393	39kΩ, 1/4W, ±5%, Carbon	1		
R424	ERD25TJ393	39kΩ, 1/4W, ±5%, Carbon	1		
R425	ERD14FJ470	47Ω, 1/4W, ±5%, Carbon	1		
R426	ERD14FJ470	47Ω, 1/4W, ±5%, Carbon	1		
R427	ERD18FJ152	15kΩ, 1/8W, ±5%, Carbon	1		
R428	ERD18FJ152	15kΩ, 1/8W, ±5%, Carbon	1		
R429	ERD25TJ471	470Ω, 1/4W, ±5%, Carbon	1		
R430	ERD25TJ471	470Ω, 1/4W, ±5%, Carbon	1		
R431	ERD14FJ681	680Ω, 1/4W, ±5%, Carbon	1		
R432	ERD14FJ681	680Ω, 1/4W, ±5%, Carbon	1		
R433	ERD14FJ470	47Ω, 1/4W, ±5%, Carbon	1		
R434	ERD14FJ470	47Ω, 1/4W, ±5%, Carbon	1		
R435	ERD14FJ3R3	3.3Ω, 1/4W, ±5%, Carbon	1		
R436	ERD14FJ3R3	3.3Ω, 1/4W, ±5%, Carbon	1		
R437	ERQ12HJ680	68Ω, 1/2W ± 5%, Fuse Type-Metallic	1		
R438	ERQ12HJ680	68Ω, 1/2W ± 5%, Fuse Type-Metallic	1		
R439	ERQ12HJ221	220Ω, 1/2W ± 5%, Fuse Type-Metallic	1		
R440	ERQ12HJ221	220Ω, 1/2W ± 5%, Fuse Type-Metallic	1		
R441	ERQ12HJ151	150Ω, 1/2W ± 5%, Fuse Type-Metallic	1		
R442	ERQ12HJ151	150Ω, 1/2W ± 5%, Fuse Type-Metallic	1		
R443	ERD14FJ3R3	3.3Ω, 1/4W, ±5%, Carbon	1		
R444	ERD14FJ3R3	3.3Ω, 1/4W, ±5%, Carbon	1		
R445	ERF5AKR47	0.47Ω, 5W, ±10%, Non-Flammable	1		
R446	ERF5AKR47	0.47Ω, 5W, ±10%, Non-Flammable	1		
R447	ERF5AKR47	0.47Ω, 5W, ±10%, Non-Flammable	1		
R448	ERF5AKR47	0.47Ω, 5W, ±10%, Non-Flammable	1		
R449	ERD25TJ104	100kΩ, 1/4W, ±5%, Carbon	1		
R450	ERD25TJ104	100kΩ, 1/4W, ±5%, Carbon	1		
R451	ERD25TJ104	100kΩ, 1/4W, ±5%, Carbon	1		
R452	ERD25TJ104	100kΩ, 1/4W, ±5%, Carbon	1		
R453	ERG2ANJ471	470Ω, 2W, ±5%, Metallic	1		
R454	ERG2ANJ471	470Ω, 2W, ±5%, Metallic	1		
R455	REG2ANJ100	10Ω, 2W, ±5%, Metallic	1		
R456	ERG2ANJ100	10Ω, 2W, ±5%, Metallic	1		

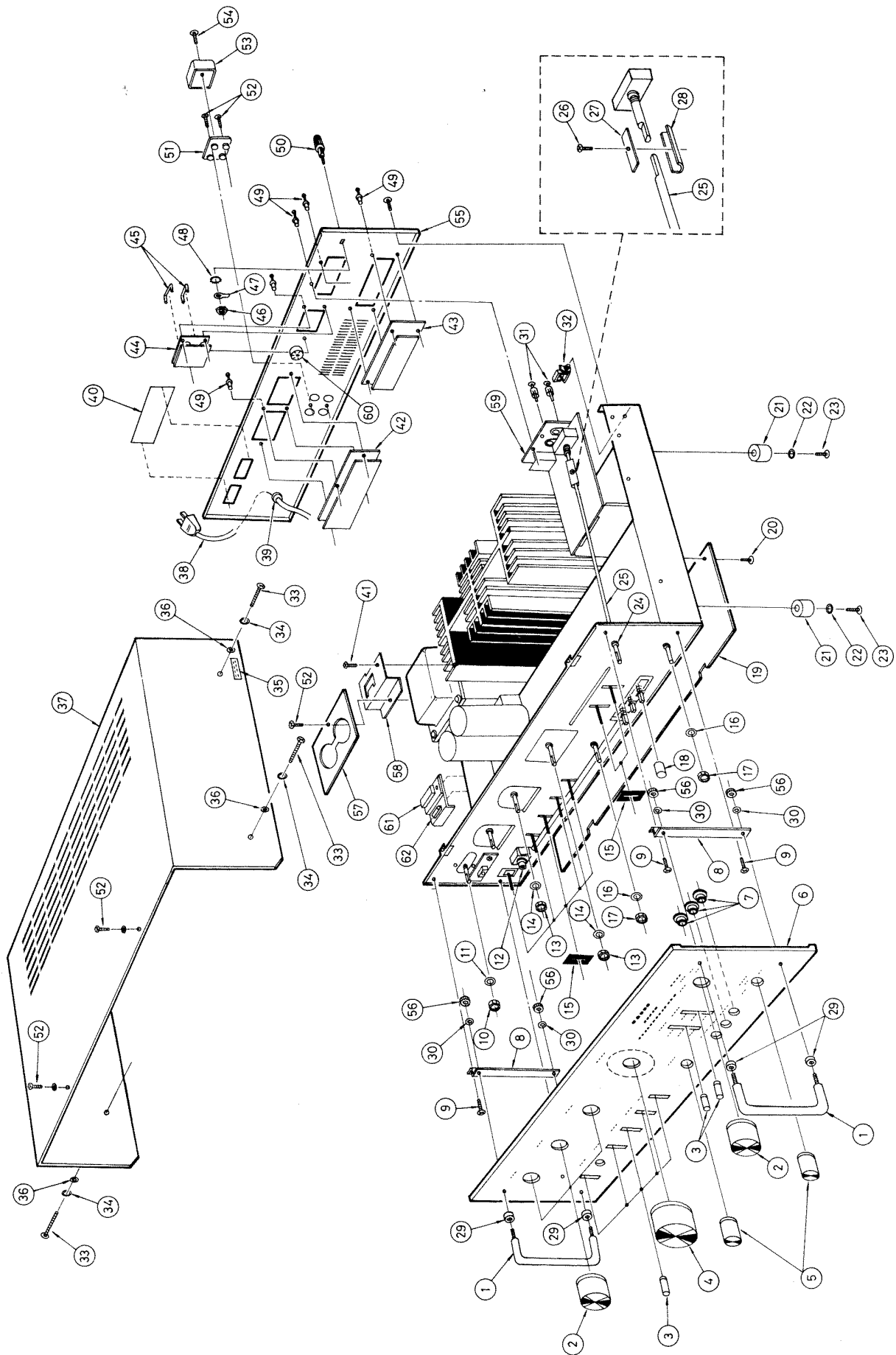
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Ref. No.	Part No.	Part Name & Description	Part No.	Ref. No.	Part Name & Description	Part No.	Per Set	Remarks
