

TA-AV631X

SERVICE MANUAL

US Model



SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm loads, both channels driven, from 40 - 20,000 Hz; rated 135 watts per channel minimum RMS power, with less than 0.9% total harmonic distortion from 250 milliwatts to rated output.

Amplifier section

Power bandwidth (IHF) 30 Hz - 30 kHz (8 ohms)
Dynamic headroom 1.7 dB ('78 IHF)
Harmonic distortion Less than 0.9% at rated output (Surround OFF)

Frequency response PHONO: RIAA equalization curve
CD, VIDEO, TUNER, TAPE:
10 Hz - 50 kHz ± 3 dB

Rear output 15 W + 15 W (at front off 8 ohms)
Center output 30 W (at front off 4 ohms)
Damping factor 27 (8 ohms, 1 kHz)

Input

Input jack	Jack type	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	Phono	3.0 mV	50 kilohms	71 dB 75 dB* (A, 3.0 mV)
CD, VIDEO, TUNER, TAPE	Phono	250 mV	50 kilohms	92 dB 83 dB* (A, 250 mV)

*'78 IHF

Output

TAPE (REC OUT)	Phono jacks	Voltage 150 mV Impedance 1 kilohm
SPEAKERS (Front, Rear)	—	Accepts speakers of 8 - 16 ohms
SPEAKERS (Center)	—	Accepts speakers of 4 - 16 ohms
HEADPHONES	Stereo phone jack	Accepts low and high impedance headphones.

Tone controls

BASS: ± 10 dB (100 Hz)
TREBLE: ± 8 dB (10 kHz)

General

Power requirements 120 V AC, 60 Hz
Power consumption 250 W
AC outlets 3 switched, 120 W/1 A max.
Dimensions Approx. 430 x 145 x 360 mm (w/h/d)
(17 x 5 ³/₄ x 14 ¹/₄ inches)
Mass Approx. 9.9 kg (21 lb 14 oz)
Accessories supplied Remote Commander RM-P312 (1)
Sony batteries SUM-3(NS) (2)

Design and specifications are subject to change without notice.

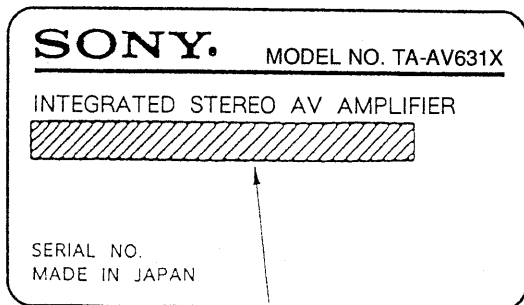
INTEGRATED STEREO AV AMPLIFIER
SONY[®]

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MODEL IDENTIFICATION

— Specification Label —



AC 120V ~ 60Hz 250W

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.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check 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 TEST

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)

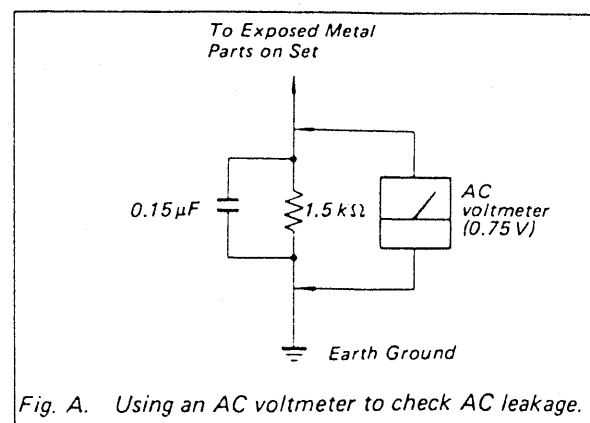


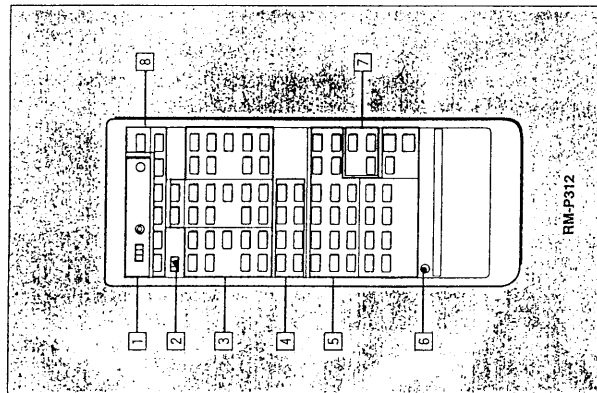
Fig. A. Using an AC voltmeter to check AC leakage.

SECTION 1 GENERAL

This section is extracted from instruction manual.

Remote Commander

The remote commander supplied with this unit can control the unit from a distance. The remote commander is divided into several sections according to the functions as shown below.



The RM-P312 can "learn" various functions of other remote commanders which use infrared rays. When the mode selector is set to SONY STD (Sony standard), buttons on the RM-P312 can be used to perform the functions below:

- 1 Program control section**
Mode selector and indicator
SONY STD: To control Sony equipment.
USER STD: To control equipment whose remote control functions are stored.
LEARN: To store functions of other remote commanders emitting infrared rays.
PROGRAM CLEAR button: Clears the stored functions.
- 2 MODE selector**
Selects the function mode on the remote commander.
1: To select the functions indicated in light gray such as DECK, DAT, CD player and surround mode of amplifier.
2: To select the functions indicated in blue such as VCR, LDP (Laser disc player) and TV.

- 3 Tape deck/DAT/VCR control section**
ANT (antenna) TV/VTR buttons: Selects the output signal from the antenna terminal on the VCR, either a TV signal or VCR programs.
VTR CH (channel) +/- buttons: Select channel on the VCR.
◀◀▶▶: Fast winding or forwarding
●: Recording
▶▶: Play
■: Stop
II: Pause
REC MODE REV/FWD buttons:
For reverse recording, press REV and ● together.
For forward recording, press FWD and ● together.
- 4 CD/LD player control section**
The combined CD/LD player can be controlled with LDP position.
D (disc) SKIP: Disc skip (for a CD player equipped with a multi-disc changer)
▶: Play
II: Pause
■: Stop
◀◀▶▶: Manual search
◀◀▶▶: Locates a desired selection.

- 5 Amplifier/TV section**
TV/VIDEO button: Selects the input signal of the TV. (for TV)
Program number (1 to 0) and ENTER buttons: Select the channel. (for TV)
SURROUND mode selectors (for the AV control amplifier)
ON/OFF: Turns on/off the surround mode.
MODE: Selects the surround mode.
T (test) TONE: Outputs test tone to each speakers in succession.
DELAY: Adjusts the delay time.
FUNCTION selectors: Select an input source of the AV control amplifier. (for the AV control amplifier)
CENTER VOL /TV VOL +/- buttons: Control the volume of center speaker or TV. (The CENTER VOL +/- buttons function for the AV control amplifier.)
REAR VOL /TV CH +/- buttons: Control the volume of rear speakers or channel of TV. (The REAR VOL +/- buttons function for the AV control amplifier.)
DBFB button: Turns on/off the DBFB (Dynamic Bass Feed Back). (for the AV control amplifier)
MASTER VOL +/- buttons: Control the amplifier's master volume. (for the AV control amplifier)
- 6 Reset button**
Reset the commander to the initial state.
- 7 Tuner control section**
SHIFT button: Selects a memory page.
PRESET +/- buttons: Select a preset station.

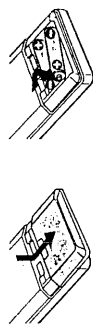
- 8 Power control section**
SYSTEM OFF button: Turns off the power of the whole system: LDP, VCR, TV, and AUDIO.
LDP/VTR1/VTR2/VTR3/TV/AUDIO POWER buttons: Control the power of each unit.

Note on the ● (recording) button under 3 Tape deck/DAT/VCR control section
If your recorder is of such type as pressing ● puts it in recording pause mode, first press ● on this commander and then II.

Note
The ◀▶ (play) buttons in 3 and 4 and the SHIFT button and PRESET +/- buttons in 7 can function without pressing one of the FUNCTION buttons in 5 in the following cases:
• When the video deck is connected to the VIDEO jacks (switch the MODE on the remote commander to VTR 1).

Inserting the batteries into the remote commander

- 1** Open the cover.
- 2** Insert two size-AA (R6) batteries with correct polarity.



Battery life

About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries.
When the batteries are exhausted, the commander can no longer operate the unit. Replace both batteries with new ones.

To avoid battery leakage

When the commander is not to be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.

To avoid malfunction of the remote commander

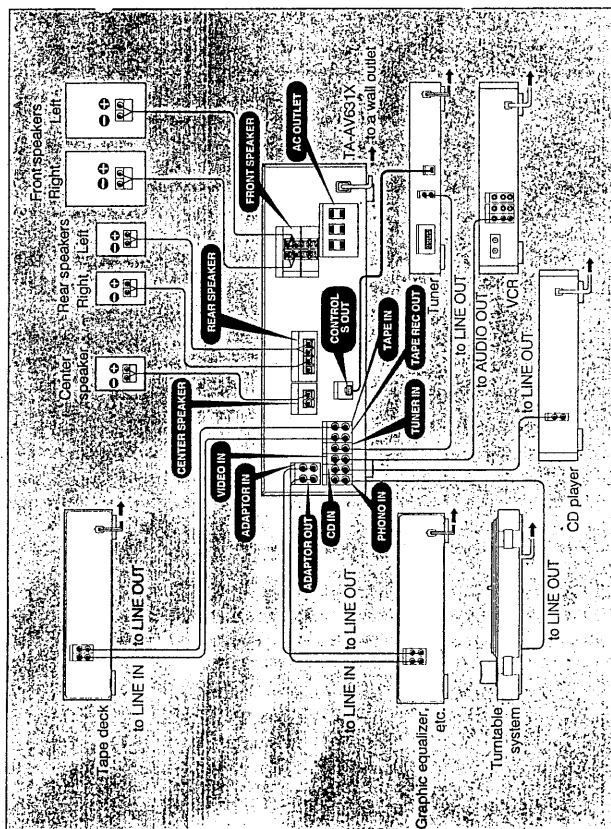
Avoid keeping the remote commander under extremely hot or humid locations.

Hooking Up the System

At first, this section describes about the connections with the other audio/video equipments and speakers. After that, it also shows about the remote control system and AC outlet.

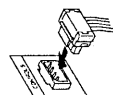
- Connect the AC power cord last. Make sure power is off.
- Jacks and plugs of the connection cord are color-coded as follows:
Red jacks and plugs: For the right channel of audio signals
White jacks and plugs: For the left channel of audio signals
- The cable connectors should be fully inserted into the jacks. Loose connections may cause hum and noise.

Connecting Audio Equipment

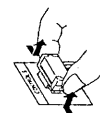


CONTROL S cord (not supplied)

Connect the CONTROL S IN jack of other Sony equipment with the CONTROL S cord for whole audio system remote control.



Push in until it clicks.



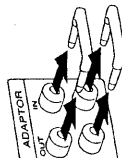
To disconnect.

AC OUTLETS (SWITCHED)

Use these to power audio component whose power consumption is less than the wattage indicated on the AC outlets. These outlets are controlled by the SYSTEM POWER switch on the front panel.

CAUTION

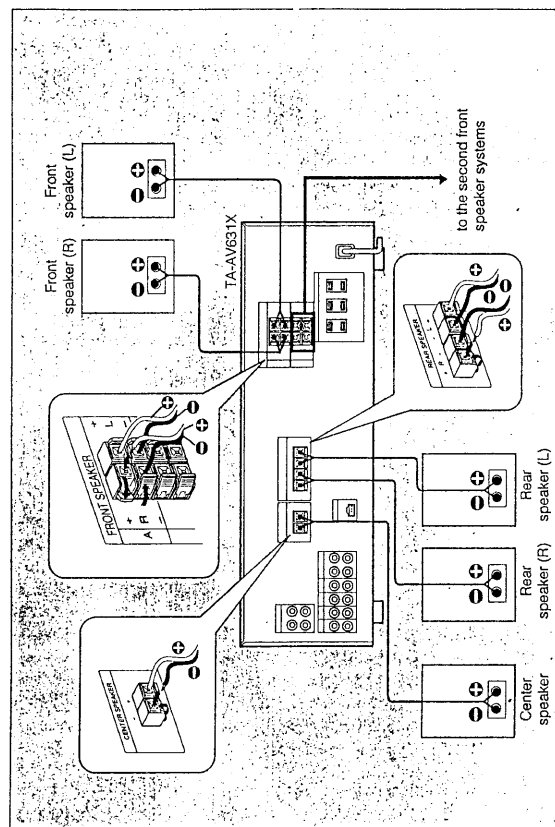
Do not connect any electrical home appliances such as an electric iron, fan, TV or other high wattage equipment to these AC outlets.



Note on the ADAPTOR jacks

Before connecting the unit, remove the shorting plugs. When not using the ADAPTOR jacks, be sure to install the shorting plugs. Otherwise, no sound is heard from the speakers.

Connecting Speakers



Front speakers

Connect the front speaker systems to the FRONT SPEAKER A or/and B terminals. They can be selected individually or simultaneously with the SPEAKERS selector.

Rear speakers

Connect the rear speaker systems to the REAR SPEAKER terminal for enjoying surround sound.

Center speaker

You can connect a center speaker to the CENTER SPEAKER terminal for enjoying surround sound. The sound such as a dialog comes from the center.

Note on speaker impedance and power capacity

This amplifier is designed to work best with speakers of nominal impedance from 8 to 16 ohms (Center speaker: from 4 to 16 ohms). Be sure to use a speaker system with adequate power handling capability.

Note

When connecting the speaker cord to the speaker terminal, make sure that the polarity (+ and -) of the speaker cord is correct. If the polarity is reversed at either speaker, the sound will be distorted and will lack bass.

