

# 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**

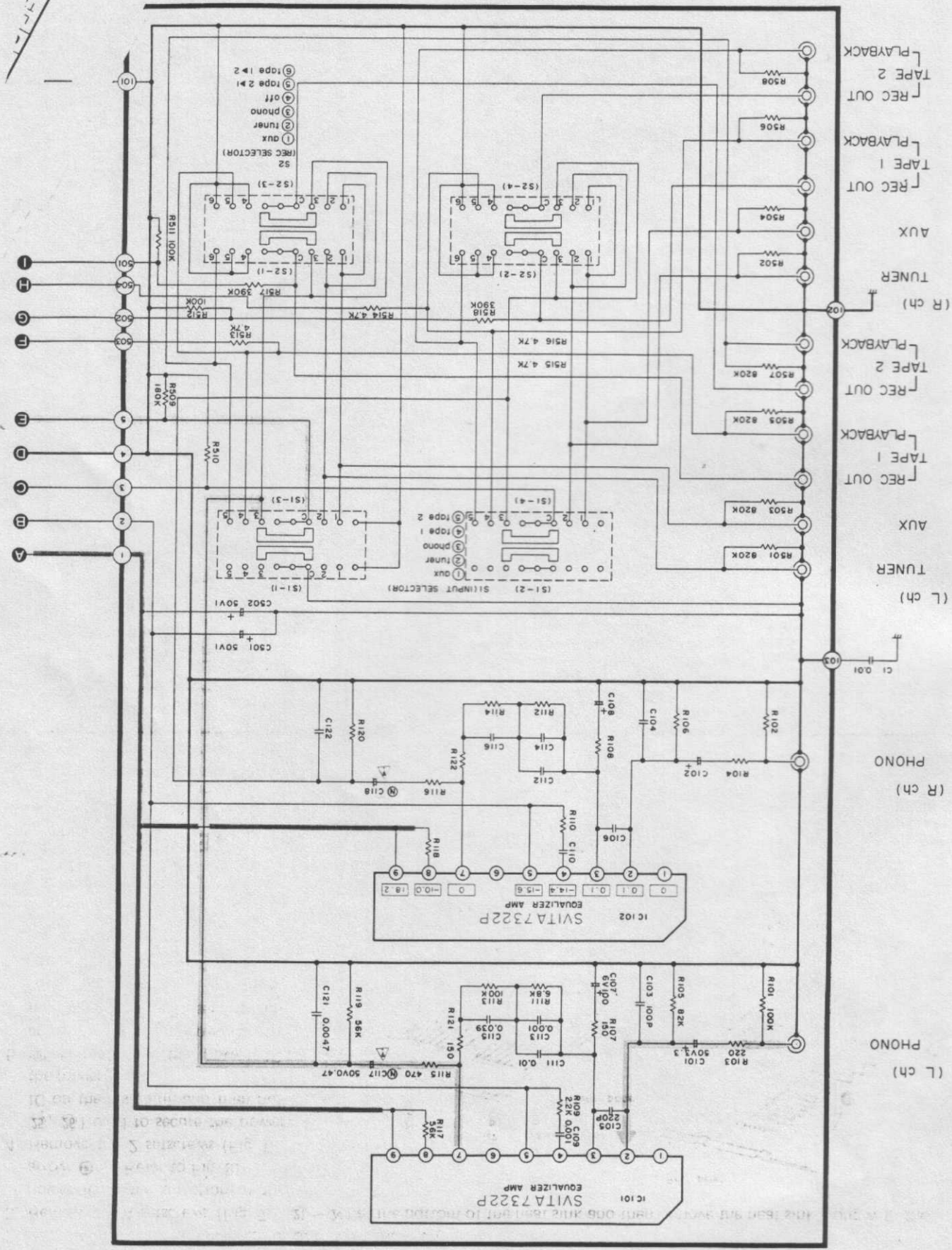
**Puissance de sortie continue de 20 Hz~20 kHz,**  
 les deux canaux en circuit 2 × 45W (4Ω)  
 2 × 40W (8Ω)

