

# Service Manual

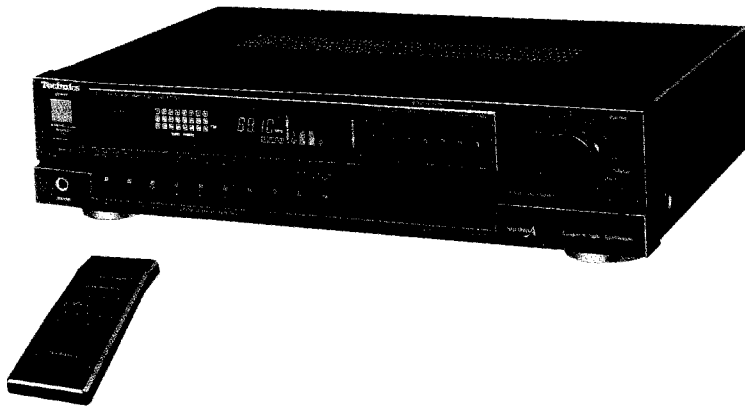
Receiver

## SA-R330

**QUARTZ** Synthesizer  
AM/FM Stereo Receiver

Color

(K)...Black Type



Area

Color	Area
(K)	(EG) .....F.R. Germany.

## SPECIFICATIONS

(DIN 45 500)

### ■ AMPLIFIER SECTION

<b>Power output</b>	
DIN 1kHz	2 × 70W (8Ω)
20Hz~20kHz continuous power output both channels driven	2 × 60W (8Ω)
<b>Total harmonic distortion</b>	
rated power at 20Hz~20kHz	0.008% (8Ω)
half power at 1kHz	0.003% (8Ω)
<b>Intermodulation distortion</b>	
rated power at 80Hz: 7kHz=4: 1, SMPTE, 8Ω	0.5%
<b>Power bandwidth</b>	
both channels driven, -3dB	10Hz~40kHz (8Ω)
<b>Damping factor</b>	20 (8Ω)
<b>Input sensitivity and impedance</b>	
PHONO	3mV/47kΩ
CD, VCR 1, TAPE/VCR 2	200mV/22kΩ
PHONO maximum input voltage (1kHz, RMS)	150mV
<b>S/N</b>	
rated power (8Ω)	
PHONO	70dB (IHF, A: 80dB)
CD, VCR 1, TAPE/VCR 2	80dB (IHF, A: 90dB)
<b>Frequency response</b>	
PHONO	RIAA standard curve ±0.8dB (30Hz~15kHz)
CD, VCR 1, TAPE/VCR 2	7Hz~70kHz (±3dB)
<b>7 band graphic equalizer</b>	
	63Hz, -10dB~+10dB
	160Hz, -10dB~+10dB
	400Hz, -10dB~+10dB
	1kHz, -10dB~+10dB
	2.5kHz, -10dB~+10dB
	6.3kHz, -10dB~+10dB
	12.5kHz, -10dB~+10dB

<b>Loudness control (volume at -30dB)</b>	50 Hz, +9dB
<b>Output voltage</b>	
VCR 1, TAPE/VCR 2 REC OUT	200mV
<b>Channel balance, 250Hz~6,300Hz</b>	±1dB
<b>Channel separation</b>	55dB
<b>Headphones output level and impedance</b>	5Ω/mV/330Ω
<b>Load impedance</b>	
MAIN or REMOTE	4Ω~16Ω
MAIN and REMOTE	8Ω~16Ω

### ■ FM TUNER SECTION

<b>Frequency range</b>	87.50~108.00 MHz
<b>Sensitivity</b>	
S/N 30dB	1.5μV (75Ω)
S/N 26dB	1.3μV (75Ω)
S/N 20dB	1.2μV (75Ω)
<b>IHF usable sensitivity</b>	1.5μV (IHF, 58, 75Ω)
<b>IHF 46dB stereo quieting sensitivity</b>	22μV/75Ω
<b>Total harmonic distortion</b>	
MONO	0.2%
STEREO	0.3%
<b>S/N</b>	
MONO	60dB (75dB, IHF)
STEREO	58dB (71dB, IHF)
<b>Frequency response</b>	20Hz~15kHz, +1dB~-2dB
<b>Alternate channel selectivity</b>	±40kHz, 65dB
<b>Capture ratio</b>	1.0dB
<b>Image rejection at 98MHz</b>	40dB
<b>IF rejection at 98MHz</b>	70dB
<b>Spurious response rejection at 98MHz</b>	70dB
<b>AM suppression</b>	50dB

# Technics

Matsushita Electric Industrial Co., Ltd.  
Central P.O. Box 288, Osaka 530-91, Japan

Stereo separation 1 kHz	40 dB
10 kHz	30 dB
Carrier leak 19 kHz	-60 dB (-65 dB, IHF)
38 kHz	-70 dB (-75 dB, IHF)
Channel balance (250 Hz~6,300 Hz)	±1.5 dB
Limiting point	1.2 μV
Bandwidth	
IF amplifier	180 kHz
FM demodulator	1000 kHz
Antenna terminals	75 Ω (unbalanced)

■ AM TUNER SECTION

Frequency range	522~1611 kHz (9 kHz-steps) 530~1620 kHz (10 kHz-steps)
Sensitivity (S/N 20 dB)	20 μV, 330 μV/m
Selectivity at 999 kHz	55 dB
Image rejection at 999 kHz	40 dB
IF rejection at 999 kHz	55 dB

■ GENERAL

Power consumption	440 W
Power supply	AC 50 Hz/60 Hz, 220 V
Dimensions (W × H × D)	430 × 102 × 290 mm (16-15/16" × 4" × 11-1/4")
Weight	6.7 kg (14.8 lb.)

Notes:

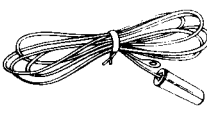
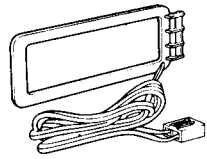
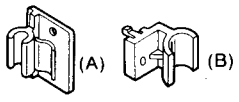



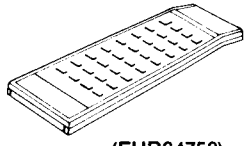

- Specifications are subject to change without notice. Weight and dimensions are approximate.
- Total harmonic distortion is measured by the digital spectrum analyzer (H.P. 3045 system).

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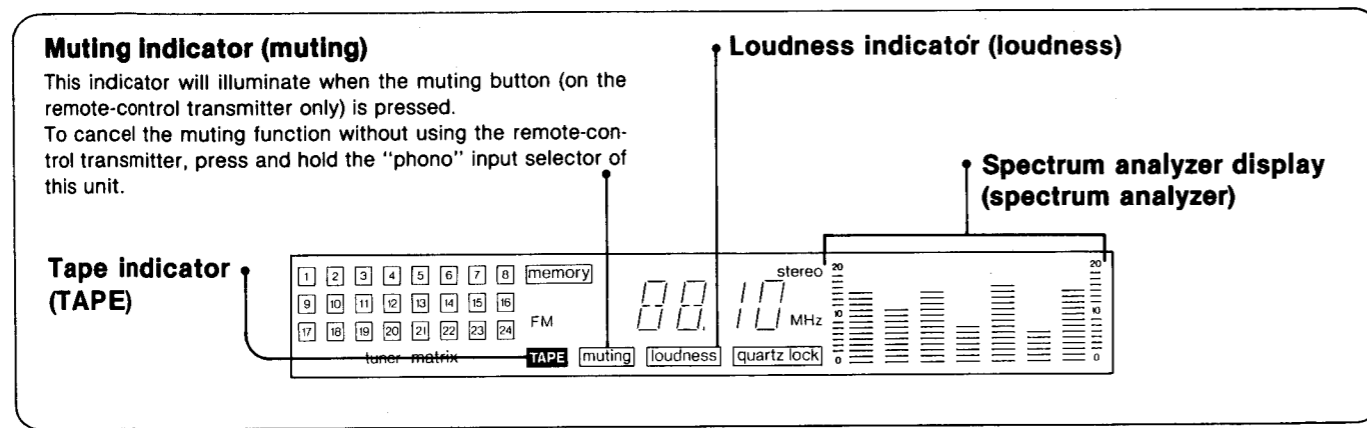
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■ ACCESSORIES

<ul style="list-style-type: none"> <li>• FM indoor antenna (1) (SSA270M)</li> </ul> 	<ul style="list-style-type: none"> <li>• AM loop antenna (1) (SPB1162T)</li> </ul> 	<ul style="list-style-type: none"> <li>• AM antenna holders (2)</li> </ul>  <p style="text-align: center;">(SMA233-1M) (SMA231M)</p>	<ul style="list-style-type: none"> <li>• Screws (2)</li> </ul>  <p style="text-align: center;">(XTN3+10AFZ)</p>
<ul style="list-style-type: none"> <li>• Connection cable for remote-control (1) (SJP2257T)</li> </ul> 	<ul style="list-style-type: none"> <li>• Flat cable for remote-control (1) (SWKST11M-1)</li> </ul> 	<ul style="list-style-type: none"> <li>• Remote-control transmitter (1)</li> </ul>  <p style="text-align: center;">(EUR64758)</p>	<ul style="list-style-type: none"> <li>• Batteries (2) (UM-4NE/2S)</li> </ul> 

