

Service Manual

Stereo Integrated DC Amplifier



SU-V2

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

SU-V2(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.

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 × 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) 5 Hz~100 kHz (-3 dB) +0 dB, -0.3 dB (20 Hz~20 kHz)
TUNER, AUX, TAPE	
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

Dimensions (W×H×D) 430 × 142 × 257 mm
 (16-15/16" × 5-19/32" × 10-1/8")
 Weight 6.9 kg
 (15.2 lb.)

GENERAL

Power consumption 500W
 Power supply AC 50 Hz/60 Hz, 110V/120V/220V/240V

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

Dauerlaut-Ausgangsleistung bei 20 Hz ~ 20 kHz
 beide Kanäle angesteuert 2 × 45W (4 Ω)
 2 × 40W (8 Ω)

Dauerlaut-Ausgangsleistung bei 40 Hz ~ 16 kHz
 beide Kanäle angesteuert 2 × 45W (4 Ω)
 2 × 40W (8 Ω)

Dauerlaut-Ausgangsleistung bei 1 kHz
 beide Kanäle angesteuert 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 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 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)
 5 Hz ~ 100 kHz (-3 dB)
 Tuner Aux, Tape +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
 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

Bemerkung:

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

**DONNEES TECHNIQUES
 (DIN 45 500)**

Sujet à changement sans préavis.

SECTION AMPLIFICATEUR

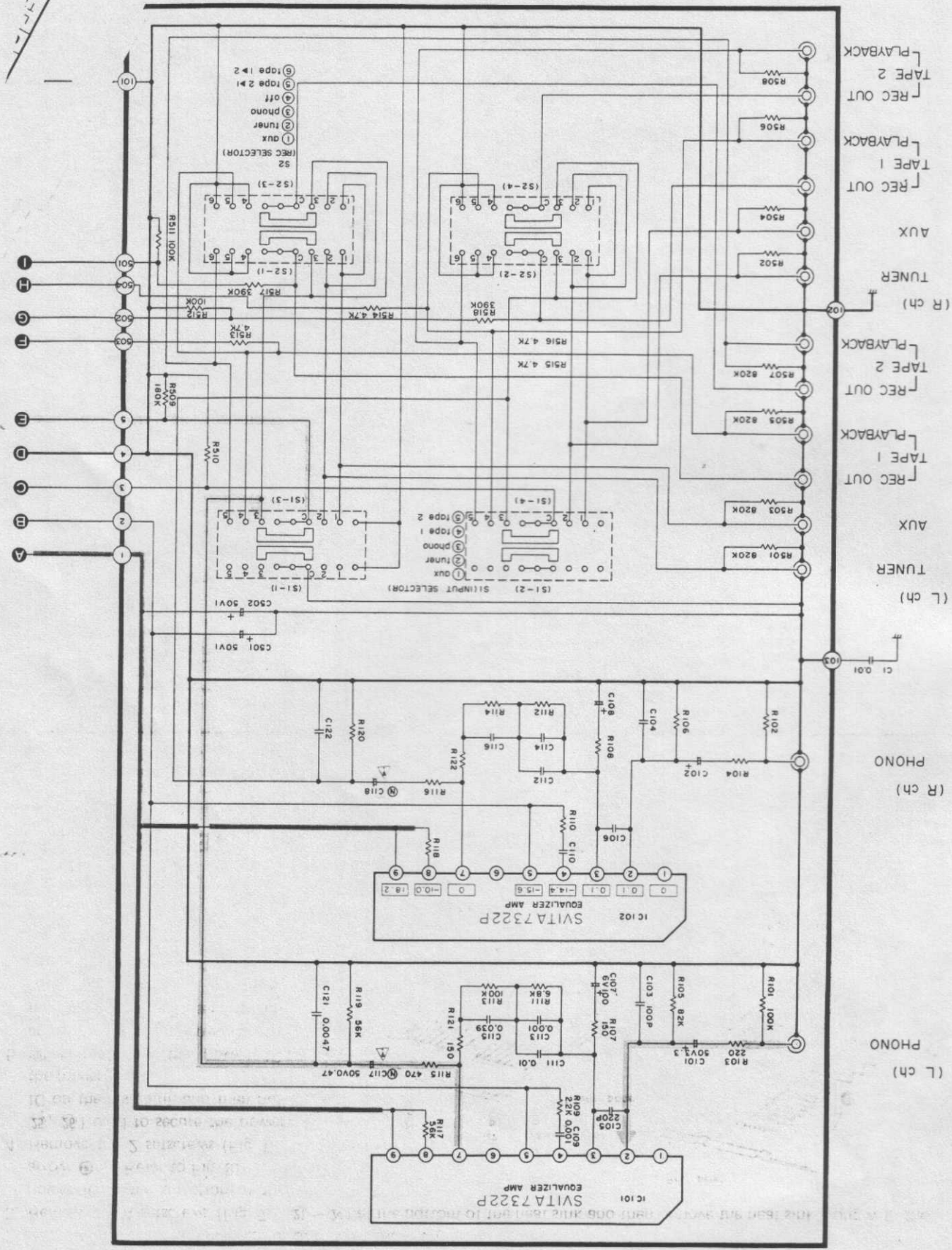
Puissance de sortie continue de 20 Hz~20 kHz,
 les deux canaux en circuit 2 × 45W (4Ω)
 2 × 40W (8Ω)

