

# Service Manual

AV Control Stereo Receiver

Receiver



## SA-G67

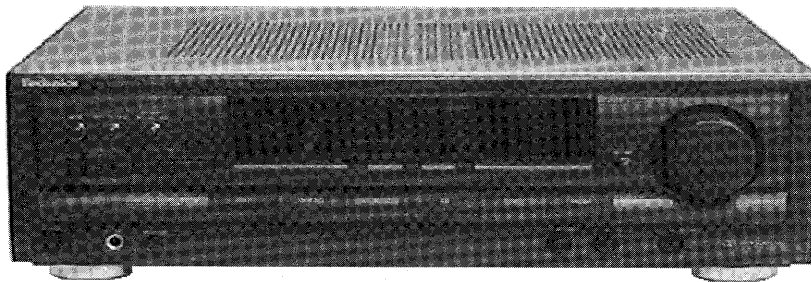
Colour

(K) ..... Black Type

Area

Suffix for Model No.	Area	Colour
(PP)	U.S.A. and Canada	(K)

System No. : S085PC-K (Refer to page 3)



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## Specifications

### FM Tuner Section

Frequency range	87.9 – 107.9 MHz
Sensitivity	11.2 dBf (2 $\mu$ V, IHF '58)
50 dB quieting sensitivity	
MONO	18.3 dBf (4.5 $\mu$ V, IHF '58)
STEREO	38.3 dBf (45 $\mu$ V, IHF '58)
Total harmonic distortion	
MONO	0.2%
STEREO	0.3%
S/N	
MONO	75 dB
STEREO	70 dB
Frequency response	20 Hz – 15 kHz, +1 dB, -2 dB
Alternate channel selectivity	65 dB
Capture ratio	1 dB
Image rejection at 98 MHz	44 dB
IF rejection at 98 MHz	80 dB
Spurious response rejection at 98 MHz	75 dB
AM suppression	50 dB
Stereo separation	
1 kHz	40 dB
10 kHz	30 dB
Carrier leak	
19 kHz	-35 dB
38 kHz	-50 dB
Antenna terminal	75 $\Omega$ (unbalanced)

### AM Tuner Section

Frequency range	530 – 1710 kHz
Sensitivity	20 $\mu$ V, 330 $\mu$ V/m
Selectivity	55 dB
Image rejection at 1000 kHz	40 dB
IF rejection at 1000 kHz	60 dB

### Video Section

Output voltage at 1 V input	1 $\pm$ 0.1 Vp-p
Maximum input voltage	1.5 Vp-p
Input/output impedance	75 $\Omega$

### Amplifier Section

Rated minimum sine wave RMS power output	
40 Hz – 20 kHz both channels driven	
0.9% total harmonic distortion	70 W per channel (8 $\Omega$ )
1 kHz continuous power output both channels driven	
0.9% total harmonic distortion	73 W per channel (8 $\Omega$ )
Total harmonic distortion	
Rated power at 40 Hz – 20 kHz	0.9% (8 $\Omega$ )
Half power at 1 kHz	0.07% (8 $\Omega$ )
Power output at the Dolby Pro Logic operation	
0.9% at 1 kHz,	
Front	2 x 70 W (8 $\Omega$ )
Center	70 W (8 $\Omega$ )
Surround	70 W (8 $\Omega$ )
	(Surround speakers' total impedance)
Low frequency damping factor	30 (8 $\Omega$ )
Load impedance	
Front	8 $\Omega$
Center	8 $\Omega$
Surround	4 – 8 $\Omega$
SMPTE intermodulation distortion	0.9%
Input sensitivity	
PHONO	0.4 mV (3 mV, IHF '66)
CD, TAPE MONITOR, VCR, TV/DVD	27 mV (200 mV, IHF '66)
Input impedance	
PHONO	47 k $\Omega$
CD, TAPE MONITOR, VCR, TV/DVD	22 k $\Omega$

# Technics®

**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

<b>S/N (IHF A)</b>	
<b>PHONO</b>	70 dB (78 dB, IHF '66)
<b>CD, TAPE MONITOR, VCR, TV/DVD</b>	75 dB (83 dB, IHF '66)
<b>Frequency response</b>	
<b>PHONO</b>	RIAA standard curve $\pm 0.8$ dB
<b>CD, TAPE MONITOR, VCR, TV/DVD</b>	10 Hz – 60 kHz, $\pm 3$ dB
<b>Tone controls</b>	
<b>BASS</b>	50 Hz, +10 dB to –10 dB
<b>TREBLE</b>	20 kHz, +10 dB to –10 dB

**■ General**

<b>Power supply</b>	AC 120 V, 60 Hz
<b>Power consumption</b>	175 W
	(In standby condition : 2W)
<b>Dimensions (W x H x D)</b>	430 x 158 x 309 mm
	(16 <sup>15</sup> / <sub>16</sub> " x 5 <sup>11</sup> / <sub>32</sub> " x 12 <sup>5</sup> / <sub>32</sub> " )
<b>Weight</b>	6.4 kg (14.2 lb.)

**Notes :**

- Specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer.

**■ Contents**

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BEFORE REPAIR AND ADJUSTMENT .....	2	TERMINAL GUIDE OF IC's, TRANSISTORS AND DIODES .....	14 ~ 15
PROTECTION CIRCUITRY .....	2	SCHEMATIC DIAGRAM .....	15 ~ 25
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**■ Safety Precautions** ( This "Safety Precaution" is applied only in U.S.A.)

- Before servicing, unplug the power cord to prevent an electric shock.
- When replacing parts, use only manufacturer's recommended components for safety.
- Check the condition of the power cord. Replace if wear or damage is evident.
- After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
- Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

**• Insulation Resistance Test**

- Unplug the power cord and short the two prongs of the plug with a jumper wire.
- Turn on the power switch.
- Measure the resistance value with ohmmeter between the jumper AC plug and each exposed metal cabinet part, such as screwheads, antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between  $3M\Omega$  and  $5.2M\Omega$  to all exposed parts\*. ( Fig. 1 ) Equipment without antenna terminals should read approximately infinity to all exposed parts. ( Fig. 2 )
- \*Note : Some exposed parts may be isolated from the chassis by design. These will read infinity.
- If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

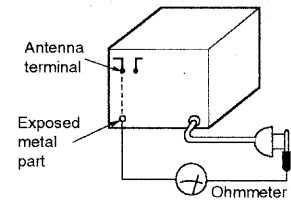


Fig. 1

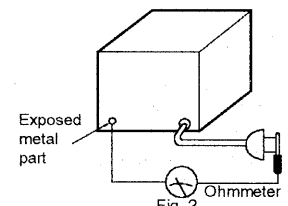
Resistance =  $3M\Omega$  –  $5.2M\Omega$ 

Fig. 2

Resistance = Approx  $\infty$ **■ Before Repair and Adjustment**

Disconnect AC power, discharge both Power Supply Capacitors (C703 to C706) through a  $10\Omega$ , 5W resistor to ground. DO NOT SHORT-CIRCUIT DIRECTLY (with a screwdriver blade, for instance), as this may destroy solid state devices. After repairs are completed, restore power gradually using a variac, to avoid overcurrent. Current consumption at 120V, 60 Hz in NO SIGNAL mode should be 400 ~ 1000 mA.

**■ Protection Circuitry**

The protection circuitry may have operated if either of the following conditions are noticed:

- No sound is heard when the power is turned on.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of the amplifier are used.

If this occurs, follow the procedure outlines below:

1. Turn off the power.
2. Determine the cause of the problem and correct it.
3. Turn on the power once again after one minute.

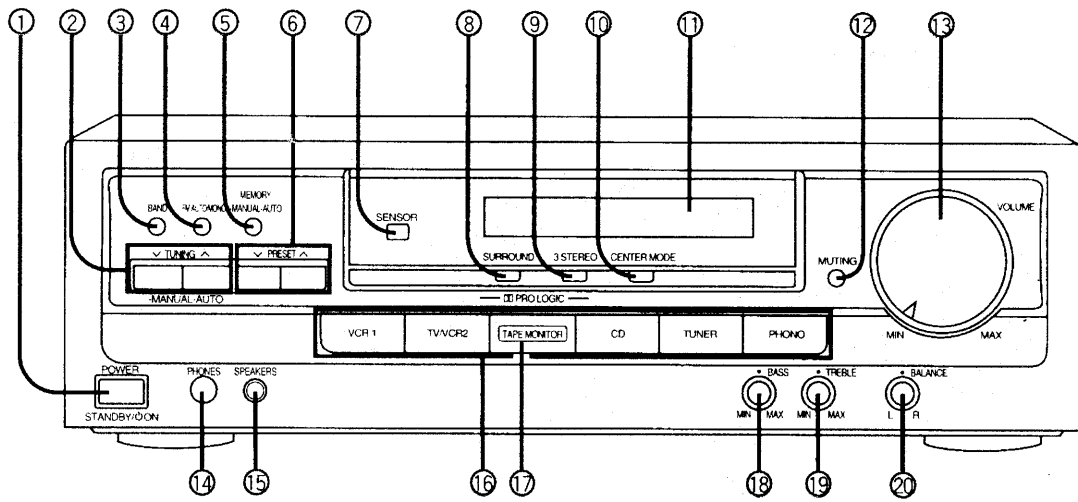
**Note:**

When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

## Line-up of Components

System name	Sub-system name	Unit
S085PC-K	SD-S908PC-K	RS-TR180PP-K : Cassette Deck (Made in MESA)
		SL-PD665PP9-K : CD Changer (Made in MESA)
		SH-WA08PC-K : Accessories box (Made in MESA)
		SA-G67PP-K : Receiver (Made in MAV)
		SB-A28PP-K : Front speaker (Made in MEP)
	SB-CSS380PP-K	SB-C938PP-K : Center speaker (Made in MEP)
		SB-S938PP-K : Surround speaker (Made in MEP)

## Front Panel Controls



No.	Name
①	<b>Power "STANDBY <math>\odot</math>/ON" switch (POWER, STANDBY <math>\odot</math>/ON)</b> Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
②	<b>Tuning buttons (TUNING)</b>
③	<b>Band select button (BAND)</b>
④	<b>FM mode select button (FM AUTO/MONO)</b>
⑤	<b>Memory button (MEMORY)</b>
⑥	<b>Preset channel buttons (PRESET)</b>
⑦	<b>Remote control signal sensor (SENSOR)</b>
⑧	<b>Surround ON/OFF button (SURROUND)</b>
⑨	<b>3 stereo ON/OFF button (3 STEREO)</b>
⑩	<b>Center mode select button (CENTER MODE)</b>

No.	Name
⑪	<b>Display</b>
⑫	<b>Muting button (MUTING)</b>
⑬	<b>Volume control (VOLUME)</b>
⑭	<b>Headphones jack (PHONES)</b>
⑮	<b>Speaker ON/OFF button (SPEAKERS)</b>
⑯	<b>Input select buttons</b>
⑰	<b>Tape monitor button (TAPE MONITOR)</b>
⑱	<b>Bass control (BASS)</b>
⑲	<b>Treble control (TREBLE)</b>
⑳	<b>Balance control (BALANCE)</b>

## ■ Operation Checks and Main Component Replacement Procedures

**"ATTENTION SERVICER"** Some chassis components may have sharp edges.  
Be careful when disassembling and servicing.

1. This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.
2. For reassembly after operation checks or replacement, reverse the respective procedures.  
Special reassembly procedures are described only when required.
3. Select items from the following index when checks or replacement are required.

• Contents	page
• Checking Procedure for Major P.C.B. ....	4 ~ 5
• Replacement of Power IC and Regulator Transistor .....	6 ~ 8

### ■ Checking Procedure for Major P.C.B.

**Step 1** a X 4

**Step 2** b X 2

**Step 3** Remove the top cabinet.

Panel P.C.B. (Solder side)

Tuner P.C.B. (Solder side)

**Step 4** c X 3

**Step 5** Release the two front claws and pull out the front panel assembly. Take note of the connectors as you remove the front panel assembly. (CN901 to CN905)

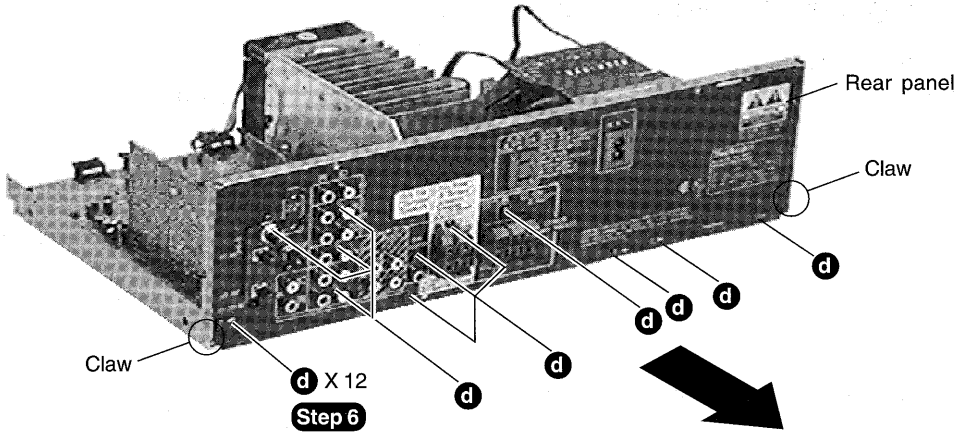
**a**

[SNE2129-1]  
(Black)

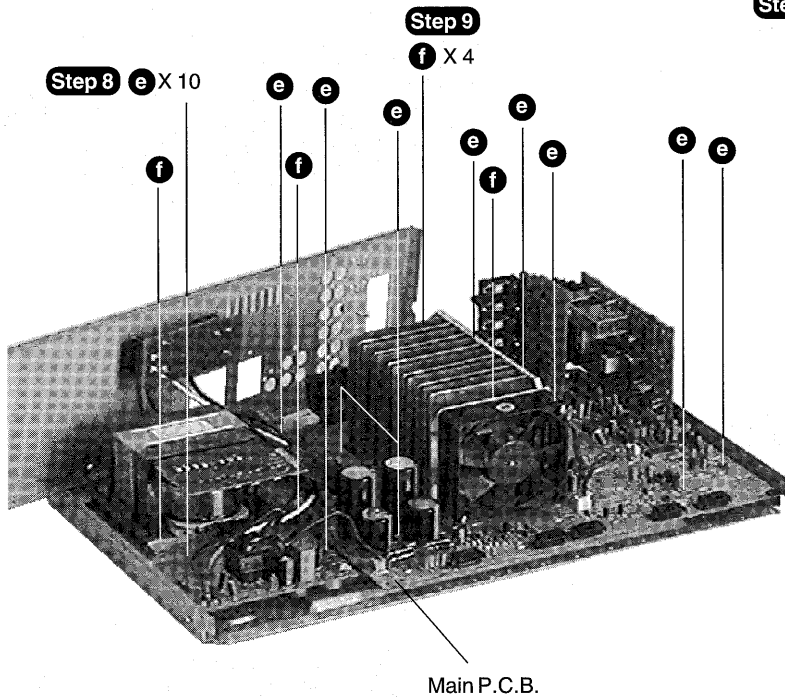
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**b, c**

[XTBS3+8JFZ1]  
(Black)

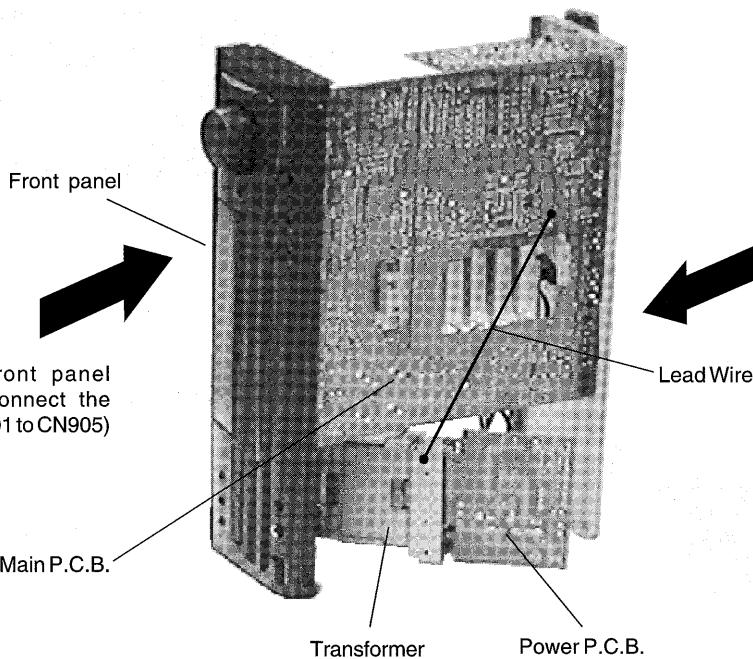


**Step 7** Release the claws and then remove the rear panel slowly. (Two wires are connected to the rear panel)



**Step 10** Remove the Main P.C.B. and Power P.C.B..

**Step 13** Connect back the transformer to the Power P.C.B. and connect a lead wire from the Main P.C.B. ground to the transformer ground plate. Check the Main P.C.B. and Power P.C.B. as shown on the left.



**Step 11** Install the rear panel temporarily on the Main P.C.B. again.

**Step 12** Fix back the front panel assembly and connect the connectors. (CN901 to CN905)

	<b>d</b> [XTBS3+8JFZ1] (Black)
	<b>e</b> [XTB3+20JFZ] (Black)
	<b>f</b> [XTB3+8FFZ] (Black)

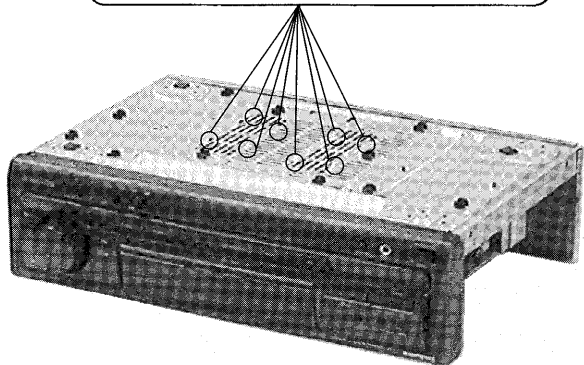
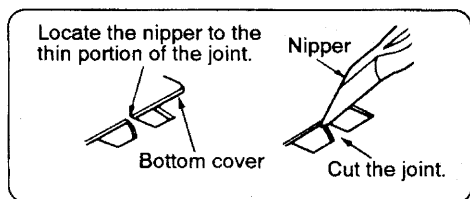
## ■ Main Component Replacement Procedures

### 1. Replacement of the Power IC and Regulator Transistor

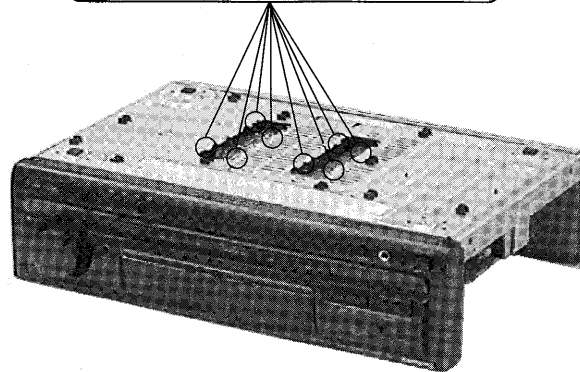
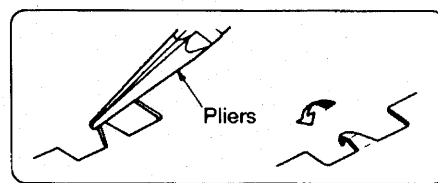
**Step 1**

Remove the top cabinet.

**Step 2** Cut the joints as shown below. (8 joints)

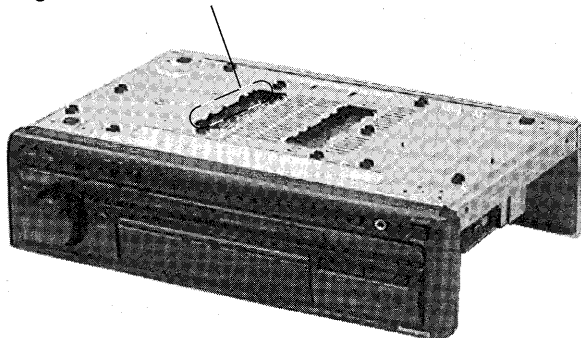


**Step 3** Fold the joints. (8 joints)

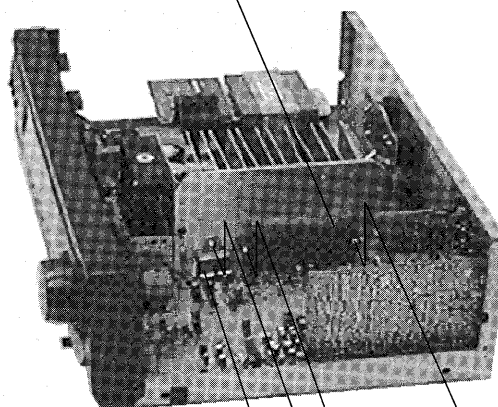


**Step 4**

Desolder the terminals of Power IC and Regulator Transistor.

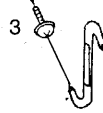


Power IC (IC601)  
[RSN307M44-P]



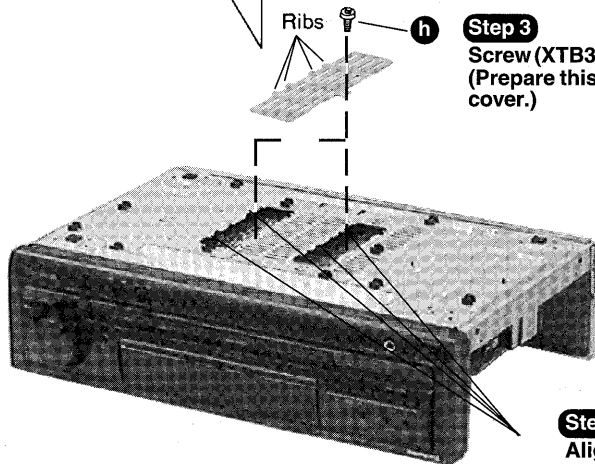
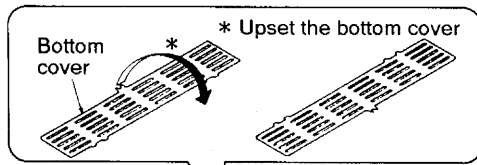
Regulator transistor  
(Q701, Q708)  
[2SD2374PQAU, 2SB1548PQAU]

**Step 5** g X 3



**Installation of the bottom cover after replacement**

**Step 1**



**Step 3**

**Screw (XTB3+8J)**  
(Prepare this screw to fix the bottom cover.)

**Step 2**

Align the ribs of bottom cover with lugs.



**g**

[XTW3+15T]



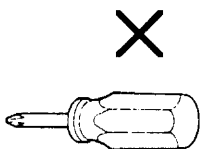
**h**

[XTB3+8J] (Black)

**CAUTION**

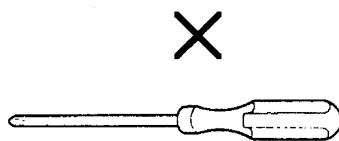
1. After replacing the power IC or regulator transistor, apply a sufficient quantity of compound grease (RFKX0002/SZZ0L15) between the heat sink and the power IC or regulator transistor (Radiation of power IC).
2. Tighten enough the screws (**g**) after replacing the power IC and regulator transistor. Otherwise, the heat radiation works little.
3. When installing or removing the power IC or transistor holder, be sure to use an offset screwdriver.

- A long straight screwdriver cannot be used for removing or mounting the screws since its long grip interferes with the neighbouring P.C.B. (See Fig.1)
- A short straight screwdriver may be used for removal, but cannot be used for mounting because the limited space in the unit will not allow sufficient tightening torque. (See Fig.2)



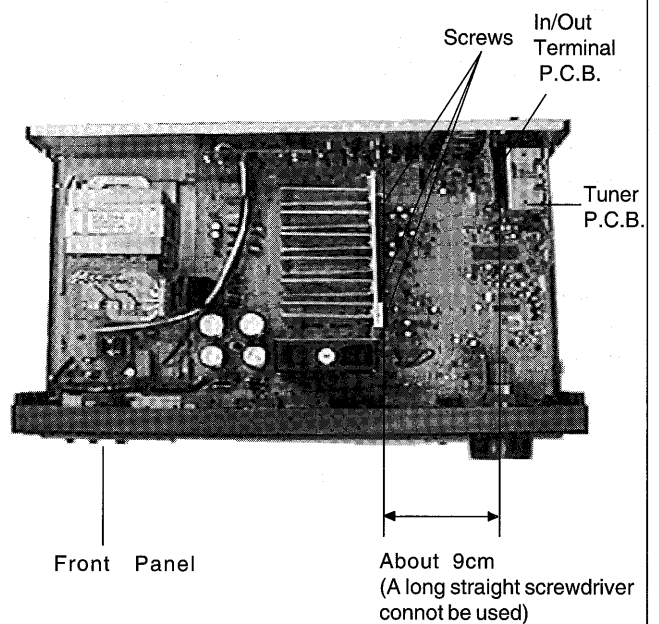
A short straight screwdriver

**Fig.2**



A short straight screwdriver

**Fig.1**

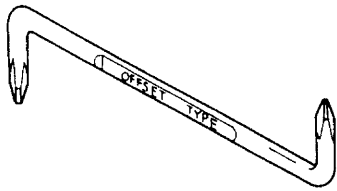



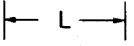
**Fig.1**

- Insufficient tightening will cause poor heat dissipation from the power IC and regulator transistor and, in the worst case, may lead to their thermal breakdown.

—OFFSET SCREWDRIVER—

•The PROTO offset screwdriver No.34-1/4 is recommended for use in the application above.



No.		
34 1/4	1 & 2	4 3/4"

•The address of PROTO International Sales is as follows.



