

STR-DE235

SERVICE MANUAL

AEP Model
UK Model



SPECIFICATIONS

Amplifier section

Power output

Stereo mode (DIN 1 kHz, 4 ohms)
60 W + 60 W

Surround mode (DIN 1 kHz, 4 ohms)
Front: 60 W/ch
Centre: 60 W
(only in PRO LOGIC mode)

Rear:
(DIN 1 kHz, 8 ohms)
60 W/ch

Frequency response TV/LD, CD, MD/TAPE, VIDEO:
10 Hz - 50 kHz ± 1 dB

Inputs

Sensitivity Impedance S/N
(weighting network, input level)

Input	Sensitivity	Impedance	S/N
CD, MD/TAPE, TV/LD, VIDEO	150 mV	50 kilohms	80 dB* (A, 150 mV)

* '78 IHF

Outputs

MD/TAPE REC OUT:
Voltage: 150 mV,
Impedance: 10 kilohms
VIDEO AUDIO OUT:
Voltage: 150 mV;
Impedance: 10 kilohms
MIX AUDIO OUT:
Voltage: 2 V
Impedance: 1 kilohms
PHONES: Accepts low and high impedance headphones

Muting

Full mute

BASS BOOST

+10 dB at 70 Hz

TONE

± 8 dB at 100 Hz and 10 kHz

Tuner section

FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range 87.5 - 108.0 MHz

Aerial terminals 75 ohms, unbalanced

Intermediate frequency 10.7 MHz

Sensitivity Mono: 18.3 dBf,
2.2 μ V/75 ohms
Stereo: 38.3 dBf,
22.5 μ V/75 ohms

Usable sensitivity 11.2 dBf,
1 μ V/75 ohms (IHF)

S/N Mono: 76 dB
Stereo: 70 dB

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

AM tuner section

Tuning range 531 - 1602 kHz

Aerial Loop aerial

Intermediate frequency 450 kHz

Usable sensitivity 50 dB/m (at 999 kHz)

S/N 54 dB (at 50 mV/m)

Harmonic distortion 0.5 % (50 mV/m, 400 Hz)

Selectivity 35dB

— 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-complimentary SEPP
Power requirements	230 V AC, 50/60 Hz
Power consumption	145 W
AC outlets	Switched 100 W max (AEP model)
Dimensions	430 x 144 x 306 mm
Mass (Approx.)	7.0 kg
Supplied accessories	FM wire aerial (1) AM loop aerial (1) Remote commander (remote) (1) Size AA (R6) batteries (2) Scart adaptor (1)

Specifications indicated are measured at
230 VAC, 50 Hz.

Design and specifications are subject to
change without notice.

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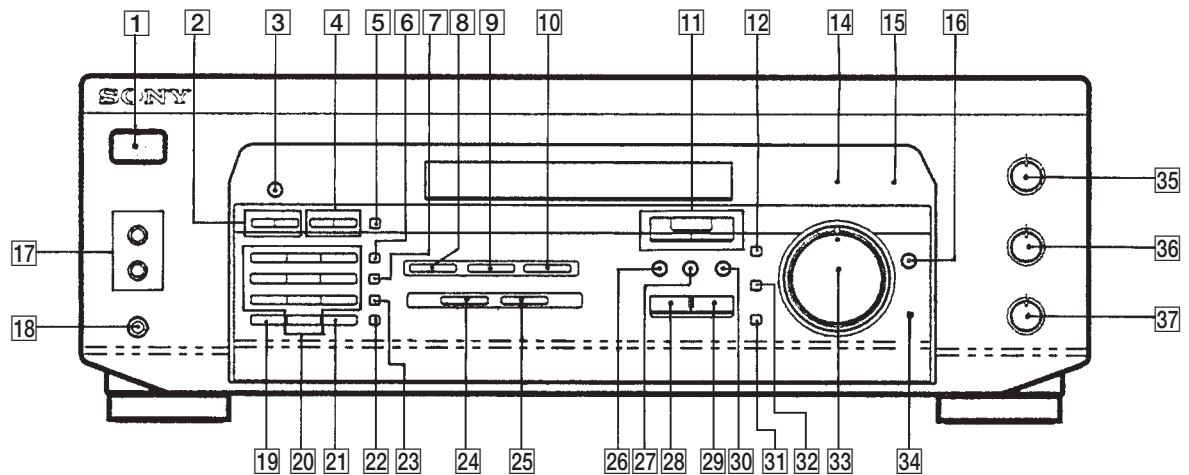
SAFETY-RELATED COMPONENT WARNING!!

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

SECTION 1 GENERAL

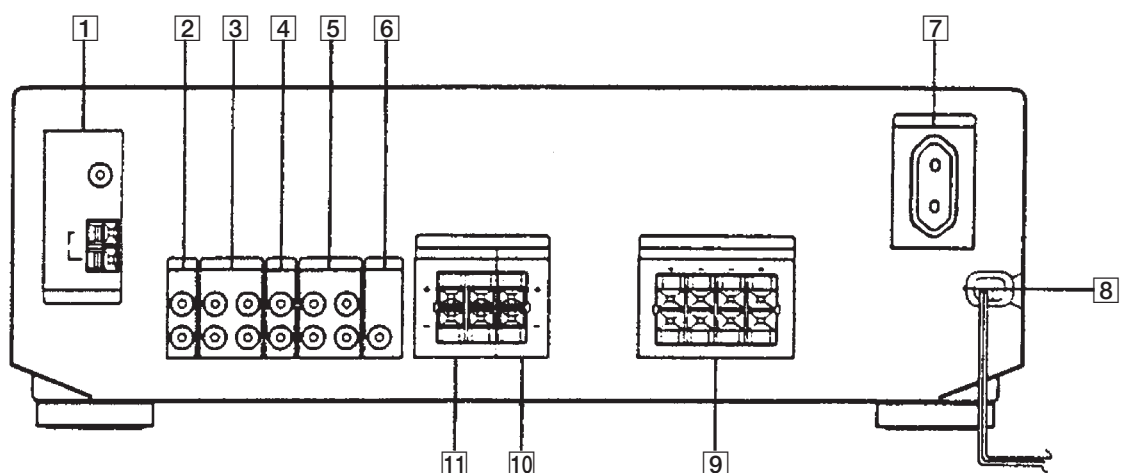
Location of controls

• Front view



- | | | |
|---|--------------------------------------|--------------------------------|
| 1 I/⏻ button | 14 CINEMA indicator | 27 CENTER button and indicator |
| 2 TUNING +, – buttons | 15 MUSIC indicator | 28 – button |
| 3 DISPLAY button | 16 BASS BOOST button and indicator | 29 + button |
| 4 PRESET/PTY SELECT +, – buttons | 17 SPEAKERS A, B ON/OFF buttons | 30 REAR button and indicator |
| 5 RDS PTY button | 18 PHONES jack | 31 ENTER button |
| 6 RDS EON button | 19 SHIFT button | 32 NAME button and indicator |
| 7 FM/AM button | 20 Numeric buttons | 33 VOLUME control |
| 8 VIDEO button | 21 DIRECT button | 34 MUTING button and indicator |
| 9 TV/LD button | 22 MEMORY button | 35 TREBLE control |
| 10 MD/TAPE button | 23 FM MODE button | 36 BASS control |
| 11 SOUND FIELD + MODE, ON/OFF, – MODE buttons | 24 CD button | 37 BALANCE control |
| 12 SET UP button and indicator | 25 TUNER button | |
| | 26 EFFECT/DELAY button and indicator | |

• Rear view

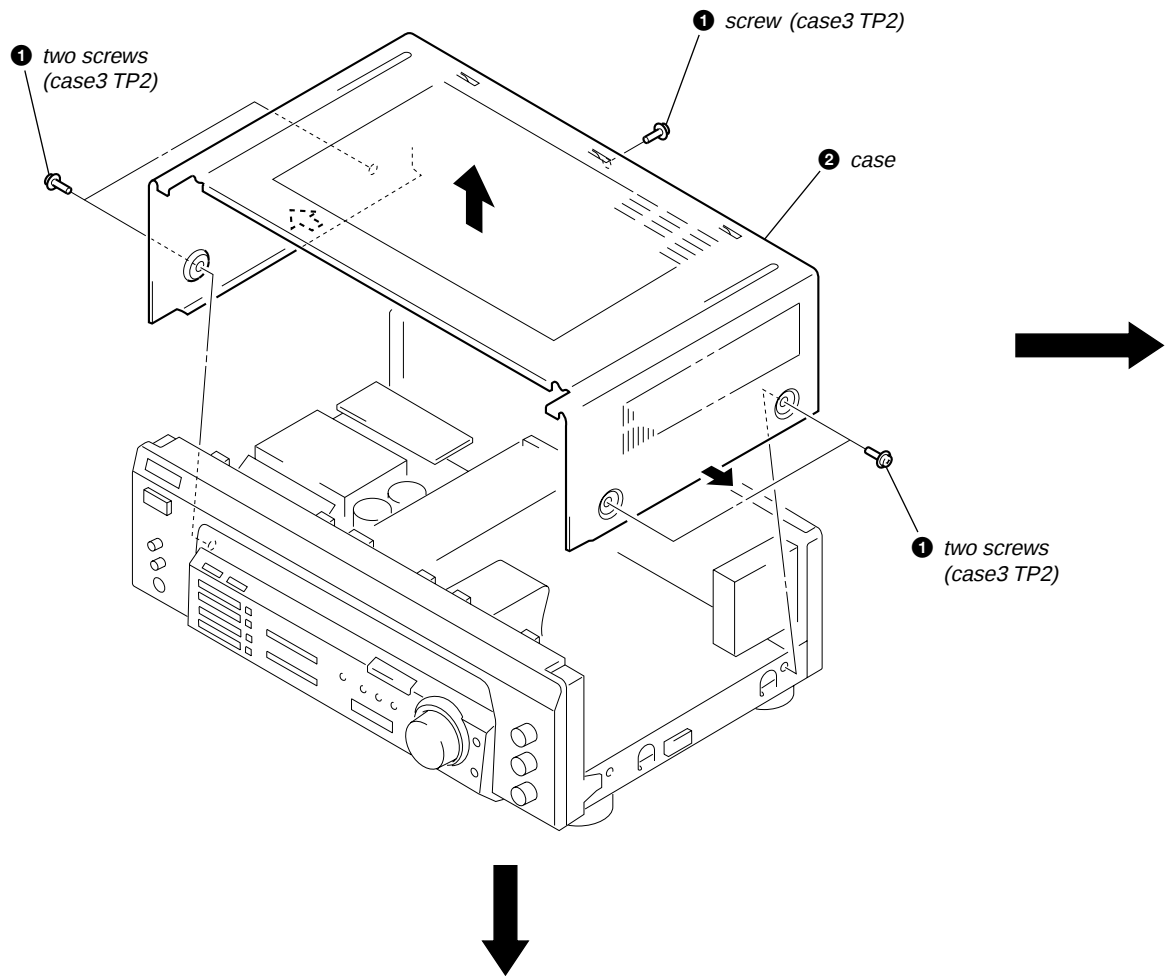


- | | | |
|-------------------|----------------------------------|------------------------|
| 1 ANTENNA (AM/FM) | 5 VIDEO | 8 Mains lead |
| 2 CD | 6 MIX (AUDIO OUT) | 9 SPEAKERS FRONT (A/B) |
| 3 MD/TAPE | 7 SWITCHED AC OUTLET (AEP model) | 10 SPEAKERS CENTER |
| 4 TV/LD | | 11 SPEAKERS REAR |

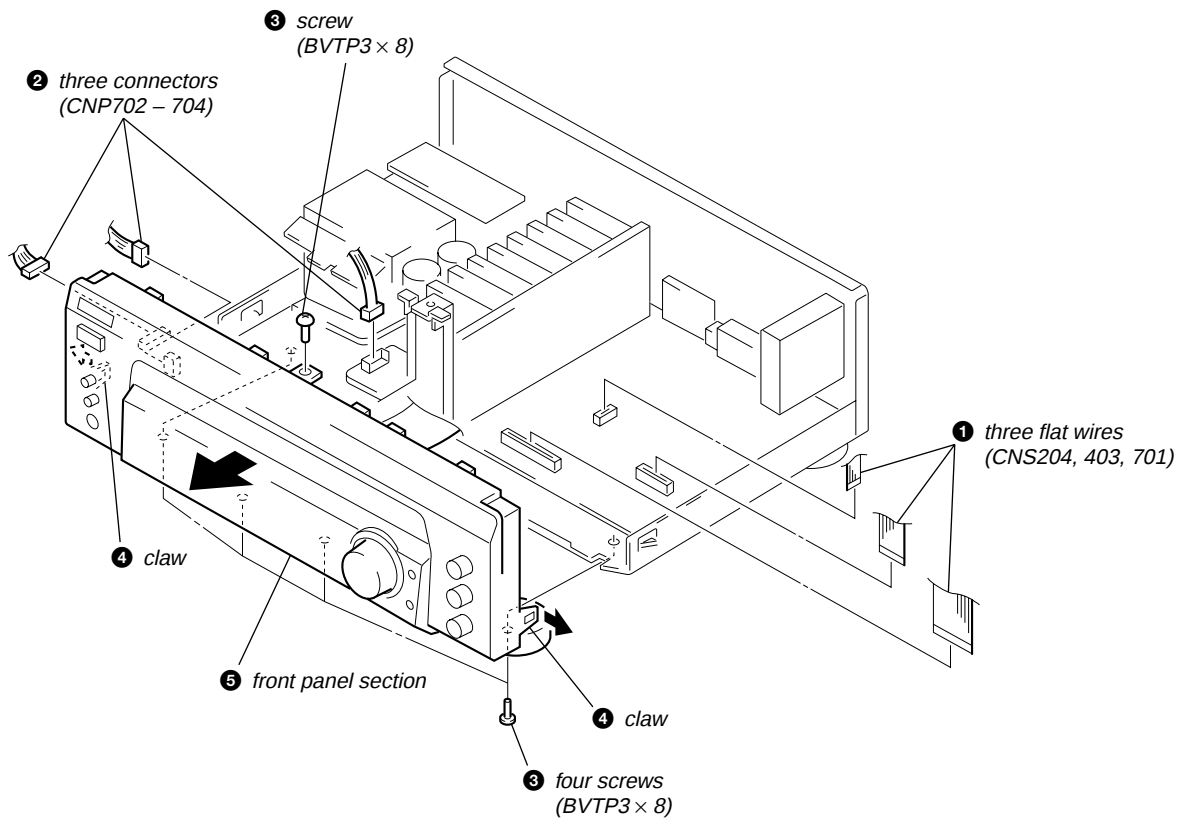
SECTION 2 DISASSEMBLY

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

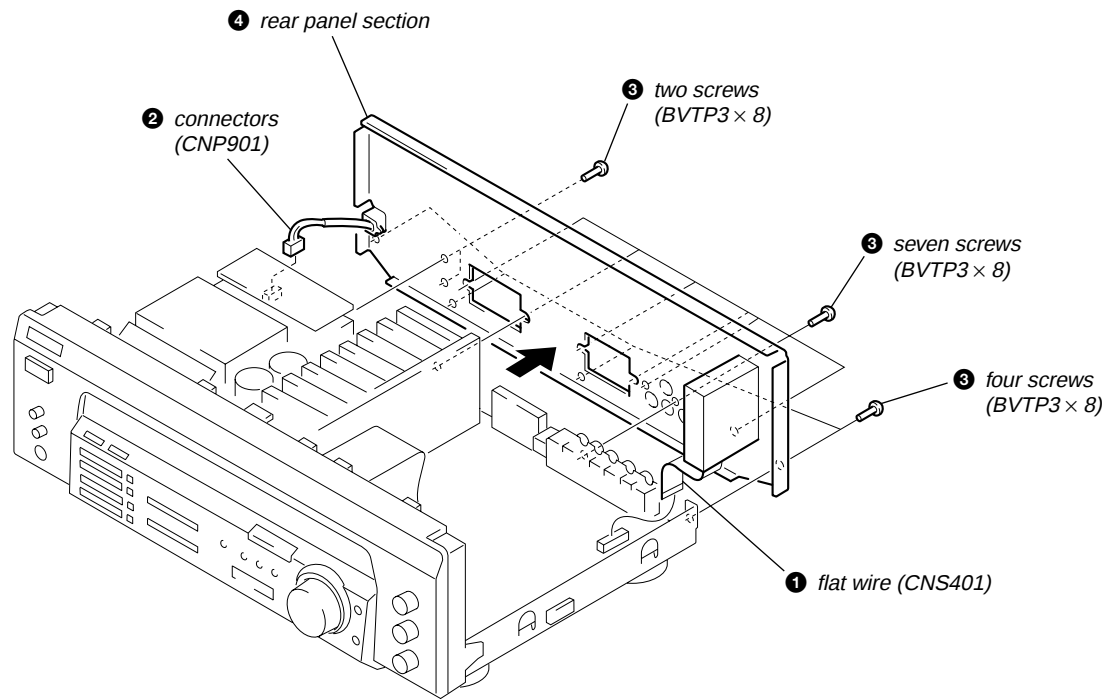
CASE



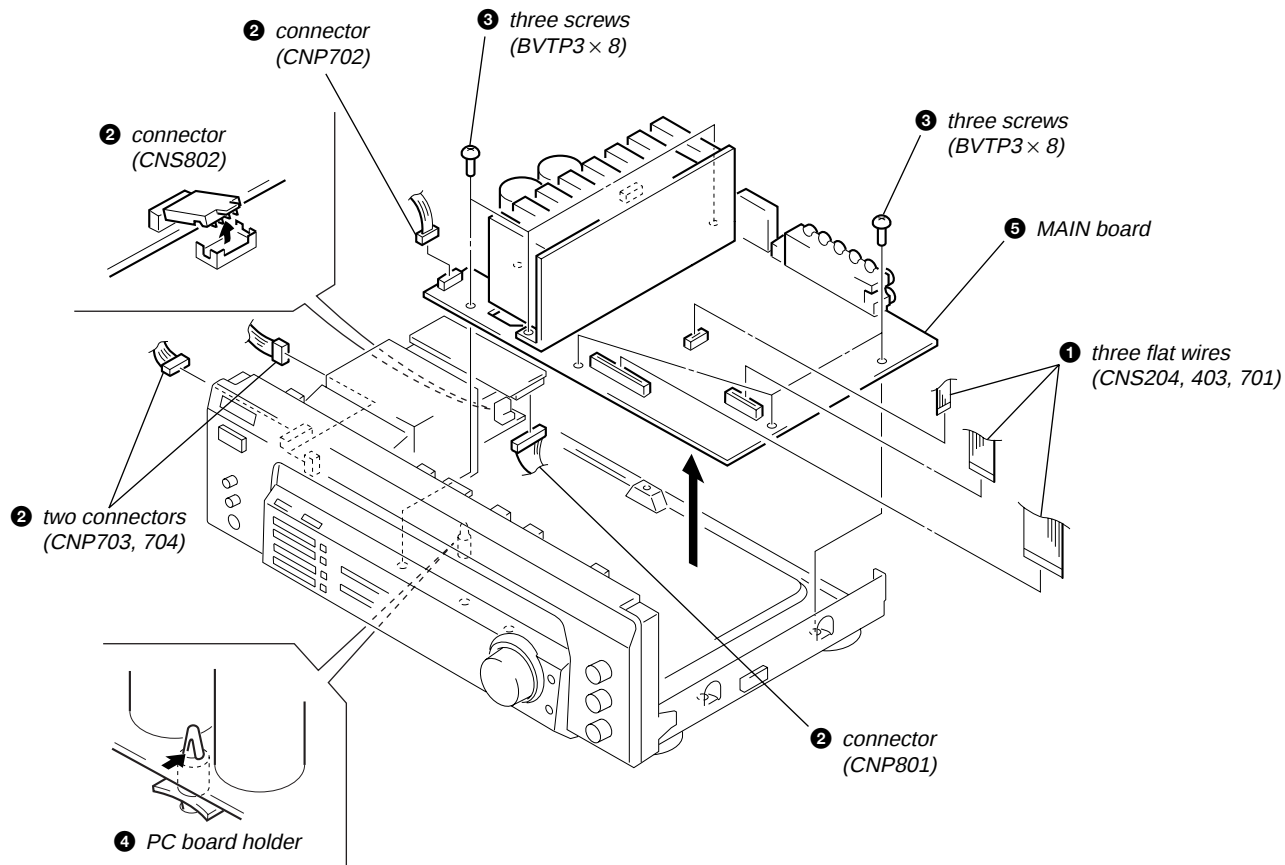
FRONT PANEL SECTION



REAR PAENL SECTION



MAIN BOARD



Initialization Mode

All preset contents are cleared when this mode is activated. When returning the unit to the customer after completing repairs, perform this operation to clear the unit.

