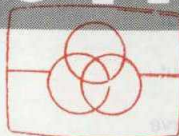


TA-F311R/F411RA

SERVICE MANUAL



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AEP Model
TA-F311R

AEP Model
UK Model
TA-F411RA



photo: TA-F411RA

SPECIFICATIONS

Amplifier

Continuous RMS power output (both channels driven simultaneously)

		TA-F311R	TA-F411RA
DIN, 1 kHz	4 ohms 8 ohms	40 W + 40 W	70 W + 70 W
20 Hz – 20 kHz THD 0.05%	8 ohms	30 W + 30 W	50 W + 50 W

Input

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

Output

Output jack	Jack type	Voltage/impedance
REC OUT	Phono jacks	Voltage 150 mV Impedance 1 kohms
SPEAKERS	—	TA-F411RA Accepts speakers of 4 – 6 ohms/8 – 16 ohms TA-F311R 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

—Continued on page 2—

INTEGRATED STEREO AMPLIFIER
SONY®



TA-F311R/F411RA

Harmonic distortion

TA-F311R/F411RA:

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)

General

System

Preamplifier: Low-noise, high-gain
equalizer amplifier

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

Power requirements

AEP model: 220 V AC, 50 Hz

UK model: 240 V AC, 50 Hz

Power consumption

AEP model

TA-F311R: 90 W

TA-F411RA: 150 W

UK model

TA-F411RA: 380 W

Dimensions

Approx. 430 × 135 × 315 mm (w/h/d)
(17 × 5³/₈ × 12¹/₂ inches)

Weight

TA-F311R: Approx. 5.9 kg (13 lb 1 oz)

TA-F411RA: 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.

Note


This appliance conforms with EEC Directive, 87/308/EEC
regarding interference suppression.

MODEL IDENTIFICATION

—Specification Label—

SONY® MODEL NO. TA-F311R


INTEGRATED STEREO AMPLIFIER
AC 220 V 50/60 Hz



SERIAL NO.
MADE IN JAPAN

SONY® MODEL NO. TA-F411RA

INTEGRATED STEREO AMPLIFIER





SERIAL NO.
MADE IN JAPAN

AEP Model: AC: 220 V ~ 50/60 Hz

UK Model: AC: 240 V ~ 50/60 Hz

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.

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.

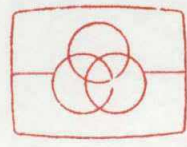
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Connections

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 hot (R) and white ones for hot (L) and for hot (N) and white ones for hot (L).
 Fully insert cable connectors into jacks. Loose connections may cause hum or noise.



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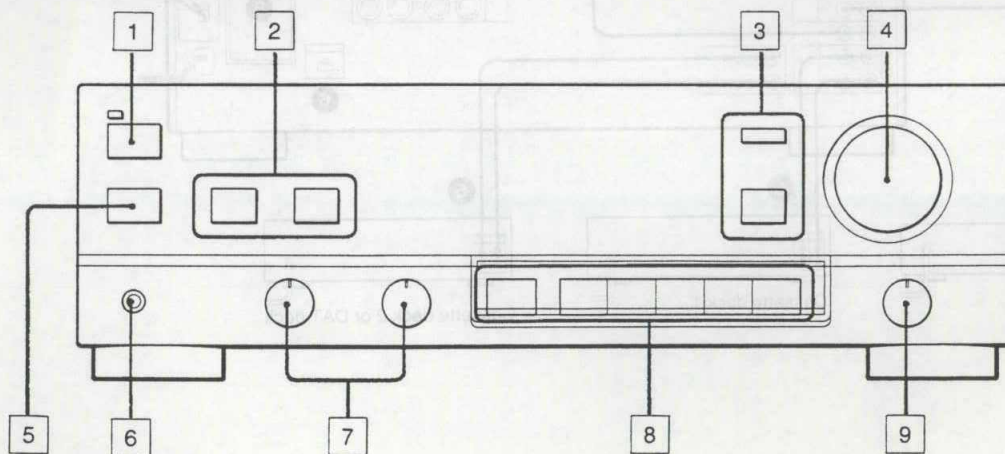
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SECTION 1 GENERAL

Parts identification

figure: TA-F311R

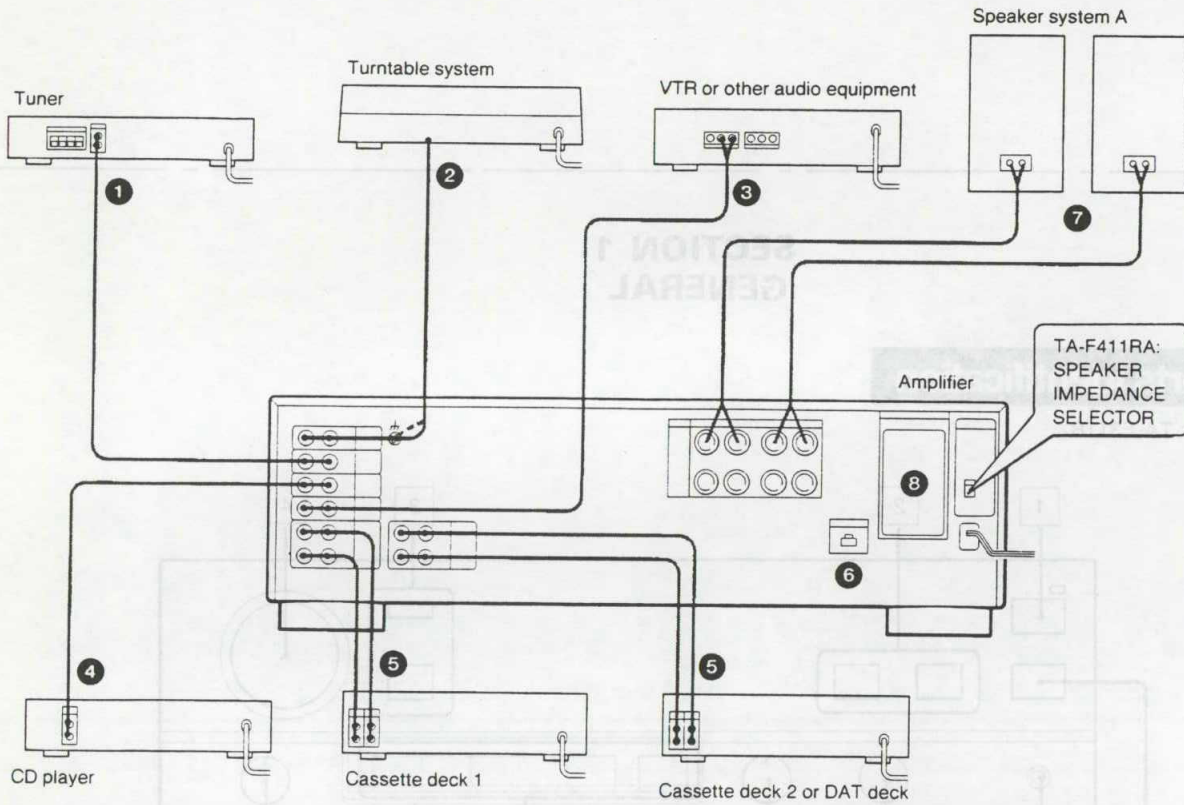


- 1 POWER switch
- 2 SPEAKERS selector
Button selectors for TA-F311R and rotary selector for TA-F411RA
- 3 SOURCE DIRECT switch and indicator
- 4 VOLUME control
- 5 Remote control sensor
- 6 HEADPHONES jack
- 7 TONE controls
- 8 INPUT SELECTOR and MONITOR
- 9 BALANCE control
- 10 REC OUT (Recording output) SELECTOR (TA-F411RA 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.