Puissance de sortie continue de 40 Hz~16 kHz,
 les deux canaux en circuit 2 × 45W (4Ω)
 2 × 40W (8Ω)

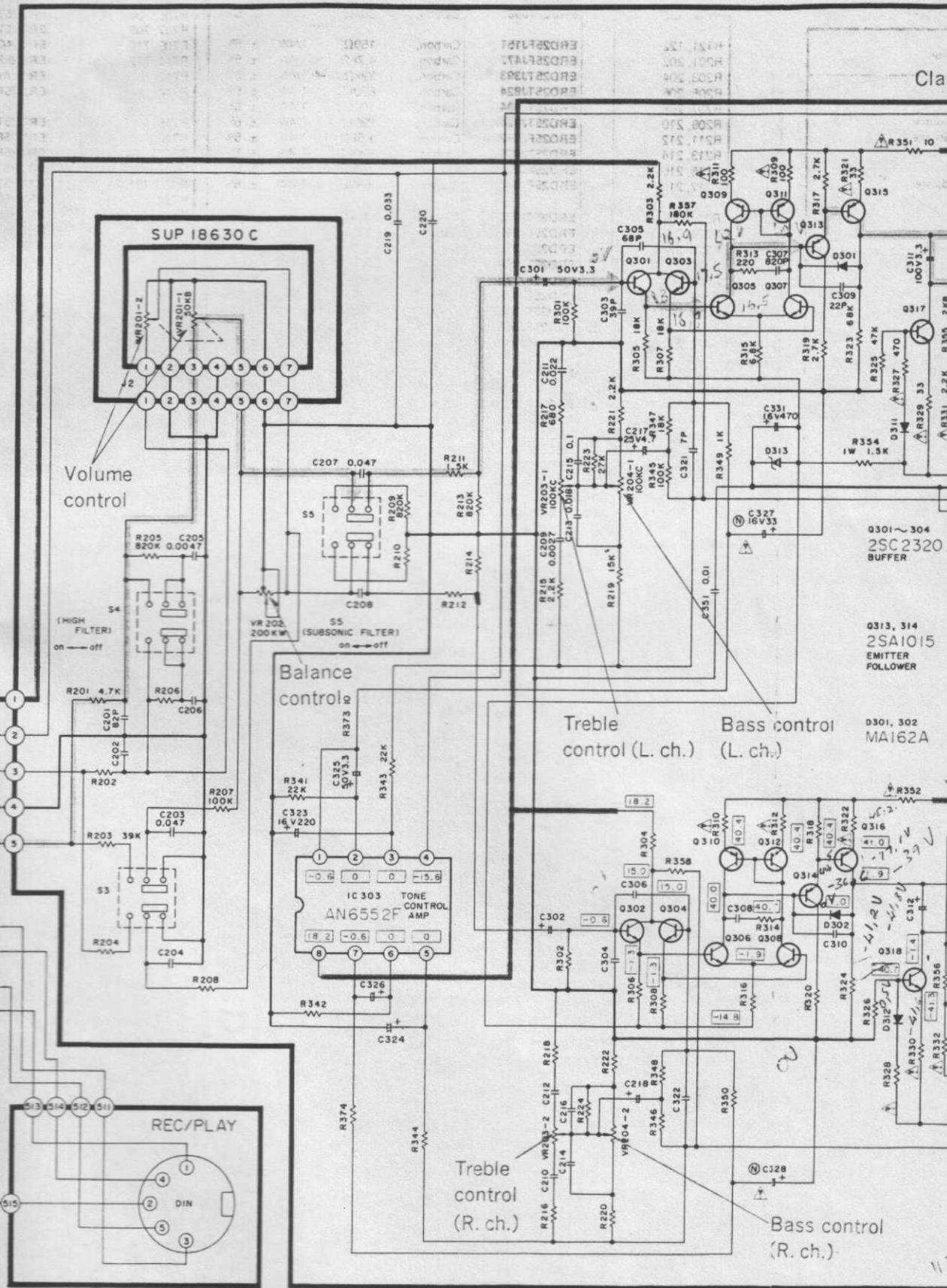
Puissance de sortie continue à 1 kHz
 les deux canaux en circuit 2 × 55W (4Ω)
 2 × 45W (8Ω)

