

TA-F310R/F410R

SERVICE MANUAL

AEP Model
TA-F310R

Canadian Model
AEP Model
UK Model
E Model
TA-F410R



photo: TA-F410R

SPECIFICATIONS

Amplifier

Continuous RMS power output (both channels driven simultaneously)

AEP, West Germany models:

		TA-F310R	TA-F410R
DIN, 1 kHz	4 ohms	40 W + 40 W	70 W + 70 W
	8 ohms	29 W + 29 W	50 W + 50 W
20 Hz - 20 kHz THD 0.05%	4 ohms	27 W + 27 W	45 W + 45 W
	8 ohms	24 W + 24 W	35 W + 35 W

Canadian, UK and E models:

		TA-F410R
DIN, 1 kHz	8 ohm only	70 W + 70 W
20 Hz - 20 kHz THD 0.05%		50 W + 50 W

Output

Output jack	Jack type	Voltage/impedance
REC OUT	Phono jacks	Voltage 150 mV Impedance 1 kohms
SPEAKERS	—	AEP, West Germany models Accepts speakers of 4 - 16 ohms. Canadian, UK and E models Accepts speakers of 8 - 16 ohms.
HEAD- PHONES	Stereo phone jack	Accepts low and high impedance headphones.

Tone controls

	Response	Turnover frequency
BASS	±8 dB (100 Hz)	500 Hz
TREBLE	±8 dB (15 kHz)	3 kHz

Input

Input jack		Jack type	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	MM	Phono	2.0 mV	50 kilohms	70 dB (A, 2 mV)
	TUNER, CD, VIDEO/AUX, TAPE 1, TAPE 2/DAT	Phono	150 mV	50 kilohms	100 dB (150 mV)

Harmonic distortion

TA-F310R and TA-F410R UK, AEP and West Germany models:
Less than 0.7% at rated output

Other TA-F410R models:

Less than 0.05% at rated output

Intermodulation (IM) distortion (60 Hz:7 kHz = 4:1)

Less than 0.05% at rated output

Frequency response

PHONO: RIAA equalization curve

±0.5 dB

TUNER, CD, VIDEO/AUX, TAPE 1,

TAPE 2/DAT: 7 Hz - 100 kHz ±3 dB

Residual noise

Less than 170 μV (network A)

Damping factor

40 (8 ohms, 1 kHz)

—Continued on page 2—

INTEGRATED STEREO AMPLIFIER
SONY®



General System

Preamplifier: Low-noise, high-gain equalizer amplifier

Power amplifier: Pure-complementary SEPP OCL power amplifier with all stages directly coupled

Power requirements Canadian model: 120 V AC, 60 Hz
AEP and West Germany models: 220 V AC, 50 Hz
UK. model: 240 V AC, 50 Hz
E model: 120 V, 220 V or 240 V AC adjustable, 50/60Hz

Power consumption Models for AEP and West Germany
TA-F310R: 80 W
TA-F410R: 130 W
UK. model:
TA-F410R: 220 W
Canadian model:
TA-F410R: 270 VA
E model:
TA-F410R: 130 W

Dimensions Approx. 430 × 135 × 315 mm (w/h/d)
(17 × 5 3/8 × 12 1/2 inches)

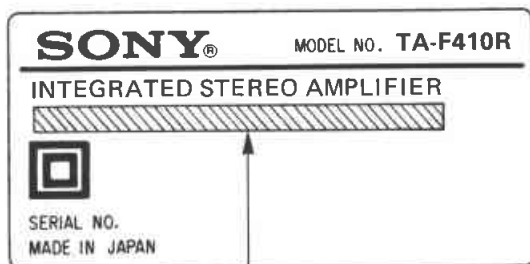
Weight TA-F310R: Approx. 5.9 kg (13 lb 1 oz)
TA-F410R: Approx. 7.4 kg (16 lb 5 oz)

Accessories Remote commander RM-S310 (1)
Sony SUM-3 (NS) batteries (2)

Design and specifications subject to change without notice.



MODEL IDENTIFICATION

—Specification Label—



Canadian Model: AC 120V 60Hz 270 VA
UK Model: AC240V 50/60Hz
E Model: AC 120/220/240V 50/60Hz 130W
West Germany Model:
AC 220V 50/60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

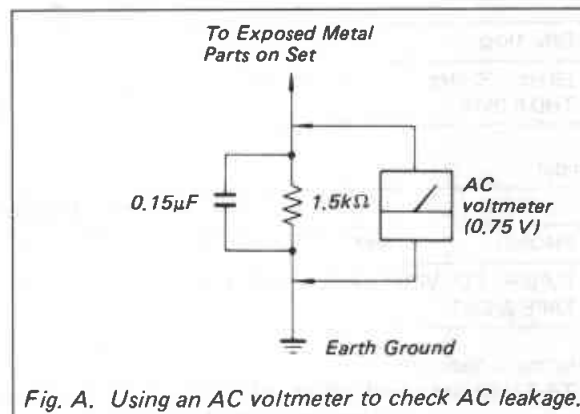


Fig. A. Using an AC voltmeter to check AC leakage.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!


LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE  SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

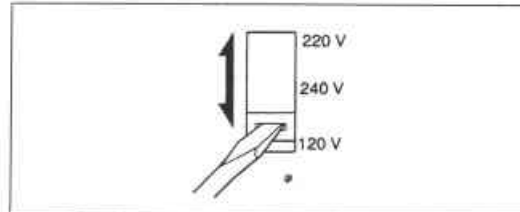
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On operating voltage

Before operating the unit, check that the operating voltage of your unit is identical with the voltage of your local power supply.

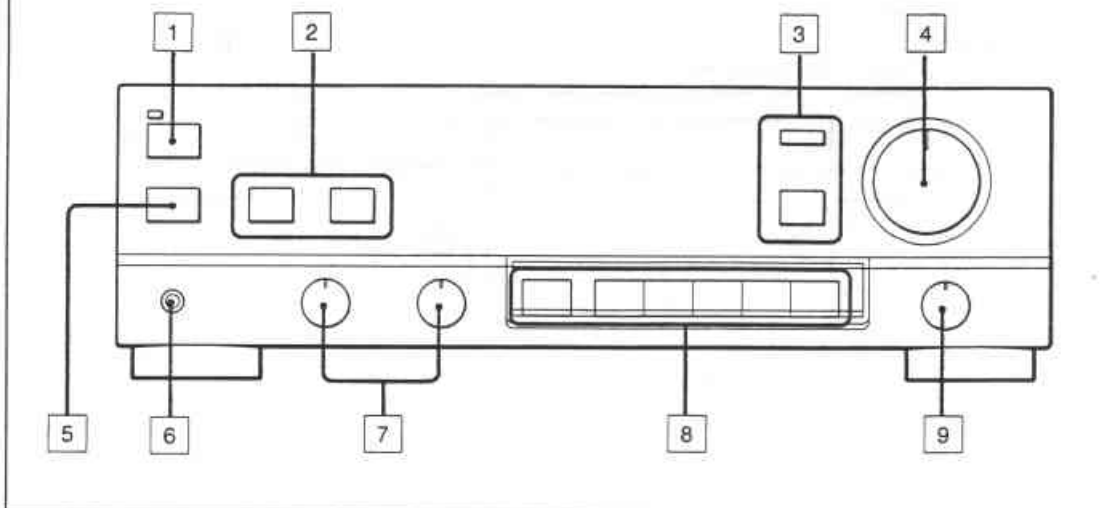
Where purchased	Operating voltage
Canadian model	120 V AC
UK model	240 V AC
AEP, West Germany model	220 V AC
E model	120 V, 220 V or 240 V AC adjustable The voltage selector is located on the rear panel. If the selector must be reset, disconnect the AC power cord and set the selector to the proper voltage of your local power supply.



SECTION 1 GENERAL

Parts identification

figure: TA-F310R

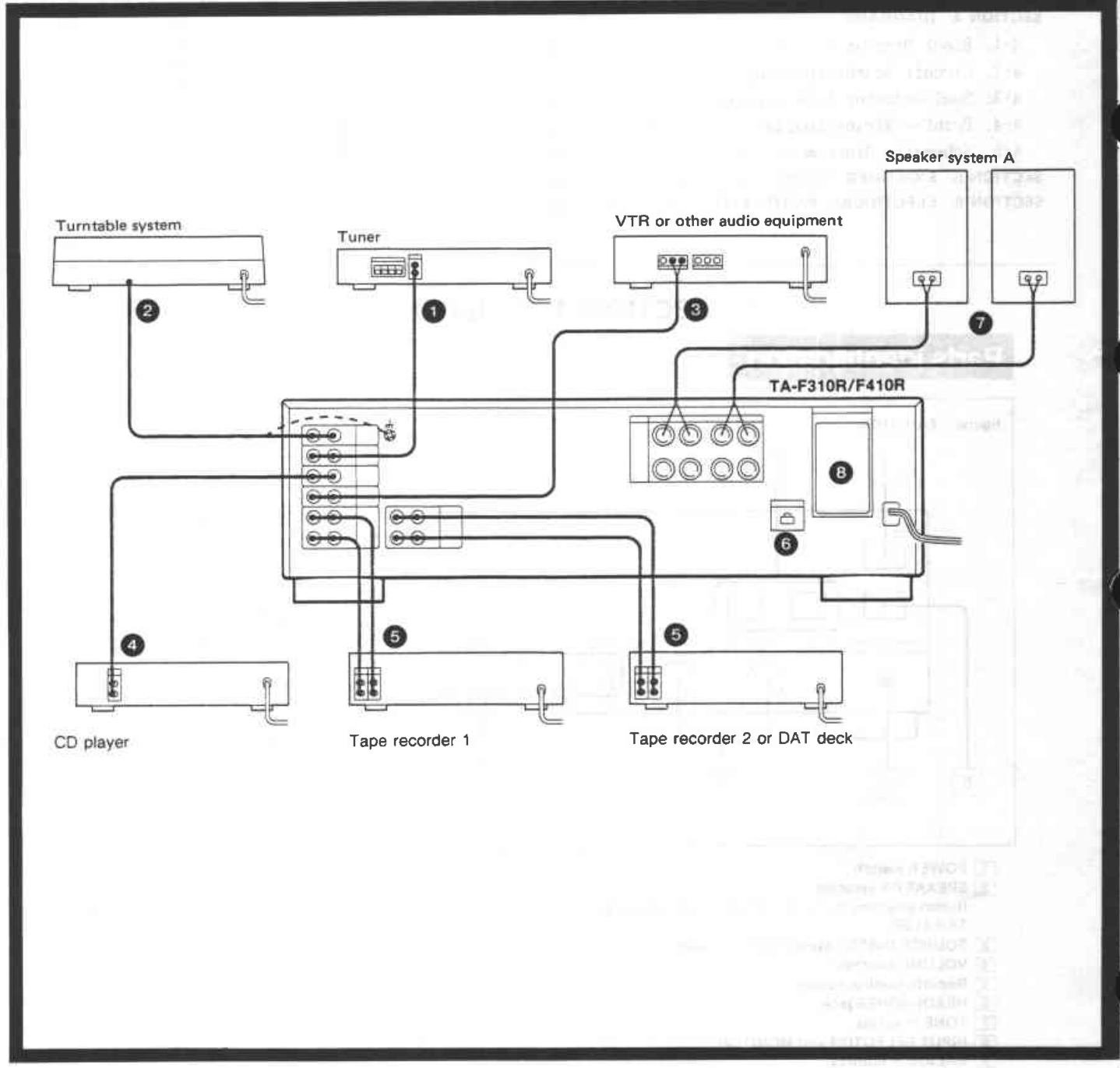


- 1 POWER switch
- 2 SPEAKERS selector
Button selectors for TA-F310R and rotary selector for TA-F410R.
- 3 SOURCE DIRECT switch and indicator
- 4 VOLUME control
- 5 Remote control sensor
- 6 HEADPHONES jack
- 7 TONE controls
- 8 INPUT SELECTOR and MONITOR
- 9 BALANCE control
- 10 REC OUT (Recording out) SELECTOR (TA-F410R only)

Connections

Notes on Connection

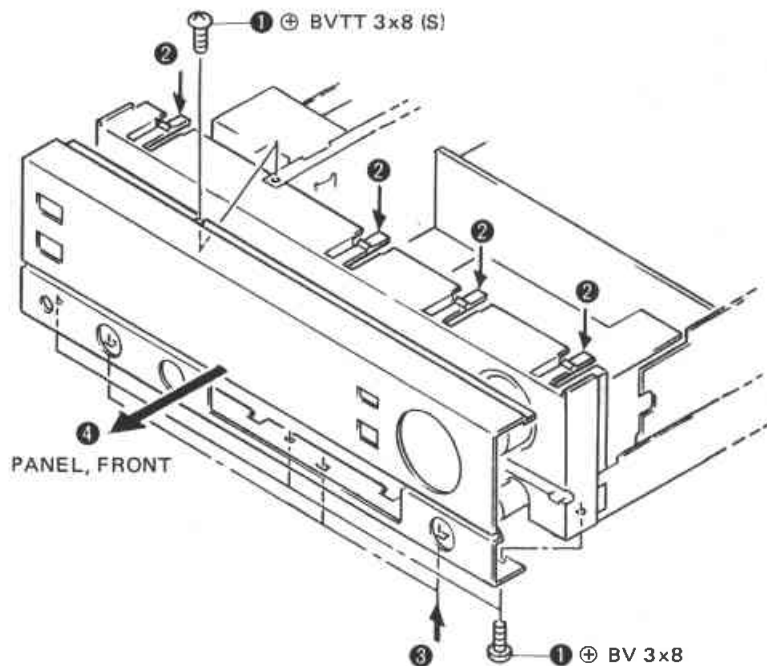
- Connect the AC power cord last. Make sure power is off.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for left channel (L).
- Fully insert cable connectors into jacks. Loose connections may cause hum or noise.



SECTION 2 DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

1. Remove screws $\times 4$.
2. Push leaves ② down to release 4 claws.
3. Release claws ③ in the bottom.
4. Pull front panel in the direction of arrow ④ .



SECTION 3 ADJUSTMENTS

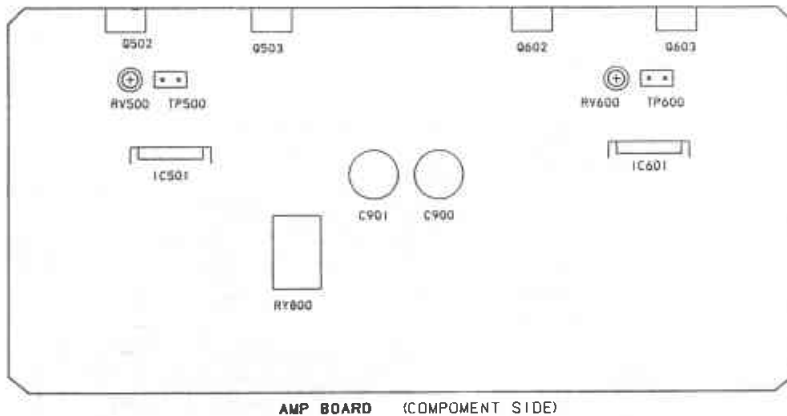
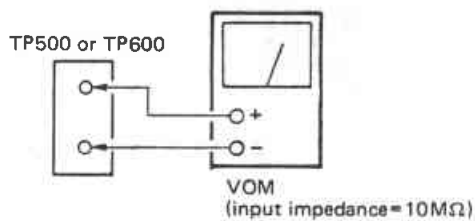
Procedure:

1. Set main volume to minimum.
2. Turn the power on and confirm that RY800 will turn on at about 6 seconds after power-on.
3. Adjust RV500(L-ch) and RV600(R-ch) so that the voltages across TP500 and TP600 become within the adjustment values.

