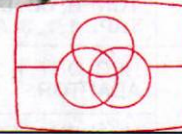


TA-F333ESL/F770ES/F870ES

SERVICE MANUAL



Photo: TA-F333ESL



AEP Model
UK Model
 TA-F770ES
E Model
 TA-F333ESL
Germany Model
 TA-F770ES/F870ES

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SPECIFICATIONS

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Amplifier Section

Items	Condition		Data	
			TA-F870ES	TA-F333ESL/TA-F770ES
Continuous RMS power output (both channels driven simultaneously)	4 ohms, 20 Hz – 20 kHz	Countries other than North European Countries	170 W + 170 W (THD 0.02%) (DIN: 200 W + 200 W)	140 W + 140 W (THD 0.02%) (DIN: 180 W + 180 W)
	6 ohms, 20 Hz – 20 kHz	North European countries	—	110 W + 110 W (THD 0.018%) (DIN: 130 W + 130 W)
	8 ohms, 20 Hz – 20 kHz	Countries other than North European countries	120 W + 120 W (THD 0.004%) (DIN: 135 W + 135 W)	100 W + 100 W (THD 0.015%) (DIN: 120 W + 120 W)
		North European countries	—	90 W + 90 W (THD 0.015%) (DIN: 105 W + 105 W)
Power band width (IHF)	8 ohms, THD 0.02%		10 Hz – 100 kHz at 45 W	10 Hz – 100 kHz at 45 W
Dynamic headroom ('78 IHF)	4 ohms		2 dB	2 dB
	8 ohms		1.2 dB	1.2 dB
Total harmonic distortion	8 ohms, at 10 watt output		0.003%	0.003%
Intermodulation (IM) distortion 60 Hz: 7 kHz = 4 : 1	4 ohms, at rated output		0.008%	0.008%
	6 ohms, at rated output		0.006%	0.006%
	8 ohms, at rated output		0.004%	0.004%
Damping factor	8 ohms, at 1 kHz		100	100
Residual noise	network A, 8 ohms		less than 110 μ V	less than 110 μ V

— Continued on next page —

INTEGRATED STEREO AMPLIFIER
SONY®



Items	Condition		Data	
			TA-F870ES	TA-F333ESL/TA-F770ES
Frequency response	PHONO MM		RIAA equalization curve ± 0.2 dB	RIAA equalization curve ± 0.2 dB
	TUNER, CD, TAPE 1, 2, 3, DIRECT IN		2 Hz – 200 kHz ± ₃ dB	2 Hz – 200 kHz ± ₃ dB
Input sensitivity	PHONO	MC	0.17 mV (1 kohm) 0.17 mV (100 ohms)	0.17 mV (1 kohm) 0.17 mV (100 ohms)
		MM	2.5 mV, 50 kohms	2.5 mV, 50 kohms
	TUNER, CD, DIRECT IN, TAPE 1, 2, 3, ADAPTOR, AUX		150 mV, 20 kohms	150 mV, 20 kohms
S/N (network) (*78 IHF)	PHONO	MC	79 (0.5 mV)	77 (0.17 mV)
		MM	93 (5 mV)	93 (2.5 mV)
	TUNER, CD, DIRECT IN, TAPE 1, 2, 3, ADAPTOR, AUX		105 (150 mV)	105 (150 mV)
Output voltage impedance	REC OUT 1, 2, 3 ADAPTOR		150mV, 1kohm	150mV, 1kohm
	HEADPHONES		25 miliwatts (at 8 ohms) Accepts low and high impedance headphones.	25 miliwatts (at 8 ohms) Accepts low impedance headphones.
Tone controls	BASS, at 100 Hz		± 7 dB	± 7 dB
	TREBLE, at 10 kHz		± 6 dB	± 6 dB
Subsonic filter	—		6 DB/octave attenuation below 15 Hz	6 DB/octave attenuation below 15 Hz
Muting	—		- 20 dB	- 20 dB

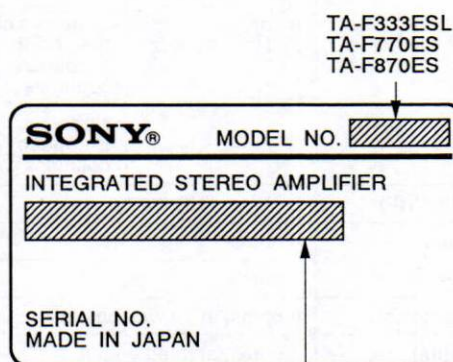
— Continued on next page —

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<u>Section</u>	<u>Title</u>	<u>Page</u>
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MODEL IDENTIFICATION

— Specification Labels —



AEP, Germany model: AC: 220 V ~50/60 Hz
 UK model: AC: 240 V ~50/60 Hz
 E model: AC: 120/220/240 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.

General

System	Preamplifier section: Low-noise high gain NFB type equalizer amplifier, passive type direct tone control Power amplifier section: Pure-complementary SEPP power amplifier, MOS FET power transistor for final stage.
Power requirements	UK model: 240 v AC, 50 Hz AEP, Germany model: 220 – 230 V AC, 50/60 Hz E model: 120 V, 220 V, or 240 V AC, adjustable, 50/60 Hz

Power consumption

	TA-F870ES	TA-F333ESL TA-F770ES
UK model	–	760 W
Germany model	390 W	330W
North European model	–	260 W
European model	–	330 W
E model	–	330 W

AC outlet

	TA-F870ES	TA-F770ES
UK model	–	1 switched, 100 W max.
Germany model	1 switched 100 W max.	1 switched 100 W max.
AEP model	–	1 switched 100 W max.

Dimensions

TA-F333ESL/TA-F770ES (AEP, E, Germany model):	Approx. 470 × 165 × 435 mm (w/h/d) (18 ¹ / ₂ × 6 ¹ / ₂ × 17 ¹ / ₈ inches)
TA-F770ES (UK model):	Approx. 430 × 165 × 435 mm (w/h/d) (17 × 6 ¹ / ₂ × 17 ¹ / ₈ inches)
TA-F870ES (Germany model):	Approx. 470 × 165 × 435 mm (w/h/d) (18 ¹ / ₂ × 6 ¹ / ₂ × 17 ¹ / ₈ inches)

Weight

TA-F333ESL/TA-F770ES (AEP, E, Germany model):	Approx. 21.3 kg (47 lbs) net
TA-F870ES (U. K. model):	Approx. 20 kg (44 lbs 2oz) net
TA-F870ES (Germany model)	Approx. 24 kg (53 lbs) net

Accessories supplied

- Remote commander RM-S703 (1)
- Sony batteries SUM-3 (NS)
- Screws (8) (except for U. K. model)

Design and specifications subject to change without notice.

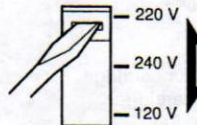
Note

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

Operating Voltage

Before connecting the unit to an AC outlet, be sure that the operating voltage of your unit is identical with that of your local power supply.

UK model	Operates on 240 V AC, 50 Hz.
AEP, Germany model	Operates on 220 – 230 V AC, 50/60 Hz.
E model	Operates on either 120 V, 220 V, 240 V AC, adjustable, 50/60 Hz. The voltage selector is located on the rear panel. If you need to change the selector, disconnect the AC power cord and set the selector to the proper voltage of your local power supply.

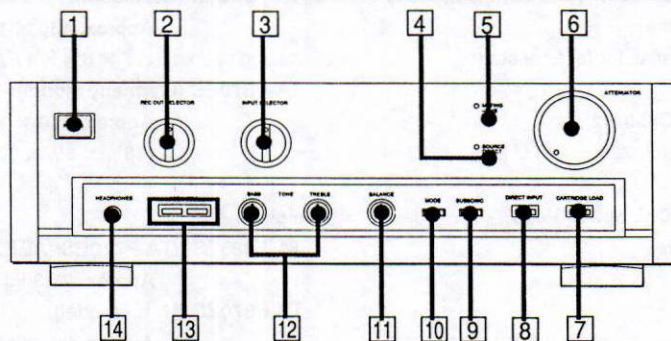


SECTION 1 GENERAL

This section is extracted from instruction manual.

Function of Controls

Front panel



1 POWER switch and indicator

After the power is turned on, the standby indicator lights in red as the built-in muting circuit activates. When the amplifier stays in a stable operating condition, the indicator lights in green. The indicator lights in red if the unit detects shorting of circuit of the speaker outputs or in case of short-circuit of the inputs of DC components. In such a case, disconnect the power source and check the connected components and speaker systems.

2 REC OUT SELECTOR

Selects the program source sent to the REC OUT jacks for recording.

3 INPUT SELECTOR

Selects the desired program source for listening.

4 SOURCE DIRECT button and indicator

Depress the button. The red indicator lights and the circuits of the TONE control, SUBSONIC filter button, BALANCE control and MODE selector are disengaged without regard to the setting of the switches.

5 MUTING button and indicator

Depress the button to reduce the sound level by 20 dB. (Output voltage becomes 1/10.) Generally, keep the button released (OFF).

6 ATTENUATOR

Adjusts the sound level. To increase the sound level, turn the control clockwise. To decrease the level, turn the control counterclockwise.

Note

Turn down the sound level before switching on the unit. This prevents damage to speakers.

7 CARTRIDGE LOAD selector

Set the selector according to your cartridge.
 MM: For moving-magnet type cartridge
 MC: For moving-coil type cartridge
 40 Ω: For a cartridge with an impedance of 40 ohms or more.
 3 Ω: For a cartridge with an impedance of 3 ohms to 40 ohms.

8 DIRECT INPUT selector

Set to SOURCE to select program source with the INPUT SELECTOR.
 To listen to a program source processed through the equipment, such as graphic equalizer, connected to the ADAPTOR jacks, set it to ADAPTOR
 To listen to a program source connected to DIRECT IN jacks, set it to DIRECT.

9 SUBSONIC filter button

Depress the button to reduce noise components of less than 15 Hz, which cause modulation noise.

10 MODE selector

STEREO: For listening to a stereo program.
 MONO: For listening to a monaural program.

11 BALANCE control

Adjusts the sound level of left and right speakers.

12 BASS and TREBLE TONE controls

Adjust the tone quality.
 To increase bass or treble sound, turn the control clockwise. To decrease them, turn the control counterclockwise.

13 SPEAKERS buttons (TA-F222ESA/TA-F570ES/TA-F670ES)

Select speaker system A or B, or both.
 To drive speaker system A: Depress A button.
 To drive speaker system B: Depress B button.
 To drive speaker system A and B: Depress A and B.
 For headphones listening only: Set both to OFF (□).
TA-F670ES only
 To use power amplifier or active speaker system connected to the PRE OUT jacks, depress B/PRE OUT.

SPEAKERS selector

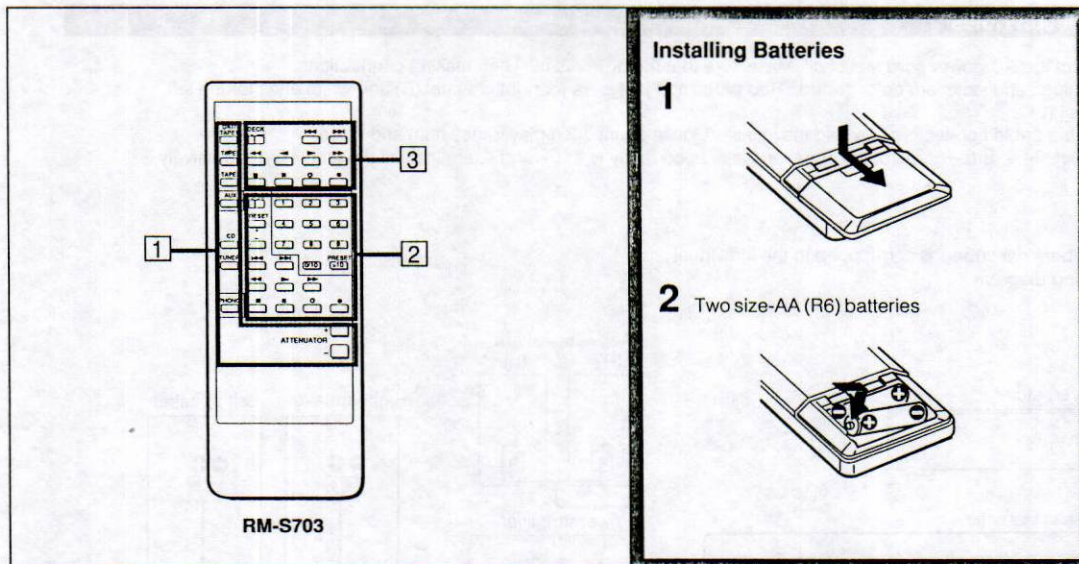
Select speaker system A or B, or both.
 To drive speaker system A: Set the selector to A.
 To drive speaker system B: Set the selector to B.
 To drive speaker system A and B: Set the selector to A+B.
 For headphones listening only: Set the selector to OFF.
 To use power amplifier or active speaker system connected to the PRE OUT jacks, set the selector to B/PRE OUT.

14 HEADPHONES jack

Accepts the stereo phone plug of headphones.

15 Remote control sensor

Remote Commander RM-S703



Function of Controls

1 Amplifier control section

Input selectors: Select an input source of the amplifier.
ATTENUATOR +/- buttons: Control the volume of amplifier.

2 Tuner/DAT deck/CD player control section

DAT/CD selector: Selects DAT deck or CD player.

◀◀/▶▶: Locates a desired selection.

◀▶/▶▶: Manual search

▶: Play

■: Stop

⏸: Pause

○: Record muting

●: Recording

PRESET +/- buttons: Selects a preset channel of the tuner. (only for the tuner)

Program number (1 to 0/10, and >10) and ENTER buttons: Select a preset station or track.

3 Tape deck control section

DECK A/B selector: Selects deck A or B.

◀◀/▶▶: Locates a desired selection.

▶▶/▶▶: Play

◀◀/▶▶: Fast winding

■: Stop

⏸: Pause

○: Record muting

●: Recording

Notes on Batteries

Battery life

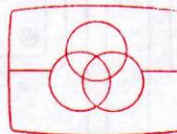
About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries. When the batteries are exhausted, the remote commander can no longer operate the unit. If this happens, replace both batteries with new ones.

To avoid battery leakage

When the commander is not used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.

To avoid malfunction of the remote commander

Avoid keeping the commander under extremely hot or humid locations.