C120	ECEA50N1	14F, 50WV, Non-Polar Electrolytic					1	
C121	ECQM05102KZ	0.0014F, 50WV, Polyester					1	
C122	ECQM05102KZ	0.0014F, 50WV, Polyester					1	
C123	ECEA25V330V	3304F, 25WV, Electrolytic					1	
C124	ECEA25V330V	3304F, 25WV, Electrolytic					1	
C125	ECEA10V100V	1004F, 10WV, Electrolytic					1	
C201	ECEA50MR68	0.684F, 50WV, Electrolytic					1	
C202	ECEA50MR68	0.684F, 50WV, Electrolytic					1	
C203	ECCD1H270K	27pF, 50WV, Ceramic					1	
C204	ECCD1H270K	27pF, 50WV, Ceramic					1	
C205	ECCD1H560K	56pF, 50WV, Ceramic					1	
C206	ECCD1H560K	56pF, 50WV, Ceramic					1	
C207	ECEA35V4R7V	4.74F, 35WV, Electrolytic					1	
C208	ECEA35V4R7V	4.74F, 35WV, Electrolytic					1	
C209	ECEA50V1V	14F, 50WV, Electrolytic					1	
C210	ECEA50V1V	14F, 50WV, Electrolytic					1	
C211	ECEA18N4R7	4.74F, 16WV, Non-Polar Electrolytic					1	
C212	ECEA18N4R7	4.74F, 16WV, Non-Polar Electrolytic					1	
C213	ECKD1H471KB	470pF, 50WV, Ceramic					1	
C214	ECKD1H471KB	470pF, 50WV, Ceramic					1	
C215	ECQM05562JZ	0.00564F, 50WV, Polyester					1	
C216	ECQM05562JZ	0.00564F, 50WV, Polyester					1	
C217	ECQM05562JZ	0.00564F, 50WV, Polyester					1	
C218	ECQM05562JZ	0.00564F, 50WV, Polyester					1	
C219	ECKD1H821KB	820pF, 50WV, Ceramic					1	
C220	ECKD1H821KB	820pF, 50WV, Ceramic					1	
C221	ECKD1H821KB	820pF, 50WV, Ceramic					1	
C222	ECKD1H821KB	820pF, 50WV, Ceramic					1	
C223	ECQM05823JZ	0.0824F, 50WV, Polyester					1	
C224	ECQM05823JZ	0.0824F, 50WV, Polyester					1	
C225	ECQM05823JZ	0.0824F, 50WV, Polyester					1	
C226	ECQM05823JZ	0.0824F, 50WV, Polyester					1	
C227	ECQM05123JZ	0.0124F, 50WV, Polyester					1	
C228	ECQM05123JZ	0.0124F, 50WV, Polyester					1	
C229	ECQM05123JZ	0.0124F, 50WV, Polyester					1	
C230	ECQM05123JZ	0.0124F, 50WV, Polyester					1	
C231	ECCD1H330K	33pF, 50WV, Ceramic					1	