**International Sales**

International Sales Office  
Stanley-Proto Industrial Tools  
14117 Industrial Park Blvd.  
Covington, GA 30209 U.S.A.  
Fax: 706-786-4387  
Phone: 706-787-3800

Australia, New Zealand &  
South Pacific  
Stanley-Proto Industrial Tools  
P.O.Box 10  
400 Whitehorse Road  
Nunweding 3131  
Victoria, Australia  
Fax: 61-3-894-1173  
Phone: 61-3-878-9244

Singapore, Indonesia,  
Philippines, Korea, Hong  
Kong, Malaysia, China.  
Stanley-Proto Asia Pacific  
12 Gul Drive  
Singapore 2262  
Fax: 65-861-3206  
Phone: 65-862-0883

Thailand  
Stanley-Proto Thailand Ltd.  
1017 Moo 13 Bangkaew  
Amphur Bangplee  
Samutprakarn, Thailand  
Fax: 66-2-316-6071  
Phone: 66-2-316-8655

Japan  
Stanley Works Japan  
2-7-16 Hyakunin-Cho  
Shinjuku-ku  
Tokyo 160 Japan  
Fax: 81-3-3360-8456  
Phone: 81-3-3360-8458

Mexico  
Herramientas Stanley S.A.  
DE C.V.  
Apartado Postal 675  
72030 Puebla, Pue, Mexico  
Fax: 52-22-494-4880  
Phone: 52-22-495-300

South & Central America,  
Puerto Rico, The Caribbean  
Stanley Inter-America  
2101 N.W. 84th Ave.  
Miami, Florida 33122  
Fax: 305-594-4261  
Phone: 305-591-3828

Europe  
Stanley-Proto Europe  
Woodside, Sheffield  
539PD  
England  
Fax: 44-742-739-038  
Phone: 44-742-768-888

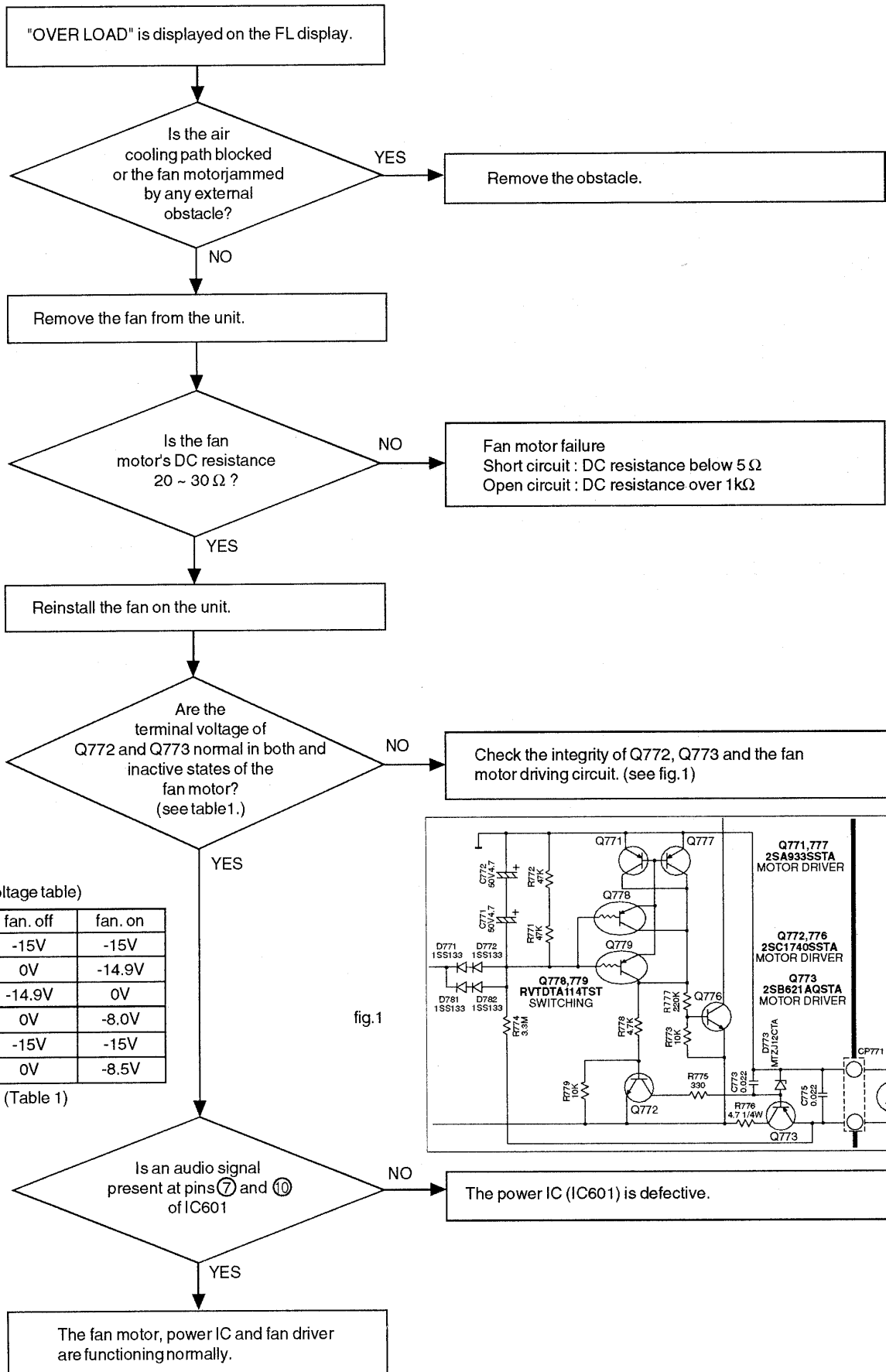
Canada  
Stanley-Proto Canada  
1100 Corporate Drive  
Burlington, Ontario  
Canada, L7L 5R6  
Fax: 416-335-0075  
Phone: 416-335-0075

Middel East, Mediterranean  
& Africa  
Stanley-MEMA  
Cory House The Ring  
Bracknell Berkshire  
RG 12 1A2  
England  
Fax: 44-344-485-526  
Phone: 44-344-51813



## Fan Motor Troubleshooting

The Model SA-G67 employ fan motor error sensing electronics. If the cooling fan is not operating and "OVER LOAD" is displayed on the FL display, check the fan motor and its driving circuit.

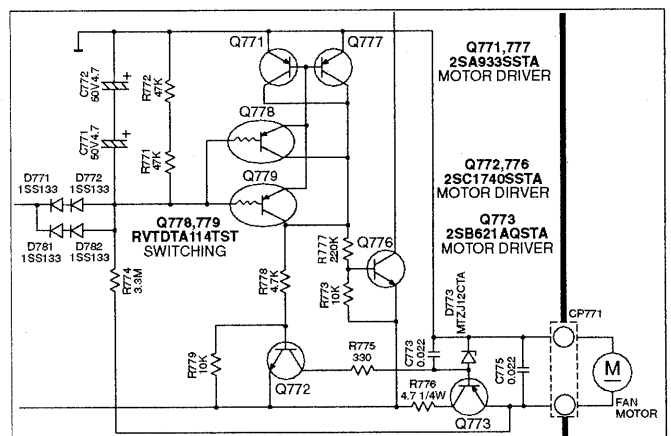


(Voltage table)

		fan. off	fan. on
Q772	E	-15V	-15V
	C	0V	-14.9V
	B	-14.9V	0V
Q773	E	0V	-8.0V
	C	-15V	-15V
	B	0V	-8.5V

(Table 1)

fig.1

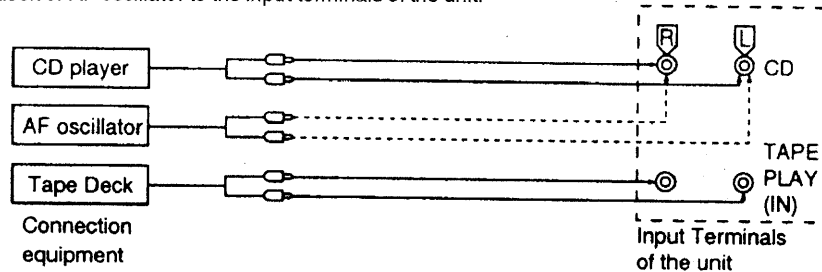


## Troubleshooting

This unit has test points on each circuit board block for use in troubleshooting.

### CONNECTION

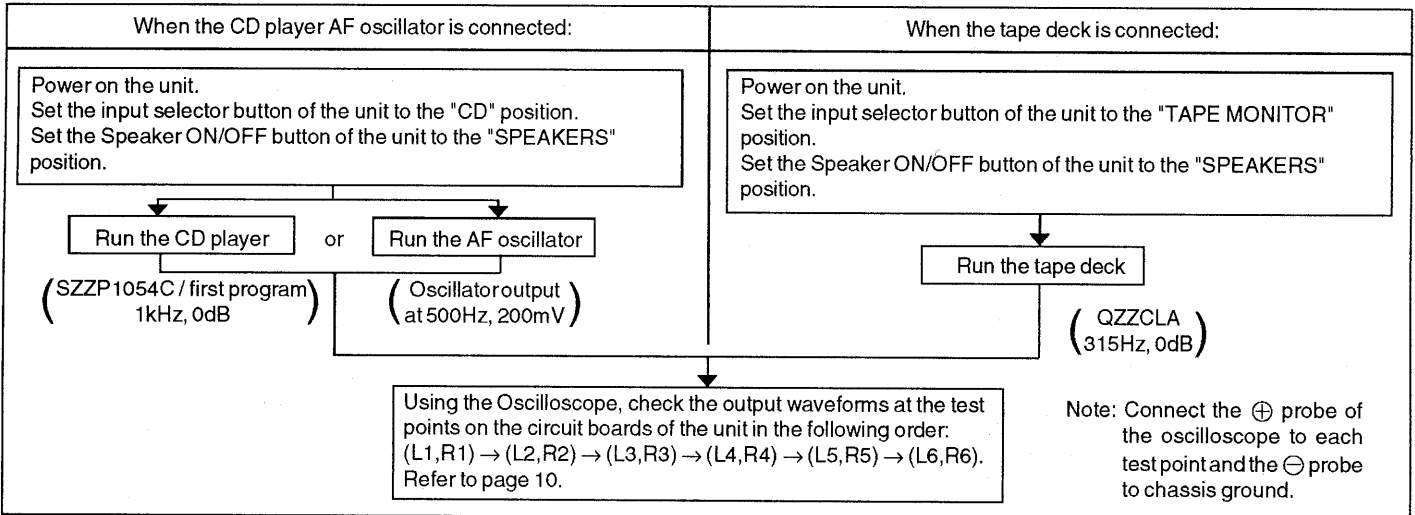
Connect either a CD player, tape deck or AF oscillator to the input terminals of the unit.



### REQUIRED ITEMS

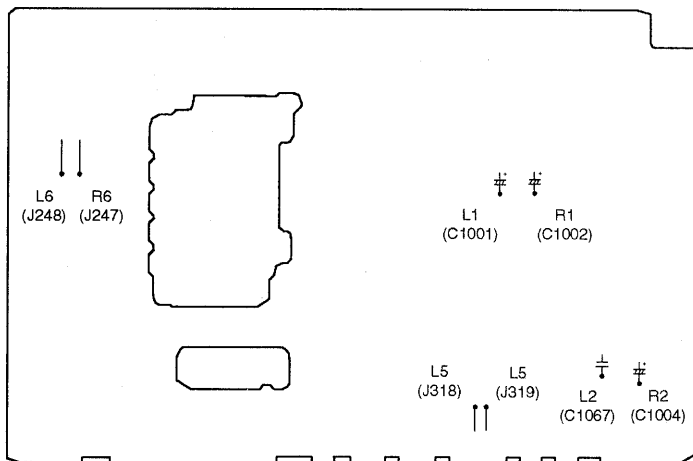
1. Testing with a CD player ——— Test deck (SZZP1054C / first program, 1kHz, 0dB)
2. Testing with a tape deck ——— Test tape (QZZCLA / 315Hz, 0dB)
3. Testing with a AF oscillator ——— Set the output at 500Hz, 200mV
4. Oscilloscope (min. 10MHz) - - - - - To measure the output waveform at the test points.

### TEST PROCEDURE FOR AMPLIFIER CIRCUIT

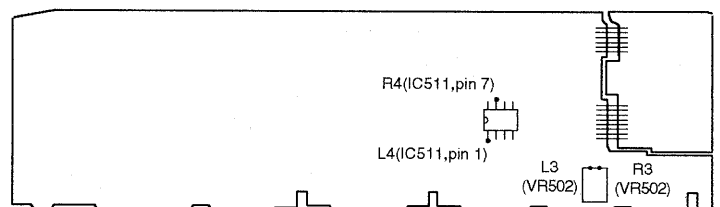


### TEST POINTS POSITIONS OF AMPLIFIER CIRCUIT


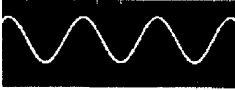
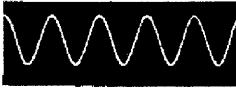
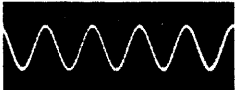

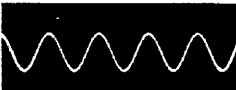


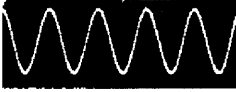

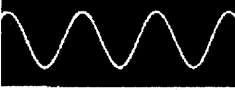
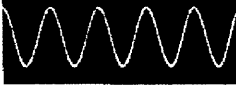
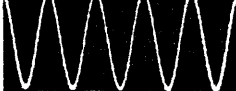
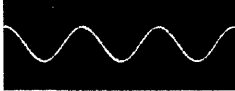
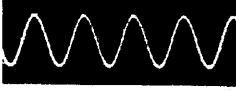


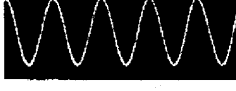
#### MAIN P.C.B. (COMPONENT SIDE)



#### PANEL P.C.B. (COMPONENT SIDE)



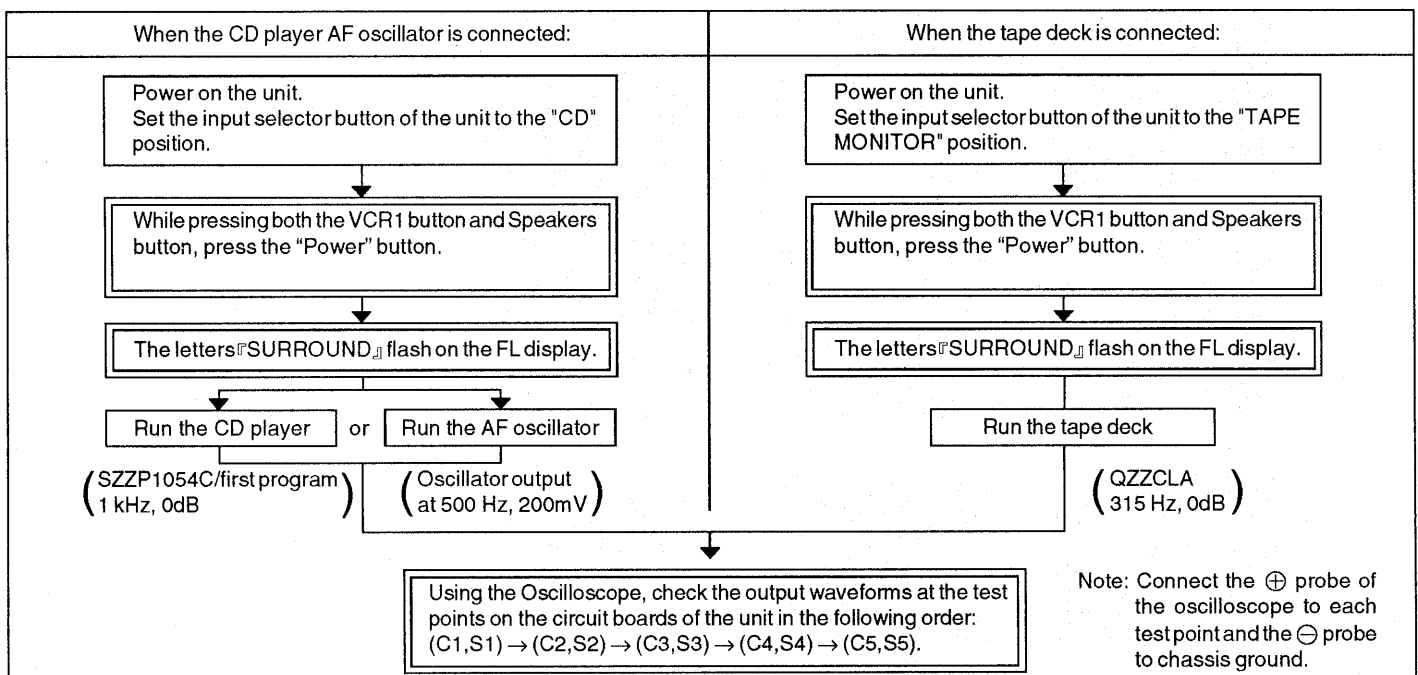
**NORMAL WAVEFORMS OF AMPLIFIER CIRCUIT AND LIKELY FAULTY BLOCKS**

TP	CD player	Tape deck	AF oscillator	Likely faulty block if the normal waveform shown at the left is not present.
L1/R1	 0.5 msec 2V	 1 msec 500 mV	 1 msec 500 mV	Input selector block IC402 & area
L2/R2	 0.5 msec 200 mV	 1 msec 500 mV	 1 msec 500 mV	Dolby pro logic block IC1001, IC1002 & area
L3/R3	 0.5 msec 50 mV	 1 msec 100 mV	 1 msec 50 mV	Master volume block VR501 & area
L4/R4	 0.5 msec 500 mV	 1 msec 500 mV	 1 msec 1V	Tone control block IC511 & area
L5/R5	 0.5 msec 100 mV*	 1 msec 500 mV	 1 msec 500 mV	Power limiter block Q561 and Q562 & area
L6/R6	 0.5 msec 5V	 1 msec 500 mV*	 1 msec 1V*	Main amplifier block IC601 & area

Measurement conditions. Volume control (VR501), Treble control (VR512) and Bass control (VR511) positions :  $\odot$   
 \*Volume control position (VR501) for these test :  $\ominus$

**CHECKING PROCEDURE FOR SURROUND CIRCUIT**

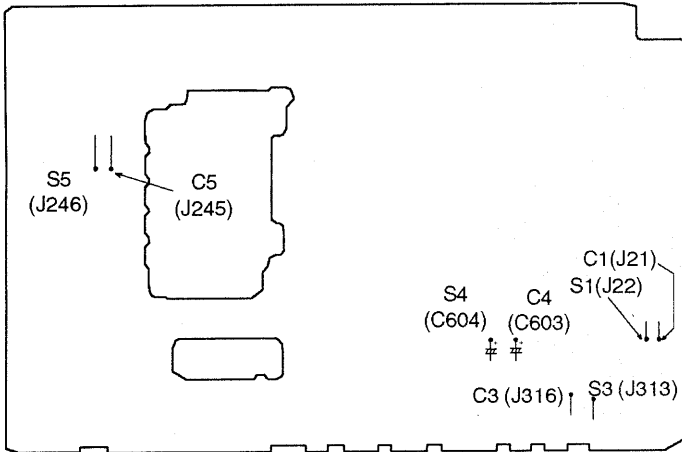
Outputting surround signals normally requires that opposite phase signals be applied to both the left and right channels. However, this unit incorporates a service mode, allowing the surround circuit to be tested using in-phase signals.



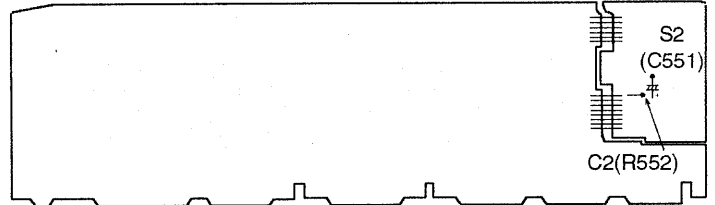
• To Exit the service mode, power off the unit.

TEST POINTS POSITIONS OF SURROUND CIRCUIT

MAIN P.C.B. (COMPONENT SIDE)



PANEL P.C.B. (COMPONENT SIDE)

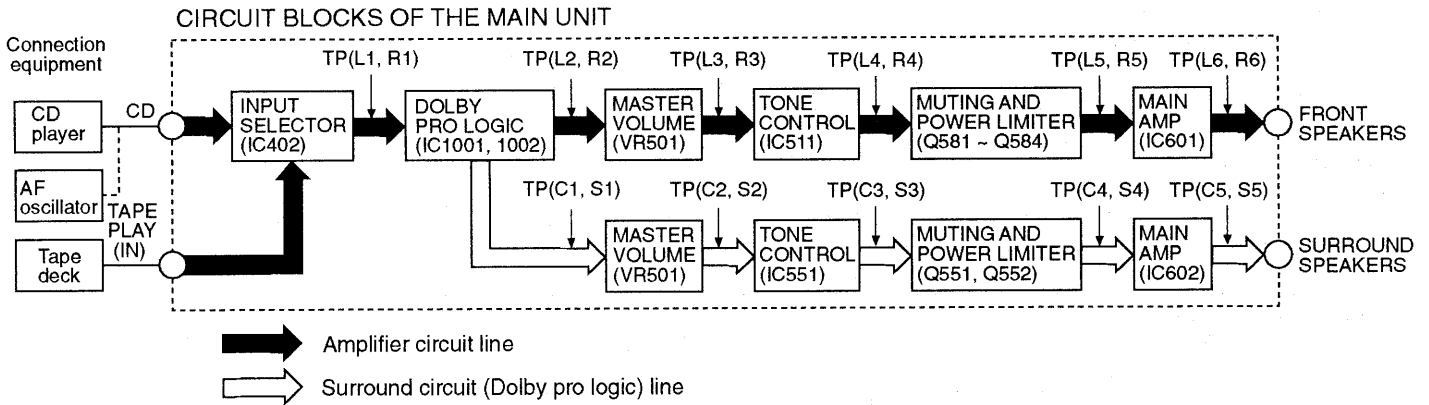


NORMAL WAVEFORMS OF SURROUND CIRCUIT AND LIKELY FAULTY BLOCKS

TP	CD player	Tape deck	AF oscillator	Likely faulty block if the normal waveform shown at the left is not present.
C1 S1	 0.5 msec 1 V	 1 msec 100 mV	 1 msec 200 mV	Dolby pro logic block IC1001, IC1002 & area
C2 S2	 0.5 msec 200 mV	 1 msec 20 mV	 1 msec 50 mV	Master volume block VR501 & area
C3 S3	 0.5 msec 5 V	 1 msec 500 mV	 1 msec 1 V	Tone control block IC551 & area
C4 S4	 0.5 msec 5 V	 1 msec 10 V	 1 msec 1 V	Power limiter block through Q551, Q552 & area
C5 S5	 0.5 msec 10 V*	 1 msec 10 V	 1 msec 20 V	Main amplifier block IC602 & area

Measurement conditions. Volume control (VR501), Treble control (VR512) and Bass control (VR511) positions : ○  
 \*Volume control position (VR501) for these test : ○

CIRCUIT BLOCKS



## OVERLOAD DETECTION FUNCTION

The HIC protection circuit functions if any cord at a speaker terminal is short-circuited or if the unit overheats because of improper operation. At the same time, 『OVERLOAD』 scrolls across the FL display.

In this state, all keys remain inoperative; if any key is pressed, 『SWITCH OFF POWER』 scrolls across the FL display.

If an overload occurs, immediately power off the unit and check the speaker connections, venting holes and cooling fans. After fixing any faults, power on the unit again and check for proper operation.

If no detects are found, or if the unit remains overloaded after it is power on again, check the circuit for faults.

## Terminal Function of IC's

### • IC901 (M38B53M4050F) System Microprocessor

PinNo.	Mark	I/O	Function
1~4	KEY4~KEY1	I	Key matrix detect terminal
5	THERM/OVLD	O/I	Mute control / Overload detect terminal
6	FM_STEREO	I	Stereo signal detect terminal
7	6CH_ST	-	Not used
8	RDS_ST	-	Not used
9	REMOTE	I	Remote control terminal
10	RESET	I	Reset detect terminal
11	RDS_CK	-	Not used
12	RDS_DT	-	Not used
13	GND	-	GND terminal
14	XIN	I	Crystal oscillator terminal (4MHz)
15	XOUT	O	
16	VDD	I	Power supply terminal
17~21	SFC5~SFC1	-	Not used
22	HOLD	I	Hold signal input terminal
23	STANDBY_LED	-	Not used
24	FAN_STOP	-	Not used
25	RLY	O	Relay control terminal
26	TV/VCR2	-	Not used
27	LIMITER	-	Not used
28	VEE	I	Power supply terminal
29	S/C_SP	O	Surround/center speaker select control terminal
30	SP_B	-	Not used
31	SP_A	O	speaker select control terminal
32	AF_MUTE	O	Mute control terminal
33~48	SEG16~SEG1	O	Segment signal of FL display

PinNo.	Mark	I/O	Function
49~58	DEG1~DEG10	O	Digit signal of FL display
59	INIT_IN	-	Not used, connect to resistor
60	VOL_DOWN	O	Rotate control terminal of
61	VOL_UP	O	volume motor
62	LOUDNESS	-	Not used
63	IF_DATA	I	Serial data signal
64	REC_MUTE	-	Not used
65	TNR_CE	O	Chip enable signal
66	SEL/TNR_CK	O	Serial clock signal
67	SEL/TNR_DT	O	Serial data signal
68	SEL_ST	O	Level shift control terminal
69	OSD_ST	-	Not used
70	SURR/OSD_CK	O	Serial clock signal
71	SURR/OSD_DT	O	Serial data signal
72	SURR_CE	O	Chip enable signal
73	AVSS	I	Power supply terminal
74	VREF	I	Power supply terminal
75	SD	I	Received signal detect terminal
76	AC3_LED	-	Not used
77	HELP_LED	-	Not used
78	VIDEO_DET	-	Not used
79	VIDEO_B	O	Video selector control terminal
80	VIDEO_A	O	

## Measurements and Adjustments

### • AM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 1)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	450kHz 30 % Mod. at 400 Hz	Point of non-interference. (on/about 600kHz)	Headphone Jack (32Ω) <i>(Fabricate the plug as shown in Fig.2 and then connect the lead wires of the plug to the measuring instrument.)</i>	Z102 (AM IFT)	Adjust for maximum output.

