

# TA-1630

*AEP Model*  
*UK Model*  
*Canadian Model*  
*E Model*



## INTEGRATED STEREO AMPLIFIER

### SPECIFICATIONS

#### GENERAL

**Power Requirements:** 110, 127, 220 or 240 V ac adjustable,  
50/60 Hz (AEP, UK, E Model)  
120 V ac, 60 Hz (Canadian Model)

**Power Consumption:** 210 W (AEP, E Model)  
150 W (UK Model)  
100 W (Canadian Model)

**AC Outlets (Canadian Model):** 1 switched 200 W  
2 unswitched 200 W

**Dimensions:** Approx.  
388 (w) x 145 (h) x 286 (d) mm  
15 1/8 (w) x 5 3/4 (h) x 11 1/4 (d) inches  
including projecting parts and controls

**Weight:** Approx. 6.7 kg, 14 lb 12 oz (net)  
Approx. 8.5 kg, 18 lb 12 oz (with shipping carton)

**Power Bandwidth:** 10 – 40,000 Hz, IHF  
**Damping Factor:** 40 (8Ω, at 1 kHz)  
**Harmonic Distortion:** Less than 0.5 % at rated output  
Less than 0.1 % at 1 W output  
**IM Distortion:** Less than 0.5 % at rated output  
(60 Hz: 7 kHz = 4:1) Less than 0.1 % at 1 W output  
**Residual Noise:** Less than 0.25 μW (8Ω)  
**Frequency Response:**

PHONO	RIAA equalization curve ±0.5 dB
TUNER	
AUX	
TAPE 1, 2	20 – 100,000 Hz ± 1 dB
REC/PB (input (AEP, UK Model))	

#### AMPLIFIER SECTION

##### Continuous RMS

**Power Output:** Both channels driven simultaneously  
(rated output) At 20 – 20,000 Hz  
22 + 22 W (8Ω)  
(Less than 0.5 % harmonic distortion) At 1 kHz  
25 + 25 W (8Ω)

According to DIN 45500  
23 + 23 W (8Ω)

**Dynamic Power Output:** 120 W (8Ω)  
(IHF constant power supply method)

(Continued on page 2.)

# SONY®

## SERVICE MANUAL

**Input:**

	Sensitivity	Impedance	Maximum input capability (THD 0.8 %)	S/N (weighting network, input level)
PHONO	2.5 mV (-50 dB)	50 kΩ	120 mV	70 dB (B, 2.5 mV)
TUNER AUX TAPE 1, 2 REC/PB (AEP, UK Model)	200 mV (-12 dB)	100 kΩ	-	90 dB (A, 250 mV)

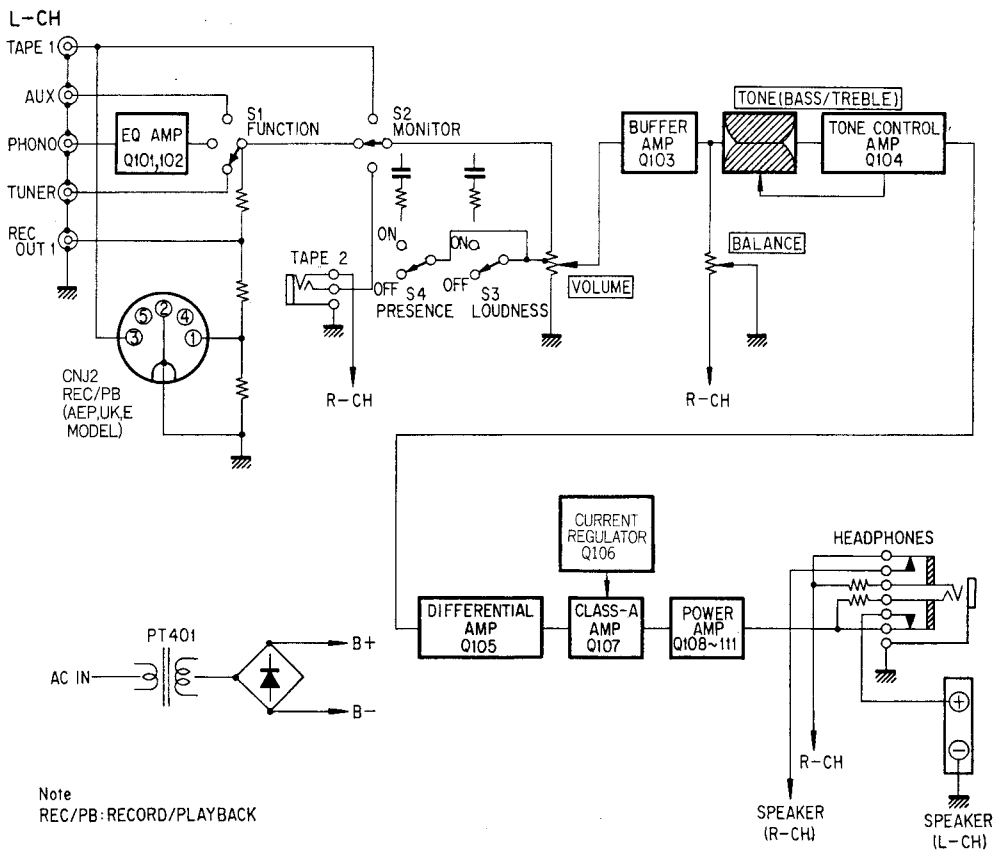
**Output:**

	Output level	Impedance
REC OUT 1	200 mV (-12 dB)	10 kΩ
REC/PB (AEP, UK Model)	30 mV (-28 dB)	82 kΩ