C232	ECCD1H330K	33pF, 50WV, Ceramic					1	
C233	ECEA50NR47X	0.474F, 50WV, Non-Polar Electrolytic					1	
C234	ECEA50NR47X	0.474F, 50WV, Non-Polar Electrolytic					1	
C235	ECEA25V100V	1004F, 25WV, Electrolytic					1	
C236	ECEA25V100V	1004F, 25WV, Electrolytic					1	
C301	ECQM05152KZ	0.00154F, 50WV, Polyester					1	
C302	ECQM05152KZ	0.00154F, 50WV, Polyester					1	
C303	ECKD1H821KB	820pF, 50WV, Ceramic					1	
C304	ECKD1H821KB	820pF, 50WV, Ceramic					1	
C305	ECQM05473KZ	0.0474F, 50WV, Polyester					1	
C306	ECQM05473KZ	0.0474F, 50WV, Polyester					1	
C307	ECQM05333KZ	0.0334F, 50WV, Polyester					1	
C308	ECQM05333KZ	0.0334F, 50WV, Polyester					1	
C309	ECEA50MR68	0.684F, 50WV, Electrolytic					1	
C310	ECEA50MR68	0.684F, 50WV, Electrolytic					1	
C311	ECEA50N1	14F, 50WV, Non-Polar Electrolytic					1	
C312	ECEA50N1	14F, 50WV, Non-Polar Electrolytic					1	
C313	ECEA25V100V	1004F, 25WV, Electrolytic					1	
C314	ECEA25V100V	1004F, 25WV, Electrolytic					1	
C401	ECEA50MR68	0.684F, 50WV, Electrolytic					1	
C402	ECEA50MR68	0.684F, 50WV, Electrolytic					1	

Ref. No.	Part No.	Part Name & Description	Part No.	Ref. No.	Part Name & Description	Part No.	Per Set	Remarks
R457	ERD25TJ822	8.2kΩ, 1/4W, ± 5%, Carbon					1	
R501	ERQ3CJ820	82Ω, 3W, ± 5%, Fuse Type-Metallic					1	○
R502	ERQ3CJ820	82Ω, 3W, ± 5%, Fuse Type-Metallic					1	○
R503	ERD14FJ222	2.2kΩ, 1/4W, ± 5%, Carbon					1	
R504	ERD14FJ222	2.2kΩ, 1/4W, ± 5%, Carbon					1	
R505	ERD12FJ821	820Ω, 1/2W, ± 5%, Carbon					1	
R506	ERD12FJ821	820Ω, 1/2W, ± 5%, Carbon					1	
R507	ERG1ANJ152	1.5kΩ, 1W, ± 5%, Metallic					1	
R508	ERG1ANJ152	1.5kΩ, 1W, ± 5%, Metallic					1	
R509	ERD25TJ103	10kΩ, 1/4W, ± 5%, Carbon					1	
R510	ERD25TJ103	10kΩ, 1/4W, ± 5%, Carbon					1	
R511	ERD25TJ332	3.3kΩ, 1/4W, ± 5%, Carbon					1	
R512	ERD25TJ332	3.3kΩ, 1/4W, ± 5%, Carbon					1	
