

TA-F248E

SERVICE MANUAL

*AEP Model
UK Model*



SPECIFICATIONS

Amplifier section

DIN power output

70 W + 70 W (4 ohms at 1 kHz)
50 W + 50 W (8 ohms at 1 kHz)

Total harmonic distortion

Less than 0.008% (at 10 W output)

Frequency response

PHONO (20 Hz - 20 kHz): RIAA equalization curve
 ± 0.5 dB
TUNER, CD, AUX, TAPE1/DAT, TAPE2/MD:
7 Hz - 100 kHz ± 0.5 dB

S/N (network A)

PHONO: 94 dB
TUNER, CD, AUX, TAPE1/DAT, TAPE2/MD: 105 dB

Output voltage / impedance

RECOU: 150 mV, 1 kilohm
PHONES: 10 mW (at 8 ohms)

Speakers impedance

4 - 16 ohms

Damping factor

100 (8 ohms, 1 kHz)

General

System

Power amplifier: Pure-complementary SEPP OCL
power amplifier with all stages directly coupled
Preamplifier: Low-noise, equalizer amplifier

Power requirements

230 V AC, 50/60 Hz

Power consumption

180 W

Dimensions (approx.) (w/h/d)

430 × 135 × 365 mm
incl. projecting parts and controls

Mass (approx.)

6.4 kg

Design and specifications are subject to change without notice.

INTEGRATED STEREO AMPLIFIER



SONY®

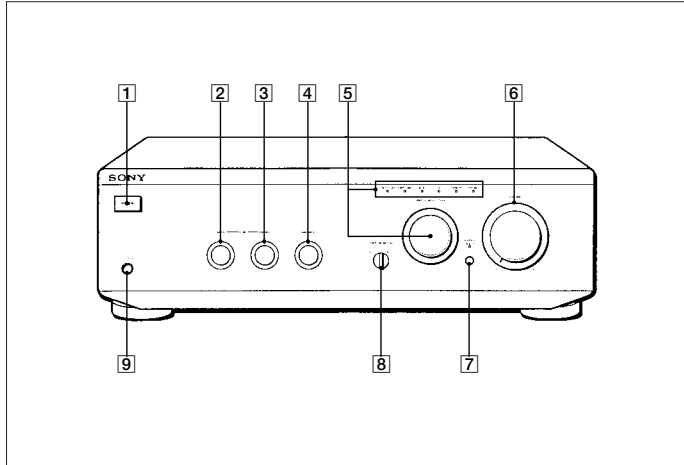
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SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle 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.

**SECTION 1
GENERAL**

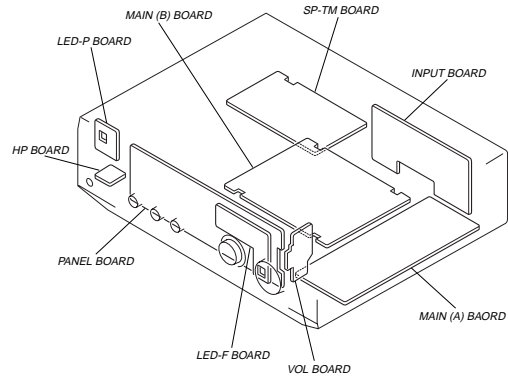


- 1 POWER button
- 2 BASS
- 3 TREBLE
- 4 BALANCE
- 5 INPUT SELECTOR

- 6 VOLUME
- 7 SOURCE DIRECT button
- 8 TAPE MONITOR switch
- 9 PHONES jack

**SECTION 2
DIAGRAMS**

2-1. CIRCUIT BOARDS LOCATION

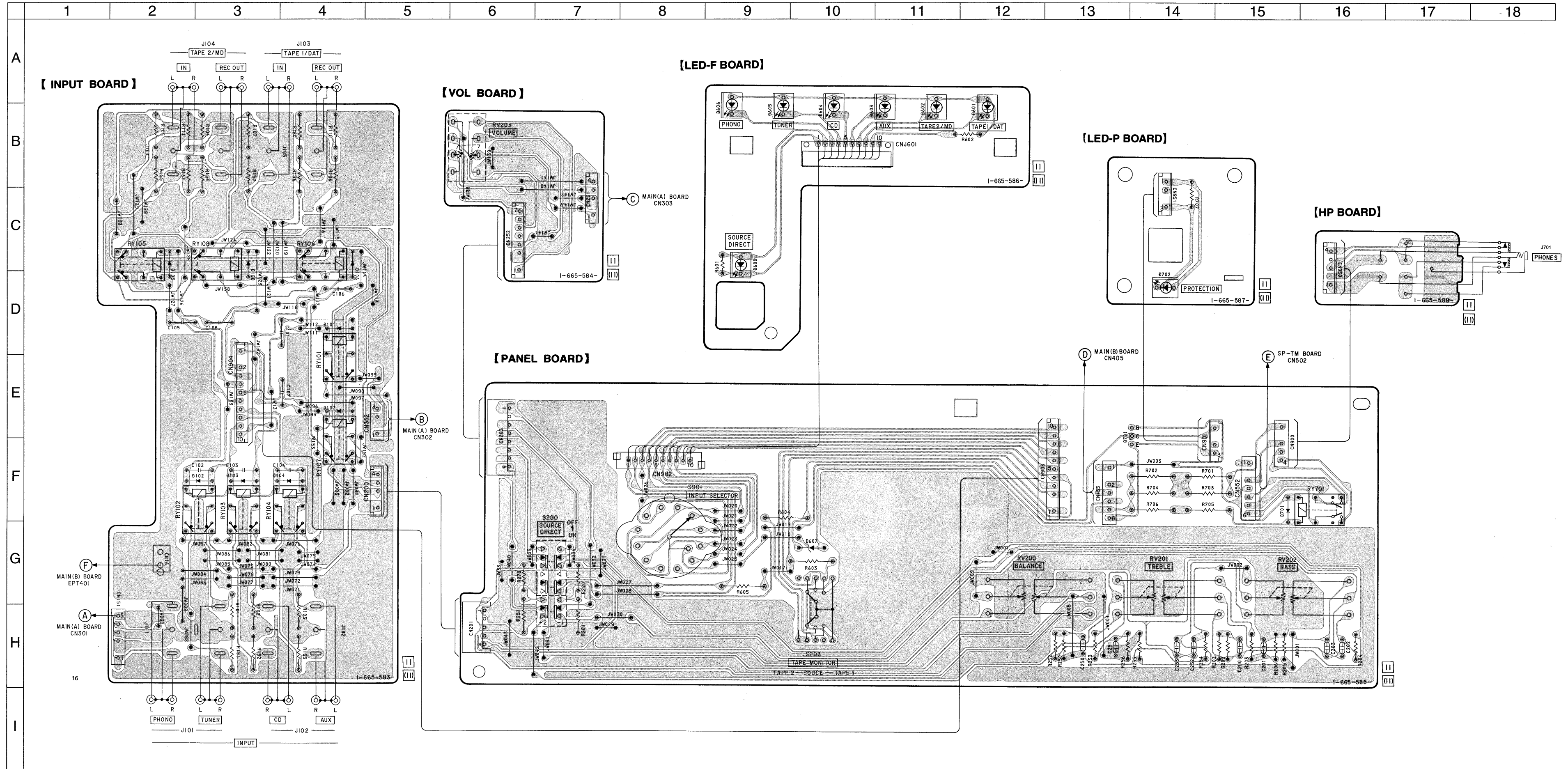


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2-2. PRINTED WIRING BOARD — PANEL SECTION —