SECTION 2

IC PIN FUNCTIONS

2-1. IC DESCRIPTION

• IC101 SYSTEM CONTROL IC (μPD75206GF-722-3BE)

Pin	Port	I/O	ACT	RESET	Outside	
1	RESET	I				
2	t0	O	H	High	L	DIGIT2
3	t1	O	H	High	L	DIGIT1
4	t2	O	H	High	L	DIGIT3
5	t3	O	H	High	L	DIGIT4
6	t4	O	H	High	L	DIGIT5
7	t5	O	H	High	L	DIGIT6
8	t6	O	H	High	L	DIGIT7
9	t7	O	H	High	L	DIGIT8
10	t8	O	H	High	L	DIGIT9
11	t9	O	H	High	L	NC
12	t10	O	L	High	L	REAR MUTE
13	t11	O	L	High	L	FRONT MUTE
14	t12	O	L	High	L	V-2 (NO USE)
15	t13	O	L	High	L	V-1 REC (NO USE)
16	t14	O	L	High	L	SURROUND A
17	t15	O	L	High	L	SURROUND B
18	Vload		—	High		— 30V
19	vpre		—	High		— 4V
20	s9	O	H	High	L	DBFB
21	s8	O	H	High	L	SEG1
22	s7	O	H	High	L	SEG2
23	s6	O	H	High	L	SEG3
24	s5	O	H	High	L	SEG4
25	s4	O	H	High	L	SEG5/KEY OUT 5
26	VDD			High		+5V
27	s3	O	H	High	L	SEG6/KEY OUT 4
28	s2	O	H	High	L	SEG7/KEY OUT 3
29	s1	O	H	High	L	SEG8/KEY OUT 2
30	s0	O	H	High	L	SEG9/KEY OUT 1
31	p00	I	H	In	L	STOP
32	p01	I	H	In	L	KEY IN 2

High : High-impedance status

In : Input status

Pin	Port	I/O	ACT	RESET	Outside	
33	p02	I	H	In	L	KEY IN 3
34	p03	I	H	In	L	KEY IN 4
35	p10	I	H	In	L	KEY IN 5
36	p11	I	H	In		RM-IN 1
37	p12	I	L	In		KEY IN 1
38	p13	I	L	In		POWER SW
39	p20	O	H	In	L	ST LC7535/LC7822
40	p21	O	L	In	L	ST LV1001M
41	p22	O	H	In	L	VOL +
42	p23	O	H	In	L	VOL -
43	p30	O	H	In	L	VIDEO A
44	p31	O	H	In	L	VIDEO B
45	p32	O	H	In	L	VIDEO C
46	p33	O	H	In	L	AUTO LED
47	p60	O	H	In	L	CD CONTROL (NOT USE)
48	p61	O	H	In	L	CLOCK
49	p62	O	H	In		DATA
50	p63	O	H	In		FRONT SP RELAY
51	p40	O	H	In	L	REAR SP RELAY
52	p41	O	H	In	L	CENTER SP RELAY
53	p42	O	L	In	L	CENTER MUTE
54	p43	O	H	In	L	POWER RELAY
55	ppo	O	H	In	L	P LOGIC 1
56	x1					
57	x2					
58	Vss					
59	xt1					
60	zt2					(NOT USE)
61	p50	O	H	In		P LOGIC 2
62	p51	O	H	In		P LOGIC 3
63	p52	O	H	In		P LOGIC 4
64	p53	O	H	In		P LOGIC 5

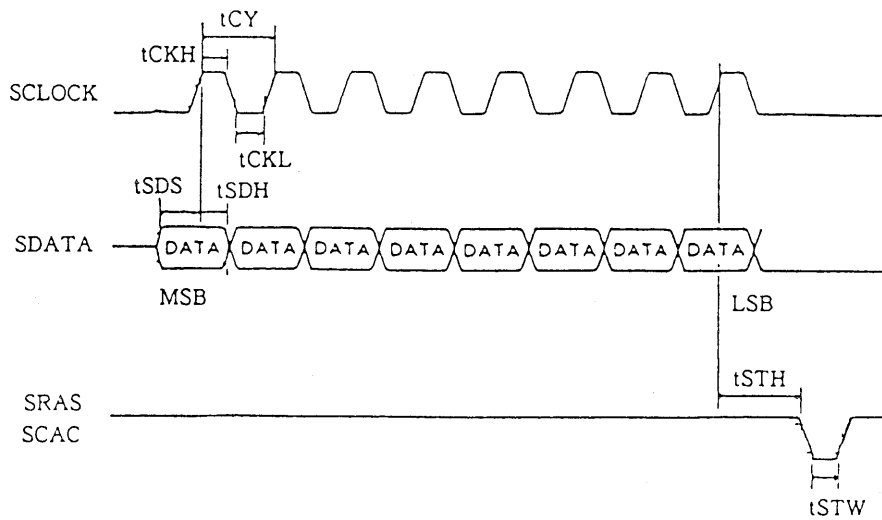
High : High-impedance status

In : Input status

• IC304 DOLBY SURROUND, PASSIVE DECODER IC (LV1001M)

Pin No.	Pin Name	I/O	Explanations
1			De-couple capacitor for threshold voltage
2, 64		O	Capacitor for smoothing of rectifier output
3		O	Capacitor for sliding band filter and Delayed output
4, 62			Capacitor for sliding band filter
5, 61			Capacitor for pre-emphasis
6, 60		I	Input filter for rectifier
7, 57		I	Input filter for rectifier
8			Reference voltage
9			Reference voltage
10			Mute control (NOT USE)
11	Vcc		12V
12	V _{DD} OUT	O	Output for V _{DD}
13	CL	O	Clock input for serial input, data input for parallel input mode
14	DA	I	Data input for serial input, data input for parallel input mode
15	ST	I	Column address selection for serial input, data input for parallel input mode
16	ST	I	Row address selection for serial input, data input for parallel input mode
17	V _{DD}		5V
18 to 24 26 to 32			Connection to memory device
25	Vss		GND
33			X'tal resonator for oscillator (8MHz)
34			X'tal resonator for oscillator (8MHz)
35			Long or Short mode selection (NOT USE)
36			Serial or Parallal mode selection
37			For test mode (NOT USE)
38			Smoothing for NR rectifier
39			Smoothing for NR rectifier
40			Capacitor for weighting on side chain path
41		I	Input for variable resistor
42		O	NR output
43		O	7kHz low pass filter output
44		I	Input for NR
45			Capacitor for de-couple on NR
46		O	Delay output or NR output
47		I	Input for mute circuit (NOT USE)
48		O	Output for mute circuit (NOT USE)
49	MUTE OUT	O	Output for 7kHz low pass filter
50		I	Input for 7kHz low pass filter
51			GND
52	R IN	I	Input for right channel
53	L IN	I	Input for left channel
54		O	Capacitor for de-couple on Fixed matrix output
55		I	Noise shaping and delay input
56		O	Noise shaping output
57	L + 6/L - R		Delay input signal mode select switch (L + R/L - R)
58			Filter for supply voltage on comparator
63		O	Capacitor for sliding band filter and local decoder output

Input Address Port Timing
SHORT MODE



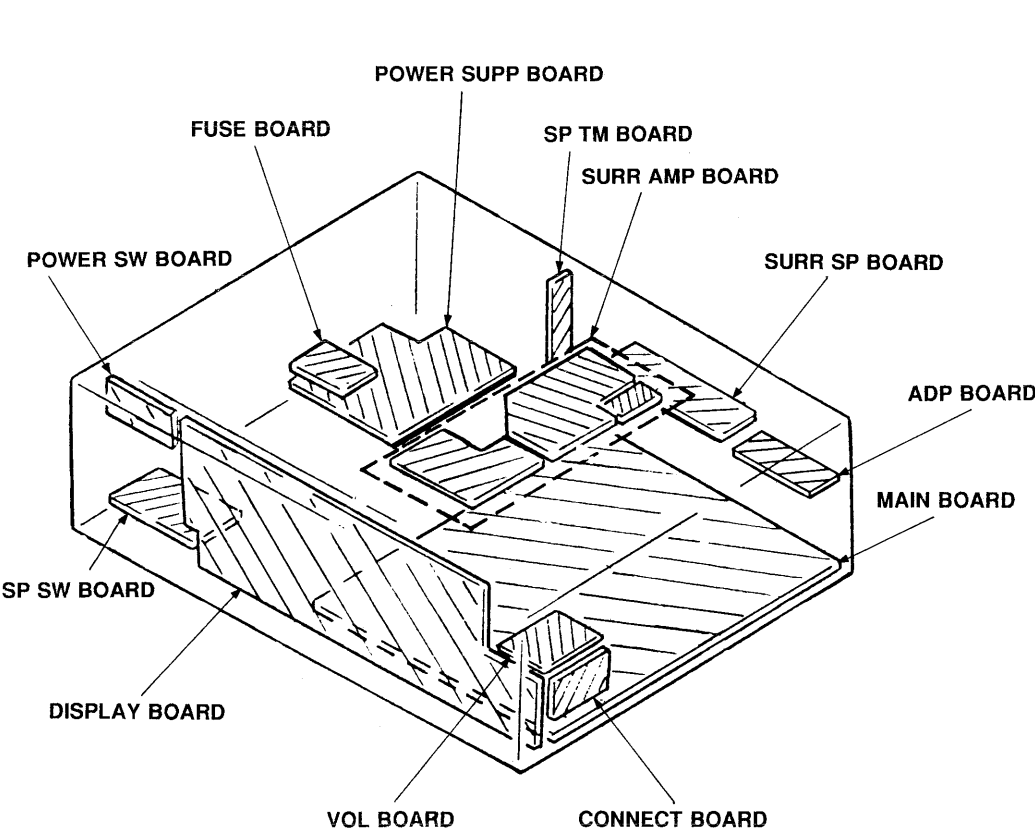
In case of short mode, delay time setting is set in above timing. The data loaded to SDATA is written on the leading edge timing. In order to select that the data latch for row address strobe or column address strobe is loaded, SRAS or SCAS port is controlled.

When changing delay time setting, meaningless data on a memory are read. this causes the pop noise. when SRAS or SCAS is controlled, mute circuit (pin 55 is input, pin 56 is output) is activated. Mute time is the same as the delay time which is set at that time. (Serial data input mode only, On parallel data input mode, mute circuit is activated by using the mute control port pin 18.)

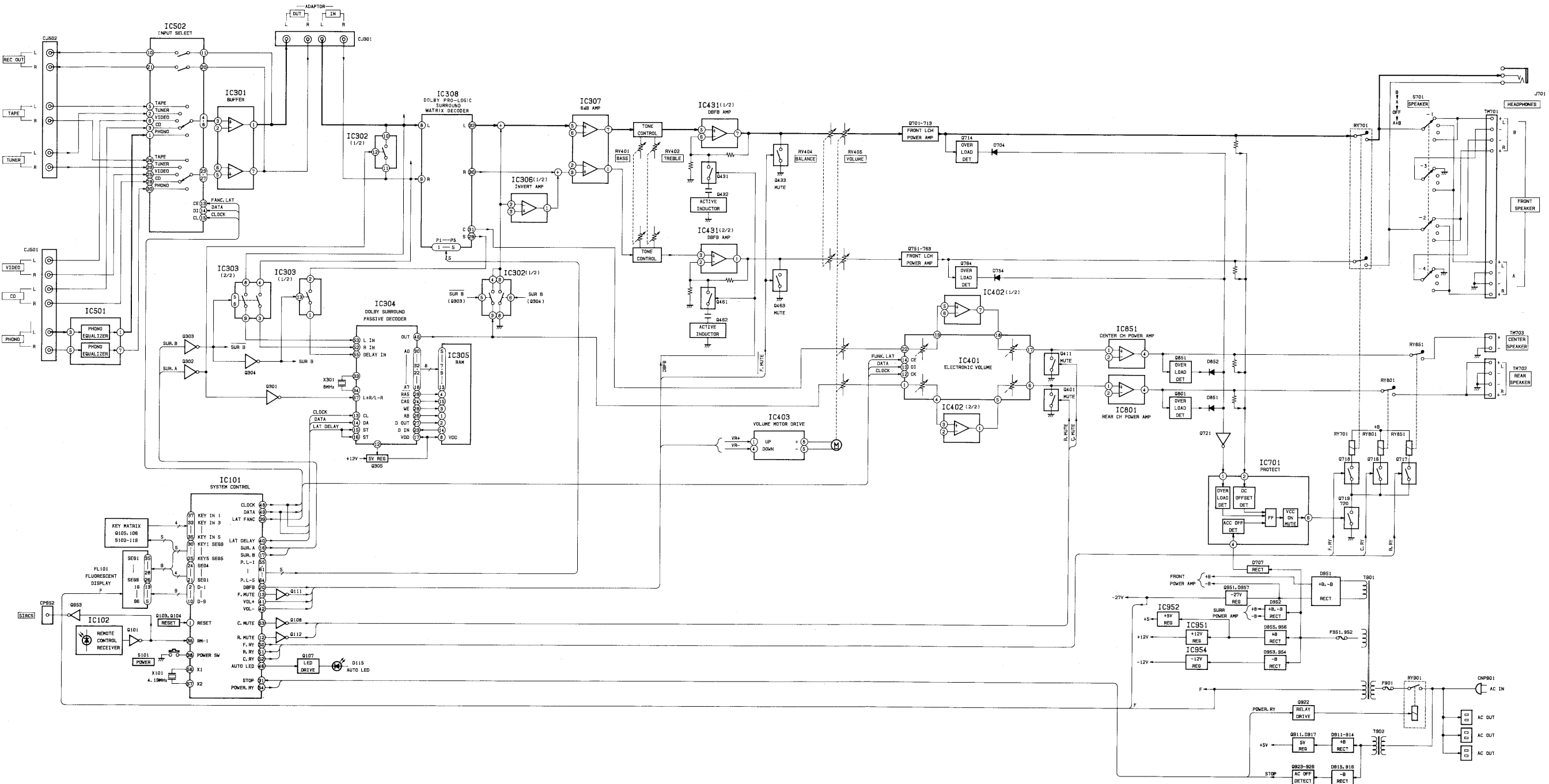
On long mode, input data number is 9, the way of setting delay time is same.

SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION



3-2. BLOCK DIAGRAM



- **Semiconductor Location**

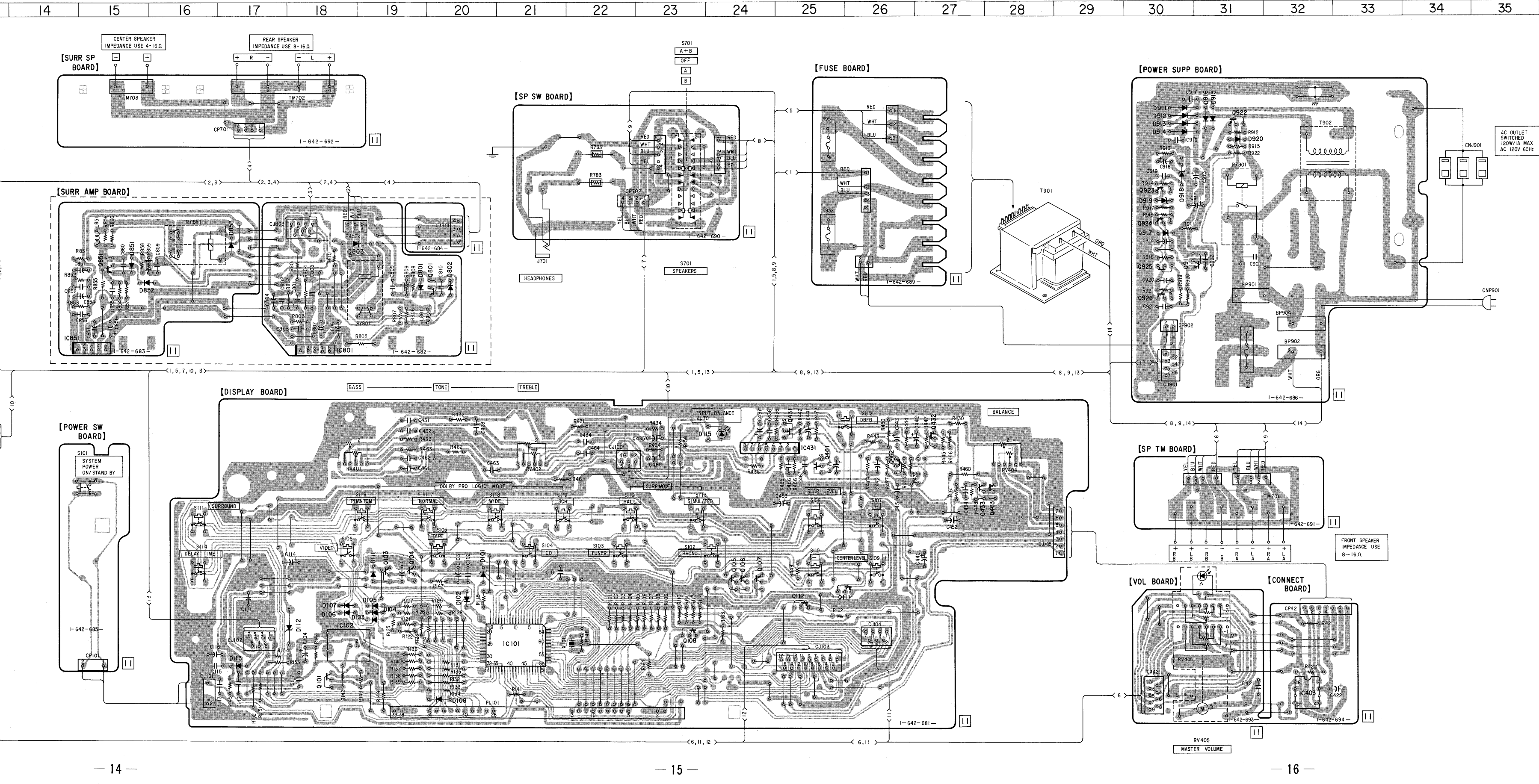
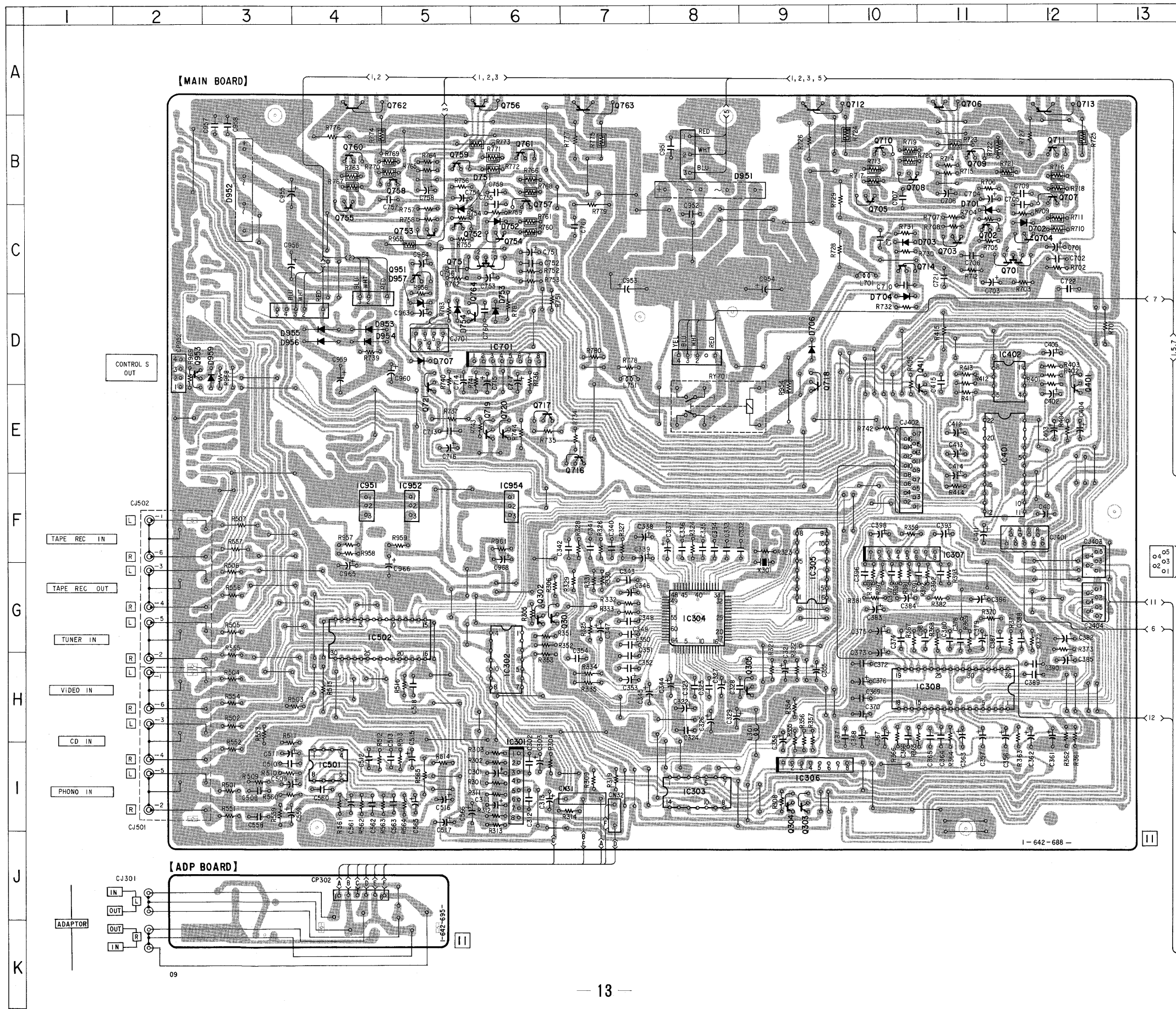
Ref. No.	Location	Ref. No.	Location	Ref. No.	Location
D101	H-20	IC306	I-9	Q718	D-9
D102	I-20	IC307	F-10	Q719	E-6
D103	I-19	IC308	H-10	Q720	E-6
D104	I-19	IC401	E-11	Q721	E-5
D105	I-19	IC402	D-11	Q751	C-5
D106	I-18	IC403	J-32	Q752	C-5
D107	I-18	IC431	G-24	Q753	C-5
D108	J-20	IC501	I-4	Q754	C-6
D111	H-19	IC502	G-4	Q755	B-4
D112	I-17	IC701	D-6	Q756	A-6
D113	J-17	IC801	E-18	Q757	B-6
D115	F-23	IC851	E-14	Q758	B-5
D701	C-11	IC951	F-4	Q759	B-5
D702	C-12	IC952	F-5	Q760	B-4
D703	C-10	IC954	F-6	Q761	B-6
D704	C-10			Q762	A-4
D706	D-9	Q101	J-18	Q763	A-7
D707	D-5	Q103	H-19	Q764	D-5
D751	C-5	Q104	H-19	Q801	D-20
D752	C-6	Q105	I-24	Q851	D-15
D753	D-6	Q106	I-24	Q911	D-30
D754	D-5	Q107	I-24	Q922	B-31
D801	D-19	Q108	I-23	Q923	C-30
D802	D-20	Q111	I-25	Q924	C-30
D803	D-18	Q112	I-25	Q925	D-30
D851	D-15	Q301	G-6	Q926	C-30
D852	D-15	Q302	G-6	Q951	E-5
D853	D-17	Q303	I-9	Q953	D-2
D911	B-30	Q304	I-9		
D912	B-30	Q305	H-9		
D913	B-30	Q401	D-12		
D914	B-30	Q411	D-10		
D915	B-31	Q431	F-25		
D916	B-31	Q432	F-27		
D917	D-30	Q433	G-27		
D918	C-30	Q461	G-25		
D919	C-30	Q462	G-26		
D920	B-31	Q463	G-28		
D951	B-8	Q701	C-11		
D952	B-3	Q702	C-11		
D953	D-4	Q703	C-11		
D954	D-4	Q704	C-12		
D955	D-4	Q705	B-10		
D956	D-4	Q706	A-11		
D957	D-5	Q707	B-12		
D959	D-3	Q708	B-10		
		Q709	B-11		
IC101	J-21	Q710	B-10		
IC102	I-18	Q711	B-12		
IC301	I-6	Q712	A-9		
IC302	H-6	Q713	A-12		
IC303	I-8	Q714	C-10		
IC304	G-8	Q716	E-7		
IC305	F-9	Q717	E-6		

Note:

-  : Parts extracted from the component side.
-  : Jumper wire connected to the ground pattern on the component side.
-  : Pattern on the side which is seen.
-  : Internal component.

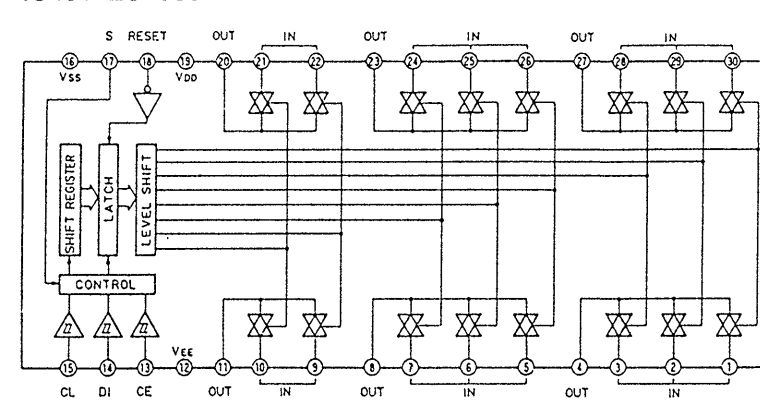
3-3. PRINTED WIRING BOARDS

• See page 9 for Circuit Boards Location and see page 25 for Semiconductor Lead Layouts

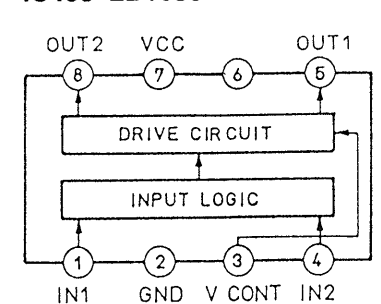


• IC BLOCK DIAGRAMS

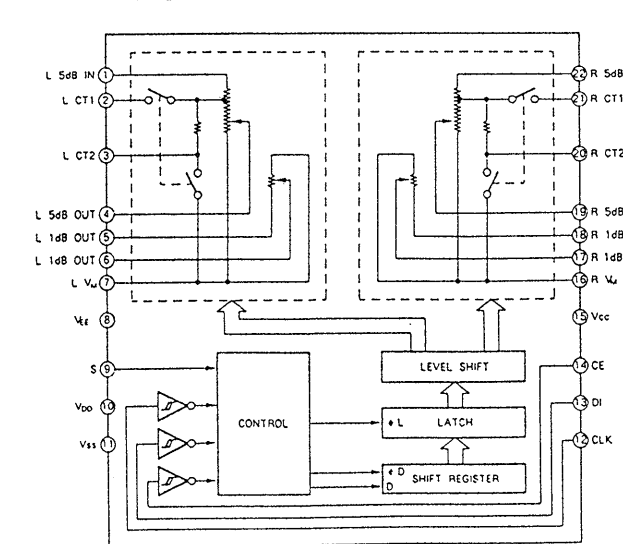
IC401 LC7535



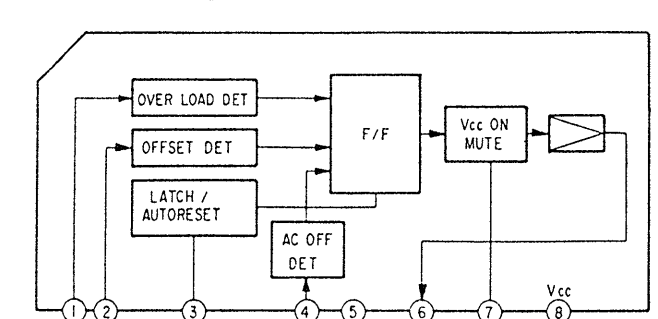
IC403 LB1639



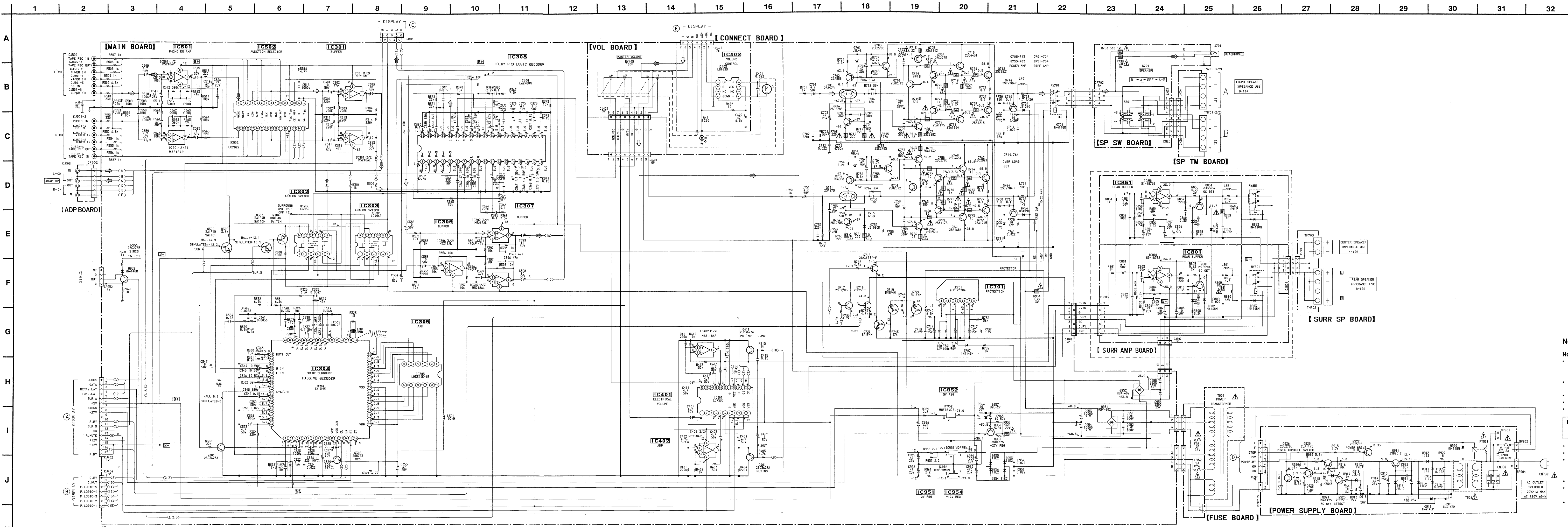
IC502 LC7822



IC701 uPC1237HA



3-4. SCHEMATIC DIAGRAM
• MAIN SECTION



Note on Schematic Diagram:

