

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

TA-1630

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

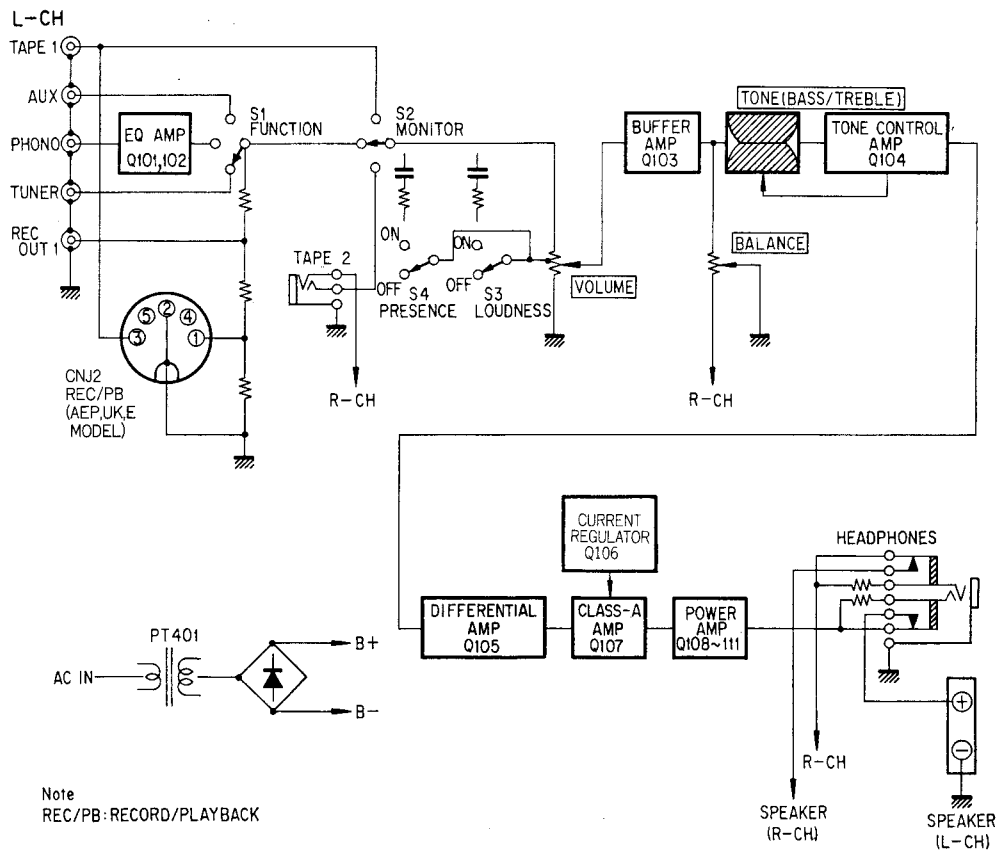
SPEAKER: Accepts 4 – 16 Ω speakers (AEP, Canadian, E Model)
Accepts 8 – 16 Ω speakers (UK Model)