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

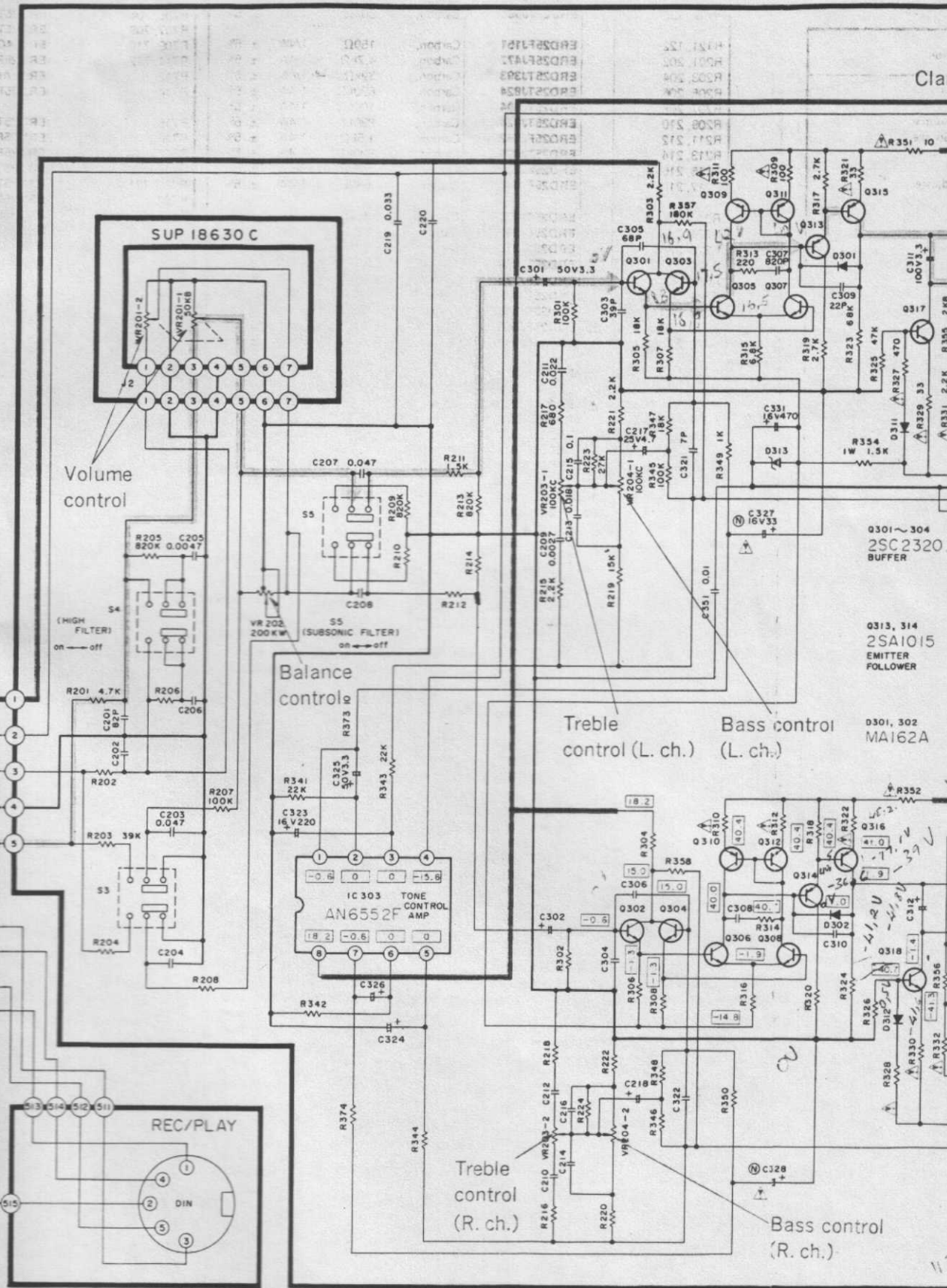
**Puissance de sortie continue à 1 kHz**  
 les deux canaux en circuit 2 × 55W (4Ω)  
 2 × 45W (8Ω)