### • AM-RF ALIGNMENT

"	530kHz	Tuning capacitor fully closed.	"	Z101 (AM OSC Coil)	Adjust for maximum output.
"	610kHz	Tune to signal	"	Z101 (AM ANT Coil)	Adjust for maximum output.

### • Alignment Points

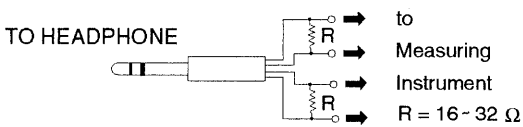


Fig. 2

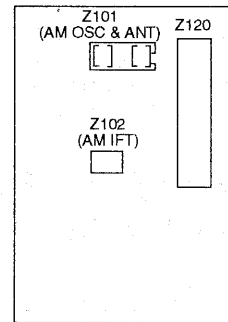
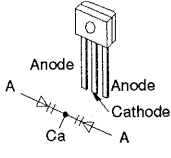
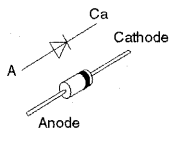
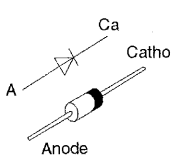
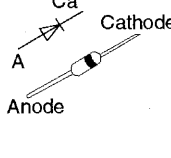


Fig. 1

## Terminal Guide of IC's, Transistors and Diodes

LA2786L (42 PIN) 	LA1832A LC7218 	TC9163AN 	LV1016L 	NJM2279D 	M5218AP 
AN6558F UPC4570C 	BA6218 	M38B53M4050F (65 PIN) 	RSN307M44-P 	2SB1548PQAU 2SD2374PQAU 	2SC3311ARTA 
2SD592AQRTA 2SA992EFTA 2SB621AQSTA 2SC3311AQSTA 		2SA933SSTA 2SC1740SSTA RVTDTA114EST RVTDTA114TST RVTDTC114YST 	2SK544F-AC 	2SC3940AQSTA 	2SC1417PQTA 2SD2137PQTA 
	2SC1740SSTA 2SC2785FETA 2SC2786MTA 2SC2787FL1TA 2SC2785FETA	2SC2786MTA 2SC2787LTA 2SD1915FTA RVTDTC143XST RVTDTA113ZST		MTZJ10CTA MTZJ12CTA MTZJ15CTA MTZJ24DTA MTZJ27DTA MTZJ3R9ATA	MTZJ4R7BTA MTZJ5R1BTA MTZJ5R6BTA MTZJ6R2BTA MTZJ6R8BTA MTZJ7R5CTA

## Terminal Guide of IC's, Transistors and Diodes (continue)

<p>SVC211SPA-AL</p> 	<p>1N5402BM21</p> 	<p>SB360L6508</p> 	<p>1SR35200TB 1SS291TA MA167ATA RVD1SS133TA</p> 
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## Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

< for Power Switch circuit > (Page 25)

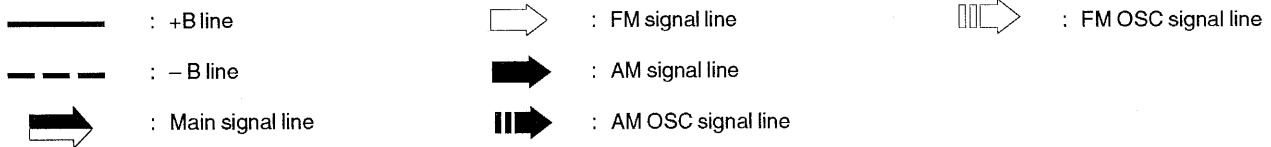
- S946 : Power switch
- S950 : FM Auto / Mono switch
- S951 : Band select switch
- S952 : Tuning decrease switch
- S953 : Tuning increase switch

< for Panel circuit and Volume circuit > (Page 19 ~ 20)

- S947 : Phono select switch
- S948 : Muting switch
- S955 : Memory manual/auto switch
- S956 : Preset decrease switch
- S957 : Preset increase switch

- S960 : Tuner select switch
- S961 : CD select switch
- S962 : Tape monitor select switch
- S963 : TV / DVD select switch
- S964 : VCR1 select switch
- S970 : Center mode select switch
- S972 : Display mode select switch
- S974 : Dolby Pro Logic/SFC off on switch
- S980 : Speaker on/off switch
- VR501-1 ~ VR501-4 : Volume control
- VR502 : Balance control
- VR511-1 ~ VR511-2 : Bass control
- VR512-1 ~ VR512-2 : Treble control

### Signal line




The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.

Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

( ) ..... AM

< > ..... FM


### Importance safety notice:


Components identified by  mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

### Caution !

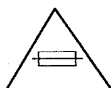
- IC, LSI and VLSI are sensitive to static electricity.
- Secondary trouble can be prevented by taking care during repair.
- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.
- Put a conductive mat on the work table.

### FUSE CAUTION

 These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire hazard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

 Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là où le présent symbole est apposé.

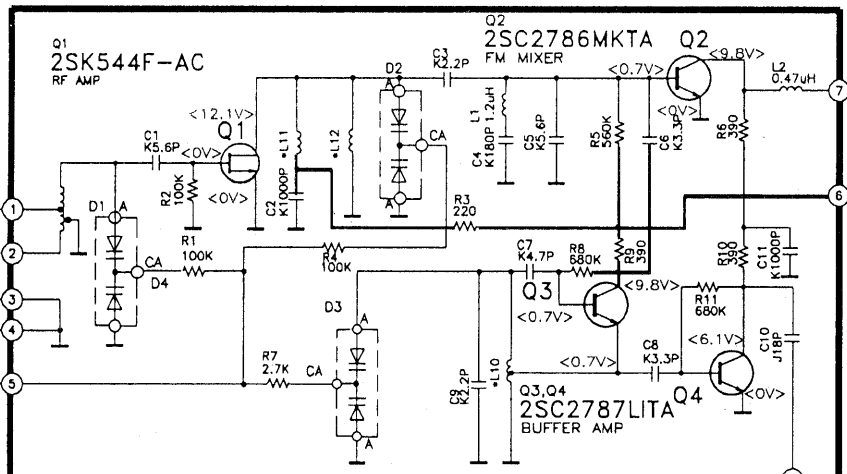
**CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE**  
**F1 5.0A 125V FUSE**  
**F3 8.0A 125V FUSE**  
**F4 8.0A 125V FUSE**



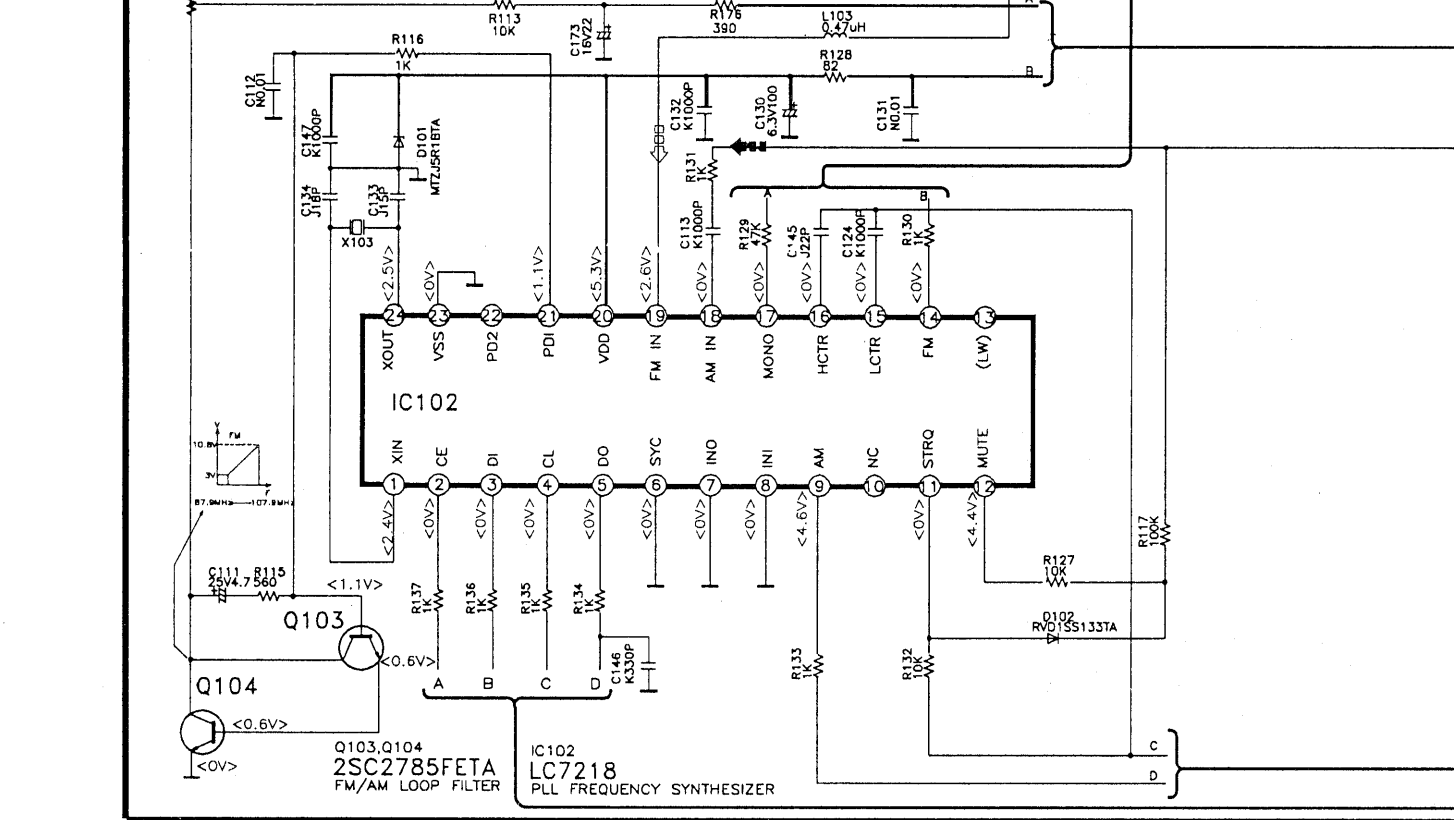
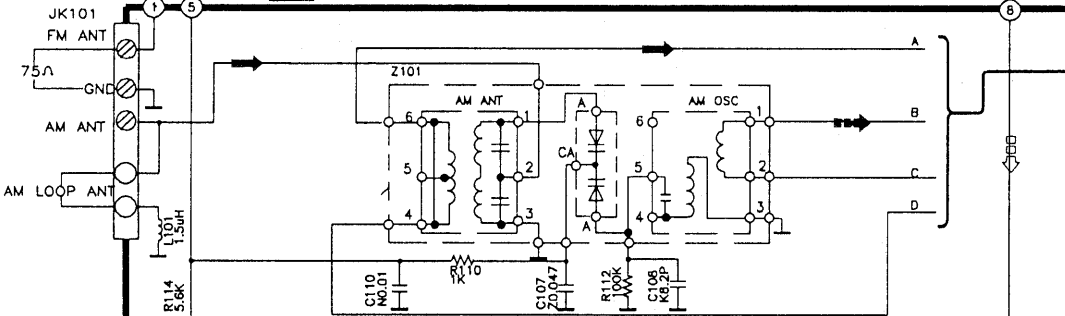
RISK OF FIRE-REPLACE FUSE AS MARKED.