TA-F411RA:
SPEAKER
IMPEDANCE
SELECTOR

- 7 POWER switch
- 6 SPEAKER selector
- 5 Input selector for TA-F311R and rotary selector for TA-F411RA
- 4 SOURCE DIRECT switch and indicator
- 3 VOLUME control
- 2 Remote control sensor
- 1 HEADPHONE jack
- 0 TUNE control
- 9 INPUT SELECTOR and MONITOR
- 8 BALANCE control
- 0 RECORD (Recording output) SELECTOR (TA-F411RA only)

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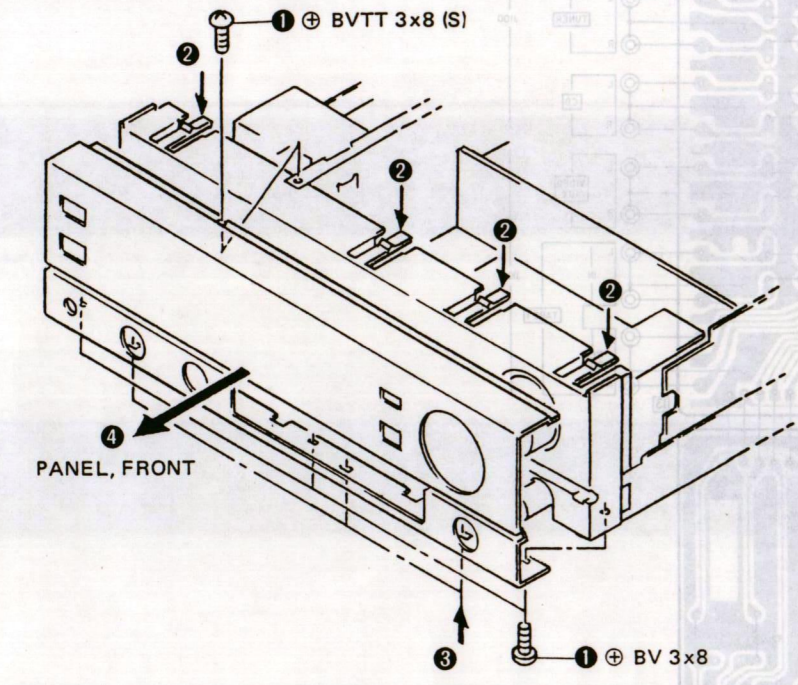
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SECTION 4	Parts Identification	4
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SECTION 2 DISASSEMBLY

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

1. Remove screws ① x4.
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.

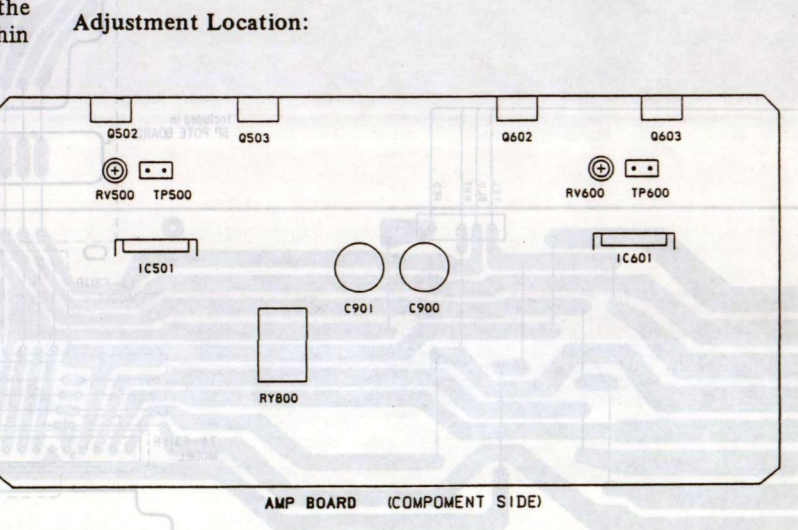
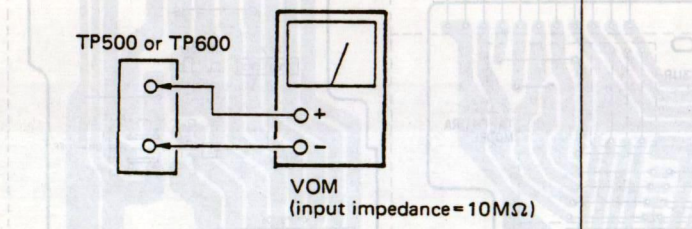


SECTION 3 ADJUSTMENTS

Procedure:

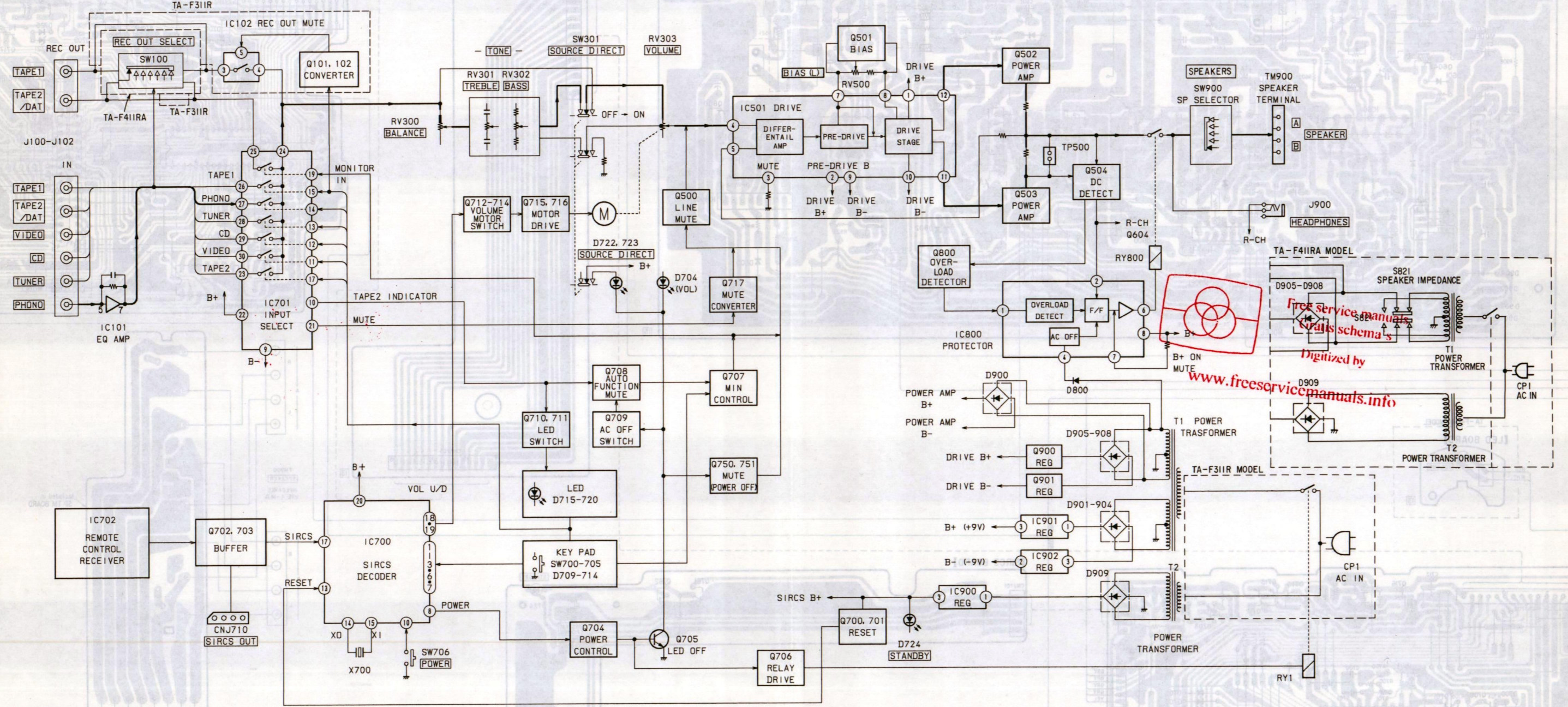
1. Set main volume to minimum.
2. Turn the power on and confirm that RY800 will turn on at about 6 seconds after power-on.
3. Adjust RV500(L-ch) and RV600(R-ch) so that the voltages across TP500 and TP600 become within the adjustment values.