Procedure:

1. While pressing two buttons of **TUNER** and **MD/TAPE** simultaneously, press the **I/⏻** button to turn the power ON.
2. 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:

1. While pressing two buttons of **TV/LD** and **DIRECT** simultaneously, press the **I/⏻** button to turn the power ON.
2. All segments turn on at the same time, then each segment and LED turns on one after another.
3. The message “FINISH” appears when this test is complete.

AUTO-BETICAL Check Mode

To auto-scanning and memories of RDS station.

Procedure:

1. While pressing the **MEMORY** button, press the **I/⏻** button to turn the power ON.
2. The message “AUTO BET” appears and each function is selected one after another.

Software Version Display Mode

The software version is displayed.

Procedure:

1. While pressing two the buttons of **MD/TAPE** and **DIRECT** simultaneously, press the **I/⏻** button to turn the power ON.
2. The software version is displayed.

SOUND FIELD Setting Clear Mode

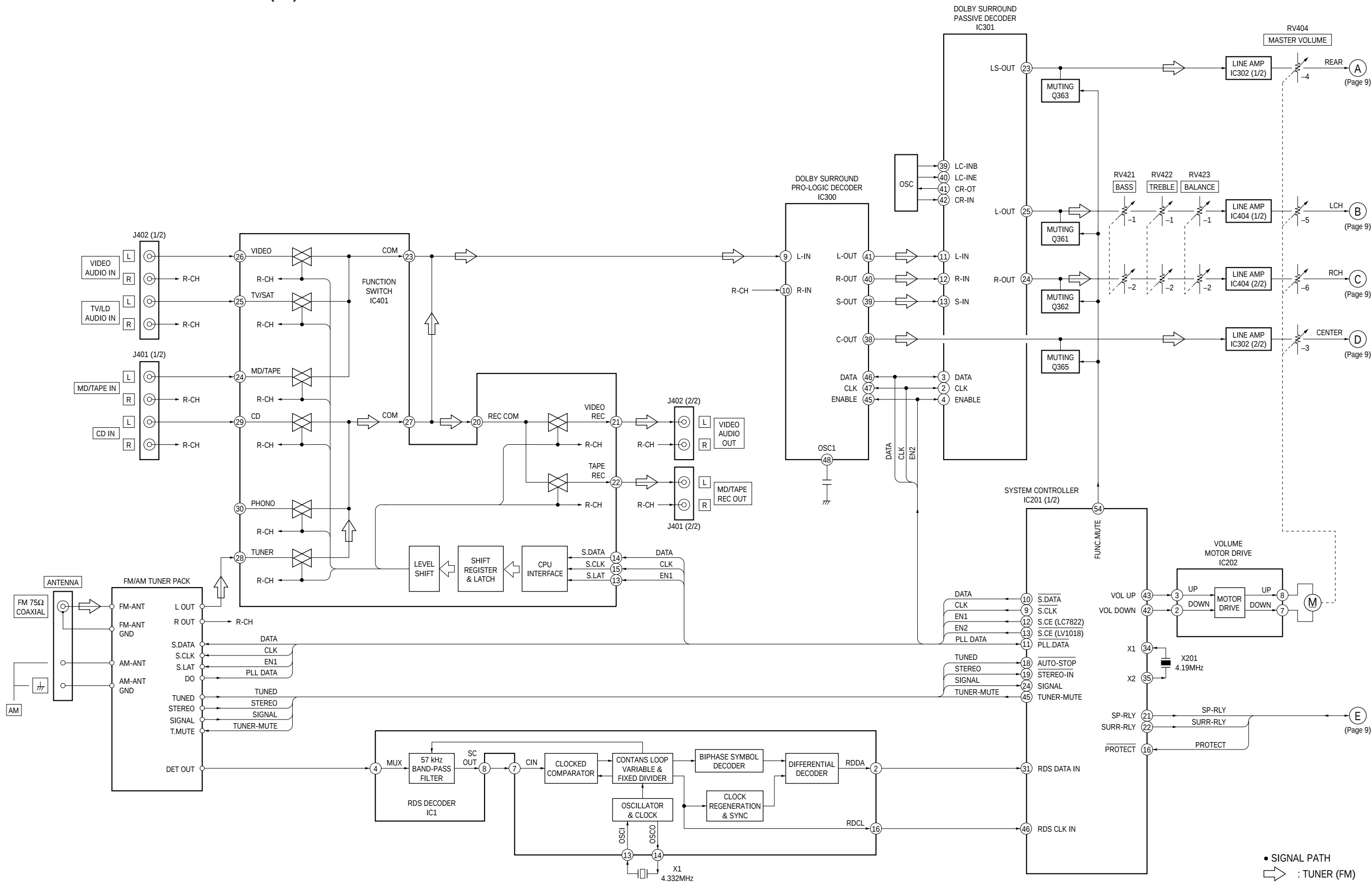
All SOUND FIELD setting are cleared.

Procedure:

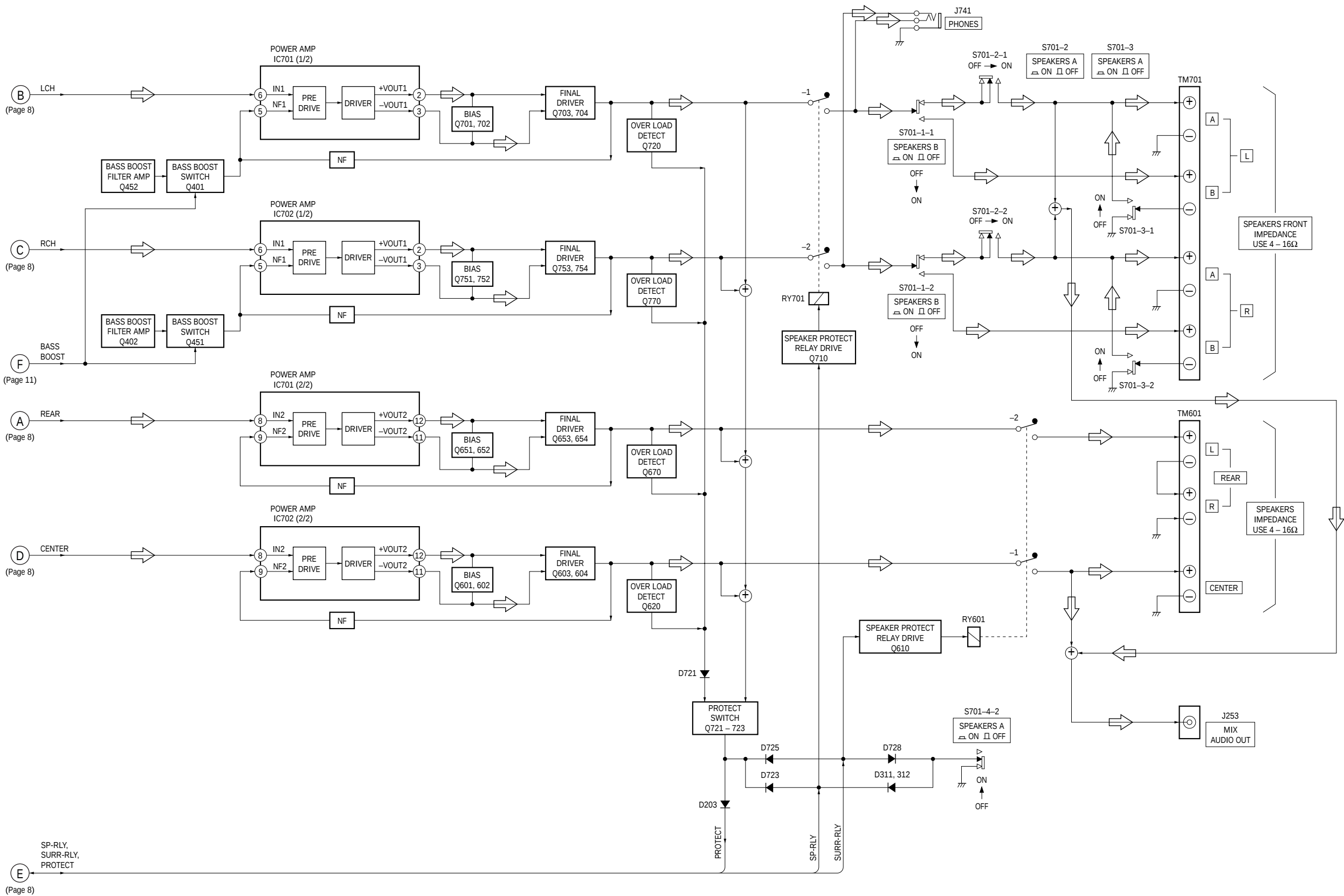
1. While pressing the **SOUND FIELD ON/OFF** button, press the **I/⏻** button to turn the power ON.
2. The message “SURR CLR” appears and all SOUND FIELD setting are cleared.

SECTION 4
DIAGRAMS

4-1. BLOCK DIAGRAM – MAIN Section (1/2) –

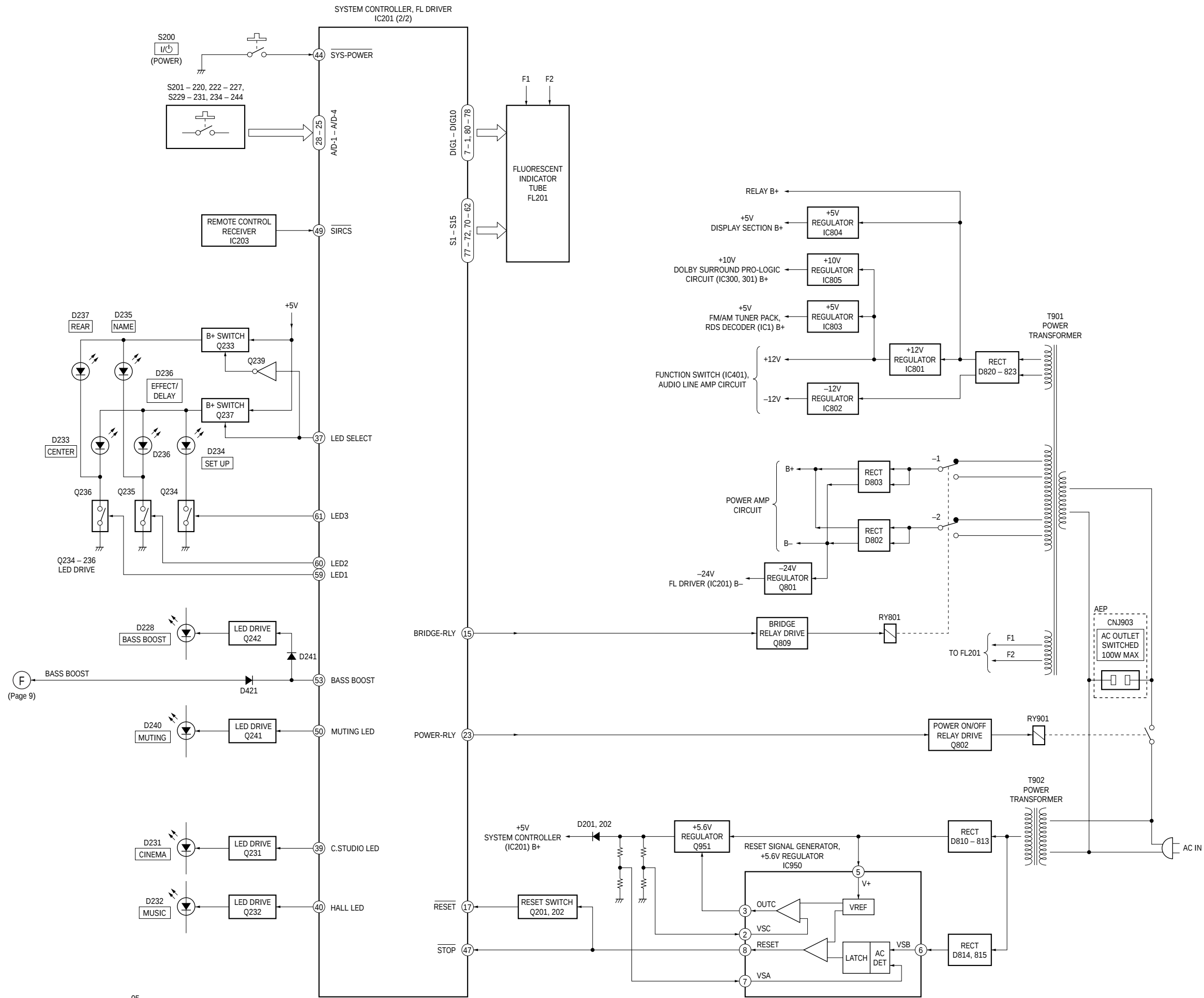


4-2. BLOCK DIAGRAM – MAIN Section (2/2) –



• SIGNAL PATH
➡ : TUNER (FM)

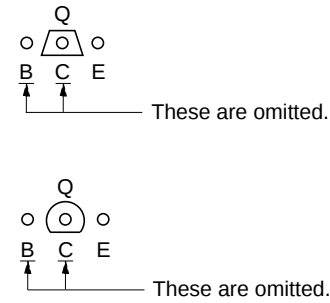
4-3. BLOCK DIAGRAM – DISPLAY/POWER SUPPLY Section –



4-4. NOTES FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

Note on Printed Wiring Board:

- — : parts extracted from the component side.
- ▨ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.)
- Indication of transistor.



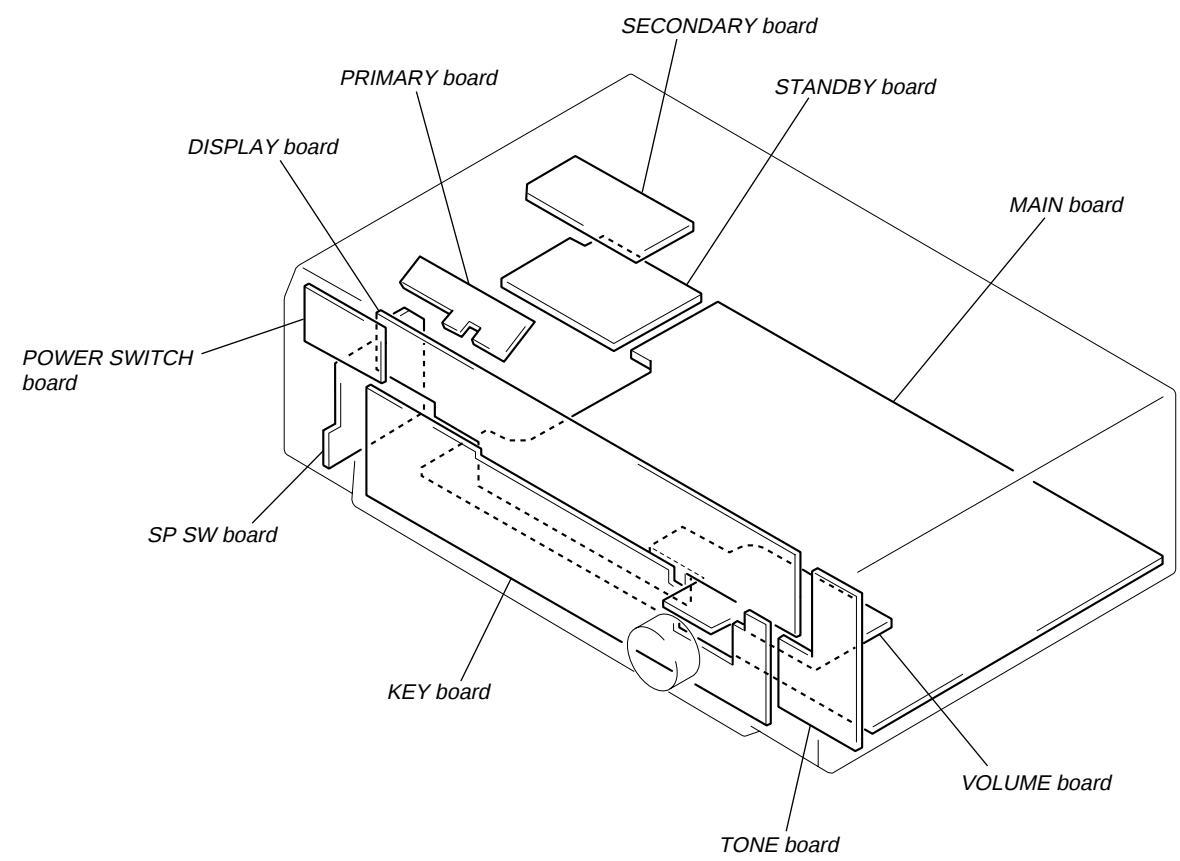
Note on Schematic Diagram:

- 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.
- Δ : internal component.
- $\square$: nonflammable resistor.
- $\square$: panel designation.

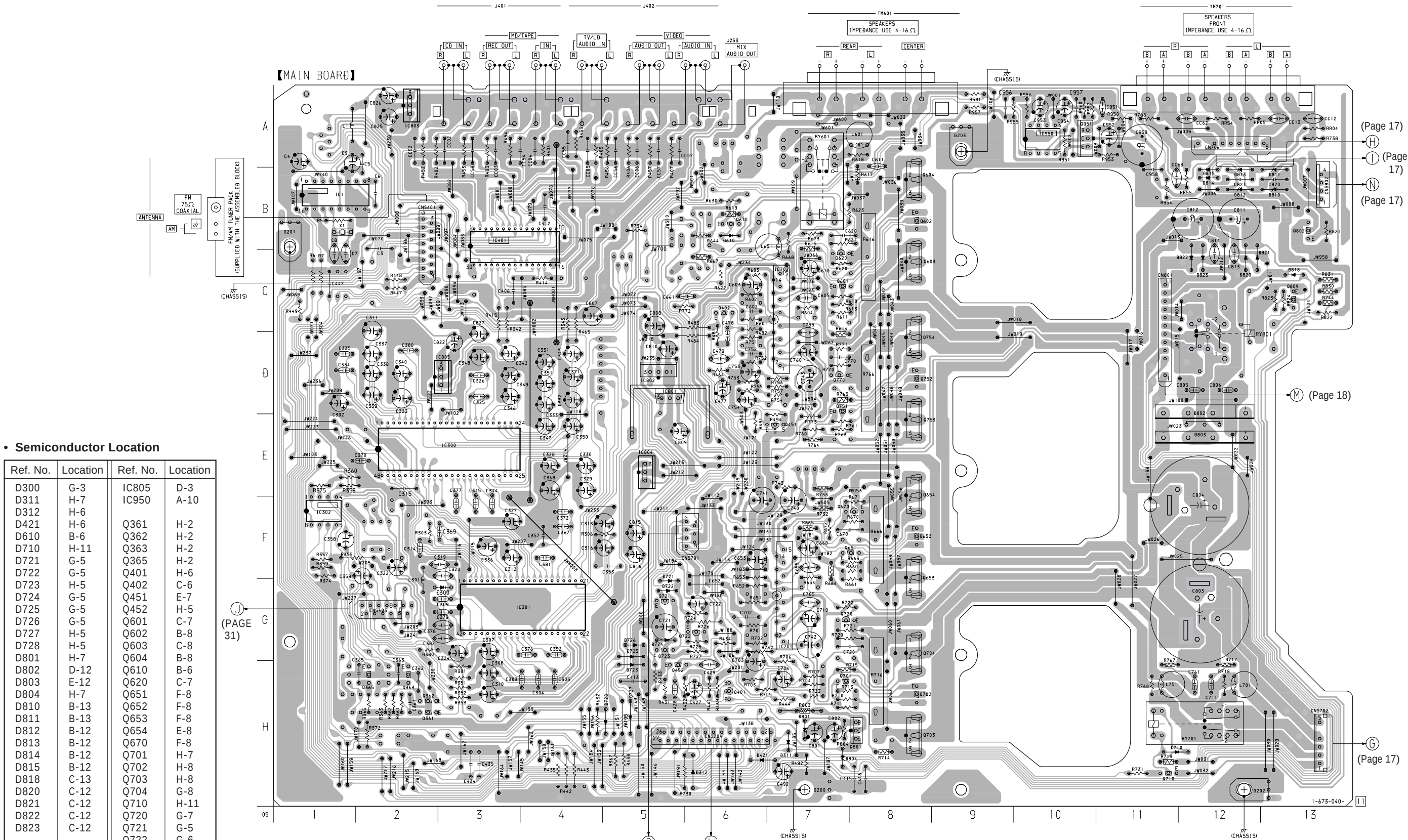
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

- $\square \text{ B+}$: B+ Line.
- $\square \text{ B-}$: B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : TUNER (FM)
- Voltages are taken with a VOM (Input impedance 10 $\text{M}\Omega$). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
- $\Rightarrow$: TUNER (FM)

• Circuit Boards Location



4-5. PRINTED WIRING BOARD – MAIN Board– • See page 14 for Circuit Boards Location.



• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D300	G-3	IC805	D-3
D311	H-7	IC950	A-10
D312	H-6		
D421	H-6	Q361	H-2
D610	B-6	Q362	H-2
D710	H-11	Q363	H-2
D721	G-5	Q365	H-2
D722	G-5	Q401	H-6
D723	H-5	Q402	C-6
D724	G-5	Q451	E-7
D725	G-5	Q452	H-5
D726	G-5	Q601	C-7
D727	H-5	Q602	B-8
D728	H-5	Q603	C-8
D801	H-7	Q604	B-8
D802	D-12	Q610	B-6
D803	E-12	Q620	C-7
D804	H-7	Q651	F-8
D810	B-13	Q652	F-8
D811	B-13	Q653	F-8
D812	B-12	Q654	E-8
D813	B-12	Q670	F-8
D814	B-12	Q701	H-7
D815	B-12	Q702	H-8
D818	C-13	Q703	H-8
D820	C-12	Q704	G-8
D821	C-12	Q710	H-11
D822	C-12	Q720	G-7
D823	C-12	Q721	G-5
		Q722	G-6
IC1	B-1	Q723	G-5
IC300	E-3	Q751	D-7
IC301	G-4	Q752	D-8
IC302	F-1	Q753	E-8
IC401	B-3	Q754	D-8
IC701	G-7	Q770	D-7
IC702	C-7	Q801	H-8
IC801	D-5	Q802	B-13
IC802	D-5	Q809	C-13
IC803	A-2	Q951	A-10
IC804	E-5		

(Page 17)

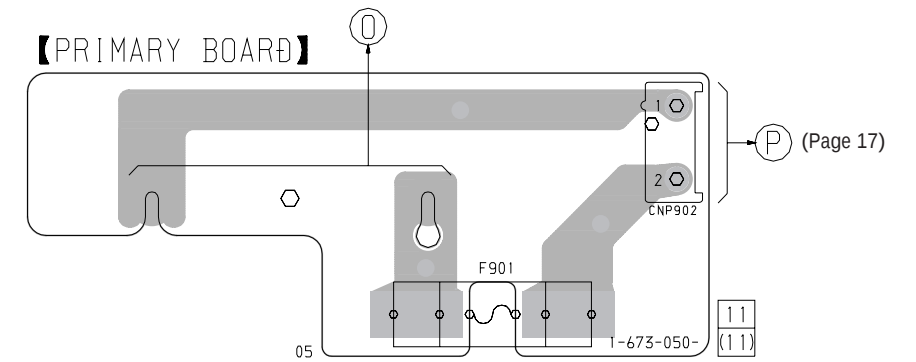
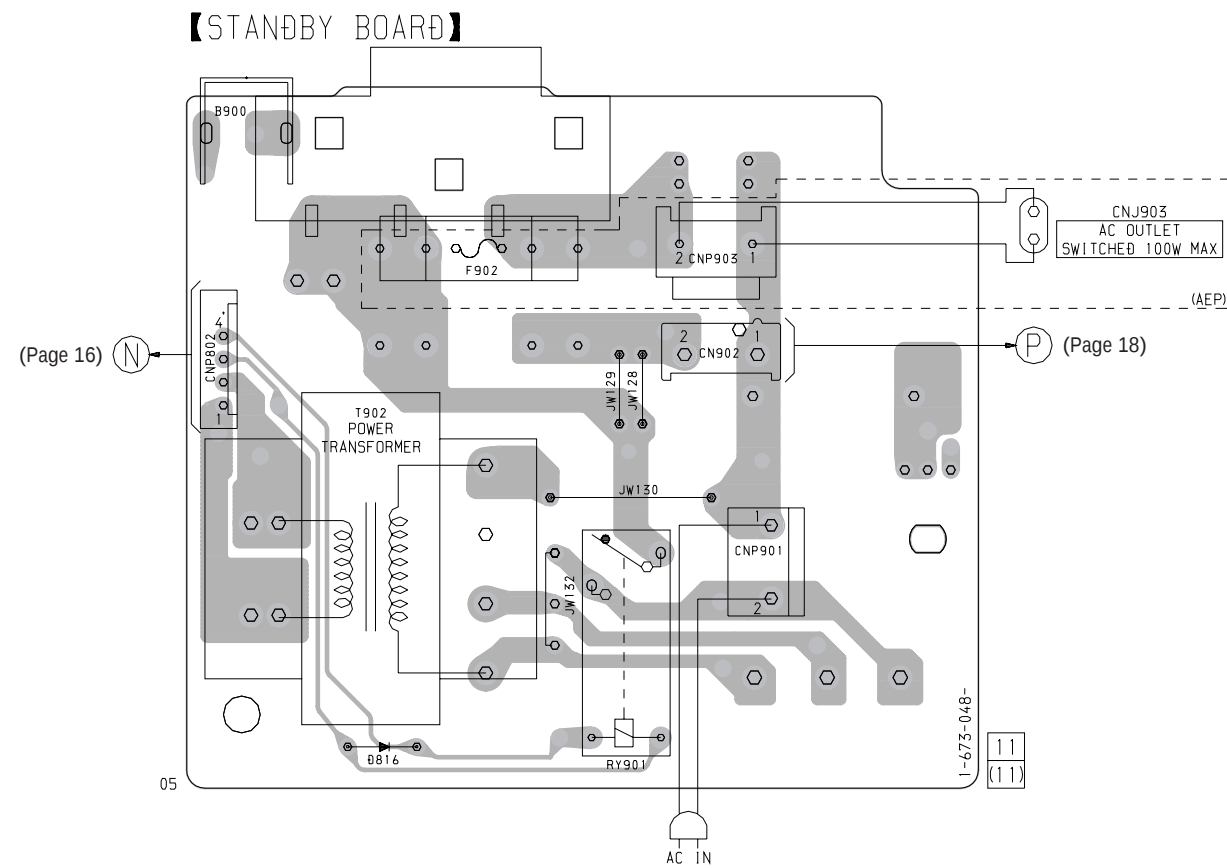
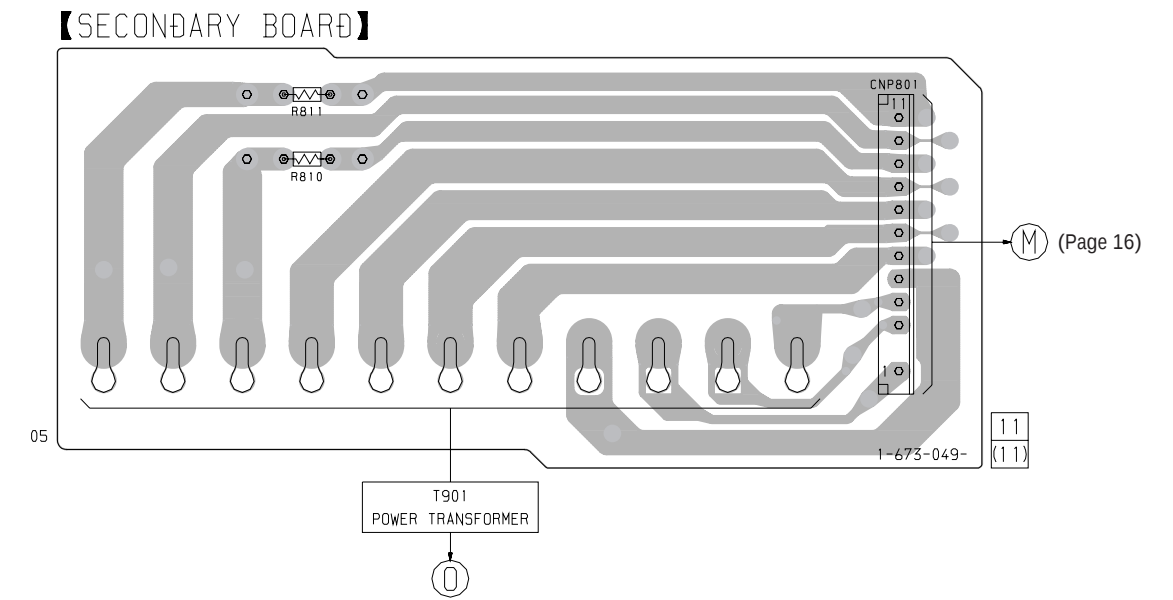
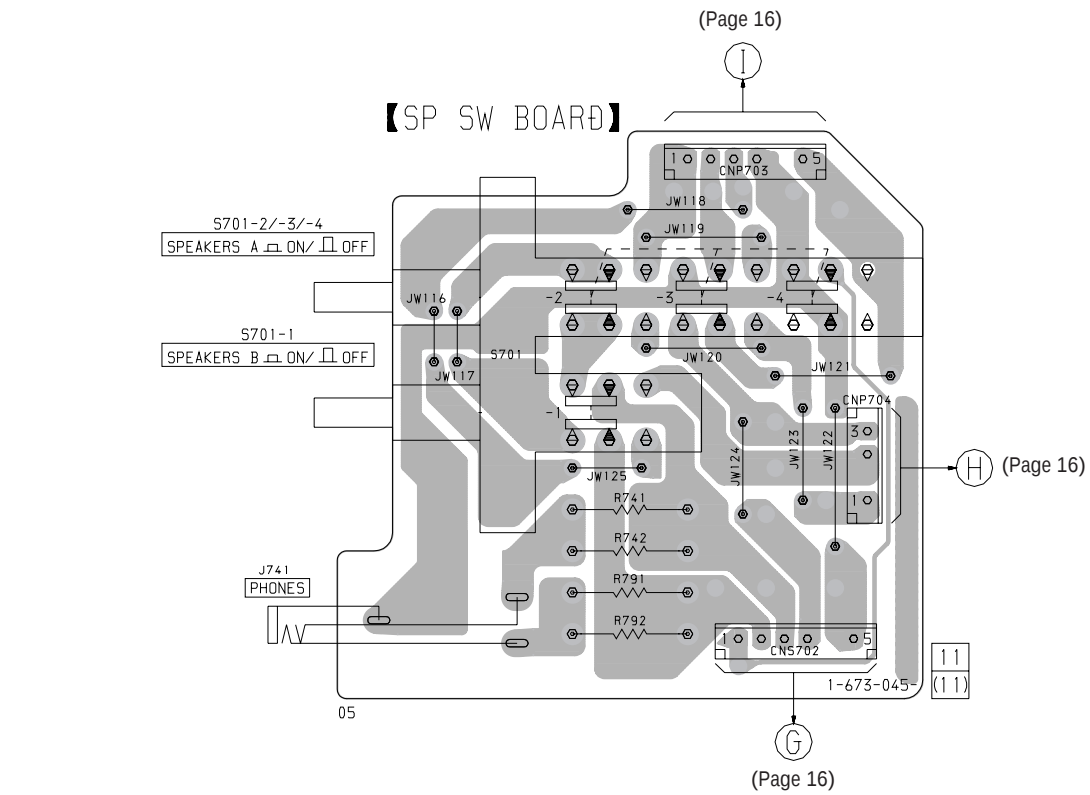
(Page 17)

(Page 17)

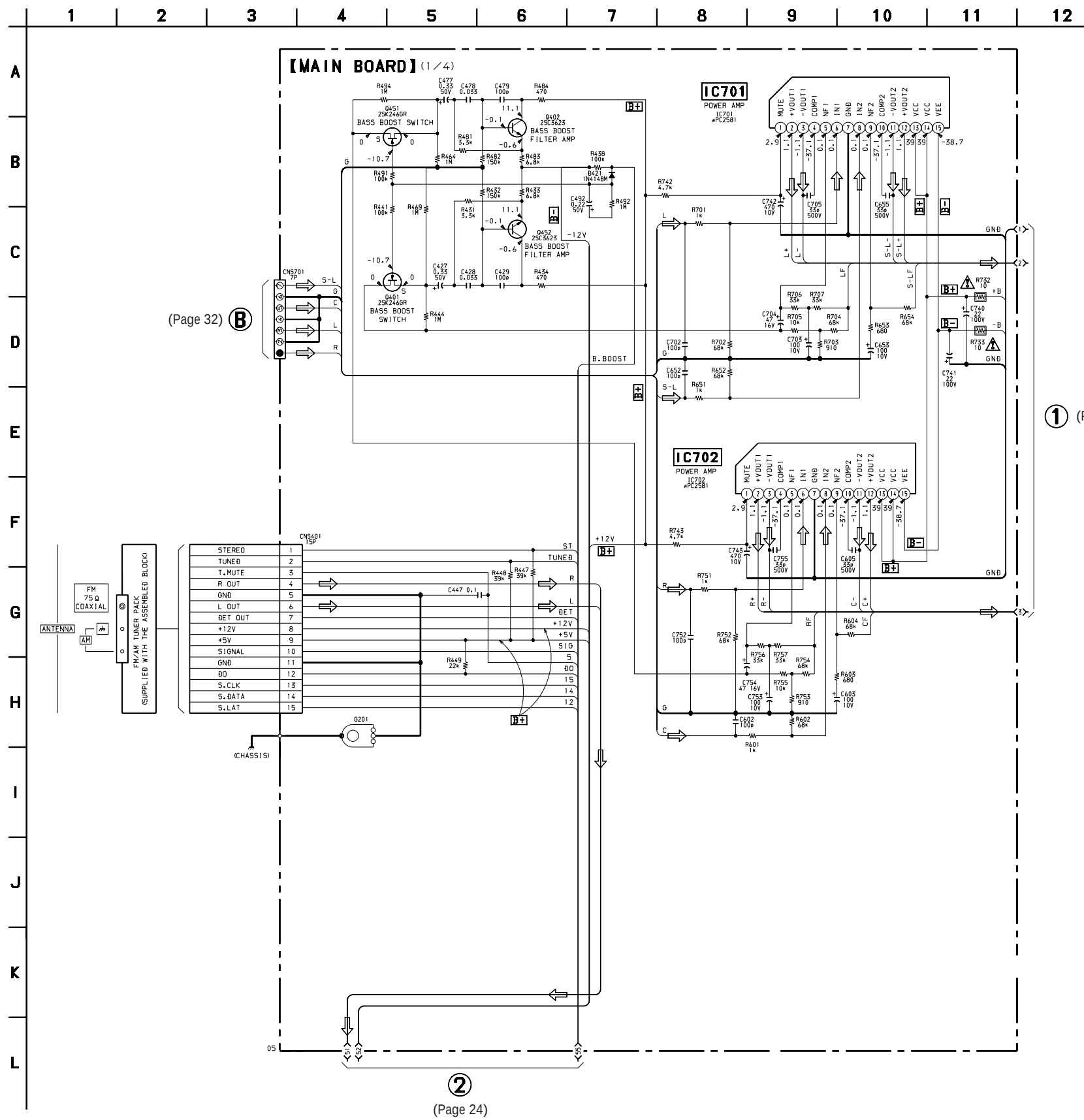
(Page 18)

(Page 17)

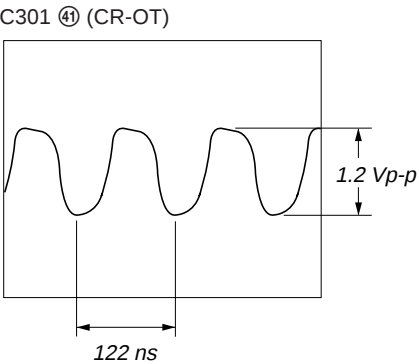
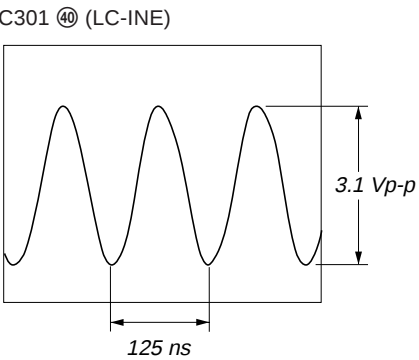
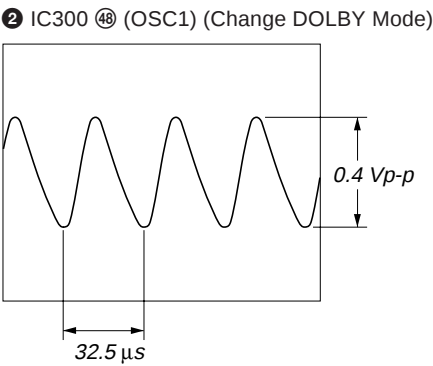
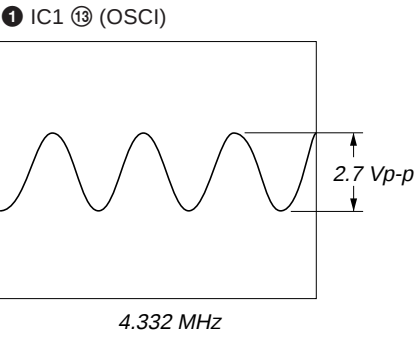
4-6. PRINTED WIRING BOARDS – SP SW Board/SECONDARY Board/STANDBY Board/PRIMARY Board – • See page 14 for Circuit Boards Location.



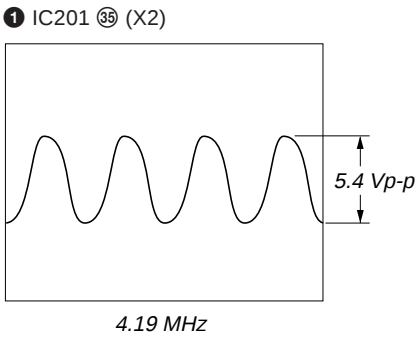
4-7. SCHEMATIC DIAGRAM – MAIN Board (1/4) – • See page 34 for IC Block Diagram.