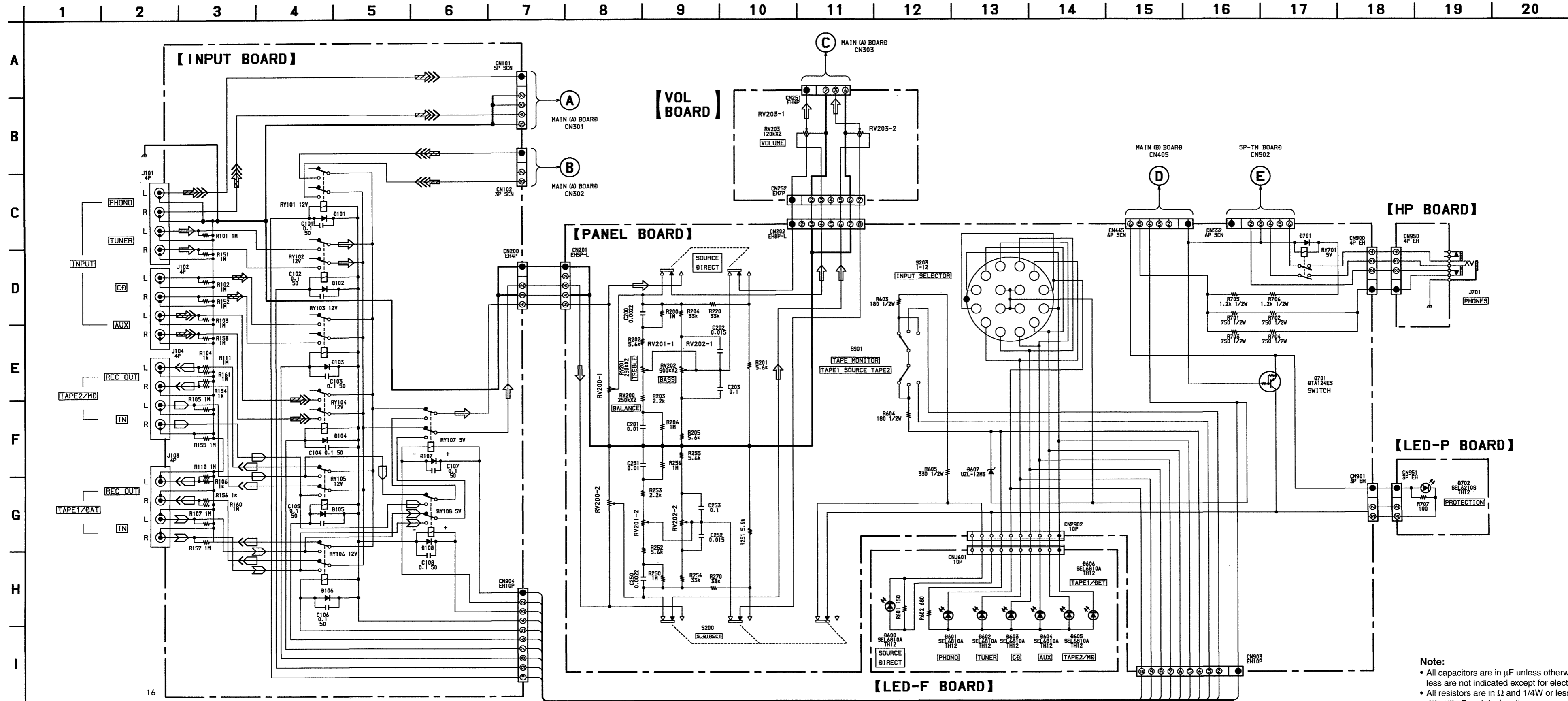
• Semiconductor Location

Ref. No.	Location
D101	D-4
D102	F-3
D103	F-3
D104	F-4
D105	C-2
D106	C-4
D107	E-4
D108	C-3
D600	C-9
D601	B-12
D602	B-11
D603	B-11
D604	B-10
D605	B-9
D606	B-9
D607	G-10
D701	F-15
D702	D-14
Q701	E-14



Note:
 • : Parts extracted from the component side.
 • Δ : Internal component.
 • : Pattern on the side which is seen.

2-3. SCHEMATIC DIAGRAM — PANEL SECTION —



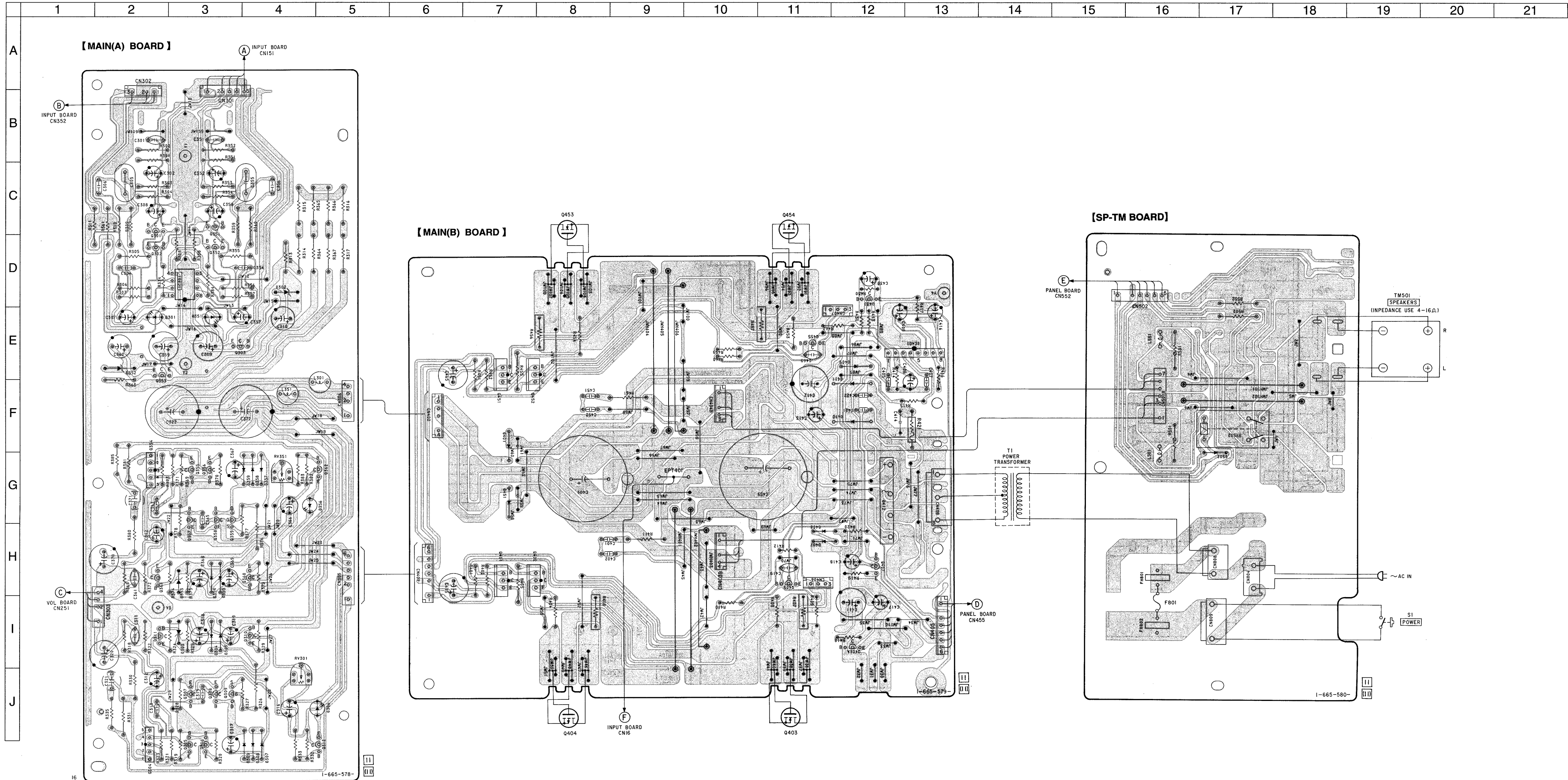
Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- Panel designation
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Voltages are dc with respect to ground under no-signal conditions.
- Signal path
- : TUNER - - - : PB (TAPE 1/DAT) ····· : PB (TAPE 2/MD)
- ⊳ : AUX ⊳ : CD ⊳ : PHONO
- ⊳ : REC (TAPE 1/DAT) ⊳ : REC (TAPE 2/MD)

