

# TA-1066

USA, Canada, AEP  
and UK Model



## INTEGRATED STEREO AMPLIFIER

### SPECIFICATIONS

#### POWER AMPLIFIER SECTION

**Continuous RMS power output: (rated output) (less than 0.8 % THD)** At 1 kHz  
20 watts (8 ohms),  
26 watts (4 ohms)  
one channel driven separately  
18 watts (8 ohms) per channel,  
22 watts (4 ohms) per channel,  
both channels driven simultaneously

**Dynamic power output: (IHF constant power supply method)** 50 watts (8 ohms)  
75 watts (4 ohms)

**Power bandwidth:** 10 Hz to 40 kHz (8 ohms, IHF)

**Harmonic distortion:** Less than 0.8 % at rated output

**IM distortion:** Less than 0.8 % at rated output  
(60 Hz : 7 kHz = 4 : 1)

#### PREAMPLIFIER SECTION

**Frequency response:** PHONO RIAA equalization curve  $\pm 1$  dB  
TUNER  
AUX  
TAPE-1, TAPE-2  
REC/PB (input) } 20 Hz to 60 kHz  $\pm 3$  dB

**Input sensitivity and impedance:** PHONO 2.5 mV, 50 k ohms  
TUNER  
AUX  
TAPE-1, TAPE-2  
REC/PB (input) } 250 mV, 50 k ohms

**Signal output and output impedance:** REC OUT 250 mV, 10 k ohms  
REC/PB (output) 30 mV, 82 k ohms

#### GENERAL

**Power requirements:** 120 volts ac (USA and Canada Model)  
110, 127, 220, 240 volts ac  
(AEP and UK Model)

**Power consumption:** 55 watts (USA Model)  
80 watts (Canada Model)  
140 watts (AEP and UK Model)

**Dimensions:** 410 (w) x 120 (h) x 280 (d) mm  
16<sup>1</sup>/<sub>8</sub> (w) x 4<sup>1</sup>/<sub>16</sub> (h) x 11<sup>1</sup>/<sub>16</sub> (d) inches

**Net weight:** 6.0 kg (13 lb 4 oz)

**SONY**  
**SERVICE MANUAL**

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# SECTION 1

## TECHNICAL DESCRIPTION

### 1-1. SPECIFICATIONS

#### Power Amplifier Section

Continuous RMS power output: At 1 kHz  
 (rated output) 20 watts (8 ohms),  
 (less than 0.8 % THD) 26 watts (4 ohms),  
 one channel driven separately  
 18 watts per channel (8 ohms),  
 22 watts per channel (4 ohms),  
 both channels driven simultaneously

At 40 Hz to 20 kHz  
 15 watts per channel (8 ohms),  
 both channels driven simultaneously

Dynamic power output: 50 watts (8 ohms)  
 (IHF constant power supply method) 75 watts (4 ohms)

Power bandwidth: 10 Hz to 40 kHz (8 ohms, IHF)

Harmonic distortion: Less than 0.8 % at rated output  
 Less than 0.2 % at 1 watt output

IM distortion: Less than 0.8 % at rated output  
 (60 Hz : 7 kHz = 4 : 1) Less than 0.2 % at 1 watt output

Damping factor: Greater than 22 (8 ohms)

Residual noise: Less than 0.25  $\mu$  watt (8 ohms)

#### Preamplifier Section

Frequency response:

PHONO	RIAA equalization curve $\pm$ 1 dB
TUNER AUX TAPE-1, -2 REC/PB (input)	20 Hz to 60 kHz $\pm$ 3 dB

Input sensitivity and impedance:

	Maximum sensitivity	Impedance
PHONO	2.5 mV	50 k ohms
TUNER AUX TAPE-1, -2 REC/PB (input)	250 mV	50 k ohms

Measured with specified RMS power output provided into 8-ohm loads (both channels driven simultaneously) at 1 kHz.

Signal output and impedance:

	Level	Impedance	Input level
REC OUT 1-2	250 mV	10 k ohms	PHONO 2.5 mV
REC/PB (output)	30 mV	82 k ohms	TUNER AUX TAPE 1-2 REC/PB (input) } 250 mV

Signal-to-noise ratio:

	S/N	Weighting network	Input level
PHONO	70 dB	B	2.5 mV
TUNER AUX TAPE 1-2 REC/PB (input)	90 dB	A	250 mV

Tone controls: BASS  $\pm$  10 dB at 100 Hz  
 TREBLE  $\pm$  10 dB at 10 kHz

High filters: 6 dB/octave above 5 kHz

Loudness control: + 10 dB at 50 Hz, + 3.5 dB at 10 kHz (at 30 dB attenuation)

#### General

Circuit system: Quasi-complementary symmetry circuit (SEPP OTL)  
 Direct output coupling

Semiconductors: 22 transistors and 6 diodes

Power requirements: 120 V ac (USA and Canada Model)  
 110, 127, 220, 240 V ac (AEP and UK Model)

Power consumption: 55 watts (USA Model)  
 80 watts (Canada Model)  
 140 watts (AEP and UK Model)

Ac outlets: 1 unswitched, 300 watts maximum (USA and Canada Model only)

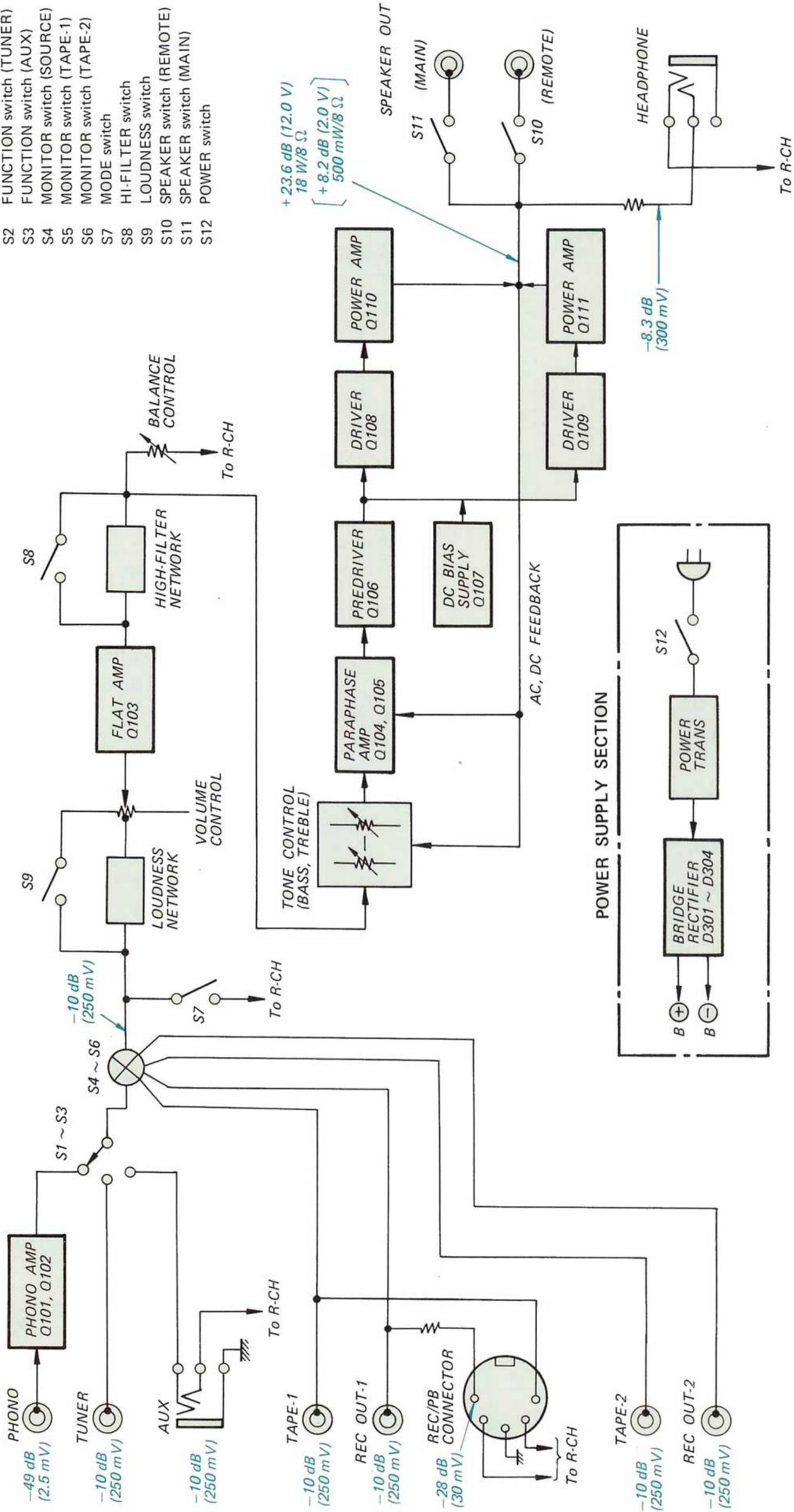
Dimensions: 410 (w) x 120 (h) x 280 (d) mm  
 16<sup>1</sup>/<sub>8</sub> (w) x 4<sup>1</sup>/<sub>16</sub> (h) x 11<sup>1</sup>/<sub>16</sub> (d) inches

