

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)

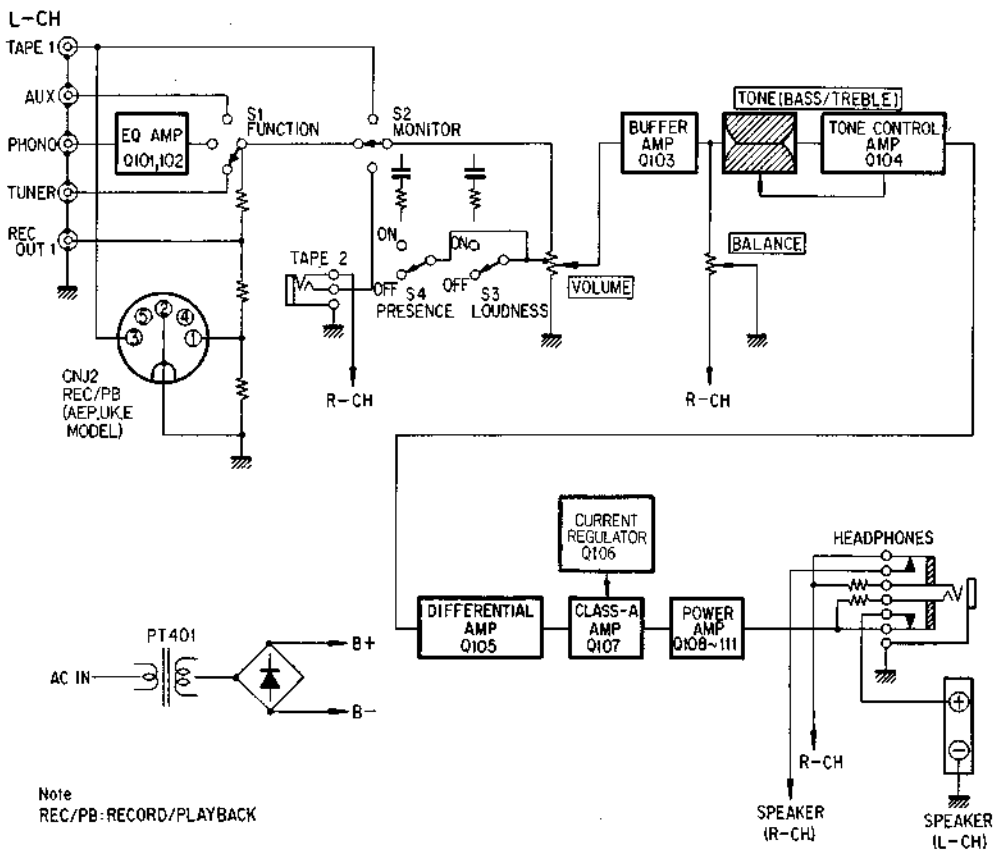
Tone Controls: BASS ± 9 dB at 100 Hz
(turnover frequency 250 Hz)

