

TA-EX880/MS717

SERVICE MANUAL

AEP Model

UK Model

TA-EX880

E Model

Tourist Model

TA-MS717



TA-EX880/MS717 are the amplifier section
in DHC-EX880MD/MD717.

Photo: TA-MS717

SPECIFICATIONS

TA-EX880:

DIN power output 45 + 45 watts (6 ohms at
1 kHz, DIN)

Continuous RMS power output
59 + 59 watts (6 ohms at
1 kHz, 10% THD)

Music power output 105 + 105 watts

TA-MS717:

Continuous RMS power output
55 + 55 watts (6 ohms at
1 kHz, 5% THD)

Inputs

CD IN, MD IN (phono jacks):
voltage 450 mV,
impedance 47 kilohms
TUNER IN, TAPE IN, VIDEO1 IN (CS/BS IN)*,
VIDEO2 IN (LD/DVD IN)*, VIDEO3 IN
(VIDEO IN)* (phono jacks):
voltage 250 mV,
impedance 47 kilohms

* For DHC-MD717

Outputs

MD OUT, TAPE OUT (phono jacks):
voltage 250 mV,
impedance 1 kilohm

PHONES (stereo phone jack):
accepts headphones of
8 ohms or more.

SPEAKER:
accepts impedance of 6 to
16 ohms.

Dimensions (w/h/d) incl. projecting parts and
controls: Approx. 280 x 125 x
300 mm

Mass Approx. 5.0 kg

Design and specifications are subject to change
without notice.

INTEGRATED STEREO AMPLIFIER



SONY®

SECTION 1

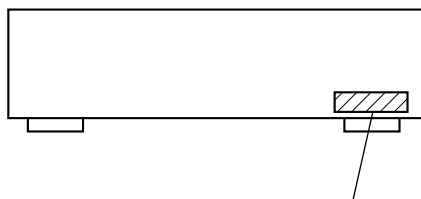
SERVICING NOTES

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MODEL IDENTIFICATION

– Back panel –



4-995-104-1□: AEP, UK
 4-995-104-2□: Hong Kong, Singapore, Malaysia
 4-995-104-3□: Tourist

POWER ON/OFF CONTROL

- As the power on/off control is made by the Tuner Unit (ST-EX880/MS717), the POWER switch is not provided to this set. Accordingly, for servicing, connect the set to the Tuner Unit (ST-EX880/MS717). (Fig. 1)
 (If the Tuner Unit (ST-EX880/MS717) is not available, connect a power cord directly to this set. (Fig. 2)
 Also, if the set is not connected to the Tuner Unit (ST-EX880/MS717), to enter the TEST mode (LED CHECK mode), press **FUNCTION** button and **SOURCE DIRECT** button simultaneously two times.
 When each button is pressed, the LED associated with each button lights up.

Connection:

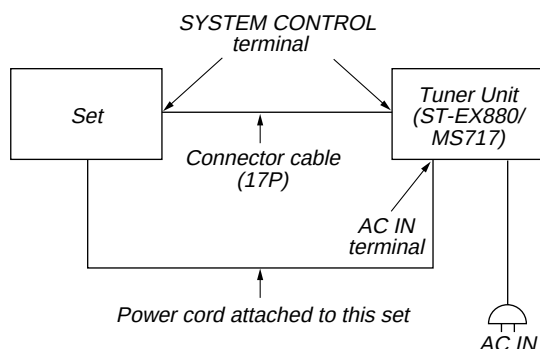


Fig. 1

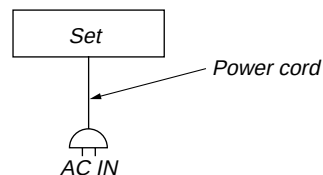


Fig. 2

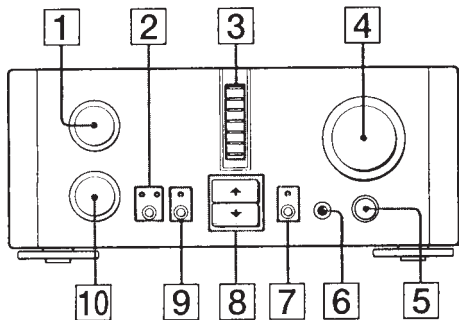
SAFETY-RELATED COMPONENT WARNING!!

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 2 GENERAL

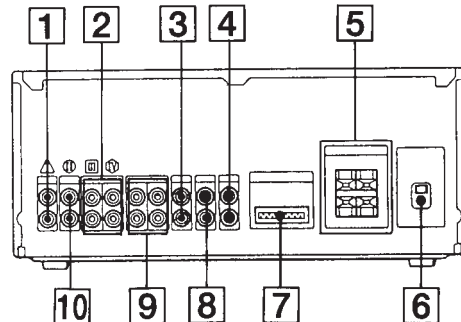
• LOCATION OF CONTROLS

– Front Panel –



- 1** TREBLE control knob
- 2** DBFB button, LOW/HIGH indicator
- 3** FUNCTION (TUNER, CD, MD, TAPE, CS/BS, LD/DVD, VIDEO) indicator (TA-MS717)
FUNCTION (TUNER, CD, MD, TAPE, VIDEO1, VIDEO2, VIDEO3) indicator (TA-EX880)
- 4** VOLUME control knob
- 5** BALANCE control knob
- 6** PNONES jack
- 7** –20dB MUTE button and indicator
- 8** FUNCTION $\uparrow/\downarrow$ button
- 9** SOURCE DIRECT button and indicator
- 10** BASS control knob

– Rear Panel –

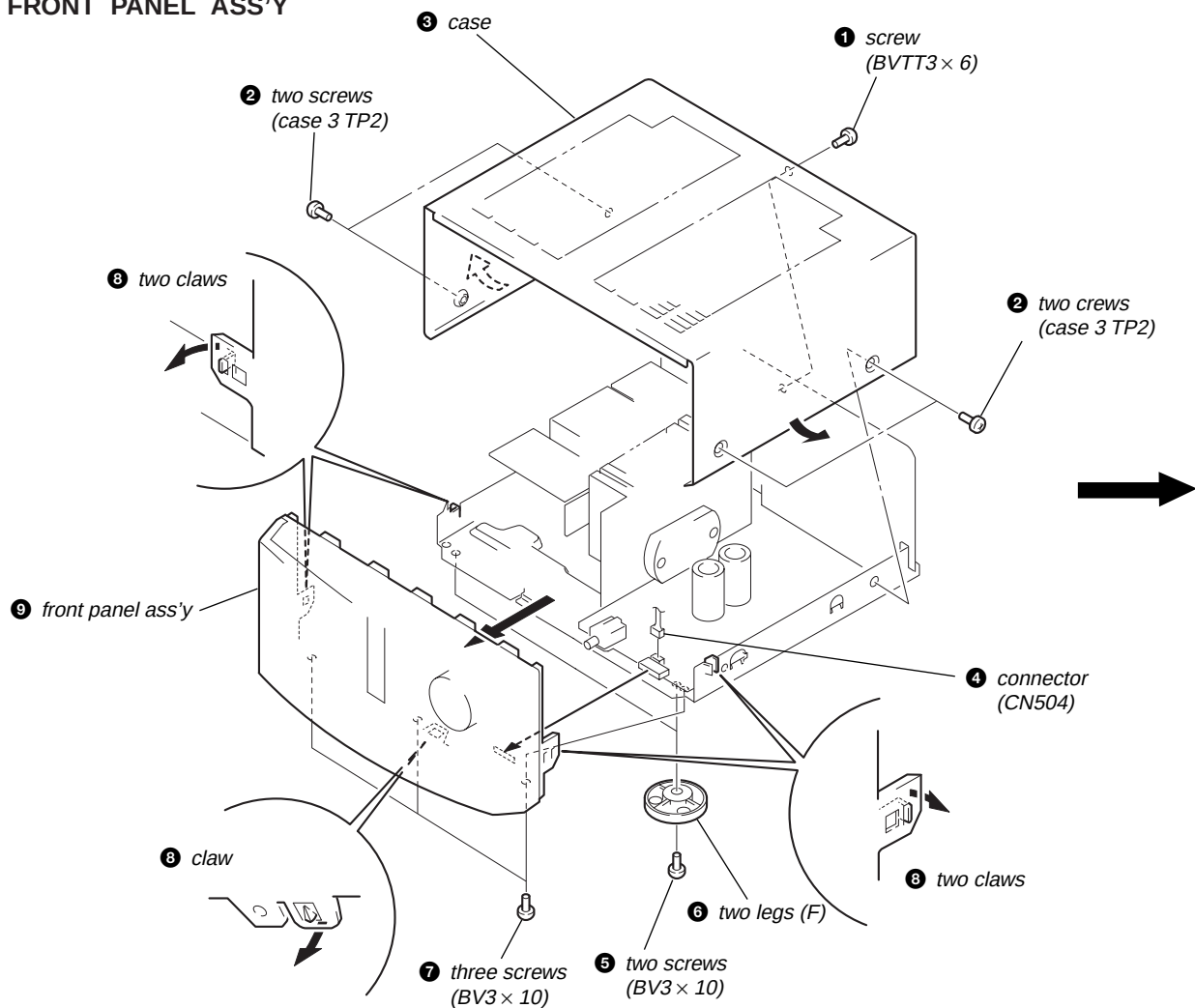


- 1** TUNER IN jack
- 2** MD IN/OUT jack
- 3** CS/BS IN jack (TA-MS717)
VIDEO1 IN jack (TA-EX880)
- 4** VIDEO IN jack (TA-MS717)
VIDEO3 IN jack (TA-EX880)
- 5** SPEAKER terminal
- 6** Power cord
- 7** SYSTEM CONTROL terminal
- 8** LD/DVD IN jack (TA-MS717)
VIDEO2 IN jack (TA-EX880)
- 9** TAPE IN/OUT jack
- 10** CD IN jack