Net weight: 6.0 kg (13 lb 4 oz)

Shipping weight: 7.3 kg (16 lb 2 oz)

# 1-2. BLOCK DIAGRAM/LEVEL DIAGRAM

- S1 FUNCTION switch (PHONO)
- S2 FUNCTION switch (TUNER)
- S3 FUNCTION switch (AUX)
- S4 MONITOR switch (SOURCE)
- S5 MONITOR switch (TAPE-1)
- S6 MONITOR switch (TAPE-2)
- S7 MODE switch
- S8 HI-FILTER switch
- S9 LOUDNESS switch
- S10 SPEAKER switch (REMOTE)
- S11 SPEAKER switch (MAIN)
- S12 POWER switch



**Note:** Signal voltages are measured with ac VTVM and expressed in dB referred to 0.775 V, 1 kHz.

## SECTION 2

### DISASSEMBLY AND REPLACEMENT

**Note:** All screws in this service manual are Phillips type (cross recess type) unless otherwise indicated. (-): slotted head.

#### 2-1. BOTTOM PLATE REMOVAL

1. Remove the seven screws shown in Fig. 2-1.

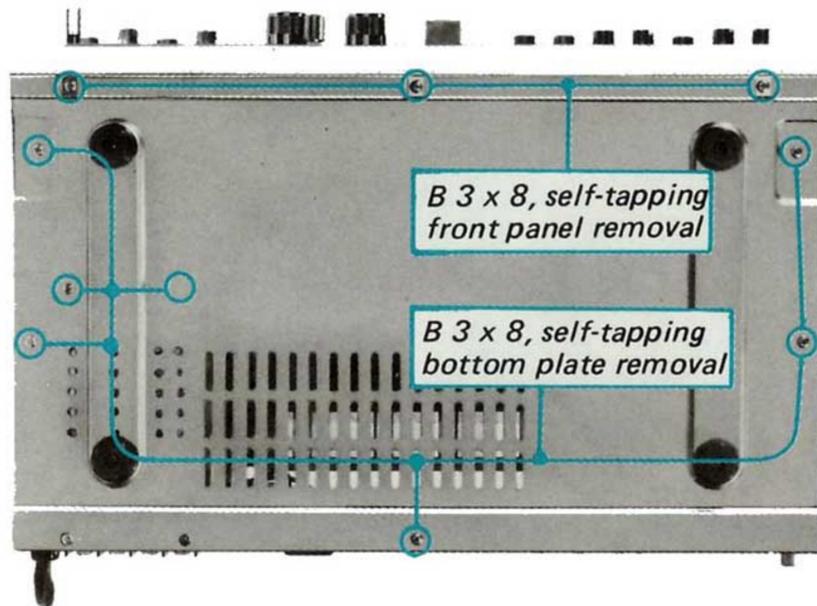


Fig. 2-1. Bottom view

#### 2-2. FRONT PANEL REMOVAL

1. Remove the two screws at both sides of the wooden case.
2. Pull off the TONE, BALANCE and VOLUME control knobs.
3. Remove the six screws from the front top and bottom of the front panel as shown in Fig. 2-1 and 2-2.
4. This frees the front panel with pushbutton.



Fig. 2-2. Front panel removal

#### 2-3. FRONT SUBCHASSIS REMOVAL

1. Remove the front panel by following the Procedure 2-2.
2. Remove the two screws at each side of the front subchassis as shown in Fig. 2-3.
3. Remove the three screws shown in Fig. 2-3.
4. Remove the two screws (B 3 x 4) securing the POWER switch.
5. Remove the two hex nuts securing the TONE controls.
6. This frees the front subchassis.

#### 2-4. PUSHBUTTON SWITCH REPLACEMENT

1. Remove the front subchassis by following the Procedure 2-3.
2. With a soldering iron having a soldersucking tip, clean the solder from each lug of the switches and printed circuit board.
3. Install a new one.

#### 2-5. NYLON RIVET REMOVAL

1. To remove the nylon rivet, push its end with a tweezers as shown in Fig. 2-4.
2. To reinstall the rivet, insert the flared part into the opening first, then push its head as far as it will go.

