ORDER NO. SD8007-1769

Service Manual

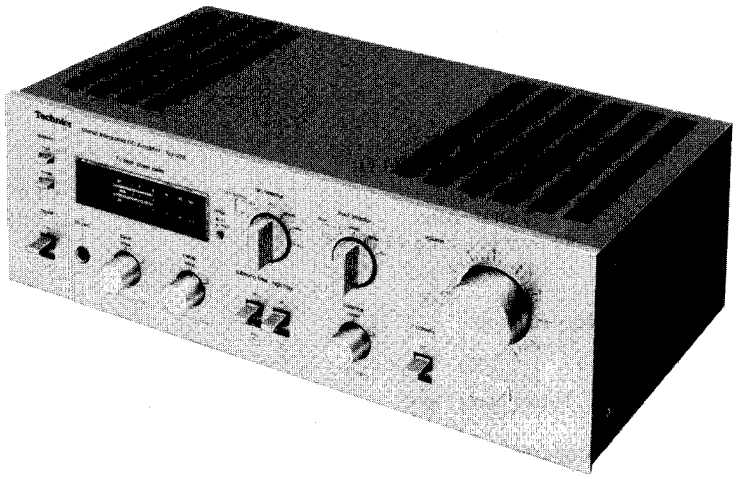
Stereo Integrated DC Amplifier

SU-V2A

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

SU-V2A(K)

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



*** 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.
- [XGH] is available in Holland.
- [EB] is available in Belgium.
- [XA] is available in Asia, Latin America, Middle East and Africa.
- [XAL] is available in Australia.

TECHNNICAL 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 × 45W (4Ω)
	2 × 40W (8Ω)
40 Hz~16 kHz continuous power output	
both channels driven	2 × 45W (4Ω)
	2 × 40W (8Ω)
1 kHz continuous power output	
both channels driven	2 × 55W (4Ω)
	2 × 45W (8Ω)
Total harmonic distortion	
rated power at 20 Hz~20 kHz	0.03% (4Ω)
	0.02% (8Ω)
rated power at 40 Hz~16 kHz	0.03% (4Ω)
	0.02% (8Ω)
rated power at 1 kHz	0.02% (4Ω)
	0.02% (8Ω)
half power at 20 Hz~20 kHz	0.015% (8Ω)
half power at 1 kHz	0.003% (8Ω)
−26 dB power at 1 kHz	0.1% (4Ω)
50 mW power at 1 kHz	0.15% (4Ω)
Intermodulation distortion	
rated power at 250 Hz: 8 kHz=4:1, 4Ω	0.03%
rated power at 60 Hz: 7 kHz=4:1, SMPTE, 8Ω	0.02%
Power bandwidth	
both channels driven, −3 dB	
	(THD 0.03%) 5 Hz~30 kHz (4Ω)
	(THD 0.02%) 5 Hz~30 kHz (8Ω)
Residual hum and noise	0.5 mV
Damping factor	25 (4Ω), 50 (8Ω)
Input sensitivity and impedance	
PHONO	2.5 mV/47kΩ
TUNER, AUX	150 mV/27kΩ
TAPE 1 REC/PLAY	180 mV/33kΩ
TAPE	150 mV/27kΩ
PHONO maximum input voltage (1 kHz, RMS)	150 mV
S/N	
rated power (4Ω)	
PHONO	73 dB (IHF, A: 80 dB)
TUNER, AUX	85 dB (IHF, A: 95 dB)
−26 dB power (4Ω)	
PHONO	63 dB
TUNER, AUX	63 dB
50 mW power (4Ω)	
PHONO	60 dB
TUNER, AUX	60 dB
Frequency response	
PHONO	RIAA standard curve
	±0.8 dB (30 Hz~15 kHz)
TUNER, AUX, TAPE	5 Hz~100 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
TAPE 1 REC/PLAY	30 mV/82kΩ
Channel balance, AUX 250 Hz~6,300 Hz	±1 dB
Channel separation, AUX 1 kHz	52 dB

Technics

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

Headphones output level and impedance	420 mV/330Ω
Load impedance	
MAIN or REMOTE	4Ω~16Ω
MAIN and REMOTE	8Ω~16Ω

GENERAL

Power consumption	500W
Power supply	AC 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (W×H×D)	430 × 142 × 257 mm (16-15/16" × 5-19/32" × 10-1/8")
Weight	6.9 kg (15.2 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 ausgesteuert	2 × 45W (4 Ω)
	2 × 40W (8 Ω)
Dauerton-Ausgangsleistung bei 40 Hz ~ 16 kHz	
beide Kanäle ausgesteuert	2 × 45W (4 Ω)
	2 × 40W (8 Ω)
Dauerton-Ausgangsleistung bei 1 kHz	
beide Kanäle ausgesteuert	2 × 55W (4 Ω)
	2 × 45W (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	0,003% (8 Ω)
−26 dB Leistung bei 1 kHz	0,1% (4 Ω)
50 mW Leistung bei 1 kHz	0,15% (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 ausgesteuert bei −3 dB	
	(THD 0,03%) 5 Hz ~ 30 kHz (4 Ω)
	(THD 0,02%) 5 Hz ~ 30 kHz (8 Ω)
Restbrumm und Geräusch	0,5 mV
Dämpfungsfaktor	25 (4 Ω), 50 (8 Ω)
Eingangsempfindlichkeit und -impedanz	
Phono	2,5 mV/47 kΩ
Tuner, Aux	150 mV/27 kΩ
Tape 1 Aufnahme/Wiedergabe (TAPE 1 REC/PLAY)	180 mV/33 kΩ
Tape 2 (TAPE 2)	150 mV/27 kΩ
Maximale TA-Eingangsspannung (1 kHz, eff.)	150 mV
Geräuschabstand	
Nennleistung (4 Ω)	
Phono	73 dB (nach IHF, A: 80 dB)
Tuner, Aux	85 dB (nach IHF, A: 95 dB)
−26 dB Leistung (4 Ω)	
Phono	63 dB
Tuner, Aux	63 dB
50 mW Leistung (4 Ω)	
Phono	60 dB
Tuner, Aux	60 dB
Frequenzgang	
Phono	RIAA-Standardkurve ±0,8 dB (30 Hz ~ 15 kHz)
Tuner Aux, Tape	5 Hz ~ 100 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.
Gehörrichtige Lautstärkekorrektur (Loudness)	
(bei −30 dB Ausgangsleistung)	50 Hz, +9 dB
Ausgangsspannung und -impedanz	
Aufnahmeausgang (REC OUT)	150 mV
Tape 1 Aufnahme/Wiedergabe (TAPE 1 REC/PLAY)	30 mV/82 kΩ
Kanalabweichung (Aux, 250 Hz ~ 6300 Hz)	±1 dB
Übersprechdämpfung (Aux, 1 kHz)	52 dB
Kopfhörerpegel und -impedanz	420 mV/330 Ω
Lautsprecherimpedanz	
MAIN oder REMOTE	4 Ω ~ 16 Ω
MAIN und REMOTE	8 Ω ~ 16 Ω

ALLGEMEINE DATEN

Leistungsaufnahme	500 W
Netzspannung	Wechselstrom 50 Hz/60 Hz, 110V/120V/220V/240V
Abmessungen (B×H×T)	430 × 142 × 257 mm
Gewicht	6,9 kg

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

DONNEES TECHNIQUES (DIN 45 500)

Sujet à changment sans préaris.

SECTION AMPLIFICATEUR

Puissance de sortie continue de 20 Hz~20 kHz,	
les deux canaux en circuit	2 × 45W (4Ω)
	2 × 40W (8Ω)
Puissance de sortie continue de 40 Hz~16 kHz,	
les deux canaux en circuit	2 × 45W (4Ω)
	2 × 40W (8Ω)
Puissance de sortie continue à 1 kHz	
les deux canaux en circuit	2 × 55W (4Ω)
	2 × 45W (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)	0,003% (8Ω)
puissance de −26 dB à 1 kHz	0,1% (4Ω)
puissance de 50 mW à 1 kHz	0,15% (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	0,5 mV
Coefficient d'amortissement	25 (4Ω), 50 (8Ω)
Sensibilité et impédance d'entrée	
PHONO	2,5 mV/47kΩ
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)	150 mV
Signal/Bruit	
à puissance nominale (4Ω)	
PHONO	73 dB (IHF, A: 80 dB)
SYNTONISATEUR, AUX (TUNER, AUX)	85 dB (IHF, A: 95 dB)
puissance de −26 dB (4Ω)	
PHONO	63 dB
SYNTONISATEUR, AUX (TUNER, AUX)	63 dB
puissance de 50 mW (4Ω)	
PHONO	60 dB
SYNTONISATEUR, AUX (TUNER, AUX)	60 dB
Réponse de fréquence	
PHONO	Courbe nominale RIAA ±0,8 dB (30 Hz~15 kHz)
SYNTONISATEUR, AUX, BANDE (TUNER, AUX, TAPE)	5 Hz~100 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 BANDE 1 (TAPE 1 REC/PLAY)	30 mV/82kΩ
Equilibrage des canaux, AUX 250 Hz~6 300 Hz	±1 dB
Séparation des canaux, AUX 1 kHz	52 dB
Niveau de sortie des casques et impédance	420 mV/330Ω
Impédance de charge	
PRINCIPALE ou AUXILIAIRE (MAIN or REMOTE)	4Ω~16Ω
PRINCIPALE et AUXILIAIRE (MAIN and REMOTE)	8Ω~16Ω

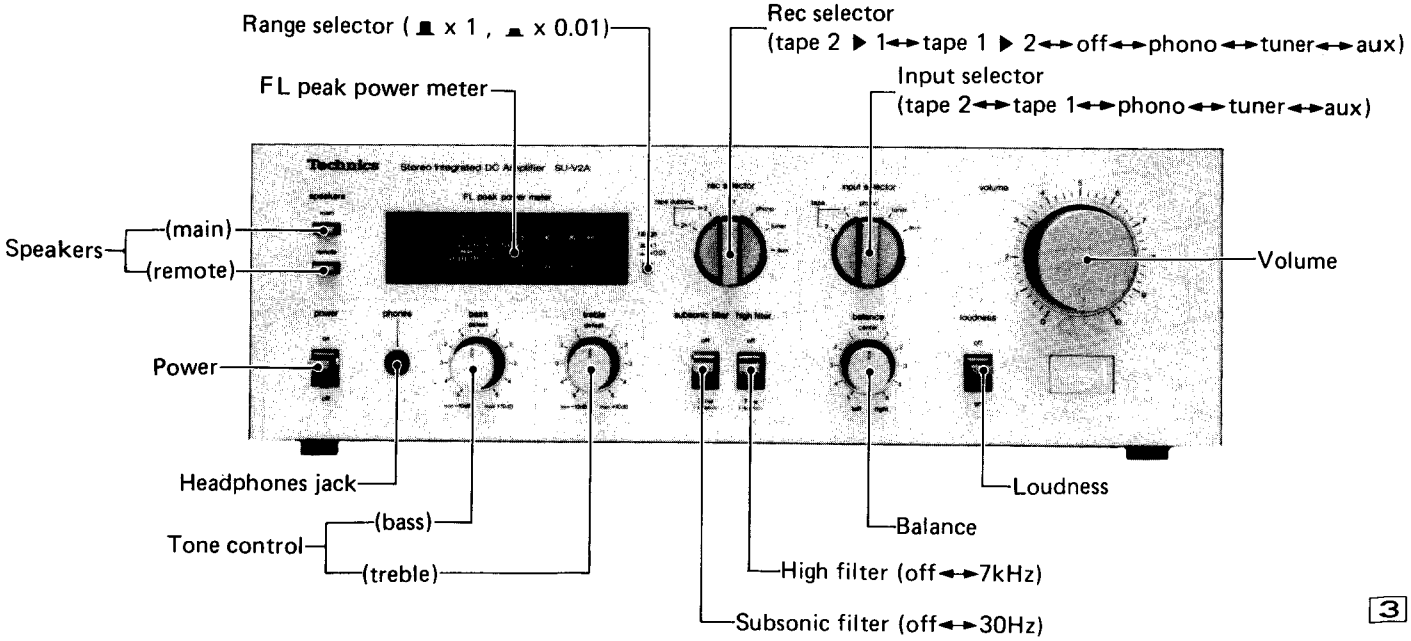
DIVERS

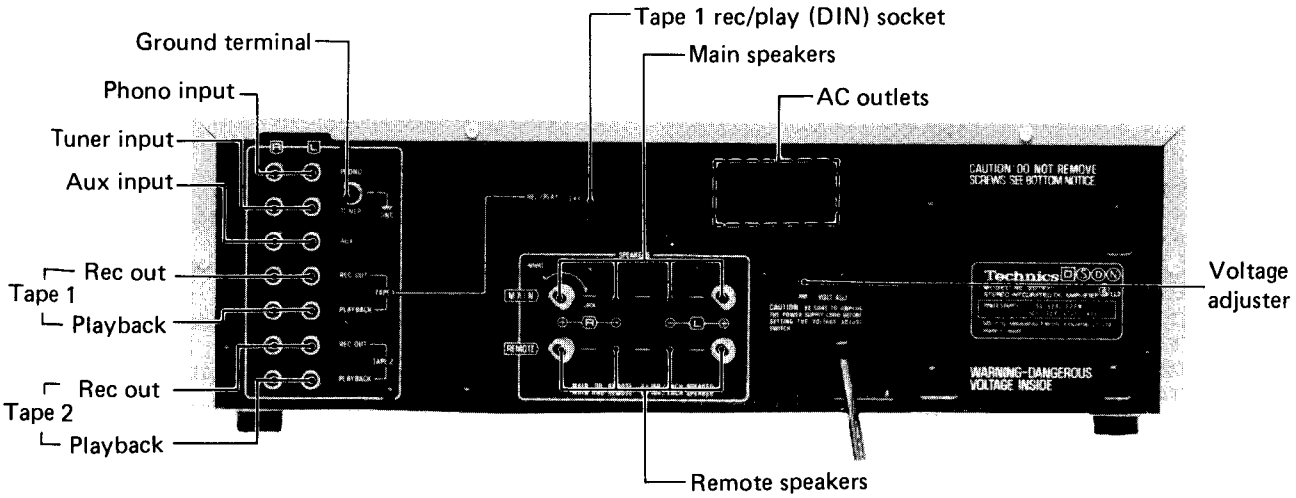
Consommation	500W
Alimentation	CA 50 Hz/60 Hz, 110V/120V/220V/240V
Dimensions (L×H×Pr)	430 × 142 × 257 mm
Poids	6,9 kg