2-4. PRINTED WIRING BOARD — MAIN SECTION —

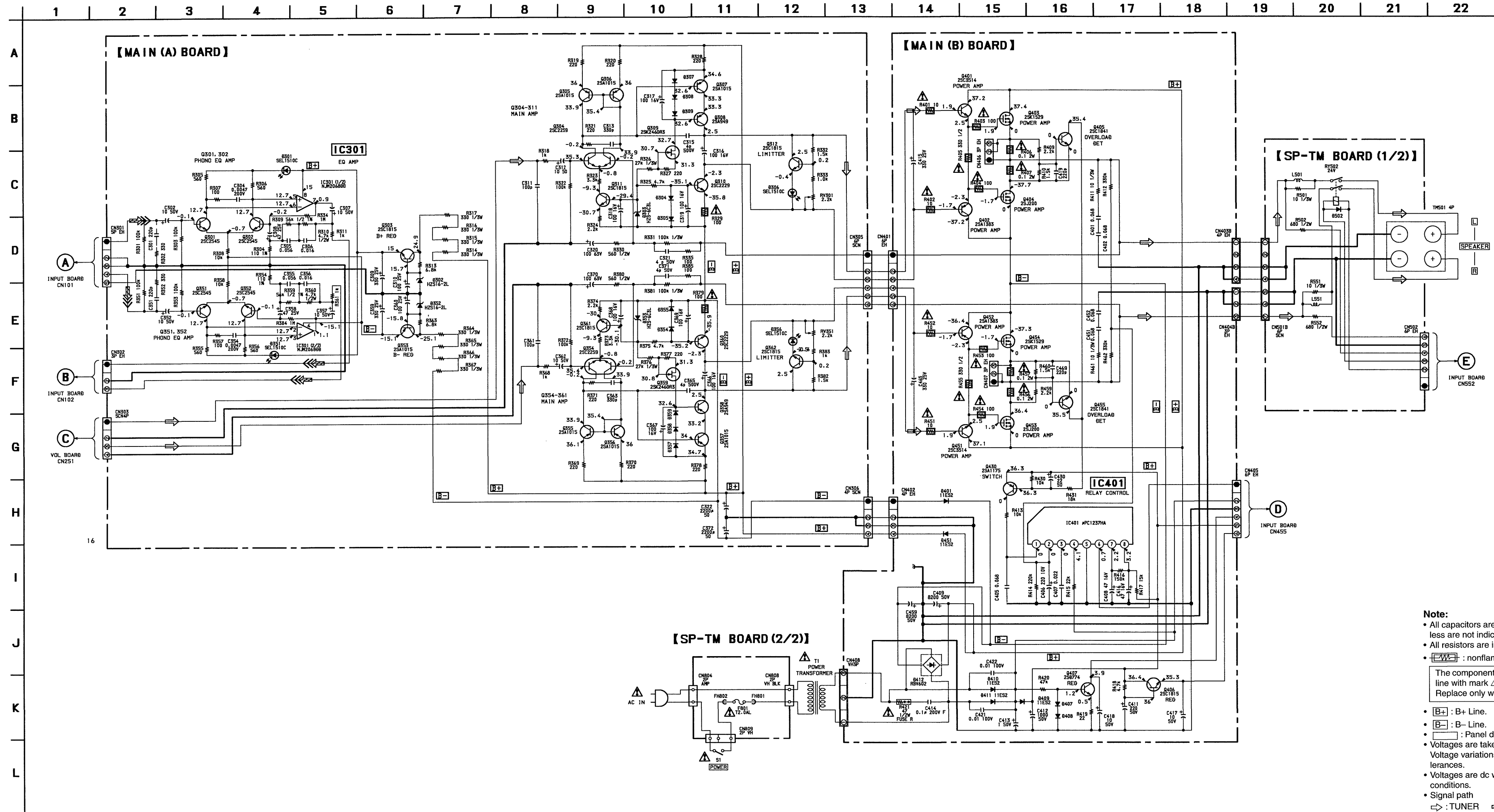
• Semiconductor Location

Ref. No.	Location
D301	E-2
D302	D-4
D303	I-3
D304	I-3
D305	I-3
D306	J-5
D307	J-4
D308	J-4
D309	J-4
D351	E-3
D352	E-2
D353	H-3
D354	H-3
D355	H-3
D356	G-4
D357	G-4
D358	G-4
D359	G-4
D401	F-7
D407	H-11
D408	H-11
D409	E-12
D410	F-12
D411	F-12
D412	G-12
D451	G-7
D502	F-17
IC301	D-3
IC401	E-13
Q301	C-2
Q302	D-2
Q303	F-3
Q304	J-2
Q305	J-3
Q306	J-3
Q307	J-3
Q308	J-3
Q309	J-3
Q310	I-4
Q311	I-2
Q312	J-5
Q351	C-3
Q352	D-3
Q353	F-2
Q354	G-2
Q355	G-2
Q356	G-3
Q357	G-3
Q358	G-3
Q359	G-3
Q360	H-4
Q361	H-2
Q362	G-5
Q401	H-7
Q402	H-7
Q405	H-11
Q406A	I-12
Q407	H-12
Q430	D-12
Q451	E-7
Q452	E-7
Q455	E-11



Note:
 • — : Parts extracted from the component side.
 • △ : Internal component.
 • — : Pattern on the side which is seen.