**HEADPHONES:** Accepts low and high impedance headphones  
**SPEAKER:** Accepts 4 – 16 Ω speakers (AEP, Canadian, E Model)  
 Accepts 8 – 16 Ω speakers (UK Model)  
**Tone Controls:** BASS ±9 dB at 100 Hz (turnover frequency 250 Hz)

TREBLE ±6.5 dB at 10 kHz (turnover frequency 4 kHz)  
**Loudness Controls:** +8.8 dB at 50 Hz, +2.5 dB at 10 kHz (Attenuation: 30 dB)  
**Presence:** +2.5 dB at 1 kHz (Attenuation: 30 dB)

**1. BLOCK DIAGRAM**

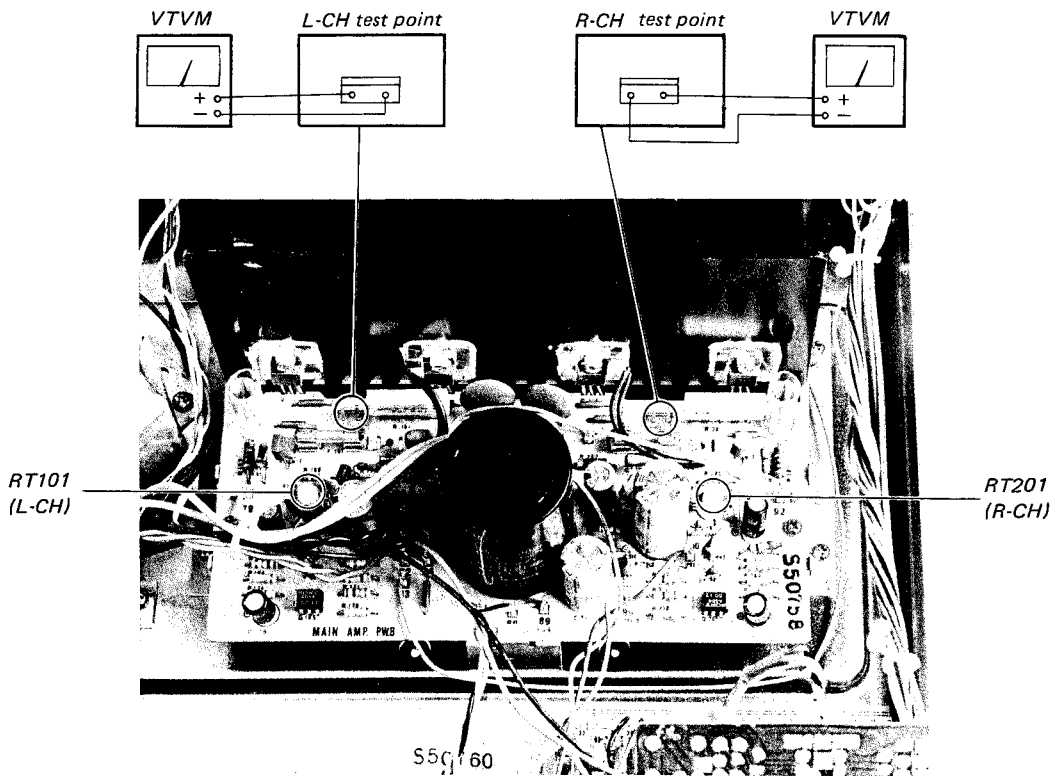


**2. IDENTIFICATION OF SET**

<p style="text-align: center;"><b>E, AEP Model</b></p> <div style="border: 1px solid black; padding: 5px;"> <p><b>SONY®</b> INTEGRATED STEREO AMPLIFIER          MODEL NO. TA-1630          AC 110, 127, 220, 240V~50/60Hz 210W          SERIAL NO. _____          MADE IN JAPAN</p> </div>	<p style="text-align: center;"><b>UK Model</b></p> <div style="border: 1px solid black; padding: 5px;"> <p><b>SONY®</b> INTEGRATED STEREO AMPLIFIER          MODEL NO. TA-1630          AC 110, 127, 220, 240V~50/60Hz 150W          SERIAL NO. _____          MADE IN JAPAN</p> </div>
<p style="text-align: center;"><b>Canadian Model</b></p> <div style="border: 1px solid black; padding: 5px;"> <p><b>SONY®</b> INTEGRATED STEREO AMPLIFIER          MODEL NO. TA-1630          AC 120V                      60Hz                      100W          SERIAL NO. _____          MADE IN JAPAN</p> </div>	

**3. DC BIAS ADJUSTMENT**

Adjust RT101 (L-CH) and RT201 (R-CH) for 25 mV dc reading on VTVM.