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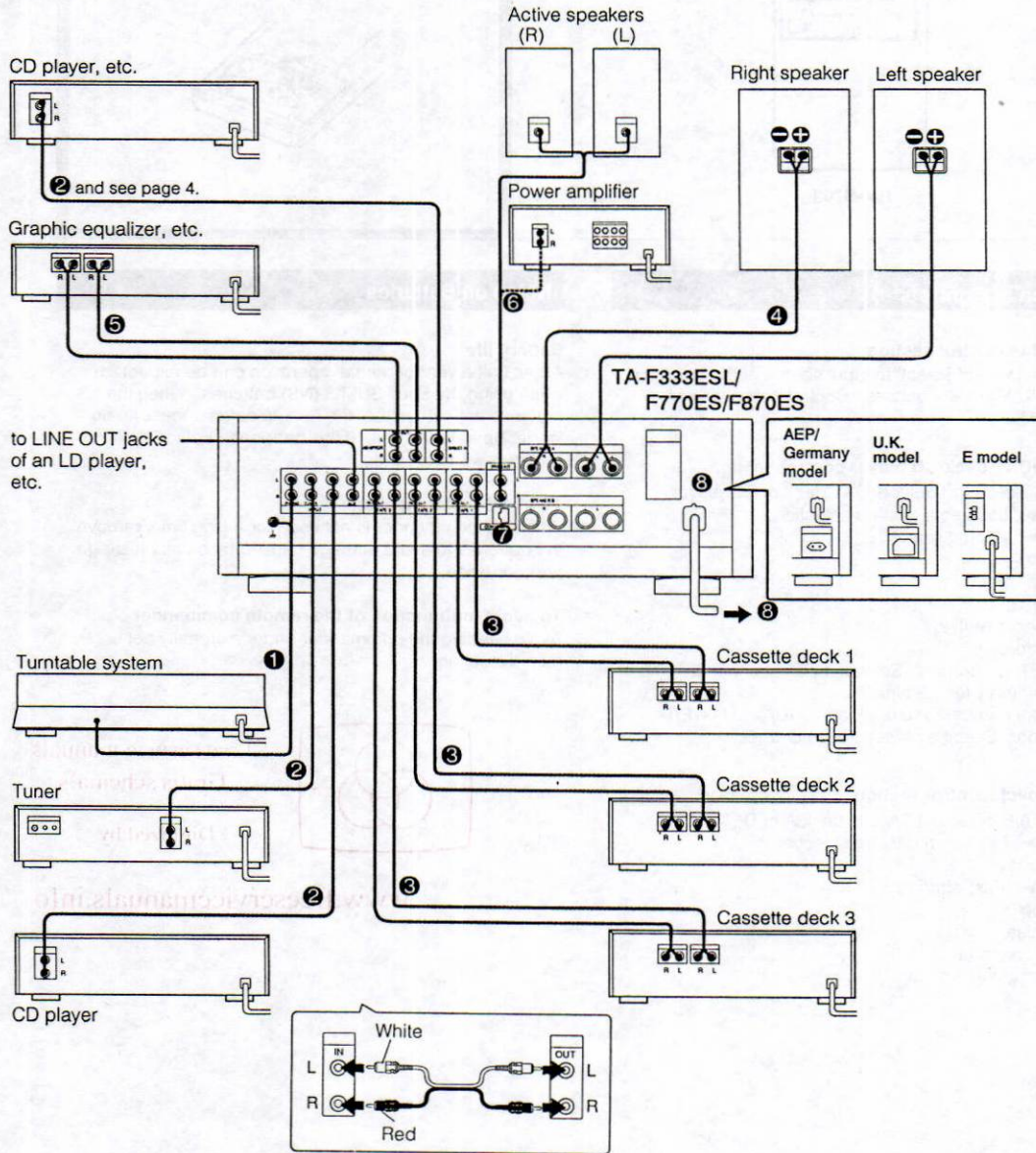
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System Connections

Connection Notes

- Connect the AC power cord last of all. Make sure that the power is off when making connections.
- Cord plugs and jacks are color coded. Red plugs and jacks are for right channel (R) and white ones for the left channel (L).
- Insert the cable connectors fully into the jacks. A loose connection may cause hum and noise.
- Connect the + and - cords of the speaker systems correctly to the + and - terminals of the amplifier respectively.

The numbers described ● correspond to the individual connecting diagram.

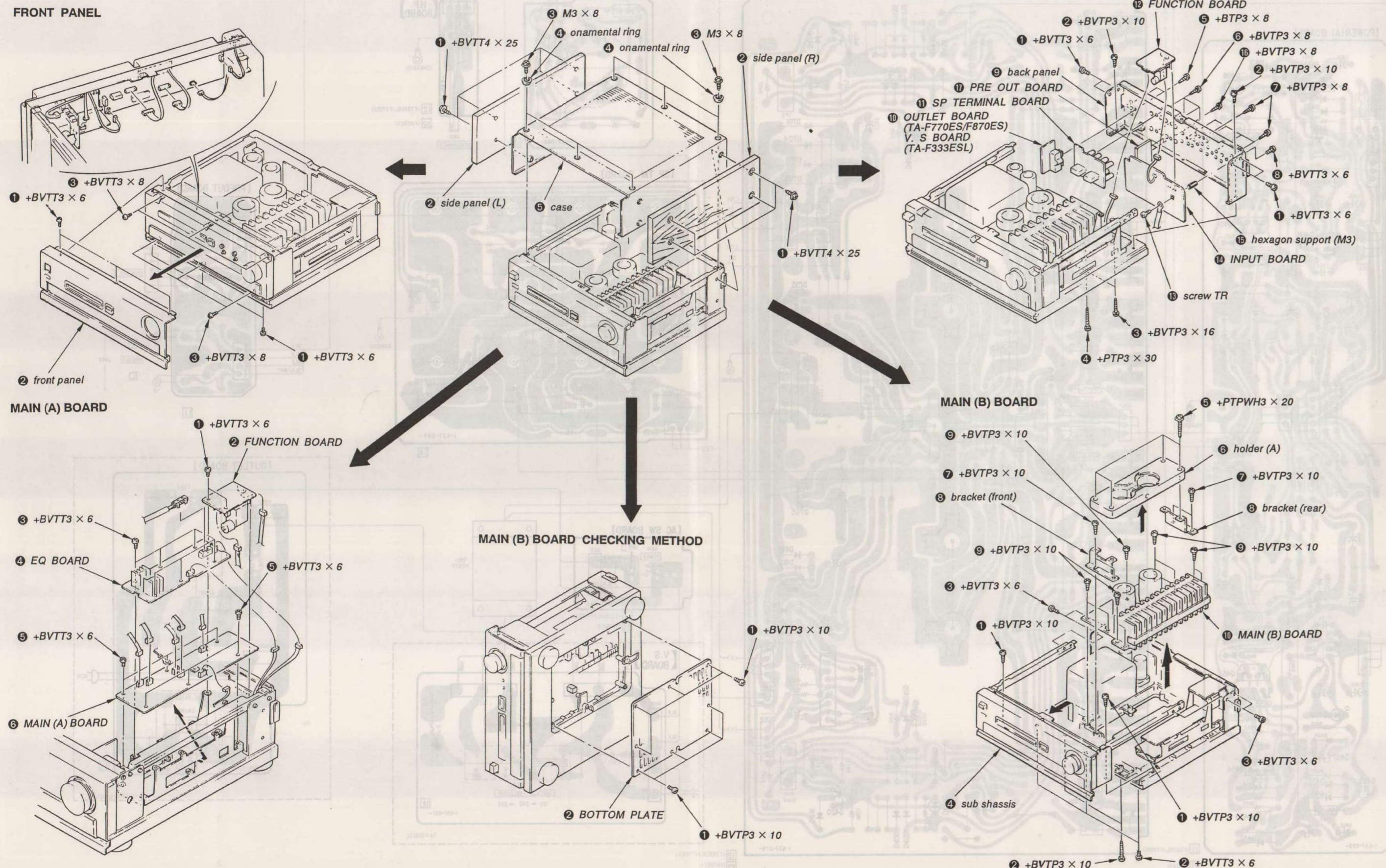


To enjoy pure sound

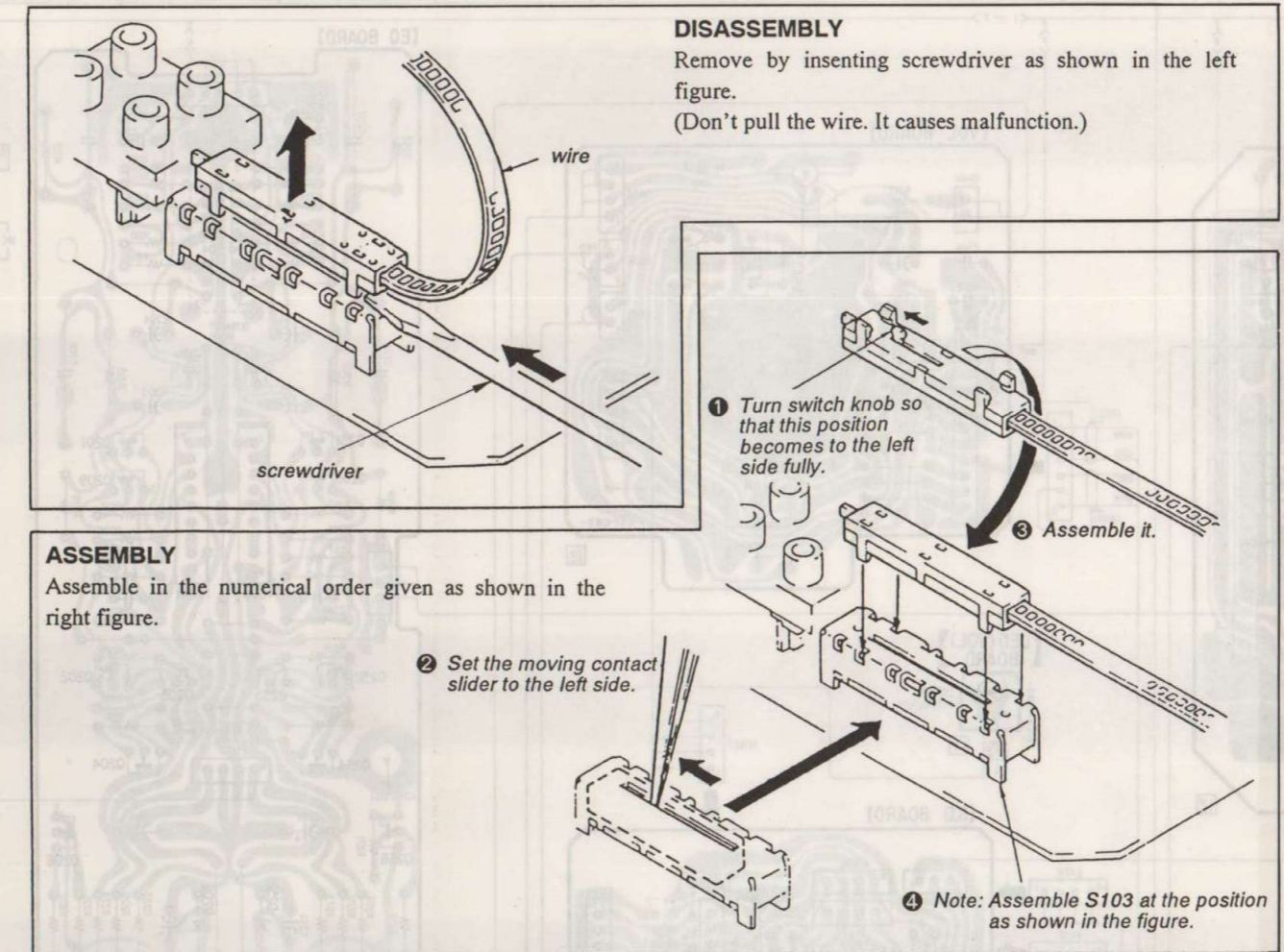
Connect a CD player or a tuner to the DIRECT IN jacks. DIRECT IN circuitry bypasses the INPUT SELECTOR and REC OUT SELECTOR so the signal is sent directly to the amplifier. Note that the program source input through DIRECT IN jacks cannot be processed through an adaptor nor be output through REC OUT jacks.

SECTION 2 DISASSEMBLY

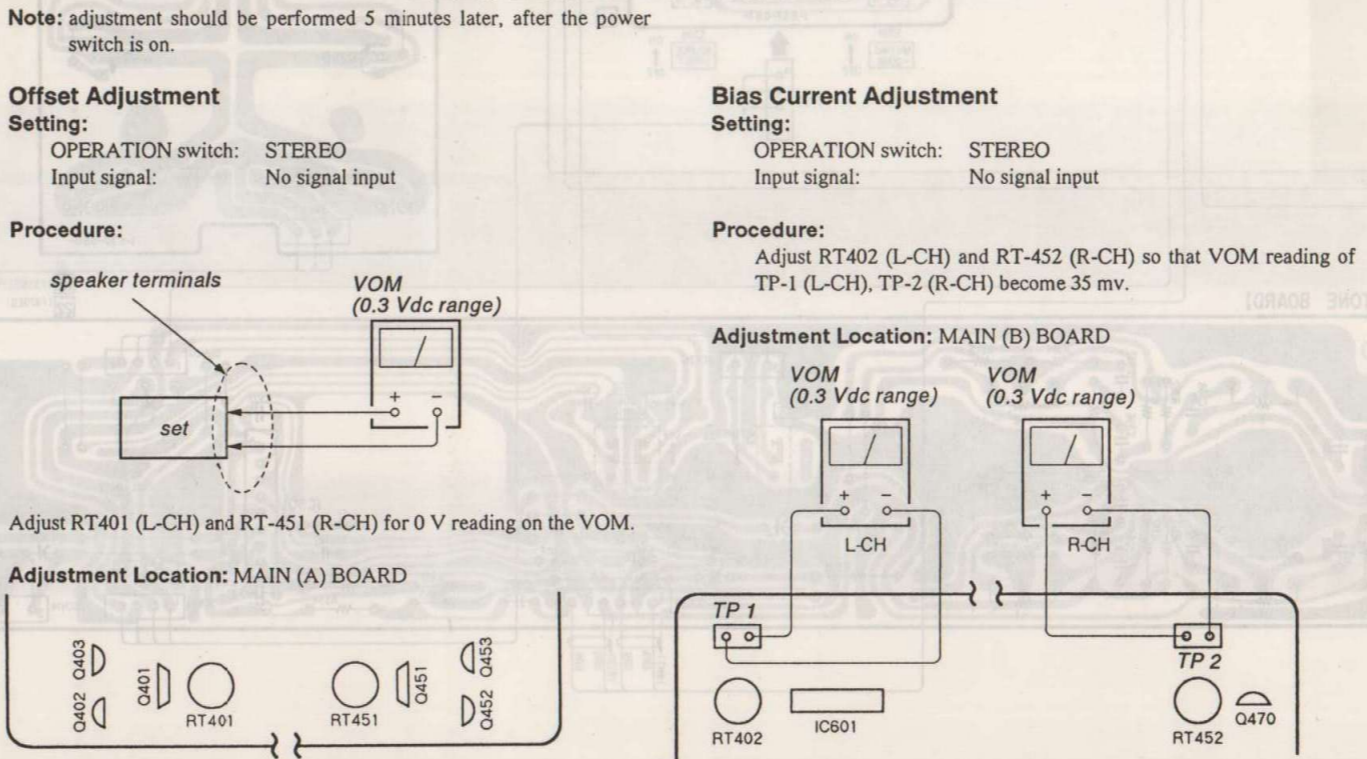
Note: Follow the disassembly procedure in the numerical order given.