# LOCATION OF CONTROLS

## Amplifier section



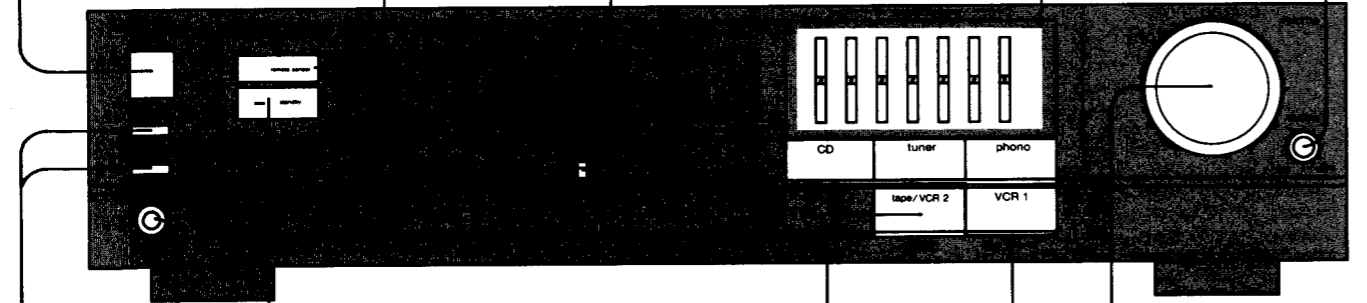
**Power "standby ⏻, on" switch (power "standby ⏻, on")**  
This switch switches ON and OFF the secondary circuit power only. The unit is in the "standby" condition when this switch is set to the "standby ⏻" position. Regardless of the switch setting, the primary circuit is always "live" as long as the power cord is connected to an electrical outlet.

**Equalizer controls (graphic equalizer)**  
These controls are used to adjust the levels within each frequency band. The levels can be varied continuously over a range of +10 dB ~ -10 dB. By sliding the controls at each of the indicated frequencies in the "+" direction, the frequencies in that band are boosted, and by sliding them in the "-" direction, the frequencies in that band are attenuated. When the power switch is set to the "on" position, the tips of these level controls will illuminate.

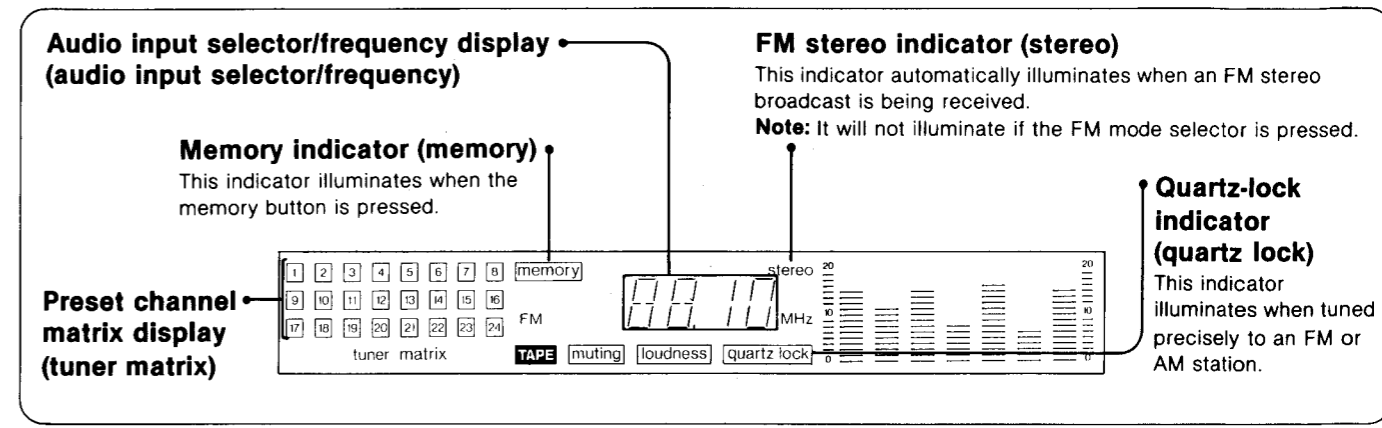
**Remote-control signal sensor (remote sensor)**

**Loudness switch (loudness)**  
Set to the "on" position (The loudness indicator will illuminate.) when listening to music at low volume. Auditory perception of sound in the low frequency range falls off at low volume but when the switch is in this position, this deficiency is compensated for, so that the full impact of the musical performance can be enjoyed.

**Balance control (balance)**



## Tuner section



**FM mode selector (FM mode)**  
This unit automatically switches to the stereo mode when a stereo broadcast is received. Press this selector to listen in the monaural mode. The stereo indicator will not illuminate in the monaural mode.

**Memory button (memory)**  
This button is used when preset memory setting of the preset-tuning buttons is made.

**Group select button (select)**

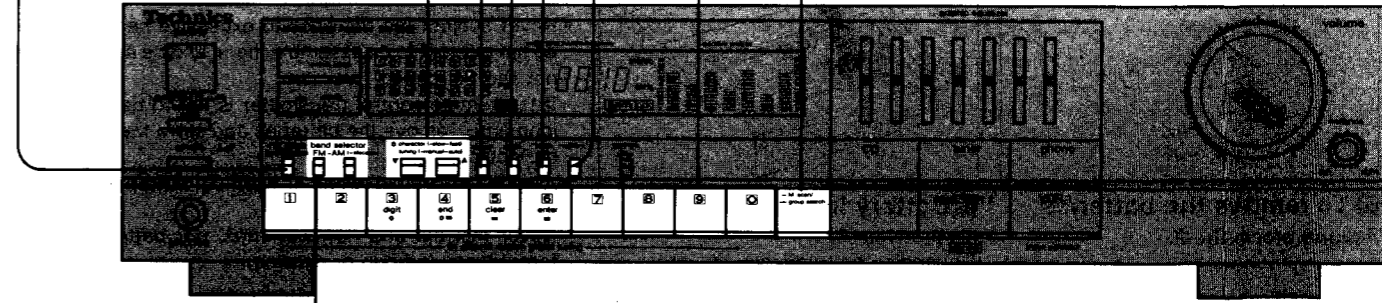
**Assort-mode select button (assort)**

**Change-mode select button (change)**

**Character-input/tuning buttons (character/tuning)**

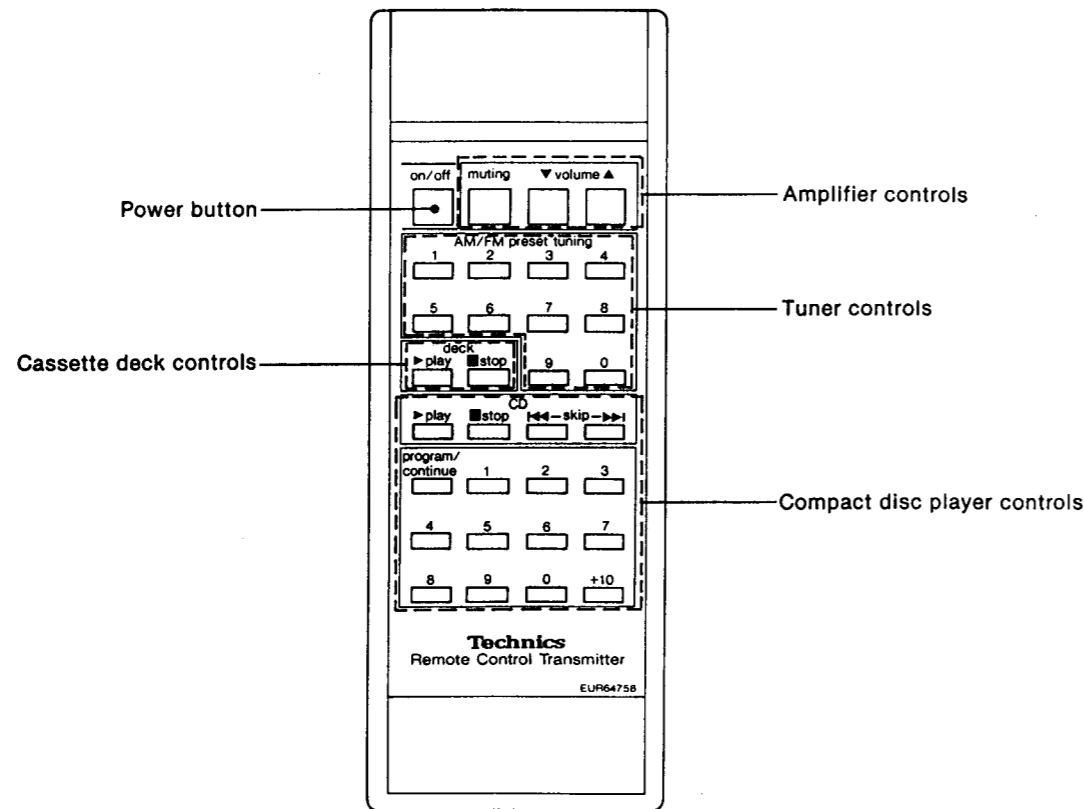
**Memory-scan/group-search button (-M. scan/-group search)**

**Preset tuning buttons (1 ~ 0) (24 channel random preset tuning)**  
These buttons are used to preset FM and AM broadcast frequencies into the memory of this unit, and are also pressed to select the desired preset frequencies. **Note:** The buttons marked 3 ~ 6 are also used to listen to radio broadcasts arranged in convenient groups.

