

TA-VE25

SERVICE MANUAL

Ver 1.0 2002.09

AEP Model
UK Model
E Model



- This set is the Amplifier section in HT-K25.

This system incorporates Dolby* Digital and Pro Logic Surround and the DTS** Digital Surround System.

* Manufactured under license from Dolby Laboratories.

“Dolby”, “Pro Logic” and the double-D symbol are trademarks of Dolby Laboratories.

** “DTS” and “DTS Digital Surround” are registered trademarks of Digital Theater Systems, Inc.

SPECIFICATIONS

Amplifier section		General	
Inputs (Digital) AUX (Coaxial)	Impedance: 75 ohms S/N: 90 dB (A, 20 kHz LPF)	Power requirements	Power voltage is DC 12V, 5.6V and fed with sub woofer (SA-WMS25) from external CONTROL jack.
DVD, SAT (Optical)	S/N: 90 dB (A, 20 kHz LPF)	Dimensions (w/h/d) Control center	196 × 60 × 269 mm including projecting parts and controls
Inputs (Analog) TV, VIDEO	Sensitivity: 700 mV Impedance: 50 kohms S/N: 84 dB (A, 20 kHz LPF)	Mass (Approx.) Control center	1.1 kg

HOME THEATER SYSTEM

9-874-148-01
2002I1600-1

Sony Corporation
Home Audio Company

SONY®

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[When bringing in the equipment for service]

When bringing the system in for repairs, be sure to bring in the entire system (control center (TA-VE25) and subwoofer (SA-WMS25) This product is system product, and the entire system is needed to determine the location requiring repair.



: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
Soldering irons using a temperature regulator should be set to about 350°C.
Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

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.

Flexible Circuit Board Repairing

- Keep the temperature of soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

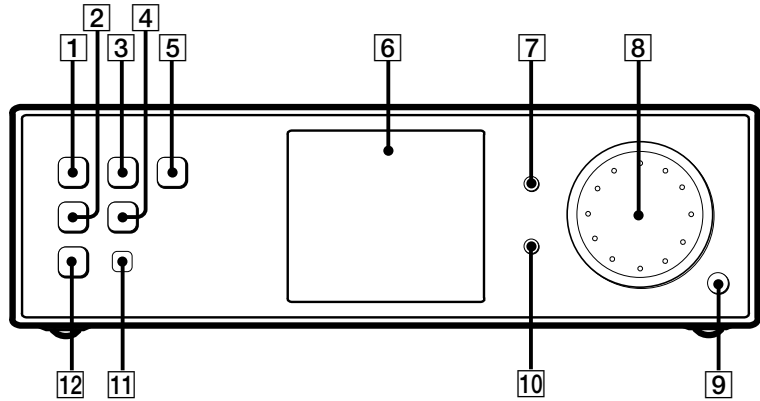
**SECTION 1
GENERAL**

This section is extracted from instruction manual.

Control center

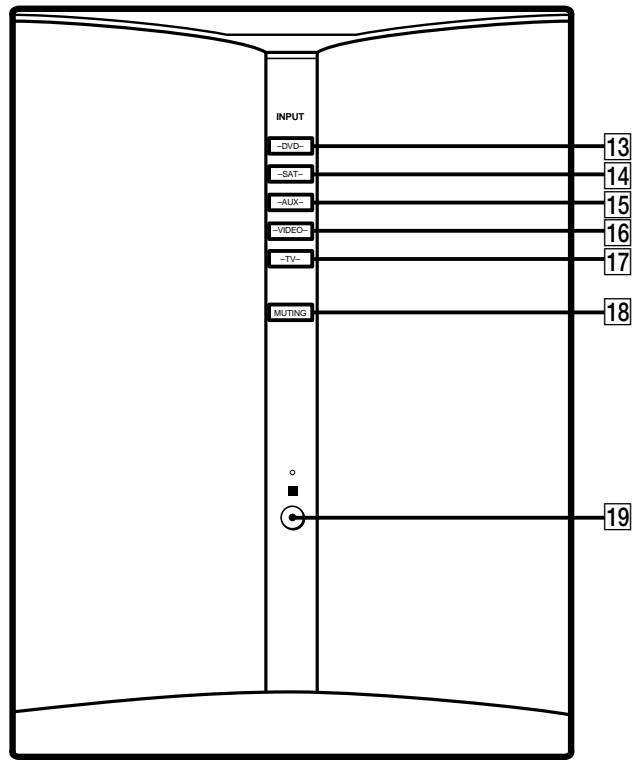
ALPHABETICAL ORDER

- AUX **5** (15)
- AUX indicator **15**
- Display **6** (16)
- DVD **1** (15)
- DVD indicator **13**
- MASTER VOLUME **8** (14, 15)
- MUTING **9** (15)
- MUTING indicator **18**
- PLII **7**
- Remote sensor **11****19**
- SAT **3** (15)
- SAT indicator **14**
- SOUND FIELD **10** (18, 19)
- TV **4** (15)
- TV indicator **17**
- VIDEO **2** (15)
- VIDEO indicator **16**



NUMBERS AND SYMBOLS

- I/⏻ (power) **12**



Remote control

ALPHABETICAL ORDER

A - N

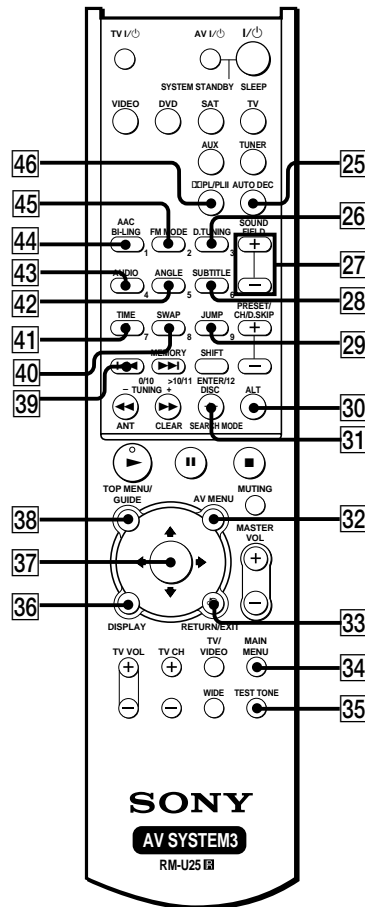
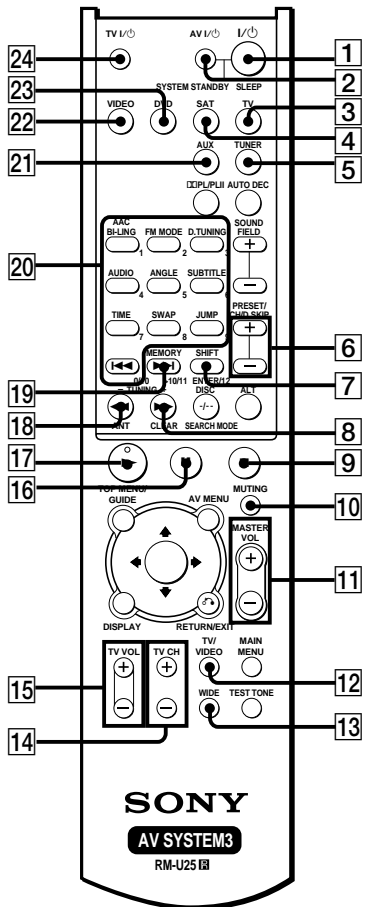
- AAC BI-LING **44**
- ALT **30** (20)
- ANGLE **42**
- ANT **18**
- AUDIO **43**
- AUTO DEC **25**
- AUX **21** (15)
- AV I/⏻ (power) **2**
- AV MENU **32**
- CLEAR **8**
- D.TUNING **26**
- DISC **31**
- DISPLAY **36**
- DVD **23** (15)
- ENTER/12 **7**
- FM MODE **45**
- JUMP **29**
- MAIN MENU **34** (24, 26)
- MASTER VOL +/- **11** (14, 15)
- MEMORY **19**
- MUTING **10** (15)
- Numeric buttons **20**

P - W

- PL/PLII **46** (20)
- PRESET/CH/D.SKIP +/- **6**
- RETURN ↶/EXIT **33**
- SAT **4** (15)
- SEARCH MODE **31**
- SHIFT **7**
- SLEEP **1** (20)
- SOUND FIELD +/- **27** (18, 19)
- SUBTITLE **28**
- SWAP **40**
- TEST TONE **35** (14)
- TIME **41**
- TOP MENU/GUIDE **38**
- TUNER **5**
- TUNING + **8**
- TUNING - **18**
- TV **3** (15)
- TV CH +/- **14**
- TV VOL +/- **15**
- TV/VIDEO **12**
- TV I/⏻ (power) **24**
- VIDEO **22** (15)
- WIDE **13**

NUMBERS AND SYMBOLS

- I/⏻ (power) **1**
- ⬆/⬇/⬅/➡ **37**
- ▶▶ **8**
- ◀◀ **18**
- ▶▶| **19**
- ◀◀| **39**
- ▶ **17**
- || **16**
- **9**
- /-- **31**
- 0/10 **39**
- >10/11 **19**



SECTION 2 TEST MODE

Note: Before loading test mode. Be sure to bring in the entire system (control center (TA-VE25) and subwoofer(SA-WMS25)). This product is system product, and the entire system is needed to determine the location requiring repair.

[Software Version Display Mode]

* The software version is displayed.

Procedure:

While depressing the **VIDEO** button, press the **I/⏻** button to turn on the main power. The destination and the software version are displayed for four seconds.