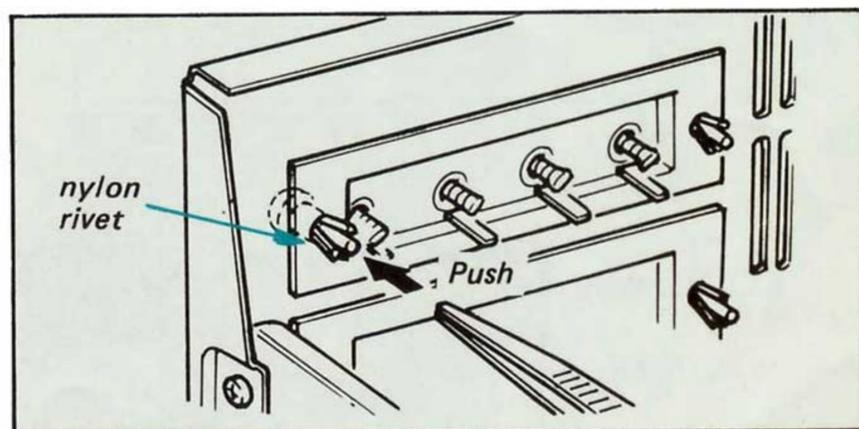


Fig. 2-4. Nylon rivet removal

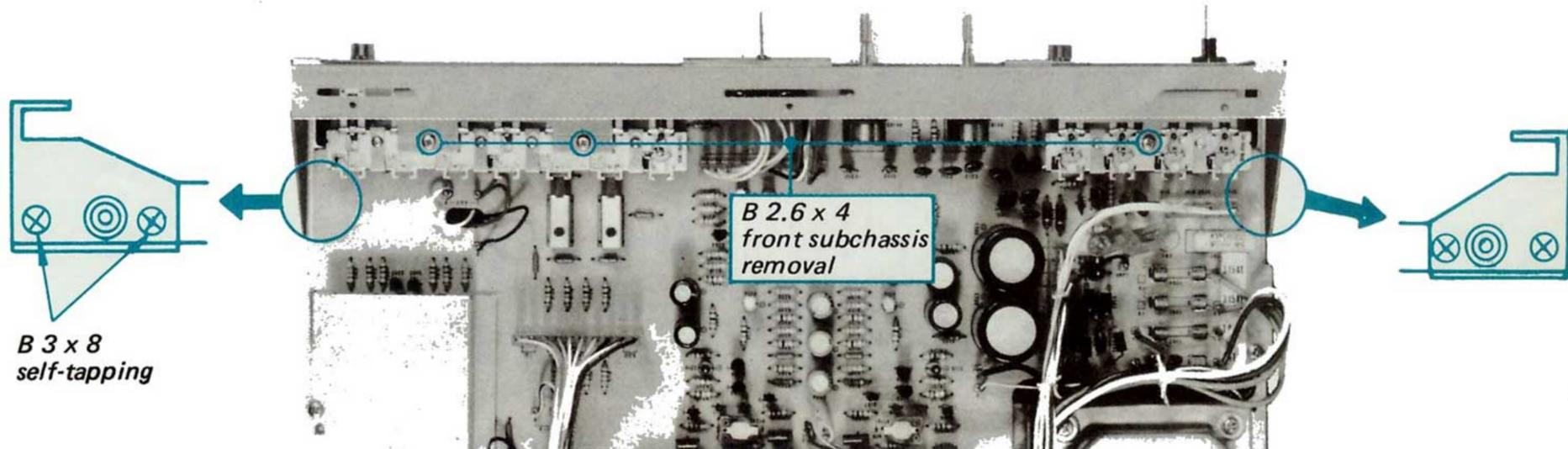
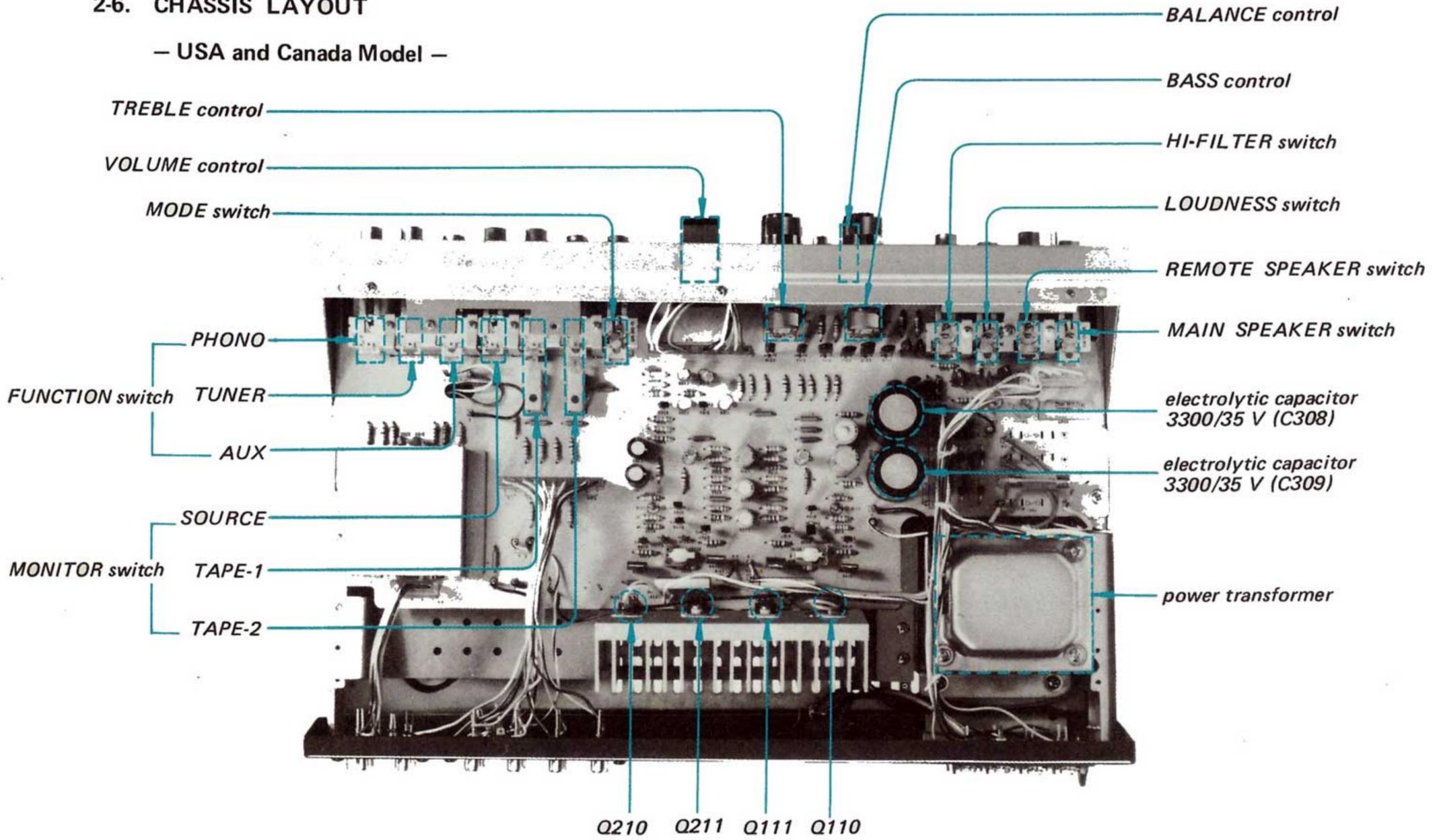