Adjustment Values:
 TA-F311R 4mV ±0.3mV
 TA-F411RA 2mV ±0.3mV

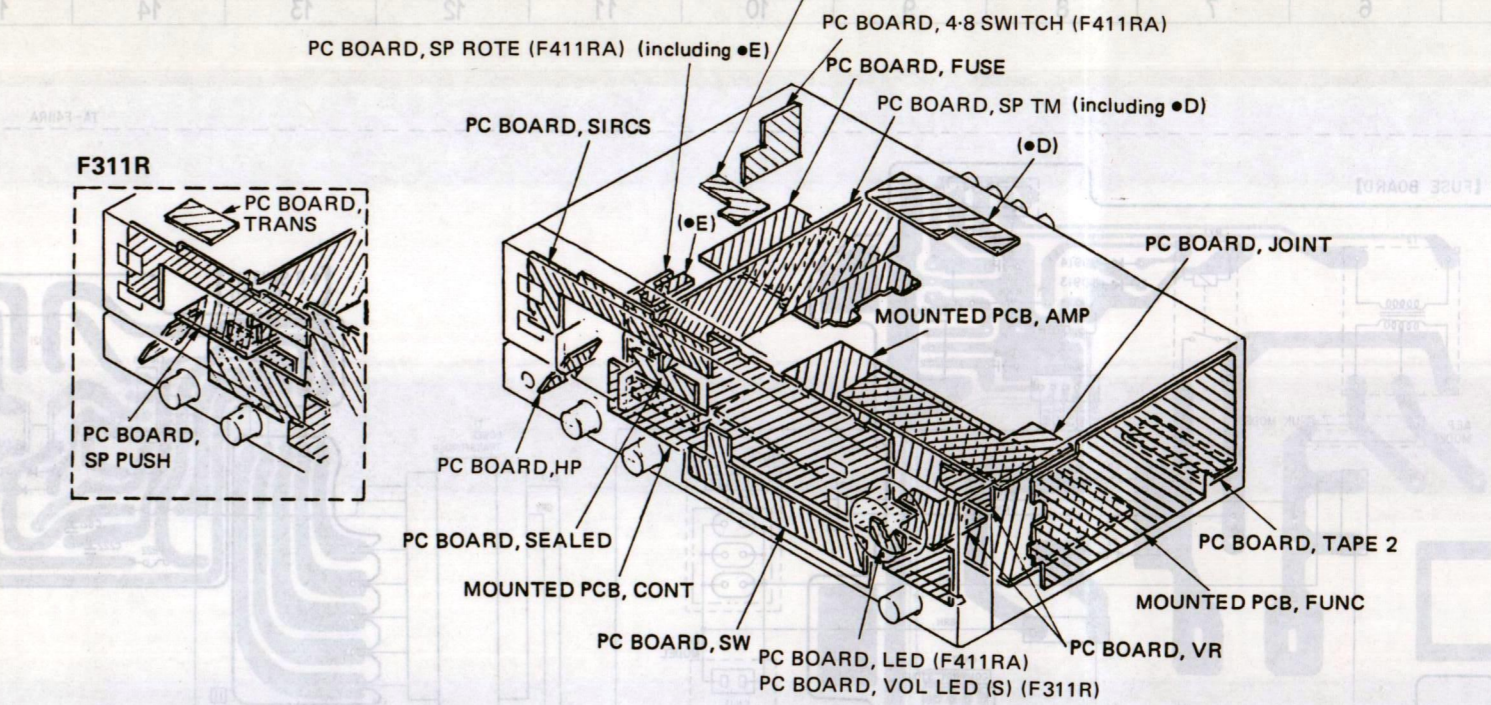


SECTION 4 DIAGRAMS

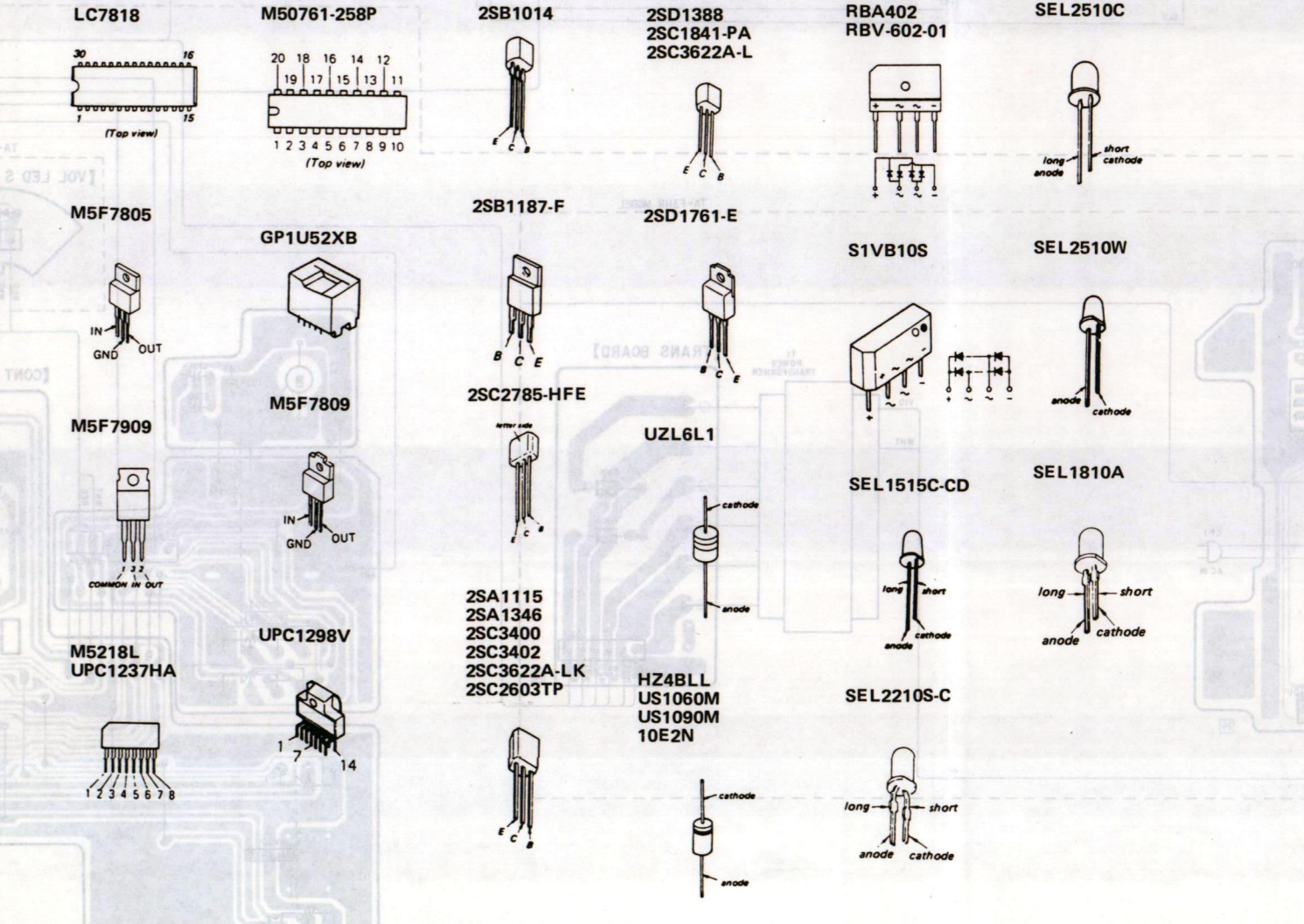
4-1. BLOCK DIAGRAM



4-2. CIRCUIT BOARDS LOCATION



4-3. SEMICONDUCTOR LEAD LAYOUTS

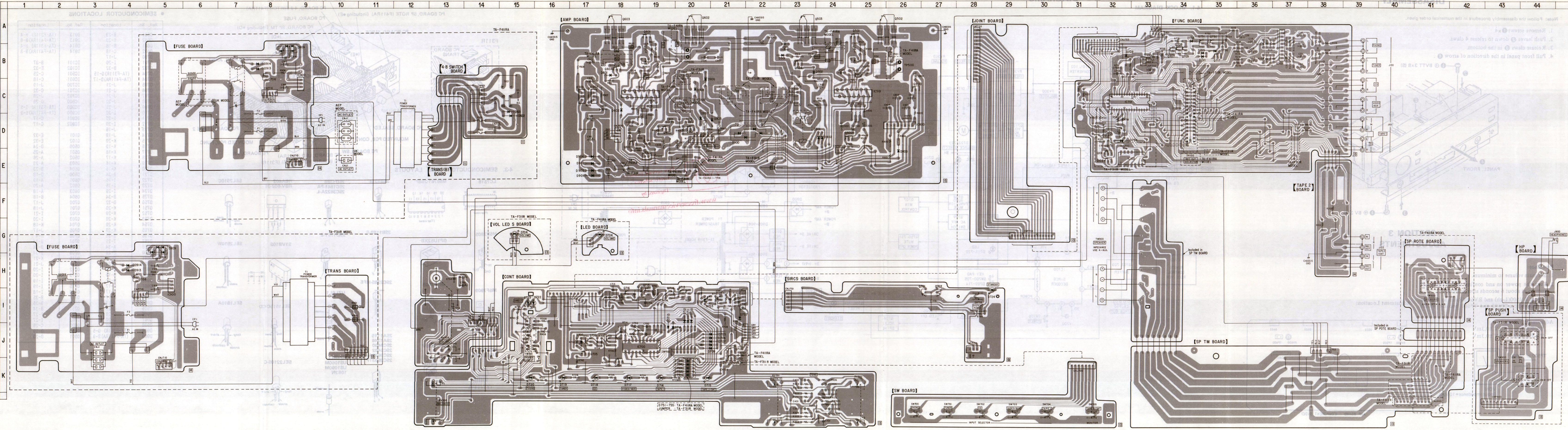


SEMICONDUCTOR LOCATIONS

Ref. No.	Location	Ref. No.	Location
D501	B-23	D913	(TA-F311R) H-4
D502	B-23	D913	(TA-F411RA) B-8
D601	B-18	D914	(TA-F311R) H-4
D602	C-18	D914	(TA-F411RA) B-8
D700	J-17	IC101	B-37
D701	I-20	IC102	E-32
D702	B-32	IC102	E-32
D704	(TA-F311R) G-15	IC501	C-25
D704	(TA-F411RA) D-17	IC601	C-18
D705	J-21	IC700	J-19
D706	J-21	IC701	C-32
D707	J-21	IC702	J-28
D708	J-20	IC800	D-26
D709	J-21	IC900	(TA-F311R) I-5
D710	I-20	IC900	(TA-F411RA) B-9
D711	I-20	IC901	C-17
