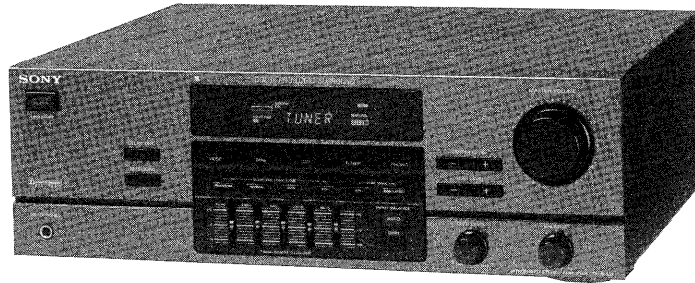


# TA-AV431/AV531

## SERVICE MANUAL

US Model  
 Mexican Model  
 TA-AV431  
 US Model  
 TA-AV531



This set is the amplifier section  
 in SEN-431CD/531CD

This photo is TA-AV531

### SPECIFICATIONS

#### AUDIO POWER SPECIFICATIONS

##### POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm loads, both channels driven, from 40 – 20,000 Hz; rated 135 (TA-AV531), 110 (TA-AV431) watts per channel minimum RMS power, with less than 0.9% total harmonic distortion from 250 milliwatts to rated output.

Power bandwidth (IHF) 30 Hz – 30 kHz (8 ohms) (TA-AV531)

Dynamic headroom 1.7 dB (\*78 IHF) (TA-AV531)

Harmonic distortion Less than 0.9% at rated output (Surround OFF) (TA-AV531)

Frequency response PHONO: RIAA equalization curve

CD, VIDEO, TUNER, TAPE:

10 Hz – 50 kHz  $\pm$  3 dB (TA-AV531)

PHONO: RIAA curve

CD, VIDEO: 10 Hz – 50 kHz  $\pm$  3 dB (TA-AV431)

Rear output 15 W + 15 W (at front off 8 ohms) (TA-AV531)

10 W + 10 W (at front off 8 ohms) (TA-AV431)

Center output 30 W (at front off 4 ohms) (TA-AV531)

Damping factor 27 (8 ohms, 1 kHz) (TA-AV531)

#### Input (TA-AV531)

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, TAPE	Phono	250 mV	50 kilohms	92 dB 83 dB* (A, 250 mV)

\*78 IHF

#### (TA-AV431)

	Sensitivity	Impedance
PHONO	2.5 mV	50 kilohms
CD, VIDEO	250 mV	50 kilohms

#### Output (TA-AV531)

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.

#### Output (TA-AV431)

SPEAKER: Accepts speakers of 8 to 16 ohms  
 HEADPHONES: Accepts headphones with low and high impedance

#### GRAPHIC EQUALIZER controls

Boost/Cut range:  $\pm$  8 dB (100 Hz, 330 Hz, 1 kHz, 3.3 kHz)  $\pm$  6 dB (10 kHz)

#### Dimensions

Approx. 430  $\times$  145  $\times$  360 mm (w/h/d)  
 (17  $\times$  5  $\frac{3}{4}$   $\times$  14  $\frac{1}{4}$  inches)

#### Weight

(including projecting parts and controls)  
 Approx. 9.9 kg (21 lb 14 oz): TA-AV531  
 Approx. 9.5 kg (20 lb 15 oz): TA-AV431

#### General

Power requirements

120 V AC, 60 Hz

Power consumption

250 W (TA-AV531)

220 W (TA-AV431)

AC outlets

2 switched, 120 W/1 A max. (TA-AV531)

– Continued on next page –



## INTEGRATED STEREO AMPLIFIER

# SONY®

- Accessories supplied
- AM loop antenna (1)
  - FM wire antenna (1)
  - SYSTEM CONTROL cord (1) (TA-AV531)
  - Remote Commander
    - RM-U521 (1) (TA-AV531)
    - RM-U421 (1) (TA-AV431)
  - Sony batteries SUM-3 (NS) (2)
  - Audio signal connecting cord
    - (phono plug × 2 ↔ phono plug × 2) (1)
  - SYSTEM CONTROL 1 cord (1)
  - SYSTEM CONTROL 2 cord (1)
  - SYSTEM CONTROL 3 cord (1)
  - (The SYSTEM CONTROL 1 and 3 is equipped on the TC-W431.) (TA-AV431)

Design and specifications are subject to change without notice.

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## SAFETY CHECK-OUT

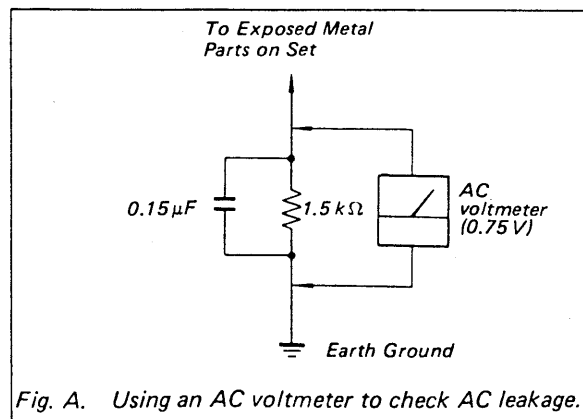
After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

### LEAKAGE 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)



### SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK  $\Delta$  OR DOTTED LINE WITH MARK  $\Delta$  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.

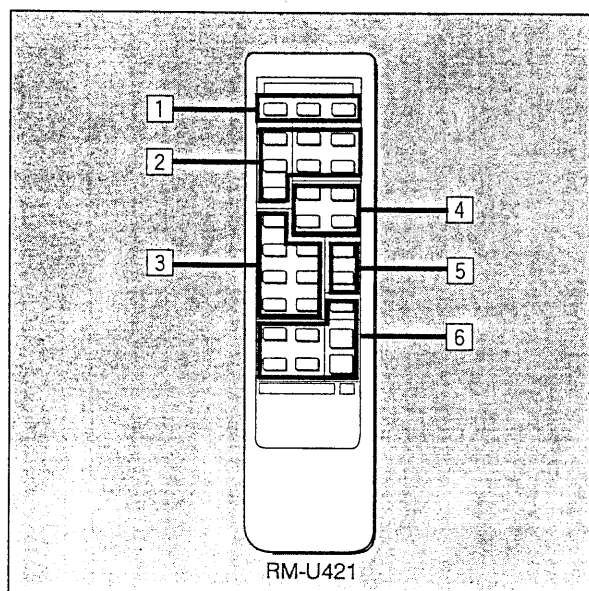
## SECTION 1 GENERAL

This section is extracted from  
instruction manual.

(TA-AV431)

### Remote Commander

The remote commander supplied with this unit can control the unit from a distance.  
The remote commander is divided into 6 sections according to the functions as shown below.



#### 1 Power control block

VTR 3\*/TV/AUDIO POWER buttons: Control the power of each unit.

#### 2 TV/VTR control block

VTR 3\* operation buttons:

- ▶: Play
- : Stop

ANT (antenna) TV/VTR button: Selects the output signal from the antenna terminal on the VCR, either a TV signal or VCR programs.

TV VOL (volume) +/- buttons: Control the volume of TV.

TV CH (channel) +/- buttons: Select the channel of the TV.

#### 3 CD control block

SHUFFLE button: Set to the shuffle play mode.

- ▶: Play

In the TUNER mode:

When you press CD ▶ once, the unit enters the CD mode.

When you press CD ▶ twice, the CD player starts playback.

In the mode other than the TUNER mode:

When you press CD ▶ once, the unit enters the CD mode and starts playback.

- : Stop

◀◀/▶▶ (AMS: Automatic Music Search): Locates a desired selection.

D (disc) SKIP button: Disc skip

CONTINUE button: Set to the continuous play mode.

#### 4 SURROUND control block

SURROUND mode selectors (for the amplifier)

ON/OFF: Turns on/off the surround mode.

MODE: Selects the surround mode.

REAR VOL +/- buttons: Control the volume of rear speakers (surround level).

#### 5 Tuner control block

TUNER PRESET +/- buttons: Select a preset station of the tuner.

#### 6 Amplifier control block

FUNCTION selectors: Select an input source of the amplifier. (for the amplifier)

DBFB button: Turns on/off the DBFB (Dynamic Bass Feed Back). (for the amplifier)

MASTER VOL +/- buttons: Control the amplifier volume.

\* You can control Sony's VHS video decks with the VTR 3 POWER and VTR 3 operation buttons.

#### Battery life

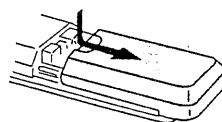
About half a year of normal operation can be expected when using the Sony SUM-3 (NS) batteries. When the batteries are exhausted, the remote commander can no longer operate the unit. If this happens, replace both batteries with new ones.

#### To avoid battery leakage

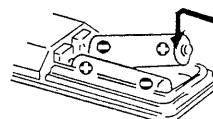
When the commander is not to be used for a long time, remove the batteries to avoid damage caused by battery leakage and corrosion.

#### Inserting the batteries into the remote commander

- 1 Open the cover.

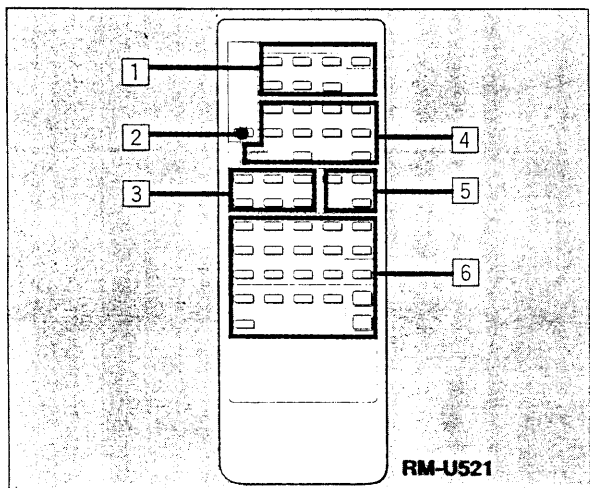


- 2 Insert two size-AA (R6) batteries with correct polarity



# Remote Commander

The remote commander supplied with this unit can control the unit from a distance. The remote commander is divided into 6 sections according to the functions as shown below.



### 1 Power control block

SYSTEM OFF button: Turns off the power of the whole system: LDP, VTR, TV, and AUDIO.  
 LDP/VTR1/VTR2/VTR3/TV/AUDIO POWER buttons: Control the power of each unit.

### 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 the SURROUND mode of amplifier.  
 2: To select the functions indicated in blue such as VTR, LDP (Laser disc player) and TV.

### 3 CDP/LDP control block

The combined CD/LD player can be controlled with LDP position.  
 ▶: Play  
 II: Pause  
 ■: Stop  
 D (disc) SKIP: Disc skip (for a CD player equipped with a multi-disc changer)  
 ◀▶: Manual search (only for LD player)  
 ◀▶: Locates a desired selection.

### 4 Tape deck/VCR control block

DECK/VTR selector  
 DECK A,B, and DAT: Selects Deck A, B or DAT deck.  
 VTR 1, 2, and 3: Set to the VTR 1, 2 or 3 according to your VCR setting.  
 1: Betamax VCRs  
 2: 8 mm VCRs  
 3: VHS VCRs  
 II: Pause  
 ■: Stop  
 ◀▶: Fast winding  
 ◀▶: Play

● (REC): Recording  
 ANT (antenna) TV/VTR button: 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.

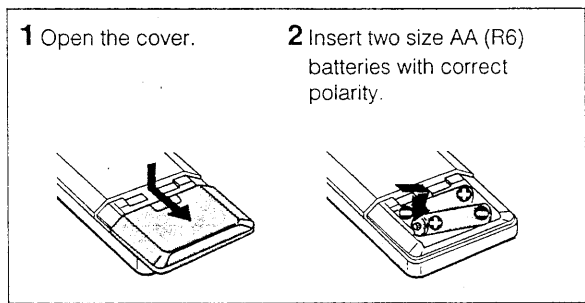
### 5 Tuner/TV block

SHIFT and TUNER PRESET/ TV CH (channel) +/- buttons: Select a preset station of the tuner or a channel of the TV.

### 6 Amplifier/TV block

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 amplifier)  
 ON/OFF: Turns on/off the surround mode.  
 MODE: Selects the surround mode.  
 T.(Test) TONE: Generates a pink noise signal that is sent in succession to each speaker.  
 DELAY: Adjust the delay time.  
 FUNCTION selectors: Select an input source of the amplifier. (for the amplifier)  
 REAR VOL +/- buttons: Control the volume of rear speakers (surround level).  
 CENTER VOL/TV VOL +/- buttons: Control the volume of center speaker (surround level) or TV.  
 DBFB button: Turns on/off the DBFB (Dynamic Bass Feed Back). (for the amplifier)  
 MASTER VOL +/- buttons: Control the amplifier volume (for the amplifier).

### Inserting the batteries into the remote commander



### 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.

## SECTION 2 IC PIN FUNCTIONS

• IC101 (  $\mu$ PD75206GF-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/KEY5 OUT 5
26	VDD			High		+ 5V
27	s3	O	H	High	L	SEG6/KEY4 OUT 4
28	s2	O	H	High	L	SEG7/KEY3 OUT 3
29	s1	O	H	High	L	SEG8/KEY2 OUT 2
30	s0	O	H	High	L	SEG9/KEY1 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
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
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					(NO 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

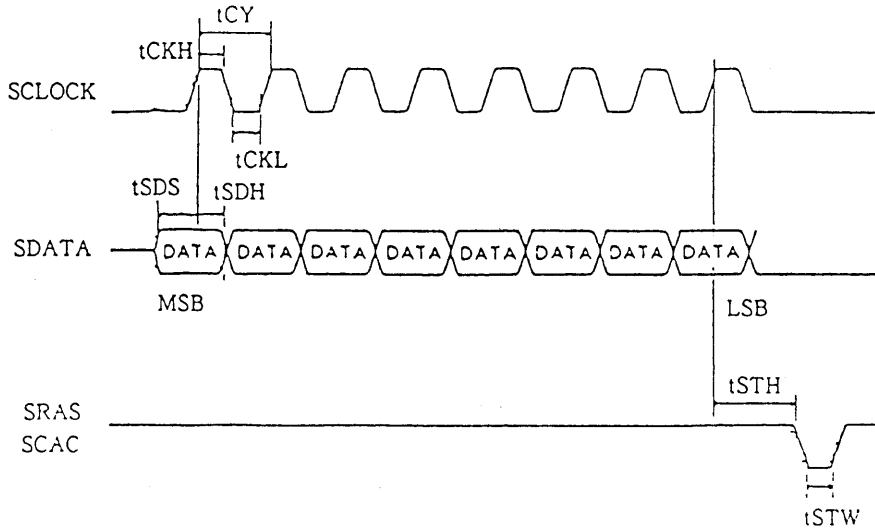
High : High-impedance status

In : Input status

• IC304 (LV100M)

Pin No.	Explanations
1	De-couple capacitor for threshold voltage
2, 64	Capacitor for smoothing of rectifier output
3	Capacitor for sliding band filter and Delayed output
4, 62	Capacitor for sliding band filter
5, 61	Capacitor for pre-emphasis
6, 60	Input filter for rectifier
7, 57	Input filter for rectifier
8	Reference voltage
9	Reference voltage
10	Mute control (no use)
11	Vcc
12	Output for V <sub>DD</sub>
13	Clock input for serial input, data input for parallel input mode
14	Data input for serial input, data input for parallel input mode
15	Column address selection for serial input, data input for parallel input mode
16	Row address selection for serial input, data input for parallel input mode
18 to 32	Connection to memory device
24	Vss
33	X'tal resonator for oscillator
34	X'tal resonator for oscillator
35	Long or Short mode selection (no use)
36	Serial or Parallal mode selection
37	For test mode (no use)
38	Smoothing for NR rectifier
39	Smoothing for NR rectifier
40	Capacitor for weighting on side chain path
41	Input for variable resistor
42	NR output
43	7kHz low pass filter output
44	Input for NR
45	Capacitor for de-couple on NR
46	Delay output or NR output
47	Input for mute circuit (no use)
48	Output for mute circuit (no use)
49	Output for 7kHz low pass filter (no use)
50	Input for 7kHz low pass filter
51	GND
52	Input for right channel
53	Input for left channel
54	Capacitor for de-couple on Fixed matrix output
55	Noise shaping and delay input
56	Noise shaping output
57	Delay input signal mode select switch (L + R/L - R)
58	Filter for supply voltage on comparator
63	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.