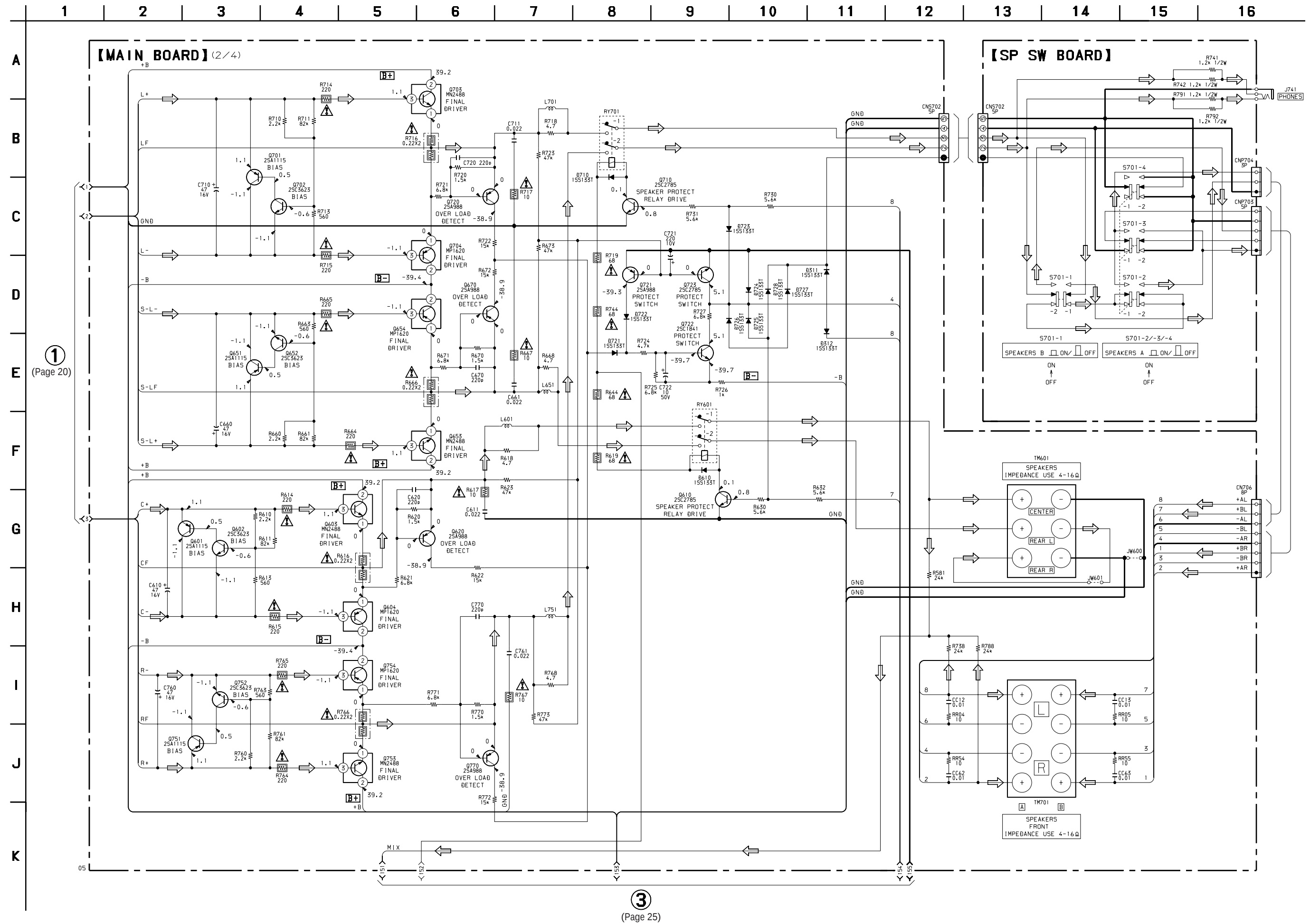
• Waveforms
– MAIN Board –



– DISPLAY Board –

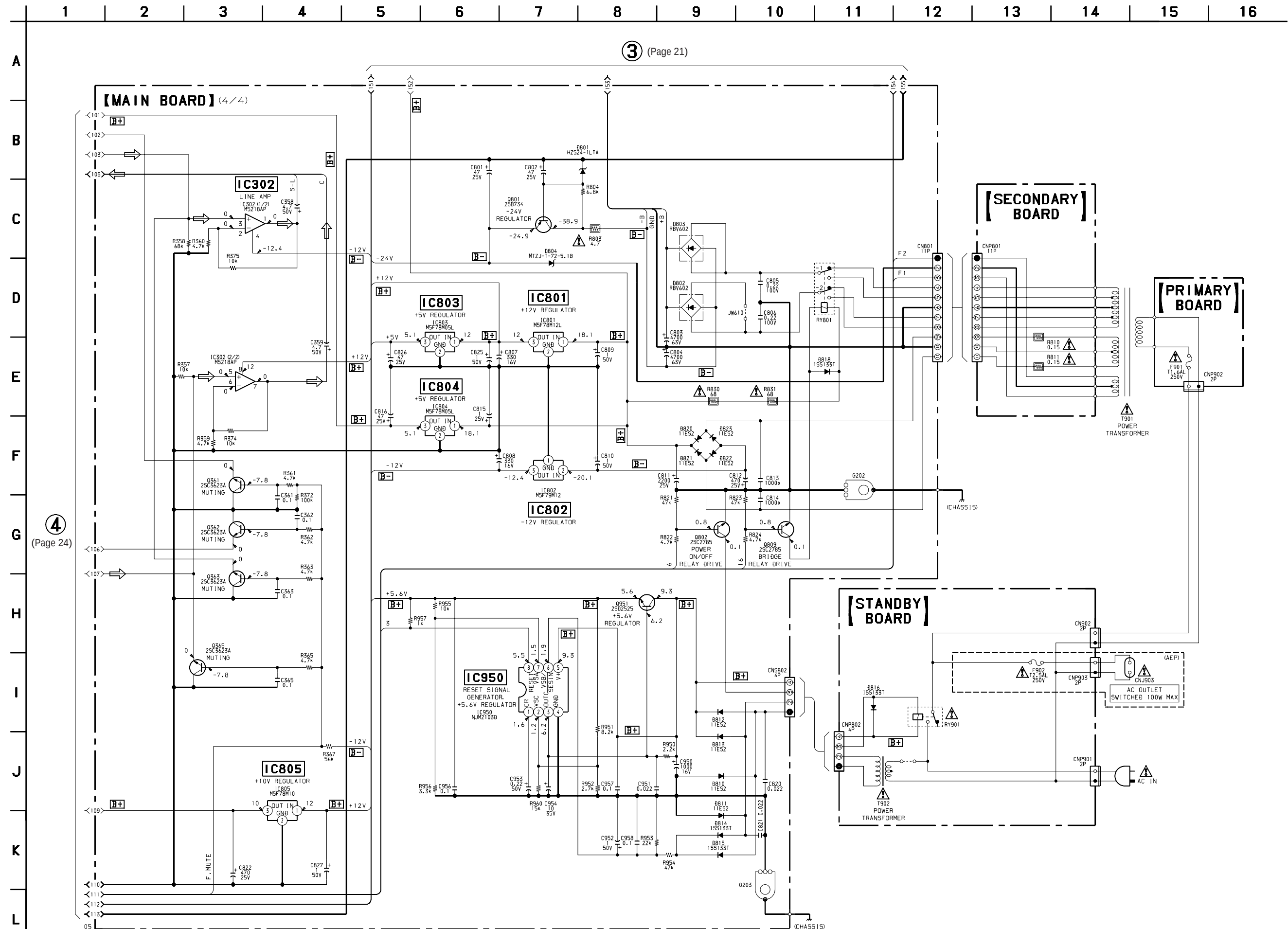


4-8. SCHEMATIC DIAGRAM – MAIN Board (2/4)/SP SW Board –

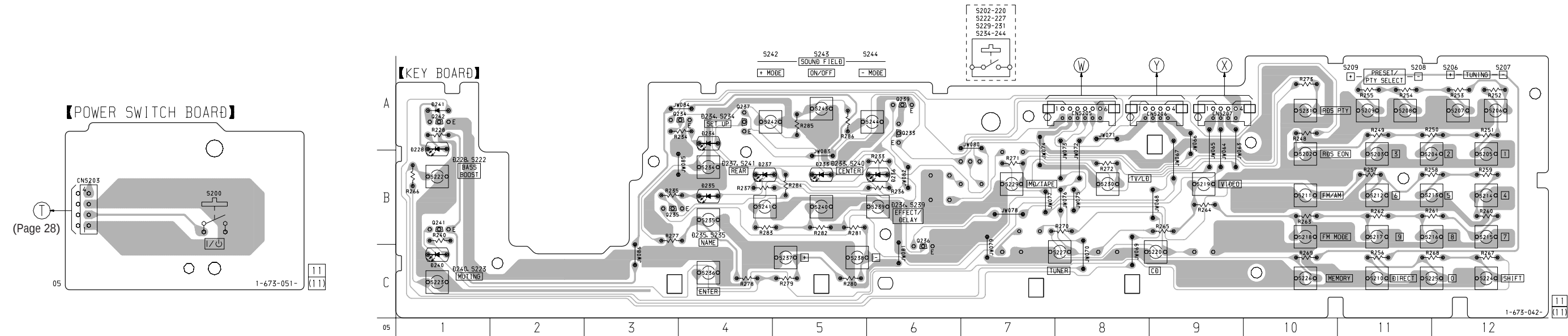
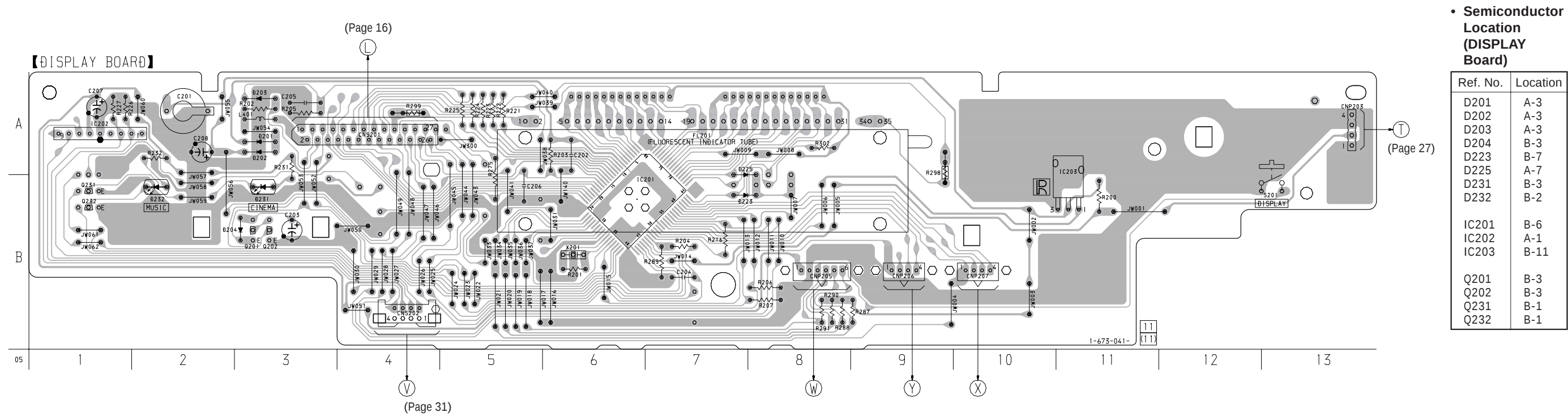




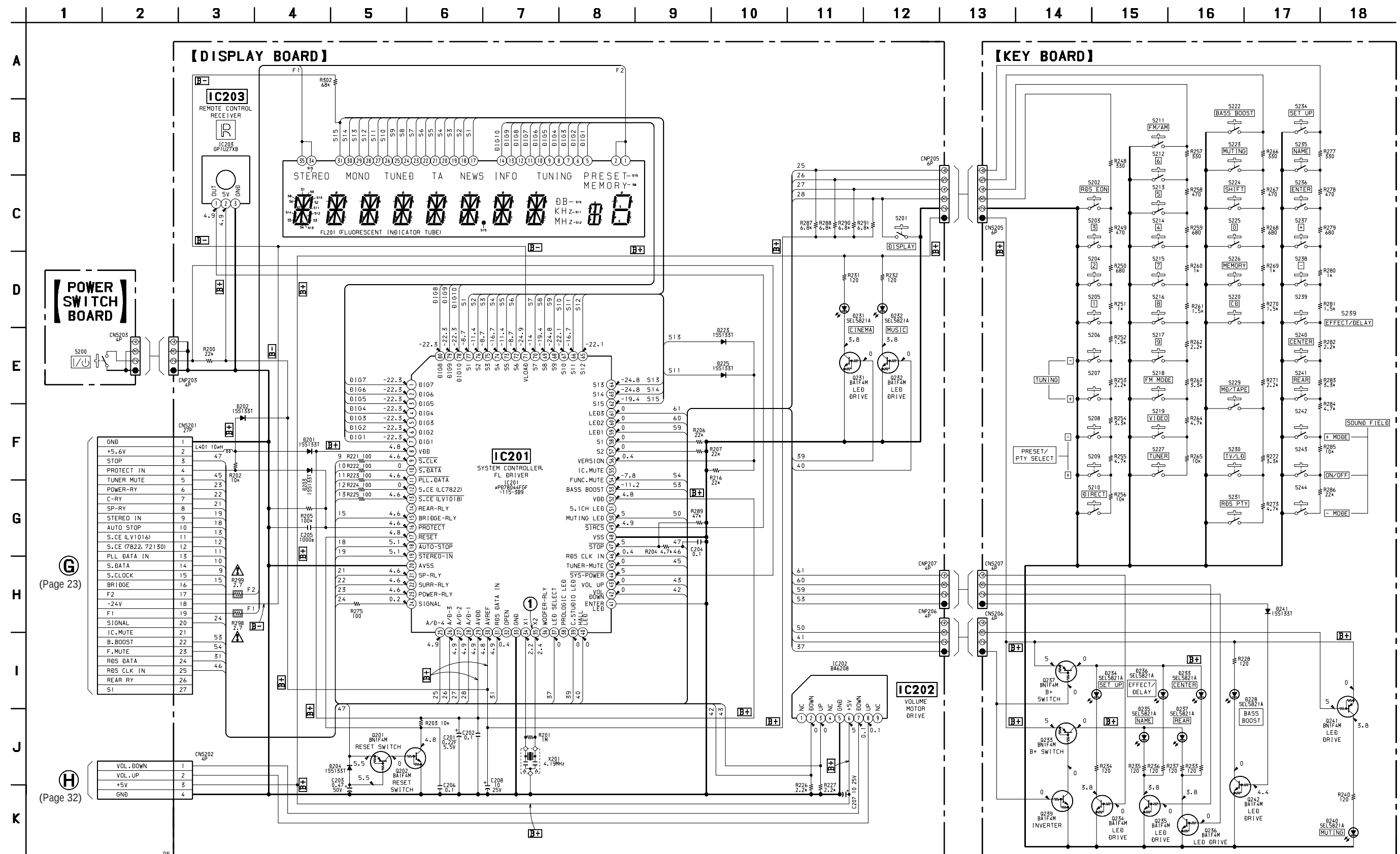
4-10. SCHEMATIC DIAGRAM – MAIN Board (4/4)/SECONDARY Board/STANDBY Board/PRIMARY Board – • See page 35 for IC Block Diagram.



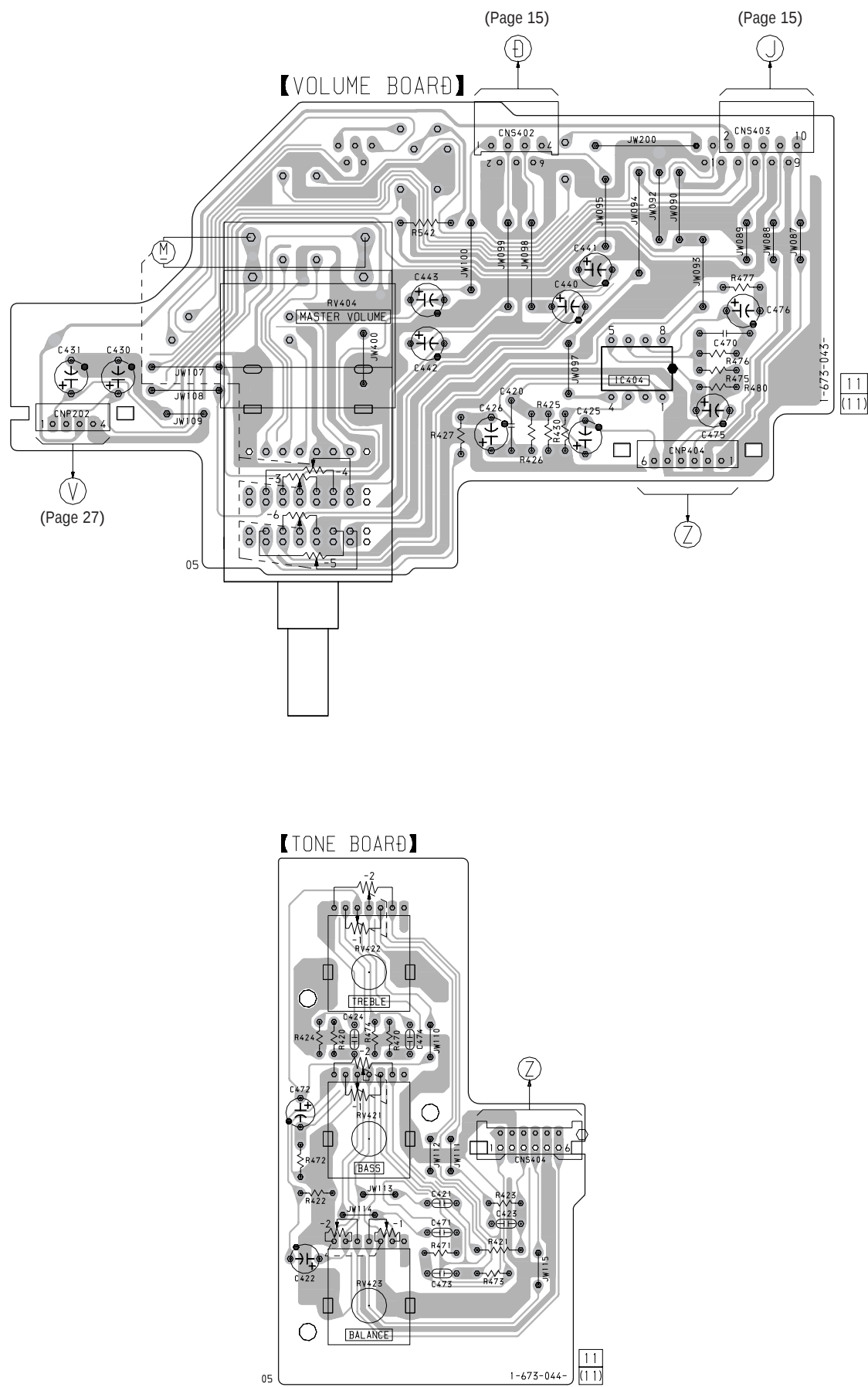
4-11. PRINTED WIRING BOARDS – PANEL Section – • See page 14 for Circuit Boards Location.



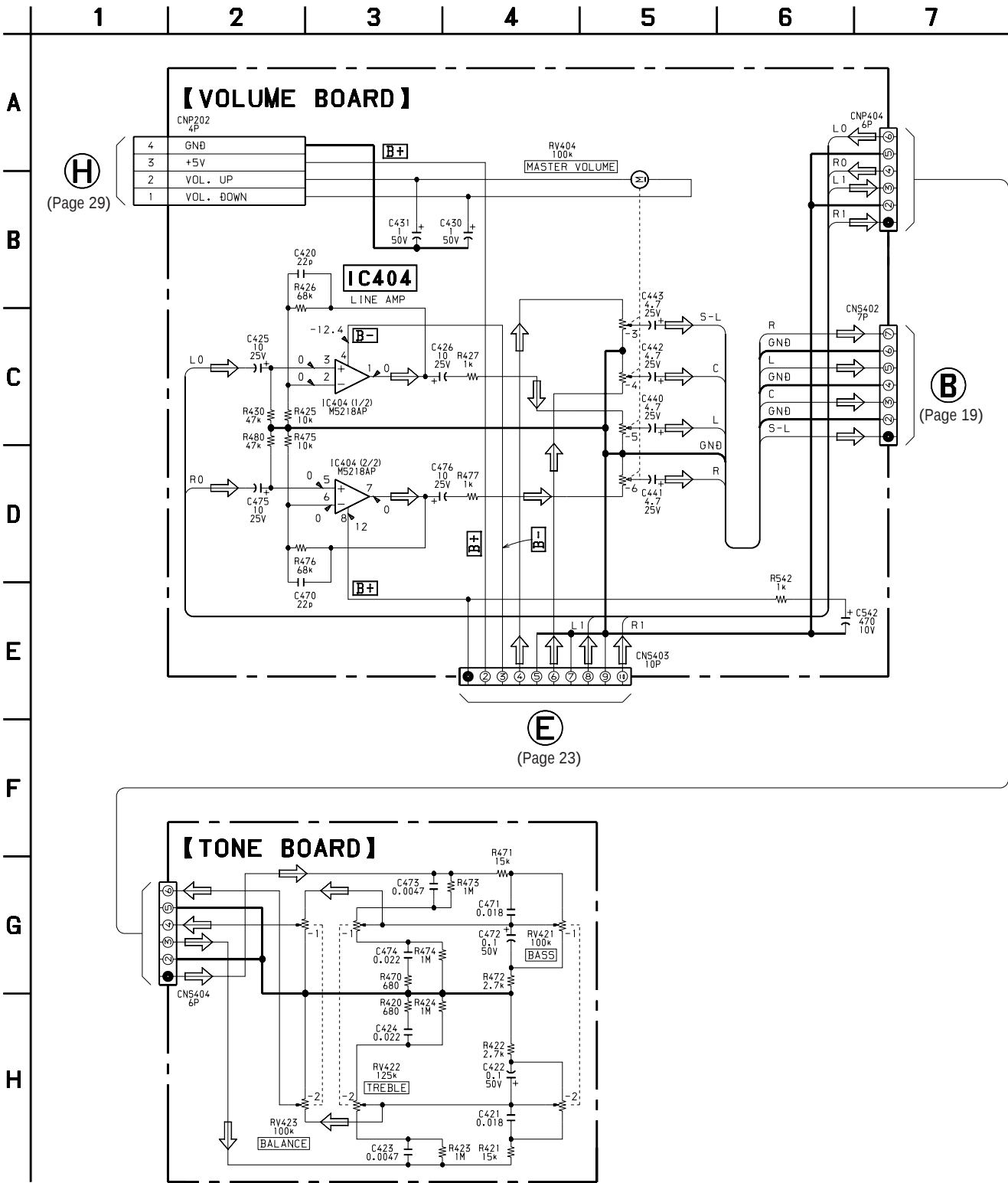
4-12. SCHEMATIC DIAGRAM – PANEL Section – • See page 20 for Waveform. • See page 35 for IC Block Diagram.