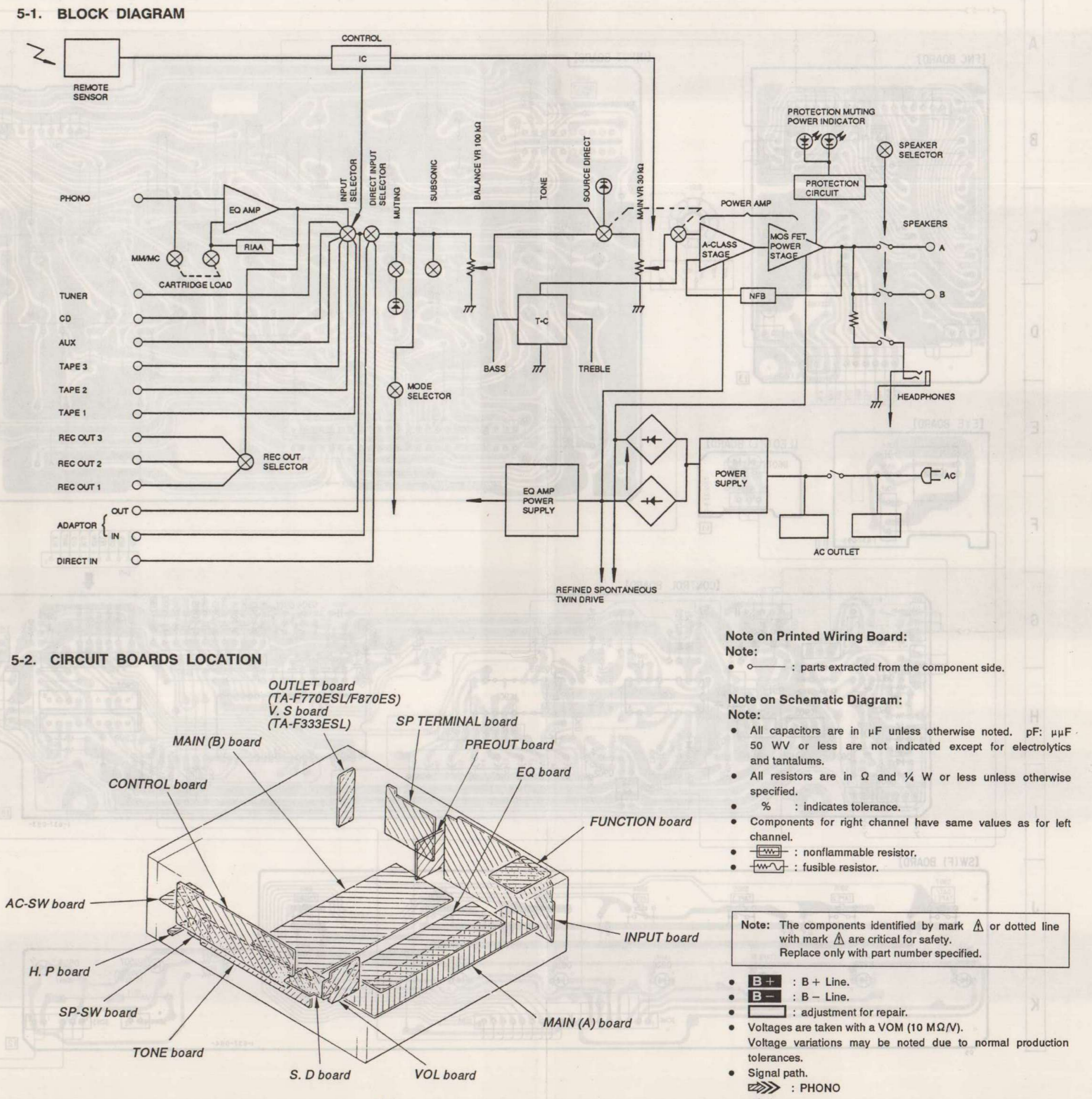
SECTION 3 SWITCH DISASSEMBLY AND ASSEMBLY



SECTION 4 ELECTRICAL ADJUSTMENTS

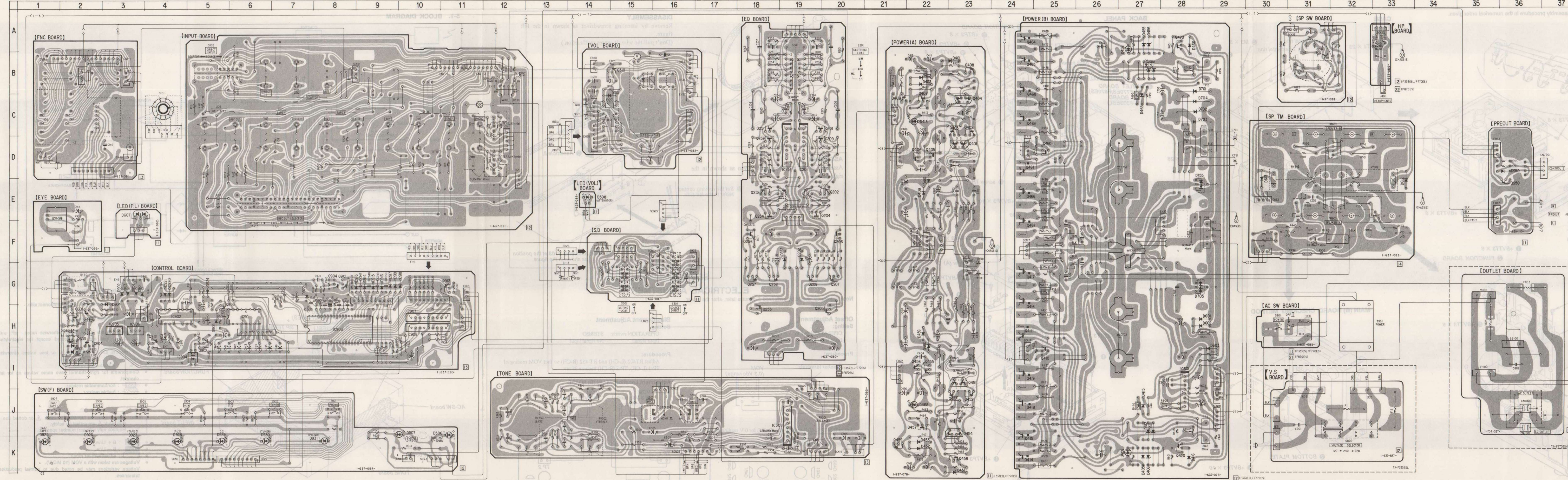


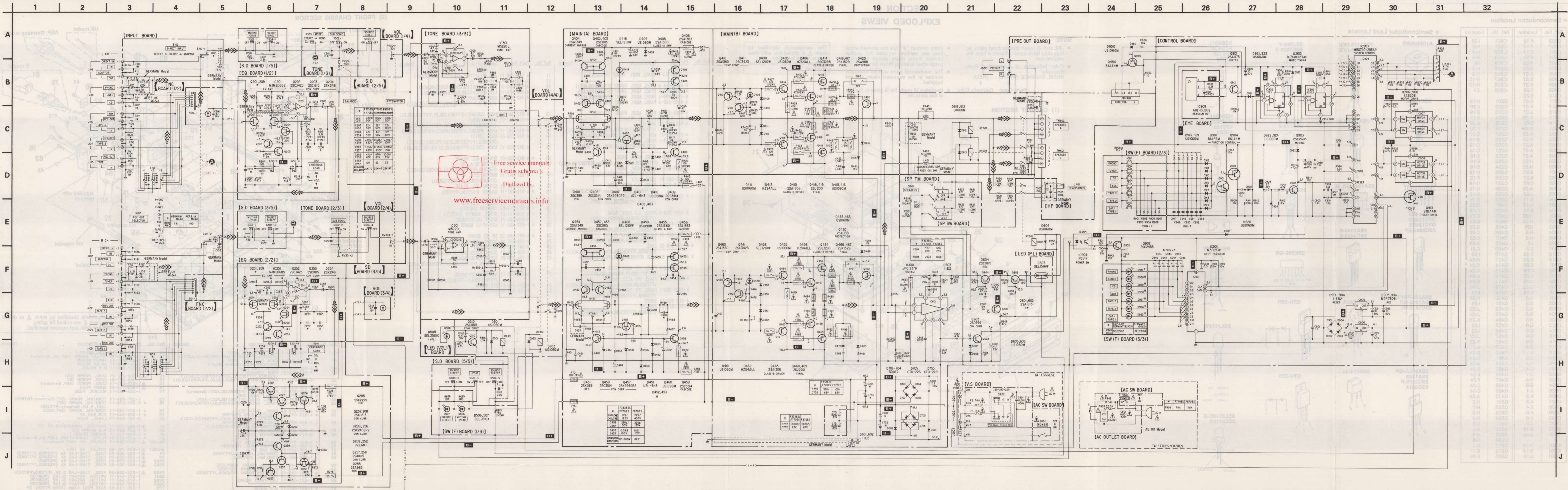
SECTION 5 DIAGRAMS



5-3. PRINTED WIRING BOARDS • See page 22, 23 for Semiconductor Lead Layouts and Semiconductor Location.

• See page 11 for Notes.



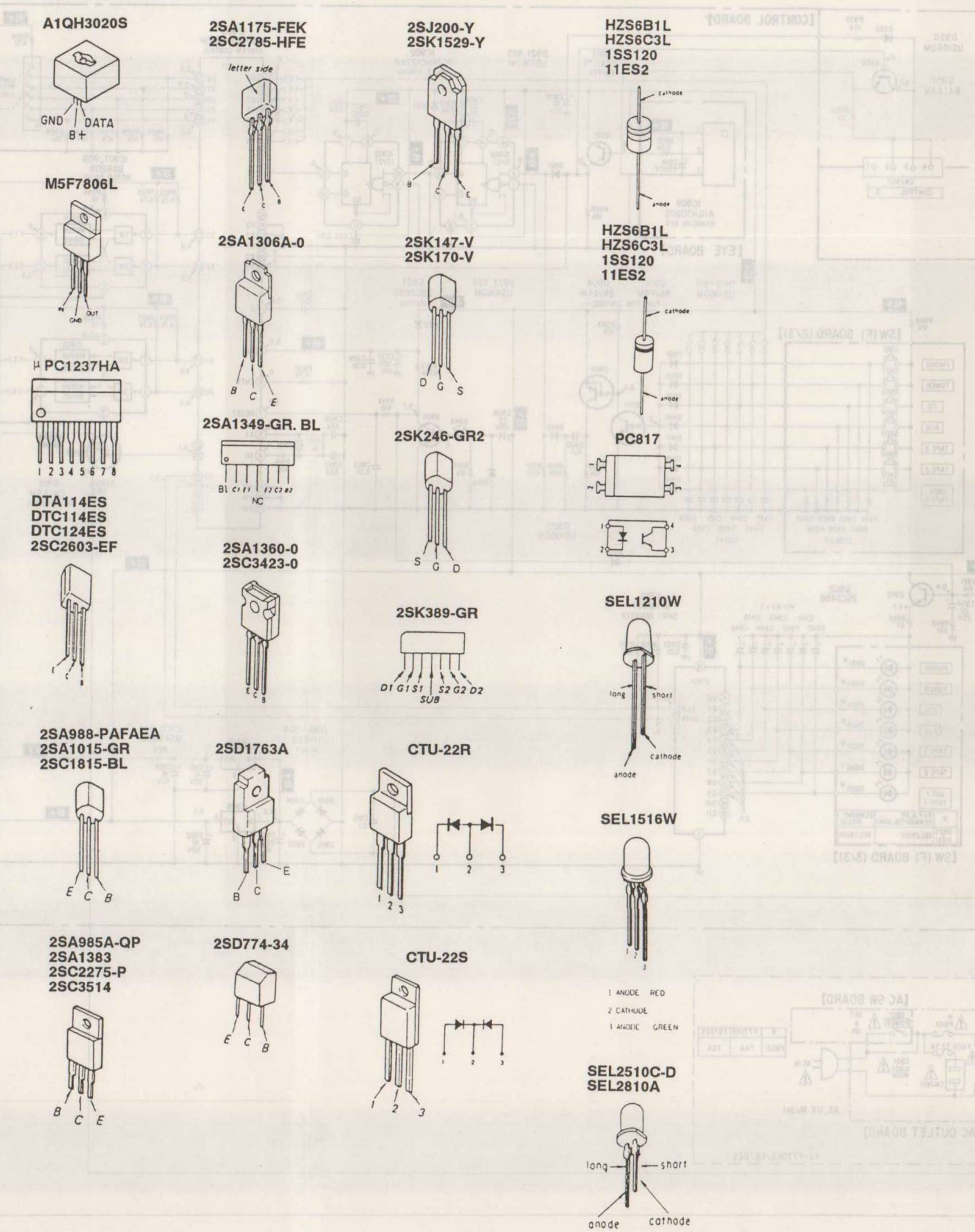


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● Semiconductor Location

Table with 4 columns: Ref. No., Location, Ref. No., Location. Lists various semiconductor components and their locations on the device.

