

TA-DX80

SERVICE MANUAL

E Model

Ver 1.0 2001.03



TA-DX80 is the amplifier section in MHC-DX80, MHC-VX888.

SPECIFICATIONS

The following measured at AC 120, 220, 240 V 50/60 Hz

DIN power output (rated) 75 + 75 watts
(6 ohms at 1 kHz, DIN)

Continuous RMS power output (reference)
100 + 100 watts
(6 ohms at 1 kHz, 10% THD)

Inputs

MD/VIDEO (AUDIO) IN: voltage 450 mV/250 mV,
(phono jacks) impedance 47 kilohms

MIC: sensitivity 1 mV,
(phone jack) impedance 10 kilohms

Outputs

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

FRONT SPEAKER: accepts impedance of 6 to 16 ohms

SURROUND SPEAKER: accepts impedance of 6 ohms

General

Power requirements

Mexican models: 120 V AC, 60Hz

E91 models: 220 V AC, 50/60 Hz

Other models: 120 V, 220 V or 230 – 240 V AC, 50/60Hz
Adjustable with voltage selector

Power consumption 180 watts

Dimensions (w/h/d) Approx. 150 × 360 × 343 mm

Mass: Approx. 5.5 kg

Design and specifications are subject to change without notice.

• Abbreviation

E91: 220 V AC area in E model

INTEGRATED STEREO AMPLIFIER

9-929-592-11
2001C0500-1
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Sony Corporation
Audio Entertainment Group
General Engineering Dept.

SONY®

**SECTION 1
SERVICING NOTE**

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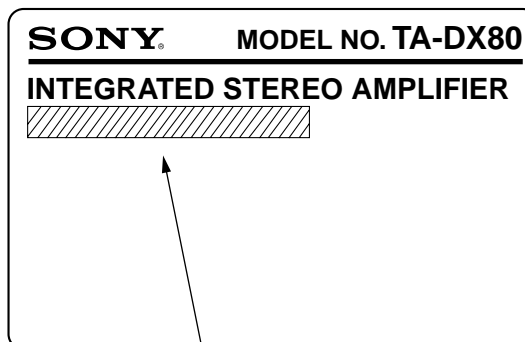
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MODEL IDENTIFICATION

– REAR VIEW –



Mexican model : AC: 120 V ~ 60 Hz 180 W
E91 model : AC: 220 V ~ 50/60 Hz 180 W
Other models : AC: 120/220/230 – 240 V ~ 50/60 Hz 180W

- Abbreviation
E91: 220 V AC area in E model

Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY-RELATED COMPONENT WARNING!!

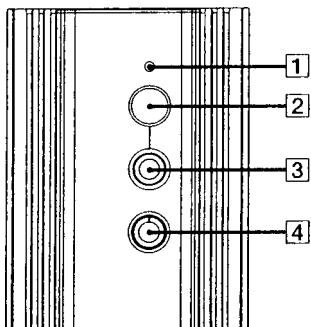
COMPONENTS IDENTIFIED BY MARK \triangle OR DOTTED LINE WITH MARK \triangle ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

**SECTION 2
GENERAL**

This section is extracted from instruction manual.

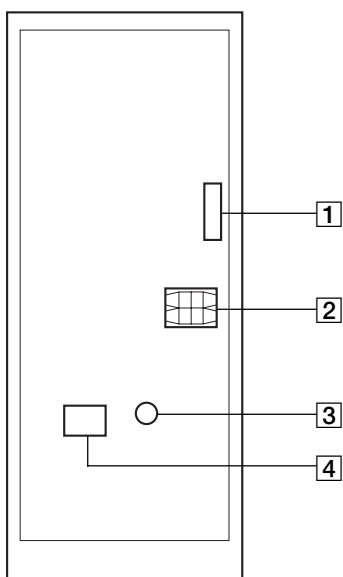
• **LOCATION OF CONTROLS**

– **Front view** –



- 1 Indicator
- 2 LINK/SURROUND/SUB WOOFER indicator
- 3 SURROUND SPEAKER MODE switch
- 4 SURROUND SPEAKER LEVEL control

– **Rear view** –



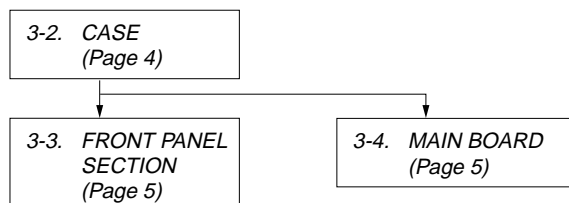
- 1 SYSTEM CONTROL connector
- 2 SPEAKER terminal
- 3 VOLTAGE SELECTOR switch
(EXCEPT Mexican and E91 models)
- 4 ~ AC IN terminal

- Abbreviation
E91: 220 V AC area in E model

SECTION 3 DISASSEMBLY

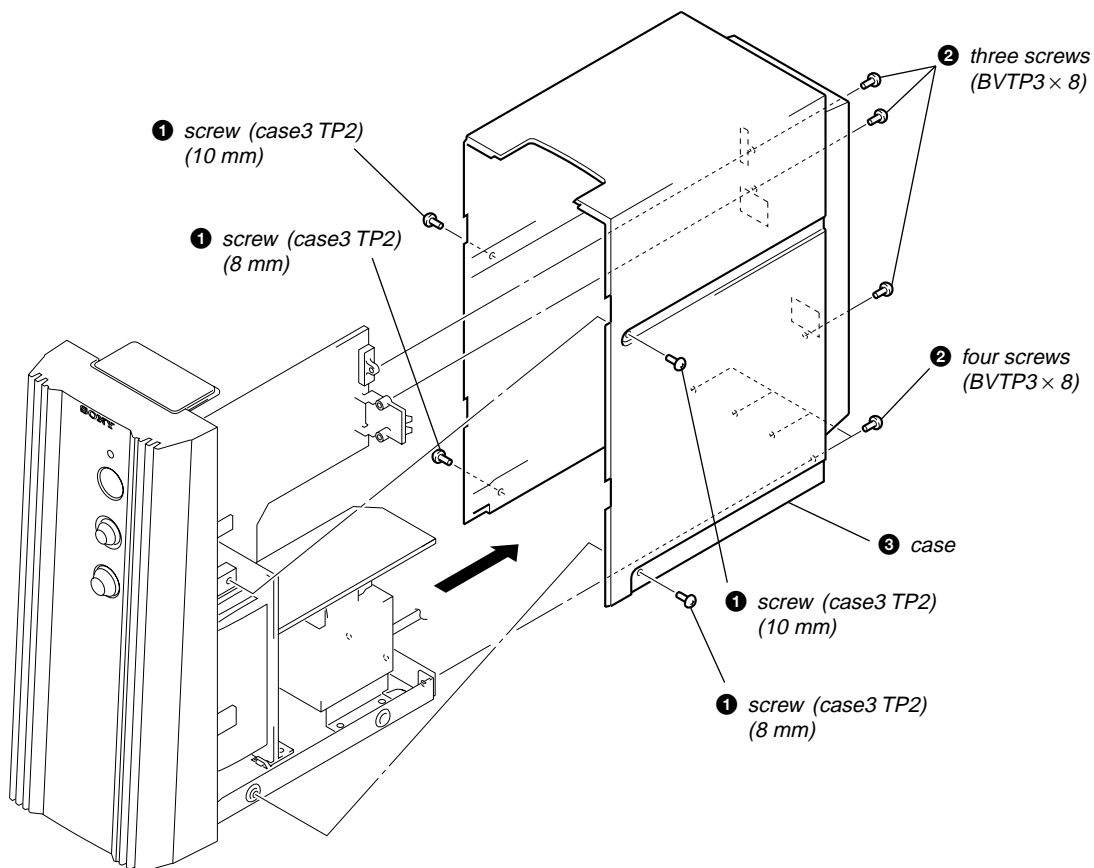
• This set can be disassembled in the order shown below.