4-13. PRINTED WIRING BOARDS – VOLUME Board/TONE Board –
• See page 14 for Circuit Boards Location.

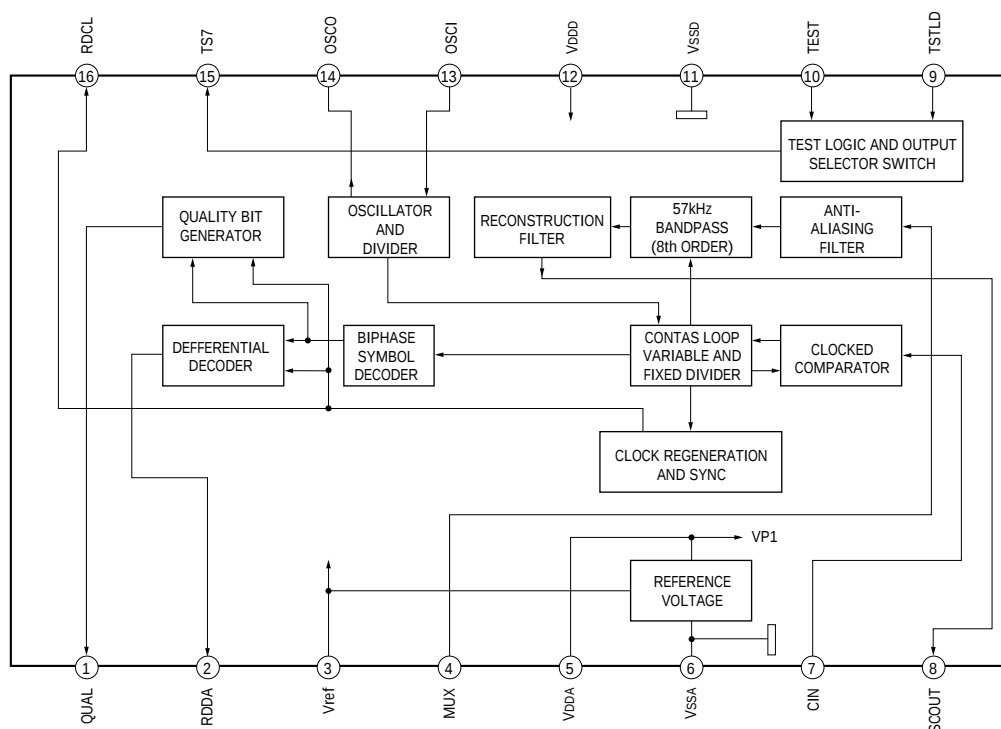


4-14. SCHEMATIC DIAGRAM – VOLUME Board/TONE Board –

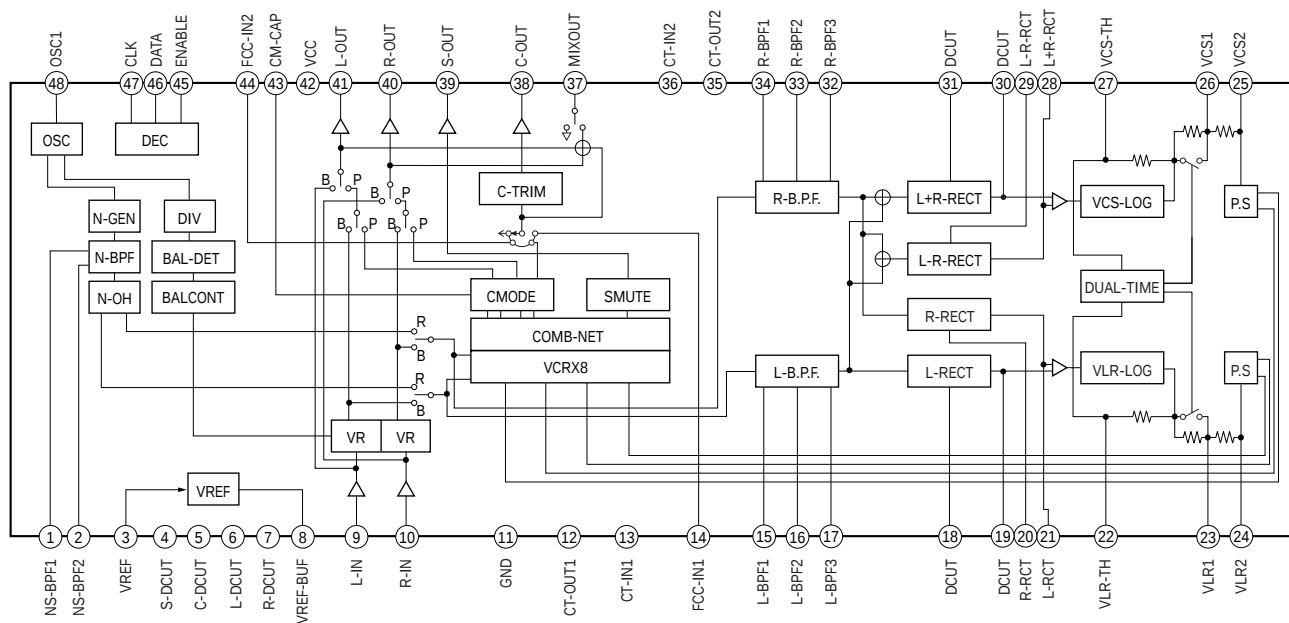


• IC Block Diagrams
– MAIN BOARD –

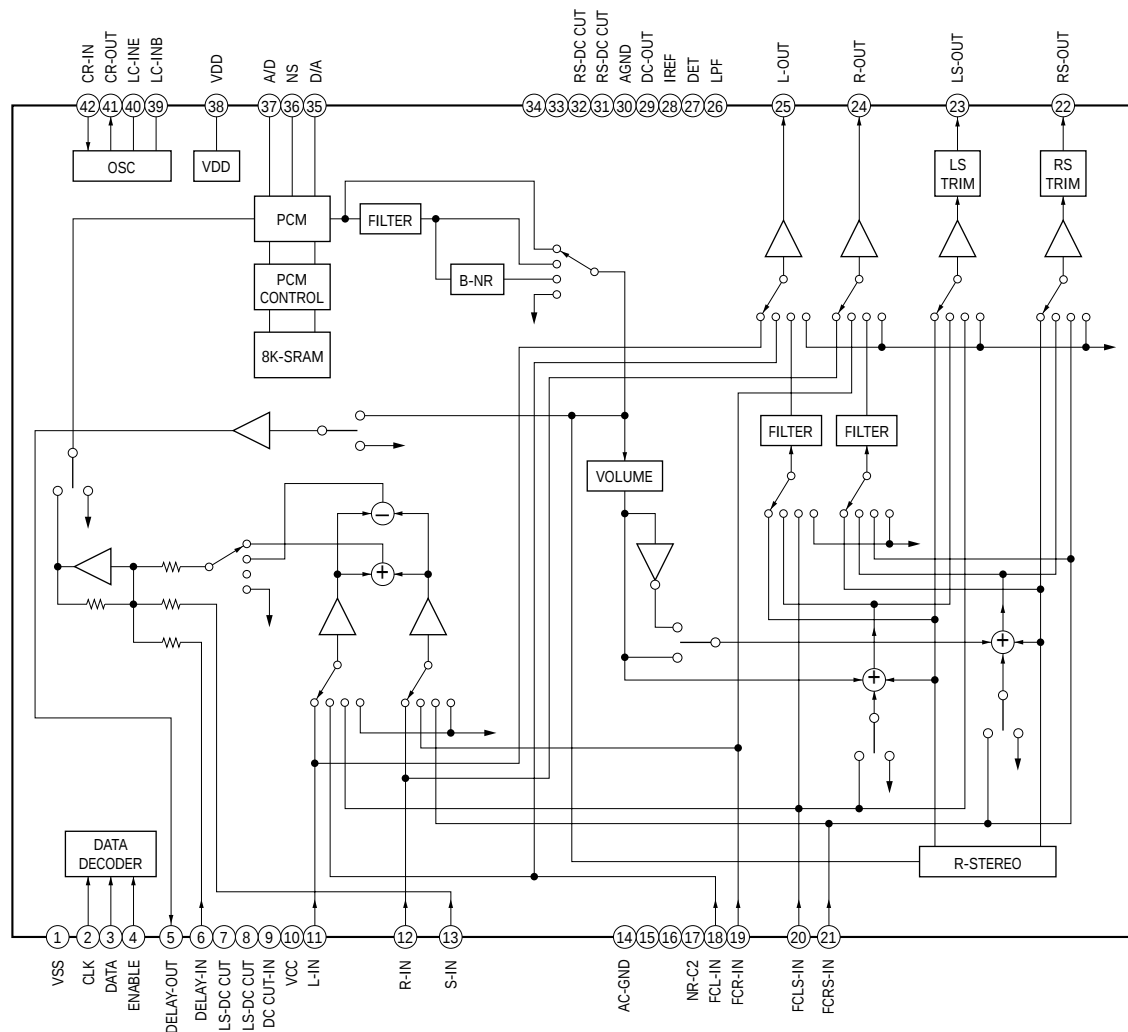
IC1 BU1924



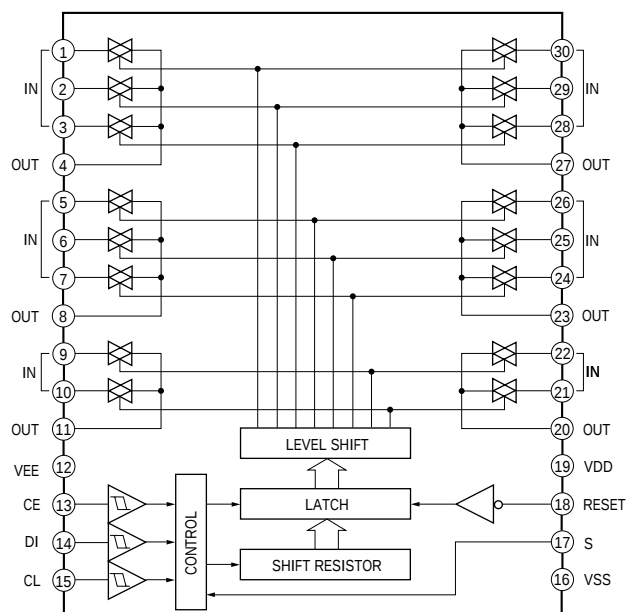
IC300 CXA8079S



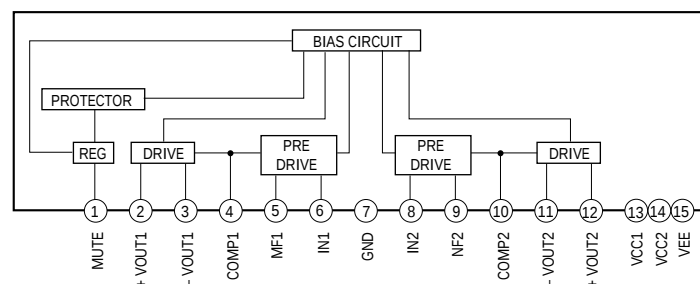
IC301 LV1018



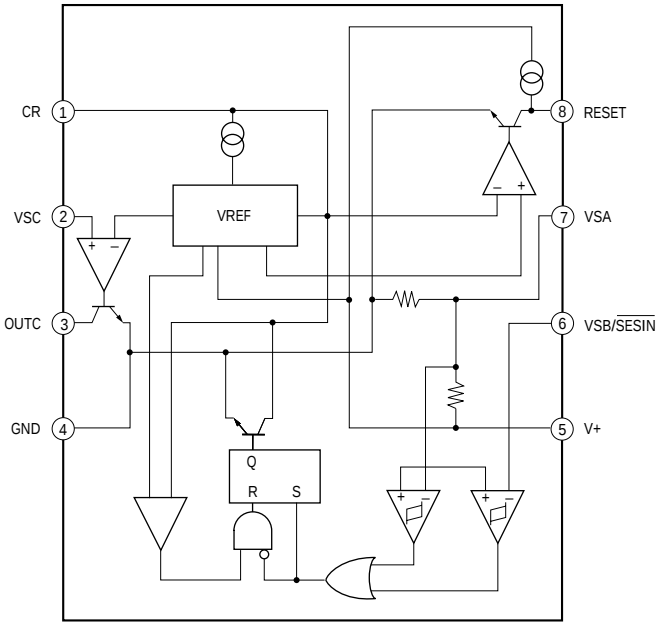
IC401 LC78212



IC701, 702 μ PC2581V

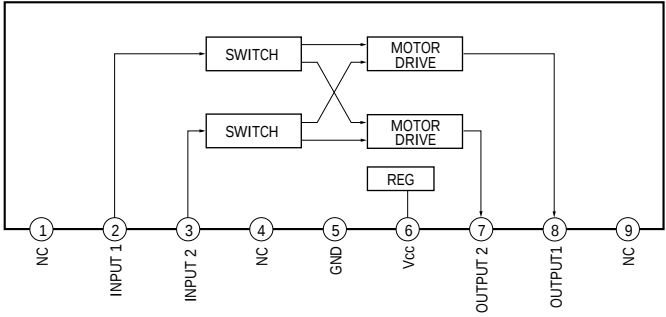


IC950 NJM2103D



– DISPLAY Board –

IC202 BA6208



4-15. IC PIN FUNCTION DESCRIPTION

• DISPLAY BOARD IC201 μ PD78045FGF-082-3B9 (SYSTEM CONTROLLER, FL DRIVER)

Pin No.	Pin Name	I/O	Description
1 to 7	DIG7 to DIG1	O	Digit drive signal output to the fluorescent indicator tube (FL201)
8	VDD	—	Power supply terminal (+5V)
9	$\overline{\text{S.CLK}}$	O	Serial data transfer clock signal output to the dolby surround pro-logic circuit (IC300, 301), LC78212 (IC401) and PLL IC on FM/AM tuner pack “L” active
10	$\overline{\text{S.DATA}}$	O	Serial data output to the dolby surround pro-logic circuit (IC300, 301), LC78212 (IC401) and PLL IC on FM/AM tuner pack “L” active
11	$\overline{\text{PLL.DATA}}$	I	Serial data input from the PLL IC on FM/AM tuner pack “L” active
12	S.CE (LC7822)	O	Serial chip enable signal output to the LC78212 (IC401), PLL IC on FM/AM tuner pack “H” active
13	$\overline{\text{S.CE}}$ (LV1018)	O	Serial chip enable signal output to the dolby surround pro-logic circuit (IC300, 301) “L” active
14	REAR-RLY	O	Speaker protect relay drive signal output for the rear side speaker “H”: relay on Not used (open)
15	BRIDGE-RLY	O	Bridgeable relay drive signal output terminal “H”: relay on
16	$\overline{\text{PROTECT}}$	I	Over load detect signal input from the protect circuit “L”: protect detect
17	$\overline{\text{RESET}}$	I	System reset signal input from the reset signal generator (IC950, Q201) “L”: reset For several hundreds msec. after the power supply rises, “L” is input, then it changes to “H”
18	$\overline{\text{AUTO-STOP}}$	I	Tuned display detection signal input from the FM/AM tuner pack “L”: tuned
19	$\overline{\text{STEREO-IN}}$	I	Stereo detection signal input from the FM/AM tuner pack “L”: stereo
20	AVSS	—	Ground terminal (for A/D converter analog system)
21	SP-RLY	O	Speaker protect relay drive signal output for the front side speaker “H”: relay on
22	SURR-RLY	O	Speaker protect relay drive signal output for the surround speaker “H”: relay on
23	POWER-RLY	O	Relay drive signal output for the power on/off control “H”: relay on
24	SIGNAL	I	FM and AM signal meter voltage detection signal input from the FM/AM tuner pack
25	A/D-4	I	Key input terminal (A/D input) S234 to S244 (SET UP, NAME, ENTER, +, –, EFFECT/DELAY, CENTER, REAR, MODE +, SOUND FIELD ON/OFF, MODE –) keys input
26	A/D-3	I	Key input terminal (A/D input) S222 to S226, S220, S229 to S231 (BASS BOOST, MUTING, SHIFT, 0, MEMORY, CD, MD/TAPE, TV/LD, RDS PTY) keys input
27	A/D-2	I	Key input terminal (A/D input) S211 to S219, S227 (FM/AM, 6, 5, 4, 7, 8, 9, FM MODE, VIDEO, TUNER) keys input
28	A/D-1	I	Key input terminal (A/D input) S201 to S210 (DISPLAY, RDS EON, 3, 2, 1, TUNING –/+, PRESET/PTY SELECT –/+, DIRECT) keys input
29	AVDD	—	Power supply terminal (+5V) (for A/D converter analog system)
30	AVREF	I	Reference voltage (+5V) input terminal (for A/D converter)
31	RDS DATA IN	I	RDS data input from the RDS decoder (IC1)
32	OPEN	—	Not used (open)
33	GND	—	Ground terminal
34	X1	I	Main system clock input terminal (4.19 MHz)
35	X2	O	Main system clock output terminal (4.19 MHz)
36	WOOFER-RLY	O	Relay drive signal output for the woofer speaker “H”: relay on Not used (open)
37	LED SELECT	O	LED select signal output terminal “H” active
38	PROLOGIC LED	O	LED drive signal output terminal “H”: LED on Not used (open)
39	C.STUDIO LED	O	LED drive signal output of the CINEMA (D231) indicator “H”: LED on
40	HALL LED	O	LED drive signal output of the MUSIC (D232) indicator “H”: LED on
41	ENTER LED	I	Not used (fixed at “L”)
42	VOL DOWN	O	Motor drive signal (volume down direction) output to the volume motor drive (IC202) “H” active