# Schematic Diagram

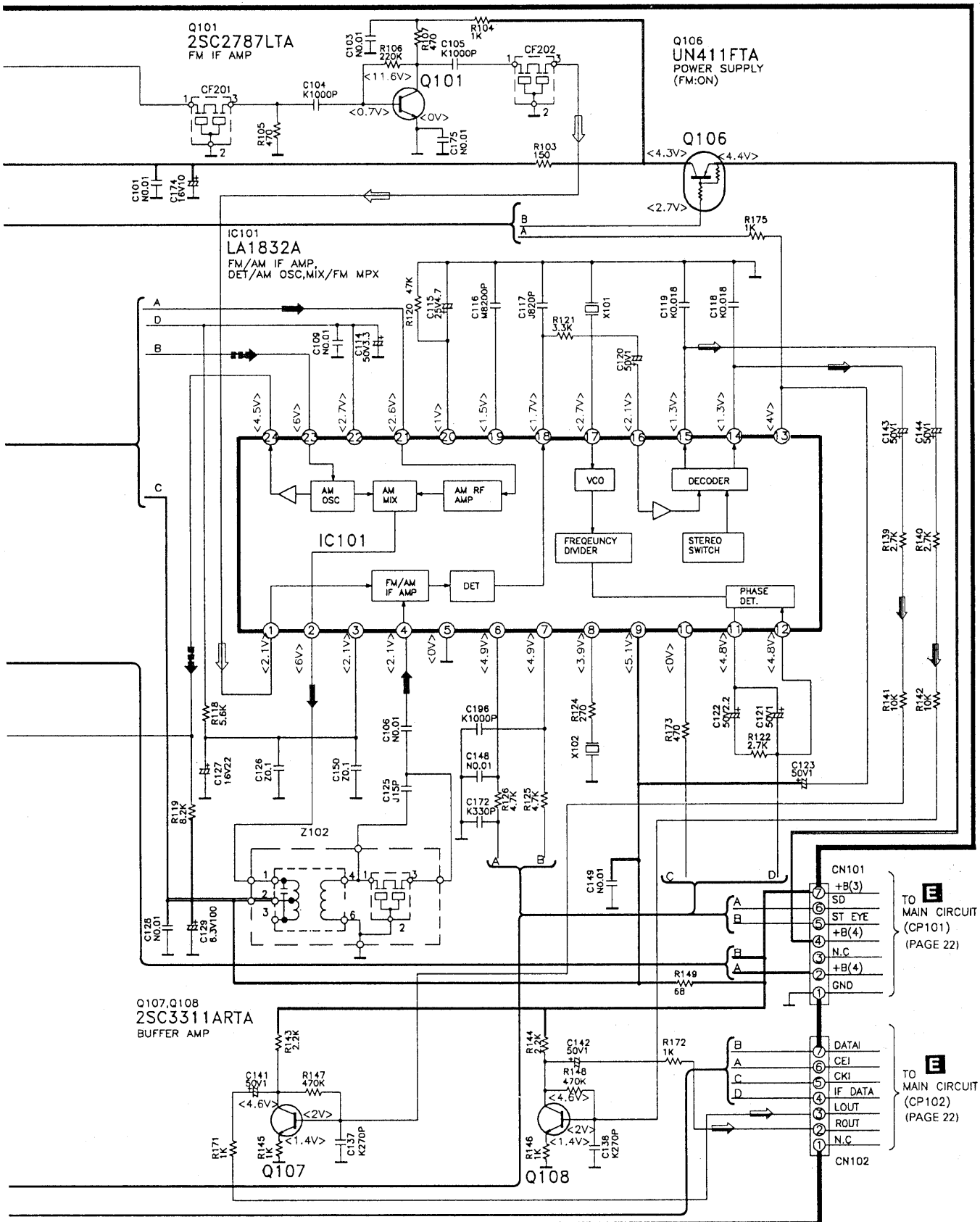
## J TUNER PACK CIRCUIT



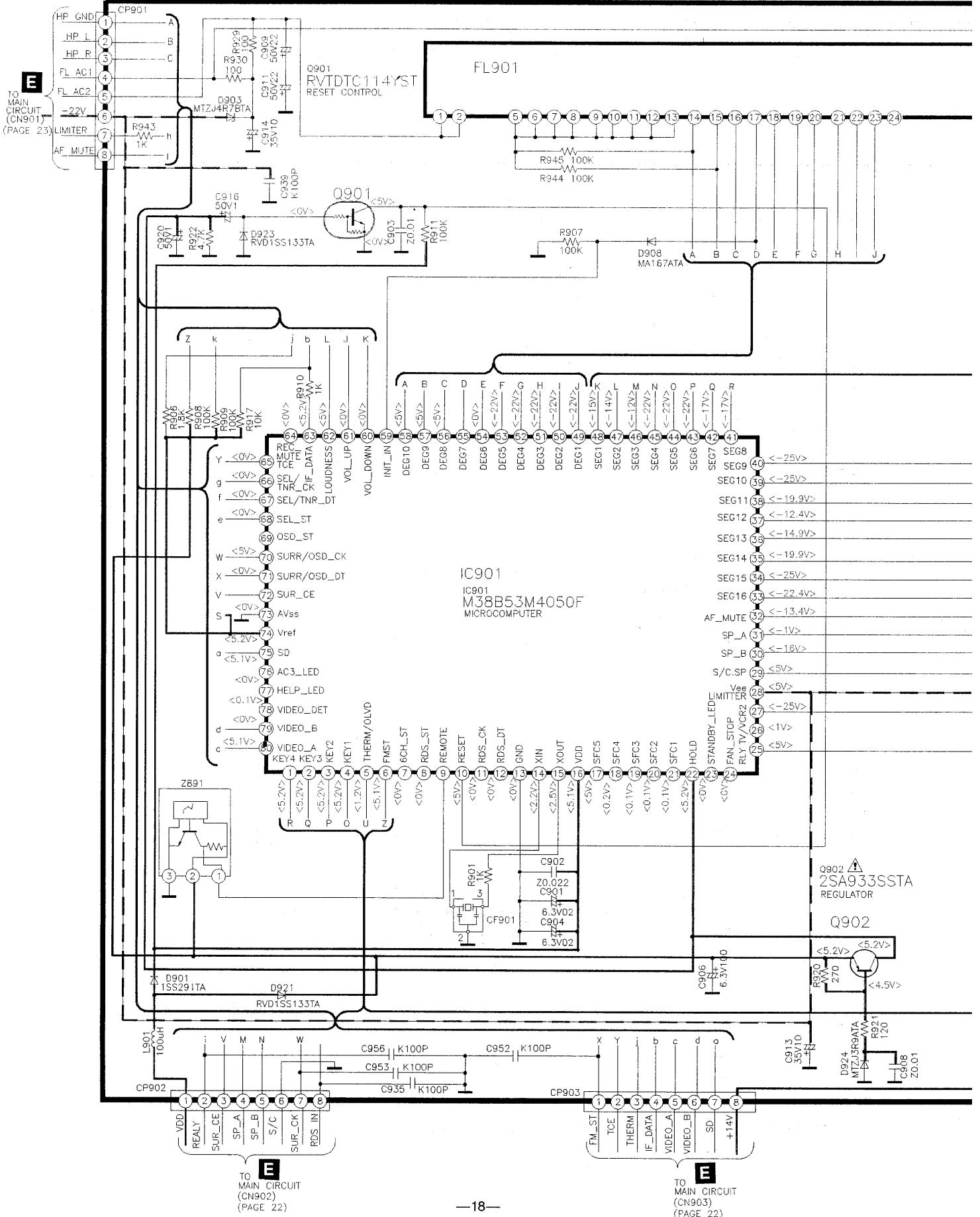
## A TUNER CIRCUIT

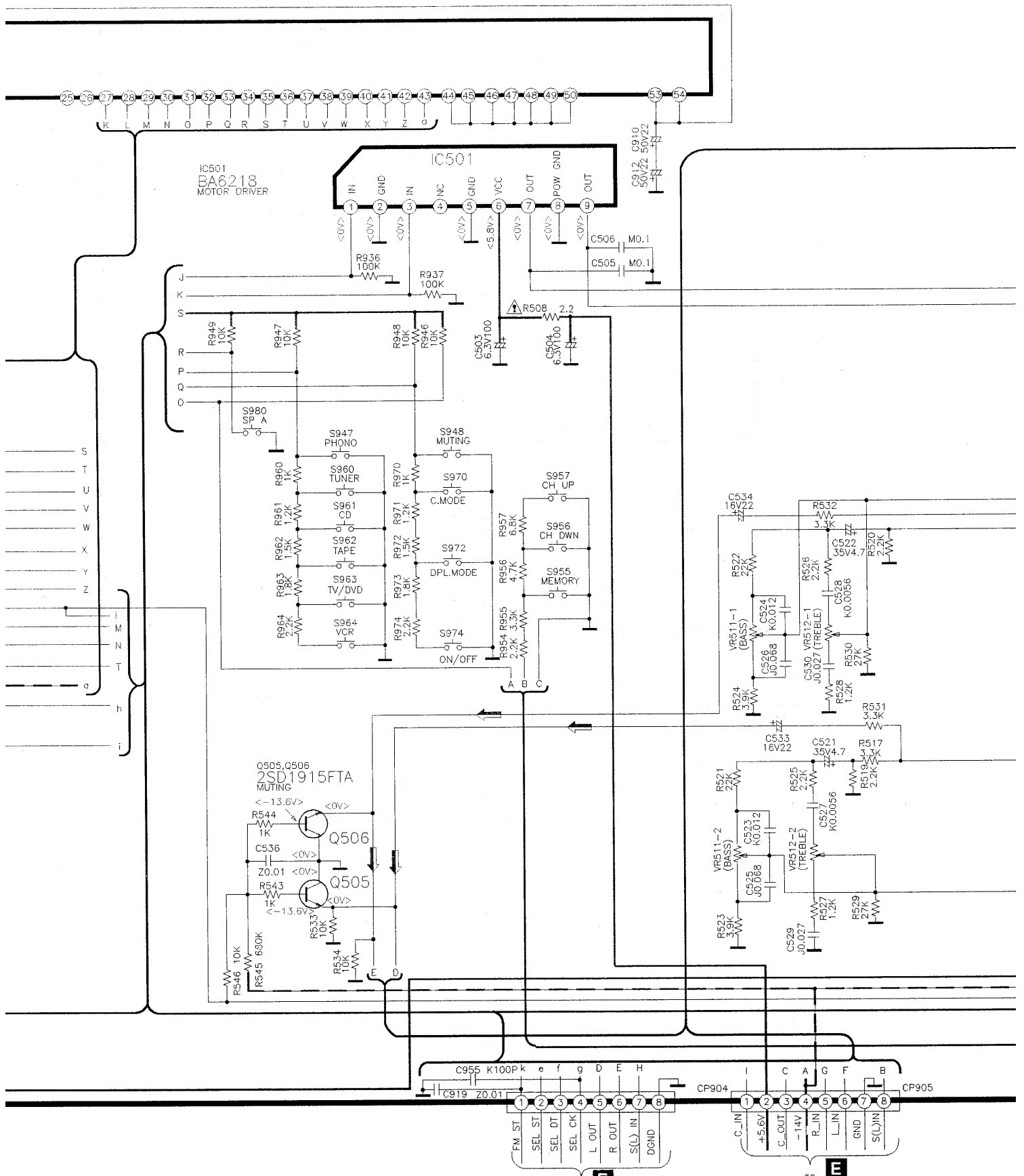






**B** PANEL CIRCUIT

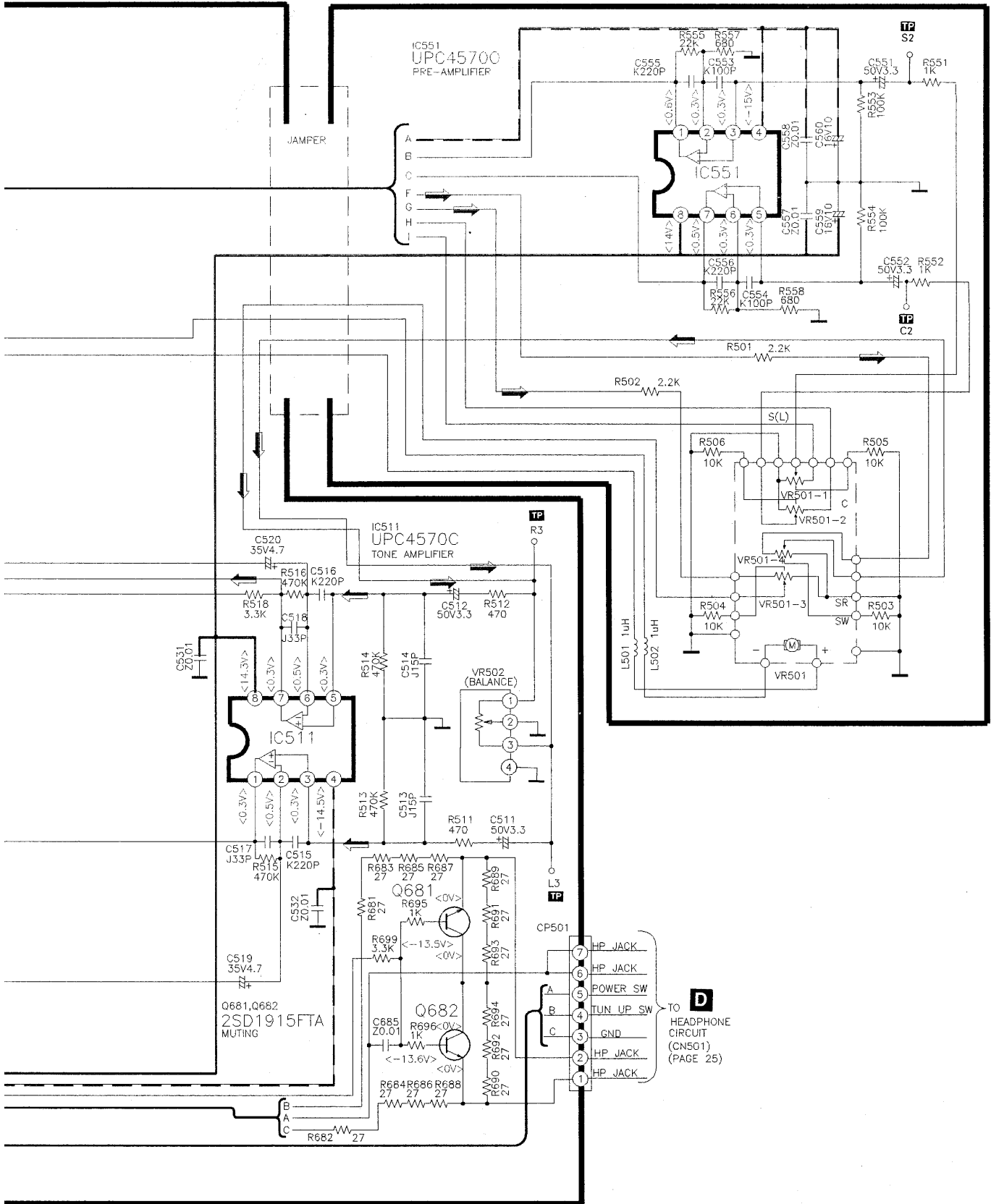




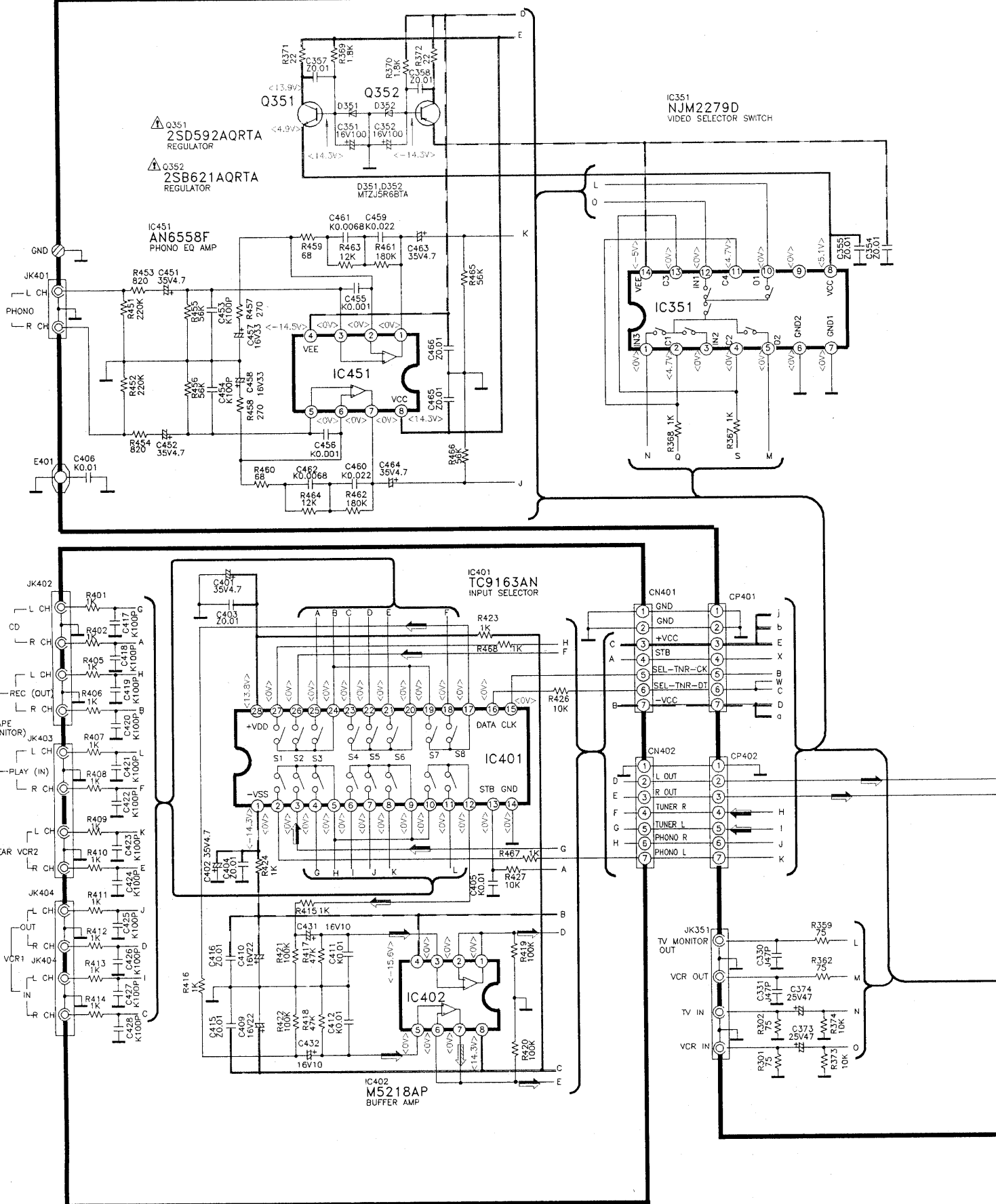
TO MAIN CIRCUIT (CN904) (PAGE 23)

TO MAIN CIRCUIT (CN905) (PAGE 23)

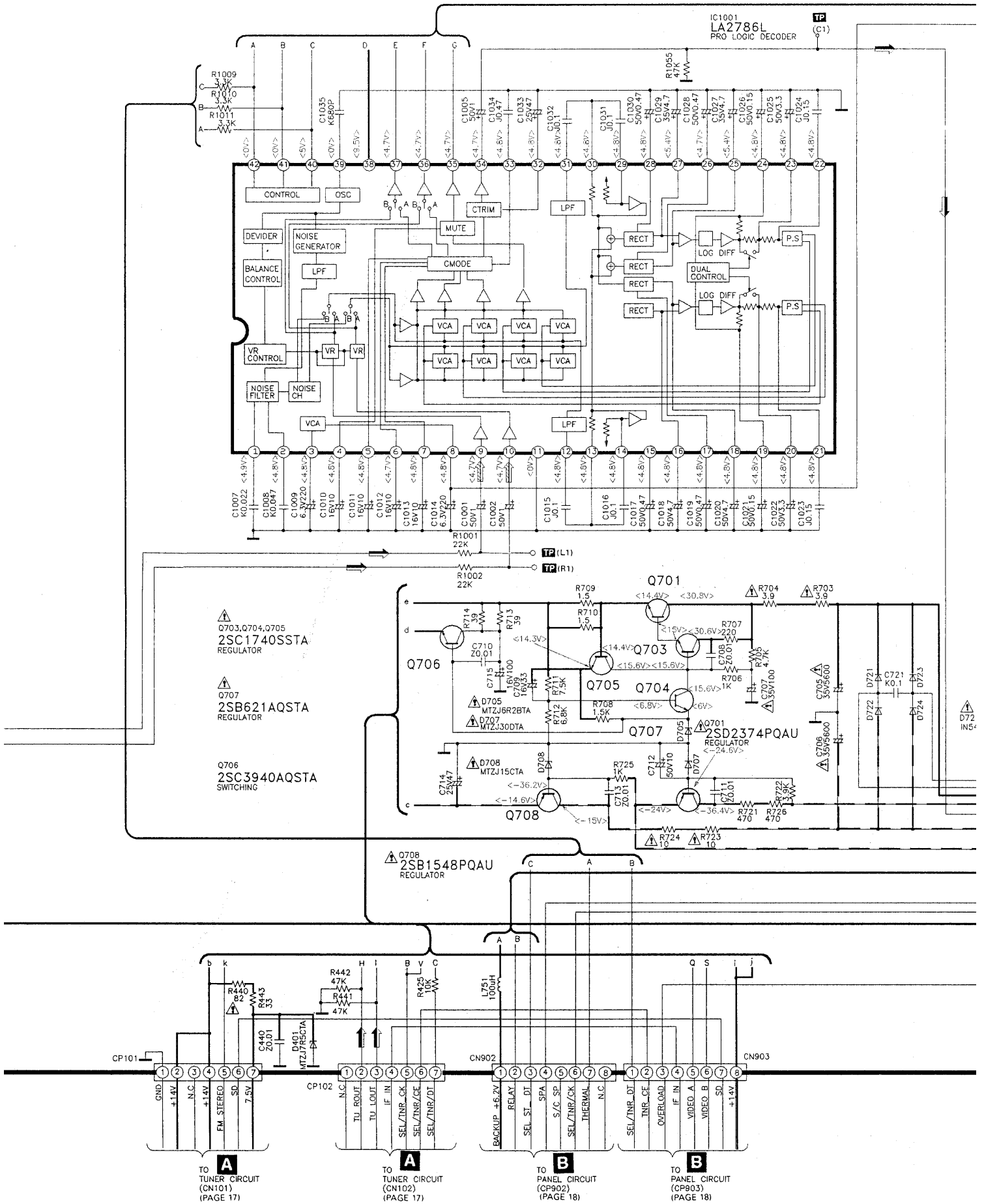
**C** VOLUME CIRCUIT

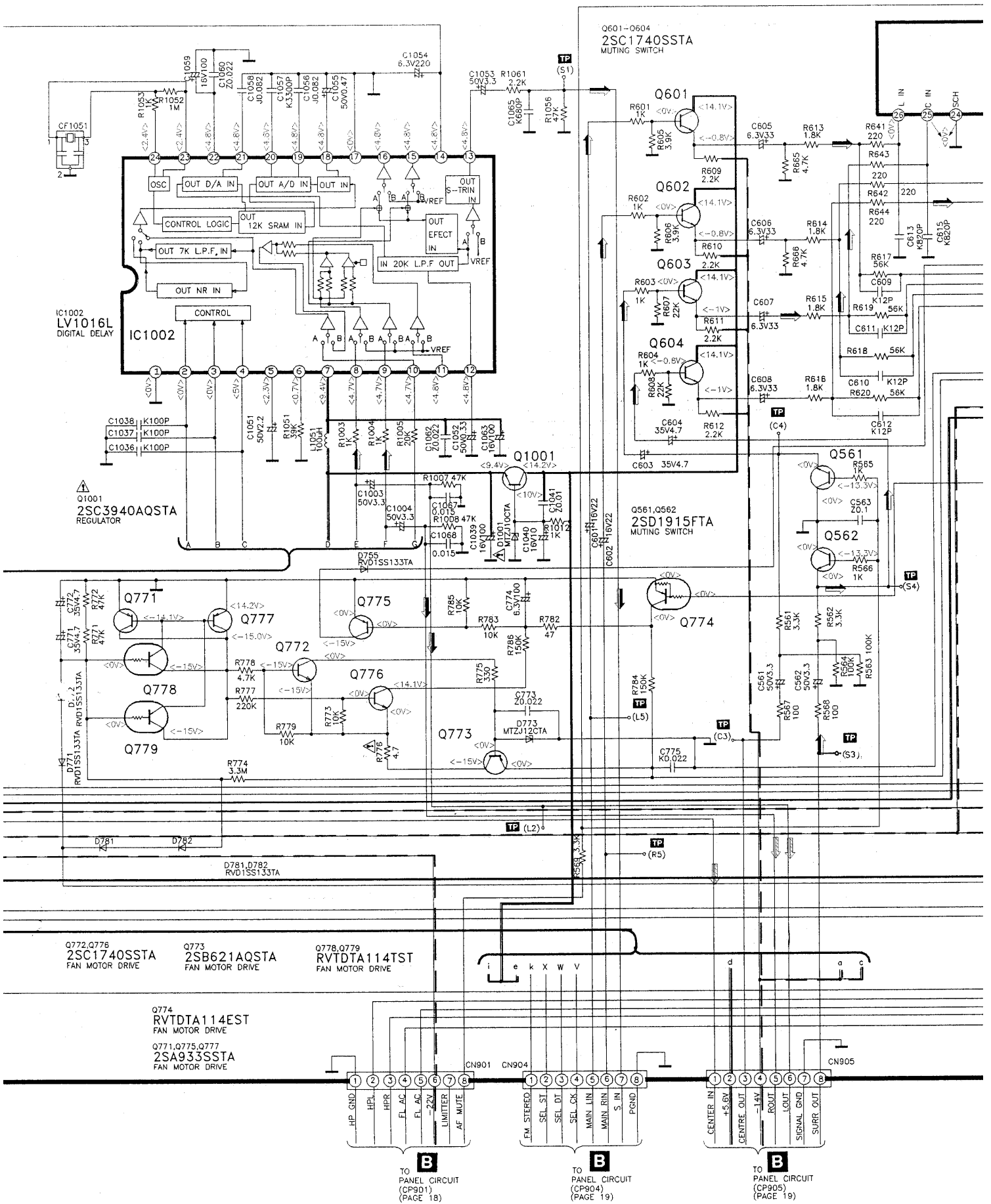


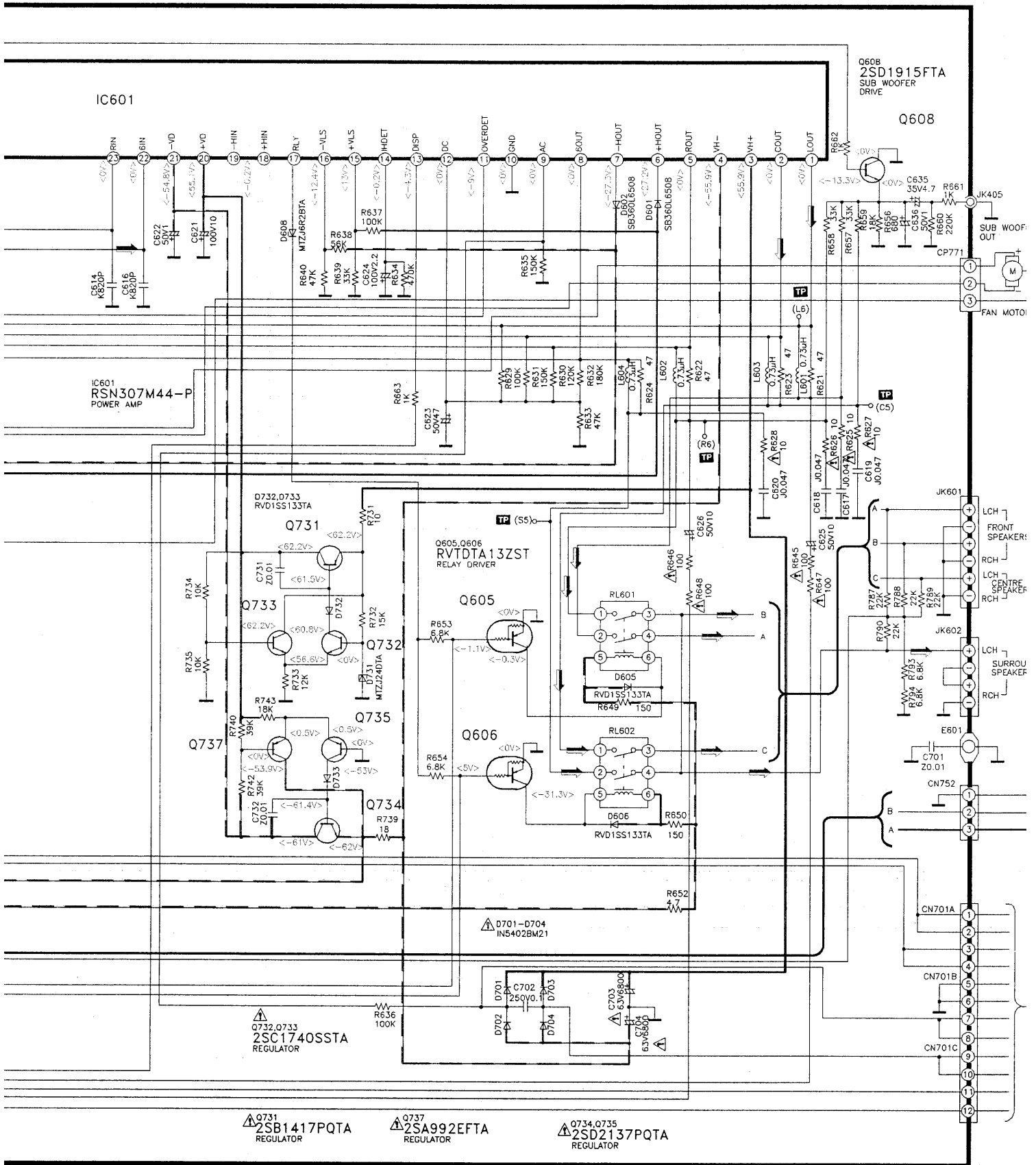
**E** MAIN CIRCUIT



**I** IN/OUT TERMINAL CIRCUIT







Q731 2SB1417PQTA REGULATOR

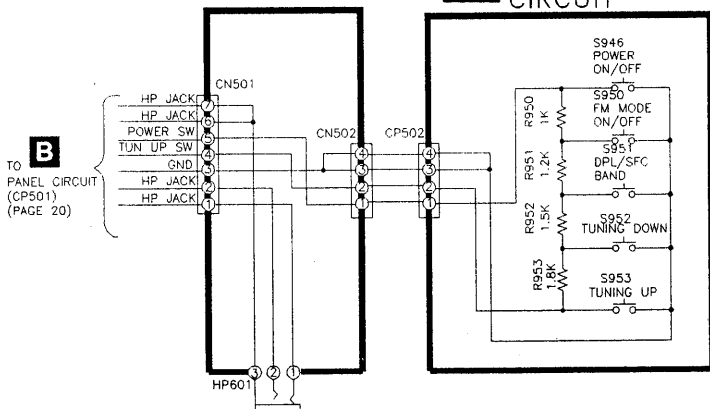
Q737 2SA992EFTA REGULATOR

Q734, Q735 2SD2137PQTA REGULATOR



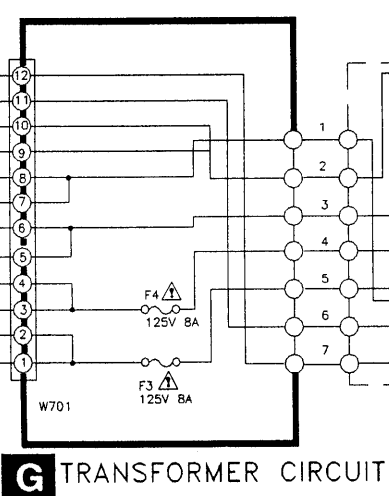
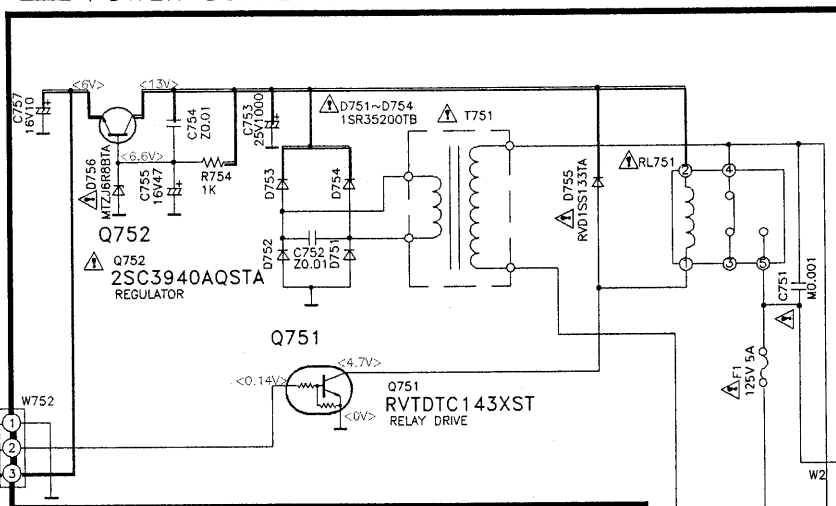
**D** HEADPHONE CIRCUIT

