

STR-VE250

SERVICE MANUAL

Ver 1.0 2003.08

AEP Model
UK Model
E Model



- This set is the Amplifier section in HT-K250.

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

Inputs (Digital)

AUX (Coaxial) Impedance: 75 ohms
S/N: 90 dB
(A, 20 kHz LPF)

DVD, SAT (Optical) S/N: 90 dB
(A, 20 kHz LPF)

Inputs (Analog)

TV, VIDEO Sensitivity: 700 mV
Impedance: 50 kohms
S/N: 84 dB
(A, 20 kHz LPF)

AM tuner section

Tuning range 531 kHz – 1,602 kHz
(With 9-kHz tuning scale)
Antenna Loop antenna
Usable sensitivity 50 dB/m (at 999 kHz)
S/N 54 dB (at 50 mV/m)
Harmonic distortion 1.0% (50 mV/m, 400 Hz)

FM tuner section

Tuning range 87.50 MHz – 108.0 MHz
Antenna terminals 75 ohms, unbalanced
S/N
Mono: 76 dB
Stereo: 70 dB
Sensitivity
Mono: 18.3 dBf, 2.2 μ V/75 ohms
Stereo: 38.3 dBf, 22.5 μ V/75 ohms
Useable sensitivity 11.2 dBf, 1 μ V/75 ohms
Harmonic distortion at 1 kHz
Mono: 0.3%
Stereo: 0.5%
Separation 45 dB at 1 kHz
Frequency response 30 Hz – 15 kHz,
+0.5/–2 dB
Selectivity 60 dB at 400 kHz

General

Power requirements

Power voltage is DC 12V, 5.6V and fed with subwoofer (SA-WMSP250) from external CONTROL jack.

Dimensions (w/h/d)

Control center: 58 × 215 × 308 mm
Control center (with the stand): 130 × 233 × 308 mm

Mass (Approx.)

Control center: 1.3 kg
Control center (with the stand): 1.4 kg

HOME THEATER SYSTEM

9-961-121-01
2003H1678-1
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Home Audio Company
Published by Sony Engineering Corporation

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 (STR-VE250) and subwoofer (SA-WMSP250)) 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.

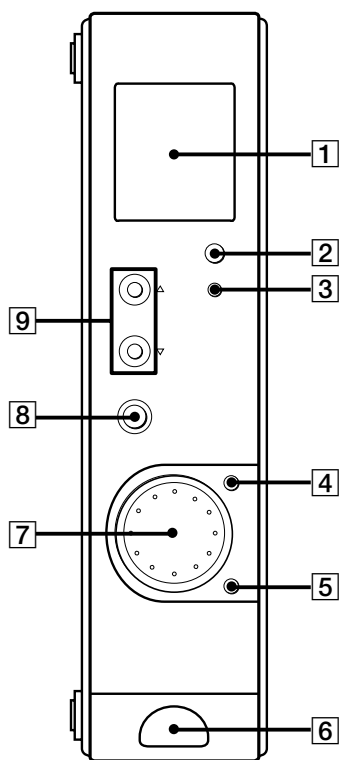
Control center

ALPHABETICAL ORDER

- Display **1** (17)
 DISPLAY POSITION **3** (18)
 INPUT SELECTOR **8** (16, 18, 19)
 MUTING **5** (16, 30)
 Remote sensor **2**
 SOUND FIELD Δ/∇ **9**
 VOL/PRESET TUNING **4** (19)
 VOL/PRESET TUNING control
7 (16, 19, 27)

NUMBERS AND SYMBOLS

- I/⏻ (power) **6**



Remote control

ALPHABETICAL ORDER

A - N

A.F.D. **25**
 AAC BI-LING **44**
 ALT **30** (18, 19, 20, 23)
 ANGLE **42**
 ANT **18**
 AUDIO **43**
 AUX **21** (16, 25, 31)
 AV I/⏻ (power) **2** (25)
 AV MENU **32**
 CLEAR **8**
 D.TUNING **26** (18)
 DISC **31**
 DISPLAY **36** (31)
 DVD **23** (16, 25, 31)
 ENTER/12 **7**
 FM MODE **45** (19)
 JUMP **29**
 MAIN MENU **34** (22, 26, 27, 28)
 MASTER VOL +/- **11** (15, 16, 25, 27)
 MEMORY **19** (19)
 MUTING **10** (16, 30)
 Numeric buttons **20** (18, 19, 20, 25)

P - T

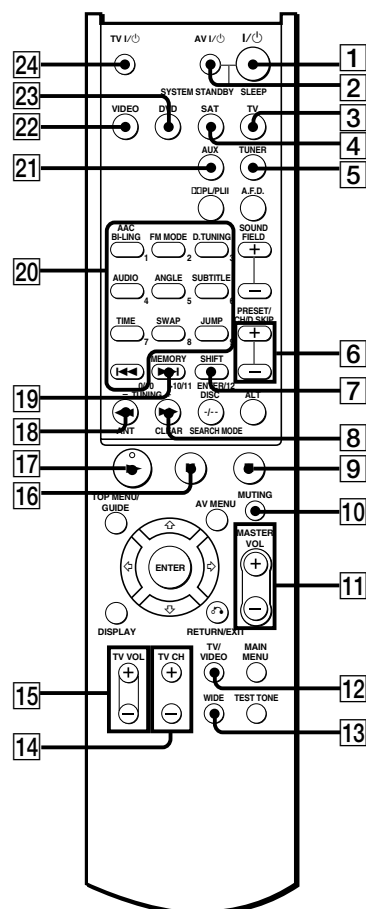
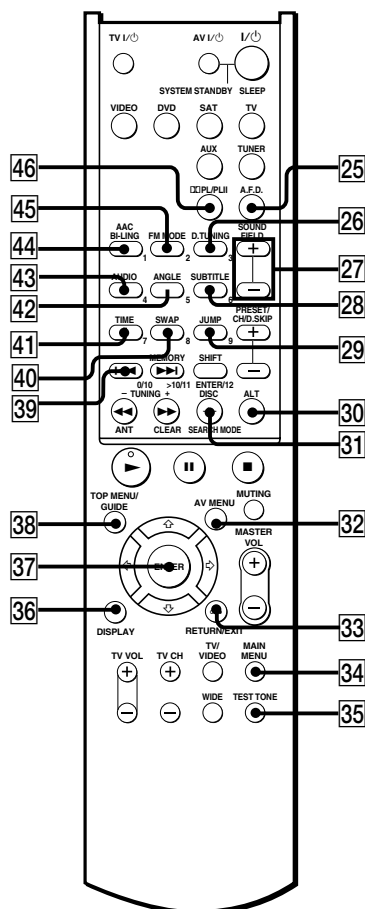
□□PL/PLII **46**
 PRESET/CH/D.SKIP +/- **6** (20)
 RETURN ⏮/EXIT **33**
 SAT **4** (16, 25, 31)
 SEARCH MODE **31**
 SHIFT **7** (19, 20)
 SLEEP **1** (23)
 SOUND FIELD +/- **27** (21, 30)
 SUBTITLE **28**
 SWAP **40**
 TEST TONE **35** (15, 27)
 TIME **41**
 TOP MENU/GUIDE **38**
 TUNER **5** (16, 18, 19, 20, 25)
 TUNING + **8** (18, 19)
 TUNING - **18** (18, 19)
 TV **3** (16, 25)
 TV CH +/- **14**
 TV VOL +/- **15**
 TV/VIDEO **12**
 TV I/⏻ (power) **24**

V - W

VIDEO **22** (16, 25)
 WIDE **13**

NUMBERS AND SYMBOLS

I/⏻ (power) **1**
 ⬆/⬇/⬆/⬇ **37** (22, 26, 27, 28)
 ►► **8** (24)
 ◀◀ **18** (24)
 ►► **19**
 ◀◀ **39**
 ► **17**
 || **16**
 ■ **9**
 -/-- **31**
 0/10 **39** (25)
 >10/11 **19**



SECTION 2 TEST MODE

Note: Before loading test mode. Be sure to bring in the entire system (control center (STR-VE250) and subwoofer(SA-WMSP250)). 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 **DISPLAY POSITION** button, press the **I/O** button to turn on the main power. The destination and the software version are displayed for four seconds.

