

Service Manual

02280365 91004988 35
SM-SUV4
SERVICE MANUAL

Stereo Integrated DC Amplifier

SU-V4

[E], [EG], [XGF], [XGH],
[EB], [XE], [XA], [XAL]

SU-V4(K)

[E], [EG], [XGH], [EB],
[XE], [XA], [XAL]



* The cabinet, front panel and knob are available in black color and silver types.
The black type model is provided with (K) in the Service Manual.

Areas

- * [E] and [EG] are available in Scandinavia and European except Belgium, United Kingdom, Switzerland Holland and France.
- * [XGF] is available in France.
- * [XGH] is available in Holland.
- * [EB] is available in Belgium.
- * [XE] is available in United Kingdom.
- * [XA] is available in Asia, Latin America, Middle East and Africa.
- * [XAL] is available in Australia.

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TECHNICAL SPECIFICATIONS (DIN 45 500)

Specifications are subject to change without notice for further improvement.

AMPLIFIER SECTION

20 Hz~20 kHz continuous power output both channels driven	2 × 60W (4Ω) 2 × 55W (8Ω)	-26 dB power at 1 kHz	0.12% (4Ω)
40 Hz~16 kHz continuous power output both channels driven	2 × 60W (4Ω) 2 × 55W (8Ω)	50 mW power at 1 kHz	0.2% (4Ω)
1 kHz continuous power output both channels driven	2 × 75W (4Ω) 2 × 60W (8Ω)	Intermodulation distortion	
Total harmonic distortion		rated power at 250 Hz: 8 kHz=4:1, 4Ω	0.03%
rated power at 20 Hz~20 kHz	0.03% (4Ω) 0.02% (8Ω)	rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.02%
rated power at 40 Hz~16 kHz	0.03% (4Ω) 0.02% (8Ω)	Power bandwidth	
rated power at 1 kHz	0.02% (4Ω) 0.02% (8Ω)	both channels driven, -3 dB	
half power at 20 Hz~20 kHz	0.015% (8Ω)	(THD 0.03%) 5 Hz~30 kHz (4Ω)	
half power at 1 kHz	0.005% (8Ω)	(THD 0.02%) 5 Hz~30 kHz (8Ω)	
		Residual hum and noise (straight DC)	0.65 mV
		Damping factor	25 (4Ω), 50 (8Ω)
		Input sensitivity and impedance	
		PHONO MM	2.5 mV/47kΩ
		MC	170 μV/47Ω
		TUNER, AUX	150 mV/27kΩ
		TAPE 1 REC/PLAY	180 mV/33kΩ
		TAPE 2	150 mV/27kΩ
		PHONO maximum input voltage (1 kHz, RMS)	
		MM	150 mV
		MC	10 mV

Technics

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

S/N

rated power (4Ω)	
PHONO MM	77 dB (85 dB, IHF'66)
MC	63 dB (68 dB, IHF'66: 250 μV input)
TUNER, AUX	90 dB (97 dB IHF'66)
-26 dB power (4Ω)	
PHONO MM	66 dB
MC	62 dB
TUNER, AUX	67 dB
50 mW power (4Ω)	
PHONO MM	62 dB
MC	62 dB
TUNER, AUX	62 dB
Frequency response	
PHONO	RIAA standard curve ±0.8 dB (30 Hz~15 kHz)
TUNER, AUX (straight DC)	5 Hz~150 kHz (-3 dB) +0 dB, -0.3 dB (20 Hz~20 kHz)
Tone controls	
BASS	50 Hz, +10 dB~-10 dB
TREBLE	20 kHz, +10 dB~-10 dB
Subsonic filter	30 Hz, -6 dB/oct.

High-cut filter	7 kHz, -6 dB/oct.
Loudness control (volume at -30 dB)	50 Hz, +9 dB
Output voltage and impedance	
REC OUT	150 mV
REC/PLAY	30 mV/82kΩ
Channel balance, AUX 250 Hz~6,300 Hz	±1.0 dB
Channel separation, AUX 1 kHz	53 dB
Headphones output level and impedance	500 mV/330Ω
Load impedance	
MAIN or REMOTE	4Ω~16Ω
MAIN and REMOTE	8Ω~16Ω

GENERAL

Power consumption	580W
Power supply	AC 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (W×H×D)	430 × 142 × 292 mm (16-15/16" × 5-19/32" × 11-1/2")
Weight	9 kg (19.8 lb.)

Note:

Total harmonic distortion is measured by the digital spectrum analyzer (HP. 3045 system).

TECHNISCHE DATEN (DIN 45 500)

Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

VERSTÄRKERTEIL

Dauerton-Ausgangsleistung bei 20 Hz ~ 20 kHz

beide Kanäle angesteuert	2 × 60W (4 Ω)
	2 × 55W (8 Ω)

Dauerton-Ausgangsleistung bei 40 Hz ~ 16 kHz

beide Kanäle angesteuert	2 × 60W (4 Ω)
	2 × 55W (8 Ω)

Dauerton-Ausgangsleistung bei 1 kHz

beide Kanäle angesteuert	2 × 75W (4 Ω)
	2 × 60W (8 Ω)

Gesamtklirrfaktor

Nennleistung bei 20 Hz ~ 20 kHz	0,03% (4 Ω)
	0,02% (8 Ω)
Nennleistung bei 40 Hz ~ 16 kHz	0,03% (4 Ω)
	0,02% (8 Ω)
Nennleistung bei 1 kHz	0,02% (4 Ω)
	0,02% (8 Ω)
halbe Nennleistung bei 20 Hz ~ 20 kHz	0,015% (8 Ω)
halbe Nennleistung bei 1 kHz	0,005% (8 Ω)
-26 dB Leistung bei 1 kHz	0,12% (4 Ω)
50 mW Leistung bei 1 kHz	0,2% (4 Ω)

Intermodulationsfaktor

Nennleistung bei 250 Hz: 8 kHz = 4:1, 4 Ω	0,03%
Nennleistung bei 60 Hz: 7 kHz = 4:1, nach SMPTE, 8 Ω	0,02%

Leistungsbandbreite

beide Kanäle angesteuert bei -3 dB	
(THD 0,03%) 5 Hz ~ 30 kHz (4 Ω)	
(THD 0,02%) 5 Hz ~ 30 kHz (8 Ω)	

Restbrumm und Geräusch (straight DC)

0,65 mV

Dämpfungsfaktor

25 (4 Ω), 50 (8 Ω)

Eingangsempfindlichkeit und -impedanz

Phono - magnetisch (PHONO MM)	2,5 mV/47 kΩ
Phono - dynamisch (PHONO MC)	170 μV/47 Ω
Tuner, Aux	150 mV/27 kΩ
Tape 1 Aufnahme/Wiedergabe (TAPE 1 REC/PLAY)	
	180 mV/33 kΩ
	150 mV/27 kΩ

Tape 2 (TAPE 2)

150 mV/27 kΩ

Maximale TA-Eingangsspannung (1 kHz eff.)

magnetisch (MM)	150 mV
dynamisch (MC)	10 mV

Geräuschabstand

Nennleistung (4 Ω)

Phono - magnetisch (PHONO MM)

77 dB (85 dB nach IHF'66)

Phono - dynamisch (PHONO MC)

63 dB (68 dB nach IHF'66: 250 μV input)

Tuner, Aux

90 dB (nach IHF'66: 97 dB)

-26 dB Leistung (4 Ω)

Phono - magnetisch (PHONO MM)

66 dB

Phono - dynamisch (PHONO MC)

62 dB

Tuner, Aux

67 dB

50 mW Leistung (4 Ω)

Phono - magnetisch (PHONO MM)

62 dB

Phono - dynamisch (PHONO MC)

62 dB

Tuner, Aux

62 dB

Frequenzgang

Phono	RIAA-Standardkurve ±0,8 dB (30 Hz ~ 15 kHz)
Tuner, Aux (straight DC)	5 Hz ~ 150 kHz (-3 dB) +0 dB, -0,3 dB (20 Hz ~ 20 kHz)

Klangregler

Baßregler (BASS)	50 Hz, +10 dB ~ -10 dB
Höhenregler (TREBLE)	20 kHz, +10 dB ~ -10 dB

Tiefenfilter

30 Hz, -6 dB/Okt.

Rauschfilter

7 kHz, -6 dB/Okt.

Gehörriichtige Lautstärkekorrektur (Loudness)

(bei -30 dB Ausgangsleistung) 50 Hz, +9 dB

Ausgangsspannung und -impedanz

Aufnahmeausgang (REC OUT)	150 mV
Aufnahme/Wiedergabe (REC/PLAY)	30 mV/82 kΩ

Kanalabweichung (Aux, 250 Hz ~ 6300 Hz)

±1,0 dB

Übersprechdämpfung (Aux, 1 kHz)

53 dB

Kopfhörerpegel und -impedanz

500 mV/330 Ω

Lautsprecherimpedanz

MAIN oder REMOTE	4 Ω ~ 16 Ω
MAIN und REMOTE	8 Ω ~ 16 Ω

ALLGEMEINE DATEN

Leistungsaufnahme 580 W

Netzspannung

Wechselstrom 50 Hz/60 Hz, 110V/120V/220V/240V

Abmessungen (B×H×T)

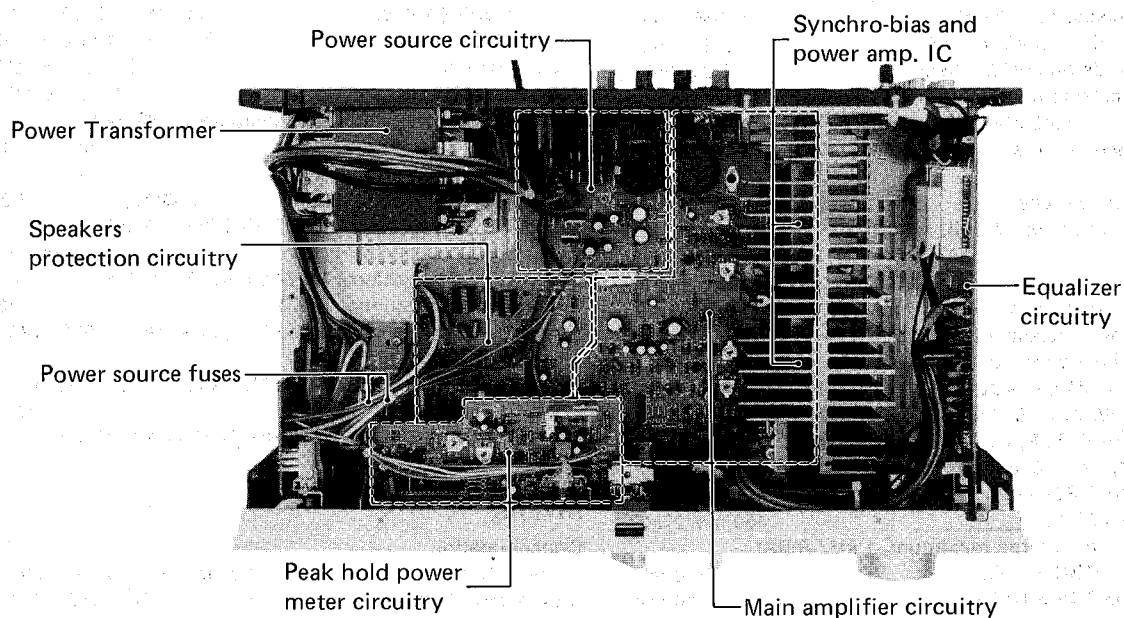
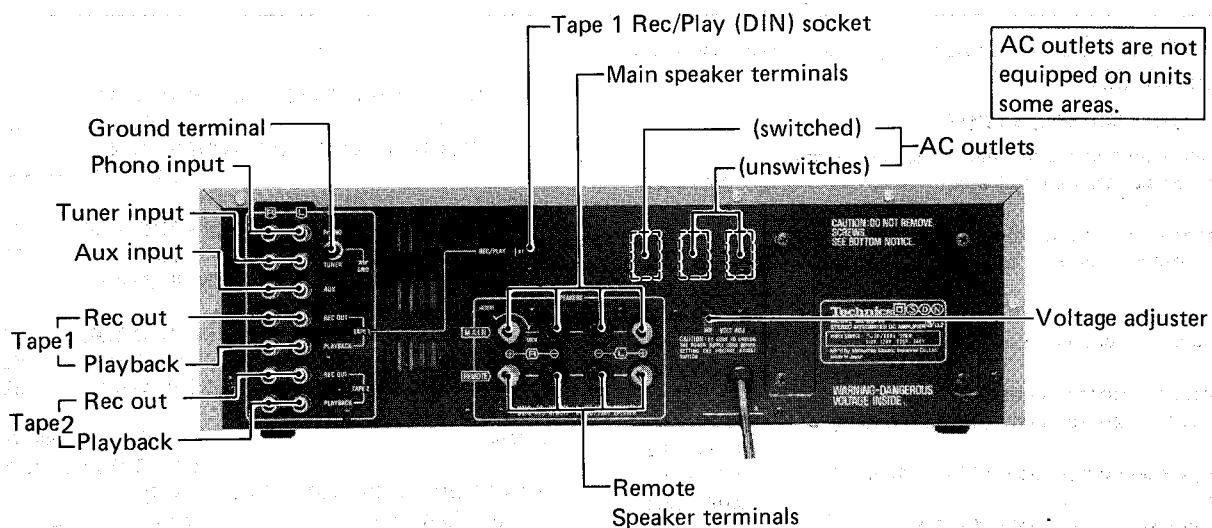
430 × 142 × 292 mm

Gewicht

9 kg

Bemerkung:

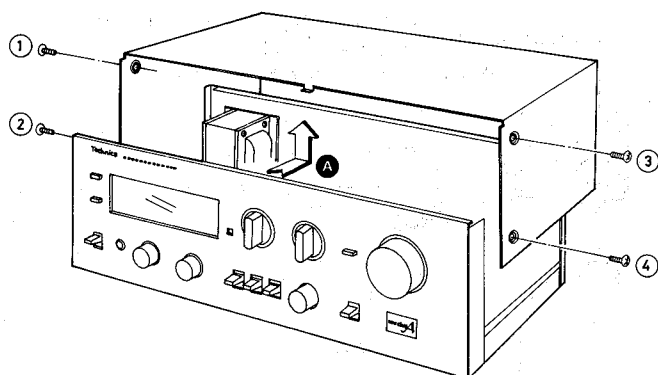
Der Gesamtklirrfaktor wurde mit einem digitalen Rauschspektrometer (Anlage HP. 3045) gemessen.