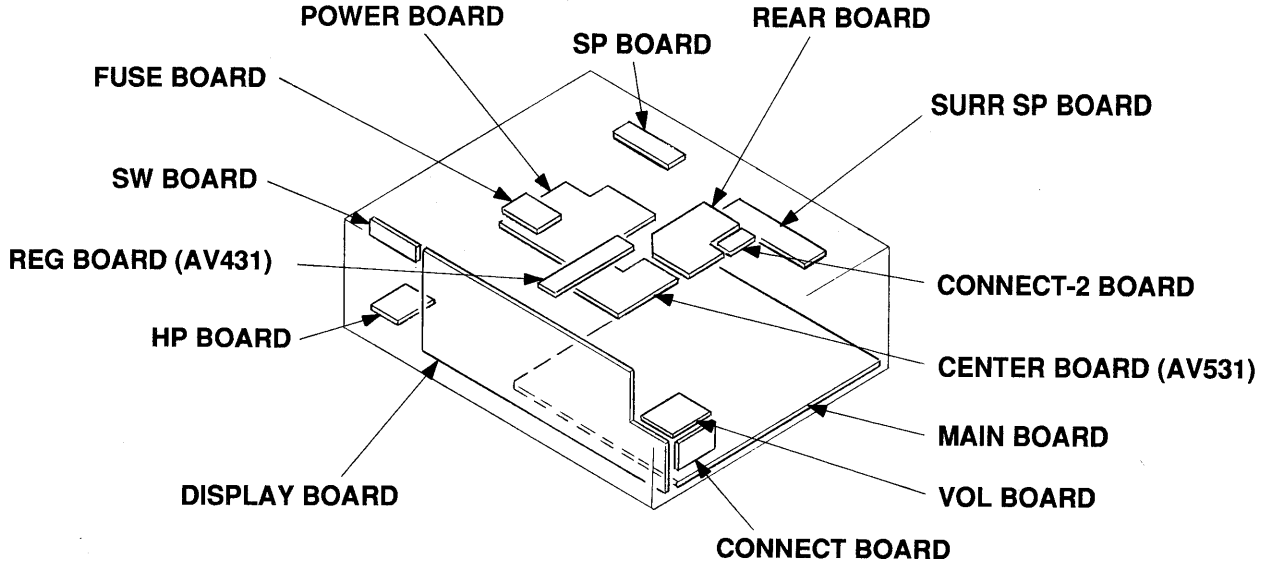
When changing delay time setting, meaningless data on a memory are read. this causes the pop noise. when SRAS or SCAS is controlled, mute circuit (pin 55 is input, pin 56 is output) is activated. Mute time is the same as the delay time which is set at that time. (Serial data input mode only, On parallel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

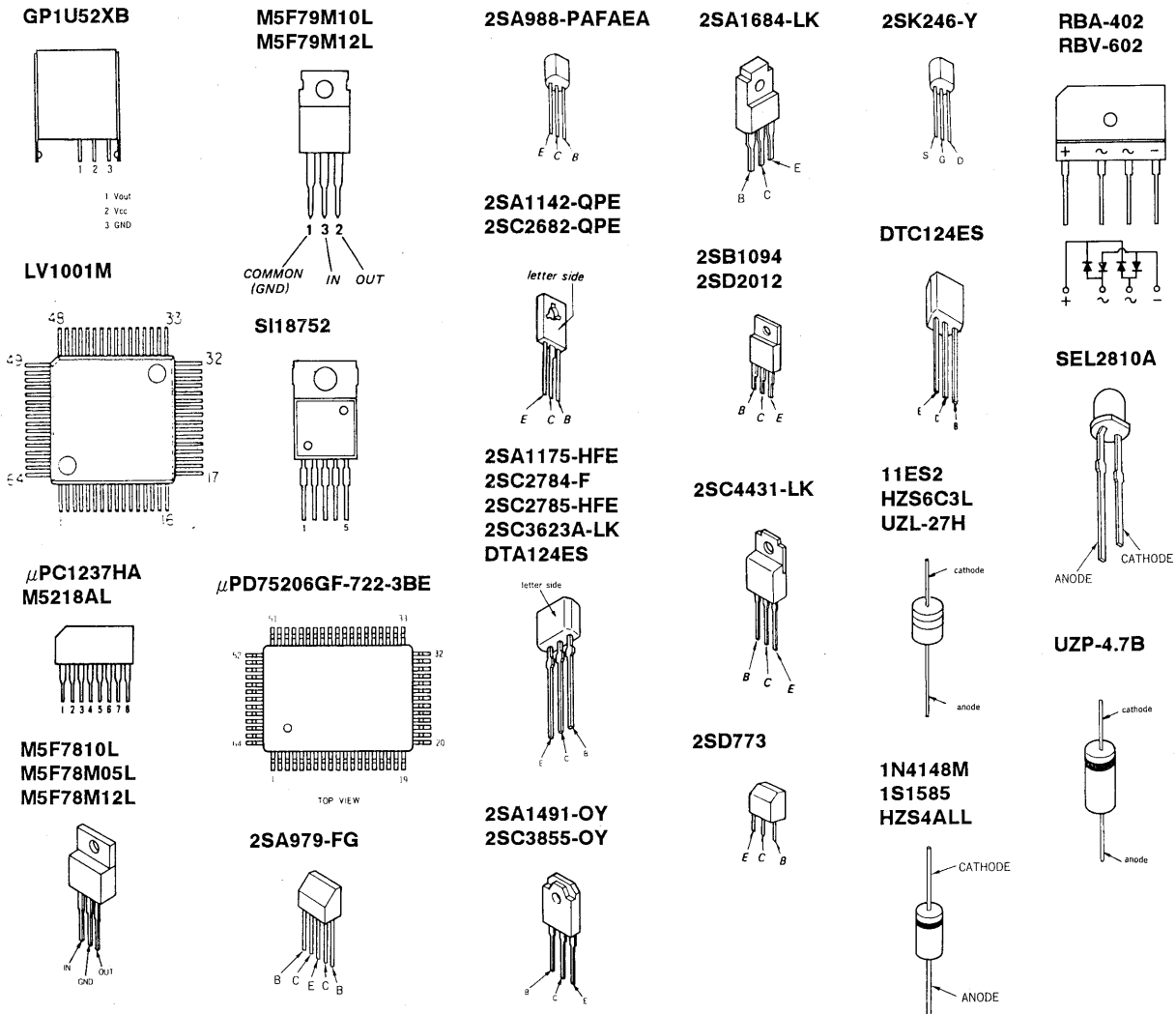


# SECTION 3 DIAGRAMS

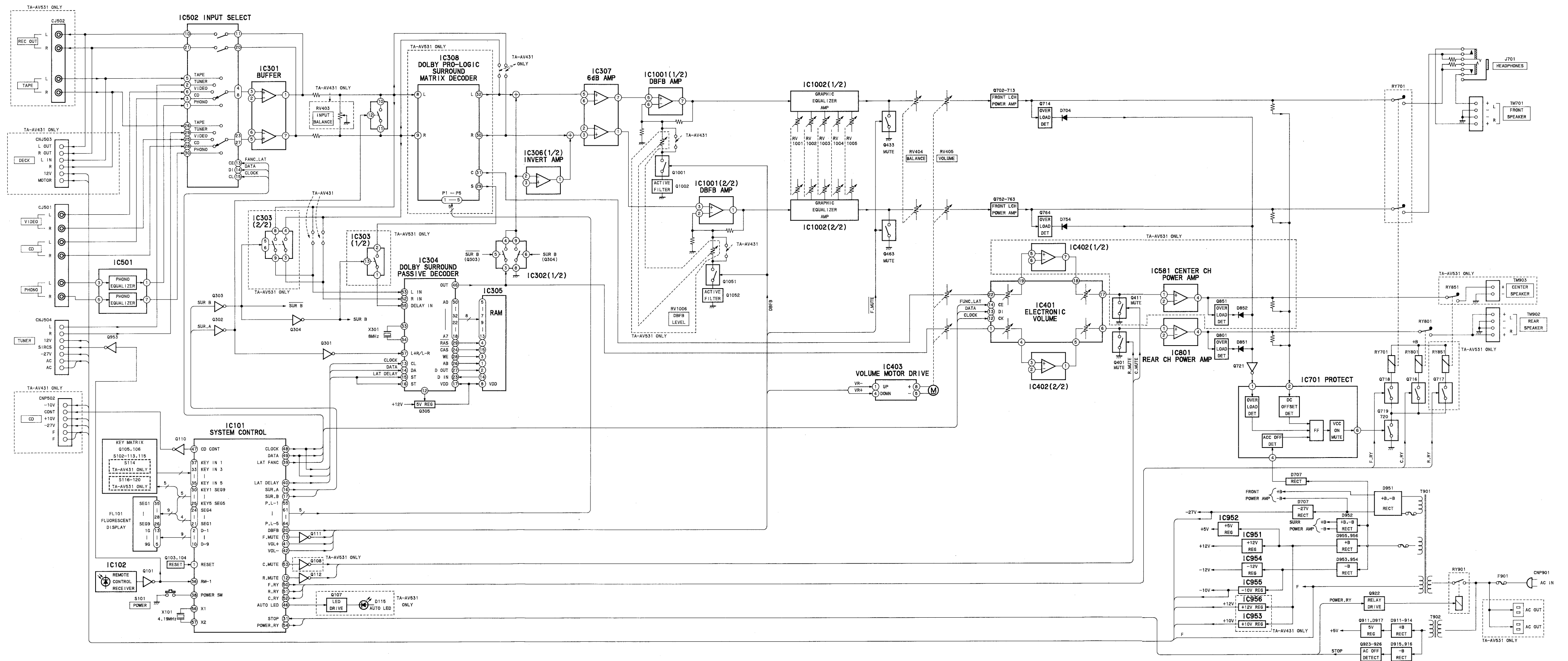
## 3-1. CIRCUIT BOARDS LOCATION



## 3-2. SEMICONDUCTOR LEAD LAYOUTS



3-3. BLOCK DIAGRAM



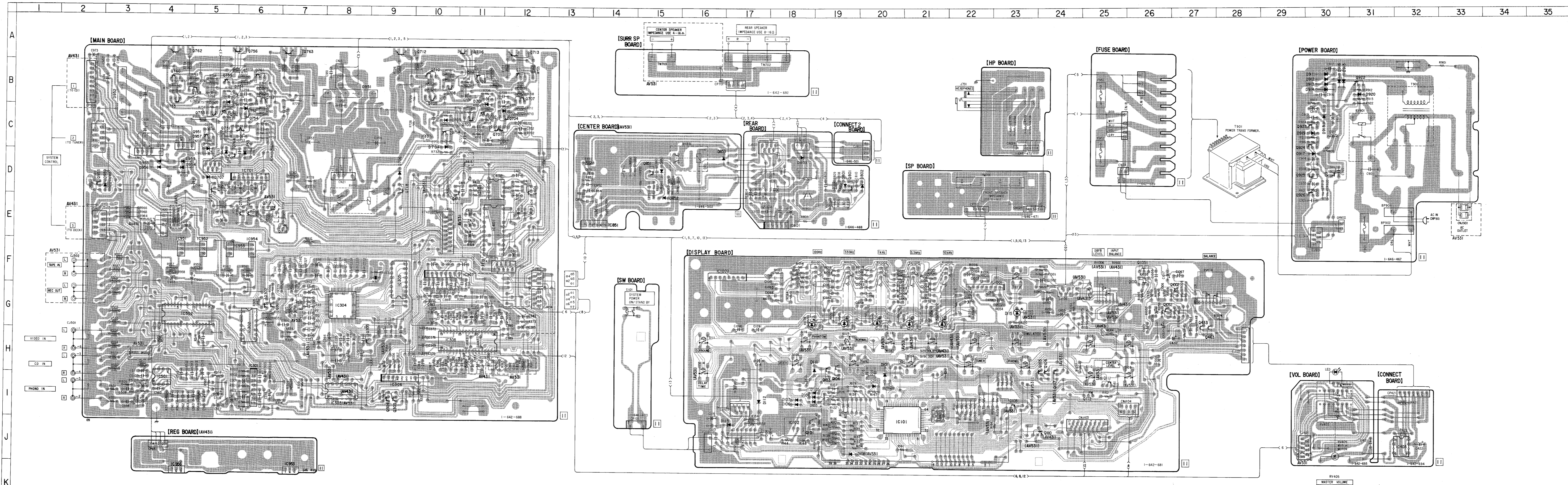
**3-4. PRINTED WIRING BOARD  
- MAIN SECTION**  
• See page 9 for Circuit Boards Location and Semiconductor Lead Layouts.