**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



5 4 3 2 1



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

Clar

R351 10

Q301 ~ 304  
2SC2320  
BUFFER

Q313, 314  
2SA1015  
EMITTER  
FOLLOWER

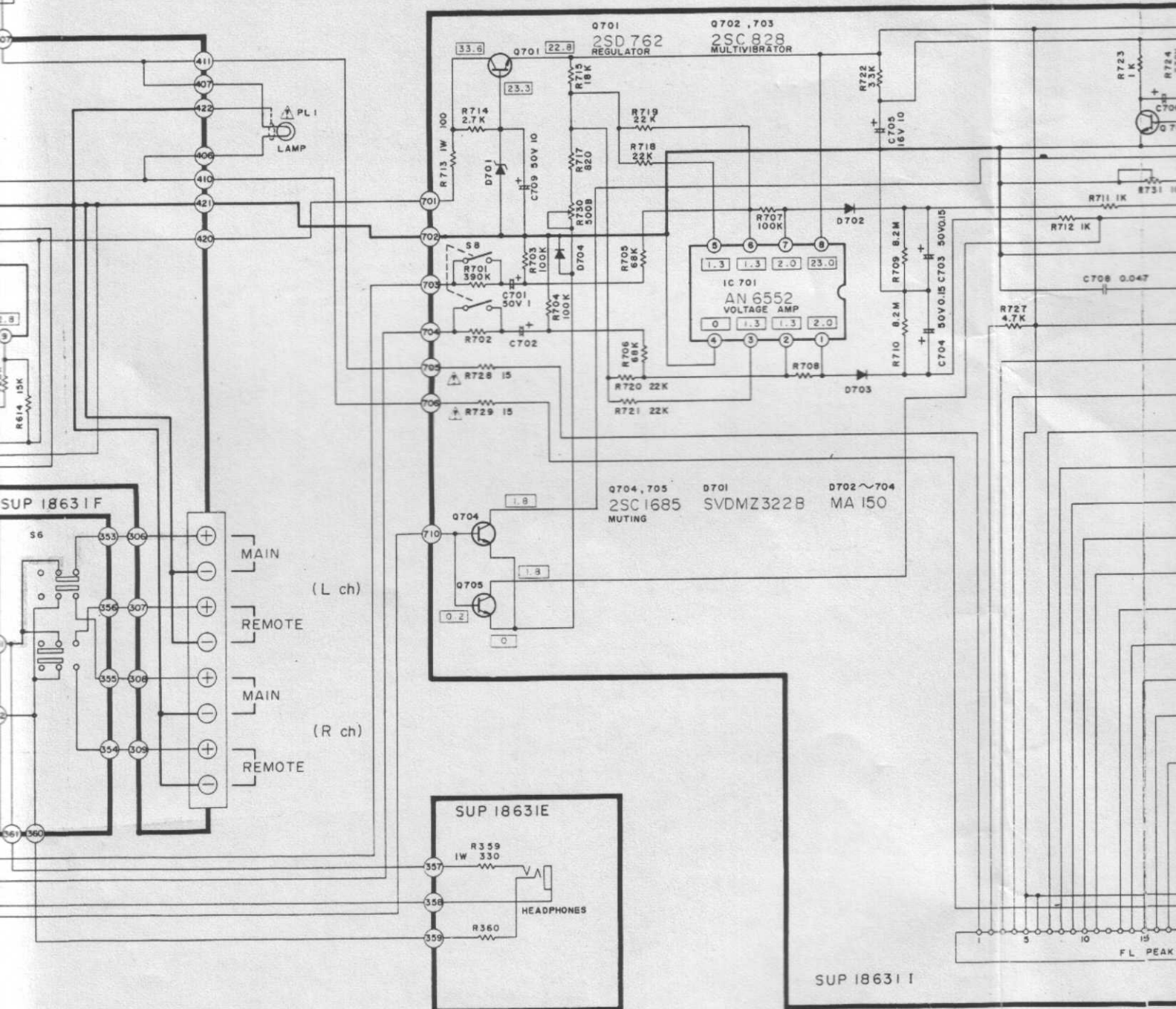
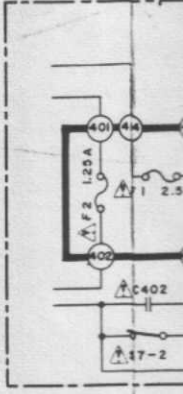
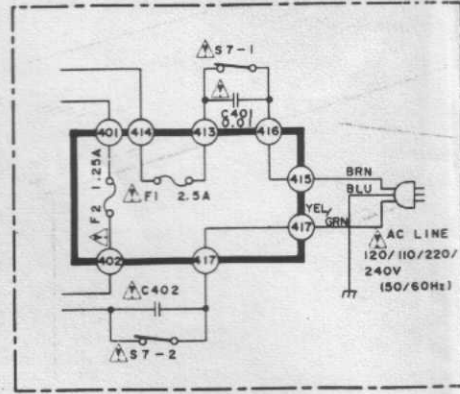
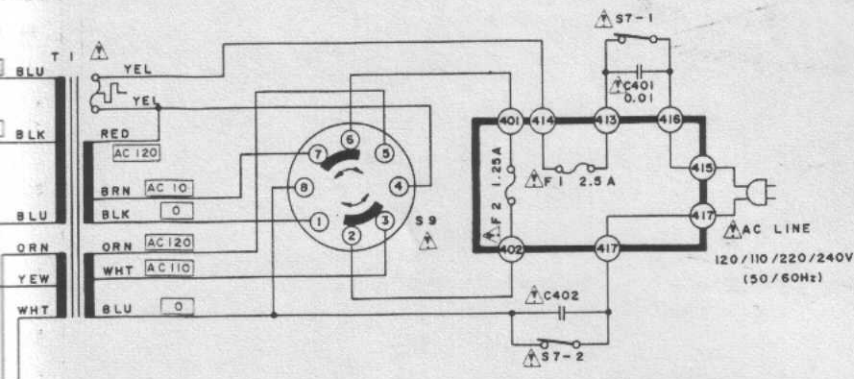
Q301, 302  
MA162A