D712	I-20	IC902	C-17
D713	J-19		
D714	J-19	Q101	E-32
D715	K-20	Q102	E-32
D716	K-19	Q500	D-24
D717	K-18	Q501	A-25
D718	K-17	Q502	A-26
D719	K-16	Q503	A-23
D720	K-15	Q504	B-23
D721	B-34	Q600	D-18
D722	I-16	Q601	A-19
D723	I-15	Q602	A-20
D724	I-29	Q603	A-18
D725	B-34	Q604	B-18
D750	D-32	Q700	J-17
D751	K-20	Q701	J-18
D752	K-20	Q702	I-21
D753	K-20	Q703	I-20
D754	K-20	Q704	K-18
D755	K-20	Q705	J-17
D756	B-35	Q706	H-4
D757	I-21	Q707	B-34
D758	A-34	Q708	B-34
D800	E-26	Q709	B-34
D801	D-24	Q710	K-21
D802	C-15	Q711	J-21
D822	D-15	Q712	I-20
D900	D-21	Q713	I-20
D901	E-17	Q714	I-19
D902	E-17	Q715	I-19
D903	E-17	Q716	I-18
D904	E-17	Q717	B-35
D905	D-21	Q750	B-35
D906	C-20	Q751	B-34
D907	D-20	Q761	I-27
D908	C-20	Q762	I-27
D909	(TA-F311R) G-5	Q800	C-26
D909	(TA-F411RA) B-9	Q900	D-19
		Q901	D-20