**Note on Mounting Diagram:**

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

**SEMICONDUCTOR LOCATION**

Ref. No.	Location	Ref. No.	Location
D101	H-20	Q101	J-18
D102	I-20	Q103	H-19
D103	I-18	Q104	H-19
D104	I-18	Q105	H-24
D105	I-18	Q106	H-24
D106	I-18	Q107	H-24
D107	I-18	Q108	I-23
D108	J-19	Q110	J-24
D111	H-18	Q111	I-25
D112	I-17	Q112	I-25
D113	J-17	Q301	G-6
D115	G-23	Q302	G-6
D701	B-11	Q303	H-9
D702	C-12	Q304	H-9
D703	C-10	Q305	H-9
D704	C-10	Q401	D-12
D706	D-9	Q411	D-10
D707	D-5	Q433	G-27
D751	B-5	Q463	G-27
D752	C-6	Q701	C-11
D753	D-6	Q702	C-11
D754	D-5	Q703	C-11
D801	D-19	Q704	C-12
D802	D-20	Q705	B-10
D803	D-18	Q706	A-11
D851	D-15	Q707	B-12
D852	E-15	Q708	B-10
D853	D-16	Q709	B-11
D911	B-30	Q710	B-10
D912	B-30	Q711	B-12
D913	B-30	Q712	A-9
D914	B-30	Q713	A-12
D915	B-30	Q714	C-10
D916	B-30	Q716	E-7
D917	C-30	Q717	E-6
D918	C-30	Q718	D-9
D919	C-30	Q719	E-6
D920	B-31	Q720	E-6
D951	B-8	Q721	D-5
D952	B-3	Q751	C-5
D953	D-4	Q752	C-5
D954	D-4	Q753	C-5
D955	D-4	Q754	C-6
D956	D-4	Q755	B-4
D957	C-5	Q756	A-6
D959	D-2	Q757	B-6
		Q758	B-6
		Q759	B-6
IC101	J-20		
IC102	J-18	Q760	B-4
IC301	H-6	Q761	B-6
IC302	G-6	Q762	A-4
IC303	H-8	Q763	A-7
IC304	G-8	Q764	D-5
IC305	F-9	Q801	D-19
IC306	H-9	Q851	D-15
IC307	F-11	Q911	C-30
IC308	H-10	Q922	B-31
IC401	E-11	Q923	C-30
IC402	D-11	Q924	C-30
IC403	J-32	Q925	D-30
IC501	I-4	Q926	D-30
IC502	G-4	Q951	C-5
IC701	D-6	Q953	D-2
IC801	E-18	Q1001	F-26
IC851	E-14	Q1002	G-27
IC851	F-4	Q1051	F-26
IC852	F-5	Q1052	G-26
IC953	K-7		
IC954	F-6		
IC955	F-5		
IC955	K-4		
IC1001	G-22		
IC1002	F-16		



3-5. SCHEMATIC DIAGRAM  
• MAIN SECTION  
• See page 23, 24 for IC Block Diagrams.

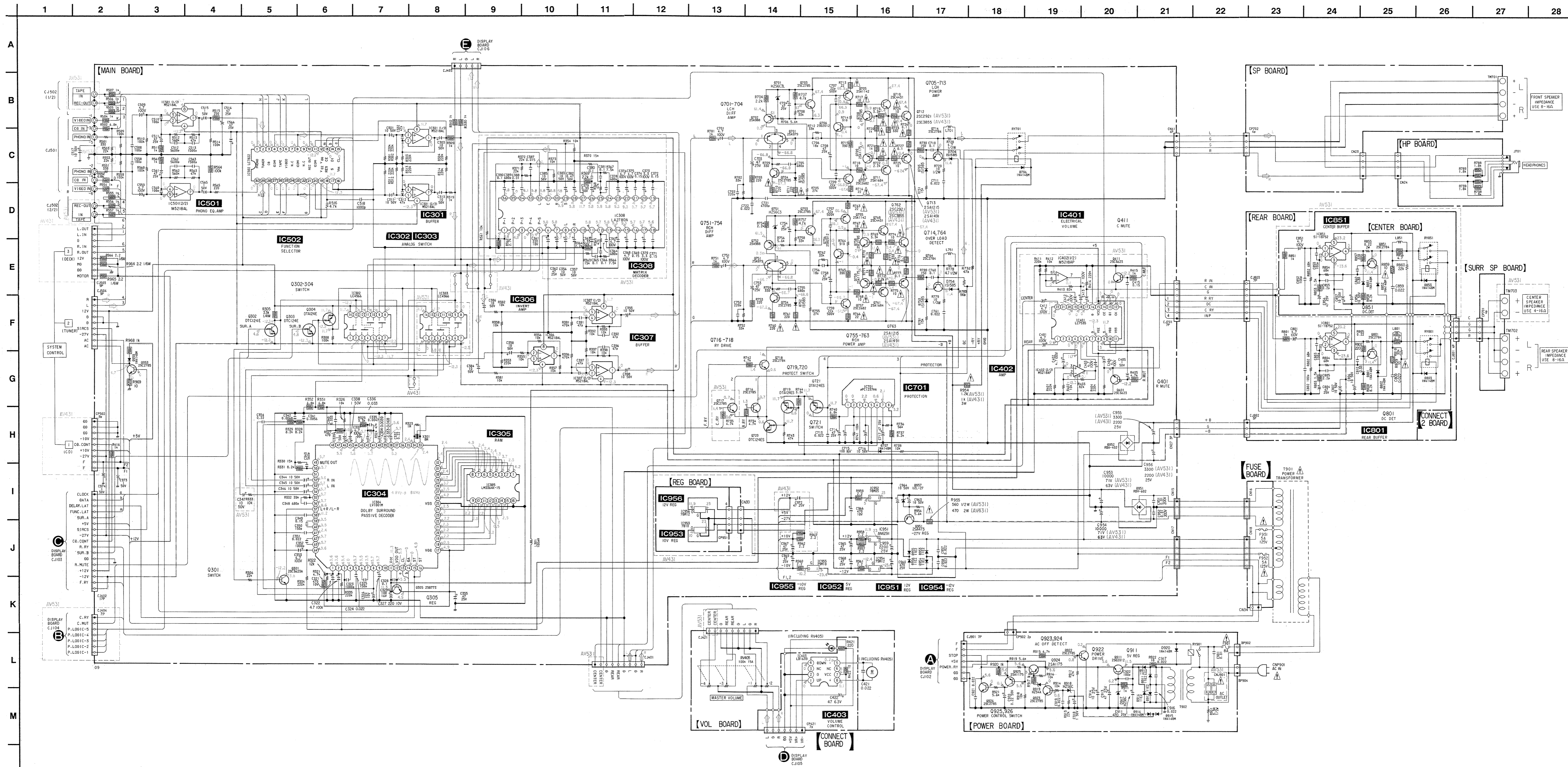
Note on Schematic Diagram:

Note:

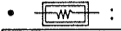
- All capacitors are in  $\mu\text{F}$  unless otherwise noted, pF:  $\mu\text{F}$  50VW or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and 1/4W or less unless otherwise specified.
- : nonflammable resistor.

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


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



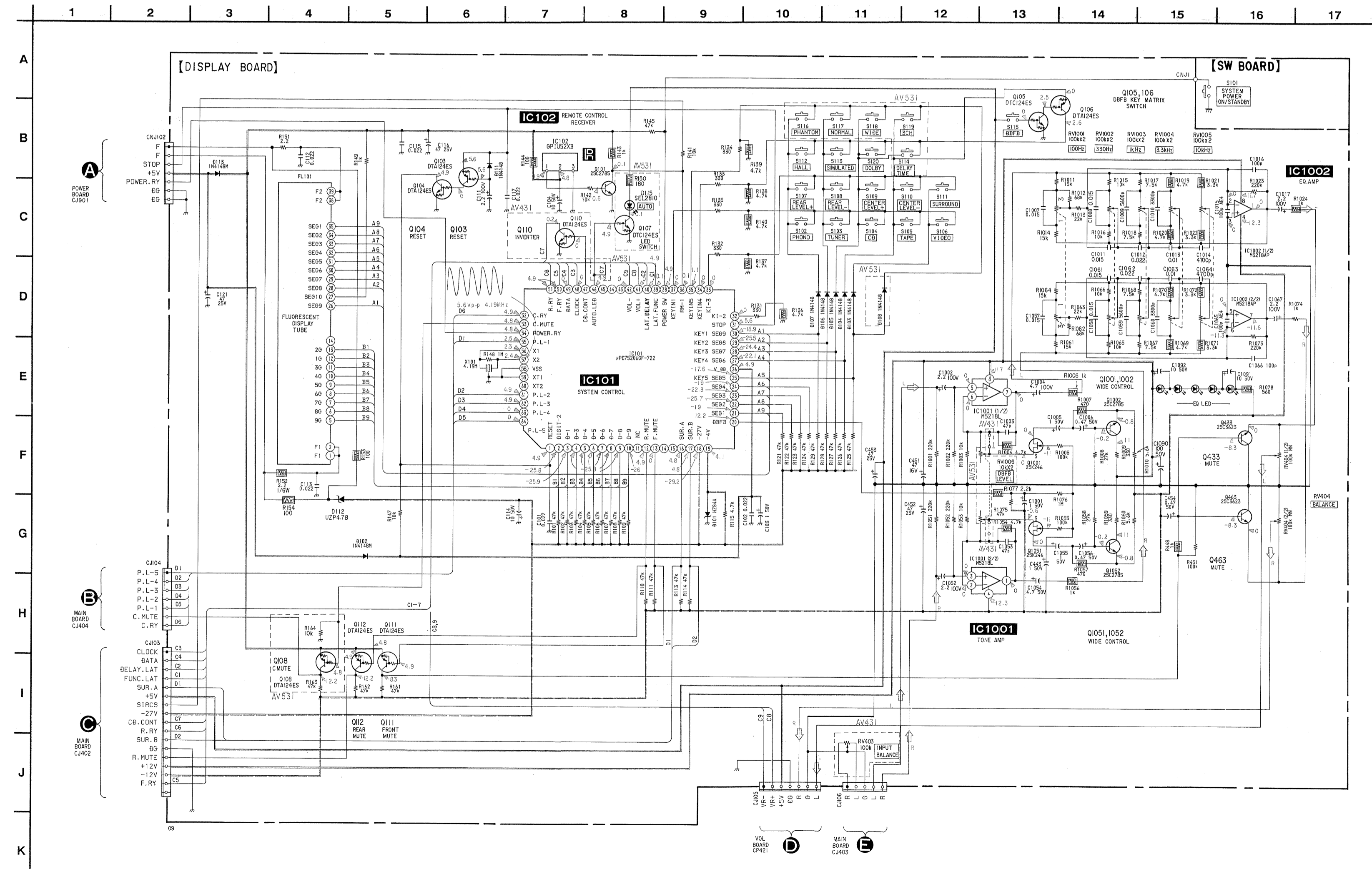
**Note on Schematic Diagram:**

- All capacitors are in  $\mu F$  unless otherwise noted. pF:  $\mu F$
- All resistors are in  $\Omega$  and 1/4W or less unless otherwise specified.
-  : nonflammable resistor.

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

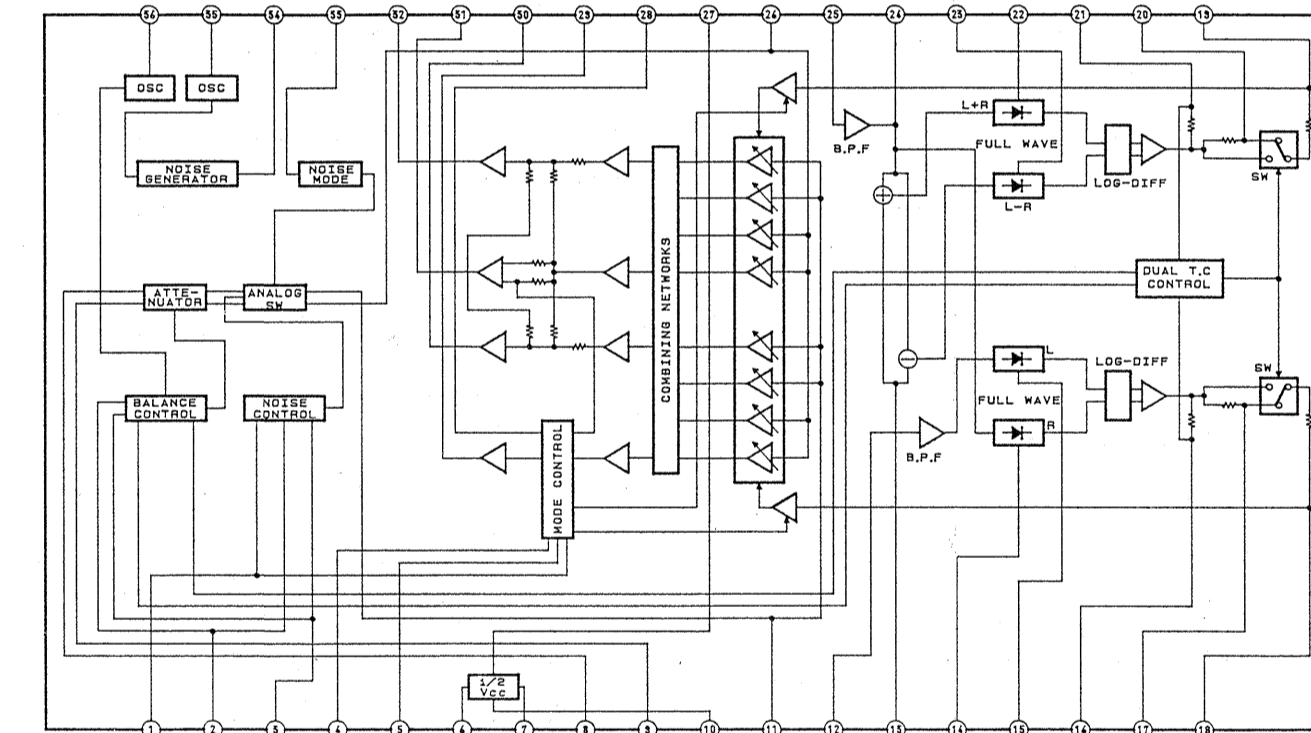
- --- : B+ line
- - - - : B- line
- Voltage and waveforms are dc with respect to ground under no-signal conditions.
- no mark : CD
- Voltages are taken with a VOM (input impedance 10 M $\Omega$ ).
- Voltage variations may be noted due to normal production tolerances.
- Signal path.
-  : TUNER