**H** POWER SWITCH CIRCUIT



**B**  
TO  
PANEL CIRCUIT  
(CP501)  
(PAGE 20)

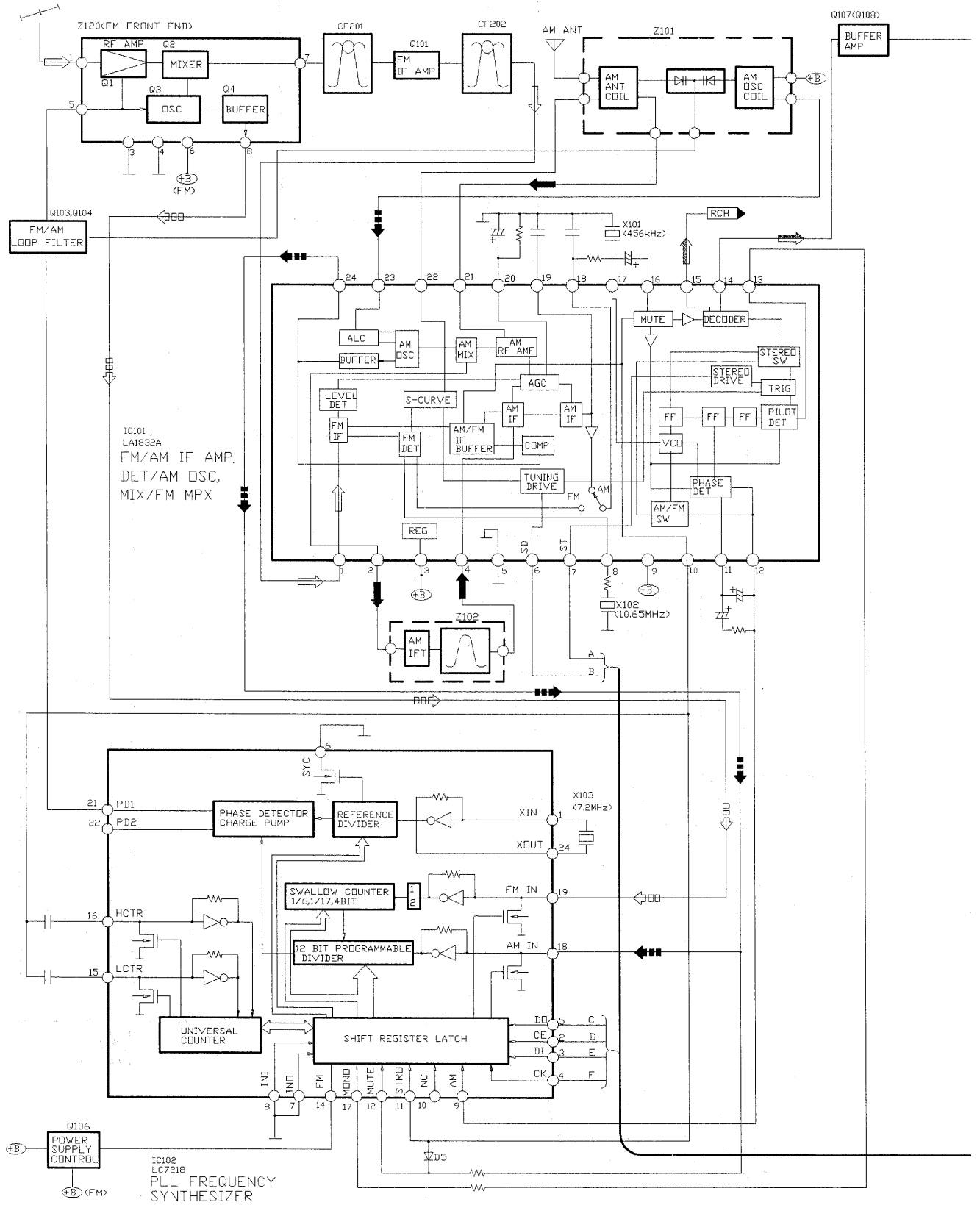
**F** POWER SUPPLY CIRCUIT

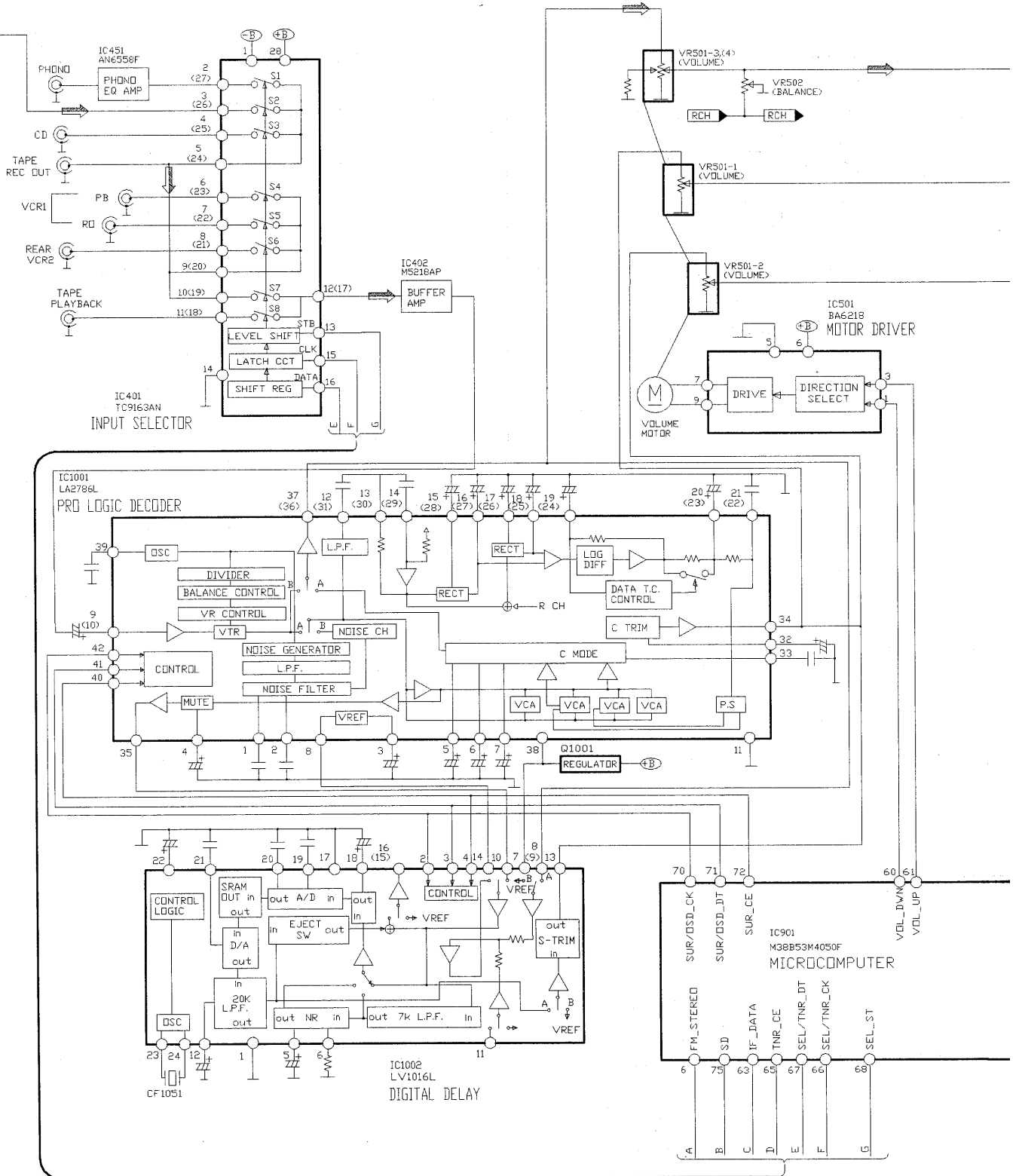


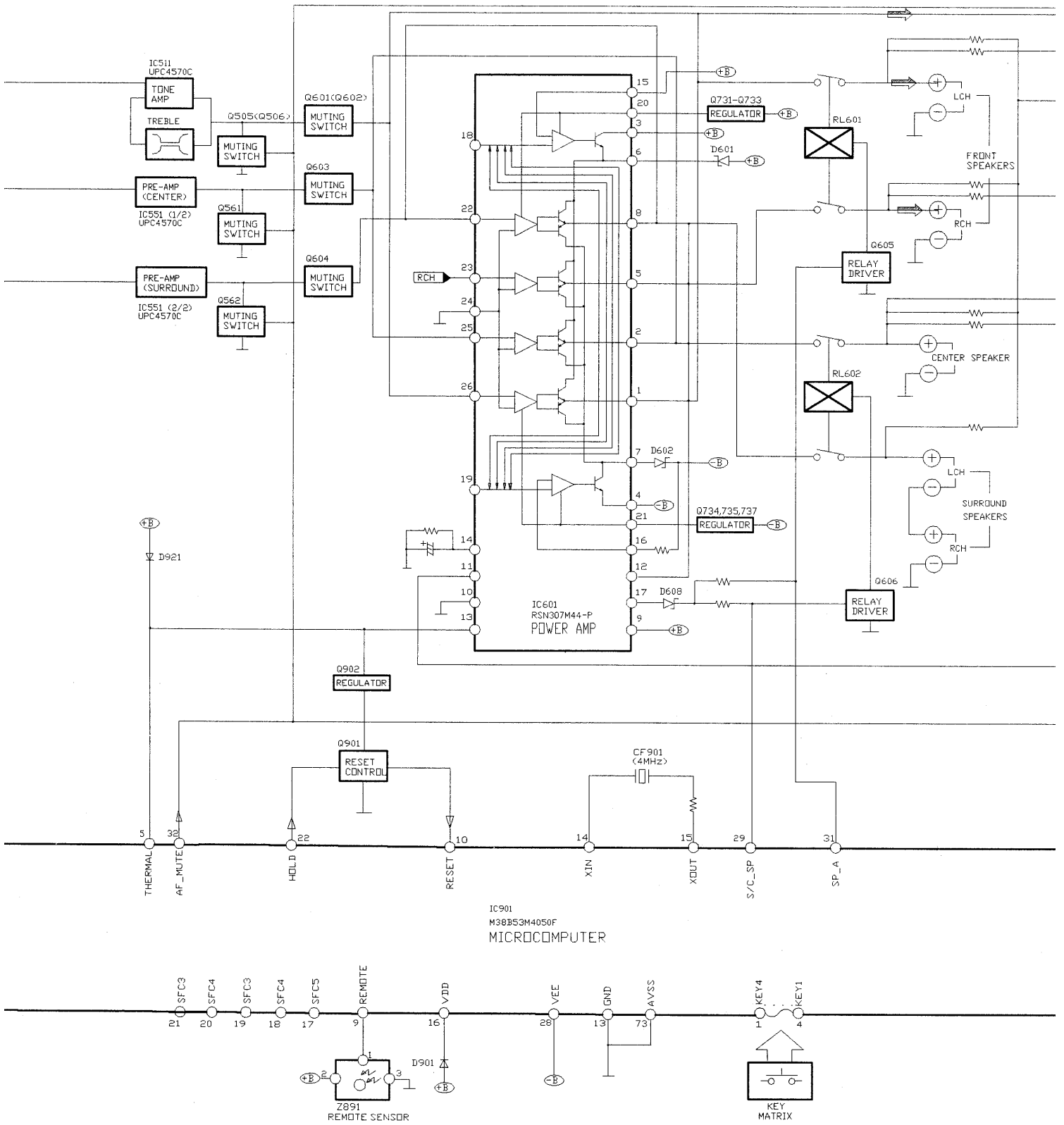
**G** TRANSFORMER CIRCUIT

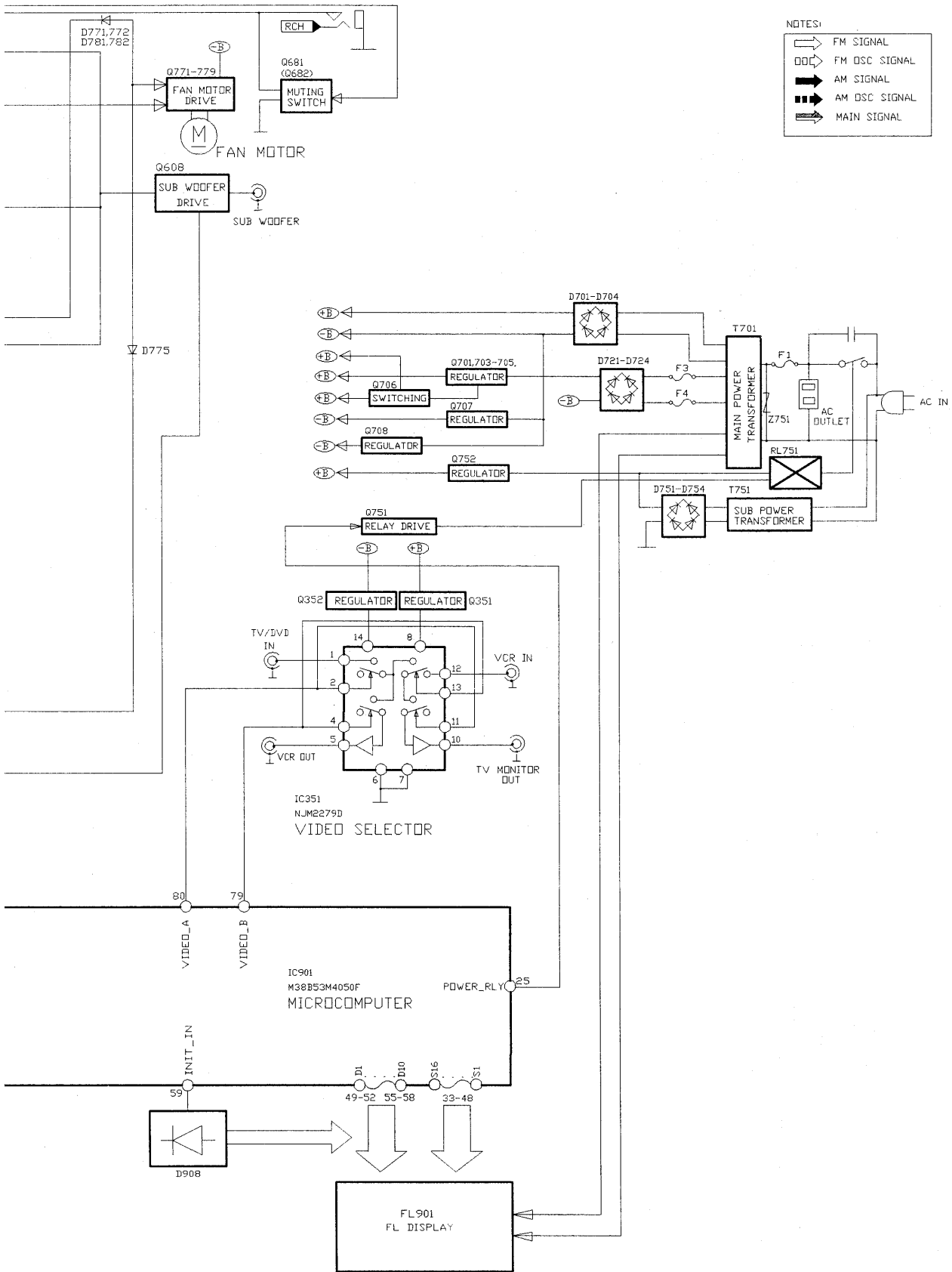
**L** AC IN/OUT CIRCUIT

■ Block Diagram





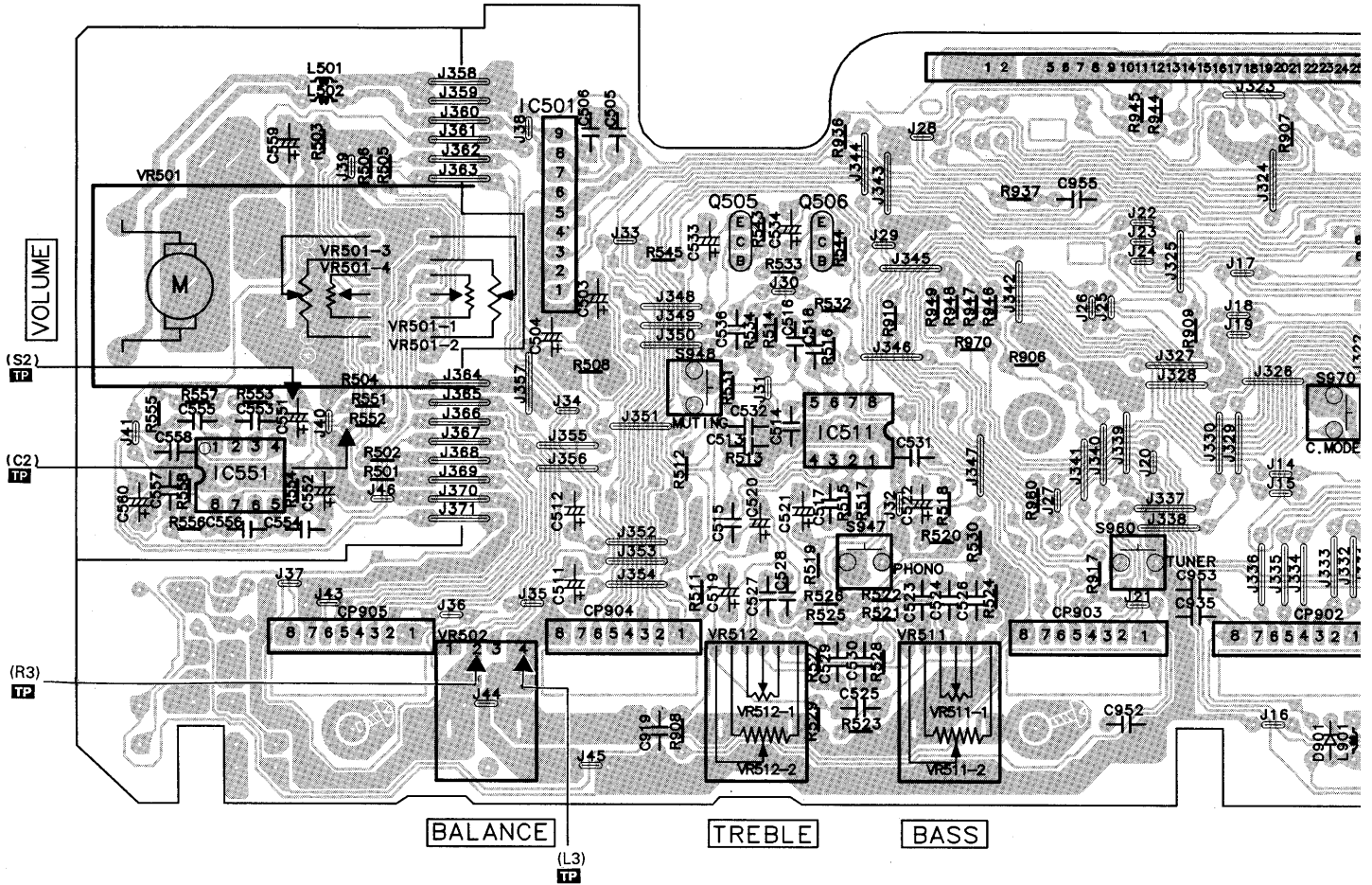




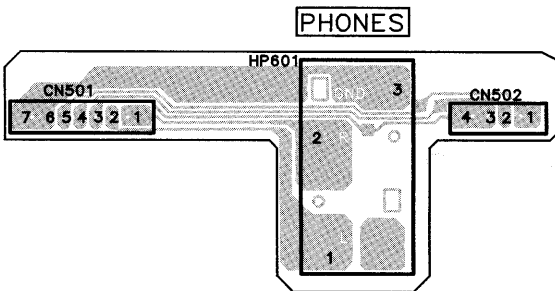
Printed Circuit Board

**C** VOLUME P.C.B. (REP2445B-S)

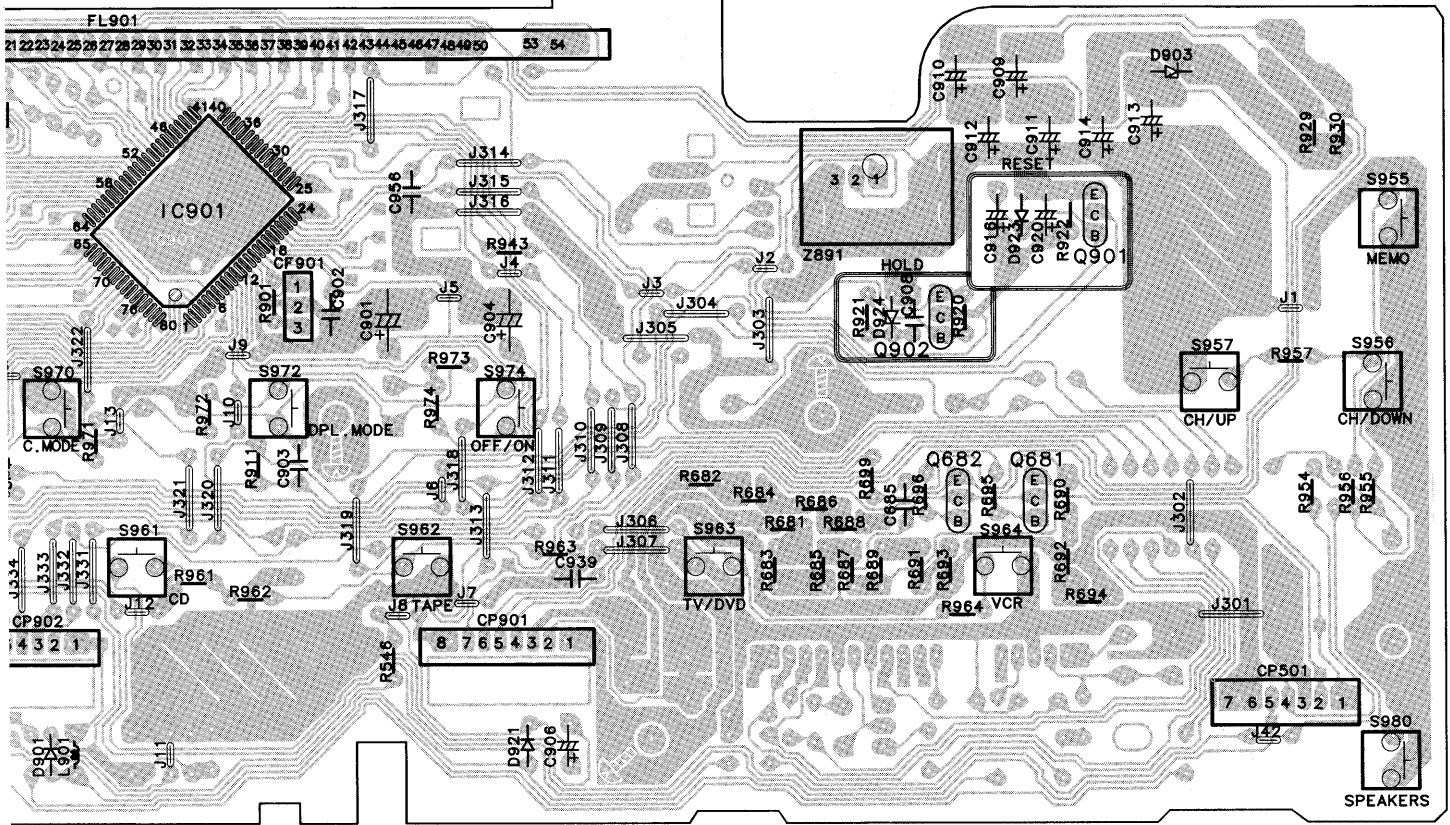
**B** PANEL P.C.B. (REP2445B-S)



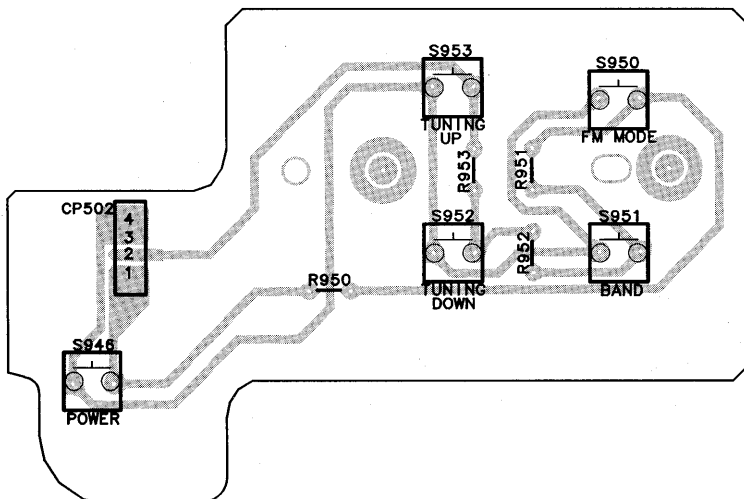
**D** HEADPHONE JACK P.C.B. (REP2445B-S)



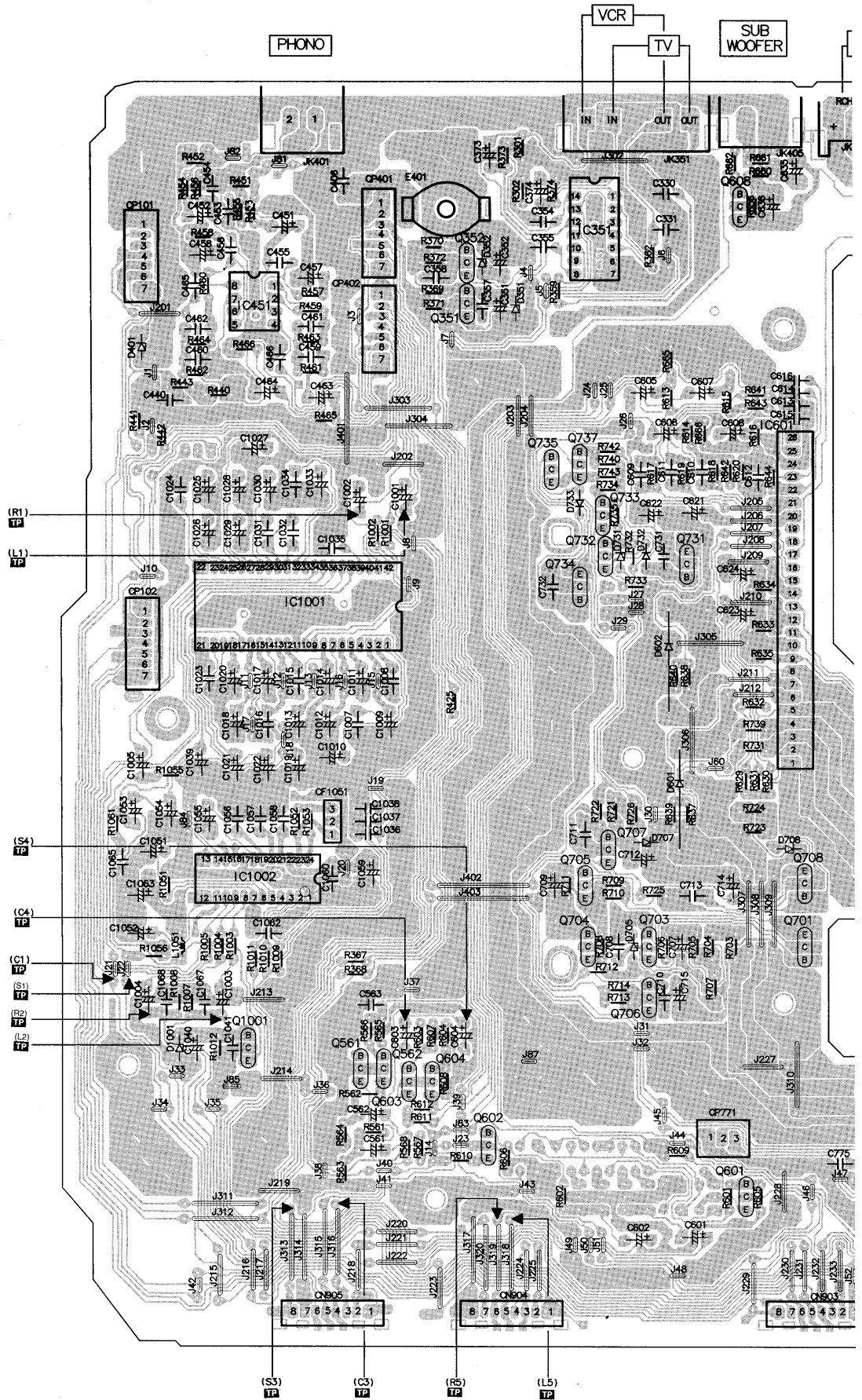
SENSOR



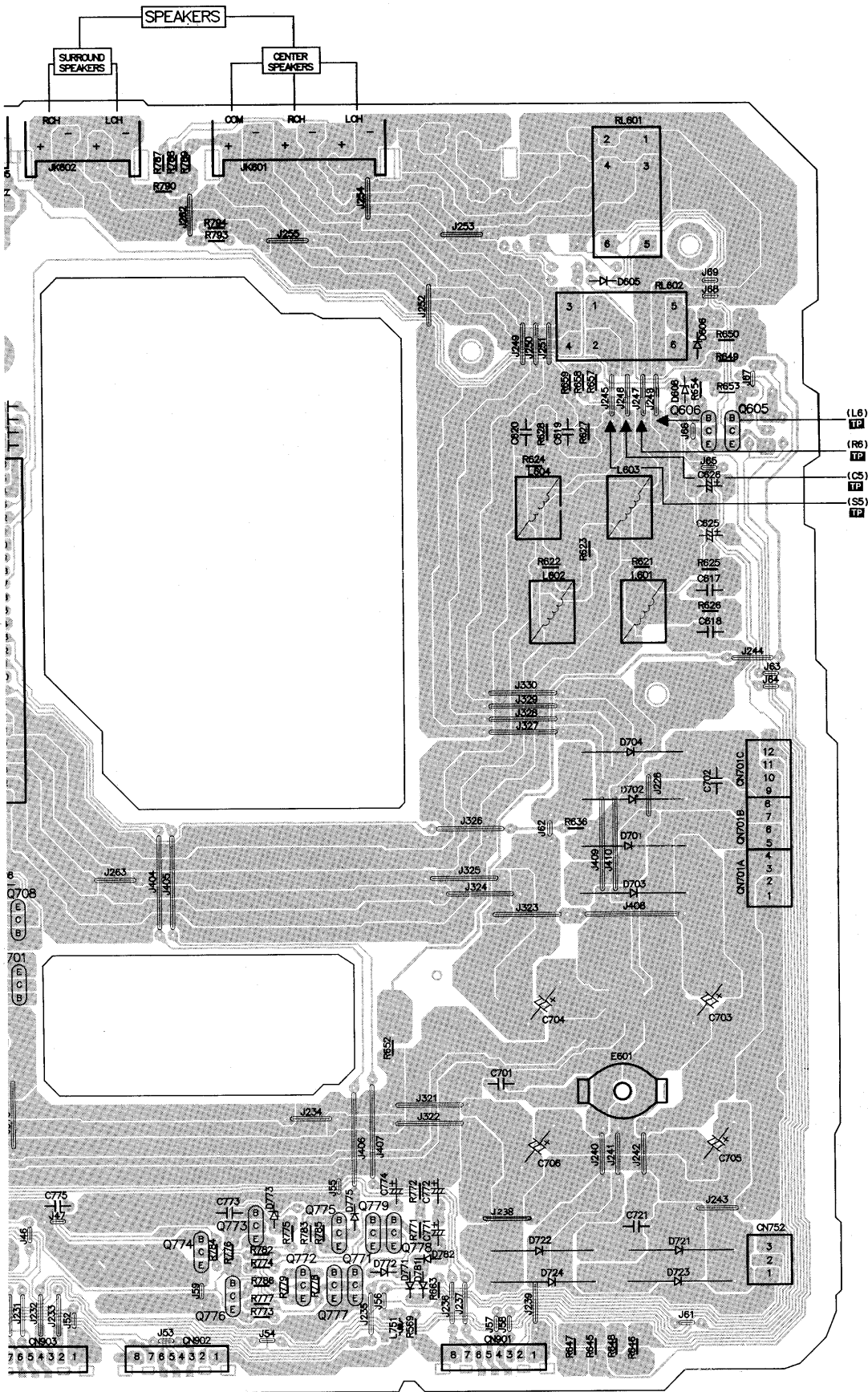
**H** POWER SWITCH P.C.B. (REP2445B-S)