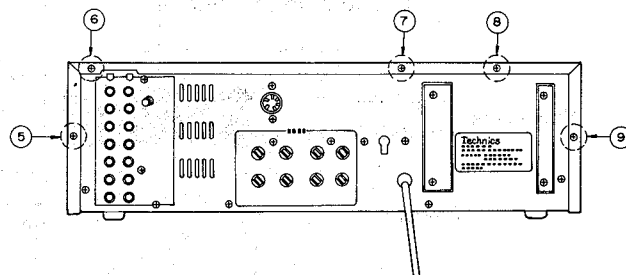
DISASSEMBLY INSTRUCTIONS

How to remove the cabinet

1. Remove the 4 setscrews (Fig. 1: ①~④) on the side and 5 setscrews (Fig. 2: ⑤~⑨) on the back of the cabinet.
2. Shift the cabinet backward and lift it upward. (Arrow A in Fig. 1)



[Fig. 1]



[Fig. 2]

DONNEES TECHNIQUES (DIN 45 500)

Sujet à changement sans préavis.

SECTION AMPLIFICATEUR

Puissance de sortie continue de 20 Hz~20 kHz,
les deux canaux en circuit 2 × 60W (4Ω)
2 × 55W (8Ω)

Puissance de sortie continue de 40 Hz~16 kHz,
les deux canaux en circuit 2 × 60W (4Ω)
2 × 55W (8Ω)

Puissance de sortie continue à 1 kHz
les deux canaux en circuit 2 × 75W (4Ω)
2 × 60W (8Ω)

Distorsion harmonique totale
à puissance nominale (20 Hz~20 kHz) 0,03% (4Ω)
0,02% (8Ω)

à puissance nominale (40 Hz~16 kHz) 0,03% (4Ω)
0,02% (8Ω)

à puissance nominale (1 kHz) 0,02% (4Ω)
0,02% (8Ω)

à demi-puissance (20 Hz~20 kHz) 0,015% (8Ω)

à demi-puissance (1 kHz) 0,005% (8Ω)

puissance de -26 dB à 1 kHz 0,12% (4Ω)

puissance de 50 mW à 1 kHz 0,2% (4Ω)

Distorsion d'intermodulation

à puissance nominale à 250 Hz: 8 kHz=4:1, 4Ω 0,03%

à puissance nominale à 60 Hz: 7 kHz=4:1, SMPTE, 8Ω 0,02%

Réponse de fréquences
les deux canaux en circuit, -3 dB
(THD 0,03%) 5 Hz~30 kHz (4Ω)
(THD 0,02%) 5 Hz~30 kHz (8Ω)

Bruit et ronflement résiduels (straight DC) 0,65 mV

Coefficient d'amortissement 25 (4Ω), 50 (8Ω)

Sensibilité et impédance d'entrée

PHONO, AIMANT MOBILE (PHONO MM) 2,5 mV/47kΩ

PHONO, BOBINE MOBILE (PHONO MC) 170 μV/47Ω

SYNTONISATEUR, AUX (TUNER, AUX) 150 mV/27kΩ

BANDE 1, ENREGISTREMENT/LECTURE

(TAPE 1 REC/PLAY) 180 mV/33kΩ

BANDE 2 (TAPE 2) 150 mV/27kΩ

PHONO (tension d'entrée maximum, 1 kHz RMS)

AIMANT MOBILE (MM) 150 mV

BOBINE MOBILE (MC) 10 mV

Signal/Bruit

à puissance nominale (4Ω)

PHONO, AIMANT MOBILE (PHONO MM)

77 dB (85 dB, IHF'66)

PHONO, BOBINE MOBILE (PHONO MC)

63 dB (68 dB, IHF'66: 250 μV input)

SYNTONISATEUR, AUX (TUNER, AUX)

90 dB (97 dB IHF'66)

puissance de -26 dB (4Ω)

PHONO, AIMANT MOBILE (PHONO MM) 66 dB

PHONO, BOBINE MOBILE (PHONO MC) 62 dB

SYNTONISATEUR, AUX (TUNER, AUX) 67 dB

puissance de 50 mW (4Ω)

PHONO, AIMANT MOBILE (PHONO MM) 62 dB

PHONO, BOBINE MOBILE (PHONO MC) 62 dB

SYNTONISATEUR, AUX (TUNER, AUX) 62 dB

Réponse de fréquence

PHONO

Courbe nominale RIAA

±0,8 dB (30 Hz~15 kHz)

SYNTONISATEUR, AUX (TUNER, AUX)

(straight DC)

5 Hz~150 kHz (-3 dB)

+0 dB, -0,3 dB (20 Hz~20 kHz)

Réglage de la tonalité

BASSES (BASS)

50 Hz, +10 dB~-10 dB

AIGUS (TREBLE)

20 kHz, +10 dB~-10 dB

Filtre subsonique

30 Hz, -6 dB/oct.

Filtre coupe-hauts

7 kHz, -6 dB/oct.

Compensateur physiologique (volume à -30 dB)

50 Hz, +9 dB

Tension de sortie et impédance

SORTIE ENREGISTREMENT (REC OUT)

150 mV

ENREGISTREMENT/LECTURE (REC/PLAY)

30 mV/82 kΩ

Equilibrage des canaux, AUX 250 Hz~6 300 Hz

±1,0 dB

Séparation des canaux, AUX 1 kHz

53 dB

Niveau de sortie des casques et impédance

500 mV/330Ω

Impédance de charge

PRINCIPALE ou AUXILIAIRE (MAIN or REMOTE)

4Ω~16Ω

PRINCIPALE et AUXILIAIRE (MAIN and REMOTE)

8Ω~16Ω

DIVERS

Consommation

580W

Alimentation

CA 50 Hz/60 Hz, 110V/120V/220V/240V

Dimensions (L×H×Pr)

430 × 142 × 292 mm

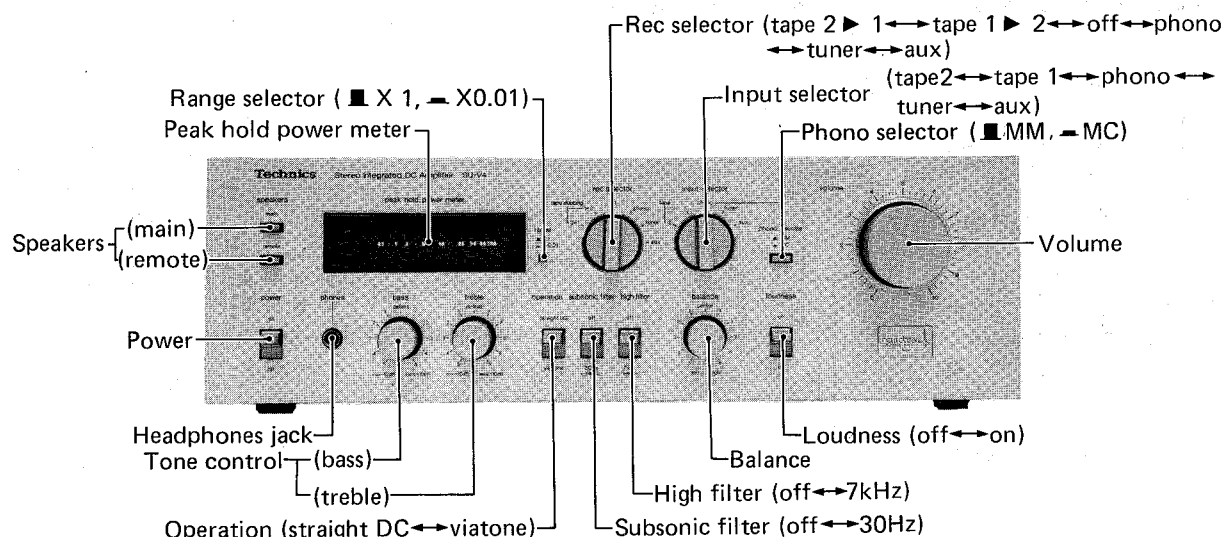
Poids

9 kg

Remarque:

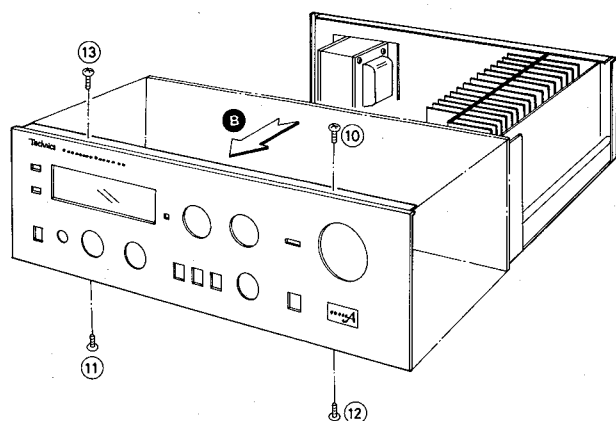
On mesure la distorsion harmonique totale au moyen d'un analyseur de spectre digital (Système HP. 3045).

LOCATION OF CONTROLS

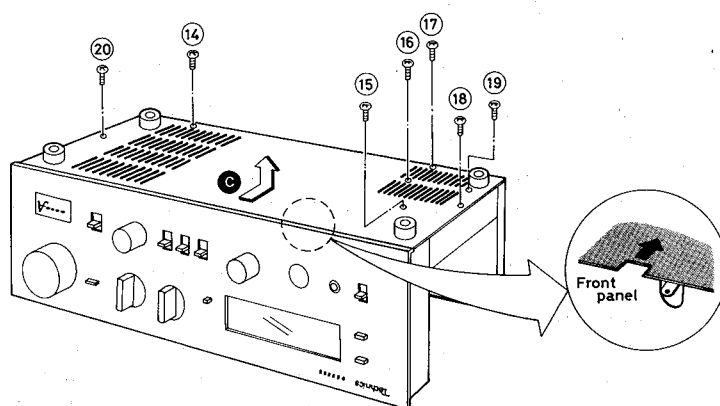


• How to remove the front panel and the bottom board

1. Remove the 4 setscrews (Fig. 3 : ⑩ ~ ⑬) holding the front panel.
2. Pull the front panel outward from the front of the unit. (Fig. 3 : ㉑)
3. To remove the bottom board, remove the 7 setscrews (Fig. 4 : ⑭ ~ ⑳) holding the bottom board.



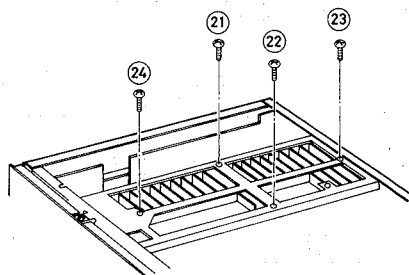
[Fig. 3]



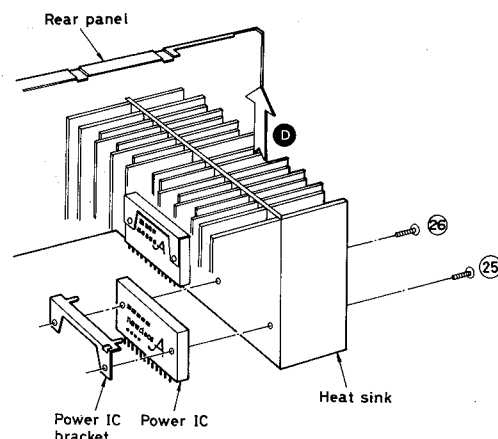
[Fig. 4]

• How to remove the power IC

1. Remove the cabinet and bottom board. (Refer to the sections "How to remove the cabinet" and "How to remove the front panel and the bottom board".)
2. Remove the solder of power IC for both L ch and R ch.
3. Remove the 4 setscrews (Fig. 5 : ㉑ ~ ㉔) at the bottom of the heat sink and then remove the heat sink along with the power IC in the direction of the arrow ㉕. (Refer to Fig. 6)
4. Remove the 2 setscrews (Fig. 6 : ㉕, ㉖) used to secure the power IC on the heat sink and then pull the power IC.
5. When mounting the power IC, apply silicone compound (or equivalent heat diffuser) to the back of power IC, and then follow the steps 1 ~ 4 reversely.