Adjustment Location:

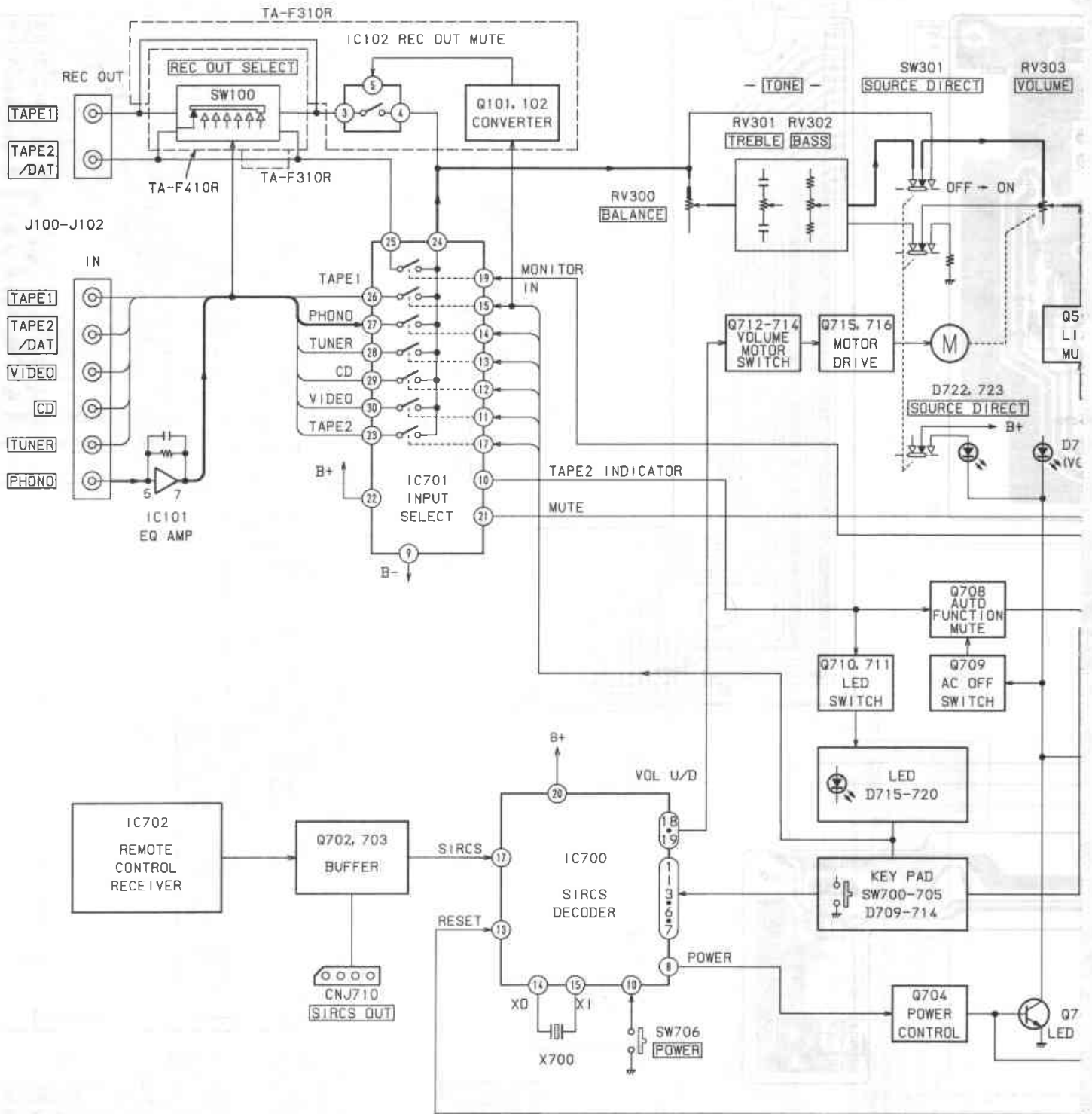
Adjustment Values:

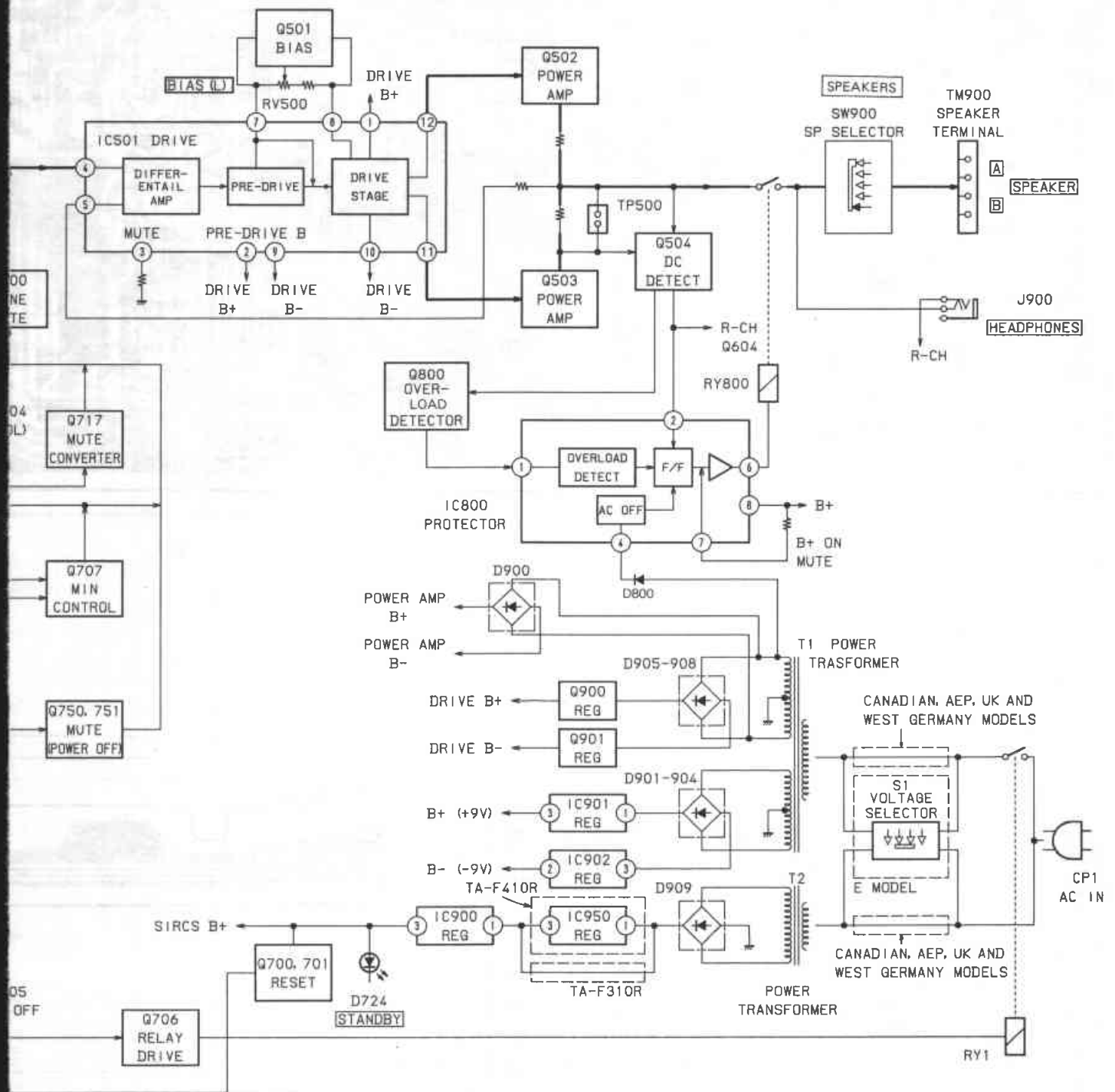
TA-F310R	4mV \pm 0.3mV
TA-F410R	2mV \pm 0.3mV



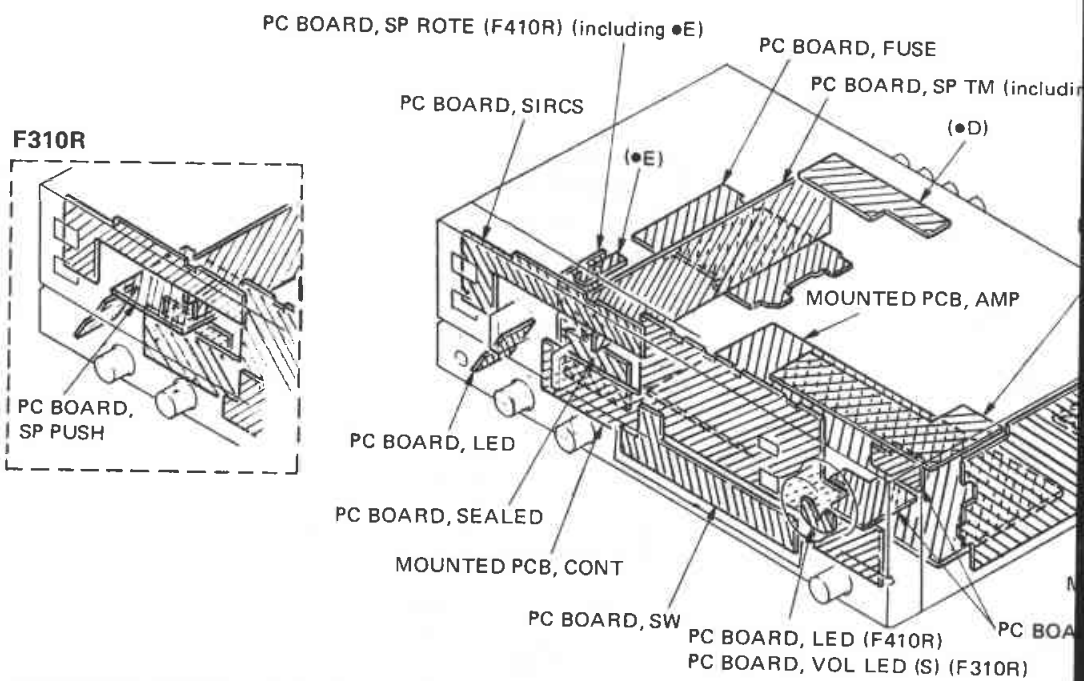
SECTION 4 DIAGRAMS

4-1. BLOCK DIAGRAM



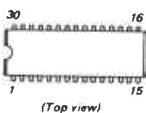


4-2. CIRCUIT BOARDS LOCATION

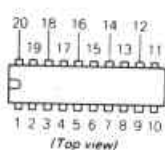


4-3. SEMICONDUCTOR LEAD LAYOUTS

LC7818



M50761-258P



2SB1014



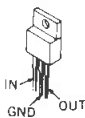
2SD1388
2SC1841-PA
2SC3622A-L



10E2N
HZ5ALL
US1060M
1S1585



M5F7805



GP1U52XB



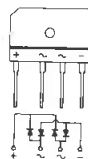
2SB1187-F



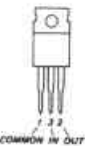
2SC4386-OPY-LF
2SA1671-OPY-LF



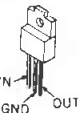
RBV-602-01



M5F7909



RC7809FA



2SC2785-HFE
2SA1175-HFE



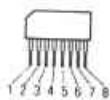
2SD1761-E



S1VB40



M5218L
UPC1237HA



UPC1298V



2SC3400
DTA124ES



US1060M
HZS6A1L



SEL1515C-CD

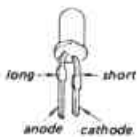


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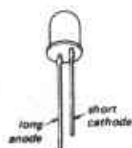
● SEMICONDUCTOR LOCATIONS