**E** MAIN P.C.B. (REP2444B-M)

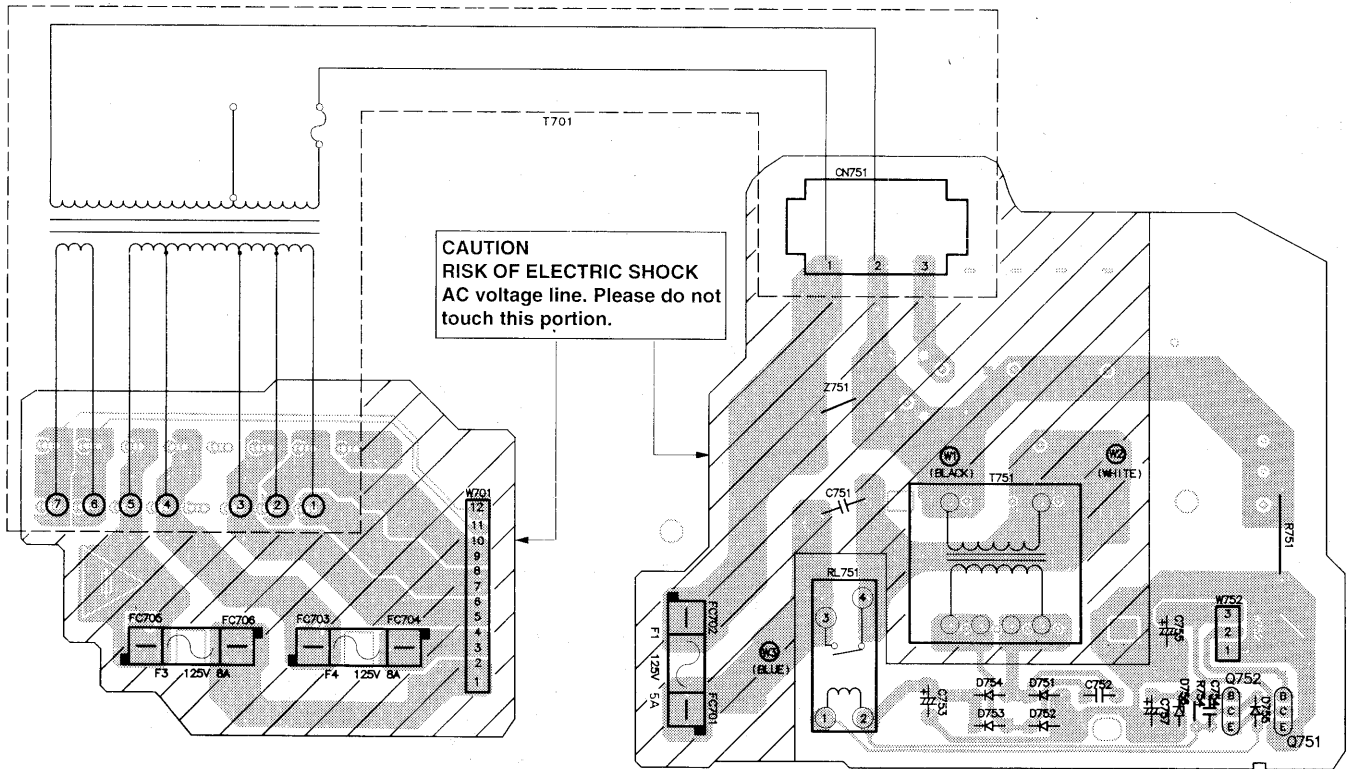




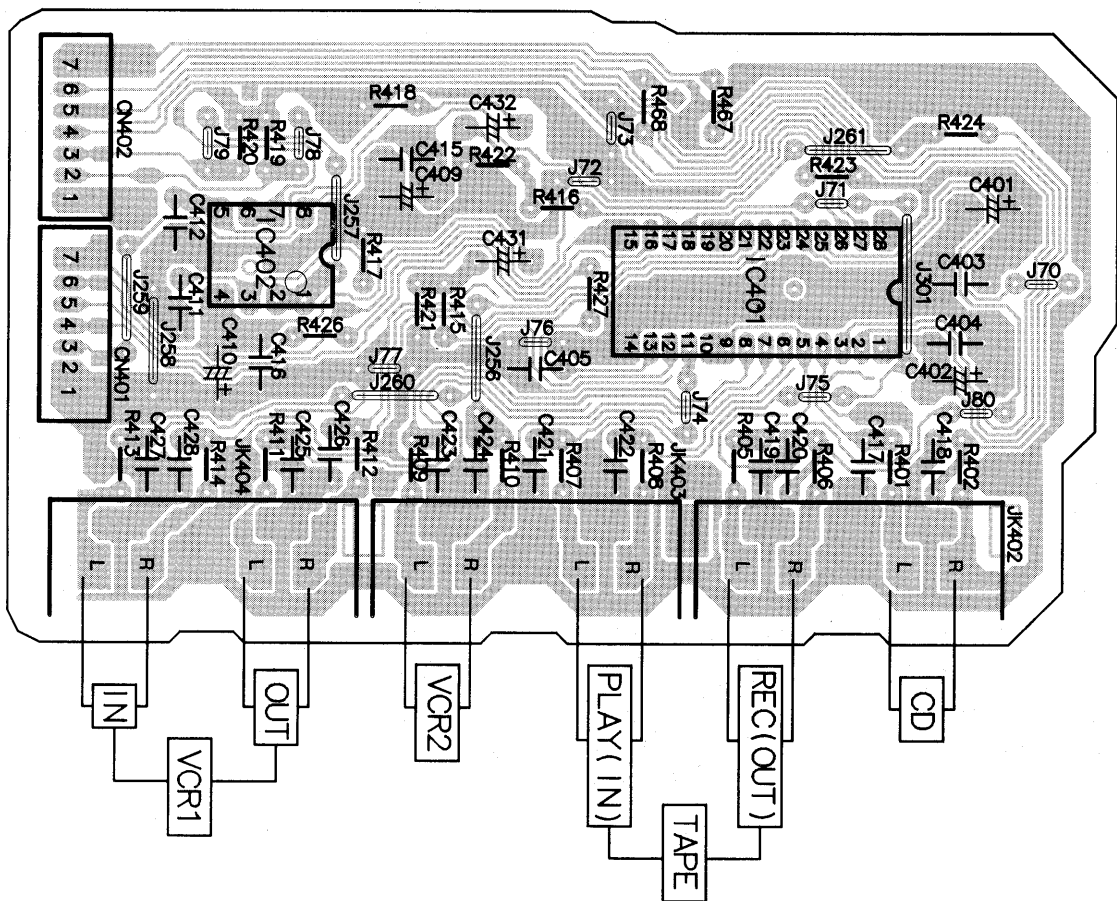


**G** TRANSFORMER P.C.B.  
(REP2446F-P)

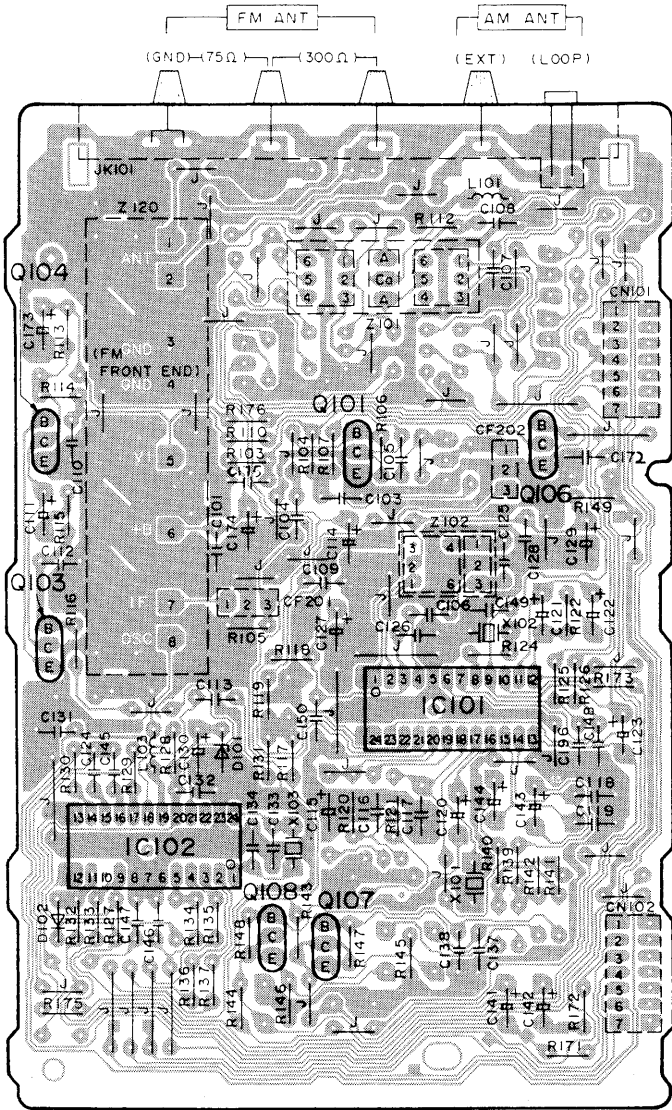
**F** POWER SUPPLY P.C.B.  
(REP2446F-P)



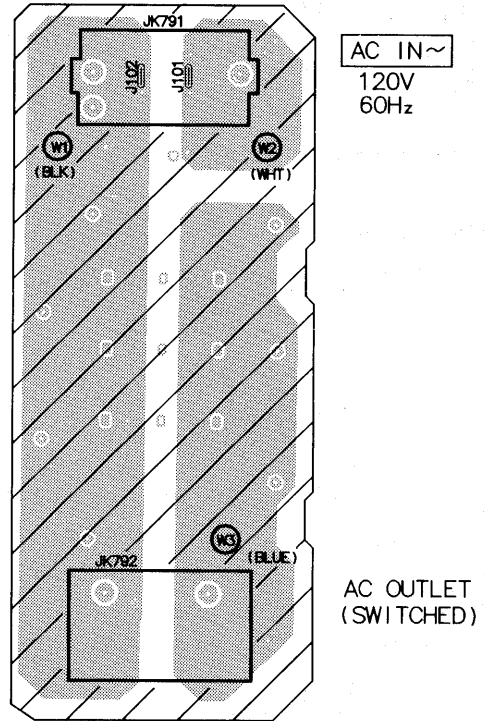
**I** IN/OUT TERMINAL P.C.B. (REP2444B-M)



**A** TUNER P.C.B. (REP2254A-T)

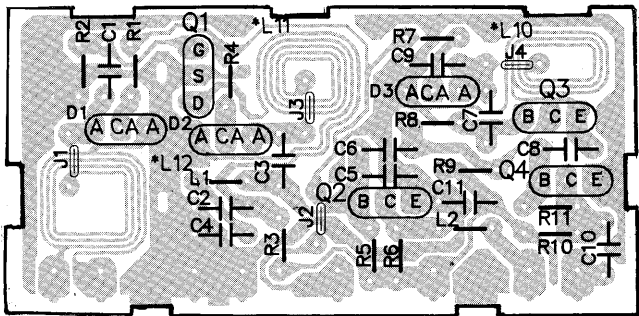


**L** AC IN / OUT P.C.B. (REP2446F-P)

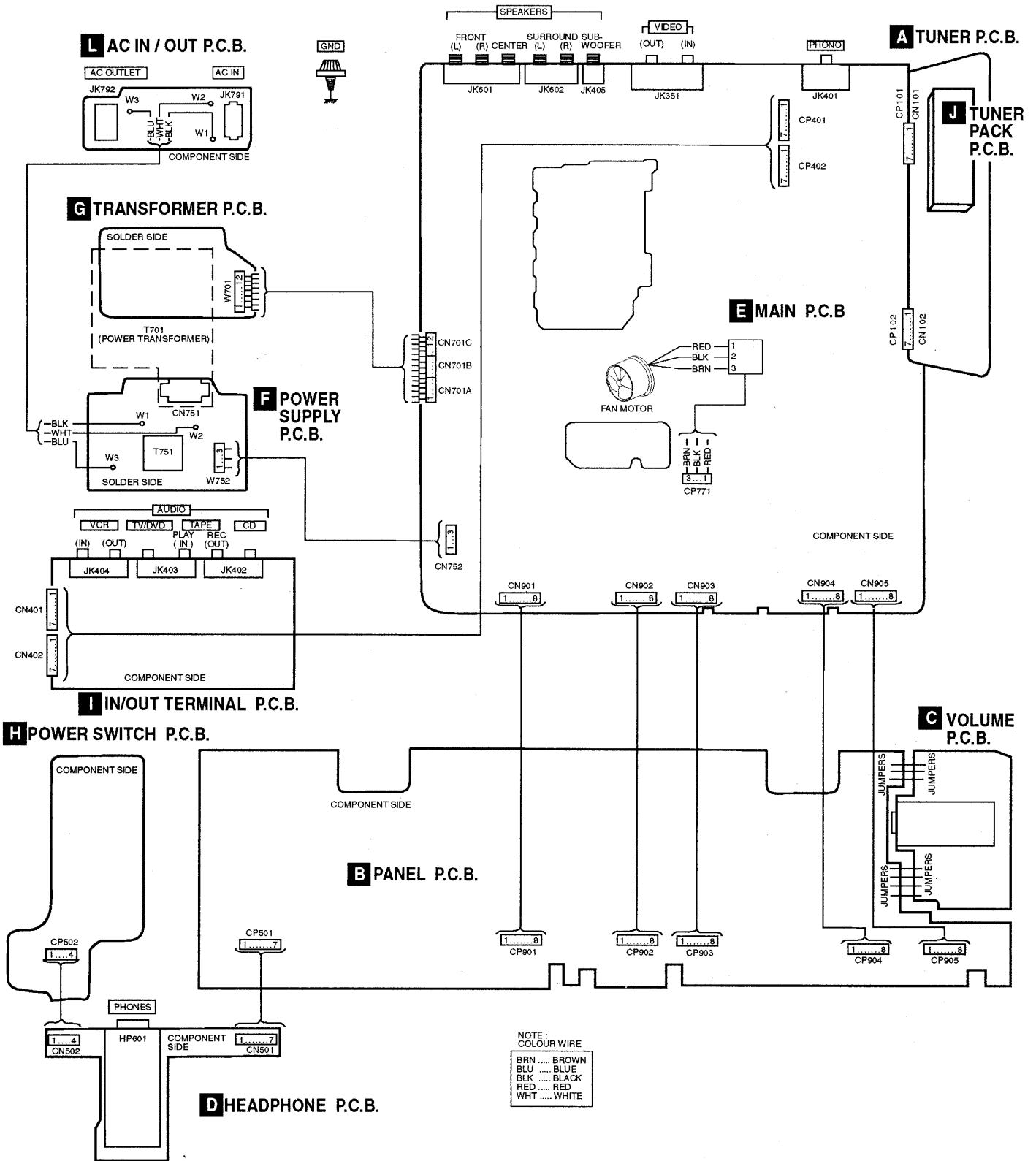


**CAUTION**  
RISK OF ELECTRIC SHOCK  
AC voltage line. Please do not  
touch this portion.

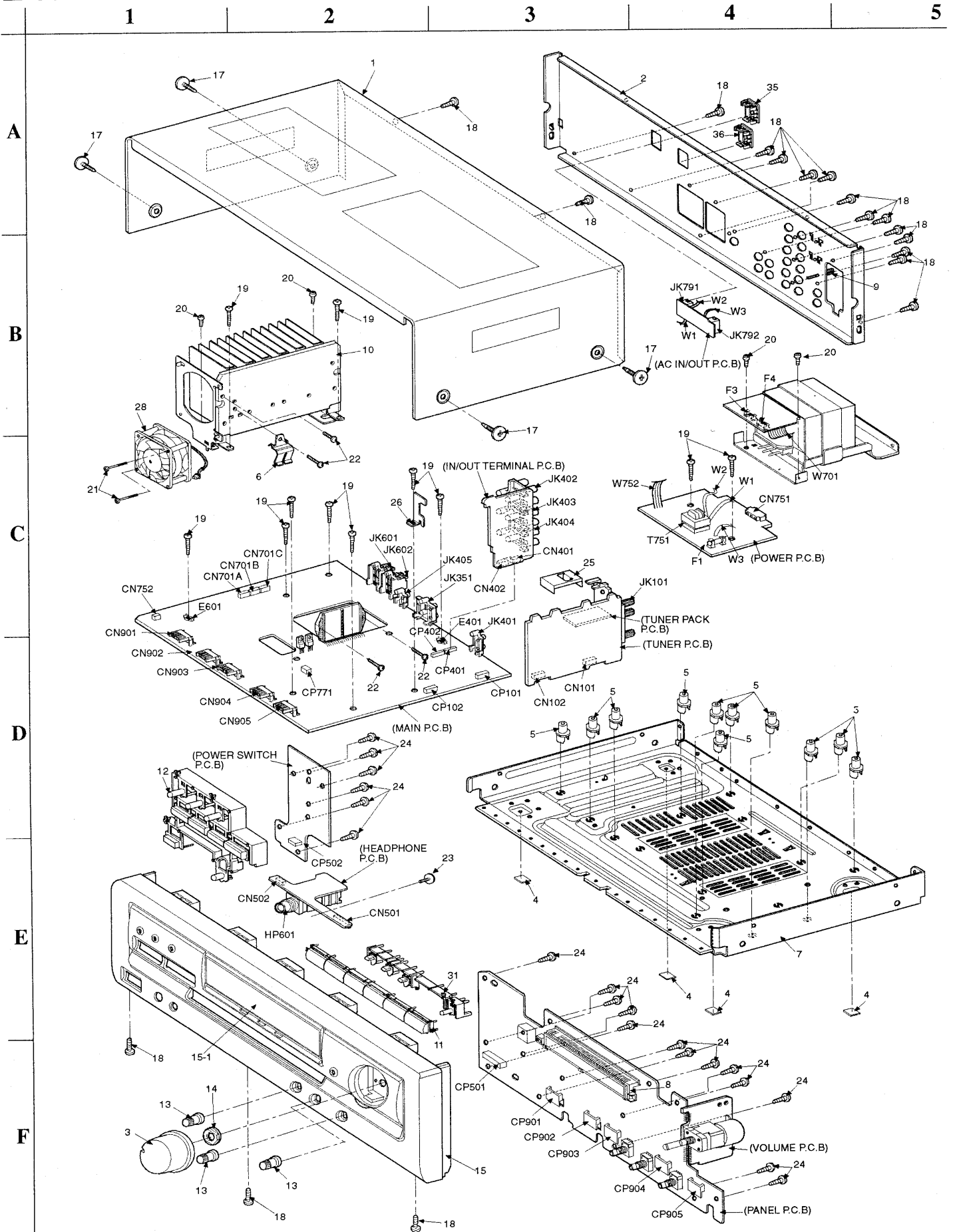
**J** TUNER PACK P.C.B. (REP1999B)



# Wiring Connection Diagram




■ Cabinet Parts Location



























## ■ Replacement Parts List

**Notes:** • Important safety notice :

 Components identified by  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

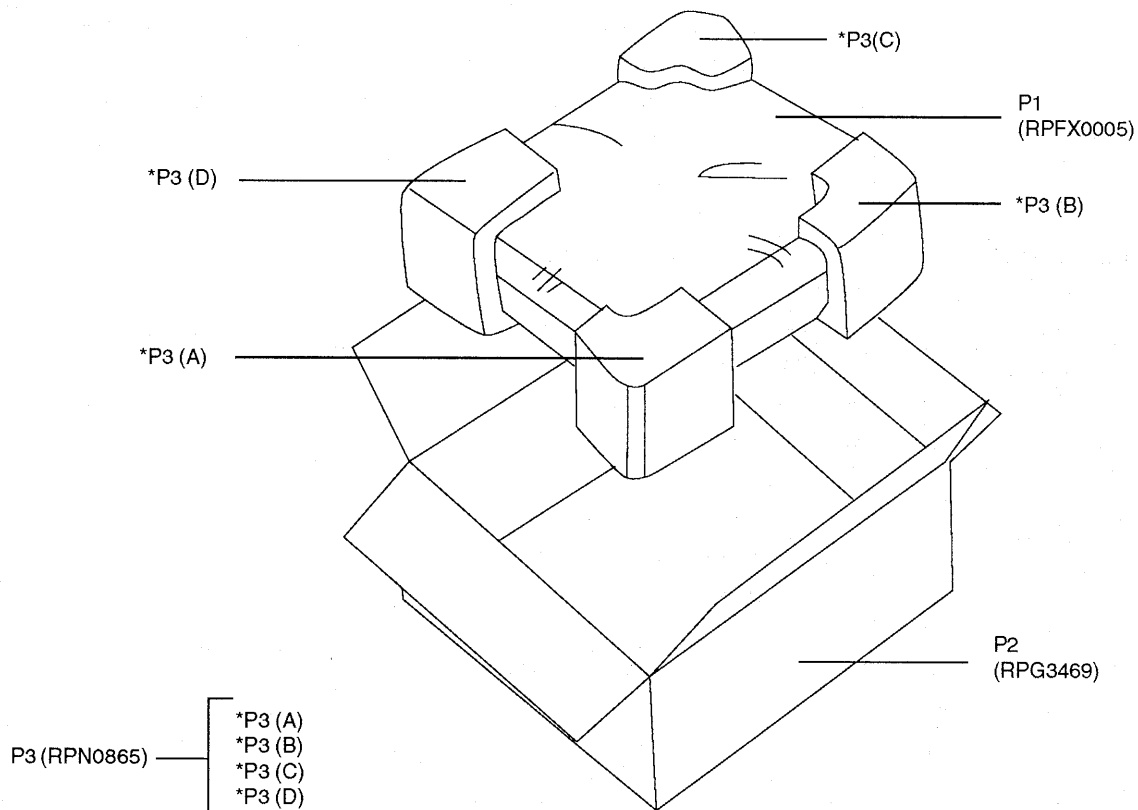
- [M] in Remarks column indicates parts that are supplied by MESA.

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
<b>CABINET AND CHASSIS</b>				IC511	UPC4570C	IC, TONE CONTROL	[M]	Q732	2SC1740SSTA	TRANSISTOR	[M] 
1	RKM0260D-K	TOP CABINET	[M]	IC551	UPC4570C	IC, TONE CONTROL	[M]	Q733	2SC1740SSTA	TRANSISTOR	[M] 
2	RGR0251A-C	REAR PANEL	[M]	IC601	RSN307M44-P	IC, HIC	[M]	Q734	2SD2137PQTA	TRANSISTOR	[M] 
3	RGW0243B-K	VOLUME KNOB	[M]	IC901	M38B53M4050F	IC, MICROCOMPUTER	[M]	Q735	2SA992EFTA	TRANSISTOR	[M] 
4	SKL293	LEG CUSHION	[M]	IC1001	LA2786L	IC, DPL	[M]	Q737	2SA992EFTA	TRANSISTOR	[M] 
5	RKQ0089	PCB HOLDER	[M]	IC1002	LV1016L	IC, SURR DECODER	[M]	Q751	RVTDT143XST	TRANSISTOR	[M]
6	RMC0158-S	TRANSISTOR HOLDER	[M]	<b>TRANSISTORS</b>				Q752	2SC3940AQSTA	TRANSISTOR	[M] 
7	RMK0350	BOTTOM CHASSIS	[M]	Q1	2SK544F-AC	TRANSISTOR	[M]	Q771	2SA933SSTA	TRANSISTOR	[M]
8	RMN0372	FL HOLDER	[M]	Q2	2SC2786MTA	TRANSISTOR	[M]	Q772	2SC1740SSTA	TRANSISTOR	[M]
9	SNE2123	EARTH TERMINAL	[M]	Q3	2SC2787FL1TA	TRANSISTOR	[M]	Q773	2SB621AQSTA	TRANSISTOR	[M]
10	RXX0186	HEAT SINK UNIT	[M]	Q4	2SC2787FL1TA	TRANSISTOR	[M]	Q774	RVTDTA114EST	TRANSISTOR	[M]
11	RGU1493A-K	SELECTOR BUTTON	[M]	Q101	2SC2787LTA	TRANSISTOR	[M]	Q775	2SA933SSTA	TRANSISTOR	[M]
12	RGU1350-K	MODE BUTTON	[M]	Q103	2SC2785FETA	TRANSISTOR	[M]	Q776	2SC1740SSTA	TRANSISTOR	[M]
13	RGW0244-K1	BASS TREBLE KNOB	[M]	Q104	2SC2785FETA	TRANSISTOR	[M]	Q777	2SA933SSTA	TRANSISTOR	[M]
14	RHN90001	M9 NUT	[M]	Q106	RVTDTA143XST	TRANSISTOR	[M]	Q778	RVTDTA114TST	TRANSISTOR	[M]
15	RFKGSAG67PPK	FRONT PANEL ASS'Y	[M]	Q107	2SC3311ARTA	TRANSISTOR	[M]	Q779	RVTDTA114TST	TRANSISTOR	[M]
15-1	RKW0436C-Q	FL WINDOW	[M]	Q108	2SC3311ARTA	TRANSISTOR	[M]	Q901	RVTDT114YST	TRANSISTOR	[M]
17	SNE2129-1	SCREW (CABINET)	[M]	Q351	2SD592AQRSTA	TRANSISTOR	[M] 	Q902	2SA933SSTA	TRANSISTOR	[M] 
18	XTBS3+8JFZ1	SCREW	[M]	Q352	2SB621AQSTA	TRANSISTOR	[M] 	Q1001	2SC3940AQSTA	TRANSISTOR	[M] 
19	XTB3+20JFZ	SCREW	[M]	Q505	2SD1915FTA	TRANSISTOR	[M]	<b>DIODES</b>			
20	XTB3+8FFZ	SCREW	[M]	Q506	2SD1915FTA	TRANSISTOR	[M]	D1	SVC211SPA-AL	DIODE	[M]
21	XTB3+30J	SCREW	[M]	Q561	2SD1915FTA	TRANSISTOR	[M]	D2	SVC211SPA-AL	DIODE	[M]
22	XTW3+15T	SCREW	[M]	Q562	2SD1915FTA	TRANSISTOR	[M]	D3	SVC211SPA-AL	DIODE	[M]
23	RHD26016	SCREW	[M]	Q601	2SC1740SSTA	TRANSISTOR	[M]	D101	MTZJ5R1BTA	DIODE	[M]
24	XTBS26+10J	SCREW (FRONT)	[M]	Q602	2SC1740SSTA	TRANSISTOR	[M]	D102	RVD1SS133TA	DIODE	[M]
25	RSC0027-1	SHIELD CASE	[M]	Q603	2SC1740SSTA	TRANSISTOR	[M]	D351	MTZJ5R6BTA	DIODE	[M]
26	RMQ0709	TUNER PCB BRACKET	[M]	Q604	2SC1740SSTA	TRANSISTOR	[M]	D352	MTZJ5R6BTA	DIODE	[M]
28	REM0069	FAN UNIT	[M]	Q605	RVTDTA113ZST	TRANSISTOR	[M]	D401	MTZJ7R5CTA	DIODE	[M]
31	RGU1352A-K	DOLBY BUTTON	[M]	Q606	RVTDTA113ZST	TRANSISTOR	[M]	D601	SB360L6508	DIODE	[M]
35	SJS9234A	AC INLET COVER	[M]	Q608	2SD1915FTA	TRANSISTOR	[M]	D602	SB360L6508	DIODE	[M]
36	SJS9233A	AC OUTLET COVER	[M]	Q681	2SD1915FTA	TRANSISTOR	[M]	D605	RVD1SS133TA	DIODE	[M]
<b>INTEGRATED CIRCUITS</b>				Q682	2SD1915FTA	TRANSISTOR	[M]	D606	RVD1SS133TA	DIODE	[M]
IC101	LA1832A	IC, IF/MPX	[M]	Q701	2SD2374PQAU	TRANSISTOR	[M] 	D608	MTZJ6R2BTA	DIODE	[M]
IC102	LC7218	IC, PLL	[M]	Q703	2SC1740SSTA	TRANSISTOR	[M] 	D701	1N5402BM21	DIODE	[M] 
IC351	NJM2279D	IC, VIDEO SELECTOR SW	[M]	Q704	2SC1740SSTA	TRANSISTOR	[M] 	D702	1N5402BM21	DIODE	[M] 
IC401	TC9163AN	IC, SELECTOR	[M]	Q705	2SC1740SSTA	TRANSISTOR	[M] 	D703	1N5402BM21	DIODE	[M] 
IC402	M5218AP	IC, BUFFER AMP	[M]	Q706	2SC3940AQSTA	TRANSISTOR	[M]	D704	1N5402BM21	DIODE	[M] 
IC451	AN6558F	IC, OP AMP	[M]	Q707	2SB621AQSTA	TRANSISTOR	[M] 	D705	MTZJ6R2BTA	DIODE	[M] 
IC501	BA6218	IC, MOTOR DRIVER	[M]	Q708	2SB1548PQAU	TRANSISTOR	[M] 	D707	MTZJ27DTA	DIODE	[M] 
				Q731	2SB1417PQTA	TRANSISTOR	[M] 	D708	MTZJ15CTA	DIODE	[M] 