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

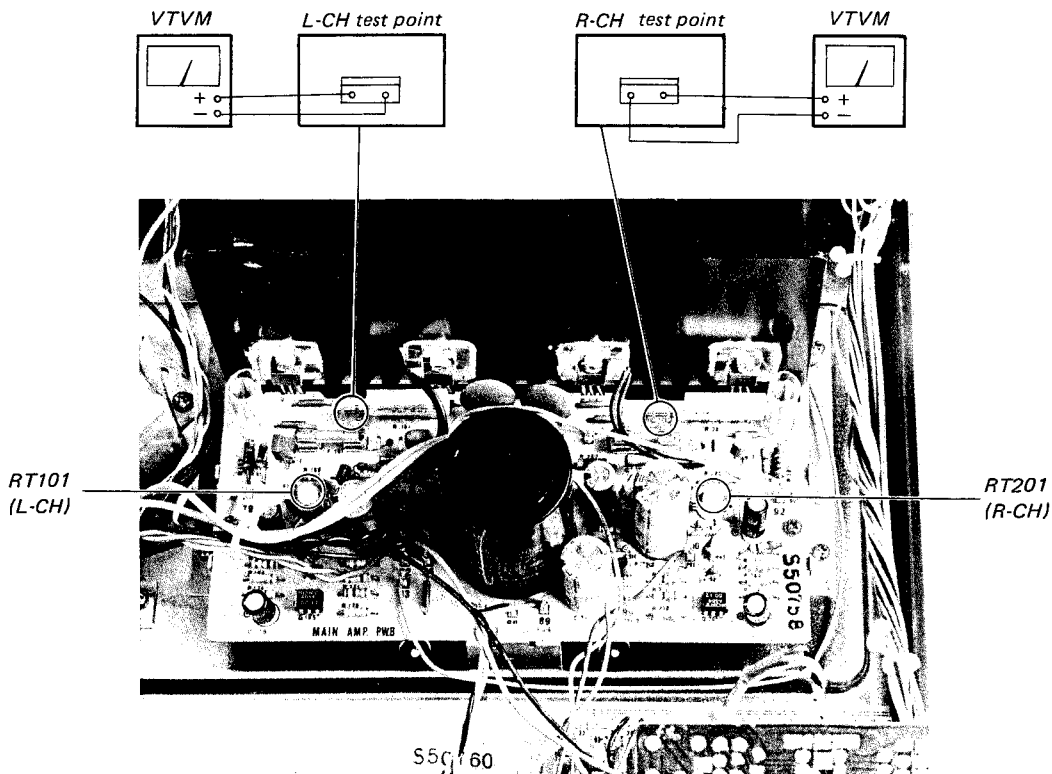


2. IDENTIFICATION OF SET

E, AEP Model	UK Model
 INTEGRATED STEREO AMPLIFIER MODEL NO. TA-1630 AC 110, 127, 220, 240V~50/60Hz 210W SERIAL NO. _____ MADE IN JAPAN	 INTEGRATED STEREO AMPLIFIER MODEL NO. TA-1630 AC 110, 127, 220, 240V~50/60Hz 150W SERIAL NO. _____ MADE IN JAPAN
Canadian Model	
 INTEGRATED STEREO AMPLIFIER MODEL NO. TA-1630 AC 120V 60Hz 100W SERIAL NO. _____ MADE IN JAPAN	

3. DC BIAS ADJUSTMENT

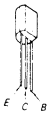
Adjust RT101 (L-CH) and RT201 (R-CH) for 25 mV dc reading on VTVM.