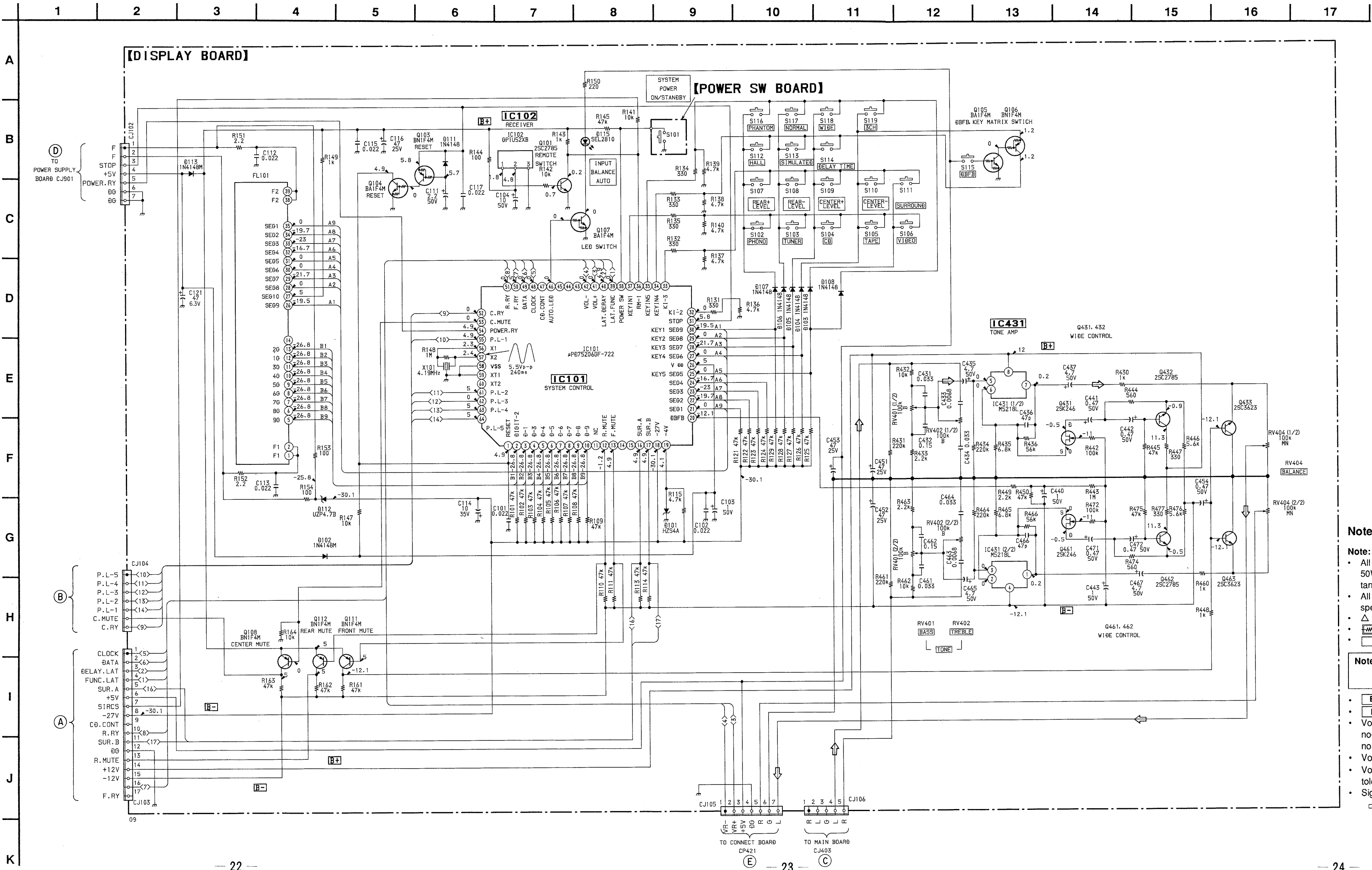
Note:

- All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F} \times 10^{-6}$
- 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- Δ : internal component.
- $\square$: nonflammable resistor.
- $\square$: Panel designation.

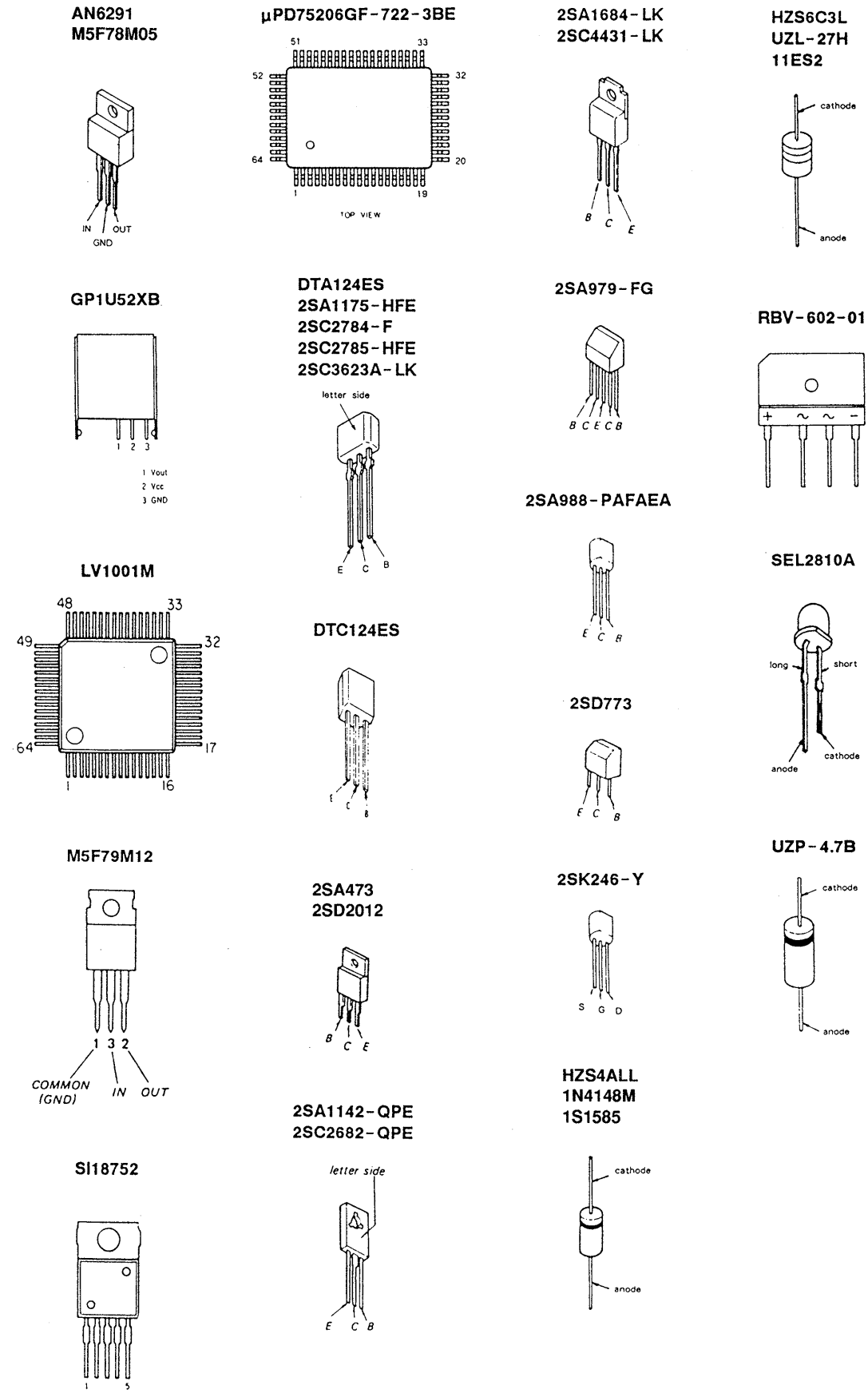
Note: The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

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

3-5. SCHEMATIC DIAGRAM
• DISPLAY SECTION



3-6. SEMICONDUCTOR LEAD LAYOUTS



Note on Schematic Diagram:

Note:

- All capacitors are in μF unless otherwise noted. pF , μF , 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $1/4\text{W}$ or less unless otherwise specified.
- 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.

- **B+**: B+ Line
- **B-**: B- Line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark: PHONO
- Voltages are taken with a VOM (input impedance 10Ω).
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
- $\Rightarrow$: PHONO

SECTION 4 EXPLODED VIEWS

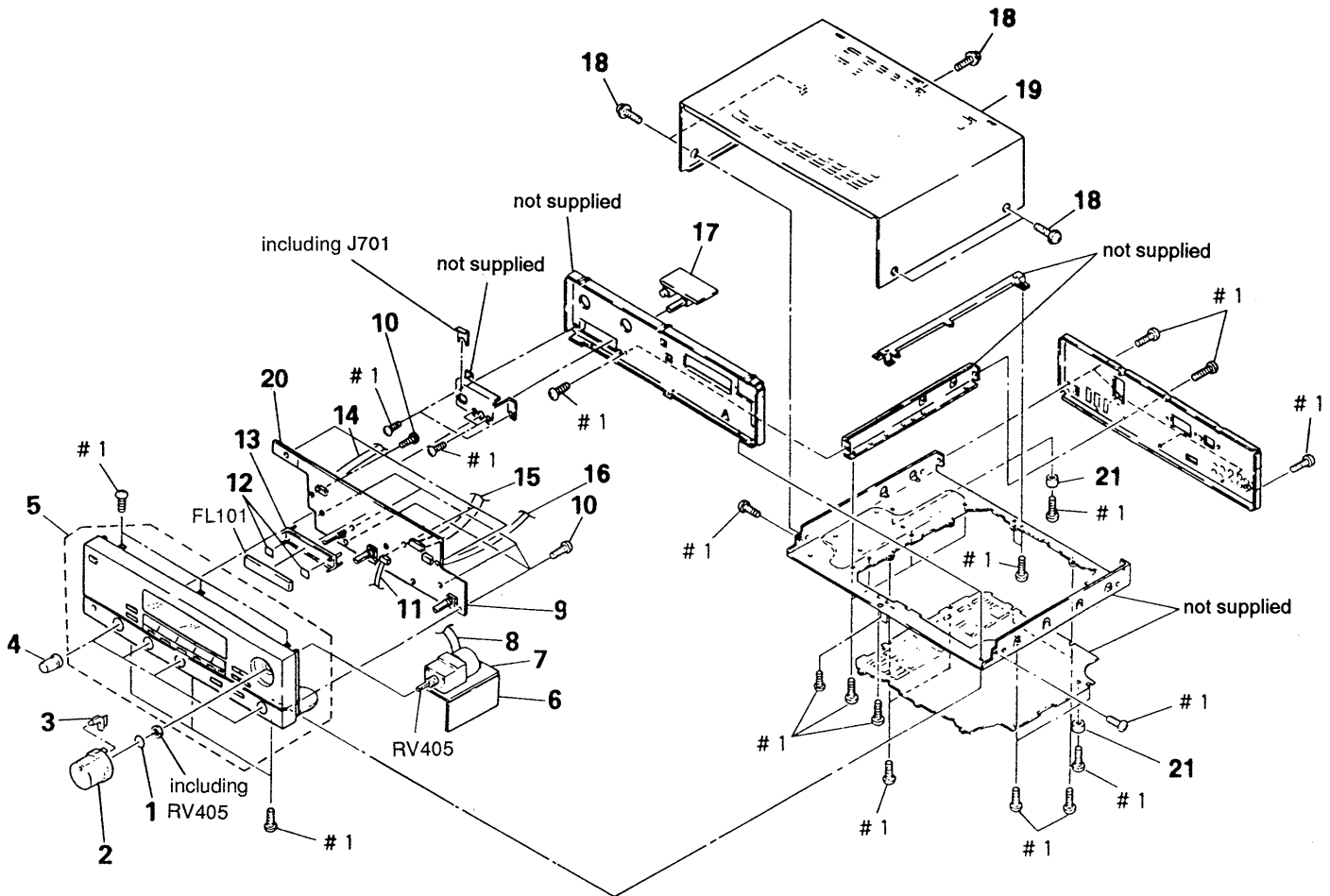
NOTE:

- -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.

- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list is 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.