● Semiconductor Lead Layouts

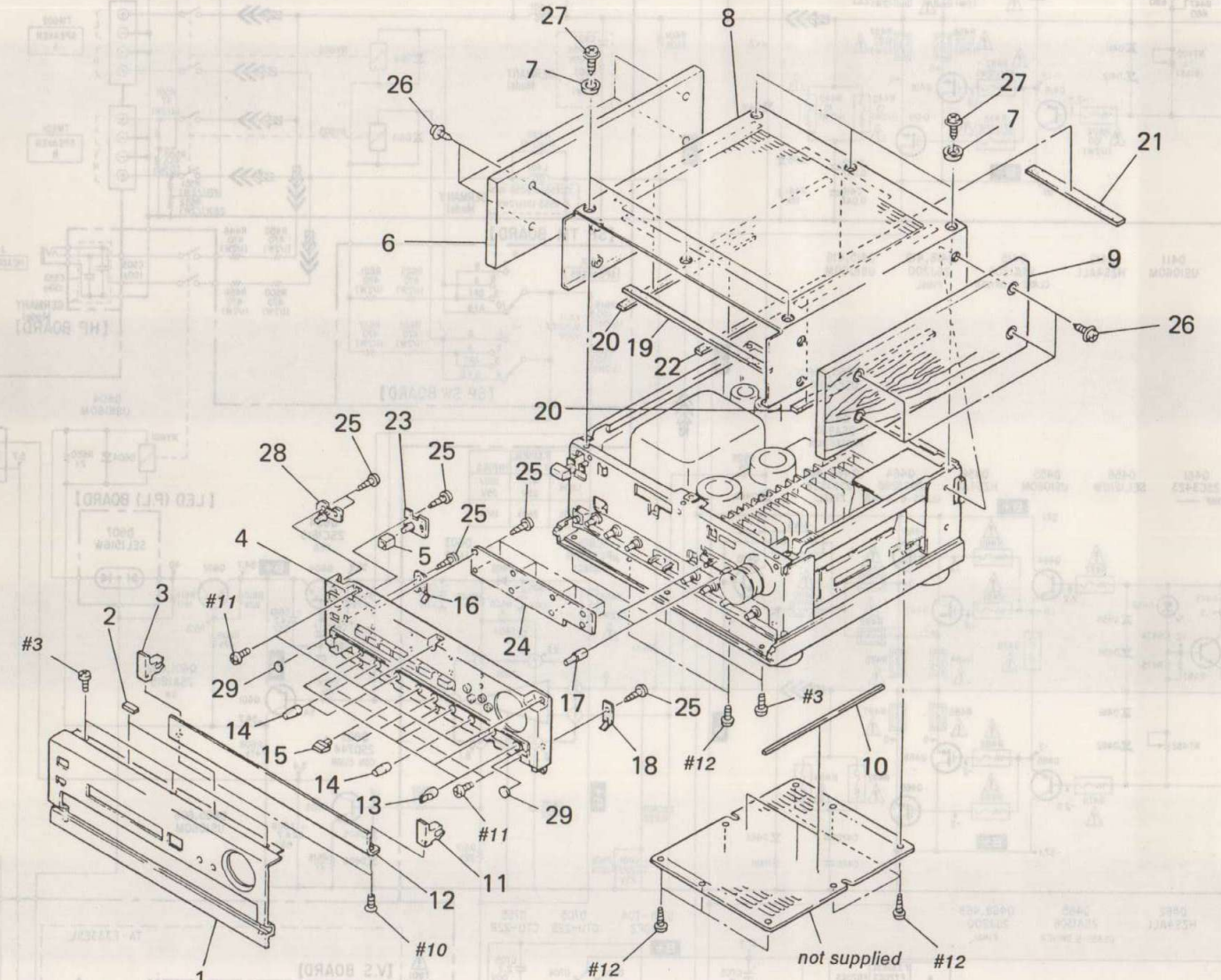


SECTION 6 EXPLODED VIEWS

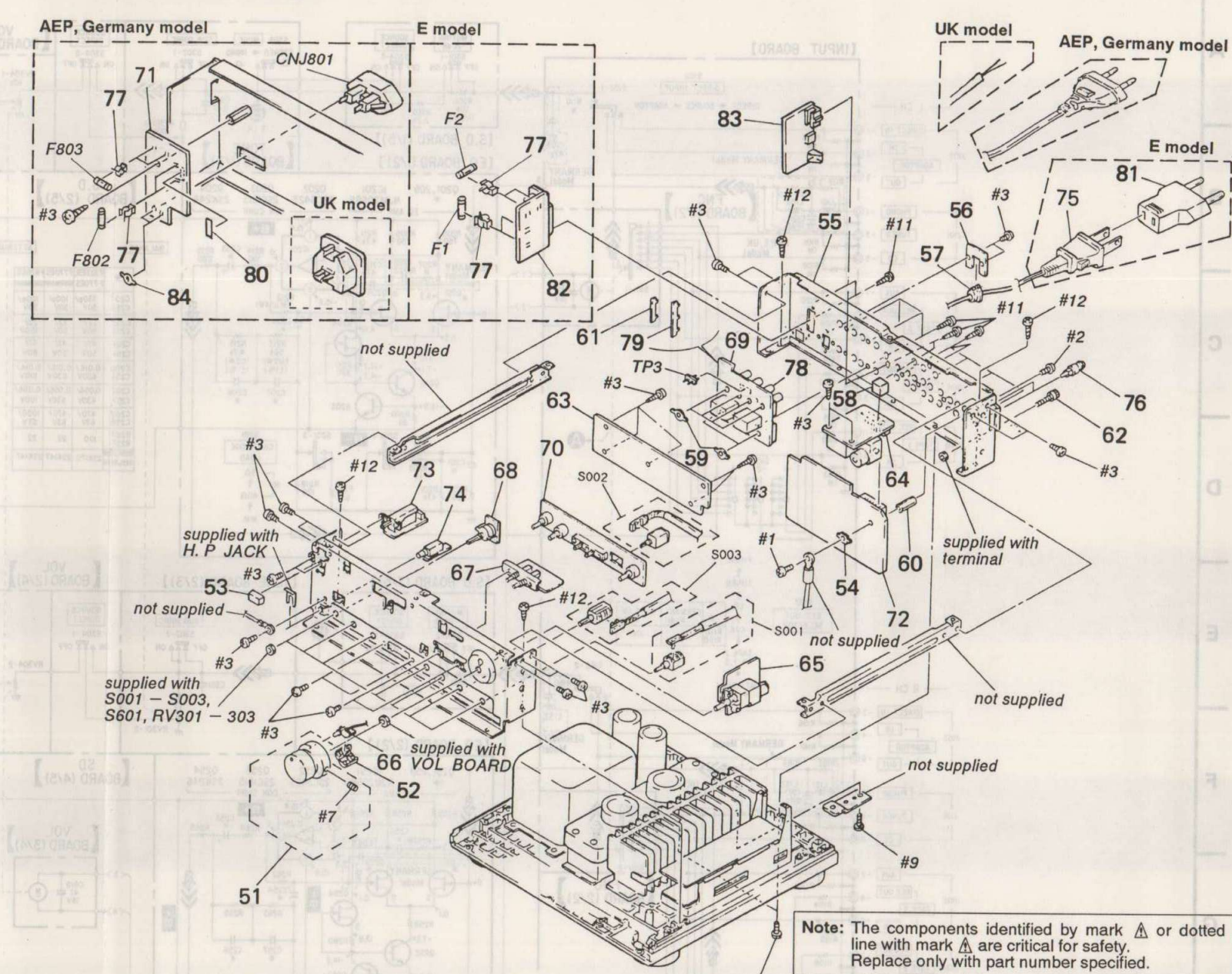
NOTE:
-XX and -X mean standardized parts, so they may have some difference from the original one.
Color Indication of Appearance Parts Example: KNOB, BALANCE (WHITE) ... (RED)
Items marked "*" are not stocked since they are seldom required for routine service.
The mechanical parts with no reference number in the exploded views are not supplied.
Hardware (# mark) list is given in the last of this parts list.

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

(1) CABINET SECTION



(2) FRONT CHASSIS SECTION



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

Table with 4 columns: Ref. No., Part No., Description, Remark. Lists parts for the cabinet section.

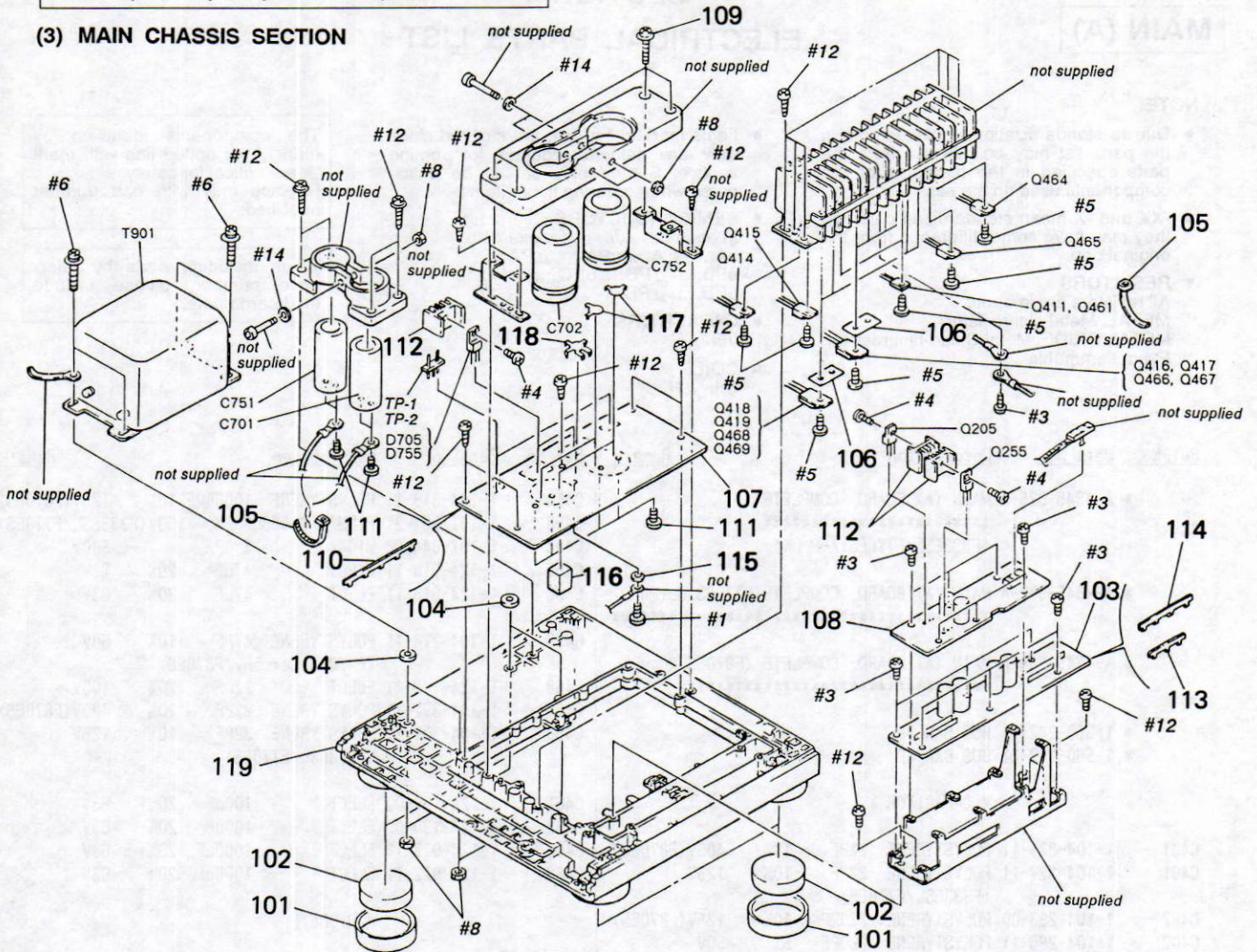
Table with 4 columns: Ref. No., Part No., Description, Remark. Lists parts for the front chassis section.

Table with 4 columns: Ref. No., Part No., Description, Remark. Lists parts for the front chassis section.

Table with 4 columns: Ref. No., Part No., Description, Remark. Lists parts for the front chassis section.

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

(3) MAIN CHASSIS SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	4-931-966-11	RING, ORNAMENTAL (F870ES(GOLD))		C701	1-125-653-11	CAP, ELECT 8200MF (F870ES)	
101	4-931-967-02	RING, ORNAMENTAL (F333ESL/F770ES(BLACK))		C701	1-125-654-11	CAP, ELECT 8200MF (F333ESL/F770ES)	
101	4-931-967-21	RING, ORNAMENTAL (F770ES(GOLD))		C702	1-125-655-11	CAP, ELECT 22000MF (F870ES)	
101	9-910-999-33	RING, ORNAMENTAL (F870ES(BLACK))		C702	1-125-656-11	CAP, ELECT 18000MF (F333ESL/F770ES)	
102	4-908-888-01	FOOT, TUNING (F333ESL/F770ES)		C751	1-125-653-11	CAP, ELECT 8200MF (F870ES)	
102	4-908-888-11	FOOT, TUNING (F870ES)		C751	1-125-654-11	CAP, ELECT 8200MF (F333ESL/F770ES)	
103	* A-4345-325-A	MAIN (A) BOARD, COMPLETE (E333ESL/F770ES:AEP, UK)		C752	1-125-656-11	CAP, ELECT 18000MF (F333ESL/F770ES)	
103	* A-4345-331-A	MAIN (A) BOARD, COMPLETE (F770ES:Germany)		C752	1-125-655-11	CAP, ELECT 22000MF (F870ES)	
103	* A-4345-358-A	MAIN (A) BOARD, COMPLETE (F870ES)		D705	8-719-300-27	DIODE CTU-22S	
104	4-931-976-01	WASHER (BS)		D755	8-719-300-25	DIODE CTU-22R	
105	3-655-653-21	BAND (TAITON), BINDING		Q205	8-729-127-53	TRANSISTOR 2SC2275-P	
106	4-901-949-01	SHEET, INSULATING		Q255	8-729-141-10	TRANSISTOR 2SA985-P	
107	* A-4345-326-A	MAIN (B) BOARD, COMPLETE (E333ESL/F770ES:AEP, UK)		Q411	8-729-203-45	TRANSISTOR 2SC3423-0	
107	A-4345-332-A	MAIN (B) BOARD, COMPLETE (F770ES:Germany)		Q414	8-729-208-72	TRANSISTOR 2SD1763A	
107	* A-4345-359-A	MAIN (B) BOARD, COMPLETE (F870ES)		Q415	8-729-208-38	TRANSISTOR 2SA1306A-0	
108	* A-4345-327-A	EQ BOARD, COMPLETE (E333ESL/F770ES:AEP, UK)		Q416	8-729-232-45	TRANSISTOR 2SK1529-Y	
108	* A-4345-333-A	EQ BOARD, COMPLETE (F770ES:Germany)		Q417	8-729-232-45	TRANSISTOR 2SK1529-Y	
108	* A-4345-360-A	EQ BOARD, COMPLETE (F870ES)		Q418	8-729-232-46	TRANSISTOR 2SJ200-Y	
109	4-921-437-01	SCREW (M3X20), TAPPING		Q419	8-729-232-46	TRANSISTOR 2SJ200-Y	
110	* 1-560-242-31	BUS BAR 5P		Q461	8-729-203-45	TRANSISTOR 2SC3423-0	
111	* 4-931-964-01	SCREW (M4X6)		Q464	8-729-208-72	TRANSISTOR 2SD1763A	
112	* 4-921-402-01	HEAT SINK		Q465	8-729-208-38	TRANSISTOR 2SA1306A-0	
113	* 1-560-242-11	BUS BAR 3P		Q466	8-729-232-45	TRANSISTOR 2SK1529-Y	
114	* 1-560-242-21	BUS BAR 4P		Q467	8-729-232-45	TRANSISTOR 2SK1529-Y	
115	4-309-378-00	WASHER		Q468	8-729-232-46	TRANSISTOR 2SJ200-Y	
116	* 4-931-970-01	CUSHION		Q469	8-729-232-46	TRANSISTOR 2SJ200-Y	
117	* 3-346-266-21	PLATE, GROUND		T901	Δ 1-450-485-11	TRANSFORMER, POWER (UK)	
118	* 4-916-791-01	PLATE, GROUND, 5P		T901	Δ 1-450-486-11	TRANSFORMER, POWER (F333ESL)	
119	X-4941-233-1	CHASSIS ASSY (F333ESL/F770ES)		T901	Δ 1-450-487-11	TRANSFORMER, POWER (AE1, Germany:F770ES)	
119	X-4941-234-1	CHASSIS ASSY (F870ES)		T901	Δ 1-450-488-11	TRANSFORMER, POWER (AE2, AEP:F770ES)	
				T901	Δ 1-450-489-11	TRANSFORMER, POWER (Germany:F870ES)	
				TP1	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (F870ES)	
				TP2	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (F870ES)	