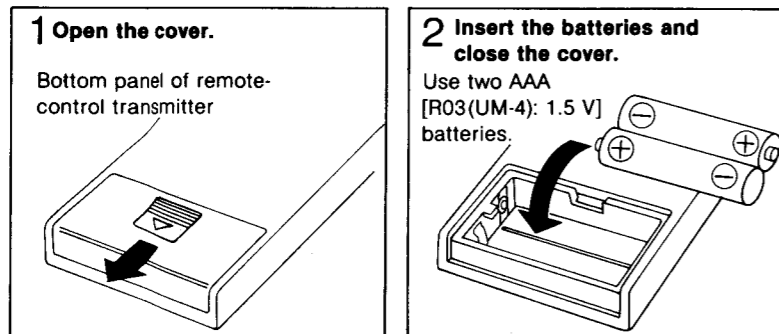


**FM:** Press this button to listen to an FM broadcast.  
**AM:** Press this button to listen to an AM broadcast.  
**allocation:**  
When the AM button is pressed for about 4 seconds, the AM frequency step will change to 10 kHz per step. (This step is set to 9 kHz before shipment.) In order to return to the original frequency indication, press this button for about 4 seconds again.

• Remote-control transmitter (EUR64758)



Insertion of remote-control transmitter batteries



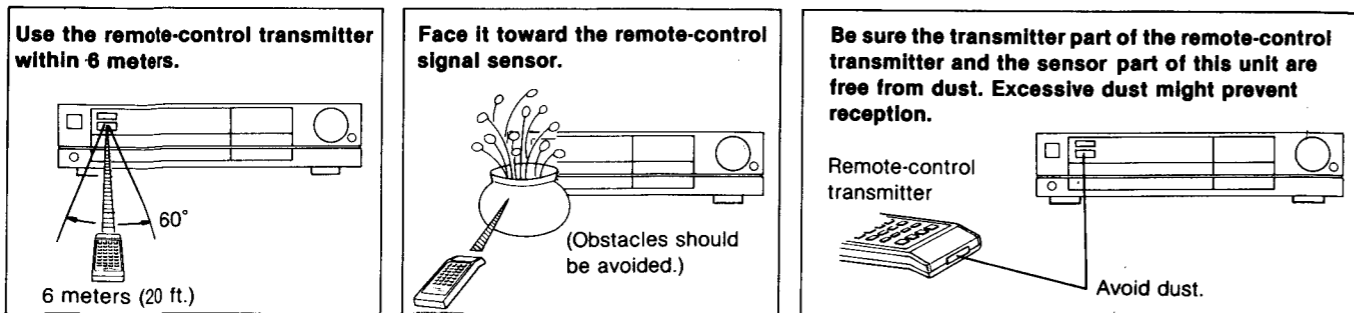
**To remove the batteries**  
Reverse procedure 2.

**Battery life**  
About 1 year.  
(Depending on frequency of use.)

Notes concerning use of dry batteries

- Do not use chargeable batteries (Ni-Cd type).
- Be sure the batteries are inserted so that the positive (+) and negative (-) polarities are correct. Batteries installed with incorrect polarities may leak and damage the remote-control transmitter.
- Never subject the batteries to excessive heat or flame; do not attempt to disassemble them; and be sure they are not short-circuited.
- If the remote-control transmitter is not to be used for a long time, remove the batteries and store them in a cool dark place.
- Always remove old, weak or worn-out batteries promptly and dispose of them properly.
- Never mix old and new batteries, nor batteries of different types (carbon or alkaline).

Operation notes



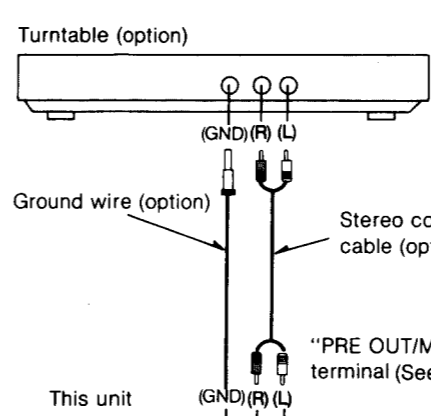
- Notes:**
1. The control panel of the remote-control transmitter may be covered by a clear plastic protective sheet. This sheet may be removed if desired.
  2. If this unit is placed in an audio rack, the distance that the remote control transmitter can be used from might be reduced due to the thickness or color of the glass door.

CONNECTIONS

• Connections to equipment

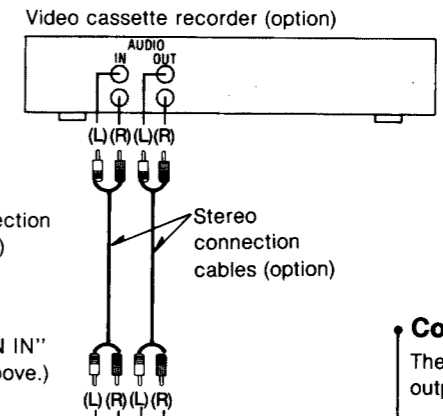
“PHONO” terminals

Connect a turntable.  
**Note:**  
For remote-control operation, be sure to connect the ground wire correctly.



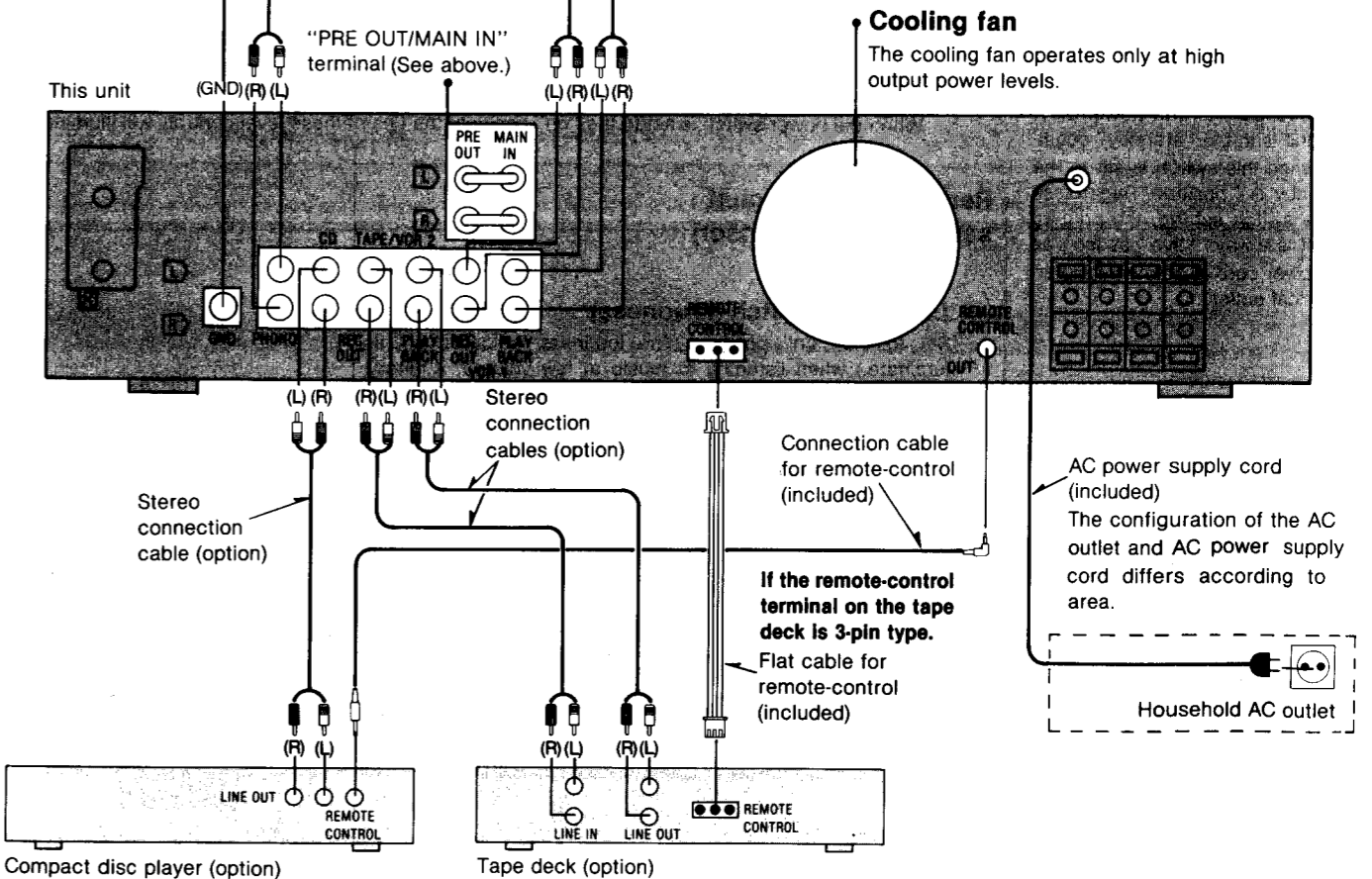
“VCR 1” terminals

Connect a video cassette recorder or an audio tape deck etc. (Refer to the operating instructions of VCR, etc.)



“PRE OUT/MAIN IN” terminals

Do not remove the shorting pins from these terminals unless you plan to use an independent preamplifier or main amplifier. (No sound will be heard if they are removed). To use it in this way, consult the operating instructions for the additional amplifier or preamplifier that you plan to use.