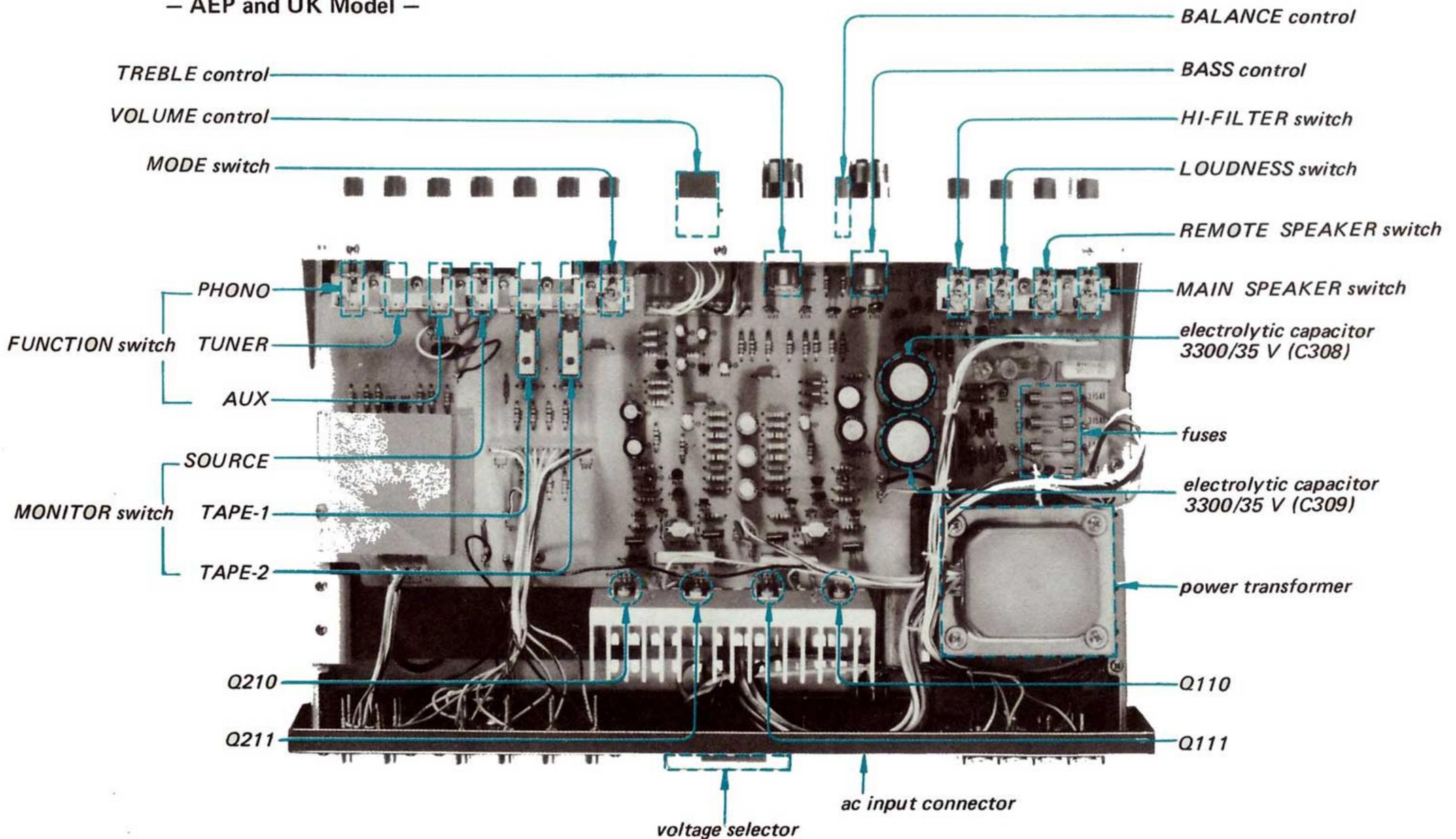
Fig. 2-3. Front subchassis removal

## 2-6. CHASSIS LAYOUT

— USA and Canada Model —



— AEP and UK Model —



## SECTION 3

### ADJUSTMENT

#### 3-1. DC-BIAS ADJUSTMENT

**Note:** This adjustment should be done after replacing any of the power transistors. To avoid accidental power transistor damage, increase the ac line voltage gradually, using a variable transformer, while measuring the voltage across the test point and the MAIN speaker terminal as shown in Fig. 3-1.

#### Test Equipment Required

1. Dc millivoltmeter  
Capable of measuring dc voltage of 100 mV or less
2. Variable transformer
3. Screwdriver with 3 mm ( $\frac{1}{8}$ " ) blade

#### Preparation

1. Remove the wooden case.

2. Connect the dc voltmeter across the MAIN speaker terminal and the test point as shown in Fig. 3-1.
3. Depress the MAIN speaker switch button.
4. Set the variable transformer for minimum output.
5. Apply a drop of cement solvent to the adjustable resistors RT101, RT201 (See Fig. 3-1) on the circuit board.

#### Procedure

1. Turn the power switch ON and increase the line voltage to the rated value.

**Note:** Check to see that the reading does not exceed 25 mV. If it does, turn off the power immediately, then check and repair the trouble in the power amplifier section.

2. Adjust RT101 (RT201) for 25 mV reading on the meter.

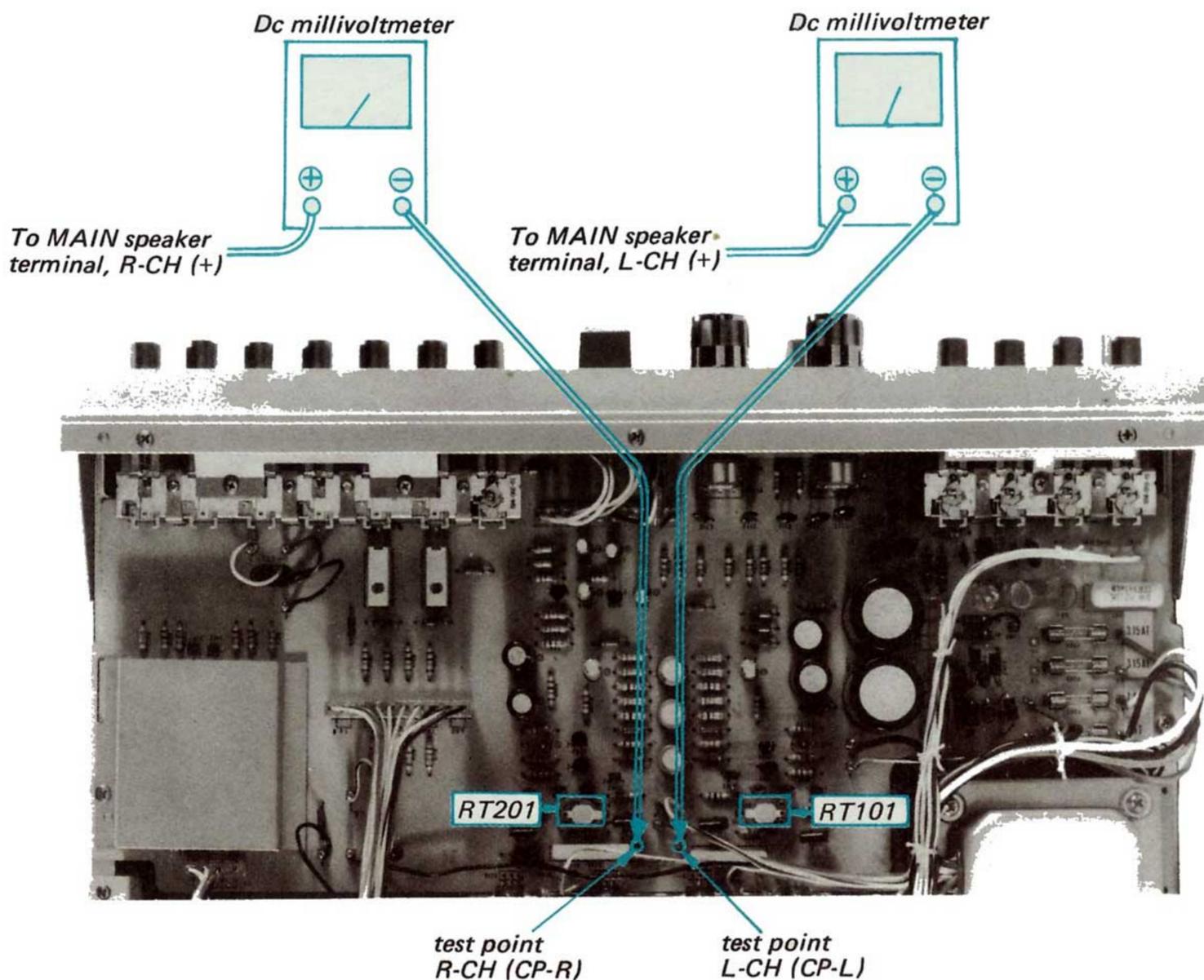
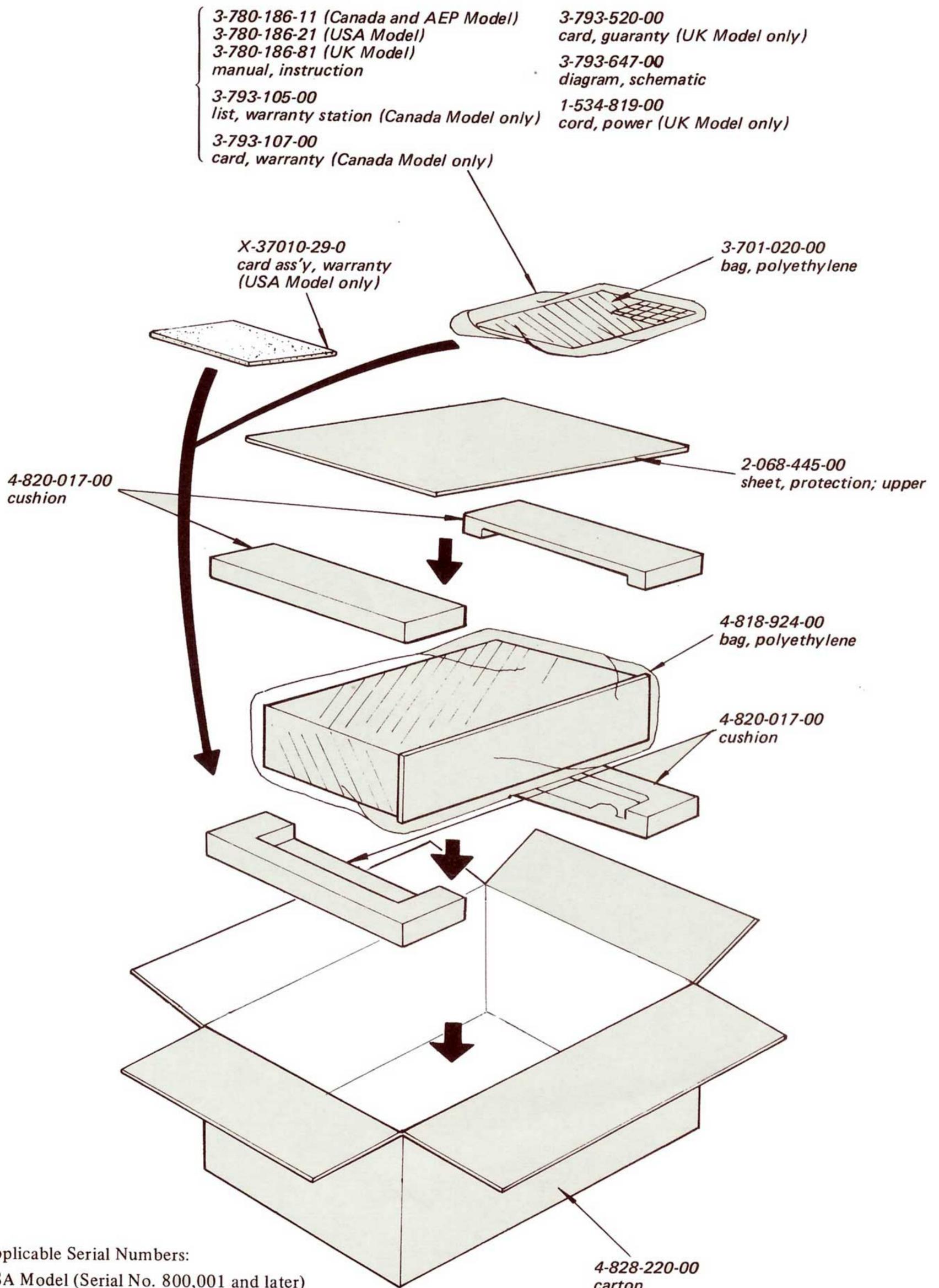