MAIN (A)

**SECTION 7
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.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- **RESISTORS**
All resistors are in ohms.
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- **SEMICONDUCTORS**
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA...,
uPB...: μ PB..., uPC...: μ PC...,
uPD...: μ PD...
- **CAPACITORS**
uF: μ F
- **COILS**
uH: μ H

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

When including parts by reference number, please include the board name.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* A-4345-325-A	MAIN (A) BOARD, COMPLETE	*****		C453	1-104-319-11	POLYSTYRENE 10000PF 10%	125V (F870ES)
	(F333ESL/F770ES: AEP, UK)			C453	1-137-337-21	FILM 0.068uF 2%	100V (F333ESL/F770ES)
* A-4345-331-A	MAIN (A) BOARD, COMPLETE (F770ES: Germany)	*****		C454	1-107-044-00	MICA 3.3PF	500V
* A-4345-358-A	MAIN (A) BOARD, COMPLETE (F870ES)	*****		C455	1-124-918-11	ELECT 47uF 20%	63V
				C456	1-124-918-11	ELECT 47uF 20%	63V
* 1-560-242-11	BUS BAR 3P			C457	1-104-274-11	POLYSTYRENE 47PF 10%	50V
* 1-560-242-21	BUS BAR 4P				(F770ES: Germany/F870ES)		
	(CAPACITOR)			C458	1-124-748-11	ELECT 22uF 20%	100V
C401	1-104-321-11	POLYSTYRENE 22PF 10%	400V (F870ES)	C460	1-104-321-11	POLYSTYRENE 22PF 10%	400V (F870ES)
C401	1-104-327-11	POLYSTYRENE 22PF 10%	125V	C460	1-104-327-11	POLYSTYRENE 22PF 10%	125V
	(F333ESL/F770ES)				(F333ESL/F770ES)		
C402	1-104-233-00	POLYSTYRENE 220PF 10%	125V (F870ES)		(DIODE)		
C402	1-104-286-11	POLYSTYRENE 220PF 5%	50V	D401	8-719-933-41	DIODE HZS6C3L	
	(F333ESL/F770ES)			D402	8-719-200-82	DIODE 11ES2 (F870ES)	
C403	1-104-319-11	POLYSTYRENE 10000PF 10%	125V (F870ES)	D402	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
C403	1-137-337-21	FILM 0.068uF 2%	100V (F333ESL/F770ES)	D403	8-719-200-82	DIODE 11ES2 (F870ES)	
C404	1-107-044-00	MICA 3.3PF	500V	D403	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
C405	1-124-918-11	ELECT 47uF 20%	63V	D409	8-719-815-85	DIODE 1S1585	
C406	1-124-918-11	ELECT 47uF 20%	63V	D410	8-719-815-85	DIODE 1S1585	
C407	1-104-274-11	POLYSTYRENE 47PF 10%	50V	D418	8-719-303-13	DIODE SEL1210W	
	(F770ES: Germany/F870ES)			D451	8-719-933-41	DIODE HZS6C3L	
C408	1-124-748-11	ELECT 22uF 20%	100V	D452	8-719-200-82	DIODE 11ES2 (F870ES)	
C410	1-104-321-11	POLYSTYRENE 22PF 10%	400V (F870ES)	D452	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
C410	1-104-327-11	POLYSTYRENE 22PF 10%	125V	D453	8-719-200-82	DIODE 11ES2 (F870ES)	
	(F333ESL/F770ES)			D453	8-719-912-20	DIODE 1SS120 (F333ESL/F770ES)	
C411	1-124-130-00	ELECT 100uF 20%	63V	D459	8-719-815-85	DIODE 1S1585	
C412	1-124-130-00	ELECT 100uF 20%	63V	D460	8-719-815-85	DIODE 1S1585	
C418	1-124-922-11	ELECT 1000uF 20%	63V	D468	8-719-303-13	DIODE SEL1210W	
C419	1-124-922-11	ELECT 1000uF 20%	63V		(CONNECTOR)		
C451	1-104-321-11	POLYSTYRENE 22PF 10%	400V (F870ES)	EH15	* 1-564-507-11	PLUG, CONNECTOR 4P	
C451	1-104-327-11	POLYSTYRENE 22PF 10%	125V	EH21	* 1-564-507-11	PLUG, CONNECTOR 4P	
	(F333ESL/F770ES)			EH22	* 1-564-507-11	PLUG, CONNECTOR 4P	
C452	1-104-233-00	POLYSTYRENE 220PF 10%	125V (F870ES)	EH23	* 1-564-506-11	PLUG, CONNECTOR 3P	
C452	1-104-286-11	POLYSTYRENE 220PF 5%	50V	EH24	* 1-564-508-11	PLUG, CONNECTOR 5P	
	(F333ESL/F770ES)						

MAIN (A)

MAIN (B)

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< COIL >							
L402	* 1-428-203-11	COIL, AIR-CORE		R445	1-219-022-11	FUSIBLE 100 5% 1/2W	
L403	* 1-428-203-11	COIL, AIR-CORE		R451	1-246-545-00	CARBON 1.0M 5% 1/4W	
L452	* 1-428-203-11	COIL, AIR-CORE		R452	1-247-713-11	CARBON 1K 5% 1/4W	
L453	* 1-428-203-11	COIL, AIR-CORE		R453	1-249-520-11	CARBON 47 5% 1/4W	
< TRANSISTOR >							
Q401	8-729-203-21	TRANSISTOR 2SK389-GR		R454	1-249-520-11	CARBON 47 5% 1/4W	
Q402	8-729-281-54	TRANSISTOR 2SC1815-BL		R455	1-247-717-11	CARBON 2.2K 5% 1/4W	
Q403	8-729-281-54	TRANSISTOR 2SC1815-BL		R456	1-246-531-00	CARBON 270K 5% 1/4W	
Q404	8-729-232-00	TRANSISTOR 2SA1349-GRBL		R457	1-247-704-11	CARBON 220 5% 1/4W	
Q405	8-729-209-17	TRANSISTOR 2SA1360-0		R458	1-219-030-11	FUSIBLE 220 5% 1/2W	
Q406	8-729-104-91	TRANSISTOR 2SA1383		R459	1-219-030-11	FUSIBLE 220 5% 1/2W	
Q407	8-729-201-56	TRANSISTOR 2SK246-GR2		R460	1-214-937-00	METAL 1M 1% 1/2W	
Q408	8-729-104-18	TRANSISTOR 2SC3514		R462	1-219-010-11	FUSIBLE 33 5% 1/2W	
Q409	8-729-104-18	TRANSISTOR 2SC3514		R463	1-249-490-11	CARBON 27K 5% 1/2W	
Q451	8-729-203-21	TRANSISTOR 2SK389-GR		R464	1-247-704-11	CARBON 220 5% 1/4W	
Q452	8-729-281-54	TRANSISTOR 2SC1815-BL		R465	1-246-531-00	CARBON 270K 5% 1/4W	
Q453	8-729-281-54	TRANSISTOR 2SC1815-BL		R466	1-247-740-11	CARBON 120 5% 1/2W (F333ESL/F770ES)	
Q454	8-729-232-00	TRANSISTOR 2SA1349-GRBL		R466	1-259-533-11	CARBON 120 1% 1/2W (F870ES)	
Q455	8-729-209-17	TRANSISTOR 2SA1360-0		R467	1-259-580-11	CARBON 11K 5% 1/2W	
Q456	8-729-104-91	TRANSISTOR 2SA1383		R468	1-259-580-11	CARBON 11K 5% 1/2W	
Q457	8-729-201-56	TRANSISTOR 2SK246-GR2		R469	1-259-503-11	CARBON 4.7M 5% 1/2W	
Q458	8-729-104-18	TRANSISTOR 2SC3514		R470	1-249-556-11	CARBON 1.5K 5% 1/4W	
Q459	8-729-104-18	TRANSISTOR 2SC3514		R471	1-247-721-11	CARBON 4.7K 5% 1/4W	
< RESISTOR >							
R401	1-246-545-00	CARBON	1.0M 5% 1/4W	R472	1-219-022-11	FUSIBLE 100 5% 1/2W	
R402	1-247-713-11	CARBON	1K 5% 1/4W	R494	1-219-022-11	FUSIBLE 100 5% 1/2W	
R403	1-249-520-11	CARBON	47 5% 1/4W	R495	1-219-022-11	FUSIBLE 100 5% 1/2W	
R404	1-249-520-11	CARBON	47 5% 1/4W	R701	1-219-024-91	FUSIBLE 120 5% 1/2W	
R405	1-247-717-11	CARBON	2.2K 5% 1/4W	R751	1-219-024-91	FUSIBLE 120 5% 1/2W	
R406	1-246-531-00	CARBON	270K 5% 1/4W	< VARIABLE RESISTOR >			
R407	1-247-704-11	CARBON	220 5% 1/4W	RT401	1-237-498-21	RES, ADJ, METAL FILM 220	
R408	1-219-030-11	FUSIBLE	220 5% 1/2W	RT451	1-237-498-21	RES, ADJ, METAL FILM 220	
R409	1-219-030-11	FUSIBLE	220 5% 1/2W	*****			
R410	1-214-937-00	METAL	1M 1% 1/2W	* A-4345-326-A	MAIN (B) BOARD, COMPLETE		
R412	1-219-010-11	FUSIBLE	33 5% 1/2W	*****			
R413	1-249-490-11	CARBON	27K 5% 1/2W	(F333ESL/F770ES:AEP, UK)			
R414	1-247-704-11	CARBON	220 5% 1/4W	* A-4345-332-A	MAIN (B) BOARD, COMPLETE(F770ES:Germany)		
R415	1-246-531-00	CARBON	270K 5% 1/4W	*****			
R416	1-247-740-11	CARBON	120 5% 1/2W (F333ESL/F770ES)	* A-4345-359-A	MAIN (B) BOARD, COMPLETE (F870ES)		
R416	1-259-533-11	CARBON	120 1% 1/2W (F870ES)	*****			
R417	1-259-580-11	CARBON	11K 5% 1/2W	* 1-560-242-31	BUS BAR 5P		
R418	1-259-580-11	CARBON	11K 5% 1/2W	* 3-346-266-21	PLATE, GROUND		
R419	1-259-503-11	CARBON	4.7M 5% 1/2W	* 4-916-791-01	PLATE, GROUND, 5P		
R420	1-249-556-11	CARBON	1.5K 5% 1/4W	* 4-921-402-01	HEAT SINK		
R421	1-247-721-11	CARBON	4.7K 5% 1/4W	7-682-548-09 SCREW +B 3X8			
R422	1-219-022-11	FUSIBLE	100 5% 1/2W	< CAPACITOR >			
R444	1-219-022-11	FUSIBLE	100 5% 1/2W	C416	1-136-161-00	FILM 0.047uF 5% 50V	
				C417	1-136-161-00	FILM 0.047uF 5% 50V	

MAIN (B)

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C422	1-136-161-00	FILM 0.047uF 5% 50V				(TRANSISTOR)	
C423	1-161-379-00	CERAMIC 0.01uF 20% 25V					
		(F770ES:Germany/F870ES)					
C466	1-136-161-00	FILM 0.047uF 5% 50V		Q410	8-729-209-17	TRANSISTOR 2SA1360-0	
C467	1-136-161-00	FILM 0.047uF 5% 50V		Q420	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
C472	1-136-161-00	FILM 0.047uF 5% 50V		Q460	8-729-209-17	TRANSISTOR 2SA1360-0	
				Q470	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
						(RESISTOR)	
C601	1-123-334-00	ELECT 220uF 20% 25V		R423	1-247-714-11	CARBON 1.2K 5% 1/4W	
C602	1-136-157-00	FILM 0.022uF 5% 50V		R424	1-247-719-11	CARBON 3.3K 5% 1/4W	
C603	1-136-157-00	FILM 0.022uF 5% 50V		R425	1-247-711-11	CARBON 680 5% 1/4W	
C604	1-124-122-11	ELECT 100uF 20% 50V(F870ES)		R427	1-219-022-11	FUSIBLE 100 5% 1/2W	
C604	1-124-910-11	ELECT 47uF 20% 50V(F333ESL/F770ES)		R428	1-219-022-11	FUSIBLE 100 5% 1/2W	
C606	1-123-380-00	ELECT 1uF 20% 100V					
C607	1-126-066-11	ELECT 470uF 20% 63V		R429	1-219-030-11	FUSIBLE 220 5% 1/2W	
C703	1-128-201-11	ELECT 100uF 20% 63V(F870ES)		R430	1-212-974-00	FUSIBLE 47 5% 1/2W	
C703	1-124-920-11	ELECT 330uF 20% 63V(F333ESL/F770ES)		R431	1-212-974-00	FUSIBLE 47 5% 1/2W	
C705	1-137-213-11	FILM 2.2uF 5% 100V		R432	1-212-974-00	FUSIBLE 47 5% 1/2W	
				R433	1-212-974-00	FUSIBLE 47 5% 1/2W	
C753	1-124-920-11	ELECT 330uF 20% 63V(F333ESL/F770ES)					
C753	1-128-201-11	ELECT 100uF 20% 63V(F870ES)		R434	1-217-151-00	RES, METAL PLATE 0.22	
		(DIODE)		R435	1-217-151-00	RES, METAL PLATE 0.22	
D405	8-719-912-20	DIODE 1SS120		R436	1-217-151-00	RES, METAL PLATE 0.22	
D406	8-719-985-53	DIODE HZS4ALL		R437	1-217-151-00	RES, METAL PLATE 0.22	
D408	8-719-303-13	DIODE SEL1210W		R438	△1-247-692-11	CARBON 22 5% 1/4W F	
D411	8-719-912-20	DIODE 1SS120					
D412	8-719-985-53	DIODE HZS4ALL		R439	△1-247-692-11	CARBON 22 5% 1/4W F	
				R440	△1-247-717-11	CARBON 2.2K 5% 1/4W F	
D415	8-719-912-20	DIODE 1SS120		R441	1-249-460-11	CARBON 15K 5% 1/4W	
D416	8-719-912-20	DIODE 1SS120		R442	1-219-002-11	FUSIBLE 15 5% 1/2W	
D455	8-719-912-20	DIODE 1SS120		R447	1-247-711-11	CARBON 680 5% 1/4W	
D456	8-719-985-53	DIODE HZS4ALL					
D458	8-719-303-13	DIODE SEL1210W		R449	1-219-002-11	FUSIBLE 15 5% 1/2W	
				R473	1-247-714-11	CARBON 1.2K 5% 1/4W	
D461	8-719-912-20	DIODE 1SS120		R474	1-247-719-11	CARBON 3.3K 5% 1/4W	
D462	8-719-985-53	DIODE HZS4ALL		R475	1-247-711-11	CARBON 680 5% 1/4W	
D465	8-719-912-20	DIODE 1SS120		R477	1-219-022-11	FUSIBLE 100 5% 1/2W	
D466	8-719-912-20	DIODE 1SS120					
D601	8-719-200-82	DIODE 11ES2		R478	1-219-022-11	FUSIBLE 100 5% 1/2W	
				R479	1-219-030-11	FUSIBLE 220 5% 1/2W	
D602	8-719-200-82	DIODE 11ES2		R480	1-212-974-00	FUSIBLE 47 5% 1/2W	
D603	8-719-200-82	DIODE 11ES2		R481	1-212-974-00	FUSIBLE 47 5% 1/2W	
D701	8-719-230-02	DIODE 30DF2		R482	1-212-974-00	FUSIBLE 47 5% 1/2W	
D702	8-719-230-02	DIODE 30DF2					
D703	8-719-230-02	DIODE 30DF2		R483	1-212-974-00	FUSIBLE 47 5% 1/2W	
				R484	1-217-151-00	RES, METAL PLATE 0.22	
D704	8-719-230-02	DIODE 30DF2		R485	1-217-151-00	RES, METAL PLATE 0.22	
D705	8-719-300-27	DIODE CTU-22S		R486	1-217-151-00	RES, METAL PLATE 0.22	
D755	8-719-300-25	DIODE CTU-22R		R487	1-217-151-00	RES, METAL PLATE 0.22	
		(CONNECTOR)					
EH25	* 1-564-508-11	PLUG, CONNECTOR 5P		R488	△1-247-692-11	CARBON 22 5% 1/4W F	
EH41	* 1-564-505-11	PLUG, CONNECTOR 2P		R489	△1-247-692-11	CARBON 22 5% 1/4W F	
		(IC)		R490	△1-247-717-11	CARBON 2.2K 5% 1/4W F	
IC601	8-759-111-68	IC uPC1237HA		R491	1-249-460-11	CARBON 15K 5% 1/4W	
				R492	1-219-002-11	FUSIBLE 15 5% 1/2W	
				R497	1-247-711-11	CARBON 680 5% 1/4W	
				R499	1-219-002-11	FUSIBLE 15 5% 1/2W	
				R601	1-247-891-00	CARBON 330K 5% 1/4W	