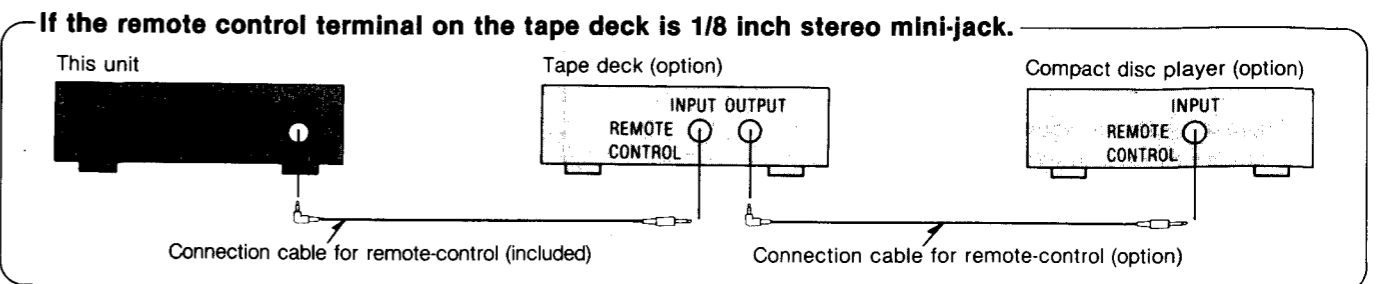


“CD” terminals

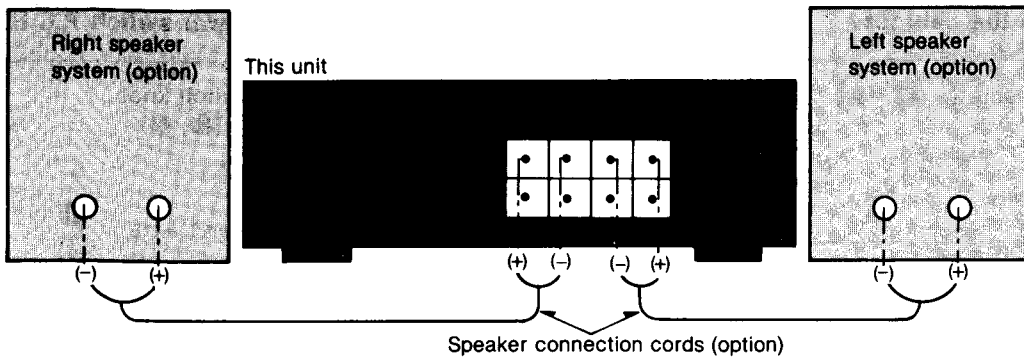
Connect a compact disc player.

“TAPE/VCR 2” terminals

Connect a tape deck or second VCR.



## • Connections to speakers



### ■ Load impedance:

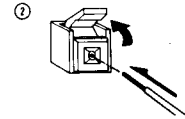
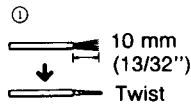
MAIN or REMOTE: 4~16  $\Omega$   
MAIN and REMOTE: 8~16  $\Omega$

### ■ "REMOTE" terminals

For connection to a second pair of speakers.

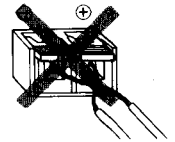
### Connection of speaker wires

- ① Twist the core of the speaker wires.
- ② Lift up the lever, and insert the core until it can no longer be seen.
- ③ Press down the lever, and pull the cord gently to be sure that it is secure.



### Notes:

1. To prevent damage to circuitry, never short-circuit positive (+) and negative (-) speaker terminals.
2. Be sure to only connect positive (+) cords to positive (+) terminals, and negative (-) cords to negative (-) terminals.
3. Connections of speaker wires should be made before connecting the AC power supply cords.



## ■ PROTECTION CIRCUITRY

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

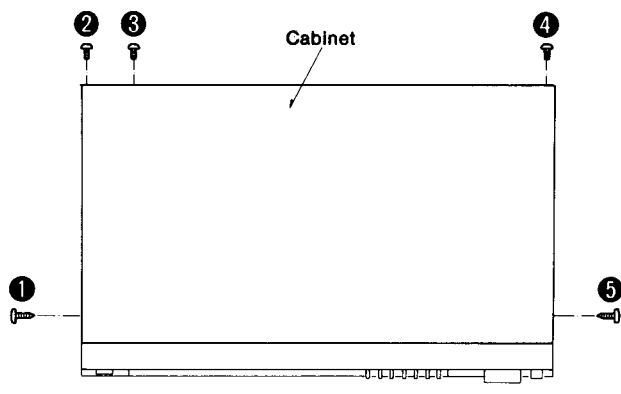
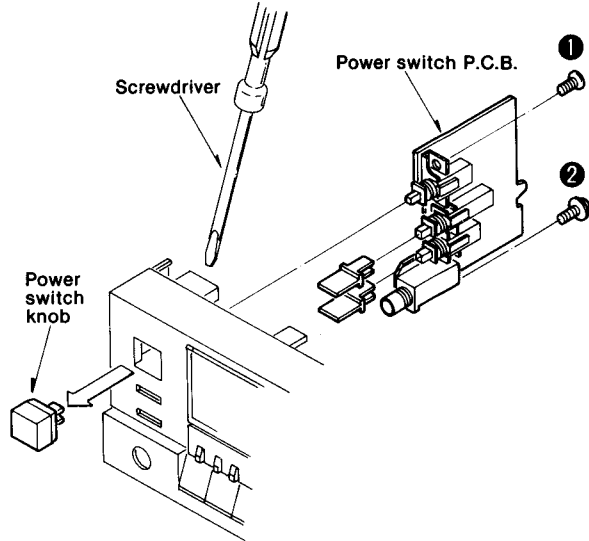
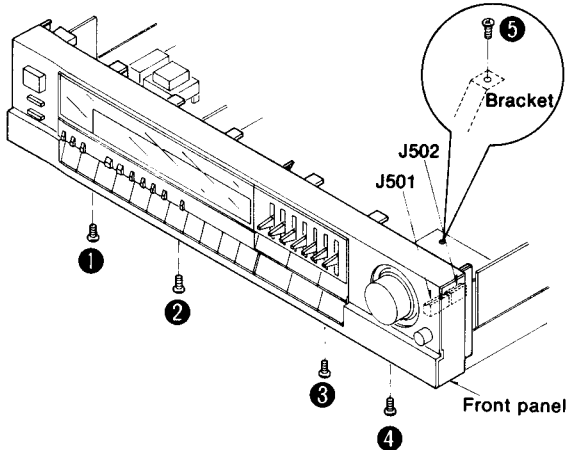
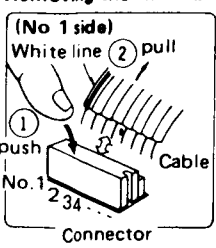
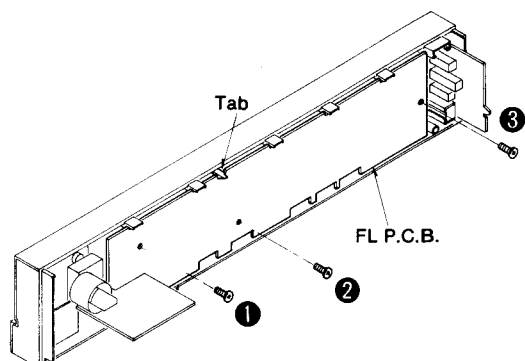
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

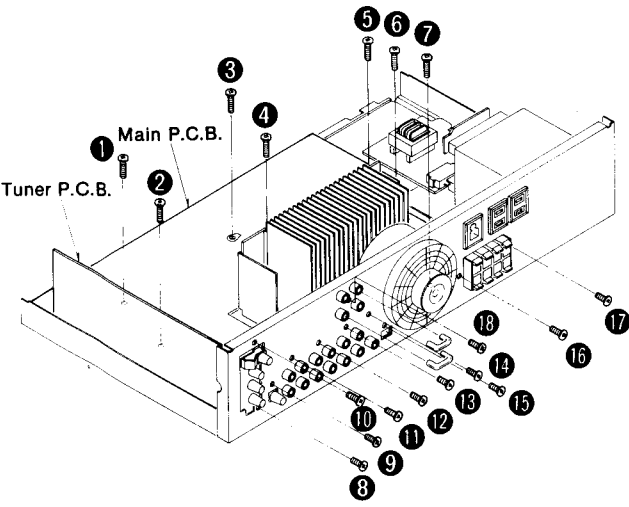
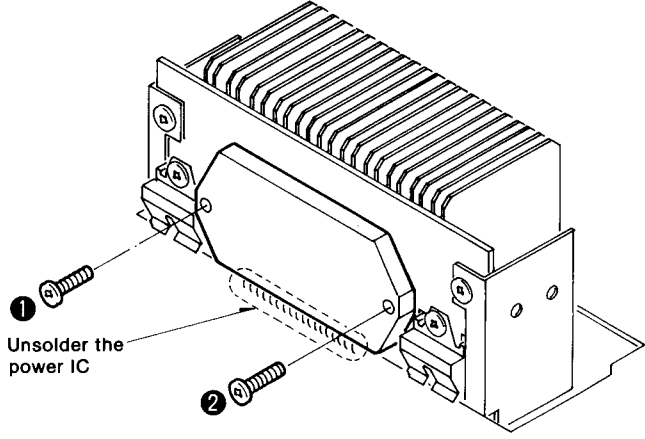
## ■ BEFORE REPAIR AND ADJUSTMENT

1. Turn off the power, Discharge both power supply capacitors (C701, C702 8200 $\mu$ F) through a 10 $\Omega$  5W resistor to ground. Do not short between C701 and C702. It may damage the capacitors.
2. After completion of repair, slowly apply the primary voltage by using a variac to avoid over current. Current consumption at 50Hz/60Hz in no signal mode should be shown with respect to supply voltage 220V.