[Fig. 5]



[Fig. 6]

ADJUSTING INSTRUCTIONS

ENGLISH

• Setting of controls and instruments to be used

1. Speaker switch main
2. Sound volume 0 (minimum)
3. DC voltmeter (capable to measure 5mV)

No.	Adjustment	DC Voltmeter Connections	Adjusting Point	Adjustment Procedure
1	Clamp Voltage	L channel Between TP301 and TP303 (minus probe) R channel Between TP302 and TP304 (minus probe)	R337 (L channel) R338 (R channel)	* Turn Ica semi-fixed resistors R367, 368 to minimum. (counter-clockwise direction) * Adjust R337 (L ch) and R338 (R ch) to approx. 0.5mV after ten minutes warm-up time.
2	Ica (Adjustment using a DC voltmeter)	L channel Between TP301 and TP303 (minus probe) R channel Between TP302 and TP304 (minus probe)	R367 (L channel) R368 (R channel)	* Adjust R367 (L ch) and R368 (R ch) to approx. 15.5mV after ten minutes warm-up time.

2. Adjustment of FL power meter

* Conditions of the set, and equipment used

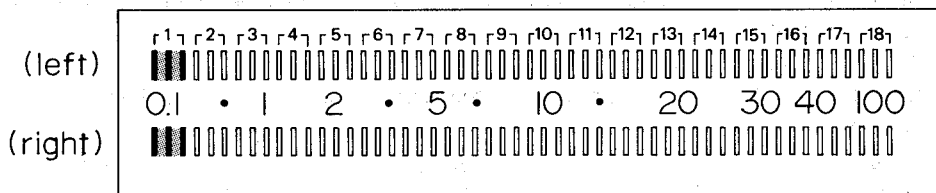
- | | |
|-----------------------------------|-----------------------------|
| 1. Input selectortuner | 5. Low frequency oscillator |
| 2. Speaker switchmain | 6. AC electronic voltmeter |
| 3. Meter range switch.X1 | 7. 8-ohm load resistor |
| 4. Sound volume.10 (max.) | |

2-1. Adjustment of 0.1W

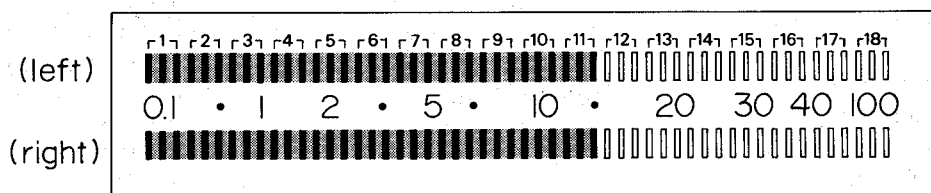
- 1) Connect the low frequency oscillator to the tuner terminals for both channels, and the AC electronic voltmeter to the speaker terminals in parallel with the load resistor.
- 2) Set the meter range switch to "X1" position.
- 3) Add 1kHz signal from the low frequency oscillator, and regulate the input level so that the AC electronic voltmeter indicates 1.5V.
- 4) Adjust **R730** while observing the FL peak power meter until the first segment is about to turn on (Refer to Fig. 7)

2-2. Adjustment of 10.25W

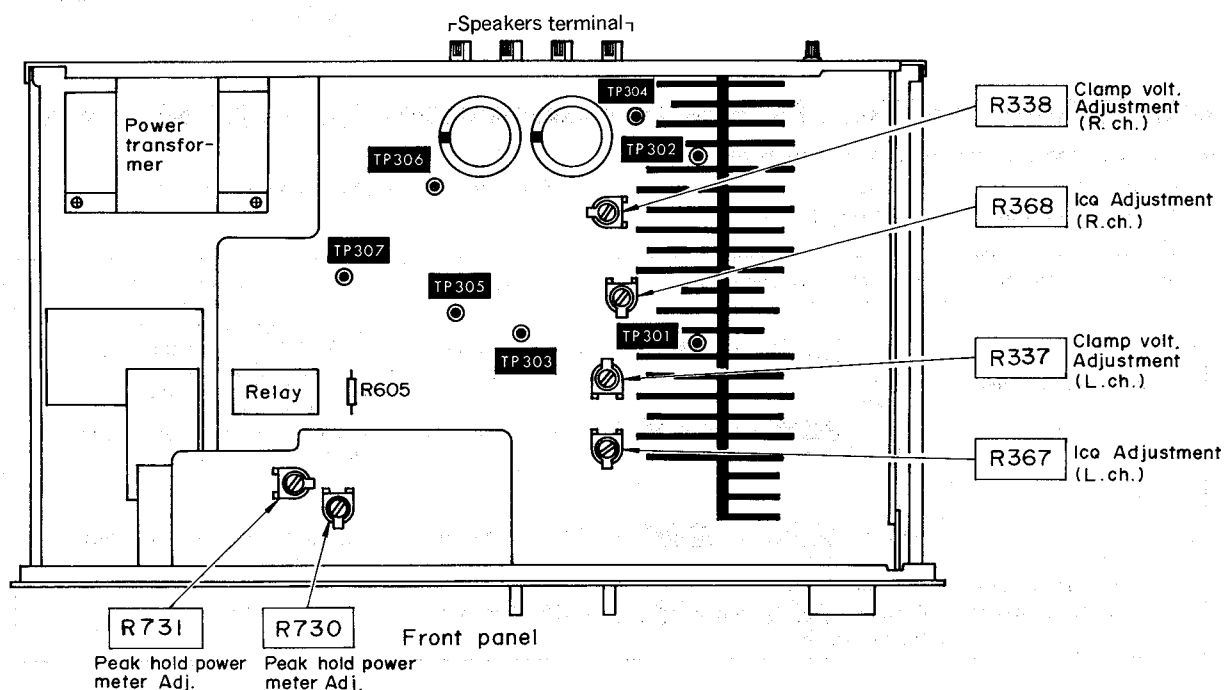
- 1) Set the meter range switch to "X1" position.
- 2) Regulate the input level so that the AC electronic voltmeter indicates 9V.
- 3) Make the adjustment in the same way as mentioned in 2-1 by regulating **R731** so that the 11th segment to turn on. (Each segment consists of three bars)
- 4) Next, make the adjustment in 2-1(0.1W) by regulating the input level.
- 5) Again regulate the input level to make the output 9V, and make sure that the segment at 10.25W (Refer to Fig. 8) position is on.



[Fig. 7] (Abb. 1)



[Fig. 8] (Abb. 2)



EINSTELLUNGSANWEISUNGEN DEUTSCH

• Einstellung der zu benutzenden Regler und Instrumente

1. Lautsprecherschalter Hauptlautsprecher ("main")
2. Lautstärke "0" (Minimalstellung)
3. Gleichstromvoltmeter. 5mV Meßbereich erforderlich.

1	Klemmspannung	L-Kanal. Zwischen TP301 und TP303 (Minustest) R-Kanal. Zwischen TP302 und TP304 (Minustest)	R337 (L-Kanal) R338 (R-Kanal)	* Die Ico halbfeinsteinstellen Widerstände R367 und R368 auf Minimalstellung drehen. (Entgegen dem Uhrzeigersinn) * R337 (L-Kanal) und R338 (R-Kanal) auf ungefähr 0.5mV, nach 10 Minuten Anwärmezeit, einstellen.
2	Ico (Einstellungen mit einem Gleichstromvoltmeter)	L-Kanal. Zwischen TP301 und TP303 (Minustest) R-Kanal. Zwischen TP302 und TP304 (Minustest)	R367 (L-Kanal) R368 (R-Kanal)	* R367 (L-Kanal) und R368 (R-Kanal) auf ungefähr 15.5mV, nach 10 Minuten Anwärmezeit einstellen.

2. Abgleichen des FL-Leistungsmeßgerätes

* Stellungszustand und verwendete Geräte

1. Eingangsumschalter tuner
2. Lautsprecherschalter main
3. Meßbereichschalter X1
4. Lautstärke 10 (max.)
5. Niederfrequenz-Oszillator
6. Wechselstrom-Elektronen-Voltmeter
7. 8 Ohm Belastungswiderstand

2-1. Abgleichen von 0.1W

- 1) An die Tunerklemmen der beiden Kanäle Niederfrequenz-Oszillator anschließen, und an die Lautsprecherklemme parallel mit Belastungswiderstand den Wechselstrom-Elektronen-Voltmeter anschließen.
- 2) Meßbereichschalter auf "X1" position.
- 3) Vom Niederfrequenz-Oszillator 1kHz Signal speisen, und Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmeter 1.5 anzeigt.
- 4) Unter Beobachten auf FL-Leistungsmeßgerät **R730** einstellen, bis das erste Segment fast aufzuleuchten beginnt. (Vgl Abb. 1)

2-2. Abgleichen von 10.25W

- 1) Meßbereichschalter auf "X1" position.
- 2) Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmeter 9V anzeigt.
- 3) Unter Einstellung von **R731** in gleicher Weise wie oben in 2-1 so abgleichen, daß das 11. Segment fast aufzuleuchten beginnt.
- 4) Dann Eingangspegel einstellen und wie in 2-1 (0.1W) abgleichen.
- 5) Eingangspegel wieder einstellen, damit der Eingang 9V wird, und sicherstellen, daß das Segment bei 10.25W aufleuchtet. (Vgl Abb. 2)

INSTRUCTIONS DE REGLAGE FRANÇAIS

• Réglage des commandes et instruments à utiliser

1. Commutateur du haut-parleur Principal
2. Volume du son 0 (minimum)
3. Voltmètre CC (pouvant mesurer 5mV)

1	Tension de blocage	Canal G. Entre TP301 et TP303 (sonde au moins) Canal D. Entre TP302 et TP304 (sonde au moins)	R337 (Canal G) R338 (Canal D)	* Tourner les résistances R367, 368 semifixes Ico sur le minimum. (à gauche). * Régler R337 (canal gauche) et R338 (canal droit) sur env. 0.5mV après 10 minutes de temps de chauffage.
2	Ico (réglage à l'aide d'un voltmètre CC)	Canal G. Entre TP301 et TP303 (sonde au moins) Canal D. Entre TP302 et TP304 (sonde au moins)	R367 (Canal G) R368 (Canal D)	* Régler les R367 (canal gauche) et R368 (canal droit) sur env. 15.5mV après 10mn. de préchauffage.

2. Réglage du compteur d'alimentation FL

* Conditions de l'appareil et équipement utilisé

1. Sélecteur d'entrée Commande d'accord
2. Commutateur de l'enceinte. Principal
3. Commutateur de la gamme du compteur X1
4. Volume du son 10 maxi.
5. Oscillateur de basse fréquence
6. Voltmètre électronique CA
7. Résistance de 8 ohms de charge

2-1. Réglage de 0.1W

- 1) Brancher l'oscillateur de basse fréquence aux bornes de la commande d'accord des deux canaux; et le voltmètre électronique aux bornes de l'enceinte en parallèle avec la résistance de charge.
- 2) Placer le commutateur de gamme du compteur sur "X1" position.
- 3) Alimenter un signal de 1kHz par l'oscillateur de basse fréquence et régler le niveau d'entrée de telle sorte que le voltmètre électronique indique 1.5V.
- 4) Régler le **R730** tout en observant le compteur d'alimentation FL jusqu' à ce que le premier segment soit sur le point d'être branché. (Voir Fig. 7)

2-2. Réglage de 10.25W

- 1) Régler le commutateur de gamme du compteur sur "X1".
- 2) Régler le niveau d'entrée de telle sorte que le compteur électronique indique 9V.
- 3) Faire le réglage de la même façon que le réglage mentionné dans le paragraphe 2-1 en réglant **R731** de telle sorte que le onzième segment soit sur le point d'être branché.
- 4) Effectuer le réglage comme dans le paragraphe 2-1 (0.1W) en réglant le niveau d'entrée.
- 5) De nouveau régler le niveau d'entrée pour donner une sortie de 9V et s'assurer que le segment à la position 10.25W, est branché. (Voir Fig. 8)

REPLACEMENT PARTS LIST...Electrical Parts

Notes: 1. Part numbers are indicated on most mechanical parts.
Please use this part number for parts orders.