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

MAIN (B)

EQ

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R602	1-247-887-00	CARBON	220K 5% 1/4W	C207	1-137-333-31	FILM 0.056uF 2% 100V(F870ES)	
R603	1-247-725-11	CARBON	10K 5% 1/4W	C207	1-137-335-31	FILM 0.056uF 2% 630V(F333ESL/F770ES)	
R604	1-249-461-11	CARBON	18K 5% 1/4W	C209	1-124-922-11	ELECT 1000uF 20% 63V(F870ES)	
R605	1-249-606-11	CARBON	180K 5% 1/4W (F870ES)	C209	1-126-066-11	ELECT 470uF 20% 63V(F333ESL/F770ES)	
R605	1-249-609-11	CARBON	240K 5% 1/4W(F333ESL/F770ES)	C211	1-124-122-11	ELECT 100uF 20% 50V	
R617	1-249-462-11	CARBON	22K 5% 1/4W	C212	1-123-604-00	ELECT 220uF 20% 63V	
R651	1-247-891-00	CARBON	330K 5% 1/4W	C213	1-101-880-00	CERAMIC 47PF 5% 50V (F770ES:Germany/F870ES)	
R652	1-247-721-11	CARBON	4.7K 5% 1/4W	C214	1-161-379-00	CERAMIC 0.01uF 20% 25V (F770ES:Germany/F870ES)	
R653	△1-212-934-00	FUSIBLE	1 5% 1/2W F	C251	1-104-278-11	POLYSTYRENE 100PF 5% 50V (F770ES:Germany/F870ES)	
< VARIABLE RESISTOR >				C251	1-104-290-11	POLYSTYRENE 330PF 5% 50V (F333ESL/F770ES:AEP, UK)	
RT402	1-224-249-XX	RES, ADJ, SOLID 1K		C252	1-137-336-91	FILM 0.022uF 2% 100V	
RT452	1-224-249-XX	RES, ADJ, SOLID 1K		C253	1-124-748-11	ELECT 22uF 20% 100V(F870ES)	
< CONNECTOR >				C253	1-124-916-11	ELECT 22uF 20% 63V(F333ESL/F770ES)	
SE1	1-564-242-00	PIN, CONNECTOR 5P		C254	1-124-918-11	ELECT 47uF 20% 63V(F333ESL/F770ES)	
< BASE POST >				C254	1-126-359-11	ELECT 47uF 20% 80V(F870ES)	
TP1	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (F870ES)		C256	1-137-332-31	FILM 0.016uF 2% 100V(F870ES)	
TP2	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P (F870ES)		C256	1-137-334-31	FILM 0.016uF 2% 630V(F333ESL/F770ES)	
< CONNECTOR >				C257	1-137-333-31	FILM 0.056uF 2% 100V(F870ES)	
VH4	* 1-564-104-00	PIN, CONNECTOR 3P		C257	1-137-335-31	FILM 0.056uF 2% 630V(F333ESL/F770ES)	
VH5	* 1-564-241-00	PIN, CONNECTOR 4P		C259	1-124-922-11	ELECT 1000uF 20% 63V(F870ES)	
VH6	* 1-564-241-00	PIN, CONNECTOR 4P		C259	1-126-066-11	ELECT 470uF 20% 63V(F333ESL/F770ES)	
*****				C261	1-124-122-11	ELECT 100uF 20% 50V	
* A-4345-327-A	EQ BOARD, COMPLETE ***** (F333ESL/F770ES:AEP, UK)			C262	1-123-604-00	ELECT 220uF 20% 63V	
* A-4345-333-A	EQ BOARD, COMPLETE (F770ES:Germany) *****			C263	1-101-880-00	CERAMIC 47PF 5% 50V (F770ES:Germany/F870ES)	
* A-4345-360-A	EQ BOARD, COMPLETE (F870ES) *****			< DIODE >			
* 4-921-402-01	HEAT SINK			D202	8-719-933-36	DIODE HZS6B1L	
7-682-548-09	SCREW +B 3X8			D252	8-719-933-36	DIODE HZS6B1L	
< CAPACITOR >				< CONNECTOR >			
C201	1-104-278-11	POLYSTYRENE 100PF 5% 50V (F770ES:Germany/F870ES)		EH17	* 1-564-508-11	PLUG, CONNECTOR 5P	
C201	1-104-290-11	POLYSTYRENE 330PF 5% 50V (F333ESL/F770ES:AEP, UK)		EH18	* 1-564-506-11	PLUG, CONNECTOR 3P	
C202	1-137-336-91	FILM 0.022uF 2% 100V		EH19	* 1-564-506-11	PLUG, CONNECTOR 3P	
C203	1-124-748-11	ELECT 22uF 20% 100V(F870ES)		EH20	* 1-564-507-11	PLUG, CONNECTOR 4P	
C203	1-124-916-11	ELECT 22uF 20% 63V(F333ESL/F770ES)		< IC >			
C204	1-124-918-11	ELECT 47uF 20% 63V(F333ESL/F770ES)		IC201	8-759-711-53	IC NJM2068S-D	
C204	1-126-359-11	ELECT 47uF 20% 80V(F870ES)		IC251	8-759-711-53	IC NJM2068S-D	
C206	1-137-332-31	FILM 0.016uF 2% 100V(F870ES)		< TRANSISTOR >			
C206	1-137-334-31	FILM 0.016uF 2% 630V(F333ESL/F770ES)		Q201	8-729-214-73	TRANSISTOR 2SK147-V (F770ES:Germany/F870ES)	
				Q201	8-729-217-04	TRANSISTOR 2SK170-V (F333ESL/F770ES:AEP, UK)	
				Q202	8-729-203-45	TRANSISTOR 2SC3423-0	
				Q203	8-729-281-54	TRANSISTOR 2SC1815-BL	
				Q204	8-729-201-56	TRANSISTOR 2SK246-GR2	

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

EQ **FUNCTION**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q205	8-729-127-53	TRANSISTOR 2SC2275-P		R225	1-219-024-91	FUSIBLE 120 5% 1/2W	
Q206	8-729-201-56	TRANSISTOR 2SK246-GR2		R251	1-249-465-11	CARBON 47K 5% 1/4W	
Q207	8-729-281-54	TRANSISTOR 2SC1815-BL		R252	1-247-706-11	CARBON 330 5% 1/4W	
Q208	8-729-281-54	TRANSISTOR 2SC1815-BL		R253	1-247-713-11	CARBON 1K 5% 1/4W	
Q209	8-729-214-73	TRANSISTOR 2SK147-V (F770ES:Germany/F870ES)		R254	1-247-700-11	CARBON 100 5% 1/4W	
Q209	8-729-217-04	TRANSISTOR 2SK170-V (F333ESL/F770ES:AEP, UK)		R255	1-247-128-00	CARBON 750 5% 1/4W	
Q251	8-729-214-73	TRANSISTOR 2SK147-V (F770ES:Germany/F870ES)		R256	1-247-128-00	CARBON 750 5% 1/4W	
Q251	8-729-217-04	TRANSISTOR 2SK170-V (F333ESL/F770ES:AEP, UK)		R257	1-247-700-11	CARBON 100 5% 1/4W (F333ESL/F770ES:AEP, UK)	
Q252	8-729-203-45	TRANSISTOR 2SC3423-0		R257	1-249-512-11	CARBON 22 5% 1/4W (F770ES:Germany/F870ES)	
Q253	8-729-281-54	TRANSISTOR 2SC1815-BL		R258	1-247-708-11	CARBON 470 5% 1/4W	
Q254	8-729-201-56	TRANSISTOR 2SK246-GR2		R259	1-249-518-11	CARBON 39 5% 1/4W	
Q255	8-729-141-10	TRANSISTOR 2SA985-OP		R260	1-247-704-11	CARBON 220 5% 1/4W	
Q256	8-729-201-56	TRANSISTOR 2SK246-GR2		R261	1-247-721-11	CARBON 4.7K 5% 1/4W	
Q257	8-729-201-53	TRANSISTOR 2SA1015-GR		R262	1-246-545-00	CARBON 1.0M 5% 1/4W	
Q258	8-729-201-53	TRANSISTOR 2SA1015-GR		R263	1-249-844-11	CARBON 56K 1% 1/2W	
Q259	8-729-214-73	TRANSISTOR 2SK147-V (F770ES:Germany/F870ES)		R264	1-247-700-11	CARBON 100 5% 1/4W	
Q259	8-729-217-04	TRANSISTOR 2SK170-V (F333ESL/F770ES:AEP, UK)		R265	1-259-571-11	CARBON 4.7K 1% 1/2W (F870ES)	
		(RESISTOR)		R265	1-249-818-11	CARBON 4.7K 1% 1/2W (F333ESL/F770ES)	
R201	1-249-465-11	CARBON 47K 5% 1/4W		R267	1-260-661-11	CARBON 6.8 5% 1/4W	
R202	1-247-706-11	CARBON 330 5% 1/4W		R268	1-247-700-11	CARBON 100 5% 1/4W	
R203	1-247-713-11	CARBON 1K 5% 1/4W		R269	1-247-704-11	CARBON 220 5% 1/4W	
R204	1-247-700-11	CARBON 100 5% 1/4W		R270	1-247-725-11	CARBON 10K 5% 1/4W	
R205	1-247-128-00	CARBON 750 5% 1/4W		R271	1-247-704-11	CARBON 220 5% 1/4W	
R206	1-247-128-00	CARBON 750 5% 1/4W		R272	1-247-717-11	CARBON 2.2K 5% 1/4W	
R207	1-247-700-11	CARBON 100 5% 1/4W (F333ESL/F770ES:AEP, UK)		R273	1-247-723-11	CARBON 6.8K 5% 1/4W	
R207	1-249-512-11	CARBON 22 5% 1/4W (F770ES:Germany/F870ES)		R274	1-247-713-11	CARBON 1K 5% 1/4W	
R208	1-247-708-11	CARBON 470 5% 1/4W		R275	1-219-024-91	FUSIBLE 120 5% 1/2W	
R209	1-249-518-11	CARBON 39 5% 1/4W				(SWITCH)	
R210	1-247-704-11	CARBON 220 5% 1/4W		S201	1-554-019-21	SWITCH, SLIDE (REMOTE TYPE) (CARTRIDGE LOAD)	
R211	1-247-721-11	CARBON 4.7K 5% 1/4W				*****	
R212	1-246-545-00	CARBON 1.0M 5% 1/4W				* 1-637-081-11 FUNCTION BOARD (F870ES) *****	
R213	1-249-844-11	CARBON 56K 1% 1/2W				* 1-637-081-13 FUNCTION BOARD (F333ESL/F770ES) *****	
R214	1-247-700-11	CARBON 100 5% 1/4W				* 1-564-599-11 PIN, CONNECTOR 8P	
R215	1-249-818-11	CARBON 4.7K 1% 1/2W (F333ESL/F770ES)				(CAPACITOR)	
R215	1-259-571-11	CARBON 4.7K 1% 1/2W (F870ES)		C916	1-124-631-11	ELECT 47uF 20% 16V	
R217	1-260-661-11	CARBON 6.8 5% 1/4W				(CONNECTOR)	
R218	1-247-700-11	CARBON 100 5% 1/4W		EH16	* 1-564-506-11	PLUG, CONNECTOR 3P	
R219	1-247-704-11	CARBON 220 5% 1/4W		EH35	* 1-564-512-11	PLUG, CONNECTOR 9P	
R220	1-247-725-11	CARBON 10K 5% 1/4W		EH40	* 1-564-505-11	PLUG, CONNECTOR 2P	
R221	1-247-704-11	CARBON 220 5% 1/4W		EH42	* 1-564-506-11	PLUG, CONNECTOR 3P	
R222	1-247-717-11	CARBON 2.2K 5% 1/4W					
R223	1-247-723-11	CARBON 6.8K 5% 1/4W					
R224	1-247-713-11	CARBON 1K 5% 1/4W					

FUNCTION

AC SW

H.P

VOL

LED (VOL)

S.D

Ref.No.	Part No.	Description	Remark
		< SWITCH >	
S101	1-572-096-11	SWITCH, ROTARY (WITH MOTOR) (F333ESL/F770ES)	