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
D721	1N5402BM21	DIODE	[M]▲	S963	EVQ21405R	SW, TV/DVD	[M]	L604	RLQYR73MW-E	CHOKE COIL	[M]
D722	1N5402BM21	DIODE	[M]▲	S964	EVQ21405R	SW, VCR1	[M]	L751	ELESN101KA	CHOKE COIL	[M]
D723	1N5402BM21	DIODE	[M]▲	S970	EVQ21405R	SW, CENTER MODE	[M]	L901	RLQB101KTA-Y	CHOKE COIL	[M]
D724	1N5402BM21	DIODE	[M]▲	S972	EVQ21405R	SW, DISPLAY MODE	[M]	L1051	ELESN101KA	CHOKE COIL	[M]
D731	MTZJ24DTA	DIODE	[M]	S974	EVQ21405R	SW, OFF/ON	[M]	T701	RTP2N5C008	POWER TRANSFORMER	[M]▲
D732	RVD1SS133TA	DIODE	[M]	S980	EVQ21405R	SW, SPEAKER	[M]	T751	RTP1H5C001-V	POWER TRANSFORMER	[M]▲
D733	RVD1SS133TA	DIODE	[M]								
D751	1SR35200TB	DIODE	[M]▲			<b>CONNECTORS</b>				<b>COMPONENT COMBINATION</b>	
D752	1SR35200TB	DIODE	[M]▲					Z101	RLA2Z002M-T	AM ANT. COIL	[M]
D753	1SR35200TB	DIODE	[M]▲	CN101	RJU057W007	7P CONNECTOR	[M]	Z102	RLI2Z006M-T	AM IFT	[M]
D754	1SR35200TB	DIODE	[M]▲	CN102	RJU057W007	7P CONNECTOR	[M]	Z120	RAL0029	TUNER PACK	[M]
D755	RVD1SS133TA	DIODE	[M]▲	CN401	RJU100W07	7P CONNECTOR	[M]	Z751	ERZV10V511CS	ZNR	[M]▲
D756	MTZJ6R8BTA	DIODE	[M]▲	CN402	RJU100W07	7P CONNECTOR	[M]	Z891	RCDSPS4242N	REMOTE SENSOR	[M]
D771	RVD1SS133TA	DIODE	[M]	CN501	RJU100W07	7P CONNECTOR	[M]				
D772	RVD1SS133TA	DIODE	[M]	CN502	RJU100W04	4P CONNECTOR	[M]			<b>CERAMIC FILTERS</b>	
D773	MTZJ12CTA	DIODE	[M]	CN701A	RJS1A6604T1	4P TAPING CONNECTOR	[M]				
D775	RVD1SS133TA	DIODE	[M]	CN701B	RJS1A6604T1	4P TAPING CONNECTOR	[M]	CF201	RLFFETMGD01L	CERAMIC FILTER	[M]
D781	RVD1SS133TA	DIODE	[M]	CN701C	RJS1A6604T1	4P TAPING CONNECTOR	[M]	CF202	RLFFETMGD01L	CERAMIC FILTER	[M]
D782	RVD1SS133TA	DIODE	[M]	CN751	SJS305-1	3P CONNECTOR	[M]	CF901	RVCBST4R00MT	CERAMIC OSCILLATOR	[M]
D901	1SS291TA	DIODE	[M]	CN752	RJS1A6603T1	3P TAPING CONNECTOR	[M]	CF1051	EF0EC8004T4	CERAMIC OSCILLATOR	[M]
D903	MTZJ4R7BTA	DIODE	[M]	CN901	RJU003K008M1	BOAD IN CONNECTOR	[M]				
D908	MA167ATA	DIODE	[M]	CN902	RJU003K008M1	BOAD IN CONNECTOR	[M]			<b>OSCILLATORS</b>	
D921	RVD1SS133TA	DIODE	[M]	CN903	RJU003K008M1	BOAD IN CONNECTOR	[M]				
D923	RVD1SS133TA	DIODE	[M]	CN904	RJU003K008M1	BOAD IN CONNECTOR	[M]	X101	RSXZ456KM07M	CERAMIC OSCILLATOR	[M]
D924	MTZJ3R9ATA	DIODE	[M]	CN905	RJU003K008M1	BOAD IN CONNECTOR	[M]	X102	RLFDGTD01I	FM REZONATOR	[M]
D1001	MTZJ10CTA	DIODE	[M]▲	CP101	RJT057W007-1	7P CONNECTOR	[M]	X103	SVQ49U722T-S	CRYSTAL 7.2MHZ	[M]
				CP102	RJT057W007-1	7P CONNECTOR	[M]				
		<b>VARIABLE RESISTORS</b>		CP401	RJT100W07	7P CONNECTOR	[M]			<b>DISPLAY TUBE</b>	
				CP402	RJT100W07	7P CONNECTOR	[M]				
VR501	EUWMRH026B15	VR, VOLUME	[M]	CP501	RJT100W07	7P CONNECTOR	[M]	FL901	RSL0233-F	FL DISPLAY	[M]
VR502	EVJ02QF01G15	VR, BALANCE	[M]	CP502	RJT100W04	4P CONNECTOR	[M]				
VR511	EVJYA1F01C15	VR, BASS	[M]	CP771	RJP3G4YA	CONNECTOR	[M]			<b>EARTH TERMINAL</b>	
VR512	EVJYA1F01C15	VR, TREBLE	[M]	CP901	RJT003K008-1	8P CONNECTOR	[M]				
				CP902	RJT003K008-1	8P CONNECTOR	[M]	E401	SNE1004-2	EARTH TERMINAL	[M]
		<b>SWITCHES</b>		CP903	RJT003K008-1	8P CONNECTOR	[M]	E601	SNE1004-2	EARTH TERMINAL	[M]
				CP904	RJT003K008-1	8P CONNECTOR	[M]				
S946	EVQ21405R	SW, POWER	[M]	CP905	RJT003K008-1	8P CONNECTOR	[M]			<b>RELAYS</b>	
S947	EVQ21405R	SW, PHONE	[M]								
S948	EVQ21405R	SW, MUTING	[M]			<b>COILS &amp; TRANSFORMERS</b>		RL601	RSY0013M-0	RELAY	[M]
S950	EVQ21405R	SW, FM MODE	[M]					RL602	RSY0013M-0	RELAY	[M]
S951	EVQ21405R	SW, BAND	[M]	L1	RLQZP1R2JT-Y	RF CHOKE COIL	[M]	RL751	RSY0019M-0	12V TV-5 RELAY	[M]▲
S952	EVQ21405R	SW, TUNING UP	[M]	L2	RLQZPR47KT-Y	RF CHOKE COIL	[M]				
S953	EVQ21405R	SW, TUNING DOWN	[M]	L101	ELESN1R5MA	CHOKE COIL	[M]			<b>FUSES</b>	
S955	EVQ21405R	SW, MEMO	[M]	L103	ELEXTR47MA9	CHOKE COIL	[M]				
S956	EVQ21405R	SW, PRESET DOWM	[M]	L501	RLQZP1R0KT-Y	AXIAL COIL	[M]	F1	XBA1C50NBAL	FUSE	[M]▲
S957	EVQ21405R	SW, PRESET UP	[M]	L502	RLQZP1R0KT-Y	AXIAL COIL	[M]	F3	XBA1C80NBAL	FUSE	[M]▲
S960	EVQ21405R	SW, TUNER	[M]	L601	RLQYR73MW-E	CHOKE COIL	[M]	F4	XBA1C80NBAL	FUSE	[M]▲
S961	EVQ21405R	SW, CD	[M]	L602	RLQYR73MW-E	CHOKE COIL	[M]				
S962	EVQ21405R	SW, TAPE	[M]	L603	RLQYR73MW-E	CHOKE COIL	[M]			<b>FUSE CLIPS</b>	

Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks	Ref No.	Part No.	Part Name & Description	Remarks
				JK403	SJF3069N	JK, LINE IN	[M]				
FC701	EYF52BC	FUSE HOLDER	[M]	JK404	SJF3069N	JK, LINE IN	[M]			<b>PACKING MATERIALS</b>	
FC702	EYF52BC	FUSE HOLDER	[M]	JK405	SJFD7	JK, FM MULTI OUT	[M]				
FC703	EYF52BC	FUSE HOLDER	[M]	JK601	RJH5601	JK, SP TERMINAL	[M]	P1	RPF00005	MIRAMAT BAG	[M]
FC704	EYF52BC	FUSE HOLDER	[M]	JK602	RJR0054	JK, SP TERMINAL	[M]	P2	RPG3469	GIFT BOX	[M]
FC705	EYF52BC	FUSE HOLDER	[M]	JK791	SJS9234B	JK, AC INLET	[M]▲	P3	RPN0865	POLYFOAM	[M]
FC706	EYF52BC	FUSE HOLDER	[M]	JK792	SJS9233B	JK, AC OUTLET	[M]▲				
		<b>JACKS</b>		HP601	RJJ69TS01	JK, HEADPHONES	[M]				
						<b>WIRES</b>					
JK101	RJH4405	JK, ANT TERMINAL	[M]	W1	REE0769	WIRE UNIT	[M]				
JK351	SJF3069-3N	JK, RCA PIN	[M]	W2	REE0770	WIRE UNIT	[M]				
JK401	SJF3068-7N	JK, RCA TERMINAL	[M]	W3	REE0771	WIRE UNIT	[M]				
JK402	SJF3069N	JK, LINE IN	[M]								

## ■ Packaging





## Resistors & Capacitors

Notes : • Important safety notice:

Components identified by  $\Delta$  mark have special characteristics important for safety.

Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- Capacitor values are in microfarad ( $\mu$ F) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
- Resistors values are in ohms, unless specified otherwise, 1K=1,000(OHM), 1M=1,000K(OHM)
- [M] in Remarks column indicates parts that are supplied by MESA.

Ref.No.	Part No.	Values & Remarks	Ref.No.	Part No.	Values & Remarks	Ref.No.	Part No.	Values & Remarks	Ref.No.	Part No.	Values & Remarks
	<b>RESISTORS</b>										
R1	ERDS2TJ104T	100K 1/4W [M]	R135	ERDS2TJ102T	1K 1/4W [M]	R413	ERDS2TJ102T	1K 1/4W [M]	R505	ERDS2TJ103T	10K 1/4W [M]
R2	ERDS2TJ104T	100K 1/4W [M]	R136	ERDS2TJ102T	1K 1/4W [M]	R414	ERDS2TJ102T	1K 1/4W [M]	R506	ERDS2TJ103T	10K 1/4W [M]
R3	ERDS2TJ221T	220 1/4W [M]	R137	ERDS2TJ102T	1K 1/4W [M]	R415	ERDS2TJ102T	1K 1/4W [M]	R508	ERDS1FVJ2R2T	2.2 1/2W[M] $\Delta$
R4	ERDS2TJ104T	100K 1/4W [M]	R139	ERDS2TJ272T	2.7K 1/4W [M]	R416	ERDS2TJ102T	1K 1/4W [M]	R511	ERDS2TJ471T	470 1/4W [M]
R5	ERDS2TJ564T	560K 1/4W [M]	R140	ERDS2TJ272T	2.7K 1/4W [M]	R417	ERDS2TJ473T	47K 1/4W [M]	R512	ERDS2TJ471T	470 1/4W [M]
R6	ERDS2TJ391T	390 1/4W [M]	R141	ERDS2TJ103T	10K 1/4W [M]	R418	ERDS2TJ473T	47K 1/4W [M]	R513	ERDS2TJ474T	470K 1/4W [M]
R7	ERDS2TJ272T	2.7K 1/4W [M]	R142	ERDS2TJ103T	10K 1/4W [M]	R419	ERDS2TJ104T	100K 1/4W [M]	R514	ERDS2TJ474T	470K 1/4W [M]
R8	ERDS2TJ684T	680K 1/4W [M]	R143	ERDS2TJ222T	2.2K 1/4W [M]	R420	ERDS2TJ104T	100K 1/4W [M]	R515	ERDS2TJ474T	470K 1/4W [M]
R9	ERDS2TJ391T	390 1/4W [M]	R144	ERDS2TJ222T	2.2K 1/4W [M]	R421	ERDS2TJ104T	100K 1/4W [M]	R516	ERDS2TJ474T	470K 1/4W [M]
R10	ERDS2TJ391T	390 1/4W [M]	R145	ERDS2TJ102T	1K 1/4W [M]	R422	ERDS2TJ104T	100K 1/4W [M]	R517	ERDS2TJ332T	3.3K 1/4W [M]
R11	ERDS2TJ684T	680K 1/4W [M]	R146	ERDS2TJ102T	1K 1/4W [M]	R423	ERDS2TJ102T	1K 1/4W [M]	R518	ERDS2TJ332T	3.3K 1/4W [M]
R103	ERDS2TJ151T	150 1/4W [M]	R147	ERDS2TJ474T	470K 1/4W [M]	R424	ERDS2TJ102T	1K 1/4W [M]	R519	ERDS2TJ222T	2.2K 1/4W [M]
R104	ERDS2TJ102T	1K 1/4W [M]	R148	ERDS2TJ474T	470K 1/4W [M]	R425	ERDS2TJ103T	10K 1/4W [M]	R520	ERDS2TJ222T	2.2K 1/4W [M]
R105	ERDS2TJ471T	470 1/4W [M]	R149	ERDS2TJ680T	68 1/4W [M]	R426	ERDS2TJ103T	10K 1/4W [M]	R521	ERDS2TJ223T	22K 1/4W [M]
R106	ERDS2TJ224T	220K 1/4W [M]	R171	ERDS2TJ102T	1K 1/4W [M]	R427	ERDS2TJ103T	10K 1/4W [M]	R522	ERDS2TJ223T	22K 1/4W [M]
R107	ERDS2TJ471T	470 1/4W [M]	R172	ERDS2TJ102T	1K 1/4W [M]	R440	ERDS1FVJ820T	82 1/2W [M] $\Delta$	R523	ERDS2TJ392T	3.9K 1/4W [M]
R110	ERDS2TJ102T	1K 1/4W [M]	R173	ERDS2TJ471T	470 1/4W [M]	R441	ERDS2TJ473T	47K 1/4W [M]	R524	ERDS2TJ392T	3.9K 1/4W [M]
R112	ERDS2TJ104T	100K 1/4W [M]	R175	ERDS2TJ102T	1K 1/4W [M]	R442	ERDS2TJ473T	47K 1/4W [M]	R525	ERDS2TJ222T	2.2K 1/4W [M]
R113	ERDS2TJ103T	10K 1/4W [M]	R176	ERDS2TJ391T	390 1/4W [M]	R443	ERDS2TJ330T	33 1/4W [M]	R526	ERDS2TJ222T	2.2K 1/4W [M]
R114	ERDS2TJ562T	5.6K 1/4W [M]	R301	ERDS2TJ750T	75 1/4W [M]	R451	ERDS2TJ224T	220K 1/4W [M]	R527	ERDS2TJ122T	1.2K 1/4W [M]
R115	ERDS2TJ561T	560 1/4W [M]	R302	ERDS2TJ750T	75 1/4W [M]	R452	ERDS2TJ224T	220K 1/4W [M]	R528	ERDS2TJ122T	1.2K 1/4W [M]
R116	ERDS2TJ102T	1K 1/4W [M]	R359	ERDS2TJ750T	75 1/4W [M]	R453	ERDS2TJ821T	820 1/4W [M]	R529	ERDS2TJ273T	27K 1/4W [M]
R117	ERDS2TJ104T	100K 1/4W [M]	R362	ERDS2TJ750T	75 1/4W [M]	R454	ERDS2TJ821T	820 1/4W [M]	R530	ERDS2TJ273T	27K 1/4W [M]
R118	ERDS2TJ562T	5.6K 1/4W [M]	R367	ERDS2TJ102T	1K 1/4W [M]	R455	ERDS2TJ563T	56K 1/4W [M]	R531	ERDS2TJ332T	3.3K 1/4W [M]
R119	ERDS2TJ822T	8.2K 1/4W [M]	R368	ERDS2TJ102T	1K 1/4W [M]	R456	ERDS2TJ563T	56K 1/4W [M]	R532	ERDS2TJ332T	3.3K 1/4W [M]
R120	ERDS2TJ473T	47K 1/4W [M]	R369	ERDS2TJ182T	1.8K 1/4W [M]	R457	ERDS2TJ271T	270 1/4W [M]	R533	ERDS2TJ103T	10K 1/4W [M]
R121	ERDS2TJ332T	3.3K 1/4W [M]	R370	ERDS2TJ182T	1.8K 1/4W [M]	R458	ERDS2TJ271T	270 1/4W [M]	R534	ERDS2TJ103T	10K 1/4W [M]
R122	ERDS2TJ272T	2.7K 1/4W [M]	R371	ERD2FCVG220T	22 1/4W [M]	R459	ERDS2TJ680T	68 1/4W [M]	R543	ERDS2TJ102T	1K 1/4W [M]
R124	ERDS2TJ271T	270 1/4W [M]	R372	ERD2FCVG220T	22 1/4W [M]	R460	ERDS2TJ680T	68 1/4W [M]	R544	ERDS2TJ102T	1K 1/4W [M]
R125	ERDS2TJ472T	4.7K 1/4W [M]	R373	ERDS2TJ103T	10K 1/4W [M]	R461	ERDS2TJ184T	180K 1/4W [M]	R545	ERDS2TJ684T	680K 1/4W [M]
R126	ERDS2TJ472T	4.7K 1/4W [M]	R374	ERDS2TJ103T	10K 1/4W [M]	R462	ERDS2TJ184T	180K 1/4W [M]	R546	ERDS2TJ103T	10K 1/4W [M]
R127	ERDS2TJ103T	10K 1/4W [M]	R401	ERDS2TJ102T	1K 1/4W [M]	R463	ERDS2TJ123T	12K 1/4W [M]	R551	ERDS2TJ102T	1K 1/4W [M]
R128	ERDS2TJ820T	82 1/4W [M]	R402	ERDS2TJ102T	1K 1/4W [M]	R464	ERDS2TJ123T	12K 1/4W [M]	R552	ERDS2TJ102T	1K 1/4W [M]
R129	ERDS2TJ473T	47K 1/4W [M]	R405	ERDS2TJ102T	1K 1/4W [M]	R465	ERDS2TJ563T	56K 1/4W [M]	R553	ERDS2TJ104T	100K 1/4W [M]
R130	ERDS2TJ102T	1K 1/4W [M]	R406	ERDS2TJ102T	1K 1/4W [M]	R466	ERDS2TJ563T	56K 1/4W [M]	R554	ERDS2TJ104T	100K 1/4W [M]
R131	ERDS2TJ102T	1K 1/4W [M]	R407	ERDS2TJ102T	1K 1/4W [M]	R467	ERDS2TJ102T	1K 1/4W [M]	R555	ERDS2TJ223T	22K 1/4W [M]
R132	ERDS2TJ103T	10K 1/4W [M]	R408	ERDS2TJ102T	1K 1/4W [M]	R468	ERDS2TJ102T	1K 1/4W [M]	R556	ERDS2TJ223T	22K 1/4W [M]
R133	ERDS2TJ102T	1K 1/4W [M]	R409	ERDS2TJ102T	1K 1/4W [M]	R501	ERDS2TJ222T	2.2K 1/4W [M]	R557	ERDS2TJ681T	680 1/4W [M]
R134	ERDS2TJ102T	1K 1/4W [M]	R410	ERDS2TJ102T	1K 1/4W [M]	R502	ERDS2TJ222T	2.2K 1/4W [M]	R558	ERDS2TJ102T	1K 1/4W [M]
			R411	ERDS2TJ102T	1K 1/4W [M]	R503	ERDS2TJ103T	10K 1/4W [M]	R561	ERDS2TJ332T	3.3K 1/4W [M]
			R412	ERDS2TJ102T	1K 1/4W [M]	R504	ERDS2TJ103T	10K 1/4W [M]	R562	ERDS2TJ332T	3.3K 1/4W [M]