4-4. PRINTED WIRING BOARDS

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



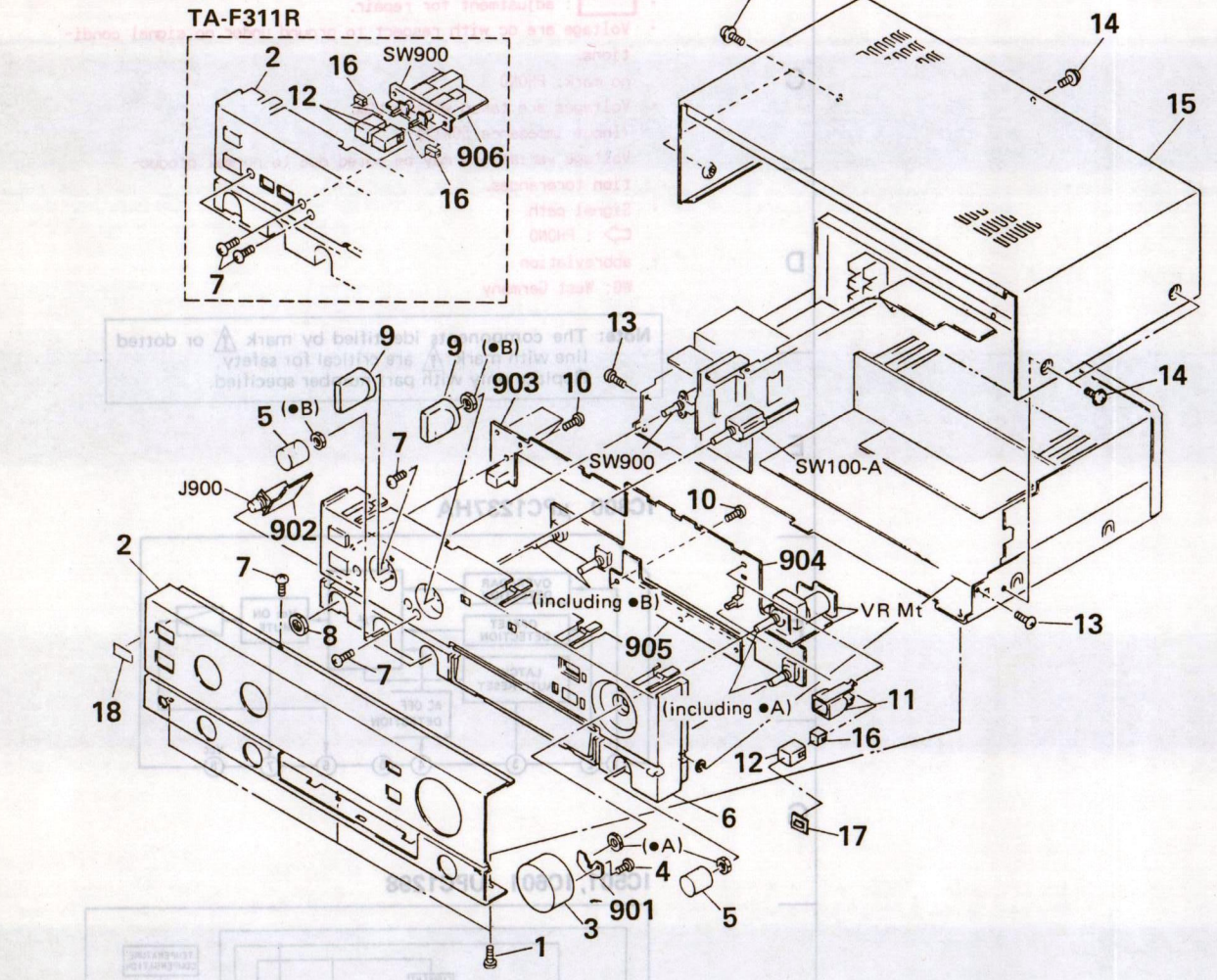
**SECTION 5
EXPLODED VIEWS**

**SECTION 6
ELECTRICAL PARTS LIST**

- 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

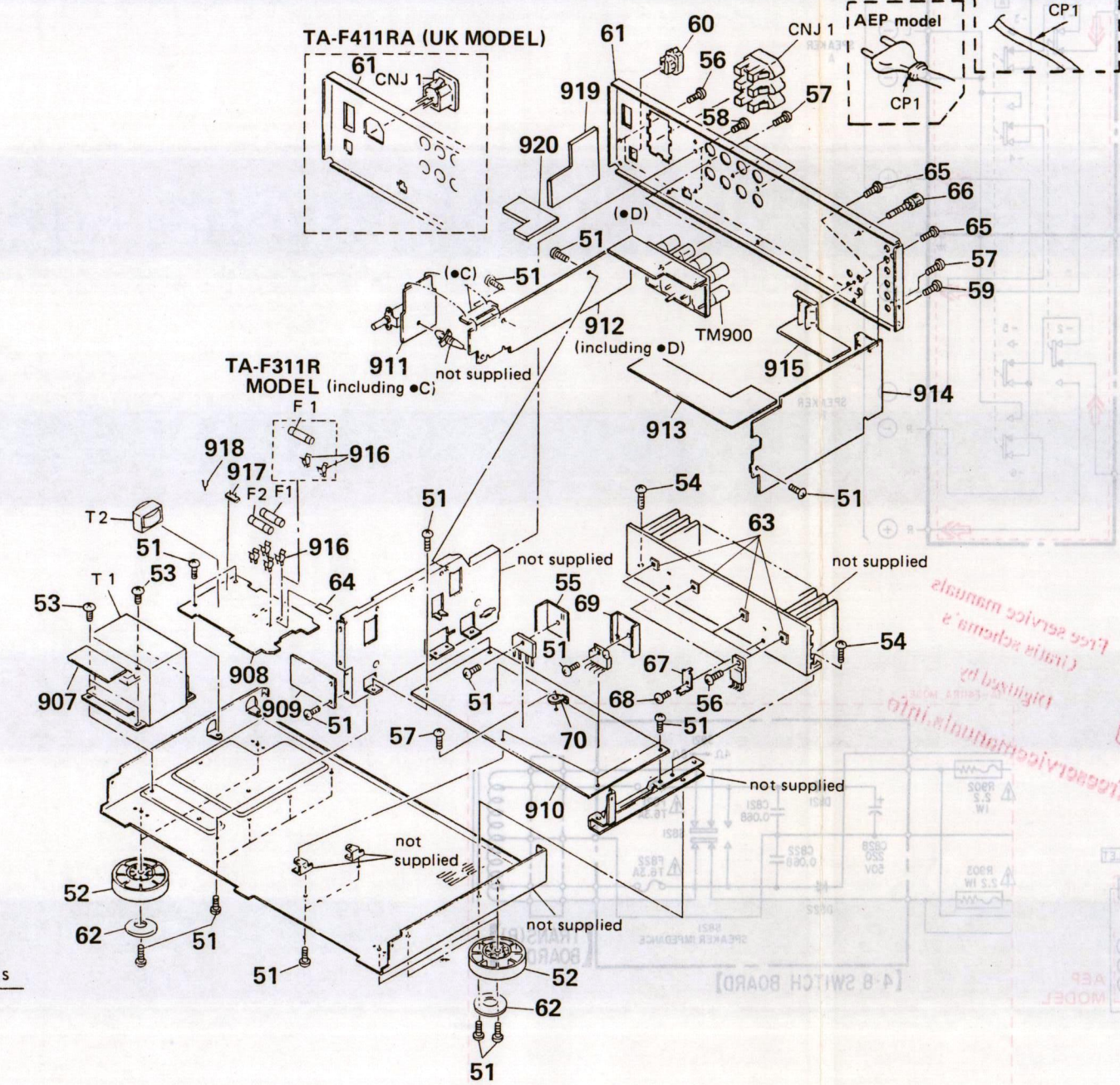
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

1. GENERAL (1)



No.	Part No.	Description	Remarks
1	3-703-685-21	SCREW (+BV 3X8)	
2	4-931-915-32 (F311R)...	PANEL, FRONT	
3	4-929-289-01 (F311R)...	KNOB (VOL 47)	
4	*X-4906-828-1 (F411RA)...	KNOB (47) ASSY	
5	7-685-534-19	SCREW +BTP 2.6X8 TYPE2 N-S	
6	X-4885-966-1 (F311R)...	PANEL (BASE) ASSY	
7	7-682-548-04	SCREW +BVTT 3X8 (S)	
8	4-931-902-01	NUT (M12X1)	
9	4-916-729-01	KNOB (DIA. 29)	
10	4-928-635-01	SCREW, +BV (2.6X8) TAPPING	
11	*4-921-389-01	HOUSE	

2. GENERAL (2)



No.	Part No.	Description	Remarks
12	4-908-875-01	KNOB, SQUARE	
13	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
14	3-704-366-01	SCREW (CASE) (M3X8)	
15	4-929-294-11	CASE	
16	4-864-307-00	RING	
17	4-929-284-01	PLATE, INDICATION	
18	4-908-848-01	EMBLEM, SONY	
901	*1-631-777-11 (F311R)...	PC BOARD, VOL LEADS	
902	*1-631-759-11	PC BOARD, HP	
903	*1-631-764-11	PC BOARD, SIRCS	
904	*A-4334-255-A (F311R)...	MOUNTED PCB, CONT	
905	*1-631-771-11	PC BOARD, SW	
906	*1-631-758-11 (F311R)...	PC BOARD, SP PUSH	