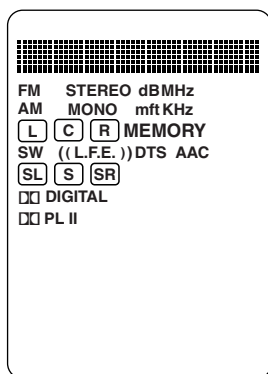
[Liquid Crystal Display Test Mode]

* Liquid Crystal Display is tested when this test is activated.

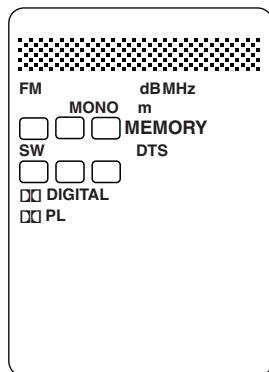
Procedure:

While depressing the **DISPLAY POSITION** and the **INPUT SELECTOR** buttons simultaneously, press the **I/O** button to turn on the main power.

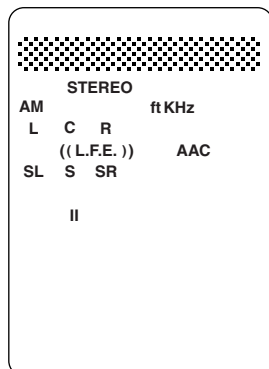
1. All segments turn on (Vertical display).



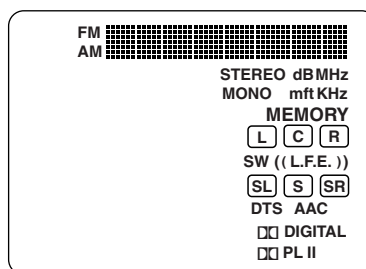
2. Press the **SOUND FIELD ▲** button, confirm the display.



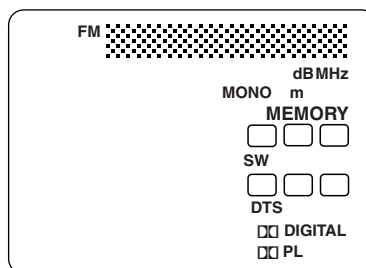
3. Press the **SOUND FIELD ▲** button, confirm the display.



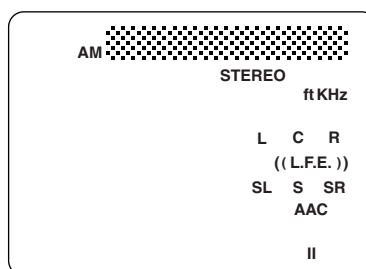
4. Press the **SOUND FIELD ▲** button, all segments turn on (Horizontal display).



5. Press the **SOUND FIELD ▲** button, confirm the display.



6. Press the **SOUND FIELD ▲** button, confirm the display.



7. Every pressing of the **SOUND FIELD ▲** button turns on each segment one after another in the same order. (not only the **SOUND FIELD ▲** button, but also the **SOUND FIELD ▼** button can be used.)
8. To exit from this mode, press the **I/O** button.

[All Clear Mode]

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

Procedure:

While depressing the **MUTING** and the **INPUT SELECTOR** buttons simultaneously, press the **I/O** button to turn on the main power. The message "INITIAL" is displayed for four seconds and initialization is performed.

[Sound Field Clear Mode]

* The preset sound field is cleared when this mode is activated.

Use this mode before returning the product to clients upon completion of repair.

Procedure:

1. While depressing the **VOL/PRESET TUNING** and the **SOUND FIELD ▲** buttons, press the **I/O** button to turn on the main power.
2. The message "SURR.CLR" appears and initialization is performed.

STR-VE250

[DSP Test]

* DSP communication parameter swap mode is set when this mode is activated.

Procedure:

While depressing the **DISPLAY POSITION** 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 **VOL/PRESET TUNING** button, the message “SWAP ALL” is displayed and DSP swap mode is set to ALL.
3. Press the **VOL/PRESET TUNING** button, the message “SWAP CSW” is displayed and DSP swap mode is set to CSW.
4. Press the **VOL/PRESET TUNING** button, the message “SWAP SLR” is displayed and DSP swap mode is set to SLR.
5. Press the **VOL/PRESET TUNING** button, the message “SWAP NRM” is displayed and DSP swap mode is set to OFF.
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 **MUTING** and the **SOUND FIELD ▲** buttons simultaneously, press the **I/⏻** button to turn on the main power.

1. The message “123456” 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

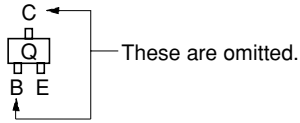
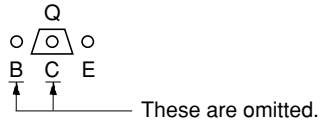
- 1 : **DISPLAY POSITION**,
- 2 : **MUTING**,
- 3 : **VOL/PRESET TUNING**,
- 4 : **INPUT SELECTOR**,
- 5 : **SOUND FIELD ▲**,
- 6 : **SOUND FIELD ▼**

SECTION 3
DIAGRAMS

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.

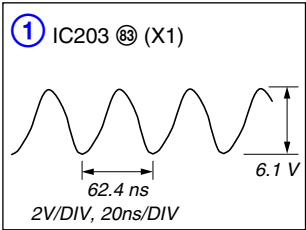


Note on Schematic Diagram:

- 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 $\frac{1}{4}\text{W}$ 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