Fig. 3-1. Dc millivoltmeter connection and parts location

## SECTION 4 REPACKING

The TA-1066's original shipping carton and packing materials are the ideal containers for shipping the unit. However to secure the maximum protection,

the TA-1066 must be repacked in these materials precisely as before. The proper repacking procedures are shown in Fig. 4-1.

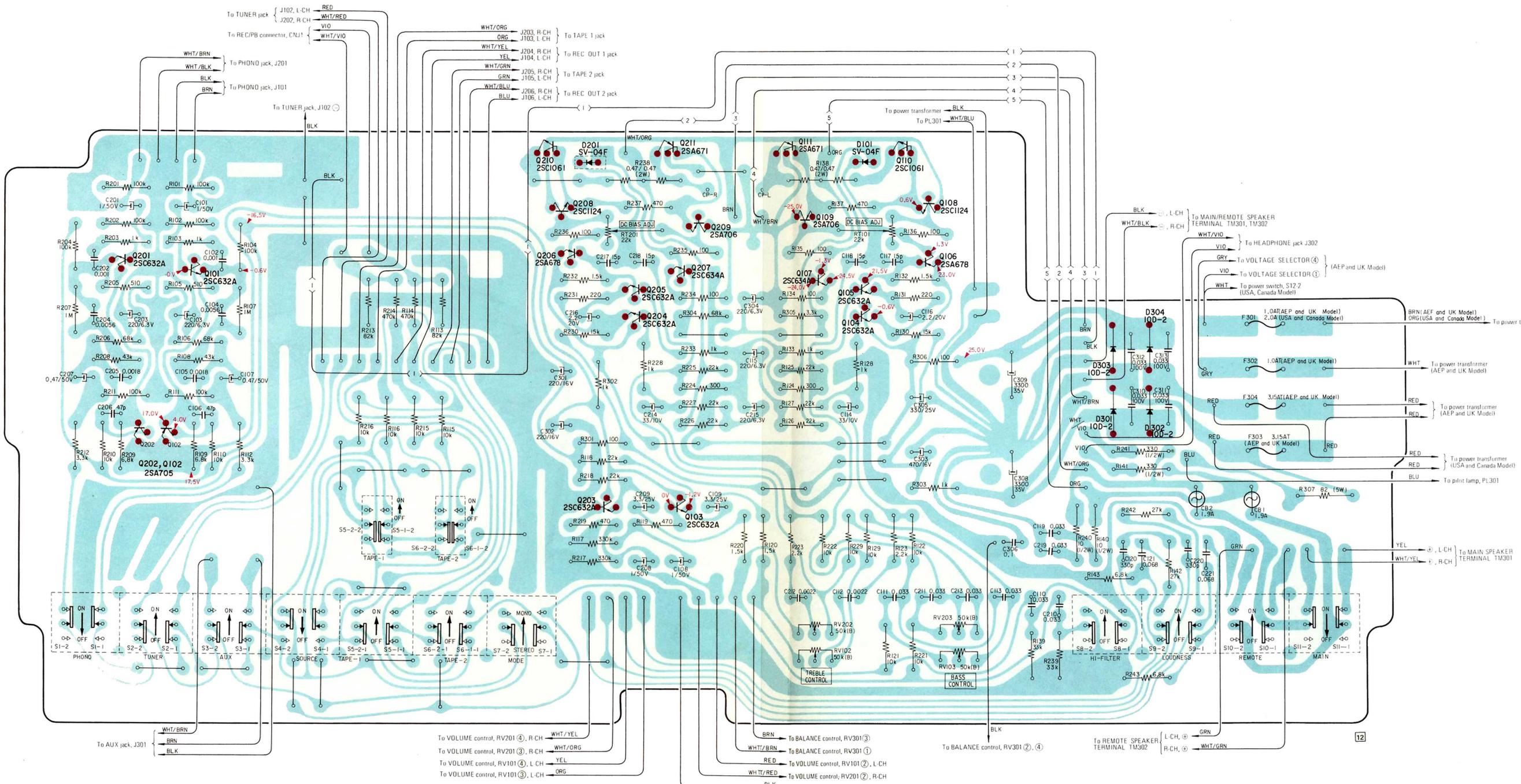


**Note:** Applicable Serial Numbers:  
 USA Model (Serial No. 800,001 and later)  
 Canada Model (Serial No. 700,001 and later)  
 UK Model (Serial No. 600,001 and later)  
 AEP Model (Serial No. 500,001 and later)