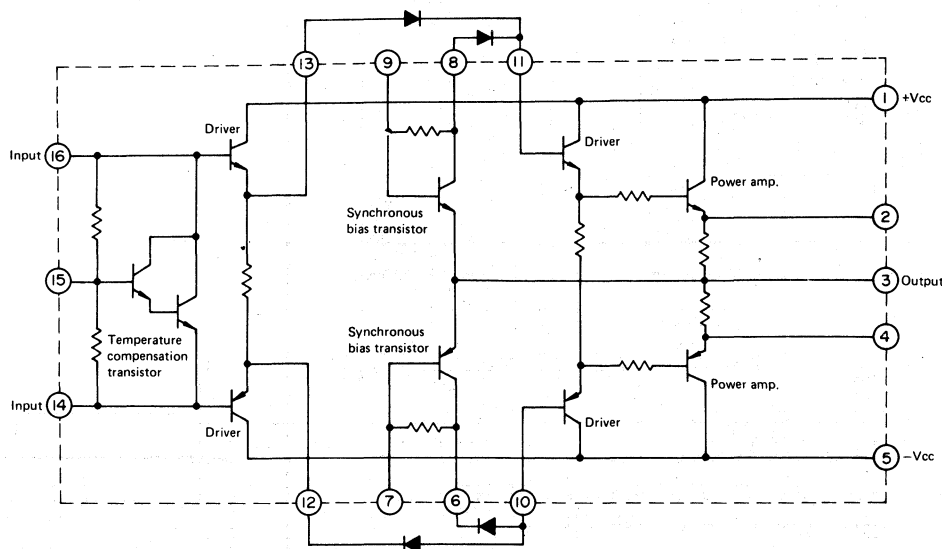
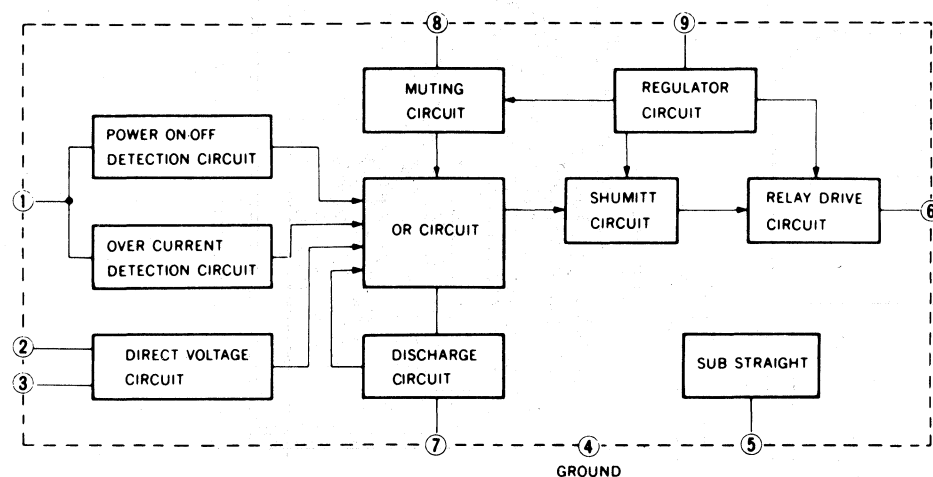
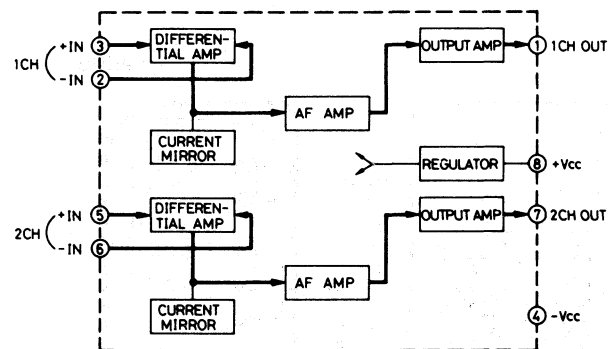
2. Δ indicates that only parts specified by the manufacturer be used for safety.

Ref No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
IC101	SVINJM4559DS	IC, Equalizer Amplifier
IC301, 302	SVISTK8050	IC, Synchronous Bias Circuit and Power Amplifier
IC303	AN6552F	IC, Tone Control Amplifier
IC601	SVITA7317P	IC, Speakers Protection
IC701	AN6552F	IC, Voltage Amplifier
IC702	AN6870	IC, FL Comparator and Driver
TRANSISTORS		
Q101~104	2SK170-GR	Transistor, Differential Amplifier
Q301, 302	2SK109-D	Transistor, Buffer
Q303~306	2SC2631-R	Transistor, Differential Amplifier
Q307~310, 603	2SA1015-Y	Transistor, Current Mirror and Relay Hold
Q311, 312	2SA921-T	Transistor, Emitter Follower
Q313, 314	2SA1124-R	Transistor, Pre Drive
Q315, 316	2SC2632-R	Transistor, Constant Current
Q401	2SD836-Q	Transistor, Regulator
Q402	2SB750-Q	Transistor, Regulator
Q601, 602	2SC1980-T	Transistor, Current Detector
Q604	2SC1685-T	Transistor, Relay Hold
Q701	2SD762-Q	Transistor, Regulator
Q702, 703	2SC1328-T	Transistor, Multivibrator
Q705, 706	2SC1685-S	Transistor, Muting
DIODES		
D101, 102, 702, 703, 704	MA162A	Diode, Detector
D301, 302	MA162A	Diode, Detector
D303~310	20A90	Diode, Detector
D311, 312	MA27A1	Diode, Detector
D403~406	SVD3V40	Rectifier
D407, 408	SVDMZ316C	Diode, 16V Zener
D601, 602, 605, 606	MA162A	Diode, Detector
D603	SVDSR1K2	Diode, Bias
D701	SVDMZ322B	Diode, 22V Zener
COILS and TRANSFORMER		
L301, 302	SLQY15G-3P	Coil, Choke
P.T.	Δ SLT5P199-W	Transformer, Power Source
VARIABLE RESISTORS		
R337, 338	EVT3MA00B23	Clamp Voltage Adjustment, 2k Ω (B)

Ref No.	Part No.	Part Name & Description
R367, 368	EVT3MA00B53	Icq Adjustment, 5k Ω (B)
R730	EVT3MA00B52	FL Peak-Power Meter Adjustment, 500 Ω (B)
R731	EVT3MA00B14	FL Peak-Power Meter Adjustment, 10k Ω (B)
VR201	EW6LA031BF5	Volume Control, 250k Ω (B)
VR202	EVHHPA505G25	Balance Control, 200k Ω (W)
VR203	EWJFD0090C15	Treble Control, 100k Ω (C)
VR204	EWJFDY090530	Bass Control, 100k Ω (C)
COMPONENT COMBINATION		
Z401	EXRFS203ZS	Component Combination, 0.01 μ F (x2)
THERMISTORS		
TH301, 302	ERTD2ZHL332S	Thermistor, Temperature Compensation 3.3k Ω
FUSES		
F1	Δ XBA2C16TRO	Fuse, T1.6A (250V), Power Primary
F2	Δ XBA2C31TRO	Fuse, T3.15A (250V), Power Primary
LAMP		
PL401	Δ XAMR73S350A	Lamp, New Class A Badge, 250mA(6,3V)
SWITCHES		
S1	SSH153	Switch, Phono Selector
S2, 3	ESA2682	Switch, Input Selector and Rec Selector
S4~7	SSL145	Switch, High Filter, Subsonic Filter, Loudness and Operation
S8	SSH281	Switch, Speakers Selector
S9	Δ ESL21210S	Switch, Power
S10	SSH105	Switch, Meter Range
S11	Δ ESE37200	Switch, Voltage Adjuster
RELAY		
RLY1	Δ SSY69	Relay, Speaker Protection
METER		
	SADBG64Z	Meter, Fluorescent Peak Power

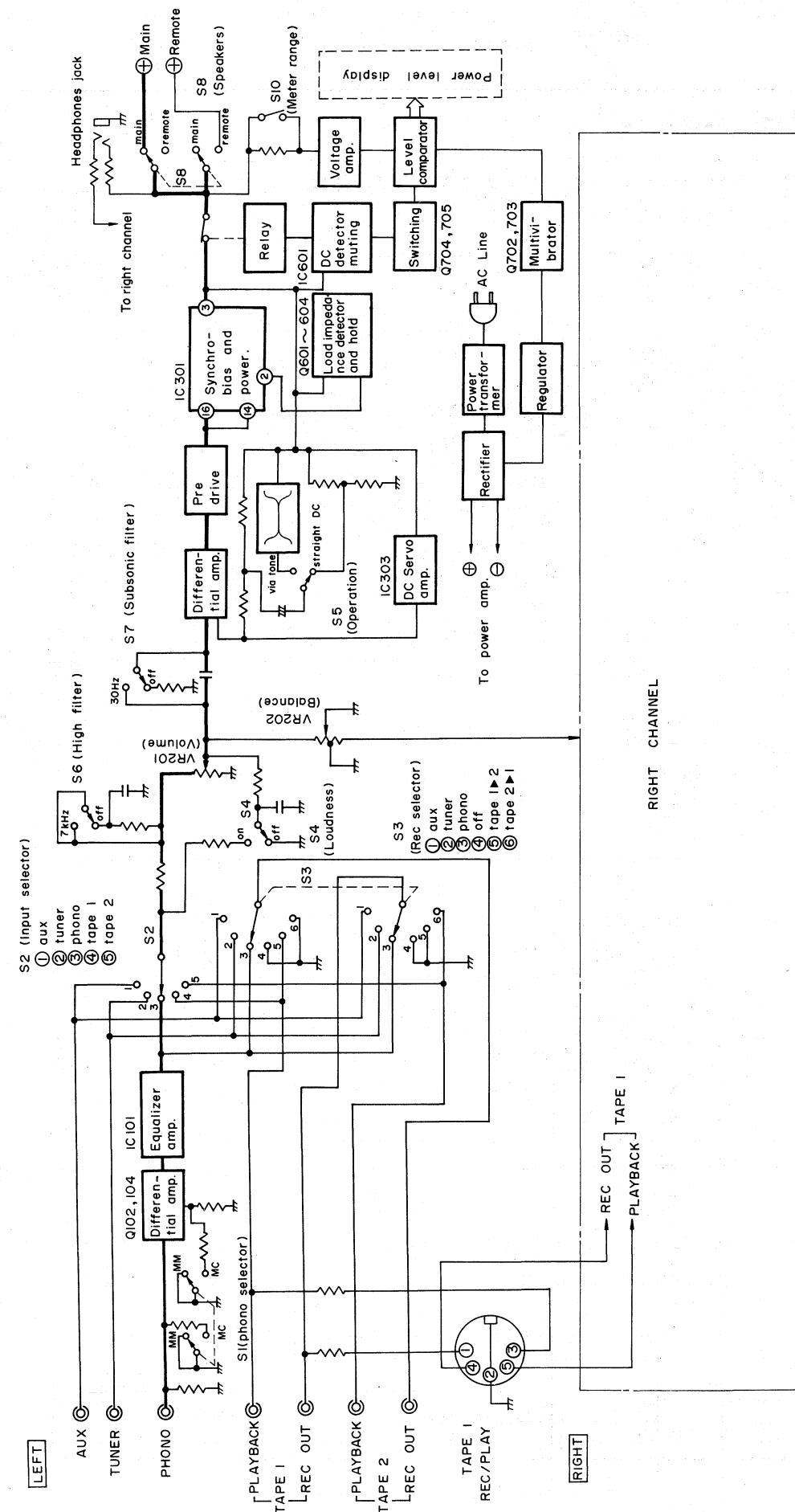
■ BLOCK DIAGRAM OF IC'S

- This is the basic block diagram of the inside circuit of IC. In an actual circuit, there may be sometimes idle terminals or some different functions other than the basic circuit.