3-1. DISASSEMBLY FLOW



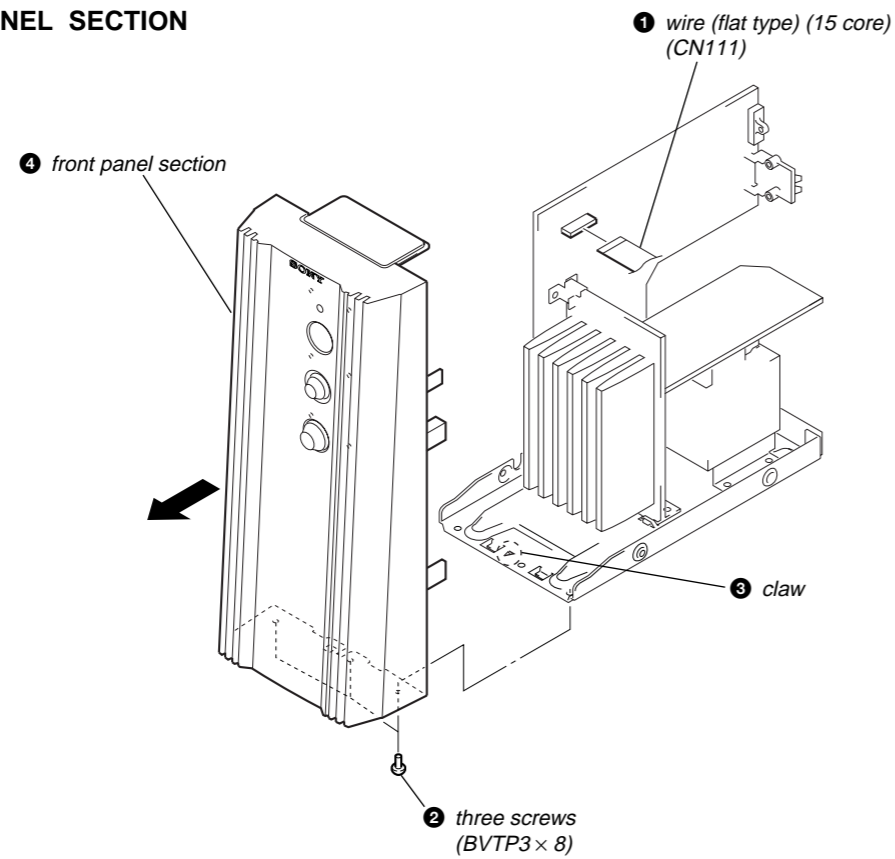
Note: Follow the disassembly procedure in the numerical order given.

3-2. CASE

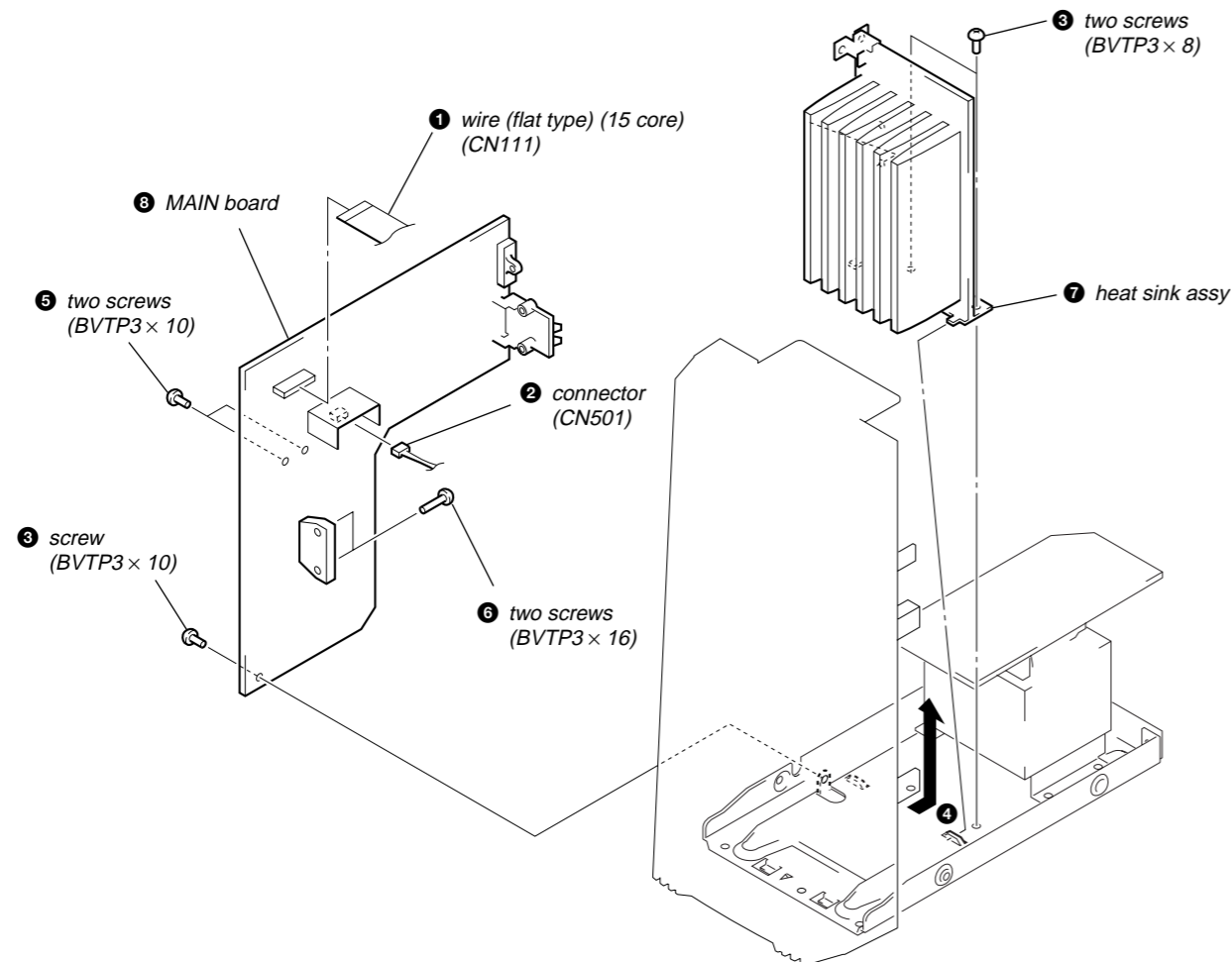


SECTION 4 DIAGRAMS

3-3. FRONT PANEL SECTION



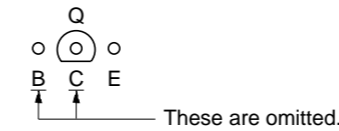
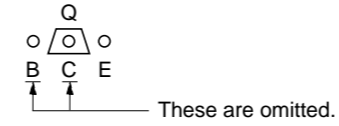
3-4. MAIN BOARD



4-1. NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : Pattern from the side which enables seeing.
- Indication of transistor.