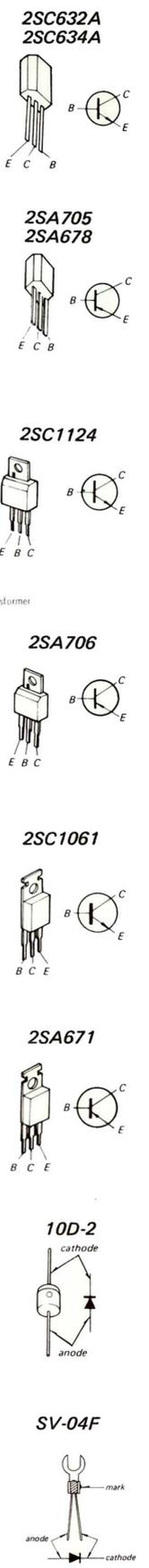
Fig. 4-1. Repacking

# SECTION 5 DIAGRAMS

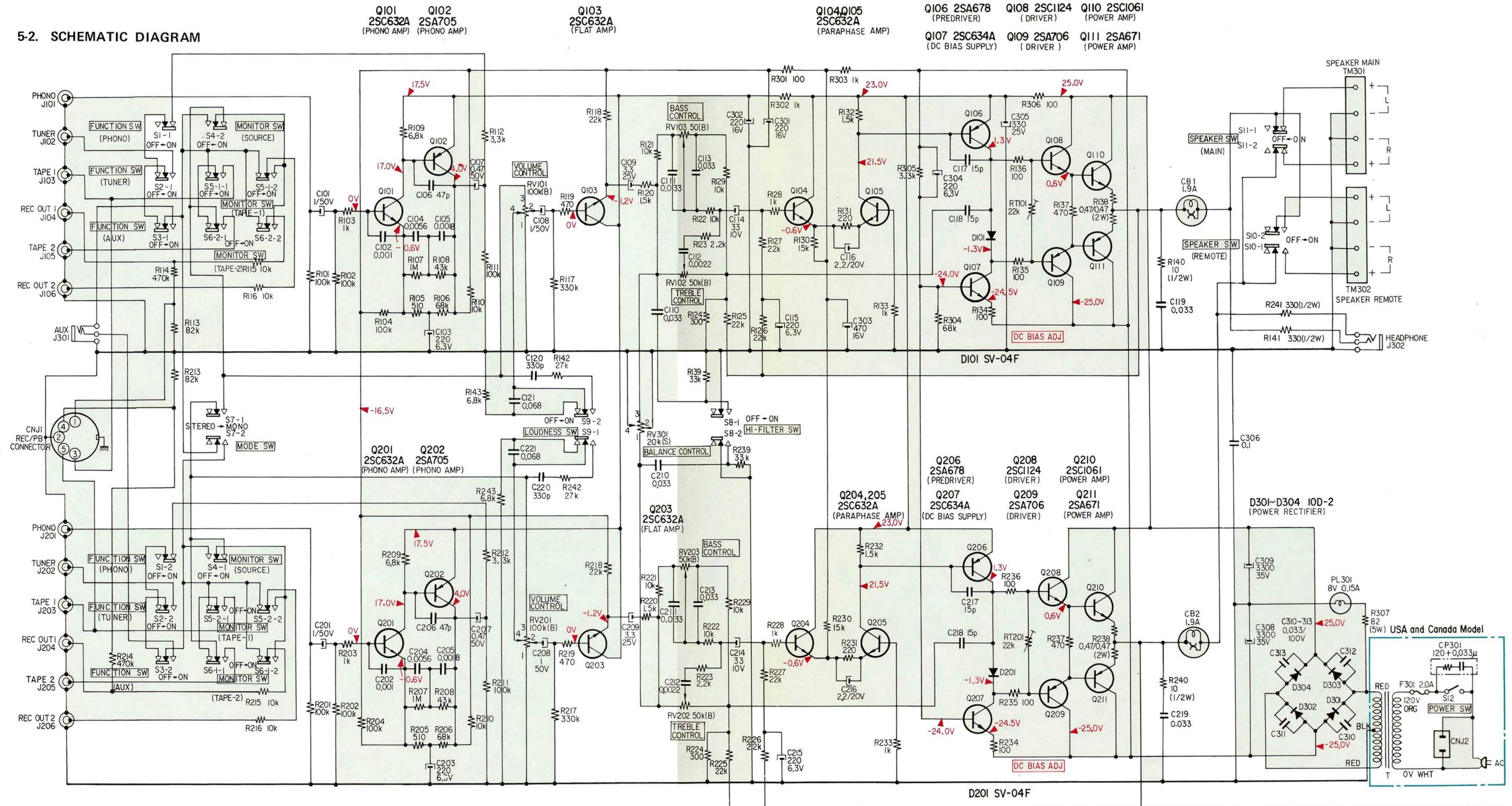
## 5-1. MOUNTING DIAGRAM — Conductor Side —



Parts	Location
Q	Q201 Q101 Q202 Q102 Q210 Q208 Q205 Q211 Q209 Q111 Q109 Q105 Q110 Q108 Q206 Q203 Q107 Q104 Q106
D	D201 D101 D303 D304 D301 D302
ADJ	RT201 RT101

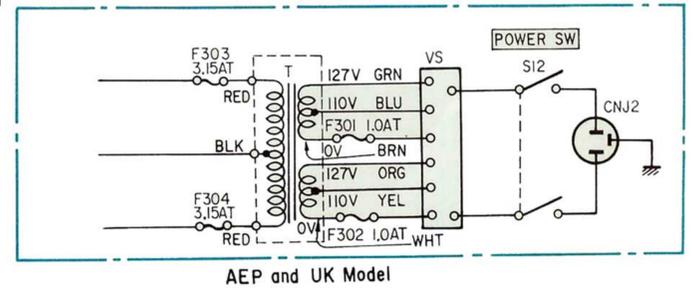


5-2. SCHEMATIC DIAGRAM



Ref. No.	Description	Position	Ref. No.	Description	Position
S1-1 ~ 2	FUNCTION switch (PHONO)	ON	S7-1 ~ 2	MODE switch (STEREO-MONO)	STEREO
S2-1 ~ 2	FUNCTION switch (TUNER)	OFF	S8-1 ~ 2	HI-FILTER switch (ON-OFF)	OFF
S3-1 ~ 2	FUNCTION switch (AUX)	OFF	S9-1 ~ 2	LOUDNESS switch (ON-OFF)	OFF
S4-1 ~ 2	MONITOR switch (SOURCE)	ON	S10-1 ~ 2	SPEAKER switch (REMOTE)	OFF
S5-1 ~ 2	MONITOR switch (TAPE-1)	OFF	S11-1 ~ 2	SPEAKER switch (MAIN)	ON
S6-1 ~ 2	MONITOR switch (TAPE-2)	OFF	S12	POWER switch (ON-OFF)	OFF

**Note:**  
 All resistance values are in ohms. k = 1,000  
 M = 1,000 k.  
 All capacitance values are in  $\mu\text{F}$  except as indicated with p, which means  $\mu\mu\text{F}$ .  
 All voltages are dc measured with a VOM having 20 k ohms/volt input impedance. No signal in.  
 Voltage variations may be noted due to normal production tolerances.