MOUNTING DIAGRAM

- Conductor Side -

Q101, 201: 2SC1362  
 Q103, 203: 2SC1362  
 Q104, 204: 2SC1364  
 Q107, 207: 2SC1364



Q102, 202: 2SA705  
 Q106, 206: 2SA678



Q105, 205: 2SA884



Q108, 208: 2SC1124



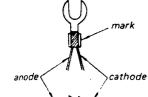
Q109, 209: 2SA706



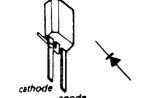
Q110, 210: 2SD531  
 Q111, 211: 2SB521



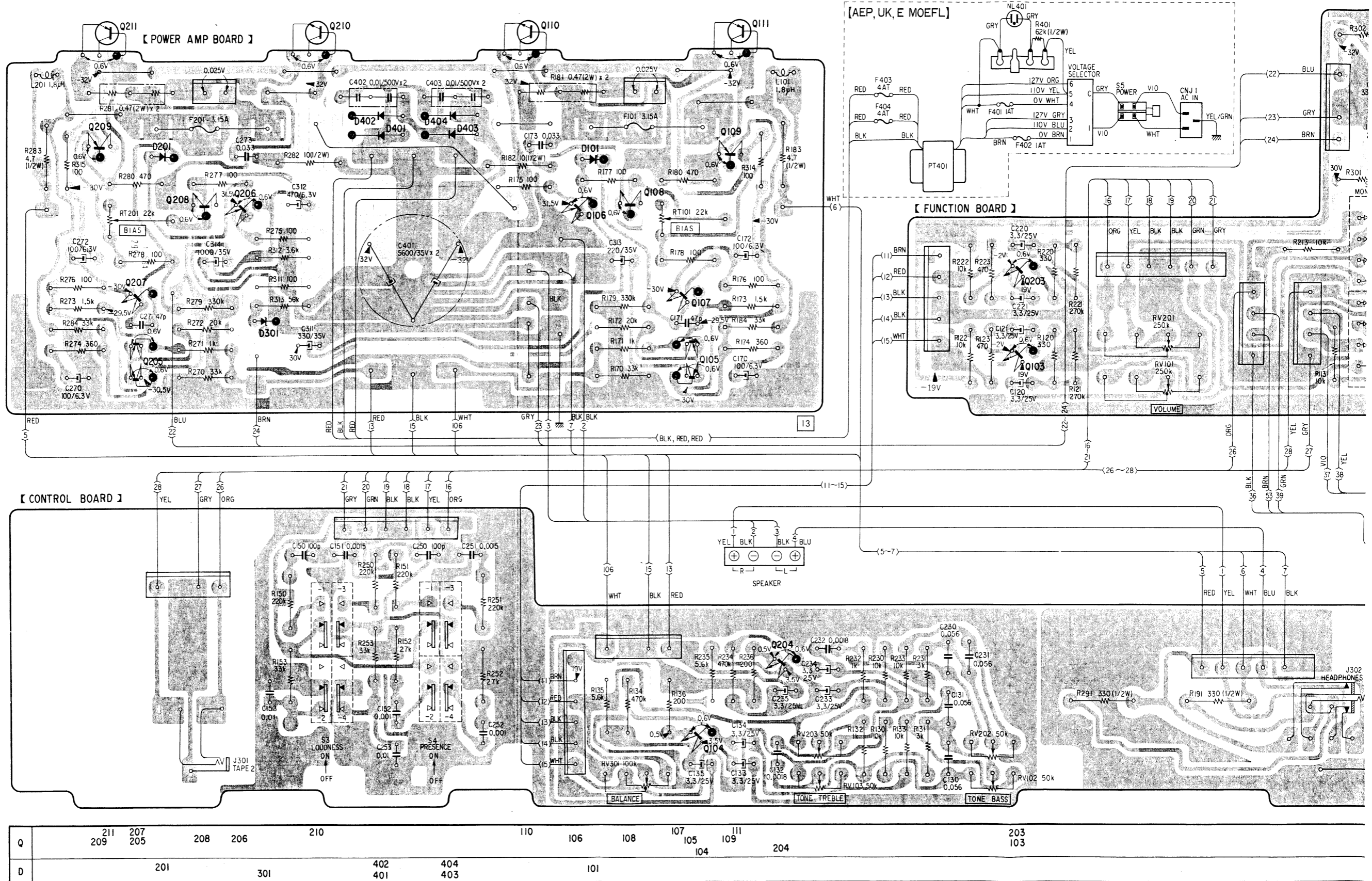
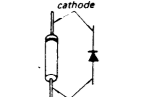
D101, 201: SV04F

