

STR-SE381

SERVICE MANUAL

US Model



Manufactured under license from Dolby Laboratories Licensing Corporation.

"Dolby" "Pro Logic" and the double-D symbol  are trademarks of Dolby Laboratories Licensing Corporation.

SPECIFICATIONS

Audio power specifications

POWER OUTPUT AND TOTAL HARMONIC DISTORTION

With 8-ohm load, both channels driven, from 40 - 20,000 Hz, rated 60 watts per channel minimum RMS power, with no more than 0.5% total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

Stereo mode	(8 ohms at 40 Hz - 20 kHz less than 0.5% total harmonic distortion) 60 W + 60 W (8 ohms at 1 kHz, THD 0.5%)
Surround mode	Front: 60 W/ch Center: (Pro Logic Mode) 60 W Rear: 60 W/ch
Frequency response	PHONO: RIAA equalization curve ± 0.5 dB TV/DBS, CD, TAPE/MD, VIDEO INPUT 10 Hz - 50 kHz ± 1 dB

Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO (MM)	2.5 mV	50 Kilohms	72 dB* (A, 2.5 mV)
CD	400 mV		
TAPE/MD,	250 mV		
TV/DBS,		50 Kilohms	82 dB* (A, 150 mV)
VIDEO			

*78 IHF

Outputs

TAPE/MD REC OUT:

Voltage: 150 mV,
Impedance: 10 kilohms

VIDEO AUDIO OUT:

Voltage: 150 mV,
Impedance: 10 kilohms

PHONES:

Accepts low and high impedance headphones

Full mute

+10 dB at 70 Hz
 ± 8 dB at 100 Hz and 10 kHz

Muting

BASS BOOST TONE

FM tuner section

Tuning range

87.5 - 108.0 MHz

Antenna terminals

75 ohms, unbalanced

300 ohms, balanced

Sensitivity

Mono: 18.3 dBf, 4.5 μ V

Stereo: 38.3 dBf, 45 μ V

11.2 dBf, 2 μ V (IHF)

Usable sensitivity

Mono: 76 dB

Stereo: 70 dB

Harmonic distortion at 1 kHz

Mono: 0.3%

Stereo: 0.59%

45 dB at 1 kHz

Separation

Frequency response

30 Hz - 15 kHz $^{+0.5}_{-2}$ dB

Selectivity

60 dB at 400 kHz

AM tuner section

Tuning range

531 - 1710 kHz

Antenna

Loop antenna

Usable sensitivity

50 dB/m (at 1,000 kHz)

S/N

54 dB (at 50 mV/m)

Harmonic distortion

0.5% (50 mV/m, 400 kHz)

Selectivity

At 10 kHz: 40 dB

— Continued on next page —

FM STEREO/FM-AM RECEIVER



SONY®

General System

Tuner section:
PLL quartz-locked digital synthesizer system
Preamplifier section:
Low-noise NF type equalizer
Power amplifier section:
Pure-complementary SEPP
120 V AC, 60 Hz
150 W
2 switched, total 120 W/1A Max
17 × 5 ⁷/₈ × 11 ⁵/₈ inches
(430 × 145 × 295 mm)
14 IB 5 oz (6.5 kg)
FM wire antenna (1)
AM loop antenna (1)
Remote controller (remote) (1)
Size AA (R6) batteries (2)

Power requirements
Power consumption
AC outlets
Dimensions

Mass (Approx.)
Supplied accessories

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

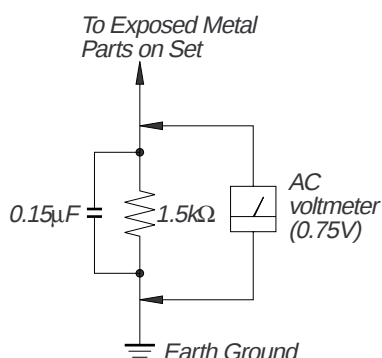


Fig. A. Using an AC voltmeter to check AC leakage.

TABLE OF CONTENTS

1. GENERAL	
Location and Function of controls	3
2. TEST MODE	5
3. DIAGRAMS	
3-1. Circuit Boards Location	6
3-2. Printed Wiring Board (Display Section)	7
3-3. Schematic Diagram (Display Section)	9
3-4. Printed Wiring Board (Volume Section)	11
3-5. Schematic Diagram (Volume Section)	13
3-6. Printed Wiring Board (Main Section)	15
3-7. Schematic Diagram (Main (1/3) Section)	17
3-8. Printed Wiring Board (Power Section)	19
3-9. Schematic Diagram (Main (2/3), Power Section)	21
3-10. Schematic Diagram (Main (3/3), SP SW Section)	23
3-11. IC Pin Function	25
3-12. IC Block Diagrams	27
4. EXPLODED VIEWS	
4-1. Front Panel Section	29
4-2. Chassis Section	30
5. ELECTRICAL PARTS LIST	31

SAFETY-RELATED COMPONENT WARNING!!

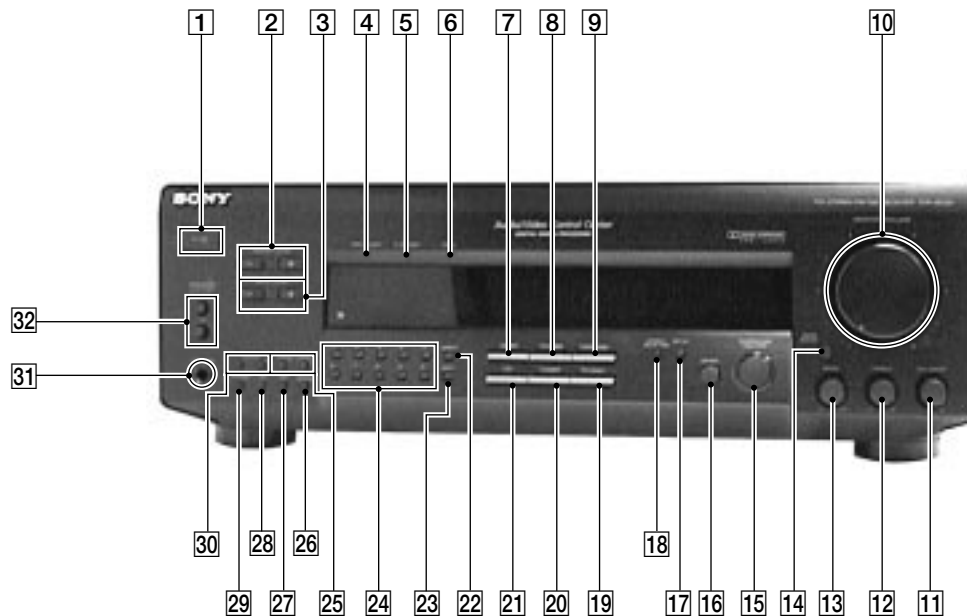
COMPONENTS IDENTIFIED BY MARK  OR DOTTED LINE WITH MARK  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1

GENERAL

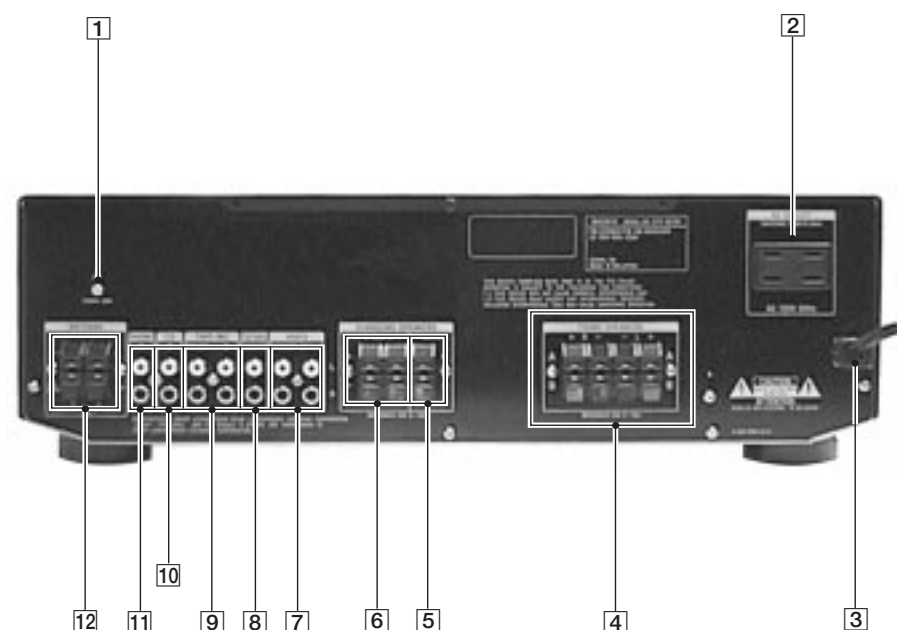
LOCATION AND FUNCTION OF CONTROLS

[FRONT PANEL]



- | | | | |
|-----------|-----------------------------|-----------|----------------------------|
| 1 | POWER switch (I/O) | 17 | SET UP button |
| 2 | CENTER LEVEL +, – buttons | 18 | EFFECT/DELAY TIME button |
| 3 | REAR LEVEL +, – buttons | 19 | PHONO FUNCTION button |
| 4 | PRO LOGIC indicator | 20 | TUNER FUNCTION button |
| 5 | C. STUDIO indicator | 21 | CD FUNCTION button |
| 6 | HALL indicator | 22 | DIRECT button |
| 7 | VIDEO FUNCTION button | 23 | SHIFT button |
| 8 | TV/DBS FUNCTION button | 24 | Numeric buttons |
| 9 | TAPE/MD FUNCTION button | 25 | PRESET TUNING +, – buttons |
| 10 | MASTER VOLUME control | 26 | MEMORY button |
| 11 | BALANCE control | 27 | AM button |
| 12 | TREBLE control | 28 | FM button |
| 13 | BASS control | 29 | FM MODE button |
| 14 | BASS BOOST button/indicator | 30 | TUNING +, – buttons |
| 15 | SURROUND ON/OFF button | 31 | PHONES jack |
| 16 | MODE button | 32 | SPEAKERS A/B switch |

[REAR PANEL]



- | | | | |
|---|----------------------------|----|-----------------|
| 1 | ⏏ SIGNAL GND | 7 | VIDEO |
| 2 | AC OUTLET | 8 | TV/DBS |
| 3 | AC power cord | 9 | TAPE/MD |
| 4 | FRONT SPEAKERS (A/B) | 10 | CD |
| 5 | SURROUND SPEAKERS (CENTER) | 11 | PHONO |
| 6 | SURROUND SPEAKERS (REAR) | 12 | ANTENNA (AM/FM) |

SECTION 2
TEST MODE

INITIALIZATION MODE

- * All preset contents are cleared when this mode is activated. Use this mode before returning the product to clients upon completion of repair.
- * Procedure:
While depressing the VIDEO, TAPE/MD and the CD buttons simultaneously, press the power [I/⏻] button to turn on the main power. The message INITIAL appears and initialization is performed.

FLUORESCENT INDICATOR TUBE TEST MODE

- * All fluorescent segments are tested. When this test is activated, all segments turn on at the same time, then each segment turns on one after another.
- * Procedure:
While depressing the CD and the TAPE/MD buttons simultaneously, press the power [I/⏻] button to turn on the main power. All segments turn on at the same time, then each segment turns on one after another. The message FINISH appears when this test is complete.

AM CHANNEL STEP 9 kHz/10 kHz

SELECTION MODE

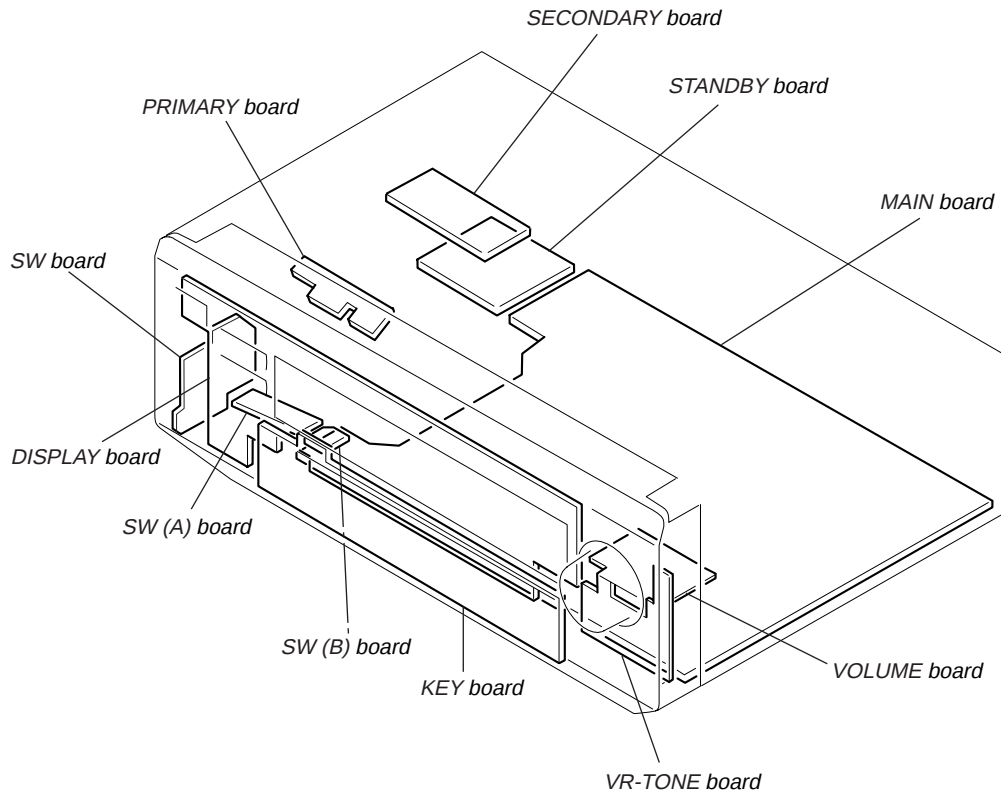
- * Either the 9 kHz step or 10 kHz step can be selected for the AM channel step.
- * Procedure:
Set the FUNCTION to AM. Turn off the main power. While depressing the TUNING+ button, press the power [I/⏻] button to turn on the main power. Either the message 9k STEP or 10k STEP appears. Select the desired step.