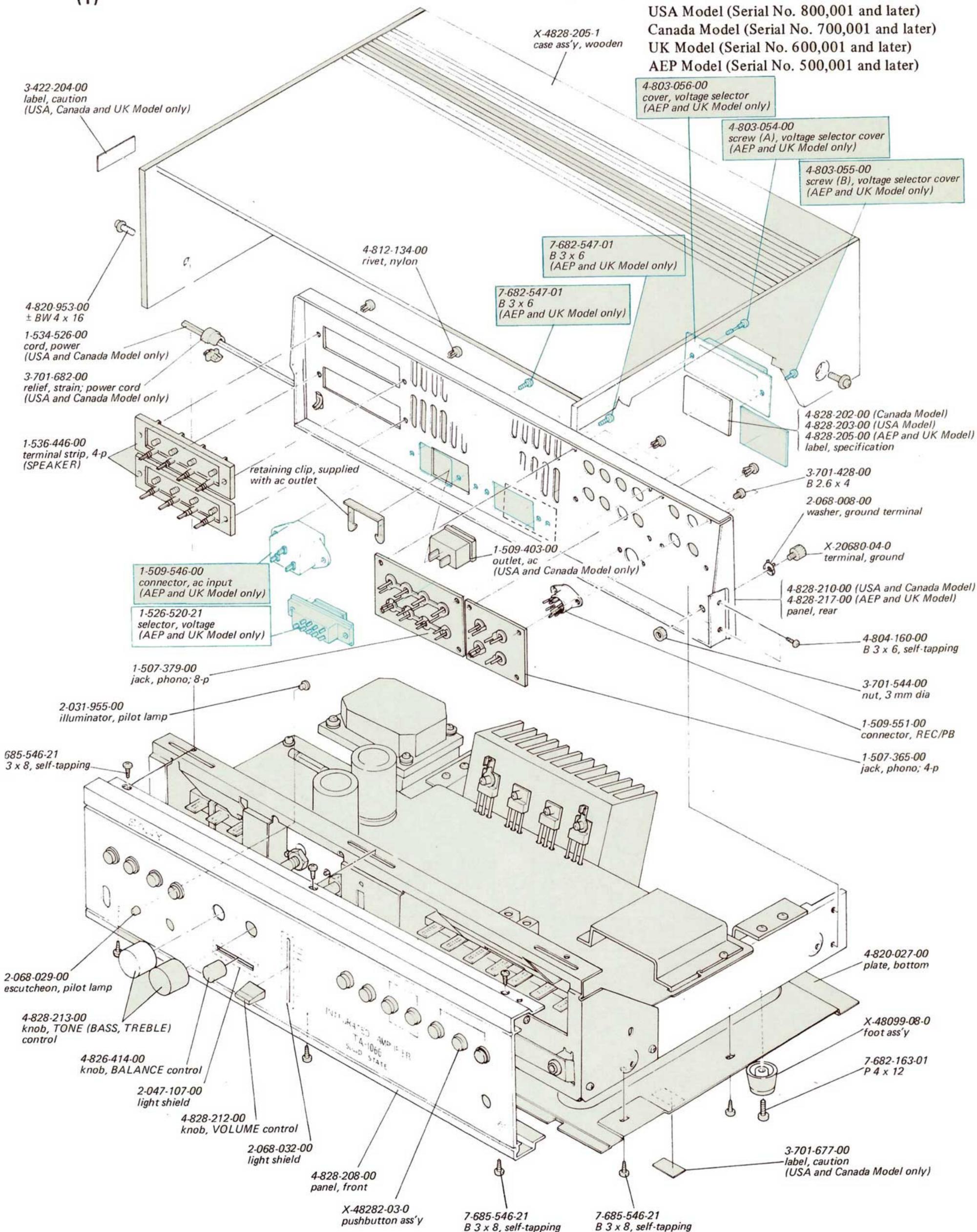


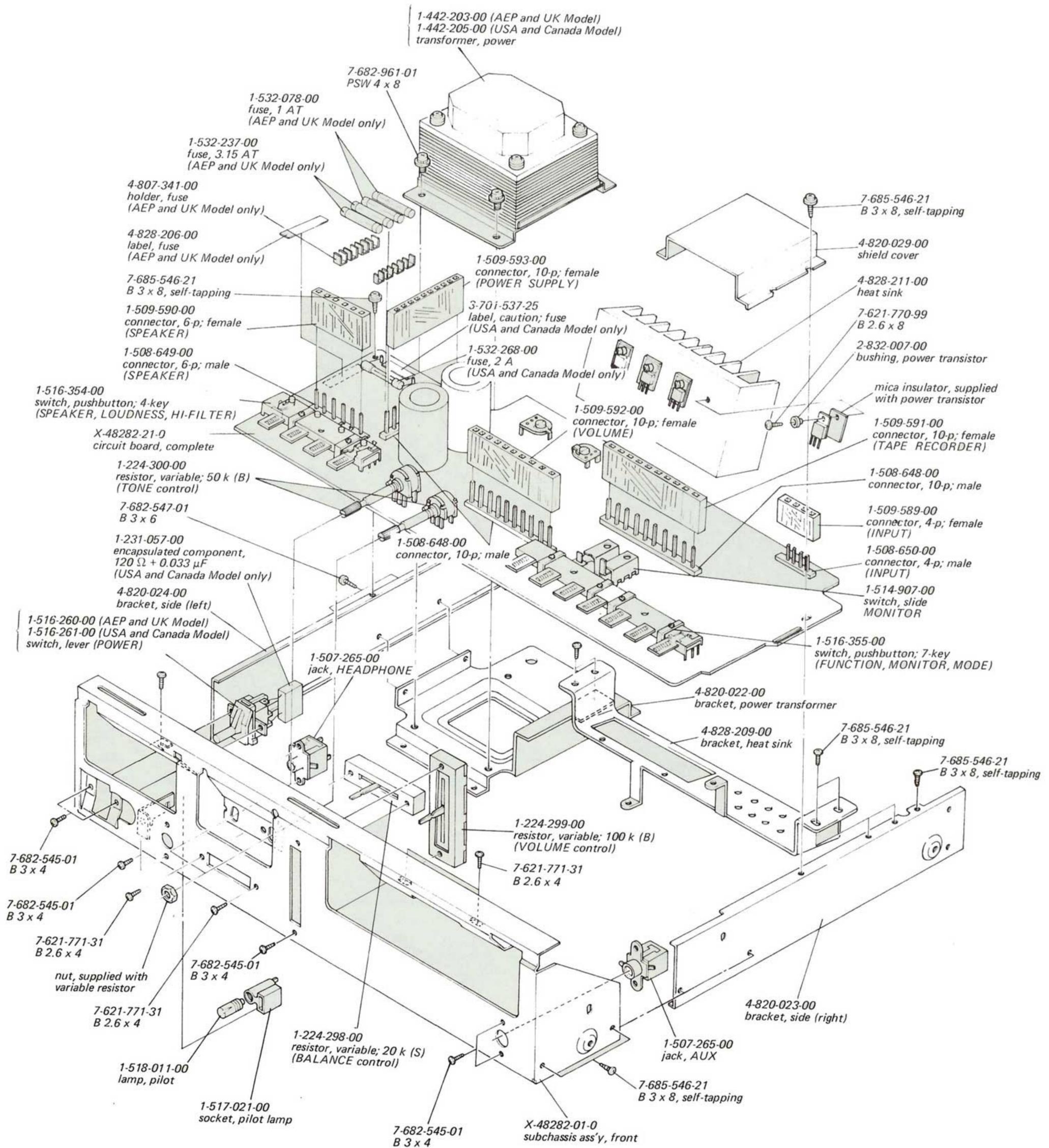
# SECTION 6 EXPLODED VIEWS

(1)

**Note:** Applicable Serial Numbers:

- USA Model (Serial No. 800,001 and later)
- Canada Model (Serial No. 700,001 and later)
- UK Model (Serial No. 600,001 and later)
- AEP Model (Serial No. 500,001 and later)





# SECTION 7

## ELECTRICAL PARTS LIST

Ref. No.      Part No.      Description

**Note:** Applicable Serial Numbers:  
 USA Model (Serial No. 800,001 and later)  
 Canada Model (Serial No. 700,001 and later)  
 UK Model (Serial No. 600,001 and later)  
 AEP Model (Serial No. 500,001 and later)

### COMPLETE CIRCUIT BOARD

X-48282-21-0

### SEMICONDUCTORS

Q101(Q201)	Transistor	2SC632A
Q102(Q202)	Transistor	2SA705
Q103(Q203)	Transistor	2SC632A
Q104(Q204)	Transistor	2SC632A
Q105(Q205)	Transistor	2SC632A
Q106(Q206)	Transistor	2SA678
Q107(Q207)	Transistor	2SC634A
Q108(Q208)	Transistor	2SC1124
Q109(Q209)	Transistor	2SA706
Q110(Q210)	Transistor	2SC1061
Q111(Q211)	Transistor	2SA671

D101(D201)      Diode      SV-04F

D301	Diode	10D-2
D302	Diode	10D-2
D303	Diode	10D-2
D304	Diode	10D-2

### TRANSFORMERS

T      { 1-442-205-00    Power (USA and Canada Model)  
           { 1-442-203-00    Power (AEP and UK Model)