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



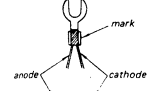
Q109, 209: 2SA706



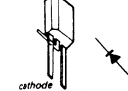
Q110, 210: 2SD531
Q111, 211: 2SB521



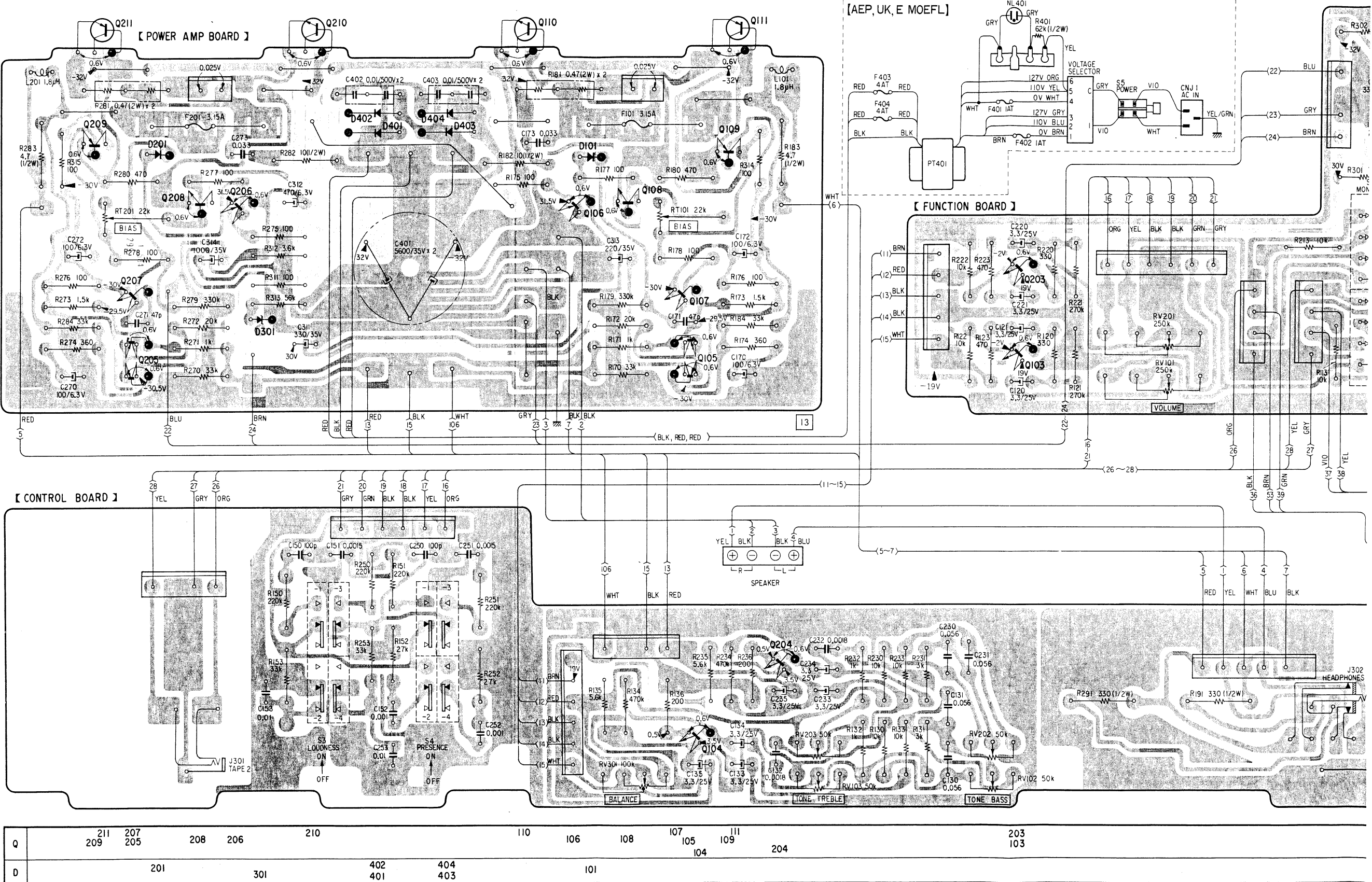
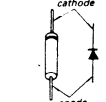
D101, 201: SV04F