REAR SPEAKER GAIN UP MODE

- * The rear speaker gain can be set to either NORMAL or GAIN UP.
- * Procedure:
While depressing the -SURROUND button, press the power [I/⏻] button to turn on the main power. Either the message NORMAL or GAIN UP appears. When the product enters this mode again, the other gain appears. Select the desired gain.

SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION



THIS NOTE IS COMMON FOR PRINTED WIRING
BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this necessary note is printed in each
block.)

For schematic diagrams.

Note:

- All capacitors are in μF unless otherwise noted. pF: μpF
- 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.
- % : indicates tolerance.
- Δ : internal component.
-  : 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.

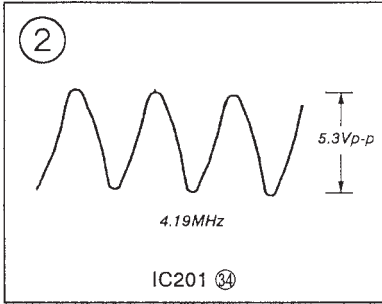
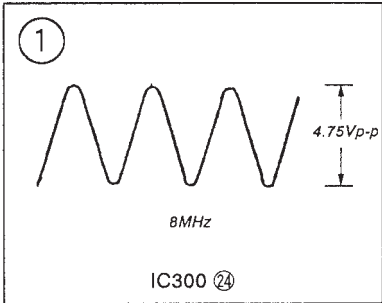
-  : B+ Line.
-  : B- Line.
-  : adjustment for repair.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
No mark : FM
- Voltages are taken with a VOM (Input impedance 10 M Ω).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
 : FM

For printed wiring boards.

Note:

-  : parts extracted from the component side.
-  : Pattern from the side which enables seeing.

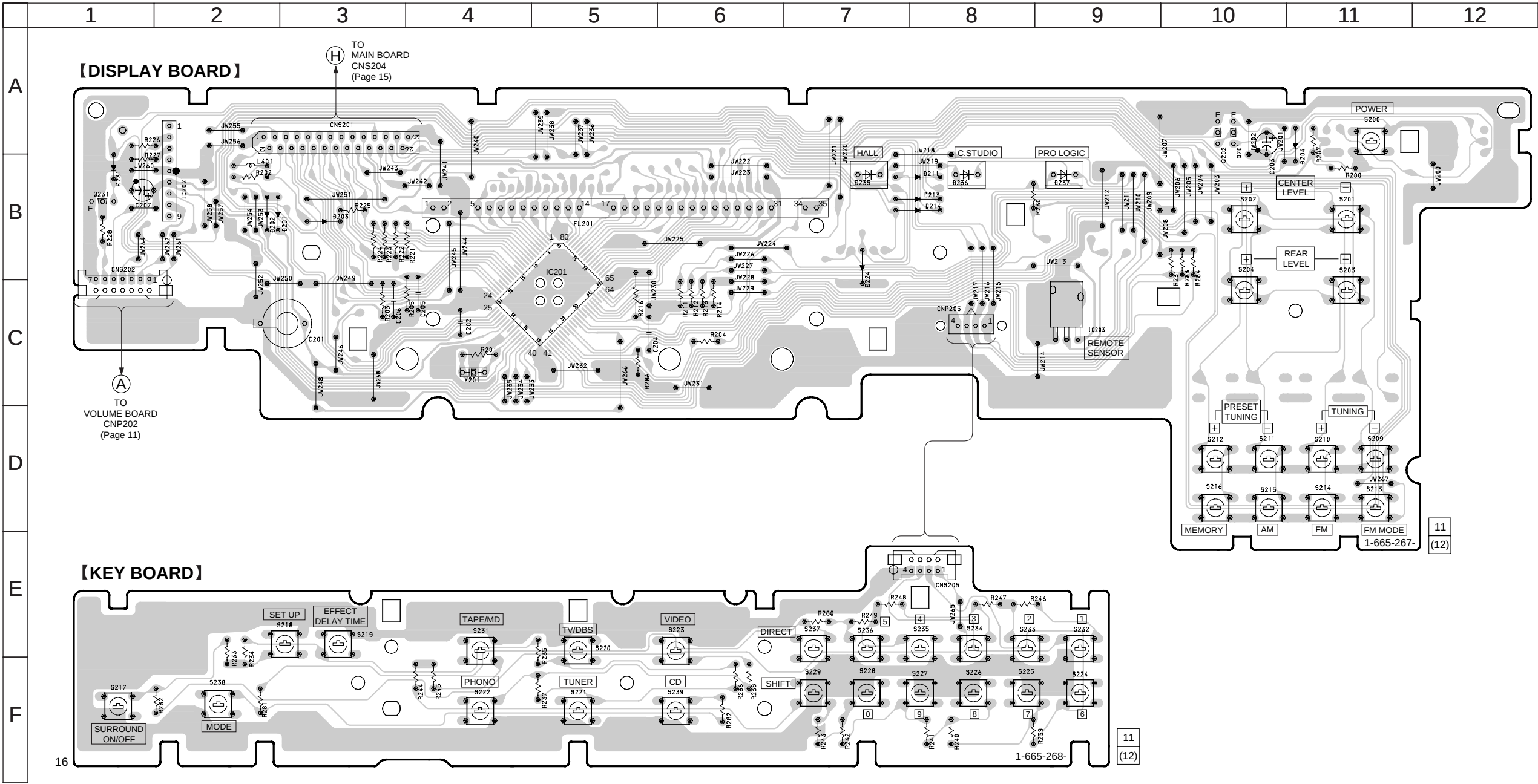
• Waveforms



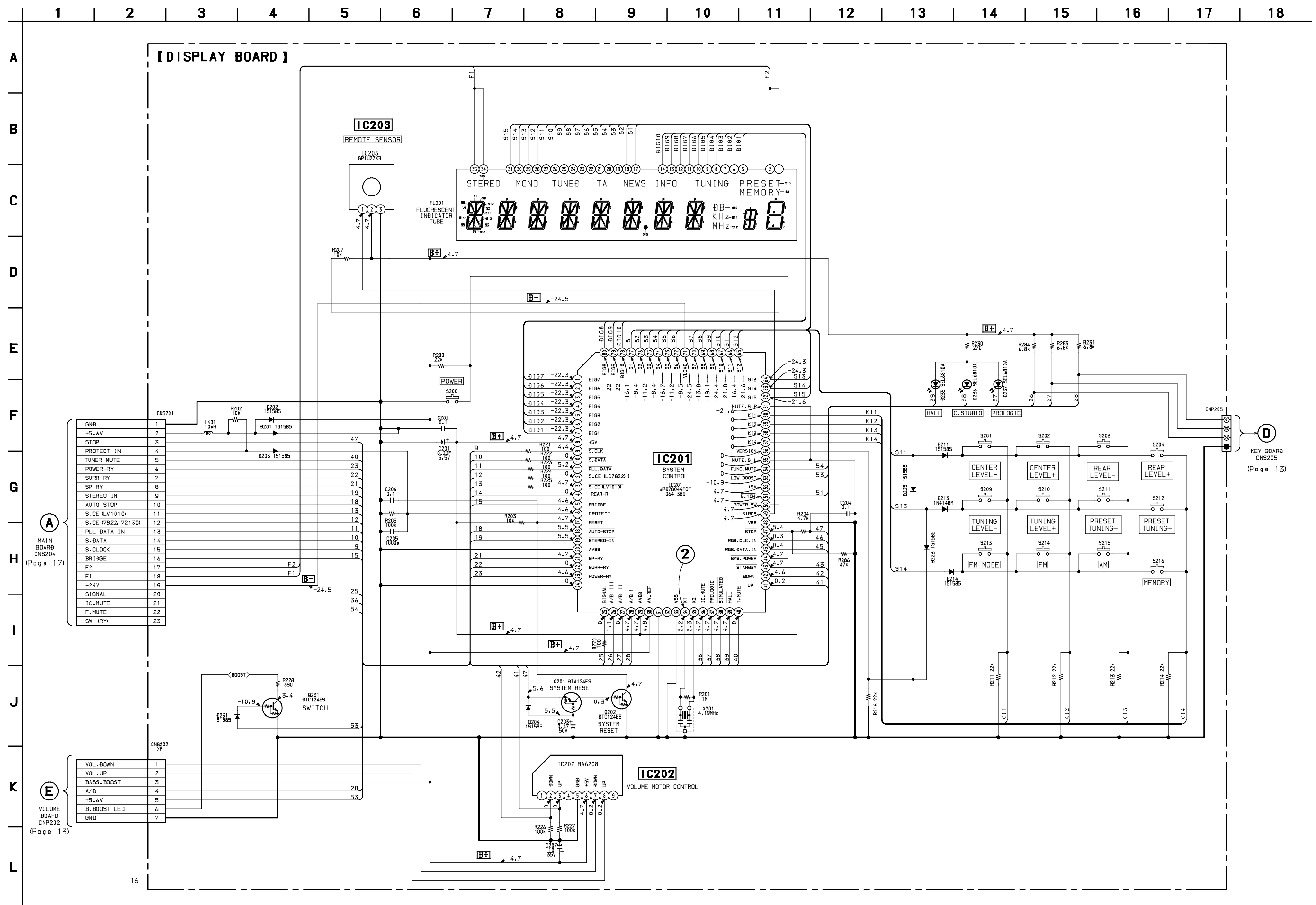
3-2. PRINTED WIRING BOARD — DISPLAY SECTION —

Semiconductor Location

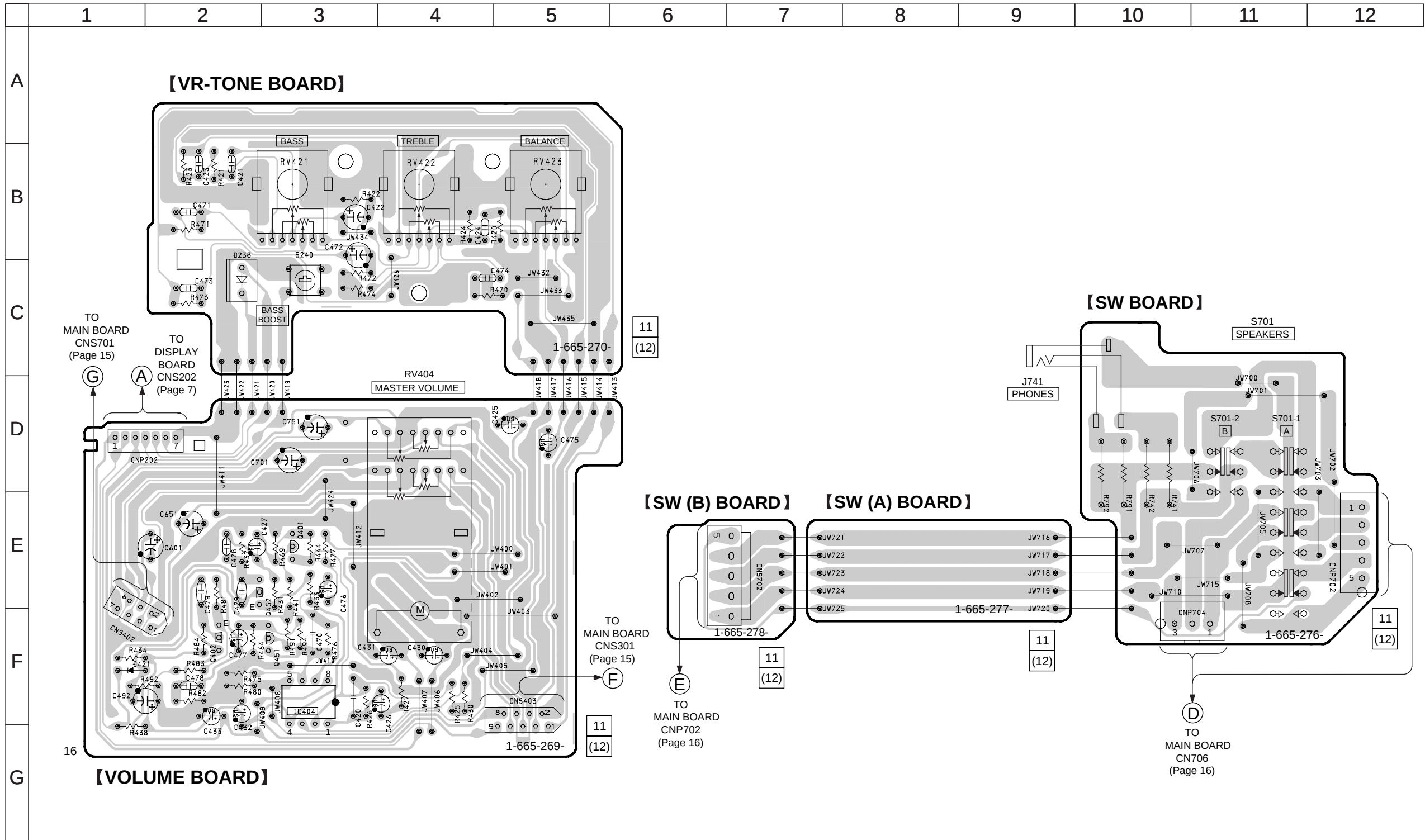
Ref. No.	Location
D201	B-2
D202	B-2
D203	B-3
D204	A-11
D211	B-8
D213	B-8
D214	B-8
D224	B-7
D231	B-1
D235	B-7
D236	B-8
D237	B-9
IC201	B-5
IC202	B-2
IC203	C-9
Q201	A-10
Q202	A-10
Q231	B-1