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

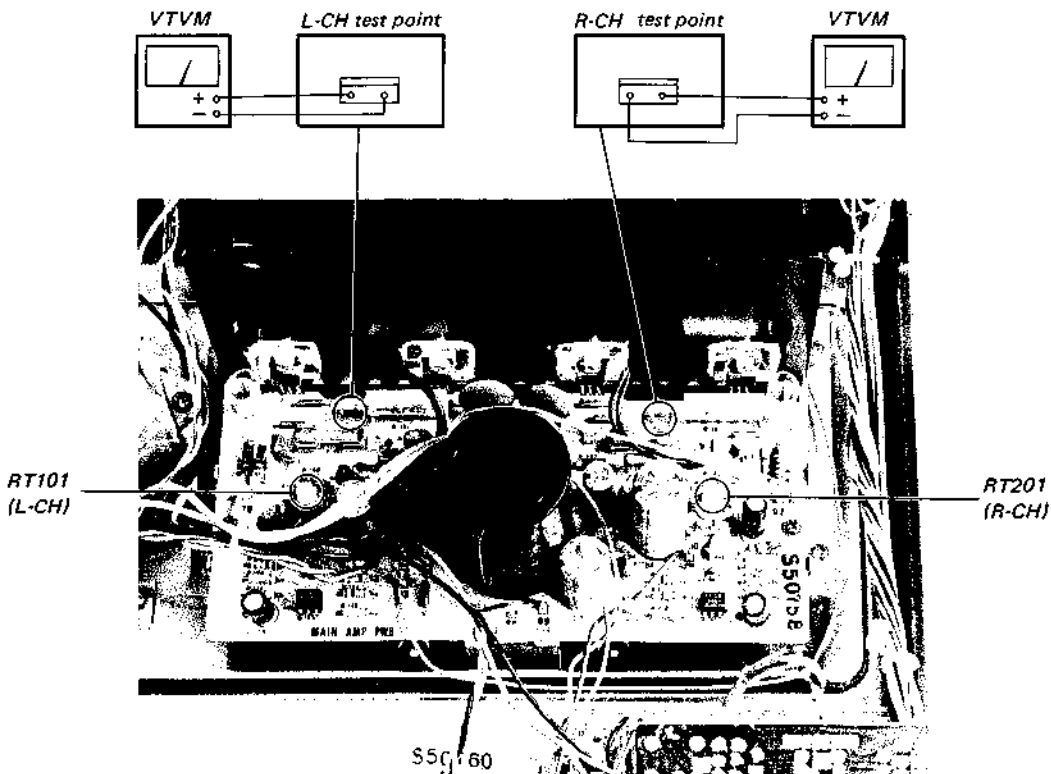


2. IDENTIFICATION OF SET

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



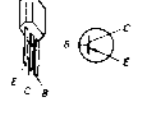
MOUNTING DIAGRAM

- Conductor Side -

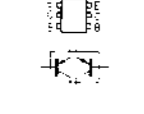
Q101, 201: 2SC1362
Q103, 203: 2SC1362
Q104, 204: 2SC1364
Q107, 207: 2SC1364