Power supply voltage		AC 220 V
Consumed current	50/60Hz	170~370mA

## DISASSEMBLY INSTRUCTIONS

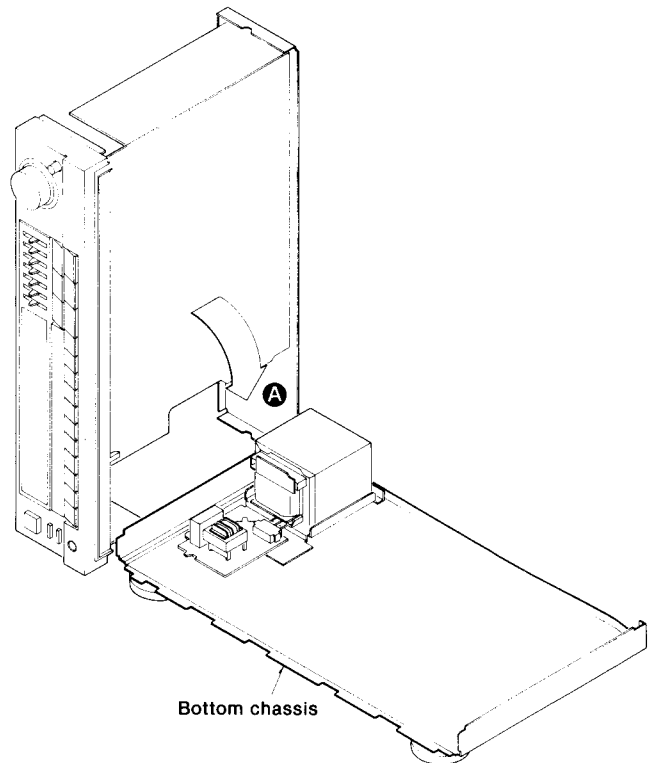
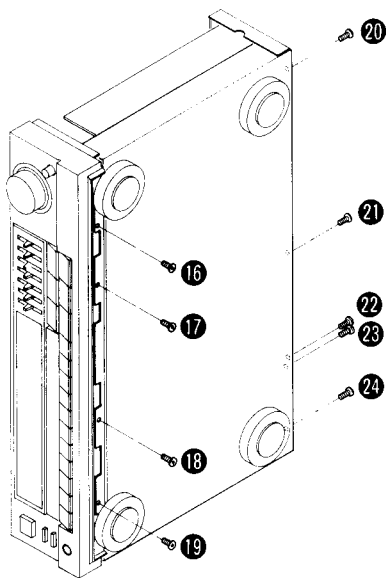
<p><b>Ref. No.</b> 1</p>	<p><b>How to remove the cabinet</b></p>	<p><b>Ref. No.</b> 3</p>	<p><b>How to remove the power switch P.C.B.</b></p>
<p><b>Procedure</b> 1</p>	<p>1. Remove the 5 screws (①~⑤).</p>	<p><b>Procedure</b> 1→2→3</p>	<p>1. Remove the power switch knob. 2. Remove the 2 screws (①, ②).</p>
		 <p><b>Note:</b> Remove the knob by pushing it from behind the panel.</p>	
<p><b>Ref. No.</b> 2</p>	<p><b>How to remove the front panel</b></p>	<p><b>Ref. No.</b> 4</p>	<p><b>How to remove the FL P.C.B.</b></p>
<p><b>Procedure</b> 1→2</p>	<p>1. Remove the 4 screws (①~④). 2. Remove the flat cables (J501 and J502).</p>	<p><b>Procedure</b> 1→2→4</p>	<p>1. Remove the 3 screws (①~③). 2. Release the tab.</p>
 <p><b>Removing the flat cable</b></p> 			

Ref. No. 5	How to remove the tuner P.C.B. and main P.C.B.	Ref. No. 6	How to remove the power IC
<b>Procedure</b> 1→2→5	1. Remove the 18 screws (①~⑱). 2. Remove the tuner P.C.B. and main P.C.B.	<b>Procedure</b> 1→2→5→6	1. Unsolder the power IC. 2. Remove the 2 screws (①, ②).
		 <p data-bbox="853 795 1460 884"><b>Note:</b> When mounting the power IC, apply silicon terminal compound (SZZ0L15) to the rear of the power IC.</p>	

**How to check the main P.C.B.**

1. Remove the 7 screws (①~⑦) in above figure.
2. Remove the 9 screws (⑯~⑳).

3. Remove the bottom chassis in the direction of the arrow (A).



<p><b>Ref. No.</b> 7</p>	<p><b>How to remove the balance control P.C.B. and volume P.C.B.</b></p>	<p><b>Ref. No.</b> 8</p>	<p><b>How to remove the key switch P.C.B.</b></p>
<p><b>Procedure</b> 1→2→4→7</p>	<ol style="list-style-type: none"> <li>1. Remove the balance control knob.</li> <li>2. Remove the 2 screws (①, ②).</li> <li>3. Remove the balance control P.C.B.</li> <li>4. Remove the 3 screws (③~⑤).</li> <li>5. Remove the volume P.C.B.</li> </ol>	<p><b>Procedure</b> 1→2→4→8</p>	<ol style="list-style-type: none"> <li>1. Remove the 2 screws (①, ②), and remove the P.C.B. holder.</li> <li>2. Remove the 2 screws (③, ④).</li> <li>3. Remove the 2 tabs.</li> <li>4. Remove the key switch P.C.B.</li> </ol>
<p>Balance control knob</p> <p>Balance control P.C.B.</p> <p>Volume P.C.B.</p>	<p>Key switch P.C.B.</p> <p>P.C.B. holder</p> <p>2 tabs</p>		
<p><b>Mounting main volume control</b></p>	<p><b>Ref. No.</b> 9</p>	<p><b>How to disassemble the remote control</b></p>	
<p><b>Procedure</b> 9</p>	<ol style="list-style-type: none"> <li>1. Insert the motor volume shaft into volume base (A) and secure it with nut (E).</li> <li>2. Insert the shatter plate (D) into volume knob (E), then mount the volume light guide (C), volume knob, and volume ring (F) on the volume shaft.</li> </ol>	<p><b>Procedure</b> 9</p>	<ol style="list-style-type: none"> <li>1. Remove the Battery cover lid.</li> <li>2. Remove screws ①.</li> </ol>
<p><b>Note:</b> Slip one end of the shatter plate inside the volume light guide.</p>	<p>Battery cover lid</p> <ol style="list-style-type: none"> <li>3. Insert a flat blade screwdriver between the upper and lower covers inside the battery compartment and then slowly loosen the bottom cover.</li> </ol> <p>Down</p>		



## MEASUREMENTS AND ADJUSTMENTS

### FM

**Control positions and equipment used**

- FM signal generator (AM and FM-SG).
- Stereo modulator
- Distortion analyser
- Oscilloscope
- AC and DC electronic voltmeter (EVM)
- Frequency counter
- Resistor (100kΩ)

**Note:** For Z201, Z202, Z321, L321, L322 and L324, adjusted parts are supplied. So, do not turn the cores of these parts.

**FM MONO DISTORTION ADJUSTMENT**

1. Test equipment connection is shown in figure.
2. Set the unit to "FM" position.
3. Set the radio frequency display and signal generator to 100.10MHz.
4. Adjust T201 core so that voltage measured in signal mode is 0mV (0±20mV) in 300mV range.
5. Adjust T202 so that the distortion factor of Lch is minimized.
6. Repeat steps 4 and 5 a few times.
7. Make sure that the distortion factors of Lch and Rch are nearly the same with each other to minimum.

**FM SIGNAL GENERATOR CONDITION**  
 Modulation.....100%  
 Modulation frequency.....1kHz (MONO)  
 Output level.....66dB

**Note:**  
The adjusting screwdriver used should be made of resin.

**MPX VCO ADJUSTMENT**

1. Test equipment connection is shown in figure.
2. Set the unit to "FM auto" position.
3. Place the radio frequency display and signal generator to 100.10MHz.
4. Adjust VR301 for 19.00±0.03kHz on frequency counter reading.

**FM SIGNAL GENERATOR CONDITION**  
 Modulation.....0% (non-modulation)  
 Output level.....66dB

**★ USING ALTERNATE SYSTEM**

1. Apply stereo signal from generator or receive the stereo broadcast.
2. Adjust VR301 until stereo indicator lights up. Cement arm of VR301 as shown in figure.

**FM STEREO SEPARATION ADJUSTMENT**

1. Test equipment connection is shown in figure.
2. Set the unit to "FM" mode.
3. Set the radio frequency display and signal generator to 100.10MHz.
4. Adjust VR302 so that the R-CH output is minimized when stereo modulator is in "L"(L-CH modulation) mode.