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

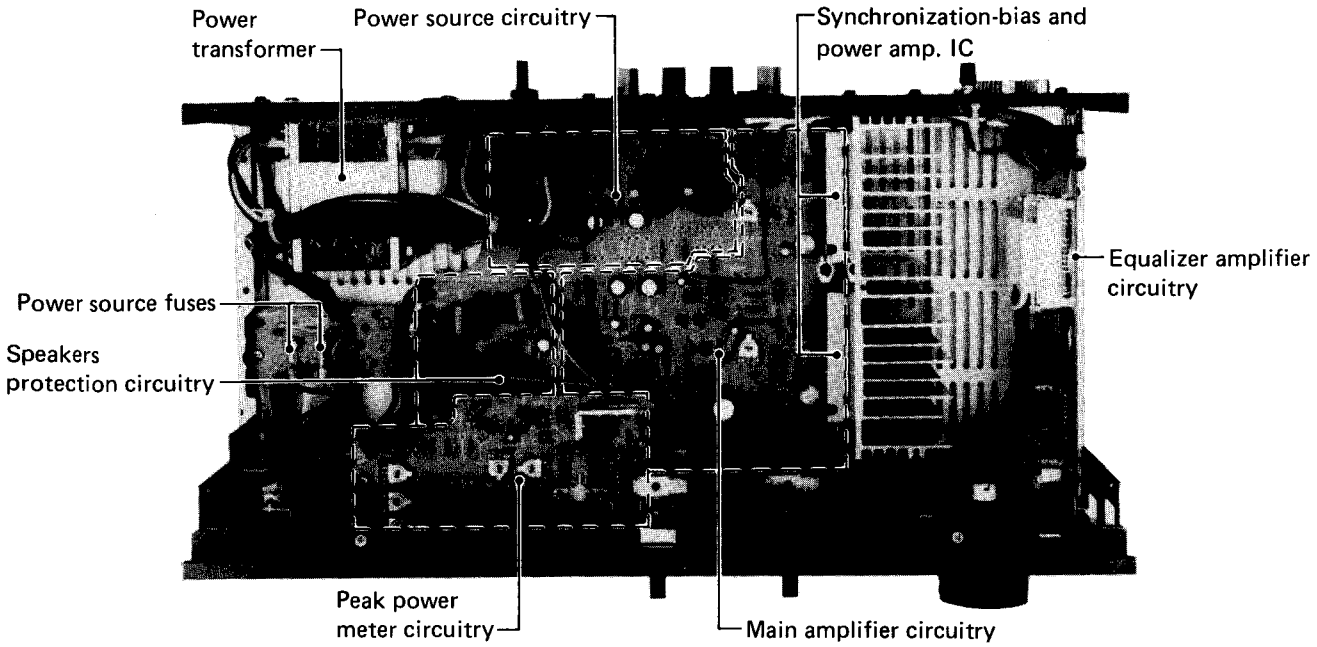
■ CONTENTS

■ LOCATION OF CONTROLS





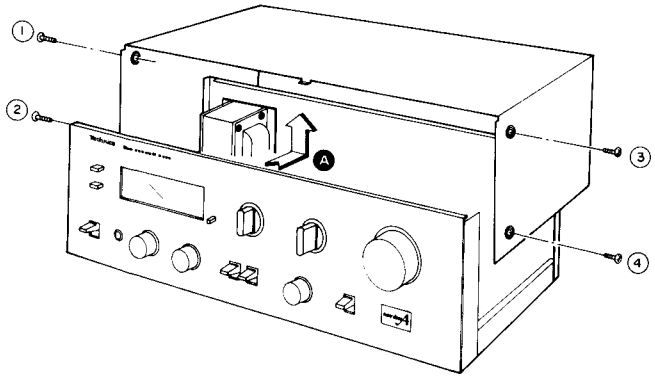
● **The products for destination [XA] is equipped with AC outlet.**



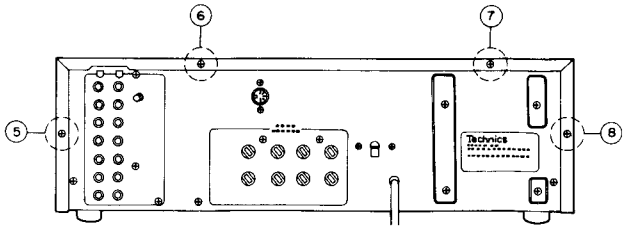
■ DISASSEMBLY INSTRUCTIONS

● How to remove the cabinet

1. Remove the 4 setscrews (Fig. 1 :①~④) on the side and 4 setscrews (Fig. 2 : ⑤~⑧) on the back of the cabinet.
2. Shift the cabinet backward and lift it upward. (Arrow Ⓐ in Fig. 1)



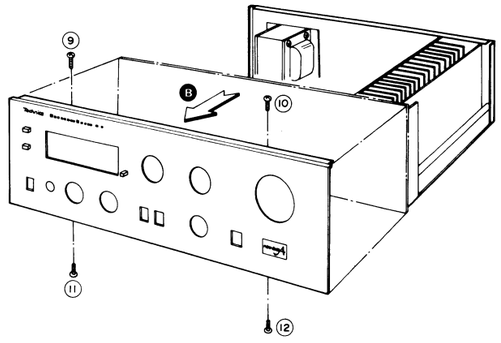
[Fig. 1]



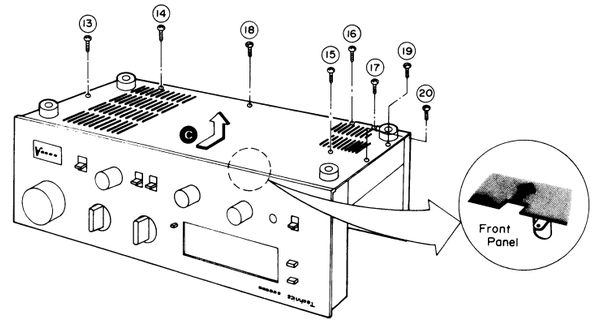
[Fig. 2]

• How to remove the front panel and the bottom board

1. Remove the 4 setscrews (Fig. 3 : ⑨～⑫) holding the front panel.
2. Pull the front panel outward from the front of the unit. (Arrow Ⓑ in Fig. 3)
3. To remove the bottom board, remove the 8 setscrews (Fig. 4 : ⑬～⑳) holding the bottom board.



[Fig. 3]



[Fig. 4]

■ ADJUSTING INSTRUCTIONS ENGLISH

• Setting of controls and instruments to be used

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

1. Adjustment of clamp voltage and Icq

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)	R355 (L channel) R356 (R channel)	* Turn Icq semi-fixed resistors R363, 364 to minimum. (counter-clockwise direction) * Adjust R355 (L ch) and R356 (R ch) to approx. 0.4mV after ten minutes warm-up time.
2	Icq (Adjustment using a DC voltmeter)	L channel Between TP301 and TP303 (minus probe) R channel Between TP302 and TP304 (minus probe)	R363 (L channel) R364 (R channel)	* Adjust R363 (L ch) and R364 (R ch) to approx. 9mV after ten minutes warm-up time.

2. Adjustment of FL power meter

• Setting of controls and instruments to be used

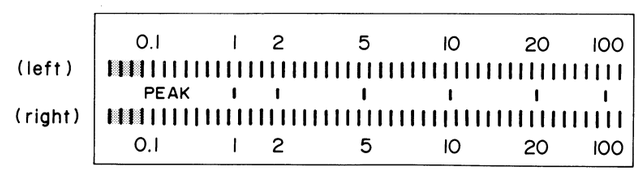
1. Input selector . . . . . .tuner
2. Speaker switch . . . . . .main
3. Meter range switch. . . . . .X0.01 or X1
4. Sound volume. . . . . .10 (max.)
5. Low frequency oscillator
6. AC electronic voltmeter
7. 8-ohm load resistor

2-1.

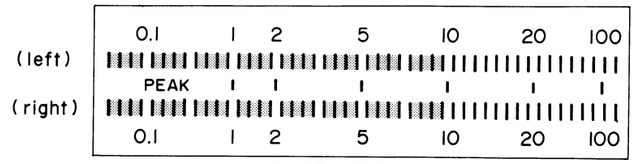
1) Connect the low frequency oscillator to the tuner terminals for both channels, and the AC electronic voltmeter to the speaker terminals in parallel with the load resistor.
2) Set the meter range switch to "X0.01" position.
3) Add 1kHz signal from the low frequency oscillator, and regulate the input level so that the AC electronic voltmeter indicates 0.15V.
4) Adjust **VR801** (L ch), **VR802** (R ch) while observing the FL peak power meter until the first segment is about to turn on (Refer to Fig. 5).

2-2.

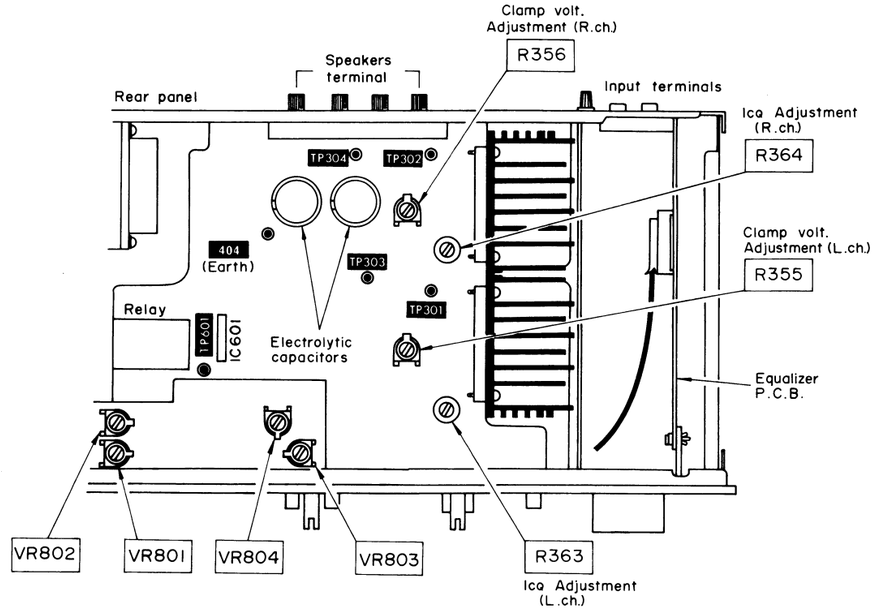
1) Set the meter range switch to "X1" position.
2) Regulate the input level so that the AC electronic voltmeter indicates 8.9V.
3) Make the adjustment in the same way as mentioned in 2-1 by regulating **VR803** (L ch), **VR804** (R ch) so that the 8th segment to turn on. (Refer to Fig. 6) * Each segment consists of four bars.
4) Next, make the adjustment in 2-1 by regulating the input level. (Repeat step 2-1)
5) Again regulate the input level to make the output 8.9V, and make sure that the segment at 10W (Refer to Fig. 6) position is on.



[Fig. 5] Abb. 1



[Fig. 6] 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)	R355 (L-Kanal) R356 (R-Kanal)	* Die Icq halbfesteingestellten Widerstäande R363 und R364 auf Minimalstellung drehen. (Entgegen dem Uhrzeigersinn) * R355 (L-Kanal) und R356 (R-Kanal) auf ungefähr 0.4mV, nach 10 Minuten Anwärmezeit, einstellen.
2	Icq (Einstellungen mit einem Gleichstrom-voltmeter)	L-Kanal. Zwischen TP301 und TP303 (Minustest) R-Kanal. Zwischen TP302 und TP304 (Minustest)	R363 (L-Kanal) R364 (R-Kanal)	* R363 (L-Kanal) und R364 (R-Kanal) auf ungefähr 9mV, nach 10 Minuten Anwärmezeit einstellen.

2. Abgleichen des FL-Leistungsmeßgerätes

*** Einstellung der zu benutzenden Regler und Instrumente**

1. Eingangsumschalter. . . . . tuner
2. Lautsprecherschalter . . . . . main
3. Meßbereichschalter . . . . . X0.01 oder X1
4. Lautstärke . . . . . 10 (max.)
5. Niederfrequenz-Oszillator
6. Wechselstrom-Elektronen-Voltmesser
7. 8 Ohm Belastungswiederstand

2-1.

1) An d
paral
2) Meßb
3) Vom
Voltm
4) Unter
aufzu

2-2.

1) Meßb
2) Einga
3) Unter
Segm
4) Dann
5) Einga
(Vgl A

■ INST

• Réglage de

1. Comm
2. Volum
3. Voltm

1	Ten bloc
2	Icq l'aid volt

2. Réglage d

*** Conditio**

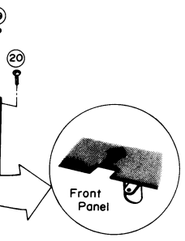
1. Sélecte
2. Commu
3. Commu
4. Volume

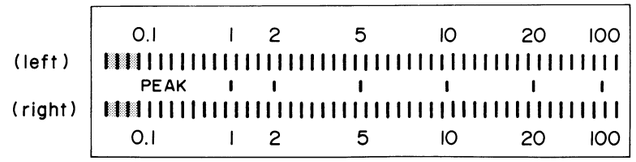
2-1.