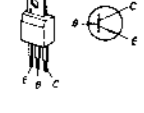
Q102, 202: 2SA705
Q106, 206: 2SA768



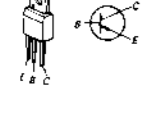
Q105, 205: 2SA884



Q108, 208: 2SC1124



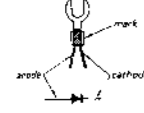
Q109, 209: 2SA706



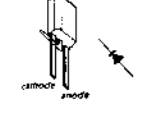
Q110, 210: 2SD531
Q111, 211: 2SB521



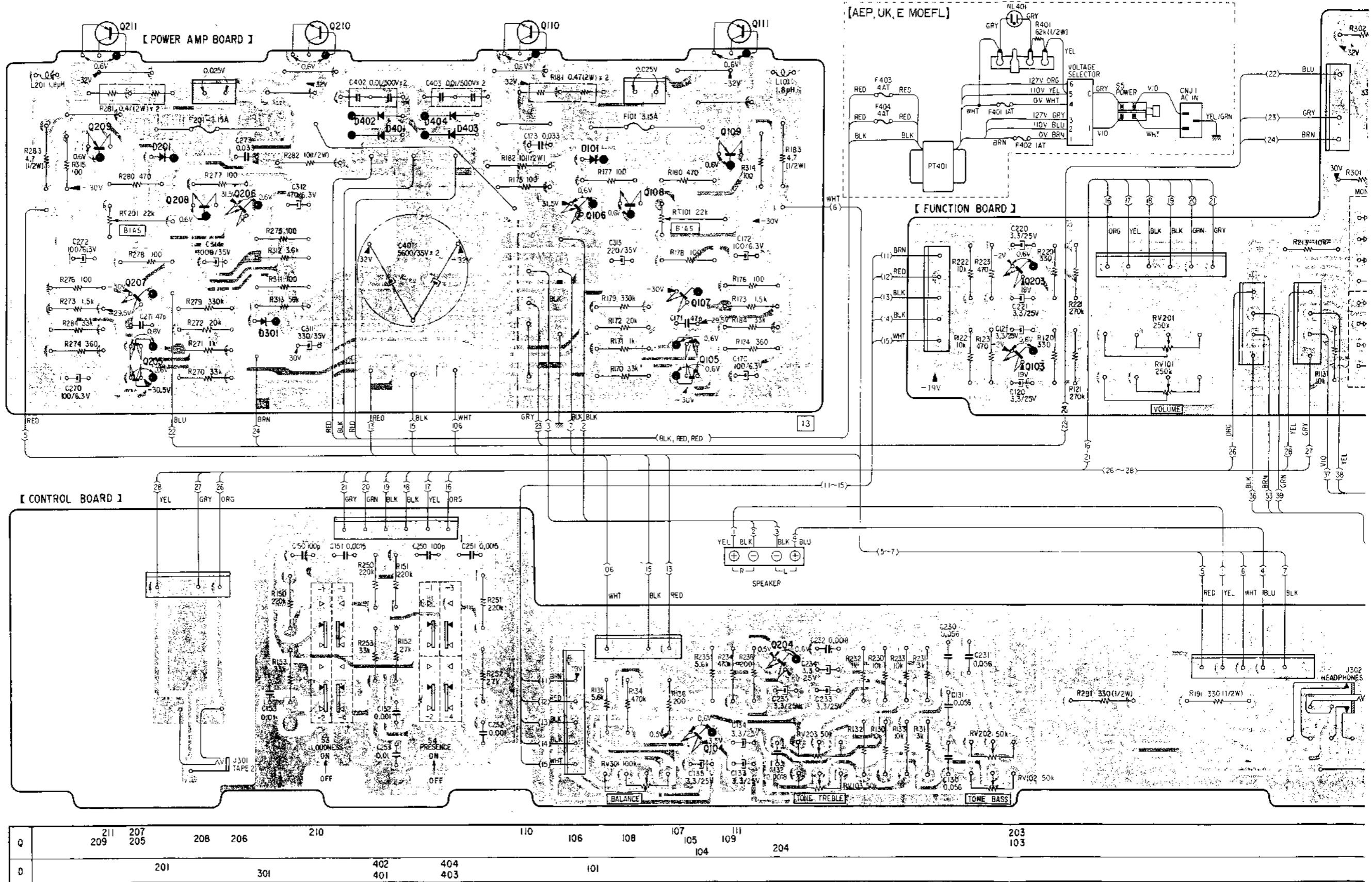
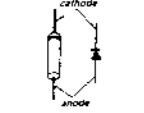
D101, 201: 5V04F