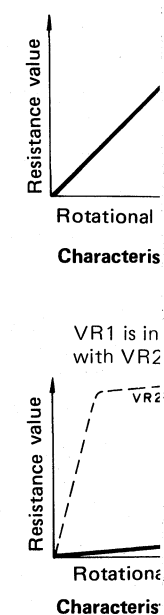
IC301, 302 (SVISTK8050) Synchronous bias circuit and power amplifier

■ BLOCK DIAGRAM

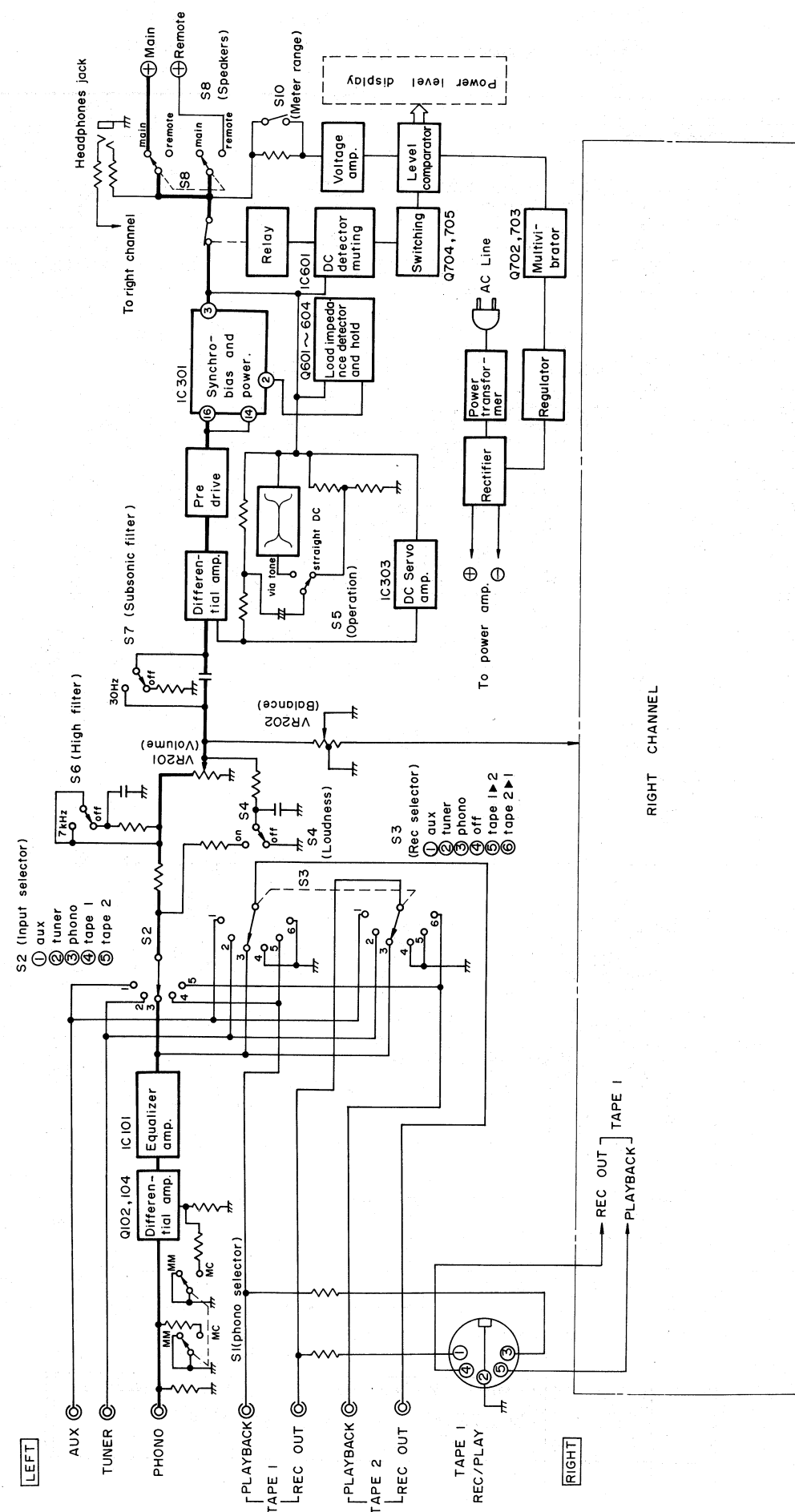


■ VARIAB

- Alteration**
 Alteration of the set at op sound volum quality adjus In the case c angle of 150 at rotational tors are inter



BLOCK DIAGRAM

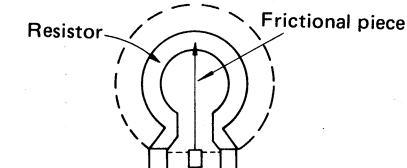
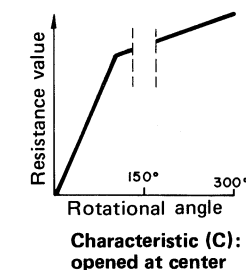
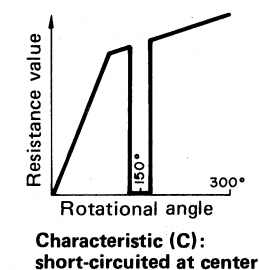
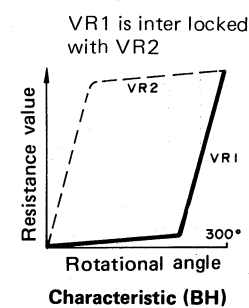
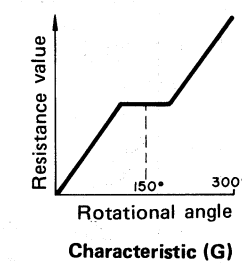
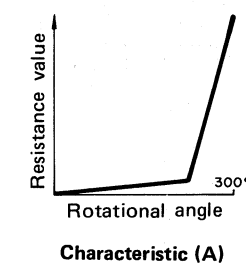
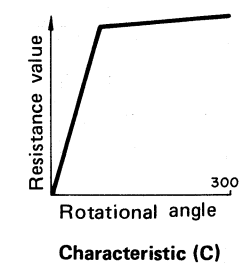
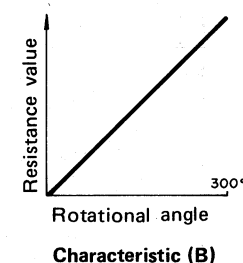


VARIABLE RESISTORS

Alteration of resistance values according to the rotational angles of variable resistors

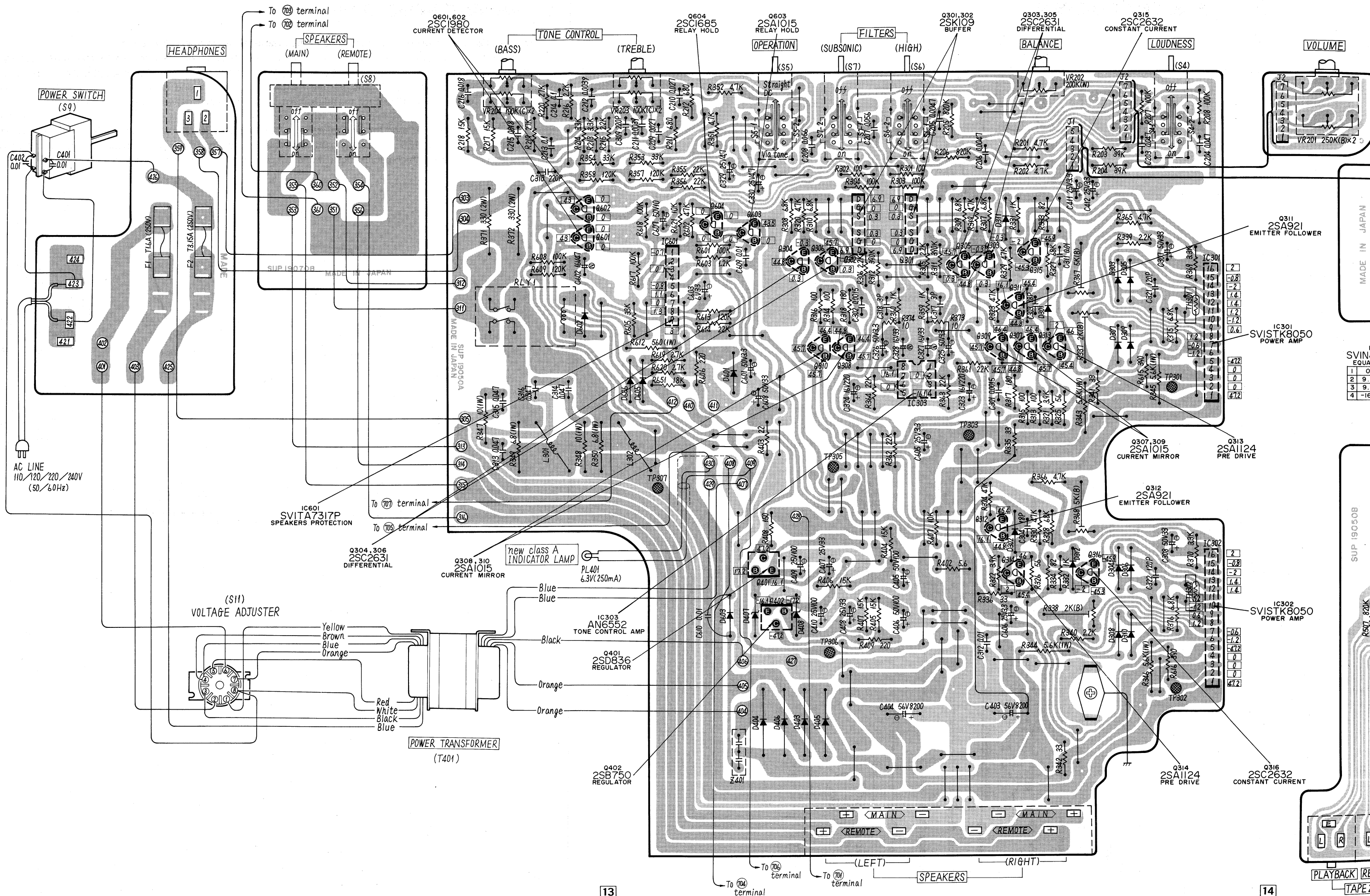
Alteration characteristics as shown below are often used for sets. All are intended to keep the frequency response of the set at optimum levels, and are used according to the types of circuits. For example, characteristic (B) is used for sound volume adjustment; (A) and (C) are for bass and treble sound quality adjustment; (G) is for medium sound quality adjustment; and (BH) is for the adjustment of sound balance between the right and left.

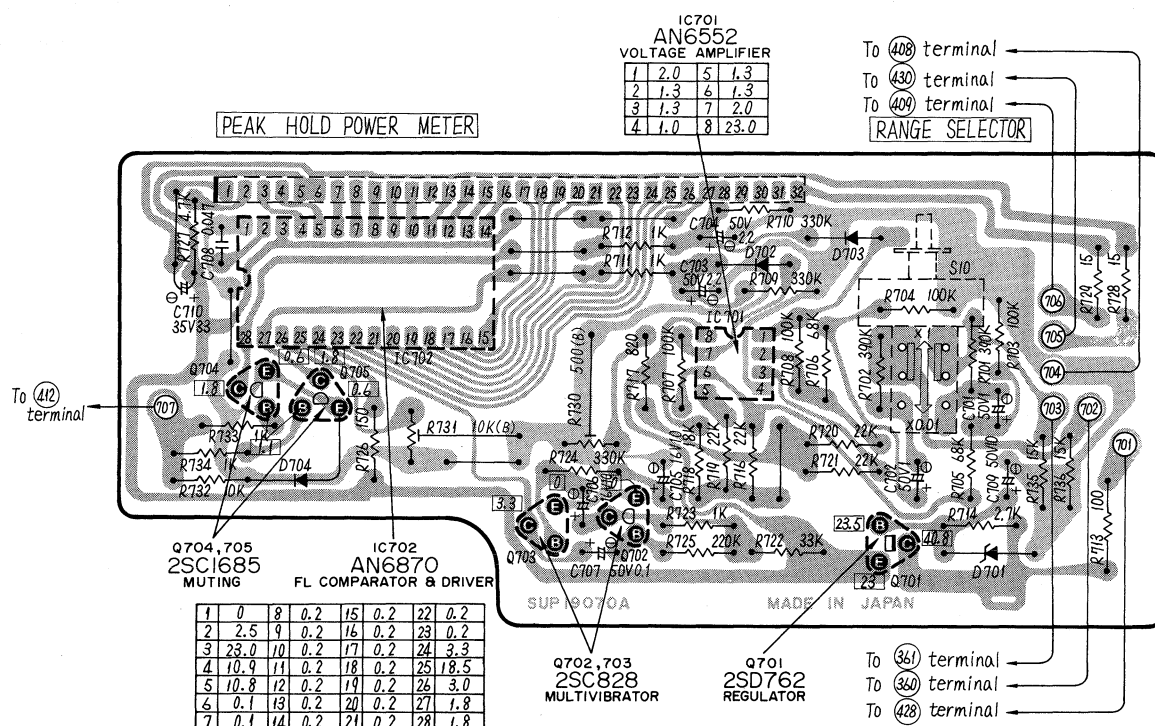
In the case of this unit, variable resistor with characteristic (C) which is short-circuited between its ends at rotational angle of 150° (center) is used for bass adjustment. Also, variable resistor with characteristic (C) whose resistance is zero at rotational angle of 150° (center) is used for treble adjustment. And characteristic (BH) in which two variable resistors are interlocked with characteristics (C) and (A) combined is used for the adjustment of sound level balance.