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)

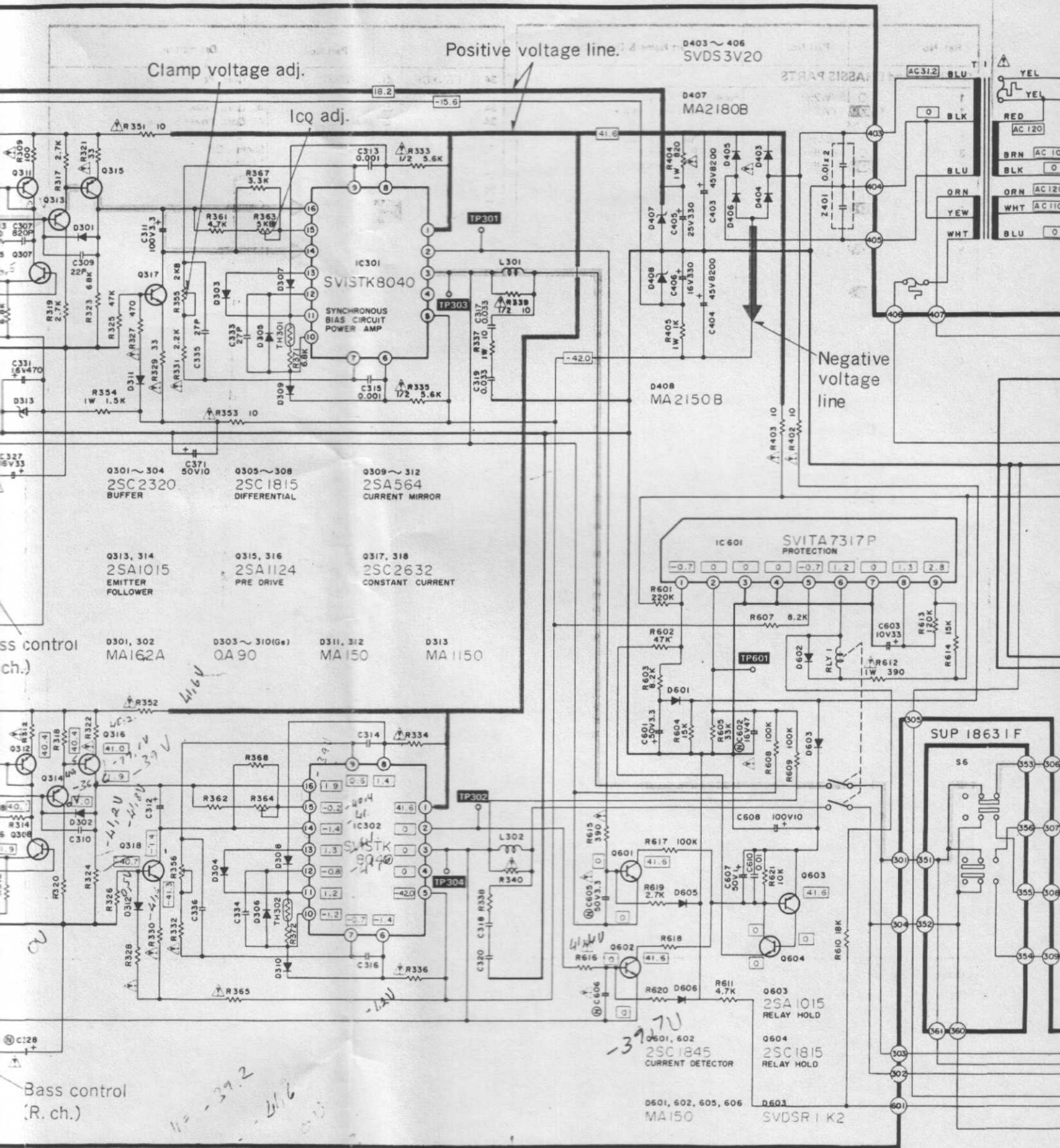
7-1-1



1 2 3 4 5



- A
- B
- C
- D
- E
- F
- G
- H
- I
- J



Clamp voltage adj.

Positive voltage line.

IcQ adj.

D403 ~ 406
SVDS 3V20

D407
MA2180B

D408
MA2150B

Negative voltage line

IC301
SV18TK8040
SYNCHRONOUS
BIAS CIRCUIT
POWER AMP

IC601
SV1A7317P
PROTECTION

IC302
SV18TK8040

SUP 18631F

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)
QA 90

D311, 312
MA150

D313
MA1150

Bass control
(R. ch.)