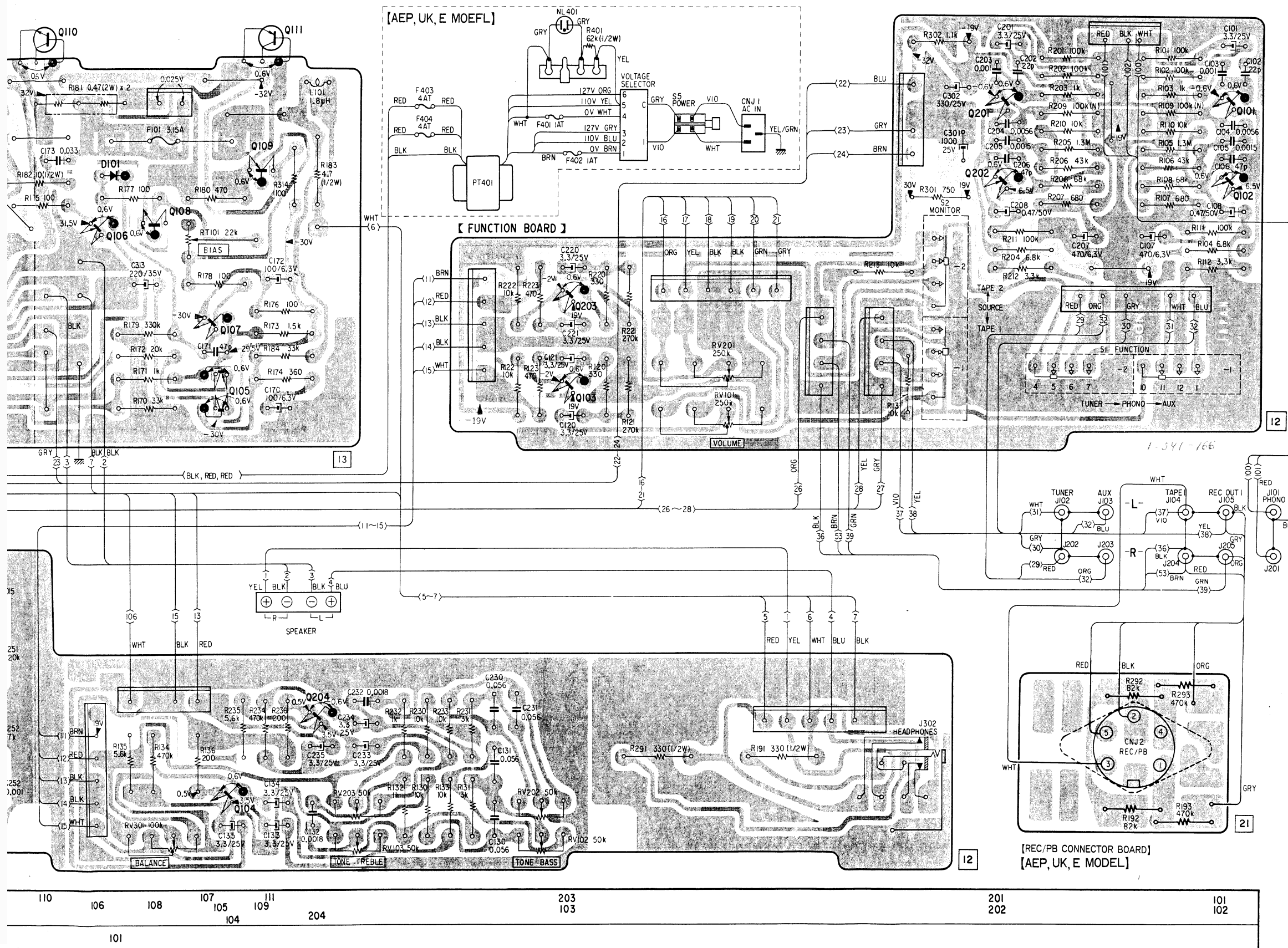


D301: 1T243

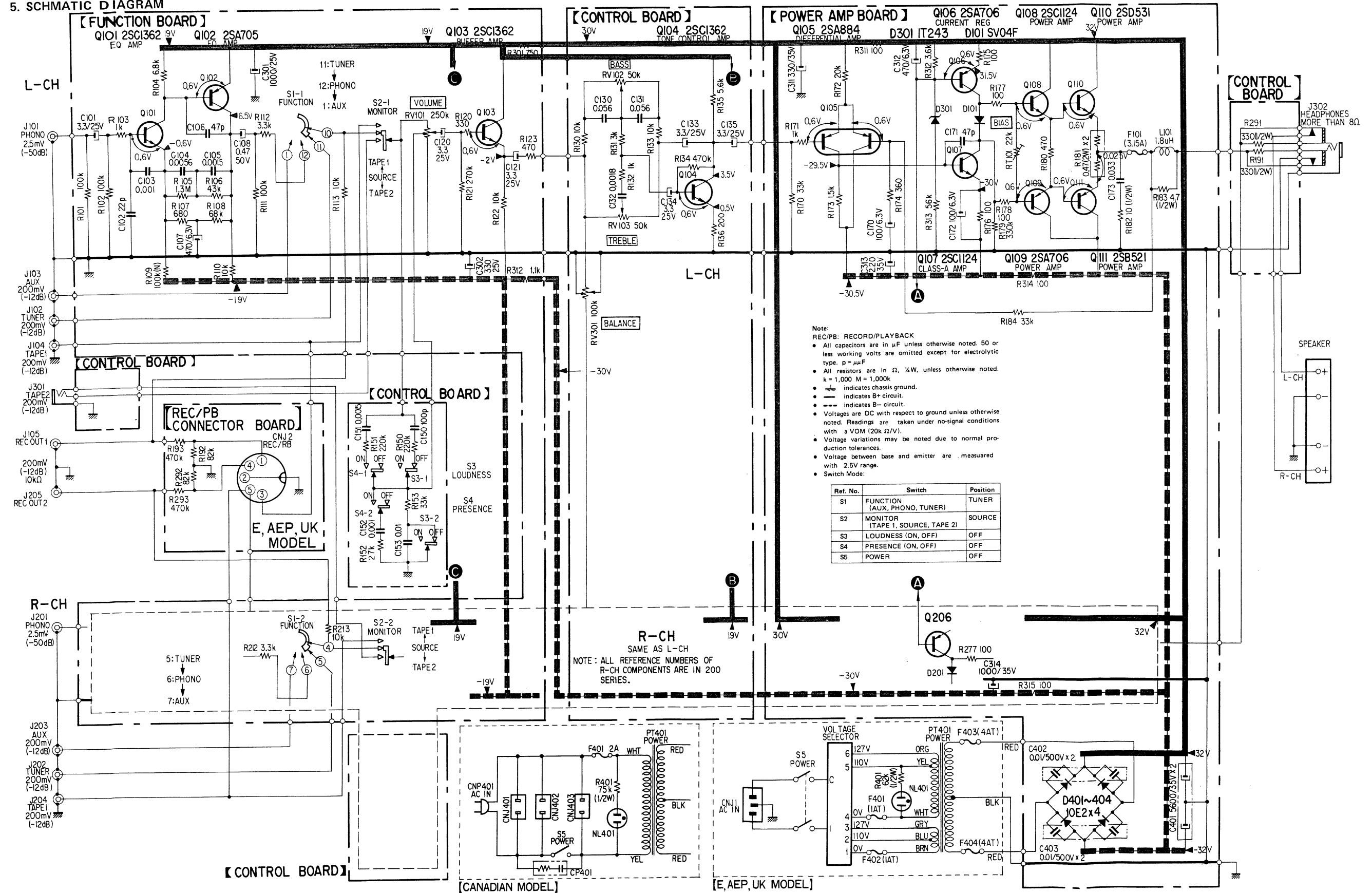


D401 ~ 404: 10E2