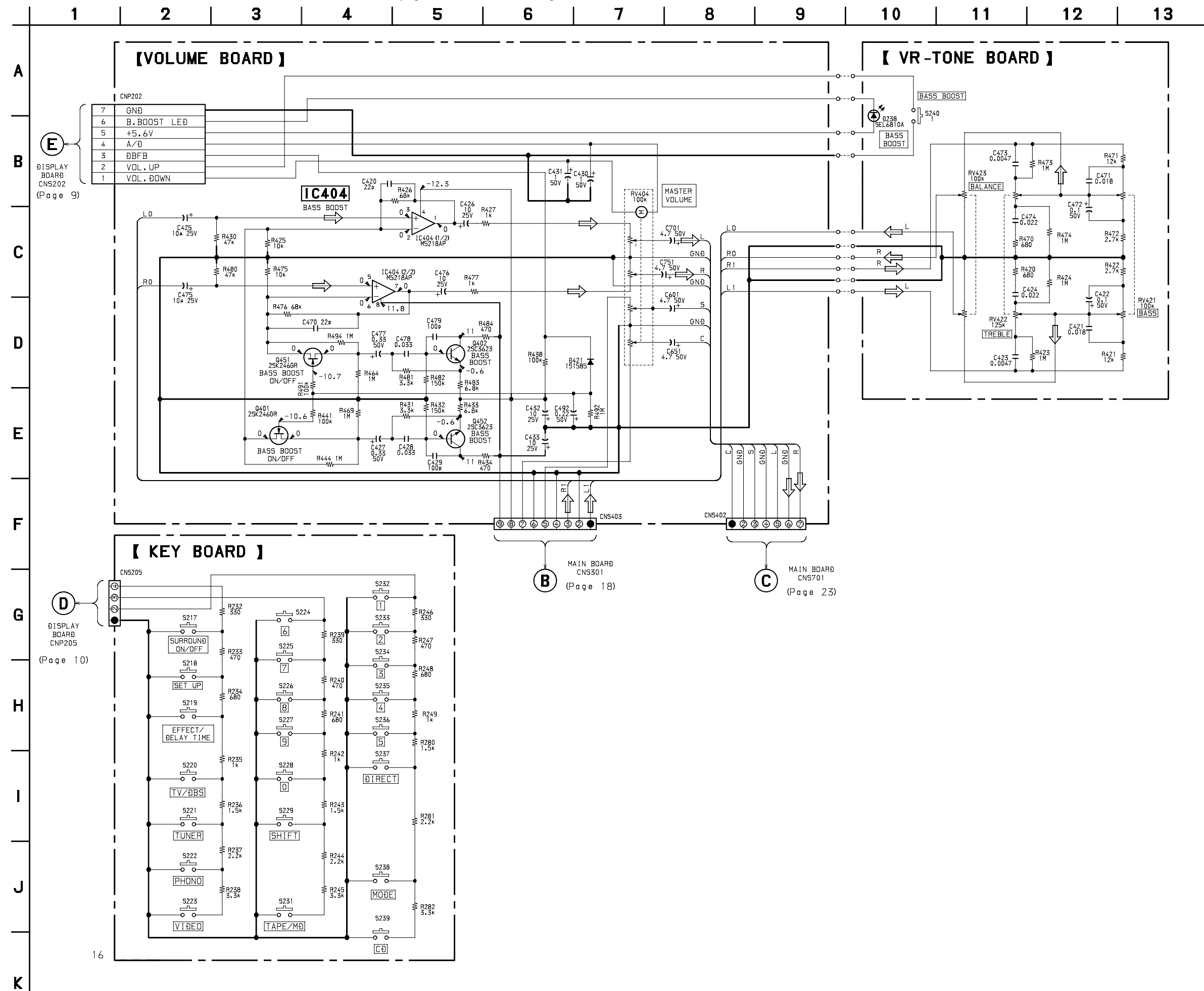
3-3. SCHEMATIC DIAGRAM — DISPLAY SECTION — • See page 6 for Waveforms. • See page 25 for IC Pin Functions. • See page 27 for IC Block Diagrams.



Ref. No.	Location
D238	C-2
D421	F-1
IC404	F-3
Q401	E-3
Q402	F-2
Q451	F-3
Q452	E-2



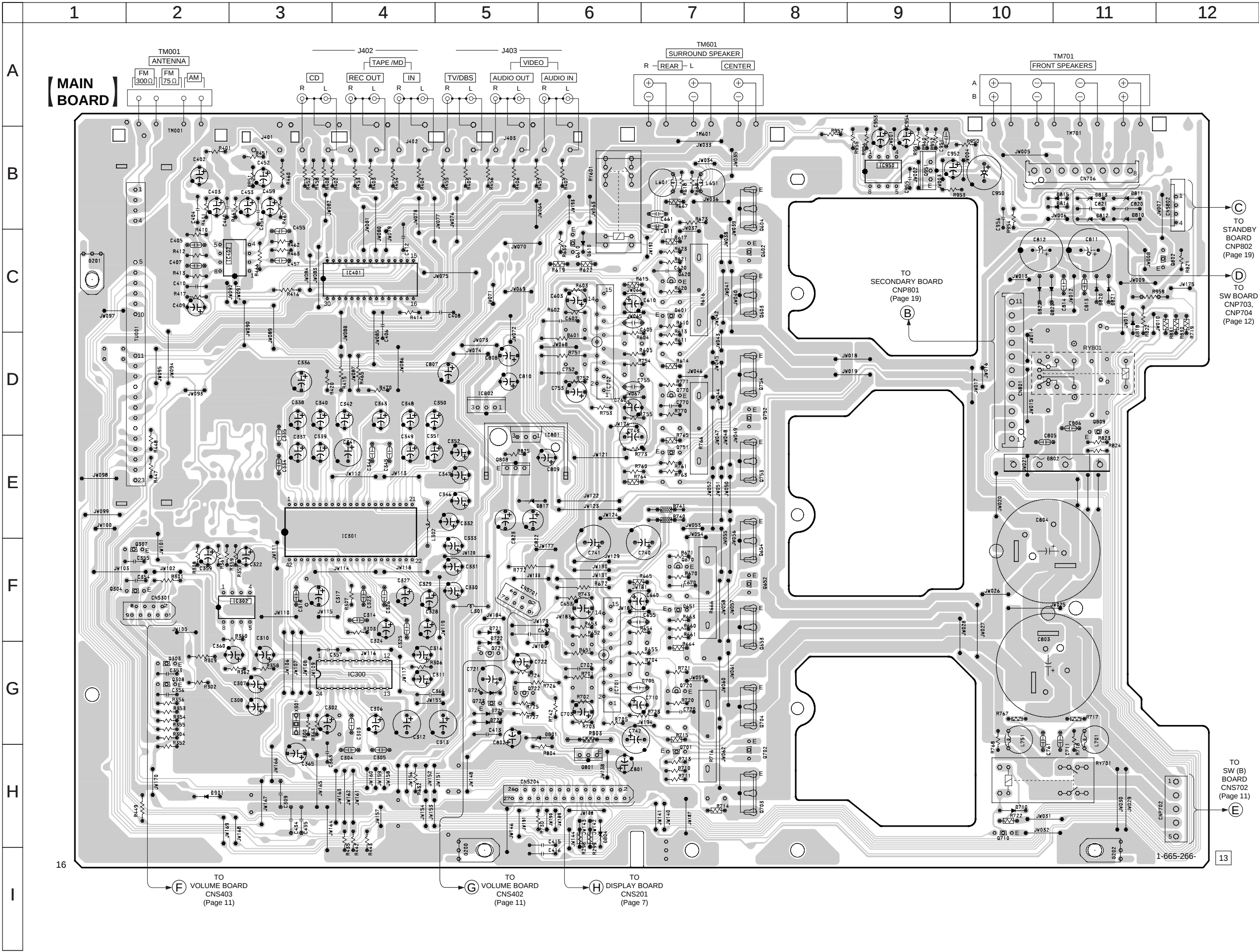
3-5. SCHEMATIC DIAGRAM — VOLUME SECTION — • See page 7 for KEY Board Wiring Board.



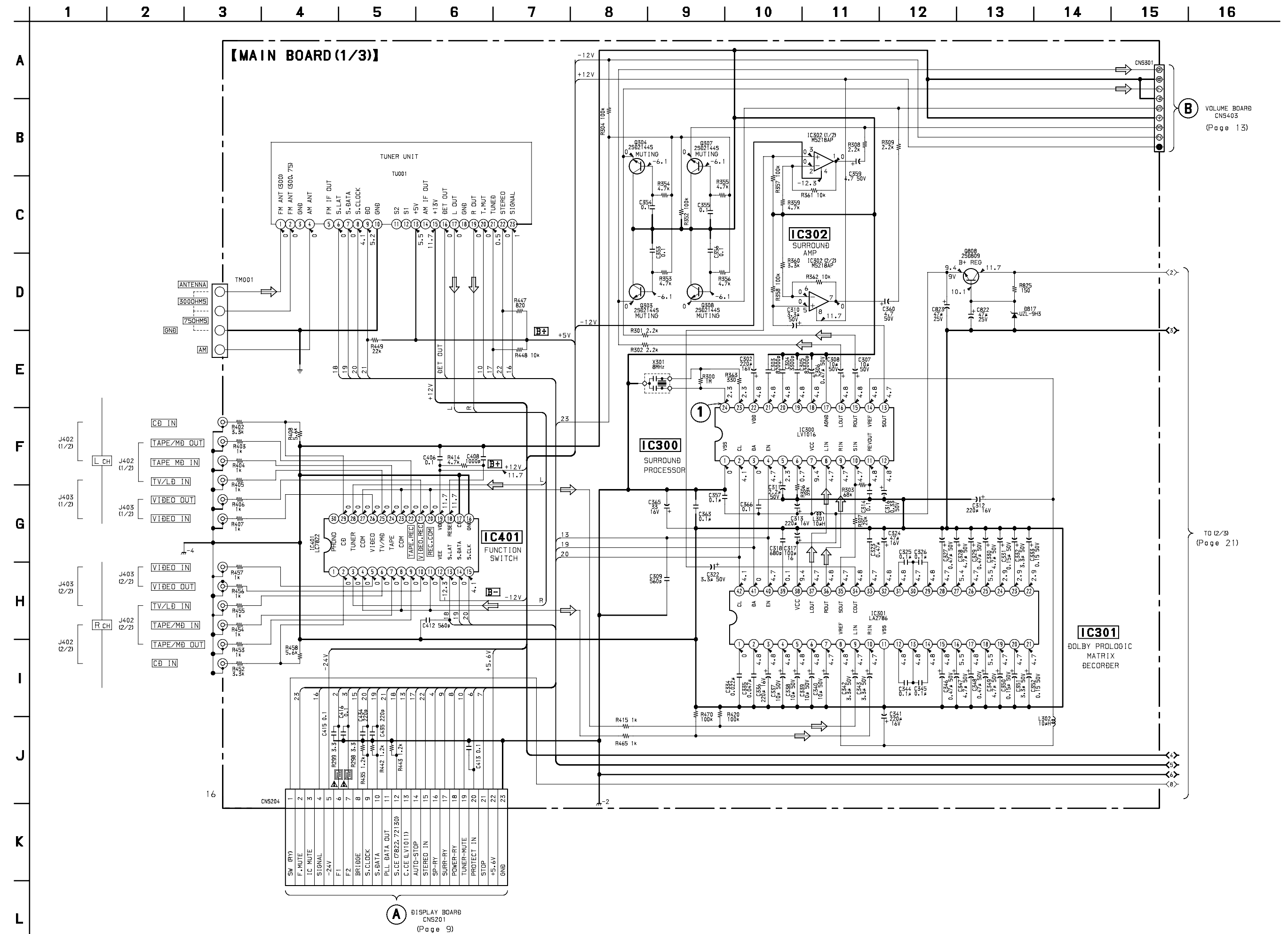
3-6. PRINTED WIRING BOARD — MAIN SECTION —