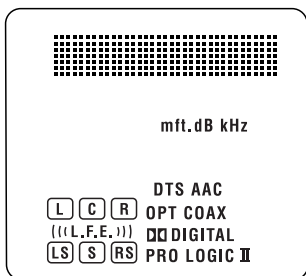
[Fluorescent Indicator Tube Test Mode]

* Fluorescent segments and LEDs are tested when this test is activated.

Procedure:

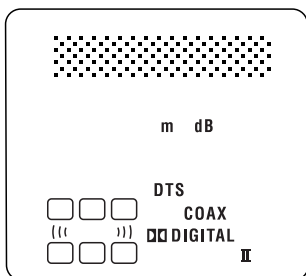
While depressing the **VIDEO** and the **SOUND FIELD** buttons simultaneously, press the **I/⏻** button to turn on the main power.

1. All segments turn on (Horizontal display).



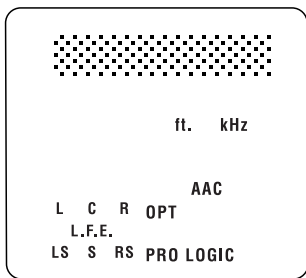
The **MUTING** LED turns on.

2. Press the **VIDEO** button, confirm the display.



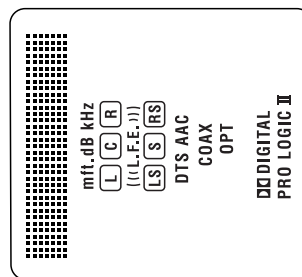
The **VIDEO** LED turns on.

3. Press the **VIDEO** button, confirm the display.



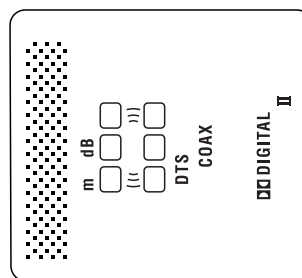
The **TV** LED turns on.

4. Press the **VIDEO** button, all segments turn on (Vertical display).



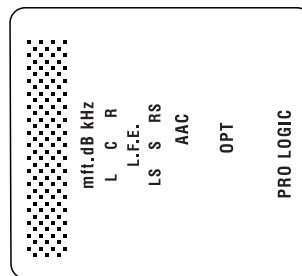
The **AUX** LED turns on.

5. Press the **VIDEO** button, confirm the display.



The **SAT** LED turns on.

6. Press the **VIDEO** button, confirm the display.



The **DVD** LED turns on.

7. Press the **VIDEO** button, all segments turn off.

The **SIRCS** LED turns on.

8. Every pressing of the **VIDEO** button turns on each segment one after another in the same order.

(not only the **VIDEO** button, but also the other buttons such as **DVD**, **TV**, **SAT** and **AUX** can be used.)

9. To exit from this mode, press the **I/⏻** button.

[All Clear Mode]

* All preset contents are cleared when this mode is activated.

Procedure:

While depressing the **AUX** and the **□□PLII** buttons simultaneously, press the **I/⏻** button to turn on the main power. The message "INITIAL" is displayed for four seconds and initialization is performed.

[DSP Test (The Remote Test)]

* DSP communication parameter swap mode is set and the remote commander is tested when this mode is activated.

Procedure:

While depressing the **[DVD]** and the **[SOUND FIELD]** buttons simultaneously, press the **[I/⏻]** button to turn on the main power.

1. The message "DSP TEST" is displayed.
2. Press the **[□□PLII]** button, the message "SWAP NRM" is displayed and DSP swap mode is set to OFF.
The remote control receiver IC201 and IC204 (Control center both sides) are operable and the SIRCS LED turns on when the remote signal is received.
3. Press the **[□□PLII]** button, the message "SWAP ALL" is displayed and DSP swap mode is set to ALL.
The remote control receiver IC201 (Control center buttons side) is operable and the SIRCS LED turns on when the remote signal is received.
4. Press the **[□□PLII]** button, the message "SWAP CSW" is displayed and DSP swap mode is set to CSW.
The remote control receiver IC204 (Control center LEDs side) is operable and the SIRCS LED turns on when the remote signal is received.
5. Press the **[□□PLII]** button, the message "SWAP SLR" is displayed and DSP swap mode is set to SLR.
The remote control receiver IC204 (Control center LEDs side) is operable and the SIRCS LED turns on when the remote signal is received.
6. To exit from this mode, press the **[I/⏻]** button.

[Key Test]

* All keys (without the **[I/⏻]** button) are tested when this mode is activated.

Procedure:

While depressing the **[VIDEO]** and the **[□□PLII]** buttons simultaneously, press the **[I/⏻]** button to turn on the main power.

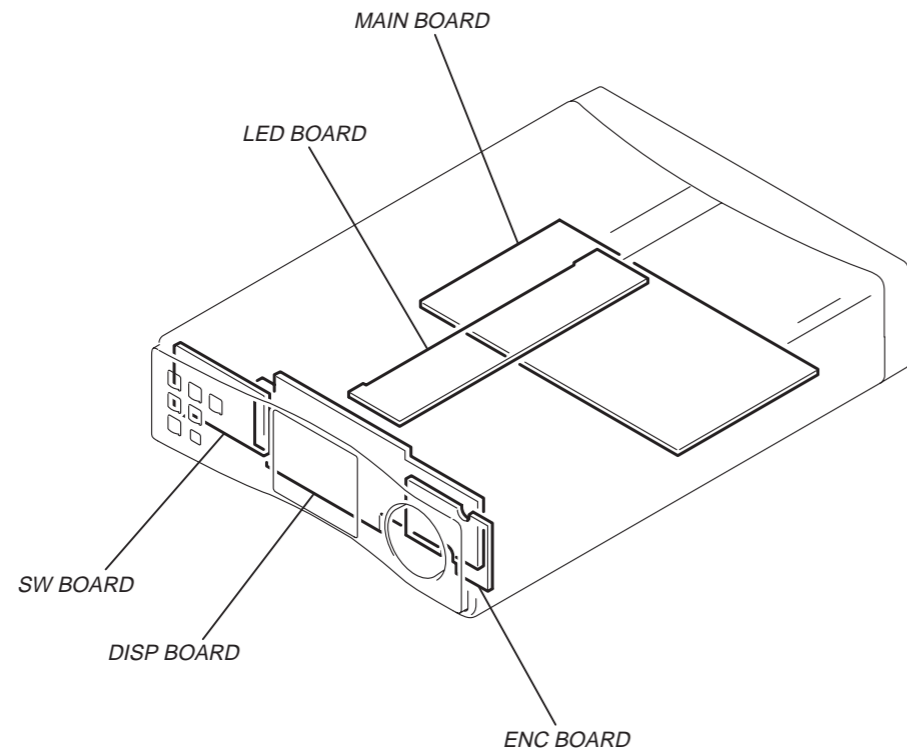
1. The message "12345678" is displayed. If the button corresponding to the following number is pressed, the number on the display will be turned off.
2. To exit from this mode, press the **[I/⏻]** button.

Key numbers

- 1 : **[VIDEO]**, 2 : **[DVD]**, 3 : **[TV]**, 4 : **[SAT]**, 5 : **[AUX]**,
6 : **[SOUND FIELD]**, 7 : **[□□PLII]**, 8 : **[MUTING]**

SECTION 3 DIAGRAMS

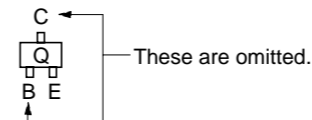
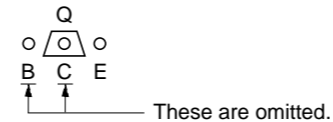
CIRCUIT BOARDS LOCATION



NOTE FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

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

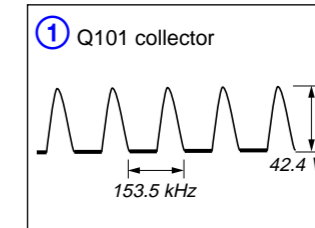


Note on Schematic Diagram:

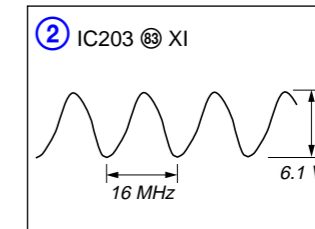
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$. 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{ W}$ or less unless otherwise specified.
- △ : internal component.
- : panel designation.
- B+ : B+ Line.
- B- : B- Line.
- Power voltage is DC 12V, 5.6V and fed with subwoofer (SA-WMS25) from external CONTROL jack.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- : ANALOG
- ⇒ : DIGITAL