1) Branch
électro
2) Placer
3) Alimer
voltmè
4) Régler
premie

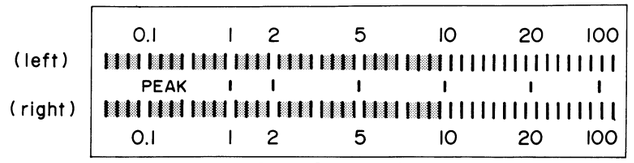
2-2.

1) Régler
2) Régler
3) Faire
VR804
4) Effectu
5) De no
branch

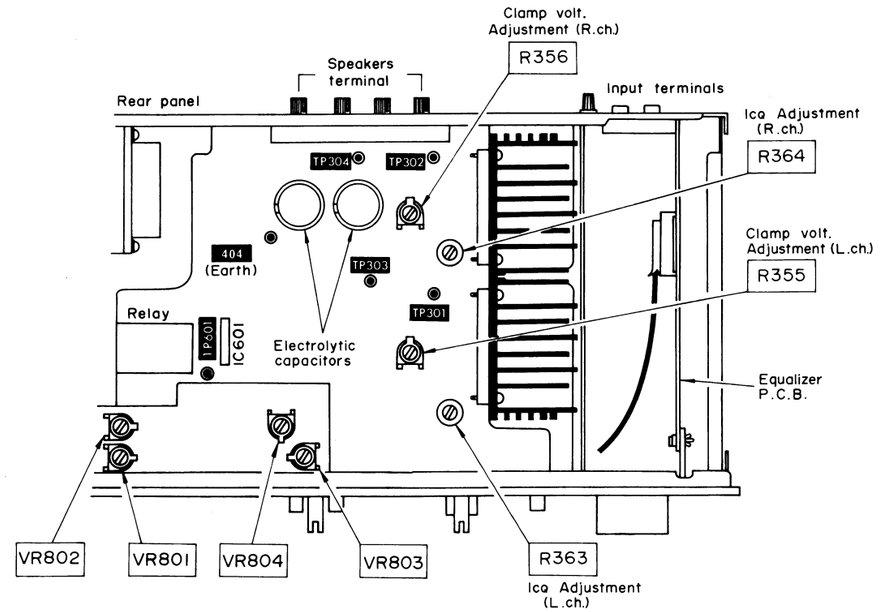




[Fig. 5] Abb. 1



[Fig. 6] 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	Klemmspann-ung	L-Kanal. Zwischen TP301 und TP303 (Minustest) R-Kanal. Zwischen TP302 und TP304 (Minustest)	R355 (L-Kanal) R356 (R-Kanal)	* Die Ico halbfesteingestellten Widerstäande R363 und R364 auf Minimalstellung drehen. (Entgegen dem Uhrzeigersinn) * R355 (L-Kanal) und R356 (R-Kanal) auf ungefähr 0.4mV, nach 10 Minuten Anwärmezeit, einstellen.
2	Ico (Einstellungen mit einem Gleichstrom-voltmeter)	L-Kanal. Zwischen TP301 und TP303 (Minustest) R-Kanal. Zwischen TP302 und TP304 (Minustest)	R363 (L-Kanal) R364 (R-Kanal)	* R363 (L-Kanal) und R364 (R-Kanal) auf ungefähr 9mV, nach 10 Minuten Anwärmezeit einstellen.

2. Abgleichen des FL-Leistungsmeßgerätes

*** Einstellung der zu benutzenden Regler und Instrumente**

1. Eingangsumschalter. . . . . tuner
2. Lautsprecherschalter . . . . . main
3. Meßbereichschalter . . . . . X0.01 oder X1
4. Lautstärke . . . . . 10 (max.)
5. Niederfrequenz-Oszillator
6. Wechselstrom-Elektronen-Voltmesser
7. 8 Ohm Belastungswiederstand

2-1.

1) An die Tunerklemmen der beiden Kanäle Niederfrequenz-Oszillator anschließen, und an die Lautsprecherklemme parallel mit Belastungswiederstand den Wechselstrom-Elektronen-Voltmesser anschließen.
2) Meßbereichschalter auf "X0.01" position.
3) Vom Niederfrequenz-Oszillator 1kHz Signal speisen, und Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmesser 0.15V anzeigt.
4) Unter Beobachten auf FL-Leistungsmeßerät **VR801** (L-Kanal), **VR802** (R-Kanal) einstellen, bis das erste Segment fast aufzuleuchten beginnt. (Vgl Abb. 1)

2-2.

1) Meßbereichschalter auf "X1" position.
2) Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmesser 8.9V anzeigt.
3) Unter Einstellung von **VR803** (L-Kanal), **VR804** (R-Kanal) in gleicher Weise wie oben in 2-1 so abgleichen, daß das 8. Segment fast aufzuleuchten beginnt.
4) Dann Eingangspegel einstellen und wie in 2-1 abgleichen.
5) Eingangspegel wieder einstellen, damit der Eingang 8.9V wird, und sicherstellen, daß das Segment bei 10W 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. Voltmétre 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)	R355 (Canal G) R356 (Canal D)	* Tourner les résistances R363, 364 semifixes Ico sur le minimum. (à gauche) * Régler R355 (canal gauche) et R356 (canal droit) sur env. 1mV 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)	R363 (Canal G) R364 (Canal D)	* Régler les R363 (canal gauche) et R364 (canal droit) sur env. 10 ~ 15mV aprés 9mn. de prèchauffage.

2. Réglage du compteur d'alimentation FL

*** Conditions de l'appareil et équipement utilisé**

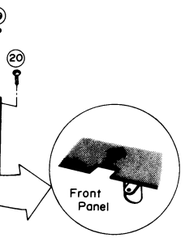
1. Sélecteur d'entrée . . . . . Commande d'accord
2. Commutateur de l'enceinte. . . . . Principal
3. Commutateur de la gamme du compteur . . . . . X0.01 or X1
4. Volume du son . . . . . 10 maxi.
5. Oscillateur de basse fréquence
6. Voltmètre électronique CA
7. Résistance de 8 ohms de charge

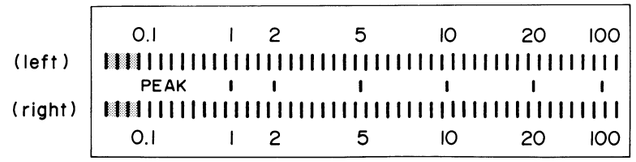
2-1.

1) Brancher l'oscillateur de basse fréquence aux bornes de la commande d'accord des deux canaux; et le voltmétre électronique aux bornes de l'enceinte en paralléle avec la résistance de change.
2) Placer le commutateur de gamme du compteur sur "X0.01" 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 0.15V.
4) Régler le **VR801** (Canal G), **VR802** (Canal D) tout en observant le compteur d'alimentation FL jusqu' à ce que le premier segment soit sur le point d'être branché. (Voir Fig. 5)

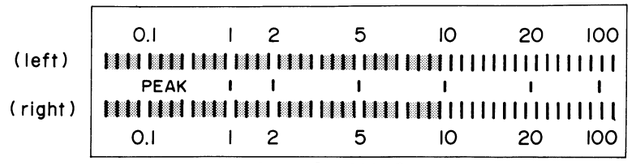
2-2.

1) Régler le commutateur de gamme du compteur sur "X1".
2) Régler le niveau d'entrée de telle sorte que le compteur électronique indique 8.9V.
3) Faire le réglage de la même façon que le réglage mentionné dans le paragraphe 2-1 en réglant **VR803** (Canal G), **VR804** (Canal D) de telle sorte que le huitième segment soit sur le point d'être branché.
4) Effectuer le réglage comme dans le paragraphe 2-1 en réglant le niveau d'entrée.
5) De nouveau régler le niveau d'entrée pour donner une sortie de 8.9V et s'assurer que le segment à position 10W, est branché. (Voir Fig. 6)

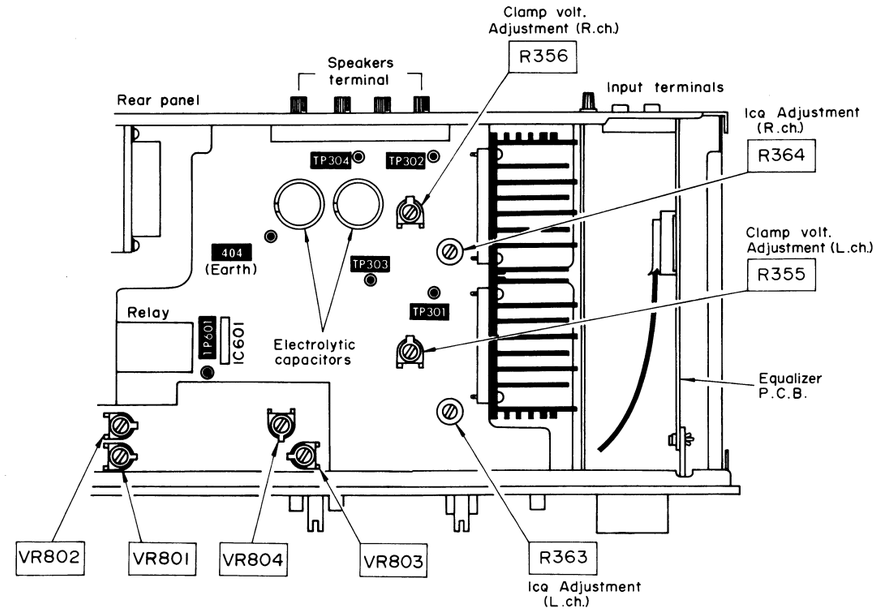




[Fig. 5] Abb. 1



[Fig. 6] 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	Klemmspann-ung	L-Kanal. Zwischen TP301 und TP303 (Minustest) R-Kanal. Zwischen TP302 und TP304 (Minustest)	R355 (L-Kanal) R356 (R-Kanal)	* Die Ico halbfesteingestellten Widerstäande R363 und R364 auf Minimalstellung drehen. (Entgegen dem Uhrzeigersinn) * R355 (L-Kanal) und R356 (R-Kanal) auf ungefähr 0.4mV, nach 10 Minuten Anwärmezeit, einstellen.
2	Ico (Einstellungen mit einem Gleichstrom-voltmeter)	L-Kanal. Zwischen TP301 und TP303 (Minustest) R-Kanal. Zwischen TP302 und TP304 (Minustest)	R363 (L-Kanal) R364 (R-Kanal)	* R363 (L-Kanal) und R364 (R-Kanal) auf ungefähr 9mV, nach 10 Minuten Anwärmezeit einstellen.

2. Abgleichen des FL-Leistungsmeßgerätes

*** Einstellung der zu benutzenden Regler und Instrumente**

1. Eingangsumschalter. . . . . tuner
2. Lautsprecherschalter . . . . . main
3. Meßbereichschalter . . . . . X0.01 oder X1
4. Lautstärke . . . . . 10 (max.)
5. Niederfrequenz-Oszillator
6. Wechselstrom-Elektronen-Voltmesser
7. 8 Ohm Belastungswiederstand

2-1.

1) An die Tunerklemmen der beiden Kanäle Niederfrequenz-Oszillator anschließen, und an die Lautsprecherklemme parallel mit Belastungswiederstand den Wechselstrom-Elektronen-Voltmesser anschließen.
2) Meßbereichschalter auf "X0.01" position.
3) Vom Niederfrequenz-Oszillator 1kHz Signal speisen, und Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmesser 0.15V anzeigt.
4) Unter Beobachten auf FL-Leistungsmeßerät **VR801** (L-Kanal), **VR802** (R-Kanal) einstellen, bis das erste Segment fast aufzuleuchten beginnt. (Vgl Abb. 1)

2-2.

1) Meßbereichschalter auf "X1" position.
2) Eingangspegel so einstellen, daß Wechselstrom-Elektronen-Voltmesser 8.9V anzeigt.
3) Unter Einstellung von **VR803** (L-Kanal), **VR804** (R-Kanal) in gleicher Weise wie oben in 2-1 so abgleichen, daß das 8. Segment fast aufzuleuchten beginnt.
4) Dann Eingangspegel einstellen und wie in 2-1 abgleichen.
5) Eingangspegel wieder einstellen, damit der Eingang 8.9V wird, und sicherstellen, daß das Segment bei 10W 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. Voltmétre 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)	R355 (Canal G) R356 (Canal D)	* Tourner les résistances R363, 364 semifixes Ico sur le minimum. (à gauche) * Régler R355 (canal gauche) et R356 (canal droit) sur env. 1mV 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)	R363 (Canal G) R364 (Canal D)	* Régler les R363 (canal gauche) et R364 (canal droit) sur env. 10 ~ 15mV aprés 9mn. de prèchauffage.

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 . . . . . X0.01 or 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.

1) Brancher l'oscillateur de basse fréquence aux bornes de la commande d'accord des deux canaux; et le voltmétre électronique aux bornes de l'enceinte en paralléle avec la résistance de change.
2) Placer le commutateur de gamme du compteur sur "X0.01" 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 0.15V.
4) Régler le **VR801** (Canal G), **VR802** (Canal D) tout en observant le compteur d'alimentation FL jusqu' à ce que le premier segment soit sur le point d'être branché. (Voir Fig. 5)

2-2.