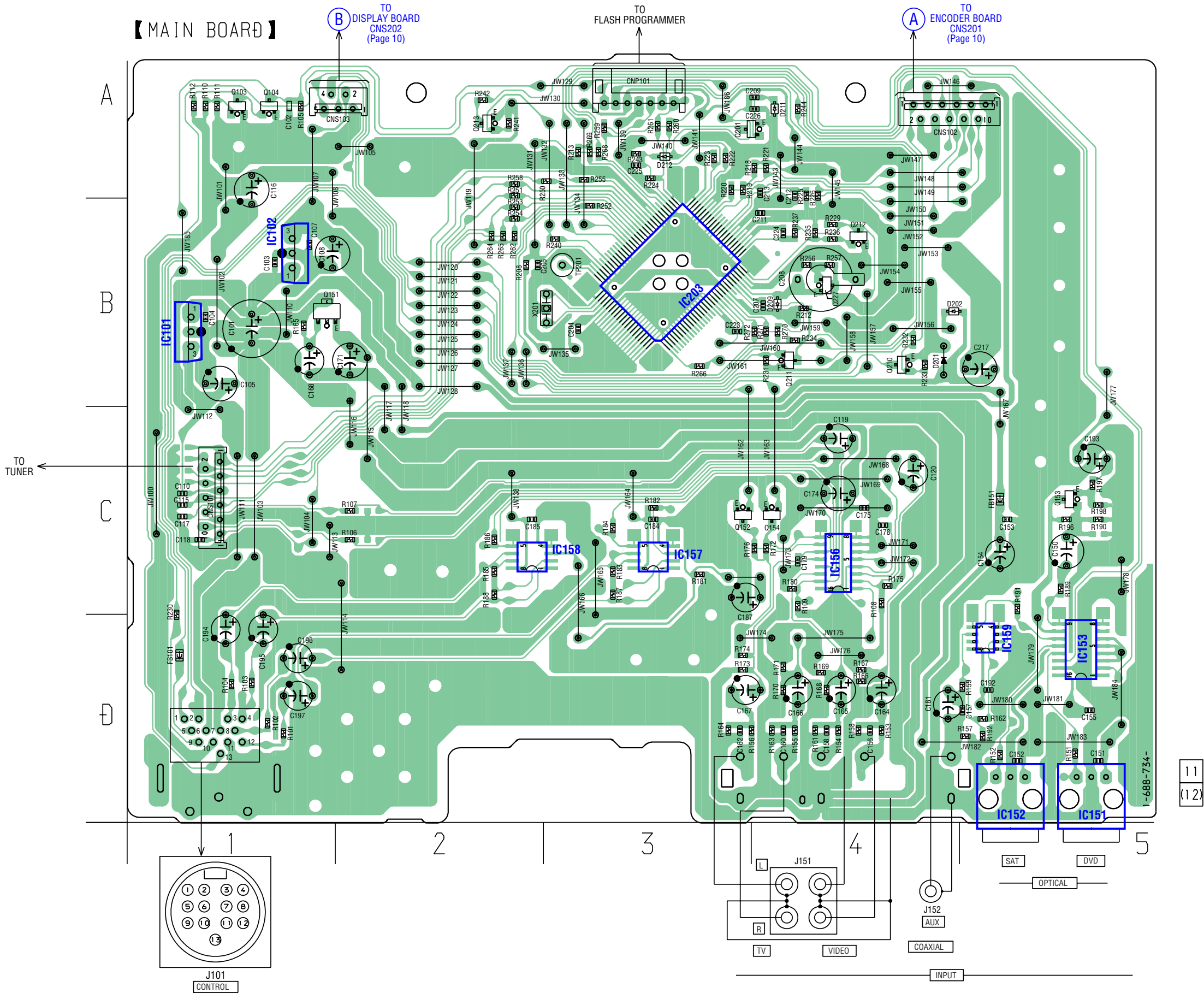
Waveforms

– MAIN Board –



3-1. PRINTED WIRING BOARD – MAIN SECTION –

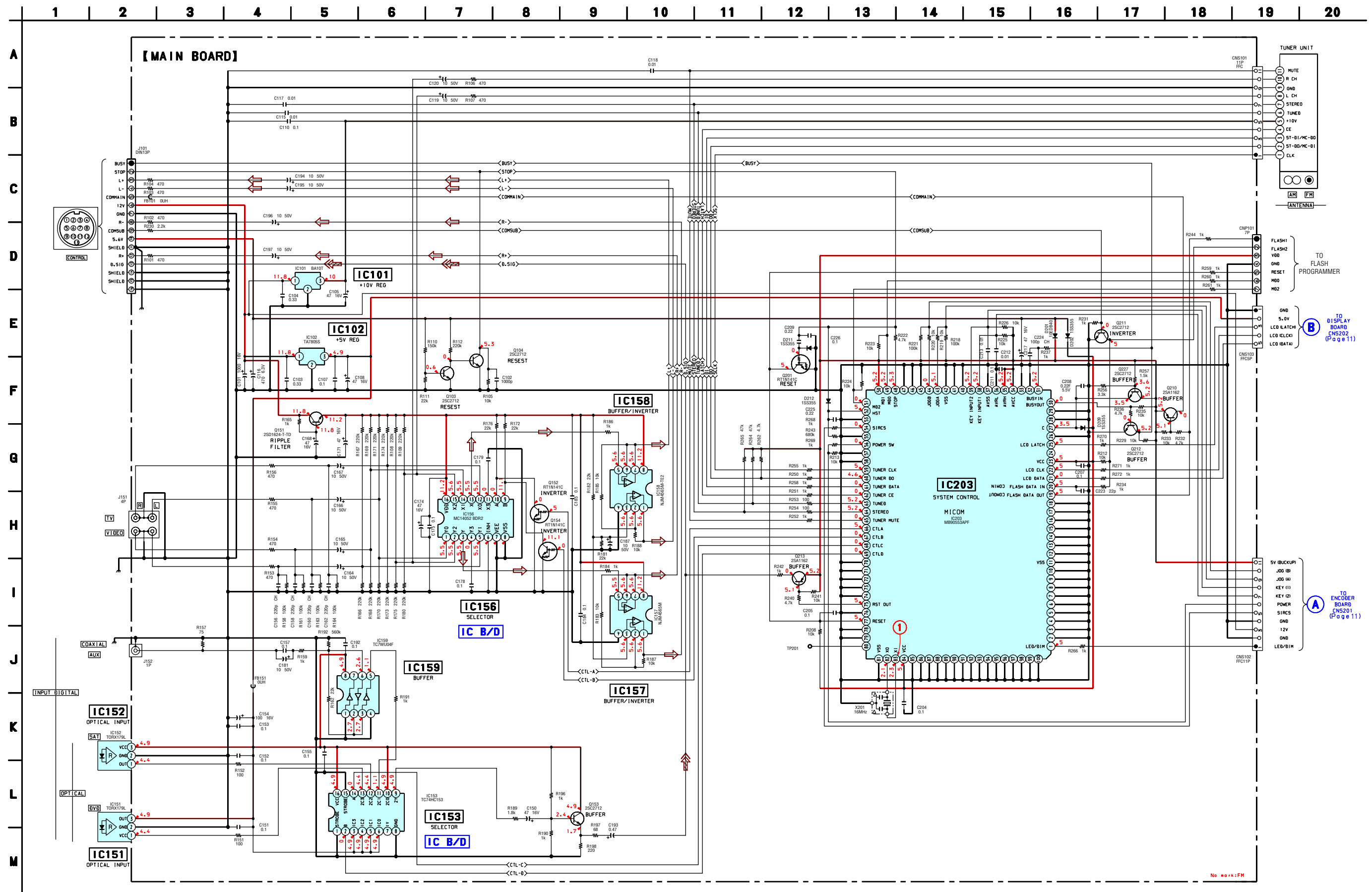
•  : Uses unleaded solder.