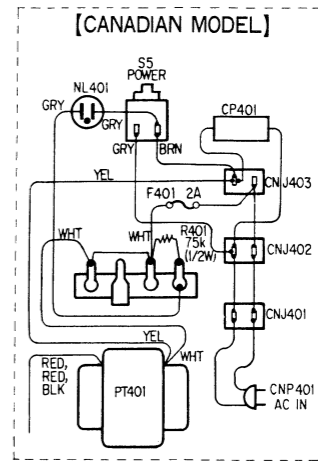
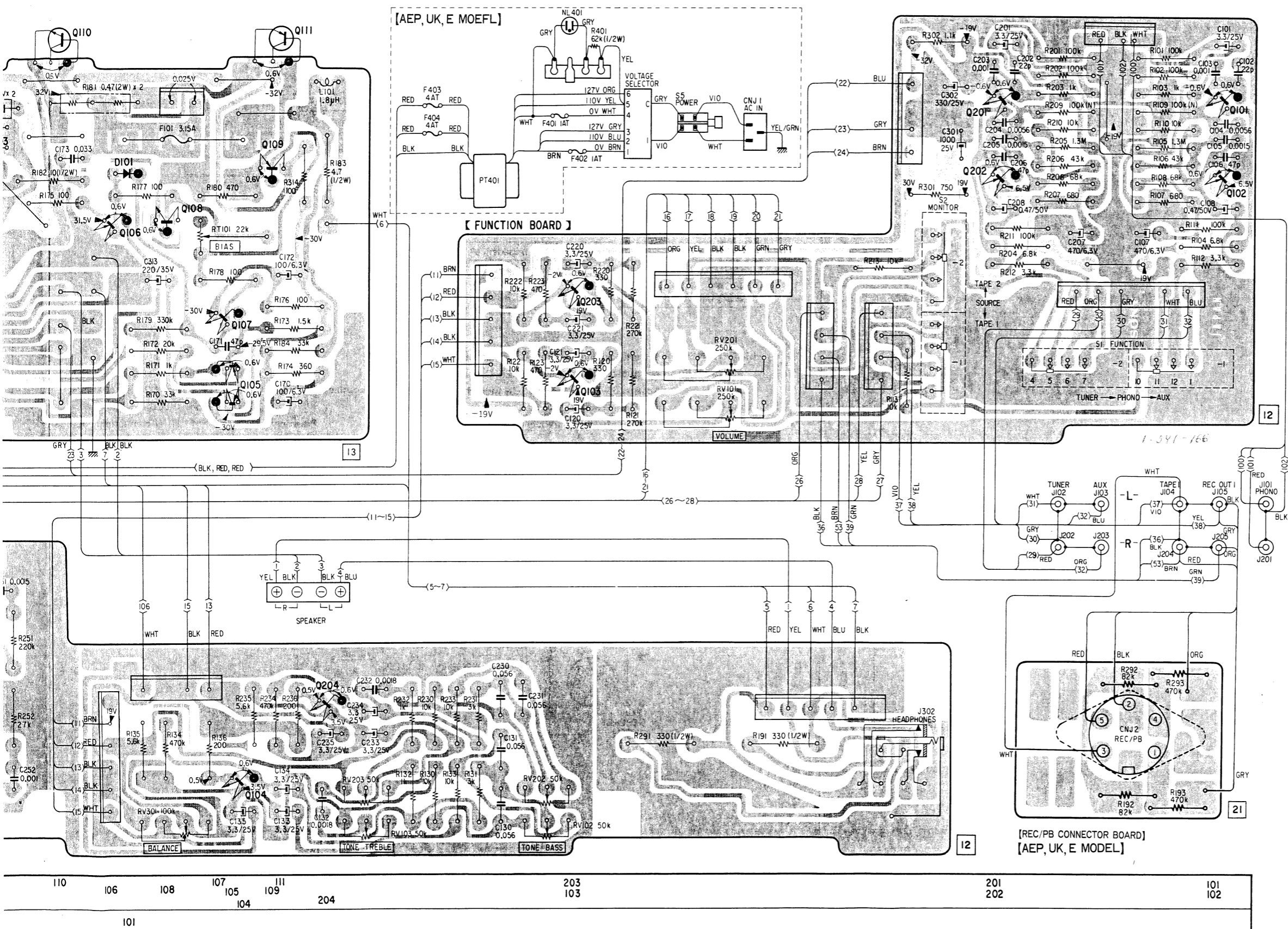