1) Régler le commutateur de gamme du compteur sur "X1".
2) Régler le niveau d'entrée de telle sorte que le compteur électronique indique 8.9V.
3) Faire le réglage de la même façon que le réglage mentionné dans le paragraphe 2-1 en réglant **VR803** (Canal G), **VR804** (Canal D) de telle sorte que le huitième segment soit sur le point d'être branché.
4) Effectuer le réglage comme dans le paragraphe 2-1 en réglant le niveau d'entrée.
5) De nouveau régler le niveau d'entrée pour donner une sortie de 8.9V et s'assurer que le segment à position 10W, est branché. (Voir Fig. 6)

■ PRINTED CIRCUIT BOARD WIRING VIEW

(Ground) Earth Lines

POWER SWITCH (S7)

SPEAKERS (MAIN) (REMOTE) (S6)

HEADPHONES

TONE CONTROL (BASS) (TREBLE)

Q604 2SC1815 HOLD

Q603 2SA1015 HOLD

Q306,308 2SC1815 DIFFERENTIAL

Q306		Q308	
E	-1.9	E	-1.9
C	40.0	C	40.7
B	-1.3	B	-1.3

SUBSONIC FILTER

HIGH FILTER

Q301~304 2SC2320 BUFFER

BALANCE

Q305,307 2SC1815 DIFFERENTIAL

LOUDNESS

Q313 2SA1015 EMITTER FOLLOWER

VOLUME

To (401) terminal

To (803) terminal

To (810) terminal

To (804) terminal

Q601,602 2SC1845 CURRENT DETECTOR

new class A INDICATOR LAMP

PL1 (6.3V 250mA)

To (804) terminal

AC LINE 110/120/220/240V (50/60Hz)

Orange Yellow Black Yellow

White Red Brown Blue

T1 POWER TRANSFORMER

White Orange Yellow

Black Blue Blue

S9 VOLTAGE ADJUSTER

IC601 SVITA7317P PROTECTION

1	-0.7	6	1.2
2	0	7	0
3	0	8	1.3
4	0	9	2.8
5	-0.7		

Q314 2SA1015 EMITTER FOLLOWER

Q316 2SA1124 PRE DRIVE

Q310,312 2SA564 CURRENT MIRROR

Q310		Q312	
E	40.4	E	40.4
C	40.0	C	40.7
B	40.7	B	40.7

IC303 AN6552F TONE CONTROL AMP

1	-0.6	5	0
2	0	6	0
3	0	7	-0.6
4	-15.6	8	18.2

Q309,311 2SA564 CURRENT MIRROR

Q315 2SA1124 PRE DRIVE

Q318 2SC2632 CONSTANT CURRENT

REC/PLAY

Q317 2SC2632 CONSTANT CURRENT

IC301,302 SVISTK8040 SYNCHRONOUS BIAS CIRCUIT & POWER AMP

1	41.6	9	0.6
2	0	10	-1.2
3	0	11	1.2
4	0	12	-0.8
5	-42.0	13	1.3
6	-1.4	14	-1.4
7	-0.7	15	-0.2
8	1.4	16	1.9

REC SELECTOR

① aux
② tuner
③ Phon
④ off
⑤ tape 2▶1
⑥ tape 1▶2

(LEFT) (RIGHT) SPEAKERS

PLAYBACK TAPE 2 | REC OUT | PLAYBACK TAPE 1 | REC OUT | AUX | TUN

(Ground) Earth Lines

Q603 2SA1015 HOLD

Q306,308 2SC1815 DIFFERENTIAL

Q306		Q308	
E	-1.9	E	-1.9
C	40.0	C	40.7
B	-1.3	B	-1.3

Q301~304 2SC2320 BUFFER

Q305,307 2SC1815 DIFFERENTIAL

Q313 2SA1015 EMITTER FOLLOWER

Q801,802 2SC1685 MUTING

IC801,802 SVIBA663 FL COMPARATOR & DRIVER

1	1.2	5	-0.2	9	21.4	13	-0.2
2	-0.2	6	-0.2	10	-0.2	14	-0.2
3	-0.2	7	-0.2	11	-0.2	15	-0.2
4	-0.2	8	0	12	-0.2	16	5.3

IC803 AN6552 VOLTAGE AMPLIFIER

1	3.0	5	1.6
2	1.6	6	1.6
3	1.6	7	3.0
4	0	8	21.4

Q803 2SD762 REGULATOR

IC301,302 SVISTK8040 SYNCHRONOUS BIAS CIRCUIT & POWER AMP

1	41.6	9	0.6
2	0	10	-1.2
3	0	11	1.2
4	0	12	-0.8
5	-42.0	13	1.3
6	-1.4	14	-1.4
7	-0.7	15	-0.2
8	1.4	16	1.9

IC101,102 SVITA7322P EQUALIZER AMP

1	0	6	
2	0.1	7	0
3	0.1	8	-10.0
4	-14.4	9	18.2
5	-15.6	10	

Q310,312 2SA564 CURRENT MIRROR

Q310		Q312	
E	40.4	E	40.4
C	40.0	C	40.7
B	40.7	B	40.7

IC303 AN6552F TONE CONTROL AMP

1	-0.6	5	0
2	0	6	0
3	0	7	-0.6
4	-15.6	8	18.2

Q309,311 2SA564 CURRENT MIRROR

Q315 2SA1124 PRE DRIVE

Q317 2SC2632 CONSTANT CURRENT

Q318 2SC2632 CONSTANT CURRENT

REC SELECTOR: ① aux ② tuner ③ Phon ④ off ⑤ tape 2▶1 ⑥ tape 1▶2

INPUT SELECTOR: ① aux ② tuner ③ Phono ④ tape 1 ⑤ tape 2

PEAK HOLD POWER METER

RANGE SELECTOR

To (421) terminal
To (411) terminal
To (410) terminal
To (401) terminal
To (802) terminal
To (801) terminal
To (805) terminal
To (302) terminal
To (420) terminal
To (303) terminal

(LEFT) SPEAKERS (RIGHT)

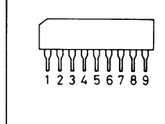
PLAYBACK TAPE 2 | REC OUT TAPE 2 | PLAYBACK TAPE 1 | REC OUT TAPE 1 | AUX | TUNER | PHONO | GND

REC/PLAY

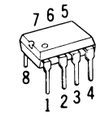
MADE IN JAPAN

■ TERMINAL GUIDE OF TRANSISTORS AND IC'S

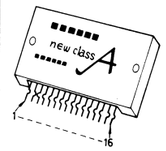
SVITA7322P
SVITA7317P



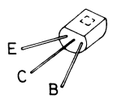
AN6552F



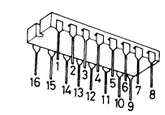
SVISTK8040



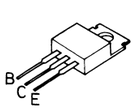
2SC2320L , 2SC1815
2SA564 , 2SA1015
2SA1124 , 2SC2632
2SC1845 , 2SC828
2SC1685



SVIBA663

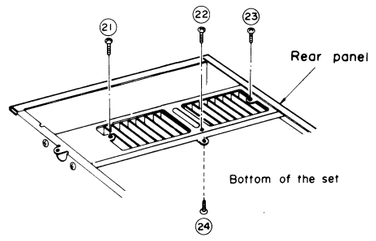


2SD762

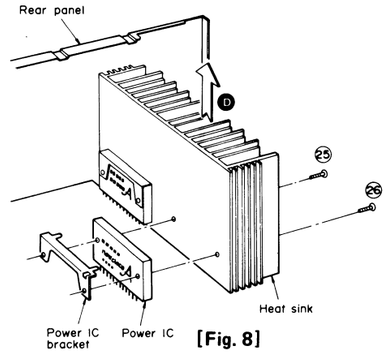


■ HOW TO REMOVE THE POWER IC

1. Remove the cabinet and bottom board. (Refer to the sections "Disassembly instructions" on page 4.)
2. Unsolder of power IC for both L ch and R ch.
3. Remove the 4 setscrews (Fig. 7 : 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 Ⓓ . (Refer to Fig. 8)
4. Remove the 2 setscrews (Fig. 8 : 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 rear side of power IC, and then follow the steps 1 ～ 4 reversely.



[Fig. 7]



[Fig. 8]

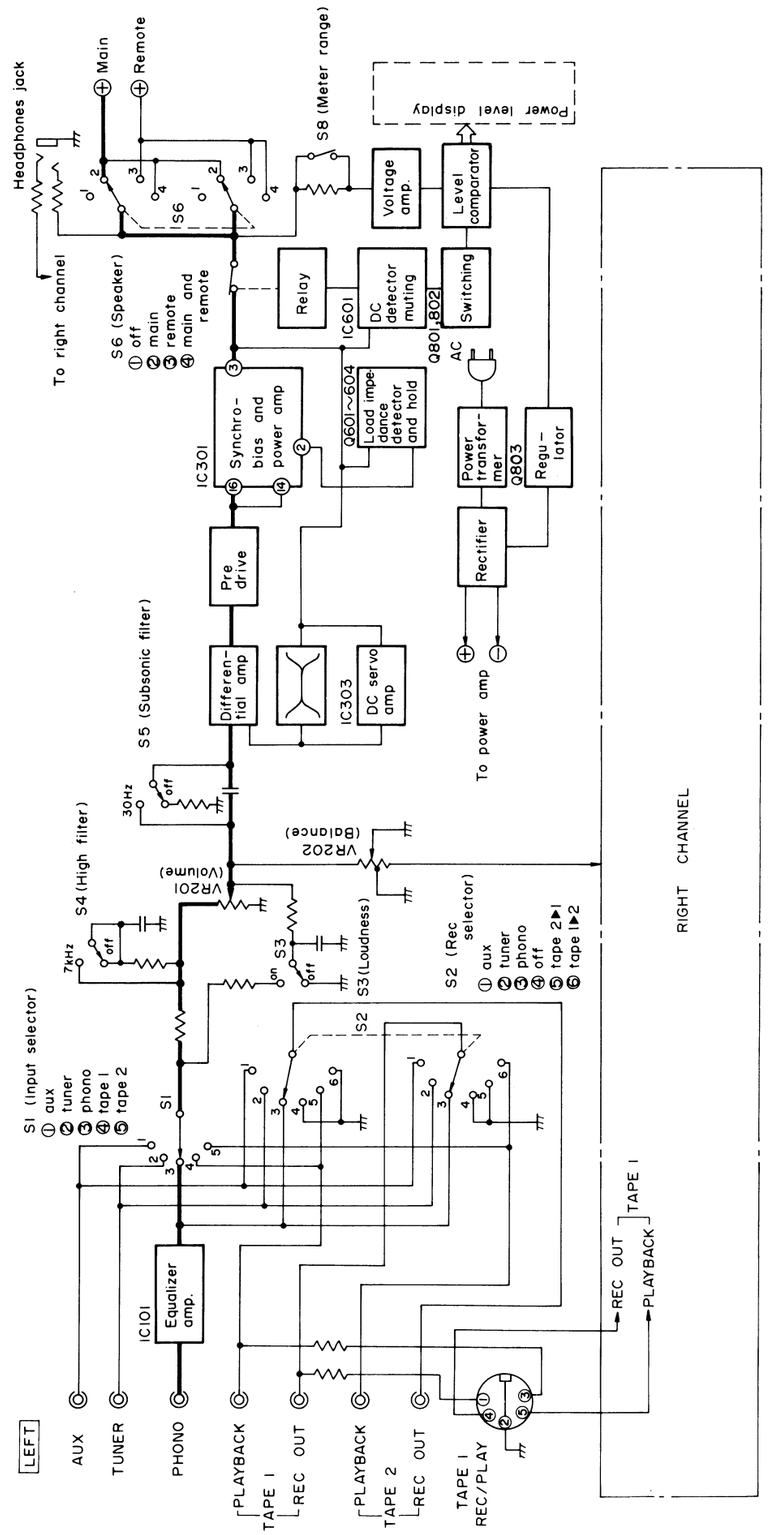
■ REPLACEMENT PARTS LIST.....Electric Parts

Notes:
1. Part numbers are indicated on most mechanical parts. Please use this part number of parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.
3. Bracketed indications in Ref. No. columns specify the area. Parts without these indications can be used for all areas.