Q601, 602
2SC1845
CURRENT DETECTOR

Q603
2SA1015
RELAY HOLD

Q604
2SC1815
RELAY HOLD

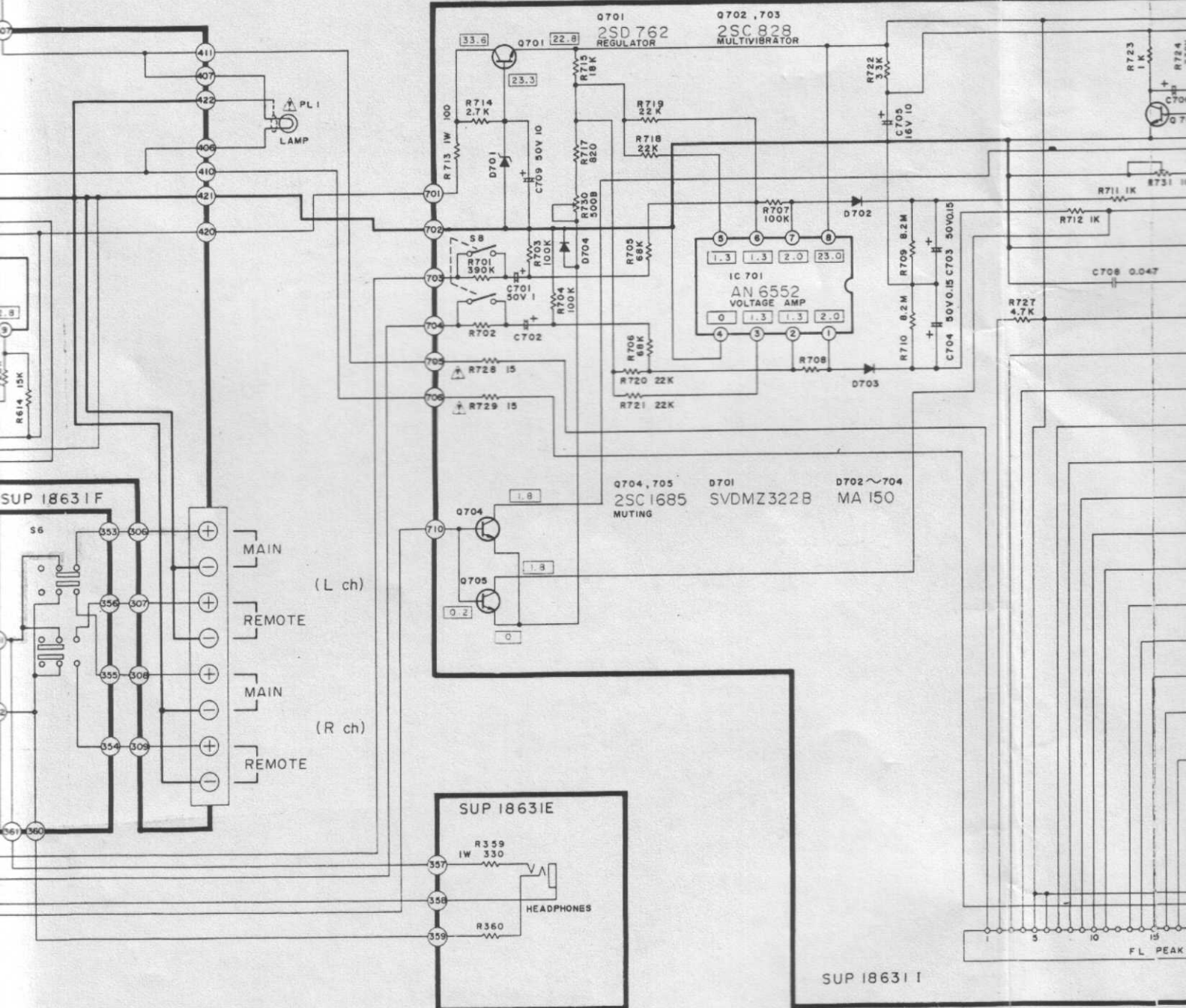