2-5. SCHEMATIC DIAGRAM — MAIN SECTION —



Note:
 • All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
 • All resistors are in Ω and 1/4W or less unless otherwise specified.
 • \triangle : nonflammable resistor.

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

- $B+$: B+ Line.
- $B-$: B- Line.
- \square : Panel designation
- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production to tolerances.
- Voltages are dc with respect to ground under no-signal conditions.
- Signal path
- \rightarrow : TUNER \Rightarrow : PHONO

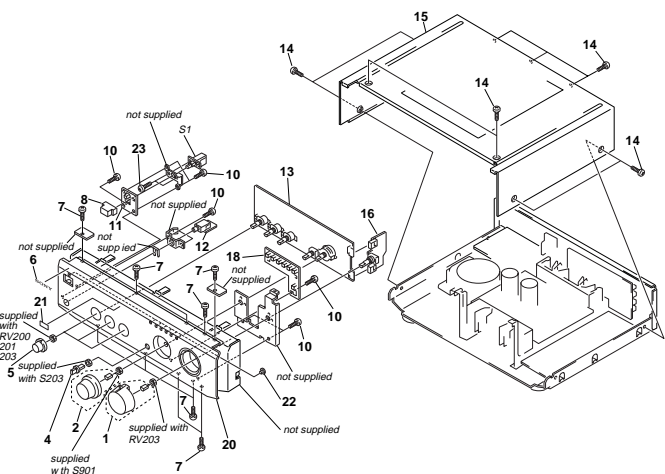
SECTION 3 EXPLODED VIEWS

Note:

- XX X mean standardized parts so they may have some differences from the original one
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list

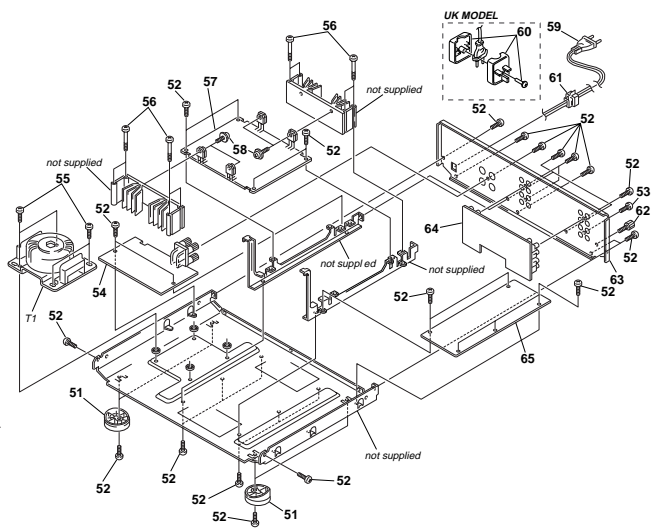
The components identified by mark Δ, or dotted line with mark Δ, are critical for safety. Replace only with part number specified.

3-1. CASE, FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	X 4946 920 1	KNOB (VOL) ASSY		14	3 363 099 61	SCREW (CASE 3 TP2)	
2	X 4947 339 3	KNOB (DIA. 47) ASSY		15	X 4948 403 1	CASE ASSY	
4	4 980 774 01	KNOB (F11)		* 16	1 665 584 11	VOL BOARD	
5	4 980 204 01	KNOB (DIA. 24)		* 18	1 665 586 11	LED F BOARD	
6	4 979 587 01	EMBLEM (NO.5) SONY		20	4 989 458 03	PANEL FRONT	
7	4 967 961 01	SCREW (3X8)		21	4 965 651 01	EMBLEM (MOS)	
8	4 980 199 01	BUTTON (POWER)		22	4 980 775 01	LENS LED	
10	4 951 620 01	SCREW (2.6X8) -BVTP		23	7 685 872 09	SCREW -BVTT1 3X8	
* 11	1 665 587 11	LED P BOARD		Δ.S1	1 554 920 11	SWITCH PUSH (AC POWER)(1 KEY)	
* 12	1 665 588 11	HP BOARD					
* 13	A 4398 012 A	PANEL BOARD COMPLETE					

3-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
51	X 4947 025 1	FOOT ASSY		56	4 981 016 01	SCREW (H)	
52	X 4948 403 1	CASE ASSY		* 57	A 4398 007 A	MAIN (B) BOARD COMPLETE	
53	3 704 515 41	SCREW (BV/RING)		58	3 905 609 11	SCREW (TRANSISTOR)	
* 54	1 665 580 11	SP TM BOARD		Δ.S9	1 777 185 11	CORD POWER	
55	4 967 960 01	SCREW (4X8)					
Δ.60	1 770 019 11	ADAPTOR CONVERSION PLUG 3P (UK)					
* 61	3 703 244 00	BUSHING (2104) CORD					
62	4 947 010 01	SCREW FEEDER FIXED					
* 63	4 990 344 01	PANEL BACK (AEP)					
* 63	4 990 344 11	PANEL BACK (UK)					
* 64	1 665 583 11	INPUT BOARD					
* 65	A 4398 006 A	MAIN (A) BOARD COMPLETE					
Δ.T1	1 431 277 11	TRANSFORMER POWER					

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

SECTION 4 ELECTRICAL PARTS LIST

HP INPUT LED-F

Note:

When indicating parts by reference number please include the board name.

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

- 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.
- XX X mean standardized parts so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
uF: μF

- RESISTORS
All resistors are in ohms
METAL: metal film resistor
METAL OXIDE: Metal Oxide film resistor
F: nonflammable
- COILS
uH: μH
- SEMICONDUCTORS
In each case u: μ, for example:
uA: μA uPA: μPA
uPB: μPB uPC: μPC
uPD: μPD