**3-6. SCHEMATIC DIAGRAM**  
**- DISPLAY SECTION**  
 • See page 23, 24 for IC Block Diagrams.

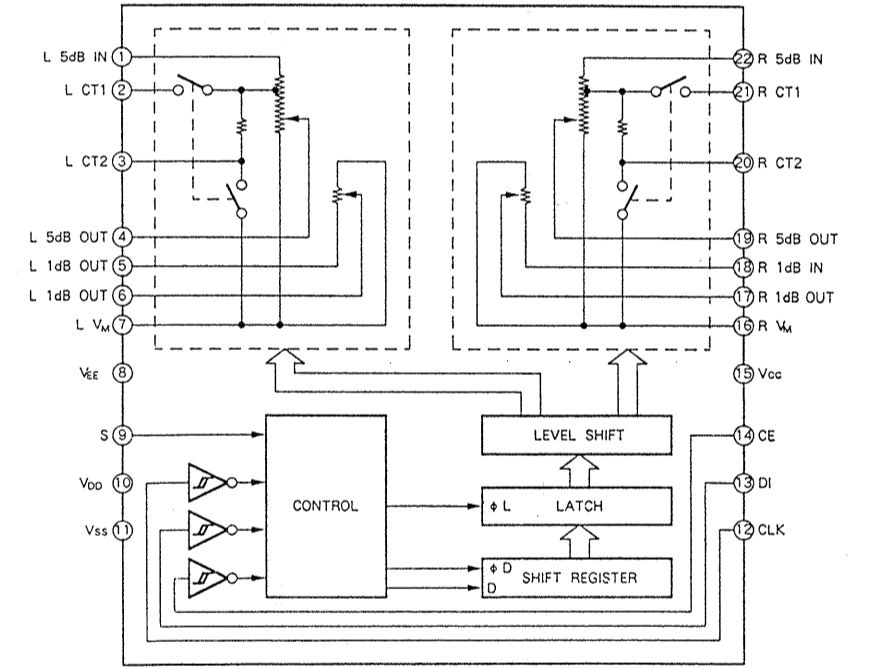


**3-7. IC BLOCK DIAGRAMS**

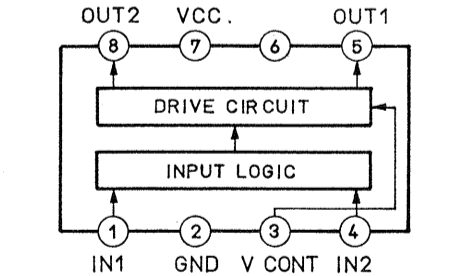
• IC308 LA2780N



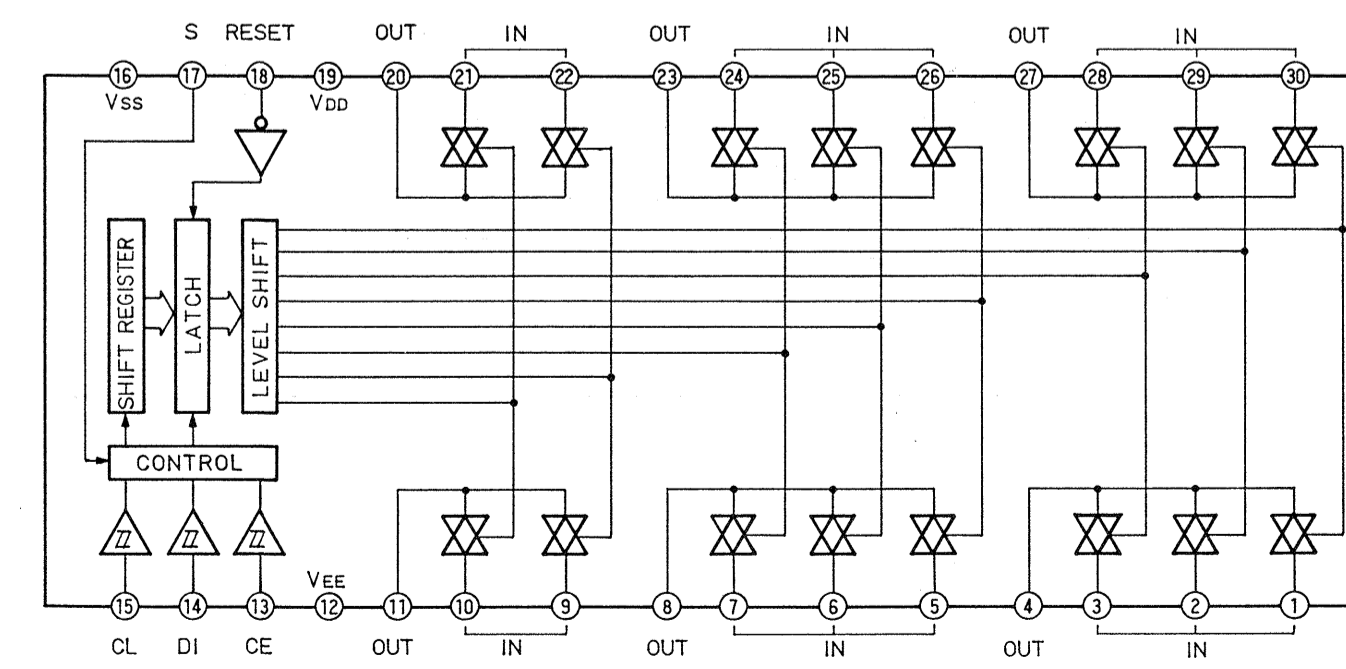
• IC401 LC7535



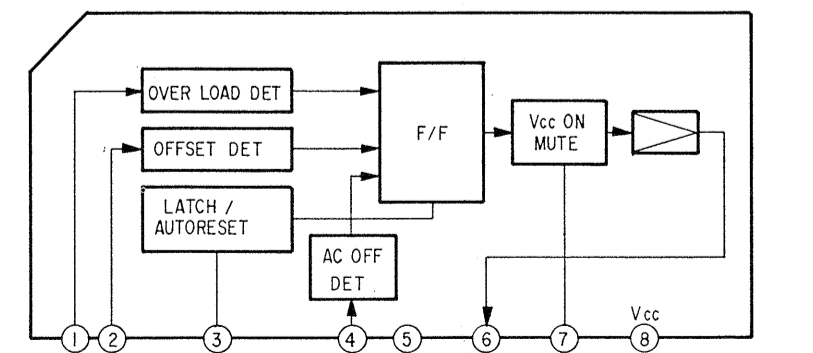
• IC403 LB1639



• IC502 LC7822



• IC701 uPC1237HA



## SECTION 4 EXPLODED VIEWS

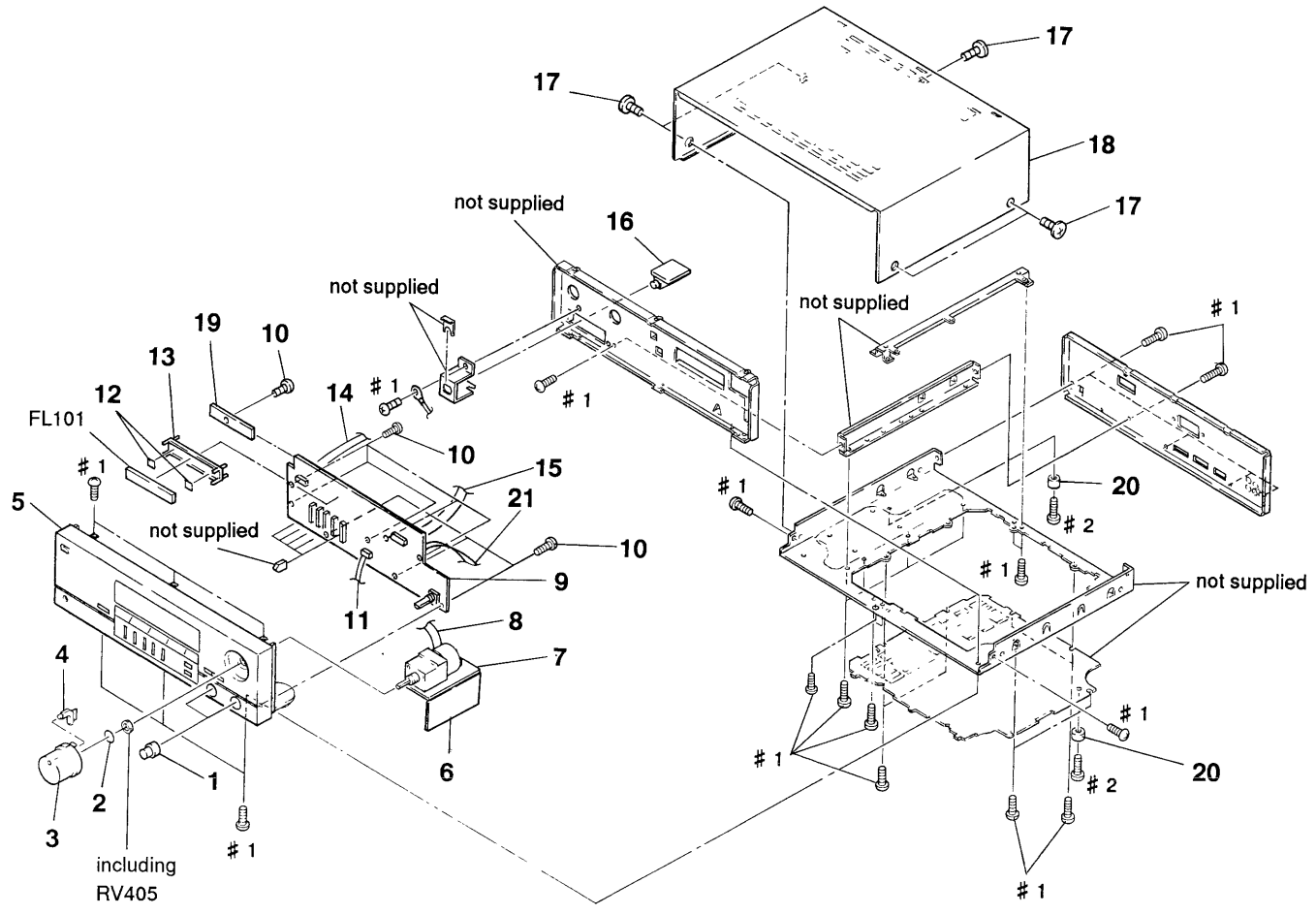
**NOTE:**

- -XX, -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 is given in the last of this parts list.
- Mexican model is abbreviated as MX.

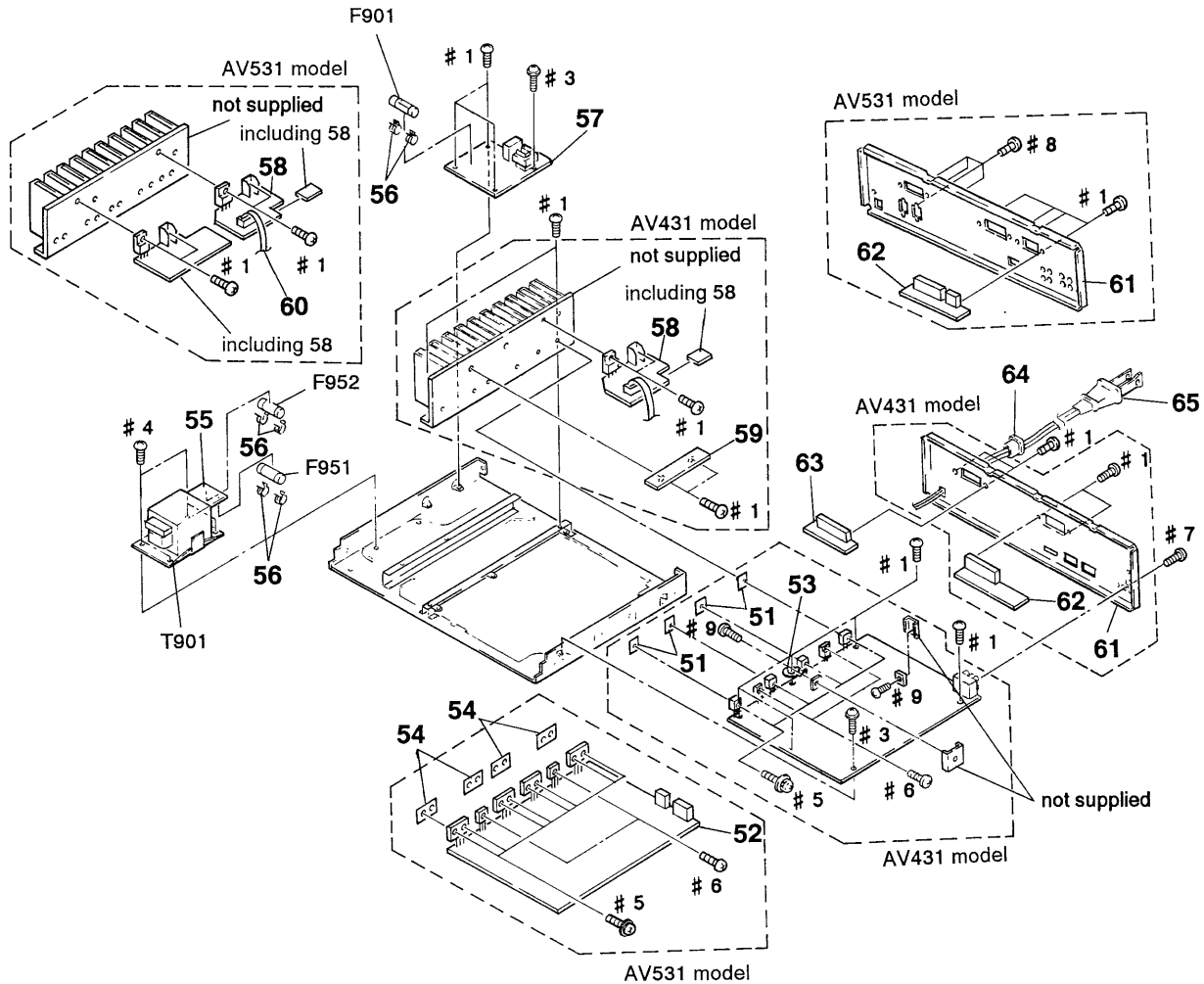
The components identified by mark or dotted line with mark are critical for safety. Replace only with part number specified.