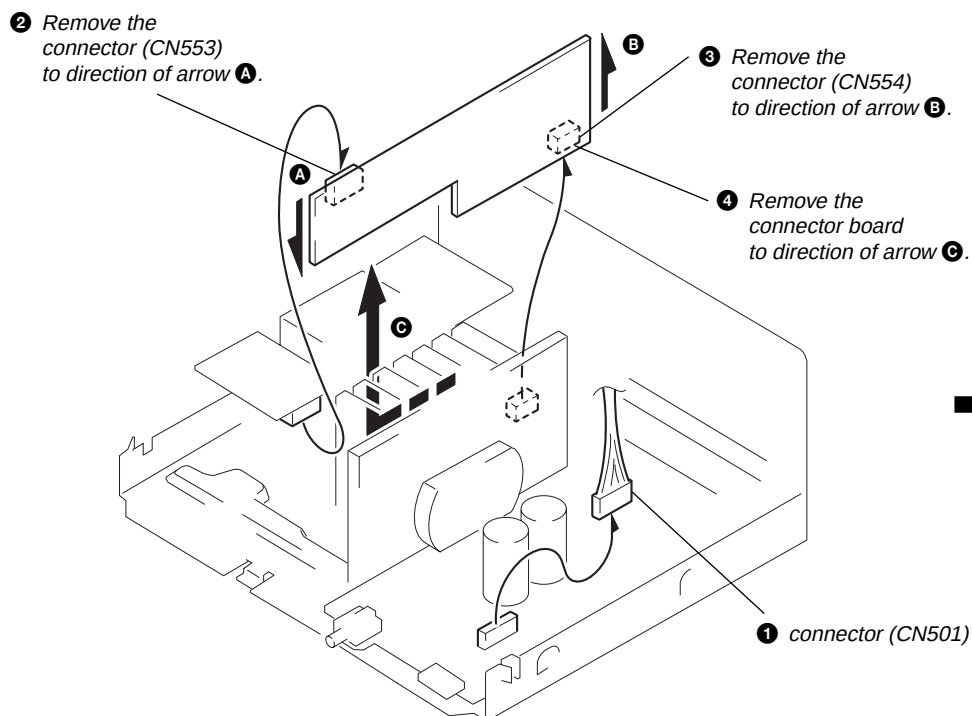
SECTION 3 DISASSEMBLY

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

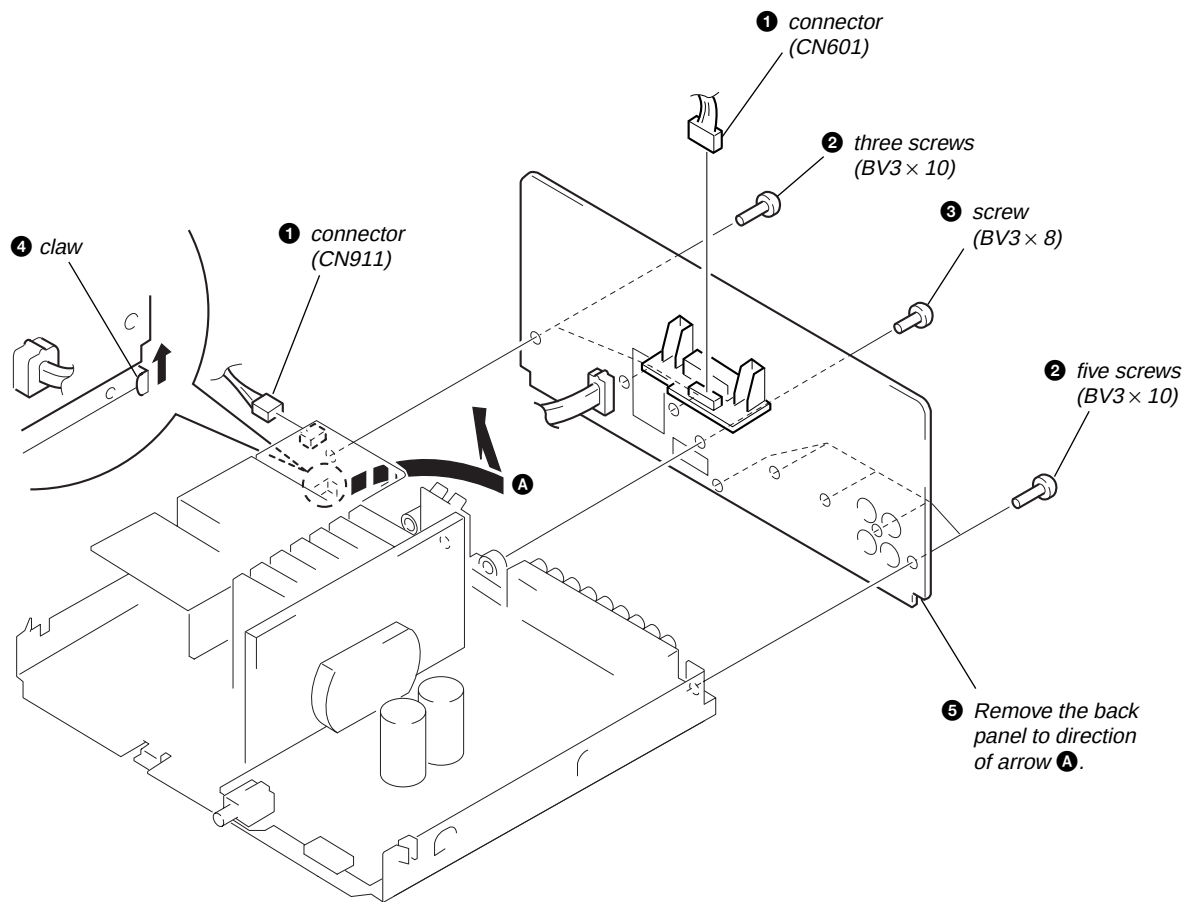
CASE, FRONT PANEL ASS'Y



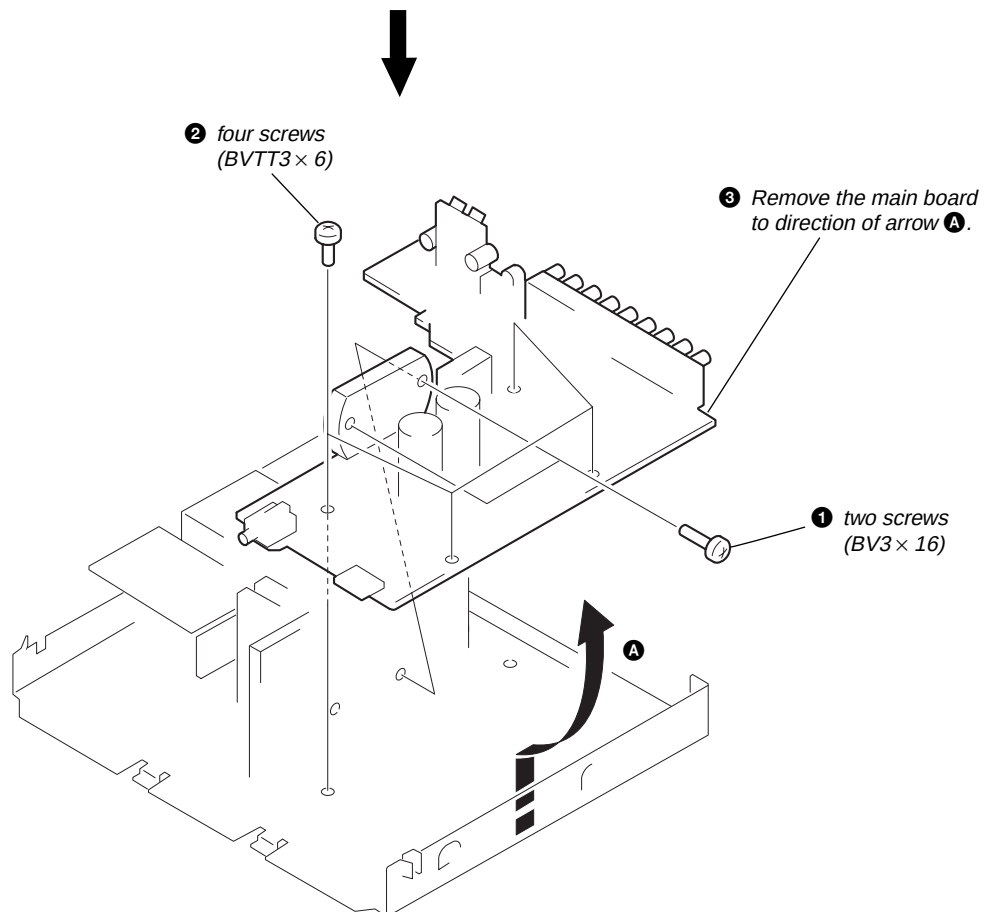
CONNECTOR BOARD



BACK PANEL

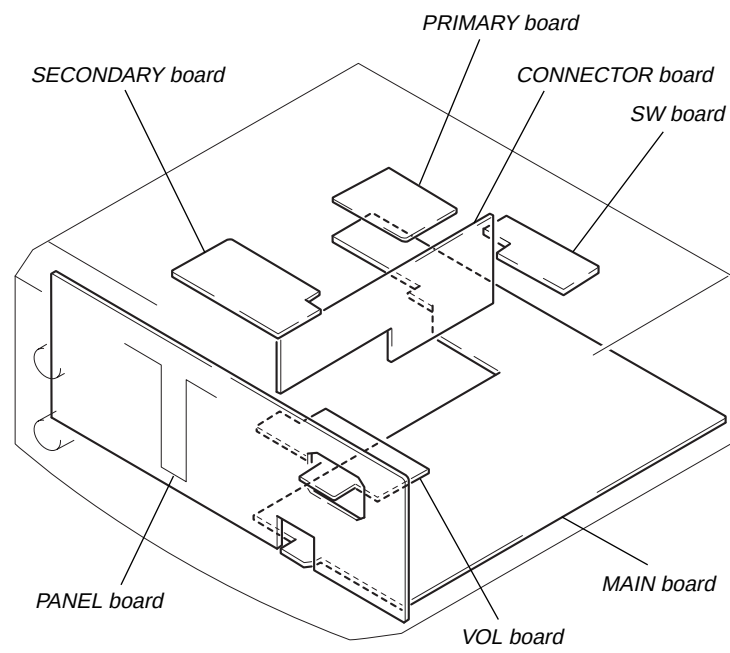


MAIN BOARD



SECTION 4 DIAGRAMS

• Circuit Boards Location



• Semiconductor Location

Ref. No.	Location
D301	H-4
D302	H-4
D315	J-5
D351	E-4
D352	E-4
D365	J-5
D702	E-5
D801	E-2
D802	E-2
D803	E-2
D804	F-2
D808	E-13
D809	I-4
D810	I-3
D813	E-2
D818	E-14
D819	I-4
D820	I-3
IC301	F-5
IC501	C-2
IC502	C-1
IC503	C-2
IC504	J-2
IC505	C-1
IC701	J-3
IC802	H-3
Q301	H-4
Q302	I-5
Q303	I-5
Q351	E-4
Q501	J-2
Q502	J-2
Q503	J-1
Q504	J-3
Q554	J-3
Q809	I-3
Q819	I-3

Note on Printed Wiring Boards:
• — : parts extracted from the component side.

4-5. IC PIN FUNCTION DESCRIPTION

• PANEL BOARD IC101 μPD78082GB-A293BSMTX (SYSTEM CONTROLLER)

Pin No.	Pin Name	I/O	Function
1 to 3	—	I	Not used (fixed at “L”)
4	DESTINATION	I	Input terminal for the destination setting (fixed at “L”)
5	AC3 VOL	I	Detection input of the VOLUME (RV204) position “L”: minimum, “H”: maximum
6	—	I	Not used (fixed at “L”)
7	FUNCTION/C	O	Function select signal output terminal (C) *1
8	FUNCTION/B	O	Function select signal output terminal (B) *1
9	FUNCTION/A	O	Function select signal output terminal (A) *1
10, 11	—	I	Not used (fixed at “L”)
12 to 15	DATA 0 to DATA 3	I/O	Two-way data bus with the system control bus
16	LED-CLK	O	Serial data transfer clock signal output to the LED driver (IC102)
17	VSS	—	Ground terminal
18	LED-DATA	O	Serial data output to the LED driver (IC102)
19	LED-LATCH	O	Serial data latch pulse output to the LED driver (IC102)
20	LED-RESET	O	Reset signal output to the LED driver (IC102) “H”: reset
21	LINE-MUTE	O	Line muting on/off control signal output terminal “L”: line muting on
22	DIRECT	O	Source direct function on/off control signal output terminal “H”: source direct on