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
* 1	1 665 588 11	HP BOARD	*****	R106	1 249 923 11	CARBON 1K	5% 1/4W
		< CONNECTOR >		R107	1 249 995 11	CARBON 1M	5% 1/4W
		< JACK >		R110	1 249 995 11	CARBON 1M	5% 1/4W
CN950	1 691 766 11	PLUG (MICRO CONNECTOR) 4P		R111	1 249 995 11	CARBON 1M	5% 1/4W
		< JACK >		R151	1 249 995 11	CARBON 1M	5% 1/4W
J701	1 774 933 11	JACK (LARGE TYPE) (PHONES)	*****	R152	1 249 995 11	CARBON 1M	5% 1/4W
		< CAPACITOR >		R153	1 249 995 11	CARBON 1M	5% 1/4W
		< RELAY >		R154	1 249 923 11	CARBON 1K	5% 1/4W
* 1	1 665 583 11	INPUT BOARD	*****	R155	1 249 995 11	CARBON 1M	5% 1/4W
		< CAPACITOR >		R156	1 249 923 11	CARBON 1K	5% 1/4W
C101	1 164 159 11	CERAMIC 0.1uF	50V	R157	1 249 995 11	CARBON 1M	5% 1/4W
C102	1 164 159 11	CERAMIC 0.1uF	50V	R160	1 249 995 11	CARBON 1M	5% 1/4W
C103	1 164 159 11	CERAMIC 0.1uF	50V	R161	1 249 995 11	CARBON 1M	5% 1/4W
C104	1 164 159 11	CERAMIC 0.1uF	50V				
C105	1 164 159 11	CERAMIC 0.1uF	50V				
C106	1 164 159 11	CERAMIC 0.1uF	50V				
C107	1 164 159 11	CERAMIC 0.1uF	50V				
C108	1 164 159 11	CERAMIC 0.1uF	50V				
		< CONNECTOR >					
CN200	1 691 766 11	PLUG (MICRO CONNECTOR) 4P		* 1	1 665 586 11	LED F BOARD	*****
CN904	1 691 772 11	PLUG (MICRO CONNECTOR) 10P					
		< DIODE >					
D101	8 719 987 63	DIODE 1N4148M		CNJ601	1 766 797 11	CONNECTOR BOARD TO BOARD 10P	
D102	8 719 987 63	DIODE 1N4148M					
D103	8 719 987 63	DIODE 1N4148M					
D104	8 719 987 63	DIODE 1N4148M					
D105	8 719 987 63	DIODE 1N4148M		D600	8 719 313 50	DIODE SEL6810A TH12 (SOURCE DIRECT)	
D106	8 719 987 63	DIODE 1N4148M		D601	8 719 313 50	DIODE SEL6810A TH12 (TAPE1/DAT)	
D107	8 719 987 63	DIODE 1N4148M		D602	8 719 313 50	DIODE SEL6810A TH12 (TAPE2/MD)	
D108	8 719 987 63	DIODE 1N4148M		D603	8 719 313 50	DIODE SEL6810A TH12 (AUX)	
		< JACK >		D604	8 719 313 50	DIODE SEL6810A TH12 (CD)	
* J101	1 573 142 31	JACK PIN 4P (INPUT(TUNER PHONO))		D605	8 719 313 50	DIODE SEL6810A TH12 (TUNER)	
* J102	1 573 142 51	JACK PIN 4P (INPUT(AUX CD))		D606	8 719 313 50	DIODE SEL6810A TH12 (PHONO)	
* J103	1 573 142 21	JACK PIN 4P (TAPE1/DAT(IN REC OUT))					
* J104	1 573 142 21	JACK PIN 4P (TAPE2/MD(IN REC OUT))					
		< RESISTOR >					
R101	1 249 995 11	CARBON 1M	5% 1/4W	R601	1 249 407 11	CARBON 150	5% 1/4W F
R102	1 249 995 11	CARBON 1M	5% 1/4W	R602	1 249 415 11	CARBON 680	5% 1/4W F
R103	1 249 995 11	CARBON 1M	5% 1/4W				
R104	1 249 923 11	CARBON 1K	5% 1/4W				
R105	1 249 995 11	CARBON 1M	5% 1/4W				

LED-P

MAIN (A)

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
*	1-665-587-11	LED-P BOARD *****				< CONNECTOR >	
		< CONNECTOR >		CN301	1-691-767-11	PLUG (MICRO CONNECTOR) 5P	
				CN302	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	
CN951	1-691-765-11	PLUG (MICRO CONNECTOR) 3P				< DIODE >	
		< DIODE >		D301	8-719-310-61	DIODE SEL1510C-D	
				D302	8-719-933-88	DIODE HZS16-2L	
D702	8-719-313-48	DIODE SEL6210S-TH12 (PROTECTION)		D303	8-719-933-41	DIODE HZS6C3L	
		< RESISTOR >		D304	8-719-987-63	DIODE 1N4148M	
				D305	8-719-987-63	DIODE 1N4148M	
R707	1-259-143-21	CARBON 100 5% 1/4W		D306	8-719-310-61	DIODE SEL1510C-D	

*	A-4398-006-A	MAIN (A) BOARD, COMPLETE *****		D307	8-719-987-63	DIODE 1N4148M	
		< CAPACITOR >		D308	8-719-987-63	DIODE 1N4148M	
				D309	8-719-987-63	DIODE 1N4148M	
C301	1-102-978-00	CERAMIC 220PF 5% 50V		D351	8-719-310-61	DIODE SEL1510C-D	
C302	1-126-059-11	ELECT 10uF 20% 50V				< DIODE >	
C304	1-106-359-00	MYLAR 4700PF 5% 200V		D352	8-719-933-88	DIODE HZS16-2L	
C305	1-136-162-00	FILM 0.056uF 5% 50V		D353	8-719-933-41	DIODE HZS6C3L	
C306	1-137-471-11	FILM 0.016uF 5% 50V		D354	8-719-987-63	DIODE 1N4148M	
				D355	8-719-987-63	DIODE 1N4148M	
C307	1-126-059-11	ELECT 10uF 20% 50V		D356	8-719-310-61	DIODE SEL1510C-D	
C308	1-126-022-11	ELECT 47uF 20% 25V				< DIODE >	
C309	1-126-025-11	ELECT 330uF 20% 25V		D357	8-719-987-63	DIODE 1N4148M	
C310	1-126-023-11	ELECT 100uF 20% 25V		D358	8-719-987-63	DIODE 1N4148M	
C311	1-102-973-00	CERAMIC 100PF 5% 50V		D359	8-719-987-63	DIODE 1N4148M	
						< IC >	
C312	1-124-721-11	ELECT 10uF 20% 50V		IC301	8-759-701-25	IC NJM2068D-D	
C313	1-104-290-11	POLYSTYRENE 330PF 5% 50V				< COIL >	
C315	1-102-230-00	CERAMIC 4PF 0.25PF 500V		L301	1-428-203-11	COIL, AIR-CORE	
C316	1-126-023-11	ELECT 100uF 20% 16V		L351	1-428-203-11	COIL, AIR-CORE	
C317	1-126-023-11	ELECT 100uF 20% 16V				< TRANSISTOR >	
C318	1-126-023-11	ELECT 100uF 20% 16V		Q301	8-729-354-52	TRANSISTOR 2SC2545	
C319	1-126-023-11	ELECT 100uF 20% 16V		Q302	8-729-354-52	TRANSISTOR 2SC2545	
C320	1-110-393-11	ELECT 100uF 20% 63V		Q303	8-729-281-54	TRANSISTOR 2SC1815-BL	
C321	1-113-496-11	POLYSTYRENE 4PF 10% 50V		Q304	8-729-620-17	TRANSISTOR 2SC2259-FG	
C322	1-126-057-11	ELECT 2200uF 20% 50V		Q305	8-729-201-53	TRANSISTOR 2SA1015-GR	
				Q306	8-729-201-53	TRANSISTOR 2SA1015-GR	
C351	1-102-978-00	CERAMIC 220PF 5% 50V		Q307	8-729-201-53	TRANSISTOR 2SA1015-GR	
C352	1-126-059-11	ELECT 10uF 20% 50V		Q308	8-729-021-74	TRANSISTOR 2SA949-OY-TPE6	
C354	1-106-359-00	MYLAR 4700PF 5% 200V		Q309	8-729-202-67	TRANSISTOR 2SK246-GR3	
C355	1-136-162-00	FILM 0.056uF 5% 50V		Q310	8-729-021-73	TRANSISTOR 2SC2229-OY-TPE6	
C356	1-137-471-11	FILM 0.016uF 5% 50V				< TRANSISTOR >	
C357	1-126-059-11	ELECT 10uF 20% 50V		Q311	8-729-281-54	TRANSISTOR 2SC1815-BL	
C358	1-126-022-11	ELECT 47uF 20% 25V		Q312	8-729-281-54	TRANSISTOR 2SC1815-BL	
C359	1-126-025-11	ELECT 330uF 20% 25V		Q351	8-729-354-52	TRANSISTOR 2SC2545	
C360	1-126-023-11	ELECT 100uF 20% 25V		Q352	8-729-354-52	TRANSISTOR 2SC2545	
C361	1-102-973-00	CERAMIC 100PF 5% 50V		Q353	8-729-201-53	TRANSISTOR 2SA1015-GR	
				Q354	8-729-620-17	TRANSISTOR 2SC2259-FG	
C362	1-124-721-11	ELECT 10uF 20% 50V		Q355	8-729-201-53	TRANSISTOR 2SA1015-GR	
C363	1-104-290-11	POLYSTYRENE 330PF 5% 50V		Q356	8-729-201-53	TRANSISTOR 2SA1015-GR	
C365	1-102-230-00	CERAMIC 4PF 0.25PF 500V		Q357	8-729-201-53	TRANSISTOR 2SA1015-GR	
C366	1-126-023-11	ELECT 100uF 20% 16V		Q358	8-729-021-74	TRANSISTOR 2SA949-OY-TPE6	
C367	1-126-023-11	ELECT 100uF 20% 16V				< TRANSISTOR >	
C368	1-126-023-11	ELECT 100uF 20% 16V		Q359	8-729-202-67	TRANSISTOR 2SK246-GR3	
C369	1-126-023-11	ELECT 100uF 20% 16V		Q360	8-729-021-73	TRANSISTOR 2SC2229-OY-TPE6	
C370	1-110-393-11	ELECT 100uF 20% 63V		Q361	8-729-281-54	TRANSISTOR 2SC1815-BL	
C371	1-113-496-11	POLYSTYRENE 4PF 10% 50V		Q362	8-729-281-54	TRANSISTOR 2SC1815-BL	
C372	1-126-057-11	ELECT 2200uF 20% 50V					