PRINTED CIRCUIT BOARD WIRING VIEW

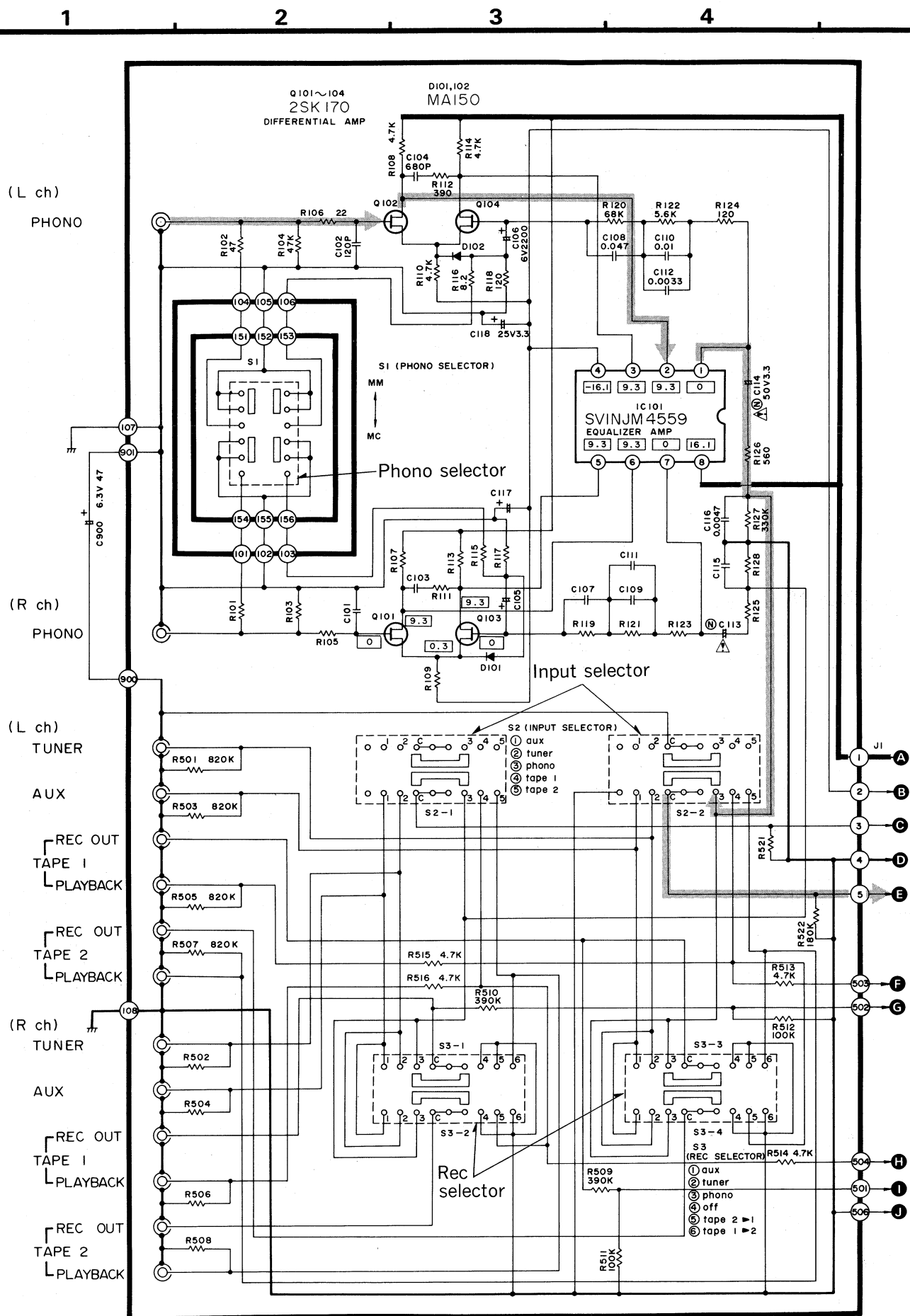
Earth (Ground) Lines

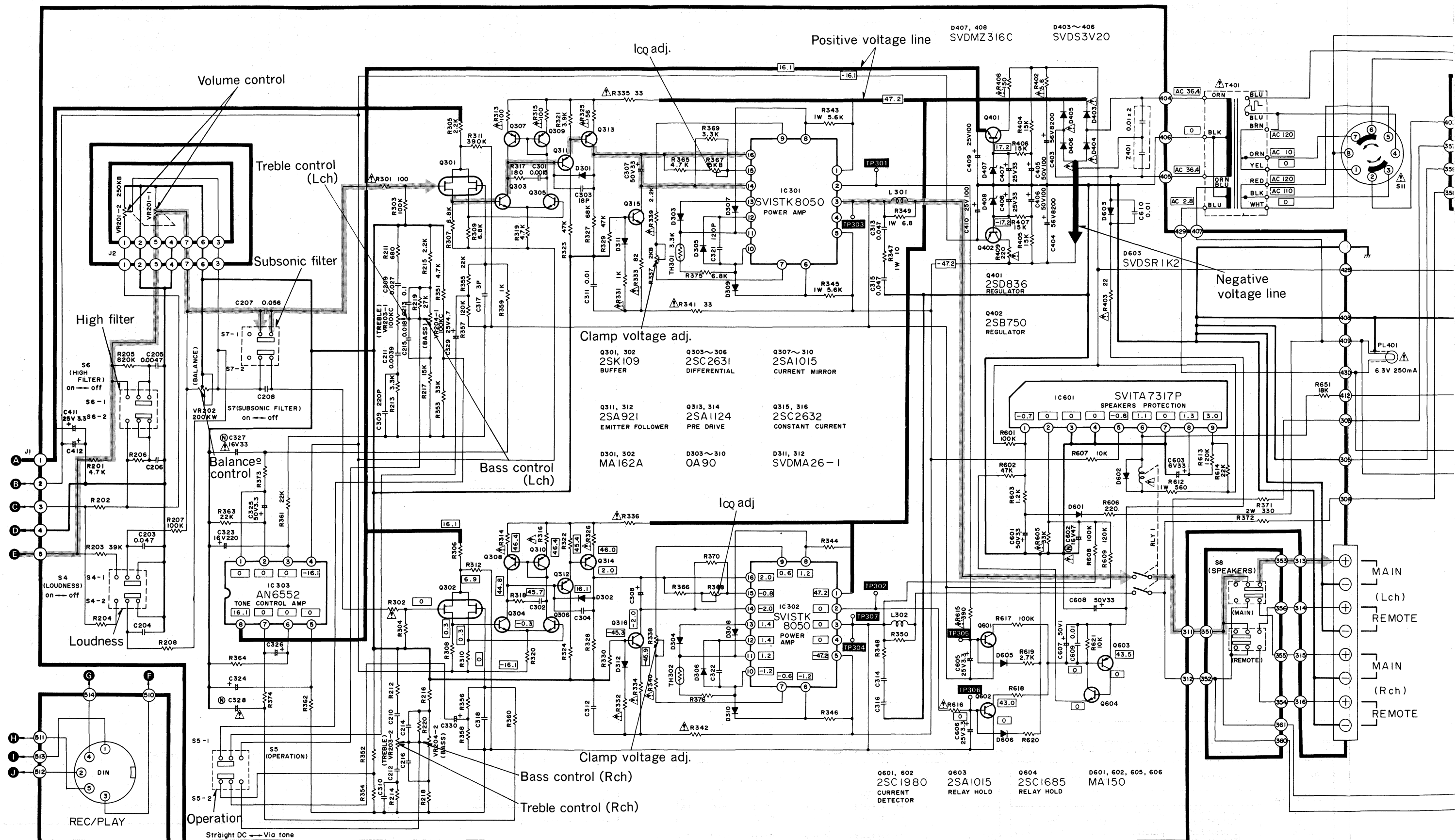


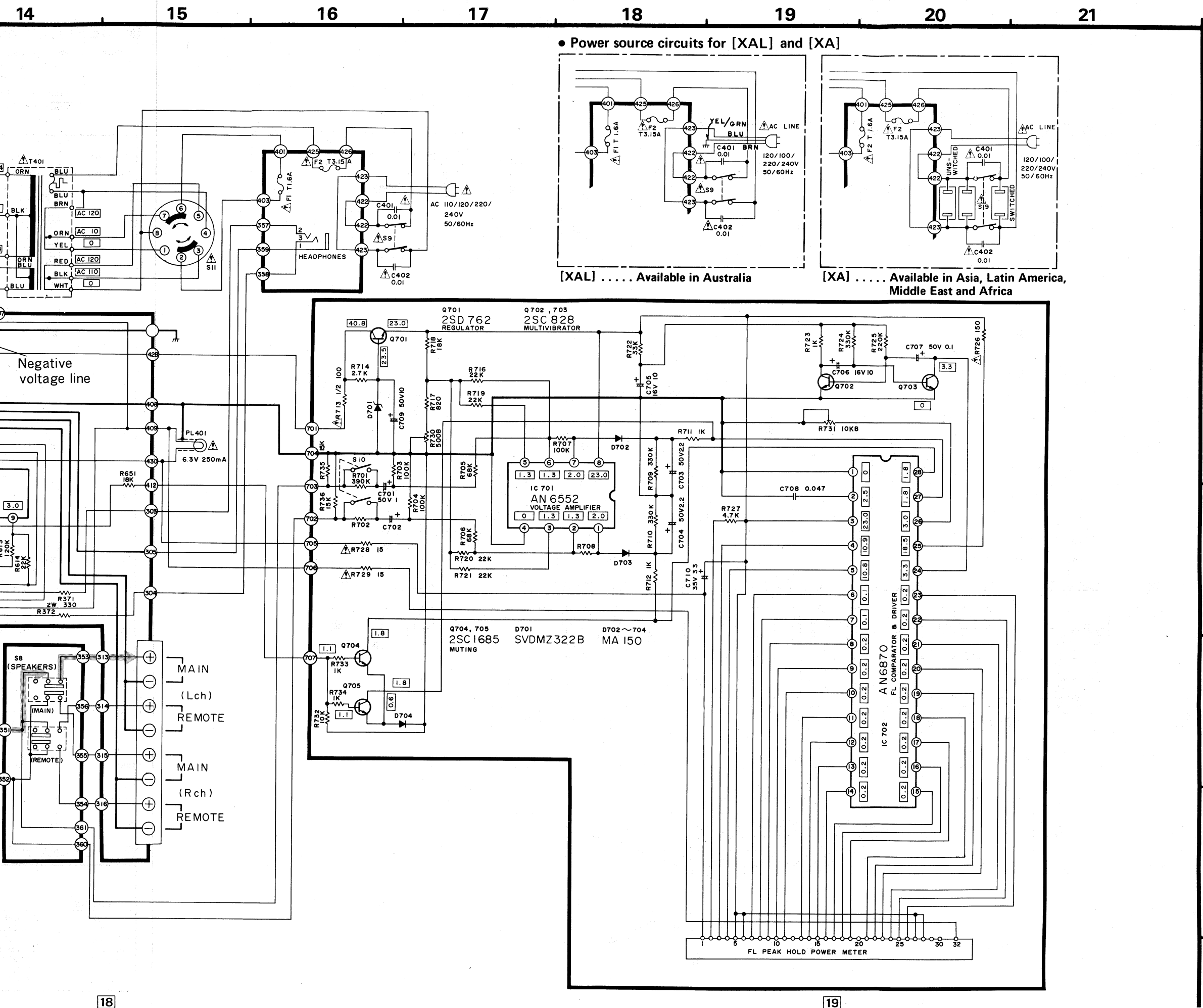


■ TERMINAL GUIDE OF TRANSISTORS AND IC'S

SVINJM4559	SVISTK8050	AN6552	SVITA7317P
2SK170	2SK109	2SD836, 2SB750 2SD762	2SC2631, 2SA1015 2SA921, 2SA1124 2SC2632, 2SC1980 2SC1685, 2SC828
 1. Drain 2. Gate 3. Source			
AN6870			