Abbreviation

- E91 : 220 V AC area in E model
- MX : Mexican model

Note on Schematic Diagram:

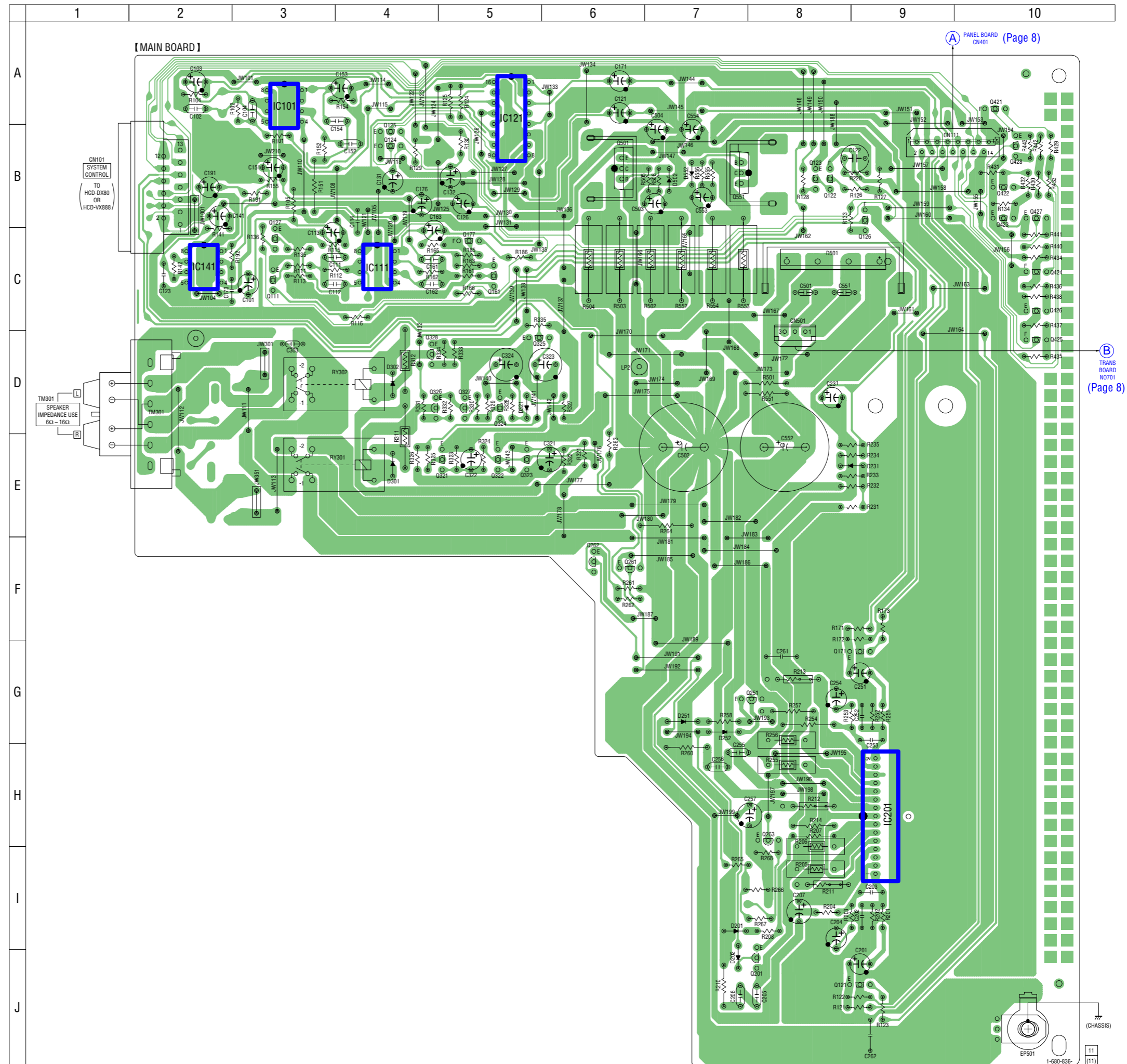
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- : nonflammable resistor.
- ⊕ : fusible resistor.
- : panel designation.

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

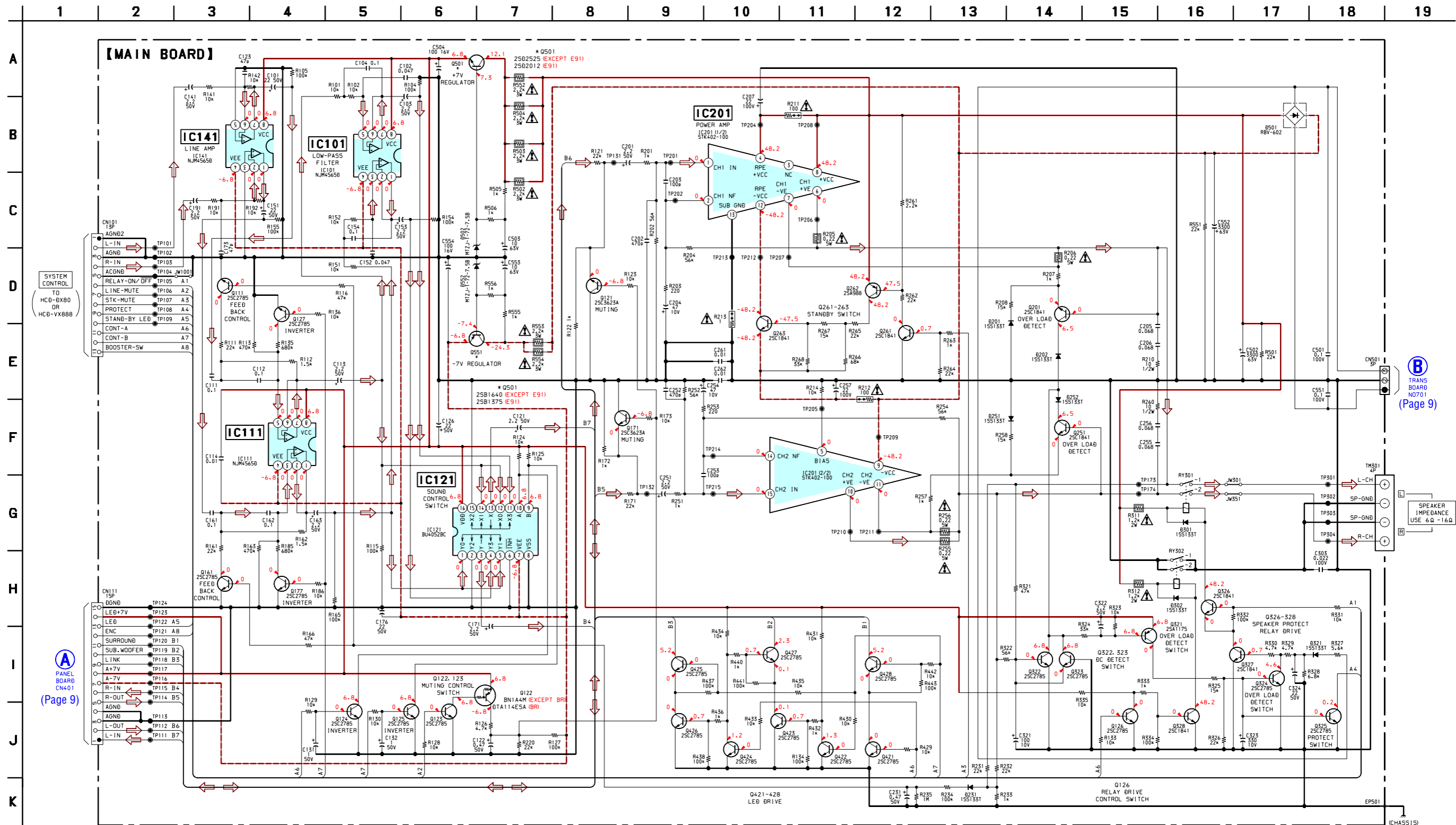
- : B+ Line.
- - - : B- Line.
- Voltagess are dc with respect to ground under no-signal conditions.
- Voltagess are taken with a VOM (Input impedance 10 M Ω). Voltage variations may be noted due to normal production tolerances.
- no mark : POWER ON
- Signal path.
- ⇒ : AUDIO
- Abbreviation
- BR : Brazilian model
- E91 : 220 V AC area in E model
- MX : Mexican model