MAIN (A)

MAIN (B)

Ref. No.	Part No.	Description	Remarks
< RESISTOR >			
R301	1-259-215-21	CARBON 100K 5%	1/4W
R302	1-249-911-11	CARBON 330 5%	1/4W
R303	1-259-215-21	CARBON 100K 5%	1/4W
R304	1-249-900-11	CARBON 110 1%	1/4W
R305	1-259-161-21	CARBON 560 5%	1/4W
R306	1-259-161-21	CARBON 560 5%	1/4W
R307	1-259-143-21	CARBON 100 5%	1/4W
R308	1-259-191-21	CARBON 10K 5%	1/4W
R309	1-249-844-11	CARBON 56K 1%	1/2W
R310	1-259-320-11	CARBON 4.7K 1%	1/2W
R311	1-259-167-21	CARBON 1K 5%	1/4W
R313	1-249-943-11	CARBON 6.8K 5%	1/4W
R314	1-249-198-11	CARBON 330 5%	1/3W
R315	1-249-198-11	CARBON 330 5%	1/3W
R316	1-249-198-11	CARBON 330 5%	1/3W
R317	1-249-198-11	CARBON 330 5%	1/3W
R318	1-259-167-21	CARBON 1K 5%	1/4W
R319	1-259-151-21	CARBON 220 5%	1/4W
R320	1-259-151-21	CARBON 220 5%	1/4W
R321	1-259-151-21	CARBON 220 5%	1/4W
R322	1-259-215-21	CARBON 100K 5%	1/4W
R323	1-259-179-21	CARBON 3.3K 5%	1/4W
R324	1-259-175-11	CARBON 2.2K 5%	1/4W
R325	1-259-183-11	CARBON 4.7K 5%	1/4W
R326	1-249-490-11	CARBON 27K 5%	1/2W
R327	1-259-151-21	CARBON 220 5%	1/4W
R328	1-259-151-21	CARBON 220 5%	1/4W
△R329	1-249-899-11	CARBON 100 5%	1/4W F
R330	1-247-749-11	CARBON 560 5%	1/2W F
R331	1-249-496-11	CARBON 100K 5%	1/2W
R332	1-259-171-21	CARBON 1.5K 5%	1/4W
R333	1-259-167-21	CARBON 1K 5%	1/4W
R334	1-259-239-11	CARBON 1M 5%	1/4W
R335	1-259-143-21	CARBON 100 5%	1/4W
R351	1-259-215-21	CARBON 100K 5%	1/4W
R352	1-249-911-11	CARBON 330 5%	1/4W
R353	1-259-215-21	CARBON 100K 5%	1/4W
R354	1-249-900-11	CARBON 110 1%	1/4W
R355	1-259-161-21	CARBON 560 5%	1/4W
R356	1-259-161-21	CARBON 560 5%	1/4W
R357	1-259-143-21	CARBON 100 5%	1/4W
R358	1-259-191-21	CARBON 10K 5%	1/4W
R359	1-249-844-11	CARBON 56K 1%	1/2W
R360	1-259-320-11	CARBON 4.7K 1%	1/2W
R361	1-259-167-21	CARBON 1K 5%	1/4W
R363	1-249-943-11	CARBON 6.8K 5%	1/4W
R364	1-249-198-11	CARBON 330 5%	1/3W
R365	1-249-198-11	CARBON 330 5%	1/3W
R366	1-249-198-11	CARBON 330 5%	1/3W
R367	1-249-198-11	CARBON 330 5%	1/3W
R368	1-259-167-21	CARBON 1K 5%	1/4W
R369	1-259-151-21	CARBON 220 5%	1/4W
R370	1-259-151-21	CARBON 220 5%	1/4W
R371	1-259-151-21	CARBON 220 5%	1/4W
R372	1-259-215-21	CARBON 100K 5%	1/4W

Ref. No.	Part No.	Description	Remarks
R373	1-259-179-21	CARBON 3.3K 5%	1/4W
R374	1-259-175-11	CARBON 2.2K 5%	1/4W
R375	1-259-183-11	CARBON 4.7K 5%	1/4W
R376	1-249-490-11	CARBON 27K 5%	1/2W
R377	1-259-151-21	CARBON 220 5%	1/4W
R378	1-259-151-21	CARBON 220 5%	1/4W
△R379	1-249-899-11	CARBON 100 5%	1/4W F
R380	1-247-749-11	CARBON 560 5%	1/2W F
R381	1-249-496-11	CARBON 100K 5%	1/2W
R382	1-259-171-21	CARBON 1.5K 5%	1/4W
R383	1-259-167-21	CARBON 1K 5%	1/4W
R384	1-259-239-11	CARBON 1M 5%	1/4W
R385	1-259-143-21	CARBON 100 5%	1/4W
< VARIABLE RESISTOR >			
RV301	1-241-762-11	RES, ADJ, CARBON 2.2K	
RV351	1-241-762-11	RES, ADJ, CARBON 2.2K	