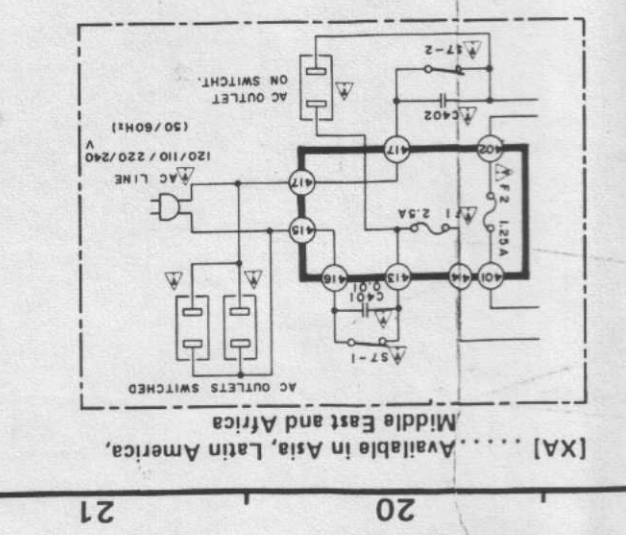
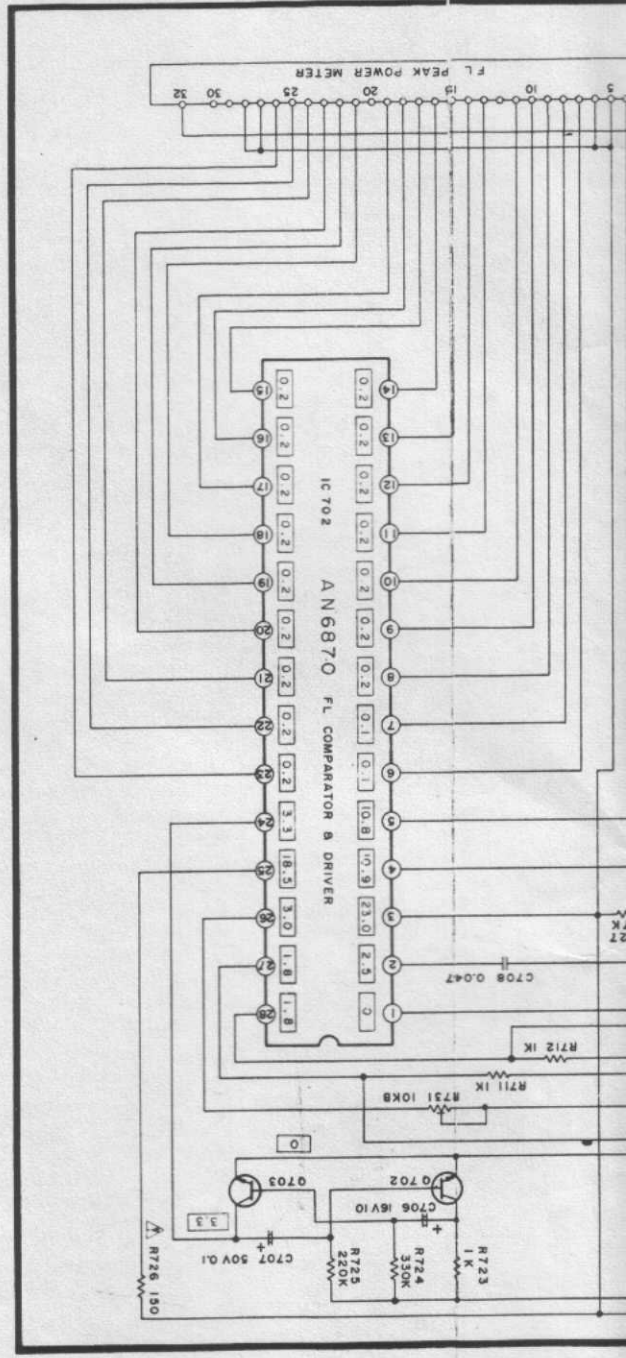