### 4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	4-949-640-01	KNOB (DIA. 21)		* 12	4-921-941-11	CUSHION (FL)	
2	3-350-426-01	SPRING, RING		* 13	4-943-107-11	HOLDER (FL TUBE)	
3	4-949-659-01	KNOB (VOL-NEW)		14	1-590-241-11	WIRE, FLAT TYPE (7 CORE) (AV431)	
4	4-943-092-01	PLATE(VOL), LIGHT GUIDE			1-690-114-11	WIRE, FLAT TYPE (7 CORE) (AV531)	
5	X-4943-356-1	PANEL ASSY, FRONT (AV431)		15	1-590-487-11	WIRE, FLAT TYPE (17 CORE)	
5	X-4943-357-1	PANEL ASSY, FRONT (AV531)		* 16	1-646-472-11	HP BOARD	
* 6	1-642-694-11	CONNECT BOARD		17	3-363-099-01	SCREW (CASE 3 TP2)	
* 7	1-642-693-11	VOL BOARD		18	4-931-031-11	CASE	
8	1-690-588-31	WIRE, FLAT TYPE (9 CORE) (AV531)		* 19	1-646-470-11	SW BOARD	
	1-696-413-11	WIRE (FLAT TYPE) (7 CORE) (AV431)		20	X-4941-229-1	FOOT ASSY (F2112S-M)	
* 9	A-4360-009-A	DISPLAY BOARD, COMPLETE (AV431)		* 21	1-590-769-11	WIRE, FLAT TYPE (7 CORE)	
* 10	A-4360-016-A	DISPLAY BOARD, COMPLETE (AV531)					
10	4-951-620-01	SCREW (2.6X8), +BVTP		FL101	1-590-663-11	INDICATOR TUBE, FLUORESCENT	
11	1-575-666-11	WIRE, FLAT TYPE (5 CORE)					

## 4-2. BOARD SECTION



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
51	4-911-232-01	SHEET, INSULATING (AV431)		* 61	4-956-624-11	PANEL, BACK (AV431:MX)	
* 52	A-4360-347-A	MAIN BOARD, COMPLETE (AV431)		*	4-956-624-23	PANEL, BACK (AV531)	
*	A-4360-464-A	MAIN BOARD, COMPLETE (AV531)		* 62	A-4360-012-A	SURR SP BOARD, COMPLETE (AV431)	
* 53	4-942-204-01	PLATE, GROUND		*	A-4360-017-A	SURR SP BOARD, COMPLETE (AV531)	
54	4-885-901-31	SHEET, RADIATION (AV531)		* 63	1-646-471-11	SP BOARD	
* 55	1-642-689-11	FUSE BOARD		▲*64	3-703-244-00	BUSHING (2104), CORD	
56	1-533-217-31	HOLDER, FUSE		▲CNP901	1-551-478-00	CORD, POWER	
* 57	A-4360-014-A	POWER BOARD, COMPLETE (AV431)		▲F901	1-532-749-11	FUSE, GLASS TUBE (8A)	
*	A-4360-465-A	POWER BOARD, COMPLETE (AV531)		▲F951	1-576-109-11	FUSE (5A 125V)	
* 58	A-4360-012-A	REAR BOARD, COMPLETE (AV431)		▲F952	1-576-109-11	FUSE (5A 125V)	
* 58	A-4360-017-A	REAR BOARD, COMPLETE (AV531)		▲T901	1-450-806-11	TRANSFORMER, POWER (AV431)	
* 59	1-646-470-11	REG BOARD (AV431)		▲	1-450-808-11	TRANSFORMER, POWER (AV531)	
* 60	1-590-769-11	WIRE, FLAT TYPE (7 CORE)					
* 61	4-956-624-01	PANEL, BACK (AV431:US)					

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.

Table with columns: Ref. No., Part No., Description, Remark. It lists various electrical components such as CENTER BOARD, CONNECT BOARD, DISPLAY BOARD, and various capacitors and resistors.



# DISPLAY

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C1064	1-130-479-00	MYLAR	0.0047uF 5% 50V	Q108	8-729-900-63	TRANSISTOR	DTA124ES (AV531)
C1065	1-162-282-31	CERAMIC	100PF 10% 50V	Q110	8-729-900-36	TRANSISTOR	DTC124ES (AV431)
C1066	1-162-282-31	CERAMIC	100PF 10% 50V	Q111	8-729-900-63	TRANSISTOR	DTA124ES
C1067	1-124-925-11	ELECT	2.2uF 20% 100V	Q112	8-729-900-63	TRANSISTOR	DTA124ES
C1090	1-124-478-11	ELECT	100uF 20% 25V	Q433	8-729-141-30	TRANSISTOR	2SC3623A-LK
C1091	1-124-907-11	ELECT	10uF 20% 50V	Q463	8-729-141-30	TRANSISTOR	2SC3623A-LK
C1092	1-124-907-11	ELECT	10uF 20% 50V	Q1001	8-729-224-61	TRANSISTOR	2SK246-Y
< SOCKET >				Q1002	8-729-119-78	TRANSISTOR	2SC2785-HFE
* CJ101	1-565-480-11	CONNECTOR, BOARD TO BOARD	4P	Q1051	8-729-224-61	TRANSISTOR	2SK246-Y
CJ102	1-691-644-11	SOCKET, CONNECTOR	7P	Q1052	8-729-119-78	TRANSISTOR	2SC2785-HFE
CJ103	1-691-649-11	SOCKET, CONNECTOR	17P	< RESISTOR >			
CJ104	1-691-644-11	SOCKET, CONNECTOR	7P (AV531)	R101	1-249-437-11	CARBON	47K 5% 1/4W
* CJ105	1-561-651-00	SOCKET, CONNECTOR	7P	R102	1-249-437-11	CARBON	47K 5% 1/4W
* CJ106	1-568-824-11	SOCKET, CONNECTOR	5P	R103	1-249-437-11	CARBON	47K 5% 1/4W
* CJ901	1-568-826-11	SOCKET, CONNECTOR	7P (AV431)	R104	1-249-437-11	CARBON	47K 5% 1/4W
< DIODE >				R105	1-249-437-11	CARBON	47K 5% 1/4W
D101	8-719-985-53	DIODE	HZS4ALL	R106	1-249-437-11	CARBON	47K 5% 1/4W
D102	8-719-987-63	DIODE	1N4148M	R107	1-249-437-11	CARBON	47K 5% 1/4W
D103	8-719-987-63	DIODE	1N4148M	R108	1-249-437-11	CARBON	47K 5% 1/4W
D104	8-719-987-63	DIODE	1N4148M	R109	1-249-437-11	CARBON	47K 5% 1/4W
D105	8-719-987-63	DIODE	1N4148M	R110	1-249-437-11	CARBON	47K 5% 1/4W
D106	8-719-987-63	DIODE	1N4148M	R111	1-249-437-11	CARBON	47K 5% 1/4W
D107	8-719-987-63	DIODE	1N4148M	R113	1-249-437-11	CARBON	47K 5% 1/4W
D108	8-719-987-63	DIODE	1N4148M (AV531)	R114	1-249-437-11	CARBON	47K 5% 1/4W
D111	8-719-987-63	DIODE	1N4148M	R115	1-249-425-11	CARBON	4.7K 5% 1/4W F
D112	8-719-014-48	DIODE	UZP-4.7B	R121	1-249-437-11	CARBON	47K 5% 1/4W
D113	8-719-987-63	DIODE	1N4148M	R122	1-249-437-11	CARBON	47K 5% 1/4W
D115	8-719-301-49	LED	SEL2810A (AV531)	R123	1-249-437-11	CARBON	47K 5% 1/4W
< INDICATOR >				R124	1-249-437-11	CARBON	47K 5% 1/4W
FL101	1-519-663-12	INDICATOR TUBE, FLUORESCENT	(AV431)	R125	1-249-437-11	CARBON	47K 5% 1/4W
FL101	1-519-727-11	INDICATOR TUBE, FLUORESCENT	(AV531)	R126	1-249-437-11	CARBON	47K 5% 1/4W
< IC >				R127	1-249-437-11	CARBON	47K 5% 1/4W
IC101	8-759-062-41	IC	uPD75206GF-722-3BE	R128	1-249-437-11	CARBON	47K 5% 1/4W
IC102	8-749-920-83	IC	GP1U52XB	R129	1-249-437-11	CARBON	47K 5% 1/4W
IC1001	8-759-634-50	IC	M5218AL	R131	1-249-411-11	CARBON	330 5% 1/4W
IC1002	8-759-634-50	IC	M5218AL	R132	1-249-411-11	CARBON	330 5% 1/4W
< TRANSISTOR >				R133	1-249-411-11	CARBON	330 5% 1/4W
Q101	8-729-119-78	TRANSISTOR	2SC2785-HFE	R134	1-249-411-11	CARBON	330 5% 1/4W
Q103	8-729-900-63	TRANSISTOR	DTA124ES	R135	1-249-411-11	CARBON	330 5% 1/4W
Q104	8-729-900-36	TRANSISTOR	DTC124ES	R136	1-249-425-11	CARBON	4.7K 5% 1/4W F
Q105	8-729-900-36	TRANSISTOR	DTC124ES	R137	1-249-425-11	CARBON	4.7K 5% 1/4W F
Q106	8-729-900-63	TRANSISTOR	DTA124ES	R138	1-249-425-11	CARBON	4.7K 5% 1/4W F
Q107	8-729-900-36	TRANSISTOR	DTC124ES (AV531)	R139	1-249-425-11	CARBON	4.7K 5% 1/4W F
				R140	1-249-425-11	CARBON	4.7K 5% 1/4W F
				R141	1-249-429-11	CARBON	10K 5% 1/4W
				R142	1-249-429-11	CARBON	10K 5% 1/4W
				R143	1-249-417-11	CARBON	1K 5% 1/4W F
				R144	1-249-405-11	CARBON	100 5% 1/4W F
				R145	1-249-437-11	CARBON	47K 5% 1/4W

# DISPLAY

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R147	1-249-429-11	CARBON	10K 5% 1/4W	R1061	1-249-431-11	CARBON	15K 5% 1/4W
R148	1-247-903-00	CARBON	1M 5% 1/4W	R1062	1-249-439-11	CARBON	68K 5% 1/4W
R149	1-249-417-11	CARBON	1K 5% 1/4W F	R1063	1-249-433-11	CARBON	22K 5% 1/4W
R150	1-249-408-11	CARBON	180 5% 1/4W F	R1064	1-249-431-11	CARBON	15K 5% 1/4W
R151	1-249-385-11	CARBON	2.2 5% 1/6W F	R1065	1-249-429-11	CARBON	10K 5% 1/4W
R152	1-249-385-11	CARBON	2.2 5% 1/6W F	R1066	1-249-429-11	CARBON	10K 5% 1/4W
R153	1-249-405-11	CARBON	100 5% 1/4W F	R1067	1-247-852-11	CARBON	7.5K 5% 1/4W
R154	1-249-405-11	CARBON	100 5% 1/4W F	R1068	1-247-852-11	CARBON	7.5K 5% 1/4W
R161	1-249-437-11	CARBON	47K 5% 1/4W	R1069	1-249-425-11	CARBON	4.7K 5% 1/4W F
R162	1-249-437-11	CARBON	47K 5% 1/4W	R1070	1-249-425-11	CARBON	4.7K 5% 1/4W F
R163	1-249-437-11	CARBON	47K 5% 1/4W	R1071	1-249-423-11	CARBON	3.3K 5% 1/4W F
R164	1-249-429-11	CARBON	10K 5% 1/4W (AV531)	R1072	1-249-423-11	CARBON	3.3K 5% 1/4W F
R448	1-249-417-11	CARBON	1K 5% 1/4W F	R1073	1-247-887-00	CARBON	220K 5% 1/4W
R451	1-249-441-11	CARBON	100K 5% 1/4W	R1074	1-249-417-11	CARBON	1K 5% 1/4W F
R1001	1-247-887-00	CARBON	220K 5% 1/4W	R1075	1-249-437-11	CARBON	47K 5% 1/4W
R1002	1-247-887-00	CARBON	220K 5% 1/4W	R1076	1-247-903-00	CARBON	1M 5% 1/4W
R1003	1-249-429-11	CARBON	10K 5% 1/4W	R1077	1-249-421-11	CARBON	2.2K 5% 1/4W F
R1004	1-249-425-11	CARBON	4.7K 5% 1/4W F	R1078	1-249-414-11	CARBON	560 5% 1/4W F
R1005	1-249-441-11	CARBON	100K 5% 1/4W	< VARIABLE RESISTOR >			
R1006	1-249-417-11	CARBON	1K 5% 1/4W F	RV403	1-223-307-11	RES, VAR, CARBON 100K/100K	(AV431)
R1007	1-249-413-11	CARBON	470 5% 1/4W F	RV404	1-238-965-21	RES, VAR, CARBON 100K/100K	
R1008	1-249-434-11	CARBON	27K 5% 1/4W	RV1001	1-223-262-11	RES, VAR, SLIDE 100K/100K	
R1009	1-249-411-11	CARBON	330 5% 1/4W	RV1002	1-223-262-11	RES, VAR, SLIDE 100K/100K	
R1010	1-249-426-11	CARBON	5.6K 5% 1/4W	RV1003	1-223-262-11	RES, VAR, SLIDE 100K/100K	
R1011	1-249-431-11	CARBON	15K 5% 1/4W	RV1004	1-223-262-11	RES, VAR, SLIDE 100K/100K	
R1012	1-249-439-11	CARBON	68K 5% 1/4W	RV1005	1-223-262-11	RES, VAR, SLIDE 100K/100K	
R1013	1-249-433-11	CARBON	22K 5% 1/4W	RV1006	1-223-269-11	RES, VAR, CARBON 10K/10K	(AV531)
R1014	1-249-431-11	CARBON	15K 5% 1/4W	< SWITCH >			
R1015	1-249-429-11	CARBON	10K 5% 1/4W	S102	1-554-303-21	SWITCH, TACTILE (PHONO)	
R1016	1-249-429-11	CARBON	10K 5% 1/4W	S103	1-554-303-21	SWITCH, TACTILE (TUNER)	
R1017	1-247-852-11	CARBON	7.5K 5% 1/4W	S104	1-554-303-21	SWITCH, TACTILE (CD)	
R1018	1-247-852-11	CARBON	7.5K 5% 1/4W	S105	1-554-303-21	SWITCH, TACTILE (TAPE)	
R1019	1-249-425-11	CARBON	4.7K 5% 1/4W F	S106	1-554-303-21	SWITCH, TACTILE (VIDEO)	
R1020	1-249-425-11	CARBON	4.7K 5% 1/4W F	S107	1-554-303-21	SWITCH, TACTILE (REAR LEVEL +)	
R1021	1-249-423-11	CARBON	3.3K 5% 1/4W F	S108	1-554-303-21	SWITCH, TACTILE (REAR LEVEL -)	
R1022	1-249-423-11	CARBON	3.3K 5% 1/4W F	S109	1-554-303-21	SWITCH, TACTILE (CENTER LEVEL +)	(AV531)
R1023	1-247-887-00	CARBON	220K 5% 1/4W	S110	1-554-303-21	SWITCH, TACTILE (CENTER LEVEL -)	(AV531)
R1024	1-249-417-11	CARBON	1K 5% 1/4W F	S111	1-554-303-21	SWITCH, TACTILE (SURROUND))	
R1051	1-247-887-00	CARBON	220K 5% 1/4W	S112	1-554-303-21	SWITCH, TACTILE (HALL)	
R1052	1-247-887-00	CARBON	220K 5% 1/4W	S113	1-554-303-21	SWITCH, TACTILE (SIMULATED)	
R1053	1-249-429-11	CARBON	10K 5% 1/4W	S114	1-554-303-21	SWITCH, TACTILE (DELAY TIME)	(AV531)
R1054	1-249-425-11	CARBON	4.7K 5% 1/4W F	S115	1-554-303-21	SWITCH, TACTILE (DBFB)	
R1055	1-249-441-11	CARBON	100K 5% 1/4W	S116	1-554-303-21	SWITCH, TACTILE (PHANTOM)	(AV531)
R1056	1-249-417-11	CARBON	1K 5% 1/4W F	S117	1-554-303-21	SWITCH, TACTILE (NORMAL)	(AV531)
R1057	1-249-413-11	CARBON	470 5% 1/4W F	S118	1-554-303-21	SWITCH, TACTILE (WIDE)	(AV531)
R1058	1-249-434-11	CARBON	27K 5% 1/4W				
R1059	1-249-411-11	CARBON	330 5% 1/4W				
R1060	1-249-426-11	CARBON	5.6K 5% 1/4W				