23	GND	—	Ground terminal
24	DBFB-SW	O	DBFB function on/off control signal output terminal “L”: DBFB on
25	DBFB-LEVEL	O	DBFB sensibility selection signal output terminal “L”: DBFB high, “H”: DBFB low
26	MUTE-20dB	O	Attenuator control (−20 dB) signal output terminal “L”: attenuate (−20 dB) on
27	VOL-LOUD	O	Motor control signal output to the volume control motor driver (IC104) “H” active
28	VOL-WEAK	O	Motor control signal output to the volume control motor driver (IC104) “H” active
29	AC3	O	Dolby surround (AC-3) system control output terminal “L” active
30	AC-CUT	I	AC off detection signal input terminal “L”: AC off
31	Y-BUS-CLK	I/O	Bus data transfer/reading clock signal in/out terminal for the system control bus
32	Y-BUS-BUSY	I/O	Busy signal in/out terminal for the system control bus
33	—	I	Not used (fixed at “L”)
34	GND	—	Ground terminal
35	RESET	I	System reset signal input from the reset signal generator (IC103) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
36	GND	—	Ground terminal
37	X2	O	Main system clock output terminal (5 MHz)
38	X1	I	Main system clock input terminal (5 MHz)
39	VDD	—	Power supply terminal (+5V)
40	AVDD	—	Power supply terminal (+5V) (for A/D converter)
41	AVREF	I	Reference voltage (+5V) input terminal (for A/D converter)
42	GND	—	Ground terminal
43	KEY 1	I	Key input terminal (A/D input) (S101 and S102) FUNCTION ↑, FUNCTION ↓ keys input
44	KEY 2	I	Key input terminal (A/D input) (S103 to S105) −20dB MUTING, SOURCE DIRECT, DBFB keys input

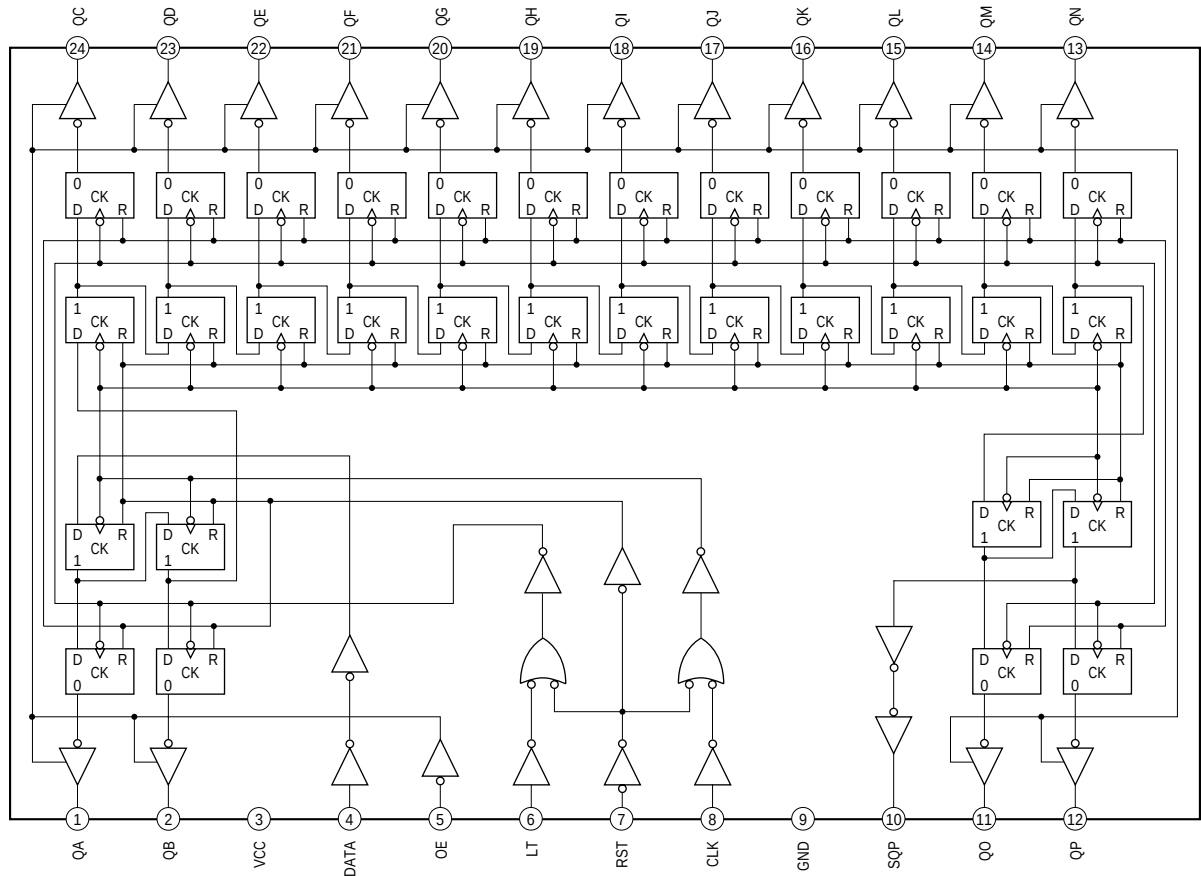
*1 Function select control

Function Terminal	TUNER	CD	MD	TAPE	VIDEO 1 (CS/BS)	VIDEO 2 (LD/DVD)	VIDEO 3 (VIDEO)
FUNCTION/A (pin ⑨)	“H”	“L”	“L”	“H”	“L”	“H”	“H”
FUNCTION/B (pin ⑧)	“L”	“H”	“L”	“H”	“H”	“H”	“L”
FUNCTION/C (pin ⑦)	“L”	“L”	“H”	“H”	“H”	“L”	“H”

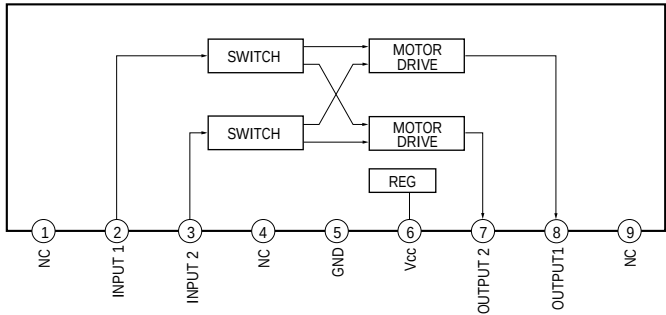
(): TA-MS717

• IC Block Diagrams

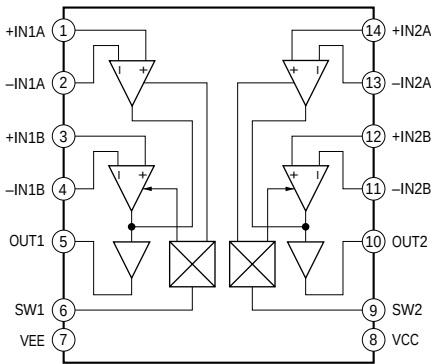
IC102 M66310FP (PANEL BOARD)