R513	ERD25TJ683	68kΩ, 1/4W, ± 5%, Carbon					1	
R514	ERD25TJ683	68kΩ, 1/4W, ± 5%, Carbon					1	
R515	ERD25TJ822	82kΩ, 1/4W, ± 5%, Carbon					1	
R516	ERD25TJ822	82kΩ, 1/4W, ± 5%, Carbon					1	
R517	ERD25TJ334	330kΩ, 1/4W, ± 5%, Carbon					1	
R519	ERG1ANJ681	680Ω, 1W, ± 5%, Metallic					1	
R520	ERG1ANJ681	680Ω, 1W, ± 5%, Metallic					1	
R521	ERD25TJ103	10kΩ, 1/4W, ± 5%, Carbon					1	
R522	ERD25TJ103	10kΩ, 1/4W, ± 5%, Carbon					1	
R523	ERD14FJ222	2.2kΩ, 1/4W, ± 5%, Carbon					1	
R524	ERD14FJ222	2.2kΩ, 1/4W, ± 5%, Carbon					1	
R525	ERG2ANJ562	5.6kΩ, 2W, ± 5%, Metallic					1	
<b>VARIABLE RESISTORS</b>								
VR52	EWCF2AF30ATC	150kΩ, Volume Control (Attenuator)					1	○
VR51	EVK2CA031252	250kΩ (BH), Balance Control					1	
VR201,202	EWFOWA038C15	100kΩ (C) Bass & Treble Control					2	
VR401,402	EVL3AA000852	500Ω (B) Ica Adjustment					2	
<b>CAPACITORS</b>								
C3	ECEA10V100V	1004F, 10WV, Electrolytic					1	
C51	ECQM05104KZ	0.14F, 50WV, Polyester					1	
C52	ECQM05104KZ	0.14F, 50WV, Polyester					1	
C101	ECSZ25EF3R3	3.34F, 25WV, Electrolytic					1	
C102	ECSZ25EF3R3	3.34F, 25WV, Electrolytic					1	
C103	ECKD1H471KB	470pF, 50WV, Ceramic					1	
C104	ECKD1H471KB	470pF, 50WV, Ceramic					1	
C105	ECCD1H390K	39pF, 50WV, Ceramic					1	
C106	ECCD1H390K	39pF, 50WV, Ceramic					1	
C107	ECCD1H121K	120pF, 50WV, Ceramic					1	
C108	ECCD1H121K	120pF, 50WV, Ceramic					1	
C109	ECQM05102JZ	0.0014F, 50WV, Polyester					1	
C110	ECQM05102JZ	0.0014F, 50WV, Polyester					1	
C111	ECQM05392JZ	0.00394F, 50WV, Polyester					1	
C112	ECQM05392JZ	0.00394F, 50WV, Polyester					1	
C113	ECKD1H102MD	0.0014F, 50WV, ±20%, Ceramic					1	
C114	ECKD1H102MD	0.0014F, 50WV, ±20%, Ceramic					1	
C115	ECEA10V100V	1004F, 10WV, Electrolytic					1	
C116	ECEA10V100V	1004F, 10WV, Electrolytic					1	