	* 1-637-085-11	AC SW BOARD *****	
		< SWITCH >	
S801	△1-554-538-00	SWITCH, PUSH (AC POWER) (1 KEY) (F333ESL/F770ES)	
		< CONNECTOR >	
SE8	1-564-321-00	PIN, CONNECTOR 2P	

	* 1-637-086-11	H. P BOARD *****	
		< CAPACITOR >	
C503	1-102-973-00	CERAMIC 100PF 5% 50V (F770ES:Germany/F870ES)	
C553	1-102-973-00	CERAMIC 100PF 5% 50V (F770ES:Germany/F870ES)	
		< JACK >	
J401	1-507-796-71	JACK (HEADPHONES)	

	* 1-637-082-12	VOL BOARD *****	
		< CAPACITOR >	
C318	1-124-902-00	ELECT 0.47uF 20% 50V	
C319	1-104-272-11	POLYSTYRENE 33PF 10% 50V	
C369	1-104-272-11	POLYSTYRENE 33PF 10% 50V	
C918	1-124-631-11	ELECT 47uF 20% 16V	
		< DIODE >	
D301	8-719-912-20	DIODE 1SS120	
D933	8-719-912-20	DIODE 1SS120	
		< CONNECTOR >	
EH14	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH28	* 1-564-509-11	PLUG, CONNECTOR 6P	
EH30	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH34	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH36	* 1-564-505-11	PLUG, CONNECTOR 2P	

Ref.No.	Part No.	Description	Remark
EH37	* 1-564-505-11	PLUG, CONNECTOR 2P	
EH40	* 1-564-505-11	PLUG, CONNECTOR 2P	
		< TRANSISTOR >	
Q310	8-729-281-54	TRANSISTOR 2SC1815-BL	
		< RESISTOR >	
R316	1-249-926-11	CARBON 1.3K 5% 1/4W	
R317	1-247-721-11	CARBON 4.7K 5% 1/4W	
		< VARIABLE RESISTOR >	
RV304	1-241-290-11	RES, VAR, CARBON 30KX2 (ATTENUATOR)	
		< RELAY >	
RY301	1-515-726-11	RELAY	
RY901	1-515-622-11	RELAY	

	* 1-637-084-11	LED (VOL) BOARD *****	
		< DIODE >	
D508	8-719-303-02	DIODE SEL2510C-D	

	* 1-637-087-11	S. D BOARD *****	
		< CAPACITOR >	
C310	1-136-169-00	FILM 0.22uF 5% 50V	
		< CONNECTOR >	
EH13	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH26	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH27	* 1-564-507-11	PLUG, CONNECTOR 4P	
EH38	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH39	* 1-564-506-11	PLUG, CONNECTOR 3P	
		< RESISTOR >	
R301	1-249-833-11	CARBON 20K 5% 1/2W	
R302	1-247-717-11	CARBON 2.2K 5% 1/4W	
R351	1-249-833-11	CARBON 20K 5% 1/2W	
R352	1-247-717-11	CARBON 2.2K 5% 1/4W	
		< SWITCH >	
S301	1-572-551-11	SWITCH, PUSH (2 KEY) (MUTING)	
S304	1-572-551-11	SWITCH, PUSH (2 KEY) (SOURCE DIRECT)	

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

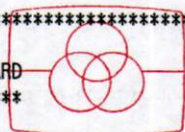
SP-SW

SP TERMINAL

TONE

Ref. No.	Part No.	Description	Remark
	* 1-637-088-12	SP-SW BOARD ***** < CAPACITOR >	
C611	1-106-343-00	MYLAR 1000PF 5% 200V < CONNECTOR >	
EH32	* 1-564-506-11	PLUG, CONNECTOR 3P < RESISTOR >	
R618	1-247-741-11	CARBON 150 5% 1/2W	
R619	1-247-741-11	CARBON 150 5% 1/2W	
R621	1-247-747-11	CARBON 470 5% 1/2W	
R623	1-247-747-11	CARBON 470 5% 1/2W	
R625	1-247-747-11	CARBON 470 5% 1/2W	
R627	1-247-747-11	CARBON 470 5% 1/2W	
		< SWITCH >	
S601	1-572-107-11	SWITCH, ROTARY (SPEAKERS)	

	* 1-637-089-12	SP TERMINAL BOARD *****	
	* 1-560-242-11	BUS BAR 3P	
	* 1-560-242-61	BUS BAR 2P	
	* 4-843-416-11	PLATE, FIXED, CAP	
		< CAPACITOR >	
C501	1-106-361-00	MYLAR 0.0056uF 10% 100V (F770ES:Germany/F870ES)	
C502	1-102-820-00	CERAMIC 330PF 5% 50V (F770ES:Germany/F870ES)	
C551	1-106-361-00	MYLAR 0.0056uF 10% 100V (F770ES:Germany/F870ES)	
C552	1-102-820-00	CERAMIC 330PF 5% 50V (F770ES:Germany/F870ES)	
		< DIODE >	
D612	8-719-912-20	DIODE 1SS120	
D613	8-719-912-20	DIODE 1SS120	
		< CONNECTOR >	
EH31	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH33	* 1-564-506-11	PLUG, CONNECTOR 3P	
EH45	* 1-564-507-11	PLUG, CONNECTOR 4P	
		< COIL >	
L401	* 1-422-009-13	COIL, AIR-CORE	
L451	* 1-422-009-13	COIL, AIR-CORE	



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Ref. No.	Part No.	Description	Remark
		< RESISTOR >	
R443	1-247-727-11	CARBON 10 5% 1/2W	
R446	1-247-747-11	CARBON 470 5% 1/2W	
R450	1-247-747-11	CARBON 470 5% 1/2W	
R493	1-247-727-11	CARBON 10 5% 1/2W	
R496	1-247-747-11	CARBON 470 5% 1/2W	
R500	1-247-747-11	CARBON 470 5% 1/2W	
R501	1-249-689-11	CARBON 4.7K 5% 1/2W	
R502	1-249-657-11	CARBON 220 5% 1/2W	
R503	1-247-727-11	CARBON 10 5% 1/2W (F770ES:Germany/F870ES)	
R551	1-249-689-11	CARBON 4.7K 5% 1/2W	
R552	1-249-657-11	CARBON 220 5% 1/2W	
R553	1-247-727-11	CARBON 10 5% 1/2W (F770ES:Germany/F870ES)	
		< RELAY >	
RY602	1-515-676-11	RELAY	
RY603	1-515-676-11	RELAY	
		< TEST POINT >	
TP3	1-535-139-00	BASE POST 14MM (10MM PITCH) 2P	
	* 1-637-090-12	TONE BOARD *****	
		< CAPACITOR >	
C301	1-136-173-00	FILM 0.47uF 5% 50V	
C302	1-107-165-00	MICA 56PF 5% 50V	
C303	1-123-369-00	ELECT 4.7uF 20% 63V	
C304	1-123-369-00	ELECT 4.7uF 20% 63V	
C305	1-123-369-00	ELECT 4.7uF 20% 63V	
C306	1-136-155-00	FILM 0.015uF 5% 50V	
C307	1-136-161-00	FILM 0.047uF 5% 50V	
C308	1-136-169-00	FILM 0.22uF 5% 50V	
C309	1-136-175-00	FILM 0.68uF 5% 50V	
C320	1-123-369-00	ELECT 4.7uF 20% 63V	
C321	1-102-973-00	CERAMIC 100PF 5% 50V (F770ES:Germany/F870ES)	
C351	1-136-173-00	FILM 0.47uF 5% 50V	
C352	1-107-165-00	MICA 56PF 5% 50V	
C355	1-123-369-00	ELECT 4.7uF 20% 63V	
C356	1-136-155-00	FILM 0.015uF 5% 50V	
C357	1-136-161-00	FILM 0.047uF 5% 50V	
C358	1-136-169-00	FILM 0.22uF 5% 50V	
C359	1-136-175-00	FILM 0.68uF 5% 50V	
C370	1-123-369-00	ELECT 4.7uF 20% 63V	
C371	1-102-973-00	CERAMIC 100PF 5% 50V (F770ES:Germany/F870ES)	

TONE

INPUT

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
		< IC >					
IC301	8-759-602-19	IC M5220L		C153	1-104-274-11	POLYSTYRENE 47PF (F770ES:Germany/F870ES)	10% 50V
		< RESISTOR >				< CONNECTOR >	
R304	1-247-713-11	CARBON	1K 5% 1/4W	EH12	* 1-564-507-11	PLUG, CONNECTOR 4P	
R305	1-246-545-00	CARBON	1.0M 5% 1/4W			< JACK >	
R306	1-247-758-11	CARBON	3.3K 5% 1/2W	J101	1-507-831-41	JACK, PIN 6P (CD/TUNER/PHONO)	
R307	1-247-713-11	CARBON	1K 5% 1/4W	J102	1-507-831-41	JACK, PIN 6P (AUX/TAPE 3 REC OUT, IN)	
R308	1-247-704-11	CARBON	220 5% 1/4W	J103	1-507-831-41	JACK, PIN 6P (DIRECT IN/ADAPTOR IN, OUT)	
R310	1-259-421-11	CARBON	510 5% 1/4W	J104	1-507-920-00	JACK, PIN 4P (TAPE 2 REC OUT, ON)	
R311	1-247-703-11	CARBON	180 5% 1/4W	J105	1-507-920-00	JACK, PIN 4P (DAT/TAPE 1 REC OUT, ON)	
R312	1-247-718-11	CARBON	2.7K 5% 1/4W			< COIL >	
R313	1-249-551-11	CARBON	910 5% 1/4W	L101	1-424-397-11	COIL, CHOKE 200uH (F770ES:Germany/F870ES)	
R314	1-246-545-00	CARBON	1.0M 5% 1/4W	L102	1-424-397-11	COIL, CHOKE 200uH (F770ES:Germany/F870ES)	
R315	1-246-545-00	CARBON	1.0M 5% 1/4W	L151	1-424-397-11	COIL, CHOKE 200uH (F770ES:Germany/F870ES)	
R354	1-247-713-11	CARBON	1K 5% 1/4W	L152	1-424-397-11	COIL, CHOKE 200uH (F770ES:Germany/F870ES)	
R355	1-246-545-00	CARBON	1.0M 5% 1/4W			< RESISTOR >	
R356	1-247-758-11	CARBON	3.3K 5% 1/2W	R101	1-246-545-00	CARBON	1.0M 5% 1/4W
R357	1-247-713-11	CARBON	1K 5% 1/4W	R102	1-246-545-00	CARBON	1.0M 5% 1/4W
R358	1-247-704-11	CARBON	220 5% 1/4W	R103	1-246-545-00	CARBON	1.0M 5% 1/4W
R360	1-259-421-11	CARBON	510 5% 1/4W	R104	1-246-545-00	CARBON	1.0M 5% 1/4W
R361	1-247-703-11	CARBON	180 5% 1/4W	R105	1-246-545-00	CARBON	1.0M 5% 1/4W
R362	1-247-718-11	CARBON	2.7K 5% 1/4W	R106	1-246-545-00	CARBON	1.0M 5% 1/4W
R363	1-249-551-11	CARBON	910 5% 1/4W	R107	1-247-713-11	CARBON	1K 5% 1/4W
R364	1-246-545-00	CARBON	1.0M 5% 1/4W	R108	1-247-713-11	CARBON	1K 5% 1/4W
R365	1-246-545-00	CARBON	1.0M 5% 1/4W	R109	1-247-713-11	CARBON	1K 5% 1/4W
		< VARIABLE RESISTOR >		R110	1-247-739-11	CARBON 100 5% 1/2W (F333ESL/F770ES:AEP, UK)	
RV301	1-241-291-11	RES, VAR, CARBON 100K/100K (BALANCE)		R110	1-249-673-11	CARBON 1K 5% 1/2W (F770ES:Germany/F870ES)	
RV302	1-241-292-11	RES, VAR, CARBON 10K (TREBLE)		R111	1-246-545-00	CARBON	1.0M 5% 1/4W
RV303	1-241-293-11	RES, VAR, CARBON 10K (BASS)		R112	1-259-436-11	CARBON 2.2K 5% 1/6W (F770ES:Germany/F870ES)	
		< SWITCH >		R113	1-259-436-11	CARBON 2.2K 5% 1/6W (F770ES:Germany/F870ES)	
S302	1-572-549-11	SWITCH, PUSH (2 KEY) (SUB SONIC)		R120	1-246-545-00	CARBON	1.0M 5% 1/4W
S303	1-572-549-11	SWITCH, PUSH (2 KEY) (MODE)		R151	1-246-545-00	CARBON	1.0M 5% 1/4W
*****				R152	1-246-545-00	CARBON	1.0M 5% 1/4W
	* 1-637-091-12	INPUT BOARD		R153	1-246-545-00	CARBON	1.0M 5% 1/4W
		*****		R154	1-246-545-00	CARBON	1.0M 5% 1/4W
	* 1-565-492-11	CONNECTOR, BOARD TO BOARD 16P		R155	1-246-545-00	CARBON	1.0M 5% 1/4W
	* 4-835-639-00	PLATE, GROUND		R156	1-246-545-00	CARBON	1.0M 5% 1/4W
		< CAPACITOR >		R157	1-247-713-11	CARBON	1K 5% 1/4W
C101	1-162-285-31	CERAMIC 180PF	10% 50V	R158	1-247-713-11	CARBON	1K 5% 1/4W
C103	1-104-274-11	POLYSTYRENE 47PF (F770ES:Germany/F870ES)	10% 50V	R159	1-247-713-11	CARBON	1K 5% 1/4W
C151	1-162-285-31	CERAMIC 180PF (F770ES:Germany/F870ES)	10% 50V				

INPUT

LED (P.L)