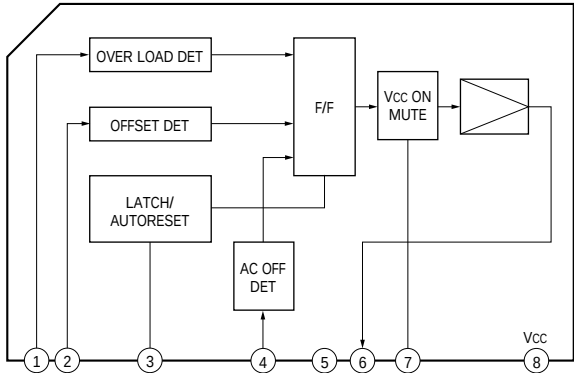
IC104 BA6208 (VOL BOARD)



IC202, 203 BA3129 (PANEL BOARD)



IC701 μPC1237HA (MAIN BOARD)



SECTION 5

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)

Parts Color Cabinet's Color

- Abbreviation

HK : Hong Kong

SP : Singapore

JE : Tourist

MY : Malaysia

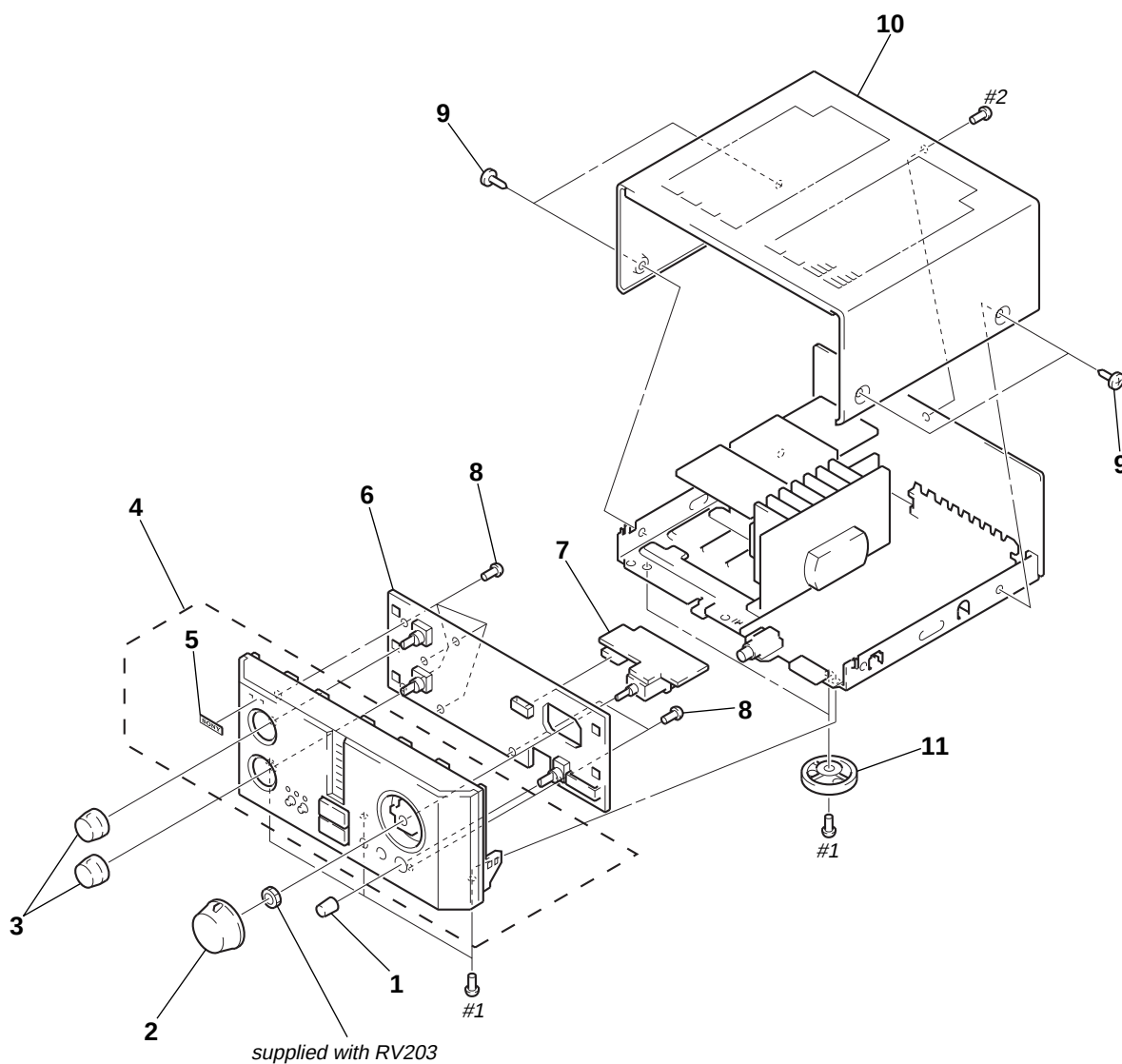
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- 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 the electrical parts list.

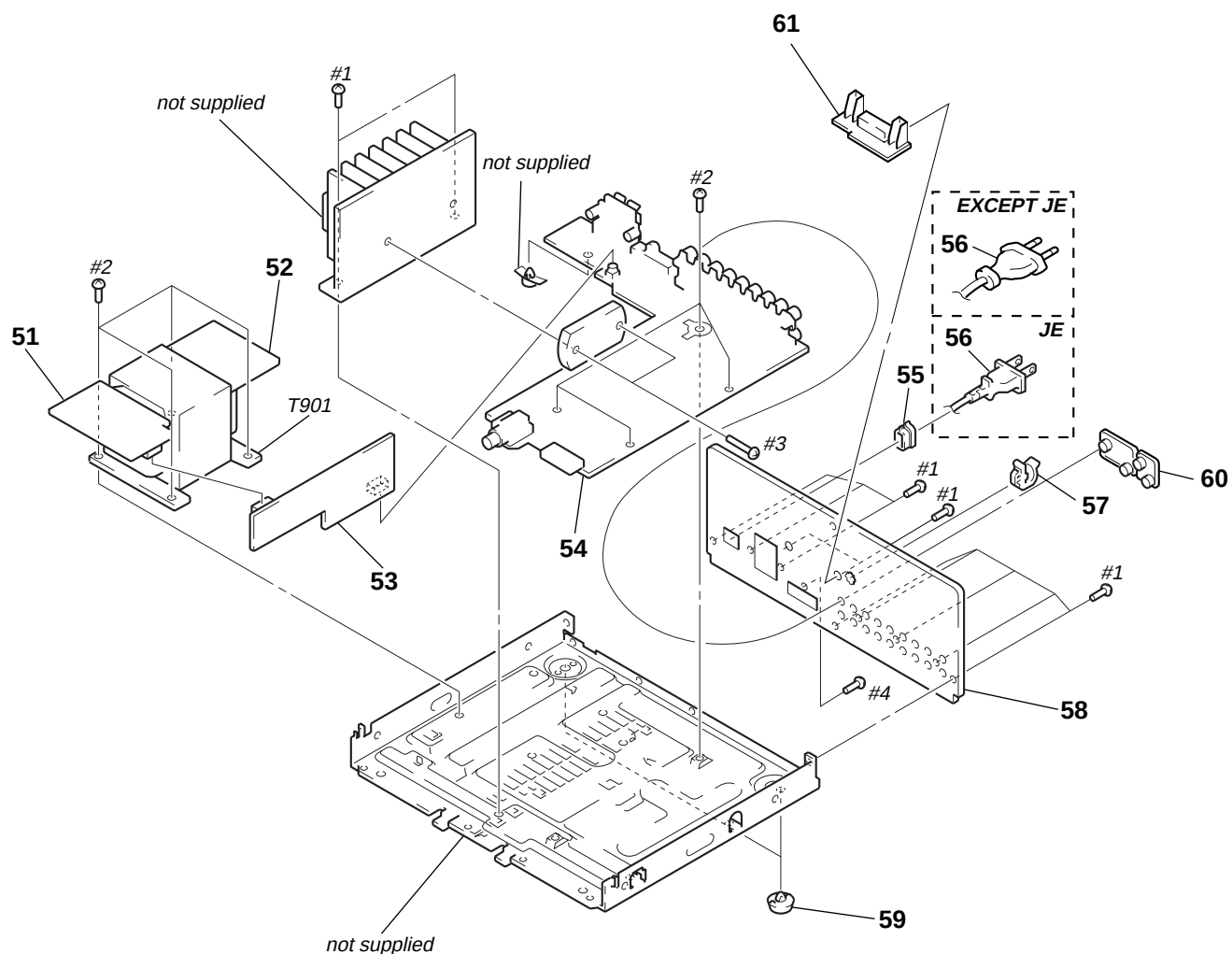
The components identified by mark  or dotted line with mark  are critical for safety.
Replace only with part number specified.