Ref. No.		Part No.	Part Name & Description
INTEGRATED CIRCUIT			
IC101, 102		SVITA7322P	IC, Equalizer Amplifier
IC301, 302		SVISTK8040	IC, Synchronous Bias Circuit and Power Amplifier
IC303		AN6552F	IC, Tone Control Amplifier and Voltage Amplifier
IC601		SVITA7317P	IC, Speakers Protection
IC801, 802		SVIBA663	IC, FL Comparator and Driver
IC803		AN6552F	IC, Voltage Amplifier
TRANSISTORS			
Q301, 302, 303 304		2SC2320L–F	Transistor, Buffer
Q305, 306, 307 308		2SC1815–Y	Transistor, Differential
Q309, 310, 311 312		**2SA666AI–R**	Transistor, Current Mirror
Q313, 314, 603		2SA1015–Y	Transistor, Emitter Follower, Relay Hold Circuit
Q315, 316		2SA1124–R	Transistor, Pre Driver
Q317, 318		2SC2632–R	Transistor, Constant Current
Q601, 602		2SC1845–E	Transistor, Current Detector
Q604		2SC1815–Y	Transistor, Relay Hold Circuit
Q801, 802		2SC1685–T	Transistor, Muting
Q803		2SD762–O	Transistor, Regulator
DIODES			
D301, 302		**MA162A**	Diode, Detector
D303 ～ 310		**20A90**	Diode, Detector
D311, 312, 601 602, 605, 606		**MA162A**	Diode, Detector
D313		**MA1150A**	Diode, 5V Zener
D403 ～ 406	⚠	**SVDS3V40**	Rectifier
D407		MA2180B	Diode, 8V Zener
D408		MA2150B	Diode, 5V Zener
D603		**SVDSR1K2**	Diode, Bias
D801 ～ 805		**MA162A**	Diode, Detector
D806		**SVDEQA0122RA**	Diode, 22V Zener
COILS and TRANSFORMER			
L301, 302		SLQY15G–30	Coil, Choke
T1	⚠	SLT5P187–I	Transformer, Power Source

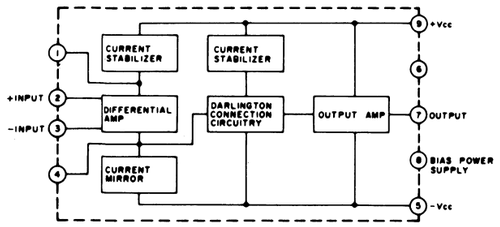
Ref. No.		Part No.	Part Name & Description
VARIABLE RESISTORS			
VR201		EWF6LA031BF5	Volume Control, 50kΩ (B)
VR202		EVHHPA505G25	Balance Control, 200kΩ (W)
VR203		EWJFD0090C15	Treble Control, 100kΩ (C)
VR204		EWJFDY090530	Bass Control, 100kΩ (C)
R355, 356		**EVTS3MA00B23**	Clamp Voltage Adjustment, 2kΩ (B)
R363, 364		EVTR4SA00B53	Icq Adjustment, 5kΩ (B)
VR801, 802		**EVTS3MA00B52**	FL Power Meters Adjustment, 500Ω (B)
VR803, 804		**EVTS3MA00B14**	FL Power Meters Adjustment, 10kΩ (B)
COMPONENT COMBINATION			
Z401		EXRFS203ZS	Component Combination, 0.01μF (X2)
THERMISTORS			
TH301, 302		ERTD2FHL332S	Thermistor, Temperature Compensation, 3.3kΩ
FUSES			
F1	⚠	XBA2C25TR0	Fuse, T2.5A (250V), Power Primary
F2	⚠	XBA2C12TR0	Fuse, T1.25A (250V), Power Primary
SWITCHES			
S1, 2		ESA2682	Switch, Input and Rec Mode Selector
S3, 4, 5		SSL145	Switch, Loudness, High Filter, and Subsonic Filter
S6		SSH281	Switch, Speakers Selector
S7	⚠	ESL21210S	Switch, Power Source
S8		SSH105	Switch, Meter Range
S9	⚠	ESE37200	Switch, Voltage Adjuster
RELAY			
RLY1	⚠	SSY69	Relay, Speaker Protection
LAMP			
PL1	⚠	XAMR73S350A	Lamp, New Class A Badge, 250mA (6.3V)
METER			
		SADBG78Z	Meter, Fluorescent Peak Power

■ BLOCK DIAGRAM

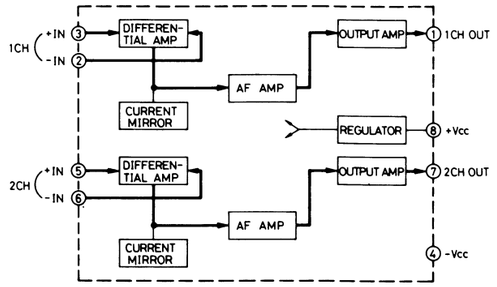


■ BLOCK DIAGRAM OF IC'S

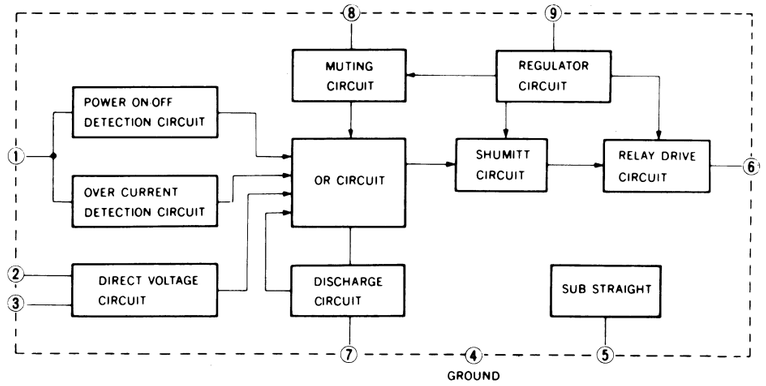
- This is the basic block diagram of the inside circuit of IC. In an actual circuit, there may be sometimes idle terminals or some different functions other than the basic circuit.



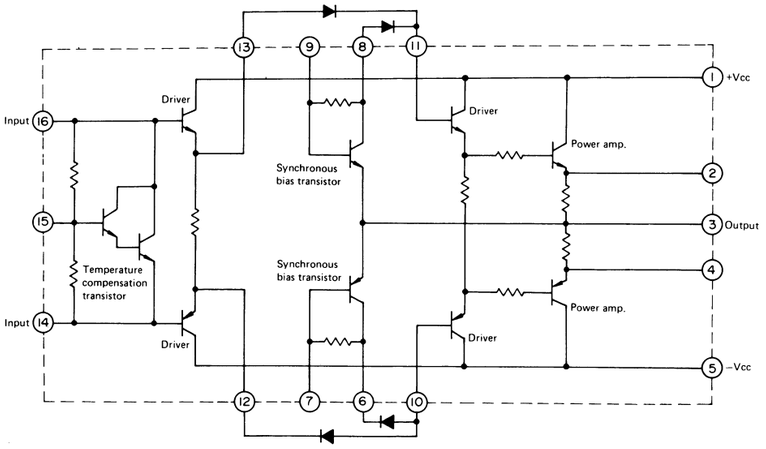
IC101, 102 (SVITA7322P)
Equalizer amplifier



IC303 (AN6552F)
Tone control amplifier

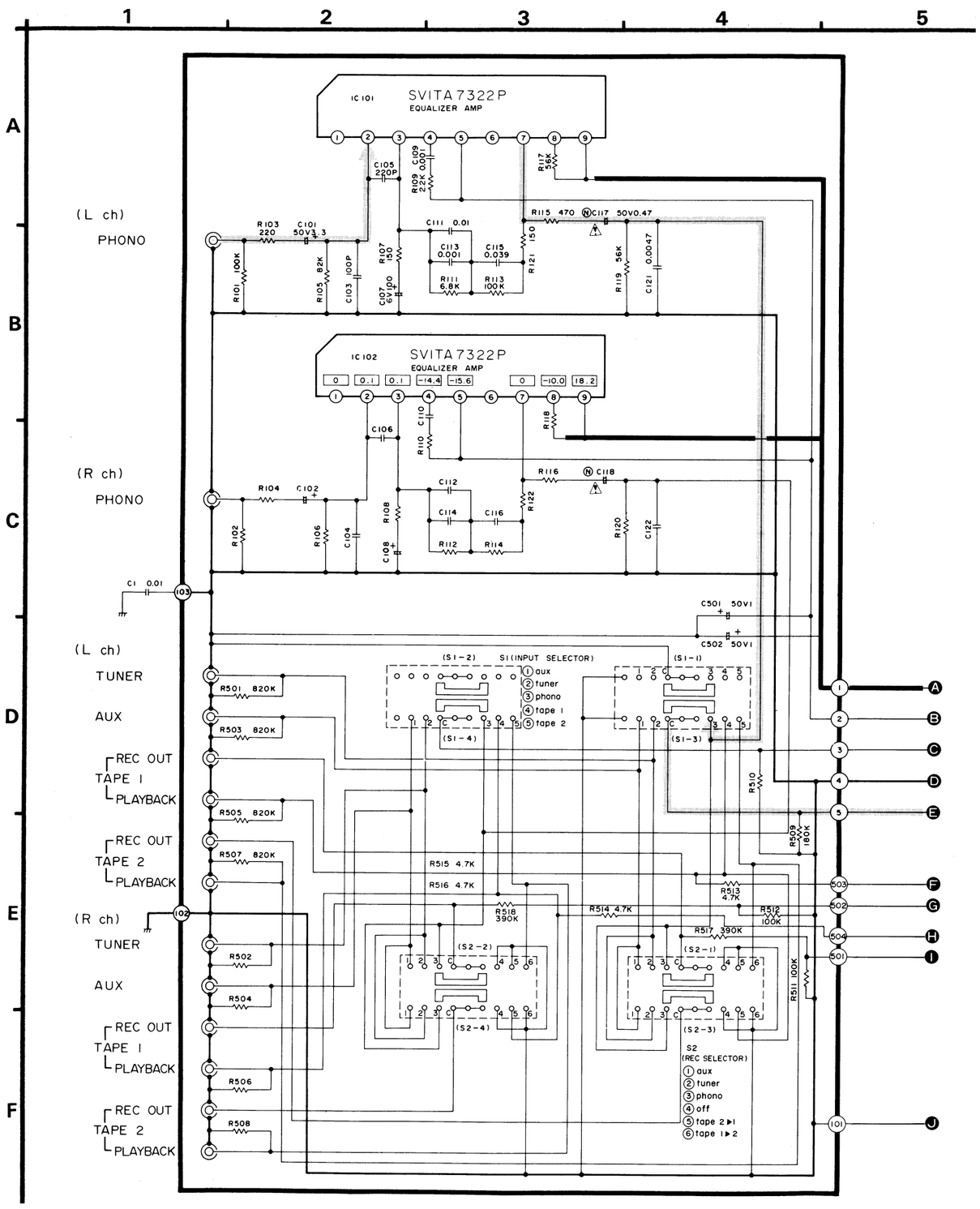


IC601 (SVITA7317P) Speakers protection



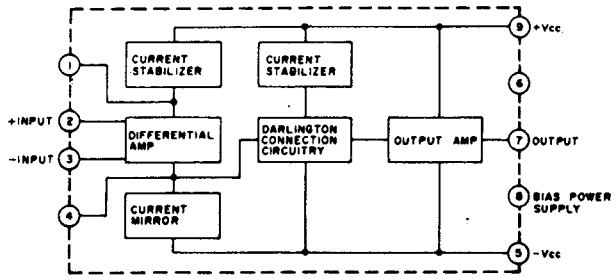
IC301, 302 (SVISTK8040) Synchronous bias circuit and power amplifier

■ SCHEMATIC DIAGRAM

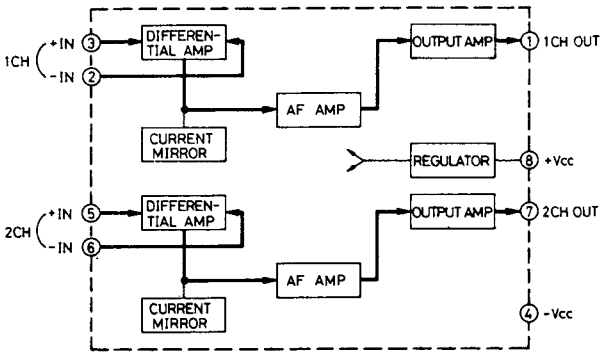


■ BLOCK DIAGRAM OF IC'S

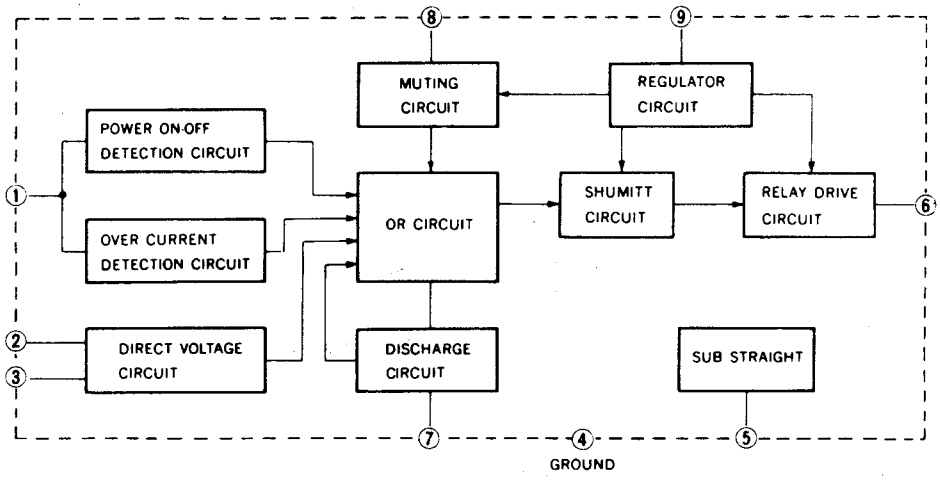
- This is the basic block diagram of the inside circuit of IC. In an actual circuit, there may be sometimes idle terminals or some different functions other than the basic circuit.