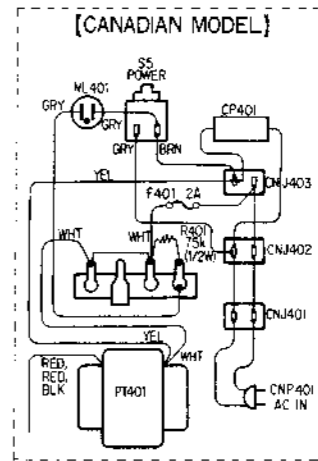
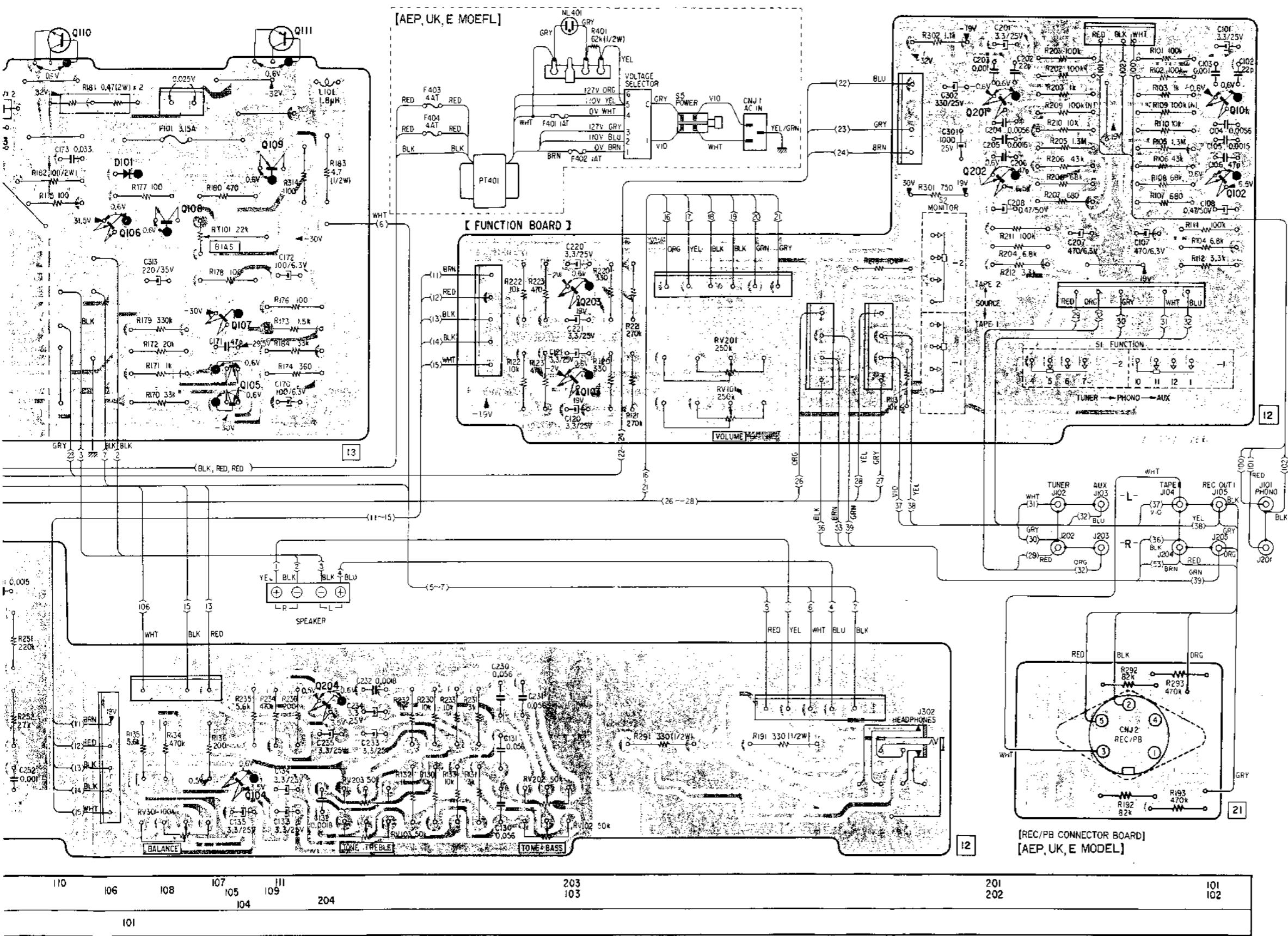