• Semiconductor Location

Ref. No.	Location
D201	I-7
D202	J-2
D231	E-9
D251	G-7
D252	G-7
D301	E-4
D302	D-4
D321	D-5
D501	C-8
D552	B-7
IC101	A-3
IC111	C-4
IC121	A-5
IC141	C-2
IC201	H-9
Q111	C-3
Q121	J-9
Q122	B-8
Q123	B-8
Q124	B-4
Q125	B-4
Q126	B-9
Q127	C-3
Q161	C-5
Q171	G-9
Q177	C-5
Q201	J-8
Q251	G-8
Q261	F-6
Q262	F-6
Q263	H-8
Q321	E-5
Q322	E-5
Q323	E-5
Q324	D-5
Q325	D-5
Q326	D-4
Q327	D-5
Q328	D-4
Q421	A-10
Q422	B-10
Q423	B-10
Q424	C-10
Q425	D-10
Q426	C-10
Q427	B-10
Q428	B-10
Q501	B-6
Q551	B-7



4-3. SCHEMATIC DIAGRAM – MAIN Board –

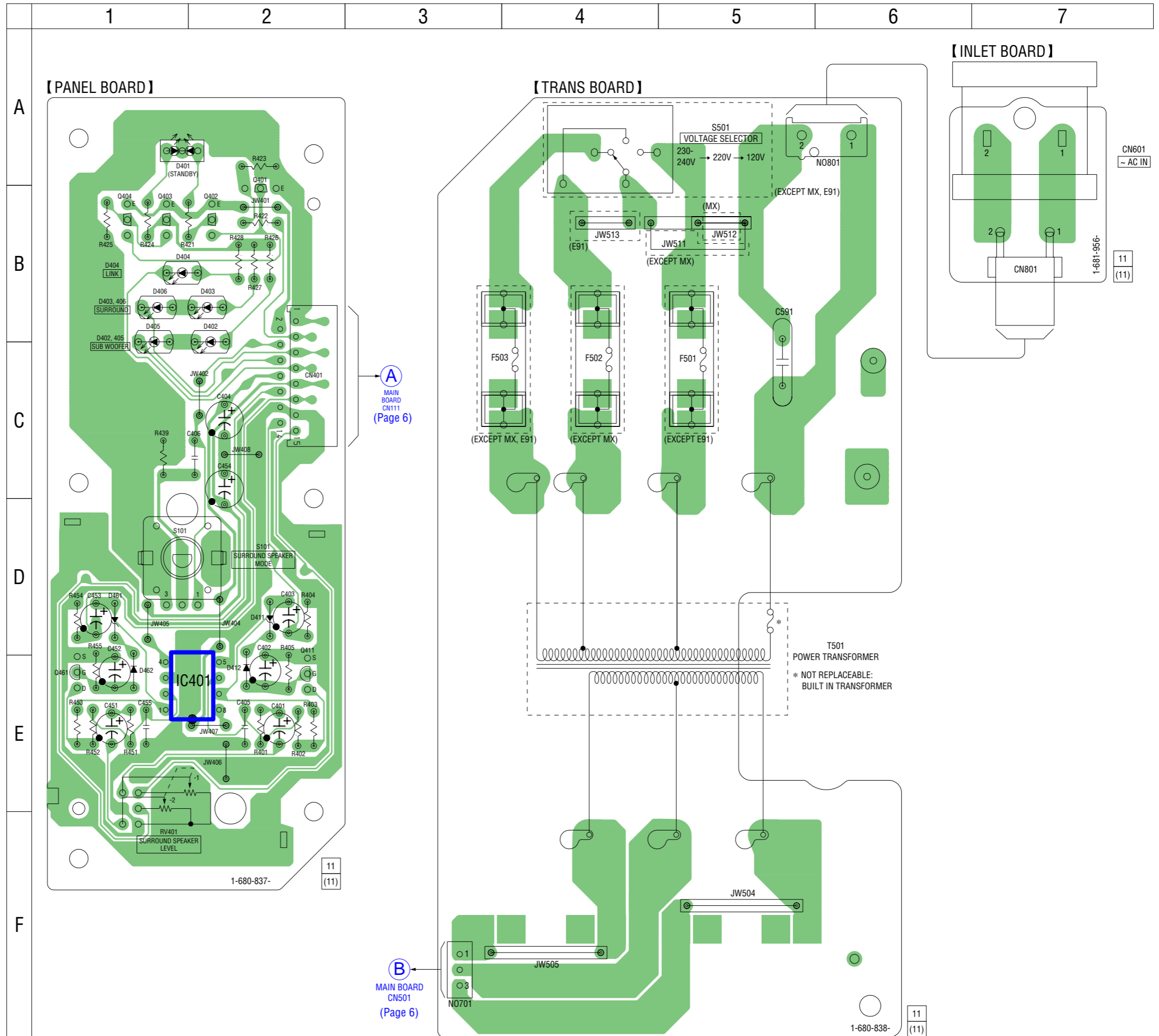


The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

4-4. PRINTED WIRING BOARDS – INLET/PANEL/TRANS Boards –

• Semiconductor Location

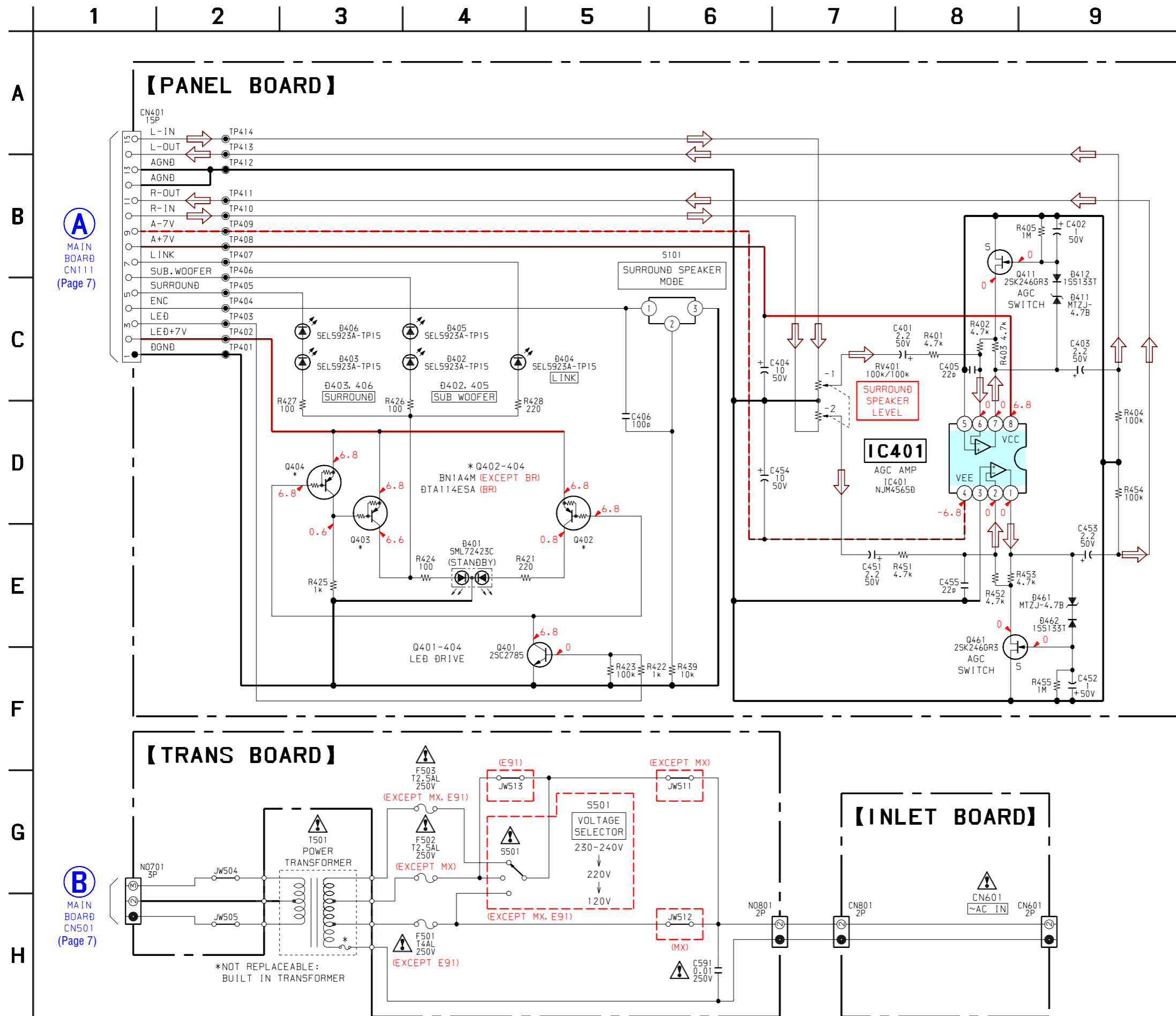
Ref. No.	Location
D401	A-1
D402	B-2
D403	B-2
D404	B-1
D405	B-1
D406	B-1
D411	D-2
D412	E-2
D461	D-1
D462	E-1
IC401	E-2
Q401	B-2
Q402	B-2
Q403	B-1
Q404	B-1
Q411	E-2
Q461	E-1