C117	ECEA10V100V	1004F, 10WV, Electrolytic					1	
C118	ECEA10V100V	1004F, 10WV, Electrolytic					1	
C119	ECEA50N1	14F, 50WV, Non-Polar Electrolytic					1	

# ■ CABINET & CHASSIS PARTS LOCATION

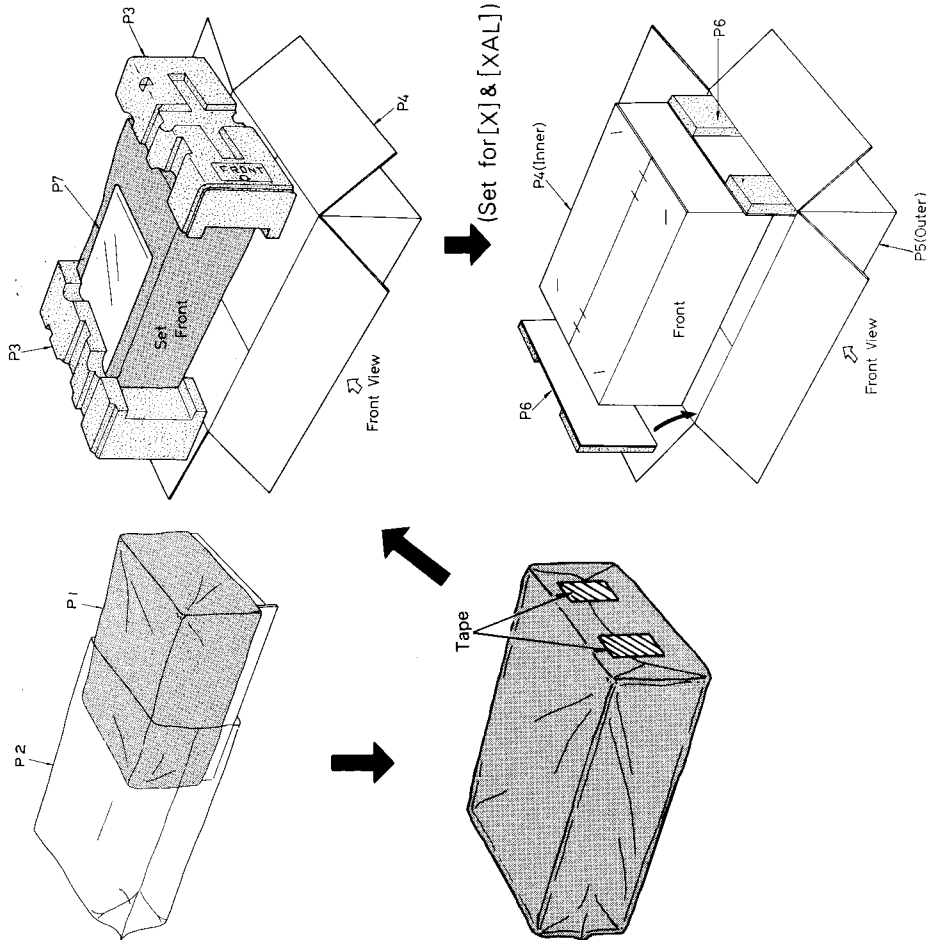




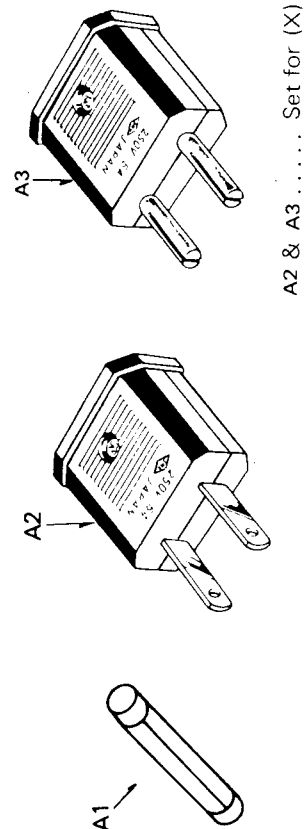
Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
C403	ECCD1H270K	27pF, 50WV, ±10%, Ceramic	1	
C404	ECCD1H270K	27pF, 50WV, ±10%, Ceramic	1	
C405	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C406	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C407	ECEA16V47	47µF, 16WV, Electrolytic	1	
C408	ECEA16V47	47µF, 16WV, Electrolytic	1	
C411	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C412	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C413	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C414	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C415	ECCD1H220KC	22pF, 50WV, ±10%, Ceramic	1	
C416	ECCD1H220KC	22pF, 50WV, ±10%, Ceramic	1	
C417	ECQM1473M	0.047µF, 125WV, ±20%, Polyester	1	
C418	ECQM1473M	0.047µF, 125WV, ±20%, Polyester	1	
C421	ECEA50V33V	33µF, 50WV, Electrolytic	1	
C422	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C423	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	1	
C424	ECCD1H030C	3pF, 50WV, ±0.25pF Ceramic	1	
C425	ECCD1H030C	3pF, 50WV, ±0.25pF Ceramic	1	
C501	ECET55R153Y	15000µF, 55WV, Electrolytic	1	○
C502	ECET55R153Y	15000µF, 55WV, Electrolytic	1	○
C503	ECEA63V100V	100µF, 63WV, Electrolytic	1	
C504	ECEA63V100V	100µF, 63WV, Electrolytic	1	
C505	ECEA63V100V	100µF, 63WV, Electrolytic	1	
C506	ECEA63V100V	100µF, 63WV, Electrolytic	1	
C507	ECEA50V100V	100µF, 50WV, Electrolytic	1	
C508	ECEA50V100V	100µF, 50WV, Electrolytic	1	
C509	ECEA25V100V	100µF, 25WV, Electrolytic	1	
C510	ECEA25V100V	100µF, 25WV, Electrolytic	1	
C511	ECKD1H102PF	0.001µF, 50WV, Ceramic	1	