Waveforms

– MAIN Board –

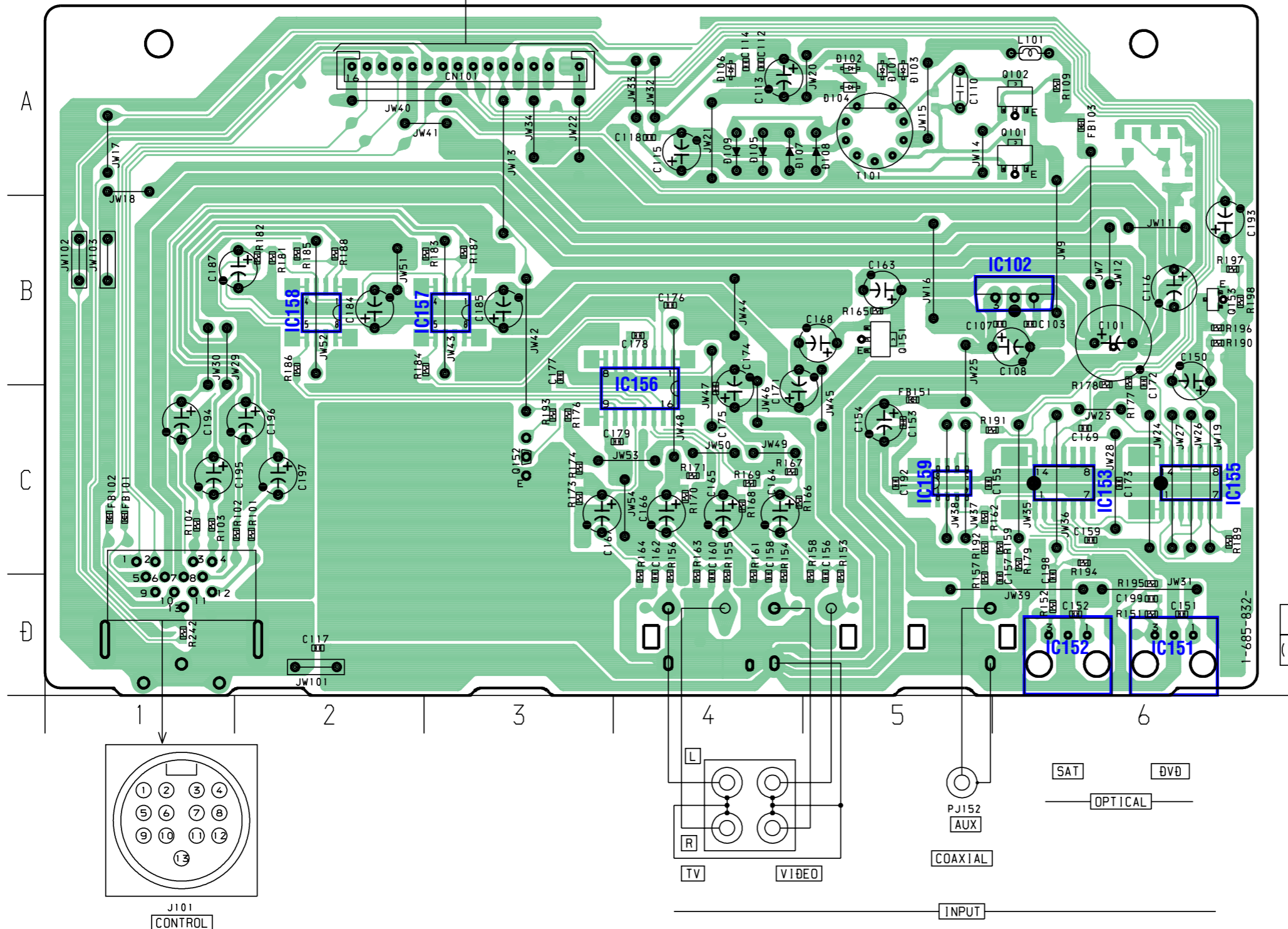


– DISP Board –



【 MAIN BOARD 】

TO
DISP
BOARD
CN704
(PAGE 12)