A
MAIN BOARD
CN111
(Page 6)

B
MAIN BOARD
CN501
(Page 6)

4-5. SCHEMATIC DIAGRAM – INLET/PANEL/TRANS Boards –



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

SECTION 5
EXPLODED VIEW

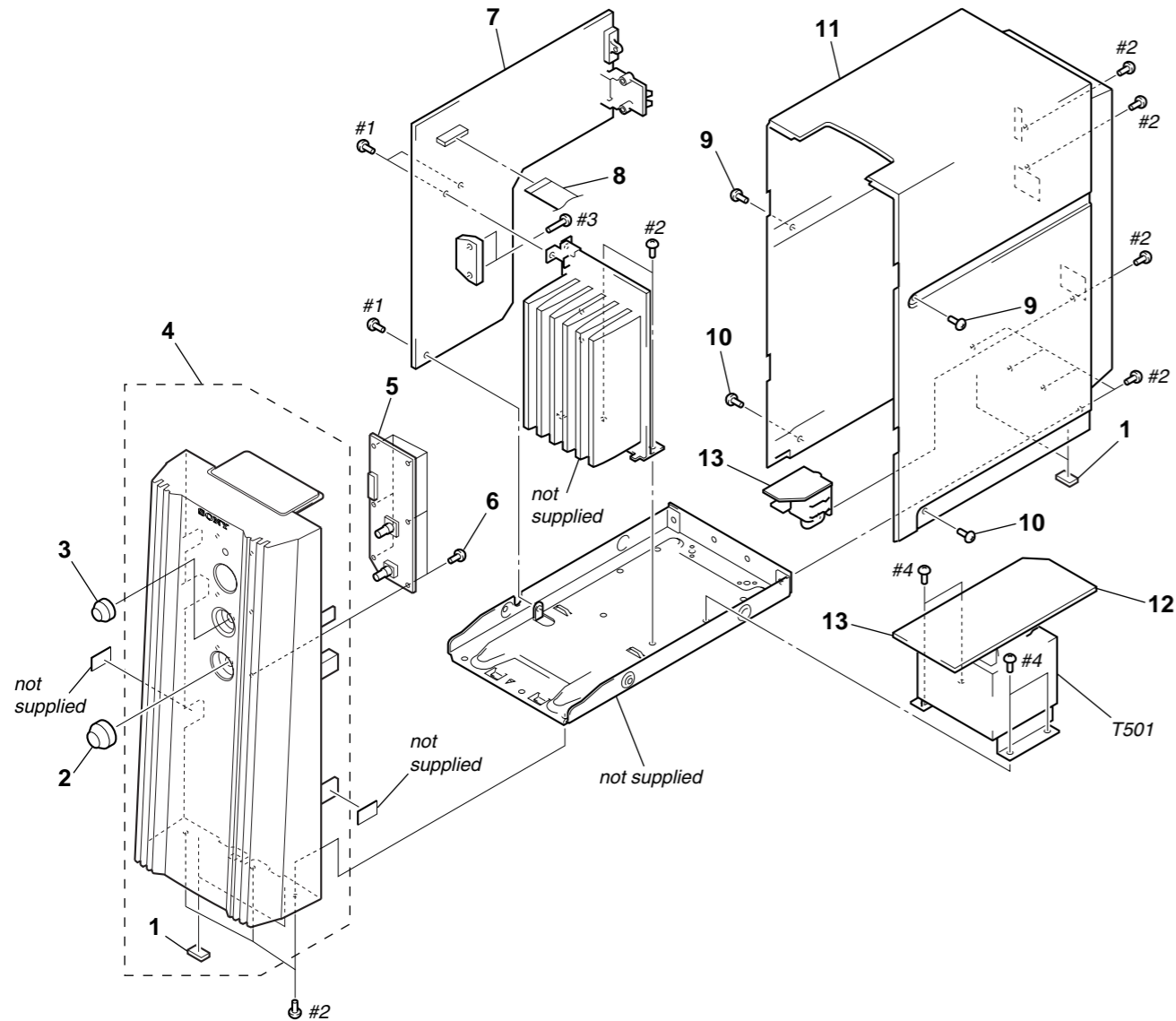
NOTE:

- 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
- Hardware (# mark) list is given in the last of the electrical parts list.

- 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.
- Abbreviation
AR : Argentina model
BR : Brazilian model
E2 : 120 V AC area in E model
E3 : Middle and Near East model
E91 : 220 V AC area in E model

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

- EA : Saudi Arabia model
- IA : Indonesian model
- MY : Malaysia model
- MX : Mexican model
- SP : Singapore model



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-225-252-01	CUSHION (FOOT)		7	A-4476-714-A	MAIN BOARD, COMPLETE (IA)	
2	4-232-744-01	KNOB (LEVEL)		8	1-773-012-11	WIRE (FLAT TYPE) (15 CORE)	
3	4-232-743-01	KNOB (MODE)		9	3-363-099-41	SCREW (CASE 3 TP2) (10mm)	
4	A-4412-974-A	FRONT PANEL ASSY (BR)		10	3-363-099-01	SCREW (CASE 3 TP2) (8mm)	
4	X-4953-604-1	FRONT PANEL ASSY (EXCEPT BR)		11	4-227-526-31	CASE (EXCEPT BR, MX)	
5	1-680-837-11	PANEL BOARD		11	4-227-526-41	CASE (MX)	
6	4-951-620-01	SCREW (2.6X8), +BVTP		11	4-227-526-51	CASE (BR)	
7	A-2007-958-A	MAIN BOARD, COMPLETE (MX, E2, AR)		12	1-680-838-11	TRANS BOARD	
7	A-4476-124-A	MAIN BOARD, COMPLETE (EA, MY, SP, E3)		13	1-681-956-11	INLET BOARD	
7	A-4726-057-A	MAIN BOARD, COMPLETE (BR)		Δ T501	1-435-316-11	TRANSFORMER, POWER (EXCEPT BR)	
7	A-4725-795-A	MAIN BOARD, COMPLETE (E91)		Δ T501	1-435-663-11	TRANSFORMER, POWER (BR)	

SECTION 6
ELECTRICAL PARTS LIST

INLET 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.