C512	ECEA50V3R3V	3.3µF, 50WV, Electrolytic	1	
C513	ECEA16N220V	220µF, 16WV, Non-Polar Electrolytic	1	
C514	ECEA6V220V	220µF, 6.3WV, Electrolytic	1	
C515	ECEA50V100V	100µF, 50WV, Electrolytic	1	
C516	ECEA50V100V	100µF, 50WV, Electrolytic	1	
C517	ECEA63V47V	47µF, 63WV, Electrolytic	1	
C518	ECEA63V47V	47µF, 63WV, Electrolytic	1	
COMPONENT COMBINATION				
M501	RXAF103P22HD	0.01µF (x2) Hum Panel	1	
FUSES				
F1	XBA2C31TR0	3.15A, T Fuse, Power Source	1	
F5 [X, XG, XGH]	XBA2C31TR0	3.15A, T Fuse, Power Source	1	
F2, 3	XBA2C40SS0	Except set for [XSD], [XSW], [XE] & [XAL] 4A Fuse, Speaker Circuit Protection	2	
SWITCHES				
S1	SSRA73	Input Selector Switch	1	
S2	SSLA22S	Tape Monitor Switch	1	
S3	SSLA21S	Recording Mode Switch	1	
S4	SSR51	Mode Selector Switch	1	
S5, 8	SSLA25-1S	Muting & Tone Switch	2	
S7, 9	SSLA26-1S	Treble & Bass Turnover Switch	2	
S6, 10, 11	SSH313S-V	Loudness, High & Low Filter Switch	1	
S12	ESRC124F30B	Speaker Selector Switch	1	

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
S13	SSL5S	Power Switch	1	
RELAY				
RELAY 1	SSV13	Speaker Protection Relay		
CABINET and CHASSIS PARTS				
1	SKYA4	Handle, Front Panel	2	
2	SBNA128-1	Knob, Bass, Treble, Speaker, Selector	4	○
3	SBLA4-3	Button, Lever Switches	7	
4	SN603	Knob, Volume Control	1	○
5	SN605	Knob, Balance & Mode Switch	2	○
6	SGW7330	Panel, Front	1	○
7	SGX6431	Sleeve, Push Switch Buttons	3	
8	SUW881-1	Metal Clamp, Front Panel	2	
9	XTV3+8C	Screw, Metal Clamp M'tg	4	
10	XNS9	Nut, Speaker Switch & Headphones M'tg	2	
11	XWV9	Spring Washer, Speaker Switch	1	
12	SJA15	Jack, Headphones	1	
13	XNS8	Nut, Bass, Treble, Volume Control M'tg	3	
14	XWV8	Spring Washer, Bass, Treble, Volume	3	
15	SHS2347	Cover, Lever Switches	7	
16	XWV7	Spring Washer, Balance & Mode Switch	2	
17	XNS7	Nut, Balance & Mode Switch M'tg	2	