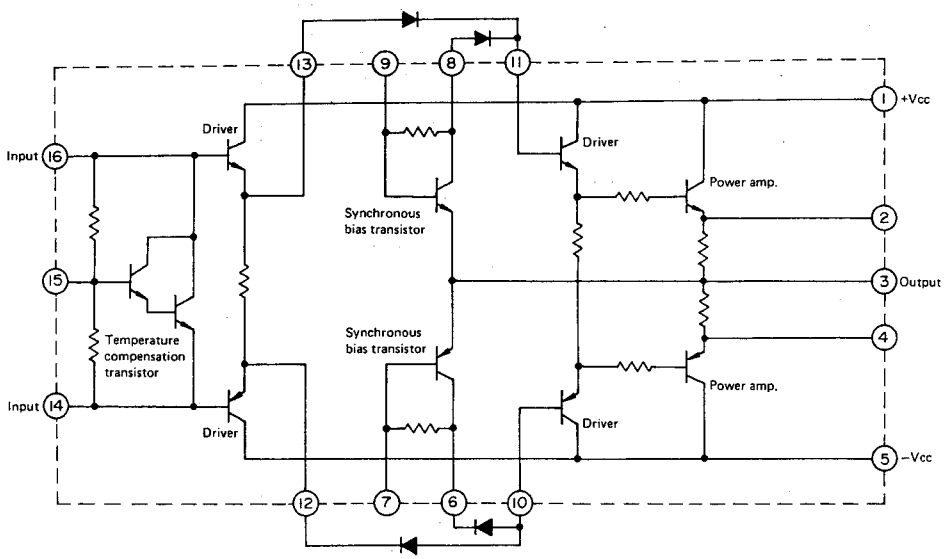
IC101, 102 (SVITA7322P)
Equalizer amplifier



IC303 (AN6552F)
Tone control amplifier

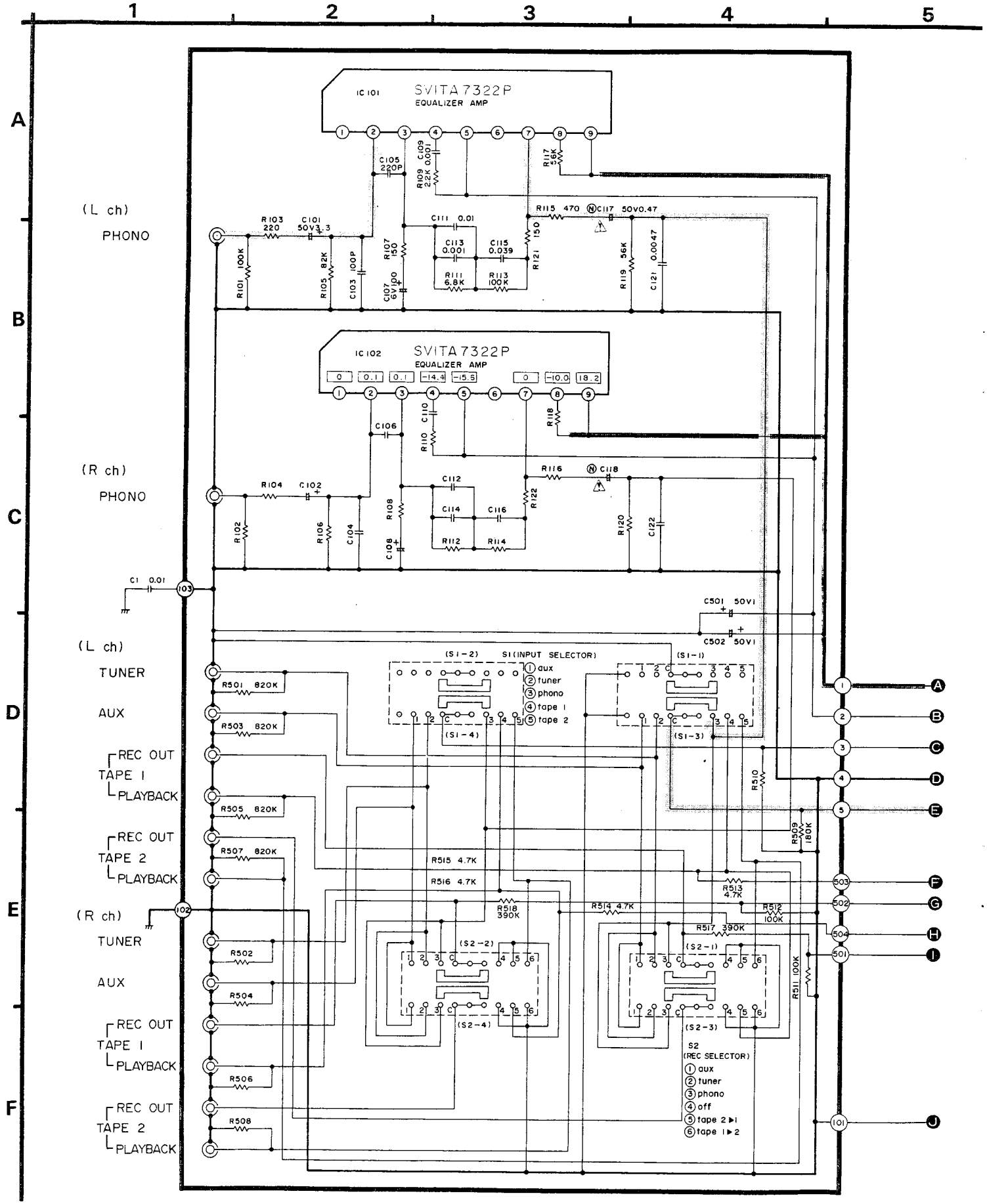


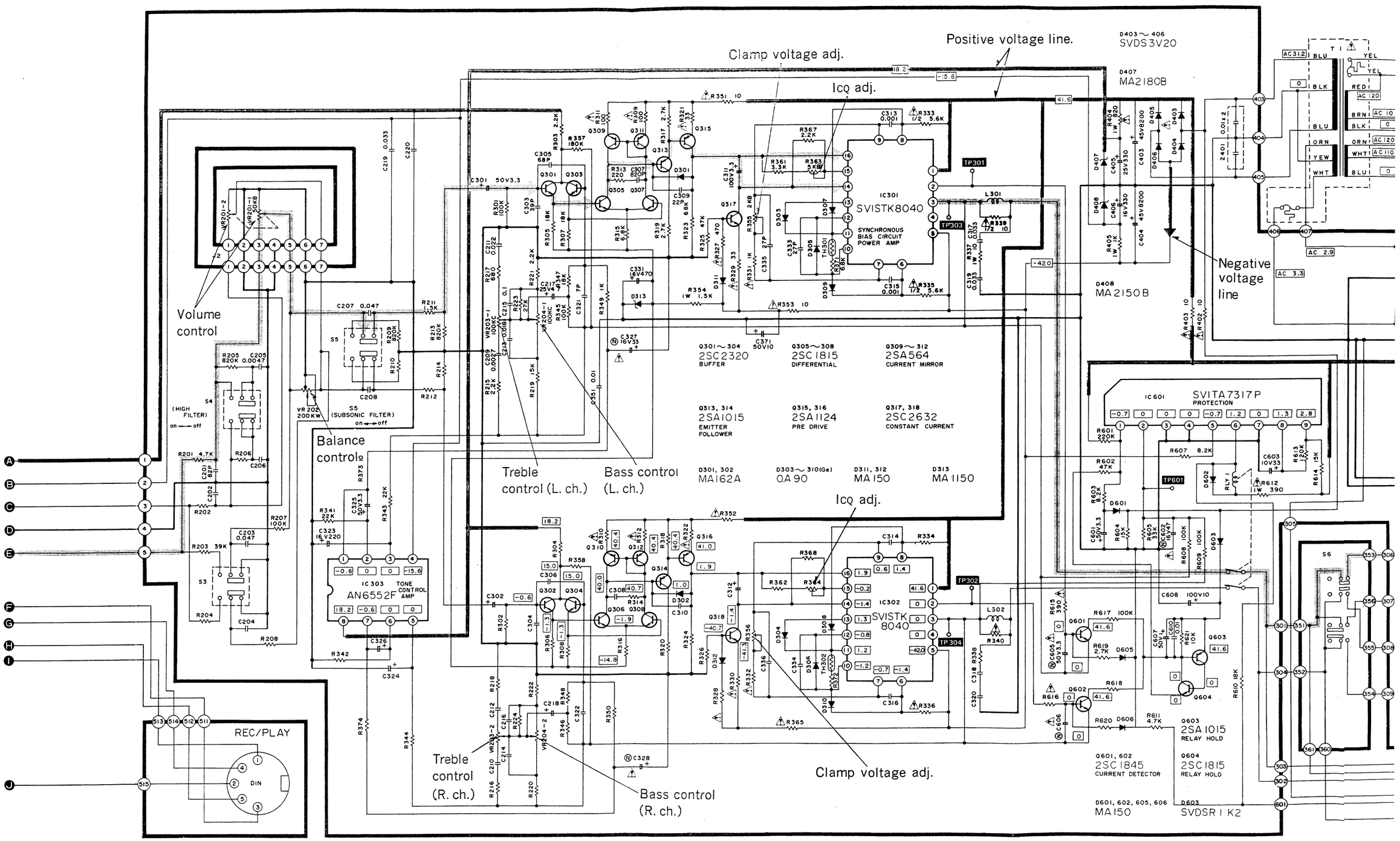
IC601 (SVITA7317P) Speakers protection



IC301, 302 (SVISTK8040) Synchronous bias circuit and power amplifier

■ SCHEMATIC DIAGRAM



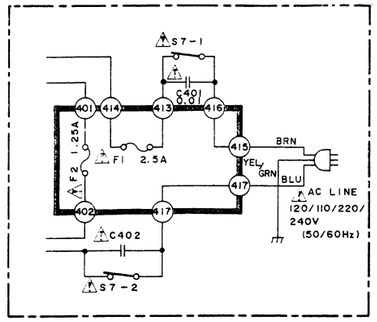

Volume control
Balance control
Treble control (L. ch.)
Bass control (L. ch.)
Clamp voltage adj.
Icq adj.
Positive voltage line.
Negative voltage line
Treble control (R. ch.)
Bass control (R. ch.)
Icq adj.
Clamp voltage adj.
Q301～304 2SC2320 BUFFER
Q305～308 2SC1815 DIFFERENTIAL
Q309～312 2SA564 CURRENT MIRROR
Q313, 314 2SA1015 EMITTER FOLLOWER
Q315, 316 2SA1124 PRE DRIVE
Q317, 318 2SC2632 CONSTANT CURRENT
D301, 302 MA162A
D303～310(Ge) OA90
D311, 312 MA150
D313 MA1150
D403～406 SVDS3V20
D407 MA2180B
D408 MA2150B
IC301 SVISTK8040 SYNCHRONOUS BIAS CIRCUIT POWER AMP
IC302 SVISTK 8040
IC303 AN6552F TONE CONTROL AMP
IC601 SVITA7317P PROTECTION
Q601, 602 2SC1845 CURRENT DETECTOR
Q603 2SA1015 RELAY HOLD
Q604 2SC1815 RELAY HOLD
D601, 602, 605, 606 MA150
D603 SVDSR1K2
REC/PLAY
DIN
S3
S4 (HIGH FILTER)
S5 (SUBSONIC FILTER)
S6
TP301
TP302
TP303
TP304
TP601

14 15 16 17 18 19 20 21

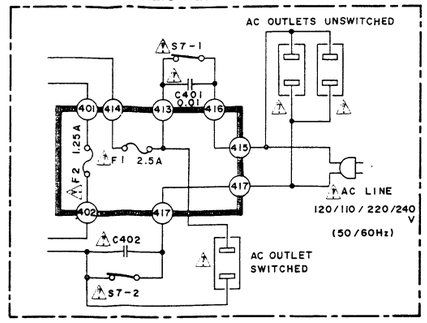
A B C D E F

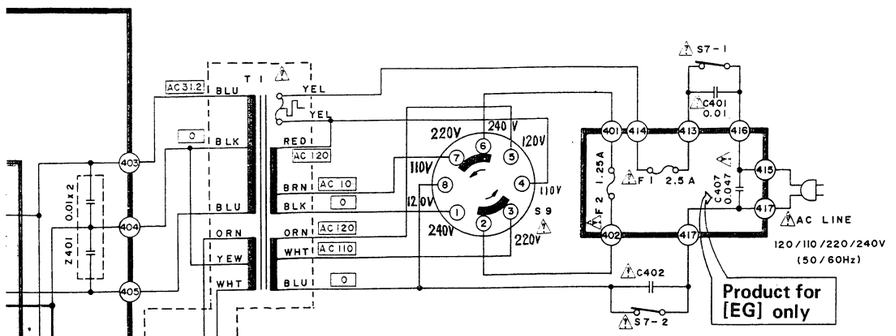
● Power source circuits for [XAL] and [XA]