SEL2210S-C



SEL2510C



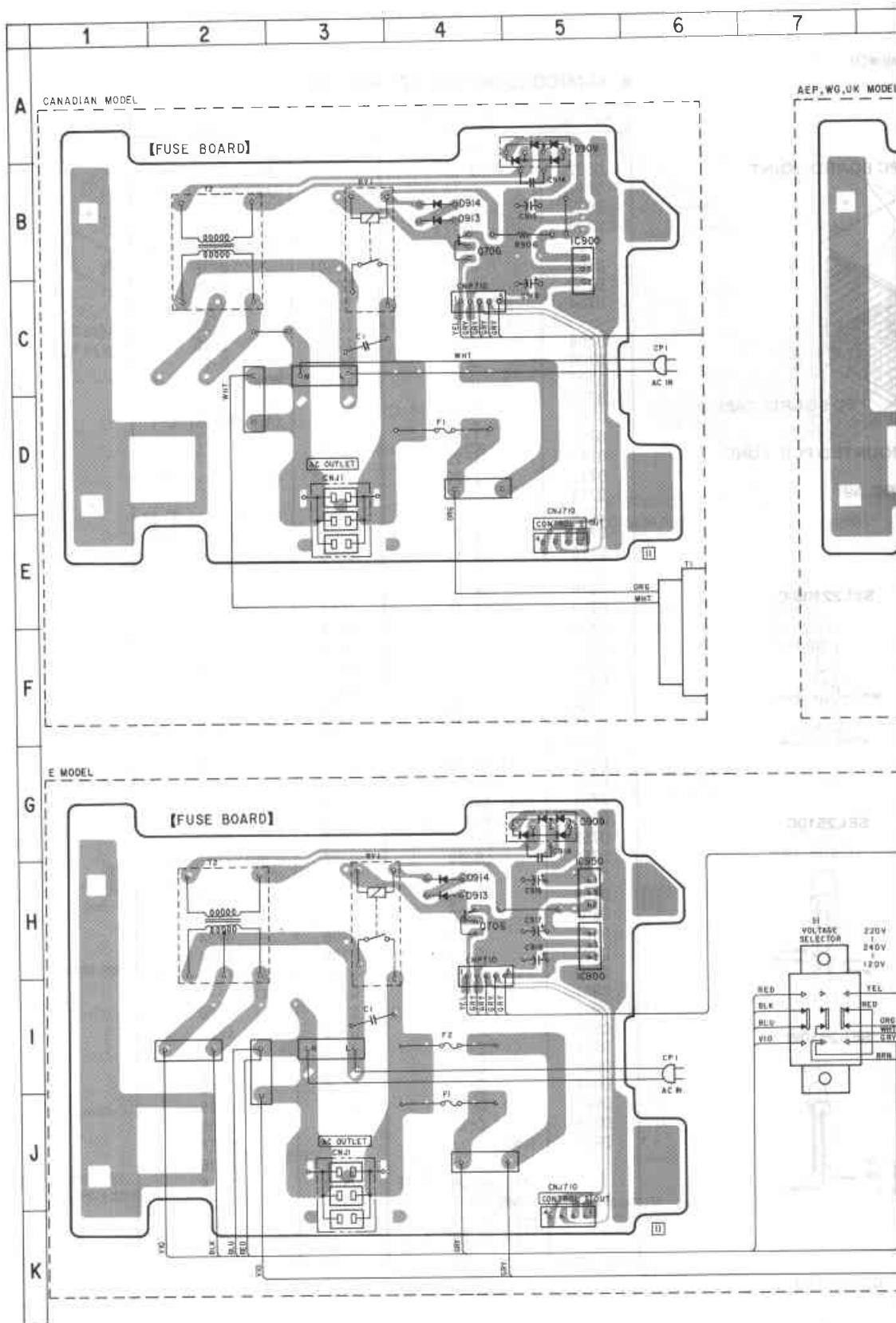
SEL2510W

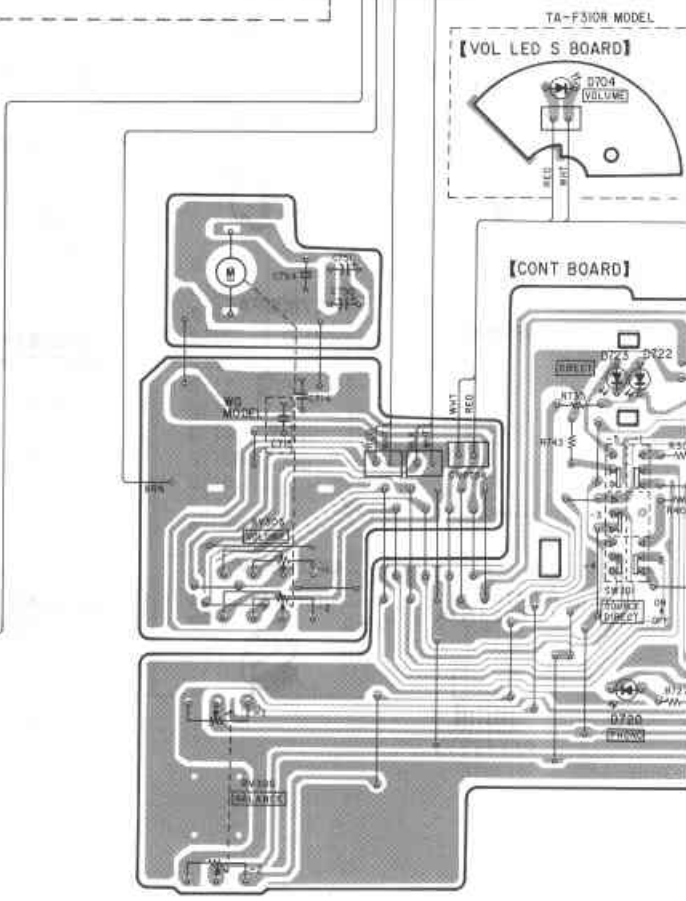
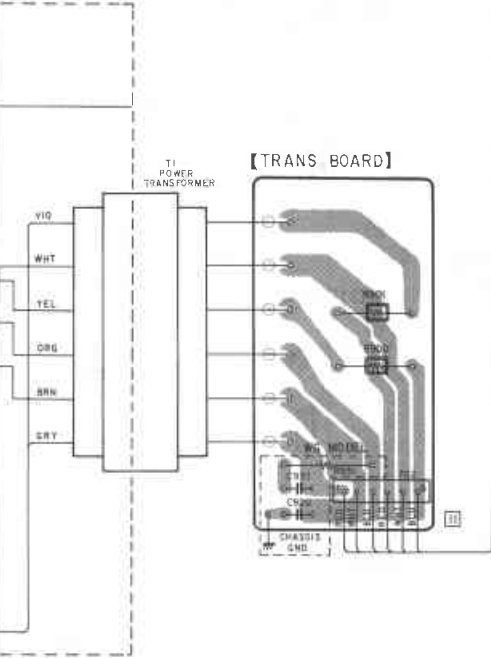
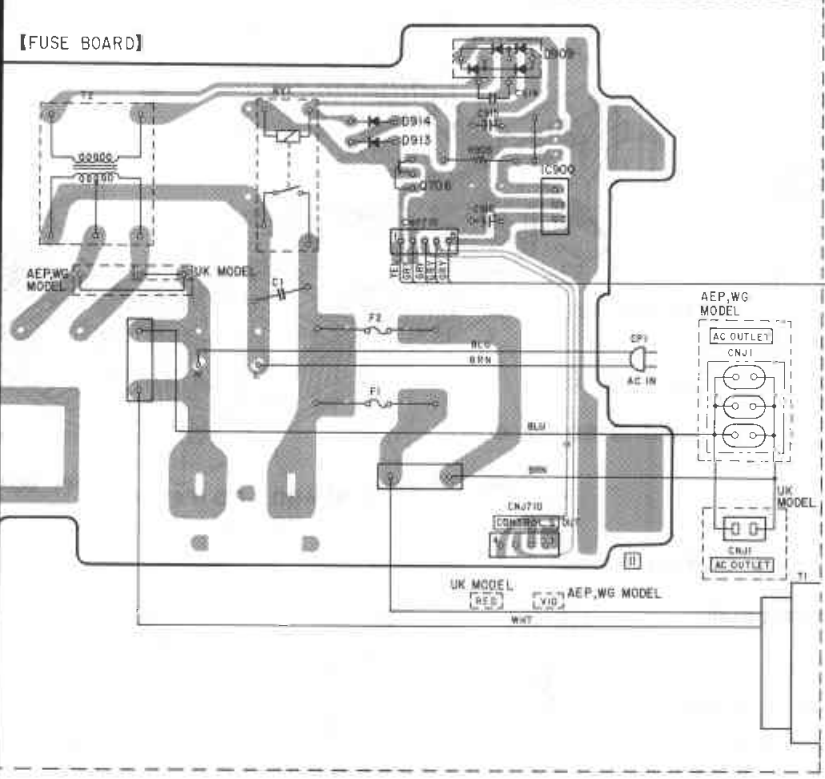


Ref. No.	Location	Ref. No.	Location
D501	B-23	D914	(CND) B-4
D502	B-23		(E) H-4
D601	C-18		(AEP, WG, UK) B-1
D602	C-18	IC101	B-37
D700	J-17	IC102	(F310R) E-32
D701	I-20	IC501	C-25
D702	B-32	IC601	C-19
D703	B-33	IC700	J-19
D704	(F310R) G-15	IC701	C-32
	(F410R) G-17	IC702	I-28
D705	J-21	IC800	D-26
D706	J-21	IC900	(CND) C-5
D707	J-21		(E) H-5
D708	J-21		(AEP, WG, UK) C-1
D709	J-21	IC901	C-17
D710	I-20	IC902	C-17
D711	I-20	IC950	(E) H-5
D712	I-20		
D713	J-19	Q101	(F310R) E-32
D714	J-19	Q102	(F310R) E-32
D715	K-20	Q500	D-24
D716	K-19	Q501	A-25
D717	K-18	Q502	A-26
D718	K-17	Q503	A-23
D719	K-16	Q504	B-23
D720	K-15	Q600	D-18
D721	B-34	Q601	A-19
D722	I-15	Q602	A-20
D723	I-15	Q603	A-18
D724	I-29	Q604	B-18
D725	B-34	Q700	J-17
D750	D-32	Q701	J-18
D751	(F410R) K-20	Q702	I-21
D752	(F410R) K-20	Q703	I-20
D753	(F410R) K-20	Q704	K-18
D754	(F410R) K-20	Q705	J-17
D755	(F410R) K-20	Q706	(CND) B-4
D756	B-35		(E) H-4
D757	I-21		(AEP, WG, UK) B-11
D758	B-34	Q707	B-34
D800	E-26	Q708	B-34
D801	D-24	Q709	B-34
D802	D-24	Q710	(F410R) J-21
D900	D-22	Q711	(F410R) J-21
D901	E-17	Q712	I-20
D902	E-17	Q713	I-20
D903	E-17	Q714	I-19
D904	E-17	Q715	I-19
D905	D-21	Q716	I-18
D906	C-20	Q717	B-35
D907	D-20	Q750	B-35
D908	C-20	Q751	B-34
D909	(CND) B-5	Q800	C-26
	(E) G-5	Q900	D-19
	(AEP, WG, UK) B-11	Q901	D-20
D913	(CND) B-4		
	(E) H-4		
	(AEP, WG, UK) B-10		

4-4. PRINTED WIRING BOARDS

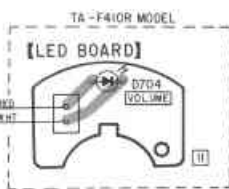
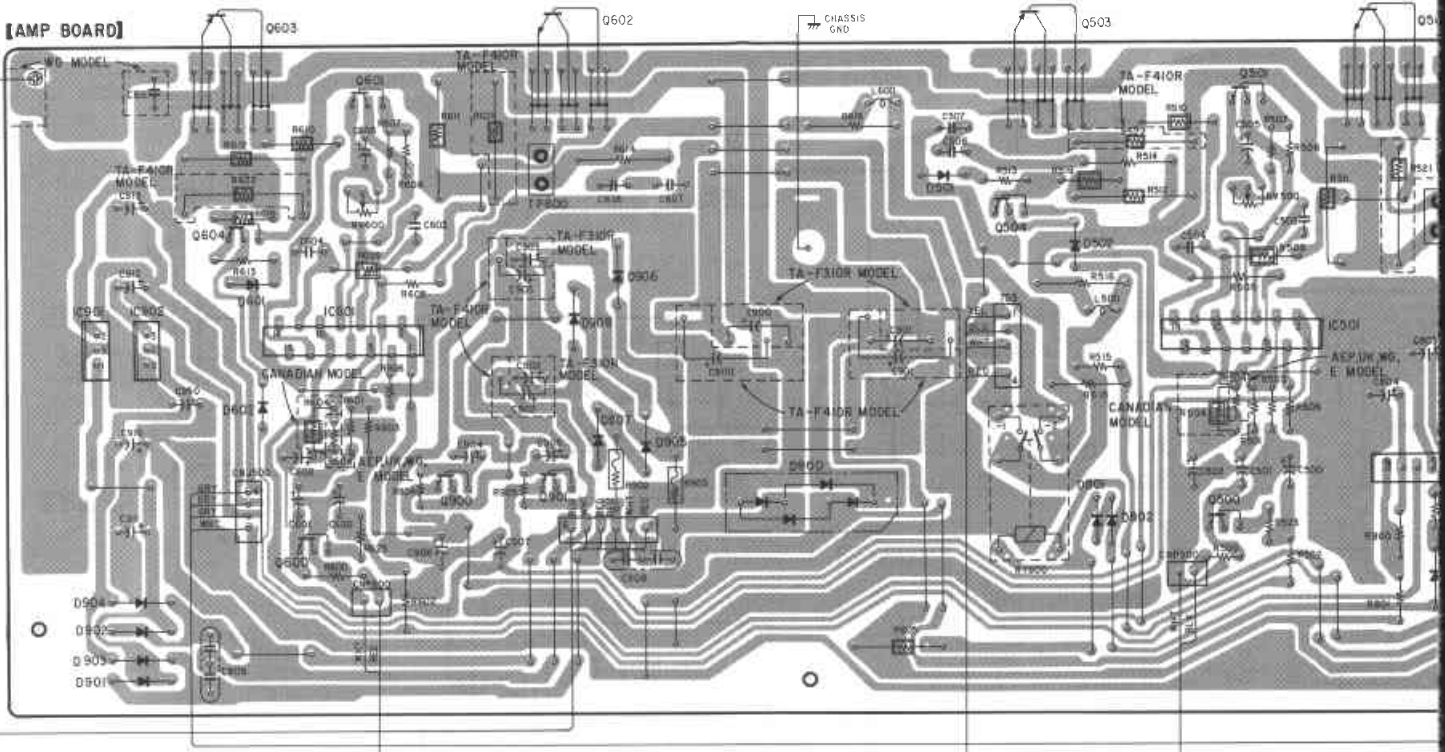
- See page 8 for Circuit Boards Location and Semiconductor Lead Layouts.
- See page 9 for Semiconductor Location.



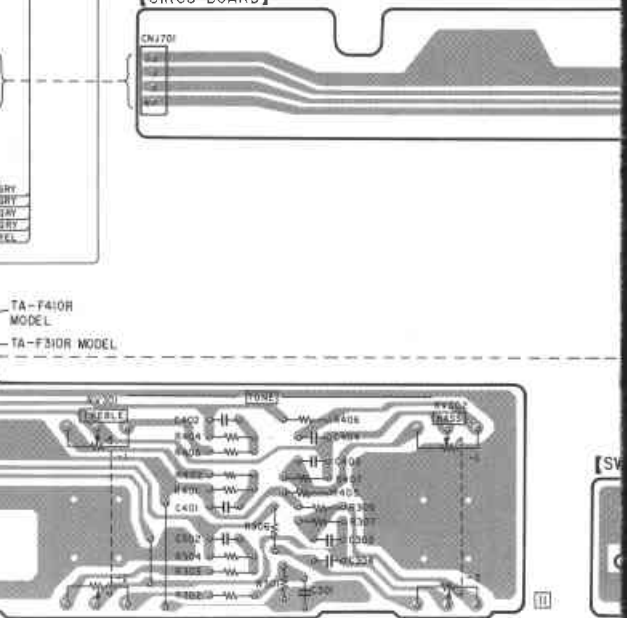
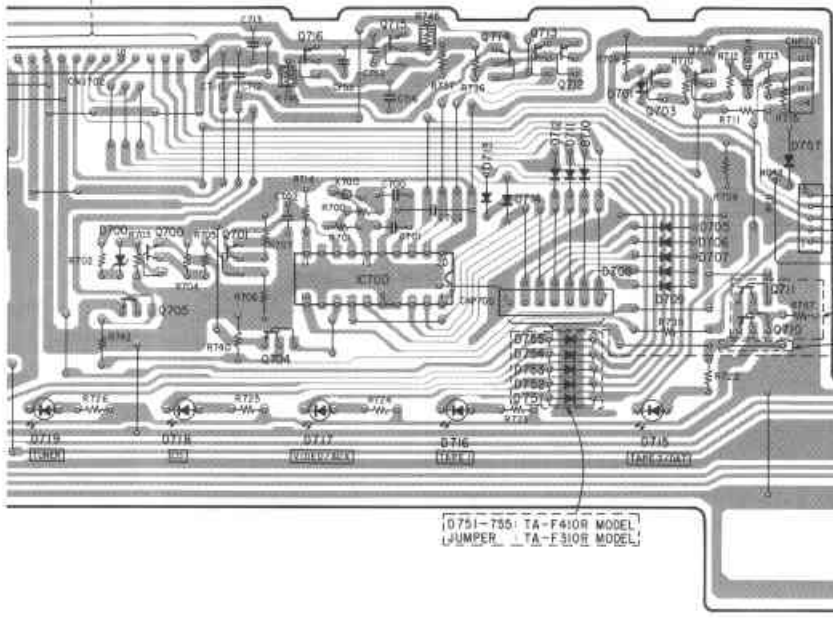