D301: 1T243



D401 ~ 404: 10E2

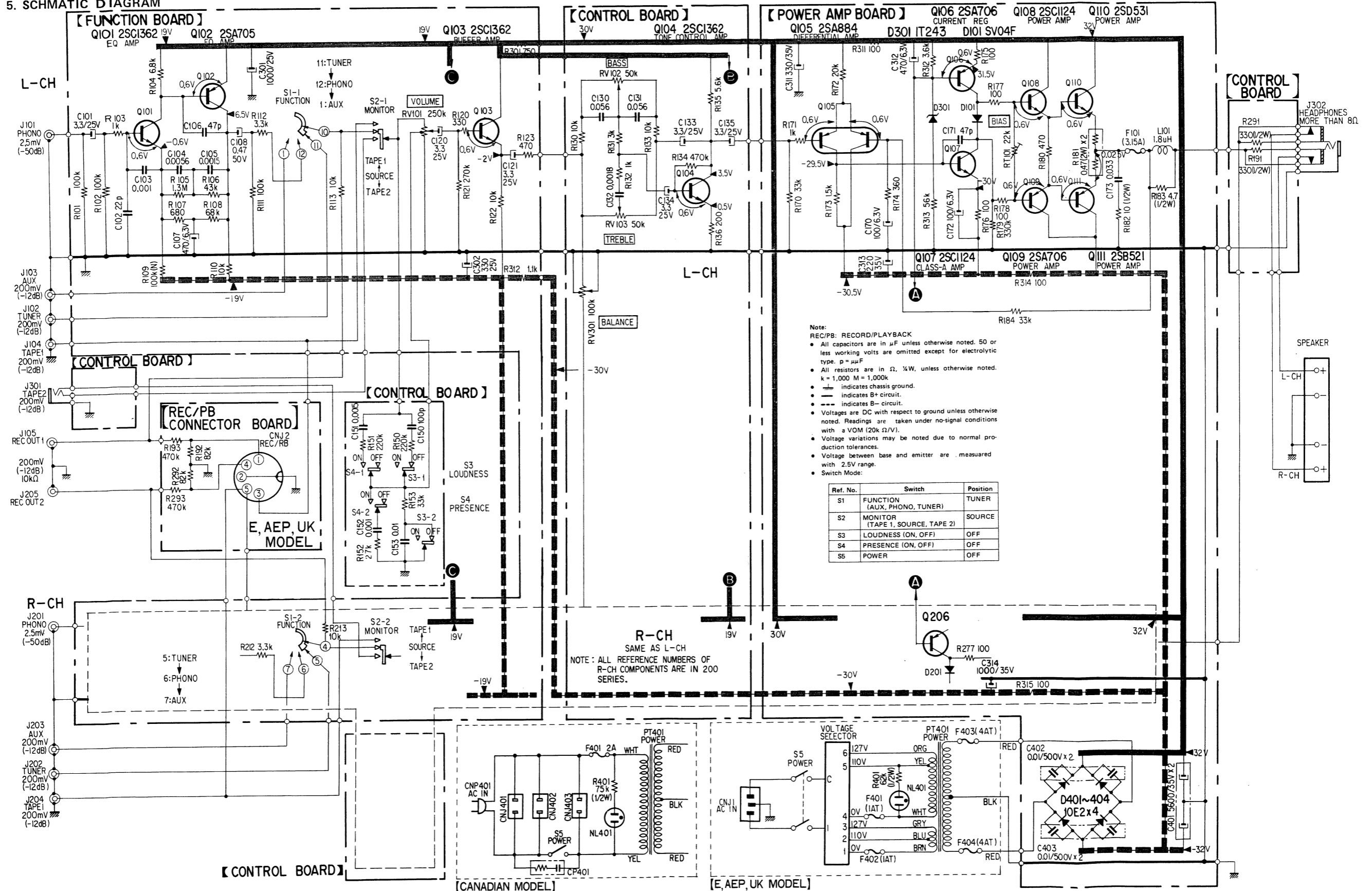




- ■ indicates parts on the conductor side.
- ● indicates lead wire connection on the conductor side.
- ○ indicates lead wire connection through the component side.
- Color in ( ) indicates color of sleeving over the end portion of shielded wire.
- [Hatched] B+ PATTERN
- [Dotted] B- PATTERN

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## 5. SCHEMATIC DIAGRAM



6. DISASSEMBLY

**SIDE BOARD REMOVAL**

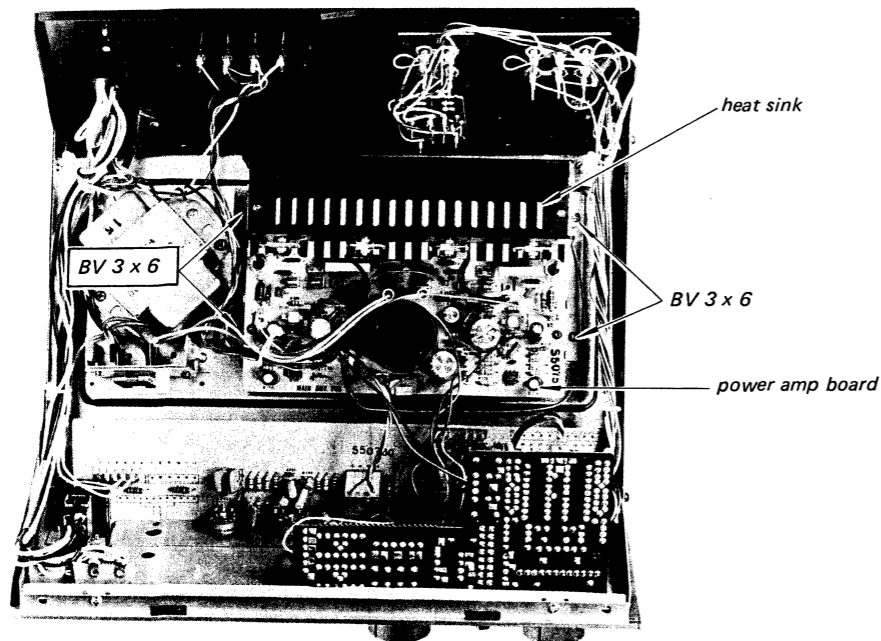
Remove four screws (± BW 4 x 22).



Two screws are on the opposite side.