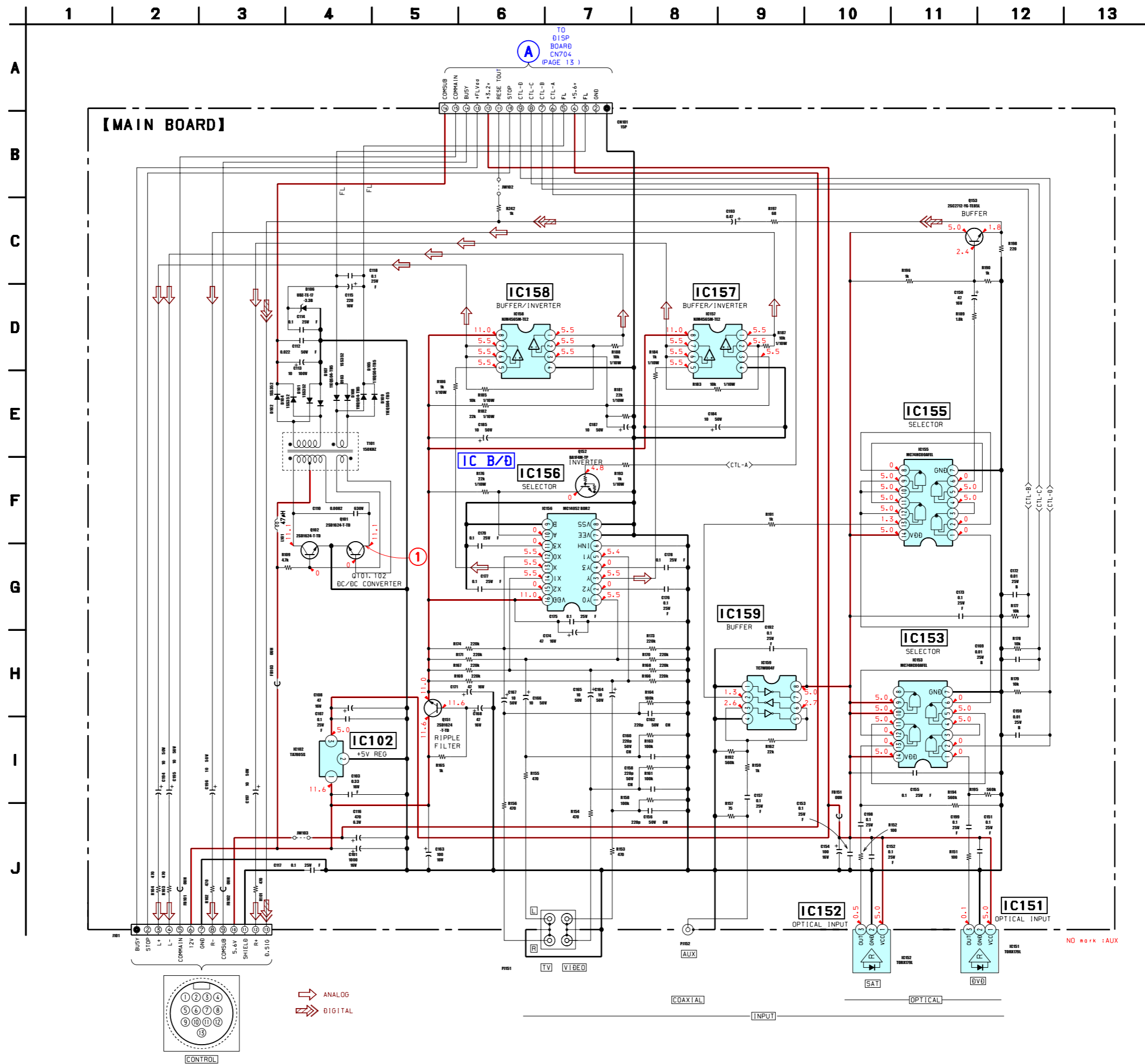


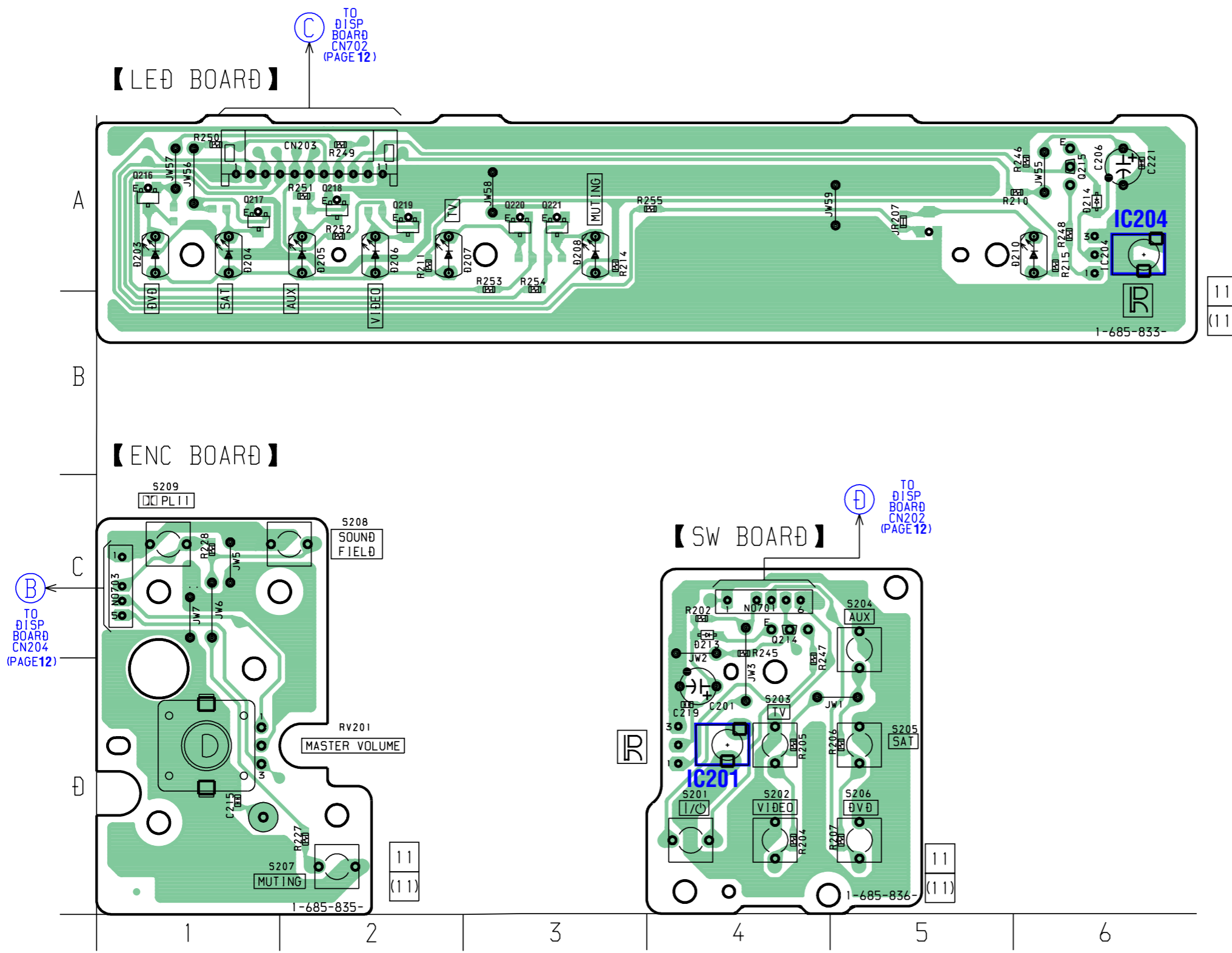
• Semiconductor Location

Ref. No.	Location
D101	A-5
D102	A-5
D103	A-5
D104	A-5
D105	A-4
D106	A-4
D107	A-4
D108	A-5
D109	A-4
IC102	B-6
IC151	D-6
IC152	D-6
IC153	C-6
IC155	C-6
IC156	C-4
IC157	B-2
IC158	B-2
IC159	C-5
Q101	A-6
Q102	A-6
Q151	B-5
Q152	C-3
Q153	B-6

11
(11)

3-2. Schematic Diagram – Main Section – • See page 7 for Waveforms. • See page 15 for IC Block Diagram.

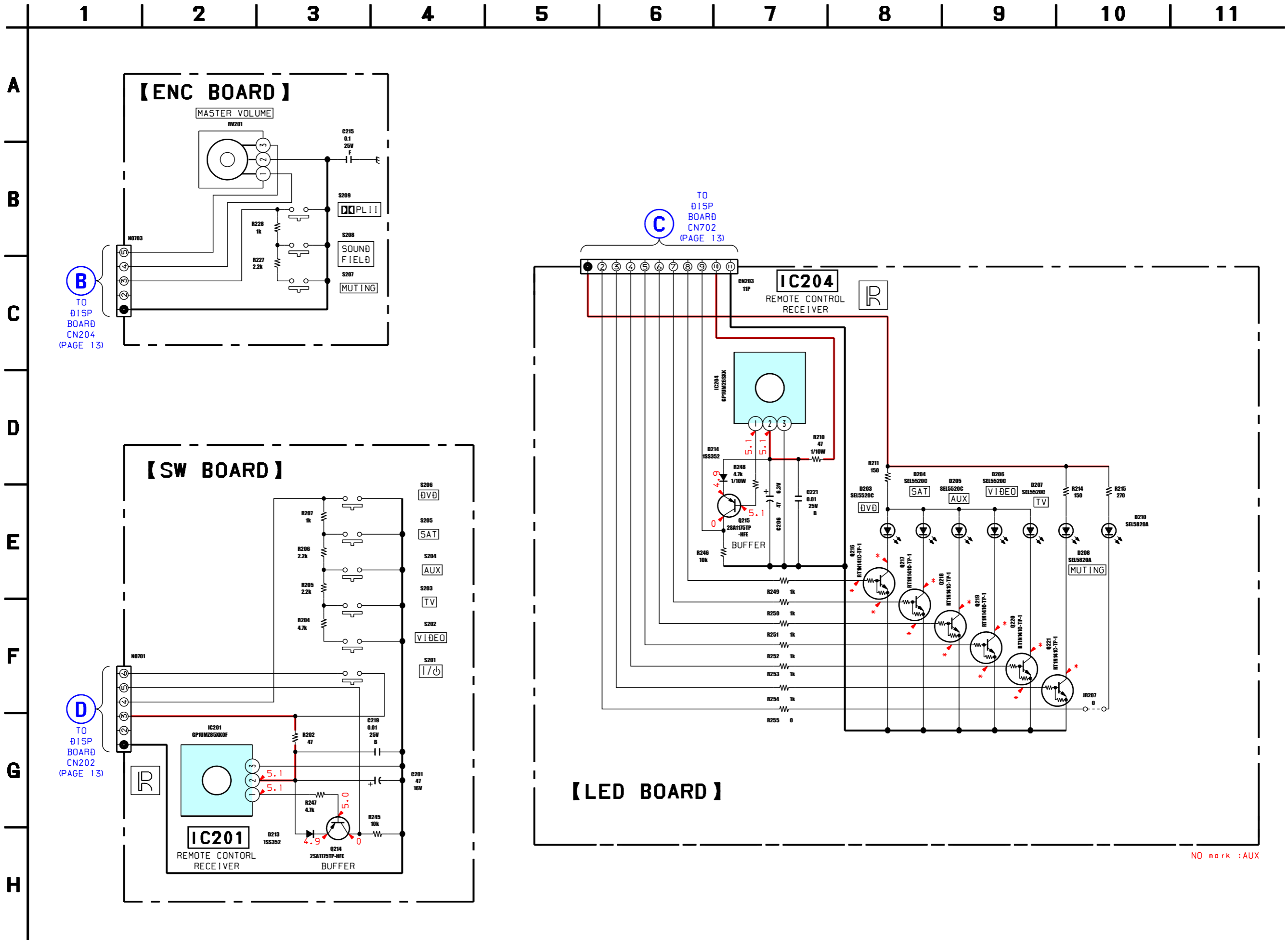




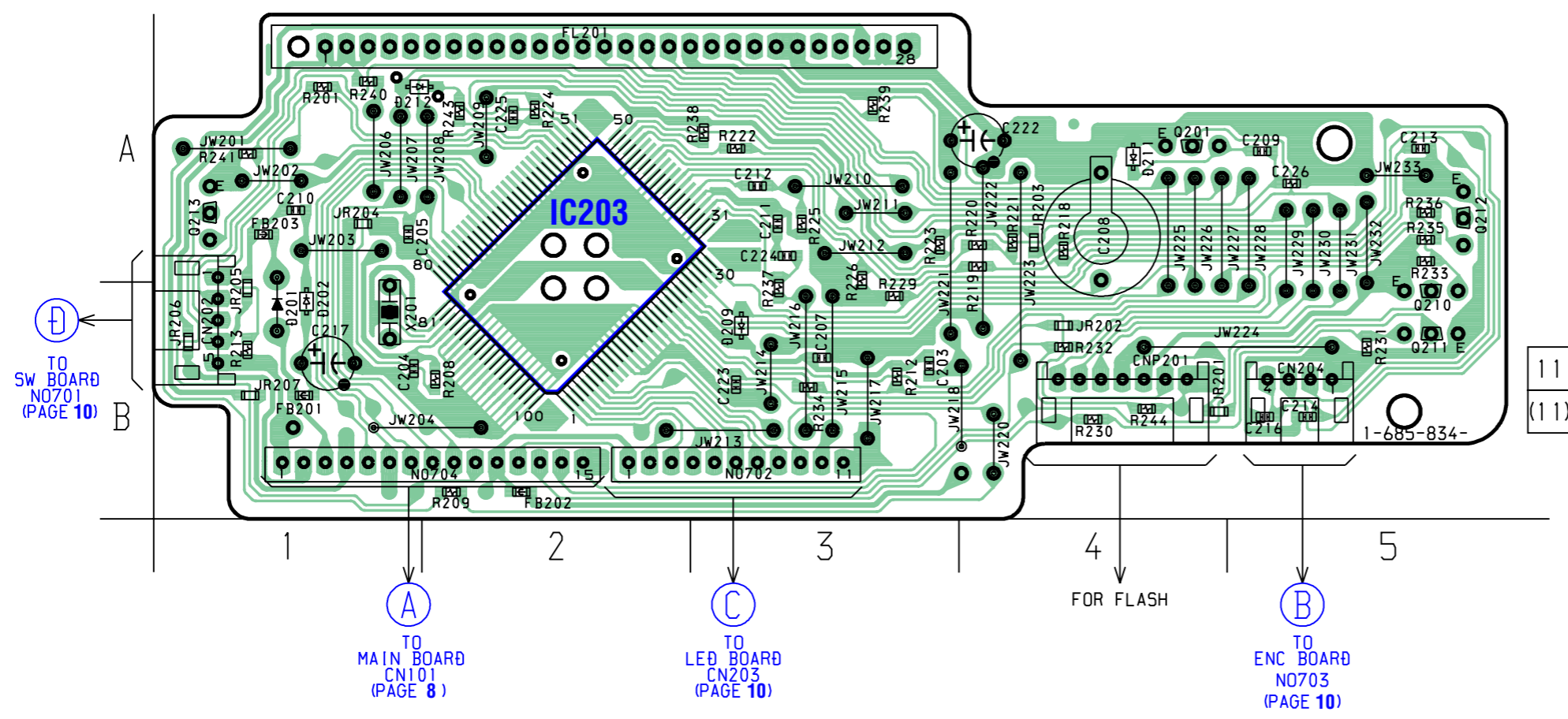
• Semiconductor Location

Ref. No.	Location
D203	A-1
D204	A-1
D205	A-2
D206	A-2
D207	A-2
D208	A-3
D210	A-5
D214	A-6
IC204	A-6
Q215	A-6
Q216	A-1
Q217	A-1
Q218	A-2
Q219	A-2
Q220	A-3
Q221	A-3