17 18 19 20 21 22 23 24 25

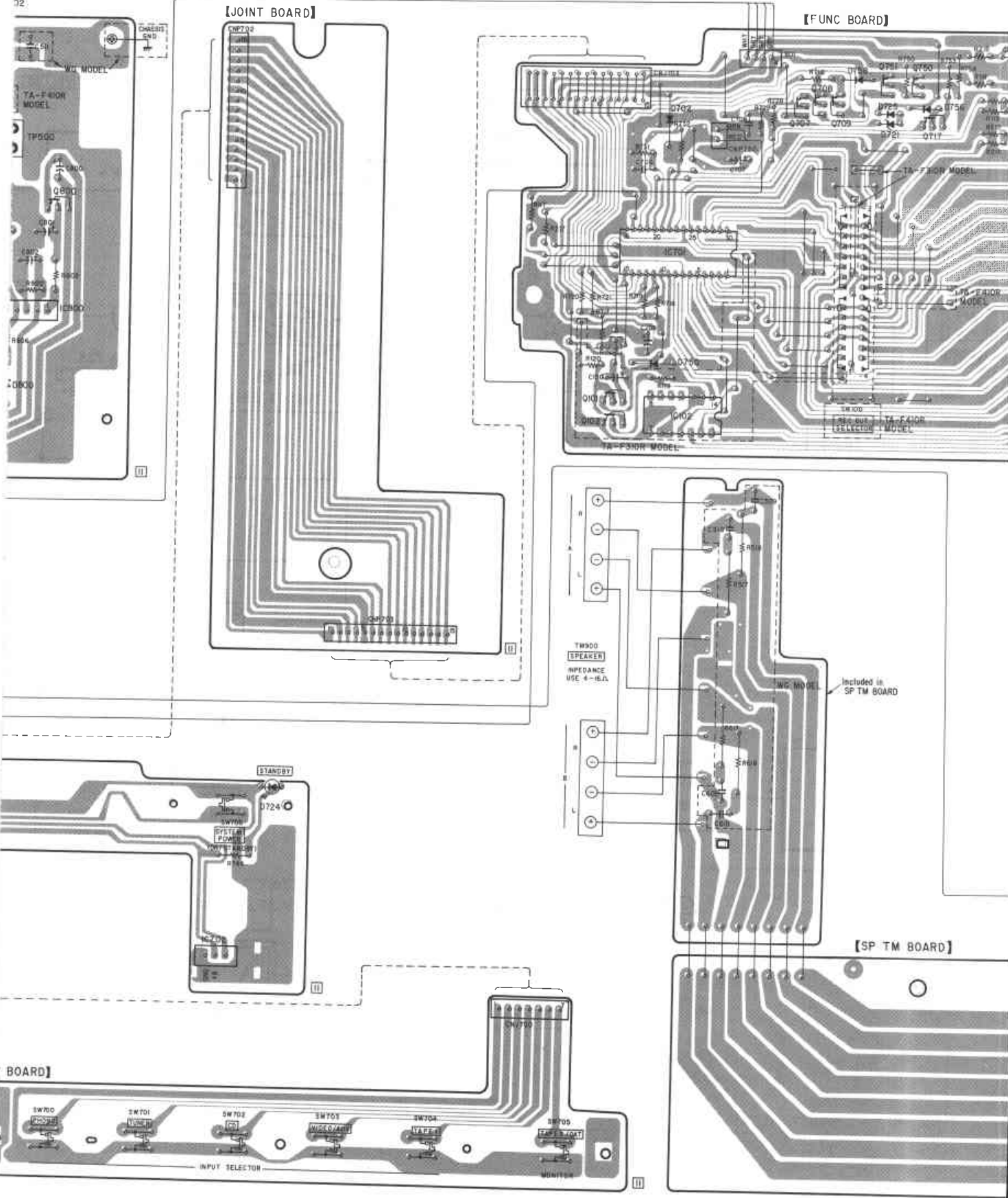
[AMP BOARD]



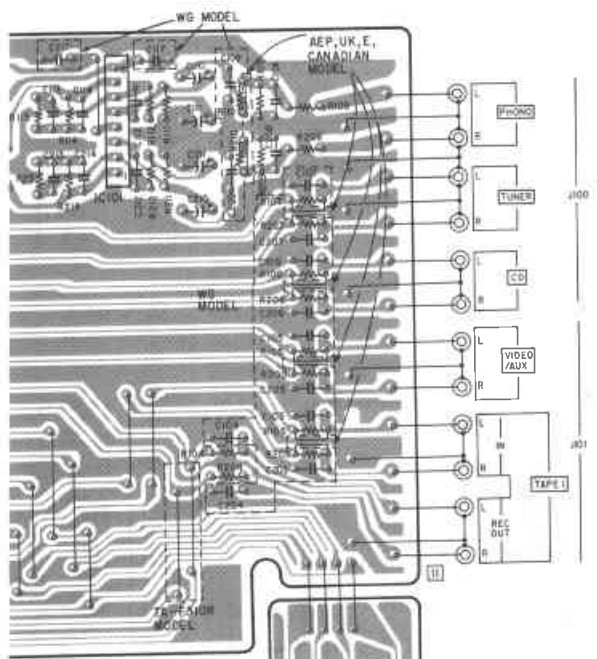
[SIRCS BOARD]



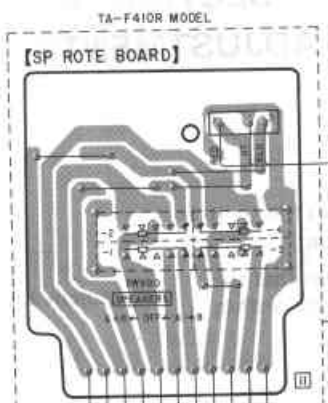
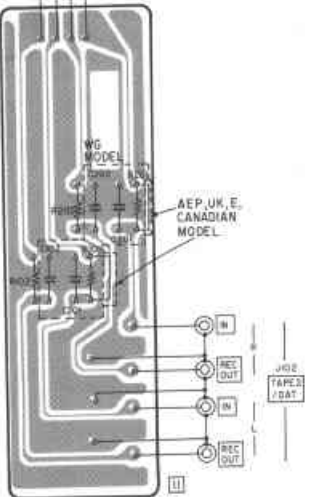
72



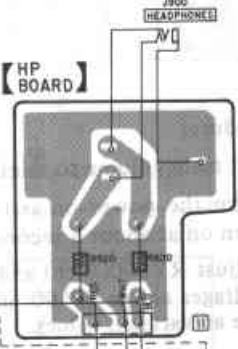
37	38	39	40	41	42	43	44	45
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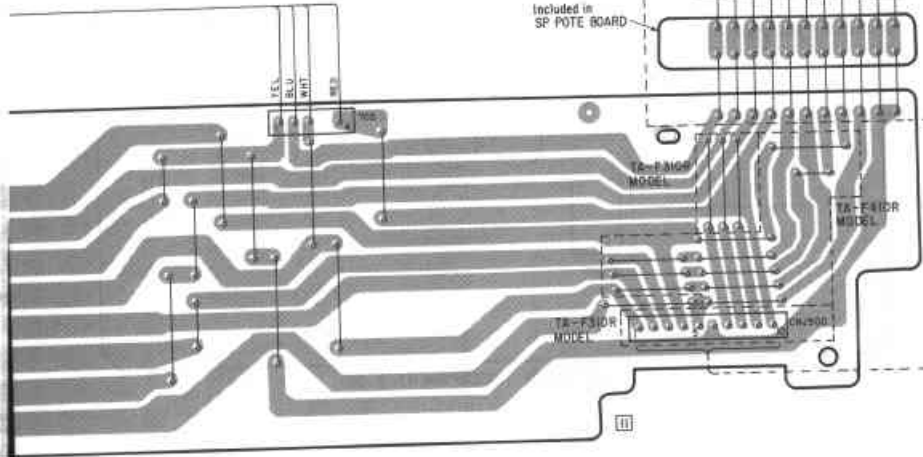
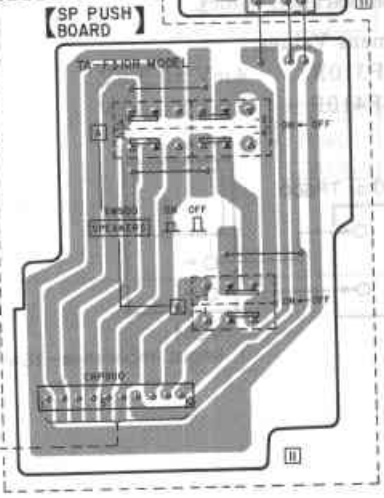
【TAPE 2 BOARD】



【HP BOARD】

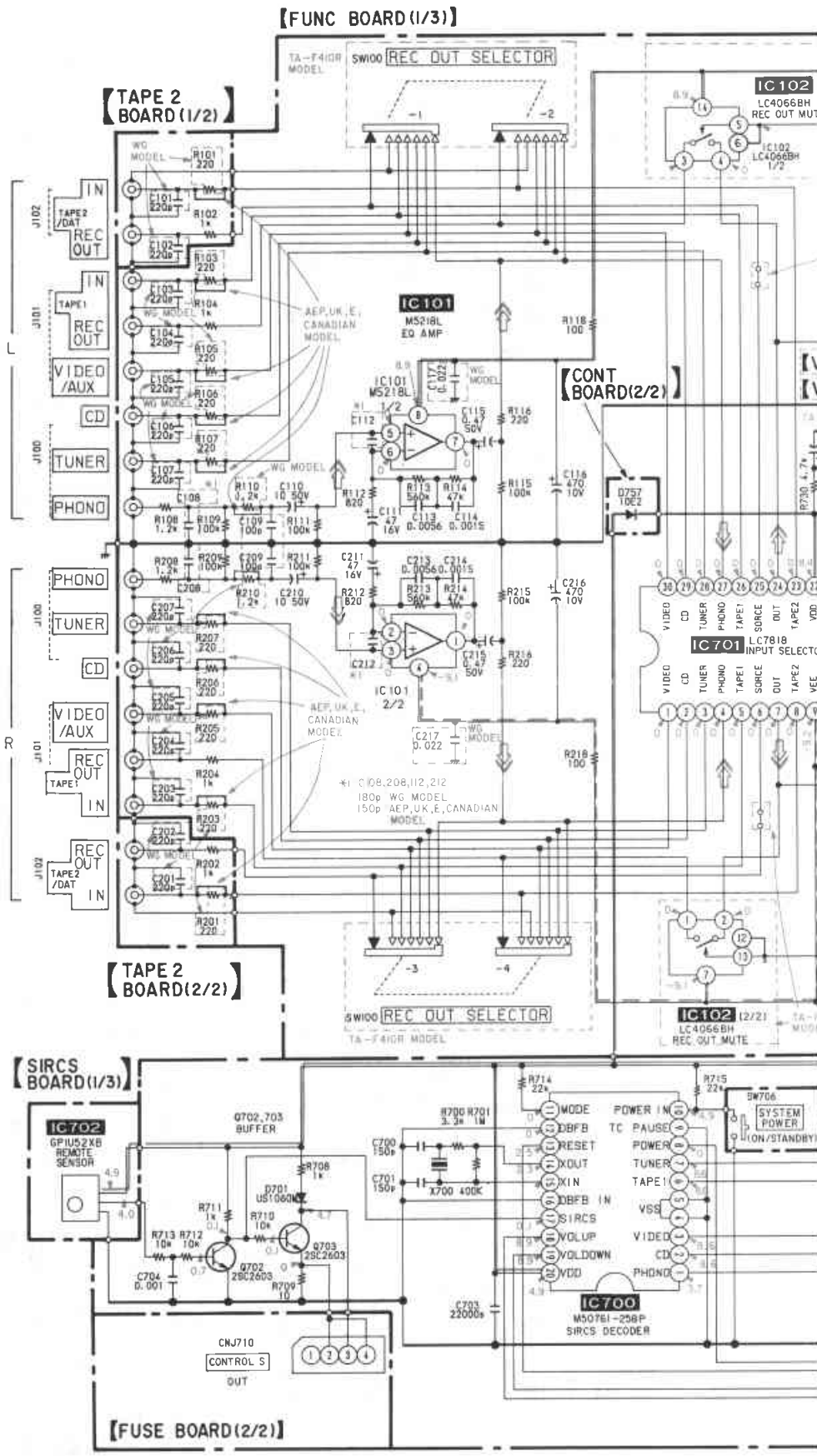


【SP PUSH BOARD】



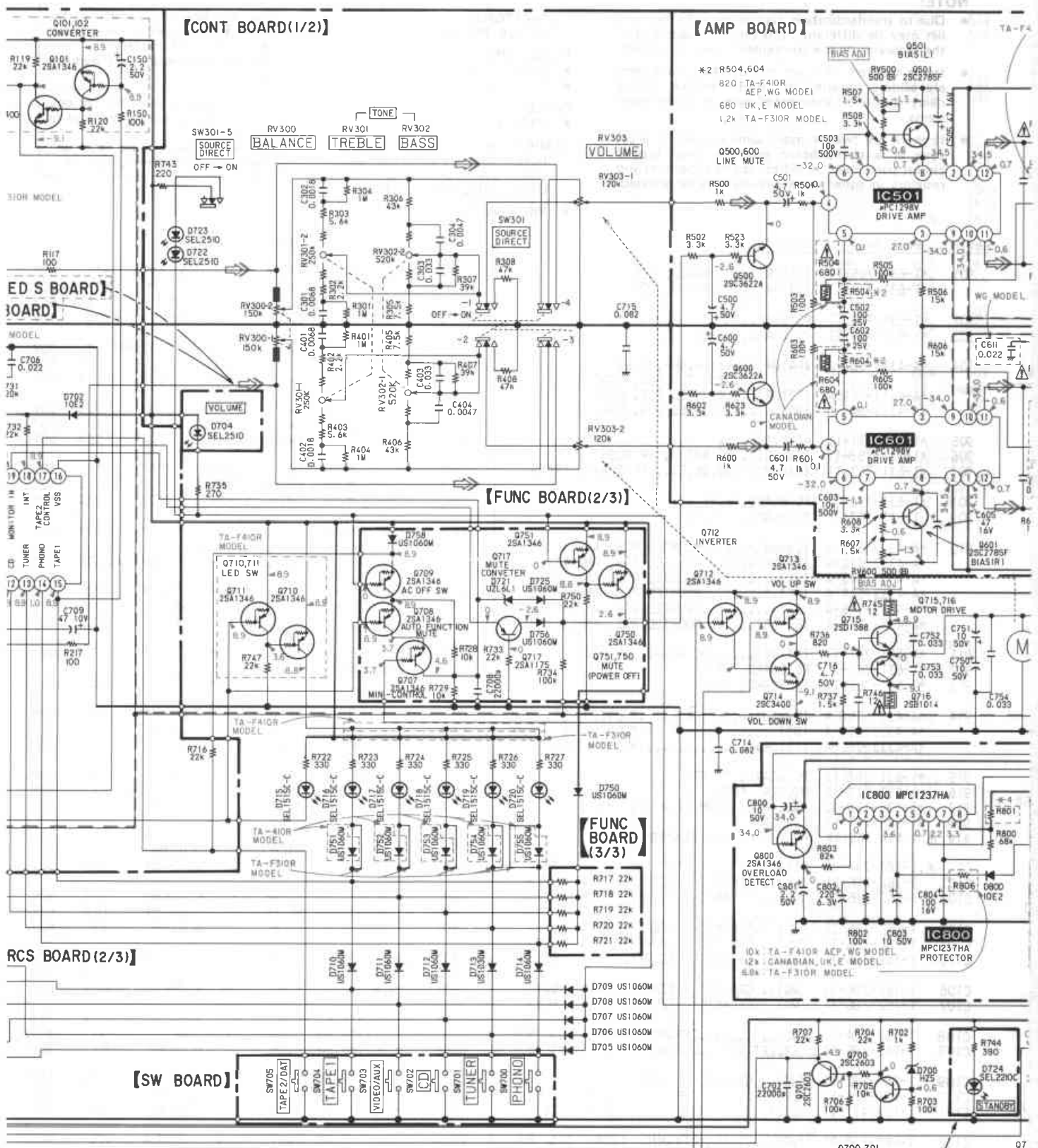
4-5. SCHEMATIC DIAGRAM

A
B
C
D
E
F
G
H
I
J
K



[CONT BOARD(1/2)]