[XAL] ..... Available in Australia

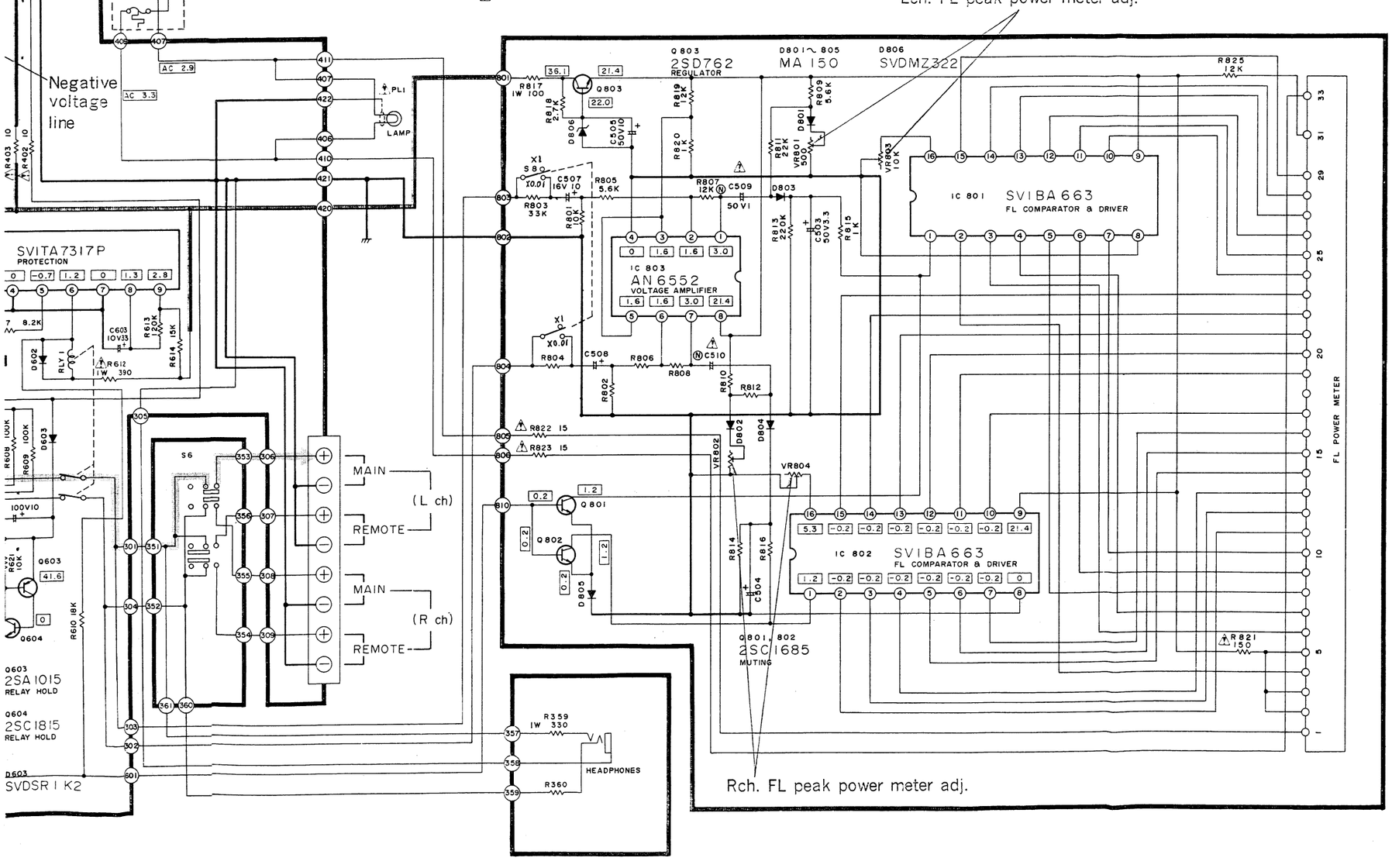


[XA] ..... Available in Asia, Latin America, Middle East and Africa





Lch. FL peak power meter adj.



Rch. FL peak power meter adj.

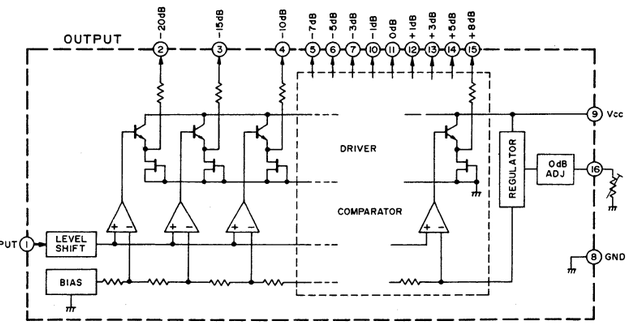
16 17

SCHEMATIC DIAGRAM

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

Notes:

1. **S1**: Input selector switch in "**phono**" position.
   ① aux ⟷ ② tuner ⟷ ③ phono ⟷ ④ tape 1 ⟷ ⑤ tape 2
2. **S2**: Rec selector switch in "**phono**" position,
   ① aux ⟷ ② tuner ⟷ ③ phono ⟷ ④ off ⟷ ⑤ tape 2 ▶ 1 ⟷ ⑥ tape 1 ▶ 2
3. **S3**: Loudness switch in "**off**" position.
4. **S4**: High filter switch in "**off**" position.
5. **S5**: Subsonic filter switch in "**off**" position.
6. **S6**: Speakers selector switch in "**main**" position.
7. **S7**: Power switch in "**on**" position.
8. **S8**: Meter range selector switch in "**X1**" position.
9. **S9**: Voltage adjustment switch in "**220V**" 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 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.
14. Phono signal lines of left channel
15. ▬ Positive (+B) voltage lines

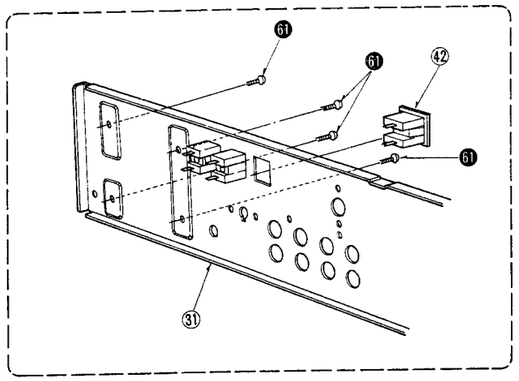


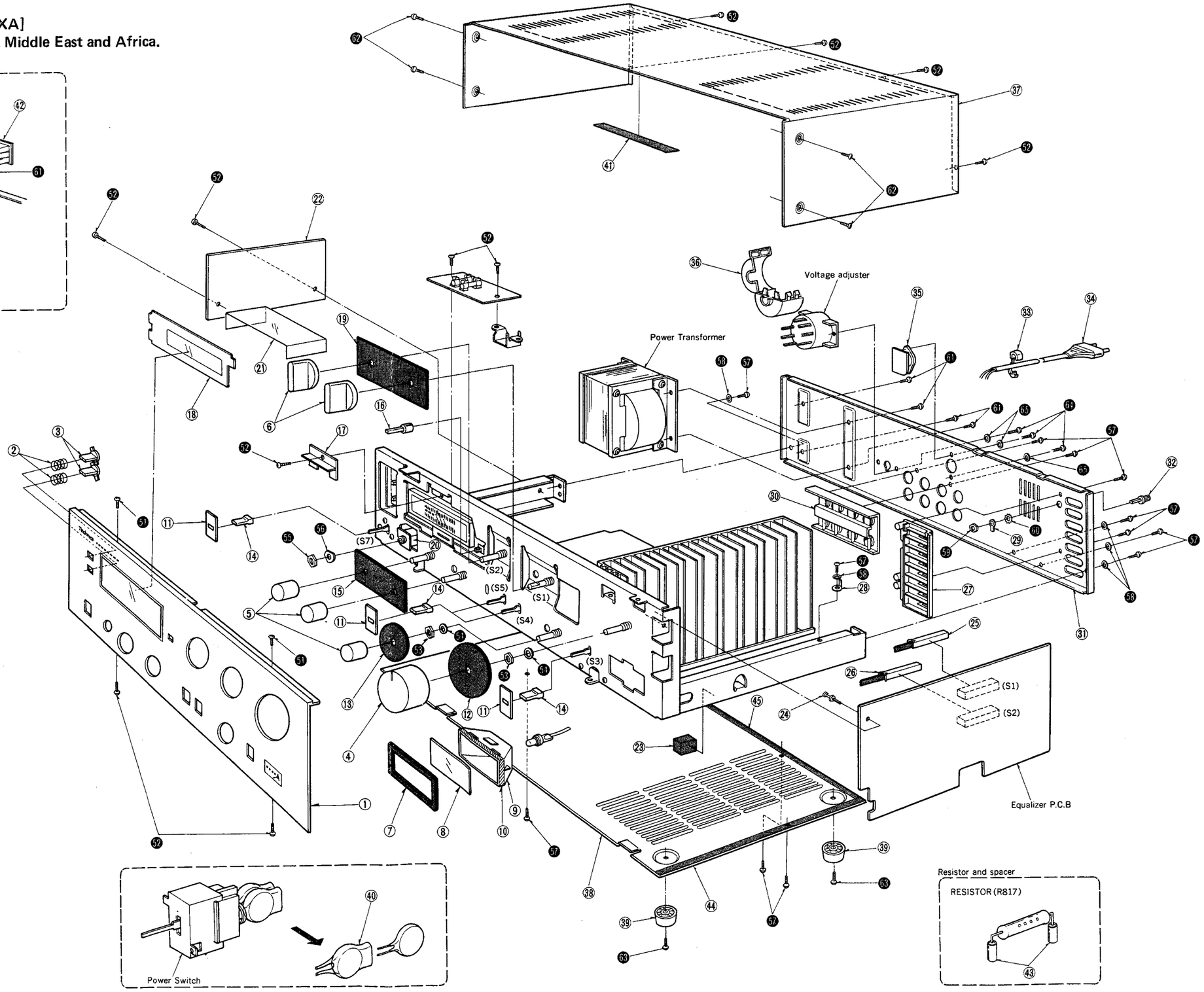
IC801, 802 (SVIBA663)
FL Comparator and driver

18

■ EXPLODED VIEWS

(Rear Panel and AC Outlet) . . . . . for [XA]
[XA] is available in Asia, Latin America, Middle East and Africa.





Resistor and spacer

REPLACEMENT PARTS LIST.....Cabinet & Chassis Parts

Notes: 1. Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
2. ⚠ indicates that only parts specified by the manufacturer be used for safety.
3. [K]-marked parts are used for black type only, while O-marked parts are for silver type only.
4. Parts other than [K] 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-V2A (K)

Ref. No.		Part No.	Part Name & Description
CABINET and CHASSIS PARTS			
1	O	SYW259–3	Panel, Front Ass'y
1	K	SYW259–4	Panel, Front Ass'y (Black)
2		SUS187	Spring, Push Switch Button
3	O	SBC259	Button, Push Switch
3	K	SBC259–1	Button, Push Switch
4	O	SBN911	Knob, Volume
4	K	SBN911–1	Knob, Volume (Black)
5	O	SBN909	Knob, Balance, Treble and Bass
5	K	SBN909–1	Knob, Balance, Treble and Bass (Black)
6	O	SBN929	Knob, Rec Selector and Input Selector
6	K	SBN929–1	Knob, Rec Selector and Input Selector (Black)
7		SHG6089	Cushion, New Class A Badge
8	O	SDE253	Filter, New Class A Badge
8	K	SDE253–1	Filter, New Class A Badge (Black)
9		SMP281	Holder, New Class A Badge
10		SHS6111	Fiber, New Class A Badge
11	O	SHR5089	Cover, Lever Switch Knobs
11	K	SHR5089–1	Cover, Lever Switch Knobs (Black)
12		SHP9299	Cover, Volume Knob
13		SHP9301	Cover, Balance Knob
14	O	SBD31	Knob, Lever Switches
14	K	SBD31–1	Knob, Lever Switches (Black)
15		SHP9297	Cover, Bass and Treble Knob
16	O	SBC271	Button, Range Selector
16	K	SBC271–1	Button, Range Selector (Black)
17		SMM41	Escutcheon, Peak Power Meter M'tg
18	O	SDU37	Filter, Peak Power Meter
18	K	SDU37–1	Filter, Peak Power Meter
19		SHP9303	Cover, Input Selector and Rec Selector
20		XCJ6P21B–A	Jack, Headphones
21		SMX359	Cover, Fuse P.C.B.
22		SMC811	Cover
23		SHG1491	Cushion, Equalizer P.C.B.
24		SHR401–1	Latch, Equalizer P.C.B. M'tg
25		ESA3357B	Remote Control, Input Selector Switch (S1)
26		ESA3356B	Remote Control, Rec Selector Switch (S2)
27		SJF3043N	Terminal, Input
28		RJT202B	Terminal, Ground 1 pin
29		SJT215	Terminal, Ground 1 pin
30		SJF5811	Terminal, Speaker
31 [E]		SGP2270B	Rear Panel
31 [EB, XGH, EG]		SGPUV2AE	Rear Panel, SGP2270B with Name Plate (SGT21891)
31 [XA]		SGP2270–1B	Rear Panel
31 [XAL]		SGP2270–2B	Rear Panel
32		SJF4101	Terminal Ground
33 [E, EG, XGH, EB, XA]		SFSR4N4	Bushing, AC Cord
33 [XAL]		SHR131	Bushing, AC Cord
34 [E, EG, XGH, EB]	⚠	**SJA88**	AC Cord, Power Source
34 [XA]	⚠	SJA111	AC Cord, Power Source
34 [XAL]	⚠	**QFC1207M**	AC Cord, Power Source

Ref. No.		Part No.	Description
35		SJS6509	Socket, DIN
36		SUV453	Cover, Voltage Adjuster
37	O	SKC370H1	Cabinet
37	K	SKC370B1	Cabinet
38		SKU8310	Bottom Board
39		SKL227	Foot, Set
40		SMXA65	Cover, Capacitor (C401, 402)
41		SHS6111	Fiber, Cabinet
42 [XA] only	⚠	SJSA66–2	Socket, AC Outlet
43		SMX51	Spacer, Resistor (R817)
44		SHS2445	Fiber, Bottom Board
45		SHS2447	Fiber, Bottom Board
46 [EG] only		SMX381	Spcer, Capacitor (C407)
SCREWS, WASHERS and NUTS			
47		**XTS3+8B**	Screw, Tapping, ⊕ 3 x 8 (Front Panel)
48		**XTB3+8BFN**	Screw, Tapping, ⊕ 3 x 8 (Front Panel, Fuse P.C.B. and Cabinet)
49	K	**XTB3+8BFZ**	Screw, Tapping, ⊕ 3 x 8 (Cabinet M'tg Screw only)
50		**XNS8**	Nut, M8 (Volume, Input Selector, Rec Selector etc.)
51		**XWV8**	Washer, Spring ϕ 8
52		**XNS12**	Nut, M12 (Headphones Jack)
53		SNE59–1	Washer, Wave Type (Headphones Jack)
54		**XTB3+8BFZ**	Screw, Tapping ⊕ 3 x 8 (Rear Panel, Input Terminal, Speakers Terminal and Bottom Board)
55		**XWC3B**	Washer, Toothed Lock, ϕ 3
56		**XNG6E**	Nut, M6 (Ground Terminal)
57		**XWC6B**	Washer, Toothed Lock, ϕ 6
58		**XTB4+10BFZ**	Screw, Tapping, ⊕ 4 x 10 (Power Transformer)
59	O	**XTB4+8BFN**	Screw, Tapping, ⊕ 4 x 8 (Cabinet)
59	K	**XTB4+8BFZ**	Screw, Tapping, ⊕ 4 x 8 (Cabinet)
60		**XTB3+10BFZ**	Screw, Tapping, ⊕ 3 x 10 (Foot)
61		**XTB3+6BFZ**	Screw, Tapping, ⊕ 3 x 6 (DIN Socket, Voltage Adjuster)
62		**XWC3B**	Washer, Toothed Lock, ϕ3 (DIN Socket, Voltage Adjuster)
ACCESSORIES			
A1 [XA] only	⚠	SJP5213–1	Plug Adapter, AC Power
A2 [XA] only	⚠	SJP5215	Plug Adapter, AC Power
PACKING PARTS			
P1		SPP649	Polythylene Bag
P2		SPS2505	Pad, Left Side
P2 [XAL] only		SPS2505–1	Pad, Left Side
P3		SPS2507	Pad, Right Side
P3 [XAL] only		SPS2507–1	Pad, Right Side
P4 [E]		SPG2745	Carton Box
P4 [XA]		SPG2749	Carton Box
P4 [EG, XGH, EB]		SPG2747	Carton Box
P4 [XAL]		SPG2751	Carton Box
P5 [E, EG, XGH, EB]		SQF10385–1	Instructions Book, Printed Matter
P5 [XAL]		SQF10387–1	Instructions Book, Printed Matter
P5 [XA]		SQF10553–1	Instructions Book, Printed Matter

Areas

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

RESISTOR AND CAPACITOR PARTS LIST

NOTE: ⚠ indicates that only parts specified by the maoufacturer be used for sefety.