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks
R563	ERDS2TJ104T	100K 1/4W [M]	R642	ERDS2TJ221T	220 1/4W [M]	R712	ERDS2TJ682T	6.8K 1/4W [M]	R920	ERDS2TJ271T	270 1/4W [M]
R564	ERDS2TJ104T	100K 1/4W [M]	R643	ERDS2TJ221T	220 1/4W [M]	R713	ERDS2TJ390T	39 1/4W [M]	R921	ERDS2TJ121T	120 1/4W [M]
R565	ERDS2TJ102T	1K 1/4W [M]	R644	ERDS2TJ221T	220 1/4W [M]	R714	ERDS2TJ390T	39 1/4W [M]	R922	ERDS2TJ472T	4.7K 1/4W [M]
R566	ERDS2TJ102T	1K 1/4W [M]	R645	ERG1SJ101E	100 1W [M]▲	R721	ERDS1FVJ471T	470 1/2W [M]▲	R929	ERDS2TJ101T	100 1/4W [M]
R567	ERDS2TJ101T	100 1/4W [M]	R646	ERG1SJ101E	100 1W [M]▲	R722	ERDS2TJ392T	3.9K 1/4W [M]	R930	ERDS2TJ101T	100 1/4W [M]
R568	ERDS2TJ101T	100 1/4W [M]	R647	ERG1SJ101E	100 1W [M]▲	R723	ERDS1FVJ100T	10 1/2W [M]▲	R936	ERDS2TJ104T	100K 1/4W [M]
R569	ERDS2TJ332T	3.3K 1/4W [M]	R648	ERG1SJ101E	100 1W [M]▲	R724	ERDS1FVJ100T	10 1/2W [M]▲	R937	ERDS2TJ104T	100K 1/4W [M]
R601	ERDS2TJ102T	1K 1/4W [M]	R649	ERD25FVJ151T	150 1/4W [M]	R725	ERDS2TJ102T	1K 1/4W [M]	R943	ERDS2TJ102T	1K 1/4W [M]
R602	ERDS2TJ102T	1K 1/4W [M]	R650	ERD25FVJ151T	150 1/4W [M]	R726	ERDS1FVJ471T	470 1/2W [M]▲	R944	ERDS2TJ104T	100K 1/4W [M]
R603	ERDS2TJ102T	1K 1/4W [M]	R652	ERD25FVJ4R7T	4.7 1/4W [M]	R731	ERD25FVJ100T	10 1/4W [M]	R945	ERDS2TJ104T	100K 1/4W [M]
R604	ERDS2TJ102T	1K 1/4W [M]	R653	ERDS2TJ682T	6.8K 1/4W [M]	R732	ERDS2TJ153T	15K 1/4W [M]	R946	ERDS2TJ103T	10K 1/4W [M]
R605	ERDS2TJ392T	3.9K 1/4W [M]	R654	ERDS2TJ682T	6.8K 1/4W [M]	R733	ERDS2TJ123T	12K 1/4W [M]	R947	ERDS2TJ103T	10K 1/4W [M]
R606	ERDS2TJ392T	3.9K 1/4W [M]	R656	ERDS2TJ681T	680 1/4W [M]	R734	ERDS2TJ103T	10K 1/4W [M]	R948	ERDS2TJ103T	10K 1/4W [M]
R607	ERDS2TJ223T	22K 1/4W [M]	R657	ERDS2TJ333T	33K 1/4W [M]	R735	ERDS2TJ103T	10K 1/4W [M]	R949	ERDS2TJ103T	10K 1/4W [M]
R608	ERDS2TJ223T	22K 1/4W [M]	R658	ERDS2TJ333T	33K 1/4W [M]	R739	ERD25FVJ180T	18 1/4W [M]	R950	ERDS2TJ102T	1K 1/4W [M]
R609	ERDS2TJ222T	2.2K 1/4W [M]	R659	ERDS2TJ183T	18K 1/4W [M]	R740	ERDS2TJ393T	39K 1/4W [M]	R951	ERDS2TJ122T	1.2K 1/4W [M]
R610	ERDS2TJ222T	2.2K 1/4W [M]	R660	ERDS2TJ224T	220K 1/4W [M]	R742	ERDS2TJ393T	39K 1/4W [M]	R952	ERDS2TJ152T	1.5K 1/4W [M]
R611	ERDS2TJ222T	2.2K 1/4W [M]	R661	ERDS2TJ102T	1K 1/4W [M]	R743	ERDS2TJ183T	18K 1/4W [M]	R953	ERDS2TJ182T	1.8K 1/4W [M]
R612	ERDS2TJ222T	2.2K 1/4W [M]	R662	ERDS2TJ102T	1K 1/4W [M]	R751	ERC12UGK335D	3.3M 1/2W [M]▲	R954	ERDS2TJ222T	2.2K 1/4W [M]
R613	ERDS2TJ182T	1.8K 1/4W [M]	R663	ERDS2TJ102T	1K 1/4W [M]	R754	ERDS2TJ102T	1K 1/4W [M]	R955	ERDS2TJ332T	3.3K 1/4W [M]
R614	ERDS2TJ182T	1.8K 1/4W [M]	R665	ERDS2TJ472T	4.7K 1/4W [M]	R771	ERDS2TJ473T	47K 1/4W [M]	R956	ERDS2TJ472T	4.7K 1/4W [M]
R615	ERDS2TJ182T	1.8K 1/4W [M]	R666	ERDS2TJ472T	4.7K 1/4W [M]	R772	ERDS2TJ473T	47K 1/4W [M]	R957	ERDS2TJ682T	6.8K 1/4W [M]
R616	ERDS2TJ182T	1.8K 1/4W [M]	R681	ERDS2TJ270T	27 1/4W [M]	R773	ERDS2TJ103T	10K 1/4W [M]	R960	ERDS2TJ102T	1K 1/4W [M]
R617	ERDS2TJ563T	56K 1/4W [M]	R682	ERDS2TJ270T	27 1/4W [M]	R774	ERDS2TJ335T	3.3M 1/4W [M]	R961	ERDS2TJ122T	1.2K 1/4W [M]
R618	ERDS2TJ563T	56K 1/4W [M]	R683	ERDS2TJ270T	27 1/4W [M]	R775	ERDS2TJ331T	330 1/4W [M]	R962	ERDS2TJ152T	1.5K 1/4W [M]
R619	ERDS2TJ563T	56K 1/4W [M]	R684	ERDS2TJ270T	27 1/4W [M]	R776	ERDS1FVJ4R7T	4.7 1/4W [M]	R963	ERDS2TJ182T	1.8K 1/4W [M]
R620	ERDS2TJ563T	56K 1/4W [M]	R685	ERDS2TJ270T	27 1/4W [M]	R777	ERDS2TJ224T	220K 1/4W [M]	R964	ERDS2TJ222T	2.2K 1/4W [M]
R621	ERDS2TJ470T	47 1/4W [M]	R686	ERDS2TJ270T	27 1/4W [M]	R778	ERDS2TJ472T	4.7K 1/4W [M]	R970	ERDS2TJ102T	1K 1/4W [M]
R622	ERDS2TJ470T	47 1/4W [M]	R687	ERDS2TJ270T	27 1/4W [M]	R779	ERDS2TJ103T	10K 1/4W [M]	R971	ERDS2TJ122T	1.2K 1/4W [M]
R623	ERDS2TJ470T	47 1/4W [M]	R688	ERDS2TJ270T	27 1/4W [M]	R782	ERDS2TJ470T	47 1/4W [M]	R972	ERDS2TJ152T	1.5K 1/4W [M]
R624	ERDS2TJ470T	47 1/4W [M]	R689	ERDS2TJ270T	27 1/4W [M]	R783	ERDS2TJ103T	10K 1/4W [M]	R973	ERDS2TJ182T	1.8K 1/4W [M]
R625	ERDS1FVJ100T	10 1/2W [M]▲	R690	ERDS2TJ270T	27 1/4W [M]	R784	ERDS2TJ154T	150K 1/4W [M]	R974	ERDS2TJ222T	2.2K 1/4W [M]
R626	ERDS1FVJ100T	10 1/2W [M]▲	R691	ERDS2TJ270T	27 1/4W [M]	R785	ERDS2TJ103T	10K 1/4W [M]	R1001	ERDS2TJ223T	22K 1/4W [M]
R627	ERDS1FVJ100T	10 1/2W [M]▲	R692	ERDS2TJ270T	27 1/4W [M]	R786	ERDS2TJ154T	150K 1/4W [M]	R1002	ERDS2TJ223T	22K 1/4W [M]
R628	ERDS1FVJ100T	10 1/2W [M]▲	R693	ERDS2TJ270T	27 1/4W [M]	R787	ERDS2TJ223T	22K 1/4W [M]	R1003	ERDS2TJ102T	1K 1/4W [M]
R629	ERDS2TJ104T	100K 1/4W [M]	R694	ERDS2TJ270T	27 1/4W [M]	R788	ERDS2TJ223T	22K 1/4W [M]	R1004	ERDS2TJ102T	1K 1/4W [M]
R630	ERDS2TJ124T	120K 1/4W [M]	R695	ERDS2TJ102T	1K 1/4W [M]	R789	ERDS2TJ223T	22K 1/4W [M]	R1005	ERDS2TJ203T	20K 1/4W [M]
R631	ERDS2TJ154T	150K 1/4W [M]	R696	ERDS2TJ102T	1K 1/4W [M]	R790	ERDS2TJ223T	22K 1/4W [M]	R1007	ERDS2TJ473T	47K 1/4W [M]
R632	ERDS2TJ184T	180K 1/4W [M]	R699	ERDS2TJ332T	3.3K 1/4W [M]	R793	ERDS2TJ682T	6.8K 1/4W [M]	R1008	ERDS2TJ473T	47K 1/4W [M]
R633	ERDS2TJ473T	47K 1/4W [M]	R703	ERDS1FVJ3R9T	3.9 1/2W [M]▲	R794	ERDS2TJ682T	6.8K 1/4W [M]	R1009	ERDS2TJ332T	3.3K 1/4W [M]
R634	ERDS2TJ684T	680K 1/4W [M]	R704	ERDS1FVJ3R9T	3.9 1/2W [M]▲	R901	ERDS2TJ102T	1K 1/4W [M]	R1010	ERDS2TJ332T	3.3K 1/4W [M]
R635	ERDS2TJ154T	150K 1/4W [M]	R705	ERDS2TJ472T	4.7K 1/4W [M]	R906	ERDS2TJ182T	1.8K 1/4W [M]	R1011	ERDS2TJ332T	3.3K 1/4W [M]
R636	ERDS2TJ684T	680K 1/4W [M]	R706	ERDS2TJ102T	1K 1/4W [M]	R907	ERDS2TJ104T	100K 1/4W [M]	R1012	ERDS2TJ102T	1K 1/4W [M]
R637	ERDS2TJ104T	100K 1/4W [M]	R707	ERD25FVJ221T	220 1/4W [M]	R908	ERDS2TJ104T	100K 1/4W [M]	R1051	ERDS2TJ393T	39K 1/4W [M]
R638	ERDS2TJ563T	56K 1/4W [M]	R708	ERDS2TJ152T	1.5K 1/4W [M]	R909	ERDS2TJ104T	100K 1/4W [M]	R1052	ERDS2TJ105T	1M 1/4W [M]
R639	ERDS2TJ333T	33K 1/4W [M]	R709	ERDS2TJ1R5T	1.5 1/4W [M]	R910	ERDS2TJ102T	1K 1/4W [M]	R1053	ERDS2TJ102T	1K 1/4W [M]
R640	ERDS2TJ473T	47K 1/4W [M]	R710	ERDS2TJ1R5T	1.5 1/4W [M]	R911	ERDS2TJ104T	100K 1/4W [M]	R1055	ERDS2TJ473T	47K 1/4W [M]
R641	ERDS2TJ221T	220 1/4W [M]	R711	ERDS2TJ752T	7.5K 1/4W [M]	R917	ERDS2TJ103T	10K 1/4W [M]	R1056	ERDS2TJ473T	47K 1/4W [M]

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks
R1061	ERDS2TJ222T	2.2K 1/4W [M]	C137	ECBT1H271KB5	270P 50V [M]	C426	ECBT1H101KB5	100P 50V [M]	C533	ECEA1CKA220B	22 16V [M]
			C138	ECBT1H271KB5	270P 50V [M]	C427	ECBT1H101KB5	100P 50V [M]	C534	ECEA1CKA220B	22 16V [M]
	<b>CAPACITORS</b>		C141	ECEA1HKA010B	1 50V [M]	C428	ECBT1H101KB5	100P 50V [M]	C536	ECBT1E103ZF5	0.01 25V [M]
			C142	ECEA1HKA010B	1 50V [M]	C431	ECEA1CKA100B	10 16V [M]	C551	ECEA1HKA3R3B	3.3 50V [M]
C1	ECBT1H5R6KC5	5.6P 50V [M]	C143	ECEA1HKA010B	1 50V [M]	C432	ECEA1CKA100B	10 16V [M]	C552	ECEA1HKA3R3B	3.3 50V [M]
C2	RCBS1H102KBY	1000P 50V [M]	C144	ECEA1HKA010B	1 50V [M]	C440	ECBT1E103ZF5	0.01 25V [M]	C553	ECBT1H101KB5	100P 50V [M]
C3	ECBT1H2R2KC5	2.2P 50V [M]	C145	ECBT1H220JC5	22P 50V [M]	C451	ECEA1VKA4R7B	4.7 35V [M]	C554	ECBT1H101KB5	100P 50V [M]
C4	ECBT1H181KB5	180P 50V [M]	C146	ECBT1H331KB5	330P 50V [M]	C452	ECEA1VKA4R7B	4.7 35V [M]	C555	ECBT1H221KB5	220P 50V [M]
C5	ECBT1H5R6KC5	5.6P 50V [M]	C147	ECBT1H102KB5	1000P 50V [M]	C453	ECBT1H101KB5	100P 50V [M]	C556	ECBT1H221KB5	220P 50V [M]
C6	ECBT1H3R3KC5	3.3P 50V [M]	C148	ECBT1C103NS5	0.01 16V [M]	C454	ECBT1H101KB5	100P 50V [M]	C557	ECBT1E103ZF5	0.01 25V [M]
C7	ECBT1H4R7KC5	4.7P 50V [M]	C149	ECBT1C103NS5	0.01 16V [M]	C455	ECBT1H102KB5	1000P 50V [M]	C558	ECBT1E103ZF5	0.01 25V [M]
C8	ECBT1H3R3KC5	3.3P 50V [M]	C150	ECBT1H104ZF5	0.1 50V [M]	C456	ECBT1H102KB5	1000P 50V [M]	C559	ECEA1CKA100B	10 16V [M]
C9	ECBT1H2R2KC5	2.2P 50V [M]	C172	ECBT1H331KB5	330P 50V [M]	C457	ECA1CM330B	33 16V [M]	C560	ECEA1CKA100B	10 16V [M]
C10	ECBT1H180JC5	18P 50V [M]	C173	ECEA1CKA220B	22 16V [M]	C458	ECA1CM330B	33 16V [M]	C561	ECA1HM3R3B	3.3 50V [M]
C11	RCBS1H102KBY	1000P 50V [M]	C174	ECEA1CKA100B	10 16V [M]	C459	ECFR1E223KR	0.022 25V [M]	C562	ECA1HM3R3B	3.3 50V [M]
C101	ECBT1C103NS5	0.01 16V [M]	C175	ECBT1C103NS5	0.01 16V [M]	C460	ECFR1E223KR	0.022 25V [M]	C563	ECBT1H104ZF5	0.1 50V [M]
C103	ECBT1C103NS5	0.01 16V [M]	C196	ECBT1H102KB5	1000P 50V [M]	C461	ECFR1E682KR	6800P 25V [M]	C601	ECEA1CKA220B	22 16V [M]
C104	ECBT1H102KB5	1000P 50V [M]	C330	ECBT1H470J5	47P 50V [M]	C462	ECFR1E682KR	6800P 25V [M]	C602	ECEA1CKA220B	22 16V [M]
C105	ECBT1H102KB5	1000P 50V [M]	C331	ECBT1H470J5	47P 50V [M]	C463	ECEA1VKA4R7B	4.7 35V [M]	C603	ECEA1VKA4R7B	4.7 35V [M]
C106	ECBT1C103NS5	0.01 16V [M]	C351	ECA1CM101B	100 16V [M]	C464	ECEA1VKA4R7B	4.7 35V [M]	C604	ECEA1VKA4R7B	4.7 35V [M]
C107	ECBT1H473ZF5	0.047 50V [M]	C352	ECA1CM101B	100 16V [M]	C465	ECBT1E103ZF5	0.01 25V [M]	C605	ECA1JM330B	33 6.3V [M]
C108	ECBT1H8R2KC5	8.2P 50V [M]	C354	ECBT1E103ZF5	0.01 25V [M]	C466	ECBT1E103ZF5	0.01 25V [M]	C606	ECA1JM330B	33 6.3V [M]
C109	ECBT1C103NS5	0.01 16V [M]	C355	ECBT1E103ZF5	0.01 25V [M]	C503	ECEA0JKA101B	100 6.3V [M]	C607	ECA1JM330B	33 6.3V [M]
C110	ECBT1C103NS5	0.01 16V [M]	C357	ECBT1E103ZF5	0.01 25V [M]	C504	ECEA0JKA101B	100 6.3V [M]	C608	ECA1JM330B	33 6.3V [M]
C111	ECEA1EKA4R7B	4.7 25V [M]	C358	ECBT1E103ZF5	0.01 25V [M]	C505	ECFR1C104MR	0.1 16V [M]	C609	ECCR1H120KC5	12P 50V [M]
C112	ECBT1C103NS5	0.01 16V [M]	C373	ECA1EM470B	47 25V [M]	C506	ECFR1C104MR	0.1 16V [M]	C610	ECCR1H120KC5	12P 50V [M]
C113	ECBT1H102KB5	1000P 50V [M]	C374	ECA1EM470B	47 25V [M]	C511	ECEA1HKA3R3B	3.3 50V [M]	C611	ECCR1H120KC5	12P 50V [M]
C114	ECEA1HKA3R3B	3.3 50V [M]	C401	ECEA1VKA4R7B	4.7 35V [M]	C512	ECEA1HKA3R3B	3.3 50V [M]	C612	ECCR1H120KC5	12P 50V [M]
C115	ECEA1EKA4R7B	4.7 25V [M]	C402	ECEA1VKA4R7B	4.7 35V [M]	C513	ECBT1H150J5	15P 50V [M]	C613	ECBT1H821KB5	820P 50V [M]
C116	ECBT1C822MS5	8200P 16V [M]	C403	ECBT1E103ZF5	0.01 25V [M]	C514	ECBT1H150J5	15P 50V [M]	C614	ECBT1H821KB5	820P 50V [M]
C117	ECQB1H821JF3	820P 50V [M]	C404	ECBT1E103ZF5	0.01 25V [M]	C515	ECBT1H221KB5	220P 50V [M]	C615	ECBT1H821KB5	820P 50V [M]
C118	ECFR1E183KR	0.018 25V [M]	C405	ECBT1H101KB5	100P 50V [M]	C516	ECBT1H221KB5	220P 50V [M]	C616	ECBT1H821KB5	820P 50V [M]
C119	ECFR1E183KR	0.018 25V [M]	C406	ECBT1H101KB5	100P 50V [M]	C517	ECBT1H330J5	33P 50V [M]	C617	ECQV1H473JZ3	0.047 50V [M]
C120	ECEA1HKA010B	1 50V [M]	C409	ECEA1CKA220B	22 16V [M]	C518	ECBT1H330J5	33P 50V [M]	C618	ECQV1H473JZ3	0.047 50V [M]
C121	ECEA1HKA010B	1 50V [M]	C410	ECEA1CKA220B	22 16V [M]	C519	ECEA1VKA4R7B	4.7 35V [M]	C619	ECQV1H473JZ3	0.047 50V [M]
C122	ECEA1HKA2R2B	2.2 50V [M]	C411	ECBT1H101KB5	100P 50V [M]	C520	ECEA1VKA4R7B	4.7 35V [M]	C620	ECQV1H473JZ3	0.047 50V [M]
C123	ECEA1HKA010B	1 50V [M]	C412	ECBT1H101KB5	100P 50V [M]	C521	ECEA1VKA4R7B	4.7 35V [M]	C621	ECEA2AU100B	10 100V [M]
C124	ECBT1H102KB5	1000P 50V [M]	C415	ECBT1E103ZF5	0.01 25V [M]	C522	ECEA1VKA4R7B	4.7 35V [M]	C622	ECEA1HN010SB	1 50V [M]
C125	ECBT1H150JC5	15P 50V [M]	C416	ECBT1E103ZF5	0.01 25V [M]	C523	ECFR1E123KR	0.012 25V [M]	C623	ECA1HM470B	47 50V [M]
C126	ECBT1H104ZF5	0.1 50V [M]	C417	ECBT1H101KB5	100P 50V [M]	C524	ECFR1E123KR	0.012 25V [M]	C624	ECEA2AN2R2SB	2.2 100V [M]
C127	ECEA1CKA220B	22 16V [M]	C418	ECBT1H101KB5	100P 50V [M]	C525	ECQV1H683JM3	0.068 50V [M]	C625	ECEA1HN100SB	10 50V [M]
C128	ECBT1C103NS5	0.01 16V [M]	C419	ECBT1H101KB5	100P 50V [M]	C526	ECQV1H683JM3	0.068 50V [M]	C626	ECEA1HN100SB	10 50V [M]
C129	ECEA0JKA101B	100 6.3V [M]	C420	ECBT1H101KB5	100P 50V [M]	C527	ECBT1C562KR5	5600P 16V [M]	C635	ECEA1VKA4R7B	4.7 35V [M]
C130	ECEA0JKA101B	100 6.3V [M]	C421	ECBT1H101KB5	100P 50V [M]	C528	ECBT1C562KR5	5600P 16V [M]	C636	ECEA1HN010SB	1 50V [M]
C131	ECBT1C103NS5	0.01 16V [M]	C422	ECBT1H101KB5	100P 50V [M]	C529	ECQB1H273JF3	0.027 50V [M]	C685	ECBT1E103ZF5	0.01 25V [M]
C132	ECBT1H102KB5	1000P 50V [M]	C423	ECBT1H101KB5	100P 50V [M]	C530	ECQB1H273JF3	0.027 50V [M]	C701	ECBT1E103ZF5	0.01 25V [M]
C133	ECBT1H150JC5	15P 50V [M]	C424	ECBT1H101KB5	100P 50V [M]	C531	ECBT1E103ZF5	0.01 25V [M]	C702	ECQE2104KF3	0.1 250V [M]
C134	ECBT1H180JC5	18P 50V [M]	C425	ECBT1H101KB5	100P 50V [M]	C532	ECBT1E103ZF5	0.01 25V [M]	C703	EC0S1JP682CB	6800 63V [M]

Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks	Ref No.	Part No.	Values & Remarks
C704	EC0S1JP682CB	6800 63V[M]▲	C1002	ECA1HM010B	1 50V [M]	C1060	ECBT1E223ZF5	0.022 25V [M]			
C705	EC0S1VP562BB	5600 35V[M]▲	C1003	ECA1HM3R3B	3.3 50V [M]	C1062	ECBT1E223ZF5	0.022 25V [M]			
C706	EC0S1VP562BB	5600 35V[M]▲	C1004	ECA1HM3R3B	3.3 50V [M]	C1063	ECEA1CU101B	100 16V [M]			
C707	ECA1VM101B	100 35V[M]▲	C1005	ECA1HM010B	1 50V [M]	C1065	ECBT1H681KB5	680P 50V [M]			
C708	ECKR1H103ZF5	0.01 50V [M]	C1007	ECFR1E223KR	0.022 25V [M]	C1067	ECBT1C152KR5	1500P 16V [M]			
C709	ECA1CM330B	33 16V [M]	C1008	ECFR1E473KR	0.047 25V [M]	C1068	ECBT1C152KR5	1500P 16V [M]			
C710	ECBT1E103ZF5	0.01 25V [M]	C1009	ECEA0JU221B	220 6.3V [M]						
C711	ECKR1H103ZF5	0.01 50V [M]	C1010	ECEA1CKA100B	10 16V [M]						
C712	ECA1HM100B	10 50V [M]	C1011	ECEA1CKA100B	10 16V [M]						
C713	ECKR1H103ZF5	0.01 50V [M]	C1012	ECEA1CKA100B	10 16V [M]						
C714	ECA1EM470B	47 25V [M]	C1013	ECEA1CKA100B	10 16V [M]						
C715	ECEA1CU101B	100 16V [M]	C1014	ECEA0JU221B	220 6.3V [M]						
C721	ECQE2104KF3	0.1 250V [M]	C1015	ECQV1H104JM3	0.1 50V [M]						
C731	ECKR1H103ZF5	0.01 50V [M]	C1016	ECQV1H104JM3	0.1 50V [M]						
C732	ECKR1H103ZF5	0.01 50V [M]	C1017	ECA1HMR47B	0.47 50V [M]						
C751	ECKWNS102MBM	1000P▲400V[M]	C1018	ECEA1VKA4R7B	4.7 35V [M]						
C752	ECKR1H103ZF5	0.01 50V [M]	C1019	ECA1HMR47B	0.47 50V [M]						
C753	ECA1EM102B	1000 25V[M]▲	C1020	ECEA1VKA4R7B	4.7 35V [M]						
C754	ECBT1E103ZF5	0.01 25V [M]	C1021	ECEA1HKAR15B	0.15 50V [M]						
C755	ECA1CM470B	47 16V [M]	C1022	ECA1HM3R3B	3.3 50V [M]						
C757	ECA1CM100B	10 16V [M]	C1023	ECQV1H154JZ3	0.15 50V [M]						
C771	ECEA1VKA4R7B	4.7 35V [M]	C1024	ECQV1H154JZ3	0.15 50V [M]						
C772	ECEA1VKA4R7B	4.7 35V [M]	C1025	ECA1HM3R3B	3.3 50V [M]						
C773	ECBT1E223ZF5	0.022 25V [M]	C1026	ECEA1HKAR15B	0.15 50V [M]						
C774	ECEA0JKA101B	100 6.3V [M]	C1027	ECEA1VKA4R7B	4.7 35V [M]						
C775	ECBT1E223ZF5	0.022 25V [M]	C1028	ECA1HMR47B	0.47 50V [M]						
C901	ECA0JM102B	02 6.3V [M]	C1029	ECEA1VKA4R7B	4.7 35V [M]						
C902	ECBT1E223ZF5	0.022 25V [M]	C1030	ECA1HMR47B	0.47 50V [M]						
C903	ECBT1E103ZF5	0.01 25V [M]	C1031	ECQV1H104JM3	0.1 50V [M]						
C904	ECA0JM102B	02 6.3V [M]	C1032	ECQV1H104JM3	0.1 50V [M]						
C906	ECEA0JKA101B	100 6.3V [M]	C1033	ECA1EM470B	47 25V [M]						
C908	ECBT1E103ZF5	0.01 25V [M]	C1034	ECQV1H474JM3	0.47 50V [M]						
C909	ECEA1HKA220B	22 50V [M]	C1035	ECBT1H681KB5	680P 50V [M]						
C910	ECEA1HKA220B	22 50V [M]	C1036	ECBT1H101KB5	100P 50V [M]						
C911	ECEA1HKA220B	22 50V [M]	C1037	ECBT1H101KB5	100P 50V [M]						
C912	ECEA1HKA220B	22 50V [M]	C1038	ECBT1H101KB5	100P 50V [M]						
C913	ECEA1VKA100B	10 35V [M]	C1039	ECEA1CU101B	100 16V [M]						
C914	ECEA1VKA100B	10 35V [M]	C1040	ECEA1CKA100B	10 16V [M]						
C916	ECEA1HKA010B	1 50V [M]	C1041	ECBT1E103ZF5	0.01 25V [M]						
C919	ECBT1E103ZF5	0.01 25V [M]	C1051	ECA1HM2R2B	2.2 50V [M]						
C920	ECEA1HKA010B	1 50V [M]	C1052	ECA1HMR33B	0.33 50V [M]						
C935	ECBT1H101KB5	100P 50V [M]	C1053	ECA1HM3R3B	3.3 50V [M]						
C939	ECBT1H101KB5	100P 50V [M]	C1054	ECEA0JU221B	220 6.3V [M]						
C952	ECBT1H101KB5	100P 50V [M]	C1055	ECA1HMR47B	0.47 50V [M]						
C953	ECBT1H101KB5	100P 50V [M]	C1056	ECQV1H823JZ3	0.082 50V [M]						
C955	ECBT1H101KB5	100P 50V [M]	C1057	ECFR1E332KR	3300P 25V [M]						
C956	ECBT1H101KB5	100P 50V [M]	C1058	ECQV1H823JZ3	0.082 50V [M]						
C1001	ECA1HM010B	1 50V [M]	C1059	ECEA1CU101B	100 16V [M]						