**POWER AMP BOARD REMOVAL**

1. Remove four screws (BV 3 x 6).
2. Remove power amp board along with heat sink.



**FRONT PANEL REMOVAL**

1. Pull the knobs out.
2. Remove four screws marked ● (BV 3 x 6 Fig. A and B).

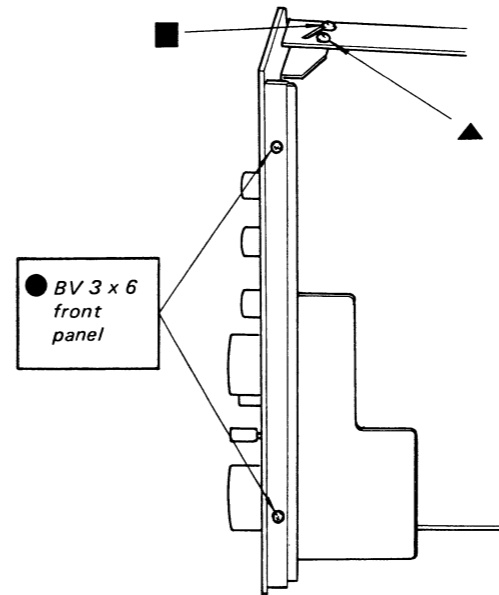


Fig. A Top view

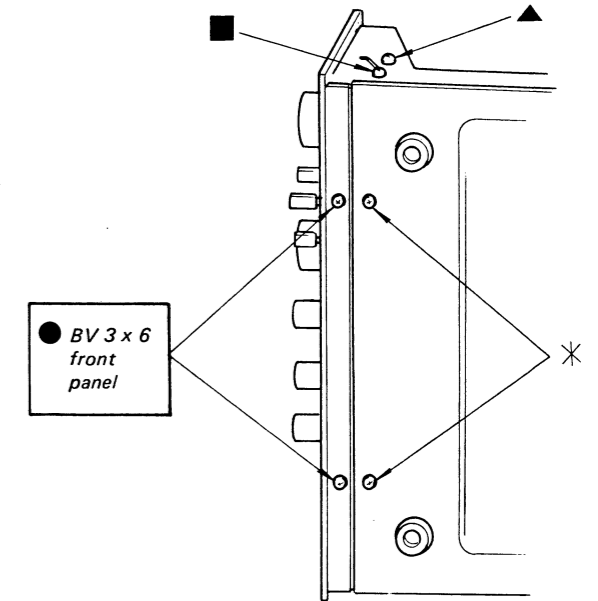


Fig. B Bottom view

**CONTROL BOARD REMOVAL**

1. Remove the front panel.
2. Remove three screws marked ★ (BV 3 x 6, Fig. C).

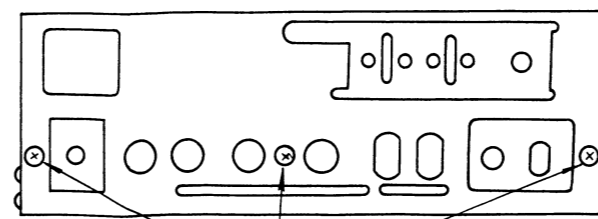


Fig. C Front view with front panel removed

**HOW TO RAISE THE CIRCUIT BOARD (FUNCTION and CONTROL BOARD)**

1. Remove two screws marked ▲ (BV 3 x 6, Fig. A and B).
2. Loosen two screws marked ■ (BV 3 x 6, Fig. A and B).
3. Remove two screws marked \* (BV 3 x 6, Fig. B).
4. Tilt the front panel section in the arrow direction as shown in Fig. D.