D301: 1T243



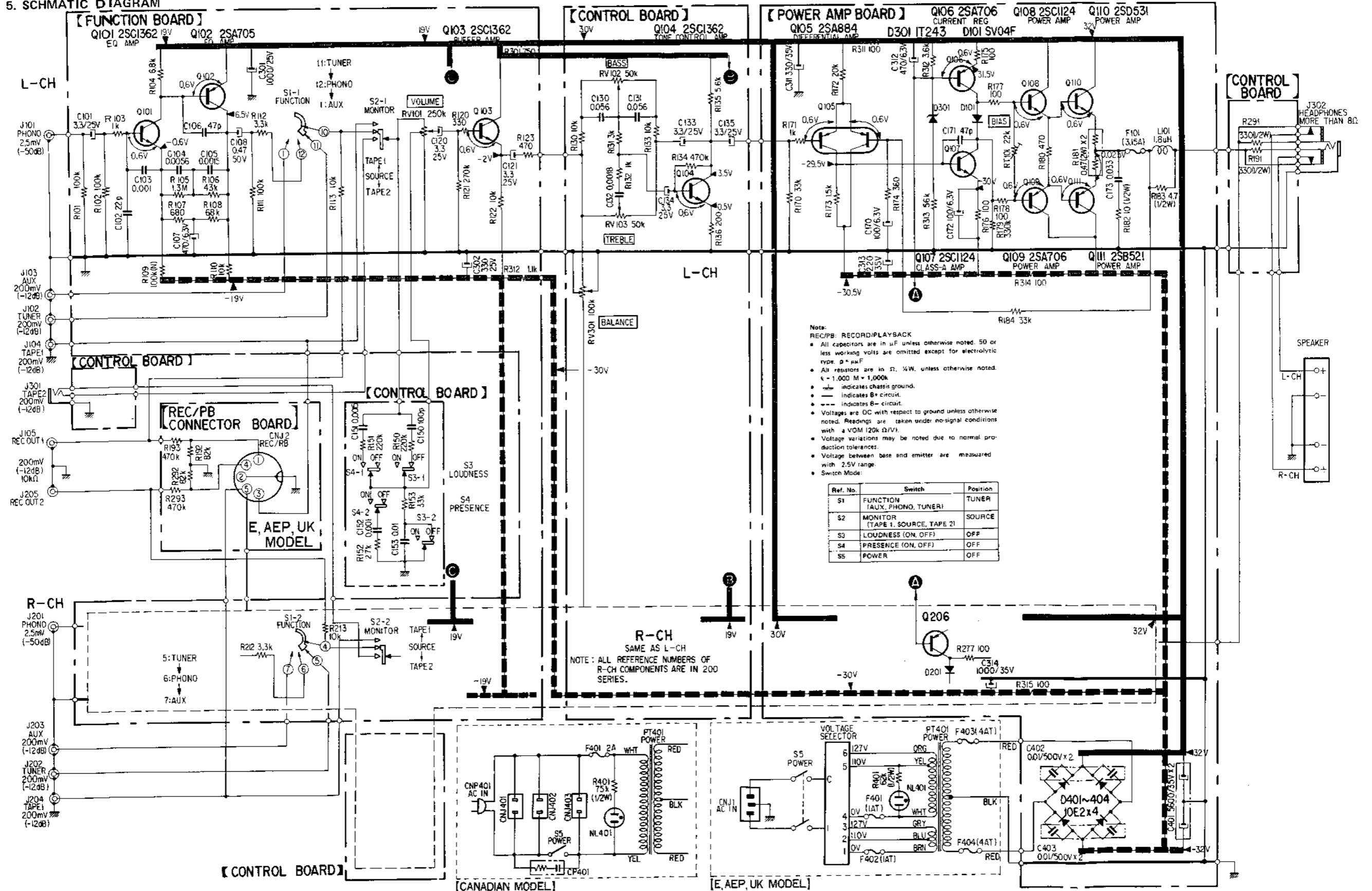
D401 ~ 404: 10E2





- ■ 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.
- B+ PATTERN
- B- PATTERN