No.	Part No.	Description	Remarks
51	7-682-548-04	SCREW +BVTT 3X8 (S)	
52	X-3304-938-2	FOOT ASSY	
53	7-682-560-04	SCREW +BVTT 4X6 (S)	
54	7-682-548-04	SCREW +BVTT 3X8 (S)	
55	*4-931-903-01 (F411RA)...	HEAT SINK (D1)	
56	7-682-950-01	SCREW +PSW 3X12	
57	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
58	7-682-547-09	SCREW +BVTT 3X6 (S)	
59	7-685-646-19	SCREW +BVTT 3X8	
60	*3-703-244-00	BUSHING (2104), CORD	
61	*4-931-910-32 (F311R)...	PANEL, BACK	
62	4-923-836-11	CUSHION	
63	4-911-232-01	SHEET, INSULATING	
64	3-701-947-12 (F311R)...	LABEL (T1.25A), FUSE	
65	7-621-849-00	SCREW, TAPPING	
66	3-706-165-00	SCREW	
67	*4-929-285-01	BRACKET (TR)	
68	7-682-546-01	SCREW +B 3X5	
69	*4-931-998-11 (F311R)...	HEAT SINK (S)	
70	4-870-539-00	PLATE, GROUND	
907	*1-631-763-11 (F311R)...	PC BOARD, TRANS	
908	*1-631-770-11	PC BOARD, FUSE	
909	*1-631-767-11	PC BOARD, SEALED	
910	*A-4334-249-A (F311R)...	MOUNTED PCB, AMP	
911	*1-631-761-11 (F411RA)...	PC BOARD, SP ROTE	
912	*1-631-760-11	PC BOARD, SP TM	
913	*1-631-762-11	PC BOARD, JOINT	
914	*A-4334-253-A (F311R)...	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	*1-634-634-11 (F411RA)...	PC BOARD, 4.8 SWITCH	
920	*1-634-637-11 (F411RA)...	PC BOARD, TRANS (B)	
C1	1-161-744-00	CERAMIC 0.01MF	400V
C108	1-162-284-31	CERAMIC 150PF	10% 50V
C110	1-126-233-11 (F311R)...	ELECT 22MF	20% 50V
C110	1-126-049-11 (F411RA)...	ELECT 22MF	20% 50V
C111	1-124-477-11 (F311R)...	ELECT 47MF	20% 16V
C111	1-126-022-11 (F411RA)...	ELECT 47MF	20% 25V
F1	Δ 1-532-285-00 (F311R)...	FUSE, TIME-LAG (T1.25A)	
F2	Δ 1-532-286-00 (AEP)...	FUSE, TIME-LAG (T2.5A)	
F821	Δ 1-532-325-00 (F411RA)...	FUSE, TIME-LAG (T6.3A)	
F822	Δ 1-532-325-00 (F411RA)...	FUSE, TIME-LAG (T6.3A)	
T1	Δ 1-450-059-11 (F311R)...	TRANSFORMER, POWER	
T1	Δ 1-450-062-11 (F411RA)...	TRANSFORMER, POWER	
T2	Δ 1-449-297-11	TRANSFORMER, POWER	
C210	1-126-233-11 (F311R)...	ELECT 22MF	20% 50V
C210	1-126-049-11 (F411RA)...	ELECT 22MF	20% 50V

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

- 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.

Ref.No.	Part No.	Description	Remarks
901	*1-631-777-11 (F311R)...	PC BOARD, VOL LEADS	
901	*1-631-765-11 (F411RA)...	PC BOARD, LED	
902	*1-631-759-11	PC BOARD, HP	
903	*1-631-764-11	PC BOARD, SIRCS	
904	*A-4334-255-A (F311R)...	MOUNTED PCB, CONT	
904	*A-4334-320-A (F411RA)...	MOUNTED PCB, CONT	
905	*1-631-771-11	PC BOARD, SW	
906	*1-631-758-11 (F311R)...	PC BOARD, SP PUSH	
907	*1-631-763-11 (F311R)...	PC BOARD, TRANS	
908	*1-631-770-11	PC BOARD, FUSE	
909	*1-631-767-11	PC BOARD, SEALED	
910	*A-4334-249-A (F311R)...	MOUNTED PCB, AMP	
910	*A-4334-309-A (F411RA)...	MOUNTED PCB, AMP	
911	*1-631-761-11 (F411RA)...	PC BOARD, SP ROTE	
912	*1-631-760-11	PC BOARD, SP TM	
913	*1-631-762-11	PC BOARD, JOINT	
914	*A-4334-253-A (F311R)...	MOUNTED PCB, FUNC	
914	*A-4334-317-A (F411RA)...	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	*1-634-634-11 (F411RA)...	PC BOARD, 4.8 SWITCH	
920	*1-634-637-11 (F411RA)...	PC BOARD, TRANS (B)	
C1	1-161-744-00	CERAMIC 0.01MF	400V
C108	1-162-284-31	CERAMIC 150PF	10% 50V
C110	1-126-233-11 (F311R)...	ELECT 22MF	20% 50V
C110	1-126-049-11 (F411RA)...	ELECT 22MF	20% 50V
C111	1-124-477-11 (F311R)...	ELECT 47MF	20% 16V
C111	1-126-022-11 (F411RA)...	ELECT 47MF	20% 25V
C112	1-162-284-31	CERAMIC 150PF	10% 50V
C113	1-130-490-00	MYLAR 0.0056MF	5% 50V
C114	1-130-473-00	MYLAR 0.0015MF	5% 50V
C115	1-124-902-00	(F311R)...	ELECT 0.47MF 20% 50V
C115	1-126-043-11 (F411RA)...	ELECT 0.47MF	20% 50V
C116	1-124-472-11 (F311R)...	ELECT 47OMF	20% 10V
C116	1-124-997-11 (F411RA)...	ELECT 47OMF	20% 10V
C150	1-124-925-11 (F311R)...	ELECT 2.2MF	20% 50V
C208	1-162-284-31	CERAMIC 150PF	10% 50V
C210	1-126-233-11 (F311R)...	ELECT 22MF	20% 50V
C210	1-126-049-11 (F411RA)...	ELECT 22MF	20% 50V

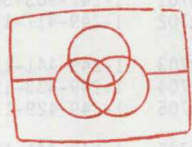
- CAPACITORS:**
MF: μ F, PF: μ F.
- RESISTORS**
• All resistors are in ohms.
• F: nonflammable
- COILS**
• MMH: mH, UH: μ H
- SEMICONDUCTORS**
In each case, U: μ , for example:
UA...: μ A... UPA...: μ PA...
UPC...: μ PC, UPD...: μ PD...

Ref.No.	Part No.	Description	Remarks
C211	1-124-477-11 (F311R)...	ELECT 47MF	20% 16V
C211	1-126-022-11 (F411RA)...	ELECT 47MF	20% 25V
C212	1-162-284-31	CERAMIC 150PF	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 (F311R)...	ELECT 0.47MF	20% 50V
C215	1-126-043-11 (F411RA)...	ELECT 0.47MF	20% 50V
C216	1-124-472-11 (F311R)...	ELECT 47OMF	20% 10V
C216	1-124-997-11 (F411RA)...	ELECT 47OMF	20% 10V
C301	1-130-481-00	MYLAR 0.0068MF	5% 50V
C302	1-130-474-00	MYLAR 0.0018MF	5% 50V
C303	1-136-159-00	FILM 0.033MF	5% 50V
C304	1-130-479-00	MYLAR 0.0047MF	5% 50V
C401	1-130-481-00	MYLAR 0.0068MF	5% 50V
C402	1-130-474-00	MYLAR 0.0018MF	5% 50V
C403	*1-631-761-11 (F411RA)...	PC BOARD, SP ROTE	0.033MF 5% 50V
C404	1-130-479-00	MYLAR 0.0047MF	5% 50V
C500	1-124-927-11	ELECT 4.7MF	20% 50V
C501	1-126-233-11 (F311R)...	ELECT 22MF	20% 50V
C501	1-126-049-11 (F411RA)...	ELECT 22MF	20% 50V
C502	1-124-478-11 (F311R)...	ELECT 100MF	20% 25V
C502	1-126-023-11 (F411RA)...	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
C600	1-124-927-11	ELECT 4.7MF	20% 50V
C601	1-126-233-11 (F311R)...	ELECT 22MF	20% 50V
C601	1-126-049-11 (F411RA)...	ELECT 22MF	20% 50V
C602	1-124-478-11 (F311R)...	ELECT 100MF	20% 25V
C602	1-126-023-11 (F411RA)...	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
C700	1-162-284-31	CERAMIC 150PF	10% 50V
C701	1-162-284-31	CERAMIC 150PF	10% 50V
C702	1-164-091-11	CERAMIC 0.022MF	5% 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