### CAPACITORS

All capacitors listed here are 50 V, mylar type unless otherwise specified and in  $\mu\text{F}$  except as indicated with p (p means  $\mu\mu$ ).  
 (elect = electrolytic)

C101(C201)	1-121-912-11	1	50 V	elect
C102(C202)	1-105-661-12	0.001	$\pm 10\%$	
C103(C203)	1-121-419-11	220	6.3 V	elect
C104(C204)	1-105-510-12	0.0056	$\pm 5\%$	
C105(C205)	1-105-504-12	0.0018	$\pm 5\%$	
C106(C206)	1-101-880-11	47 p	$\pm 5\%$	50 V ceramic
C107(C207)	1-121-911-11	0.47	50 V	elect
C108(C208)	1-121-912-11	1	50 V	elect
C109(C209)	1-121-913-11	3.3	25 V	elect
C110(C210)	1-105-679-12	0.033	$\pm 10\%$	
C111(C211)	1-105-679-12	0.033	$\pm 10\%$	

Ref. No.      Part No.      Description

C112(C212)	1-105-665-12	0.0022	$\pm 10\%$	
C113(C213)	1-105-679-12	0.033	$\pm 10\%$	
C114(C214)	1-121-926-11	33	10 V	elect
C115(C215)	1-121-419-11	220	6.3 V	elect
C116(C216)	1-131-196-11	2.2	20 V	tantalum
C117(C217)	1-102-951-11	15 p	$\pm 5\%$	50 V ceramic
C118(C218)	1-102-951-11	15 p	$\pm 5\%$	50 V ceramic
C119(C219)	1-105-679-12	0.033	$\pm 10\%$	
C120(C220)	1-102-820-11	330 p	$\pm 5\%$	50 V ceramic
C121(C221)	1-105-683-12	0.068	$\pm 10\%$	

C301	1-121-421-11	220	16 V	elect
C302	1-121-421-11	220	16 V	elect
C303	1-121-426-11	470	16 V	elect
C304	1-121-419-11	220	6.3 V	elect
C305	1-121-654-11	330	25 V	elect
C306	1-105-685-12	0.1	$\pm 10\%$	
C307		-----		
C308	1-123-118-11	3300	35 V	elect
C309	1-123-118-11	3300	35 V	elect
C310	1-105-879-12	0.033	$\pm 20\%$	100 V
C311	1-105-879-12	0.033	$\pm 20\%$	100 V
C312	1-105-879-12	0.033	$\pm 20\%$	100 V
C313	1-105-879-12	0.033	$\pm 20\%$	100 V

### RESISTORS

All resistors are in  $\Omega$ ,  $\pm 5\%$ ,  $\frac{1}{4}$  W and carbon type unless otherwise specified.

R101(R201)	1-244-721-11	100 k
R102(R202)	1-244-721-11	100 k
R103(R203)	1-244-673-11	1 k
R104(R204)	1-244-721-11	100 k
R105(R205)	1-244-666-11	510
R106(R206)	1-244-717-11	68 k
R107(R207)	1-244-745-11	1 M
R108(R208)	1-244-712-11	43 k
R109(R209)	1-244-693-11	6.8 k
R110(R210)	1-244-697-11	10 k
R111(R211)	1-244-721-11	100 k
R112(R212)	1-244-685-11	3.3 k
R113(R213)	1-244-719-11	82 k
R114(R214)	1-244-737-11	470 k
R115(R215)	1-244-697-11	10 k
R116(R216)	1-244-697-11	10 k
R117(R217)	1-244-733-11	330 k
R118(R218)	1-244-705-11	22 k
R119(R219)	1-244-665-11	470
R120(R220)	1-244-677-11	1.5 k
R121(R221)	1-244-697-11	10 k
R122(R222)	1-244-697-11	10 k
R123(R223)	1-244-681-11	2.2 k

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
R124(R224)	1-244-660-11	300
R125(R225)	1-244-705-11	22 k
R126(R226)	1-244-705-11	22 k
R127(R227)	1-244-705-11	22 k
R128(R228)	1-244-673-11	1 k
R129(R229)	1-244-697-11	10 k
R130(R230)	1-244-701-11	15 k
R131(R231)	1-244-657-11	220
R132(R232)	1-244-677-11	1.5 k
R133(R233)	1-244-673-11	1 k
R134(R234)	1-244-649-11	100
R135(R235)	1-211-522-11	100
R136(R236)	1-244-649-11	100
R137(R237)	1-244-665-11	470
R138(R238)	1-217-359-11	0.47      2 W    metal
R139(R239)	1-244-709-11	33 k
R140(R240)	1-202-525-11	10            ½ W    composition
R141(R241)	1-202-561-11	330           ½ W    composition
R142(R242)	1-244-707-11	27 k
R143(R243)	1-244-693-11	6.8 k
R301	1-244-649-11	100
R302	1-244-673-11	1 k
R303	1-244-673-11	1 k
R304	1-244-717-11	68 k
R305	1-244-685-11	3.3 k
R306	1-211-522-11	100
R307	1-217-309-11	82            5 W    wirewound
RT101 } (RT201)	1-222-764-00	22 k, adjustable (dc bias adj.)
RV101 } (RV201)		
RV102 } (RV202)	1-224-299-00	100 k (B), variable (VOLUME)
RV103 } (RV203)		
RV301	1-224-300-00	50 k (B), variable (TREBLE)
	1-224-300-00	50 k (B), variable (BASS)
	1-224-298-00	20 k (S), variable (BALANCE)
<b>SWITCHES</b>		
S1 ~ 4 } S7	1-516-355-00	Pushbutton; 7-key (FUNCTION, MONITOR, MODE)
S5, S6		
	1-514-907-00	Slide (MONITOR)
	1-516-354-00	Pushbutton; 4-key (SPEAKER, LOUDNESS, HI-FILTER)

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>
S12	1-516-260-00	Lever (POWER) (AEP and UK Model)
	1-516-261-00	Lever (POWER) (USA and Canada Model)
<b>MISCELLANEOUS</b>		
CB1, 2	1-532-380-21	Circuit Breaker, 1.9 A
CP301	1-231-057-00	Encapsulated Component, 120 Ω + 0.033 μF (USA and Canada Model only)
CNJ1	1-509-551-00	Connector, REC/PB
CNJ2	1-509-403-00	Outlet, ac (USA and Canada Model only)
	1-509-546-00	Connector, ac input; 3-p (AEP and UK Model only)
F301	1-532-268-00	Fuse, 2 A (USA and Canada Model only)
	1-532-078-00	Fuse, 1 AT (AEP and UK Model)
F302	1-532-078-00	Fuse, 1 AT (AEP and UK Model only)
F303, 304	1-532-237-00	Fuse, 3.15 AT (AEP and UK Model only)
J101, 102 } (J201, 202)	1-507-365-00	Jack, phono; 4-p
J103~J106 } (J203~J206)		
J301, 302	1-507-265-00	Jack, AUX, HEADPHONE
PL301	1-518-011-00	Lamp, pilot; 8 V, 0.15 A
TM301, 302	1-536-446-00	Terminal Strip, 4-p (SPEAKER)
VS	1-526-520-21	Selector, voltage (AEP and UK Model only)
	1-508-648-00	Connector, 10-p; male
	1-508-649-00	Connector, 6-p; male (SPEAKER)
	1-508-650-00	Connector, 4-p; male (INPUT)
	1-509-589-00	Connector, 4-p; female (INPUT)
	1-509-590-00	Connector, 6-p; female (SPEAKER)
	1-509-591-00	Connector, 10-p; female (TAPE RECORDER)
	1-509-592-00	Connector, 10-p; female (VOLUME)
	1-509-593-00	Connector, 10-p; female (POWER SUPPLY)
	1-517-021-00	Socket, pilot lamp
	1-534-526-00	Cord, power (USA and Canada Model only)

**SONY CORPORATION**