(1) CASE, FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-995-103-01	KNOB (BAL)		* 6	A-4407-863-A	PANEL BOARD, COMPLETE (MS717)	
2	X-4949-031-1	KNOB (VOL) ASSY		* 7	1-667-613-11	VOL BOARD	
3	4-995-102-01	KNOB (TONE)		8	4-951-620-01	SCREW (2.6X8), +BVTP	
4	X-4949-860-1	PANEL ASSY, FRONT (EX880)		9	3-363-099-01	SCREW (CASE 3 TP2)	
4	X-4949-030-1	PANEL ASSY, FRONT (MS717)		10	4-978-245-11	CASE	
5	4-962-708-01	EMBLEM (4-A), SONY		11	4-977-699-11	LEG (F)	
* 6	A-4407-860-A	PANEL BOARD, COMPLETE (EX880)					

(2) CHASSIS SECTION



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
* 51	1-667-605-11	SECONDARY BOARD		* 57	4-949-235-01	HOOK	
* 52	1-667-603-11	PRIMARY BOARD		* 58	4-995-104-11	PANEL, BACK (EX880)	
* 53	1-667-614-11	CONNECTOR BOARD		* 58	4-995-104-21	PANEL, BACK (MS717: HK, SP, MY)	
* 54	A-4407-861-A	MAIN BOARD, COMPLETE (EX880)		* 58	4-995-104-31	PANEL, BACK (MS717: JE)	
* 54	A-4407-864-A	MAIN BOARD, COMPLETE (MS717)		59	4-965-822-01	FOOT	
55	3-703-244-00	BUSHING (2104), CORD (EXCEPT JE)		60	4-992-237-01	CAP (PJ)	
* 55	3-703-571-11	BUSHING (S) (4516), CORD (JE)		* 61	1-667-612-11	SW BOARD	
Δ 56	1-765-100-11	CORD, POWER (JE)		Δ T901	1-431-301-11	TRANSFORMER, POWER (EX880)	
Δ 56	1-783-499-11	CORD, POWER (EXCEPT JE)		Δ T901	1-431-836-11	TRANSFORMER, POWER (MS717)	

SECTION 6 ELECTRICAL PARTS LIST

CONNECTOR

MAIN

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 indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
*	1-667-614-11	CONNECTOR BOARD *****					C356	1-124-122-11	ELECT	100uF	20%	50V	
							C357	1-126-059-11	ELECT	10uF	20%	50V	
							C360	1-136-163-00	FILM	0.068uF	5%	50V	
		< CAPACITOR >											
C821	1-136-153-00	FILM	0.01uF	5%	50V		C361	1-136-163-00	FILM	0.068uF	5%	50V	
C831	1-136-153-00	FILM	0.01uF	5%	50V		C401	1-164-159-11	CERAMIC	0.1uF		50V	
												(EX880)	
		< CONNECTOR >					C402	1-164-159-11	CERAMIC	0.1uF		50V	
												(EX880)	
CN541	1-770-965-11	PIN, CONNECTOR (PCB)(V TYPE)5P					C403	1-164-159-11	CERAMIC	0.1uF		50V	
* CN553	1-569-504-11	PIN, CONNECTOR 9P										(EX880)	
* CN554	1-569-499-11	PIN, CONNECTOR 3P					C451	1-164-159-11	CERAMIC	0.1uF		50V	
												(EX880)	
		< DIODE >					C452	1-164-159-11	CERAMIC	0.1uF		50V	
												(EX880)	
D808	8-719-200-02	DIODE 10E2					C453	1-164-159-11	CERAMIC	0.1uF		50V	
D818	8-719-200-02	DIODE 10E2										(EX880)	
*****							C501	1-162-286-31	CERAMIC	220PF	10%	50V	
												(EX880)	
*	A-4407-861-A	MAIN BOARD, COMPLETE (EX880)					C502	1-162-286-31	CERAMIC	220PF	10%	50V	
*	A-4407-864-A	MAIN BOARD, COMPLETE (MS717) *****										(EX880)	
							C503	1-162-286-31	CERAMIC	220PF	10%	50V	
												(EX880)	
*	4-942-204-01	PLATE, GROUND											
	7-685-871-01	SCREW +BVTT 3X6 (S)					C504	1-162-286-31	CERAMIC	220PF	10%	50V	
												(EX880)	
		< CAPACITOR >					C505	1-162-286-31	CERAMIC	220PF	10%	50V	
												(EX880)	
C301	1-126-045-11	ELECT	2.2uF	20%	50V		C506	1-162-286-31	CERAMIC	220PF	10%	50V	
C303	1-162-282-31	CERAMIC	100PF	10%	50V							(EX880)	
C304	1-126-059-11	ELECT	10uF	20%	50V		C507	1-162-286-31	CERAMIC	220PF	10%	50V	
C305	1-126-868-11	ELECT	47uF	20%	50V							(EX880)	
C306	1-124-122-11	ELECT	100uF	20%	50V		C508	1-162-286-31	CERAMIC	220PF	10%	50V	
												(EX880)	
C307	1-126-059-11	ELECT	10uF	20%	50V								
C308	1-126-233-11	ELECT	22uF	20%	50V		C509	1-162-286-31	CERAMIC	220PF	10%	50V	
C309	1-164-159-11	CERAMIC	0.1uF		50V							(EX880)	
C310	1-136-163-00	FILM	0.068uF	5%	50V		C510	1-162-282-31	CERAMIC	100PF	10%	50V	
C311	1-136-163-00	FILM	0.068uF	5%	50V		C520	1-126-052-11	ELECT	100uF	20%	16V	
							C521	1-126-163-11	ELECT	4.7uF	20%	50V	
C312	1-126-868-11	ELECT	47uF	20%	50V		C531	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C331	1-162-306-11	CERAMIC	0.01uF	20%	16V								
												(EX880)	
C340	1-126-059-11	ELECT	10uF	20%	50V		C532	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C351	1-126-045-11	ELECT	2.2uF	20%	50V		C533	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C353	1-162-282-31	CERAMIC	100PF	10%	50V		C534	1-162-306-11	CERAMIC	0.01uF	20%	16V	
							C535	1-162-306-11	CERAMIC	0.01uF	20%	16V	
							C536	1-162-306-11	CERAMIC	0.01uF	20%	16V	
C354	1-126-059-11	ELECT	10uF	20%	50V								
C355	1-126-868-11	ELECT	47uF	20%	50V		C537	1-162-303-11	CERAMIC	0.01uF	20%	16V	

MAIN

Ref. No.	Part No.	Description				Remark	Ref. No.	Part No.	Description				Remark
C538	1-162-303-11	CERAMIC	0.01uF	20%	16V				< DIODE >				
C539	1-162-306-11	CERAMIC	0.01uF	20%	16V								
C540	1-162-306-11	CERAMIC	0.01uF	20%	16V		D301	8-719-911-19	DIODE 1SS119				
C541	1-162-306-11	CERAMIC	0.01uF	20%	16V		D302	8-719-911-19	DIODE 1SS119				
C551	1-162-286-31	CERAMIC	220PF	10%	50V		D315	8-719-911-19	DIODE 1SS119				
					(EX880)		D351	8-719-911-19	DIODE 1SS119				
C552	1-162-286-31	CERAMIC	220PF	10%	50V		D352	8-719-911-19	DIODE 1SS119				
					(EX880)								
							D365	8-719-911-19	DIODE 1SS119				
C553	1-162-286-31	CERAMIC	220PF	10%	50V		D702	8-719-911-19	DIODE 1SS119				
					(EX880)		D801	8-719-911-19	DIODE 1SS119				
C554	1-162-286-31	CERAMIC	220PF	10%	50V		D802	8-719-933-33	DIODE HZS6A1L				
					(EX880)		D803	8-719-911-19	DIODE 1SS119				
C555	1-162-286-31	CERAMIC	220PF	10%	50V								
					(EX880)		D804	8-719-510-68	DIODE D5SBA20F01				
C556	1-162-286-31	CERAMIC	220PF	10%	50V		D809	8-719-933-84	DIODE HZS15-2L				
					(EX880)		D810	8-719-986-00	DIODE HZS7C1LTA				
C557	1-162-286-31	CERAMIC	220PF	10%	50V		D813	8-719-911-19	DIODE 1SS119				
					(EX880)		D819	8-719-933-84	DIODE HZS15-2L				
C558	1-162-286-31	CERAMIC	220PF	10%	50V		D820	8-719-986-00	DIODE HZS7C1LTA				
					(EX880)								
C559	1-162-286-31	CERAMIC	220PF	10%	50V				< IC >				
					(EX880)								
C560	1-162-282-31	CERAMIC	100PF	10%	50V		IC301	8-749-900-24	IC STK-4162MK2				
C570	1-126-052-11	ELECT	100uF	20%	16V		IC501	8-759-000-47	IC MC14051BCP				
C571	1-126-163-11	ELECT	4.7uF	20%	50V		IC502	8-759-000-47	IC MC14051BCP				
							IC503	8-759-000-48	IC MC14052BCP				
C701	1-162-294-31	CERAMIC	0.001uF	10%	50V		IC504	8-759-000-49	IC MC14066BCP				
C702	1-126-934-11	ELECT	220uF	20%	10V		IC505	8-759-634-51	IC M5218AP				
C703	1-126-045-11	ELECT	2.2uF	20%	50V								
C704	1-126-052-11	ELECT	100uF	20%	10V		IC701	8-759-111-68	IC UPC1237HA				
C711	1-126-233-11	ELECT	22uF	20%	50V		IC802	8-759-158-62	IC TA78057S				
C712	1-126-233-11	ELECT	22uF	20%	50V				< JACK >				
C761	1-126-233-11	ELECT	22uF	20%	50V								
C762	1-126-233-11	ELECT	22uF	20%	50V		J202	1-770-226-11	JACK (LARGE TYPE)(PHONES)				
C801	1-126-059-11	ELECT	10uF	20%	50V		J501	1-770-015-11	JACK, PIN 6P (TUNER IN, CD IN, MD OUT)				
C802	1-126-163-11	ELECT	4.7uF	20%	50V		J502	1-770-015-11	JACK, PIN 6P (MD IN, TAPE OUT, TAPE IN)				
							J503	1-770-015-11	JACK, PIN 6P				
									(VIDEO01 IN, VIDEO02 IN, VIDEO03 IN)				
C804	1-137-399-11	FILM	0.1uF	5%	100V								
C805	1-119-940-51	ELECT	4700uF	20%	50V								
C807	1-126-052-11	ELECT	100uF	20%	35V				< COIL >				
C808	1-126-052-11	ELECT	100uF	20%	35V								
C809	1-104-666-11	ELECT	220uF	20%	25V		L301	1-420-872-00	COIL, AIR-CORE				
							L351	1-420-872-00	COIL, AIR-CORE				
C810	1-126-933-11	ELECT	100uF	20%	16V								
C814	1-137-399-11	FILM	0.1uF	5%	100V				< TRANSISTOR >				
C815	1-119-940-51	ELECT	4700uF	20%	50V								
C817	1-126-052-11	ELECT	100uF	20%	35V		Q301	8-729-140-82	TRANSISTOR 2SA988-PAFAEA				
C818	1-126-052-11	ELECT	100uF	20%	35V		Q302	8-729-422-73	TRANSISTOR UN4212				
							Q303	8-729-620-05	TRANSISTOR 2SC2603-EF				
C819	1-104-666-11	ELECT	220uF	20%	25V		Q351	8-729-140-82	TRANSISTOR 2SA988-PAFAEA				
C820	1-126-933-11	ELECT	100uF	20%	16V		Q501	8-729-422-73	TRANSISTOR UN4212				
C822	1-126-942-61	ELECT	1000uF	20%	25V								
C823	1-164-159-11	CERAMIC	0.1uF		50V		Q502	8-729-900-63	TRANSISTOR DTA124ES				
C824	1-124-997-11	ELECT	470uF	20%	10V		Q503	8-729-422-73	TRANSISTOR UN4212				
							Q504	8-729-044-08	TRANSISTOR 2SD1915 (F)-T(TA).SD				
C825	1-164-159-11	CERAMIC	0.1uF		50V		Q554	8-729-044-08	TRANSISTOR 2SD1915 (F)-T(TA).SD				
							Q809	8-729-140-96	TRANSISTOR 2SD774-34				
		< CONNECTOR >											
							Q819	8-729-140-97	TRANSISTOR 2SB734-34				
CN11	1-569-624-11	SOCKET, CONNECTOR 17P	(SYSTEM CONTROL)						< RESISTOR >				
CN501	1-770-965-11	PIN, CONNECTOR (PCB)(V TYPE)5P											
CN502	1-569-490-11	SOCKET, CONNECTOR 3P					R301	1-249-417-11	CARBON 1K	5%	1/4W		
CN503	1-779-967-11	SOCKET,CONNECTOR (PC BOARD)24P					R302	1-249-438-11	CARBON 56K	5%	1/4W		
CN504	1-770-963-11	PIN, CONNECTOR (PCB)(V TYPE)3P					R303	1-249-415-11	CARBON 680	5%	1/4W		
							R304	1-249-438-11	CARBON 56K	5%	1/4W		