**DISPLAY**   **FUSE**   **HP**   **MAIN**

Ref. No.	Part No.	Description	Remark
S119	1-554-303-21	SWITCH, TACTILE (3 CH) (AV531)	
S120	1-554-303-21	SWITCH, TACTILE (DOLBY) (AV431)	
< VIBRATOR >			
X101	1-577-101-11	VIBRATOR, CERAMIC (4.19MHz)	
*****			
*	1-642-689-11	FUSE BOARD	
*****			
	1-533-217-31	HOLDER, FUSE	
< FUSE >			
△F951	1-576-109-11	FUSE 5A 125V	
△F952	1-576-109-11	FUSE 5A 125V	
*****			
*	1-646-472-11	HP BOARD	
*****			
< JACK >			
J701	1-569-113-11	JACK, LARGE TYPE	
< RESISTOR >			
R738	1-249-420-11	CARBON      1.8K 5% 1/4W F	
R739	1-249-420-11	CARBON      1.8K 5% 1/4W F	
R788	1-249-420-11	CARBON      1.8K 5% 1/4W F	
R789	1-249-420-11	CARBON      1.8K 5% 1/4W F	
*****			
*	A-4360-347-A	MAIN BOARD, COMPLETE (AV431)	
*****			
*	A-4360-464-A	MAIN BOARD, COMPLETE (AV531)	
*****			
*	4-942-204-01	PLATE, GROUND	
	7-682-548-04	SCREW +BVTT 3X8 (S)	
< CAPACITOR >			
C301	1-124-907-11	ELECT      10uF      20%      50V	
C302	1-162-215-31	CERAMIC    47PF      5%      50V	
C303	1-124-907-11	ELECT      10uF      20%      50V	
C311	1-124-907-11	ELECT      10uF      20%      50V	
C312	1-162-215-31	CERAMIC    47PF      5%      50V	
C313	1-124-907-11	ELECT      10uF      20%      50V	
C321	1-126-925-11	ELECT      470uF     20%      10V	
C322	1-124-927-11	ELECT      4.7uF     20%      100V	
C323	1-162-294-31	CERAMIC    0.001uF   10%      50V	
C324	1-130-487-00	MYLAR      0.022uF   5%      50V	

Ref. No.	Part No.	Description	Remark
C325	1-162-284-31	CERAMIC    150PF     10%      50V	
C326	1-126-923-11	ELECT      220uF     20%      10V	
C327	1-126-923-11	ELECT      220uF     20%      10V	
C328	1-164-159-11	CERAMIC    0.1uF     50V	
C329	1-126-933-11	ELECT      100uF     20%      16V	
C332	1-136-169-00	FILM       0.22uF    5%      50V	
C333	1-130-493-00	MYLAR      0.068uF   5%      50V	
C334	1-102-124-00	CERAMIC    0.0039uF 10%      50V	
C335	1-102-125-00	CERAMIC    4700PF    10%      50V	
C336	1-130-489-00	MYLAR      0.033uF   5%      50V	
C337	1-124-927-11	ELECT      4.7uF     20%      100V	
C338	1-124-903-11	ELECT      1uF       20%      50V	
C339	1-124-903-11	ELECT      1uF       20%      50V	
C340	1-130-489-00	MYLAR      0.033uF   5%      50V	
C341	1-102-126-00	CERAMIC    0.0056uF 10%      50V	
C342	1-102-127-00	CERAMIC    6800PF    10%      50V	
C343	1-162-291-31	CERAMIC    560PF     10%      50V	
C344	1-124-907-11	ELECT      10uF      20%      50V	
C345	1-124-907-11	ELECT      10uF      20%      50V	
C346	1-124-907-11	ELECT      10uF      20%      50V	
C347	1-124-907-11	ELECT      10uF      20%      50V	(AV531)
C348	1-162-292-31	CERAMIC    680PF     10%      50V	
C349	1-136-167-00	FILM       0.15uF    5%      50V	
C350	1-162-284-31	CERAMIC    150PF     10%      50V	
C351	1-130-487-00	MYLAR      0.022uF   5%      50V	
C352	1-162-294-31	CERAMIC    0.001uF   10%      50V	
C353	1-124-927-11	ELECT      4.7uF     20%      100V	
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	(AV531)
C357	1-124-907-11	ELECT      10uF      20%      50V	(AV531)
C358	1-124-907-11	ELECT      10uF      20%      50V	
C361	1-126-923-11	ELECT      220uF     20%      10V	(AV531)
C362	1-124-477-11	ELECT      47uF      20%      25V	(AV531)
C363	1-124-252-00	ELECT      0.33uF    20%      50V	(AV531)
C364	1-162-292-31	CERAMIC    680PF     10%      50V	(AV531)
C365	1-136-165-00	FILM       0.1uF     5%      50V	(AV531)
C366	1-136-165-00	FILM       0.1uF     5%      50V	(AV531)
C367	1-124-927-11	ELECT      4.7uF     20%      100V	(AV531)
C368	1-124-927-11	ELECT      4.7uF     20%      100V	(AV531)

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
C369	1-136-167-00	FILM 0.15uF 5% 50V	(AV531)	C412	1-124-927-11	ELECT 4.7uF 20% 100V	(AV531)
C370	1-123-382-00	ELECT 3.3uF 20% 100V	(AV531)	C413	1-124-927-11	ELECT 4.7uF 20% 100V	(AV531)
C371	1-136-167-00	FILM 0.15uF 5% 50V	(AV531)	C414	1-124-927-11	ELECT 4.7uF 20% 100V	(AV531)
C372	1-136-167-00	FILM 0.15uF 5% 50V	(AV531)	C415	1-136-167-00	FILM 0.15uF 5% 50V	(AV531)
C373	1-123-382-00	ELECT 3.3uF 20% 100V	(AV531)	C508	1-162-282-31	CERAMIC 100PF 10% 50V	
C374	1-136-167-00	FILM 0.15uF 5% 50V	(AV531)	C509	1-124-927-11	ELECT 4.7uF 20% 100V	
C375	1-124-927-11	ELECT 4.7uF 20% 100V	(AV531)	C510	1-162-282-31	CERAMIC 100PF 10% 50V	
C376	1-124-927-11	ELECT 4.7uF 20% 100V	(AV531)	C511	1-124-477-11	ELECT 47uF 20% 25V	
C378	1-162-292-31	CERAMIC 680PF 10% 50V	(AV531)	C512	1-102-126-00	CERAMIC 0.0056uF 10% 50V	
C379	1-124-252-00	ELECT 0.33uF 20% 50V	(AV531)	C513	1-102-119-00	CERAMIC 1500PF 10% 50V	
C380	1-136-165-00	FILM 0.1uF 5% 50V	(AV531)	C515	1-124-903-11	ELECT 1uF 20% 50V	
C381	1-136-165-00	FILM 0.1uF 5% 50V	(AV531)	C516	1-124-477-11	ELECT 47uF 20% 25V	
C382	1-124-902-00	ELECT 0.47uF 20% 50V	(AV531)	C517	1-124-907-11	ELECT 10uF 20% 50V	
C383	1-124-907-11	ELECT 10uF 20% 50V	(AV531)	C518	1-162-294-31	CERAMIC 0.001uF 10% 50V	
C384	1-124-907-11	ELECT 10uF 20% 50V		C558	1-162-282-31	CERAMIC 1500PF 10% 50V	
C385	1-124-907-11	ELECT 10uF 20% 50V	(AV531)	C559	1-124-927-11	ELECT 4.7uF 20% 100V	
C386	1-124-907-11	ELECT 10uF 20% 50V		C560	1-162-282-31	CERAMIC 100PF 10% 50V	
C387	1-130-485-00	MYLAR 0.015uF 5% 50V	(AV531)	C561	1-124-477-11	ELECT 47uF 20% 25V	
C388	1-130-483-00	MYLAR 0.01uF 5% 50V	(AV531)	C562	1-102-126-00	CERAMIC 0.0056uF 10% 50V	
C389	1-162-292-31	CERAMIC 680PF 10% 50V	(AV531)	C563	1-102-119-00	CERAMIC 1500PF 10% 50V	
C390	1-136-165-00	FILM 0.1uF 5% 50V	(AV531)	C565	1-124-903-11	ELECT 1uF 20% 50V	
C391	1-162-215-31	CERAMIC 47PF 5% 50V		C566	1-124-477-11	ELECT 47uF 20% 25V	
C392	1-162-215-31	CERAMIC 47PF 5% 50V		C701	1-124-927-11	ELECT 4.7uF 20% 100V	
C393	1-124-907-11	ELECT 10uF 20% 50V		C702	1-162-286-31	CERAMIC 220PF 10% 50V	
C396	1-162-215-31	CERAMIC 47PF 5% 50V		C703	1-124-477-11	ELECT 47uF 20% 25V	
C397	1-162-215-31	CERAMIC 47PF 5% 50V		C704	1-124-477-11	ELECT 47uF 20% 25V	
C398	1-124-907-11	ELECT 10uF 20% 50V		C705	1-162-292-31	CERAMIC 680PF 10% 50V	
C401	1-124-927-11	ELECT 4.7uF 20% 100V		C706	1-162-205-31	CERAMIC 18PF 5% 50V	
C402	1-124-927-11	ELECT 4.7uF 20% 100V		C707	1-161-959-00	CERAMIC 22PF 10% 500V	
C403	1-124-927-11	ELECT 4.7uF 20% 100V		C708	1-124-477-11	ELECT 47uF 20% 25V	
C404	1-124-927-11	ELECT 4.7uF 20% 100V		C709	1-161-959-00	CERAMIC 22PF 10% 500V	
C405	1-124-903-11	ELECT 1uF 20% 50V		C710	1-136-165-00	FILM 0.1uF 5% 50V	
C411	1-124-927-11	ELECT 4.7uF 20% 100V	(AV531)	C711	1-130-487-00	MYLAR 0.022uF 5% 50V	
				C713	1-164-097-11	CERAMIC 0.022uF 50V	
				C714	1-124-477-11	ELECT 47uF 20% 25V	
				C715	1-126-933-11	ELECT 100uF 20% 16V	
				C716	1-124-907-11	ELECT 10uF 20% 50V	
				C717	1-124-477-11	ELECT 47uF 20% 25V	
				C721	1-102-125-00	CERAMIC 4700PF 10% 50V	
				C722	1-164-097-11	CERAMIC 0.022uF 50V	
				C751	1-124-927-11	ELECT 4.7uF 20% 100V	
				C752	1-162-286-31	CERAMIC 220PF 10% 50V	
				C753	1-124-477-11	ELECT 47uF 20% 25V	
				C754	1-124-477-11	ELECT 47uF 20% 25V	
				C755	1-162-292-31	CERAMIC 680PF 10% 50V	
				C756	1-162-205-31	CERAMIC 18PF 5% 50V	
				C757	1-161-959-00	CERAMIC 22PF 10% 500V	

**MAIN**

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C758	1-124-477-11	ELECT	47uF 20% 25V			< PIN, CONNECTOR >	
C759	1-161-959-00	CERAMIC	22PF 10% 500V				
C760	1-136-165-00	FILM	0.1uF 5% 50V				
C761	1-130-487-00	MYLAR	0.022uF 5% 50V				
C951	1-106-367-00	MYLAR	0.01uF 5% 200V				
C952	1-106-367-00	MYLAR	0.01uF 5% 200V				
C953	1-125-729-31	ELECT	10000uF 20% 63V (AV431)	D701	8-719-933-41	DIODE	HZS6C3L
C953	1-125-730-11	ELECT	10000uF 20% 71V (AV531)	D702	8-719-815-85	DIODE	1S1585
C954	1-125-729-31	ELECT	10000uF 20% 63V (AV431)	D703	8-719-815-85	DIODE	1S1585
C954	1-125-730-11	ELECT	10000uF 20% 71V (AV531)	D704	8-719-815-85	DIODE	1S1585
C955	1-124-563-11	ELECT	2200uF 20% 25V (AV431)	D706	8-719-987-63	DIODE	1N4148M
C955	1-124-636-00	ELECT	3300uF 20% 25V (AV531)	D707	8-719-987-63	DIODE	1N4148M
C956	1-124-563-11	ELECT	2200uF 20% 25V (AV431)	D751	8-719-933-41	DIODE	HZS6C3L
C956	1-124-636-00	ELECT	3300uF 20% 25V (AV531)	D752	8-719-815-85	DIODE	1S1585
C957	1-164-097-11	CERAMIC	0.022uF 50V	D753	8-719-815-85	DIODE	1S1585
C958	1-164-097-11	CERAMIC	0.022uF 50V	D754	8-719-815-85	DIODE	1S1585
C959	1-124-563-11	ELECT	2200uF 20% 25V	D951	8-719-302-38	DIODE	RBV-602-01
C960	1-124-480-11	ELECT	470uF 20% 25V	D952	8-719-312-09	DIODE	RBA-402
C963	1-124-907-11	ELECT	10uF 20% 50V	D953	8-719-200-82	DIODE	11ES2
C964	1-124-907-11	ELECT	10uF 20% 50V	D954	8-719-200-82	DIODE	11ES2
C965	1-124-477-11	ELECT	47uF 20% 25V	D955	8-719-200-82	DIODE	11ES2
C966	1-126-925-11	ELECT	470uF 20% 10V	D956	8-719-200-82	DIODE	11ES2
C967	1-124-477-11	ELECT	47uF 20% 25V (AV431)	D957	8-719-002-48	DIODE	UZL-27H
C968	1-124-477-11	ELECT	47uF 20% 25V	D959	8-719-987-63	DIODE	1N4148M
C969	1-124-477-11	ELECT	47uF 20% 25V (AV431)			< IC >	
C972	1-124-477-11	ELECT	47uF 20% 25V (AV431)	IC301	8-759-634-50	IC	M5218AL
C973	1-124-903-11	ELECT	1uF 20% 50V	IC302	8-759-801-01	IC	LC4966
C974	1-124-903-11	ELECT	1uF 20% 50V	IC303	8-759-801-01	IC	LC4966 (AV531)
		< SOCKET >		IC304	8-759-823-63	IC	LV1001M
* CJ401	1-568-826-11	SOCKET, CONNECTOR 7P	(AV431)	IC305	8-759-821-13	IC	LM3364K-15
* CJ401	1-568-828-11	SOCKET, CONNECTOR 9P	(AV531)	IC306	8-759-634-50	IC	M5218AL
* CJ402	1-568-836-11	SOCKET, CONNECTOR 17P		IC307	8-759-634-50	IC	M5218AL
* CJ403	1-568-824-11	SOCKET, CONNECTOR 5P		IC308	8-759-098-54	IC	LA2780N (AV531)
* CJ404	1-568-826-11	SOCKET, CONNECTOR 7P	(AV531)	IC401	8-759-820-11	IC	LC7535
CJ501	1-691-887-11	JACK, PIN 6P		IC402	8-759-634-51	IC	M5218AP
CJ502	1-573-028-21	JACK, PIN 4P	(AV531)	IC501	8-759-634-51	IC	M5218AP
CJ503	1-565-949-11	SOCKET, CONNECTOR 9P	(AV431)	IC502	8-759-805-14	IC	LC7822
CJ504	1-565-949-11	SOCKET, CONNECTOR 9P		IC701	8-759-111-68	IC	uPC1237HA
* CJ701	1-568-826-11	SOCKET, CONNECTOR 7P		IC951	8-759-604-39	IC	M5F79M12L
				IC952	8-759-604-35	IC	M5F78M05L
				IC954	8-759-604-45	IC	M5F79M12L
				IC955	8-759-604-44	IC	M5F79M10L (AV431)
						< COIL >	
				L301	1-410-521-11	INDUCTOR	100uH
				L701	1-420-872-00	COIL, AIR CORE	
				L751	1-420-872-00	COIL, AIR CORE	
						< TRANSISTOR >	
				Q301	8-729-141-30	TRANSISTOR	2SC3623A-LK