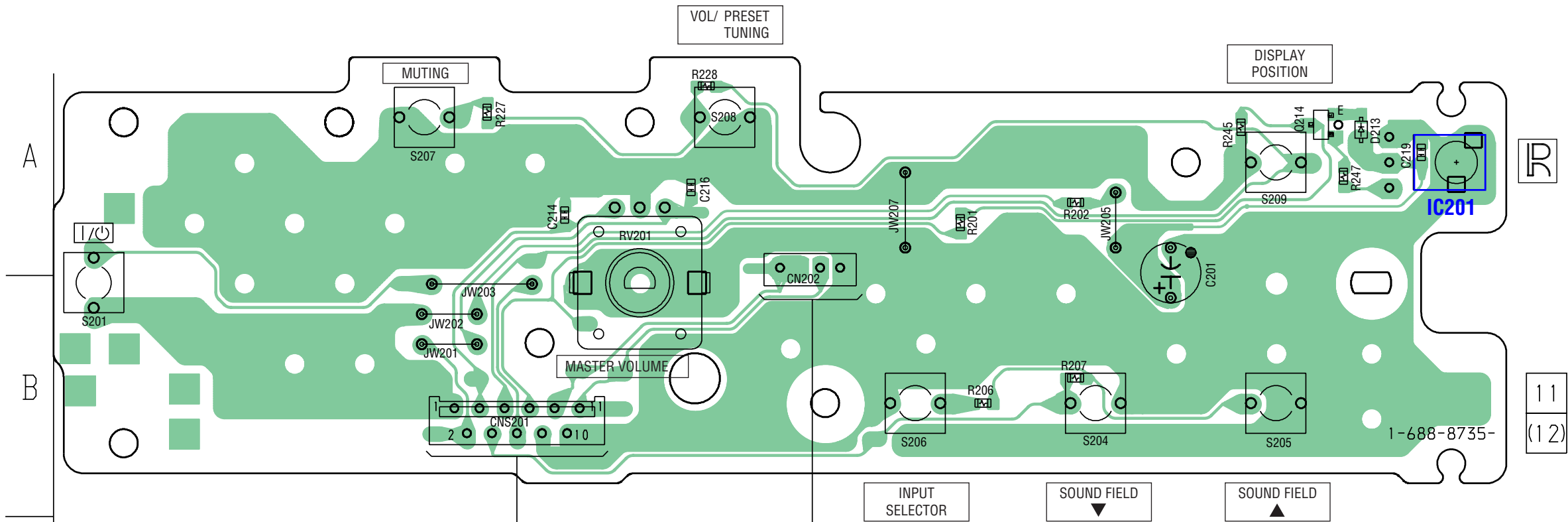
• Semiconductor Location

Ref. No.	Location
D201	B-4
D202	B-4
D209	B-4
D211	A-4
D212	A-3
IC101	B-1
IC102	B-1
IC151	D-5
IC152	D-5
IC153	D-5
IC156	C-4
IC157	C-3
IC158	C-2
IC159	D-5
IC203	B-3
Q103	A-1
Q104	A-1
Q151	B-1
Q152	C-3
Q153	C-5
Q154	C-4
Q201	B-4
Q210	A-3
Q211	B-4
Q212	B-4
Q213	A-2
Q227	B-4

3-2. SCHEMATIC DIAGRAM – MAIN SECTION – • See page 7 for Waveform. • See page 13 for IC Block Diagrams. • See page 12 for IC Pin Function Description.



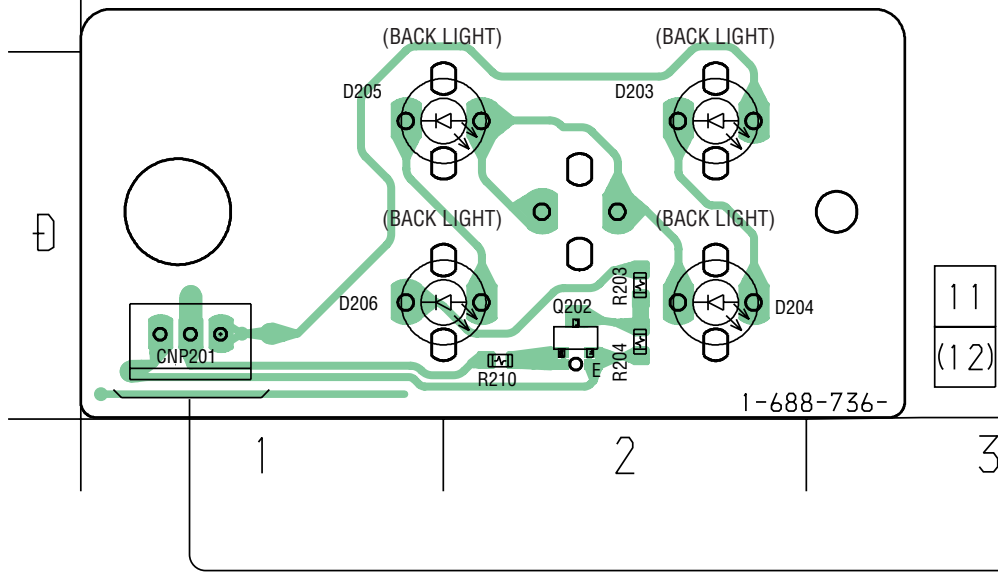
【ENCODER BOARD】



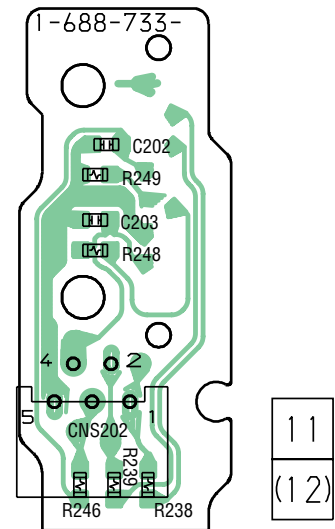
• Semiconductor Location

Ref. No.	Location
D203	D-2
D204	D-2
D205	D-1
D206	D-1
D213	A-6
IC201	A-6
Q202	D-2
Q214	A-6

【LED-2 BOARD】

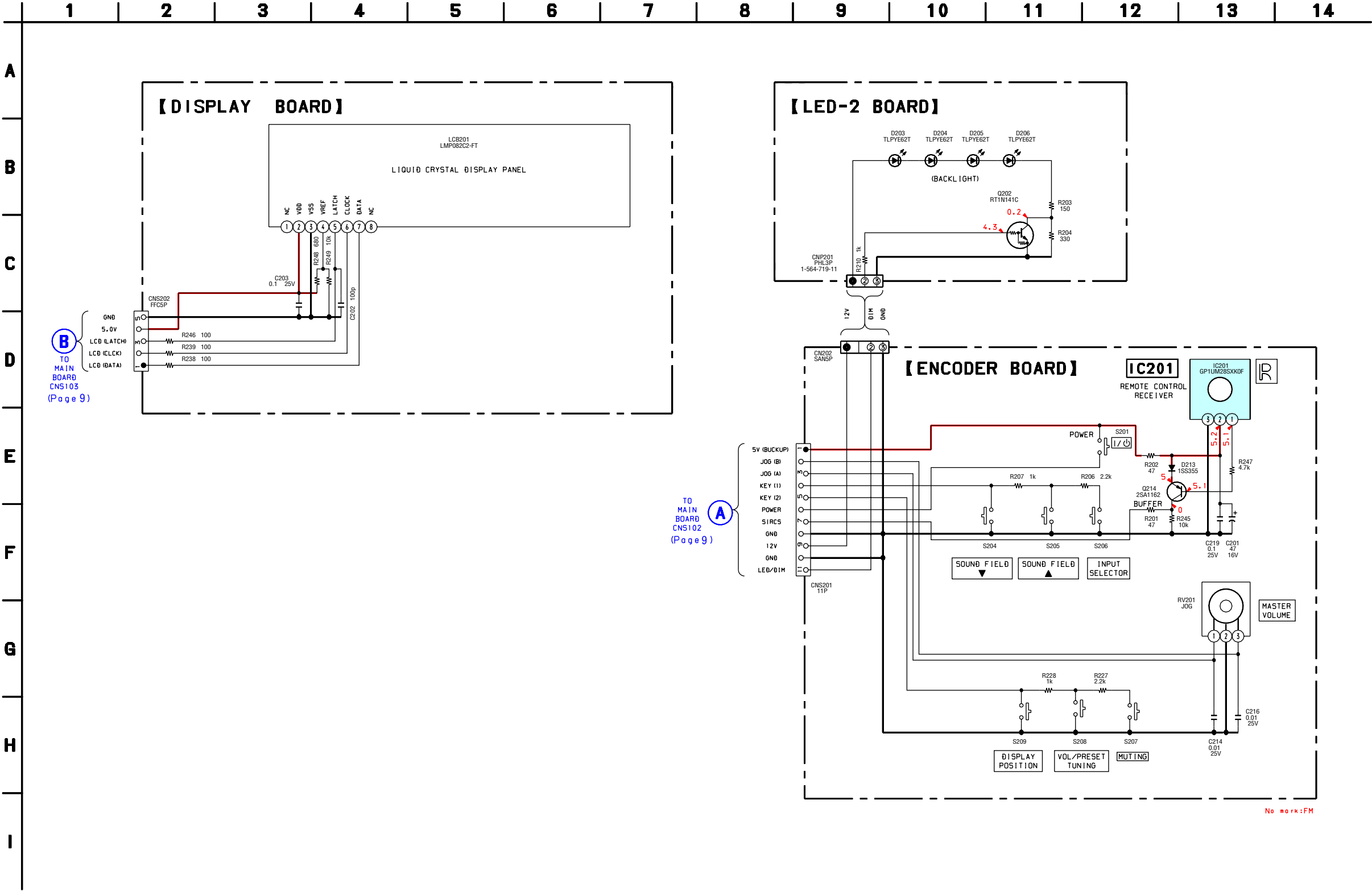


【DISPLAY BOARD】



TO MAIN BOARD
CNS103 (Page 8)