Semiconductor Location

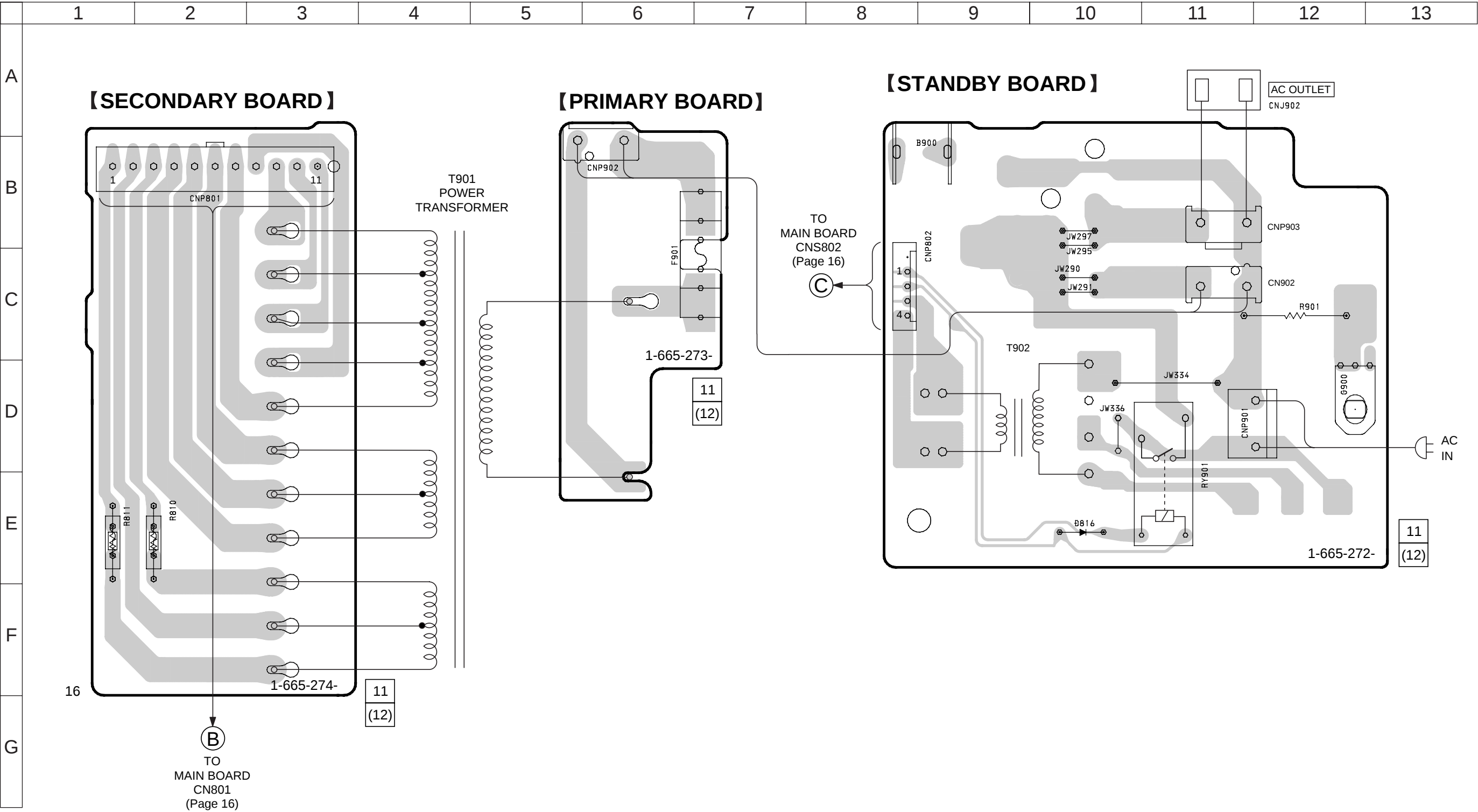
Ref. No.	Location
D610	C-6
D710	H-10
D721	F-5
D722	F-5
D723	G-5
D724	G-5
D725	G-5
D801	G-5
D802	E-10
D804	H-6
D810	B-11
D811	B-11
D812	B-11
D813	B-11
D814	B-11
D815	B-11
D817	E-5
D818	C-11
D820	C-11
D821	C-11
D822	C-10
D823	C-10
D901	H-2
IC300	G-4
IC301	E-4
IC302	F-3
IC401	C-4
IC402	C-2
IC701	G-6
IC702	D-6
IC801	E-5
IC802	D-5
IC950	B-9
Q303	G-2
Q304	F-2
Q307	F-2
Q308	G-2
Q601	C-7
Q602	C-8
Q603	C-8
Q604	B-8
Q610	C-6
Q620	C-7
Q651	F-7
Q652	F-8
Q653	F-8
Q654	F-8
Q670	F-7
Q701	H-7
Q702	H-8
Q703	H-8
Q704	G-8
Q710	H-10
Q720	G-7
Q721	G-5
Q722	G-5
Q723	G-5
Q751	E-7
Q752	D-8
Q753	E-8
Q754	D-8
Q770	D-7
Q801	H-6
Q802	C-12
Q808	E-5
Q809	D-11
Q951	B-9

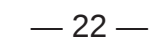


3-7. SCHEMATIC DIAGRAM — MAIN (1/3) SECTION — • See page 27 for IC Block Diagrams.



3-8. PRINTED WIRING BOARD — POWER SECTION —







3-11. IC PIN FUNCTION

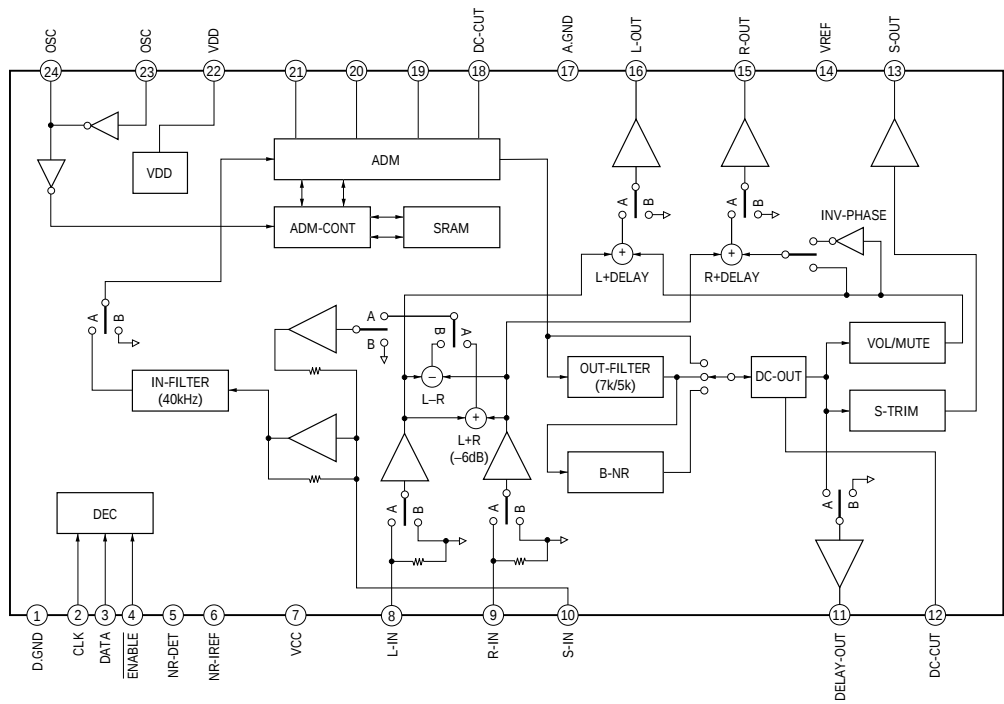
DISPLAY BOARD IC201 : μ PD78044FGF-064-3B9 (SYSTEM CONTROL)

Pin No.	Pin Name	I/O	Description
1	DIG7	O	Fluorescent indicator tube drive.
2	DIG6	O	
3	DIG5	O	
4	DIG4	O	
5	DIG3	O	
6	DIG2	O	
7	DIG1	O	
8	+5V	—	Power supply (+5V).
9	$\overline{\text{S. CLK}}$	I	System clock.
10	$\overline{\text{S. DATA}}$	I	System data.
11	$\overline{\text{PLL. DATA}}$	I	PLL data input from TU001.
12	S. CE (LC7288)	O	Chip enable output.
13	$\overline{\text{S. CE}}$ (LV100)	O	Chip enable output.
14	REAR-R	I	Input for model select.
15	BRIDGE CABLE	O	Standby relay ON/OFF control.
16	PROTECT	I	Protector detect input.
17	$\overline{\text{RESET}}$	I	System reset terminal.
18	$\overline{\text{AUTO-STOP}}$	I	Auto stop detect input.
19	$\overline{\text{STEREO-IN}}$	I	Stereo detect input.
20	AVss	—	Ground.
21	SP-RY	O	Speaker relay drive.
22	SURR-RY	O	Surround Relay.
23	POWER-RY	O	Power relay drive.
24	Not used	O	Not used.
25	SIGNAL	I	A/D signal input terminal.
26	A/D3	I	A/D3 key input terminal.
27	A/D2	I	A/D2 key input terminal.
28	A/D1	I	A/D1 key input terminal.
29	AVDD	—	Power supply (+5V).
30	AV. REF	—	Reference voltage (+5V).
31	GND	—	Ground.
32	NC	—	Not used (Open).
33	Vss	—	Ground.
34	X1	—	System clock (4.19MHz).
35	X2	—	System clock (4.19MHz).
36	IC. MUTE	O	Mute drive output for μ PD2581V (IC701).
37	$\overline{\text{PROLOGIC}}$	—	Prologic LED drive.
38	$\overline{\text{CSTUDIO}}$	—	CINEMA STUDIO LED drive.
39	$\overline{\text{HALL}}$	—	Hall LED drive.
40	T. MUTE	O	Tuner mute drive output.

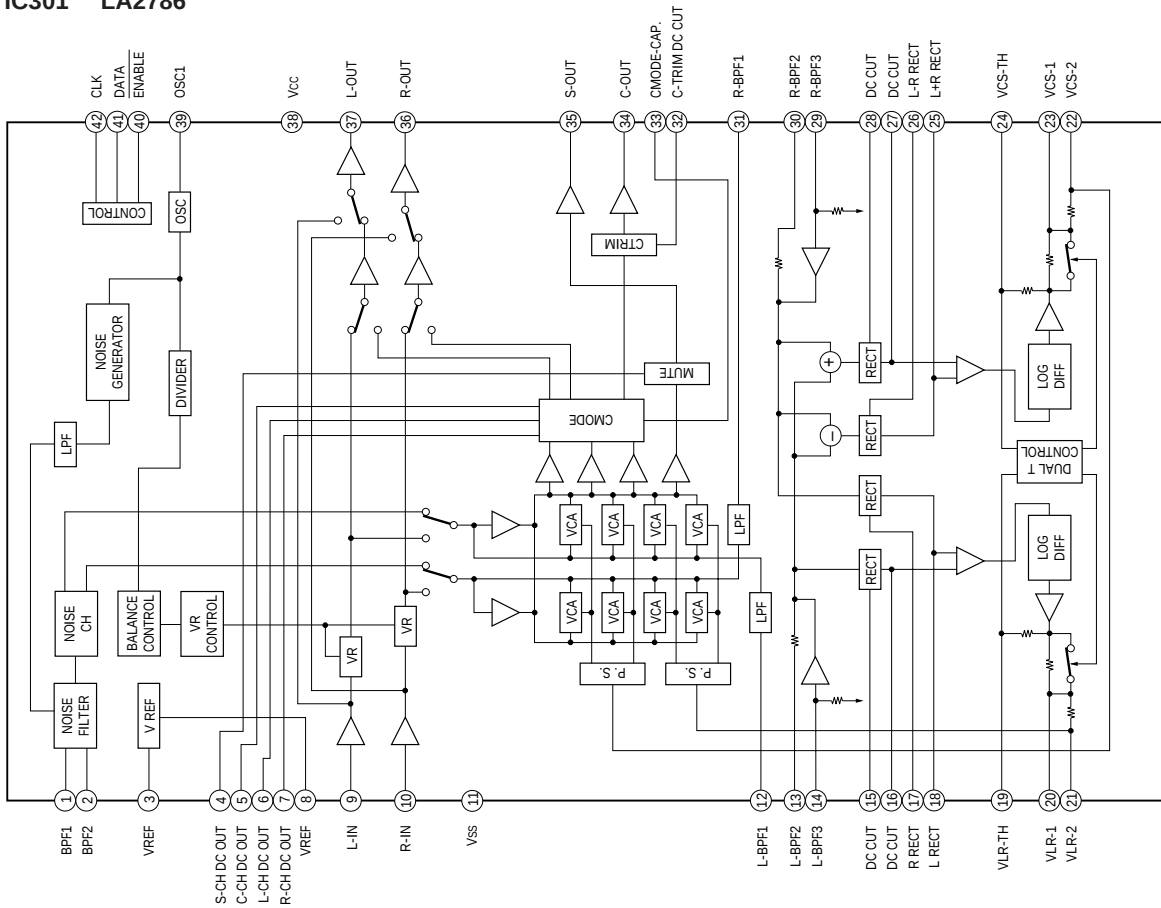
Pin No.	Pin Name	I/O	Description
41	VOLUME UP	O	Volume up.
42	VOLUME DOWN	O	Volume down.
43	STANDBY	—	Standby LED drive.
44	SYS. POWER	I	System power ON/OFF.
45	RDS. DATA. IN	I	RDS data input terminal (EXCEPT Australian, E, Saudi Arabia, PX model).
46	RDS. CLK. IN	I	RDS clock input terminal (EXCEPT Australian, E, Saudi Arabia, PX model).
47	STOP	I	Stop signal input from NJM2103D (IC950).
48	Vss	—	Ground.
49	SIRCS	I	Sircs signal input.
50	POWER SW	I	Power switch input terminal.
51	5.1ch LED	O	5.1ch input LED.
52	+5V	—	Power supply (+5V).
53	BASS BOOST	—	Bass boost LED drive.
54	FUNC. MUTE	O	Line mute drive.
55	SL MUTE	O	Surround Lch mute.
56	VERSION	I	Input for model select.
57	K14	I	Key in 4.
58	K13	I	Key in 3.
59	K12	I	Key in 2.
60	K11	I	Key in 1.
61	SR MUTE	O	Surround Rch mute.
62	S15	O	Key out 1.
63	S14	O	Key out 2.
64	S13	O	Key out 3.
65	S12	O	Key out 4.
66	S11	O	Fluorescent indicator tube drive.
67	S10	O	
68	S9	O	
69	S8	O	
70	S7	O	
71	VLOAD	—	Connect to –24V.
72	S6	O	Fluorescent indicator tube drive.
73	S5	O	
74	S4	O	
75	S3	O	
76	S2	O	
77	S1	O	
78	DIG10	O	
79	DIG9	O	
80	DIG8	O	