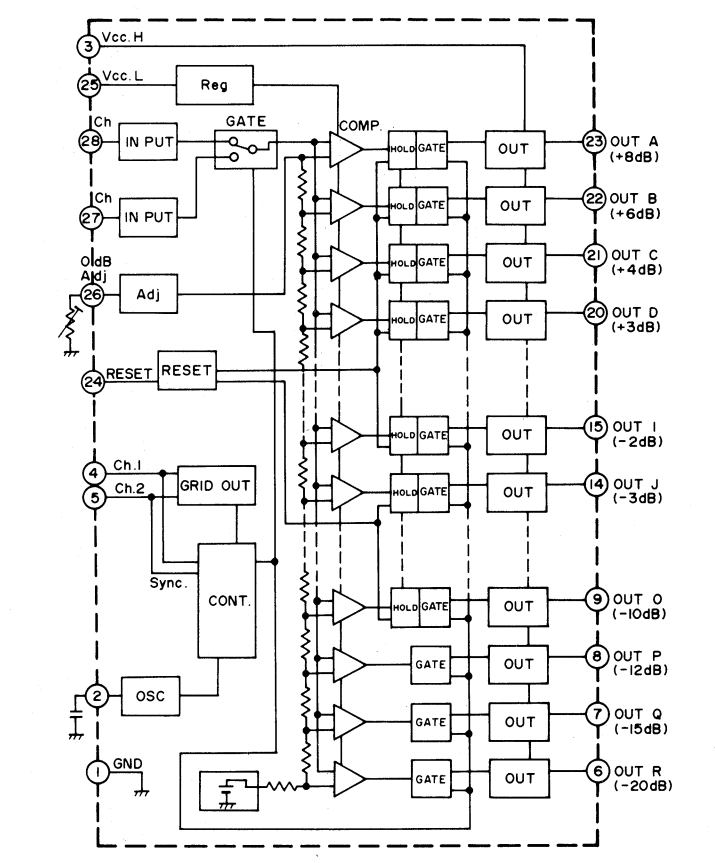






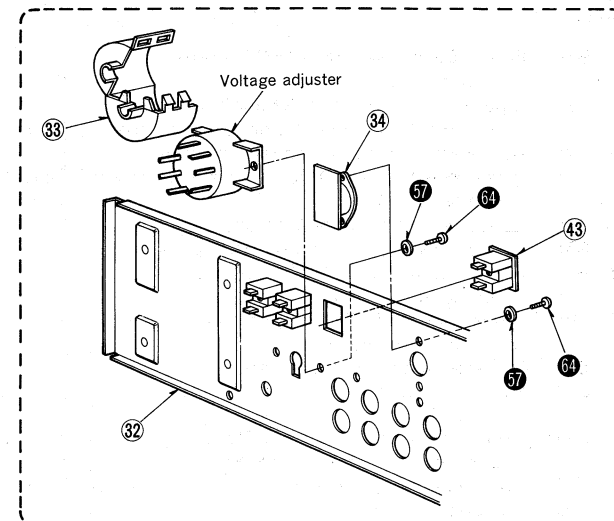
SCHEMATIC DIAGRAM

- Notes:
1. S1: Phono selector switch in "MM" position.
MM → MC
 2. S2: Input selector switch in "phono" position.
① aux → ② tuner → ③ phono → ④ tape 1 → ⑤ tape 2
 3. S3: Rec selector switch in "phono" position.
① aux → ② tuner → ③ phono → ④ off → ⑤ tape 2 → ⑥ tape 1 → ⑦ 2
 4. S4: Loudness switch in "off" position.
 5. S5: Operation switch in "straight DC" position.
 6. S6: High filter switch in "off" position.
 7. S7: Subsonic filter switch in "off" position.
 8. S8: Speaker switch in "main" position.
main → remote
 9. S9: Power switch in "on" position.
 10. S10: Meter range selector switch in "X1" position.
X1 → X0.01
 11. S11: Voltage adjustment switch in "240V" position.
240V → 220V → 110V → 120V
 12. ⚠ Indicates that only parts specified by the manufacturer be used for safety.
 13. □ Indicated voltage values are the standard values for the DC electronic circuit tester (high impedance) with chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
 14. → Phono signal lines of left channel
 15. — Positive (+B) voltage lines

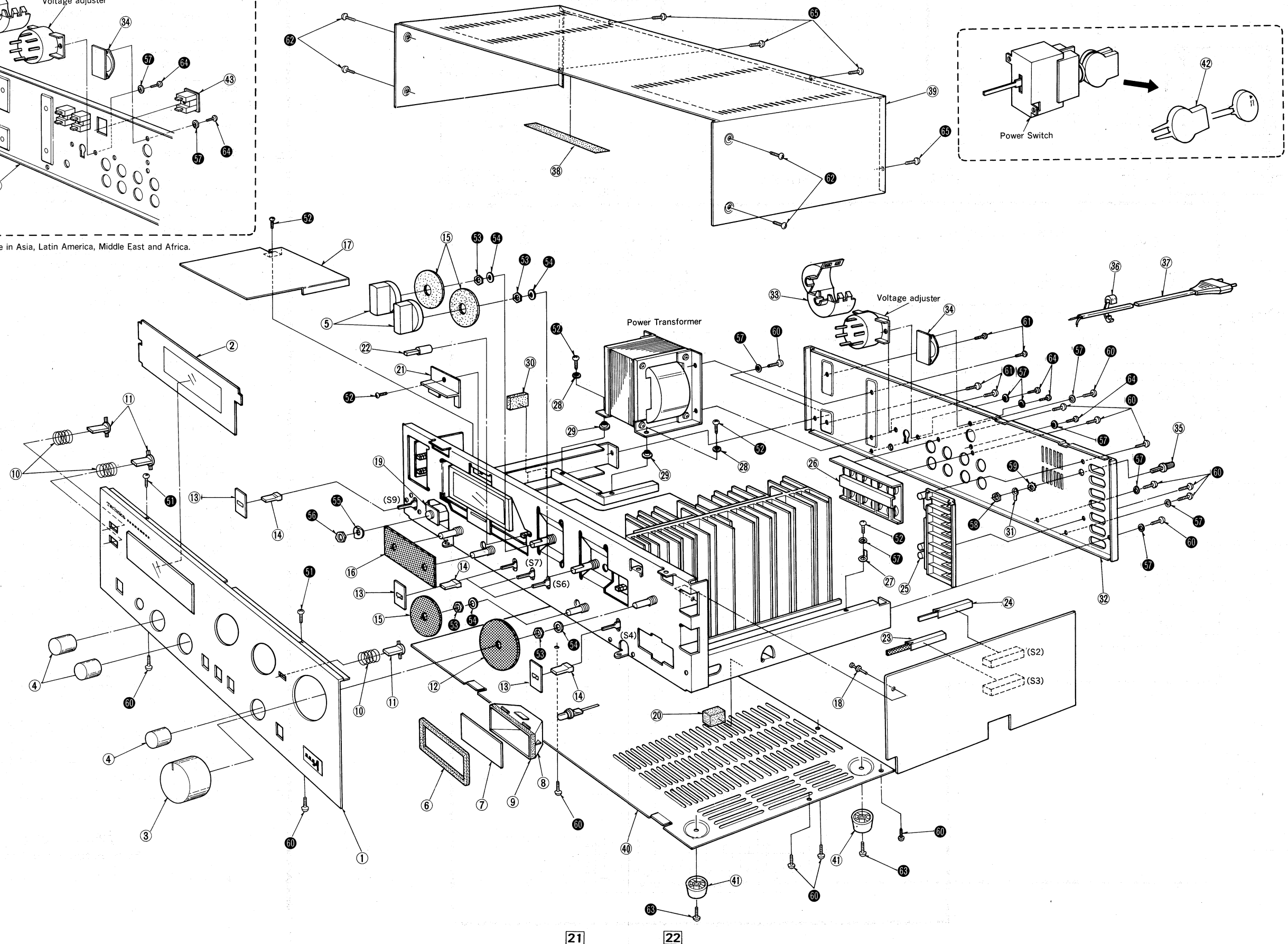


EXPLODED VIEWS

(Rear Panel and AC Outlet).....for [XA]



[XA] is available in Asia, Latin America, Middle East and Africa.



■ REPLACEMENT PARTS LIST...Cabinet, Chassis and Packing Parts

- Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. Δ indicates that only parts specified by the manufacturer be used for safety.
3. $\square$ -marked parts are used for black type only, while O-marked parts are for silver type only.
4. Parts other than $\square$ and O-marked are used for both black and silver types.
5. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.
- Black type model No. SU-V4 (K)

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
1	$\square$ SYW263	Panel, Front Ass'y
2	$\square$ SYW263-1	Panel, Front Ass'y (Black)
1	$\square$ SDU37	Filter, Peak Hold Power Meter
2	$\square$ SDU37-1	Filter, Peak Hold Power Meter
3	$\square$ SBN911	Knob, Volume
3	$\square$ SBN911-1	Knob, Volume (Black)
4	$\square$ SBN909	Knob, Balance, Treble and Bass
4	$\square$ SBN909-1	Knob, Balance, Treble and Bass (Black)
5	$\square$ SBN929	Knob, Rec Selector and Input Selector
5	$\square$ SBN929-1	Knob, Rec Selector and Input Selector (Black)
6	SHG6089	Cushion, New Class A Badge
7	$\square$ SDE253	Filter, New Class A Badge
7	$\square$ SDE253-1	Filter, New Class A Badge
8	SMP281	Holder, New Class A Badge
9	SHS6111	Fiber, New Class A Badge
10	SUS187	Spring, Push Switch Button
11	$\square$ SBC259	Button, Push Switch
11	$\square$ SBC259-1	Button, Push Switch
12	SHP9299	Cover, Volume Knob
13	$\square$ SHR5089	Cover, Lever Switch Knobs
13	$\square$ SHR5089-1	Cover, Lever Switch Knobs (Black)
14	$\square$ SBD31	Knob, Lever Switch
14	$\square$ SBD31-1	Knob, Lever Switch (Black)
15	SHP9301	Cover, Balance, Input Selector and Rec Selector
16	SHP9305	Cover, Treble and Bass Knob
17	SMX361	Cover, Fuse P.C.B.
18	SHR401-1	Latch, Equalizer P.C.B.
19	XCJ6P21B-A	Jack, Headphones
20	SHG1491	Cushion, Equalizer P.C.B.
21	SMM41	Escutcheon, Peak Hold Power Meter M'tg
22	$\square$ SBC271	Button, Range Selector
22	$\square$ SBC271-1	Button, Range Selector (Black)
23	ESA3361B	Remote Control, Rec Selector
24	ESA3358B	Remote Control, Input Selector
25	SJF3043AN	Terminal, Input
26	SJF5811	Terminal, Speaker
27	RJT202B	Terminal, Ground 1 Pin
28	SNW429-1	Washer, Power Transformer M'tg
29	SMXA26	Spacer, Power Transformer
30	SHG6051	Cushion, Cabinet
31	SJT215	Terminal, Ground 1 pin
32 [E]	SGP2310-1A	Rear Panel
32 [XE, EG, EB, XGH, XGF]	SGP2310-1A	Rear Panel, SGP2310-1A with Name Plate (SGT22310)
32 [XA]	SGP2310-2A	Rear Panel
32 [XAL]	SGP2310-3A	Rear Panel
33	SUV453	Cover, Voltage Adjuster
34	SJS6509	Socket, DIN
35	SJF4101	Terminal, Ground
36 [E, EG, XGH, XGF, EB, XA]	SFSR4N4	Bushing, AC Cord
36 [XE]	SFSR5N4	Bushing, AC Cord
36 [XAL]	SHR131	Bushing, AC Cord

Ref. No.	Part No.	Part Name & Description
37 [E, EG, XGH, XGF, EB]	Δ RJA23ZC	AC Cord, Power Source
37 [XA]	Δ SJA111	AC Cord, Power Source
37 [XE]	Δ RJA45ZC	AC Cord, Power Source
37 [XAL]	Δ QFC1207M	AC Cord, Power Source
38	SHS6111	Fiber, Cabinet
39	$\square$ SKC430H1	Cabinet
39 [XE] only	$\square$ SKCV4E	Cabinet (Black)
39 [XE] only	$\square$ SKC430B1	Cabinet (Black)
39 [XE] only	$\square$ SKCV4KE	Cabinet (Black)
40	SKU8570	Bottom Board
41	SKL227	Foot, Set
42	SMXA65	Cover, Capacitor
43 [XA] only	Δ SJA66-2	Socket, AC Outlet
SCREWS, WASHERS and NUTS		
44	$\square$ XTS3+8B	Screw, Tapping, $\oplus$ 3 x 8 (Front Panel)
44	$\square$ XTB3+8BFN	Screw, Tapping, $\oplus$ 3 x 8 (Power Transformer, Fuse P.C.B. Cover)
45	$\square$ XNS8	Nut, M8 (Volume, Input Selector, Rec Selector)
46	$\square$ XWV8	Washer, Spring, ϕ 8
46	$\square$ SNE59-1	Washer, Wave Type (Headphones Jack)
46	$\square$ XNS12	Nut, M12 (Headphones Jack)
46	$\square$ XWC3B	Washer, Toothed Lock, ϕ 3 (Rear Panel)
46	$\square$ XNG6E	Nut, M6 (Ground Terminal)
47	$\square$ XWC6B	Washer, Toothed Lock, ϕ 6
48	$\square$ XTB3+8BFFZ	Screw, Tapping $\oplus$ 3 x 8 (Front Panel, Rear Panel, Input Terminal, Speaker Terminal, Bottom Board)
49	$\square$ XTB4+10BFFZ	Screw, Tapping, $\oplus$ 4 x 10 (Power Transformer)
50	$\square$ XTB4+8BFN	Screw, Tapping, $\oplus$ 4 x 8 (Cabinet)
50	$\square$ XTB4+8BFFZ	Screw, Tapping, $\oplus$ 4 x 8 (Cabinet)
51	$\square$ XTB3+10BFN	Screw, Tapping, $\oplus$ 3 x 10 (Foot)
51	$\square$ XTB3+6BFFZ	Screw, Tapping, $\oplus$ 3 x 6 (Din Socket, Voltage Adjustment)
52	$\square$ XTB3+8BFN	Screw, Tapping, $\oplus$ 3 x 8 (Cabinet)
52	$\square$ XTB3+8BFFZ	Screw, Tapping, $\oplus$ 3 x 8 (Cabinet)
ACCESSORIES		
A1 [XA] only	Δ SJP5213-1	Plug Adapter, AC Power
A2 [XA] only	Δ SJP5215	Plug Adapter, AC Power
PACKING PARTS		
P1	SPP651	Polyethylene Bag
P2	SPS2611	Pad, Left Side
P2 [XAL] only	SPS2611-1	Pad, Left Side
P3	SPS2613	Pad, Right Side
P3 [XAL] only	SPS2613-1	Pad, Right Side
P4 [E]	SPG2533	Carton, Box
P4 [XAL]	SPG2535	Carton Box
P4 [XA, XE, EG, XGH, EB]	SPG2537	Carton Box
P4 [XGF]	SPG2539	Carton Box
P5 [E, EG, XGH, XGF, EB]	SQF10421	Instructions Book, Printed Matter
P5 [XE, XAL]	SQF10423	Instructions Book, Printed Matter
P5 [XA]	SQF10555	Instructions Book, Printed Matter