Pin No.	Pin Name	I/O	Description
43	VOL UP	O	Motor drive signal (volume up direction) output to the volume motor drive (IC202) “H”: active
44	<u>SYS-POWER</u>	I	Power on/off switch (S200 I/⏻) input terminal “L” is input when key pressing
45	TUNER-MUTE	O	Muting control signal output to the FM/AM tuner pack “H”: muting on
46	RDS CLK IN	I	RDS serial clock signal input from the RDS decoder (IC1)
47	<u>STOP</u>	I	Power down detection signal input from the reset signal generator (IC950) “L”: power down, normally: “H”
48	VSS	—	Ground terminal
49	<u>SIRCS</u>	I	Sircs remote control signal input from the remote control receiver (IC203)
50	MUTING LED	O	LED drive signal output of the MUTING indicator (D240) “L”: LED on
51	5.1CH LED	O	LED drive signal output terminal “L”: LED on Not used
52	VDD	—	Power supply terminal (+5V)
53	BASS BOOST	O	Control signal output of the BASS BOOST circuit and LED drive signal output of the BASS BOOST indicator (D228) “H”: BASS BOOST on (LED on)
54	FUNC. MUTE	O	Audio line muting on/off control signal output terminal “H”: muting on
55	IC. MUTE	O	Muting on/off control signal output terminal “H”: muting on Not used (open)
56	VERSION	I	Setting terminal for the version
57	S2	O	Video input select signal output terminal Not used (pull down)
58	S1	O	Video input select signal output terminal Not used (pull down)
59	LED1	O	LED drive signal output of the CENTER (D233) and REAR (D237) indicators “H”: LED on
60	LED2	O	LED drive signal output of the NAME (D235) and EFFECT/DELAY (D236) indicators “H”: LED on
61	LED3	O	LED drive signal output of the SET UP (D234) indicator “H”: LED on
62 to 70	S15 to S7	O	Segment drive signal output to the fluorescent indicator tube (FL201)
71	VLOAD	—	Negative power supply terminal for the fluorescent indicator tube drive (–24V)
72 to 77	S6 to S1	O	Segment drive signal output to the fluorescent indicator tube (FL201)
78 to 80	DIG10 to DIG8	O	Digit drive signal output to the fluorescent indicator tube (FL201)

SECTION 5 EXPLODED VIEWS

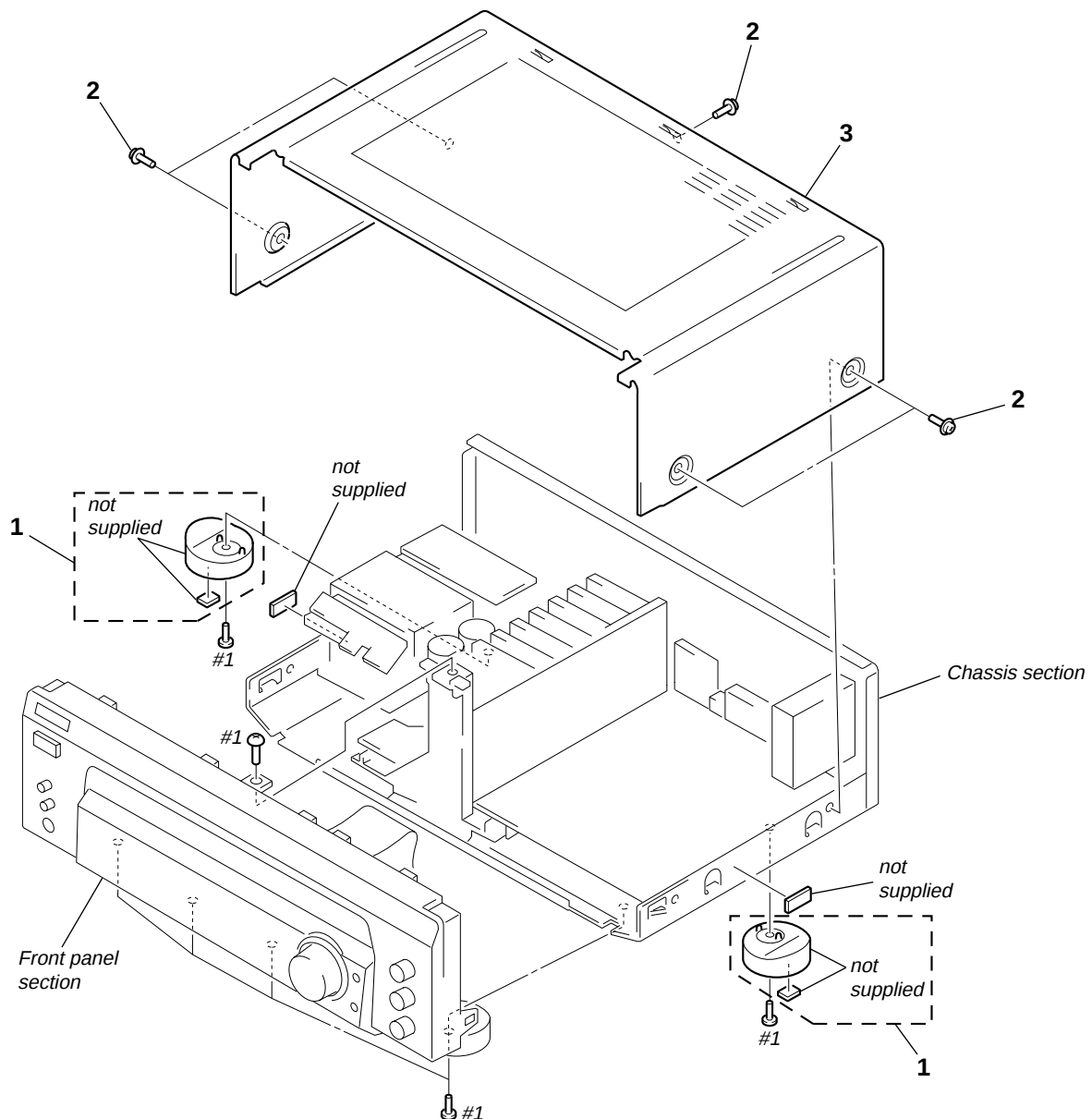
NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE) . . . (RED)
 ↑ ↑
 Parts Color Cabinet's Color

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

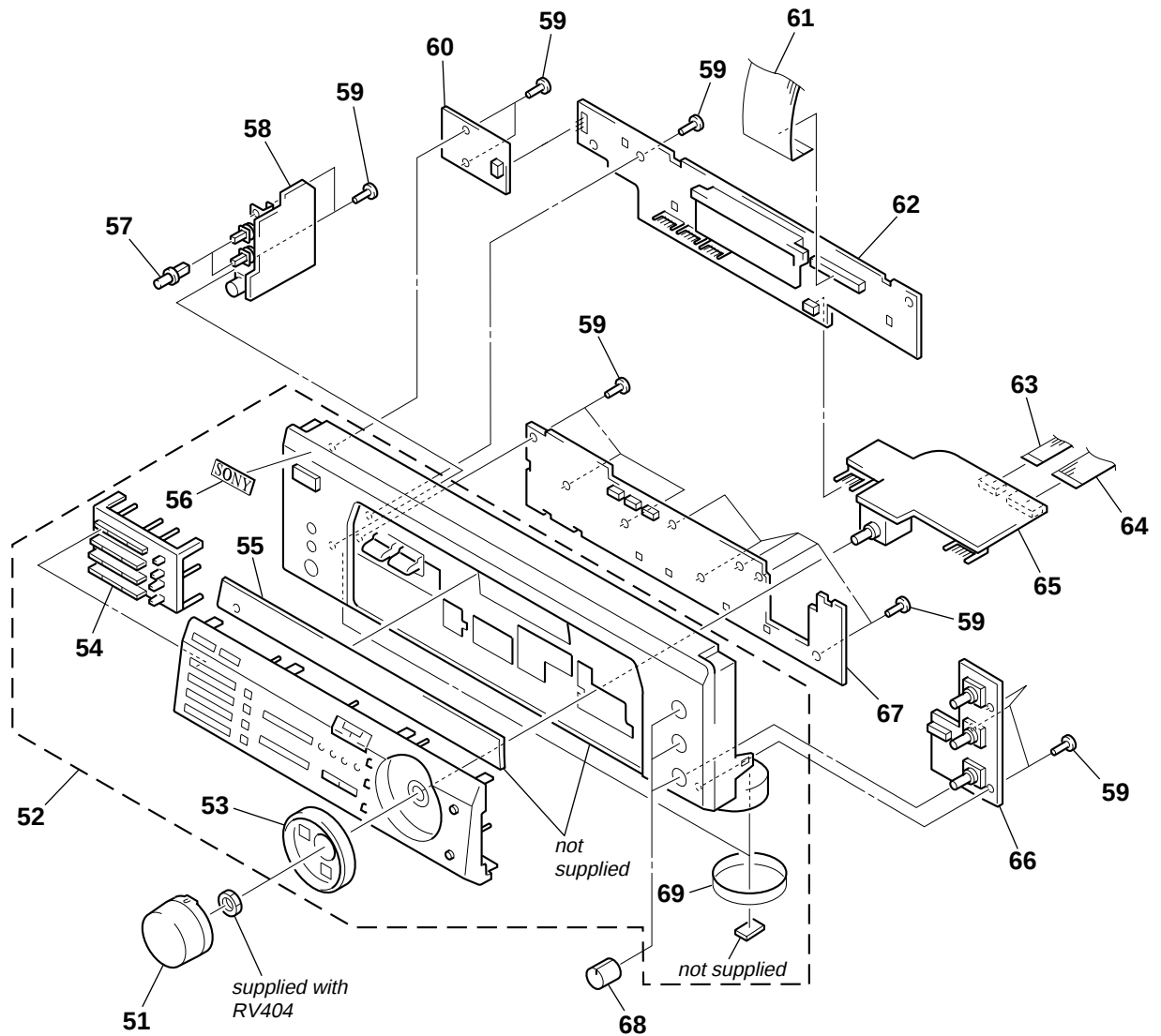
The components identified by mark $\triangle$ or dotted line with mark $\triangle$ are critical for safety. Replace only with part number specified.

(1) CASE SECTION



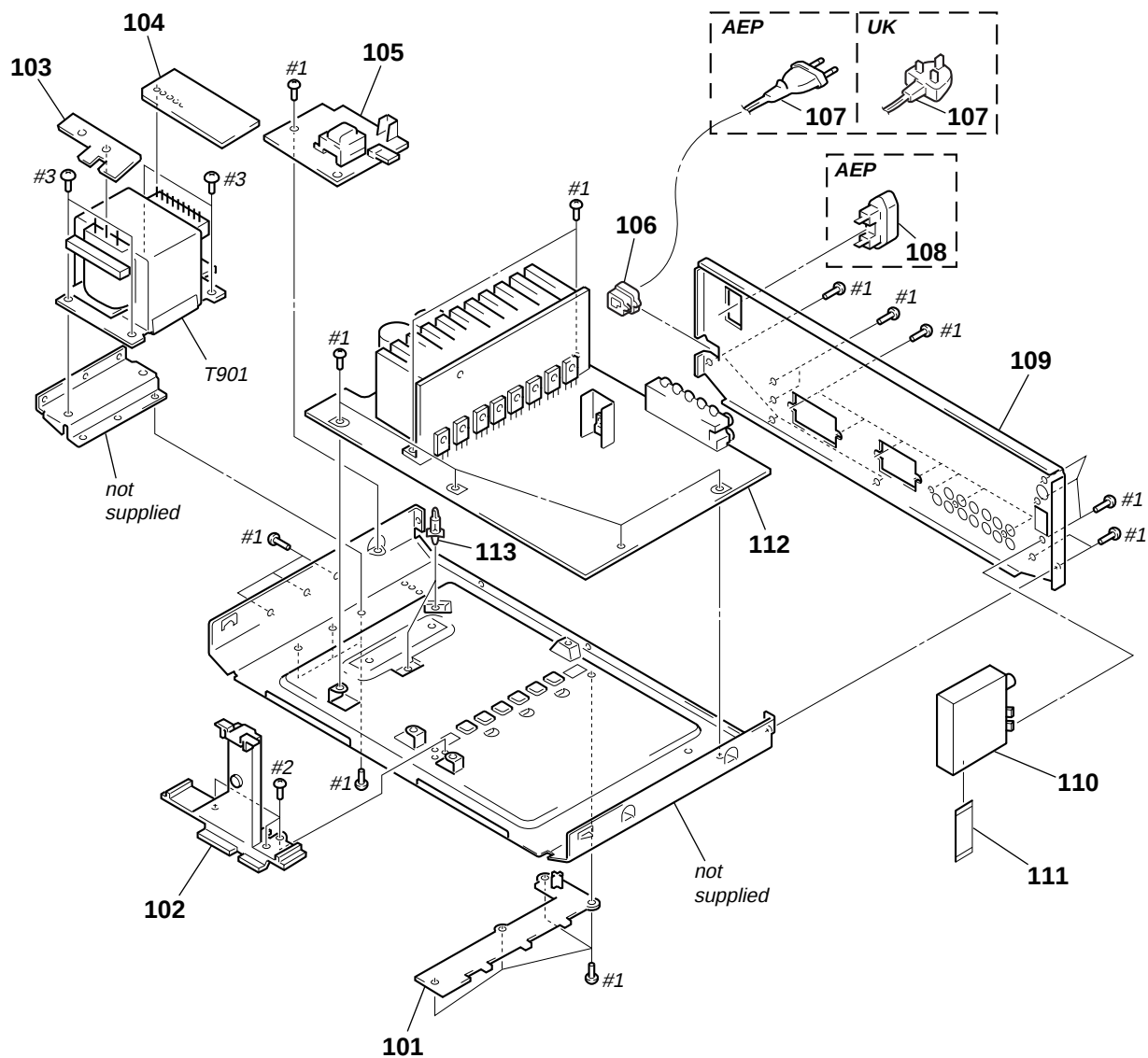
Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	X-4947-207-1	FOOT ASSY (F50150S)		* 3	4-998-206-21	CASE (413226)	
2	4-210-291-01	SCREW (CASE 3 TP2)					

(2) FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	X-4951-035-1	KNOB (VOL) ASSY		61	1-765-348-11	WIRE (FLAT TYPE) (27 CORE)	
52	X-4951-037-1	FRONT PANEL ASSY		62	A-4419-011-A	DISPLAY BOARD, COMPLETE	
53	4-216-792-01	RING (VOL)		63	1-765-314-11	WIRE (FLAT TYPE) (7 CORE)	
54	4-216-779-01	BUTTON (KEY)		64	1-769-941-11	WIRE (FLAT TYPE) (11 CORE)	
55	4-216-794-31	PLATE INDICATION		65	1-673-043-11	VOLUME BOARD	
56	4-996-698-01	EMBLEM, SONY		66	1-673-044-11	TONE BOARD	
57	4-951-801-01	BUTTON (S)		67	A-4419-013-A	KEY BOARD, COMPLETE	
58	1-673-045-11	SP SW BOARD		68	4-998-717-01	KNOB (BAL)	
59	4-951-620-01	SCREW (2.6X8), +BVTP		69	4-977-593-11	RING (DIA. 50), ORNAMENTAL	
60	1-673-051-11	POWER SWITCH BOARD					

(3) CHASSIS SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
101	4-217-872-11	BOTTOM COVER		109	4-216-800-01	BACK PANEL (E25) (AEP)	
102	4-216-798-11	SUB (MOLD)		109	4-216-800-21	BACK PANEL (E25) (UK)	
103	1-673-050-11	PRIMARY BOARD		110	1-693-408-41	TUNER PACK	
104	1-673-049-11	SECONDARY BOARD		111	1-773-001-11	WIRE (FLAT TYPE) (15 CORE)	
105	1-673-048-11	STANDBY BOARD		112	A-4419-015-A	MAIN BOARD, COMPLETE	
* 106	3-703-244-00	BUSHING (2104), CORD		113	4-924-098-01	HOLDER, PC BOARD	
Δ 107	1-777-071-21	CORD, POWER (AEP)		114	4-956-370-12	BAND, PLUG FIXED (UK)	
Δ 107	1-790-226-11	CORD, POWER (UK)		Δ T901	1-433-719-11	TRANSFORMER, POWER	
Δ 108	1-526-794-11	OUTLET, AC (AEP)					

DISPLAY

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:

uA. . . : μ A. .	uPA. . : μ PA. .
uPB. . : μ PB. .	uPC. . : μ PC. .
uPD. . : μ PD. .	
- CAPACITORS
uF: μ F
- COILS
uH: μ H

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

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DISPLAY

KEY

Ref. No.	Part No.	Description	Remark
< VIBRATOR >			
X201	1-577-101-11	VIBRATOR, CERAMIC (4.19MHz)	

A-4419-013-A		KEY BOARD, COMPLETE	

< CONNECTOR >			
CNS205	1-770-399-11	HOUSING, CONNECTOR (PC BOARD) 6P	
CNS206	1-770-397-11	HOUSING, CONNECTOR (PC BOARD) 4P	
CNS207	1-770-397-11	HOUSING, CONNECTOR (PC BOARD) 4P	
< DIODE >			
D228	8-719-046-39	LED SEL5821A-TH15 (BASS BOOST)	
D233	8-719-046-39	LED SEL5821A-TH15 (CENTER)	
D234	8-719-046-39	LED SEL5821A-TH15 (SET UP)	
D235	8-719-046-39	LED SEL5821A-TH15 (NAME)	
D236	8-719-046-39	LED SEL5821A-TH15 (EFFECT/DELAY)	
D237	8-719-046-39	LED SEL5821A-TH15 (REAR)	
D240	8-719-046-39	LED SEL5821A-TH15 (MUTING)	
D241	8-719-911-19	DIODE 1SS119	
< TRANSISTOR >			
Q233	8-729-900-36	TRANSISTOR DTC124ES	
Q234	8-729-900-36	TRANSISTOR DTC124ES	
Q235	8-729-900-36	TRANSISTOR DTC124ES	
Q236	8-729-900-36	TRANSISTOR DTC124ES	
Q237	8-729-900-63	TRANSISTOR DTA124ES	
Q239	8-729-900-36	TRANSISTOR DTC124ES	
Q241	8-729-900-63	TRANSISTOR DTA124ES	
Q242	8-729-900-36	TRANSISTOR DTC124ES	
< RESISTOR >			
R228	1-249-406-11	CARBON 120 5%	1/4W
R233	1-249-406-11	CARBON 120 5%	1/4W
R234	1-249-406-11	CARBON 120 5%	1/4W
R235	1-249-406-11	CARBON 120 5%	1/4W
R236	1-249-406-11	CARBON 120 5%	1/4W
R237	1-249-406-11	CARBON 120 5%	1/4W
R240	1-249-406-11	CARBON 120 5%	1/4W
R248	1-249-411-11	CARBON 330 5%	1/4W
R249	1-249-413-11	CARBON 470 5%	1/4W
R250	1-249-415-11	CARBON 680 5%	1/4W
R251	1-249-417-11	CARBON 1K 5%	1/4W
R252	1-249-419-11	CARBON 1.5K 5%	1/4W
R253	1-249-421-11	CARBON 2.2K 5%	1/4W
R254	1-247-843-11	CARBON 3.3K 5%	1/4W
R255	1-249-425-11	CARBON 4.7K 5%	1/4W
R256	1-249-429-11	CARBON 10K 5%	1/4W
R257	1-249-411-11	CARBON 330 5%	1/4W
R258	1-249-413-11	CARBON 470 5%	1/4W
R259	1-249-415-11	CARBON 680 5%	1/4W
R260	1-249-417-11	CARBON 1K 5%	1/4W
R261	1-249-419-11	CARBON 1.5K 5%	1/4W
R262	1-249-421-11	CARBON 2.2K 5%	1/4W
R263	1-247-843-11	CARBON 3.3K 5%	1/4W
R264	1-249-425-11	CARBON 4.7K 5%	1/4W