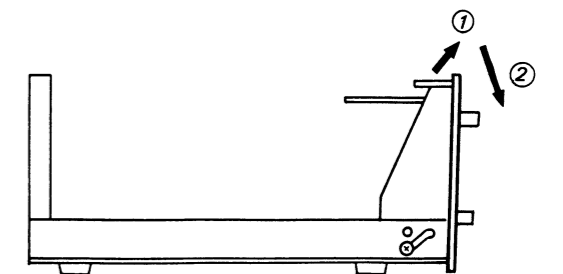
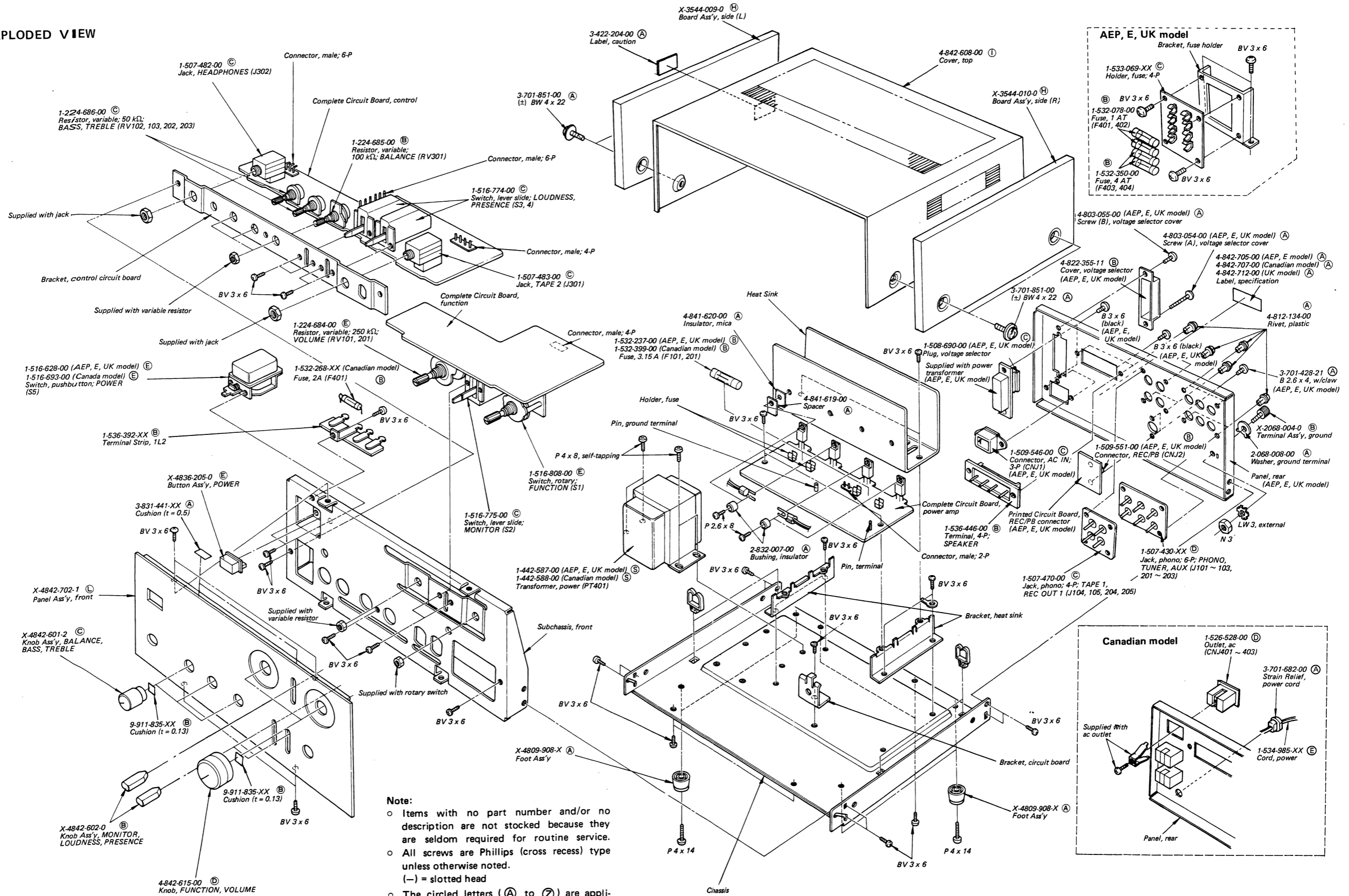


Fig. D Side view

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## 7. EXPLODED VIEW





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o The circled letters (A) to (Z) are applicable for European model only.

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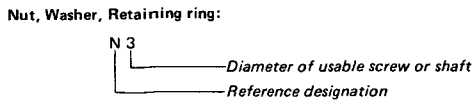
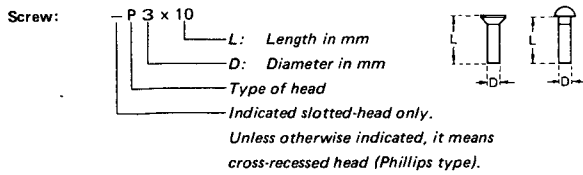
## 8. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
<b>SEMICONDUCTORS</b>		
<b>Transistors</b>		
Q101, 201	(B) 2SC1362	
Q102, 202	(B) 2SA705	
Q103, 203	(B) 2SC1362	
Q104, 204	(D) 2SA884	
Q105, 205	(D) 2SA884	
Q106, 206	(D) 2SA706	
Q107, 207	(C) 2SC1124	
Q108, 208	(C) 2SC1124	
Q109, 209	(D) 2SA706	
Q110, 210	(D) 2SD531	
Q111, 211	(E) 2SB521	
<b>Diodes</b>		
D101, 201	(C) SV04F	
D301	(B) 1T243	
D401 ~ 404	(B) 10E2	
<b>CAPACITORS</b>		
All capacitors are in $\mu$ F and of electrolytic unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. (p = $\mu$ F)		
C101, 201	1-121-913-11	(A) 3.3 25 V ceramic
C102, 202	1-102-959-11	(A) 22 p mylar
C103, 203	1-108-792-12	(A) 0.001 mylar
C104, 204	1-108-801-12	(A) 0.0056 mylar
C105, 205	1-108-794-12	(A) 0.0015 mylar
C106, 206	1-101-880-11	(A) 47 p ceramic
C107, 207	1-123-077-11	(B) 470 6.3 V (explosion proof)
C108, 208	1-121-911-11	(A) 0.47 50 V
C120, 220	1-121-913-11	(A) 3.3 25 V
C121, 221		
C130, 230	1-108-846-12	(A) 0.056 mylar
C131, 231		
C132, 232	1-108-828-12	(A) 0.0018 mylar
C133 ~ 135	1-121-913-11	(A) 3.3 25 V
C233 ~ 235		