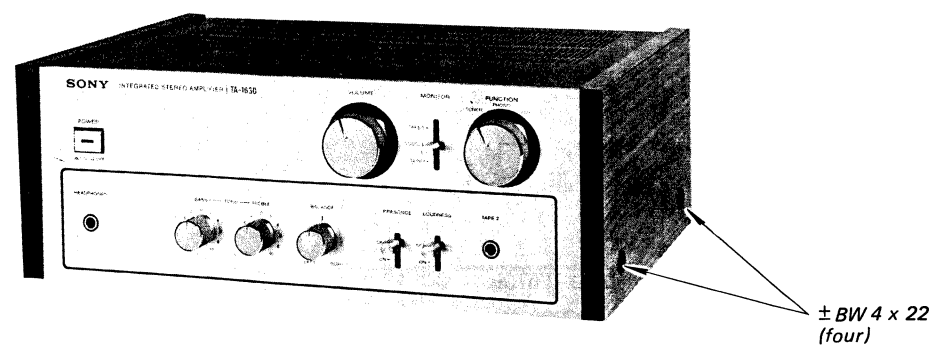
5. SCHMATIC DIAGRAM



6. DISASSEMBLY

SIDE BOARD REMOVAL

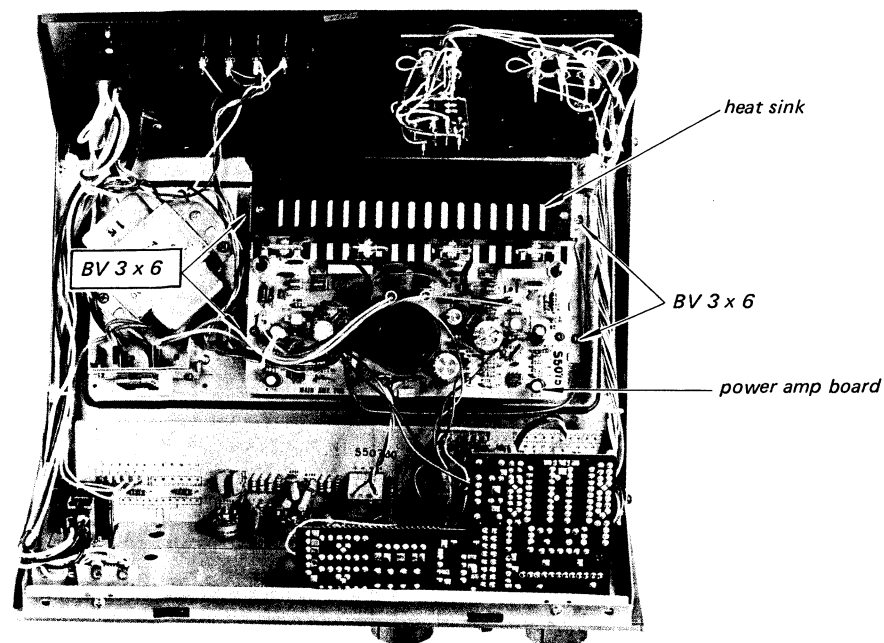
Remove four screws ($\pm$ BW 4 x 22).



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).