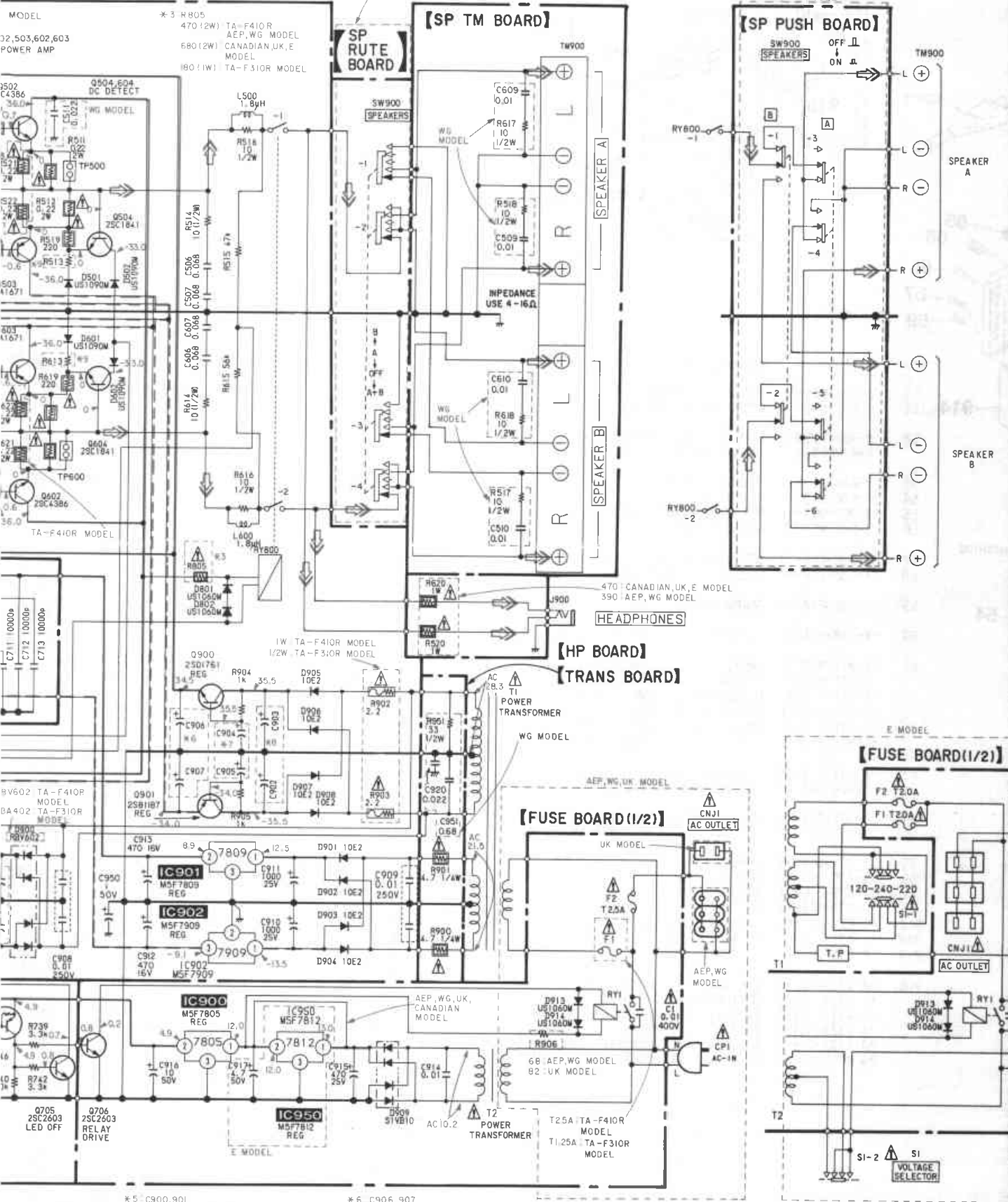
[AMP BOARD]



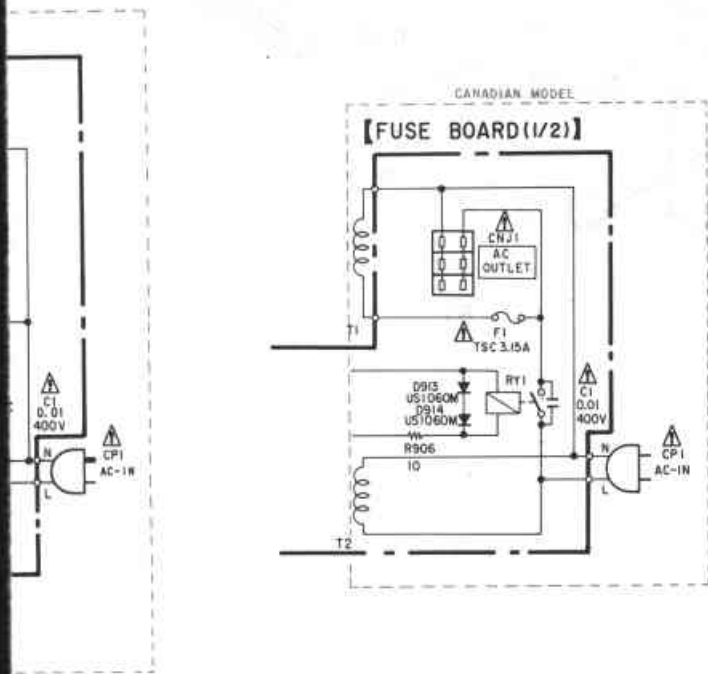
* 4 R601
 12k T
 18k C
 10k T

*9: R513, 613
 12k TA-F410R AEP, WG MODEL
 47k UK, E, CANADIAN MODEL
 3.3k TA-F310R MODEL

TA-F410R MODEL









- *3 R805 470 1/2W TA-F410R AEP, WG MODEL; 680 (1/2W) CANADIAN, UK, E MODEL; 180 (1/2W) TA-F310R MODEL
- *4 R806 470 1/2W TA-F410R AEP, WG MODEL; 680 (1/2W) CANADIAN, UK, E MODEL; 180 (1/2W) TA-F310R MODEL
- *5 C900, 901 10000 50V TA-F410R AEP, WG MODEL; 8200 56V CANADIAN, UK, E MODEL; 4700 35V TA-F310R MODEL
- *6 C906, 907 47 63V CANADIAN, UK, E MODEL; 22 50V AEP, WG MODEL
- *7 C904, 905 22 63V CANADIAN, UK, E MODEL; 22 50V AEP, WG MODEL
- *8 C902, 903 1000 50V TA-F410R AEP, WG MODEL; 470 63V CANADIAN, UK, E MODEL; 470 35V TA-F310R MODEL



A

• All capacitors are in μF unless otherwise noted. pF: $\mu\mu\text{F}$
50WV or less are not indicated except for electrolytics
and tantalums.




B

- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise
specified.
-  : nonflammable resistor.
-  : fusible resistor.
-  : B +LINE
-  : B -LINE
-  : adjustment for repair.
- Voltage are dc with respect to ground under no signal condi-
tions.
- no mark: PHONO
- Voltages are taken with a VOM.
(Input impedance $50\text{K}\Omega$)
Voltage variations may be noted due to normal produc-
tion tolerances.
- Signal path.
 : PHONO
- abbreviation
WG: West Germany

C

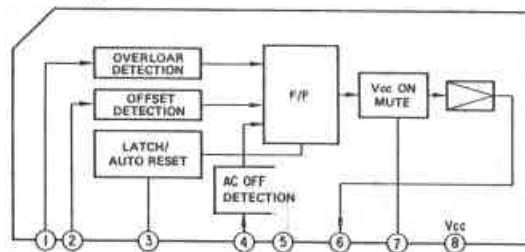
D

E

<p>Note: The components identi- fied by mark  or dot- ted line with mark  are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spéci- fié.</p>
--	--

F

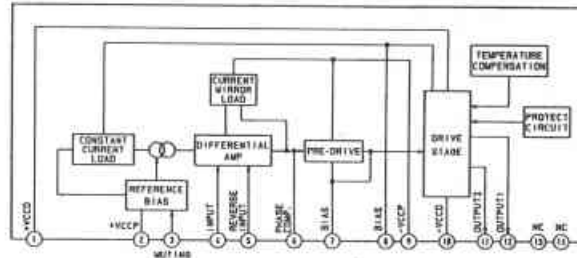
IC800 $\mu\text{PC1237HA}$



G

H

IC501, IC601 UPC1298



I

J

K

SECTION 5 EXPLODED VIEWS

NOTE:

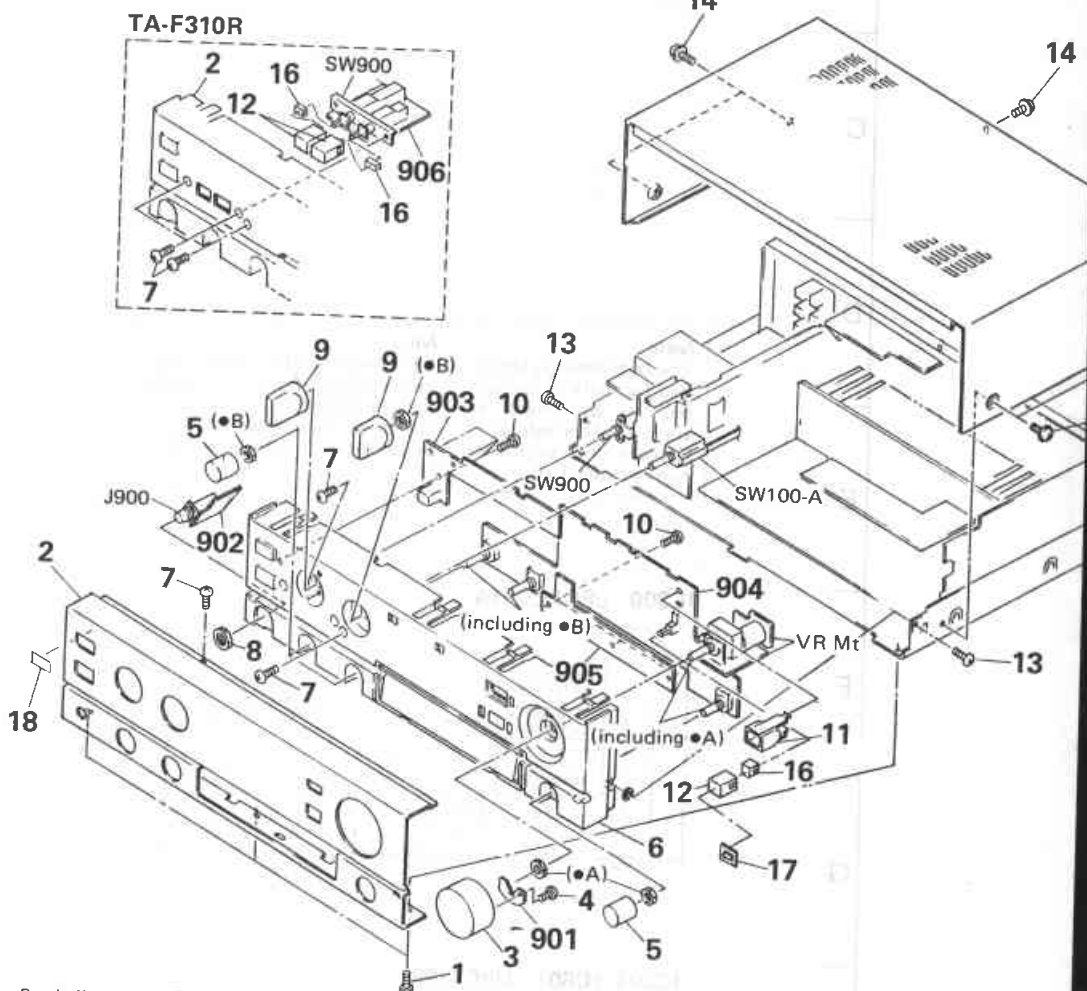
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in the components used on the set.
- Color Indication of Appearance Parts Example:
(RED) ... KNOB, BALANCE (WHITE)
↑ Cabinet's Color ↑ Parts' Color
- WG: West Germany model.

The components marked with a triangle or dotted triangle are critical for safety. Replace only with the specified parts.

Les composants identifiés par une marque triangle sont critiques pour la sécurité. Ne les remplacer que par la pièce portant le numéro spécifié.

1. GENERAL (1)



No.	Part No.	Description	Remarks	No.	Part No.	Description
1	3-703-685-21	SCREW (+BV 3X8)		15	4-929-294-11	CASE
2	4-931-915-01	(F410R)...PANEL, FRONT		16	4-854-307-00	RING
	4-931-915-11	(F310R).....PANEL, FRONT		17	4-929-284-01	PLATE, INDICATION
3	X-4906-828-1	(F410R)...KNOB (47) ASSY		18	4-908-848-01	EMBLEM, SONY
	4-929-288-01	(F310R).....KNOB (VOL 47)		901	*1-631-765-11	(F410R)...PC BOARD
4	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S			*1-631-777-11	(F310R)...PC BOARD
5	4-916-746-11	KNOB (DIA. 21), ROUND		902	*1-631-759-11	PC BOARD, HP
6	X-4885-954-1	(F410R)...PANEL (BASE) ASSY		903	*1-631-764-11	PC BOARD, SIRCS
	X-4885-955-1	(F310R).....PANEL (BASE) ASSY		904	*A-4333-568-A	(F410R:Canadian,AEMOUNTED
7	7-682-548-04	SCREW +BVTT 3X8 (S)			*A-4333-569-A	(F310R)...MOUNTED
8	4-931-902-01	NUT (M12X1)			*A-4333-841-A	(WG).....MOUNTED
9	4-916-729-01	(F410R)...KNOB (DIA.29)		905	*1-631-771-11	PC BOARD, SW
10	4-928-635-01	SCREW, +BV (2.6X8) TAPPING		906	*1-631-758-11	(F310R)...PC BOARD
11	*4-921-389-01	HOUSE		SW100-A	1-571-972-11	(F410R)...SWITCH,
12	4-908-875-01	KNOB, SQUARE		SW900	1-571-973-11	(F410R)...SWITCH,
13	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		SW900	1-571-971-11	(F310R)...SWITCH,
14	3-704-366-01	SCREW (CASE) (M3X8)				

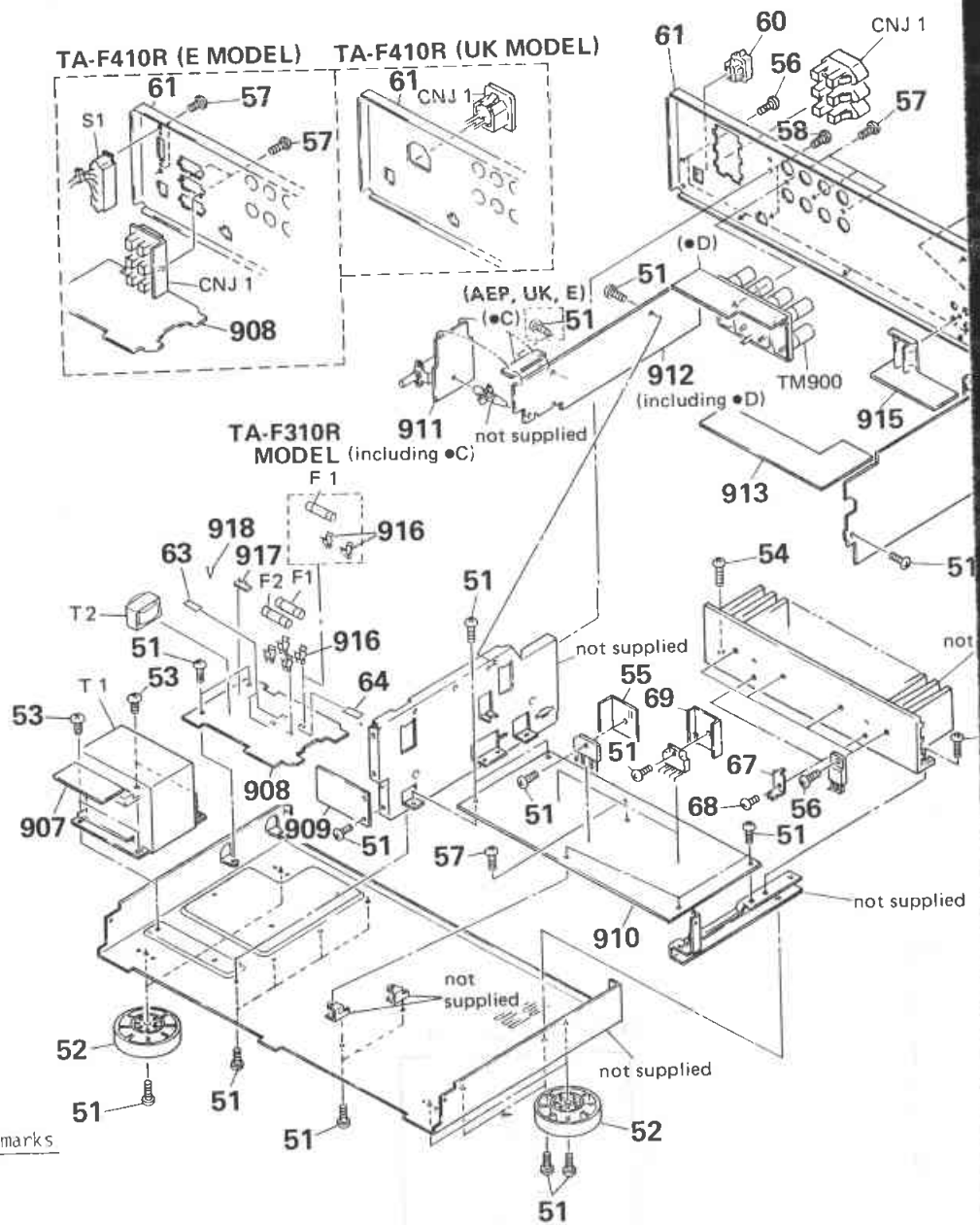
identified by
line with mark
safety.
part number

ntifiés par une
tiques pour la

que par une
néro spécifié.