Ref. No.	Part No.	Description
C150, 250	1-102-973-11	(A) 100 p ceramic
C151, 251	1-108-827-12	(A) 0.0015 mylar
C152, 252	1-108-825-12	(A) 0.001 mylar
C153, 253	1-108-837-12	(A) 0.01 mylar
C170, 270	1-121-413-11	(E) 100 6.3 V
C171, 271	1-101-880-11	(A) 47 p ceramic
C172, 272	1-121-413-11	(E) 100 6.3 V
C173, 273	1-105-679-12	(A) 0.033 mylar
C301	1-123-066-11	(B) 1000 25 V
C302	1-123-065-11	(B) 330 25 V (explosion proof)
C311	1-123-064-11	(B) 330 35 V
C312	1-123-077-11	(B) 470 6.3 V (explosion proof)
C313	1-123-063-11	(B) 220 35 V
C314	1-121-945-11	(C) 1000 35 V
C401	1-125-097-11	(H) (5600 35 V) x 2
C402, 403	1-102-355-11	(A) (0.01 500 V) x 2 ceramic
<b>RESISTORS</b>		
All resistors are in ohms. Regular-type $\frac{1}{4}$ W carbon resistors are omitted. Check schematic diagram for resistance values. k = 1000		
R181, 281	1-217-359-11	(B) (0.47 2W) x 2 metal
R182, 282	1-202-525-11	(A) 10 $\frac{1}{2}$ W composition
R183, 283	1-202-517-11	(A) 4.7 $\frac{1}{2}$ W composition
R191, 291	1-202-561-11	(A) 330 $\frac{1}{2}$ W composition
R401	1-202-616-11	(A) 62 k $\frac{1}{2}$ W composition (AEP, E, UK model)
	1-202-618-11	(A) 75 k $\frac{1}{2}$ W composition (Canadian model)
RT101, 201	1-224-646-XX	(B) 22 k adjustable
RV101, 201	1-224-684-00	(E) 250 k variable, VOLUME
RV102, 202	1-224-686-00	(C) 50 k variable, BASS, TREBLE
RV103, 203		
RV301	1-224-685-00	(B) 100 k variable, BALANCE
<b>SWITCHES</b>		
S1	1-516-808-00	(E) Rotary, FUNCTION
S2	1-516-775-00	(C) Lever Slide, MONITOR
S3, 4	1-516-774-00	(C) Lever Slide, LOUDNESS, PRESENCE
S5	1-516-628-00	(E) Pushbutton, POWER (AEP, UK model)
	1-516-693-00	(E) Pushbutton, POWER (Canadian model)

Ref. No.	Part No.	Description
<b>JACKS</b>		
J101 ~ 103	1-507-430-XX	(D) Phono, 6-P; PHONO, TUNER, AUX
J201 ~ 203		
J104, 204	1-507-470-00	(C) Phono, 4-P; TAPE 1, REC OUT 1
J105, 205		
J301	1-507-483-00	(C) TAPE 2
J302	1-507-482-00	(C) HEADPHONES
<b>FUSES</b>		
F101, 201	1-532-237-00	(B) 3.15 A (AEP, E, UK model)
	1-532-399-00	(B) 3.15 A (Canadian model)
F401	1-532-268-XX	(B) 2 A (Canadian model)
F401, 402	1-532-078-00	(B) 1 AT (AEP, E, UK model)
F403, 404	1-532-350-00	(B) 4 AT (AEP, E, UK model)
<b>MISCELLANEOUS</b>		
CNJ1	1-509-546-00	(C) Connector, AC IN, 3-P (AEP, E, UK model)
CNJ2	1-509-551-00	(B) Connector, REC/PB (AEP, E, UK model)
CNJ401 ~ 403	1-526-528-00	(D) Outlet, ac (Canadian model)
NL401	1-519-139-11	(B) Lamp, neon
PT401	1-442-587-00	(S) Transformer, power (AEP, E, UK model)
	1-442-588-00	(S) Transformer, power (Canadian model)
	1-508-690-00	(C) Plug, voltage selector (AEP, E, UK model)
	1-231-057-31	(B) Encapsulated Component (Canadian model)
	1-533-069-XX	(C) Holder, fuse; 4-P (AEP, E, UK model)
	1-534-985-XX	(E) Cord, power (Canadian model)
	1-536-392-XX	(B) Terminal Strip, 1L2
	1-536-446-00	(B) Terminal, 4-P; SPEAKER
<b>ACCESSORIES</b>		
X-4842-703-3		(F) Carton Ass'y (AEP, UK, Canadian, E model)
	1-534-819-00	(E) Cord, power (UK model)
	3-780-750-11	(B) Manual, instruction (AEP, UK, Canadian, E model)

HARDWARE NOMENCLATURE



Reference Designation	Shape	Description	Remarks
<b>SCREWS</b>			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
<b>SELF-TAPPING SCREWS</b>			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self-tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
<b>SET SCREWS</b>			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
<b>NUT</b>			
N		nut	
<b>WASHERS</b>			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
<b>RETAINING RINGS</b>			
E		retaining ring	
G		grip-type retaining ring	