- Abbreviation
AR : Argentina model
BR : Brazilian model
E2 : 120 V AC area in E model
E3 : Middle and Near East model
E91 : 220 V AC area in E model
- EA : Saudi Arabia model
IA : Indonesian model
MY : Malaysia model
MX : Mexican model
SP : Singapore model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
	1-681-956-11	INLET BOARD *****		C202	1-162-290-31	CERAMIC 470PF 10% 50V	
		< CONNECTOR >		C203	1-162-282-31	CERAMIC 100PF 10% 50V	
Δ CN601	1-526-931-11	INLET, AC (\sim AC IN)		C204	1-104-664-11	ELECT 47uF 20% 10V	
* CN801	1-568-226-11	PIN, CONNECTOR 2P					
		*****		C205	1-136-163-00	FILM 0.068uF 5% 50V	(E91)
A-2007-958-A		MAIN BOARD, COMPLETE (MX, E2, AR)		C205	1-136-495-11	FILM 0.068uF 5% 50V	(EXCEPT E91)
A-4476-124-A		MAIN BOARD, COMPLETE (EA, MY, SP, E3)		C206	1-136-163-00	FILM 0.068uF 5% 50V	(E91)
A-4476-714-A		MAIN BOARD, COMPLETE (IA)		C206	1-136-495-11	FILM 0.068uF 5% 50V	(EXCEPT E91)
A-4725-795-A		MAIN BOARD, COMPLETE (E91)		C207	1-128-560-11	ELECT 22uF 20% 100V	
A-4726-057-A		MAIN BOARD, COMPLETE (BR)					
		*****		C231	1-126-959-11	ELECT 0.47uF 20% 50V	
7-685-646-79		SCREW +BVTP 3X8 TYPE2 N-S		C251	1-126-961-11	ELECT 2.2uF 20% 50V	
		< CAPACITOR >		C252	1-162-290-31	CERAMIC 470PF 10% 50V	
C101	1-126-965-11	ELECT 22uF 20% 50V		C253	1-162-282-31	CERAMIC 100PF 10% 50V	
C102	1-136-161-00	FILM 0.047uF 5% 50V		C254	1-104-664-11	ELECT 47uF 20% 10V	
C103	1-126-961-11	ELECT 2.2uF 20% 50V					
C104	1-136-165-00	FILM 0.1uF 5% 50V		C255	1-136-163-00	FILM 0.068uF 5% 50V	(E91)
C111	1-136-165-00	FILM 0.1uF 5% 50V		C255	1-136-495-11	FILM 0.068uF 5% 50V	(EXCEPT E91)
				C256	1-136-163-00	FILM 0.068uF 5% 50V	(E91)
C112	1-136-165-00	FILM 0.1uF 5% 50V		C256	1-136-495-11	FILM 0.068uF 5% 50V	(EXCEPT E91)
C113	1-126-961-11	ELECT 2.2uF 20% 50V		C257	1-128-560-11	ELECT 22uF 20% 100V	
C114	1-162-306-11	CERAMIC 0.01uF 30% 16V					
C121	1-126-961-11	ELECT 2.2uF 20% 50V		C261	1-162-306-11	CERAMIC 0.01uF 30% 16V	
C122	1-109-952-11	ELECT 0.47uF 20% 50V		C262	1-162-306-11	CERAMIC 0.01uF 30% 16V	
				C303	1-137-351-11	MYLAR 0.022uF 10% 100V	
C123	1-162-215-31	CERAMIC 47PF 5% 50V		C321	1-104-665-11	ELECT 100uF 20% 10V	
C126	1-126-965-11	ELECT 22uF 20% 50V		C322	1-126-961-11	ELECT 2.2uF 20% 50V	
C131	1-126-960-11	ELECT 1uF 20% 50V					
C132	1-126-960-11	ELECT 1uF 20% 50V		C323	1-126-924-11	ELECT 330uF 20% 10V	
C141	1-126-961-11	ELECT 2.2uF 20% 50V		C324	1-126-965-11	ELECT 22uF 20% 50V	
				C501	1-130-777-00	MYLAR 0.1uF 10% 100V	(EXCEPT BR)
C151	1-126-965-11	ELECT 22uF 20% 50V					
C152	1-136-161-00	FILM 0.047uF 5% 50V		C501	1-137-749-11	MYLAR 0.1uF 100V	(BR)
C153	1-126-961-11	ELECT 2.2uF 20% 50V					
C154	1-136-165-00	FILM 0.1uF 5% 50V		C502	1-127-812-11	ELECT 3300uF 20% 63V	(BR, MX, E2, AR)
C161	1-136-165-00	FILM 0.1uF 5% 50V					
				C502	1-135-516-11	ELECT 3300uF 20% 63V	(EA, MY, SP, IA, E3, E91)
C162	1-136-165-00	FILM 0.1uF 5% 50V					
C163	1-126-961-11	ELECT 2.2uF 20% 50V		C503	1-128-582-11	ELECT 10uF 20% 63V	
C171	1-126-961-11	ELECT 2.2uF 20% 50V		C504	1-126-933-11	ELECT 100uF 20% 16V	
C173	1-162-215-31	CERAMIC 47PF 5% 50V		C551	1-130-777-00	MYLAR 0.1uF 10% 100V	(EXCEPT BR)
C176	1-126-965-11	ELECT 22uF 20% 50V					
C191	1-126-961-11	ELECT 2.2uF 20% 50V					
C201	1-126-961-11	ELECT 2.2uF 20% 50V					

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C551	1-137-749-11	MYLAR	0.1uF 100V (BR)	Q177	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
C552	1-127-812-11	ELECT	3300uF 20% 63V (BR, MX, E2, AR)	Q201	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA
C552	1-135-516-11	ELECT	3300uF 20% 63V (EA, MY, SP, IA, E3, E91)	Q251	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA
C553	1-128-582-11	ELECT	10uF 20% 63V	Q261	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA
C554	1-126-933-11	ELECT	100uF 20% 16V	Q262	8-729-140-82	TRANSISTOR	2SA988TP-PAFAEA
< CONNECTOR >				Q263	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA
* CN101	1-565-291-11	SOCKET, CONNECTOR 13P	(SYSTEM CONTROL)	Q321	8-729-119-76	TRANSISTOR	2SA1175TP-HFE
CN111	1-784-776-11	CONNECTOR, FFC 15P		Q322	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
CN501	1-564-506-11	PLUG, CONNECTOR 3P		Q323	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
< DIODE >				Q324	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D201	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q325	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D201	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q326	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA
D202	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q327	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA
D202	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q328	8-729-140-84	TRANSISTOR	2SC1841TP-PAFAEA
D231	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q421	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D231	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q422	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D251	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q423	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D251	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q424	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D252	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q425	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D252	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q426	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D301	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q427	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D301	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q428	8-729-119-78	TRANSISTOR	2SC2785TP-HFE
D302	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q501	8-729-018-60	TRANSISTOR	2SD2012-LC (E91)
D302	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q501	8-729-026-68	TRANSISTOR	2SD2525 (TP) (EXCEPT E91)
D321	8-719-911-19	DIODE	1SS133T-72 (EXCEPT BR, IA, E91)	Q551	8-729-018-59	TRANSISTOR	2SB1375 (LB-SONY) (E91)
D321	8-719-991-33	DIODE	1SS133T-77 (BR, IA, E91)	Q551	8-729-030-19	TRANSISTOR	2SB1640 (TP) (EXCEPT E91)
D501	8-719-302-38	DIODE	RBV-602-01	< RESISTOR >			
D502	8-719-921-63	DIODE	MTZJ-T-72-7.5B	R101	1-249-429-11	CARBON	10K 5% 1/4W
D552	8-719-921-63	DIODE	MTZJ-T-72-7.5B	R102	1-249-429-11	CARBON	10K 5% 1/4W
< EARTH TERMINAL >				R104	1-249-441-11	CARBON	100K 5% 1/4W
* EP501	1-537-738-21	TERMINAL, EARTH		R105	1-249-441-11	CARBON	100K 5% 1/4W
< IC >				R111	1-249-433-11	CARBON	22K 5% 1/4W
IC101	8-759-167-88	IC	NJM4565D	R112	1-249-419-11	CARBON	1.5K 5% 1/4W
IC111	8-759-167-88	IC	NJM4565D	R113	1-247-895-00	CARBON	470K 5% 1/4W
IC121	8-759-208-08	IC	BU4052BC	R115	1-249-441-11	CARBON	100K 5% 1/4W
IC141	8-759-167-88	IC	NJM4565D	R116	1-249-437-11	CARBON	47K 5% 1/4W
IC201	8-749-016-95	IC	STK402-100S	R121	1-249-433-11	CARBON	22K 5% 1/4W
< TRANSISTOR >				R122	1-249-417-11	CARBON	1K 5% 1/4W
Q111	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	R123	1-249-429-11	CARBON	10K 5% 1/4W
Q121	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R124	1-249-429-11	CARBON	10K 5% 1/4W
Q122	8-729-029-21	TRANSISTOR	DTA114ESA-TP (BR)	R125	1-249-429-11	CARBON	10K 5% 1/4W
Q122	8-729-422-57	TRANSISTOR	BN1A4M-TP (EXCEPT BR)	R126	1-249-425-11	CARBON	4.7K 5% 1/4W
Q123	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	R127	1-249-441-11	CARBON	100K 5% 1/4W
Q124	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	R128	1-249-429-11	CARBON	10K 5% 1/4W
Q125	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	R129	1-249-429-11	CARBON	10K 5% 1/4W
Q126	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	R130	1-249-429-11	CARBON	10K 5% 1/4W
Q127	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	R133	1-249-429-11	CARBON	10K 5% 1/4W
Q161	8-729-119-78	TRANSISTOR	2SC2785TP-HFE	R134	1-249-441-11	CARBON	100K 5% 1/4W
Q171	8-729-141-30	TRANSISTOR	2SC3623ATP-LK	R135	1-247-899-11	CARBON	680K 5% 1/4W
				R136	1-249-429-11	CARBON	10K 5% 1/4W
				R141	1-249-429-11	CARBON	10K 5% 1/4W
				R142	1-249-429-11	CARBON	10K 5% 1/4W
				R151	1-249-429-11	CARBON	10K 5% 1/4W
				R152	1-249-429-11	CARBON	10K 5% 1/4W
				R154	1-249-441-11	CARBON	100K 5% 1/4W
				R155	1-249-441-11	CARBON	100K 5% 1/4W
				R161	1-249-433-11	CARBON	22K 5% 1/4W