2. GENERAL (2)

TA-F410R (E MODEL) TA-F410R (UK MODEL)



Remarks

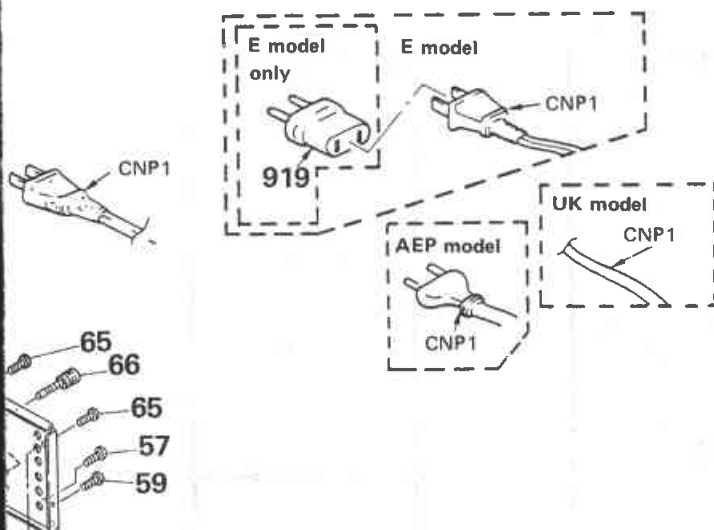
D, LED
D, VOL LED (S)

(P, UK, E)
PCB, CONT
PCB, CONT
PCB, CONT

SP PUSH

ROTARY

ROTARY (SPEAKER)
PUSH (2 KEY)(SPEAKER)



No.	Part No.	Description	Remarks	No.	Part No.	Description	Remarks
51	3-703-685-21	SCREW (+BV 3X8)		911	*1-631-761-11	(F410R)...PC BOARD, SP ROTE	
51	7-682-548-04	SCREW +BVTT 3X8 (S)		912	*1-631-760-11	PC BOARD, SP TM	
52	X-3304-938-2	(AEP,WG,UK)...FOOT ASSY		913	*1-631-762-11	PC BOARD, JOINT	
	X-4885-950-1	(Canadian,E)...FOOT ASSY		914	*A-4333-558-A	(Canadian,AEP,UK,E)...MOUNTED PCB, F	
53	7-682-560-04	SCREW +BVTT 4X6 (S)			*A-4333-559-A	(WG)...MOUNTED PCB, F	
54	7-682-548-01	SCREW +B 3X8			*A-4333-560-A	(F310R)...MOUNTED PCB, F	
55	*4-931-903-01	(F410R:AEP,WG)...HEAT SINK (D1)		915	*1-631-768-11	PC BOARD, TAPE2	
56	7-682-950-01	SCREW +PSW 3X12		916	*1-533-213-31	HOLDER, FUSE	
57	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S		917	1-535-139-00	BASE POST	
58	7-682-547-09	SCREW +BVTT 3X6 (S)		918	1-535-771-11	TERMINAL	
59	7-685-646-19	SCREW +BVTP 3X8		CNJ1	*1-526-751-00	(UK)...OUTLET, AC (AC OUTLET)	
60	*3-703-244-00	(EXCEPT E)...BUSHING (2104), CORD		CNJ1	*1-526-794-11	(AEP,WG)...OUTLET, AC (AC OUTLET)	
61	*4-931-917-31	(WG)...PANEL, BACK		CNJ1	*1-540-042-11	(E)...OUTLET, AC (NONPOLAR)(3P)	
	*4-931-910-01	(F310R)...PANEL, BACK				(AC OUTL	
	*4-931-917-01	(Canadian)...PANEL, BACK		CNJ1	*1-540-061-11	(Canadian)...OUTLET, AC (POLAR)(AC OUTL	
	*4-931-917-21	(F410R:AEP)...PANEL, BACK		CP1	△ 1-558-686-11	(Canadian)...CORD, POWER	
	*4-931-917-41	(WG)...PANEL, BACK		CP1	△ 1-551-188-XX	(E)...CORD, POWER	
	*4-931-917-51	(E)...PANEL, BACK		CP1	△ 1-555-750-00	(AEP,WG)...CORD, POWER	
				CP1	△ 1-556-035-00	(UK)...CORD, POWER	
62	3-703-571-00	(E)...BUSHING (4516), CORD		F1	△ .1-532-203-11	(E)...FUSE, TIME-LAG T2.0A	
63	3-701-948-17	(E)...LABEL (T2A), FUSE		F1	△ .1-532-285-11	(F310R)...FUSE, TIME-LAG T1.25A	
64	3-701-946-25	(Canadian)...LABEL (3.15A 125V), FUSE		F1	△ .1-532-286-11	(F410R:AEP,WG,UK)...FUSE, TIME-LAG	
	3-701-947-12	(F310R)...LABEL (T1.2A), FUSE		F1	△ .1-532-745-11	(Canadian)...FUSE, GLASS TUBE TSC3.	
65	7-621-849-00	SCREW, TAPPING		F2	△ .1-532-203-11	(E)...FUSE, TIME-LAG T2.0A	
66	3-706-165-00	SCREW		F2	△ .1-532-286-11	(AEP,WG,UK)...FUSE, TIME-LAG T2.5A	
67	*4-929-285-01	BRACKET (TR)		SW900	1-571-973-11	(F410R)...SWITCH, ROTARY (SPEAKER)	
69	*4-928-442-11	(F310R)...HEAT SINK (S)		SW900	1-571-971-11	(F310R)...SWITCH, PUSH (2 KEY)(SPEA	
907	*1-631-763-11	(Canadian,WG,UK,E)...PC BOARD, TRANS		T1	△ .1-449-743-11	(F310R)...TRANSFORMER, POWER	
908	*1-631-770-11	PC BOARD, FUSE		T1	△ .1-449-744-11	(F410R:AEP,WG)...TRANSFORMER, POWER	
909	1-631-767-11	PC BOARD, SEALED		T1	△ .1-449-745-11	(Canadian)...TRANSFORMER, POWER	
910	*A-4333-541-A	(Canadian)...MOUNTED PCB, AMPLIFIER		T1	△ .1-449-746-11	(UK)...TRANSFORMER, POWER	
	*A-4333-542-A	(F410R:AEP)...MOUNTED PCB, AMPLIFIER		T1	△ .1-449-747-11	(E)...TRANSFORMER, POWER	
	*A-4333-543-A	(WG)...MOUNTED PCB, AMPLIFIER		T2	△ .1-449-296-11	(Canadian)...TRANSFORMER, POWER	
	*A-4333-544-A	(UK)...MOUNTED PCB, AMPLIFIER		T2	△ .1-449-299-11	(E)...TRANSFORMER, POWER	
	*A-4333-545-A	(E)...MOUNTED PCB, AMPLIFIER		T2	△ .1-449-297-11	(AEP,WG,UK)...TRANSFORMER, POWER	
	*A-4333-546-A	(F310R)...MOUNTED PCB, AMPLIFIER		TM900	1-537-227-11	(AEP)...TERMINAL BOARD	
				TM900	1-537-228-11	(Canadian,WG,UK,E)...TERMINAL BOARD	

Note:
The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:

MF: μ F, PF: μ μ F.

RESISTORS

- All resistors are in ohms.
- F: nonflammable

COILS

- MMH: mH, UH: μ H

SEMICONDUCTORS

In each case, U: μ , for example:

UA...: μ A..., UPA...: μ PA...,

UPC...: μ PC, UPD...: μ PD...

- WG: West Germany model

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
901	*1-631-765-11	(F410R)...PC BOARD, LED
	*1-631-777-11	(F310R)...PC BOARD, VOL LED
902	*1-631-759-11	PC BOARD, HP
903	*1-631-764-11	PC BOARD, SIRCS
ks 904	*A-4333-568-A	(F410R:Canadian,AEP,UK,E)MOUNTED PCB, CONT
	*A-4333-569-A	(F310R).....MOUNTED PCB, CONT
	*A-4333-841-A	(WG).....MOUNTED PCB, CONT
905	*1-631-771-11	PC BOARD, SW
906	*1-631-758-11	(F310R)...PC BOARD, SP PUSH
907	*1-631-763-11	(Canadian,WG,UK,E)...PC BOARD, TRANS
908	*1-631-770-11	PC BOARD, FUSE
909	1-631-767-11	PC BOARD, SEALED
910	*A-4333-541-A	(Canadian).....MOUNTED PCB, AMPLIFIER
	*A-4333-542-A	(F410R:AEP).....MOUNTED PCB, AMPLIFIER
	*A-4333-543-A	(WG).....MOUNTED PCB, AMPLIFIER
	*A-4333-544-A	(UK).....MOUNTED PCB, AMPLIFIER
	*A-4333-545-A	(E).....MOUNTED PCB, AMPLIFIER
	*A-4333-546-A	(F310R).....MOUNTED PCB, AMPLIFIER
911	*1-631-761-11	(F410R).....PC BOARD, SP ROTE
912	*1-631-760-11	PC BOARD, SP TM
913	*1-631-762-11	PC BOARD, JOINT
914	*A-4333-558-A	(Canadian,AEP,UK,E)...MOUNTED PCB, FUNC
	*A-4333-559-A	(WG).....MOUNTED PCB, FUNC
	*A-4333-560-A	(F310R).....MOUNTED PCB, FUNC
915	*1-631-768-11	PC BOARD, TAPE2
916	*1-533-213-31	HOLDER, FUSE
917	*1-535-139-00	BASE POST 22MM (10MM PITCH) 2P
918	*1-535-771-11	TERMINAL
919	Δ 1-526-565-00	(E).....AC PLUG ADAPTOR
C1	Δ 1-161-744-00	CERAMIC 0.01MF 400V
C101	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C102	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C103	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C104	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C105	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C106	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C107	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C108	1-162-284-31	(WG).....CERAMIC 150PF 10% 50V
C108	1-162-286-31	(EXCEPT WG)...CERAMIC 180PF 10% 50V
C109	1-162-282-31	(WG)...CERAMIC 100PF 10% 50V
C110	1-123-875-11	ELECT 10MF 20% 50V
C111	1-124-477-11	ELECT 47MF 20% 16V
C112	1-162-284-31	(WG).....CERAMIC 150PF 10% 50V
C112	1-162-282-31	(EXCEPT WG)...CERAMIC 100PF 10% 50V

Ref.No.	Part No.	Description
C113	1-130-480-00	MYLAR 0.0056MF 5% 50V
C114	1-130-473-00	MYLAR 0.0015MF 5% 50V
C115	1-124-902-00	ELECT 0.47MF 20% 50V
C116	1-124-472-11	ELECT 470MF 20% 10V
C117	1-136-157-00	(WG)...FILM 0.022MF 5% 50V
C150	1-124-925-11	(F310R)...ELECT 2.2MF 20% 50V
C201	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C202	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C203	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C204	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C205	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C206	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C207	1-162-286-31	(WG)...CERAMIC 220PF 10% 50V
C208	1-162-284-31	(WG)...CERAMIC 150PF 10% 50V
C208	1-162-286-31	(Canadian,AEP,UK,E) ...CERAMIC 180PF 10% 50V
C209	1-162-282-31	(WG)...CERAMIC 100PF 10% 50V
C210	1-123-875-11	ELECT 10MF 20% 50V
C211	1-124-477-11	ELECT 47MF 20% 16V
C212	1-162-284-31	(WG)...CERAMIC 150PF 10% 50V
C212	1-162-282-31	(Canadian,AEP,UK,E) ...CERAMIC 100PF 10% 50V
C213	1-130-480-00	MYLAR 0.0056MF 5% 50V
C214	1-130-473-00	MYLAR 0.0015MF 5% 50V
C215	1-124-902-00	ELECT 0.47MF 20% 50V
C216	1-124-472-11	ELECT 470MF 20% 10V
C217	1-136-157-00	(WG)...FILM 0.022MF 5% 50V
C301	1-130-481-00	MYLAR 0.0068MF 10% 50V
C302	1-130-021-00	MYLAR 0.0018MF 10% 50V
C303	1-136-159-00	FILM 0.033MF 5% 50V
C304	1-130-479-00	MYLAR 0.0047MF 10% 50V
C401	1-130-481-00	MYLAR 0.0068MF 10% 50V
C402	1-130-021-00	MYLAR 0.0018MF 10% 50V
C403	1-136-159-00	FILM 0.033MF 5% 50V
C404	1-130-479-00	MYLAR 0.0047MF 10% 50V
C500	1-124-927-11	ELECT 4.7MF 20% 50V
C501	1-124-927-11	ELECT 4.7MF 20% 50V
C502	1-124-478-11	ELECT 100MF 20% 25V
C503	1-101-804-00	CERAMIC 10PF 5% 500V
C504	1-136-163-00	FILM 0.068MF 5% 50V
C505	1-124-477-11	ELECT 47MF 20% 16V
C506	1-136-163-00	FILM 0.068MF 5% 50V
C507	1-136-163-00	FILM 0.068MF 5% 50V
C509	1-136-153-00	(WG)...FILM 0.01MF 5% 50V
C510	1-136-153-00	(WG)...FILM 0.01MF 5% 50V
C511	1-136-157-00	(WG)...FILM 0.022MF 5% 50V