Ref.No.	Part No.	Description	Remarks
C708	1-164-097-11	CERAMIC 0.022MF	50V
C709	1-124-446-11	ELECT 47MF	20% 10V
C711	1-162-306-11	CERAMIC 0.01MF	20% 16V
C712	1-162-306-11	CERAMIC 0.01MF	20% 16V
C713	1-162-306-11	CERAMIC 0.01MF	20% 16V
C714	1-136-164-00	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
C756	1-161-494-00	CERAMIC 0.022MF	25V
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	1-124-478-11 (F311R)...	ELECT 100MF	20% 25V
C804	1-126-101-11 (F411RA)...	ELECT 100MF	20% 16V
C821	1-136-163-00 (F411RA)...	FILM 0.068MF	5% 50V
C822	1-136-163-00 (F411RA)...	FILM 0.068MF	5% 50V
C823	1-124-911-11 (F411RA)...	ELECT 220MF	20% 50V
C900	1-126-224-11 (F311R)...	ELECT 4700MF	20% 42V
C900	1-125-574-11 (F411RA)...	ELECT 820MF	20% 56V
C901	1-126-224-11 (F311R)...	ELECT 4700MF	20% 42V
C901	1-125-5		

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Ref.No.	Part No.	Description
D757	8-719-200-77	DIODE 10E2N
D758	8-719-912-20	DIODE 1SS120
D800	8-719-200-77	DIODE 10E2N
D801	8-719-912-20	DIODE 1SS120
D802	8-719-912-20	DIODE 1SS120
D821	8-719-200-77	(F411RA)...DIODE 10E2N
D822	8-719-200-77	(F411RA)...DIODE 10E2N
D900	8-719-312-09	DIODE RBA-402
D901	8-719-200-77	DIODE 10E2N
D902	8-719-200-77	DIODE 10E2N
D903	8-719-200-77	DIODE 10E2N
D904	8-719-200-77	DIODE 10E2N
D905	8-719-200-77	DIODE 10E2N
D906	8-719-200-77	DIODE 10E2N
D907	8-719-200-77	DIODE 10E2N
D908	8-719-200-77	DIODE 10E2N
D909	8-719-511-40	DIODE S1VB40
D913	8-719-912-20	DIODE 1SS120
D914	8-719-912-20	DIODE 1SS120
F1	△.1-532-285-00	(F311R)...FUSE, TIME-LAG (T1.25A)
F2	△.1-532-286-00	(AEP).....FUSE, TIME-LAG (T2.5A)
F821	△.1-532-325-00	(F411RA)...FUSE, TIME-LAG (T6.3A)
F822	△.1-532-325-00	(F411RA)...FUSE, TIME-LAG (T6.3A)
IC101	8-759-600-02	IC M5218L
IC102	8-759-800-37	IC LC4066BH
IC501	8-759-109-06	IC UPC1298V
IC601	8-759-109-06	IC UPC1298V
IC700	8-759-632-61	IC M50761-258P
IC701	8-759-802-52	IC LC7818
IC702	8-749-920-83	IC GP1U52XB
IC800	8-759-111-68	IC UPC1237HA
IC900	8-759-604-29	IC M5F7805
IC901	8-759-982-10	IC RC7809FA
IC902	8-759-604-49	IC M5F7909
J100	1-565-320-11	JACK, PIN 6P
J101	1-565-320-11	JACK, PIN 6P
J102	1-568-529-21	JACK, PIN 4P
J900	1-507-863-51	JACK, LARGE TYPE
L500	*1-420-872-00	COIL, AIR CORE
L600	*1-420-872-00	COIL, AIR CORE
Q101	8-729-900-63	TRANSISTOR DTA124ES
Q102	8-729-900-36	TRANSISTOR DTC124ES
Q500	8-729-141-26	TRANSISTOR 2SC3622A-LK
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q502	8-729-321-99	(F411RA)...TRANSISTOR 2SC3854LF-0Y
Q502	8-729-322-08	(F311R)...TRANSISTOR 2SC3853LF-0Y
Q503	8-729-322-05	(F411RA)...TRANSISTOR 2SA1490LF-0Y
Q503	8-729-322-11	(F311R)...TRANSISTOR 2SA1489LF-0Y
Q504	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA
Q600	8-729-141-26	TRANSISTOR 2SC3622A-LK
Q601	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q602	8-729-321-99	(F411RA)...TRANSISTOR 2SC3854LF-0Y
Q602	8-729-322-08	(F311R)...TRANSISTOR 2SC3853LF-0Y
Q603	8-729-322-05	(F411RA)...TRANSISTOR 2SA1490LF-0Y
Q603	8-729-322-11	(F311R)...TRANSISTOR 2SA1489LF-0Y
Q604	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA
Q700	8-729-620-05	TRANSISTOR 2SC2603-EF
Q701	8-729-620-05	TRANSISTOR 2SC2603-EF



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Ref.No.	Part No.	Description
Q702	8-729-620-05	TRANSISTOR 2SC2603-EF
Q703	8-729-620-05	TRANSISTOR 2SC2603-EF
Q704	8-729-900-63	TRANSISTOR DTA124ES
Q705	8-729-620-05	TRANSISTOR 2SC2603-EF
Q706	8-729-620-05	TRANSISTOR 2SC2603-EF
Q707	8-729-900-63	TRANSISTOR DTA124ES
Q708	8-729-900-63	TRANSISTOR DTA124ES
Q709	8-729-900-63	TRANSISTOR DTA124ES
Q710	8-729-900-63	(F411RA)...TRANSISTOR DTA124ES
Q711	8-729-900-63	(F411RA)...TRANSISTOR DTA124ES
Q712	8-729-900-63	TRANSISTOR DTA124ES
Q713	8-729-900-63	TRANSISTOR DTA124ES
Q714	8-729-900-36	TRANSISTOR DTC124ES
Q715	8-729-111-29	TRANSISTOR 2SD1616A-K
Q716	8-729-118-01	TRANSISTOR 2SB1116
Q717	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q750	8-729-900-63	TRANSISTOR DTA124ES
Q751	8-729-900-63	TRANSISTOR DTA124ES
Q761	8-729-900-80	TRANSISTOR DTC114ES
Q762	8-729-900-80	TRANSISTOR DTC114ES
Q800	8-729-900-63	TRANSISTOR DTA124ES
Q900	8-729-920-98	TRANSISTOR 2SD1761-EF
Q901	8-729-920-97	TRANSISTOR 2SB1187-EF
R102	1-249-417-11	CARBON 1K 5% 1/4W
R104	1-249-417-11	CARBON 1K 5% 1/4W
R108	1-249-418-11	CARBON 1.2K 5% 1/4W
R109	1-249-441-11	CARBON 100K 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	1-249-433-11	(F311R)...CARBON 22K 5% 1/4W
R120	1-249-433-11	(F311R)...CARBON 22K 5% 1/4W
R150	1-249-441-11	(F311R)...CARBON 100K 5% 1/4W
R202	1-249-417-11	CARBON 1K 5% 1/4W
R204	1-249-417-11	CARBON 1K 5% 1/4W
R208	1-249-418-11	CARBON 1.2K 5% 1/4W
R209	1-249-441-11	CARBON 100K 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