3-12. IC BLOCK DIAGRAMS

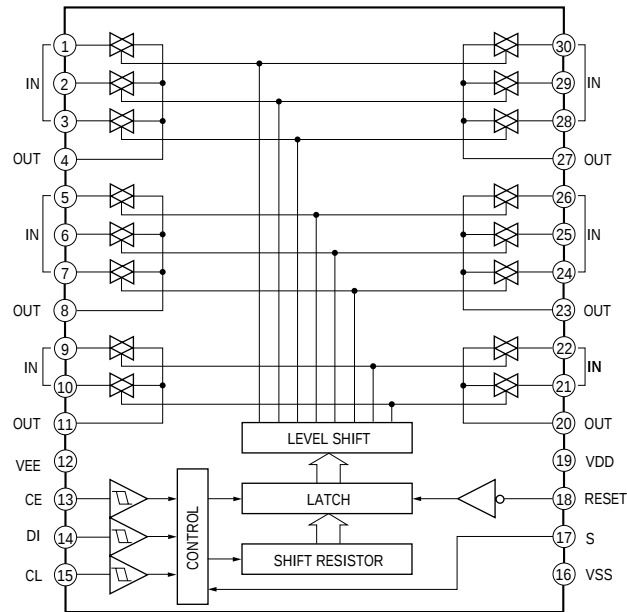
IC300 LV1016



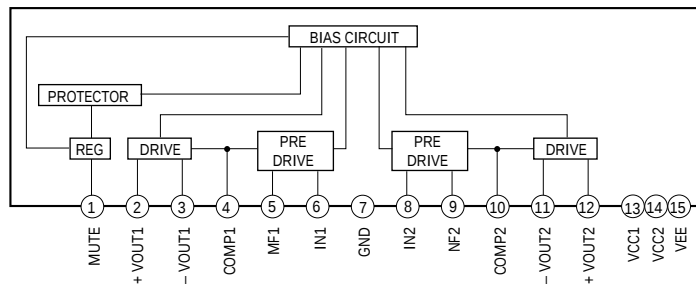
IC301 LA2786



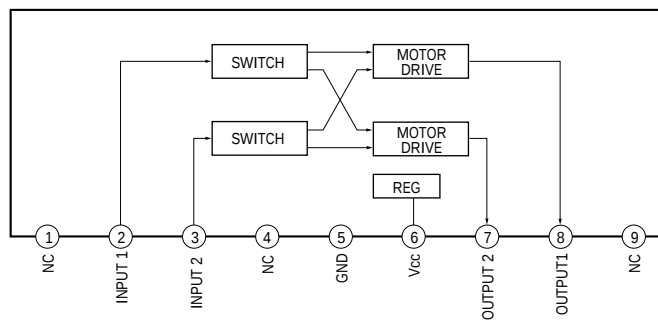
IC401 LC7822



IC701 μ PC2581



IC202 BA6208



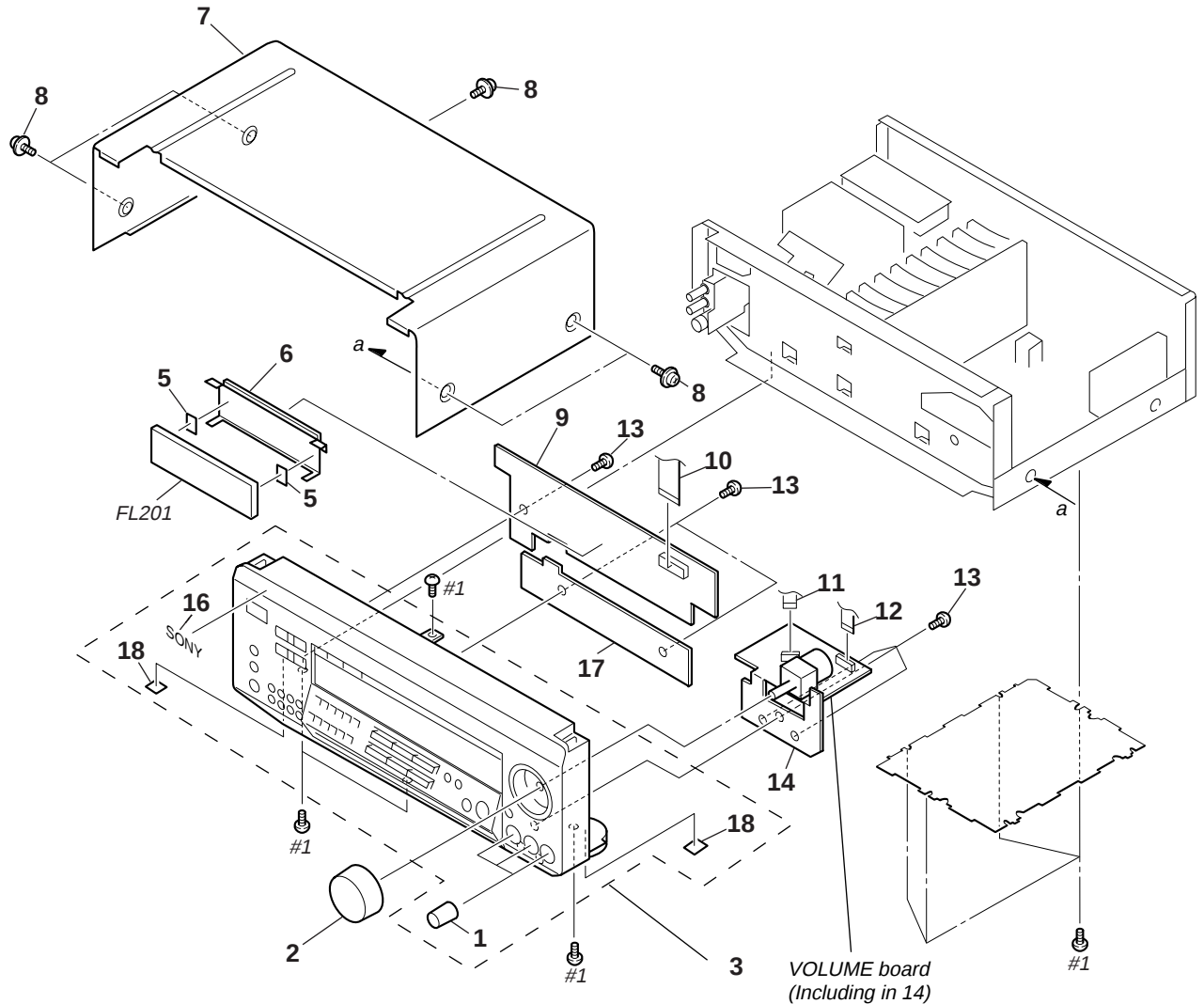
SECTION 4 EXPLODED VIEWS

Note:

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

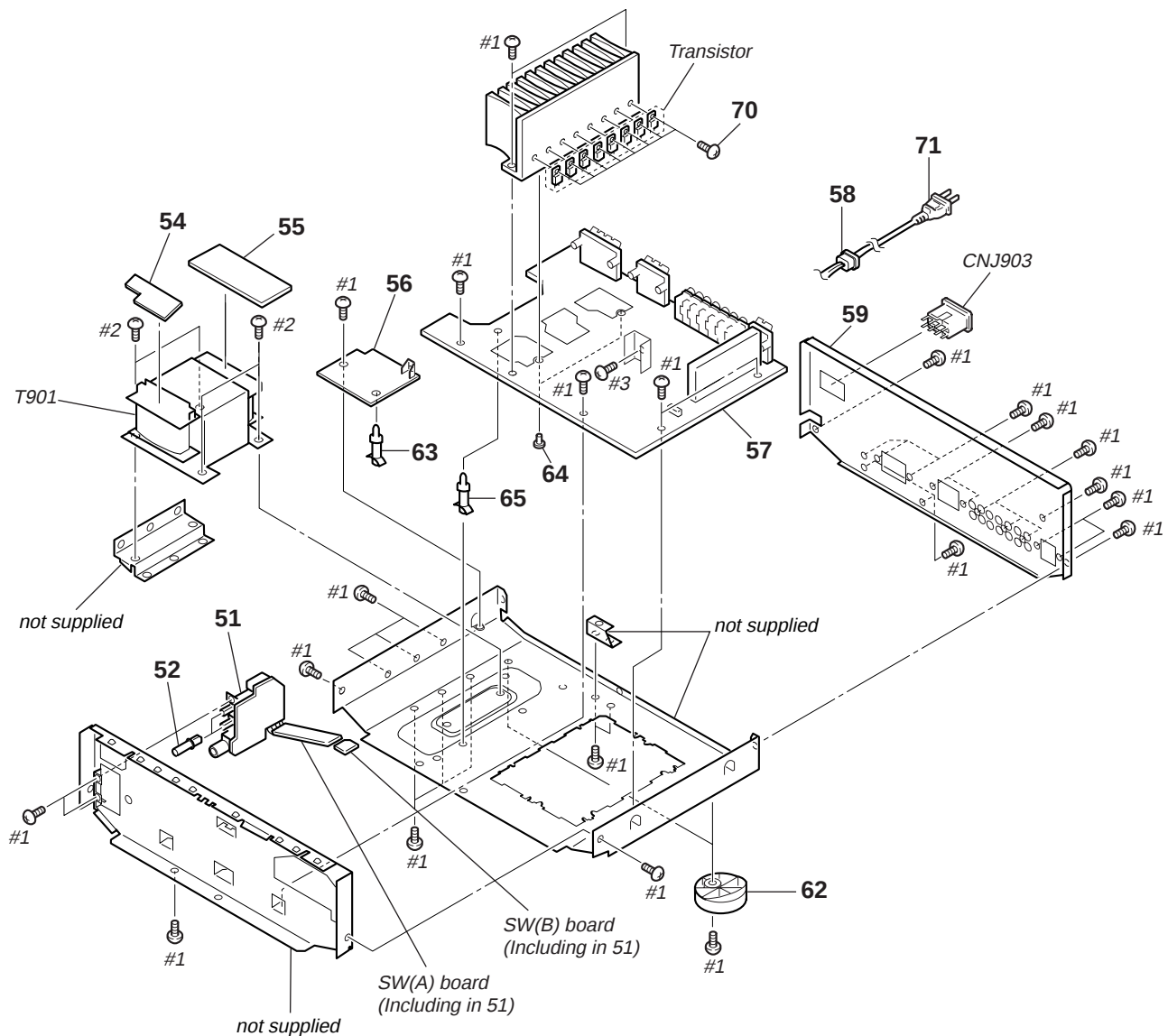
The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
1	4-980-639-01	KNOB (R14)		11	1-782-075-11	WIRE (FLAT TYPE) (9 CORE)	
2	X-4946-873-1	KNOB (R48) ASSY		12	1-782-074-11	WIRE (FLAT TYPE) (7 CORE)	
3	X-4949-646-1	FRONT PANEL ASSY		13	4-951-620-01	SCREW (2.6 × 8), +BVTP	
* 5	4-921-941-01	CUSHION (FL)		* 14	A-4407-429-A	VR-TONE BOARD, COMPLETE	
* 6	4-943-107-11	HOLDER (FL TUBE)		16	3-008-600-11	EMBLEM (5-AR), SONY	
* 7	4-980-658-01	CASE (413226)		* 17	A-4407-430-A	KEY BOARD, COMPLETE	
8	3-710-901-11	SCREW, TAPPING		18	4-977-358-11	CUSHION	
* 9	A-4407-427-A	DISPLAY BOARD, COMPLETE		FL201	1-517-141-11	INDICATOR TUBE, FLUORESCENT	
10	1-782-100-11	WIRE (FLAT TYPE) (23 CORE)					

4-2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
* 51	A-4407-460-A	SW BOARD, COMPLETE		62	X-4947-208-1	FOOT ASSY (F50150S)	
* 52	4-951-801-01	BUTTON (S)		63	4-924-098-01	HOLDER, PC BOARD	
* 54	1-665-273-11	PRIMARY BOARD		64	4-812-134-00	RIVET (DIA. 3.5), NYLON	
* 55	1-665-274-11	SECONDARY BOARD		* 65	4-954-051-51	HOLDER, PC BOARD	
* 56	1-665-272-11	STANDBY BOARD		70	3-905-609-01	SCREW (TRANSISTOR)	
* 57	A-4407-426-A	MAIN BOARD, COMPLETE		△ 71	1-777-070-21	CORD, POWER	
* 58	3-703-244-00	BUSHING (2104), CORD		△ CNJ903	1-251-698-11	OUTLET (AC) (2P)	
* 59	4-997-684-01	BACK PANEL		△ T901	1-431-258-21	TRANSFORMER, POWER	

SECTION 5 ELECTRICAL PARTS LIST

DISPLAY

Note:

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

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

- 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.
- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
uF: μ F
- RESISTORS
All resistors are in ohms.
METAL: metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA..., μ PA...,
uPB..., μ PB..., uPC..., μ PC...,
uPD..., μ PD...