Ref. No.	Part No.	Description	Remark
R265	1-249-429-11	CARBON 10K 5%	1/4W
R266	1-249-411-11	CARBON 330 5%	1/4W
R267	1-249-413-11	CARBON 470 5%	1/4W
R268	1-249-415-11	CARBON 680 5%	1/4W
R269	1-249-417-11	CARBON 1K 5%	1/4W
R270	1-249-419-11	CARBON 1.5K 5%	1/4W
R271	1-249-421-11	CARBON 2.2K 5%	1/4W
R272	1-247-843-11	CARBON 3.3K 5%	1/4W
R273	1-249-425-11	CARBON 4.7K 5%	1/4W
R277	1-249-411-11	CARBON 330 5%	1/4W
R278	1-249-413-11	CARBON 470 5%	1/4W
R279	1-249-415-11	CARBON 680 5%	1/4W
R280	1-249-417-11	CARBON 1K 5%	1/4W
R281	1-249-419-11	CARBON 1.5K 5%	1/4W
R282	1-249-421-11	CARBON 2.2K 5%	1/4W
R283	1-247-843-11	CARBON 3.3K 5%	1/4W
R284	1-249-425-11	CARBON 4.7K 5%	1/4W
R285	1-249-429-11	CARBON 10K 5%	1/4W
R286	1-249-433-11	CARBON 22K 5%	1/4W
< SWITCH >			
S202	1-762-196-21	SWITCH, TACT (RDS EON)	
S203	1-762-196-21	SWITCH, TACT (3)	
S204	1-762-196-21	SWITCH, TACT (2)	
S205	1-762-196-21	SWITCH, TACT (1)	
S206	1-762-196-21	SWITCH, TACT (TUNING -)	
S207	1-762-196-21	SWITCH, TACT (TUNING +)	
S208	1-762-196-21	SWITCH, TACT (PRESET/PTY SELECT -)	
S209	1-762-196-21	SWITCH, TACT (PRESET/PTY SELECT +)	
S210	1-762-196-21	SWITCH, TACT (DIRECT)	
S211	1-762-196-21	SWITCH, TACT (FM/AM)	
S212	1-762-196-21	SWITCH, TACT (6)	
S213	1-762-196-21	SWITCH, TACT (5)	
S214	1-762-196-21	SWITCH, TACT (4)	
S215	1-762-196-21	SWITCH, TACT (7)	
S216	1-762-196-21	SWITCH, TACT (8)	
S217	1-762-196-21	SWITCH, TACT (9)	
S218	1-762-196-21	SWITCH, TACT (FM MODE)	
S219	1-762-196-21	SWITCH, TACT (VIDEO)	
S220	1-762-196-21	SWITCH, TACT (CD)	
S222	1-762-196-21	SWITCH, TACT (BASS BOOST)	
S223	1-762-196-21	SWITCH, TACT (MUTING)	
S224	1-762-196-21	SWITCH, TACT (SHIFT)	
S225	1-762-196-21	SWITCH, TACT (0)	
S226	1-762-196-21	SWITCH, TACT (MEMORY)	
S227	1-762-196-21	SWITCH, TACT (TUNER)	
S229	1-762-196-21	SWITCH, TACT (MD/TAPE)	
S230	1-762-196-21	SWITCH, TACT (TV/LD)	
S231	1-762-196-21	SWITCH, TACT (RDS PTY)	
S234	1-762-196-21	SWITCH, TACT (SET UP)	
S235	1-762-196-21	SWITCH, TACT (NAME)	
S236	1-762-196-21	SWITCH, TACT (ENTER)	
S237	1-762-196-21	SWITCH, TACT (+)	
S238	1-762-196-21	SWITCH, TACT (-)	
S239	1-762-196-21	SWITCH, TACT (EFFECT/DELAY)	
S240	1-762-196-21	SWITCH, TACT (CENTER)	
S241	1-762-196-21	SWITCH, TACT (REAR)	
S242	1-762-196-21	SWITCH, TACT (SOUND FIELD + MODE)	

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
S243	1-762-196-21	SWITCH, TACT (SOUND FIELD ON/OFF)				C347	1-126-963-11	ELECT	4.7uF	20%	50V
S244	1-762-196-21	SWITCH, TACT (SOUND FIELD – MODE)				C348	1-126-959-11	ELECT	0.47uF	20%	50V

	A-4419-015-A	MAIN BOARD, COMPLETE				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
	3-905-609-01	SCREW (TRANSISTOR)				C352	1-136-165-00	FILM	0.1uF	5%	50V
	4-812-134-00	RIVET (DIA. 3.5), NYLON				C353	1-137-358-11	FILM	100PF	5%	50V
	7-685-872-09	SCREW +BVTT 3X8 (S)									
		< CAPACITOR >				C357	1-164-159-11	CERAMIC	0.1uF		50V
C3	1-162-288-31	CERAMIC	330PF	10%	50V	C358	1-126-963-11	ELECT	4.7uF	20%	50V
C4	1-126-961-11	ELECT	2.2uF	20%	50V	C359	1-126-963-11	ELECT	4.7uF	20%	50V
C5	1-164-159-11	CERAMIC	0.1uF		50V	C361	1-164-159-11	CERAMIC	0.1F		50V
C6	1-162-291-31	CERAMIC	560PF	10%	50V	C362	1-164-159-11	CERAMIC	0.1F		50V
C7	1-102-527-11	CERAMIC	82PF	5%	50V						
C8	1-102-852-91	CERAMIC	47PF	5%	50V	C363	1-164-159-11	CERAMIC	0.1F		50V
C9	1-126-795-11	ELECT	10uF	20%	50V	C365	1-164-159-11	CERAMIC	0.1F		50V
C302	1-126-959-11	ELECT	0.47uF	20%	50V	C367	1-137-358-11	FILM	100PF	5%	50V
C303	1-130-494-11	MYLAR	0.082uF	5%	50V	C368	1-126-934-11	ELECT	220uF	20%	10V
C304	1-137-367-11	FILM	0.0033uF	5%	50V	C369	1-136-177-00	FILM	1uF	5%	50V
C305	1-130-494-11	MYLAR	0.082uF	5%	50V	C370	1-136-357-11	FILM	680PF	5%	100V
C307	1-126-795-11	ELECT	10uF	20%	50V	C371	1-124-250-11	ELECT	0.15uF	20%	50V
C308	1-126-795-11	ELECT	10uF	20%	50V	C372	1-137-358-11	FILM	100PF	5%	50V
C309	1-137-358-11	FILM	100PF	5%	50V	C376	1-136-177-00	FILM	1uF	5%	50V
C310	1-126-795-11	ELECT	10uF	20%	50V	C377	1-136-177-00	FILM	1uF	5%	50V
C312	1-126-934-11	ELECT	220uF	20%	10V	C378	1-102-518-11	CERAMIC	33PF	5%	50V
C313	1-124-252-00	ELECT	0.33uF	20%	50V	C379	1-136-165-00	FILM	0.1uF	5%	50V
C314	1-136-165-00	FILM	0.1uF	5%	50V	C380	1-136-177-00	FILM	1uF	5%	50V
C315	1-164-159-11	CERAMIC	0.1uF		50V	C381	1-136-165-00	FILM	0.1uF	5%	50V
C316	1-126-961-11	ELECT	2.2uF	20%	50V	C382	1-102-953-00	CERAMIC	18PF	5%	50V
C319	1-102-951-00	CERAMIC	15PF	5%	50V	C406	1-164-159-11	CERAMIC	0.1uF		50V
C320	1-102-852-91	CERAMIC	47PF	5%	50V	C412	1-162-291-31	CERAMIC	560PF	10%	50V
C322	1-126-795-11	ELECT	10uF	20%	50V	C413	1-164-159-11	CERAMIC	0.1uF		50V
C323	1-126-925-11	ELECT	470uF	20%	10V						
						C415	1-164-159-11	CERAMIC	0.1uF		50V
C324	1-126-934-11	ELECT	220uF	20%	10V	C416	1-164-159-11	CERAMIC	0.1uF		50V
C325	1-136-165-00	FILM	0.1uF	5%	50V	C427	1-124-252-00	ELECT	0.33uF	20%	50V
C326	1-136-165-00	FILM	0.1uF	5%	50V	C428	1-130-489-00	MYLAR	0.033uF	5%	50V
C327	1-126-959-11	ELECT	0.47uF	20%	50V	C429	1-102-973-00	CERAMIC	100PF	5%	50V
C328	1-126-963-11	ELECT	4.7uF	20%	50V						
						C434	1-162-286-31	CERAMIC	220PF	10%	50V
C329	1-126-959-11	ELECT	0.47uF	20%	50V	C435	1-162-286-31	CERAMIC	220PF	10%	50V
C330	1-126-963-11	ELECT	4.7uF	20%	50V	C447	1-164-159-11	CERAMIC	0.1uF		50V
C331	1-124-250-11	ELECT	0.15uF	20%	50V	C477	1-124-252-00	ELECT	0.33uF	20%	50V
C332	1-126-962-11	ELECT	3.3uF	20%	50V						
C333	1-124-250-11	ELECT	0.15uF	20%	50V	C478	1-130-489-00	MYLAR	0.033uF	5%	50V
						C479	1-102-973-00	CERAMIC	100PF	5%	50V
C334	1-137-372-11	FILM	0.022uF	5%	50V	C492	1-124-464-11	ELECT	0.22uF	20%	50V
C335	1-136-161-00	FILM	0.047uF	5%	50V	C602	1-162-282-31	CERAMIC	100PF	10%	50V
C336	1-126-959-11	ELECT	0.47uF	20%	50V						
C337	1-126-795-11	ELECT	10uF	20%	50V	C603	1-104-665-11	ELECT	100uF	20%	10V
C338	1-126-795-11	ELECT	10uF	20%	50V	C605	1-102-233-00	CERAMIC	33PF	10%	500V
						C610	1-104-664-11	ELECT	47uF	20%	16V
C339	1-126-795-11	ELECT	10uF	20%	50V	C611	1-137-372-11	FILM	0.022uF	5%	50V
C340	1-126-795-11	ELECT	10uF	20%	50V	C620	1-162-286-31	CERAMIC	220PF	10%	50V
C341	1-126-925-11	ELECT	470uF	20%	10V						
C342	1-126-962-11	ELECT	3.3uF	20%	50V	C652	1-162-282-31	CERAMIC	100PF	10%	50V
C343	1-126-962-11	ELECT	3.3uF	20%	50V	C653	1-104-665-11	ELECT	100uF	20%	10V
						C655	1-102-233-00	CERAMIC	33PF	10%	500V
C344	1-136-165-00	FILM	0.1uF	5%	50V	C660	1-104-664-11	ELECT	47uF	20%	16V
C345	1-136-165-00	FILM	0.1uF	5%	50V	C661	1-137-372-11	FILM	0.022uF	5%	50V
C346	1-126-959-11	ELECT	0.47uF	20%	50V						
						C670	1-162-286-31	CERAMIC	220PF	10%	50V
						C702	1-162-282-31	CERAMIC	100PF	10%	50V
						C703	1-104-665-11	ELECT	100uF	20%	10V
						C704	1-104-664-11	ELECT	47uF	20%	16V

MAIN

Ref. No.	Part No.	Description			Remark
C705	1-102-233-00	CERAMIC	33PF	10%	500V
C710	1-104-664-11	ELECT	47uF	20%	16V
C711	1-137-372-11	FILM	0.022uF	5%	50V
C720	1-162-286-31	CERAMIC	220PF	10%	50V
C721	1-126-934-11	ELECT	220uF	20%	10V
C722	1-126-795-11	ELECT	10uF	20%	50V
C740	1-128-560-11	ELECT	22uF	20%	100V
C741	1-128-560-11	ELECT	22uF	20%	100V
C742	1-126-925-11	ELECT	470uF	20%	10V
C743	1-126-925-11	ELECT	470uF	20%	10V
C752	1-162-282-31	CERAMIC	100PF	10%	50V
C753	1-104-665-11	ELECT	100uF	20%	10V
C754	1-104-664-11	ELECT	47uF	20%	16V
C755	1-102-233-00	CERAMIC	33PF	10%	500V
C760	1-104-664-11	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
C802	1-104-664-11	ELECT	47uF	20%	25V
C803	1-128-493-11	ELECT	4700uF	20%	63V
C804	1-128-493-11	ELECT	4700uF	20%	63V
C805	1-130-781-00	MYLAR	0.22uF	5%	100V
C806	1-130-781-00	MYLAR	0.22uF	5%	100V
C807	1-104-661-91	ELECT	330uF	20%	16V
C808	1-104-661-91	ELECT	330uF	20%	16V
C809	1-126-960-11	ELECT	1uF	20%	50V
C810	1-126-960-11	ELECT	1uF	20%	50V
C811	1-126-943-11	ELECT	2200uF	20%	25V
C812	1-126-941-11	ELECT	470uF	20%	25V
C813	1-101-001-00	CERAMIC	0.001uF		50V
C814	1-101-001-00	CERAMIC	0.001uF		50V
C815	1-126-960-11	ELECT	1uF	20%	50V
C816	1-104-664-11	ELECT	47uF	20%	25V
C820	1-161-494-00	CERAMIC	0.022uF		25V
C821	1-161-494-00	CERAMIC	0.022uF		25V
C822	1-104-664-11	ELECT	47uF	20%	25V
C825	1-126-960-11	ELECT	1uF	20%	50V
C826	1-104-664-11	ELECT	47uF	20%	25V
C827	1-126-960-11	ELECT	1uF	20%	50V
C950	1-126-767-11	ELECT	1000uF	20%	16V
C951	1-164-097-11	CERAMIC	0.022uF		50V
C952	1-126-960-11	ELECT	1uF	20%	50V
C953	1-124-464-11	ELECT	0.22uF	20%	50V
C954	1-126-096-11	ELECT	10uF	20%	35V
C955	1-164-159-11	CERAMIC	0.1uF		50V
C956	1-164-159-11	CERAMIC	0.1uF		50V
C957	1-164-159-11	CERAMIC	0.1uF		50V
C958	1-164-159-11	CERAMIC	0.1uF		50V
CC02	1-162-282-31	CERAMIC	100PF	10%	50V
CC03	1-162-282-31	CERAMIC	100PF	10%	50V
CC04	1-162-282-31	CERAMIC	100PF	10%	50V
CC05	1-162-282-31	CERAMIC	100PF	10%	50V
CC06	1-162-282-31	CERAMIC	100PF	10%	50V
CC07	1-162-282-31	CERAMIC	100PF	10%	50V
CC12	1-164-096-11	CERAMIC	0.01uF		50V
CC13	1-164-096-11	CERAMIC	0.01uF		50V
CC52	1-162-282-31	CERAMIC	100PF	10%	50V

Ref. No.	Part No.	Description			Remark
CC53	1-162-282-31	CERAMIC	100PF	10%	50V
CC54	1-162-282-31	CERAMIC	100PF	10%	50V
CC55	1-162-282-31	CERAMIC	100PF	10%	50V
CC56	1-162-282-31	CERAMIC	100PF	10%	50V
CC57	1-162-282-31	CERAMIC	100PF	10%	50V
CC62	1-164-096-11	CERAMIC	0.01uF		50V
CC63	1-164-096-11	CERAMIC	0.01uF		50V
< CONNECTOR >					
CNS204	1-569-327-11	SOCKET, CONNECTOR 27P			
CNS401	1-569-321-11	SOCKET, CONNECTOR 15P			
CNS403	1-569-060-11	SOCKET, CONNECTOR 11P			
CNS701	1-568-439-11	SOCKET, CONNECTOR 7P			
CNS702	1-691-767-11	PLUG (MICRO CONNECTOR) 5P			
CNS802	1-770-480-11	SOCKET, CONNECTOR PIN 4P			
< DIODE >					
D300	8-719-070-77	DIODE SVC201SPA-M1-AC			
D311	8-719-911-19	DIODE 1SS119			
D312	8-719-911-19	DIODE 1SS119			
D421	8-719-911-19	DIODE 1SS119			
D610	8-719-911-19	DIODE 1SS119			
D710	8-719-911-19	DIODE 1SS119			
D721	8-719-911-19	DIODE 1SS119			
D722	8-719-911-19	DIODE 1SS119			
D723	8-719-911-19	DIODE 1SS119			
D724	8-719-911-19	DIODE 1SS119			
D725	8-719-911-19	DIODE 1SS119			
D726	8-719-911-19	DIODE 1SS119			
D727	8-719-911-19	DIODE 1SS119			
D728	8-719-911-19	DIODE 1SS119			
D801	8-719-986-54	DIODE HZS24-1LTA			
D802	8-719-302-38	DIODE RBV-602-01			
D803	8-719-302-38	DIODE RBV-602-01			
D804	8-719-109-85	DIODE RD5.1ES-B2			
D810	8-719-024-99	DIODE 11ES2-NTA2B			
D811	8-719-024-99	DIODE 11ES2-NTA2B			
D812	8-719-024-99	DIODE 11ES2-NTA2B			
D813	8-719-024-99	DIODE 11ES2-NTA2B			
D814	8-719-911-19	DIODE 1SS119			
D815	8-719-911-19	DIODE 1SS119			
D818	8-719-911-19	DIODE 1SS119			
D820	8-719-024-99	DIODE 11ES2-NTA2B			
D821	8-719-024-99	DIODE 11ES2-NTA2B			
D822	8-719-024-99	DIODE 11ES2-NTA2B			
D823	8-719-024-99	DIODE 11ES2-NTA2B			
< EARTH TERMINAL >					
* G200	1-537-738-21	TERMINAL, EARTH			
* G201	1-537-738-21	TERMINAL, EARTH			
* G202	1-537-738-21	TERMINAL, EARTH			
* G203	1-537-738-21	TERMINAL, EARTH			
< IC >					
IC1	8-759-541-48	IC BU1924			
IC300	8-759-528-35	IC CXA8079S			
IC301	8-759-579-62	IC CXA8039S (LV1018)			