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
Q302	8-729-900-36	TRANSISTOR	DTC124ES	R309	1-249-417-11	CARBON	1K 5% 1/4W F
Q303	8-729-900-36	TRANSISTOR	DTC124ES	R310	1-249-417-11	CARBON	1K 5% 1/4W F (AV431)
Q304	8-729-900-63	TRANSISTOR	DTA124ES	R311	1-247-887-00	CARBON	220K 5% 1/4W
Q305	8-729-140-98	TRANSISTOR	2SD773-34	R312	1-247-887-00	CARBON	220K 5% 1/4W
Q401	8-729-141-30	TRANSISTOR	2SC3623A-LK	R313	1-247-887-00	CARBON	220K 5% 1/4W
Q411	8-729-141-30	TRANSISTOR	2SC3623A-LK (AV531)	R314	1-247-887-00	CARBON	220K 5% 1/4W
Q701	8-729-620-18	TRANSISTOR	2SA979-FG	R319	1-249-417-11	CARBON	1K 5% 1/4W F
Q702	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	R320	1-249-417-11	CARBON	1K 5% 1/4W F (AV431)
Q703	8-729-119-78	TRANSISTOR	2SC2785-HFE	R321	1-249-425-11	CARBON	4.7K 5% 1/4W F
Q704	8-729-119-78	TRANSISTOR	2SC2785-HFE	R322	1-249-430-11	CARBON	12K 5% 1/4W
Q705	8-729-141-06	TRANSISTOR	2SA1142-QPE	R323	1-247-903-00	CARBON	1M 5% 1/4W
Q706	8-729-209-15	TRANSISTOR	2SD2012	R324	1-249-437-11	CARBON	47K 5% 1/4W
Q708	8-729-119-78	TRANSISTOR	2SC2785-HFE	R325	1-249-423-11	CARBON	3.3K 5% 1/4W F
Q709	8-729-119-76	TRANSISTOR	2SA1175-HFE	R326	1-249-429-11	CARBON	10K 5% 1/4W
Q710	8-729-141-46	TRANSISTOR	2SC4431-LK	R327	1-249-413-11	CARBON	470 5% 1/4W F
Q711	8-729-141-37	TRANSISTOR	2SA1684-LK	R328	1-249-428-11	CARBON	8.2K 5% 1/4W F
Q712	8-729-320-83	TRANSISTOR	2SC3855-OY	R329	1-249-428-11	CARBON	8.2K 5% 1/4W F
Q713	8-729-320-86	TRANSISTOR	2SA1491-OY	R330	1-249-431-11	CARBON	15K 5% 1/4W
Q714	8-729-178-42	TRANSISTOR	2SC2784-F	R331	1-249-428-11	CARBON	8.2K 5% 1/4W F
Q716	8-729-119-78	TRANSISTOR	2SC2785-HFE	R332	1-249-436-11	CARBON	39K 5% 1/4W
Q717	8-729-119-78	TRANSISTOR	2SC2785-HFE (AV531)	R333	1-249-429-11	CARBON	10K 5% 1/4W (AV531)
Q718	8-729-178-42	TRANSISTOR	2SC2784-F	R334	1-247-887-00	CARBON	220K 5% 1/4W
Q719	8-729-900-63	TRANSISTOR	DTA124ES	R335	1-247-887-00	CARBON	220K 5% 1/4W
Q720	8-729-900-36	TRANSISTOR	DTC124ES	R351	1-249-427-11	CARBON	6.8K 5% 1/4W F
Q721	8-729-900-63	TRANSISTOR	DTA124ES	R352	1-249-427-11	CARBON	6.8K 5% 1/4W F
Q751	8-729-620-18	TRANSISTOR	2SA979-FG	R353	1-247-887-00	CARBON	220K 5% 1/4W
Q752	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	R354	1-249-429-11	CARBON	10K 5% 1/4W (AV531)
Q753	8-729-119-78	TRANSISTOR	2SC2785-HFE	R355	1-249-429-11	CARBON	10K 5% 1/4W
Q754	8-729-119-78	TRANSISTOR	2SC2785-HFE	R356	1-249-429-11	CARBON	10K 5% 1/4W
Q755	8-729-141-06	TRANSISTOR	2SA1142-QPE	R357	1-249-429-11	CARBON	10K 5% 1/4W
Q756	8-729-209-15	TRANSISTOR	2SD2012	R358	1-249-429-11	CARBON	10K 5% 1/4W
Q757	8-729-141-05	TRANSISTOR	2SC2682-QPE	R361	1-249-429-11	CARBON	10K 5% 1/4W (AV531)
Q758	8-729-119-78	TRANSISTOR	2SC2785-HFE	R362	1-249-422-11	CARBON	2.7K 5% 1/4W F (AV531)
Q759	8-729-119-76	TRANSISTOR	2SA1175-HFE	R363	1-249-431-11	CARBON	15K 5% 1/4W (AV531)
Q760	8-729-141-46	TRANSISTOR	2SC4431-LK	R364	1-249-421-11	CARBON	2.2K 5% 1/4W F (AV531)
Q761	8-729-141-37	TRANSISTOR	2SA1684-LK	R365	1-249-437-11	CARBON	47K 5% 1/4W (AV531)
Q762	8-729-320-83	TRANSISTOR	2SC3855-OY	R366	1-247-852-11	CARBON	7.5K 5% 1/4W (AV531)
Q763	8-729-320-86	TRANSISTOR	2SA1491-OY	R367	1-247-852-11	CARBON	7.5K 5% 1/4W (AV531)
Q764	8-729-178-42	TRANSISTOR	2SC2784-F	R368	1-249-437-11	CARBON	47K 5% 1/4W (AV531)
Q951	8-729-141-83	TRANSISTOR	2SB1094-LK				
Q953	8-729-119-78	TRANSISTOR	2SC2785-HFE				
< RESISTOR >							
R301	1-247-887-00	CARBON	220K 5% 1/4W				
R302	1-247-887-00	CARBON	220K 5% 1/4W				
R303	1-247-887-00	CARBON	220K 5% 1/4W				
R304	1-247-887-00	CARBON	220K 5% 1/4W				
R305	1-249-423-11	CARBON	3.3K 5% 1/4W F				
R306	1-249-433-11	CARBON	22K 5% 1/4W				
R308	1-249-441-11	CARBON	100K 5% 1/4W				

# MAIN

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
R369	1-249-421-11	CARBON	2. 2K 5% 1/4W F (AV531)	R552	1-249-427-11	CARBON	6. 8K 5% 1/4W F
R370	1-249-431-11	CARBON	15K 5% 1/4W (AV531)	R553	1-249-433-11	CARBON	22K 5% 1/4W (AV531)
R371	1-249-433-11	CARBON	22K 5% 1/4W (AV531)	R554	1-249-417-11	CARBON	1K 5% 1/4W F
R372	1-249-433-11	CARBON	22K 5% 1/4W (AV531)	R555	1-249-417-11	CARBON	1K 5% 1/4W F
R373	1-249-429-11	CARBON	10K 5% 1/4W (AV531)	R556	1-249-417-11	CARBON	1K 5% 1/4W F
R381	1-249-429-11	CARBON	10K 5% 1/4W	R557	1-249-417-11	CARBON	1K 5% 1/4W F
R382	1-249-429-11	CARBON	10K 5% 1/4W	R559	1-249-441-11	CARBON	100K 5% 1/4W
R391	1-247-895-00	CARBON	470K 5% 1/4W	R560	1-249-441-11	CARBON	100K 5% 1/4W
R392	1-249-429-11	CARBON	10K 5% 1/4W	R561	1-249-417-11	CARBON	1K 5% 1/4W F
R393	1-249-429-11	CARBON	10K 5% 1/4W	R562	1-247-897-11	CARBON	560K 5% 1/4W
R396	1-247-895-00	CARBON	470K 5% 1/4W	R563	1-249-437-11	CARBON	47K 5% 1/4W
R397	1-249-429-11	CARBON	10K 5% 1/4W	R564	1-249-441-11	CARBON	100K 5% 1/4W
R398	1-249-429-11	CARBON	10K 5% 1/4W	R565	1-249-409-11	CARBON	220 5% 1/4W F
R401	1-247-887-00	CARBON	220K 5% 1/4W	R701	1-249-417-11	CARBON	1K 5% 1/4W F
R402	1-249-429-11	CARBON	10K 5% 1/4W	R702	1-249-435-11	CARBON	33K 5% 1/4W
R403	1-249-440-11	CARBON	82K 5% 1/4W	R703	1-249-409-11	CARBON	220 5% 1/4W F
R404	1-247-887-00	CARBON	220K 5% 1/4W	R704	1-249-421-11	CARBON	2. 2K 5% 1/4W F
R405	1-249-425-11	CARBON	4. 7K 5% 1/4W F	R705	1-249-434-11	CARBON	27K 5% 1/4W
R411	1-247-887-00	CARBON	220K 5% 1/4W (AV531)	R706	1-249-426-11	CARBON	5. 6K 5% 1/4W
R412	1-249-429-11	CARBON	10K 5% 1/4W (AV531)	R707	1-249-425-11	CARBON	4. 7K 5% 1/4W F
R413	1-249-440-11	CARBON	82K 5% 1/4W (AV531)	R708	1-249-435-11	CARBON	33K 5% 1/4W
R414	1-247-887-00	CARBON	220K 5% 1/4W (AV531)	R709	1-249-411-11	CARBON	330 5% 1/4W
R415	1-249-417-11	CARBON	1K 5% 1/4W F (AV531)	△R710	1-249-409-11	CARBON	220 5% 1/4W F
R416	1-249-417-11	CARBON	1K 5% 1/4W F (AV431)	△R711	1-249-409-11	CARBON	220 5% 1/4W F
R501	1-249-411-11	CARBON	330 5% 1/4W	R712	1-249-435-11	CARBON	33K 5% 1/4W
R502	1-249-427-11	CARBON	6. 8K 5% 1/4W F	△R713	1-249-397-11	CARBON	22 5% 1/4W F
R503	1-249-433-11	CARBON	22K 5% 1/4W (AV531)	R714	1-247-830-11	CARBON	910 5% 1/4W
R504	1-249-417-11	CARBON	1K 5% 1/4W F	R715	1-249-412-11	CARBON	390 5% 1/4W F
R505	1-249-417-11	CARBON	1K 5% 1/4W F	△R716	1-249-397-11	CARBON	22 5% 1/4W F
R506	1-249-417-11	CARBON	1K 5% 1/4W F	△R717	1-249-393-11	CARBON	10 5% 1/4W F
R507	1-249-417-11	CARBON	1K 5% 1/4W F	△R718	1-249-393-11	CARBON	10 5% 1/4W F
R509	1-249-441-11	CARBON	100K 5% 1/4W	△R719	1-249-423-11	CARBON	3. 3K 5% 1/4W F
R510	1-249-441-11	CARBON	100K 5% 1/4W	△R720	1-249-417-11	CARBON	1K 5% 1/4W F
R511	1-249-417-11	CARBON	1K 5% 1/4W F	△R721	1-249-417-11	CARBON	1K 5% 1/4W F
R512	1-247-897-11	CARBON	560K 5% 1/4W	△R722	1-249-421-11	CARBON	2. 2K 5% 1/4W F
R513	1-249-437-11	CARBON	47K 5% 1/4W	△R723	1-247-706-11	CARBON	330 5% 1/4W F
R514	1-249-441-11	CARBON	100K 5% 1/4W	△R724	1-247-688-11	CARBON	10 5% 1/4W
R515	1-249-409-11	CARBON	220 5% 1/4W F	△R725	1-247-688-11	CARBON	10 5% 1/4W
R516	1-249-425-11	CARBON	4. 7K 5% 1/4W F	△R726	1-214-789-00	RES, METAL PLATE 0. 1	
R551	1-249-411-11	CARBON	330 5% 1/4W	△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 (AV531)
				R736	1-249-438-11	CARBON	56K 5% 1/4W
				R737	1-249-428-11	CARBON	8. 2K 5% 1/4W F