**FM SIGNAL GENERATOR CONDITION**  
 Modulation.....Stereo "L" mode or "R" mode 90%, Pilot 10%  
 Modulation frequency.....1kHz (Pilot 19kHz)  
 Output level.....66dB

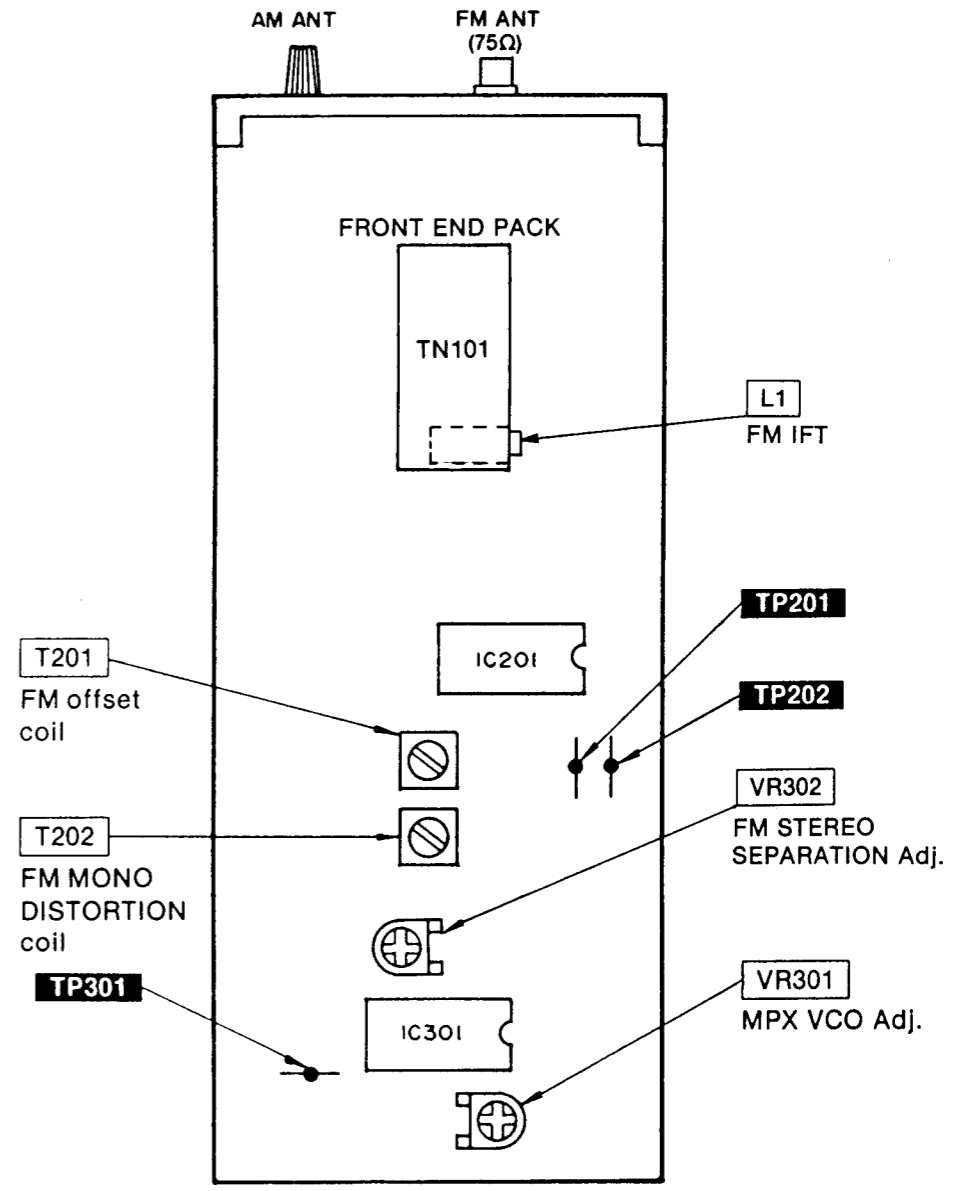
**FM STEREO DISTORTION ADJUSTMENT**

1. Test equipment connection is shown in figure.
2. Set the unit to "FM" mode.
3. Set the radio frequency display and signal generator to 100.10MHz.
4. Adjust L1 so that the distortion factor of L-CH is minimized.
5. Make sure that the distortion factors of L-CH and R-CH are nearly the same with each other to minimum.

**FM SIGNAL GENERATOR CONDITION**  
 Modulation.....Stereo "L" mode or "R" mode 45%, Pilot 10%  
 Modulation frequency.....1kHz (Pilot 19kHz)  
 Output level.....66dB

**Notes:**  
 1. The adjusting screwdriver used should be made of resin.  
 2. L1 should be rotated no more 1/4 turn (90 deg.) on either side.

• Adjustment points



## FUNCTION OF TERMINAL

### • IC901 (LC6554H3682): microcomputer

PIN NO.	MARK	I/O	DESCRIPTION OF TERMINAL
1	PP0 (S13)	O	Segment signal output
2 } 5 • 6 } 8	PA0 } PA3 • PB0 } PB2	I	Key return signal input
9	PB3 (STAND BY)	I	Power supply terminal
10	PC0 (OFF)	I	Power ON/OFF input
11	PC1 (STEREO)	I	Stereo signal input
12	PC2 (SD)	I	SD signal input
13	PC3 (DP)	I/O	Deck control terminal
14	PD0 (RELAY)	O	Relay control output
15	PD1 (DK)	I/O	Deck control terminal
16	NC	—	Not connected
17	NC	—	Not connected
18	PE0 (M0)	O	Auto/mono changeover terminal
19	PE1 (RFM)	O	Muting control output
20	PE2 (AT)	O	Attenuator control output
21	PE3 (AFM)	O	AF signal muting control output
22	TP	—	Ground terminal
23	V <sub>SS</sub>	—	Ground terminal
24	OSC1	I	Oscillator terminal
25	OSC2	O	Oscillator terminal
26	$\overline{\text{RES}}$	I	Reset signal input
27	PF0/D1	O	Serial data output terminal
28	PF1/CK	O	Clock signal terminal for serial data
29	PF2/CE	O	Chip enable terminal
30	PF3/ $\overline{\text{INT}}$	I	Remote control input
31	D1	—	Ground terminal

PIN NO.	MARK	I/O	DESCRIPTION OF TERMINAL
32	PG1 (CK)	—	Ground terminal
33	PG2 (ST)	O	Control signal terminal for IC401 (TC9163N)
34 } 37	NC	—	Not connected
38	PI3 (LOUDNESS)	O	Loudness control output
39 • 40	PJ0 (R) • PJ1 (F)	O	Volume motor drive output
41 • 42	NC	—	Not connected
43	V <sub>P</sub>	I	Power supply terminal (negative voltage)
44 } 55	S1 } S12	O	Segment signal output
57 } 64	D1 } D8	O	Digit signal output and key scan signal output
56	V <sub>DD</sub>	I	Power supply terminal (positive voltage)

# RESISTORS & CAPACITORS

**Notes :** \* Important safety notice :

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

\* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)  
Parts without these indications can be used for all areas.

**Numbering System For Resistors**

**Example:**

ERD	25	F	J	102
Type	Wattage (1/4W)	Shape	Tolerance	Value (1K $\Omega$ )
ERX	2	AN	J	471
Type	Wattage (2W)	Shape	Tolerance	Value (470 $\Omega$ )

**Numbering System For Capacitors**

**Example:**

ECKD	1H	102	Z	F
Type	Voltage (50V)	Value (0.001 $\mu$ F)	Tolerance	Unique
ECEA	50	M		330
Type	Voltage (50V)	Characteristics		Value (33 $\mu$ F)

- Capacitance values is in microfarads ( $\mu$ F) unless specified otherwise, P= Pico-farads (pF) F= Farads (F).
- Resistance values is in ohms ( $\Omega$ ), unless specified otherwise, 1K = 1,000 $\Omega$ , 1M = 1,000k $\Omega$

Resistor Type	Wattage		Tolerance
ERD : Carbon	10 : 1/8W	12 : 1/2W	J : $\pm$ 5%
ERG : Metal Oxide	14 : 1/4W	25 : 1/4W	F : $\pm$ 1%
ERQ : Fuse Type Metal	1A : 1W	18 : 1/8W	G : $\pm$ 2%
ERX : Metal Film	S2 : 1/4W	S1 : 1/2W	J : $\pm$ 5%
ERD L : Carbon (chip)	2F : 1/4W	50 : 1/2W	K : $\pm$ 10%
ERD K : Metal Film (chip)	2A : 2W	3A : 3W	M : $\pm$ 20%
ERC : Solid	6G : 1/10W	8G : 1/8W	
ERF : Incombustible Box-Shaped			
ERM : Wire-Wound			
RRJ : Chip Resistor			
ERJ : Chip Resistor			

Capacitor Type	Voltage		Tolerance
ECE : Electrolytic	0J : 6.3V	1A : 10V	K : $\pm$ 10%
ECCD : Ceramic	1C : 16V	1E : 25V	M : $\pm$ 20%
ECKD : Ceramic Capacitor	1H : 50V	1V : 35V	Z : +80 % -20
ECQM : Polyester	50 : 50V	05 : 50V	J : $\pm$ 5%
ECOP : Polypropylene	2H : 500V	2A : 100V	G : $\pm$ 2%
ECG : Ceramic	1 : 100V	1J : 63V	F : $\pm$ 1%
ECEA N : Non Polar Electrolytic	KC : 400V AC		C : $\pm$ 0.25pF
QCU : Ceramic (Chip Type)	KC : 125V AC (UL)		D : $\pm$ 0.5pF
ECUX : Ceramic (Chip Type)			
ECF : Semiconductor			
EECW : Liquid electrolyte double layer capacitor			