Ref.No.	Part No.	Description			
C600	1-124-927-11	ELECT	4.7MF	20%	50V
C601	1-124-927-11	ELECT	4.7MF	20%	50V
C602	1-124-478-11	ELECT	100MF	20%	25V
C603	1-101-804-00	CERAMIC	10PF	5%	500V
C604	1-136-163-00	FILM	0.068MF	5%	50V
C605	1-124-477-11	ELECT	47MF	20%	16V
C606	1-136-163-00	FILM	0.068MF	5%	50V
C607	1-136-163-00	FILM	0.068MF	5%	50V
C609	1-136-153-00	(WG)...FILM	0.01MF	5%	50V
C610	1-136-153-00	(WG)...FILM	0.01MF	5%	50V
C611	1-136-157-00	(WG)...FILM	0.022MF	5%	50V
C700	1-162-284-31	CERAMIC	150PF	10%	50V
C701	1-162-284-31	CERAMIC	150PF	10%	50V
C702	1-164-097-11	CERAMIC	0.022MF		50V
C703	1-161-494-00	CERAMIC	0.022MF	30%	25V
C704	1-130-471-00	MYLAR	0.001MF	5%	50V
C706	1-136-157-00	FILM	0.022MF	5%	50V
C707	1-124-473-11	ELECT	1000MF	20%	10V
C708	1-164-097-11	CERAMIC	0.022MF		50V
C709	1-124-446-11	ELECT	47MF	20%	10V
C711	1-161-379-00	CERAMIC	0.01MF	20%	16V
C712	1-161-379-00	CERAMIC	0.01MF	20%	16V
C713	1-161-379-00	CERAMIC	0.01MF	20%	16V
C714	1-136-164-00	FILM	0.082MF	5%	50V
C715	1-136-164-00	(WG)...FILM	0.082MF	5%	50V
C716	1-124-768-11	ELECT	4.7MF	20%	50V
C750	1-123-875-11	ELECT	10MF	20%	50V
C751	1-123-875-11	ELECT	10MF	20%	50V
C752	1-136-159-00	FILM	0.033MF	5%	50V
C753	1-136-159-00	FILM	0.033MF	5%	50V
C754	1-136-159-00	FILM	0.033MF	5%	50V
C800	1-123-875-11	ELECT	10MF	20%	50V
C801	1-124-925-11	ELECT	2.2MF	20%	50V
C802	1-126-176-11	ELECT	220MF	20%	6.3V
C803	1-123-875-11	ELECT	10MF	20%	50V
C804	1-126-101-11	ELECT	100MF	20%	16V
C900	1-125-474-11	(E).....ELECT	8200MF	20%	56V
C900	1-125-536-11	(F410R:AEP,WG) ...ELECT	10000MF	20%	50V
C900	1-125-574-11	(Canadian,UK) ...ELECT	8200MF	20%	56V
C900	1-126-256-11	(F310R)...ELECT	4700MF	20%	35V
C901	1-125-474-11	(E).....ELECT	8200MF	20%	56V
C901	1-125-536-11	(F410R:AEP,WG) ...ELECT	10000MF	20%	50V
C901	1-125-574-11	(Canadian,UK) ...ELECT	8200MF	20%	56V
C901	1-126-256-11	(F310R)...ELECT	4700MF	20%	35V
C902	1-124-637-11	(F410R:AEP,WG) ...ELECT	1000MF	20%	50V
C902	1-124-921-11	(Canadian,UK,E) ...ELECT	470MF	20%	63V
C902	1-126-104-11	(F310R)...ELECT	470MF	20%	35V
C903	1-124-921-11	(Canadian,UK,E) ...ELECT	470MF	20%	63V
C903	1-124-637-11	(F410R:AEP,WG) ...ELECT	1000MF	20%	50V
C903	1-126-104-11	(F310R)...ELECT	470MF	20%	35V
C904	1-124-916-11	(Canadian,UK,E) ...ELECT	22MF	20%	63V
C904	1-126-233-11	(AEP,WG)..ELECT	22MF	20%	50V

Ref.No.	Part No.	Description			
C905	1-124-916-11	(Canadian,UK,E) ...ELECT	22MF	20%	63V
C905	1-126-233-11	(AEP,WG)..ELECT	22MF	20%	50V
C906	1-124-914-11	(Canadian,UK,E) ...ELECT	4.7MF	20%	63V
C906	1-126-233-11	(AEP,UK)..ELECT	22MF	20%	50V
C907	1-124-914-11	(Canadian,UK,E) ...ELECT	4.7MF	20%	63V
C907	1-126-233-11	(AEP,WG)..ELECT	22MF	20%	50V
C908	1-102-394-11	CERAMIC	0.01MF		250V
C909	1-102-394-11	CERAMIC	0.01MF		250V
C910	1-124-557-11	ELECT	1000MF	20%	25V
C911	1-124-557-11	ELECT	1000MF	20%	25V
C912	1-126-103-11	ELECT	470MF	20%	16V
C913	1-126-103-11	ELECT	470MF	20%	16V
C914	1-136-153-00	FILM	0.01MF	5%	50V
C915	1-124-480-11	ELECT	470MF	20%	25V
C916	1-123-875-11	ELECT	10MF	20%	50V
C917	1-124-927-11	(E)....ELECT	4.7MF	20%	50V
C920	1-136-157-00	(WG)...FILM	0.022MF	5%	50V
C950	1-124-499-11	ELECT	1MF	20%	50V
C951	1-136-175-00	(WG)...FILM	0.68MF	5%	50V
CNJ1	*1-526-751-11	(UK).....OUTLET, AC			(AC OUTLET)
CNJ1	*1-526-794-11	(AEP,WG)...OUTLET, AC			(AC OUTLET)
CNJ1	*1-540-042-11	(E).....OUTLET, AC			(NONPOLAR)(3P) (AC OUTLET)
CNJ1	*1-540-061-11	(Canadian)...OUTLET, AC			(POLAR) (AC OUTLET)
CNJ500	*1-564-338-00	PIN, CONNECTOR 4P			
CNJ700	*1-561-651-00	SOCKET, CONNECTOR 7P			
CNJ701	1-562-087-00	SOCKET, CONNECTOR 4P			
CNJ702	*1-568-648-11	SOCKET, CONNECTOR 15P			
CNJ703	1-568-646-11	SOCKET, CONNECTOR (PC BOARD)15P			
CNJ710	1-566-213-11	PIN, CONNECTOR 4P (CONTROL S OUT)			
CNJ900	*1-568-649-11	(F310R)...SOCKET, CONNECTOR 10P			
CNP500	*1-564-505-11	PLUG, CONNECTOR 2P			
CNP600	*1-564-505-11	PLUG, CONNECTOR 2P			
CNP700	*1-565-366-11	PIN, CONNECTOR (PC BOARD) 7P			
CNP701	1-568-739-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP702	*1-568-647-11	PIN, CONNECTOR 15P			
CNP703	1-568-645-11	1IN, CONNECTOR (PC BOARD) 15P			
CNP704	*1-564-505-11	PLUG, CONNECTOR 2P			
CNP710	*1-564-339-00	PIN, CONNECTOR 5P			
CNP750	*1-564-505-11	PLUG, CONNECTOR 2P			
CNP900	*1-508-693-00	(F310R)...CONNECTOR PIN 5P			
CP1	△. 1-558-886-11	(Canadian)...CORD, POWER			
CP1	△. 1-551-188-XX	(E).....CORD, POWER			
CP1	△. 1-555-750-00	(AEP,WG)....CORD, POWER			
CP1	△. 1-558-035-00	(UK).....CORD, POWER			
D501	8-719-815-85	DIODE 1S1585			
D502	8-719-815-85	DIODE 1S1585			
D601	8-719-815-85	DIODE 1S1585			
D602	8-719-815-85	DIODE 1S1585			
D700	8-719-914-12	DIODE HZ4BLL			
D701	8-719-000-26	DIODE US1060M			
D702	8-719-200-77	DIODE 10E2N			
D703	8-719-200-77	DIODE 10E2N			
D704	8-719-303-00	DIODE SEL2510C (VOLUME)			
D705	8-719-000-26	DIODE US1060M			

Note:
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Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
D706	8-719-000-26	DIODE US1060M	IC601	8-759-109-06	IC UPC1298V
D707	8-719-000-26	DIODE US1060M	IC700	8-759-632-61	IC M50761-258P
D708	8-719-000-26	DIODE US1060M	IC701	8-759-802-52	IC LC7818
D709	8-719-000-26	DIODE US1060M	IC702	8-749-920-88	IC GP1U52XB
D710	8-719-000-26	DIODE US1060M	IC800	8-759-111-68	IC UPC1237HA
D711	8-719-000-26	DIODE US1060M	IC900	8-759-604-29	IC M5F7805
D712	8-719-000-26	DIODE US1060M	IC901	8-759-982-10	IC RC7809FA
D713	8-719-000-26	DIODE US1060M	IC902	8-759-604-49	IC M5F7909
D714	8-719-000-26	DIODE US1060M	IC950	8-759-604-33	(E)...IC M5F7812
D715	8-719-312-31	DIODE SEL1515C-CD (TAPE 2/DAT)	J100	1-565-320-11	JACK, PIN 6P (PHONO,TUNER,CD)
D716	8-719-312-31	DIODE SEL1515C-CD (TAPE)	J101	1-565-320-11	JACK, PIN 6P (VIDEO/AUX,TAPE 1)
D717	8-719-312-31	DIODE SEL1515C-CD (VIDEO/AUX)	J102	1-568-529-21	JACK, PIN 4P (TAPE 2/DAT)
D718	8-719-312-31	DIODE SEL1515C-CD (CD)	J900	1-507-863-51	JACK, LARGE TYPE
D719	8-719-312-31	DIODE SEL1515C-CD (TUNER)	L500	*1-420-872-00	COIL, AIR CORE 1.8UH
D720	8-719-312-31	DIODE SEL1515C-CD (PHONO)	L600	*1-420-872-00	COIL, AIR CORE 1.8UH
D721	8-719-933-33	DIODE HZS6A1L	Q101	8-729-900-63	(F310R)...TRANSISTOR DTA124ES
D722	8-719-304-14	DIODE SEL2510W (SOURCE DIRECT)	Q102	8-729-806-34	(F310R)...TRANSISTOR 2SC3400
D723	8-719-304-14	DIODE SEL2510W (SOURCE DIRECT)	Q500	8-729-107-98	TRANSISTOR 2SC3622AL
D724	8-719-301-38	DIODE SEL2210S (STAND BY)	Q501	8-729-119-78	TRANSISTOR 2SC2785HFE
D725	8-719-000-26	DIODE US1060M	Q502	8-729-321-55	TRANSISTOR 2SC4386-OPY-LF
D750	8-719-000-26	DIODE US1060M	Q503	8-729-321-56	TRANSISTOR 2SA1671-OPY-LF
D751	8-719-000-26	(F410R)...DIODE US1060M	Q504	8-729-108-05	TRANSISTOR 2SC1841PA
D752	8-719-000-26	(F410R)...DIODE US1060M	Q600	8-729-107-98	TRANSISTOR 2SC3622AL
D753	8-719-000-26	(F410R)...DIODE US1060M	Q601	8-729-119-78	TRANSISTOR 2SC2785HFE
D754	8-719-000-26	(F410R)...DIODE US1060M	Q602	8-729-321-55	TRANSISTOR 2SC4386-OPY-LF
D755	8-719-000-26	(F410R)...DIODE US1060M	Q603	8-729-321-56	TRANSISTOR 2SA1671-OPY-LF
D756	8-719-000-26	DIODE US1060M	Q604	8-729-108-05	TRANSISTOR 2SC1841PA
D757	8-719-200-77	DIODE 10E2N	Q700	8-729-119-78	TRANSISTOR 2SC2785HFE
D758	8-719-000-26	DIODE US1060M	Q701	8-729-119-78	TRANSISTOR 2SC2785HFE
D800	8-719-200-77	DIODE 10E2N	Q702	8-729-119-78	TRANSISTOR 2SC2785HFE
D801	8-719-000-26	DIODE US1060M	Q703	8-729-119-78	TRANSISTOR 2SC2785HFE
D802	8-719-000-26	DIODE US1060M	Q704	8-729-900-63	TRANSISTOR DTA124ES
D900	8-719-302-38	(F410R)...DIODE RBV-602-01	Q705	8-729-119-78	TRANSISTOR 2SC2785HFE
D900	8-719-312-09	(F310R)...DIODE RBA-402	Q706	8-729-119-78	TRANSISTOR 2SC2785HFE
D901	8-719-200-77	DIODE 10E2N	Q707	8-729-900-63	TRANSISTOR DTA124ES
D902	8-719-200-77	DIODE 10E2N	Q708	8-729-900-63	TRANSISTOR DTA124ES
D903	8-719-200-77	DIODE 10E2N	Q709	8-729-900-63	TRANSISTOR DTA124ES
D904	8-719-200-77	DIODE 10E2N	Q710	8-729-900-63	(F410R)...TRANSISTOR DTA124ES
D905	8-719-200-77	DIODE 10E2N	Q711	8-729-900-63	(F410R)...TRANSISTOR DTA124ES
D906	8-719-200-77	DIODE 10E2N	Q712	8-729-900-63	TRANSISTOR DTA124ES
D907	8-719-200-77	DIODE 10E2N	Q713	8-729-900-63	TRANSISTOR DTA124ES
D908	8-719-200-77	DIODE 10E2N	Q714	8-729-806-34	TRANSISTOR 2SC3400
D909	8-719-511-40	DIODE S1VB40	Q715	8-729-111-29	TRANSISTOR 2SD1388
D913	8-719-000-26	DIODE US1060M	Q716	8-729-802-22	TRANSISTOR 2SB1014
D914	8-719-000-26	DIODE US1060M	Q717	8-729-119-76	TRANSISTOR 2SA1175HFE
F1 Δ	.1-532-203-11	(E).....FUSE, TIME-LAG T2.0A	Q750	8-729-900-63	TRANSISTOR DTA124ES
F1 Δ	.1-532-285-11	(F310R)...FUSE, TIME-LAG T1.25A	Q751	8-729-900-63	TRANSISTOR DTA124ES
F1 Δ	.1-532-286-11	(F410R:AEP,WG,UK)	Q800	8-729-900-63	TRANSISTOR DTA124ES
F1 Δ	.1-532-745-11	...FUSE, TIME-LAG T2.5A (Canadian)...FUSE, GLASS TUBE TSC3.15A	Q900	8-729-808-76	TRANSISTOR 2SD1761E
F2 Δ	.1-532-203-11	(E).....FUSE, TIME-LAG T2.0A	Q901	8-729-920-91	TRANSISTOR 2SB1187F
F2 Δ	.1-532-286-11	(AEP,WG,UK)...FUSE, TIME-LAG T2.5A	R101	1-249-409-11	(WG)...CARBON 220 5% 1/4W
IC101	8-759-600-02	IC M5218L	R102	1-249-417-11	CARBON 1K 5% 1/4W
IC102	8-759-800-37	(F310R)...IC LC4066BH	R103	1-249-409-11	(WG)...CARBON 220 5% 1/4W
IC501	8-759-109-06	IC UPC1298V	R104	1-249-417-11	CARBON 1K 5% 1/4W
			R105	1-249-409-11	(WG)...CARBON 220 5% 1/4W
			R106	1-249-409-11	(WG)...CARBON 220 5% 1/4W