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
*	A-4407-427-A	DISPLAY BOARD, COMPLETE *****		< TRANSISTOR >			
*	4-921-941-01	CUSHION (FL)		Q201	8-729-900-63	TRANSISTOR DTA124ES	
*	4-943-107-11	HOLDER (FL TUBE)		Q202	8-729-900-36	TRANSISTOR DTC124ES	
				Q231	8-729-900-36	TRANSISTOR DTC124ES	
< CAPACITOR >				< RESISTOR >			
C201	1-104-905-11	CAPACITOR 0.22F	5.5V	R200	1-249-433-11	CARBON 22K	5% 1/4W
C202	1-164-159-11	CERAMIC 0.1uF	50V	R201	1-247-903-00	CARBON 1M	5% 1/4W
C203	1-124-465-00	ELECT 0.47uF	20% 50V	R202	1-249-429-11	CARBON 10K	5% 1/4W
C204	1-164-159-11	CERAMIC 0.1uF	50V	R203	1-249-429-11	CARBON 10K	5% 1/4W
C205	1-162-294-31	CERAMIC 0.001uF	10% 50V	R204	1-249-425-11	CARBON 4.7K	5% 1/4W F
C206	1-164-159-11	CERAMIC 0.1uF	50V	R205	1-249-441-11	CARBON 100K	5% 1/4W
C207	1-126-096-11	ELECT 10uF	20% 35V	R207	1-249-429-11	CARBON 10K	5% 1/4W
< CONNECTOR >				R211	1-249-433-11	CARBON 22K	5% 1/4W
CN703	1-764-474-11	PIN, CONNECTOR (PC BOARD) 5P		R212	1-249-433-11	CARBON 22K	5% 1/4W
CNP205	1-779-366-11	CONNECTOR, BOARD TO BOARD 4P		R213	1-249-433-11	CARBON 22K	5% 1/4W
CNS201	1-568-742-11	SOCKET, CONNECTOR 23P		R214	1-249-433-11	CARBON 22K	5% 1/4W
CNS202	1-770-400-11	HOUSING, CONNECTOR (PC BOARD) 7P		R216	1-249-433-11	CARBON 22K	5% 1/4W
< DIODE >				R221	1-247-807-31	CARBON 100	5% 1/4W
D201	8-719-911-19	DIODE 1SS119		R222	1-247-807-31	CARBON 100	5% 1/4W
D202	8-719-911-19	DIODE 1SS119		R223	1-247-807-31	CARBON 100	5% 1/4W
D203	8-719-911-19	DIODE 1SS119		R224	1-247-807-31	CARBON 100	5% 1/4W
D204	8-719-911-19	DIODE 1SS119		R225	1-247-807-31	CARBON 100	5% 1/4W
D211	8-719-911-19	DIODE 1SS119		R226	1-249-441-11	CARBON 100K	5% 1/4W
D213	8-719-911-19	DIODE 1SS119		R227	1-249-441-11	CARBON 100K	5% 1/4W
D214	8-719-911-19	DIODE 1SS119		R228	1-249-412-11	CARBON 390	5% 1/4W F
D224	8-719-911-19	DIODE 1SS119		R230	1-249-410-11	CARBON 270	5% 1/4W F
D231	8-719-911-19	DIODE 1SS119		R231	1-249-427-11	CARBON 6.8K	5% 1/4W F
D235	8-719-313-50	DIODE SEL6810A-TH12		R283	1-249-427-11	CARBON 6.8K	5% 1/4W F
D236	8-719-313-50	DIODE SEL6810A-TH12		R284	1-249-427-11	CARBON 6.8K	5% 1/4W F
D237	8-719-313-50	DIODE SEL6810A-TH12		R286	1-249-437-11	CARBON 47K	5% 1/4W
< FILTER >				< SWITCH >			
FL201	1-517-141-11	INDICATOR TUBE, FLUORESCENT		S200	1-762-378-11	SWITCH, TACTILE (POWER)	
< IC >				S201	1-762-378-11	SWITCH, TACTILE (CENTER LEVEL -)	
IC201	8-759-479-19	IC uPD78044FGF-064-3B9		S202	1-762-378-11	SWITCH, TACTILE (CENTER LEVEL +)	
IC202	8-759-962-08	IC BA6208		S203	1-762-378-11	SWITCH, TACTILE (REAR LEVEL -)	
IC203	8-759-332-18	IC GP1U27XB (REMOTE SENSOR)		S204	1-762-378-11	SWITCH, TACTILE (REAR LEVEL +)	
< COIL >				S209	1-762-378-11	SWITCH, TACTILE (TUNING -)	
L401	1-410-509-11	INDUCTOR 10uH		S210	1-762-378-11	SWITCH, TACTILE (TUNING +)	
				S211	1-762-378-11	SWITCH, TACTILE (PRESET TUNING -)	
				S212	1-762-378-11	SWITCH, TACTILE (PRESET TUNING +)	
				S213	1-762-378-11	SWITCH, TACTILE (FM MODE)	
				S214	1-762-378-11	SWITCH, TACTILE (FM)	
				S215	1-762-378-11	SWITCH, TACTILE (AM)	
				S216	1-762-378-11	SWITCH, TACTILE (MEMORY)	

Ref. No.	Part No.	Description	Remarks			
< VIBRATOR >						
X201	1-577-101-11	VIBRATOR, CERAMIC 4.19MHZ	*****			
*	A-4407-430-A	KEY BOARD, COMPLETE	*****			
< CONNECTOR >						
CNS205	1-770-397-11	HOUSING, CONNECTOR (PC BOARD) 4P				
< RESISTOR >						
R232	1-249-411-11	CARBON	330	5%	1/4W	
R233	1-249-413-11	CARBON	470	5%	1/4W	F
R234	1-249-415-11	CARBON	680	5%	1/4W	F
R235	1-249-417-11	CARBON	1K	5%	1/4W	F
R236	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R237	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R238	1-247-843-11	CARBON	3.3K	5%	1/4W	
R239	1-249-411-11	CARBON	330	5%	1/4W	
R240	1-249-413-11	CARBON	470	5%	1/4W	F
R241	1-249-415-11	CARBON	680	5%	1/4W	F
R242	1-249-417-11	CARBON	1K	5%	1/4W	F
R243	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R244	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R245	1-247-843-11	CARBON	3.3K	5%	1/4W	
R246	1-249-411-11	CARBON	330	5%	1/4W	
R247	1-249-413-11	CARBON	470	5%	1/4W	F
R248	1-249-415-11	CARBON	680	5%	1/4W	F
R249	1-249-417-11	CARBON	1K	5%	1/4W	F
R270	1-247-807-31	CARBON	100	5%	1/4W	
R280	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R281	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R282	1-247-843-11	CARBON	3.3K	5%	1/4W	
< SWITCH >						
S217	1-762-378-11	SWITCH, TACTILE (SURROUND ON/OFF)				
S218	1-762-378-11	SWITCH, TACTILE (SET UP)				
S219	1-762-378-11	SWITCH, TACTILE (EFFECT/DELAY TIME)				
S220	1-762-378-11	SWITCH, TACTILE (TV/DBS)				
S221	1-762-378-11	SWITCH, TACTILE (TUNER)				
S222	1-762-378-11	SWITCH, TACTILE (PHONO)				
S223	1-762-378-11	SWITCH, TACTILE (VIDEO)				
S224	1-762-378-11	SWITCH, TACTILE (6)				
S225	1-762-378-11	SWITCH, TACTILE (7)				
S226	1-762-378-11	SWITCH, TACTILE (8)				
S227	1-762-378-11	SWITCH, TACTILE (9)				
S228	1-762-378-11	SWITCH, TACTILE (0)				
S229	1-762-378-11	SWITCH, TACTILE (SHIFT)				
S231	1-762-378-11	SWITCH, TACTILE (TAPE/MD)				
S232	1-762-378-11	SWITCH, TACTILE (1)				
S233	1-762-378-11	SWITCH, TACTILE (2)				
S234	1-762-378-11	SWITCH, TACTILE (3)				
S235	1-762-378-11	SWITCH, TACTILE (4)				
S236	1-762-378-11	SWITCH, TACTILE (5)				
S237	1-762-378-11	SWITCH, TACTILE (DIRECT)				
S238	1-762-378-11	SWITCH, TACTILE (MODE)				
S239	1-762-378-11	SWITCH, TACTILE (CD)	*****			

Ref. No.	Part No.	Description	Remarks		
*	A-4407-426-A	MAIN BOARD, COMPLETE *****			
	3-905-609-01	SCREW (TRANSISTOR)			
	4-812-134-00	RIVET (DIA. 3.5), NYLON			
	7-685-872-09	SCREW +BVTT 3 × 8 (S)			
		< CAPACITOR >			
C302	1-126-934-11	ELECT	220uF	20%	16V
C303	1-130-494-11	MYLAR	0.082uF	5%	50V
C304	1-137-367-11	FILM	0.0033uF	5%	50V
C305	1-130-494-11	MYLAR	0.082uF	5%	50V
C306	1-126-959-11	ELECT	0.47uF	20%	50V
C307	1-126-964-11	ELECT	10uF	20%	50V
C308	1-126-964-11	ELECT	10uF	20%	50V
C309	1-162-291-31	CERAMIC	560PF	10%	50V
C310	1-126-962-11	ELECT	3.3uF	20%	50V
C311	1-126-961-11	ELECT	2.2uF	20%	50V
C312	1-126-934-11	ELECT	220uF	20%	16V
C313	1-126-934-11	ELECT	220uF	20%	16V
C314	1-136-165-00	FILM	0.1uF	5%	50V
C316	1-124-252-00	ELECT	0.33uF	20%	50V
C317	1-126-933-11	ELECT	100uF	20%	16V
C318	1-136-357-11	FILM	680PF	5%	50V
C322	1-126-962-11	ELECT	3.3uF	20%	50V
C323	1-136-173-00	FILM	0.47uF	5%	50V
C324	1-126-967-11	ELECT	47uF	20%	16V
C325	1-136-165-00	FILM	0.1uF	5%	50V
C326	1-136-165-00	FILM	0.1uF	5%	50V
C327	1-126-959-11	ELECT	0.47uF	20%	50V
C328	1-126-963-11	ELECT	4.7uF	20%	50V
C329	1-126-959-11	ELECT	0.47uF	20%	50V
C330	1-126-963-11	ELECT	4.7uF	20%	50V
C331	1-124-250-11	ELECT	0.15uF	20%	50V
C332	1-126-962-11	ELECT	3.3uF	20%	50V
C333	1-124-250-11	ELECT	0.15uF	20%	50V
C334	1-137-372-11	FILM	0.022uF	5%	50V
C335	1-136-161-00	FILM	0.047uF	5%	50V
C336	1-126-934-11	ELECT	220uF	20%	16V
C337	1-126-964-11	ELECT	10uF	20%	50V
C338	1-126-964-11	ELECT	10uF	20%	50V
C339	1-126-964-11	ELECT	10uF	20%	50V
C340	1-126-964-11	ELECT	10uF	20%	50V
C341	1-126-934-11	ELECT	220uF	20%	16V
C342	1-126-962-11	ELECT	3.3uF	20%	50V
C343	1-126-962-11	ELECT	3.3uF	20%	50V
C344	1-136-165-00	FILM	0.1uF	5%	50V
C345	1-136-165-00	FILM	0.1uF	5%	50V
C346	1-126-959-11	ELECT	0.47uF	20%	50V
C347	1-126-963-11	ELECT	4.7uF	20%	50V
C348	1-126-959-11	ELECT	0.47uF	20%	50V
C349	1-126-963-11	ELECT	4.7uF	20%	50V
C350	1-124-250-11	ELECT	0.15uF	20%	50V
C351	1-126-962-11	ELECT	3.3uF	20%	50V
C352	1-124-250-11	ELECT	0.15uF	20%	50V
C353	1-164-159-11	CERAMIC	0.1uF		50V
C354	1-164-159-11	CERAMIC	0.1uF		50V
C355	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description	Remarks			Ref. No.	Part No.	Description	Remarks		
C356	1-164-159-11	CERAMIC	0.1uF		50V	C802	1-104-664-11	ELECT	47uF	20%	25V
C357	1-164-159-11	CERAMIC	0.1uF		50V	C803	1-128-493-11	ELECT	4700uF	20%	63V
C359	1-126-963-11	ELECT	4.7uF	20%	50V	C804	1-128-493-11	ELECT	4700uF	20%	63V
C360	1-126-963-11	ELECT	4.7uF	20%	50V	C805	1-137-420-11	FILM	0.047uF	10%	100V
C363	1-164-159-11	CERAMIC	0.1uF		50V	C806	1-137-420-11	FILM	0.047uF	10%	100V
C365	1-126-966-11	ELECT	33uF	20%	16V	C807	1-104-664-11	ELECT	47uF	20%	25V
C366	1-164-159-11	CERAMIC	0.1uF		50V	C808	1-104-664-11	ELECT	47uF	20%	25V
C402	1-126-963-11	ELECT	4.7uF	20%	50V	C809	1-126-960-11	ELECT	1uF	20%	50V
C403	1-126-964-11	ELECT	10uF	20%	50V	C810	1-126-960-11	ELECT	1uF	20%	50V
C404	1-162-282-31	CERAMIC	100PF	10%	50V	C811	1-126-941-11	ELECT	470uF	20%	25V
C405	1-137-459-11	FILM	0.0056uF	5%	100V	C812	1-126-941-11	ELECT	470uF	20%	25V
C406	1-164-159-11	CERAMIC	0.1uF		50V	C813	1-101-001-00	CERAMIC	0.001uF		50V
C407	1-137-365-11	FILM	0.0015uF	5%	50V	C814	1-101-001-00	CERAMIC	0.001uF		50V
C408	1-162-294-31	CERAMIC	0.001uF	10%	50V	C820	1-161-494-00	CERAMIC	0.022uF		25V
C409	1-126-960-11	ELECT	1uF	20%	50V	C821	1-161-494-00	CERAMIC	0.022uF		25V
C410	1-164-159-11	CERAMIC	0.1uF		50V	C822	1-104-664-11	ELECT	47uF	20%	25V
C412	1-162-291-31	CERAMIC	560PF	10%	50V	C823	1-104-664-11	ELECT	47uF	20%	25V
C413	1-164-159-11	CERAMIC	0.1uF		50V	C950	1-126-767-11	ELECT	1000uF	20%	16V
C415	1-164-159-11	CERAMIC	0.1uF		50V	C951	1-164-097-11	CERAMIC	0.022uF		50V
C416	1-164-159-11	CERAMIC	0.1uF		50V	C952	1-126-960-11	ELECT	1uF	20%	50V
C434	1-162-286-31	CERAMIC	220PF	10%	50V	C953	1-124-464-11	ELECT	0.22uF	20%	50V
C435	1-162-286-31	CERAMIC	220PF	10%	50V	C954	1-126-096-11	ELECT	10uF	20%	35V
C452	1-126-963-11	ELECT	4.7uF	20%	50V	C955	1-164-159-11	CERAMIC	0.1uF		50V
C453	1-126-964-11	ELECT	10uF	20%	50V	C956	1-164-159-11	CERAMIC	0.1uF		50V
C454	1-162-282-31	CERAMIC	100PF	10%	50V	< CONNECTOR >					
C455	1-137-459-11	FILM	0.0056uF	5%	100V	CNP702	1-750-388-11	PIN, CONNECTOR 5P			
C457	1-137-365-11	FILM	0.0015uF	5%	50V	CNS204	1-568-742-11	SOCKET, CONNECTOR 23P			
C459	1-126-960-11	ELECT	1uF	20%	50V	CNS301	1-568-442-11	SOCKET, CONNECTOR 9P			
C460	1-164-159-11	CERAMIC	0.1uF		50V	CNS701	1-568-439-11	SOCKET, CONNECTOR 7P			
C602	1-162-288-31	CERAMIC	330PF	10%	50V	CNS802	1-770-480-11	SOCKET, CONNECTOR PIN 4P			
C603	1-104-665-11	ELECT	100uF	20%	10V	< DIODE >					
C605	1-102-233-00	CERAMIC	33PF	10%	500V	D610	8-719-911-19	DIODE 1SS119			
C610	1-126-967-11	ELECT	47uF	20%	16V	D710	8-719-911-19	DIODE 1SS119			
C611	1-137-372-11	FILM	0.022uF	5%	50V	D721	8-719-911-19	DIODE 1SS119			
C620	1-162-286-31	CERAMIC	220PF	10%	50V	D722	8-719-911-19	DIODE 1SS119			
C652	1-162-282-31	CERAMIC	100PF	10%	50V	D723	8-719-911-19	DIODE 1SS119			
C653	1-104-665-11	ELECT	100uF	20%	10V	D724	8-719-911-19	DIODE 1SS119			
C655	1-102-233-00	CERAMIC	33PF	10%	500V	D725	8-719-911-19	DIODE 1SS119			
C660	1-126-967-11	ELECT	47uF	20%	16V	D801	8-719-986-54	DIODE HZS24-1LTA			
C661	1-137-372-11	FILM	0.022uF	5%	50V	D802	8-719-302-38	DIODE RBV-602-01			
C670	1-162-286-31	CERAMIC	220PF	10%	50V	D804	8-719-109-85	DIODE RD5.1ES-B2			
C702	1-162-282-31	CERAMIC	100PF	10%	50V	D810	8-719-024-99	DIODE 11ES2-NTA2B			
C703	1-104-665-11	ELECT	100uF	20%	10V	D811	8-719-024-99	DIODE 11ES2-NTA2B			
C705	1-102-233-00	CERAMIC	33PF	10%	500V	D812	8-719-024-99	DIODE 11ES2-NTA2B			
C710	1-126-967-11	ELECT	47uF	20%	16V	D813	8-719-024-99	DIODE 11ES2-NTA2B			
C711	1-137-372-11	FILM	0.022uF	5%	50V	D814	8-719-911-19	DIODE 1SS119			
C720	1-162-286-31	CERAMIC	220PF	10%	50V	D815	8-719-911-19	DIODE 1SS119			
C721	1-126-934-11	ELECT	220uF	20%	10V	D817	8-719-936-61	DIODE GL-9HY35			
C722	1-126-964-11	ELECT	10uF	20%	50V	D818	8-719-911-19	DIODE 1SS119			
C740	1-128-582-11	ELECT	10uF	20%	100V	D820	8-719-024-99	DIODE 11ES2-NTA2B			
C741	1-128-582-11	ELECT	10uF	20%	100V	D821	8-719-024-99	DIODE 11ES2-NTA2B			
C742	1-126-925-11	ELECT	470uF	20%	10V	D822	8-719-024-99	DIODE 11ES2-NTA2B			
C743	1-126-925-11	ELECT	470uF	20%	10V	D823	8-719-024-99	DIODE 11ES2-NTA2B			
C752	1-162-282-31	CERAMIC	100PF	10%	50V	D901	8-719-911-19	DIODE 1SS119			
C753	1-104-665-11	ELECT	100uF	20%	10V						
C755	1-102-233-00	CERAMIC	33PF	10%	500V						
C760	1-126-967-11	ELECT	47uF	20%	16V						
C761	1-137-372-11	FILM	0.022uF	5%	50V						
C770	1-162-286-31	CERAMIC	220PF	10%	50V						
C801	1-104-664-11	ELECT	47uF	20%	25V						