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
RESISTORS(VALUE,WATTAGE)			R240	ERDS2TJ152	1.5K 1/4	R423	ERDS2TJ823	82K 1/4
R101	ERDS2TJ103	10K 1/4	R247	ERDS2TJ103	10K 1/4	R424	ERDS2TJ823	82K 1/4
R102	ERDS2TJ103	10K 1/4	R301	ERDS2TJ393	39K 1/4	R451	ERDS2TJ391	390 1/4
R104	ERDS2TJ102	1K 1/4	R302	ERDS2TJ151	150 1/4	R452	ERDS2TJ391	390 1/4
R105	ERDS2TJ561	560 1/4	R303	ERDS2TJ223	22K 1/4	R453	ERDS2TJ224	220K 1/4
R106	ERDS2TJ562	5.6K 1/4	R304	ERDS2TJ223	22K 1/4	R454	ERDS2TJ224	220K 1/4
R107	ERDS2TJ103	10K 1/4	R305	ERDS2TJ272	2.7K 1/4	R455	ERDS2TJ563	56K 1/4
R108	ERDS2TJ151	150 1/4	R306	ERDS2TJ272	2.7K 1/4	R456	ERDS2TJ563	56K 1/4
R201	ERDS2TJ332	3.3K 1/4	R307	ERDS2TJ562	5.6K 1/4	R457	ERDS2TJ271	270 1/4
R202	ERDS2TJ474	470K 1/4	R308	ERDS2TJ562	5.6K 1/4	R458	ERDS2TJ271	270 1/4
R203	ERDS2TJ122	1.2K 1/4	R309	ERDS2TJ224	220K 1/4	R459	ERDS2TJ680	68 1/4
R204	ERDS2TJ824	820K 1/4	R311	ERDS2TJ102	1K 1/4	R460	ERDS2TJ680	68 1/4
R205	ERDS2TJ391	390 1/4	R312	ERDS2TJ153	15K 1/4	R461	ERDS2TJ184	180K 1/4
R206	ERDS2TJ221	220 1/4	R313	ERDS2TJ473	47K 1/4	R462	ERDS2TJ184	180K 1/4
R207	ERDS2TJ822	8.2K 1/4	R314	ERDS2TJ473	47K 1/4	R463	ERDS2TJ123	12K 1/4
R208	ERDS2TJ102	1K 1/4	R315	ERDS2TJ103	10K 1/4	R464	ERDS2TJ123	12K 1/4
R209	ERDS2TJ471	470 1/4	R316	ERDS2TJ103	10K 1/4	R465	ERDS2TJ563	56K 1/4
R210	ERDS2TJ332	3.3K 1/4	R317	ERDS2TJ473	47K 1/4	R466	ERDS2TJ563	56K 1/4
R211	ERDS2TJ222	2.2K 1/4	R321	ERDS2TJ223	22K 1/4	R467	ERDS2TJ102	1K 1/4
R212	ERDS2TJ153	15K 1/4	R322	ERDS2TJ223	22K 1/4	R468	ERDS2TJ102	1K 1/4
R213	ERDS2TJ104	100K 1/4	R325	ERDS2TJ102	1K 1/4	R501	ERDS2TJ222	2.2K 1/4
R214	ERDS2TJ824	820K 1/4	R326	ERDS2TJ102	1K 1/4	R502	ERDS2TJ222	2.2K 1/4
R215	ERDS2TJ822	8.2K 1/4	R327	ERDS2TJ183	18K 1/4	R503	ERDS2TJ103	10K 1/4
R216	ERDS2TJ563	56K 1/4	R401	ERDS2TJ332	3.3K 1/4	R504	ERDS2TJ103	10K 1/4
R217	ERDS2TJ223	22K 1/4	R402	ERDS2TJ332	3.3K 1/4	R505	ERDS2TJ104	100K 1/4
R218	ERDS2TJ123	12K 1/4	R403	ERDS2TJ822	8.2K 1/4	R506	ERDS2TJ104	100K 1/4
R219	ERDS2TJ562	5.6K 1/4	R404	ERDS2TJ822	8.2K 1/4	R507	ERDS2TJ472	4.7K 1/4
R220	ERDS2TJ103	10K 1/4	R405	ERDS2TJ470	47 1/4	R508	ERDS2TJ472	4.7K 1/4
R221	ERDS2TJ104	100K 1/4	R406	ERDS2TJ470	47 1/4	R509	ERDS2TJ563	56K 1/4
R222	ERDS2TJ473	47K 1/4	R407	ERDS2TJ104	100K 1/4	R510	ERDS2TJ563	56K 1/4
R223	ERDS2TJ154	150K 1/4	R408	ERDS2TJ104	100K 1/4	R513	ERDS2TJ104	100K 1/4
R224	ERDS2TJ393	39K 1/4	R409	ERDS2TJ103	10K 1/4	R514	ERDS2TJ104	100K 1/4
R227	ERDS2TJ104	100K 1/4	R410	ERDS2TJ103	10K 1/4	R515	ERDS2TJ182	1.8K 1/4
R228	ERDS2TJ123	12K 1/4	R411	ERDS2TJ104	100K 1/4	R516	ERDS2TJ182	1.8K 1/4
R229	ERDS2TJ102	1K 1/4	R412	ERDS2TJ104	100K 1/4	R517	ERDS2TJ563	56K 1/4
R230	ERDS2TJ104	100K 1/4	R413	ERDS2TJ102	1K 1/4	R518	ERDS2TJ563	56K 1/4
R231	ERDS2TJ391	390 1/4	R414	ERDS2TJ102	1K 1/4	R519	ERDS2TJ563	56K 1/4
R232	ERDS2TJ122	1.2K 1/4	R415	ERDS2TJ104	100K 1/4	R522	ERDS2TJ223	22K 1/4
R233	ERDS2TJ684	680K 1/4	R416	ERDS2TJ104	100K 1/4	R523	ERDS2TJ223	22K 1/4
R234	ERDS2TJ103	10K 1/4	R417	ERDS2TJ104	100K 1/4	R524	ERDS2TJ223	22K 1/4
R235	ERDS2TJ471	470 1/4	R418	ERDS2TJ104	100K 1/4	R525	ERDS2TJ332	3.3K 1/4
			R421	ERDS2TJ332	3.3K 1/4	R526	ERDS2TJ332	3.3K 1/4