18	SBC129	Button, Push Switches	3	
19	SKU5590	Bottom Board	1	
20	XTV3+8CFYR	Screw, Bottom Board M'tg	2	
21	SHGA303-1	Foot, Leg	4	
22	XWG4F13	Washer, Foot	4	
23	XTN4+20B	Screw, Foot M'tg	4	
24	XUC5FT	Stop Ring, Coupling Rod	2	
25	SUB3	Coupling Rod, Selector Switch	1	
26	XYN3+C10S	Screw, Coupler M'tg	1	
27	SUBA20	Bracket, Coupler	1	
28	SUBA19S	Coupler, Selector Switch & Rod	1	
29	SGXA64	Bracket, Panel Handle	4	
30	XWAR5BFZ	Washer, Panel Handle M'tg Nut	4	
31	SJPA11	Short Pin, Phono 2 Terminals	2	
32	SHRA307	Clamp, Lead Wire	3	
33	XSBA+10FZS	Screw, Cabinet M'tg	4	
34	XWA48FZ	Spring Washer, Cabinet Screw	4	
35	SQXA4112	Caution Label, Screw	1	
36	XWG4FZ	Washer, Cabinet Screw	4	
37	SKA7970	Cabinet	1	○
38 [X, XG]	SJA97	AC Cord, Set for [X] & [XG]	1	
38 [XGH, XSD]	SJA81	AC Cord, Set for [XGH] & [XSD]	1	
38 [XSW]	SJA68	AC Cord, Only Set for [XSW]	1	
38 [XE]	SJA73	AC Cord, Only Set for [XE]	1	
38 [XAL]	SJA79	AC Cord, Only Set for [XAL]	1	
39 [X, XG, XGH, XSD, XSW]	RHR106	Bushing, AC Cord, Set for [X], [XG], [XGH], [XSD] & [XSW]	1	
39 [XE, XAL]	SHR131	Bushing, AC Cord, Set for [XE] & [XAL]	1	
40	SUE1	Cover Plate, AC outlet Hole	1	
41	XTB3+10BFZ	Screw, Reinforcement Board M'tg	1	
42	SJF5801	Terminal, Speakers	1	
43	SJF3803	Terminal, Tape Deck	1	
44	SJF3419	Terminal, Pre & Main Amplifier	1	
45	SJP9205	Short Pin Plug, Pre & Main Amplifier	2	
46	XNGR6	Nut, Ground Terminal M'tg	1	

## PACKINGS



## ACCESSORIES



A2 & A3 ..... Set for (X)

Ref. No.	Part No.	Part Name & Description	Per Set	Remarks
47	SJT201	Terminal, Lead Wire	1	
48	XWC6B	Toothed Ring, Ground Terminal	1	
49	SHR401-1	Lock Pin, Terminals	13	
50	SJF4101	Terminal, Ground	1	
51	SJT205	Holder, Speaker Circuit Protection Fuse	1	
52	XTB3+8BFZ	Screw, Fuse Holder & DIN Socket M'tg	6	
53	SJFA5202-1	Cover, Fuse Holder	1	