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

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R305	1-260-103-11	CARBON	2.2K	5%	1/2W	R533	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-260-103-11	CARBON	2.2K	5%	1/2W	R534	1-247-807-31	CARBON	100	5%	1/4W
R307	1-247-903-00	CARBON	1M	5%	1/4W	R535	1-247-807-31	CARBON	100	5%	1/4W
△ R309	1-212-881-11	FUSIBLE	100	5%	1/4W F	R536	1-247-807-31	CARBON	100	5%	1/4W
△ R310	1-217-151-00	METAL	0.22	10%	2W	R538	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-417-11	CARBON	1K	5%	1/4W	R539	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-431-11	CARBON	15K	5%	1/4W	R540	1-247-807-31	CARBON	100	5%	1/4W
R314	1-260-099-11	CARBON	1K	5%	1/2W	R541	1-249-429-11	CARBON	10K	5%	1/4W
R316	1-260-099-11	CARBON	1K	5%	1/2W	R542	1-247-903-00	CARBON	1M	5%	1/4W
R318	1-260-076-11	CARBON	10	5%	1/2W	R543	1-249-437-11	CARBON	47K	5%	1/4W
R320	1-260-076-11	CARBON	10	5%	1/2W	R544	1-249-413-11	CARBON	470	5%	1/4W
R322	1-249-429-11	CARBON	10K	5%	1/4W	R545	1-249-413-11	CARBON	470	5%	1/4W
R323	1-247-881-00	CARBON	120K	5%	1/4W	R546	1-249-413-11	CARBON	470	5%	1/4W
R324	1-249-437-11	CARBON	47K	5%	1/4W	R547	1-249-413-11	CARBON	470	5%	1/4W
R325	1-249-417-11	CARBON	1K	5%	1/4W	R548	1-249-413-11	CARBON	470	5%	1/4W
R326	1-249-439-11	CARBON	68K	5%	1/4W	R549	1-247-807-31	CARBON	100	5%	1/4W
R327	1-249-437-11	CARBON	47K	5%	1/4W	R550	1-249-413-11	CARBON	470	5%	1/4W
R328	1-249-426-11	CARBON	5.6K	5%	1/4W	R551	1-249-417-11	CARBON	1K	5%	1/4W
R329	1-249-433-11	CARBON	22K	5%	1/4W	R552	1-249-417-11	CARBON	1K	5%	1/4W
△ R330	1-212-849-00	FUSIBLE	4.7	5%	1/4W F	R553	1-249-417-11	CARBON	1K	5%	1/4W
R335	1-249-441-11	CARBON	100K	5%	1/4W	R554	1-249-417-11	CARBON	1K	5%	1/4W
R340	1-249-425-11	CARBON	4.7K	5%	1/4W	R555	1-249-417-11	CARBON	1K	5%	1/4W
R351	1-249-417-11	CARBON	1K	5%	1/4W	R556	1-249-417-11	CARBON	1K	5%	1/4W
R352	1-249-438-11	CARBON	56K	5%	1/4W	R557	1-249-417-11	CARBON	1K	5%	1/4W
R353	1-249-415-11	CARBON	680	5%	1/4W						(EX880)
R354	1-249-438-11	CARBON	56K	5%	1/4W	R557	1-249-425-11	CARBON	4.7K	5%	1/4W
R355	1-260-103-11	CARBON	2.2K	5%	1/2W						(MS717)
R356	1-260-103-11	CARBON	2.2K	5%	1/2W	R558	1-249-417-11	CARBON	1K	5%	1/4W
R357	1-247-903-00	CARBON	1M	5%	1/4W	R559	1-249-417-11	CARBON	1K	5%	1/4W
△ R359	1-212-881-11	FUSIBLE	100	5%	1/4W F	R567	1-249-429-11	CARBON	10K	5%	1/4W
△ R360	1-217-151-00	METAL	0.22	10%	2W	R570	1-249-417-11	CARBON	1K	5%	1/4W
R361	1-249-417-11	CARBON	1K	5%	1/4W	R571	1-249-417-11	CARBON	1K	5%	1/4W
R362	1-249-431-11	CARBON	15K	5%	1/4W	R572	1-249-417-11	CARBON	1K	5%	1/4W
R368	1-260-076-11	CARBON	10	5%	1/2W	R592	1-247-903-00	CARBON	1M	5%	1/4W
R370	1-260-076-11	CARBON	10	5%	1/2W	R593	1-249-437-11	CARBON	47K	5%	1/4W
R385	1-249-441-11	CARBON	100K	5%	1/4W	R598	1-249-417-11	CARBON	1K	5%	1/4W
R401	1-260-076-11	CARBON	10	5%	1/2W	R599	1-249-417-11	CARBON	1K	5%	1/4W
R451	1-260-076-11	CARBON	10	5%	1/2W	R701	1-249-424-11	CARBON	3.9K	5%	1/4W
R501	1-249-417-11	CARBON	1K	5%	1/4W	R702	1-249-441-11	CARBON	100K	5%	1/4W
R502	1-249-417-11	CARBON	1K	5%	1/4W	R703	1-249-430-11	CARBON	12K	5%	1/4W
R503	1-249-417-11	CARBON	1K	5%	1/4W	R704	1-249-437-11	CARBON	47K	5%	1/4W
R504	1-249-417-11	CARBON	1K	5%	1/4W	△ R705	1-215-890-11	METAL OXIDE	470	5%	2W F
R505	1-249-417-11	CARBON	1K	5%	1/4W	R706	1-249-438-11	CARBON	56K	5%	1/4W
R506	1-249-417-11	CARBON	1K	5%	1/4W	R707	1-249-437-11	CARBON	47K	5%	1/4W
R507	1-249-417-11	CARBON	1K	5%	1/4W	R711	1-260-095-11	CARBON	470	5%	1/2W
R507	1-129-425-11	CARBON	4.7K	5%	1/4W	R713	1-249-441-11	CARBON	100K	5%	1/4W
					(EX880)	R761	1-260-095-11	CARBON	470	5%	1/2W
					(MS717)	R763	1-249-441-11	CARBON	100K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W	R801	1-249-429-11	CARBON	10K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W	R802	1-249-437-11	CARBON	47K	5%	1/4W
R517	1-249-429-11	CARBON	10K	5%	1/4W	R803	1-249-429-11	CARBON	10K	5%	1/4W
R520	1-249-417-11	CARBON	1K	5%	1/4W	△ R805	1-215-869-11	METAL OXIDE	1K	5%	1W F
R521	1-249-417-11	CARBON	1K	5%	1/4W	△ R807	1-215-869-11	METAL OXIDE	1K	5%	1W F
R522	1-249-417-11	CARBON	1K	5%	1/4W	R809	1-249-421-11	CARBON	2.2K	5%	1/4W
R531	1-249-429-11	CARBON	10K	5%	1/4W	R810	1-249-413-11	CARBON	470	5%	1/4W
R532	1-249-429-11	CARBON	10K	5%	1/4W	R813	1-249-429-11	CARBON	10K	5%	1/4W
						△ R815	1-215-869-11	METAL OXIDE	1K	5%	1W F
						△ R817	1-215-869-11	METAL OXIDE	1K	5%	1W F