5. SCHEMATIC DIAGRAM



6. DISASSEMBLY

SIDE BOARD REMOVAL

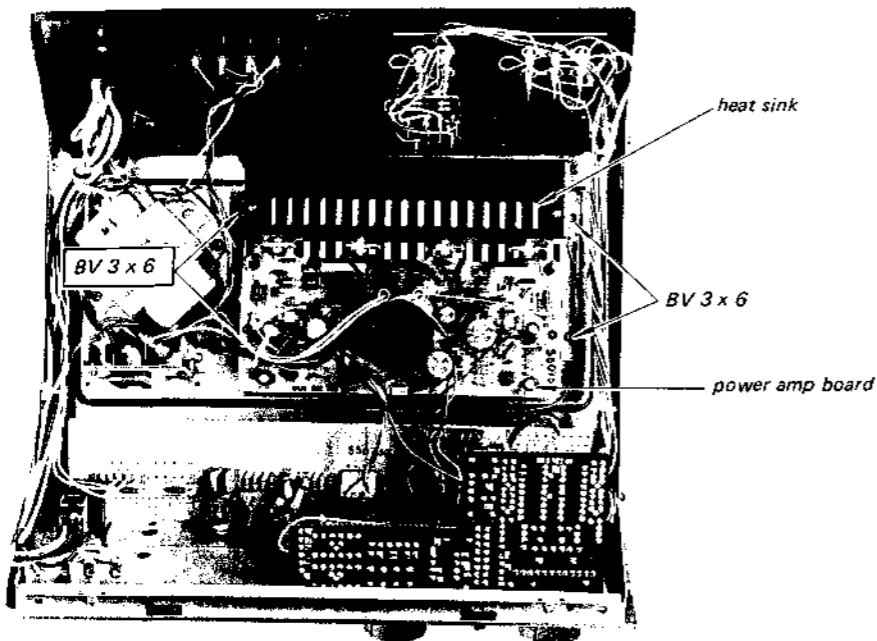
Remove four screws (± BW 4 x 22).



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).

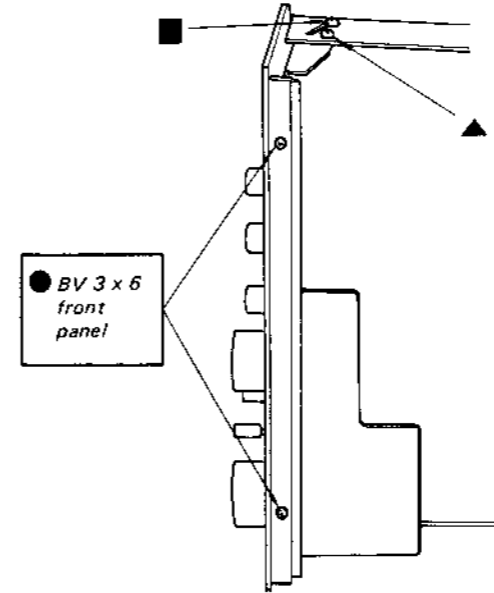


Fig. A Top view

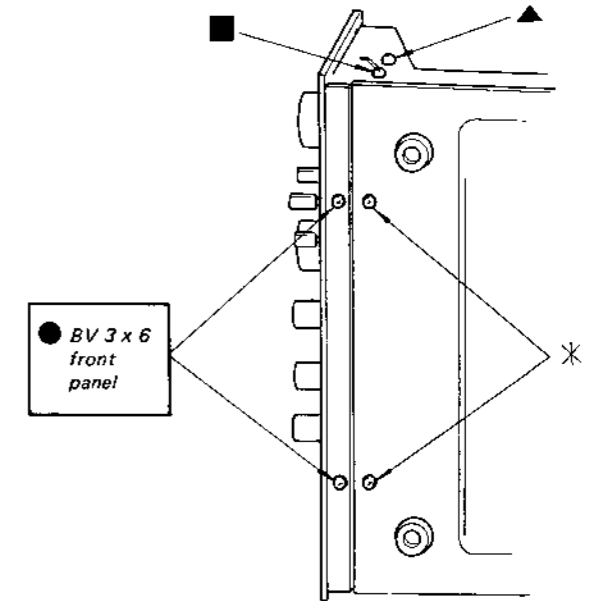


Fig. B Bottom view

CONTROL BOARD REMOVAL

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

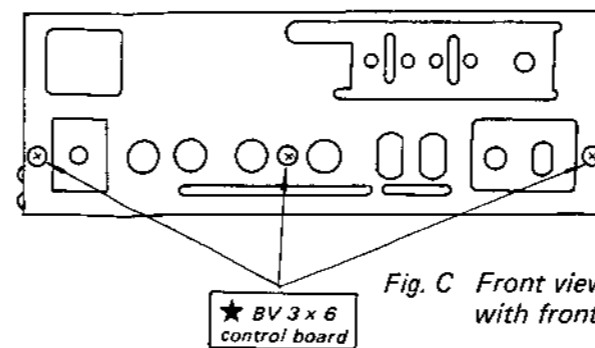


Fig. C Front view with front panel removed

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.