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
IC302	8-759-636-74	IC M5218AP-22		Q753	8-749-010-25	IC MN2488-OPY-M	
IC401	8-759-545-64	IC LC78212		Q754	8-749-010-26	IC MP1620-OPY-M	
IC701	8-759-326-52	IC uPC2581V		Q770	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
IC702	8-759-326-52	IC uPC2581V		Q801	8-729-140-97	TRANSISTOR 2SB734-34	
IC801	8-759-604-39	IC M5F78M12		Q802	8-729-119-78	TRANSISTOR 2SC403SP-51	
IC802	8-759-604-45	IC M5F79M12		Q809	8-729-119-78	TRANSISTOR 2SC403SP-51	
IC803	8-759-604-35	IC M5F78M05L		Q951	8-729-026-68	TRANSISTOR 2SD2525 (TP)	
IC804	8-759-604-35	IC M5F78M05L		< RESISTOR >			
IC805	8-759-604-38	IC M5F78M10		R5	1-249-421-11	CARBON 2.2K 5%	1/4W
IC950	8-759-333-83	IC NJM2103D		R6	1-247-807-31	CARBON 100 5%	1/4W
< JACK >				R7	1-247-807-31	CARBON 100 5%	1/4W
J253	1-774-785-11	JACK, PIN 1P (MIX AUDIO OUT)		R303	1-249-439-11	CARBON 68K 5%	1/4W
J401	1-770-614-11	JACK, PIN 4P		R306	1-249-436-11	CARBON 39K 5%	1/4W
		(CD IN, MD/TAPE REC OUT, MD/TAPE IN)		R342	1-249-441-11	CARBON 100K 5%	1/4W
J402	1-580-825-11	JACK, PIN 6P		R343	1-249-441-11	CARBON 100K 5%	1/4W
		(TV/LD AUDIO IN, VIDEO AUDIO IN/OUT)		R351	1-249-417-11	CARBON 1K 5%	1/4W
< COIL >				R352	1-249-417-11	CARBON 1K 5%	1/4W
L1	1-410-521-11	INDUCTOR 100uH		R353	1-249-417-11	CARBON 1K 5%	1/4W
L301	1-410-509-11	INDUCTOR 10uH		R355	1-249-417-11	CARBON 1K 5%	1/4W
L601	1-420-872-00	COIL, AIR-CORE		R357	1-249-429-11	CARBON 10K 5%	1/4W
L651	1-420-872-00	COIL, AIR-CORE		R358	1-249-439-11	CARBON 68K 5%	1/4W
L701	1-420-872-00	COIL, AIR-CORE		R359	1-249-425-11	CARBON 4.7K 5%	1/4W
L751	1-420-872-00	COIL, AIR-CORE		R360	1-249-425-11	CARBON 4.7K 5%	1/4W
< TRANSISTOR/IC >				R361	1-249-425-11	CARBON 4.7K 5%	1/4W
Q361	8-729-141-30	TRANSISTOR 2SC3623A-LK		R362	1-249-425-11	CARBON 4.7K 5%	1/4W
Q362	8-729-141-30	TRANSISTOR 2SC3623A-LK		R363	1-249-425-11	CARBON 4.7K 5%	1/4W
Q363	8-729-141-30	TRANSISTOR 2SC3623A-LK		R365	1-249-425-11	CARBON 4.7K 5%	1/4W
Q365	8-729-141-30	TRANSISTOR 2SC3623A-LK		R367	1-249-438-11	CARBON 56K 5%	1/4W
Q401	8-729-202-67	FET 2SK246-GR3		R372	1-249-441-11	CARBON 100K 5%	1/4W
Q402	8-729-141-30	TRANSISTOR 2SC3623A-LK		R374	1-249-429-11	CARBON 10K 5%	1/4W
Q451	8-729-202-67	FET 2SK246-GR3		R375	1-249-429-11	CARBON 10K 5%	1/4W
Q452	8-729-141-30	TRANSISTOR 2SC3623A-LK		R380	1-249-441-11	CARBON 100K 5%	1/4W
Q601	8-729-119-76	TRANSISTOR 2SA1175-HFE		R381	1-249-441-11	CARBON 100K 5%	1/4W
Q602	8-729-141-30	TRANSISTOR 2SC3623A-LK		R402	1-249-417-11	CARBON 1K 5%	1/4W
Q603	8-749-010-25	IC MN2488-OPY-M		R403	1-249-417-11	CARBON 1K 5%	1/4W
Q604	8-749-010-26	IC MP1620-OPY-M		R404	1-249-417-11	CARBON 1K 5%	1/4W
Q610	8-729-119-78	TRANSISTOR 2SC403SP-51		R405	1-249-417-11	CARBON 1K 5%	1/4W
Q620	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R406	1-249-417-11	CARBON 1K 5%	1/4W
Q651	8-729-119-76	TRANSISTOR 2SA1175-HFE		R407	1-249-417-11	CARBON 1K 5%	1/4W
Q652	8-729-141-30	TRANSISTOR 2SC3623A-LK		R414	1-249-425-11	CARBON 4.7K 5%	1/4W
Q653	8-749-010-25	IC MN2488-OPY-M		R415	1-249-417-11	CARBON 1K 5%	1/4W
Q654	8-749-010-26	IC MP1620-OPY-M		R431	1-247-843-11	CARBON 3.3K 5%	1/4W
Q670	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R432	1-247-883-00	CARBON 150K 5%	1/4W
Q701	8-729-119-76	TRANSISTOR 2SA1175-HFE		R433	1-249-427-11	CARBON 6.8K 5%	1/4W
Q702	8-729-141-30	TRANSISTOR 2SC3623A-LK		R434	1-249-413-11	CARBON 470 5%	1/4W
Q703	8-749-010-25	IC MN2488-OPY-M		R435	1-249-418-11	CARBON 1.2K 5%	1/4W
Q704	8-749-010-26	IC MP1620-OPY-M		R438	1-249-441-11	CARBON 100K 5%	1/4W
Q710	8-729-119-78	TRANSISTOR 2SC403SP-51		R441	1-249-441-11	CARBON 100K 5%	1/4W
Q720	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R442	1-249-418-11	CARBON 1.2K 5%	1/4W
Q721	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R443	1-249-418-11	CARBON 1.2K 5%	1/4W
Q722	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA		R444	1-247-903-00	CARBON 1M 5%	1/4W
Q723	8-729-119-78	TRANSISTOR 2SC403SP-51		R447	1-249-436-11	CARBON 39K 5%	1/4W
Q751	8-729-119-76	TRANSISTOR 2SA1175-HFE		R448	1-249-436-11	CARBON 39K 5%	1/4W
Q752	8-729-141-30	TRANSISTOR 2SC3623A-LK		R449	1-249-433-11	CARBON 22K 5%	1/4W
				R452	1-249-417-11	CARBON 1K 5%	1/4W
				R453	1-249-417-11	CARBON 1K 5%	1/4W

MAIN

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R454	1-249-417-11	CARBON	1K 5% 1/4W	R707	1-249-435-11	CARBON	33K 5% 1/4W
R455	1-249-417-11	CARBON	1K 5% 1/4W	R710	1-249-421-11	CARBON	2.2K 5% 1/4W
R456	1-249-417-11	CARBON	1K 5% 1/4W	R711	1-249-440-11	CARBON	82K 5% 1/4W
R457	1-249-417-11	CARBON	1K 5% 1/4W	R713	1-249-414-11	CARBON	560 5% 1/4W
R464	1-247-903-00	CARBON	1M 5% 1/4W	△ R714	1-249-409-11	CARBON	220 5% 1/4W F
R465	1-249-417-11	CARBON	1K 5% 1/4W	△ R715	1-249-409-11	CARBON	220 5% 1/4W F
R469	1-247-903-00	CARBON	1M 5% 1/4W	△ R716	1-233-352-41	ENCAPSULATED COMPONENT (0.22+0.22)	
R481	1-247-843-11	CARBON	3.3K 5% 1/4W	△ R717	1-249-393-11	CARBON	10 5% 1/4W F
R482	1-247-883-00	CARBON	150K 5% 1/4W	R718	1-249-389-11	CARBON	4.7 5% 1/4W
R483	1-249-427-11	CARBON	6.8K 5% 1/4W	△ R719	1-249-403-11	CARBON	68 5% 1/4W F
R484	1-249-413-11	CARBON	470 5% 1/4W	R720	1-249-419-11	CARBON	1.5K 5% 1/4W
R491	1-249-441-11	CARBON	100K 5% 1/4W	R721	1-249-427-11	CARBON	6.8K 5% 1/4W
R492	1-247-903-00	CARBON	1M 5% 1/4W	R722	1-249-431-11	CARBON	15K 5% 1/4W
R494	1-247-903-00	CARBON	1M 5% 1/4W	R723	1-249-437-11	CARBON	47K 5% 1/4W
R581	1-247-864-11	CARBON	24K 5% 1/4W	R724	1-249-425-11	CARBON	4.7K 5% 1/4W
R601	1-249-417-11	CARBON	1K 5% 1/4W	R725	1-249-427-11	CARBON	6.8K 5% 1/4W
R602	1-249-439-11	CARBON	68K 5% 1/4W	R726	1-249-417-11	CARBON	1K 5% 1/4W
R603	1-249-415-11	CARBON	680 5% 1/4W	R727	1-249-427-11	CARBON	6.8K 5% 1/4W
R604	1-249-439-11	CARBON	68K 5% 1/4W	R730	1-249-426-11	CARBON	5.6K 5% 1/4W
R610	1-249-421-11	CARBON	2.2K 5% 1/4W	R731	1-249-426-11	CARBON	5.6K 5% 1/4W
R611	1-249-440-11	CARBON	82K 5% 1/4W	△ R732	1-249-393-11	CARBON	10 5% 1/4W F
R613	1-249-414-11	CARBON	560 5% 1/4W	△ R733	1-249-393-11	CARBON	10 5% 1/4W F
△ R614	1-249-409-11	CARBON	220 5% 1/4W F	R734	1-249-420-11	CARBON	1.8K 5% 1/4W
△ R615	1-249-409-11	CARBON	220 5% 1/4W F	R738	1-247-864-11	CARBON	24K 5% 1/4W
△ R616	1-233-352-41	ENCAPSULATED COMPONENT (0.22+0.22)		R742	1-249-425-11	CARBON	4.7K 5% 1/4W
△ R617	1-249-393-11	CARBON	10 5% 1/4W F	R743	1-249-425-11	CARBON	4.7K 5% 1/4W
R618	1-249-389-11	CARBON	4.7 5% 1/4W	△ R744	1-249-403-11	CARBON	68 5% 1/4W F
△ R619	1-249-403-11	CARBON	68 5% 1/4W F	R751	1-249-417-11	CARBON	1K 5% 1/4W
R620	1-249-419-11	CARBON	1.5K 5% 1/4W	R752	1-249-439-11	CARBON	68K 5% 1/4W
R621	1-249-427-11	CARBON	6.8K 5% 1/4W	R753	1-247-830-11	CARBON	910 5% 1/4W
R622	1-249-431-11	CARBON	15K 5% 1/4W	R754	1-249-439-11	CARBON	68K 5% 1/4W
R623	1-249-437-11	CARBON	47K 5% 1/4W	R755	1-249-429-11	CARBON	10K 5% 1/4W
R630	1-249-426-11	CARBON	5.6K 5% 1/4W	R756	1-249-435-11	CARBON	33K 5% 1/4W
R632	1-249-426-11	CARBON	5.6K 5% 1/4W	R757	1-249-435-11	CARBON	33K 5% 1/4W
△ R644	1-249-403-11	CARBON	68 5% 1/4W F	R760	1-249-421-11	CARBON	2.2K 5% 1/4W
R651	1-249-417-11	CARBON	1K 5% 1/4W	R761	1-249-440-11	CARBON	82K 5% 1/4W
R652	1-249-439-11	CARBON	68K 5% 1/4W	R763	1-249-414-11	CARBON	560 5% 1/4W
R653	1-249-415-11	CARBON	680 5% 1/4W	△ R764	1-249-409-11	CARBON	220 5% 1/4W F
R654	1-249-439-11	CARBON	68K 5% 1/4W	△ R765	1-249-409-11	CARBON	220 5% 1/4W F
R660	1-249-421-11	CARBON	2.2K 5% 1/4W	△ R766	1-233-352-41	ENCAPSULATED COMPONENT (0.22+0.22)	
R661	1-249-440-11	CARBON	82K 5% 1/4W	△ R767	1-249-393-11	CARBON	10 5% 1/4W F
R663	1-249-414-11	CARBON	560 5% 1/4W	R768	1-249-389-11	CARBON	4.7 5% 1/4W
△ R664	1-249-409-11	CARBON	220 5% 1/4W F	R770	1-249-419-11	CARBON	1.5K 5% 1/4W
△ R665	1-249-409-11	CARBON	220 5% 1/4W F	R771	1-249-427-11	CARBON	6.8K 5% 1/4W
△ R666	1-233-352-41	ENCAPSULATED COMPONENT (0.22+0.22)		R772	1-249-431-11	CARBON	15K 5% 1/4W
△ R667	1-249-393-11	CARBON	10 5% 1/4W F	R773	1-249-437-11	CARBON	47K 5% 1/4W
R668	1-249-389-11	CARBON	4.7 5% 1/4W	R788	1-247-864-11	CARBON	24K 5% 1/4W
R670	1-249-419-11	CARBON	1.5K 5% 1/4W	△ R803	1-249-389-11	CARBON	4.7 5% 1/4W F
R671	1-249-427-11	CARBON	6.8K 5% 1/4W	R804	1-249-427-11	CARBON	6.8K 5% 1/4W
R672	1-249-431-11	CARBON	15K 5% 1/4W	R821	1-249-437-11	CARBON	47K 5% 1/4W
R673	1-249-437-11	CARBON	47K 5% 1/4W	R822	1-249-425-11	CARBON	4.7K 5% 1/4W
R701	1-249-417-11	CARBON	1K 5% 1/4W	R823	1-249-437-11	CARBON	47K 5% 1/4W
R702	1-249-439-11	CARBON	68K 5% 1/4W	R824	1-249-425-11	CARBON	4.7K 5% 1/4W
R703	1-247-830-11	CARBON	910 5% 1/4W	△ R830	1-249-403-11	CARBON	68 5% 1/4W F
R704	1-249-439-11	CARBON	68K 5% 1/4W	△ R831	1-249-403-11	CARBON	68 5% 1/4W F
R705	1-249-429-11	CARBON	10K 5% 1/4W	R950	1-249-421-11	CARBON	2.2K 5% 1/4W
R706	1-249-435-11	CARBON	33K 5% 1/4W	R951	1-249-428-11	CARBON	8.2K 5% 1/4W
				R952	1-249-422-11	CARBON	2.7K 5% 1/4W

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

MAIN

POWER SWITCH

PRIMARY

SECONDARY

SP SW

STANDBY

TONE

Ref. No.	Part No.	Description	Remark		
R953	1-249-433-11	CARBON	22K	5%	1/4W
R954	1-249-437-11	CARBON	47K	5%	1/4W
R955	1-249-429-11	CARBON	10K	5%	1/4W
R956	1-247-843-11	CARBON	3.3K	5%	1/4W
R957	1-249-417-11	CARBON	1K	5%	1/4W
R960	1-249-431-11	CARBON	15K	5%	1/4W
RR04	1-249-393-11	CARBON	10	5%	1/4W
RR05	1-249-393-11	CARBON	10	5%	1/4W
RR54	1-249-393-11	CARBON	10	5%	1/4W
RR55	1-249-393-11	CARBON	10	5%	1/4W
< RELAY >					
RY601	1-515-921-11	RELAY (12V)			
RY701	1-515-921-11	RELAY (12V)			
RY801	1-755-013-11	RELAY			
< TERMINAL >					
TM601	1-537-510-11	TERMINAL BOARD (SPEAKER) (6P)			
		(SPEAKERS CENTER/REAR)			
TM701	1-537-376-11	TERMINAL BOARD (SP)			
		(SPEAKERS FRONT A/B)			
< VIBRATOR >					
X1	1-579-900-21	VIBRATOR, CRYSTAL (4.332MHz)			

	1-673-051-11	POWER SWITCH BOARD			

< CONNECTOR >					
CNS203	1-573-105-11	CONNECTOR, PC BOARD 4P			
< SWITCH >					
S200	1-762-196-21	SWITCH, TACT (I/⏏)			

	1-673-050-11	PRIMARY BOARD			

	1-533-293-11	FUSE HOLDER			
< FUSE >					
△F901	1-532-503-11	FUSE (T1.6AL/250V)			

	1-673-049-11	SECONDARY BOARD			

< CONNECTOR >					
CNP801	1-691-773-11	PLUG (MICRO CONNECTOR) 11P			
< RESISTOR >					
△R810	1-249-381-11	CARBON	1	5%	1/4W F
△R811	1-249-381-11	CARBON	1	5%	1/4W F

Ref. No.	Part No.	Description	Remark		
	1-673-045-11	SP SW BOARD			

< CONNECTOR >					
CNP703	1-691-767-11	PLUG (MICRO CONNECTOR) 5P			
CNP704	1-691-765-11	PLUG (MICRO CONNECTOR) 3P			
< JACK >					
J741	1-750-733-11	JACK (LARGE TYPE) (PHONES)			
< RESISTOR >					
R741	1-247-753-11	CARBON	1.2K	5%	1/2W
R742	1-247-753-11	CARBON	1.2K	5%	1/2W
R791	1-247-753-11	CARBON	1.2K	5%	1/2W
R792	1-247-753-11	CARBON	1.2K	5%	1/2W
< SWITCH >					
S701	1-771-634-11	SWITCH, PUSH (2 KEY)			
		(SPEAKERS A/B ON/OFF)			

	1-673-048-11	STANDBY BOARD			

	1-533-903-21	HOLDER, FUSE (AEP)			
< AC OUTLET >					
△CNJ903	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP)			
< CONNECTOR >					
CNP802	1-779-495-11	PLUG, CONNECTOR PIN 4P			
CNP901	1-564-321-00	PIN, CONNECTOR 2P			
* CNP903	1-580-230-11	PIN, CONNECTOR (PC BOARD) 2P (AEP)			
< DIODE >					
D816	8-719-911-19	DIODE 1SS119			
< FUSE >					
△F902	1-532-464-51	FUSE (T2.5AL/250V) (AEP)			
< RELAY >					
△RY901	1-755-276-11	RELAY, POWER			
< TRANSFORMER >					
△T902	1-433-685-11	TRANSFORMER, POWER			

	1-673-044-11	TONE BOARD			

< CAPACITOR >					
C421	1-137-440-11	FILM	0.018uF	5%	50V
C422	1-124-463-00	ELECT	0.1uF	20%	50V
C423	1-137-368-11	FILM	0.0047uF	5%	50V
C424	1-137-372-11	FILM	0.022uF	5%	50V
C471	1-137-440-11	FILM	0.018uF	5%	50V
C472	1-124-463-00	ELECT	0.1uF	20%	50V

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

TONE

VOLUME

Ref. No.	Part No.	Description	Remark		
C473	1-137-368-11	FILM	0.0047uF	5%	50V
C474	1-137-372-11	FILM	0.022uF	5%	50V
< CONNECTOR >					
CNS404	1-770-399-11	HOUSING, CONNECTOR (PC BOARD) 6P			
< RESISTOR >					
R420	1-249-415-11	CARBON	680	5%	1/4W
R421	1-249-431-11	CARBON	15K	5%	1/4W
R422	1-249-422-11	CARBON	2.7K	5%	1/4W
R423	1-247-903-00	CARBON	1M	5%	1/4W
R424	1-247-903-00	CARBON	1M	5%	1/4W
R470	1-249-415-11	CARBON	680	5%	1/4W
R471	1-249-431-11	CARBON	15K	5%	1/4W
R472	1-249-422-11	CARBON	2.7K	5%	1/4W
R473	1-247-903-00	CARBON	1M	5%	1/4W
R474	1-247-903-00	CARBON	1M	5%	1/4W
< VARIABLE RESISTOR >					
RV421	1-223-362-11	RES, VAR, CARBON 100K/100K (BASS)			
RV422	1-223-363-11	RES, VAR, CARBON 125K/125K (TREBLE)			
RV423	1-238-965-21	RES, VAR, CARBON 100K/100K (BALANCE)			

	1-673-043-11	VOLUME BOARD			

< CAPACITOR >					
C420	1-162-207-31	CERAMIC	22PF	5%	50V
C425	1-126-795-11	ELECT	10uF	20%	25V
C426	1-126-795-11	ELECT	10uF	20%	25V
C430	1-104-942-11	ELECT	1uF	20%	50V
C431	1-104-942-11	ELECT	1uF	20%	50V
C440	1-126-163-11	ELECT	4.7uF	20%	50V
C441	1-126-163-11	ELECT	4.7uF	20%	50V
C442	1-126-163-11	ELECT	4.7uF	20%	50V
C443	1-126-163-11	ELECT	4.7uF	20%	50V
C470	1-162-207-31	CERAMIC	22PF	5%	50V
C475	1-126-795-11	ELECT	10uF	20%	25V
C476	1-126-795-11	ELECT	10uF	20%	25V
< CONNECTOR >					
CNP202	1-770-388-11	PIN, CONNECTOR (PC BOARD) 4P			
CNP404	1-770-390-11	PIN, CONNECTOR (PC BOARD) 6P			
CNS402	1-568-850-11	CONNECTOR, FFC 7P			
CNS403	1-784-733-11	CONNECTOR, FFC 11P			
< IC >					
IC404	8-759-636-74	IC M5218AP-22			
< RESISTOR >					
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
R430	1-249-437-11	CARBON	47K	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

Ref. No.	Part No.	Description	Remark		
R480	1-249-437-11	CARBON	47K	5%	1/4W
< VARIABLE RESISTOR >					
RV404	1-225-768-11	RES, VAR, CARBON 100K/100X3	(MASTER VOLUME		

MISCELLANEOUS					

61	1-765-348-11	WIRE (FLAT TYPE) (27 CORE)			
63	1-765-314-11	WIRE (FLAT TYPE) (7 CORE)			
64	1-769-941-11	WIRE (FLAT TYPE) (11 CORE)			
△ 107	1-777-071-21	CORD, POWER (AEP)			
△ 107	1-790-226-11	CORD, POWER (UK)			
△ 108	1-526-794-11	OUTLET, AC (AEP)			
110	1-693-408-41	TUNER PACK			
111	1-773-001-11	WIRE (FLAT TYPE) (15 CORE)			
△ T901	1-433-719-11	TRANSFORMER, POWER			

HARDWARE LIST					

#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
#2	7-685-871-01	SCREW +BVTT 3X6 (S)			
#3	7-685-881-09	SCREW +BVTT 4X8 (S)			

ACCESSORIES & PACKING MATERIALS					

1-418-294-11	COMMANDER, STANDARD (RM-U303)				
1-475-042-11	ADAPTOR (SCART ADAPTOR)				
1-501-374-11	ANTENNA, LOOP				
1-501-594-11	ANTENNA (FM)				
3-866-249-11	INSTRUCTION MANUAL (ENGLISH, FRENCH, DUTCH, DANISH, SWEDISH)				
3-866-249-21	INSTRUCTION MANUAL (GERMAN, SPANISH, ITALIAN, PORTUGUESE, FINNISH) (AEP)				
4-861-643-01	COVER, BATTERY (FOR RM-U303)				

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