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MAIN

PANEL

Ref. No.	Part No.	Description	Remark		
R819	1-249-421-11	CARBON	2.2K	5%	1/4W
R820	1-249-413-11	CARBON	470	5%	1/4W
< RELAY >					
RY701	1-755-126-11	RELAY			
< TERMINAL >					
TB401	1-694-091-11	TERMINAL BOARD (SPEAKER)			

*	A-4407-860-A	PANEL BOARD, COMPLETE (EX880)			
*	A-4407-863-A	PANEL BOARD, COMPLETE (MS717)			

< CAPACITOR >					
C103	1-164-159-11	CERAMIC	0.1uF		50V
C104	1-126-052-11	ELECT	100uF	20%	10V
C105	1-162-294-31	CERAMIC	0.001uF	10%	50V
C106	1-164-159-11	CERAMIC	0.1uF		50V
C107	1-126-177-11	ELECT	100uF	20%	10V
C108	1-164-159-11	CERAMIC	0.1uF		50V
C109	1-162-282-31	CERAMIC	100PF	10%	50V
C110	1-162-294-31	CERAMIC	0.001uF	10%	50V
C111	1-162-294-31	CERAMIC	0.001uF	10%	50V
C114	1-164-159-11	CERAMIC	0.1uF		50V
C115	1-164-159-11	CERAMIC	0.1uF		50V
C116	1-164-159-11	CERAMIC	0.1uF		50V
C117	1-164-159-11	CERAMIC	0.1uF		50V
C118	1-162-294-31	CERAMIC	0.001uF	10%	50V
C119	1-162-306-11	CERAMIC	0.01uF	20%	16V
C122	1-107-791-11	CAPACITOR	0.33F		5.5V
C124	1-164-159-11	CERAMIC	0.1uF		50V
C125	1-126-961-11	ELECT	2.2uF	20%	50V
C126	1-162-282-31	CERAMIC	100PF	10%	50V
C127	1-162-282-31	CERAMIC	100PF	10%	50V
C128	1-162-282-31	CERAMIC	100PF	10%	50V
C201	1-124-257-00	ELECT	2.2uF	20%	50V
C204	1-124-257-00	ELECT	2.2uF	20%	50V
C205	1-126-163-11	ELECT	4.7uF	20%	50V
C206	1-162-282-31	CERAMIC	100PF	10%	50V
C207	1-162-217-31	CERAMIC	56PF	5%	50V
C208	1-126-163-11	ELECT	4.7uF	20%	50V
C209	1-136-157-00	FILM	0.022uF	5%	50V
C210	1-136-163-00	FILM	0.068uF	5%	50V
C211	1-136-167-00	FILM	0.15uF	5%	50V
C212	1-136-173-00	FILM	0.47uF	5%	50V
C213	1-126-163-11	ELECT	4.7uF	20%	50V
C219	1-126-163-11	ELECT	4.7uF	20%	50V
C223	1-164-159-11	CERAMIC	0.1uF		50V
C224	1-164-159-11	CERAMIC	0.1uF		50V
C241	1-136-165-00	FILM	0.1uF	5%	50V
C242	1-136-165-00	FILM	0.1uF	5%	50V
C245	1-126-044-11	ELECT	1uF	20%	50V
C248	1-164-159-11	CERAMIC	0.1uF		50V
C249	1-104-665-11	ELECT	100uF	20%	25V
C255	1-126-163-11	ELECT	4.7uF	20%	50V
C256	1-162-282-31	CERAMIC	100PF	10%	50V
C257	1-162-217-31	CERAMIC	56PF	5%	50V

Ref. No.	Part No.	Description	Remark		
C258	1-126-163-11	ELECT	4.7uF	20%	50V
C259	1-136-157-00	FILM	0.022uF	5%	50V
C260	1-136-163-00	FILM	0.068uF	5%	50V
C261	1-136-167-00	FILM	0.15uF	5%	50V
C262	1-136-173-00	FILM	0.47uF	5%	50V
C263	1-126-163-11	ELECT	4.7uF	20%	50V
C269	1-126-163-11	ELECT	4.7uF	20%	50V
C291	1-136-165-00	FILM	0.1uF	5%	50V
C292	1-136-165-00	FILM	0.1uF	5%	50V
C295	1-126-044-11	ELECT	1uF	20%	50V
C298	1-164-159-11	CERAMIC	0.1uF		50V
C299	1-104-665-11	ELECT	100uF	20%	25V
< CONNECTOR >					
CN101	1-779-969-11	PLUG, CONNECTOR (PC BOARD) 24P			
CN211	1-784-230-11	PLUG, CONNECTOR (PC BOARD) 10P			
< DIODE >					
D101	8-719-046-44	DIODE	SEL5221S (TUNER)		
D102	8-719-046-44	DIODE	SEL5221S (CD)		
D103	8-719-046-44	DIODE	SEL5221S (MD)		
D104	8-719-046-44	DIODE	SEL5221S (TAPE)		
D105	8-719-046-44	DIODE	SEL5221S (VIDEO1) (EX880)		
D105	8-719-046-44	DIODE	SEL5221S (CS/BS) (MS717)		
D106	8-719-046-44	DIODE	SEL5221S (VIDEO2) (EX880)		
D106	8-719-046-44	DIODE	SEL5221S (LD/DVD) (MS717)		
D107	8-719-046-44	DIODE	SEL5221S (VIDEO3) (EX880)		
D107	8-719-046-44	DIODE	SEL5221S (VIDEO) (MS717)		
D108	8-719-046-39	DIODE	SEL5821A-TH15 (-20dB)		
D109	8-719-046-39	DIODE	SEL5821A-TH15 (SOURCE DIRECT)		
D110	8-719-046-44	DIODE	SEL5221S (HIGH)		
D111	8-719-046-44	DIODE	SEL5221S (LOW)		
D121	8-719-911-19	DIODE	1SS119		
D122	8-719-911-19	DIODE	1SS119		
D123	8-719-911-19	DIODE	1SS119		
D124	8-719-911-19	DIODE	1SS119		
< IC >					
IC101	8-759-495-69	IC	uPD78082GB-A293BSMTX		
IC102	8-759-183-47	IC	M66310FP		
IC103	8-759-165-82	IC	PST600E-T		
IC201	8-759-634-51	IC	M5218AP		
IC202	8-759-487-02	IC	BA3129		
IC203	8-759-487-02	IC	BA3129		
< COIL >					
L101	1-410-509-11	INDUCTOR	10uH		
L103	1-410-509-11	INDUCTOR	10uH		
L104	1-410-509-11	INDUCTOR	10uH		
< TRANSISTOR >					
Q101	8-729-900-63	TRANSISTOR	DTA124ES		
Q102	8-729-900-63	TRANSISTOR	DTA124ES		
Q103	8-729-422-73	TRANSISTOR	UN4212		
Q104	8-729-422-73	TRANSISTOR	UN4212		
Q105	8-729-422-73	TRANSISTOR	UN4212		
Q107	8-729-422-73	TRANSISTOR	UN4212		
Q108	8-729-422-73	TRANSISTOR	UN4212		