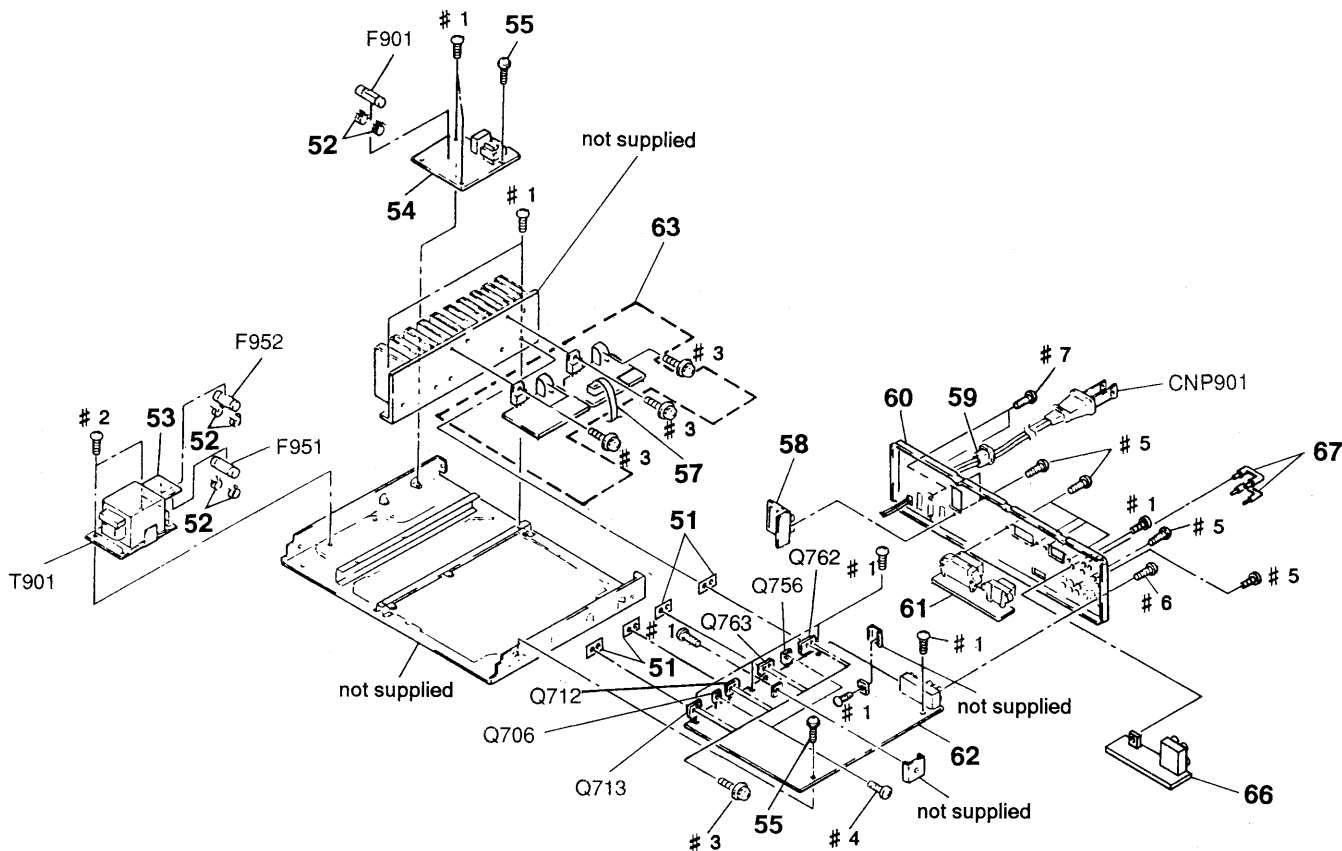
4-1. FRONT PANEL SECTION



Ref.No.	Part No.	Description
1	3-350-426-01	SPRING, RING
2	4-949-659-01	KNOB (VOL-NEW)
3	4-943-092-01	PLATE (VOL), LIGHT GUIDE
4	4-949-640-01	KNOB (DIA. 21)
5	X-4943-765-1	PANEL ASSY, FRONT
* 6	1-642-694-11	CONNECT BOARD
* 7	1-642-693-11	VOL BOARD
8	1-690-588-31	WIRE, FLAT TYPE (9 CORE)
* 9	A-4347-039-A	DISPLAY BOARD, COMPLETE
10	4-951-620-01	SCREW (2.6X8), +BVP
11	1-575-666-11	WIRE, FLAT TYPE (5 CORE)

Ref.No.	Part No.	Description	Remark
* 12	4-921-941-01	CUSHION (FL)	
* 13	4-949-779-11	HOLDER (FL TUBE)	
14	1-690-114-11	WIRE, FLAT TYPE (7 CORE)	
15	1-590-487-11	WIRE, FLAT TYPE (17 CORE)	
* 16	1-590-769-11	WIRE, FLAT TYPE (7 CORE)	
* 17	1-642-690-11	SP. SW BOARD	
18	3-704-366-01	SCREW (CASE) (M3X8)	
19	4-931-031-11	CASE	
* 20	1-642-685-11	POWER. SW BOARD	
21	X-4941-229-1	FOOT ASSY (F2112S-M)	
FL101	1-519-727-11	INDICATOR TUBE, FLUORESCENT	

4-2. CHASSIS SECTION



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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	4-885-901-31	SHEET, RADIATION		67	1-535-530-11	PLUG, JUMPER	
52	1-533-217-31	HOLDER, FUSE		Δ CNP901	1-551-478-00	CORD, POWER	
* 53	1-642-689-11	FUSE BOARD		Δ F901	1-532-749-11	FUSE, GLASS CYLINDRICAL (DIA. 5) (8A)	
* 54	A-4347-041-A	POWER SUPP BOARD, COMPLETE		Δ F951	1-576-109-11	FUSE (5A) 125V	
55	2-383-566-00	SCREW		Δ F952	1-576-109-11	FUSE (5A) 125V	
* 57	1-590-769-11	WIRE, FLAT TYPE (7 CORE)		Q706	8-729-209-15	TRANSISTOR 2SD2012	
* 58	1-642-691-11	SP. TM BOARD		Q712	8-729-320-96	TRANSISTOR 2SC2921-OPY	
* 59	3-703-244-00	BUSHING (2104), CORD		Q713	8-729-320-73	TRANSISTOR 2SA1215-OY	
* 60	4-956-624-41	PANEL, BACK		Q756	8-729-209-15	TRANSISTOR 2SD2012	
* 61	1-642-692-11	SURR. SP BOARD		Q762	8-729-320-96	TRANSISTOR 2SC2921-OPY	
* 62	A-4365-074-A	MAIN BOARD, COMPLETE		Q763	8-729-320-73	TRANSISTOR 2SA1215-OY	
* 63	A-4347-040-A	SURR AMP BOARD, COMPLETE		Δ T901	1-450-808-11	TRANSFORMER, POWER	
* 66	1-642-695-11	ADP BOARD					

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

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

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

• 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.

• RESISTORS

All resistors are in ohms

METAL: Metal-film resistor

METAL OXIDE: Metal Oxide-film resistor

F : nonflammable

• 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.

• 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

• Hardware (# mark) list is given in the last of this parts list.

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*	1-642-695-11	ADP BOARD ***** < JACK >		C113	1-164-097-11	CERAMIC 0.022uF	50V
CJ301	1-580-905-11	JACK, PIN 4P (ADAPTOR) < CONNECTOR >		C114	1-126-096-11	ELECT 10uF	20% 35V
* CP302	1-564-779-11	PLUG, CONNECTOR (2.5mm) 6P		C115	1-164-097-11	CERAMIC 0.022uF	50V
*****				C116	1-124-477-11	ELECT 47uF	20% 25V
*	1-642-694-11	CONNECT BOARD ***** < CAPACITOR >		C117	1-164-097-11	CERAMIC 0.022uF	50V
C422	1-126-154-11	ELECT 47uF	20% 6.3V	C121	1-126-154-11	ELECT 47uF	20% 6.3V
		< CONNECTOR >		C431	1-130-489-00	MYLAR 0.033uF	5% 50V
CP421	1-569-132-11	PIN, CONNECTOR 7P < IC >		C432	1-136-167-00	FILM 0.15uF	5% 50V
IC403	8-759-820-62	IC LB1639 < RESISTOR >		C433	1-130-481-00	MYLAR 0.0068uF	5% 50V
R421	1-249-409-11	CARBON 220 5% 1/4W F		C434	1-130-489-00	MYLAR 0.033uF	5% 50V
R422	1-249-393-11	CARBON 10 5% 1/4W F		C435	1-124-927-11	ELECT 4.7uF	20% 100V
*****				C436	1-162-215-31	CERAMIC 47PF	5% 50V
*	A-4347-039-A	DISPLAY BOARD, COMPLETE *****		C437	1-124-927-11	ELECT 4.7uF	20% 100V
*	4-921-941-01	CUSHION (FL)		C440	1-124-903-11	ELECT 1uF	20% 50V
*	4-949-779-11	HOLDER (FL TUBE) < CAPACITOR >		C441	1-124-902-00	ELECT 0.47uF	20% 50V
C101	1-164-097-11	CERAMIC 0.022uF	50V	C442	1-124-902-00	ELECT 0.47uF	20% 50V
C102	1-164-097-11	CERAMIC 0.022uF	50V	C443	1-124-903-11	ELECT 1uF	20% 50V
C103	1-124-903-11	ELECT 1uF	20% 50V	C451	1-124-477-11	ELECT 47uF	20% 25V
C104	1-124-907-11	ELECT 10uF	20% 50V	C452	1-124-477-11	ELECT 47uF	20% 25V
C111	1-124-925-11	ELECT 2.2uF	20% 100V	C453	1-124-477-11	ELECT 47uF	20% 25V
C112	1-164-097-11	CERAMIC 0.022uF	50V	C454	1-124-902-00	ELECT 0.47uF	20% 50V
				C461	1-130-489-00	MYLAR 0.033uF	5% 50V
				C462	1-136-167-00	FILM 0.15uF	5% 50V
				C463	1-130-481-00	MYLAR 0.0068uF	5% 50V
				C464	1-130-489-00	MYLAR 0.033uF	5% 50V
				C465	1-124-927-11	ELECT 4.7uF	20% 100V
				C466	1-162-215-31	CERAMIC 47PF	5% 50V
				C467	1-124-927-11	ELECT 4.7uF	20% 100V
				C471	1-124-902-00	ELECT 0.47uF	20% 50V
				C472	1-124-902-00	ELECT 0.47uF	20% 50V
						< CONNECTOR >	
				* CJ101	1-565-480-11	CONNECTOR, BOARD TO BOARD 4P	
				CJ102	1-691-644-11	SOCKET, CONNECTOR 7P	
				CJ103	1-691-649-11	SOCKET, CONNECTOR 17P	
				CJ104	1-691-644-11	SOCKET, CONNECTOR 7P	
				* CJ105	1-561-651-00	SOCKET, CONNECTOR 7P	
				* CJ106	1-568-824-11	SOCKET, CONNECTOR 5P	
						< DIODE >	
				D101	8-719-985-53	DIODE HZS4ALL	

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
D102	8-719-987-63	DIODE 1N4148M		R114	1-249-437-11	CARBON 47K 5% 1/4W	
D103	8-719-987-63	DIODE 1N4148M		R115	1-249-425-11	CARBON 4.7K 5% 1/4W	F
D104	8-719-987-63	DIODE 1N4148M		R121	1-249-437-11	CARBON 47K 5% 1/4W	
D105	8-719-987-63	DIODE 1N4148M					
D106	8-719-987-63	DIODE 1N4148M		R122	1-249-437-11	CARBON 47K 5% 1/4W	
D107	8-719-987-63	DIODE 1N4148M		R123	1-249-437-11	CARBON 47K 5% 1/4W	
D108	8-719-987-63	DIODE 1N4148M		R124	1-249-437-11	CARBON 47K 5% 1/4W	
D111	8-719-987-63	DIODE 1N4148M		R125	1-249-437-11	CARBON 47K 5% 1/4W	
D112	8-719-014-48	DIODE UZP-4.7B		R126	1-249-437-11	CARBON 47K 5% 1/4W	
D113	8-719-987-63	DIODE 1N4148M		R127	1-249-437-11	CARBON 47K 5% 1/4W	
D115	8-719-301-49	LED SEL2810A		R128	1-249-437-11	CARBON 47K 5% 1/4W	
< FLUORESCENT INDICATOR >				R129	1-249-437-11	CARBON 47K 5% 1/4W	
FL101	1-519-727-11	INDICATOR TUBE, FLUORESCENT		R131	1-249-411-11	CARBON 330 5% 1/4W	
< IC >				R132	1-249-411-11	CARBON 330 5% 1/4W	
IC101	8-759-062-41	IC uPD75206GF-722-3BE		R133	1-249-411-11	CARBON 330 5% 1/4W	
IC102	8-749-920-83	IC GP1U52XB		R134	1-249-411-11	CARBON 330 5% 1/4W	
IC431	8-759-634-50	IC M5218AL		R135	1-249-411-11	CARBON 330 5% 1/4W	
< TRANSISTOR >				R136	1-249-425-11	CARBON 4.7K 5% 1/4W	F
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE		R137	1-249-425-11	CARBON 4.7K 5% 1/4W	F
Q103	8-729-900-63	TRANSISTOR DTA124ES		R138	1-249-425-11	CARBON 4.7K 5% 1/4W	F
Q104	8-729-900-36	TRANSISTOR DTC124ES		R139	1-249-425-11	CARBON 4.7K 5% 1/4W	F
Q105	8-729-900-36	TRANSISTOR DTC124ES		R140	1-249-425-11	CARBON 4.7K 5% 1/4W	F
Q106	8-729-900-63	TRANSISTOR DTA124ES		R141	1-249-429-11	CARBON 10K 5% 1/4W	
Q107	8-729-900-36	TRANSISTOR DTC124ES		R142	1-249-429-11	CARBON 10K 5% 1/4W	
Q108	8-729-900-63	TRANSISTOR DTA124ES					
Q111	8-729-900-63	TRANSISTOR DTA124ES		R143	1-249-417-11	CARBON 1K 5% 1/4W	F
Q112	8-729-900-63	TRANSISTOR DTA124ES		R144	1-249-405-11	CARBON 100 5% 1/4W	F
Q431	8-729-224-61	TRANSISTOR 2SK246-Y		R145	1-249-437-11	CARBON 47K 5% 1/4W	
Q432	8-729-119-78	TRANSISTOR 2SC2785-HFE		R147	1-249-429-11	CARBON 10K 5% 1/4W	
Q433	8-729-141-30	TRANSISTOR 2SC3623A-LK		R148	1-247-903-00	CARBON 1M 5% 1/4W	
Q461	8-729-224-61	TRANSISTOR 2SK246-Y					
Q462	8-729-119-78	TRANSISTOR 2SC2785-HFE		R149	1-249-417-11	CARBON 1K 5% 1/4W	F
Q463	8-729-141-30	TRANSISTOR 2SC3623A-LK		R150	1-249-409-11	CARBON 220 5% 1/4W	F
< RESISTOR >				R151	1-249-385-11	CARBON 2.2 5% 1/6W	F
R101	1-249-437-11	CARBON 47K 5% 1/4W		R152	1-249-385-11	CARBON 2.2 5% 1/6W	F
R102	1-249-437-11	CARBON 47K 5% 1/4W		R153	1-249-405-11	CARBON 100 5% 1/4W	F
R103	1-249-437-11	CARBON 47K 5% 1/4W					
R104	1-249-437-11	CARBON 47K 5% 1/4W		R154	1-249-405-11	CARBON 100 5% 1/4W	F
R105	1-249-437-11	CARBON 47K 5% 1/4W		R161	1-249-437-11	CARBON 47K 5% 1/4W	
R106	1-249-437-11	CARBON 47K 5% 1/4W		R162	1-249-437-11	CARBON 47K 5% 1/4W	
R107	1-249-437-11	CARBON 47K 5% 1/4W		R163	1-249-437-11	CARBON 47K 5% 1/4W	
R108	1-249-437-11	CARBON 47K 5% 1/4W		R164	1-249-429-11	CARBON 10K 5% 1/4W	
R109	1-249-437-11	CARBON 47K 5% 1/4W					
R110	1-249-437-11	CARBON 47K 5% 1/4W		R430	1-249-417-11	CARBON 1K 5% 1/4W	F
R111	1-249-437-11	CARBON 47K 5% 1/4W		R431	1-247-887-00	CARBON 220K 5% 1/4W	
R113	1-249-437-11	CARBON 47K 5% 1/4W		R432	1-249-429-11	CARBON 10K 5% 1/4W	
				R433	1-249-421-11	CARBON 2.2K 5% 1/4W	F
				R434	1-247-887-00	CARBON 220K 5% 1/4W	
				R435	1-249-427-11	CARBON 6.8K 5% 1/4W	F
				R436	1-249-438-11	CARBON 56K 5% 1/4W	
				R442	1-249-441-11	CARBON 100K 5% 1/4W	
				R443	1-247-903-00	CARBON 1M 5% 1/4W	
				R444	1-249-414-11	CARBON 560 5% 1/4W	F
				R445	1-249-437-11	CARBON 47K 5% 1/4W	
				R446	1-249-426-11	CARBON 5.6K 5% 1/4W	