■ REPLACEMENT PARTS LIST...Resistors and Capacitors

Ref. No.	Part No.	Part Name & Description
RESISTORS		
R101, 102	ERD25FJ470	Carbon, 47 Ω , 1/4W, $\pm$ 5%
R103, 104	ERD25TJ473	Carbon, 47k Ω , 1/4W, $\pm$ 5%
R105, 106	ERD25FJ220	Carbon, 22 Ω , 1/4W, $\pm$ 5%
R107, 108	ERO25CKF4701	Metal Film, 4.7k Ω , 1/4W, $\pm$ 1%
R109, 110	ERO25CKF4701	Metal Film, 4.7k Ω , 1/4W, $\pm$ 1%
R111, 112	ERD25FJ391	Carbon, 390 Ω , 1/4W, $\pm$ 5%
R113, 114	ERO25CKF4701	Metal Film, 4.7k Ω , 1/4W, $\pm$ 1%

Ref. No.	Part No.	Part Name & Description
R115, 116	ERD25FJ8R2	Carbon, 8.2 Ω , 1/4W, $\pm$ 5%
R117, 118	ERD25FJ121	Carbon, 120 Ω , 1/4W, $\pm$ 5%
R119, 120	ERD25TJ683	Carbon, 68k Ω , 1/4W, $\pm$ 5%
R121, 122	ERD25FJ562	Carbon, 5.6k Ω , 1/4W, $\pm$ 5%
R123, 124	ERD25FJ121	Carbon, 120 Ω , 1/4W, $\pm$ 5%
R125, 126	ERD25FJ561	Carbon, 560 Ω , 1/4W, $\pm$ 5%
R127, 128	ERD25TJ334	Carbon, 330k Ω , 1/4W, $\pm$ 5%
R201, 202	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm$ 5%

Ref. No.	Part No.	Part Name & Description
R203, 204	ERD25TJ393	Carbon, 39k Ω , 1/4W, $\pm$ 5%
R205, 206	ERD25TJ824	Carbon, 820k Ω , 1/4W, $\pm$ 5%
R207, 208	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 5%
R211, 212	ERD25FJ681	Carbon, 680 Ω , 1/4W, $\pm$ 5%
R213, 214	ERD25FJ332	Carbon, 3.3k Ω , 1/4W, $\pm$ 5%
R215, 216	ERD25FJ222	Carbon, 2.2k Ω , 1/4W, $\pm$ 5%
R217, 218	ERD25TJ153	Carbon, 15k Ω , 1/4W, $\pm$ 5%
R219, 220	ERD25TJ273	Carbon, 27k Ω , 1/4W, $\pm$ 5%
R301, 302	Δ ERD25FJ101	Carbon, 100 Ω , 1/4W, $\pm$ 5%
R303, 304	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 5%
R305, 306	ERD25FJ222	Carbon, 2.2k Ω , 1/4W, $\pm$ 5%
R307, 308	ERD25FJ682	Carbon, 6.8k Ω , 1/4W, $\pm$ 5%
R309, 310	ERD25FJ682	Carbon, 6.8k Ω , 1/4W, $\pm$ 5%
R311, 312	ERD25TJ394	Carbon, 390k Ω , 1/4W, $\pm$ 5%
R313, 314	Δ ERD25FJ101	Carbon, 100 Ω , 1/4W, $\pm$ 5%
R315, 316	Δ ERD25FJ101	Carbon, 100 Ω , 1/4W, $\pm$ 5%
R317, 318	ERD25FJ181	Carbon, 180 Ω , 1/4W, $\pm$ 5%
R319, 320	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm$ 5%
R321, 322	ERD25FJ392	Carbon, 3.9k Ω , 1/4W, $\pm$ 5%
R323, 324	ERD25TJ473	Carbon, 47k Ω , 1/4W, $\pm$ 5%
R325, 326	Δ ERD25FJ560	Carbon, 56k Ω , 1/4W, $\pm$ 5%
R327, 328	ERD25TJ683	Carbon, 68k Ω , 1/4W, $\pm$ 5%
R329, 330	ERD25TJ473	Carbon, 47k Ω , 1/4W, $\pm$ 5%
R331, 332	Δ ERD25FJ102	Carbon, 1k Ω , 1/4W, $\pm$ 5%
R333, 334	Δ ERD25FJ820	Carbon, 82 Ω , 1/4W, $\pm$ 5%
R335, 336	Δ ERD25FJ330	Carbon, 33 Ω , 1/4W, $\pm$ 5%
R339, 340	Δ ERD25FJ222	Carbon, 2.2k Ω , 1/4W, $\pm$ 5%
R341, 342	Δ ERD25FJ330	Carbon, 33 Ω , 1/4W, $\pm$ 5%
R343, 344	ERG1ANJ562	Metal Oxide, 5.6k Ω , 1W, $\pm$ 5%
R345, 346	ERG1ANJ562	Metal Oxide, 5.6k Ω , 1W, $\pm$ 5%
R347, 348	ERG1ANJ100	Metal Oxide, 10 Ω , 1W, $\pm$ 5%
R349, 350	ERX1ANJ6R8	Metal Film, 6.8 Ω , 1W, $\pm$ 5%
R351, 352	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm$ 5%
R353, 354	ERD25TJ333	Carbon, 33k Ω , 1/4W, $\pm$ 5%
R355, 356	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm$ 5%
R357, 358	ERD25TJ124	Carbon, 120k Ω , 1/4W, $\pm$ 5%
R359, 360	ERD25FJ102	Carbon, 1k Ω , 1/4W, $\pm$ 5%
R361, 362	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm$ 5%
R363, 364	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm$ 5%
R365, 366	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm$ 5%
R369, 370	ERD25FJ332	Carbon, 3.3k Ω , 1/4W, $\pm$ 5%
R371, 372	ERG2ANJ331	Metal Oxide, 330 Ω , 2W, $\pm$ 5%
R373, 374	ERD25FJ100	Carbon, 10 Ω , 1/4W, $\pm$ 5%
R375, 376	ERD25FJ682	Carbon, 6.8k Ω , 1/4W, $\pm$ 5%
R402	Δ ERD25FJ5R6	Carbon, 5.6 Ω , 1/4W, $\pm$ 5%
R403	Δ ERD25FJ220	Carbon, 22 Ω , 1/4W, $\pm$ 5%
R404, 405	ERD25TJ153	Carbon, 15k Ω , 1/4W, $\pm$ 5%
R406, 407	ERD25TJ153	Carbon, 15k Ω , 1/4W, $\pm$ 5%
R408	Δ ERD25FJ151	Carbon, 150 Ω , 1/4W, $\pm$ 5%
R409	Δ ERD25FJ221	Carbon, 220 Ω , 1/4W, $\pm$ 5%
R501, 502	ERD25TJ824	Carbon, 820k Ω , 1/4W, $\pm$ 5%
R503, 504	ERD25TJ824	Carbon, 820k Ω , 1/4W, $\pm$ 5%
R505, 506	ERD25TJ824	Carbon, 820k Ω , 1/4W, $\pm$ 5%
R507, 508	ETD25TJ824	Carbon, 820k Ω , 1/4W, $\pm$ 5%
R509, 510	ERD25TJ394	Carbon, 390k Ω , 1/4W, $\pm$ 10%
R511, 512	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 10%
R513, 514	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm$ 10%
R515, 516	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm$ 10%
R521, 522	ERD25TJ184	Carbon, 180k Ω , 1/4W, $\pm$ 5%
R601	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 5%
R602	ERD25TJ473	Carbon, 47k Ω , 1/4W, $\pm$ 5%
R603	ERD25FJ122	Carbon, 1.2k Ω , 1/4W, $\pm$ 5%
R605	Δ ERD25FJ333	Carbon, 33k Ω , 1/4W, $\pm$ 5%
R606	ERD25FJ221	Carbon, 220 Ω , 1/4W, $\pm$ 5%
R607	ERD25TJ103	Carbon, 10k Ω , 1/4W, $\pm$ 5%
R608	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 5%
R609	ERD25TJ124	Carbon, 120k Ω , 1/4W, $\pm$ 5%
R612	ERG1ANJ561	Metal Oxide, 560 Ω , 1W, $\pm$ 5%
R613	ERD25TJ124	Carbon, 120k Ω , 1/4W, $\pm$ 5%
R614	Δ ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm$ 5%
R615, 616	ERD25FJ391	Carbon, 390 Ω , 1/4W, $\pm$ 5%
R617, 618	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 5%
R619, 620	ERD25FJ272	Carbon, 2.7k Ω , 1/4W, $\pm$ 5%
R621	ERD25TJ103	Carbon, 10k Ω , 1/4W, $\pm$ 5%
R651	ERD25TJ153	Carbon, 15k Ω , 1/4W, $\pm$ 10%
R701, 702	ERD25TJ394	Carbon, 390k Ω , 1/4W, $\pm$ 10%

Ref. No.	Part No.	Part Name & Description
R703, 704	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 10%
R705, 706	ERD25TJ683	Carbon, 15k Ω , 1/4W, $\pm$ 10%
R707, 708	ERD25TJ104	Carbon, 100k Ω , 1/4W, $\pm$ 10%
R709, 710	ERD25TJ334	Carbon, 330k Ω , 1/4W, $\pm$ 10%
R711, 712	ERD25FJ102	Carbon, 1k Ω , 1/4W, $\pm$ 10%
R713	Δ ERD50FJ101	Carbon, 100 Ω , 1/4W, $\pm$ 10%
R714	ERD25FJ272	Carbon, 2.7k Ω , 1/4W, $\pm$ 10%
R715	ERD25TJ183	Carbon, 18k Ω , 1/4W, $\pm$ 10%
R717	ERD25FJ821	Carbon, 820 Ω , 1/4W, $\pm$ 10%
R718, 719	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm$ 10%
R720, 721	ERD25TJ223	Carbon, 22k Ω , 1/4W, $\pm$ 10%
R722	ERD25TJ333	Carbon, 33k Ω , 1/4W, $\pm$ 10%
R723	ERD25FJ102	Carbon, 1k Ω , 1/4W, $\pm$ 10%
R724	ERD25TJ334	Carbon, 330k Ω , 1/4W, $\pm$ 10%
R725	ERD25TJ224	Carbon, 220k Ω , 1/4W, $\pm$ 10%
R726	Δ ERD25FJ151	Carbon, 150 Ω , 1/4W, $\pm$ 10%
R727	ERD25FJ472	Carbon, 4.7k Ω , 1/4W, $\pm$ 10%
R728, 729	Δ ERD25FJ150	Carbon, 15 Ω , 1/4W, $\pm$ 10%
R732	ERD25FJ103	Carbon, 10k Ω , 1/4W, $\pm$ 10%
R733, 734	ERD25FJ102	Carbon, 1k Ω , 1/4W, $\pm$ 10%
R735, 736	ERD25TJ153	Carbon, 15k Ω , 1/4W, $\pm$ 10%
CAPACITORS		
C101, 102	ECCD1H121K	Ceramic, 120pF, 50V, $\pm$ 10%
C103, 104	ECKD1H681KB	Ceramic, 680pF, 50V, $\pm$ 10%
C105, 106	ECEA0JS222	Electrolytic, 2200 μ F, 16V
C107, 108	ECQM1H473JZ	Polyester, 0.047 μ F, 50V, $\pm$ 5%
C109, 110	ECQM1H103JZ	Polyester, 0.01 μ F, 50V, $\pm$ 5%
C111, 112	ECQM1H332KZ	Polyester, 0.0033 μ F, 50V, $\pm$ 10%
C113, 114	Δ ECEA1HN3R3S	Non-Polar Electrolytic, 3.3 μ F, 50V
C115, 116	ECQM1H472KZ	Polyester, 0.0047 μ F, 50V, $\pm$ 10%
C117, 118	ECEA50Z3R3	Electrolytic, 3.3<