3-4. SCHEMATIC DIAGRAM – FRONT PANEL SECTION –



3-5. IC PIN FUNCTION DESCRIPTION
• IC203 MB90553ABPF-G-235-BND SYSTEM CONTROL (MAIN Board)

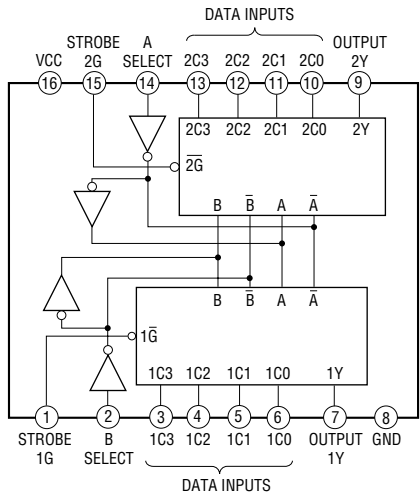
Pin No.	Pin Name	I/O	Description
1	LED/DIM	O	Backlight LED control signal output “H” : ON
2 to 8	P21 to P27	—	General purpose I/O port Not used (ground)
9, 10	P30, P31	—	General purpose I/O port Not used (ground)
11	VSS	—	Ground
12 to 17	P32 to P37	—	General purpose I/O port Not used (ground)
18	P40	—	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	LCD DATA	O	Serial data output to the liquid crystal display (LCD201)
22	LCD CLK	O	Clock output to the liquid crystal display (LCD201)
23	VCC	—	Power supply
24	P37	—	General purpose I/O port Not used (open)
25	LCD LATCH	O	Latch signal output to the liquid crystal display (LCD201)
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 (S207 to S209)
39	KEY INPUT2	I	Key signal input from the function switches (S204 to S206)
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	P70	—	General purpose I/O port Not used (ground)
48	STOP	I	AC OFF signal input “L” : AC OFF
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	P72	—	Not used (ground)
54	SIRCS	I	Remote control receiver data input from the IC201
55	P74	—	Not used (ground)
56	POWER SW	I	Power key input
57	P76	—	General purpose I/O port Not used (ground)
58	P77	—	General purpose I/O port Not used (ground)
59	TUNER CLK	O	Serial data transfer clock output to the tuner
60	TUNER DO	I	Serial data input from the tuner
61	TUNER DATA	O	Serial data output to the tuner
62	TUNER CE	O	Chip enable signal output to the tuner
63	TUNED	I	Tuning detection signal input from the tuner
64	STEREO	I	Stereo tuning detection signal input from the tuner

Pin No.	Pin Name	I/O	Description
65	TUNER MUTE	O	Muting signal output to the tuner
66	CTLA	O	Analog input selection signal output
67	CTLB	O	Analog input selection signal output
68	CTLC	O	Digital input selection signal output
69	CTLD	O	Digital input selection signal output
70	CTLE	—	Not used (ground)
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)

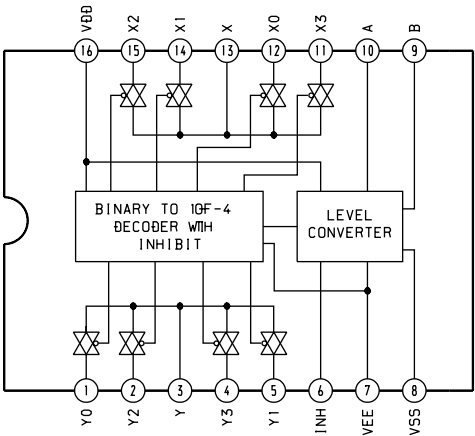
3-6. IC BLOCK DIAGRAM

— MAIN Board —

IC153 TC74HC153AF(EL)



IC156 MC14052_BDR2



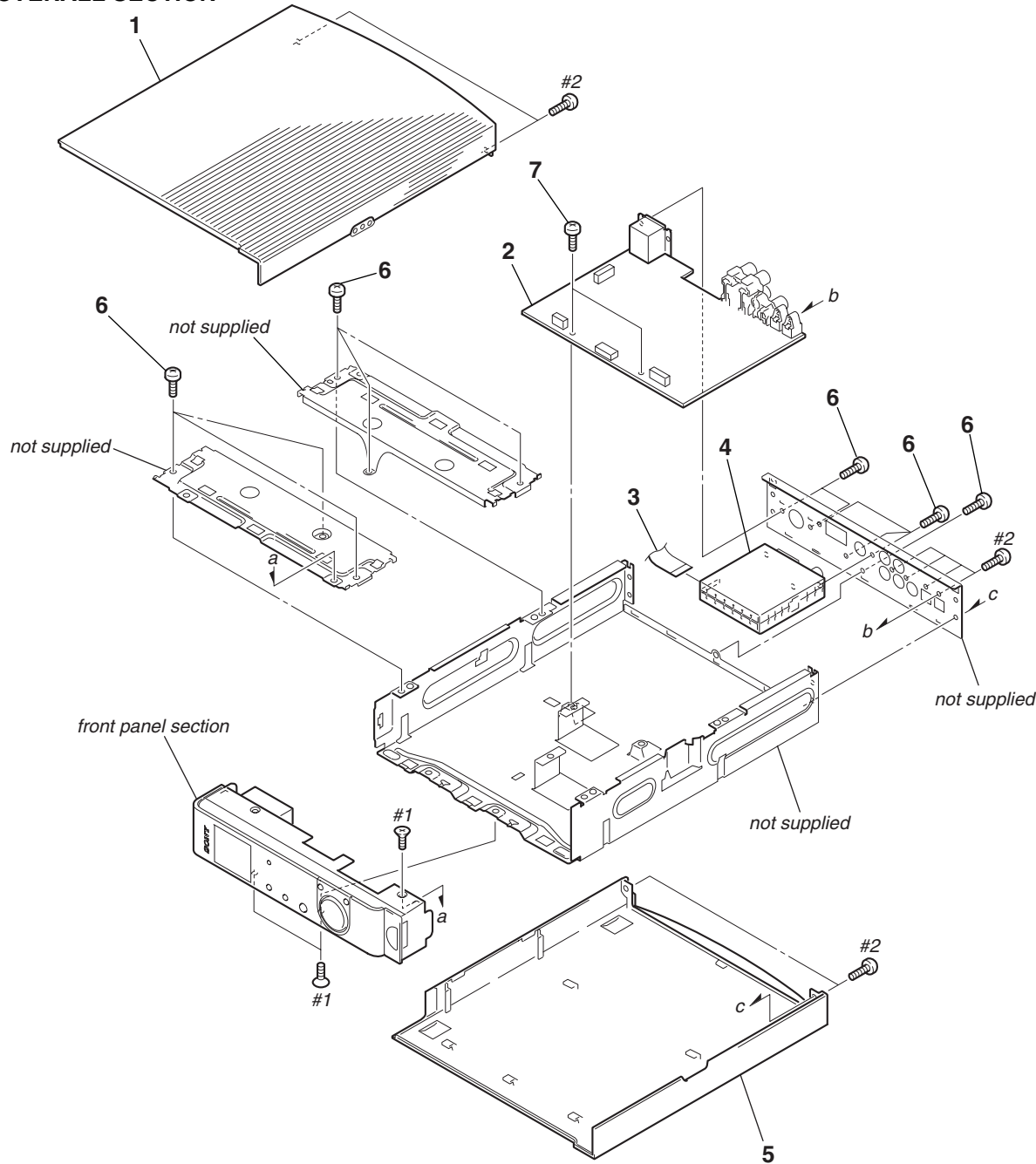
SECTION 4
EXPLODED VIEWS

NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.