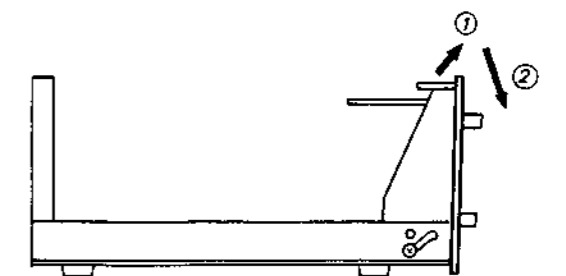
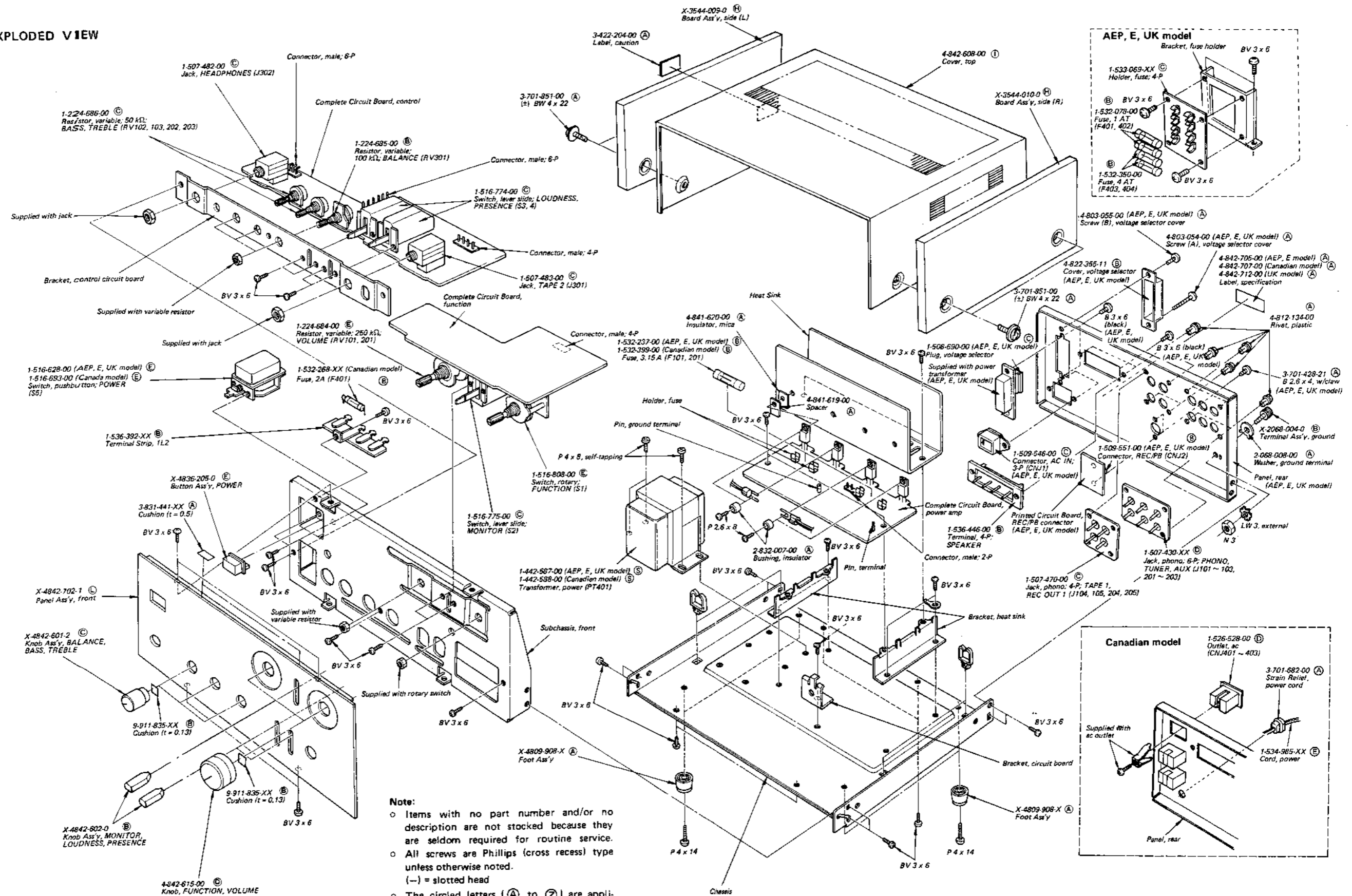