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

MAIN	POWER
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Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R739	1-249-429-11	CARBON	10K 5% 1/4W				(AV431)
R740	1-249-427-11	CARBON	6.8K 5% 1/4W F	R961	1-249-385-11	CARBON	2.2 5% 1/6W F
R741	1-249-441-11	CARBON	100K 5% 1/4W	R962	1-249-385-11	CARBON	2.2 5% 1/6W F
R742	1-249-425-11	CARBON	4.7K 5% 1/4W F				(AV431)
R743	1-249-437-11	CARBON	47K 5% 1/4W	R963	1-249-385-11	CARBON	2.2 5% 1/6W F
							(AV431)
R744	1-249-423-11	CARBON	3.3K 5% 1/4W F	R964	1-249-385-11	CARBON	2.2 5% 1/6W F
R751	1-249-417-11	CARBON	1K 5% 1/4W F				(AV431)
R752	1-249-435-11	CARBON	33K 5% 1/4W	R965	1-249-385-11	CARBON	2.2 5% 1/6W F
R753	1-249-409-11	CARBON	220 5% 1/4W F				(AV431)
R754	1-249-421-11	CARBON	2.2K 5% 1/4W F	R966	1-249-385-11	CARBON	2.2 5% 1/6W F
							(AV431)
R755	1-249-434-11	CARBON	27K 5% 1/4W	R968	1-249-417-11	CARBON	1K 5% 1/4W F
R756	1-249-426-11	CARBON	5.6K 5% 1/4W	R969	1-249-393-11	CARBON	10 5% 1/4W F
R757	1-249-425-11	CARBON	4.7K 5% 1/4W F				< RELAY >
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	RY701	1-515-356-00	RELAY	
△R761	1-249-409-11	CARBON	220 5% 1/4W F				< VIBRATOR >
R762	1-249-435-11	CARBON	33K 5% 1/4W				
△R763	1-249-397-11	CARBON	22 5% 1/4W F	X301	1-579-125-11	VIBRATOR, CERAMIC (8MHz)	
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	*	A-4360-013-A	POWER BOARD, COMPLETE (AV431)	
△R767	1-249-393-11	CARBON	10 5% 1/4W F				*****
△R768	1-249-393-11	CARBON	10 5% 1/4W F	*	A-4360-465-A	POWER BOARD, COMPLETE (AV531)	
△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				1-533-217-31 HOLDER, FUSE
△R773	1-247-706-11	CARBON	330 5% 1/4W F				
△R774	1-247-688-11	CARBON	10 5% 1/4W				< BASE POST >
△R775	1-247-688-11	CARBON	10 5% 1/4W	BP902	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P	
△R776	1-214-789-00	RES, METAL PLATE	0.1	BP904	1-535-139-00	BASE POST 22MM (10MM PITCH) 2P	
△R777	1-214-789-00	RES, METAL PLATE	0.1				< CAPACITOR >
R778	1-260-072-11	CARBON	4.7 5% 1/2W				
R779	1-260-076-11	CARBON	10 5% 1/2W				
				C901	1-161-744-00	CERAMIC	0.01uF 400V
R780	1-249-407-11	CARBON	150 5% 1/4W F	C911	1-124-480-11	ELECT	470uF 20% 25V
R781	1-249-431-11	CARBON	15K 5% 1/4W	C913	1-124-477-11	ELECT	47uF 20% 25V
R783	1-249-438-11	CARBON	56K 5% 1/4W	C914	1-124-477-11	ELECT	47uF 20% 25V
R954	1-215-917-11	METAL OXIDE	1K 5% 3W F	C916	1-164-097-11	CERAMIC	0.022uF 50V
			(AV431)				
△R954	1-216-481-11	METAL OXIDE	1.2K 5% 3W F	C917	1-164-097-11	CERAMIC	0.022uF 50V
			(AV531)	C918	1-124-903-11	ELECT	1uF 20% 50V
				C919	1-164-097-11	CERAMIC	0.022uF 50V
△R955	1-215-890-11	METAL OXIDE	470 5% 2W F	C920	1-124-464-11	ELECT	0.22uF 20% 50V
			(AV431)	C921	1-164-097-11	CERAMIC	0.022uF 50V
△	1-247-749-11	CARBON	560 5% 1/2W				
			(AV531)	C922	1-162-282-31	CERAMIC	100PF 10% 50V
R956	1-249-426-11	CARBON	5.6K 5% 1/4W				< CONNECTOR >
R957	1-249-385-11	CARBON	2.2 5% 1/6W F				
R958	1-249-385-11	CARBON	2.2 5% 1/6W F				
				△CNJ901	1-540-060-11	OUTLET, AC (POLAR)	(AV531)
R959	1-249-385-11	CARBON	2.2 5% 1/6W F				
R960	1-249-385-11	CARBON	2.2 5% 1/6W F				

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



**POWER** **REAR**

Ref. No.	Part No.	Description	Remark
		< SOCKET >	
* CP901	1-568-826-11	SOCKET, CONNECTOR 7P (AV531)	
CP902	1-564-777-11	PLUG, CONNECTOR (2.5MM) 2P	
		< DIODE >	
D911	8-719-200-82	DIODE 11ES2	
D912	8-719-200-82	DIODE 11ES2	
D913	8-719-200-82	DIODE 11ES2	
D914	8-719-200-82	DIODE 11ES2	
D915	8-719-987-63	DIODE 1N4148M	
D916	8-719-987-63	DIODE 1N4148M	
D917	8-719-933-41	DIODE HZS6C3L	
D918	8-719-933-41	DIODE HZS6C3L	
D919	8-719-985-53	DIODE HZS4ALL	
D920	8-719-987-63	DIODE 1N4148M	
		< FUSE >	
△F901	1-532-749-11	FUSE, GLASS TUBE 8A	
		< TRANSISTOR >	
Q911	8-729-209-15	TRANSISTOR 2SD2012	
Q922	8-729-119-78	TRANSISTOR 2SC2785-HFE	
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 >	
R901	1-202-725-00	SOLID 3.3M 10% 1/2W	
R911	1-249-417-11	CARBON 1K 5% 1/4W F	
R912	1-249-437-11	CARBON 47K 5% 1/4W	
R913	1-249-433-11	CARBON 22K 5% 1/4W	
R914	1-249-429-11	CARBON 10K 5% 1/4W	
R915	1-249-425-11	CARBON 4.7K 5% 1/4W F	
R916	1-249-429-11	CARBON 10K 5% 1/4W	
R917	1-249-417-11	CARBON 1K 5% 1/4W F	
R918	1-249-429-11	CARBON 10K 5% 1/4W	
R919	1-249-426-11	CARBON 5.6K 5% 1/4W	
R920	1-249-417-11	CARBON 1K 5% 1/4W F	
R921	1-249-426-11	CARBON 5.6K 5% 1/4W	
R922	1-249-396-11	CARBON 18 5% 1/6W F	
		< RELAY >	
RY901	1-515-701-11	RELAY	
		< TRANSFORMER >	
T902	1-449-993-21	TRANSFORMER, POWER	

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Ref. No.	Part No.	Description	Remark
*	A-4360-012-A	REAR BOARD, COMPLETE (AV431) ***** (Including the CONNECT 2 BOARD)	
*	A-4360-017-A	REAR BOARD, COMPLETE (AV531) ***** (Including the CONNECT 2 and CENTER BOARDS)	
		< 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 (AV531)	
C852	1-162-282-31	CERAMIC 100PF 10% 50V (AV531)	
C853	1-162-282-31	CERAMIC 100PF 10% 50V (AV531)	
C854	1-124-477-11	ELECT 47uF 20% 25V (AV531)	
C855	1-162-191-31	CERAMIC 2.2PF 10% 50V (AV531)	
C856	1-124-907-11	ELECT 10uF 20% 50V (AV531)	
C857	1-124-907-11	ELECT 10uF 20% 50V (AV531)	
C859	1-164-097-11	CERAMIC 0.022uF 50V (AV531)	
C860	1-136-171-00	FILM 0.33uF 5% 50V (AV531)	
		< SOCKET >	
CJ801	1-562-087-00	SOCKET, CONNECTOR 4P	
* CJ803	1-568-826-11	SOCKET, CONNECTOR 7P	
		< PLUG >	
CP802	1-691-765-11	PLUG (MICRO CONNECTOR) 3P	
		< 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 (AV531)	
D852	8-719-987-63	DIODE 1N4148M (AV531)	
D853	8-719-987-63	DIODE 1N4148M (AV531)	

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**REAR**   **REG**   **SP**   **SURR.SP**   **SW**

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
		< IC >		*	1-646-470-11	REG BOARD (AV431) *****	
IC801	8-759-502-33	IC SI18752				< PLUG >	
IC851	8-759-502-33	IC SI18752 (AV531)		*	CP951 1-506-779-11	PLUG, CONNECTOR (2.5MM) 4P (AV431)	
		< COIL >				< IC >	
L801	1-420-872-00	COIL, AIR CORE		IC953	8-759-604-32	IC M5F7810L (AV431)	
L851	1-420-872-00	COIL, AIR CORE (AV531)		IC956	8-759-604-39	IC M5F78M12L (AV431)	
		< TRANSISTOR >		*****			
Q801	8-729-178-42	TRANSISTOR 2SC2784-F		*	1-646-471-11	SP BOARD *****	
Q851	8-729-178-42	TRANSISTOR 2SC2784-F (AV531)				< PLUG >	
		< RESISTOR >		CP702	1-691-766-11	PLUG (MICRO CONNECTOR) 4P	
R801	1-249-417-11	CARBON 1K 5% 1/4W F				< TERMINAL >	
R802	1-249-439-11	CARBON 68K 5% 1/4W		*	TM701 1-537-265-11	TERMINAL BOARD	
R803	1-249-419-11	CARBON 1.5K 5% 1/4W F		*****			
R804	1-249-439-11	CARBON 68K 5% 1/4W		*	1-642-692-11	SURR. SP BOARD *****	
R805	1-217-151-00	RES, METAL PLATE 0.22				< PIN, CONNECTOR >	
R806	1-249-389-11	CARBON 4.7 5% 1/4W F		* CP701	1-506-509-11	PIN, CONNECTOR 4P (AV431)	
R807	1-249-409-11	CARBON 220 5% 1/4W F		CP701	1-568-739-11	PIN, CONNECTOR 4P (AV531)	
R808	1-249-428-11	CARBON 8.2K 5% 1/4W F				< TERMINAL >	
△R809	1-249-393-11	CARBON 10 5% 1/4W F		* TM702	1-537-265-11	TERMINAL BOARD	
R810	1-249-435-11	CARBON 33K 5% 1/4W		* TM703	1-537-405-11	TERMINAL BOARD (2P.SP) (AV531)	
				*****			
R851	1-249-417-11	CARBON 1K 5% 1/4W F (AV531)		*	1-646-470-11	SW BOARD *****	
R852	1-249-439-11	CARBON 68K 5% 1/4W (AV531)				< PLUG >	
R853	1-249-419-11	CARBON 1.5K 5% 1/4W F (AV531)		* CP101	1-565-295-11	PLUG, CONNECTOR 4P	
R854	1-249-439-11	CARBON 68K 5% 1/4W (AV531)				< SWITCH >	
R855	1-217-151-00	RES, METAL PLATE 0.22 (AV531)		S101	1-554-303-21	SWITCH, TACTILE (SYSTEM POWER)	
R856	1-249-389-11	CARBON 4.7 5% 1/4W F (AV531)		*****			
R857	1-249-409-11	CARBON 220 5% 1/4W F (AV531)					
R858	1-249-428-11	CARBON 8.2K 5% 1/4W F (AV531)					
△R859	1-249-393-11	CARBON 10 5% 1/4W F (AV531)					
R860	1-249-433-11	CARBON 22K 5% 1/4W (AV531)					
		< RELAY >					
RY801	1-515-790-11	RELAY					
RY851	1-515-790-11	RELAY (AV531)					
*****							

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**VOL**

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
*	1-642-693-11	VOL BOARD ***** < CAPACITOR >				***** HARDWARE LIST *****	
C421	1-164-097-11	CERAMIC 0.022uF < SOCKET >	50V	#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
* CJ421	1-568-826-11	SOCKET, CONNECTOR 7P (AV431)		#2	7-685-647-79	SCREW +BVTP 3X10 TYPE2 N-S	
* CJ421	1-568-828-11	SOCKET, CONNECTOR 9P (AV531)		#3	7-685-903-21	SCREW +PTPWH 3X8 (TYPE2)	
		< VARIABLE RESISTOR >		#4	7-682-561-04	SCREW +BVTT 4X8 (S)	
RV405	1-241-816-11	RES, VAR, CARBON 100KX4		#5	7-682-950-01	SCREW +PSW 3X12	
*****							
		MISCELLANEOUS *****		#6	7-685-647-71	SCREW +BVTP 3X10 TYPE2 IT-3	
8	1-690-588-31	WIRE, FLAT TYPE (9 CORE) (AV531)		#7	7-621-849-00	SCREW, TAPPING	
8	1-696-413-11	WIRE (FLAT TYPE) (7 CORE) (AV431)		#8	7-685-546-14	SCREW +BTP 3X8 TYPE2 N-S (AV531)	
11	1-575-666-11	WIRE, FLAT TYPE (5 CORE)		#9	7-682-548-04	SCREW +BVTT 3X8 (S)	
14	1-590-241-11	WIRE, FLAT TYPE (7 CORE) (AV431)					
	1-690-114-11	WIRE, FLAT TYPE (7 CORE) (AV531)					
15	1-590-487-11	WIRE, FLAT TYPE (17 CORE)					
* 21	1-590-769-11	WIRE, FLAT TYPE (7 CORE)					
* 60	1-590-769-11	WIRE, FLAT TYPE (7 CORE)					
△CNP901	1-551-478-00	CORD, POWER					
FL101	1-590-663-11	INDICATOR TUBE, FLUORESCENT					
△T901	1-450-806-11	TRANSFORMER, POWER (AV431)					
△	1-450-808-11	TRANSFORMER, POWER (AV531)					
*****							
		ACCESSORIES & PACKING MATERIALS *****					
*	4-949-872-01	CUSHION (AV531)					
*	4-956-029-01	CUSHION (AV431)					
*****							

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

# TA-AV431/AV531

**SONY**  
**SERVICE MANUAL**

*US Model*  
*Mexican Model*  
TA-AV431  
*US Model*  
TA-AV531

## CORRECTION-1

Please Correct your service manual.

### SECTION 5 ELECTRICAL PARTS LIST

 : Corrected Portion

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Incorrect				Correct			
<u>Ref.No.</u>	<u>Parts No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref.No.</u>	<u>Parts No.</u>	<u>Description</u>	<u>Remark</u>
	*A-4360-013-A	POWER BOARD, COMPLETE (AV431) *****			*A-4360-014-A	POWER BOARD, COMPLETE (AV431) *****	

# TA-AV431/AV531

## SONY SERVICE MANUAL

US Model  
Mexican Model  
TA-AV431

US Model  
TA-AV531

### CORRECTION-2

Please correct your service manual.

 : indicates corrected portion.

#### SECTION 4 EXPLODED VIEWS

##### 4-1. FRONT PANEL SECTION

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• Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

INCORRECT				CORRECT			
Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
* 12	4-921-941-11	CUSHION (FL)		* 12	4-921-941-01	CUSHION (FL)	
* 13	4-943-107-11	HOLDER (FL TUBE)		* 13	4-943-107-11	HOLDER (FL TUBE) (AV431)	
				* 13	4-949-779-11	HOLDER (FL TUBE) (AV531)	
FL101	1-590-663-11	INDICATOR TUBE, FLUORESCENT		FL101	1-519-663-12	INDICATOR TUBE, FLUORESCENT (AV431)	
				FL101	1-519-727-11	INDICATOR TUBE, FLUORESCENT (AV531)	

#### SECTION 5 ELECTRICAL PARTS LIST

##### MISCELLANEOUS

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INCORRECT				CORRECT			
Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
FL101	1-590-663-11	INDICATOR TUBE, FLUORESCENT		FL101	1-519-663-12	INDICATOR TUBE, FLUORESCENT (AV431)	
				FL101	1-519-727-11	INDICATOR TUBE, FLUORESCENT (AV531)	