3-4. Schematic Diagram – Control Section –



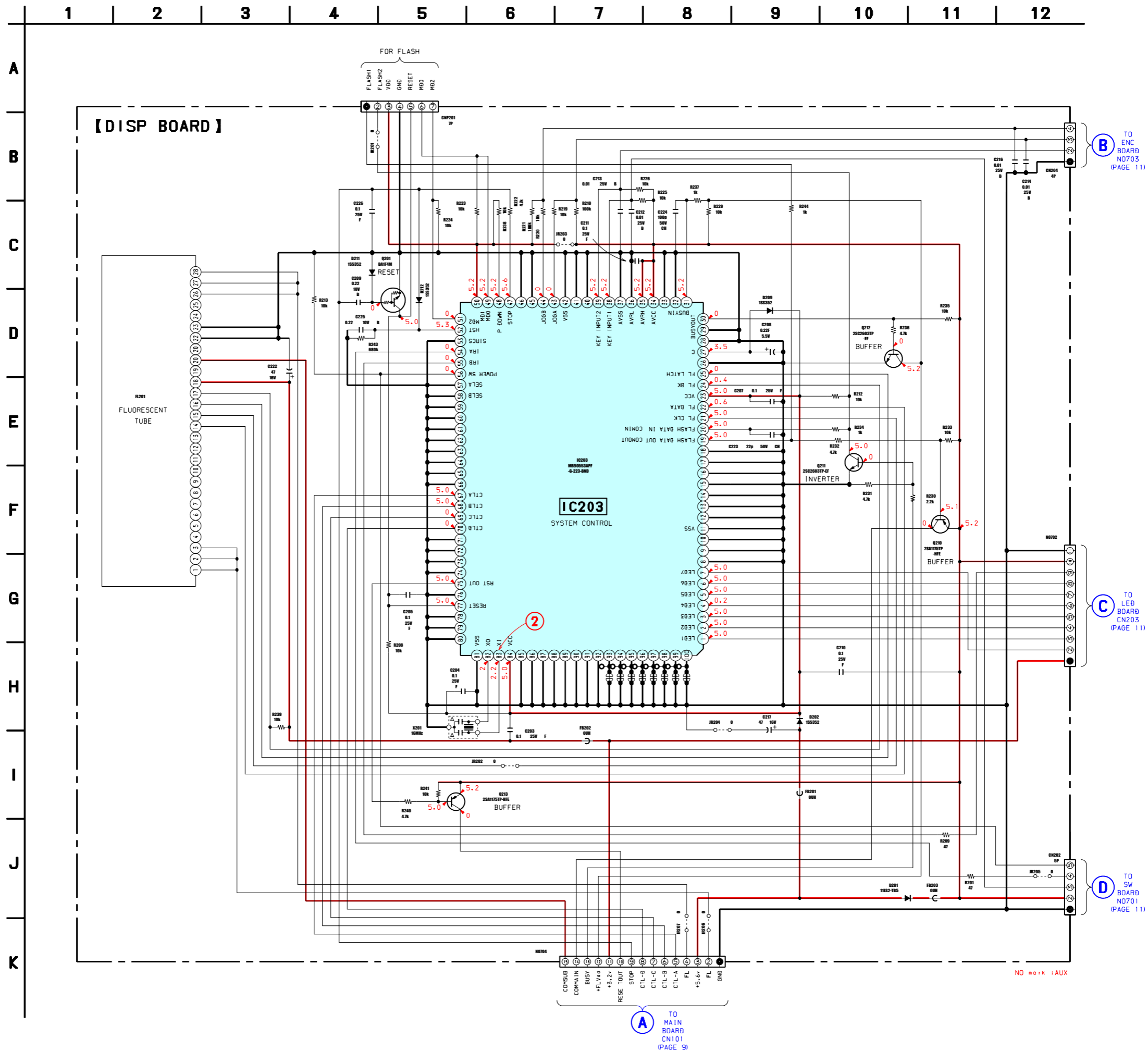
【 DISP BOARD 】



• Semiconductor Location

Ref. No.	Location
D201	B-1
D202	B-1
D209	B-3
D211	A-4
D212	A-1
IC203	A-2
Q201	A-4
Q210	B-5
Q211	B-5
Q212	A-5
Q213	A-1

3-6. Schematic Diagram – Display Section – • See page 7 for Waveforms. • See page 14 for IC Pin Function Description.



3-7. IC Pin Function Description

• IC203 MB90553ABPF-G-223-BND SYSTEM CONTROL (DISP Board)

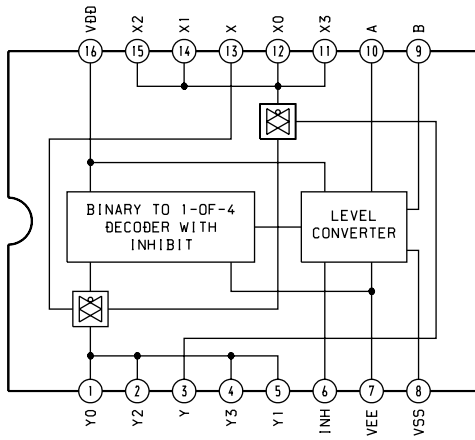
Pin No.	Pin Name	I/O	Description
1	LED1	O	MUTING LED control signal output "L" : ON
2	LED2	O	TV LED control signal output "H" : ON
3	LED3	O	VIDEO LED control signal output "H" : ON
4	LED4	O	AUX LED control signal output "H" : ON
5	LED5	O	SAT LED control signal output "H" : ON
6	LED6	O	DVD LED control signal output "H" : ON
7	LED7	O	SIR LED control signal output "L" : ON
8	P27	—	General purpose I/O port Not used (ground)
9, 10	P30, P31	—	General purpose I/O port Not used (ground)
11	VSS	—	Ground
12 to 17	P32 to P37	—	General purpose I/O port Not used (ground)
18	P40	—	General purpose I/O port Not used (ground)
19	FALSH DATA OUT COMOUT	O	UART serial data output to the subwoofer unit and flash programming port
20	FALSH DATA IN COMIN	I	UART serial data input from the subwoofer unit and flash programming port
21	FL CLK	O	Clock output to the fluorescent indicator tube (FL201)
22	FL DATA	O	Serial data output to the fluorescent indicator tube (FL201)
23	VCC	—	Power supply
24	FL BK	O	Blanking signal output to the fluorescent indicator tube (FL201)
25	FL LATCH	O	Latch signal output to the fluorescent indicator tube (FL201)
26	P47	—	Not used (ground)
27	C	—	Capacitor connection terminal for regulating the power supply
28, 29	P50, P51	—	Not used (ground)
30	BUSYOUT	O	Busy signal output to the subwoofer unit
31	BUSYIN	I	Busy signal input from the subwoofer unit
32, 33	P54, P55	—	Not used (ground)
34	AVCC	—	A/D converter power supply
35	AVRH	—	A/D converter external reference voltage source
36	AVRL	—	A/D converter external reference voltage source
37	AVSS	—	A/D converter power supply
38	KEY INPUT1	I	Key signal input from the function switches (S202 to S206)
39	KEY INPUT2	I	Key signal input from the function switches (S202 to S209)
40, 41	P62, P63	—	General purpose I/O port Not used (ground)
42	VSS	—	Ground
43	JOGA	I	Rotary encoder data input from the master volume (RV201)
44	JOGB	I	Rotary encoder data input from the master volume (RV201)
45, 46	P66, P67	—	General purpose I/O port Not used (ground)
47	STOP	I	AC OFF signal input "L" : AC OFF
48	P DOWN	—	Not used (fixed at "H")
49	MD0	I	Operation mode setting input (normally fixed at "H")
50	MD1	I	Operation mode setting input (Vcc)
51	MD2	I	Operation mode setting input (normally fixed at "L")
52	HST	I	Hardware standby signal input (connected to RESET)
53	SIRCS	—	Not used (ground)
54	IRA	I	Remote control receiver data input from the IC201
55	IRB	I	Remote control receiver data input from the IC204
56	POWER SW	I	Power key input
57	SELA	—	General purpose I/O port Not used (ground)
58	SELB	—	General purpose I/O port Not used (ground)

Pin No.	Pin Name	I/O	Description
59 to 66	P80 to P87	—	General purpose I/O port Not used (ground)
67	CTLA	O	Analog input selection signal output
68	CTLB	O	Digital input selection signal output
69	CTLC	O	Digital input selection signal output
70	CTLD	O	Digital input selection signal output
71 to 74	P94 to P97	—	General purpose I/O port Not used (ground)
75	RST OUT	O	Subwoofer reset signal output "L" : reset
76	PA1	—	General purpose I/O port Not used (ground)
77	RESET	I	Reset signal input
78 to 80	PA2 to PA3	—	General purpose I/O port Not used (ground)
81	VSS	—	Ground
82	X0	—	Oscillation pin
83	X1	—	Oscillation pin
84	VCC	—	Power supply
85 to 92	P00 to P07	—	General purpose I/O port Not used (ground)
93 to 100	P10 to P17	—	General purpose I/O port Not used (ground)