Fig. D Side view

TA-1630 TA-1630

7. EXPLODED VIEW



TA-1630 TA-1630

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

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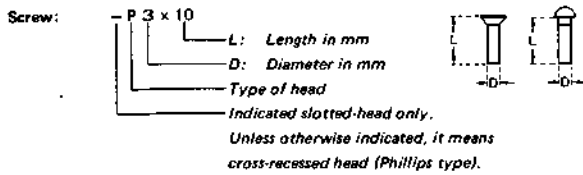
8. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
SEMICONDUCTORS		
Transistors		
Q101, 201	(B) 2SC1362	
Q102, 202	(B) 2SA705	
Q103, 203	(B) 2SC1362	
Q104, 204	(C) 2SA884	
Q105, 205	(C) 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	
Diodes		
D101, 201	(C) SV04F	
D301	(B) 1T243	
D401 ~ 404	(B) 10E2	
CAPACITORS		
All capacitors are in μ F and of electrolytic unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. (p = μ 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, C121, 221	1-121-913-11 (A) 3.3 25 V	
C130, 230, C131, 231	1-108-846-12 (A) 0.056	mylar
C132, 232	1-108-828-12 (A) 0.0018	mylar
C133 ~ 135, C233 ~ 235	1-121-913-11 (A) 3.3 25 V	

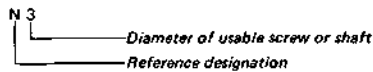
Ref. No.	Part No.	Description
C150, 250	1-102-973-11 (A) 100 p	ceramic
C151, 251	1-108-827-12 (A) 0.0015	mylar
C152, 252	1-108-825-12 (A) 0.001	mylar
C153, 253	1-108-837-12 (A) 0.01	mylar
C170, 270	1-121-413-11 (E) 100 6.3 V	
C171, 271	1-101-880-11 (A) 47 p	ceramic
C172, 272	1-121-413-11 (E) 100 6.3 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	
RESISTORS		
All resistors are in ohms. Regular-type 1/4W 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 1/2W	composition
R183, 283	1-202-517-11 (A) 4.7 1/2W	composition
R191, 291	1-202-561-11 (A) 330 1/2W	composition
R401	1-202-616-11 (A) 62 k 1/2W composition (AEP, E, UK model)	
	1-202-618-11 (A) 75 k 1/2W 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, RV103, 203	1-224-686-00 (C) 50 k variable, BASS, TREBLE	
RV301	1-224-685-00 (B) 100 k variable, BALANCE	
SWITCHES		
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	
SS	1-516-628-00 (E) Pushbutton, POWER (AEP, UK model)	
	1-516-693-00 (E) Pushbutton, POWER (Canadian model)	













Ref. No.	Part No.	Description
JACKS		
J101 ~ 103, J201 ~ 203	1-507-430-XX (D) Phono, 6-P; PHONO, TUNER, AUX	
J104, 204, J105, 205	1-507-470-00 (C) Phono, 4-P; TAPE 1, REC OUT 1	
J301	1-507-483-00 (C) TAPE 2	
J302	1-507-482-00 (C) HEADPHONES	
FUSES		
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)	
MISCELLANEOUS		
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	
ACCESSORIES		
X4842-703-3	(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



Nut, Washer, Retaining ring:



Reference Designation	Shape	Description	Remarks
SCREWS			
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
SELF-TAPPING SCREWS			
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
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	