*	A-4398-007-A	MAIN (B) BOARD, COMPLETE	

< CAPACITOR >			
C401	1-136-163-00	FILM 0.068uF 5%	50V
C402	1-136-163-00	FILM 0.068uF 5%	50V
C405	1-136-163-00	FILM 0.068uF 5%	50V
C406	1-126-923-11	ELECT 220uF 20%	10V
C407	1-136-157-00	FILM 0.022uF 5%	50V
C408	1-126-967-11	ELECT 47uF 20%	16V
C409	1-109-870-11	ELECT 8200uF 20%	50V
C411	1-126-969-11	ELECT 220uF 20%	50V
C412	1-126-972-11	ELECT 1000uF 20%	50V
C413	1-126-960-11	ELECT 1uF 20%	50V
C414	1-104-999-11	MYLAR 0.1uF 10%	200V
C415	1-126-025-11	ELECT 330uF 20%	25V
C416	1-126-967-11	ELECT 47uF 20%	16V
C417	1-126-964-11	ELECT 10uF 20%	50V
C418	1-126-964-11	ELECT 10uF 20%	50V
C419	1-164-077-11	CERAMIC 220PF 10%	50V
C421	1-137-150-11	MYLAR 0.01uF 10%	100V
C422	1-137-150-11	MYLAR 0.01uF 10%	100V
C430	1-126-965-11	ELECT 22uF 20%	50V
C451	1-136-163-00	FILM 0.068uF 5%	50V
C452	1-136-163-00	FILM 0.068uF 5%	50V
C459	1-109-870-11	ELECT 8200uF 20%	50V
C465	1-126-025-11	ELECT 330uF 20%	25V
C469	1-164-077-11	CERAMIC 220PF 10%	50V
< CONNECTOR >			
CN401	1-691-768-11	PLUG (MICRO CONNECTOR) 6P	
CN402	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CN405	1-691-768-11	PLUG (MICRO CONNECTOR) 6P	
CN406	1-564-506-11	PLUG, CONNECTOR 3P	
CN407	1-564-506-11	PLUG, CONNECTOR 3P	
* CN408	1-564-687-11	PIN, CONNECTOR 3P	
CN403B	1-691-765-21	PLUG (MICRO CONNECTOR) 3P	
CN404B	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	

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

MAIN (B)

PANEL

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
		< DIODE >		R460	1-259-432-11	CARBON 1.5K 5%	1/6W
D401	8-719-024-99	DIODE 11ES2-NTA2B		R461	1-249-162-11	CARBON 10 5%	1/3W
D407	8-719-987-63	DIODE 1N4148M		R462	1-259-488-11	CARBON 330K 5%	1/6W
D408	8-719-987-63	DIODE 1N4148M		*****			
D409	8-719-024-99	DIODE 11ES2-NTA2B		*	A-4398-012-A	PANEL BOARD, COMPLETE	
D410	8-719-024-99	DIODE 11ES2-NTA2B				*****	
		< CAPACITOR >					
D411	8-719-024-99	DIODE 11ES2-NTA2B		C200	1-130-475-00	MYLAR 0.0022uF 5%	50V
D412	8-719-302-38	DIODE RBV-602-01		C201	1-136-153-00	FILM 0.01uF 5%	50V
D451	8-719-024-99	DIODE 11ES2-NTA2B		C202	1-136-155-00	FILM 0.015uF 5%	50V
		< TERMINAL >		C203	1-136-165-00	FILM 0.1uF 5%	50V
* EPT401	4-924-264-21	TERMINAL, MOUNT		C250	1-130-475-00	MYLAR 0.0022uF 5%	50V
		< IC >		C251	1-136-153-00	FILM 0.01uF 5%	50V
IC401	8-759-111-68	IC uPC1237HA		C252	1-136-155-00	FILM 0.015uF 5%	50V
		< TRANSISTOR >		C253	1-136-165-00	FILM 0.1uF 5%	50V
Q401	8-729-104-18	TRANSISTOR 2SC3514-Q				< CONNECTOR >	
Q402	8-729-104-91	TRANSISTOR 2SA1383		* CN201	1-564-520-11	PLUG, CONNECTOR 5P	
Q405	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		CN202	1-564-523-11	PLUG, CONNECTOR 8P	
Q407	8-729-140-96	TRANSISTOR 2SD774-34		CN901	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	
Q430	8-729-119-76	TRANSISTOR 2SA1175-HFE		CN903	1-691-772-11	PLUG (MICRO CONNECTOR) 10P	
		< CONNECTOR >					
Q451	8-729-104-18	TRANSISTOR 2SC3514-Q		CNP902	1-774-460-11	CONNECTOR, BOARD TO BOARD 10P	
Q452	8-729-104-91	TRANSISTOR 2SA1383				< DIODE >	
Q455	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		D607	8-719-001-76	DIODE UZL-12M3	
Q406A	8-729-281-54	TRANSISTOR 2SC1815-BL		D701	8-719-987-63	DIODE 1N4148M	
		< RESISTOR >				< TRANSISTOR >	
△ R401	1-249-393-11	CARBON 10 5%	1/4W F				
△ R402	1-249-393-11	CARBON 10 5%	1/4W F				
△ R403	1-249-405-11	CARBON 100 5%	1/4W F				
△ R404	1-249-405-11	CARBON 100 5%	1/4W F	Q701	8-729-900-63	TRANSISTOR DTA124ES	
△ R405	1-247-745-11	CARBON 330 5%	1/2W F			< RESISTOR >	
				R200	1-259-500-11	CARBON 1M 5%	1/6W
△ R406	1-208-601-11	WIREWOUND 0.1 10%	2W F	R201	1-259-446-11	CARBON 5.6K 5%	1/6W
△ R407	1-208-601-11	WIREWOUND 0.1 10%	2W F	R202	1-259-446-11	CARBON 5.6K 5%	1/6W
R409	1-259-436-11	CARBON 2.2K 5%	1/6W	R203	1-259-436-11	CARBON 2.2K 5%	1/6W
R410	1-259-432-11	CARBON 1.5K 5%	1/6W	R204	1-259-464-11	CARBON 33K 5%	1/6W
R411	1-249-162-11	CARBON 10 5%	1/3W	R205	1-259-446-11	CARBON 5.6K 5%	1/6W
R412	1-259-488-11	CARBON 330K 5%	1/6W	R206	1-259-500-11	CARBON 1M 5%	1/6W
R413	1-259-452-11	CARBON 10K 5%	1/6W	R220	1-259-464-11	CARBON 33K 5%	1/6W
R414	1-259-484-11	CARBON 220K 5%	1/6W	R250	1-259-500-11	CARBON 1M 5%	1/6W
R415	1-259-460-11	CARBON 22K 5%	1/6W	R251	1-259-446-11	CARBON 5.6K 5%	1/6W
R416	1-259-480-11	CARBON 150K 5%	1/6W	R252	1-259-446-11	CARBON 5.6K 5%	1/6W
R417	1-259-456-11	CARBON 15K 5%	1/6W	R253	1-259-436-11	CARBON 2.2K 5%	1/6W
R418	1-259-444-11	CARBON 4.7K 5%	1/6W	R254	1-259-464-11	CARBON 33K 5%	1/6W
R419	1-259-388-11	CARBON 22 5%	1/6W	R255	1-259-446-11	CARBON 5.6K 5%	1/6W
R420	1-259-468-11	CARBON 47K 5%	1/6W	R256	1-259-500-11	CARBON 1M 5%	1/6W
△ R421	1-212-974-00	FUSIBLE 47 5%	1/2W F	R270	1-259-464-11	CARBON 33K 5%	1/6W
R430	1-259-452-11	CARBON 10K 5%	1/6W	R603	1-247-742-11	CARBON 180 5%	1/2W F
R431	1-259-458-11	CARBON 18K 5%	1/6W	R604	1-247-742-11	CARBON 180 5%	1/2W F
△ R451	1-249-393-11	CARBON 10 5%	1/4W F	R605	1-247-745-11	CARBON 330 5%	1/2W F
△ R452	1-249-393-11	CARBON 10 5%	1/4W F	R701	1-260-170-11	CARBON 750 5%	1/2W
△ R453	1-249-405-11	CARBON 100 5%	1/4W F	R702	1-260-170-11	CARBON 750 5%	1/2W
△ R454	1-249-405-11	CARBON 100 5%	1/4W F	R703	1-260-170-11	CARBON 750 5%	1/2W
△ R455	1-247-745-11	CARBON 330 5%	1/2W F	R704	1-260-170-11	CARBON 750 5%	1/2W
△ R456	1-208-601-11	WIREWOUND 0.1 10%	2W F	R705	1-247-753-11	CARBON 1.2K 5%	1/2W
△ R457	1-208-601-11	WIREWOUND 0.1 10%	2W F	R706	1-247-753-11	CARBON 1.2K 5%	1/2W
R459	1-259-436-11	CARBON 2.2K 5%	1/6W				