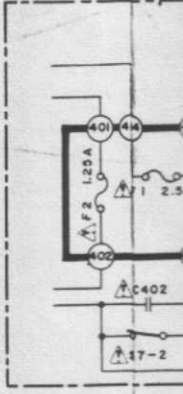
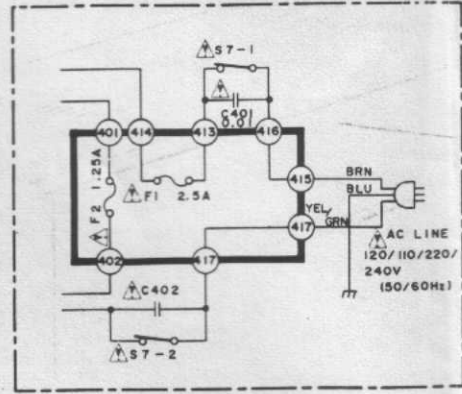
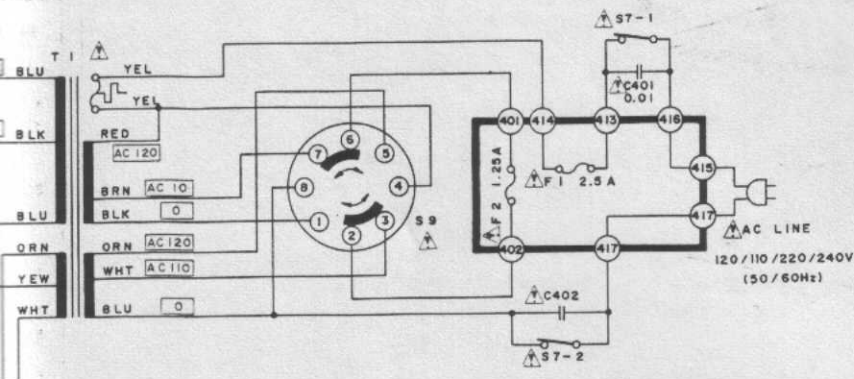
Q601, 602, 605, 606
MA150