Ref. No.	Part No.	Description	Remark				Ref. No.	Part No.	Description	Remark			
Q109	8-729-118-00	TRANSISTOR	2SB1116-L				R159	1-247-807-31	CARBON	100	5%	1/4W	
Q201	8-729-044-08	TRANSISTOR	2SD1915 (F)-T(TA).SO				R160	1-247-807-31	CARBON	100	5%	1/4W	
Q202	8-729-044-08	TRANSISTOR	2SD1915(F)-T(TA).SO				R161	1-247-807-31	CARBON	100	5%	1/4W	
Q203	8-729-422-73	TRANSISTOR	UN4212				R162	1-247-807-31	CARBON	100	5%	1/4W	
Q204	8-729-422-73	TRANSISTOR	UN4212				R163	1-247-807-31	CARBON	100	5%	1/4W	
Q251	8-729-044-08	TRANSISTOR	2SD1915(F)-T(TA).SO				R164	1-247-807-31	CARBON	100	5%	1/4W	
Q252	8-729-044-08	TRANSISTOR	2SD1915(F)-T(TA).SO				R165	1-249-441-11	CARBON	100K	5%	1/4W	
Q253	8-729-202-67	TRANSISTOR	2SK246-GR3				R201	1-249-425-11	CARBON	4.7K	5%	1/4W	
Q254	8-729-620-05	TRANSISTOR	2SC2603-EF				R202	1-249-413-11	CARBON	470	5%	1/4W	
Q283	8-729-202-67	TRANSISTOR	2SK246-GR3				R203	1-249-429-11	CARBON	10K	5%	1/4W	
Q284	8-729-620-05	TRANSISTOR	2SC2603-EF				R204	1-249-417-11	CARBON	1K	5%	1/4W	
< RESISTOR >							R205	1-249-441-11	CARBON	100K	5%	1/4W	
R101	1-249-409-11	CARBON	220	5%	1/4W		R206	1-249-417-11	CARBON	1K	5%	1/4W	
R102	1-249-409-11	CARBON	220	5%	1/4W		R207	1-247-903-00	CARBON	1M	5%	1/4W	
R103	1-249-409-11	CARBON	220	5%	1/4W		R208	1-249-422-11	CARBON	2.7K	5%	1/4W	
R104	1-249-409-11	CARBON	220	5%	1/4W		R209	1-249-429-11	CARBON	10K	5%	1/4W	
R105	1-249-409-11	CARBON	220	5%	1/4W		R210	1-249-411-11	CARBON	330	5%	1/4W	
R106	1-249-409-11	CARBON	220	5%	1/4W		R211	1-249-417-11	CARBON	1K	5%	1/4W	
R107	1-249-409-11	CARBON	220	5%	1/4W		R212	1-249-409-11	CARBON	220	5%	1/4W	
R108	1-249-407-11	CARBON	150	5%	1/4W		R213	1-247-903-00	CARBON	1M	5%	1/4W	
R109	1-249-407-11	CARBON	150	5%	1/4W		R214	1-247-903-00	CARBON	1M	5%	1/4W	
R110	1-249-409-11	CARBON	220	5%	1/4W		R215	1-247-843-11	CARBON	3.3K	5%	1/4W	
R111	1-249-409-11	CARBON	220	5%	1/4W		R216	1-249-417-11	CARBON	1K	5%	1/4W	
R114	1-247-807-31	CARBON	100	5%	1/4W		R217	1-249-413-11	CARBON	470	5%	1/4W	
R115	1-249-429-11	CARBON	10K	5%	1/4W		R218	1-249-441-11	CARBON	100K	5%	1/4W	
R116	1-247-807-31	CARBON	100	5%	1/4W		R219	1-247-903-00	CARBON	1M	5%	1/4W	
R117	1-249-429-11	CARBON	10K	5%	1/4W		R220	1-247-807-31	CARBON	100	5%	1/4W	
R118	1-247-807-31	CARBON	100	5%	1/4W		R221	1-249-425-11	CARBON	4.7K	5%	1/4W	
R119	1-249-429-11	CARBON	10K	5%	1/4W		R222	1-249-430-11	CARBON	12K	5%	1/4W	
R120	1-247-807-31	CARBON	100	5%	1/4W		R232	1-249-425-11	CARBON	4.7K	5%	1/4W	
R121	1-249-429-11	CARBON	10K	5%	1/4W		R233	1-249-432-11	CARBON	18K	5%	1/4W	
R122	1-249-429-11	CARBON	10K	5%	1/4W		R234	1-249-439-11	CARBON	68K	5%	1/4W	
R123	1-249-429-11	CARBON	10K	5%	1/4W		R235	1-247-903-00	CARBON	1M	5%	1/4W	
R124	1-249-429-11	CARBON	10K	5%	1/4W		R236	1-249-425-11	CARBON	4.7K	5%	1/4W	
R125	1-249-429-11	CARBON	10K	5%	1/4W		R237	1-249-421-11	CARBON	2.2K	5%	1/4W	
R126	1-249-429-11	CARBON	10K	5%	1/4W		R238	1-247-891-00	CARBON	330K	5%	1/4W	
R127	1-247-903-00	CARBON	1M	5%	1/4W		R239	1-249-441-11	CARBON	100K	5%	1/4W	
R128	1-249-427-11	CARBON	6.8K	5%	1/4W		R240	1-249-436-11	CARBON	39K	5%	1/4W	
R129	1-249-427-11	CARBON	6.8K	5%	1/4W		R241	1-247-903-00	CARBON	1M	5%	1/4W	
R130	1-249-417-11	CARBON	1K	5%	1/4W		R245	1-247-807-31	CARBON	100	5%	1/4W	
R131	1-249-415-11	CARBON	680	5%	1/4W		R251	1-249-425-11	CARBON	4.7K	5%	1/4W	
R133	1-249-417-11	CARBON	1K	5%	1/4W		R252	1-249-413-11	CARBON	470	5%	1/4W	
R134	1-249-415-11	CARBON	680	5%	1/4W		R253	1-249-429-11	CARBON	10K	5%	1/4W	
R135	1-249-419-11	CARBON	1.5K	5%	1/4W		R256	1-249-417-11	CARBON	1K	5%	1/4W	
R140	1-247-807-31	CARBON	100	5%	1/4W		R257	1-247-903-00	CARBON	1M	5%	1/4W	
R141	1-247-807-31	CARBON	100	5%	1/4W		R258	1-249-422-11	CARBON	2.7K	5%	1/4W	
R142	1-249-429-11	CARBON	10K	5%	1/4W		R259	1-249-429-11	CARBON	10K	5%	1/4W	
R143	1-249-441-11	CARBON	100K	5%	1/4W		R260	1-249-411-11	CARBON	330	5%	1/4W	
R144	1-249-425-11	CARBON	4.7K	5%	1/4W		R261	1-249-417-11	CARBON	1K	5%	1/4W	
R145	1-249-425-11	CARBON	4.7K	5%	1/4W		R262	1-249-409-11	CARBON	220	5%	1/4W	
R147	1-249-441-11	CARBON	100K	5%	1/4W		R263	1-247-903-00	CARBON	1M	5%	1/4W	
R153	1-247-807-31	CARBON	100	5%	1/4W		R264	1-247-903-00	CARBON	1M	5%	1/4W	
R154	1-247-807-31	CARBON	100	5%	1/4W		R265	1-247-843-11	CARBON	3.3K	5%	1/4W	
R155	1-247-807-31	CARBON	100	5%	1/4W		R266	1-249-417-11	CARBON	1K	5%	1/4W	
R156	1-247-807-31	CARBON	100	5%	1/4W		R269	1-247-903-00	CARBON	1M	5%	1/4W	
R157	1-247-807-31	CARBON	100	5%	1/4W		R270	1-247-807-31	CARBON	100	5%	1/4W	
R158	1-247-807-31	CARBON	100	5%	1/4W		R271	1-249-425-11	CARBON	4.7K	5%	1/4W	

PANEL	PRIMARY	SECONDARY	SW	VOL
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Ref. No.	Part No.	Description	Remark
R272	1-249-430-11	CARBON 12K 5%	1/4W
R282	1-249-425-11	CARBON 4.7K 5%	1/4W
R283	1-249-432-11	CARBON 18K 5%	1/4W
R284	1-249-439-11	CARBON 68K 5%	1/4W
R285	1-247-903-00	CARBON 1M 5%	1/4W
R286	1-249-425-11	CARBON 4.7K 5%	1/4W
R287	1-249-421-11	CARBON 2.2K 5%	1/4W
R288	1-247-891-00	CARBON 330K 5%	1/4W
R289	1-249-441-11	CARBON 100K 5%	1/4W
R290	1-249-441-11	CARBON 100K 5%	1/4W
R291	1-247-903-00	CARBON 1M 5%	1/4W
R295	1-247-807-31	CARBON 100 5%	1/4W
< VARIABLE RESISTOR >			
RV201	1-225-571-11	RES, VAR, CARBON 10K/10K (TREBLE)	
RV202	1-225-571-11	RES, VAR, CARBON 10K/10K (BASS)	
RV203	1-225-534-11	RES, VAR, CARBON 100K/100K (BALANCE)	
< SWITCH >			
S101	1-762-875-21	SWITCH, KEYBOARD (▲)	
S102	1-762-875-21	SWITCH, KEYBOARD (▼)	
S103	1-762-875-21	SWITCH, KEYBOARD (MUTING)	
S104	1-762-875-21	SWITCH, KEYBOARD (SOURCE DIRECT)	
S105	1-762-875-21	SWITCH, KEYBOARD (DBFB)	
< VIBRATOR >			
X101	1-579-233-11	VIBRATOR, CERAMIC (5MHz)	

*	1-667-603-11	PRIMARY BOARD	

	1-533-293-11	FUSE HOLDER	
< CONNECTOR >			
* CN911	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	
< FUSE >			
△ F911	1-532-503-51	FUSE (T1.6AL/250V)	
△ F912	1-532-465-51	FUSE, TIME LAG (T3.15AL/250V)(MS717)	

*	1-667-605-11	SECONDARY BOARD	

	1-533-293-11	FUSE HOLDER	
< CONNECTOR >			
* CN901	1-569-495-11	SOCKET, CONNECTOR 9P	
< FUSE >			
△ F903	1-532-464-51	FUSE (T2.5AL/250V)	
△ F904	1-532-464-51	FUSE (T2.5AL/250V)	

Ref. No.	Part No.	Description	Remark
*	1-667-612-11	SW BOARD (MS717)	

< CONNECTOR >			
* CN601	1-564-687-11	PIN, CONNECTOR 3P (MS717)	
< SWITCH >			
△ S601	1-572-675-11	SWITCH, POWER VOLTAGE CHANGE (VOLTAGE SELECTOR)(MS717)	

*	1-667-613-11	VOL BOARD	

< CAPACITOR >			
C112	1-126-052-11	ELECT 100uF 20% 10V	
C113	1-162-306-11	CERAMIC 0.01uF 20% 16V	
< CONNECTOR >			
CN201	1-784-231-11	SOCKET,CONNECTOR (PC BOARD)10P	
< IC >			
IC104	8-759-962-08	IC BA6208	
< RESISTOR >			
R137	1-249-425-11	CARBON 4.7K 5%	1/4W
R138	1-249-425-11	CARBON 4.7K 5%	1/4W
R139	1-249-385-11	CARBON 2.2 5%	1/6W
< VARIABLE RESISTOR >			
RV204	1-225-535-11	RES, VAR, CARBON 10K/100K/100K (VOLUME)	

MISCELLANEOUS			

△ 56	1-765-100-11	CORD, POWER (Tourist)	
△ 56	1-783-499-11	CORD, POWER (EXCEPT Tourist)	
△ T901	1-431-301-11	TRANSFORMER, POWER (EX880)	
△ T901	1-431-836-11	TRANSFORMER, POWER (MS717)	

HARDWARE LIST			

#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-3	
#4	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	

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