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Ref. No.	Part No.	Description	Remarks
		< VARIABLE RESISTOR >	
RV200	1-223-933-21	RES, VAR, CARBON 250K/250K	
RV201	1-223-934-21	RES, VAR, CARBON 250K/250K	
RV202	1-223-935-21	RES, VAR, CARBON 900K/900K	
		< RELAY >	
RY701	1-515-614-11	RELAY	
		< SWITCH >	
S200	1-571-828-11	SWITCH, PUSH (1 KEY) (SOURCE DIRECT)	
S203	1-762-656-11	SWITCH, ROTARY (TAPE MONITOR)	
S901	1-692-974-11	SWITCH, ROTARY (INPUT SELECTOR)	

*	1-665-580-11	SP-TM BOARD	

	1-533-233-11	HOLDER, FUSE	
		< CONNECTOR >	
CN502	1-564-510-11	PLUG (MICRO CONNECTOR) 6P	
CN804	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P	
* CN808	1-564-321-21	PIN, CONNECTOR 2P	
* CN809	1-565-792-11	PIN, CONNECTOR 2P	
		< DIODE >	
D502	8-719-987-63	DIODE 1N4148M	
		< FUSE >	
△F801	1-532-388-51	FUSE TIME LAG 2A	
		< COIL >	
L501	1-411-906-11	COIL, AIR-CORE	
L551	1-411-906-11	COIL, AIR-CORE	
		< RESISTOR >	
R501	1-249-162-11	CARBON 10 5% 1/3W	
R502	1-247-750-11	CARBON 680 5% 1/2W F	
R551	1-249-162-11	CARBON 10 5% 1/3W	
R552	1-247-750-11	CARBON 680 5% 1/2W F	
		< RELAY >	
RY502	1-515-920-11	RELAY (24V)	
		< TERMINAL >	
TM501	1-537-893-11	TERMINAL BOARD (SP) (SPEAKERS)	

Ref. No.	Part No.	Description	Remarks
*	1-665-584-11	VOL BOARD	

		< CONNECTOR >	
CN251	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
CN252	1-691-769-11	PLUG (MICRO CONNECTOR) 7P	
		< VARIABLE RESISTOR >	
RV203	1-225-228-11	RES, VAR, CARBON 120K/120K (VOLUME)	

		MISCELLANEOUS	

△59	1-777-185-11	CORD, POWER	
△60	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
△S1	1-554-920-11	SWITCH, PUSH (AC POWER)(1 KEY)	
△T1	1-431-277-11	TRANSFORMER, POWER	

		ACCESSORIES & PACKING MATERIALS	

3-860-500-11		MANUAL, INSTRUCTION	
		(ENGLISH/FRENCH/GERMAN/SWEDISH/ ITALIAN/PORTUGUESE)	

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

TA-F248E

SONY®

AEP Model
UK Model

SERVICE MANUAL

SUPPLEMENT-1

File this supplement with the service manual.(9-920-925-11)

Subject: ELECTRICAL ADJUSTMENT ADDITION

(SFD-98001)

BIAS ADJUSTMENT

Adjustment Procedure:

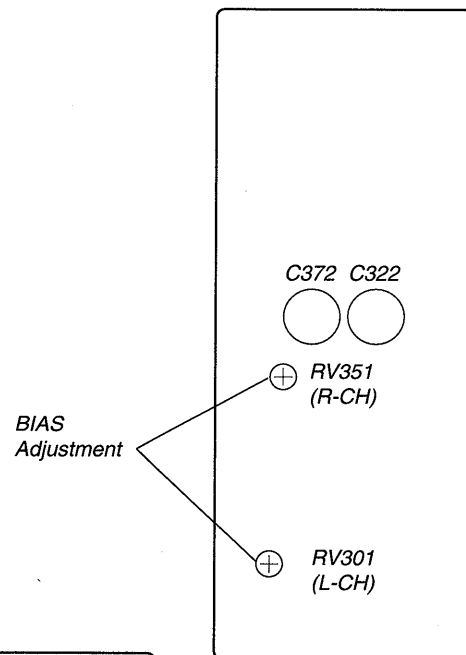
1. Rotate fully the bias adjusting semi-fixed resistors (RV301 (L-CH), RV351 (R-CH)) to the minimum position (counterclockwise).
2. Connect a digital voltmeter to the CN406 (L-CH) and CN407 (R-CH).

	pin①	pin③
CN406 (L-CH)	-	+
CN407 (R-CH)	+	-

3. Set the slidack to 0 V AC, and press the **POWER** button (ON) on the set.
4. Raise gradually the slidack voltage up to the rated voltage (230 V AC).
5. At this time, confirm that the speaker relay is turned on (it will click).
6. Adjust the RV301 (L-CH) and RV351 (R-CH) so that a reading of digital voltmeter is $10 \text{ mV} \pm 1 \text{ mV}$.
7. Return the slidack to 0 V AC, and press the **POWER** button (OFF) on the set.

Connection and Adjustment Location:

[MAIN (A) BOARD]
- Component side -



[MAIN (B) BOARD] - Component side -