MAIN **PANEL**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R162	1-249-419-11	CARBON	1.5K 5% 1/4W	R329	1-249-425-11	CARBON	4.7K 5% 1/4W
R163	1-247-895-00	CARBON	470K 5% 1/4W	R330	1-249-425-11	CARBON	4.7K 5% 1/4W
R165	1-249-441-11	CARBON	100K 5% 1/4W	R331	1-249-429-11	CARBON	10K 5% 1/4W
R166	1-249-437-11	CARBON	47K 5% 1/4W	R332	1-249-441-11	CARBON	100K 5% 1/4W
R171	1-249-433-11	CARBON	22K 5% 1/4W	R333	1-249-417-11	CARBON	1K 5% 1/4W
R172	1-249-417-11	CARBON	1K 5% 1/4W	R334	1-249-441-11	CARBON	100K 5% 1/4W
R173	1-249-429-11	CARBON	10K 5% 1/4W	R335	1-249-429-11	CARBON	10K 5% 1/4W
R185	1-247-899-11	CARBON	680K 5% 1/4W	R429	1-249-429-11	CARBON	10K 5% 1/4W
R186	1-249-429-11	CARBON	10K 5% 1/4W	R430	1-249-429-11	CARBON	10K 5% 1/4W
R191	1-249-429-11	CARBON	10K 5% 1/4W	R431	1-249-429-11	CARBON	10K 5% 1/4W
R192	1-249-429-11	CARBON	10K 5% 1/4W	R432	1-249-417-11	CARBON	1K 5% 1/4W
R201	1-249-417-11	CARBON	1K 5% 1/4W	R433	1-249-429-11	CARBON	10K 5% 1/4W
R202	1-249-438-11	CARBON	56K 5% 1/4W	R434	1-249-429-11	CARBON	10K 5% 1/4W
R203	1-249-409-11	CARBON	220 5% 1/4W	R435	1-249-429-11	CARBON	10K 5% 1/4W
R204	1-249-438-11	CARBON	56K 5% 1/4W	R436	1-249-417-11	CARBON	1K 5% 1/4W
△ R205	1-224-164-11	WIREWOUND	0.22 10% 5W F	R437	1-249-441-11	CARBON	100K 5% 1/4W
△ R206	1-224-164-11	WIREWOUND	0.22 10% 5W F	R438	1-249-441-11	CARBON	100K 5% 1/4W
R207	1-249-417-11	CARBON	1K 5% 1/4W	R440	1-249-417-11	CARBON	1K 5% 1/4W
R208	1-249-431-11	CARBON	15K 5% 1/4W	R441	1-249-441-11	CARBON	100K 5% 1/4W
R210	1-260-076-11	CARBON	10 5% 1/2W	R442	1-249-429-11	CARBON	10K 5% 1/4W
△ R211	1-212-881-11	FUSIBLE	100 5% 1/4W F	R443	1-249-441-11	CARBON	100K 5% 1/4W
△ R212	1-212-881-11	FUSIBLE	100 5% 1/4W F	R501	1-249-433-11	CARBON	22K 5% 1/4W
△ R213	1-202-972-61	FUSIBLE	1 5% 1/4W F	△ R502	1-215-919-11	METAL OXIDE	2.2K 5% 3W F
R214	1-249-429-11	CARBON	10K 5% 1/4W	△ R503	1-215-919-11	METAL OXIDE	2.2K 5% 3W F
R220	1-249-433-11	CARBON	22K 5% 1/4W	△ R504	1-215-919-11	METAL OXIDE	2.2K 5% 3W F
R231	1-249-433-11	CARBON	22K 5% 1/4W	R505	1-249-417-11	CARBON	1K 5% 1/4W
R232	1-249-433-11	CARBON	22K 5% 1/4W	R506	1-249-417-11	CARBON	1K 5% 1/4W
R233	1-249-417-11	CARBON	1K 5% 1/4W	R551	1-249-433-11	CARBON	22K 5% 1/4W
R234	1-249-441-11	CARBON	100K 5% 1/4W	△ R552	1-215-919-11	METAL OXIDE	2.2K 5% 3W F
R235	1-247-903-00	CARBON	1M 5% 1/4W	△ R553	1-215-919-11	METAL OXIDE	2.2K 5% 3W F
R251	1-249-417-11	CARBON	1K 5% 1/4W	△ R554	1-215-919-11	METAL OXIDE	2.2K 5% 3W F
R252	1-249-438-11	CARBON	56K 5% 1/4W	R555	1-249-417-11	CARBON	1K 5% 1/4W
R253	1-249-409-11	CARBON	220 5% 1/4W	R556	1-249-417-11	CARBON	1K 5% 1/4W
R254	1-249-438-11	CARBON	56K 5% 1/4W			< RELAY >	
△ R255	1-224-164-11	WIREWOUND	0.22 10% 5W F	RY301	1-515-920-11	RELAY (24V)	
△ R256	1-224-164-11	WIREWOUND	0.22 10% 5W F	RY302	1-515-920-11	RELAY (24V)	
R257	1-249-417-11	CARBON	1K 5% 1/4W			< TERMINAL BOARD >	
R258	1-249-431-11	CARBON	15K 5% 1/4W				
R260	1-260-076-11	CARBON	10 5% 1/2W	TM301	1-694-675-12	TERMINAL BOARD (4P)	
R261	1-249-421-11	CARBON	2.2K 5% 1/4W			(SPEAKER IMPEDANCE USE 6Ω-16Ω)	
R262	1-249-433-11	CARBON	22K 5% 1/4W			*****	
R263	1-249-417-11	CARBON	1K 5% 1/4W				
R264	1-249-433-11	CARBON	22K 5% 1/4W			1-680-837-11	PANEL BOARD
R265	1-249-433-11	CARBON	22K 5% 1/4W				*****
R266	1-249-439-11	CARBON	68K 5% 1/4W				< CAPACITOR >
R267	1-249-431-11	CARBON	15K 5% 1/4W	C401	1-124-257-00	ELECT	2.2uF 20% 50V
R268	1-249-435-11	CARBON	33K 5% 1/4W	C402	1-126-160-11	ELECT	1uF 20% 50V
△ R311	1-216-457-00	METAL OXIDE	1.2K 5% 2W F	C403	1-124-257-00	ELECT	2.2uF 20% 50V
△ R312	1-216-457-00	METAL OXIDE	1.2K 5% 2W F	C404	1-124-261-00	ELECT	10uF 20% 50V
R321	1-249-437-11	CARBON	47K 5% 1/4W	C405	1-162-207-31	CERAMIC	22PF 5% 50V
R322	1-249-438-11	CARBON	56K 5% 1/4W	C406	1-162-282-31	CERAMIC	100PF 10% 50V
R323	1-249-429-11	CARBON	10K 5% 1/4W	C451	1-124-257-00	ELECT	2.2uF 20% 50V
R324	1-249-435-11	CARBON	33K 5% 1/4W	C452	1-126-160-11	ELECT	1uF 20% 50V
R325	1-249-431-11	CARBON	15K 5% 1/4W	C453	1-124-257-00	ELECT	2.2uF 20% 50V
R326	1-249-433-11	CARBON	22K 5% 1/4W	C454	1-124-261-00	ELECT	10uF 20% 50V
R327	1-249-426-11	CARBON	5.6K 5% 1/4W	C455	1-162-207-31	CERAMIC	22PF 5% 50V
R328	1-249-427-11	CARBON	6.8K 5% 1/4W				