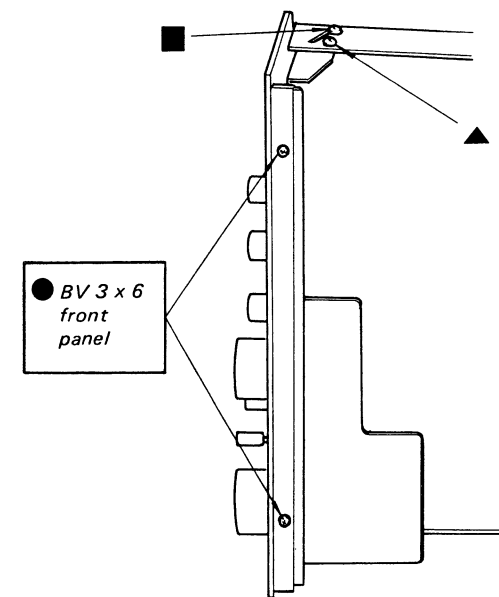


Fig. A Top view

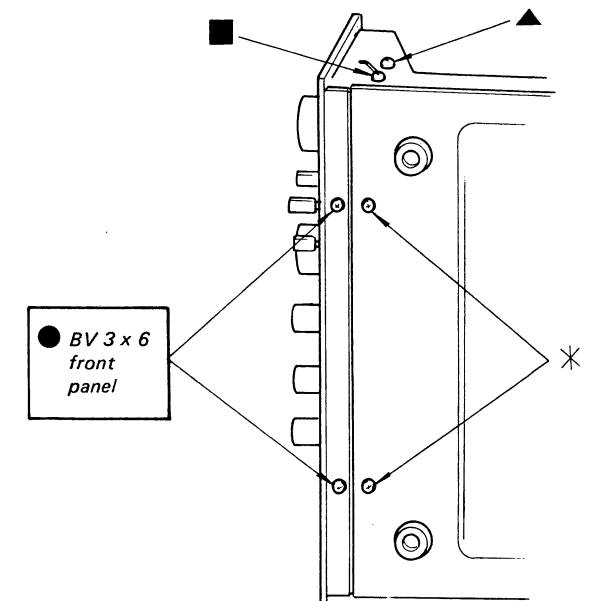


Fig. B Bottom view

CONTROL BOARD REMOVAL

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

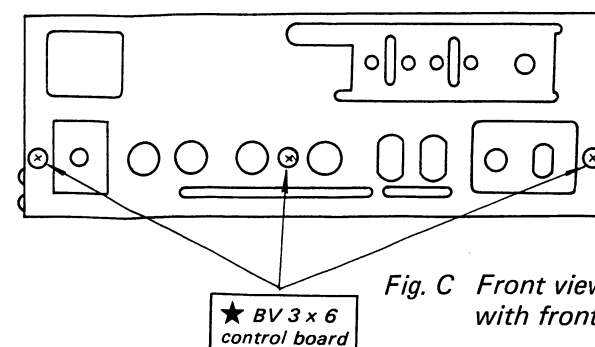


Fig. C Front view with front panel removed

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.

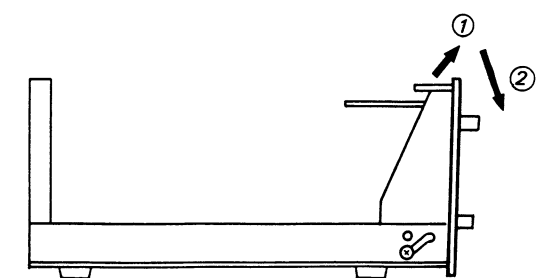


Fig. D Side view

Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(—) = slotted head
- The circled letters (Ⓐ to ⑦) are applicable for European model only.

TA-1630 TA-1630

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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	B	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
Diodes		
D101, 201	C	SV04F
D301	B	1T243
D401 ~ 404	B	10E2
CAPACITORS		
All capacitors are in µF and of electrolytic unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. (p = µµF)		
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		

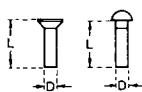
Ref. No.	Part No.	Description
C150, 250	1-102-973-11	A 100 p ceramic
C151, 251	1-108-827-12	A 0.0015 mylar
C152, 252	1-108-825-12	A 0.001 mylar
C153, 253	1-108-837-12	A 0.01 mylar
C170, 270	1-121-413-11	E 100 6.3 V
C171, 271	1-101-880-11	A 47 p ceramic
C172, 272	1-121-413-11	E 100 6.3 V
C173, 273	1-105-679-12	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
RESISTORS		
All resistors are in ohms. Regular-type ¼W 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 ½W composition
R183, 283	1-202-517-11	A 4.7 ½W composition
R191, 291	1-202-561-11	A 330 ½W composition
R401	1-202-616-11	A 62 k ½W composition (AEP, E, UK model)
	1-202-618-11	A 75 k ½W 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
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	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
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		
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

Screw: $P\ 3 \times 10$

— L: Length in mm
— D: Diameter in mm
— Type of head
— Indicated slotted-head only.
— Unless otherwise indicated, it means cross-recessed head (Phillips type).



Nut, Washer, Retaining ring:

N 3

— Diameter of usable screw or shaft
— Reference designation



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	binding-head (B) screw for replacement
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	
F		flat-fillister-head screw	
RF		fillister-head screw	binding-head (B) screw for replacement
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	