MAIN

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< TERMINAL >							
* G200	1-537-738-21	TERMINAL, EARTH		Q752	8-729-141-30	TRANSISTOR 2SC3623A-LK	
* G201	1-537-738-21	TERMINAL, EARTH		Q753	8-749-010-25	IC MN2488-OPY-M	
* G202	1-537-738-21	TERMINAL, EARTH		Q754	8-749-010-26	IC MP1620-OPY-M	
< IC >				Q770	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
IC300	8-759-442-97	IC LV1016		Q801	8-729-140-97	TRANSISTOR 2SB734-34	
IC301	8-759-442-96	IC LA2786		Q802	8-729-620-05	TRANSISTOR 2SC2603-EF	
IC302	8-759-636-74	IC M5218AP-22		Q808	8-729-180-92	TRANSISTOR 2SD809-K	
IC401	8-759-805-14	IC LC7822		Q809	8-729-620-05	TRANSISTOR 2SC2603-EF	
IC402	8-759-636-74	IC M5218AP-22		Q951	8-729-026-68	TRANSISTOR 2SD2525 (TP)	
				Q951	8-729-209-15	TRANSISTOR 2SD2012	
				< RESISTOR >			
IC701	8-759-326-52	IC uPC2581V		R298	1-249-387-11	CARBON 3.3 5%	1/4W F
IC702	8-759-326-52	IC uPC2581V		R299	1-249-387-11	CARBON 3.3 5%	1/4W F
IC801	8-759-231-58	IC TA7812S		R300	1-247-903-00	CARBON 1M 5%	1/4W
IC802	8-759-604-45	IC M5F79M12		R301	1-249-421-11	CARBON 2.2K 5%	1/4W F
IC950	8-759-333-83	IC NJM2103D		R302	1-249-421-11	CARBON 2.2K 5%	1/4W F
< JACK >				R303	1-249-439-11	CARBON 68K 5%	1/4W
J401	1-770-614-11	JACK, PIN 4P (PHONO/CD)		R304	1-249-441-11	CARBON 100K 5%	1/4W
J402	1-580-825-11	JACK, PIN 6P (CD/TAPE/MD)		R306	1-249-436-11	CARBON 39K 5%	1/4W
J403	1-770-613-11	JACK, PIN 4P (VIDE)		R307	1-247-862-11	CARBON 20K 5%	1/4W
< COIL >				R308	1-249-421-11	CARBON 2.2K 5%	1/4W F
L301	1-410-509-11	INDUCTOR 10uH		R309	1-249-421-11	CARBON 2.2K 5%	1/4W F
L302	1-410-509-11	INDUCTOR 10uH		R352	1-249-441-11	CARBON 100K 5%	1/4W
L601	1-420-872-00	COIL, AIR-CORE		R353	1-249-425-11	CARBON 4.7K 5%	1/4W F
L651	1-420-872-00	COIL, AIR-CORE		R354	1-249-425-11	CARBON 4.7K 5%	1/4W F
L701	1-420-872-00	COIL, AIR-CORE		R355	1-249-425-11	CARBON 4.7K 5%	1/4W F
L751	1-420-872-00	COIL, AIR-CORE		R356	1-249-425-11	CARBON 4.7K 5%	1/4W F
< TRANSISTOR >				R357	1-249-441-11	CARBON 100K 5%	1/4W
Q303	8-729-141-30	TRANSISTOR 2SC3623A-LK		R358	1-249-441-11	CARBON 100K 5%	1/4W
Q304	8-729-141-30	TRANSISTOR 2SC3623A-LK		R359	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q307	8-729-141-30	TRANSISTOR 2SC3623A-LK		R360	1-247-843-11	CARBON 3.3K 5%	1/4W
Q308	8-729-141-30	TRANSISTOR 2SC3623A-LK		R361	1-249-429-11	CARBON 10K 5%	1/4W
Q601	8-729-119-76	TRANSISTOR 2SA1175-HFE		R362	1-249-429-11	CARBON 10K 5%	1/4W
Q602	8-729-141-30	TRANSISTOR 2SC3623A-LK		R363	1-249-411-11	CARBON 330 5%	1/4W
Q603	8-749-010-25	IC MN2488-OPY-M		R401	1-249-417-11	CARBON 1K 5%	1/4W F
Q604	8-749-010-26	IC MP1620-OPY-M		R402	1-247-843-11	CARBON 3.3K 5%	1/4W
Q610	8-729-620-05	TRANSISTOR 2SC2603-EF		R403	1-249-417-11	CARBON 1K 5%	1/4W F
Q620	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R404	1-249-417-11	CARBON 1K 5%	1/4W F
Q651	8-729-119-76	TRANSISTOR 2SA1175-HFE		R405	1-249-417-11	CARBON 1K 5%	1/4W F
Q652	8-729-141-30	TRANSISTOR 2SC3623A-LK		R406	1-249-417-11	CARBON 1K 5%	1/4W F
Q653	8-749-010-25	IC MN2488-OPY-M		R407	1-249-417-11	CARBON 1K 5%	1/4W F
Q654	8-749-010-26	IC MP1620-OPY-M		R408	1-249-426-11	CARBON 5.6K 5%	1/4W
Q670	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R410	1-249-437-11	CARBON 47K 5%	1/4W
Q701	8-729-119-76	TRANSISTOR 2SA1175-HFE		R411	1-249-415-11	CARBON 680 5%	1/4W F
Q702	8-729-141-30	TRANSISTOR 2SC3623A-LK		R412	1-247-897-11	CARBON 560K 5%	1/4W
Q703	8-749-010-25	IC MN2488-OPY-M		R413	1-249-437-11	CARBON 47K 5%	1/4W
Q704	8-749-010-26	IC MP1620-OPY-M		R414	1-249-425-11	CARBON 4.7K 5%	1/4W F
Q710	8-729-620-05	TRANSISTOR 2SC2603-EF		R415	1-249-417-11	CARBON 1K 5%	1/4W F
Q720	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R416	1-249-409-11	CARBON 220 5%	1/4W F
Q721	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R417	1-249-441-11	CARBON 100K 5%	1/4W
Q722	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		R420	1-249-441-11	CARBON 100K 5%	1/4W
Q723	8-729-620-05	TRANSISTOR 2SC2603-EF		R435	1-249-418-11	CARBON 1.2K 5%	1/4W F
Q751	8-729-119-76	TRANSISTOR 2SA1175-HFE		R442	1-249-418-11	CARBON 1.2K 5%	1/4W F
				R443	1-249-418-11	CARBON 1.2K 5%	1/4W F
				R447	1-249-416-11	CARBON 820 5%	1/4W F
				R448	1-249-429-11	CARBON 10K 5%	1/4W