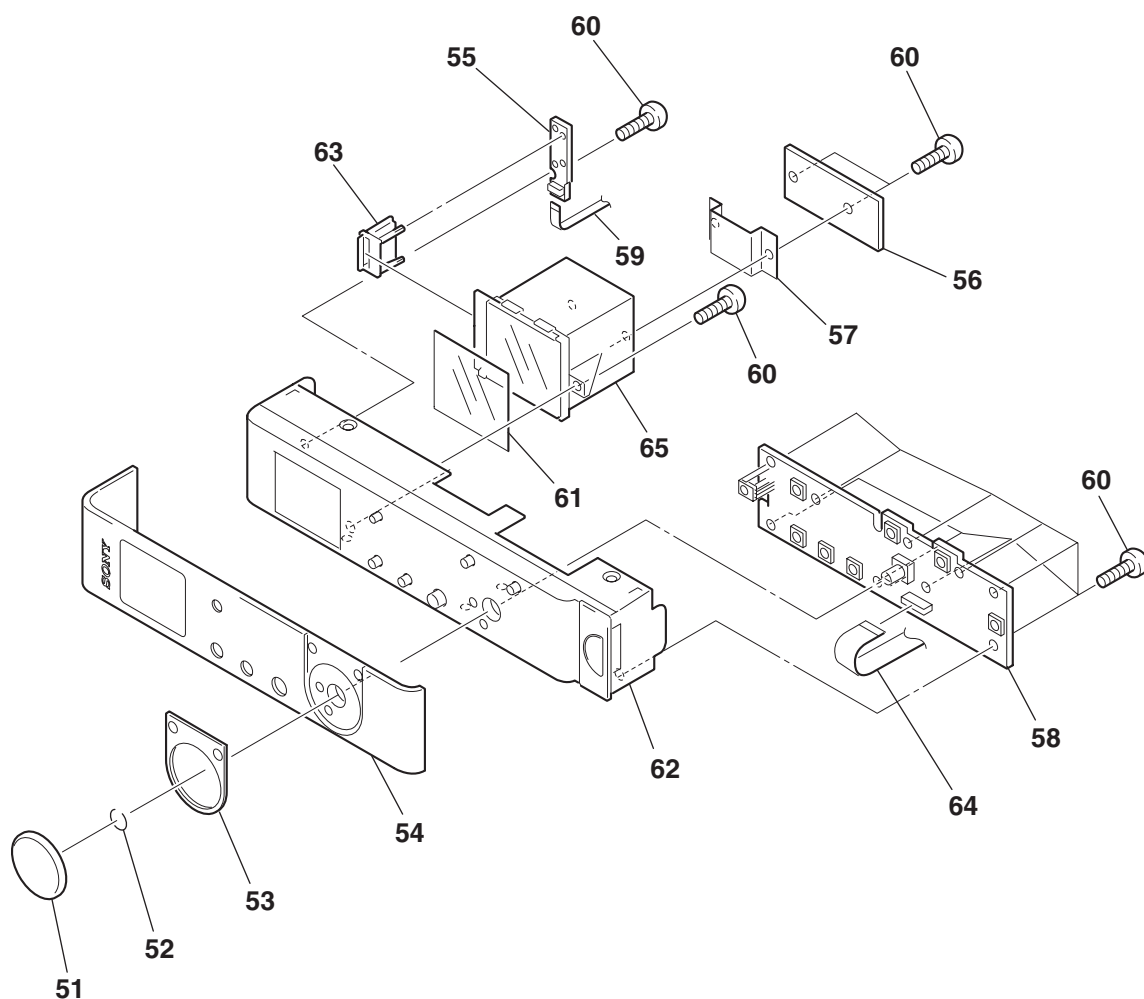
- The mechanical parts with no reference number in the exploded views are not supplied.
- Accessories and packing materials are given in the last of this parts list.

4-1. OVERALL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-083-212-11	CASE, UPPER		6	3-077-331-01	+BV3 (3-CR)	
2	A-4734-301-A	MAIN BOARD, COMPLETE		7	3-077-331-21	+BV3 (3-CR)	
3	1-769-937-11	WIRE (FLAT TYPE) (11 CORE)		#1	7-621-559-29	+K 2.6X4	
4	1-693-641-11	TUNER		#2	7-685-646-79	SCREW +BVTP 3X8 TYPE2 TT (B)	
5	X-4955-684-1	CASE ASSY, LOWER					

4-2. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-247-063-01	KNOB (VOL)		59	1-769-853-11	WIRE (FLAT TYPE) (5 CORE)	
52	4-946-017-11	SPRING, RING		60	4-951-620-01	SCREW (2.6X8), +BVTP	
53	4-247-066-01	RING (VOL)		61	4-247-074-01	FILM	
54	4-247-075-01	PANEL (FRONT)		62	X-4955-647-1	PANEL ASSY, FRONT	
55	A-4734-300-A	DISPLAY BOARD, COMPLETE		63	3-362-478-21	HOLDER(T),LED	
56	A-4734-303-A	LED-2 BOARD, COMPLETE		64	1-769-950-11	WIRE (FLAT TYPE) (11 CORE)	
57	4-250-653-01	ILLUMINATOR (B)		65	4-247-061-01	ILLUMINATOR	
58	A-4734-302-A	ENCODER BOARD, COMPLETE					

DISPLAY

ENCODER

LED-2

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

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

Ref. No.	Part No.	Description	Remarks			
	A-4734-300-A	DISPLAY BOARD, COMPLETE	*****			
*	3-362-478-21	HOLDER (T), LED				
		< CAPACITOR >				
C202	1-162-927-11	CERAMIC CHIP	100PF	5%	50V	
C203	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
		< CONNECTOR >				
CNS202	1-784-727-11	CONNECTOR, FFC 5P				
		< LIQUID CRYSTAL DISPLAY PANEL >				
LCB201	1-805-249-11	DISPLAY PANEL, LIQUID CRYSTAL				
		< RESISTOR >				
R238	1-216-809-11	METAL CHIP	100	5%	1/16W	
R239	1-216-809-11	METAL CHIP	100	5%	1/16W	
R246	1-216-809-11	METAL CHIP	100	5%	1/16W	
R248	1-216-819-11	METAL CHIP	680	5%	1/16W	
R249	1-216-833-11	METAL CHIP	10K	5%	1/16W	

	A-4734-302-A	ENCODER BOARD, COMPLETE	*****			
		< CAPACITOR >				
C201	1-124-589-11	ELECT	47uF	20%	16V	
C214	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C216	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V	
C219	1-164-156-11	CERAMIC CHIP	0.1uF		25V	
		< CONNECTOR >				
CNS201	1-568-830-11	CONNECTOR, FFC 11P				
		< DIODE >				
D213	8-719-988-61	DIODE 1SS355TE-17				
		< IC >				
IC201	6-600-162-01	IC GP1UM28SXX0F				
		< TRANSISTOR >				
Q214	8-729-216-22	TRANSISTOR	2SA1162-YG-TE85L			