3-8. IC Block Diagram

— MAIN Board —

IC156 MC14052_BDR2

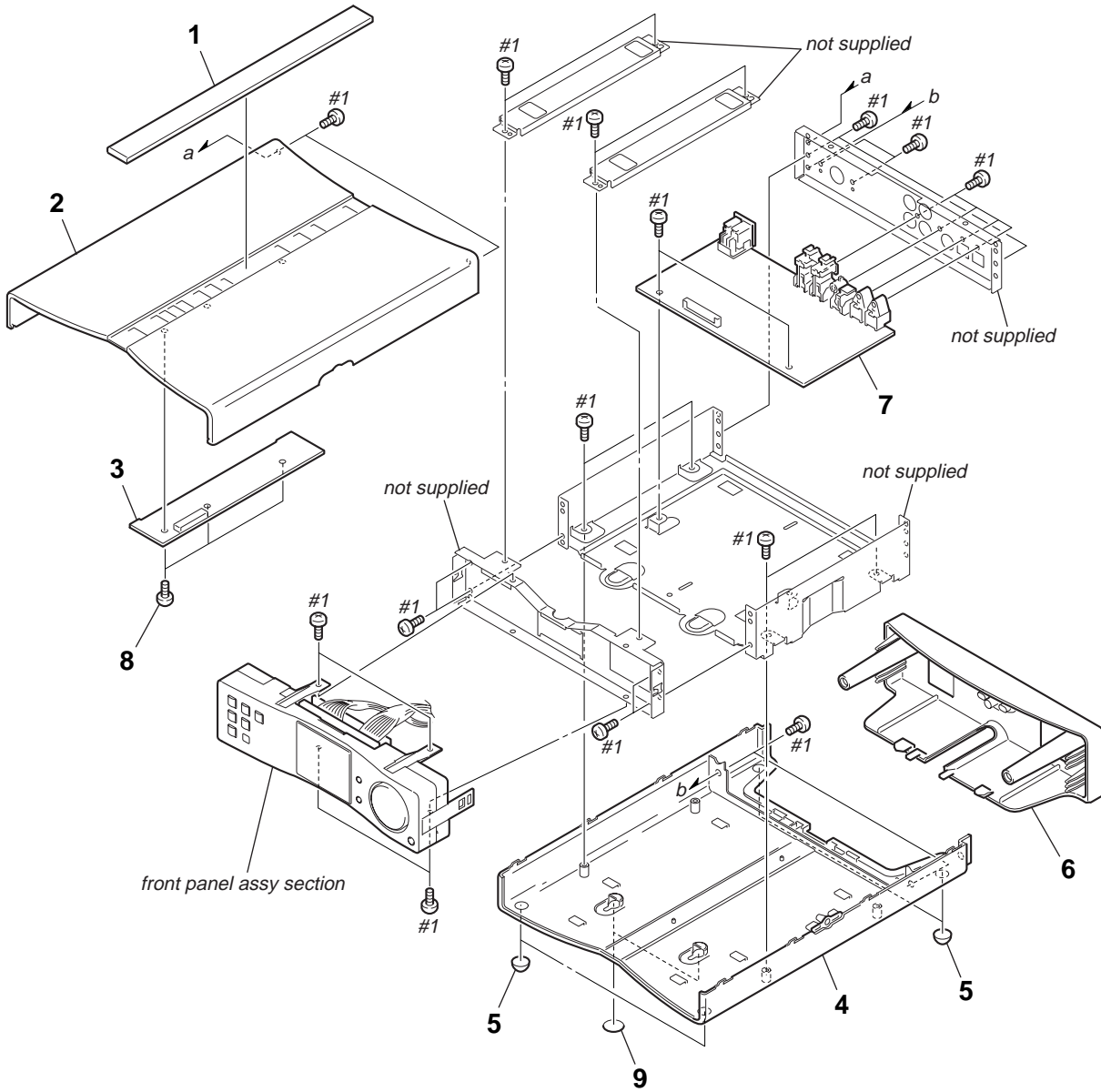


SECTION 4 EXPLODED VIEWS

NOTE:

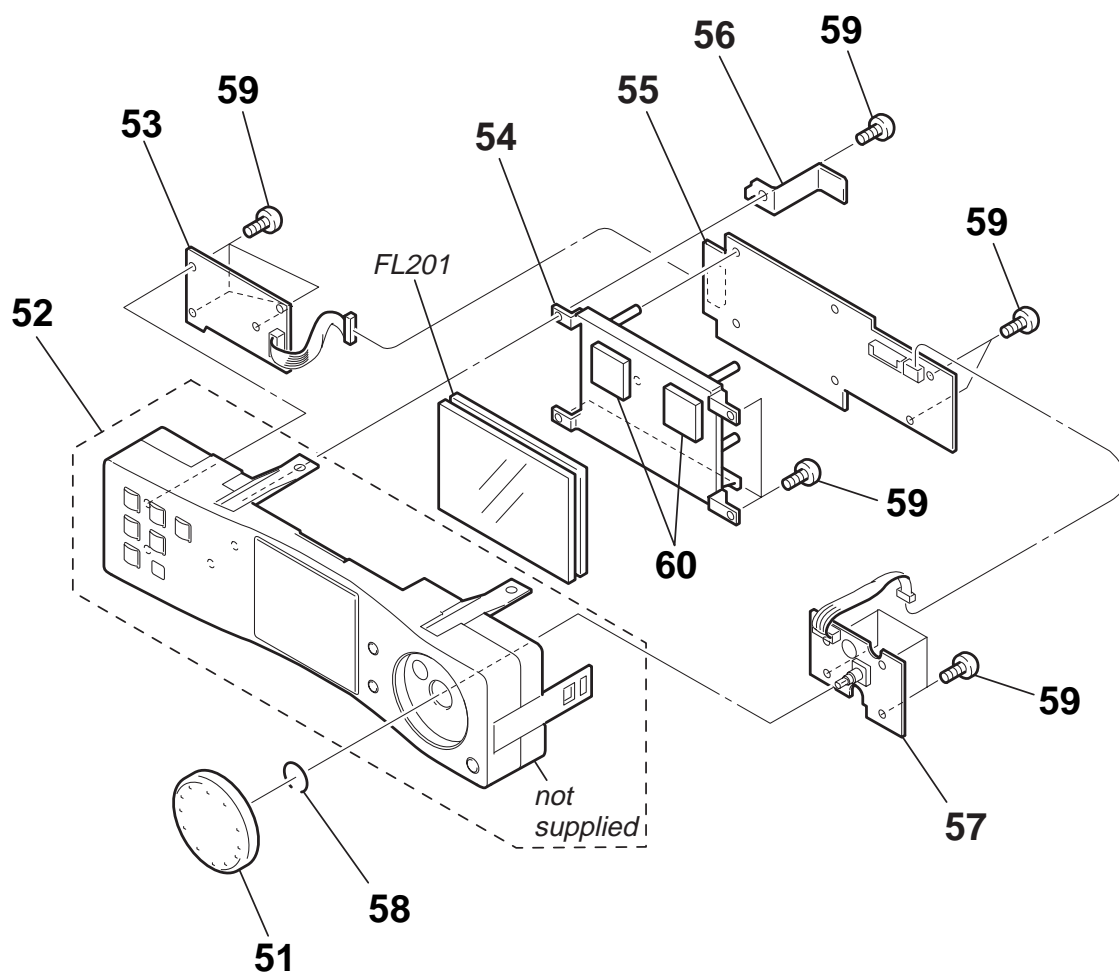
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of this parts list.

4-1. Main Section



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
1	4-241-765-01	WINDOW (TOP), INDICATION		6	4-241-784-01	COVER (CORD)	
2	4-241-781-01	CASE, UPPER		7	A-4729-950-A	MAIN BOARD, COMPLETE	
3	1-685-833-11	LED BOARD		8	4-951-620-01	SCREW +BVTP 2.6X8	
4	4-241-782-01	CASE, LOWER		9	3-070-489-01	LABEL, PATCH	
5	3-077-427-01	FOOT		#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

4-2. Front Panel Section



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-241-770-01	KNOB (ENCODER)		57	1-685-835-11	ENC BOARD	
52	A-4722-837-A	PANEL ASSY, FRONT		58	4-946-017-21	SPRING, RING	
53	1-685-836-11	SW BOARD		59	4-951-620-01	SCREW +BVTP 2.6X8	
54	4-241-764-01	HOLDER, FL		* 60	4-921-941-01	CUSHION (FL)	
55	A-4729-952-A	DISP BOARD, COMPLETE		FL201	1-518-834-11	INDICATOR TUBE, FLUORESCENT	
56	4-243-006-01	PC BOARD (HOLDER) (FL)					

DISP

**SECTION 5
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, -X mean standardized parts, so they may have some difference from the original one.
- CAPACITORS:
uF: μ F

- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A... , μ PA... , μ PA... ,
uPB... , μ PB... , uPC... , μ PC... ,
uPD... , μ PD...