DISPLAY FUSE MAIN

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R447	1-249-411-11	CARBON	330 5% 1/4W	< FUSE >			
R448	1-249-417-11	CARBON	1K 5% 1/4W F	△F951	1-576-109-11	FUSE (5A) 125V	
R449	1-249-421-11	CARBON	2. 2K 5% 1/4W F	△F952	1-576-109-11	FUSE (5A) 125V	
R450	1-249-437-11	CARBON	47K 5% 1/4W	*****			
R460	1-249-417-11	CARBON	1K 5% 1/4W F	*	A-4365-074-A	MAIN BOARD, COMPLETE	
R461	1-247-887-00	CARBON	220K 5% 1/4W	*****			
R462	1-249-429-11	CARBON	10K 5% 1/4W	< CAPACITOR >			
R463	1-249-421-11	CARBON	2. 2K 5% 1/4W F	C301	1-124-907-11	ELECT 10uF 20% 50V	
R464	1-247-887-00	CARBON	220K 5% 1/4W	C302	1-162-215-31	CERAMIC 47PF 5% 50V	
R465	1-249-427-11	CARBON	6. 8K 5% 1/4W F	C303	1-124-907-11	ELECT 10uF 20% 50V	
R466	1-249-438-11	CARBON	56K 5% 1/4W	C311	1-124-907-11	ELECT 10uF 20% 50V	
R472	1-249-441-11	CARBON	100K 5% 1/4W	C312	1-162-215-31	CERAMIC 47PF 5% 50V	
R474	1-249-414-11	CARBON	560 5% 1/4W F	C313	1-124-907-11	ELECT 10uF 20% 50V	
R475	1-249-437-11	CARBON	47K 5% 1/4W	C321	1-126-925-11	ELECT 470uF 20% 10V	
R476	1-249-426-11	CARBON	5. 6K 5% 1/4W	C322	1-124-927-11	ELECT 4. 7uF 20% 100V	
R477	1-249-411-11	CARBON	330 5% 1/4W	C323	1-162-294-31	CERAMIC 0. 001uF 10% 50V	
< VARIABLE RESISTOR >				C324	1-130-487-00	MYLAR 0. 022uF 5% 50V	
RV401	1-241-817-11	RES, VAR, CARBON 100K/100K (BASS)		C325	1-162-284-31	CERAMIC 150PF 10% 50V	
RV402	1-241-817-11	RES, VAR, CARBON 100K/100K (TREBLE)		C326	1-126-923-11	ELECT 220uF 20% 10V	
RV404	1-238-965-21	RES, VAR, CARBON 100K/100K (BALANCE)		C327	1-126-923-11	ELECT 220uF 20% 10V	
< SWITCH >				C328	1-164-159-11	CERAMIC 0. 1uF 50V	
S102	1-554-303-21	SWITCH, TACTILE (PHONO)		C329	1-126-933-11	ELECT 100uF 20% 16V	
S103	1-554-303-21	SWITCH, TACTILE (TUNER)		C332	1-136-169-00	FILM 0. 22uF 5% 50V	
S104	1-554-303-21	SWITCH, TACTILE (CD)		C333	1-130-493-00	MYLAR 0. 068uF 5% 50V	
S105	1-554-303-21	SWITCH, TACTILE (TAPE)		C334	1-102-124-00	CERAMIC 0. 0039uF 10% 50V	
S106	1-554-303-21	SWITCH, TACTILE (VIDEO)		C335	1-102-125-00	CERAMIC 4700PF 10% 50V	
S107	1-554-303-21	SWITCH, TACTILE (REAR + LEVEL)		C336	1-130-489-00	MYLAR 0. 033uF 5% 50V	
S108	1-554-303-21	SWITCH, TACTILE (REAR - LEVEL)		C337	1-124-927-11	ELECT 4. 7uF 20% 100V	
S109	1-554-303-21	SWITCH, TACTILE (CENTER + LEVEL)		C338	1-124-903-11	ELECT 1uF 20% 50V	
S110	1-554-303-21	SWITCH, TACTILE (CENTER - LEVEL)		C339	1-124-903-11	ELECT 1uF 20% 50V	
S111	1-554-303-21	SWITCH, TACTILE (SURROUND)		C340	1-130-489-00	MYLAR 0. 033uF 5% 50V	
S112	1-554-303-21	SWITCH, TACTILE (HALL)		C341	1-102-126-00	CERAMIC 0. 0056uF 10% 50V	
S113	1-554-303-21	SWITCH, TACTILE (SIMULATED)		C342	1-102-127-00	CERAMIC 6800PF 10% 50V	
S114	1-554-303-21	SWITCH, TACTILE (DELAY TIME)		C343	1-162-291-31	CERAMIC 560PF 10% 50V	
S115	1-554-303-21	SWITCH, TACTILE (DB FB)		C344	1-124-907-11	ELECT 10uF 20% 50V	
S116	1-554-303-21	SWITCH, TACTILE (PHANTOM)		C345	1-124-907-11	ELECT 10uF 20% 50V	
S117	1-554-303-21	SWITCH, TACTILE (NORMAL)		C346	1-124-907-11	ELECT 10uF 20% 50V	
S118	1-554-303-21	SWITCH, TACTILE (WIDE)		C347	1-124-907-11	ELECT 10uF 20% 50V	
S119	1-554-303-21	SWITCH, TACTILE (3CH)		C348	1-162-292-31	CERAMIC 680PF 10% 50V	
< VIBRATOR >				C349	1-136-167-00	FILM 0. 15uF 5% 50V	
X101	1-577-101-11	VIBRATOR, CERAMIC (4. 19MHz)		C350	1-162-284-31	CERAMIC 150PF 10% 50V	
*****				C351	1-130-487-00	MYLAR 0. 022uF 5% 50V	
*	1-642-689-11	FUSE BOARD		C352	1-162-294-31	CERAMIC 0. 001uF 10% 50V	
		*****		C353	1-124-927-11	ELECT 4. 7uF 20% 100V	
	1-533-217-31	HOLDER, FUSE		C354	1-136-169-00	FILM 0. 22uF 5% 50V	
				C355	1-124-477-11	ELECT 47uF 20% 25V	
				C356	1-124-907-11	ELECT 10uF 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	Remark			Ref. No.	Part No.	Description	Remark		
C357	1-124-907-11	ELECT	10uF	20%	50V	C511	1-124-477-11	ELECT	47uF	20%	25V
C358	1-124-907-11	ELECT	10uF	20%	50V	C512	1-102-126-00	CERAMIC	0.0056uF	10%	50V
C361	1-126-923-11	ELECT	220uF	20%	10V	C513	1-102-119-00	CERAMIC	1500PF	10%	50V
C362	1-124-477-11	ELECT	47uF	20%	25V	C515	1-124-903-11	ELECT	1uF	20%	50V
C363	1-124-252-00	ELECT	0.33uF	20%	50V	C516	1-124-477-11	ELECT	47uF	20%	25V
C364	1-162-292-31	CERAMIC	680PF	10%	50V	C517	1-124-907-11	ELECT	10uF	20%	50V
C365	1-136-165-00	FILM	0.1uF	5%	50V	C518	1-162-294-31	CERAMIC	0.001uF	10%	50V
C366	1-136-165-00	FILM	0.1uF	5%	50V	C558	1-162-282-31	CERAMIC	100PF	10%	50V
C367	1-124-927-11	ELECT	4.7uF	20%	100V	C559	1-124-927-11	ELECT	4.7uF	20%	100V
C368	1-124-927-11	ELECT	4.7uF	20%	100V	C560	1-162-282-31	CERAMIC	100PF	10%	50V
C369	1-136-167-00	FILM	0.15uF	5%	50V	C561	1-124-477-11	ELECT	47uF	20%	25V
C370	1-123-382-00	ELECT	3.3uF	20%	100V	C562	1-102-126-00	CERAMIC	0.0056uF	10%	50V
C371	1-136-167-00	FILM	0.15uF	5%	50V	C563	1-102-119-00	CERAMIC	1500PF	10%	50V
C372	1-136-167-00	FILM	0.15uF	5%	50V	C565	1-124-903-11	ELECT	1uF	20%	50V
C373	1-123-382-00	ELECT	3.3uF	20%	100V	C566	1-124-477-11	ELECT	47uF	20%	25V
C374	1-136-167-00	FILM	0.15uF	5%	50V	C701	1-124-927-11	ELECT	4.7uF	20%	100V
C375	1-124-927-11	ELECT	4.7uF	20%	100V	C702	1-162-286-31	CERAMIC	220PF	10%	50V
C376	1-124-927-11	ELECT	4.7uF	20%	100V	C703	1-124-477-11	ELECT	47uF	20%	25V
C378	1-162-292-31	CERAMIC	680PF	10%	50V	C704	1-124-477-11	ELECT	47uF	20%	25V
C379	1-124-252-00	ELECT	0.33uF	20%	50V	C705	1-162-292-31	CERAMIC	680PF	10%	50V
C380	1-136-165-00	FILM	0.1uF	5%	50V	C706	1-162-205-31	CERAMIC	18PF	5%	50V
C381	1-136-165-00	FILM	0.1uF	5%	50V	C707	1-161-959-00	CERAMIC	22PF	10%	500V
C382	1-124-902-00	ELECT	0.47uF	20%	50V	C708	1-124-477-11	ELECT	47uF	20%	25V
C383	1-124-907-11	ELECT	10uF	20%	50V	C709	1-161-959-00	CERAMIC	22PF	10%	500V
C384	1-124-907-11	ELECT	10uF	20%	50V	C710	1-136-165-00	FILM	0.1uF	5%	50V
C385	1-124-907-11	ELECT	10uF	20%	50V	C711	1-130-487-00	MYLAR	0.022uF	5%	50V
C386	1-124-907-11	ELECT	10uF	20%	50V	C713	1-164-097-11	CERAMIC	0.022uF		50V
C387	1-130-485-00	MYLAR	0.015uF	5%	50V	C714	1-124-477-11	ELECT	47uF	20%	25V
C388	1-130-483-00	MYLAR	0.01uF	5%	50V	C715	1-126-933-11	ELECT	100uF	20%	16V
C389	1-162-292-31	CERAMIC	680PF	10%	50V	C716	1-124-907-11	ELECT	10uF	20%	50V
C390	1-136-165-00	FILM	0.1uF	5%	50V	C717	1-124-477-11	ELECT	47uF	20%	25V
C391	1-162-215-31	CERAMIC	47PF	5%	50V	C721	1-102-125-00	CERAMIC	4700PF	10%	50V
C392	1-162-215-31	CERAMIC	47PF	5%	50V	C722	1-164-097-11	CERAMIC	0.022uF		50V
C393	1-124-907-11	ELECT	10uF	20%	50V	C751	1-124-927-11	ELECT	4.7uF	20%	100V
C396	1-162-215-31	CERAMIC	47PF	5%	50V	C752	1-162-286-31	CERAMIC	220PF	10%	50V
C397	1-162-215-31	CERAMIC	47PF	5%	50V	C753	1-124-477-11	ELECT	47uF	20%	25V
C398	1-124-907-11	ELECT	10uF	20%	50V	C754	1-124-477-11	ELECT	47uF	20%	25V
C401	1-124-927-11	ELECT	4.7uF	20%	100V	C755	1-162-292-31	CERAMIC	680PF	10%	50V
C402	1-124-927-11	ELECT	4.7uF	20%	100V	C756	1-162-205-31	CERAMIC	18PF	5%	50V
C403	1-124-927-11	ELECT	4.7uF	20%	100V	C757	1-161-959-00	CERAMIC	22PF	10%	500V
C404	1-124-927-11	ELECT	4.7uF	20%	100V	C758	1-124-477-11	ELECT	47uF	20%	25V
C405	1-124-903-11	ELECT	1uF	20%	50V	C759	1-161-959-00	CERAMIC	22PF	10%	500V
C411	1-124-927-11	ELECT	4.7uF	20%	100V	C760	1-136-165-00	FILM	0.1uF	5%	50V
C412	1-124-927-11	ELECT	4.7uF	20%	100V	C761	1-130-487-00	MYLAR	0.022uF	5%	50V
C413	1-124-927-11	ELECT	4.7uF	20%	100V	C951	1-106-367-00	MYLAR	0.01uF	5%	200V
C414	1-124-927-11	ELECT	4.7uF	20%	100V	C952	1-106-367-00	MYLAR	0.01uF	5%	200V
C415	1-136-167-00	FILM	0.15uF	5%	50V	C953	1-125-730-11	ELECT	10000uF	20%	71V
C508	1-162-282-31	CERAMIC	100PF	10%	50V	C954	1-125-730-11	ELECT	10000uF	20%	71V
C509	1-124-927-11	ELECT	4.7uF	20%	100V	C955	1-124-636-00	ELECT	3300uF	20%	25V
C510	1-162-282-31	CERAMIC	100PF	10%	50V	C956	1-124-636-00	ELECT	3300uF	20%	25V