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

PANEL

TRANS

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
CN401	1-784-737-11	CONNECTOR, FFC 15P	
		< DIODE >	
D401	8-719-056-11	LED SML72423C-TP15 (STANDBY)	
D402	8-719-057-97	LED SEL5923A-TP15 (SUB WOOFER)	
D403	8-719-057-97	LED SEL5923A-TP15 (SURROUND)	
D404	8-719-057-97	LED SEL5923A-TP15 (LINK)	
D405	8-719-057-97	LED SEL5923A-TP15 (SUB WOOFER)	
D406	8-719-057-97	LED SEL5923A-TP15 (SURROUND)	
D411	8-719-921-40	DIODE MTZJ-T-77-4.7B (BR, IA, E91)	
D411	8-719-947-13	DIODE MTZJ-T-72-4.7B (EXCEPT BR, IA, E91)	
D412	8-719-911-19	DIODE 1SS133T-72 (EXCEPT BR, IA, E91)	
D412	8-719-991-33	DIODE 1SS133T-77 (BR, IA, E91)	
D461	8-719-921-40	DIODE MTZJ-T-77-4.7B (BR, IA, E91)	
D461	8-719-947-13	DIODE MTZJ-T-72-4.7B (EXCEPT BR, IA, E91)	
D462	8-719-911-19	DIODE 1SS133T-72 (EXCEPT BR, IA, E91)	
D462	8-719-991-33	DIODE 1SS133T-77 (BR, IA, E91)	
		< IC >	
IC401	8-759-167-88	IC NJM4565D	
		< TRANSISTOR >	
Q401	8-729-119-78	TRANSISTOR 2SC2785TP-HFE	
Q402	8-729-029-21	TRANSISTOR DTA114ESA-TP (BR)	
Q402	8-729-422-57	TRANSISTOR BN1A4M-TP (EXCEPT BR)	
Q403	8-729-029-21	TRANSISTOR DTA114ESA-TP (BR)	
Q403	8-729-422-57	TRANSISTOR BN1A4M-TP (EXCEPT BR)	
Q404	8-729-029-21	TRANSISTOR DTA114ESA-TP (BR)	
Q404	8-729-422-57	TRANSISTOR BN1A4M-TP (EXCEPT BR)	
Q411	8-729-202-67	FET 2SK246GR3-TPE2	
Q461	8-729-202-67	FET 2SK246GR3-TPE2	
		< RESISTOR >	
R401	1-249-425-11	CARBON 4.7K 5% 1/4W	
R402	1-249-425-11	CARBON 4.7K 5% 1/4W	
R403	1-249-425-11	CARBON 4.7K 5% 1/4W	
R404	1-249-441-11	CARBON 100K 5% 1/4W	
R405	1-247-903-00	CARBON 1M 5% 1/4W	
R421	1-249-409-11	CARBON 220 5% 1/4W	
R422	1-249-417-11	CARBON 1K 5% 1/4W	
R423	1-249-441-11	CARBON 100K 5% 1/4W	
R424	1-247-807-31	CARBON 100 5% 1/4W	
R425	1-249-417-11	CARBON 1K 5% 1/4W	
R426	1-247-807-31	CARBON 100 5% 1/4W	
R427	1-247-807-31	CARBON 100 5% 1/4W	
R428	1-249-409-11	CARBON 220 5% 1/4W	
R439	1-249-429-11	CARBON 10K 5% 1/4W	
R451	1-249-425-11	CARBON 4.7K 5% 1/4W	
R452	1-249-425-11	CARBON 4.7K 5% 1/4W	
R453	1-249-425-11	CARBON 4.7K 5% 1/4W	
R454	1-249-441-11	CARBON 100K 5% 1/4W	
R455	1-247-903-00	CARBON 1M 5% 1/4W	

Ref. No.	Part No.	Description	Remark
		< VARIABLE RESISTOR >	
RV401	1-227-170-11	RES, VAR, CARBON 100K/100K (SURROUND SPEAKER LEVEL)	
		< ROTARY ENCODER >	
S101	1-476-553-11	ENCODER, ROTARY (SURROUND SPEAKER MODE)	

	1-680-838-11	TRANS BOARD	*****
	1-533-217-31	HOLDER, FUSE	
		< CAPACITOR >	
△C591	1-113-925-11	CERAMIC 0.01uF 20% 250V	
		< FUSE >	
△F501	1-532-504-31	FUSE T4AL/250V (BR)	
△F501	1-533-471-11	FUSE, GLASS TUBE (DIA.5) T4AL/250V (EXCEPT BR, E91)	
△F502	1-532-464-31	FUSE T2.5AL/250V (BR)	
△F502	1-532-464-41	FUSE T2.5AL/250V (E91)	
△F502	1-533-469-11	FUSE, GLASS TUBE (DIA.5) T2.5AL/250V (EXCEPT BR, MX, E91)	
△F503	1-532-464-31	FUSE T4AL/250V (BR)	
△F503	1-533-469-11	FUSE, GLASS TUBE (DIA.5) (EXCEPT BR, MX, E91)	
		< SWITCH >	
△S501	1-771-291-11	SWITCH, POWER (VOLTAGE SELECTOR) (EXCEPT MX, E91)	

MISCELLANEOUS			

8	1-773-012-11	WIRE (FLAT TYPE) (15 CORE)	
△T501	1-435-316-11	TRANSFORMER, POWER (EXCEPT BR)	
△T501	1-435-663-11	TRANSFORMER, POWER (BR)	

HARDWARE LIST			

#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#3	7-685-650-79	SCREW +BVTP 3X16 TYPE2 IT-8	
#4	7-685-881-09	SCREW +BVTT 4X8 (S)	

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