PREOUT

CONTROL

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R160	1-247-739-11	CARBON 100 5% 1/2W (F333ESL/F770ES:AEP, UK)			* A-4345-485-A	CONTROL BOARD, COMPLETE *****	
R160	1-249-673-11	CARBON 1K 5% 1/2W (F770ES:Germany/F870ES)				< CAPACITOR >	
R161	1-246-545-00	CARBON 1.0M 5% 1/4W		C605	1-126-062-11	ELECT 47uF 20% 63V	
R162	1-259-436-11	CARBON 2.2K 5% 1/6W (F770ES:Germany/F870ES)		C608	1-126-058-11	ELECT 4.7uF 20% 63V	
R163	1-259-436-11	CARBON 2.2K 5% 1/6W (F770ES:Germany/F870ES)		C610	1-126-058-11	ELECT 4.7uF 20% 63V	
R170	1-246-545-00	CARBON 1.0M 5% 1/4W		C901	1-136-165-00	FILM 0.1uF 5% 50V	
		< SWITCH >		C902	1-124-556-11	ELECT 2200uF 20% 16V	
S102	1-570-593-11	SWITCH, SLIDE(REMOTE TYPE)(DIRECT INPUT)		C903	1-161-379-00	CERAMIC 0.01uF 20% 25V	
S103	1-570-076-11	SWITCH, SLIDE(REMOTE TYPE) (REC OUT SELECT)		C904	1-126-233-11	ELECT 22uF 20% 50V	
		*****		C905	1-124-907-11	ELECT 10uF 20% 50V	
		* 1-637-092-11 LED (P.L) BOARD *****		C906	1-126-233-11	ELECT 22uF 20% 50V	
		< DIODE >		C907	1-136-161-00	FILM 0.047uF 5% 50V	
D607	8-719-313-40	DIODE SEL1516W		C908	1-126-233-11	ELECT 22uF 20% 50V	
		*****		C909	1-102-963-00	CERAMIC 33PF 5% 50V	
		* 1-639-110-11 PREOUT BOARD *****		C910	1-102-963-00	CERAMIC 33PF 5% 50V	
		< CONNECTOR >		C912	1-101-004-00	CERAMIC 0.01uF 50V	
CNJ901	1-564-980-11	PIN, CONNECTOR 4P (CONTROL S)		C920	1-136-165-00	FILM 0.1uF 5% 50V	
		< DIODE >		C921	1-124-907-11	ELECT 10uF 20% 50V	
D950	8-719-912-20	DIODE 1SS120		C922	1-124-907-11	ELECT 10uF 20% 50V	
		< CONNECTOR >		C923	1-124-907-11	ELECT 10uF 20% 50V	
EH43	* 1-564-507-11	PLUG, CONNECTOR 4P		C935	1-161-379-00	CERAMIC 0.01uF 20% 25V	
EH44	* 1-564-506-11	PLUG, CONNECTOR 3P		C936	1-161-379-00	CERAMIC 0.01uF 20% 25V	
		< JACK >		C937	1-124-604-00	ELECT 330uF 20% 10V	
J902	1-565-319-71	JACK, PIN 2P (PREOUT)		C939	1-161-379-00	CERAMIC 0.01uF 20% 25V	
		< TRANSISTOR >		C940	1-124-477-11	ELECT 47uF 20% 25V	
Q950	8-729-900-80	TRANSISTOR DTC114ES		C941	1-124-477-11	ELECT 47uF 20% 25V	
		< RESISTOR >		C942	1-124-477-11	ELECT 47uF 20% 25V	
R953	1-249-393-11	CARBON 10 5% 1/4W		C943	1-124-477-11	ELECT 47uF 20% 25V	
R958	1-249-429-11	CARBON 10K 5% 1/4W		C944	1-124-477-11	ELECT 47uF 20% 25V	
		*****		C945	1-124-477-11	ELECT 47uF 20% 25V	
				C946	1-124-477-11	ELECT 47uF 20% 25V	
				C947	1-161-379-00	CERAMIC 0.01uF 20% 25V	
				C948	1-161-379-00	CERAMIC 0.01uF 20% 25V	
				C949	1-161-379-00	CERAMIC 0.01uF 20% 25V	
				C950	1-161-379-00	CERAMIC 0.01uF 20% 25V	
				C951	1-161-379-00	CERAMIC 0.01uF 20% 25V	
				C952	1-161-379-00	CERAMIC 0.01uF 20% 25V	
				C953	1-161-379-00	CERAMIC 0.01uF 20% 25V	
						< DIODE >	
				D604	8-719-912-20	DIODE 1SS120	
				D605	8-719-912-20	DIODE 1SS120	
				D606	8-719-912-20	DIODE 1SS120	
				D901	8-719-200-82	DIODE 11ES2	
				D902	8-719-200-82	DIODE 11ES2	
				D903	8-719-200-82	DIODE 11ES2	
				D904	8-719-200-82	DIODE 11ES2	
				D905	8-719-912-20	DIODE 1SS120	
				D913	8-719-912-20	DIODE 1SS120	

CONTROL

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
D914	8-719-912-20	DIODE 1SS120		R609	1-249-437-11	CARBON 47K 5%	1/4W
D915	8-719-912-20	DIODE 1SS120		R610	1-249-433-11	CARBON 22K 5%	1/4W
D916	8-719-912-20	DIODE 1SS120		R611	1-247-812-11	CARBON 160 5%	1/4W
D917	8-719-912-20	DIODE 1SS120		R616	1-249-398-11	CARBON 27 5%	1/4W
D918	8-719-912-20	DIODE 1SS120		R633	1-249-425-11	CARBON 4.7K 5%	1/4W
D919	8-719-912-20	DIODE 1SS120		R650	1-247-838-00	CARBON 2K 5%	1/4W
D920	8-719-912-20	DIODE 1SS120		R908	1-249-429-11	CARBON 10K 5%	1/4W
D921	8-719-912-20	DIODE 1SS120		R909	1-249-429-11	CARBON 10K 5%	1/4W
D922	8-719-912-20	DIODE 1SS120		R910	1-247-887-00	CARBON 220K 5%	1/4W
D923	8-719-912-20	DIODE 1SS120		R911	1-249-441-11	CARBON 100K 5%	1/4W
D924	8-719-912-20	DIODE 1SS120		R912	1-249-441-11	CARBON 100K 5%	1/4W
		(CONNECTOR)		R913	1-247-895-00	CARBON 470K 5%	1/4W
EH1	* 1-564-506-11	PLUG, CONNECTOR 3P		R914	1-249-405-11	CARBON 100 5%	1/4W
EH2	* 1-564-506-11	PLUG, CONNECTOR 3P		R915	1-249-430-11	CARBON 12K 5%	1/4W
EH3	* 1-564-506-11	PLUG, CONNECTOR 3P		R916	1-249-405-11	CARBON 100 5%	1/4W
EH4	* 1-564-507-11	PLUG, CONNECTOR 4P		R917	1-247-903-00	CARBON 1M 5%	1/4W
EH5	* 1-564-505-11	PLUG, CONNECTOR 2P		R918	1-249-429-11	CARBON 10K 5%	1/4W
EH6	* 1-564-506-11	PLUG, CONNECTOR 3P		R919	1-249-429-11	CARBON 10K 5%	1/4W
EH7	* 1-564-506-11	PLUG, CONNECTOR 3P		R920	1-249-425-11	CARBON 4.7K 5%	1/4W
EH8	* 1-564-512-11	PLUG, CONNECTOR 9P		R921	1-249-429-11	CARBON 10K 5%	1/4W
EH9	* 1-564-512-11	PLUG, CONNECTOR 9P		R922	1-249-425-11	CARBON 4.7K 5%	1/4W
EH10	* 1-564-505-11	PLUG, CONNECTOR 2P		R923	1-249-425-11	CARBON 4.7K 5%	1/4W
EH11	* 1-564-511-11	PLUG, CONNECTOR 8P		R924	1-249-425-11	CARBON 4.7K 5%	1/4W
EH46	* 1-564-506-11	PLUG, CONNECTOR 3P		R925	1-249-425-11	CARBON 4.7K 5%	1/4W
		(IC)		R926	1-249-413-11	CARBON 470 5%	1/4W
IC901	8-759-635-31	IC M50253P		R927	1-249-429-11	CARBON 10K 5%	1/4W
IC902	8-759-239-47	IC TC74HC123AP		R928	1-249-429-11	CARBON 10K 5%	1/4W
IC903	8-759-635-88	IC M50720-255SP		R929	1-249-429-11	CARBON 10K 5%	1/4W
IC904	8-719-902-56	IC PC817		R930	1-249-429-11	CARBON 10K 5%	1/4W
IC905	8-759-604-84	IC M5F7806L		R931	1-249-429-11	CARBON 10K 5%	1/4W
IC906	8-759-604-84	IC M5F7806L		R933	1-249-520-11	CARBON 47 5%	1/4W
IC907	8-759-962-08	IC BA6208		R934	1-249-504-11	CARBON 10 5%	1/4W
IC908	8-759-962-08	IC BA6208		R936	1-249-504-11	CARBON 10 5%	1/4W
		(TRANSISTOR)		R938	1-249-429-11	CARBON 10K 5%	1/4W
Q601	8-729-201-53	TRANSISTOR 2SA1015-GR		R940	1-249-399-11	CARBON 33 5%	1/4W
Q602	8-729-201-53	TRANSISTOR 2SA1015-GR		R941	1-249-441-11	CARBON 100K 5%	1/4W
Q603	8-729-140-96	TRANSISTOR 2SD774-34		R942	1-249-405-11	CARBON 100 5%	1/4W
Q604	8-729-281-54	TRANSISTOR 2SC1815-BL		R943	1-249-429-11	CARBON 10K 5%	1/4W
Q901	8-729-900-36	TRANSISTOR DTC124ES		R944	1-249-425-11	CARBON 4.7K 5%	1/4W
Q902	8-729-119-78	TRANSISTOR 2SC2785-HFE				(RELAY)	
Q903	8-729-620-05	TRANSISTOR 2SC2603-EF		RY601	1-515-614-11	RELAY	
Q904	8-729-900-61	TRANSISTOR DTA114ES				(VIBRATOR)	
Q912	8-729-119-77	TRANSISTOR 2SA1175-FEK		X901	1-577-260-21	VIBRATOR, CERAMIC	
Q913	8-729-900-61	TRANSISTOR DTA114ES				*****	
		(RESISTOR)					
R606	1-249-429-11	CARBON 10K 5%	1/4W				
R608	1-249-437-11	CARBON 47K 5%	1/4W				

SW (F) **EYE** **OUTLET** **V.S**

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	* 1-637-094-12	SW (F) BOARD ***** < DIODE >		S906	1-572-198-11	SWITCH, KEY BOARD (TAPE 2)	
				S907	1-572-198-11	SWITCH, KEY BOARD (DAT/TAPE 1)	

D506	8-719-301-49	DIODE SEL2810A			* 1-637-095-11	EYE BOARD ***** < CAPACITOR >	
D507	8-719-301-49	DIODE SEL2810A					
D925	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))		C914	1-126-022-11	ELECT 47uF 20% 10V < IC >	
D925	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))		IC909	8-749-920-59	IC A10H3020S < RESISTOR >	
D926	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))		R932	1-249-421-11	CARBON 2.2K 5% 1/4W	
D926	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))		*****			
D927	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))			* 1-640-345-11	OUTLET BOARD (F770ES/F870ES) *****	
D927	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))			1-533-183-11	HOLDER, FUSE	
D928	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))			* 4-923-814-01	PLATE, CONNECTION (F770ES/F870ES) < CAPACITOR >	
D928	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))		C801	△1-161-741-00	CERAMIC 0.001uF 10% 400V(F770ES/F870ES) < CONNECTOR >	
D929	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))		SE100	1-564-321-00	PIN, CONNECTOR 2P (F770ES/F870ES)	
D929	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))		VH100	* 1-564-321-00	PIN, CONNECTOR 2P (F770ES/F870ES)	
D930	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))		VH101	* 1-564-321-21	PIN, CONNECTOR 2P (F770ES/F870ES)	
D930	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))		*****			
D931	8-719-301-49	DIODE SEL2810A (F770ES(GOLD)/F870ES(GOLD))			* 1-637-837-12	V.S BOARD (E) (F333ESL) *****	
D931	8-719-303-02	DIODE SEL2510C-D (F333ESL/F770ES(BLACK)/F870ES(BLACK))			1-533-183-11	HOLDER, FUSE (F333ESL) < CAPACITOR >	
		< RESISTOR >		C901	1-161-741-00	CERAMIC 0.001uF 10% 400V (E) (F333ESL) < SELECTOR >	
R613	1-249-799-11	CARBON 750 5% 1/2W		S802	△1-572-009-11	SELECTOR, VOLTAGE (E) (F333ESL) < CONNECTOR >	
R628	1-247-703-11	CARBON 180 5% 1/4W		SE2	1-564-687-11	PIN, CONNECTOR 3P (E) (F333ESL)	
R629	1-247-703-11	CARBON 180 5% 1/4W		SE3	1-564-687-11	PIN, CONNECTOR 3P (E) (F333ESL)	
R901	1-247-887-00	CARBON 220K 5% 1/4W		SE51	1-564-321-00	PIN, CONNECTOR 2P (E) (F333ESL)	
R902	1-247-887-00	CARBON 220K 5% 1/4W		VH50	* 1-564-321-00	PIN, CONNECTOR 2P (E) (F333ESL)	
R903	1-247-887-00	CARBON 220K 5% 1/4W					
R904	1-247-887-00	CARBON 220K 5% 1/4W					
R905	1-247-887-00	CARBON 220K 5% 1/4W					
R906	1-247-887-00	CARBON 220K 5% 1/4W					
R907	1-247-887-00	CARBON 220K 5% 1/4W					
		< SWITCH >					
S901	1-572-198-11	SWITCH, KEY BOARD (PHONO)					
S902	1-572-198-11	SWITCH, KEY BOARD (TUNER)					
S903	1-572-198-11	SWITCH, KEY BOARD (CD)					
S904	1-572-198-11	SWITCH, KEY BOARD (AUX)					
S905	1-572-198-11	SWITCH, KEY BOARD (TAPE 3)					

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

Ref. No. Part No. Description Remark

ACCESSORIES & PACKING MATERIALS

- 1-465-801-11 REMOTE COMMANDER (RM-S703)
(F333ESL/F770ES(BLACK)/F870ES(BLACK))
- 1-465-801-21 REMOTE COMMANDER (RM-S703)
- 3-753-600-11 MANUAL, INSTRUCTION
- 3-753-600-41 MANUAL, INSTRUCTION
- 3-753-601-11 MANUAL, INSTRUCTION (GERMAN)
(Germany:F870ES)
- 4-847-802-00 SCREW (AEP, E, Germany)
- * 4-931-954-01 CUSHION
- * 4-945-279-01 INDIVIDUAL CARTON (F770ES)
- * 4-945-280-01 INDIVIDUAL CARTON (F333ESL)
- * 4-945-282-01 INDIVIDUAL CARTON (F870ES)

HARDWARE LIST

- #1 7-682-148-15 SCREW, TR
- #2 7-682-546-09 SCREW, +B 3X5, PAWL
- #3 7-682-547-09 SCREW +BVTT 3X6 (S)
- #4 7-682-548-09 SCREW +B 3X8
- #5 7-682-549-04 SCREW +B 3X10

- #6 7-682-668-09 SCREW +PSW 4X30
- #7 7-683-255-58 SET SCREW 5X6 HEXAGON SOCKET
- #8 7-684-024-04 N 4, TYPE 2
- #9 7-685-153-19 SCREW +P 3X30 TYPE2 SLIT
- #10 7-685-234-19 SCREW +KTP 2.6X8 TYPE2NON-SLIT

- #11 7-685-646-79 SCREW +BVTP 3X8 TYPE2 N-S
- #12 7-685-647-79 SCREW +BVTP 3X10 TYPE2 SLIT
- #13 7-685-650-79 SCREW +BVTP 3X16 TYPE2 SLIT
- #14 7-688-004-02 W 4, SMALL