MAIN

<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>		<u>Remark</u>		<u>Ref.No.</u>	<u>Part No.</u>	<u>Description</u>		<u>Remark</u>
C957	1-164-097-11	CERAMIC	0.022uF		50V	IC501	8-759-634-51	IC M5218AP		
C958	1-164-097-11	CERAMIC	0.022uF		50V	IC502	8-759-805-14	IC LC7822		
C959	1-124-557-11	ELECT	1000uF	20%	25V	IC701	8-759-111-68	IC uPC1237HA		
C960	1-124-480-11	ELECT	470uF	20%	25V	IC951	8-759-604-39	IC AN6291		
C963	1-124-907-11	ELECT	10uF	20%	50V	IC952	8-759-604-35	IC M5F78M05		
C964	1-124-907-11	ELECT	10uF	20%	50V	IC954	8-759-604-45	IC M5F79M12		
C965	1-124-477-11	ELECT	47uF	20%	25V			< COIL >		
C966	1-126-925-11	ELECT	470uF	20%	10V	L301	1-410-521-11	INDUCTOR	100uH	
C968	1-124-477-11	ELECT	47uF	20%	25V	L701	1-420-872-00	COIL, AIR CORE		
		< CONNECTOR >				L751	1-420-872-00	COIL, AIR CORE		
* CJ401	1-568-828-11	SOCKET, CONNECTOR 9P						< TRANSISTOR >		
* CJ402	1-568-836-11	SOCKET, CONNECTOR 17P				Q301	8-729-141-30	TRANSISTOR	2SC3623A-LK	
* CJ403	1-568-824-11	SOCKET, CONNECTOR 5P				Q302	8-729-900-36	TRANSISTOR	DTC124ES	
CJ404	1-568-439-11	SOCKET, CONNECTOR 7P				Q303	8-729-900-36	TRANSISTOR	DTC124ES	
CJ501	1-691-887-11	JACK, PIN 6P (TAPE REC IN/OUT, TUNER IN)				Q304	8-729-900-63	TRANSISTOR	DTA124ES	
CJ502	1-580-825-11	JACK, PIN 6P (VIDEO/CD/PHONO IN)				Q305	8-729-140-98	TRANSISTOR	2SD773	
CJ701	1-568-439-11	SOCKET, CONNECTOR 7P								
CP952	1-566-211-11	PIN, CONNECTOR 4P				Q401	8-729-141-30	TRANSISTOR	2SC3623A-LK	
		< DIODE >				Q411	8-729-141-30	TRANSISTOR	2SC3623A-LK	
D701	8-719-933-41	DIODE HZS6C3L				Q701	8-729-620-18	TRANSISTOR	2SA979-FG	
D702	8-719-815-85	DIODE 1S1585				Q702	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
D703	8-719-815-85	DIODE 1S1585				Q703	8-729-119-78	TRANSISTOR	2SC2785-HFE	
D704	8-719-815-85	DIODE 1S1585								
D706	8-719-987-63	DIODE 1N4148M				Q704	8-729-119-78	TRANSISTOR	2SC2785-HFE	
D707	8-719-987-63	DIODE 1N4148M				Q705	8-729-141-06	TRANSISTOR	2SA1142-QPE	
D751	8-719-933-41	DIODE HZS6C3L				Q706	8-729-209-15	TRANSISTOR	2SD2012	
D752	8-719-815-85	DIODE 1S1585				Q707	8-729-141-05	TRANSISTOR	2SC2682-QPE	
D753	8-719-815-85	DIODE 1S1585				Q708	8-729-119-78	TRANSISTOR	2SC2785-HFE	
D754	8-719-815-85	DIODE 1S1585								
D951	8-719-302-38	DIODE RBV-602-01				Q709	8-729-119-76	TRANSISTOR	2SA1175-HFE	
D952	8-719-312-09	DIODE RBA-402				Q710	8-729-141-46	TRANSISTOR	2SC4431-LK	
D953	8-719-200-82	DIODE 10E-2				Q711	8-729-141-37	TRANSISTOR	2SA1684-LK	
D954	8-719-200-82	DIODE 10E-2				Q712	8-729-320-96	TRANSISTOR	2SC2921-OPY	
D955	8-719-200-82	DIODE 10E-2				Q713	8-729-320-73	TRANSISTOR	2SA1215-OY	
D956	8-719-200-82	DIODE 10E-2								
D957	8-719-002-48	DIODE UZL-27H				Q714	8-729-178-42	TRANSISTOR	2SC2784-F	
D959	8-719-987-63	DIODE 1N4148M				Q716	8-729-119-78	TRANSISTOR	2SC2785-HFE	
		< IC >				Q717	8-729-119-78	TRANSISTOR	2SC2785-HFE	
IC301	8-759-634-50	IC M5218AL				Q718	8-729-178-42	TRANSISTOR	2SC2784-F	

Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
Q761	8-729-141-37	TRANSISTOR	2SA1684-LK			R367	1-247-852-11	CARBON	7.5K	5%	1/4W
Q762	8-729-320-96	TRANSISTOR	2SC2921-OPY			R368	1-249-437-11	CARBON	47K	5%	1/4W
Q763	8-729-320-73	TRANSISTOR	2SA1215-OY			R369	1-249-421-11	CARBON	2.2K	5%	1/4W F
Q764	8-729-178-42	TRANSISTOR	2SC2784-F			R370	1-249-431-11	CARBON	15K	5%	1/4W
Q951	8-729-141-83	TRANSISTOR	2SA473			R371	1-249-433-11	CARBON	22K	5%	1/4W
Q953	8-729-119-78	TRANSISTOR	2SC2785-HFE			R372	1-249-433-11	CARBON	22K	5%	1/4W
< RESISTOR >						R373	1-249-429-11	CARBON	10K	5%	1/4W
R301	1-247-887-00	CARBON	220K	5%	1/4W	R381	1-249-429-11	CARBON	10K	5%	1/4W
R302	1-247-887-00	CARBON	220K	5%	1/4W	R382	1-249-429-11	CARBON	10K	5%	1/4W
R303	1-247-887-00	CARBON	220K	5%	1/4W	R391	1-247-895-00	CARBON	470K	5%	1/4W
R304	1-247-887-00	CARBON	220K	5%	1/4W	R392	1-249-429-11	CARBON	10K	5%	1/4W
R305	1-249-423-11	CARBON	3.3K	5%	1/4W F	R393	1-249-429-11	CARBON	10K	5%	1/4W
R306	1-249-433-11	CARBON	22K	5%	1/4W	R396	1-247-895-00	CARBON	470K	5%	1/4W
R308	1-249-441-11	CARBON	100K	5%	1/4W	R397	1-249-429-11	CARBON	10K	5%	1/4W
R309	1-249-417-11	CARBON	1K	5%	1/4W F	R398	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-247-887-00	CARBON	220K	5%	1/4W	R401	1-247-887-00	CARBON	220K	5%	1/4W
R312	1-247-887-00	CARBON	220K	5%	1/4W	R402	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-247-887-00	CARBON	220K	5%	1/4W	R403	1-247-883-00	CARBON	150K	5%	1/4W
R314	1-247-887-00	CARBON	220K	5%	1/4W	R404	1-247-887-00	CARBON	220K	5%	1/4W
R319	1-249-417-11	CARBON	1K	5%	1/4W F	R405	1-249-425-11	CARBON	4.7K	5%	1/4W F
R321	1-249-425-11	CARBON	4.7K	5%	1/4W F	R411	1-247-887-00	CARBON	220K	5%	1/4W
R322	1-249-430-11	CARBON	12K	5%	1/4W	R412	1-249-429-11	CARBON	10K	5%	1/4W
R323	1-247-903-00	CARBON	1M	5%	1/4W	R413	1-247-883-00	CARBON	150K	5%	1/4W
R324	1-249-437-11	CARBON	47K	5%	1/4W	R414	1-247-887-00	CARBON	220K	5%	1/4W
R325	1-249-423-11	CARBON	3.3K	5%	1/4W F	R415	1-249-417-11	CARBON	1K	5%	1/4W F
R326	1-249-429-11	CARBON	10K	5%	1/4W	R501	1-249-411-11	CARBON	330	5%	1/4W
R327	1-249-413-11	CARBON	470	5%	1/4W F	R502	1-249-427-11	CARBON	6.8K	5%	1/4W F
R328	1-249-428-11	CARBON	8.2K	5%	1/4W F	R503	1-249-433-11	CARBON	22K	5%	1/4W
R329	1-249-428-11	CARBON	8.2K	5%	1/4W F	R504	1-249-417-11	CARBON	1K	5%	1/4W F
R330	1-249-431-11	CARBON	15K	5%	1/4W	R505	1-249-417-11	CARBON	1K	5%	1/4W F
R331	1-249-428-11	CARBON	8.2K	5%	1/4W F	R506	1-249-417-11	CARBON	1K	5%	1/4W F
R332	1-249-436-11	CARBON	39K	5%	1/4W	R507	1-249-417-11	CARBON	1K	5%	1/4W F
R333	1-249-429-11	CARBON	10K	5%	1/4W	R509	1-249-441-11	CARBON	100K	5%	1/4W
R334	1-247-887-00	CARBON	220K	5%	1/4W	R510	1-249-441-11	CARBON	100K	5%	1/4W
R335	1-247-887-00	CARBON	220K	5%	1/4W	R511	1-249-417-11	CARBON	1K	5%	1/4W F
R351	1-249-427-11	CARBON	6.8K	5%	1/4W F	R512	1-247-897-11	CARBON	560K	5%	1/4W
R352	1-249-427-11	CARBON	6.8K	5%	1/4W F	R513	1-249-437-11	CARBON	47K	5%	1/4W
R353	1-247-887-00	CARBON	220K	5%	1/4W	R514	1-249-441-11	CARBON	100K	5%	1/4W
R354	1-249-429-11	CARBON	10K	5%	1/4W	R515	1-249-409-11	CARBON	220	5%	1/4W F
R355	1-249-429-11	CARBON	10K	5%	1/4W	R516	1-249-425-11	CARBON	4.7K	5%	1/4W F
R356	1-249-429-11	CARBON	10K	5%	1/4W	R551	1-249-411-11	CARBON	330	5%	1/4W
R357	1-249-429-11	CARBON	10K	5%	1/4W	R552	1-249-427-11	CARBON	6.8K	5%	1/4W F
R358	1-249-429-11	CARBON	10K	5%	1/4W	R553	1-249-433-11	CARBON	22K	5%	1/4W
R361	1-249-429-11	CARBON	10K	5%	1/4W	R554	1-249-417-11	CARBON	1K	5%	1/4W F
R362	1-249-422-11	CARBON	2.7K	5%	1/4W F	R555	1-249-417-11	CARBON	1K	5%	1/4W F
R363	1-249-431-11	CARBON	15K	5%	1/4W	R556	1-249-417-11	CARBON	1K	5%	1/4W F
R364	1-249-421-11	CARBON	2.2K	5%	1/4W F	R557	1-249-417-11	CARBON	1K	5%	1/4W F
R365	1-249-437-11	CARBON	47K	5%	1/4W	R559	1-249-441-11	CARBON	100K	5%	1/4W
R366	1-247-852-11	CARBON	7.5K	5%	1/4W	R560	1-249-441-11	CARBON	100K	5%	1/4W
						R561	1-249-417-11	CARBON	1K	5%	1/4W F

MAIN

POWER SUPP

Ref. No.	Part No.	Description	Remark
R562	1-247-897-11	CARBON	560K 5% 1/4W
R563	1-249-437-11	CARBON	47K 5% 1/4W
R564	1-249-441-11	CARBON	100K 5% 1/4W
R565	1-249-409-11	CARBON	220 5% 1/4W F
R701	1-249-417-11	CARBON	1K 5% 1/4W F
R702	1-249-435-11	CARBON	33K 5% 1/4W
R703	1-249-409-11	CARBON	220 5% 1/4W F
R704	1-249-421-11	CARBON	2. 2K 5% 1/4W F
R705	1-249-434-11	CARBON	27K 5% 1/4W
R706	1-249-426-11	CARBON	5. 6K 5% 1/4W
R707	1-249-425-11	CARBON	4. 7K 5% 1/4W F
R708	1-249-435-11	CARBON	33K 5% 1/4W
R709	1-249-411-11	CARBON	330 5% 1/4W
△R710	1-249-409-11	CARBON	220 5% 1/4W F
△R711	1-249-409-11	CARBON	220 5% 1/4W F
R712	1-249-435-11	CARBON	33K 5% 1/4W
△R713	1-249-397-11	CARBON	22 5% 1/4W F
R714	1-247-830-11	CARBON	910 5% 1/4W
R715	1-249-412-11	CARBON	390 5% 1/4W F
△R716	1-249-397-11	CARBON	22 5% 1/4W F
△R717	1-249-393-11	CARBON	10 5% 1/4W F
△R718	1-249-393-11	CARBON	10 5% 1/4W F
△R719	1-249-423-11	CARBON	3. 3K 5% 1/4W F
△R720	1-249-417-11	CARBON	1K 5% 1/4W F
△R721	1-249-417-11	CARBON	1K 5% 1/4W F
△R722	1-249-421-11	CARBON	2. 2K 5% 1/4W F
△R723	1-247-706-11	CARBON	330 5% 1/4W F
△R724	1-247-688-11	CARBON	10 5% 1/4W F
△R725	1-247-688-11	CARBON	10 5% 1/4W F
R726	1-214-789-00	RES, METAL PLATE 0.1	
R727	1-214-789-00	RES, METAL PLATE 0.1	
R728	1-260-072-11	CARBON	4. 7 5% 1/2W
R729	1-260-076-11	CARBON	10 5% 1/2W
R730	1-249-407-11	CARBON	150 5% 1/4W F
R731	1-249-431-11	CARBON	15K 5% 1/4W
R732	1-249-437-11	CARBON	47K 5% 1/4W
R734	1-249-425-11	CARBON	4. 7K 5% 1/4W F
R735	1-249-425-11	CARBON	4. 7K 5% 1/4W F
R736	1-249-438-11	CARBON	56K 5% 1/4W
R737	1-249-428-11	CARBON	8. 2K 5% 1/4W F
R739	1-249-429-11	CARBON	10K 5% 1/4W
R740	1-249-427-11	CARBON	6. 8K 5% 1/4W F
R741	1-249-441-11	CARBON	100K 5% 1/4W
R742	1-249-425-11	CARBON	4. 7K 5% 1/4W F
R743	1-249-437-11	CARBON	47K 5% 1/4W
R744	1-249-423-11	CARBON	3. 3K 5% 1/4W F
R751	1-249-417-11	CARBON	1K 5% 1/4W F
R752	1-249-435-11	CARBON	33K 5% 1/4W
R753	1-249-409-11	CARBON	220 5% 1/4W F
R754	1-249-421-11	CARBON	2. 2K 5% 1/4W F