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

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-4729-952-A	DISP BOARD, COMPLETE *****				< FLUORESCNT TUBE >	
	4-241-764-01	HOLDER, FL		FL201	1-518-834-11	INDICATOR TUBE, FLUORESCENT	
*	4-921-941-01	CUSHION (FL)				< IC >	
		< CAPACITOR >		IC203	6-802-158-01	IC MB90553ABPF-G-223-BND	
C203	1-164-156-11	CERAMIC CHIP	0.1uF	25V		< JUMPER RESISTOR >	
C204	1-164-156-11	CERAMIC CHIP	0.1uF	25V			
C205	1-164-156-11	CERAMIC CHIP	0.1uF	25V	JR201	1-216-864-11	METAL CHIP 0 5% 1/16W
C207	1-164-156-11	CERAMIC CHIP	0.1uF	25V	JR202	1-216-864-11	METAL CHIP 0 5% 1/16W
C208	1-104-905-11	CAPACITOR	0.22F	5.5V	JR203	1-216-864-11	METAL CHIP 0 5% 1/16W
C209	1-115-467-11	CERAMIC CHIP	0.22uF	10.00% 10V	JR204	1-216-864-11	METAL CHIP 0 5% 1/16W
C210	1-164-156-11	CERAMIC CHIP	0.1uF	25V	JR205	1-216-864-11	METAL CHIP 0 5% 1/16W
C211	1-164-156-11	CERAMIC CHIP	0.1uF	25V	JR206	1-216-864-11	METAL CHIP 0 5% 1/16W
C212	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	JR207	1-216-864-11	METAL CHIP 0 5% 1/16W
C213	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V			< TRANSISTOR >
C214	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	Q201	8-729-900-36	TRANSISTOR BA1F4M-TP
C216	1-162-970-11	CERAMIC CHIP	0.01uF	10% 25V	Q210	8-729-119-76	TRANSISTOR 2SA1175TP-HFE
C217	1-124-589-11	ELECT	47uF	20% 16V	Q211	8-729-620-05	TRANSISTOR 2SC2603TP-EF
C222	1-124-589-11	ELECT	47uF	20% 16V	Q212	8-729-620-05	TRANSISTOR 2SC2603TP-EF
C223	1-162-919-11	CERAMIC CHIP	22PF	5% 50V	Q213	8-729-119-76	TRANSISTOR 2SA1175TP-HFE
C224	1-162-927-11	CERAMIC CHIP	100PF	5% 50V			< RESISTOR >
C225	1-115-467-11	CERAMIC CHIP	0.22uF	10.00% 10V	R201	1-216-805-11	METAL CHIP 47 5% 1/16W
C226	1-164-156-11	CERAMIC CHIP	0.1uF	25V	R208	1-216-833-11	METAL CHIP 10K 5% 1/16W
		< CONNECTOR >			R209	1-216-805-11	METAL CHIP 47 5% 1/16W
CN202	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			R212	1-216-833-11	METAL CHIP 10K 5% 1/16W
* CN204	1-564-720-11	PIN, CONNECTOR (SMALL TYPE) 4P			R213	1-216-833-11	METAL CHIP 10K 5% 1/16W
		< CONNECTOR >			R218	1-216-845-11	METAL CHIP 100K 5% 1/16W
CNP201	1-564-723-11	PIN, CONNECTOR (SMALL TYPE) 7P			R219	1-216-833-11	METAL CHIP 10K 5% 1/16W
		< DIODE >			R220	1-216-833-11	METAL CHIP 10K 5% 1/16W
D201	8-719-200-82	DIODE 11ES2-TB5			R221	1-216-845-11	METAL CHIP 100K 5% 1/16W
D202	8-719-016-74	DIODE 1SS352-TPH3			R222	1-216-829-11	METAL CHIP 4.7K 5% 1/16W
D209	8-719-016-74	DIODE 1SS352-TPH3			R223	1-216-833-11	METAL CHIP 10K 5% 1/16W
D211	8-719-016-74	DIODE 1SS352-TPH3			R224	1-216-833-11	METAL CHIP 10K 5% 1/16W
D212	8-719-016-74	DIODE 1SS352-TPH3			R225	1-216-833-11	METAL CHIP 10K 5% 1/16W
		< FERRITE BEAD >			R226	1-216-833-11	METAL CHIP 10K 5% 1/16W
FB201	1-469-350-21	FERRITE	0UH		R229	1-216-833-11	METAL CHIP 10K 5% 1/16W
FB202	1-469-350-21	FERRITE	0UH		R230	1-216-825-11	METAL CHIP 2.2K 5% 1/16W
FB203	1-469-350-21	FERRITE	0UH		R231	1-216-829-11	METAL CHIP 4.7K 5% 1/16W
					R232	1-216-829-11	METAL CHIP 4.7K 5% 1/16W
					R233	1-216-833-11	METAL CHIP 10K 5% 1/16W
					R234	1-216-821-11	METAL CHIP 1K 5% 1/16W
					R235	1-216-833-11	METAL CHIP 10K 5% 1/16W
					R236	1-216-829-11	METAL CHIP 4.7K 5% 1/16W

DISP

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LED

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
R237	1-216-821-11	METAL CHIP	1K 5% 1/16W	Q217	8-729-083-23	TRANSISTOR	RT1N141C-TP-1
R238	1-216-833-11	METAL CHIP	10K 5% 1/16W	Q218	8-729-083-23	TRANSISTOR	RT1N141C-TP-1
R239	1-216-833-11	METAL CHIP	10K 5% 1/16W	Q219	8-729-083-23	TRANSISTOR	RT1N141C-TP-1
R240	1-216-829-11	METAL CHIP	4.7K 5% 1/16W	Q220	8-729-083-23	TRANSISTOR	RT1N141C-TP-1
R241	1-216-833-11	METAL CHIP	10K 5% 1/16W	Q221	8-729-083-23	TRANSISTOR	RT1N141C-TP-1
R243	1-216-855-11	METAL CHIP	680K 5% 1/16W			< RESISTOR >	
R244	1-216-821-11	METAL CHIP	1K 5% 1/16W				
		< VIBRATOR >		R210	1-216-805-11	METAL CHIP	47 5% 1/16W
X201	1-781-356-21	VIBRATOR, CERAMIC 16MHz		R211	1-216-811-91	METAL CHIP	150 5% 1/16W
		*****		R214	1-216-811-91	METAL CHIP	150 5% 1/16W
				R215	1-216-814-11	METAL CHIP	270 5% 1/16W
				R246	1-216-833-11	METAL CHIP	10K 5% 1/16W
	1-685-835-11	ENC BOARD					
		*****		R248	1-216-829-11	METAL CHIP	4.7K 5% 1/16W
		< CAPACITOR >		R249	1-216-821-11	METAL CHIP	1K 5% 1/10W
C215	1-164-156-11	CERAMIC CHIP	0.1uF 25V	R250	1-216-821-11	METAL CHIP	1K 5% 1/10W
		< RESISTOR >		R251	1-216-821-11	METAL CHIP	1K 5% 1/10W
R227	1-216-825-11	METAL CHIP	2.2K 5% 1/16W	R252	1-216-821-11	METAL CHIP	1K 5% 1/10W
R228	1-216-821-11	METAL CHIP	1K 5% 1/16W				
		< VARIABLE RESISTOR >		R253	1-216-821-11	METAL CHIP	1K 5% 1/10W
				R254	1-216-821-11	METAL CHIP	1K 5% 1/10W
				R255	1-216-864-11	METAL CHIP	0 5% 1/10W

				A-4729-950-A	MAIN BOARD, COMPLETE		

		< SWITCH >				< CAPACITOR >	
RV201	1-476-191-11	ENCODER, ROTARY (MASTER VOLUME)		C101	1-126-767-11	ELECT	1000uF 20.00% 16V
		< SWITCH >		C103	1-165-112-11	CERAMIC CHIP	0.33uF 25V
S207	1-572-184-11	SWITCH, KEYBOARD (MUTING)		C107	1-164-156-11	CERAMIC CHIP	25V
S208	1-572-184-11	SWITCH, KEYBOARD (SOUND FIELD)		C108	1-126-947-11	ELECT	47uF 20.00% 16V
S209	1-572-184-11	SWITCH, KEYBOARD (□ PL II)		C110	1-136-562-11	FILM	0.0082uF 5.00% 630V

	1-685-833-11	LED BOARD		C112	1-162-995-11	CERAMIC CHIP	0.022uF 50V
		*****		C113	1-128-582-11	ELECT	10uF 20.00% 100V
		< CAPACITOR >		C114	1-164-156-11	CERAMIC CHIP	0.1uF 25V
C206	1-124-589-11	ELECT	47uF 20% 16V	C115	1-126-934-11	ELECT	220uF 20.00% 16V
C221	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V	C116	1-126-935-11	ELECT	470uF 20.00% 6.3V
		< DIODE >					
D203	8-719-038-54	DIODE SEL5520C-TP15 (DVD)		C117	1-164-156-11	CERAMIC CHIP	0.1uF 25V
D204	8-719-038-54	DIODE SEL5520C-TP15 (SAT)		C118	1-164-156-11	CERAMIC CHIP	0.1uF 25V
D205	8-719-038-54	DIODE SEL5520C-TP15 (AUX)		C150	1-126-947-11	ELECT	47uF 20.00% 16V
D206	8-719-038-54	DIODE SEL5520C-TP15 (VIDEO)		C151	1-164-156-11	CERAMIC CHIP	0.1uF 25V
D207	8-719-038-54	DIODE SEL5520C-TP15 (TV)		C152	1-164-156-11	CERAMIC CHIP	0.1uF 25V
D208	8-719-032-98	DIODE SEL5820A-TP15 (MUTING)					
D210	8-719-032-98	DIODE SEL5820A-TP15		C153	1-164-156-11	CERAMIC CHIP	0.1uF 25V
D214	8-719-016-74	DIODE 1SS352-TPH3		C154	1-126-933-11	ELECT	100uF 20.00% 16V
		< IC >		C155	1-164-156-11	CERAMIC CHIP	0.1uF 25V
IC204	6-600-098-01	IC GP1UM26SXK (■)		C156	1-164-816-11	CERAMIC CHIP	220PF 2.00% 50V
		< JUMPER RESISTOR >		C157	1-164-156-11	CERAMIC CHIP	0.1uF 25V
JR207	1-216-864-11	METAL CHIP	0 5% 1/16W				
		< TRANSISTOR >		C158	1-164-816-11	CERAMIC CHIP	220PF 2.00% 50V
				C159	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
Q215	8-729-119-76	TRANSISTOR	2SA1175TP-HFE	C160	1-164-816-11	CERAMIC CHIP	220PF 2.00% 50V
Q216	8-729-083-23	TRANSISTOR	RT1N141C-TP-1	C162	1-164-816-11	CERAMIC CHIP	220PF 2.00% 50V
				C163	1-126-933-11	ELECT	100uF 20.00% 16V
				C164	1-126-964-11	ELECT	10uF 20.00% 50V
				C165	1-126-964-11	ELECT	10uF 20.00% 50V
				C166	1-126-964-11	ELECT	10uF 20.00% 50V
				C167	1-126-964-11	ELECT	10uF 20.00% 50V
				C168	1-126-947-11	ELECT	47uF 20.00% 16V
				C169	1-162-970-11	CERAMIC CHIP	0.01uF 10% 25V
				C171	1-126-947-11	ELECT	47uF 20.00% 16V