Ref. No.	Part No.	Description	Remarks			
< RESISTOR >						
R201	1-216-805-11	METAL CHIP	47	5%	1/16W	
R202	1-216-805-11	METAL CHIP	47	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	
R227	1-216-825-11	METAL CHIP	2.2K	5%	1/16W	
R228	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	
< VARIABLE RESISTOR >						
RV201	1-476-191-11	ENCODER, ROTARY				
< SWITCH >						
S201	1-572-184-11	SWITCH, KEYBOARD(I/⏻)				
S204	1-572-184-11	SWITCH, KEYBOARD(SOUND FIELD ▼)				
S205	1-572-184-11	SWITCH, KEYBOARD(SOUND FIELD ▲)				
S206	1-572-184-11	SWITCH, KEYBOARD(INPUT SELECTOR)				
S207	1-572-184-11	SWITCH, KEYBOARD(MUTING)				
S208	1-572-184-11	SWITCH, KEYBOARD(VOL/PRESET TUNING)				
S209	1-572-184-11	SWITCH, KEYBOARD(DISPLAY POSITION)				

A-4734-303-A		LED-2 BOARD, COMPLETE	*****			
< DIODE >						
D203	6-500-713-01	DIODE TLPYE62T(TPJ52)				
D204	6-500-713-01	DIODE TLPYE62T(TPJ52)				
D205	6-500-713-01	DIODE TLPYE62T(TPJ52)				
D206	6-500-713-01	DIODE TLPYE62T(TPJ52)				
< TRANSISTOR >						
Q202	8-729-027-43	TRANSISTOR	RT1N141C-TP-1			
< RESISTOR >						
R203	1-216-811-11	METAL CHIP	150	5%	1/16W	
R204	1-216-815-11	METAL CHIP	330	5%	1/16W	
R210	1-216-821-11	METAL CHIP	1K	5%	1/16W	

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
	A-4734-301-A	MAIN BOARD, COMPLETE *****		C223	1-162-919-11	CERAMIC CHIP 22PF 5%	50V
		< CAPACITOR >		C224	1-162-927-11	CERAMIC CHIP 100PF 5%	50V
C101	1-126-767-11	ELECT 1000uF	20.00% 16V	C225	1-115-467-11	CERAMIC CHIP 0.22uF 10.00%	10V
C102	1-115-416-11	CERAMIC CHIP 0.001uF	5.00% 25V	C226	1-164-156-11	CERAMIC CHIP 0.1uF	25V
C103	1-165-112-11	CERAMIC CHIP 0.33uF	16V			< CONNECTOR >	
C104	1-165-112-11	CERAMIC CHIP 0.33uF	16V	CNP101	1-564-723-11	PIN, CONNECTOR (SMALL TYPE) 7P	
C105	1-126-947-11	ELECT 47uF	20.00% 16V	CNS101	1-568-830-11	CONNECTOR, FFC 11P	
				CNS102	1-568-830-11	CONNECTOR, FFC 11P	
C107	1-164-156-11	CERAMIC CHIP 0.1uF	25V	CNS103	1-784-766-11	CONNECTOR, FFC 5P	
C108	1-126-947-11	ELECT 47uF	20.00% 16V			< DIODE >	
C110	1-164-156-11	CERAMIC CHIP 0.1uF	25V	D201	6-500-522-21	DIODE 10EDB40-TB3	
C115	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	D202	8-719-988-61	DIODE 1SS355TE-17	
C116	1-126-935-11	ELECT 470uF	20.00% 6.3V	D209	8-719-988-61	DIODE 1SS355TE-17	
				D211	8-719-988-61	DIODE 1SS355TE-17	
C117	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V	D212	8-719-988-61	DIODE 1SS355TE-17	
C118	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V			< FERRITE BEAD >	
C119	1-126-964-11	ELECT 10uF	20.00% 50V	FB101	1-469-152-11	FERRITE 0UH	
C120	1-126-964-11	ELECT 10uF	20.00% 50V	FB151	1-469-152-11	FERRITE 0UH	
C150	1-126-947-11	ELECT 47uF	20.00% 16V			< IC >	
				IC101	8-759-473-41	IC BA10T	
C151	1-164-156-11	CERAMIC CHIP 0.1uF	25V	IC102	8-759-231-53	IC TA7805S	
C152	1-164-156-11	CERAMIC CHIP 0.1uF	25V	IC151	6-600-013-01	IC TORX179L(INPUT OPTICAL DVD)	
C153	1-164-156-11	CERAMIC CHIP 0.1uF	25V	IC152	6-600-013-01	IC TORX179L(INPUT OPTICAL SAT)	
C154	1-126-933-11	ELECT 100uF	20.00% 16V	IC153	8-759-926-17	IC TC74HC153AF(EL)	
C155	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C156	1-164-816-11	CERAMIC CHIP 220PF	2.00% 50V	IC156	8-759-385-76	IC MC14052 BDR2	
C157	1-164-156-11	CERAMIC CHIP 0.1uF	25V	IC157	8-759-710-97	IC NJM4565M(TE2)	
C158	1-164-816-11	CERAMIC CHIP 220PF	2.00% 50V	IC158	8-759-710-97	IC NJM4565M(TE2)	
C160	1-164-816-11	CERAMIC CHIP 220PF	2.00% 50V	IC159	8-759-242-70	IC TC7WU04F(TE12R)	
C162	1-164-816-11	CERAMIC CHIP 220PF	2.00% 50V	IC203	6-803-043-01	IC MB90553ABPF-G-235-BND	
						< JACK >	
C164	1-126-964-11	ELECT 10uF	20.00% 50V	J101	1-816-826-11	SOCKET, CONNECTOR (DIN) 13P(CONTROL)	
C165	1-126-964-11	ELECT 10uF	20.00% 50V	J151	1-784-429-11	JACK, PIN 4P(INPUT VIDEO/TV L/R)	
C166	1-126-964-11	ELECT 10uF	20.00% 50V	J152	1-784-431-11	JACK, PIN 1P(INPUT COAXIAL AUX)	
C167	1-126-964-11	ELECT 10uF	20.00% 50V			< TRANSISTOR >	
C168	1-126-947-11	ELECT 47uF	20.00% 16V	Q103	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
				Q104	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
C171	1-126-947-11	ELECT 47uF	20.00% 16V	Q151	8-729-808-42	TRANSISTOR 2SD1624-T-TD	
C174	1-126-947-11	ELECT 47uF	20.00% 16V	Q152	8-729-027-43	TRANSISTOR RT1N141C-TP-1	
C175	1-164-156-11	CERAMIC CHIP 0.1uF	25V	Q153	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
C178	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C179	1-164-156-11	CERAMIC CHIP 0.1uF	25V	Q154	8-729-027-43	TRANSISTOR RT1N141C-TP-1	
				Q201	8-729-027-43	TRANSISTOR RT1N141C-TP-1	
C181	1-126-964-11	ELECT 10uF	20.00% 50V	Q210	8-729-216-22	TRANSISTOR 2SA1162-YG-TE85L	
C184	1-164-156-11	CERAMIC CHIP 0.1uF	25V	Q211	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
C185	1-164-156-11	CERAMIC CHIP 0.1uF	25V	Q212	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
C187	1-126-964-11	ELECT 10uF	20.00% 50V				
C192	1-164-156-11	CERAMIC CHIP 0.1uF	25V	Q213	8-729-216-22	TRANSISTOR 2SA1162-YG-TE85L	
				Q227	8-729-230-49	TRANSISTOR 2SC2712-YG-TE85L	
C193	1-126-959-11	ELECT 0.47uF	20.00% 50V			< RESISTOR >	
C194	1-126-964-11	ELECT 10uF	20.00% 50V	R101	1-216-817-11	METAL CHIP 470 5%	1/16W
C195	1-126-964-11	ELECT 10uF	20.00% 50V	R102	1-216-817-11	METAL CHIP 470 5%	1/16W
C196	1-126-964-11	ELECT 10uF	20.00% 50V	R103	1-216-817-11	METAL CHIP 470 5%	1/16W
C197	1-126-964-11	ELECT 10uF	20.00% 50V	R104	1-216-817-11	METAL CHIP 470 5%	1/16W
C204	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C205	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C207	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C208	1-104-905-11	CAPACITOR 0.22F	5.5V				
C209	1-115-467-11	CERAMIC CHIP 0.22uF	10.00% 10V				
C211	1-164-156-11	CERAMIC CHIP 0.1uF	25V				
C212	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V				
C213	1-162-970-11	CERAMIC CHIP 0.01uF	10% 25V				
C217	1-126-947-11	ELECT 47uF	20.00% 16V				