Ref. No.	Part No.	Description	Remark
R755	1-249-434-11	CARBON	27K 5% 1/4W
R756	1-249-426-11	CARBON	5. 6K 5% 1/4W
R757	1-249-425-11	CARBON	4. 7K 5% 1/4W F
R758	1-249-435-11	CARBON	33K 5% 1/4W
R759	1-249-411-11	CARBON	330 5% 1/4W
△R760	1-249-409-11	CARBON	220 5% 1/4W F
△R761	1-249-409-11	CARBON	220 5% 1/4W F
R762	1-249-435-11	CARBON	33K 5% 1/4W
△R763	1-249-397-11	CARBON	22 5% 1/4W F
R764	1-247-830-11	CARBON	910 5% 1/4W
R765	1-249-412-11	CARBON	390 5% 1/4W F
△R766	1-249-397-11	CARBON	22 5% 1/4W F
△R767	1-249-393-11	CARBON	10 5% 1/4W F
△R768	1-249-393-11	CARBON	10 5% 1/4W F
△R769	1-249-423-11	CARBON	3. 3K 5% 1/4W F
△R770	1-249-417-11	CARBON	1K 5% 1/4W F
△R771	1-249-417-11	CARBON	1K 5% 1/4W F
△R772	1-249-421-11	CARBON	2. 2K 5% 1/4W F
△R773	1-247-706-11	CARBON	330 5% 1/4W F
△R774	1-247-688-11	CARBON	10 5% 1/4W F
△R775	1-247-688-11	CARBON	10 5% 1/4W F
R776	1-214-789-00	RES, METAL PLATE 0.1	
R777	1-214-789-00	RES, METAL PLATE 0.1	
R778	1-260-072-11	CARBON	4. 7 5% 1/2W
R779	1-260-076-11	CARBON	10 5% 1/2W
R780	1-249-407-11	CARBON	150 5% 1/4W F
R781	1-249-431-11	CARBON	15K 5% 1/4W
R783	1-249-438-11	CARBON	56K 5% 1/4W
△R954	1-216-481-11	METAL OXIDE	1. 2K 5% 3W F
△R955	1-247-749-11	CARBON	560 5% 1/2W
R956	1-249-426-11	CARBON	5. 6K 5% 1/4W
R957	1-249-385-11	CARBON	2. 2 5% 1/6W F
R958	1-249-385-11	CARBON	2. 2 5% 1/6W F
R959	1-249-385-11	CARBON	2. 2 5% 1/6W F
R961	1-249-385-11	CARBON	2. 2 5% 1/6W F
R968	1-249-417-11	CARBON	1K 5% 1/4W F
R969	1-249-393-11	CARBON	10 5% 1/4W F
< RELAY >			
RY701	1-515-356-00	RELAY	
< VIBRATOR >			
X301	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	

*	A-4347-041-A	POWER SUPP BOARD, COMPLETE	

	1-533-217-31	HOLDER, FUSE	

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

POWER SUPP

POWER SW

SP. SW

SP. TM

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
< BASE POST >				R913	1-249-433-11	CARBON 22K 5% 1/4W	
BP901	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P		R914	1-249-429-11	CARBON 10K 5% 1/4W	
BP902	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P		R915	1-249-425-11	CARBON 4.7K 5% 1/4W	F
BP904	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P		R916	1-249-429-11	CARBON 10K 5% 1/4W	
< CAPACITOR >				R917	1-249-417-11	CARBON 1K 5% 1/4W	F
△C901	1-161-744-00	CERAMIC 0.01uF	400V	R918	1-249-429-11	CARBON 10K 5% 1/4W	
C911	1-124-480-11	ELECT 470uF	20% 25V	R919	1-249-426-11	CARBON 5.6K 5% 1/4W	
C913	1-124-477-11	ELECT 47uF	20% 25V	R920	1-249-417-11	CARBON 1K 5% 1/4W	F
C914	1-124-477-11	ELECT 47uF	20% 25V	R921	1-249-426-11	CARBON 5.6K 5% 1/4W	
C916	1-164-097-11	CERAMIC 0.022uF	50V	R922	1-249-396-11	CARBON 18 5% 1/6W	F
C917	1-164-097-11	CERAMIC 0.022uF	50V	< RELAY >			
C918	1-124-903-11	ELECT 1uF	20% 50V	△RY901	1-515-701-11	RELAY	
C919	1-164-097-11	CERAMIC 0.022uF	50V	< TRANSFORMER >			
C920	1-124-464-11	ELECT 0.22uF	20% 50V	△T902	1-449-993-21	TRANSFORMER, POWER	
C921	1-164-097-11	CERAMIC 0.022uF	50V	*****			
C922	1-162-282-31	CERAMIC 100PF	10% 50V	*	1-642-685-11	POWER SW BOARD	
< CONNECTOR >						*****	
CJ901	1-568-439-11	SOCKET, CONNECTOR 7P		< CONNECTOR >			
△CNJ901	1-540-062-11	OUTLET, AC (POLAR)		* CP101	1-565-295-11	PLUG, CONNECTOR 4P	
CP902	1-566-690-11	PLUG, CONNECTOR (2.5MM) 2P		< SWITCH >			
< FILTER >				S101	1-554-303-21	SWITCH, TACTILE(SYSTEM POWER ON/STANDBY)	
△F901	1-532-749-11	FUSE, GLASS CYLINDRICAL (DIA5) (8A)		*****			
< DIODE >				*	1-642-690-11	SP. SW BOARD	
D911	8-719-200-82	DIODE 10E-2				*****	
D912	8-719-200-82	DIODE 10E-2		< JACK >			
D913	8-719-200-82	DIODE 10E-2		J701	1-563-347-11	JACK, LARGE TYPE (HEADPHONES)	
D914	8-719-200-82	DIODE 10E-2		< RESISTOR >			
D915	8-719-987-63	DIODE 1N4148M		△R733	1-216-431-11	METAL OXIDE 560 5% 1W	F
D916	8-719-987-63	DIODE 1N4148M		△R783	1-216-431-11	METAL OXIDE 560 5% 1W	F
D917	8-719-933-41	DIODE HZS6C3L		< SWITCH >			
D918	8-719-933-41	DIODE HZS6C3L		S701	1-572-812-11	SWITCH, ROTARY SLIDE (SPEAKER)	
D919	8-719-985-53	DIODE HZS4ALL		*****			
D920	8-719-987-63	DIODE 1N4148M		*	1-642-691-11	SP. TM BOARD	
< TRANSISTOR >						*****	
Q911	8-729-209-15	TRANSISTOR 2SD2012		< TERMINAL >			
Q922	8-729-119-78	TRANSISTOR 2SC2785-HFE		TM701	1-537-341-11	TERMINAL BOARD (8P. SP) (FRONT SPEAKER)	
Q923	8-729-119-78	TRANSISTOR 2SC2785-HFE					
Q924	8-729-119-76	TRANSISTOR 2SA1175-HFE					
Q925	8-729-119-76	TRANSISTOR 2SA1175-HFE					
Q926	8-729-119-78	TRANSISTOR 2SC2785-HFE					
< RESISTOR >							
R911	1-249-417-11	CARBON 1K 5% 1/4W	F				
R912	1-249-437-11	CARBON 47K 5% 1/4W					

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SURR. AMP	SURR. SP	VOL
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Ref.No.	Part No.	Description	Remark

*	A-4347-040-A	SURR. AMP BOARD, COMPLETE	

< CAPACITOR >			
C801	1-124-927-11	ELECT 4.7uF	20% 100V
C802	1-162-282-31	CERAMIC 100PF	10% 50V
C803	1-162-282-31	CERAMIC 100PF	10% 50V
C804	1-124-477-11	ELECT 47uF	20% 25V
C805	1-162-191-31	CERAMIC 2.2PF	10% 50V
C806	1-124-907-11	ELECT 10uF	20% 50V
C807	1-124-907-11	ELECT 10uF	20% 50V
C809	1-164-097-11	CERAMIC 0.022uF	50V
C810	1-136-171-00	FILM 0.33uF	5% 50V
C851	1-124-927-11	ELECT 4.7uF	20% 100V
C852	1-162-282-31	CERAMIC 100PF	10% 50V
C853	1-162-282-31	CERAMIC 100PF	10% 50V
C854	1-124-477-11	ELECT 47uF	20% 25V
C855	1-162-191-31	CERAMIC 2.2PF	10% 50V
C856	1-124-907-11	ELECT 10uF	20% 50V
C857	1-124-907-11	ELECT 10uF	20% 50V
C859	1-164-097-11	CERAMIC 0.022uF	50V
C860	1-136-171-00	FILM 0.33uF	5% 50V
< CONNECTOR >			
CJ801	1-562-087-00	SOCKET, CONNECTOR 4P	
CJ802	1-569-596-11	PLUG, CONNECTOR (2.5MM) 3P	
CJ803	1-568-439-11	SOCKET, CONNECTOR 7P	
< DIODE >			
D801	8-719-987-63	DIODE 1N4148M	
D802	8-719-987-63	DIODE 1N4148M	
D803	8-719-987-63	DIODE 1N4148M	
D851	8-719-987-63	DIODE 1N4148M	
D852	8-719-987-63	DIODE 1N4148M	
D853	8-719-987-63	DIODE 1N4148M	
< IC >			
IC801	8-759-502-33	IC SI18752	
IC851	8-759-502-33	IC SI18752	
< COIL >			
L801	1-420-872-00	COIL, AIR CORE	
L851	1-420-872-00	COIL, AIR CORE	
< TRANSISTOR >			
Q801	8-729-178-42	TRANSISTOR 2SC2784-F	
Q851	8-729-178-42	TRANSISTOR 2SC2784-F	

Ref.No.	Part No.	Description	Remark
< RESISTOR >			
R801	1-249-417-11	CARBON 1K 5%	1/4W F
R802	1-249-439-11	CARBON 68K 5%	1/4W
R803	1-249-419-11	CARBON 1.5K 5%	1/4W F
R804	1-249-439-11	CARBON 68K 5%	1/4W
R805	1-217-151-00	RES, METAL PLATE 0.22	2W
R806	1-249-389-11	CARBON 4.7 5%	1/4W F
R807	1-249-409-11	CARBON 220 5%	1/4W F
R808	1-249-428-11	CARBON 8.2K 5%	1/4W F
△R809	1-249-393-11	CARBON 10 5%	1/4W F
R810	1-249-435-11	CARBON 33K 5%	1/4W
R851	1-249-417-11	CARBON 1K 5%	1/4W F
R852	1-249-439-11	CARBON 68K 5%	1/4W
R853	1-249-419-11	CARBON 1.5K 5%	1/4W F
R854	1-249-439-11	CARBON 68K 5%	1/4W
R855	1-217-151-00	RES, METAL PLATE 0.22	2W
R856	1-249-389-11	CARBON 4.7 5%	1/4W F
R857	1-249-409-11	CARBON 220 5%	1/4W F
R858	1-249-428-11	CARBON 8.2K 5%	1/4W F
△R859	1-249-393-11	CARBON 10 5%	1/4W F
R860	1-249-433-11	CARBON 22K 5%	1/4W
< RELAY >			
RY801	1-515-790-11	RELAY	
RY851	1-515-790-11	RELAY	

*	1-642-692-11	SURR. SP BOARD	

< CONNECTOR >			
CP701	1-568-739-11	PIN, CONNECTOR (PC BOARD) 4P	
< TERMINAL >			
TM702	1-537-265-31	TERMINAL BOARD (REAR SPEAKER)	
TM703	1-537-405-21	TERMINAL BOARD (2P SP) (CENTER SPEAKER)	

*	1-642-693-11	VOL BOARD	

< CAPACITOR >			
C421	1-161-494-00	CERAMIC 0.022uF	25V
< CONNECTOR >			
* CJ421	1-568-828-11	SOCKET, CONNECTOR 9P	

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Ref.No.	Part No.	Description	Remark
< VARIABLE RESISTOR >			
	RV405	1-241-816-11 RES, VAR, CARBON 100KX4 (MASTER VOLUME)	

MISCELLANEOUS			

	8	1-690-588-31 WIRE, FLAT TYPE (9 CORE)	
	11	1-575-666-11 WIRE, FLAT TYPE (5 CORE)	
	14	1-690-114-11 WIRE, FLAT TYPE (7 CORE)	
	15	1-590-487-11 WIRE, FLAT TYPE (17 CORE)	
*	16	1-590-769-11 WIRE, FLAT TYPE (7 CORE)	
*	57	1-590-769-11 WIRE, FLAT TYPE (7 CORE)	
	67	1-535-530-11 PLUG, JUMPER	
△	CNP901	1-551-478-00 CORD, POWER	
△	T901	1-450-808-11 TRANSFORMER, POWER	

ACCESSORIES & PACKING MATERIALS			

		1-465-712-11 COMMANDER, STANDARD (RM-P312)	
*		3-756-314-21 MANUAL, INSTRUCTION (English)	
		4-925-079-01 COVER (6), BATTERY	
*		4-949-872-02 CUSHION	
*		4-956-035-02 INDIVIDUAL CARTON	

HARDWARE LIST			

#1		7-682-548-04 SCREW +BVTT 3X8 (S)	
#2		7-682-561-04 SCREW +BVTT 4X8 (S)	
#3		7-685-648-79 SCREW +BVTP 3X12 TYPE2 IT-3	
#4		7-685-647-79 SCREW +BVTP 3X10 TYPE2 N-S	
#5		7-685-646-79 SCREW +BVTP 3X8 TYPE2 N-S	
#6		7-621-849-00 SCREW, TAPPING	
#7		7-685-546-14 SCREW +BTP 3X8 TYPE2 N-S	

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 △ or dotted line with mark △ are
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 specified.