54	XSN26+12	Screw, Fuse Cover M'tg	1	
55 [X,XG,XGH]	SGP212-2D	Rear Panel, Set for [X], [XG] & [XGH]	1	
55 [XSD,XSW]	SGP212-2DD	Rear Panel, Set for [XSD] & [XSW]	1	
55 [XE]	SGP212-3DE	Rear Panel, Set for [XE]	1	
55 [XAL]	SGP212-3DL	Rear Panel, Set for [XAL]	1	
56	XNGS6C01	Nut, Front Panel Handle M'tg	4	
57	SUW887 2	Reinforcement Board, Electrolytic	1	
58	SUW885	Capacitor	1	
59	SJFA3805-1	Metal Clamp, Reinforcement Board	1	
60	RJS31-1	Terminal, Input	1	
61 [X,XG,XGH,XSD,XSW,XE]	SJEA4	Socket, Tape Deck (Rec/Play)	1	
62 [X,XG,XGH]	SJFA5101	Socket, Voltage Selector (Except Set for [XAL])	1	
		Holder, Fuse (Except Set for [XSD], [XSW], [XE] & [XAL])	1	
<b>ACCESSORIES</b>				
A1	XBA2C40SS0	AA Fuse, Speaker Circuit Protection	2	
A2 [X]	RJP5213	AC Plug, Only Set for [X]	1	
A3 [X]	RJP5215	AC Plug, Only Set for [X]	1	
<b>PACKING PARTS</b>				
P1	SPPA27	Soft Cover	1	
P2	SPP465	Polyethylene Bag, Set	1	
P3	SPS137 2	Pad, Right & Left Side	2	
P4 [X,XAL]	SPN5167	Carton Box, Inner (Set for [X] & [XAL])	1	
		Except Set for [XG], [XGH], [XSD], [XSW] & [XE]		
P4 [XG,XGH,XSD,XSW,XE]	SPG717	Carbon Box, (Set for [XG], [XGH], [XSD], [XSW] & [XE])	1	
P5 [X,XAL]	SPG715	Carbon Box, Outer (Set for [X] & [XAL])	1	
P6 [X,XAL]	SPS719	Pad, Carton Box (Only set for [X] & [XAL])	2	
P7 [X,XG,XGH]	SQF1267	Printed Matter, Set for [X], [XG] & [XGH]	1	
P7 [XSD,XSW]	SQF1355	Printed Matter, Set for [XSD] & [XSW]	1	
P7 [XE]	SQF1269	Printed Matter, Only Set for [XE]	1	
P7 [XAL]	SQF1357	Printed Matter, Only Set for [XAL]	1	
<b>Notes:</b> Set for [X] are European, Asia, Latin America, Oceania, Middle East and Africa. Set for [XG] are European. Set for [XGH] is Holland. Set for [XSD] are Denmark, Sweden, Norway and Finland. Set for [XSW] is Swiss. Set for [XAL] is Australia. Set for [XE] is England.				