Ref. No.		Part No.	Part Name & Description
RESISTORS			
R101,102		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R103,104		**ERD25FJ221**	Carbon, 220Ω, 1/4W, ± 5%
R105, 106		**ERD25TJ823**	Carbon, 82kΩ, 1/4W, ± 5%
R107, 108		**ERD25FJ151**	Carbon, 150Ω, 1/4W, ± 5%
R109, 110		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R111, 112		**ERD25FJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R113, 114		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R115, 116		**ERD25FJ471**	Carbon, 470Ω, 1/4W, ± 5%
R117, 118		**ERD25TJ563**	Carbon 56kΩ, 1/4W, ± 5%
R119, 120		**ERD25TJ563**	Carbon, 56kΩ, 1/4W, ± 5%
R121, 122		**ERD25FJ151**	Carbon, 150Ω, 1/4W, ± 5%
R201, 202		**ERD25FJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R203, 204		**ERD25TJ393**	Carbon, 39kΩ, 1/4W, ± 5%
R205, 206		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R207, 208		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R209, 210		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R211, 212		**ERD25FJ152**	Carbon, 1.5kΩ, 1/4W, ± 5%
R213, 214		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R215, 216		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R217, 218		**ERD25FJ681**	Carbon, 680Ω, 1/4W, ± 5%
R219, 220		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R221, 222		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R223, 224		**ERD25TJ273**	Carbon, 27kΩ, 1/4W, ± 5%
R301, 302		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R303, 304		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R305, 306		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R307, 308		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R309, 310	⚠	**ERD25FJ101**	Carbon, 100Ω, 1/4W, ± 5%
R311, 312	⚠	**ERD25FJ101**	Carbon, 100Ω, 1/4W, ± 5%
R313, 314		**ERD25FJ221**	Carbon, 220Ω, 1/4W, ± 5%
R315, 316		**ERD25FJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R317, 318	⚠	**ERD25FJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R319, 320		**ERD25FJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R321, 322	⚠	**ERD25FJ330**	Carbon, 33Ω, 1/4W, ± 5%
R323, 324		**ERD25TJ683**	Carbon, 68kΩ, 1/4W, ± 5%
R325, 326		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R327, 328	⚠	**ERD25FJ471**	Carbon, 470Ω, 1/4W, ± 5%
R329, 330	⚠	**ERD25FJ330**	Carbon, 33Ω, 1/4W, ± 5%
R331, 332	⚠	**ERD25FJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R333, 334	⚠	**ERD50FJ562**	Carbon, 5.6kΩ, 1/2W, ± 5%
R335, 336	⚠	**ERD50FJ562**	Carbon, 5.6kΩ, 1/2W, ± 5%
R337, 338		**ERG1ANJ100**	Metal Oxide, 10Ω, 1W, ± 5%
R339, 340	⚠	**ERD50FJ100**	Carbon, 10Ω, 1/2W, ± 5%
R341, 342		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R343, 344		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R345, 346		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R347, 348		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R349, 350		**ERD25FJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R351, 352	⚠	**ERD25FJ100**	Carbon, 10Ω, 1/4W, ± 5%
R353	⚠	**ERD25FJ100**	Carbon, 10Ω, 1/4W, ± 5%
R354		**ERG1ANJ152**	Metal Oxide, 1.5kΩ, 1W, ± 5%
R357, 358		**ERD25TJ184**	Carbon, 180kΩ, 1/4W, ± 5%
R359, 360		**ERG1ANJ331**	Metal Oxide, 330Ω, 1W, ± 5%
R361, 362		**ERD25FJ332**	Carbon, 3.3kΩ, 1/4W, ± 5%
R365	⚠	**ERD25FJ100**	Carbon, 10Ω, 1/4W, ± 5%
R367, 368		**ERD25FJ222**	Carbon, 2.2kΩ, 1/4W, ± 5%
R371, 372		**ERD25FJ682**	Carbon, 6.8kΩ, 1/4W, ± 5%
R373, 374		**ERD25FJ100**	Carbon, 10Ω, 1/4W, ± 5%
R402, 403	⚠	**ERD25FJ100**	Carbon, 10Ω, 1/4W, ± 5%
R404		**ERG1ANJ821**	Metal Oxide, 820Ω, 1W, ± 5%
R405		**ERG1ANJ102**	Metal Oxide, 1kΩ, 1W, ± 5%
R501, 502		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R503, 504		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R505, 506		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R507, 508		**ERD25TJ824**	Carbon, 820kΩ, 1/4W, ± 5%
R509, 510		**ERD25TJ184**	Carbon, 180kΩ, 1/4W, ± 5%
R511, 512		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R513, 514		**ERD25FJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R515, 516		**ERD25FJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R517, 518		**ERD25TJ394**	Carbon, 390kΩ, 1/4W, ± 5%
R601		**ERD25TJ224**	Carbon, 220kΩ, 1/4W, ± 5%
R602		**ERD25TJ473**	Carbon, 47kΩ, 1/4W, ± 5%
R603		**ERD25FJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%
R604		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R605, 606		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R607		**ERD25FJ822**	Carbon, 8.2kΩ, 1/4W, ± 5%
R608, 609		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R610		**ERD25TJ183**	Carbon, 18kΩ, 1/4W, ± 5%
R611		**ERD25FJ472**	Carbon, 4.7kΩ, 1/4W, ± 5%
R612		**ERG1ANJ391**	Metal Oxide, 390Ω, 1W, ± 5%
R613		**ERD25TJ124**	Carbon, 120kΩ, 1/4W, ± 5%
R614		**ERD25TJ153**	Carbon, 15kΩ, 1/4W, ± 5%
R615, 616	⚠	**ERD25FJ391**	Carbon, 390Ω, 1/4W, ± 5%
R617, 618		**ERD25TJ104**	Carbon, 100kΩ, 1/4W, ± 5%
R619, 620		**ERD25FJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R621		**ERD25FJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R801, 802		**ERD25TJ103**	Carbon, 10kΩ, 1/4W, ± 5%
R803, 804		**ERD25TJ333**	Carbon, 33kΩ, 1/4W, ± 5%
R805, 806		**ERD25FJ562**	Carbon, 5.6kΩ, 1/4W, ± 5%
R807, 808		**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%
R809, 810		**ERD25FJ562**	Carbon, 5.6kΩ, 1/4W, ± 5%
R811, 812		**ERD25TJ223**	Carbon, 22kΩ, 1/4W, ± 5%
R813, 814		**ERD25TJ224**	Carbon, 220kΩ, 1/4W, ± 5%
R815, 816		**ERD25FJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R817		**ERG1ANJ101**	Metal Oxide, 100Ω, 1/4W, ± 5%
R818		**ERD25FJ272**	Carbon, 2.7kΩ, 1/4W, ± 5%
R819		**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%
R820		**ERD25FJ102**	Carbon, 1kΩ, 1/4W, ± 5%
R821	⚠	**ERD25FJ151**	Carbon, 150Ω, 1/4W, ± 5%
R822, 823	⚠	**ERD25FJ150**	Carbon, 15Ω, 1/4W, ± 5%
R825		**ERD25TJ123**	Carbon, 12kΩ, 1/4W, ± 5%
CAPACITORS			
C1		ECKD1H103MD	Ceramic, 0.01μF, 50V, ± 20%
C101, 102		**ECEA50M3R3R**	Electrolytic, 3.3μF, 50V
C103, 104		ECCD1H101K	Ceramic, 100pF, 50V, ± 10%
C105, 106		ECKD1H221KB	Ceramic, 220pF, 50V, ± 10%
C107, 108		**ECEA1AS101**	Electrolytic, 100μF, 10V
C109, 110		ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80 −20%
C111, 112		ECQM1H103JZ	Polyester, 0.01μF, 50V, ± 5%
C113, 114		ECQM1H102KZ	Polyester, 0.001μF, 50V, ± 10%
C115, 116		ECQM1H393JZ	Polyester, 0.039μF, 50V, ± 5%
C117, 118	⚠	ECEA1HNR47S	Non-Polar Electrolytic, 0.47μF, 50V
C121, 122		ECQM1H472KZ	Polyester, 0.0047μF, 50V, ± 10%
C201, 202		ECCD1H820K	Ceramic, 82pF, 50V, ± 10%
C203, 204		ECQM1H473KZ	Polyester, 0.047μF, 50V, ± 10%
C205, 206		ECQM1H472KZ	Polyester, 0.0047μF, 50V, ± 10%
C207, 208		ECQM1H473KZ	Polyester, 0.047μF, 50V, ± 10%
C209, 210		ECQM1H272KZ	Polyester, 0.0027μF, 50V, ± 10%
C211, 212		ECQM1H223KZ	Polyester, 0.022μF, 50V, ± 10%
C213, 214		ECQM1H183KZ	Polyester, 0.018μF, 50V, ± 10%
C215, 216		ECQM1H104KZ	Polyester, 0.1μF, 50V, ± 10%
C217, 218		**ECEA50Z4R7**	Electrolytic, 4.7μF, 25V
C219, 220		ECKD1H333ZF	Ceramic, 0.033μF, 50V, +80 −20%
C301, 302		**ECEA50M3R3R**	Electrolytic, 3.3μF, 50V
C303, 304		ECCD1H390K	Ceramic, 39pF, 50V, ± 10%
C305, 306		ECCD1H680K	Ceramic, 68pF, 50V, ± 10%
C307, 308		ECKD1H821KB	Ceramic, 820pF, 50V, ± 10%
C309, 310		ECCD2H220K	Ceramic, 22pF, 500V, ± 10%
C311, 312		**ECEA2AS3R3**	Electrolytic, 3.3μF, 100V
C313, 314		ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80 −20%
C315, 316		ECKD1H102ZF	Ceramic, 0.001μF, 50V, +80 −20%
C317, 318		ECQM1H333KZ	Polyester, 0.033μF, 50V, ± 10%
C319, 320		ECQM1H333KZ	Polyester, 0.033μF, 50V, ± 10%
C321, 322		ECCD1H070D	Ceramic, 7pF, 50V, ± 0.5pF
C323, 324		**ECEA1CS221**	Electrolytic, 220μF, 16V
C325, 326		**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V
C327, 328	⚠	ECEA1CN330S	Non-Polar Electrolytic, 33μF, 16V
C331		**ECEA1CS471**	Electrolytic, 470μF, 16V
C333, 334		ECCD1H270K	Ceramic, 27pF, 50V, ± 10%
C335, 336		ECCD1H270K	Ceramic, 27pF, 50V, ± 10%
C351		ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80 −20%
C371, 372		**ECEA1HS100**	Electrolytic, 10μF, 50V
C401, 402	⚠	ECKDKC103PF	Ceramic, 0.01μF, 400VAC, +100 0%
C403, 404		ECETS45V822U	Electrolytic, 8200μF, 45V
C405		**ECEA1ES331**	Electrolytic, 330μF, 25V
C406		**ECEA1CS331**	Electrolytic, 330μF, 16V
C407 [EG] only	⚠	ECQE2A473MCS	Polyester, 250VAC, 0.047μF, ± 20%
C501, 502		**ECEA50Z1**	Electrolytic, 1μF, 50V
C503, 504		**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V
C505		**ECEA1HS100**	Electrolytic, 10μF, 50V
C507, 508		**ECEA1HS100**	Electrolytic, 10μF, 50V
C509, 510	⚠	ECEA1HN010	Non-Polar Electrolytic, 1μF, 50V
C601		**ECEA50Z3R3**	Electrolytic, 3.3μF, 50V
C602	⚠	ECEA1CN470	Non-Polar Electrolytic, 47μF, 16V
C603		**ECEA16Z33**	Electrolytic, 33μF, 16V
C605, 606	⚠	ECEA1HN3R3	Non-Polar Electrolytic, 3.3μF, 50V
C607		**ECEA50Z1**	Electrolytic, 1μF, 50V
C608		**ECEA2AS100**	Electrolytic, 10μF, 100V
C610		ECKD1H103ZF	Ceramic, 0.01μF, 50V, +80 −20%

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