STR-VE250

MAIN

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R105	1-216-833-11	METAL CHIP	10K	5%	1/16W	R223	1-216-833-11	METAL CHIP	10K	5%	1/16W
						R224	1-216-833-11	METAL CHIP	10K	5%	1/16W
R106	1-216-817-11	METAL CHIP	470	5%	1/16W	R225	1-216-833-11	METAL CHIP	10K	5%	1/16W
R107	1-216-817-11	METAL CHIP	470	5%	1/16W	R226	1-216-833-11	METAL CHIP	10K	5%	1/16W
R108	1-216-849-11	METAL CHIP	220K	5%	1/16W						
R109	1-216-849-11	METAL CHIP	220K	5%	1/16W	R229	1-216-833-11	METAL CHIP	10K	5%	1/16W
R110	1-216-847-11	METAL CHIP	150K	5%	1/16W	R230	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
						R231	1-216-821-11	METAL CHIP	1K	5%	1/16W
R111	1-216-837-11	METAL CHIP	22K	5%	1/16W	R232	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R112	1-216-849-11	METAL CHIP	220K	5%	1/16W	R233	1-216-833-11	METAL CHIP	10K	5%	1/16W
R151	1-216-809-11	METAL CHIP	100	5%	1/16W						
R152	1-216-809-11	METAL CHIP	100	5%	1/16W	R234	1-216-821-11	METAL CHIP	1K	5%	1/16W
R153	1-216-817-11	METAL CHIP	470	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
R154	1-216-817-11	METAL CHIP	470	5%	1/16W	R237	1-216-821-11	METAL CHIP	1K	5%	1/16W
R155	1-216-817-11	METAL CHIP	470	5%	1/16W	R240	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R156	1-216-817-11	METAL CHIP	470	5%	1/16W						
R157	1-218-285-11	METAL CHIP	75	5%	1/10W	R241	1-216-833-11	METAL CHIP	10K	5%	1/16W
R158	1-216-845-11	METAL CHIP	100K	5%	1/16W	R242	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R243	1-216-855-11	METAL CHIP	680K	5%	1/16W
R159	1-216-821-11	METAL CHIP	1K	5%	1/16W	R244	1-216-821-11	METAL CHIP	1K	5%	1/16W
R161	1-216-845-11	METAL CHIP	100K	5%	1/16W	R250	1-216-821-11	METAL CHIP	1K	5%	1/16W
R162	1-216-837-11	METAL CHIP	22K	5%	1/16W						
R163	1-216-845-11	METAL CHIP	100K	5%	1/16W	R251	1-216-821-11	METAL CHIP	1K	5%	1/16W
R164	1-216-845-11	METAL CHIP	100K	5%	1/16W	R252	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R253	1-216-809-11	METAL CHIP	100	5%	1/16W
R165	1-216-821-11	METAL CHIP	1K	5%	1/16W	R254	1-216-809-11	METAL CHIP	100	5%	1/16W
R166	1-216-849-11	METAL CHIP	220K	5%	1/16W	R255	1-216-821-11	METAL CHIP	1K	5%	1/16W
R167	1-216-849-11	METAL CHIP	220K	5%	1/16W						
R168	1-216-849-11	METAL CHIP	220K	5%	1/16W	R256	1-216-827-11	METAL CHIP	3.3K	5%	1/16W
R169	1-216-849-11	METAL CHIP	220K	5%	1/16W	R257	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
						R258	1-216-821-11	METAL CHIP	1K	5%	1/16W
R170	1-216-849-11	METAL CHIP	220K	5%	1/16W	R259	1-216-821-11	METAL CHIP	1K	5%	1/16W
R171	1-216-849-11	METAL CHIP	220K	5%	1/16W	R260	1-216-821-11	METAL CHIP	1K	5%	1/16W
R172	1-216-837-11	METAL CHIP	22K	5%	1/16W						
R173	1-216-849-11	METAL CHIP	220K	5%	1/16W	R261	1-216-821-11	METAL CHIP	1K	5%	1/16W
R174	1-216-849-11	METAL CHIP	220K	5%	1/16W	R262	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
						R264	1-216-841-11	METAL CHIP	47K	5%	1/16W
R175	1-216-849-11	METAL CHIP	220K	5%	1/16W	R265	1-216-841-11	METAL CHIP	47K	5%	1/16W
R176	1-216-837-11	METAL CHIP	22K	5%	1/16W	R266	1-216-821-11	METAL CHIP	1K	5%	1/16W
R180	1-216-849-11	METAL CHIP	220K	5%	1/16W						
R181	1-216-837-11	METAL CHIP	22K	5%	1/16W	R268	1-216-821-11	METAL CHIP	1K	5%	1/16W
R182	1-216-837-11	METAL CHIP	22K	5%	1/16W	R269	1-216-821-11	METAL CHIP	1K	5%	1/16W
						R270	1-216-821-11	METAL CHIP	1K	5%	1/16W
R183	1-216-833-11	METAL CHIP	10K	5%	1/16W	R271	1-216-821-11	METAL CHIP	1K	5%	1/16W
R184	1-216-821-11	METAL CHIP	1K	5%	1/16W	R272	1-216-821-11	METAL CHIP	1K	5%	1/16W
R185	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R186	1-216-821-11	METAL CHIP	1K	5%	1/16W	< VIBRATOR >					
R187	1-216-833-11	METAL CHIP	10K	5%	1/16W	X201	1-781-356-21	VIBRATOR, CERAMIC (16MHz)			
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			MISCELLANEOUS			
R191	1-216-821-11	METAL CHIP	1K	5%	1/16W			*****			
R192	1-216-854-11	METAL CHIP	560K	5%	1/16W	3	1-769-937-11	WIRE (FLAT TYPE) (11 CORE)			
						4	1-693-641-11	TUNER			
R196	1-216-821-11	METAL CHIP	1K	5%	1/16W	59	1-769-853-11	WIRE (FLAT TYPE) (5 CORE)			
R197	1-216-807-11	METAL CHIP	68	5%	1/16W	64	1-769-950-11	WIRE (FLAT TYPE) (11 CORE)			
R198	1-216-813-11	METAL CHIP	220	5%	1/16W						
R208	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R212	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R213	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R218	1-216-845-11	METAL CHIP	100K	5%	1/16W						
R219	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R220	1-216-833-11	METAL CHIP	10K	5%	1/16W						
R221	1-216-845-11	METAL CHIP	100K	5%	1/16W						
R222	1-216-829-11	METAL CHIP	4.7K	5%	1/16W						

MEMO

REVISION HISTORY

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