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Ref.No.	Part No.	Description				
R107	1-249-409-11	(WG)...CARBON	220	5%	1/4W	
R108	1-249-418-11	CARBON	1.2K	5%	1/4W	
R109	1-249-441-11	CARBON	100K	5%	1/4W	
R110	1-249-418-11	(WG)...CARBON	1.2K	5%	1/4W	
R111	1-249-441-11	CARBON	100K	5%	1/4W	
R112	1-249-416-11	CARBON	820	5%	1/4W	
R113	1-247-897-11	CARBON	560K	5%	1/4W	
R114	1-249-437-11	CARBON	47K	5%	1/4W	
R115	1-249-441-11	CARBON	100K	5%	1/4W	
R116	1-249-409-11	CARBON	220	5%	1/4W	
R117	1-249-405-11	CARBON	100	5%	1/4W	
R118	1-249-405-11	CARBON	100	5%	1/4W	
R119	1-249-405-11	(F310R)...CARBON	22K	5%	1/4W	
R120	1-249-405-11	(F310R)...CARBON	22K	5%	1/4W	
R150	1-249-441-11	(F310R)...CARBON	100K	5%	1/4W	
R201	1-249-409-11	(WG)...CARBON	220	5%	1/4W	
R202	1-249-417-11	CARBON	1K	5%	1/4W	
R203	1-249-409-11	(WG)...CARBON	220	5%	1/4W	
R204	1-249-417-11	CARBON	1K	5%	1/4W	
R205	1-249-409-11	(WG)...CARBON	220	5%	1/4W	
R206	1-249-409-11	(WG)...CARBON	220	5%	1/4W	
R207	1-249-409-11	(WG)...CARBON	220	5%	1/4W	
R208	1-249-418-11	CARBON	1.2K	5%	1/4W	
R209	1-249-441-11	CARBON	100K	5%	1/4W	
R210	1-249-418-11	(WG)...CARBON	1.2K	5%	1/4W	
R211	1-249-441-11	CARBON	100K	5%	1/4W	
R212	1-249-416-11	CARBON	820	5%	1/4W	
R213	1-247-897-11	CARBON	560K	5%	1/4W	
R214	1-249-437-11	CARBON	47K	5%	1/4W	
R215	1-249-441-11	CARBON	100K	5%	1/4W	
R216	1-249-409-11	CARBON	220	5%	1/4W	
R217	1-249-405-11	CARBON	100	5%	1/4W	
R218	1-249-405-11	CARBON	100	5%	1/4W	
R301	1-247-903-00	CARBON	1M	5%	1/4W	
R302	1-249-421-11	CARBON	2.2K	5%	1/4W	
R303	1-249-426-11	CARBON	5.6K	5%	1/4W	
R304	1-247-903-00	CARBON	1M	5%	1/4W	
R305	1-247-852-11	CARBON	7.5K	5%	1/4W	
R306	1-247-870-11	CARBON	43K	5%	1/4W	
R307	1-249-436-11	CARBON	39K	5%	1/4W	
R308	1-249-437-11	CARBON	47K	5%	1/4W	
R401	1-247-903-00	CARBON	1M	5%	1/4W	
R402	1-249-421-11	CARBON	2.2K	5%	1/4W	
R403	1-249-426-11	CARBON	5.6K	5%	1/4W	
R404	1-247-903-00	CARBON	1M	5%	1/4W	
R405	1-247-852-11	CARBON	7.5K	5%	1/4W	
R406	1-247-870-11	CARBON	43K	5%	1/4W	
R407	1-249-436-11	CARBON	39K	5%	1/4W	
R408	1-249-437-11	CARBON	47K	5%	1/4W	
R500	1-249-417-11	CARBON	1K	5%	1/4W	
R501	1-249-417-11	CARBON	1K	5%	1/4W	
R502	1-249-423-11	CARBON	3.3K	5%	1/4W	
R503	1-249-441-11	CARBON	100K	5%	1/4W	
R504	1-247-711-11	(UK,E).....CARBON	680	5%	1/4W	
R504	1-249-415-11	(Canadian)...CARBON	680	5%	1/4W	F
R504	1-249-416-11	(F410R:AEP,WG)...CARBON	820	5%	1/4W	
R504	1-249-418-11	(F310R).....CARBON	1.2K	5%	1/4W	

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Ref.No.	Part No.	Description				
R505	1-249-441-11	CARBON	100K	5%	1/4W	
R506	1-249-431-11	CARBON	15K	5%	1/4W	
R507	1-249-419-11	CARBON	1.5K	5%	1/4W	
R508	1-249-423-11	CARBON	3.3K	5%	1/4W	
R509	1-247-688-11	CARBON	10	5%	1/4W	F
R510	1-247-688-11	CARBON	10	5%	1/4W	F
R511	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R512	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R513	1-247-871-11	(Canadian,UK,E) ...CARBON	47K	5%	1/4W	
R513	1-249-423-11	(F310R)...CARBON	3.3K	5%	1/4W	
R513	1-249-430-11	(F410R:AEP,WG) ...CARBON	12K	5%	1/4W	
R514	1-247-727-11	CARBON	10	5%	1/2W	
R515	1-249-437-11	CARBON	47K	5%	1/4W	
R516	1-247-727-11	CARBON	10	5%	1/2W	
R517	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
R518	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
R519	1-247-704-11	CARBON	220	5%	1/4W	F
R520	1-215-867-11	(Canadian,UK,E) ...METAL OXIDE	470	5%	1W	F
R520	1-216-430-11	(AEP,WG)...METAL OXIDE	390	5%	1W	F
R521	1-216-361-00	(F410R)...METAL OXIDE	0.22	5%	2W	F
R522	1-216-361-00	(F410R)...METAL OXIDE	0.22	5%	2W	F
R523	1-249-423-11	CARBON	3.3K	5%	1/4W	
R600	1-249-417-11	CARBON	1K	5%	1/4W	
R601	1-249-417-11	CARBON	1K	5%	1/4W	
R602	1-249-423-11	CARBON	3.3K	5%	1/4W	
R603	1-249-441-11	CARBON	100K	5%	1/4W	
R604	1-247-711-11	(UK,E).....CARBON	680	5%	1/4W	
R604	1-249-416-11	(F410R:AEP,UK)...CARBON	820	5%	1/4W	
R604	1-249-418-11	(F310R).....CARBON	1.2K	5%	1/4W	
R604	1-249-415-11	(Canadian)...CARBON	680	5%	1/4W	F
R605	1-249-441-11	CARBON	100K	5%	1/4W	
R606	1-249-431-11	CARBON	15K	5%	1/4W	
R607	1-249-419-11	CARBON	1.5K	5%	1/4W	
R608	1-249-423-11	CARBON	3.3K	5%	1/4W	
R609	1-247-688-11	CARBON	10	5%	1/4W	F
R610	1-247-688-11	CARBON	10	5%	1/4W	F
R611	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R612	1-216-361-00	METAL OXIDE	0.22	5%	2W	F
R613	1-249-430-11	(F410R:AEP,WG) ...CARBON	12K	5%	1/4W	
R613	1-247-871-11	(Canadian,UK,E) ...CARBON	47K	5%	1/4W	
R613	1-249-423-11	(F310R)...CARBON	3.3K	5%	1/4W	
R614	1-247-727-11	CARBON	10	5%	1/2W	
R615	1-249-438-11	CARBON	56K	5%	1/4W	
R616	1-247-727-11	CARBON	10	5%	1/2W	
R617	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
R618	1-247-727-11	(WG)...CARBON	10	5%	1/2W	
R619	1-247-704-11	CARBON	220	5%	1/4W	F
R620	1-215-867-11	(Canadian,UK,E) ...METAL OXIDE	470	5%	1W	F
R620	1-216-430-11	(AEP,WG)...METAL OXIDE	390	5%	1W	F
R621	1-216-361-00	(F410R)...METAL OXIDE	0.22	5%	2W	F
R622	1-216-361-00	(F410R)...METAL OXIDE	0.22	5%	2W	F
R623	1-249-423-11	CARBON	3.3K	5%	1/4W	
R700	1-249-423-11	CARBON	3.3K	5%	1/4W	
R701	1-247-903-00	CARBON	1M	5%	1/4W	
R702	1-249-417-11	CARBON	1K	5%	1/4W	

Ref.No.	Part No.	Description				
R703	1-249-441-11	CARBON	100K	5%	1/4W	
R704	1-249-433-11	CARBON	22K	5%	1/4W	
R705	1-249-429-11	CARBON	10K	5%	1/4W	
R706	1-249-441-11	CARBON	100K	5%	1/4W	
R707	1-249-433-11	CARBON	22K	5%	1/4W	
R708	1-249-417-11	CARBON	1K	5%	1/4W	
R709	1-249-393-11	CARBON	10	5%	1/4W	
R710	1-249-429-11	CARBON	10K	5%	1/4W	
R711	1-249-417-11	CARBON	1K	5%	1/4W	
R712	1-249-429-11	CARBON	10K	5%	1/4W	
R713	1-249-429-11	CARBON	10K	5%	1/4W	
R714	1-249-433-11	CARBON	22K	5%	1/4W	
R715	1-249-433-11	CARBON	22K	5%	1/4W	
R716	1-249-433-11	CARBON	22K	5%	1/4W	
R717	1-249-433-11	CARBON	22K	5%	1/4W	
R718	1-249-433-11	CARBON	22K	5%	1/4W	
R719	1-249-433-11	CARBON	22K	5%	1/4W	
R720	1-249-433-11	CARBON	22K	5%	1/4W	
R721	1-249-433-11	CARBON	22K	5%	1/4W	
R722	1-249-411-11	CARBON	330	5%	1/4W	
R723	1-249-411-11	CARBON	330	5%	1/4W	
R724	1-249-411-11	CARBON	330	5%	1/4W	
R725	1-249-411-11	CARBON	330	5%	1/4W	
R726	1-249-411-11	CARBON	330	5%	1/4W	
R727	1-249-411-11	CARBON	330	5%	1/4W	
R728	1-249-429-11	CARBON	10K	5%	1/4W	
R729	1-249-429-11	CARBON	10K	5%	1/4W	
R731	1-247-901-11	CARBON	820K	5%	1/4W	
R732	1-249-433-11	CARBON	22K	5%	1/4W	
R733	1-249-433-11	CARBON	22K	5%	1/4W	
R734	1-249-441-11	CARBON	100K	5%	1/4W	
R735	1-249-410-11	CARBON	270	5%	1/4W	
R736	1-249-416-11	CARBON	820	5%	1/4W	
R737	1-249-419-11	CARBON	1.5K	5%	1/4W	
R739	1-249-423-11	CARBON	3.3K	5%	1/4W	
R740	1-249-441-11	CARBON	100K	5%	1/4W	
R742	1-249-423-11	CARBON	3.3K	5%	1/4W	
R743	1-249-409-11	CARBON	220	5%	1/4W	
R744	1-249-412-11	CARBON	390	5%	1/4W	
R745	△.1-249-394-11	CARBON	12	5%	1/4W	F
R746	△.1-249-394-11	CARBON	12	5%	1/4W	F
R747	1-249-433-11	(F410R)...CARBON	22K	5%	1/4W	
R750	1-249-433-11	CARBON	22K	5%	1/4W	
R800	1-249-439-11	CARBON	68K	5%	1/4W	
R801	1-249-430-11	(F410R:AEP,WG) ...CARBON	12K	5%	1/4W	
R801	1-247-861-11	(Canadian,UK,E) ...CARBON	18K	5%	1/4W	
R801	1-249-429-11	(F310R)...CARBON	10K	5%	1/4W	
R802	1-249-441-11	CARBON	100K	5%	1/4W	
R803	1-249-440-11	CARBON	82K	5%	1/4W	
R805	△.1-215-890-11	(F410R:AEP,WG) ...METAL OXIDE	470	5%	2W	F
R805	△.1-215-891-11	(Canadian,UK,E) ...METAL OXIDE	680	5%	2W	F
R805	△.1-216-428-11	(F310R)...METAL OXIDE	180	5%	1W	F
R806	1-247-861-11	(F310R)...CARBON	6.8K	5%	1/4W	
R806	1-249-429-11	(F410R:AEP,WG) ...CARBON	10K	5%	1/4W	
R806	1-249-430-11	(Canadian,UK,E) ...CARBON	12K	5%	1/4W	
R900	△.1-249-455-11	CARBON	4.7	5%	1/4W	F
R901	△.1-249-455-11	CARBON	4.7	5%	1/4W	F
R902	△.1-212-942-00	(F310R)...FUSIBLE	2.2	5%	1/2W	F
R902	△.1-217-473-00	(F410R)...FUSIBLE	2.2	5%	1W	F
R903	△.1-212-942-00	(F310R)...FUSIBLE	2.2	5%	1/2W	F
R903	△.1-217-473-00	(F410R)...FUSIBLE	2.2	5%	1W	F
R904	1-249-417-11	CARBON	1K	5%	1/4W	
R905	1-249-417-11	CARBON	1K	5%	1/4W	
R906	1-246-447-11	(UK).....CARBON	82	5%	1/4W	
R906	1-247-688-11	(Canadian)...CARBON	10	5%	1/4W	
R906	1-247-698-11	(AEP,WG)....CARBON	68	5%	1/4W	
R951	1-247-733-11	(WG).....CARBON	33	5%	1/2W	
RV300	1-238-638-11	RES, VAR, CARBON	150K/150K		(BALANCE)	
RV301	1-238-639-11	RES, VAR	250K/250K		(TREBLE)	
RV302	1-238-640-11	RES, VAR, CARBON	520K/520K		(BASS)	
RV303	1-238-628-11	RES, VAR, CARBON	(MOTOR)	120KX2	(VOLUME)	
RV500	1-237-455-11	RES, ADJ, CARBON	500			
RV600	1-237-455-11	RES, ADJ, CARBON	500			
RY1	1-515-516-00	(AEP,WG,UK)...RELAY				
RY1	1-515-617-11	(E).....RELAY				
RY1	1-515-701-11	(Canadian)....RELAY				
RY800	1-515-501-00	(F410R)...RELAY				
RY800	1-515-533-11	(F310R)...RELAY				
S1	1-571-515-11	(E)...SWITCH, POWER VOLTAGE SELECTION (VOLTAGE SELECTOR)				
SW100-A	1-571-972-11	(F410R)...SWITCH, ROTARY				
SW100-B	1-571-115-11	(F410R)...SWITCH, SLIDE (REC OUT SELECTOR)				
SW301	1-571-828-11	SWITCH, PUSH (1 KEY)(SOURCE DIRECT)				
SW700	1-554-303-21	SWITCH, KEY BOARD (PHONO)				
SW701	1-554-303-21	SWITCH, KEY BOARD (TUNER)				
SW702	1-554-303-21	SWITCH, KEY BOARD (CD)				
SW703	1-554-303-21	SWITCH, KEY BOARD (VIDEO/AUX)				
SW704	1-554-303-21	SWITCH, KEY BOARD (TAPE 1)				
SW705	1-554-303-21	SWITCH, KEY BOARD (TAPE 2/DAT)				
SW706	1-554-303-21	SWITCH, KEY BOARD (SYSTEM POWER)				
SW900	1-571-973-11	(F410R)...SWITCH, ROTARY (SPEAKER)				
SW900	1-571-971-11	(F310R)...SWITCH, PUSH (2 KEY)(SPEAKER)				
T1	△.1-449-743-11	(F310R).....TRANSFORMER, POWER				
T1	△.1-449-744-11	(F410R:AEP,WG)...TRANSFORMER, POWER				
T1	△.1-449-745-11	(Canadian).....TRANSFORMER, POWER				
T1	△.1-449-746-11	(UK).....TRANSFORMER, POWER				
T1	△.1-449-747-11	(E).....TRANSFORMER, POWER				
T2	△.1-449-296-11	(Canadian)....TRANSFORMER, POWER				
T2	△.1-449-297-11	(AEP,WG,UK)...TRANSFORMER, POWER				
T2	△.1-449-299-11	(E).....TRANSFORMER, POWER				




Note:
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref.No.	Part No.	Description
TM900	1-537-227-11	(AEP).....TERMINAL BOARD (SP)
TM900	1-537-228-11	(Canadian,WG,UK,E)..TERMINAL BOARD (SP)
TP500	*1-535-115-00	TERMINAL
TP600	*1-535-115-00	TERMINAL
X700	1-577-077-11	OSCILLATOR, CERAMIC 400K

ACCESSORY & PACKING MATERIAL

1-465-199-11	REMOTE COMMANDER (RM-S310)
2-128-529-01	COVER BATTERY
△.1-526-565-00	(E)...AC PLUG ADAPTOR
3-750-604-11	(AEP,UK,E)...MANUAL, INSTRUCTION
3-750-604-41	(AEP,WG).....MANUAL, INSTRUCTION
*4-929-260-01	CUSHION
*4-931-908-01	(F310R).....INDIVIDUAL CARTON
*4-931-909-01	(F410R:AEP,WG,UK,E)...INDIVIDUAL CARTON

<p>Note: The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.</p>	<p>Note: Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p>
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