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

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Ref.No.	Part No.	Description					
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	(F311R)...CARBON	1K	5%	1/4W		
R500	1-247-713-11	(F411RA)...CARBON	1K	5%	1/4W		
R501	1-249-417-11	(F311R)...CARBON	1K	5%	1/4W		
R501	1-247-713-11	(F411RA)...CARBON	1K	5%	1/4W		
R502	1-249-423-11	CARBON	3.3K	5%	1/4W		
R503	1-249-441-11	(F311R)...CARBON	100K	5%	1/4W		
R503	1-249-469-11	(F411RA)...CARBON	100K	5%	1/4W		
R504	1-249-416-11	(F311R)...CARBON	820	5%	1/4W		
R504	1-247-711-11	(F411RA)...CARBON	680	5%	1/4W		
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	1-249-428-11	(F311R)...CARBON	8.2K	5%	1/4W		
R513	1-249-434-11	(F411RA)...CARBON	27K	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		
R519	△.1-247-704-11	CARBON	220	5%	1/4W	F	
R520	△.1-247-745-11	(F311R)...CARBON	330	5%	1/2W		
R520	△.1-215-867-00	(F411RA)...METAL OXIDE	470	5%	1W		
R521	△.1-216-361-00	(F411RA)...METAL OXIDE	0.22	5%	2W		
R522	△.1-216-361-00	(F411RA)...METAL OXIDE	0.22	5%	2W		
R523	1-249-423-11	CARBON	3.3K	5%	1/4W		
R600	1-249-417-11	(F311R)...CARBON	1K	5%	1/4W		
R600	1-247-713-11	(F411RA)...CARBON	1K	5%	1/4W		
R601	1-249-417-11	(F311R)...CARBON	1K	5%	1/4W		
R601	1-247-713-11	(F411RA)...CARBON	1K	5%	1/4W		
R602	1-249-423-11	CARBON	3.3K	5%	1/4W		
R603	1-249-441-11	(F311R)...CARBON	100K	5%	1/4W		
R603	1-249-469-11	(F411RA)...CARBON	100K	5%	1/4W		
R604	1-249-416-11	(F311R)...CARBON	820	5%	1/4W		
R604	1-247-711-11	(F411RA)...CARBON	680	5%	1/4W		
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	1-249-428-11	(F311R)...CARBON	8.2K	5%	1/4W		
R613	1-249-434-11	(F411RA)...CARBON	27K	5%	1/4W		

Ref.No.	Part No.	Description					
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		
R619	△.1-247-704-11	CARBON	220	5%	1/4W	F	
R620	△.1-247-745-11	(F311R)...CARBON	330	5%	1/2W		
R620	△.1-215-867-00	(F411RA)...METAL OXIDE	470	5%	1W		
R621	△.1-216-361-00	(F411RA)...METAL OXIDE	0.22	5%	2W		
R622	△.1-216-361-00	(F411RA)...METAL OXIDE	0.22	5%	2W		
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		
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	1-249-414-11	CARBON	560	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	△.1-249-393-11	CARBON	10	5%	1/4W	F	
R746	△.1-249-393-11	CARBON	10	5%	1/4W	F	
R747	1-249-433-11	(F411RA)...CARBON	22K	5%	1/4W		
R750	1-249-433-11	CARBON	22K	5%	1/4W		
R761	1-249-425-11	CARBON	4.7K	5%	1/4W		
R800	1-249-439-11	CARBON	68K	5%	1/4W		

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

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Ref.No.	Part No.	Description
R801	1-249-429-11	(F311R)...CARBON 10K 5% 1/4W
R801	1-249-430-11	(F411RA)...CARBON 12K 5% 1/4W
R802	1-249-441-11	CARBON 100K 5% 1/4W
R803	1-249-440-11	CARBON 82K 5% 1/4W
R805	△.1-215-865-11	(F311R)...METAL OXIDE 220 5% 1W F
R805	△.1-216-454-11	(F411RA)...METAL OXIDE 390 5% 2W
R806	1-249-427-11	(F311R)...CARBON 6.8K 5% 1/4W
R806	1-249-429-11	(F411RA)...CARBON 10K 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	△.1-249-451-11	(F311R)...CARBON 2.2 5% 1/4W F
R902	△.1-217-473-00	(F411RA)...FUSIBLE 2.2 5% 1W
R903	△.1-249-451-11	(F311R)...CARBON 2.2 5% 1/4W F
R903	△.1-217-473-00	(F411RA)...FUSIBLE 2.2 5% 1W
R904	1-249-417-11	CARBON 1K 5% 1/4W
R905	1-249-417-11	CARBON 1K 5% 1/4W
R906	1-247-698-11	CARBON 68 5% 1/4W
R907	1-247-713-11	CARBON 1K 5% 1/4W
R908	1-249-451-11	CARBON 2.2 5% 1/4W
R909	1-249-451-11	CARBON 2.2 5% 1/4W
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	1-238-628-21	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	RELAY
RY800	1-515-533-11	(F311R)...RELAY
RY800	1-515-501-11	(F411RA)...RELAY
S821	1-571-309-31	(F411RA)...SWITCH (SPEAKER IMPEDANCE SELECTOR)
SW100	1-571-115-11	(F411RA)...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)

Ref.No.	Part No.	Description
SW900	1-571-971-11	(F311R)...SWITCH, PUSH (2 KEY) (SPEAKER A/B)
SW900	1-571-973-11	(F411RA)...SWITCH, ROTARY (SPEAKERS)
T1	△.1-450-059-11	(F311R)...TRANSFORMER, POWER
T1	△.1-450-062-11	(F411RA)...TRANSFORMER, POWER
T2	△.1-449-297-11	TRANSFORMER, POWER
TM900	1-537-227-11	(AEP)...TERMINAL BOARD (SP)
TM900	1-537-228-11	(UK)...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
3-751-337-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,PORTUGUESE)
3-751-337-41	MANUAL, INSTRUCTION (GERMAN,DUTCH,SWEDISH,ITALIAN)
*4-929-260-01	CUSHION
*4-931-991-01	(F311R)...INDIVIDUAL CARTON
*4-931-992-01	(F411RA)...INDIVIDUAL CARTON

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

TA-F311R/F411RA

SONY SERVICE MANUAL

AEP Model
TA-F311R

AEP Model
UK Model
TA-F411RA

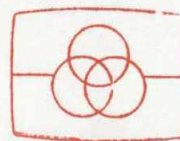
CORRECTION-1

Correct your service manual as shown below.

- As bias current adjustment method in the service manual on page 5 is incorrect, please perform it according to the following procedures.

Bias Current Adjustment

Note: This adjustment should be performed under thermal stable condition. Before starting the adjustment, wait for more than an hour after switch off for cooling, and perform the adjustment within one minute after switching on.



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Procedure :

- Set main volume to minimum position.
- Switch on the set.
- Adjust RV500 (RV600 for right channel) so that the voltage across TP500 and TP600 becomes the value indicated below.

Adjustment values :

TA-F311R 4mV \pm 0.3mV
 TA-F411RA 2mV \pm 0.3mV