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R449	1-249-433-11	CARBON	22K	5%	1/4W	R711	1-249-440-11	CARBON	82K	5%	1/4W
R451	1-249-417-11	CARBON	1K	5%	1/4W F	R713	1-249-414-11	CARBON	560	5%	1/4W F
R452	1-247-843-11	CARBON	3.3K	5%	1/4W	△ R714	1-249-408-11	CARBON	180	5%	1/4W F
R453	1-249-417-11	CARBON	1K	5%	1/4W F	△ R715	1-249-408-11	CARBON	180	5%	1/4W F
R454	1-249-417-11	CARBON	1K	5%	1/4W F	△ R716	1-233-352-21	ENCAPSULATED COMPONENT			
R455	1-249-417-11	CARBON	1K	5%	1/4W F	△ R717	1-249-393-11	CARBON	10	5%	1/4W F
R456	1-249-417-11	CARBON	1K	5%	1/4W F	R718	1-249-389-11	CARBON	4.7	5%	1/4W F
R457	1-249-417-11	CARBON	1K	5%	1/4W F	△ R719	1-249-405-11	CARBON	100	5%	1/4W F
R458	1-249-426-11	CARBON	5.6K	5%	1/4W	R720	1-249-419-11	CARBON	1.5K	5%	1/4W F
R460	1-249-437-11	CARBON	47K	5%	1/4W	R721	1-249-426-11	CARBON	5.6K	5%	1/4W
R461	1-249-415-11	CARBON	680	5%	1/4W F	△ R722	1-249-403-11	CARBON	68	5%	1/4W F
R462	1-247-897-11	CARBON	560K	5%	1/4W	R723	1-249-437-11	CARBON	47K	5%	1/4W
R463	1-249-437-11	CARBON	47K	5%	1/4W	R724	1-249-425-11	CARBON	4.7K	5%	1/4W F
R465	1-249-417-11	CARBON	1K	5%	1/4W F	R725	1-249-429-11	CARBON	10K	5%	1/4W
R466	1-249-409-11	CARBON	220	5%	1/4W F	R726	1-249-417-11	CARBON	1K	5%	1/4W F
R467	1-249-441-11	CARBON	100K	5%	1/4W	R727	1-249-427-11	CARBON	6.8K	5%	1/4W F
R470	1-249-441-11	CARBON	100K	5%	1/4W	R730	1-249-429-11	CARBON	10K	5%	1/4W
R601	1-249-417-11	CARBON	1K	5%	1/4W F	△ R740	1-249-393-11	CARBON	10	5%	1/4W F
R602	1-249-439-11	CARBON	68K	5%	1/4W	△ R741	1-249-393-11	CARBON	10	5%	1/4W F
R603	1-249-415-11	CARBON	680	5%	1/4W F	R742	1-249-425-11	CARBON	4.7K	5%	1/4W F
R604	1-249-439-11	CARBON	68K	5%	1/4W	R743	1-249-425-11	CARBON	4.7K	5%	1/4W F
R605	1-249-441-11	CARBON	100K	5%	1/4W	R751	1-249-417-11	CARBON	1K	5%	1/4W F
R610	1-249-421-11	CARBON	2.2K	5%	1/4W F	R752	1-249-439-11	CARBON	68K	5%	1/4W
R611	1-249-440-11	CARBON	82K	5%	1/4W	R753	1-249-415-11	CARBON	680	5%	1/4W F
R613	1-249-414-11	CARBON	560	5%	1/4W F	R754	1-249-439-11	CARBON	68K	5%	1/4W
△ R614	1-249-408-11	CARBON	180	5%	1/4W F	R755	1-249-441-11	CARBON	100K	5%	1/4W
△ R615	1-249-408-11	CARBON	180	5%	1/4W F	R760	1-249-421-11	CARBON	2.2K	5%	1/4W F
△ R616	1-233-352-21	ENCAPSULATED COMPONENT				R761	1-249-440-11	CARBON	82K	5%	1/4W
△ R617	1-249-393-11	CARBON	10	5%	1/4W F	R763	1-249-414-11	CARBON	560	5%	1/4W F
R618	1-249-389-11	CARBON	4.7	5%	1/4W F	△ R764	1-249-408-11	CARBON	180	5%	1/4W F
R619	1-249-405-11	CARBON	100	5%	1/4W F	△ R765	1-249-408-11	CARBON	180	5%	1/4W F
R620	1-249-419-11	CARBON	1.5K	5%	1/4W F	△ R766	1-233-352-21	ENCAPSULATED COMPONENT			
R621	1-249-426-11	CARBON	5.6K	5%	1/4W	△ R767	1-249-393-11	CARBON	10	5%	1/4W F
R622	1-249-403-11	CARBON	68	5%	1/4W F	R768	1-249-389-11	CARBON	4.7	5%	1/4W F
R623	1-249-437-11	CARBON	47K	5%	1/4W	R770	1-249-419-11	CARBON	1.5K	5%	1/4W F
R630	1-249-426-11	CARBON	5.6K	5%	1/4W	R771	1-249-426-11	CARBON	5.6K	5%	1/4W
R632	1-249-426-11	CARBON	5.6K	5%	1/4W	R772	1-249-431-11	CARBON	15K	5%	1/4W
R651	1-249-417-11	CARBON	1K	5%	1/4W F	R773	1-249-437-11	CARBON	47K	5%	1/4W
R652	1-249-439-11	CARBON	68K	5%	1/4W	△ R803	1-247-739-11	CARBON	100	5%	1/2W F
R653	1-249-415-11	CARBON	680	5%	1/4W F	R804	1-249-425-11	CARBON	4.7K	5%	1/4W F
R654	1-249-439-11	CARBON	68K	5%	1/4W	R821	1-249-437-11	CARBON	47K	5%	1/4W
R655	1-249-441-11	CARBON	100K	5%	1/4W	R822	1-249-425-11	CARBON	4.7K	5%	1/4W F
R660	1-249-421-11	CARBON	2.2K	5%	1/4W F	R823	1-249-437-11	CARBON	47K	5%	1/4W
R661	1-249-440-11	CARBON	82K	5%	1/4W	R824	1-249-425-11	CARBON	4.7K	5%	1/4W F
R663	1-249-414-11	CARBON	560	5%	1/4W F	R825	1-249-407-11	CARBON	150	5%	1/4W F
△ R664	1-249-408-11	CARBON	180	5%	1/4W F	△ R830	1-249-405-11	CARBON	100	5%	1/4W F
△ R665	1-249-408-11	CARBON	180	5%	1/4W F	△ R831	1-249-403-11	CARBON	68	5%	1/4W F
△ R666	1-233-352-21	ENCAPSULATED COMPONENT				R950	1-249-421-11	CARBON	2.2K	5%	1/4W F
△ R667	1-249-393-11	CARBON	10	5%	1/4W F	R951	1-249-429-11	CARBON	10K	5%	1/4W
R668	1-249-389-11	CARBON	4.7	5%	1/4W F	R952	1-247-843-11	CARBON	3.3K	5%	1/4W
R670	1-249-419-11	CARBON	1.5K	5%	1/4W F	R953	1-249-433-11	CARBON	22K	5%	1/4W
R671	1-249-426-11	CARBON	5.6K	5%	1/4W	R954	1-249-439-11	CARBON	68K	5%	1/4W
R672	1-249-431-11	CARBON	15K	5%	1/4W	R955	1-249-429-11	CARBON	10K	5%	1/4W
R673	1-249-437-11	CARBON	47K	5%	1/4W	R956	1-247-843-11	CARBON	3.3K	5%	1/4W
R701	1-249-417-11	CARBON	1K	5%	1/4W F	R957	1-249-417-11	CARBON	1K	5%	1/4W F
R702	1-249-439-11	CARBON	68K	5%	1/4W	R958	1-249-401-11	CARBON	47	5%	1/4W F
R703	1-249-415-11	CARBON	680	5%	1/4W F	R960	1-249-429-11	CARBON	10K	5%	1/4W
R704	1-249-439-11	CARBON	68K	5%	1/4W						
R705	1-249-441-11	CARBON	100K	5%	1/4W						
R710	1-249-421-11	CARBON	2.2K	5%	1/4W F						

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

MAIN	PRIMARY	SECONDARY	STANDBY	SW	VR-TONE
------	---------	-----------	---------	----	---------

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
< RELAY >				< RELAY >			
RY601	1-515-921-11	RELAY (12V)		△ RY901	1-755-018-11	RELAY	
RY701	1-515-921-11	RELAY (12V)		< TRANSFORMER >			
RY801	1-755-013-11	RELAY		△ T902	1-450-361-11	TRANSFORMER, POWER	*****
< TERMINAL >				< CONNECTOR >			
TM1	1-537-240-51	TERMINAL BOARD (CHECKER PIN) (ANTENNA)		< JACK >			
TM601	1-537-510-11	TERMINAL BOARD (6P)(SURROUND SPEAKER)		J741	1-750-731-11	JACK (LARGE TYPE) (PHONES)	
TM701	1-537-376-11	TERMINAL BOARD (SP) (FRONT SPEAKER)		< RESISTOR >			
< TUNER >				R741	1-247-753-11	CARBON 1.2K 5% 1/2W	
TU001	1-233-593-11	ENCAPSULATED COMPONENT		R742	1-247-753-11	CARBON 1.2K 5% 1/2W	
< VIBRATOR >				R791	1-247-753-11	CARBON 1.2K 5% 1/2W	
X301	1-579-952-11	VIBRATOR, CERAMIC 8MHz	*****	R792	1-247-753-11	CARBON 1.2K 5% 1/2W	
< FUSE >				< SWITCH >			
* 1-665-273-11	PRIMARY BOARD	*****		S701	1-762-319-11	SWITCH, PUSH (2 KEY) (SPEAKERS)	*****
△ F901	1-576-109-11	FUSE 5A/125V		< CAPACITOR >			
< HOLDER >				C420	1-162-207-31	CERAMIC 22PF 5% 50V	
FH901	1-533-233-21	HOLDER, FUSE		C421	1-137-440-11	FILM 0.018uF 5% 50V	
FH951	1-533-233-21	HOLDER, FUSE	*****	C422	1-124-463-00	ELECT 0.1uF 20% 50V	
< CONNECTOR >				C423	1-137-368-11	FILM 0.0047uF 5% 50V	
* 1-665-274-11	SECONDARY BOARD	*****		C424	1-137-372-11	FILM 0.022uF 5% 50V	
< RESISTOR >				C425	1-126-795-11	ELECT 10uF 20% 25V	
CNP801	1-764-480-11	PIN, CONNECTOR (PC BOARD) 11P		C426	1-126-795-11	ELECT 10uF 20% 25V	
△ R810	1-249-381-11	CARBON 1 5% 1/4W F		C427	1-124-252-00	ELECT 0.33uF 20% 50V	
△ R811	1-249-381-11	CARBON 1 5% 1/4W F	*****	C428	1-130-489-00	MYLAR 0.033uF 5% 50V	
< CONNECTOR >				C429	1-102-973-00	CERAMIC 100PF 5% 50V	
* 1-665-272-11	STANDBY BOARD	*****		C430	1-126-301-11	ELECT 1uF 20% 50V	
< DIODE >				C431	1-126-301-11	ELECT 1uF 20% 50V	
CNP802	1-779-495-11	PLUG, CONNECTOR PIN 4P		C432	1-126-795-11	ELECT 10uF 20% 25V	
CNP901	1-564-321-00	PIN, CONNECTOR 2P		C433	1-126-795-11	ELECT 10uF 20% 25V	
CNP903	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P		C470	1-162-207-31	CERAMIC 22PF 5% 50V	
< TERMINAL >				C471	1-137-440-11	FILM 0.018uF 5% 50V	
D816	8-719-911-19	DIODE 1SS119		C472	1-124-463-00	ELECT 0.1uF 20% 50V	
< RESISTOR >				C473	1-137-368-11	FILM 0.0047uF 5% 50V	
* G900	1-537-738-21	TERMINAL, EARTH		C474	1-137-372-11	FILM 0.022uF 5% 50V	
△ R901	1-202-725-00	SOLID 3.3M 10% 1/2W		C475	1-126-795-11	ELECT 10uF 20% 25V	
< TRANSFORMER >				C476	1-126-795-11	ELECT 10uF 20% 25V	
< JACK >				C477	1-124-252-00	ELECT 0.33uF 20% 50V	
< RESISTOR >				C478	1-130-489-00	MYLAR 0.033uF 5% 50V	
< SWITCH >				C479	1-102-973-00	CERAMIC 100PF 5% 50V	
< CAPACITOR >				C492	1-124-464-11	ELECT 0.22uF 20% 50V	

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

Ref. No.	Part No.	Description			Remarks
C601	1-126-163-11	ELECT	4.7uF	20%	50V
C651	1-126-163-11	ELECT	4.7uF	20%	50V
C701	1-126-163-11	ELECT	4.7uF	20%	50V
C751	1-126-163-11	ELECT	4.7uF	20%	50V
< CONNECTOR >					
CNP202	1-770-391-11	PIN, CONNECTOR (PC BOARD) 7P			
CNS402	1-568-439-11	SOCKET, CONNECTOR 7P			
CNS403	1-568-442-11	SOCKET, CONNECTOR 9P			
< DIODE >					
D238	8-719-313-50	DIODE SEL6810A-TH12			
D421	8-719-911-19	DIODE 1SS119			
< IC >					
IC404	8-759-636-74	IC M5218AP-22			
< TRANSISTOR >					
Q401	8-729-202-67	TRANSISTOR 2SK246-GR3			
Q402	8-729-141-30	TRANSISTOR 2SC3623A-LK			
Q451	8-729-202-67	TRANSISTOR 2SK246-GR3			
Q452	8-729-141-30	TRANSISTOR 2SC3623A-LK			
< RESISTOR >					
R420	1-249-415-11	CARBON	680	5%	1/4W F
R421	1-249-430-11	CARBON	12K	5%	1/4W
R422	1-249-422-11	CARBON	2.7K	5%	1/4W F
R423	1-247-903-00	CARBON	1M	5%	1/4W
R424	1-247-903-00	CARBON	1M	5%	1/4W
R425	1-249-429-11	CARBON	10K	5%	1/4W
R426	1-249-439-11	CARBON	68K	5%	1/4W
R427	1-249-417-11	CARBON	1K	5%	1/4W F
R430	1-249-437-11	CARBON	47K	5%	1/4W
R431	1-247-843-11	CARBON	3.3K	5%	1/4W
R432	1-247-883-00	CARBON	150K	5%	1/4W
R433	1-249-427-11	CARBON	6.8K	5%	1/4W F
R434	1-249-413-11	CARBON	470	5%	1/4W F
R438	1-249-441-11	CARBON	100K	5%	1/4W
R441	1-249-441-11	CARBON	100K	5%	1/4W
R444	1-247-903-00	CARBON	1M	5%	1/4W
R464	1-247-903-00	CARBON	1M	5%	1/4W
R469	1-247-903-00	CARBON	1M	5%	1/4W
R470	1-249-415-11	CARBON	680	5%	1/4W F
R471	1-249-430-11	CARBON	12K	5%	1/4W
R472	1-249-422-11	CARBON	2.7K	5%	1/4W F
R473	1-247-903-00	CARBON	1M	5%	1/4W
R474	1-247-903-00	CARBON	1M	5%	1/4W
R475	1-249-429-11	CARBON	10K	5%	1/4W
R476	1-249-439-11	CARBON	68K	5%	1/4W
R477	1-249-417-11	CARBON	1K	5%	1/4W F
R480	1-249-437-11	CARBON	47K	5%	1/4W
R481	1-247-843-11	CARBON	3.3K	5%	1/4W
R482	1-247-883-00	CARBON	150K	5%	1/4W
R483	1-249-427-11	CARBON	6.8K	5%	1/4W F
R484	1-249-413-11	CARBON	470	5%	1/4W F
R491	1-249-441-11	CARBON	100K	5%	1/4W
R492	1-247-903-00	CARBON	1M	5%	1/4W
R494	1-247-903-00	CARBON	1M	5%	1/4W

Ref. No.	Part No.	Description	Remarks
< VARIABLE RESISTOR >			
RV404	1-225-229-11	RES, VAR, CARBON 100KX4	(MASTER VOLUME)
RV421	1-223-362-11	RES, VAR, CARBON 100K/100K (BASS)	
RV422	1-223-363-11	RES, VAR, CARBON 125K/125K (TREBLE)	
RV423	1-225-447-11	RES, VAR, CARBON 100K/100K (BALANCE)	
< SWITCH >			
S240	1-762-378-11	SWITCH, TACTILE (BASS BOOST)	

MISCELLANEOUS			

10	1-782-100-11	WIRE (FLAT TYPE) (23 CORE)	
11	1-782-075-11	WIRE (FLAT TYPE) (9 CORE)	
12	1-782-074-11	WIRE (FLAT TYPE) (7 CORE)	
△ 71	1-777-070-21	CORD, POWER	
△ CNJ903	1-251-698-11	OUTLET (AC) (2P)	
△ T901	1-431-258-21	TRANSFORMER, POWER	

ACCESSORIES & PACKING MATERIALS			

1-475-710-11	COMMANDER, STANDARD (RM-U302)		
1-501-374-11	ANTENNA, LOOP		
1-501-659-41	ANTENNA (FM)		
3-862-095-11	MANUAL, INSTRUCTION (ENGLISH)		
4-981-643-01	COVER, BATTERY (FOR RM-U302)		

HARDWARE LIST			

#1	7-685-646-79	SCREW +BVTP	3 × 8 TYPE2 IT-3
#2	7-685-881-09	SCREW +BVTT	4 × 8 (S)
#3	7-685-872-09	SCREW +BVTT	3 × 8 (S)

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