• Power source circuits for [XAL] and [XA]

[XAL] . . . . Available in Australia

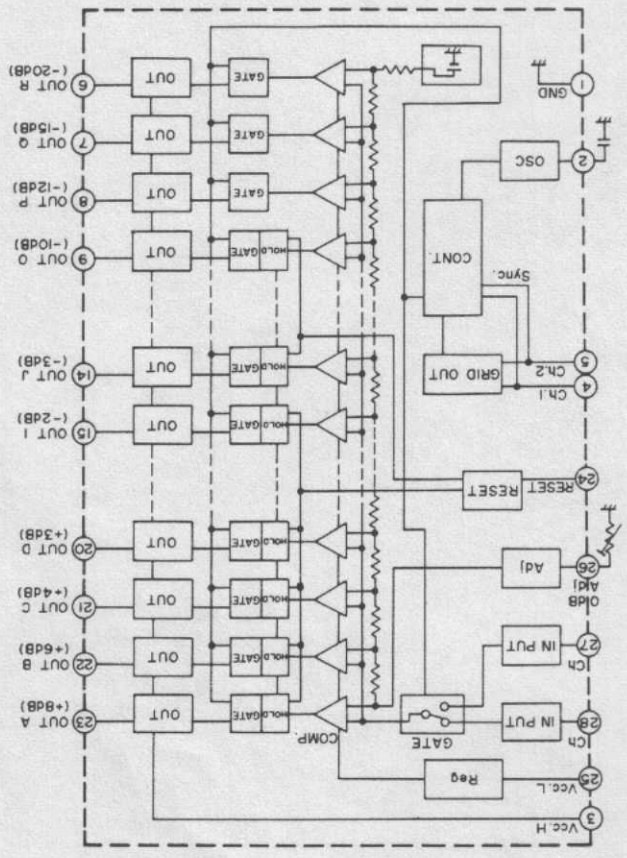
[XA] . . . . Avail  
Mid





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

IC702 (AN6870) Level comparator



- 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
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