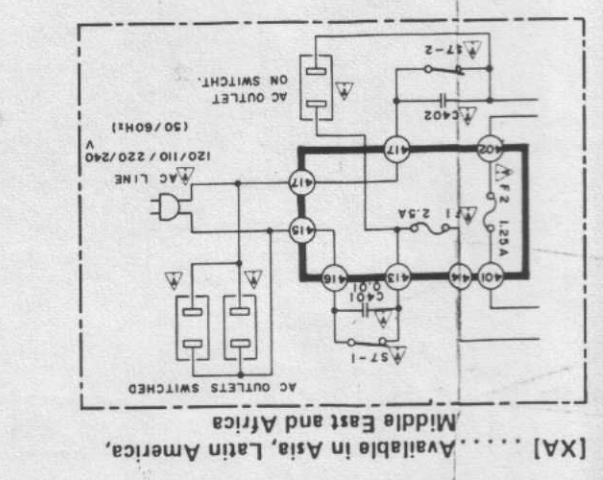
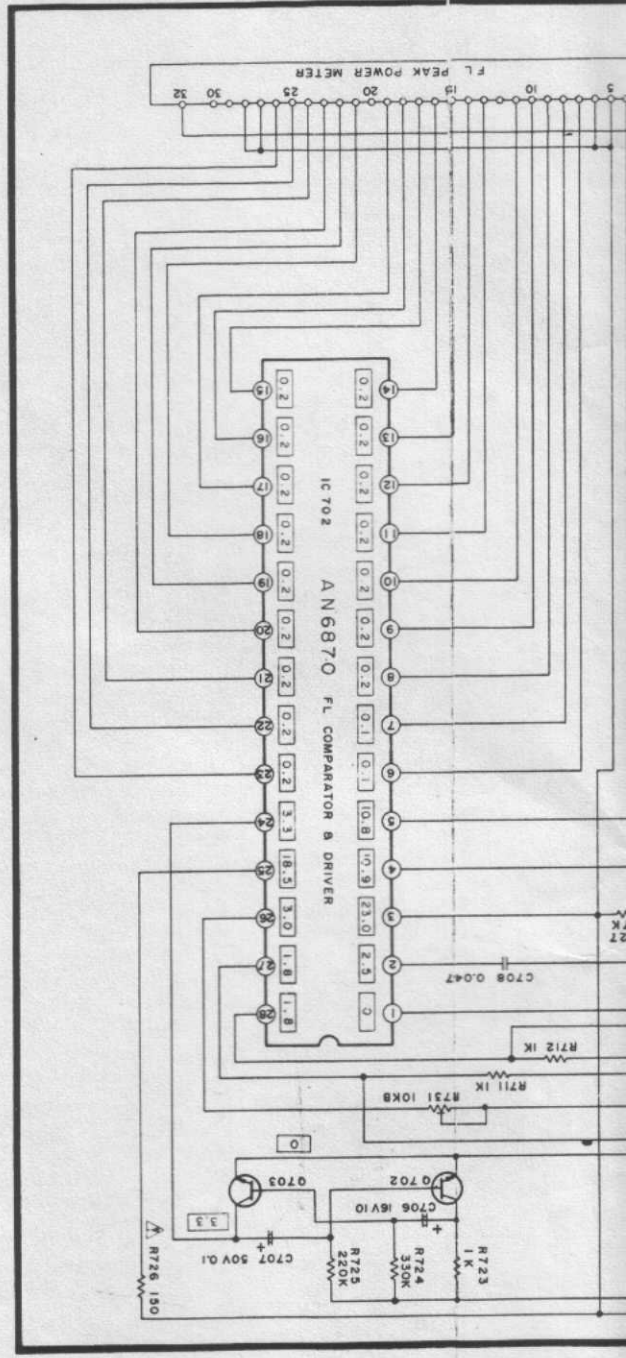
Q603
SVDSR 1 K2

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

[XAL] Available in Australia

[XA] Avail
Mid





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

SCHEMATIC DIAGRAM

- Notes:
- 1. S1: Input selector switch in "phono" position.
 - 2. S2: Rec selector switch in "phono" position.
 - 3. S3: Loudness switch in "off" position.
 - 4. S4: High filter switch in "off" position.
 - 5. S5: Subsonic filter switch in "main" 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 "240V" position.
- 240V ↔ 220V ↔ 110V ↔ 120V
- 1. S1: Input selector switch in "phono" position.
 - 2. S2: Rec selector switch in "phono" position.
 - 3. S3: Loudness switch in "off" position.
 - 4. S4: High filter switch in "off" position.
 - 5. S5: Subsonic filter switch in "main" 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 "240V" position.
- Indicates that only parts specified by the manufacturer be used for safety.
- 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.

IC702 (AN6870) Level comparator