TA-VE25

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
C172	1-162-970-11	CERAMIC CHIP	0.01uF 10%			< JACK >	
C173	1-164-156-11	CERAMIC CHIP	0.1uF 25V				
C174	1-126-947-11	ELECT	47uF 20.00%	PJ151	1-784-429-11	JACK, PIN 4P (INPUT VIDEO/TV L/R)	
C175	1-164-156-11	CERAMIC CHIP	0.1uF 25V	PJ152	1-784-431-11	JACK, PIN 1P (INPUT COAXIAL AUX)	
C176	1-164-156-11	CERAMIC CHIP	0.1uF 25V			< TRANSISTOR >	
C177	1-164-156-11	CERAMIC CHIP	0.1uF 25V	Q101	8-729-808-42	TRANSISTOR 2SD1624-T-TD	
C178	1-164-156-11	CERAMIC CHIP	0.1uF 25V	Q102	8-729-808-42	TRANSISTOR 2SD1624-T-TD	
C179	1-164-156-11	CERAMIC CHIP	0.1uF 25V	Q151	8-729-808-42	TRANSISTOR 2SD1624-T-TD	
C184	1-126-964-11	ELECT	10uF 20.00%	Q152	8-729-900-36	TRANSISTOR BA1F4M-TP	
C185	1-126-964-11	ELECT	10uF 20.00%	Q153	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
C187	1-126-964-11	ELECT	10uF 20.00%			< RESISTOR >	
C192	1-164-156-11	CERAMIC CHIP	0.1uF 25V	R101	1-216-817-11	METAL CHIP 470 5%	1/16W
C193	1-126-959-11	ELECT	0.47uF 20.00%	R102	1-216-817-11	METAL CHIP 470 5%	1/16W
C194	1-126-964-11	ELECT	10uF 20.00%	R103	1-216-817-11	METAL CHIP 470 5%	1/16W
C195	1-126-964-11	ELECT	10uF 20.00%	R104	1-216-817-11	METAL CHIP 470 5%	1/16W
C196	1-126-964-11	ELECT	10uF 20.00%	R109	1-216-829-11	METAL CHIP 4.7K 5%	1/16W
C197	1-126-964-11	ELECT	10uF 20.00%	R151	1-216-809-11	METAL CHIP 100 5%	1/16W
C198	1-164-156-11	CERAMIC CHIP	0.1uF 25V	R152	1-216-809-11	METAL CHIP 100 5%	1/16W
C199	1-164-156-11	CERAMIC CHIP	0.1uF 25V	R153	1-216-817-11	METAL CHIP 470 5%	1/16W
		< CONNECTOR >		R154	1-216-817-11	METAL CHIP 470 5%	1/16W
CN101	1-784-930-11	PIN, CONNECTOR 15P		R155	1-216-817-11	METAL CHIP 470 5%	1/16W
		< DIODE >		R156	1-216-817-11	METAL CHIP 470 5%	1/16W
D101	8-719-016-74	DIODE 1SS352-TPH3		R157	1-218-285-11	METAL CHIP 75 5%	1/10W
D102	8-719-016-74	DIODE 1SS352-TPH3		R158	1-216-845-11	METAL CHIP 100K 5%	1/16W
D103	8-719-016-74	DIODE 1SS352-TPH3		R159	1-216-821-11	METAL CHIP 1K 5%	1/16W
D104	8-719-016-74	DIODE 1SS352-TPH3		R161	1-216-845-11	METAL CHIP 100K 5%	1/16W
D105	8-719-085-36	DIODE 11EQS04-TB5		R162	1-216-837-11	METAL CHIP 22K 5%	1/16W
D106	8-719-978-04	DIODE UDZ-TE-17-3.3B		R163	1-216-845-11	METAL CHIP 100K 5%	1/16W
D107	8-719-085-36	DIODE 11EQS04-TB5		R164	1-216-845-11	METAL CHIP 100K 5%	1/16W
D108	8-719-085-36	DIODE 11EQS04-TB5		R165	1-216-821-11	METAL CHIP 1K 5%	1/16W
D109	8-719-085-36	DIODE 11EQS04-TB5		R166	1-216-849-11	METAL CHIP 220K 5%	1/16W
		< FERRITE BEAD >		R167	1-216-849-11	METAL CHIP 220K 5%	1/16W
FB101	1-469-981-21	FERRITE 0UH		R168	1-216-849-11	METAL CHIP 220K 5%	1/16W
FB102	1-469-981-21	FERRITE 0UH		R169	1-216-849-11	METAL CHIP 220K 5%	1/16W
FB103	1-469-350-21	FERRITE 0UH		R170	1-216-849-11	METAL CHIP 220K 5%	1/16W
FB151	1-469-350-21	FERRITE 0UH		R171	1-216-849-11	METAL CHIP 220K 5%	1/16W
		< IC >		R173	1-216-849-11	METAL CHIP 220K 5%	1/16W
IC102	8-759-094-53	IC TA7805S(LBSONY)		R174	1-216-849-11	METAL CHIP 220K 5%	1/16W
IC151	6-600-013-01	IC TORX179L		R176	1-216-837-11	METAL CHIP 22K 5%	1/16W
IC152	6-600-013-01	IC TORX179L		R177	1-216-833-11	METAL CHIP 10K 5%	1/16W
IC153	8-759-424-13	IC MC74HC00AFEL		R178	1-216-833-11	METAL CHIP 10K 5%	1/16W
IC155	8-759-424-13	IC MC74HC00AFEL		R179	1-216-833-11	METAL CHIP 10K 5%	1/16W
IC156	8-759-385-76	IC MC14052 BDR2		R181	1-216-837-11	METAL CHIP 22K 5%	1/16W
IC157	8-759-710-97	IC NJM4565M(TE2)		R182	1-216-837-11	METAL CHIP 22K 5%	1/16W
IC158	8-759-710-97	IC NJM4565M(TE2)		R183	1-216-833-11	METAL CHIP 10K 5%	1/16W
IC159	8-759-242-70	IC TC7WU04F(TE12R)		R184	1-216-821-11	METAL CHIP 1K 5%	1/16W
		< JACK >		R185	1-216-833-11	METAL CHIP 10K 5%	1/16W
J101	1-816-826-11	SOCKET, CONNECTOR (DIN) 13P (CONTROL)		R186	1-216-821-11	METAL CHIP 1K 5%	1/16W
		< COIL >		R187	1-216-833-11	METAL CHIP 10K 5%	1/16W
L101	1-412-507-11	INDUCTOR 47uH		R188	1-216-833-11	METAL CHIP 10K 5%	1/16W
				R189	1-216-824-11	METAL CHIP 1.8K 5%	1/16W
				R190	1-216-821-11	METAL CHIP 1K 5%	1/16W
				R191	1-216-821-11	METAL CHIP 1K 5%	1/16W
				R192	1-216-854-11	METAL CHIP 560K 5%	1/16W
				R193	1-216-821-11	METAL CHIP 1K 5%	1/16W
				R194	1-216-854-11	METAL CHIP 560K 5%	1/16W

Ref. No.	Part No.	Description			Remarks
R195	1-216-854-11	METAL CHIP	560K	5%	1/16W
R196	1-216-821-11	METAL CHIP	1K	5%	1/16W
R197	1-216-807-11	METAL CHIP	68	5%	1/16W
R198	1-216-813-11	METAL CHIP	220	5%	1/16W
R242	1-216-821-11	METAL CHIP	1K	5%	1/16W

< TRANSFORMER >

T101 1-437-890-11 TRANSFORMER, DC-DC CONVERTER

1-685-836-11 SW BOARD

< CAPACITOR >

C201	1-124-589-11	ELECT	47uF	20%	16V
C219	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V

< DIODE >

D213 8-719-016-74 DIODE 1SS352-TPH3

< IC >

IC201 6-600-162-01 IC GP1UMZ8SXK0F (R)

< TRANSISTOR >

Q214 8-729-119-76 TRANSISTOR 2SA1175TP-HFE

< RESISTOR >

R202	1-216-805-11	METAL CHIP	47	5%	1/16W
R204	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R205	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R206	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R207	1-216-821-11	METAL CHIP	1K	5%	1/16W
R245	1-216-833-11	METAL CHIP	10K	5%	1/16W
R247	1-216-829-11	METAL CHIP	4.7K	5%	1/16W

< SWITCH >

S201	1-572-184-11	SWITCH, KEYBOARD (I/⏻)
S202	1-572-184-11	SWITCH, KEYBOARD (VIDEO)
S203	1-572-184-11	SWITCH, KEYBOARD (TV)
S204	1-572-184-11	SWITCH, KEYBOARD (AUX)
S205	1-572-184-11	SWITCH, KEYBOARD (SAT)

S206 1-572-184-11 SWITCH, KEYBOARD (DVD)