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
R527	ERDS2T J333	33K 1/4	R687	ERDS2T J221	220 1/4	R915	ERDS2T J181	180 1/4
R528	ERDS2T J563	56K 1/4	R688	ERDS2T J221	220 1/4	R916	ERDS2T J104	100K 1/4
R530	ERDS2T J333	33K 1/4	R701	△ ERDS1F J332	3.3K 1/2	R919	ERDS2T J122	1.2K 1/4
R531	ERDS2T J153	15K 1/4	R702	ERDS2T J122	1.2K 1/4	R920	ERDS2T J122	1.2K 1/4
R532	ERDS2T J153	15K 1/4	R703	ERDS2T J272	2.7K 1/4	R922	ERDS2T J224	220K 1/4
R541	ERDS2T J331	330 1/4	R704	ERDS2T J222	2.2K 1/4	R923	ERDS2T J331	330 1/4
R542	ERDS2T J331	330 1/4	R705	ERDS2T J272	2.7K 1/4	R924	ERDS2T J331	330 1/4
R551	ERDS2T J103	10K 1/4	R706	ERDS2T J1R2	1.2 1/4	R925	ERDS2T J331	330 1/4
R552	ERDS2T J103	10K 1/4	R707	ERDS2T J1R2	1.2 1/4	R951	ERDS2T J472	4.7K 1/4
R553	ERDS2T J472	4.7K 1/4	R708	△ ERDS1F J270	27 1/2	R952	ERDS2T J472	4.7K 1/4
R554	ERDS2T J472	4.7K 1/4	R709	△ ERDS1F J270	27 1/2	R953	ERDS2T J103	10K 1/4
R555	ERDS2T J683	68K 1/4	R710	ERDS2T J272	2.7K 1/4	R954	ERDS2T J331	330 1/4
R556	ERDS2T J683	68K 1/4	R713	ERDS2T J183	18K 1/4	R955	ERDS2T J222	2.2K 1/4
R557	ERDS2T J562	5.6K 1/4	R715	ERDS2T J101	100 1/4	CAPACITORS(VALUE,VOLTAGE)		
R558	ERDS2T J562	5.6K 1/4	R716	ERDS2T J222	2.2K 1/4	C101	RCBS1H150JCY	15P 50
R559	ERDS2T J122	1.2K 1/4	R717	△ ERD25F J150	15 1/4	C102	RCBS1H150JCY	15P 50
R560	ERDS2T J122	1.2K 1/4	R719	ERDS2T J4R7	4.7 1/4	C103	ECBT1H102KB5	0.001 50
R561	ERDS2T J683	68K 1/4	R720	ERDS2T J222	2.2K 1/4	C104	RCBS1H181KBY	180P 50
R562	ERDS2T J683	68K 1/4	R721	ERDS2T J472	4.7K 1/4	C105	ECEA0J5221	220 6.3
R563	ERDS2T J562	5.6K 1/4	R722	ERDS2T J333	33K 1/4	C106	ECKD1H103PF	0.01 50
R564	ERDS2T J562	5.6K 1/4	R723	ERDS2T J223	22K 1/4	C107	ECKD1H223PF	0.022 50
R565	ERDS2T J122	1.2K 1/4	R724	ERDS2T J103	10K 1/4	C108	ECEA25M4R7R	4.7 25
R566	ERDS2T J122	1.2K 1/4	R725	ERDS2T J823	82K 1/4	C109	ECEA1CU330	33 16
R567	ERDS2T J470	47 1/4	R751	ERDS2T J272	2.7K 1/4	C110	ECBT1H102KB5	0.001 50
R601	ERDS2T J392	3.9K 1/4	R752	ERDS2T J562	5.6K 1/4	C201	ECKD1H103PF	0.01 50
R602	ERDS2T J392	3.9K 1/4	R753	ERDS2T J472	4.7K 1/4	C202	ECKD1H103PF	0.01 50
R603	ERDS2T J563	56K 1/4	R754	ERDS2T J472	4.7K 1/4	C204	RCBC1H470JLY	47P 50
R604	ERDS2T J563	56K 1/4	R755	ERDS2T J102	1K 1/4	C205	ECKD1H223PF	0.022 50
R605	ERDS2T J182	1.8K 1/4	R771	△ ERDS1F J2R2	2.2 1/2	C206	RCBS1H150JCY	15P 50
R606	ERDS2T J182	1.8K 1/4	R772	△ ERDS1F J2R2	2.2 1/2	C208	ECEA0JU101	100 6.3
R607	ERDS2T J563	56K 1/4	R773	△ ERD25F J4R7	4.7 1/4	C209	ECEA1CK5100	10 16
R608	ERDS2T J563	56K 1/4	R774	△ ERD25F J4R7	4.7 1/4	C210	ECKD1H223PF	0.022 50
R609	ERDS2T J470	47 1/4	R775	△ ERD25F J4R7	4.7 1/4	C211	ECKD1H223PF	0.022 50
R610	ERDS2T J470	47 1/4	R776	△ ERD25F J4R7	4.7 1/4	C212	ECKD1H223PF	0.022 50
R611	△ ERD25F J100	10 1/4	R777	△ ERD25F J4R7	4.7 1/4	C213	RCBC1H101KBY	100P 50
R612	△ ERD25F J100	10 1/4	R778	△ ERD25F J4R7	4.7 1/4	C214	ECEA1CK5100	10 16
R613	ERDS2T J223	22K 1/4	R779	△ ERDS1F J121	120 1/2	C215	ECKD1H103PF	0.01 50
R614	△ ERD25F J470	47 1/4	R780	△ ERDS1F J121	120 1/2	C216	ECEA1CK5100	10 16
R615	ERDS2T J473	47K 1/4	R781	△ ERDS1F J121	120 1/2	C217	ECEA1HK010	1 50
R616	△ ERDS1F J181	180 1/2	R782	△ ERDS1F J121	120 1/2	C220	ECEA1CK5100	10 16
R617	△ ERDS1F J181	180 1/2	R785	△ ERDS1F J2R2	2.2 1/2	C221	ECFTD183KXL	0.018 25
R618	△ ERDS1F J181	180 1/2	R814	ERDS2T J473	47K 1/4	C222	ECCM1H473JZ	0.047 50
R619	△ ERG2ANJP331S	330 2	R815	ERDS2T J473	47K 1/4	C225	RCBS1H180JCY	18P 50
R620	△ ERG2ANJP331S	330 2	R816	ERDS2T J473	47K 1/4	C226	ECKD1H103PF	0.01 50
R621	ERDS2T J222	2.2K 1/4	R817	ERDS2T J473	47K 1/4	C227	ECEA1CK5100	10 16
R622	ERDS2T J222	2.2K 1/4	R818	ERDS2T J473	47K 1/4	C230	RCBC1H471KBY	470P 50
R623	ERDS2T J684	680K 1/4	R819	ERDS2T J473	47K 1/4	C301	ECEA1CU101	100 16
R624	ERDS2T J104	100K 1/4	R820	ERDS2T J473	47K 1/4	C302	ECEA1HKR47	0.47 50
R627	ERDS2T J154	150K 1/4	R821	ERDS2T J124	120K 1/4	C303	ECEA1HK010	1 50
R628	ERDS2T J684	680K 1/4	R822	ERDS2T J392	3.9K 1/4	C304	ECEA1HK3R3	3.3 50
R630	△ ERDS1F J181	180 1/2	R823	ERDS2T J124	120K 1/4	C305	ECEA1HK3R3	3.3 50
R631	ERDS2T J101	100 1/4	R824	ERDS2T J392	3.9K 1/4	C306	ECEA1HK3R3	3.3 50
R651	ERDS2T J223	22K 1/4	R825	ERDS2T J124	120K 1/4	C307	ECFTD392KXL	0.0039 25
R652	ERDS2T J223	22K 1/4	R826	ERDS2T J392	3.9K 1/4	C308	ECFTD392KXL	0.0039 25
R653	ERDS2T J223	22K 1/4	R827	ERDS2T J124	120K 1/4	C309	ECKD1H102PF	0.001 50
R654	ERDS2T J223	22K 1/4	R828	ERDS2T J392	3.9K 1/4	C310	ECFTD473KXL	0.047 25
R655	ERDS2T J392	3.9K 1/4	R829	ERDS2T J124	120K 1/4	C311	ECQP1471JZ	470P 125
R656	ERDS2T J103	10K 1/4	R830	ERDS2T J392	3.9K 1/4	C312	ECEA1VK4R7	4.7 35
R657	ERDS2T J103	10K 1/4	R831	ERDS2T J124	120K 1/4	C313	ECBT1H102KB5	0.001 50
R658	ERDS2T J223	22K 1/4	R832	ERDS2T J392	3.9K 1/4	C314	ECBT1H102KB5	0.001 50
R659	△ ERDS1F J820	82 1/2	R833	ERDS2T J124	120K 1/4	C321	ECEA1CK5100	10 16
R660	△ ERDS1F J820	82 1/2	R834	ERDS2T J392	3.9K 1/4	C323	ECFTD332KXL	0.0033 25
R661	ERDS2T J153	15K 1/4	R835	ERDS2T J273	27K 1/4	C324	ECFTD332KXL	0.0033 25
R671	ERDS2T J471	470 1/4	R836	ERDS2T J101	100 1/4	C325	RCBS1H330JLY	33P 50
R672	ERDS2T J471	470 1/4	R851	△ ERDS1F J2R2	2.2 1/2	C327	ECBT1H102KB5	0.001 50
R673	ERDS2T J102	1K 1/4	R891	ERDS2T J182	1.8K 1/4	C401	ECKD1H103PF	0.01 50
R674	ERDS2T J102	1K 1/4	R901	ERDS2T J222	2.2K 1/4	C402	ECKD1H103PF	0.01 50
R675	ERDS2T J102	1K 1/4	R902	ERDS2T J105	1M 1/4	C405	ECEA1EK3R3	3.3 25
R676	ERDS2T J102	1K 1/4	R903	ERDS2T J563	56K 1/4	C406	ECEA1EK3R3	3.3 25
R679	ERDS2T J102	1K 1/4	R904	ERDS2T J123	12K 1/4	C407	ECCD1H101K	100P 50
R680	ERDS2T J102	1K 1/4	R905	ERDS2T J103	10K 1/4	C408	ECCD1H101K	100P 50
R681	ERDS2T J222	2.2K 1/4	R906	ERDS2T J334	330K 1/4	C409	ECKD1H103PF	0.01 50
R682	ERDS2T J222	2.2K 1/4	R907	ERDS2T J681	680 1/4	C410	ECKD1H103PF	0.01 50
R683	ERDS2T J102	1K 1/4	R910	ERDS2T J122	1.2K 1/4	C411	ECEA1EK3R3	3.3 25
R684	ERDS2T J102	1K 1/4	R911	ERDS2T J103	10K 1/4	C412	ECEA1EK3R3	3.3 25
R685	ERDS2T J102	1K 1/4	R913	ERDS2T J101	100 1/4	C415	ECKD1H103PF	0.01 50
R686	ERDS2T J102	1K 1/4	R914	ERDS2T J101	100 1/4			

Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.	Ref. No.	Part No.	Value.
C416	ECKD1H103PF	0.01 50	C572	ECCD1H820K	82P 50	C702	ECES1JU822U	8200 63
C417	ECKD1H103PF	0.01 50	C573	ECKD1H471KB	470P 50	C703	ECKD1H103PF	0.01 50
C418	ECEA1HKR47	0.47 50	C574	ECKD1H471KB	470P 50	C704	ECEA2AU100	10 100
C419	ECEA0JU101	100 6.3	C575	ECEA1EK3R3	3.3 25	C705	ECEA1CU101	100 16
C421	ECEA1CK220	22 16	C576	ECEA1EK3R3	3.3 25	C706	ECKD1H103PF	0.01 50
C422	ECEA1CK220	22 16	C577	ECEA1CKS100	10 16	C708	ECEA1CU101	100 16
C425	ECCD1H101K	100P 50	C578	ECEA1CKS100	10 16	C709	ECKD1H103PF	0.01 50
C426	ECCC1H221K	220P 50	C579	ECEA1CKS100	10 16	C710	ECKD1H103PF	0.01 50
C451	ECEA1EK3R3	3.3 25	C580	ECEA1CKS100	10 16	C711	ECEA1CU101	100 16
C452	ECEA1EK3R3	3.3 25	C581	ECFTD683KXL	0.068 25	C712	ECEA1VU470	47 35
C453	ECCD1H101K	100P 50	C582	ECFTD683KXL	0.068 25	C713	ECEA0JU101	100 6.3
C454	ECCD1H101K	100P 50	C583	ECEA1HK2R2B	2.2 50	C714	ECEA0JU101	100 6.3
C455	ECBT1H102KB	0.001 50	C584	ECEA1HK2R2B	2.2 50	C715	ECEA1EK3R3	3.3 25
C456	ECBT1H102KB	0.001 50	C585	ECKD1H561KB	560P 50	C751	ECEA16V1000	1000 16
C457	ECFTD223KXL	0.022 25	C586	ECKD1H561KB	560P 50	C752	ECEA1CU470	47 16
C458	ECFTD223KXL	0.022 25	C587	ECFTD392KXL	0.0039 25	C753	ECKD1H103PF	0.01 50
C459	ECFTD682KXL	0.0068 25	C588	ECFTD392KXL	0.0039 25	C754	ECKD1H103PF	0.01 50
C460	ECFTD682KXL	0.0068 25	C589	ECEA1EK3R3	3.3 25	C755	ECEA1CU330	33 16
C461	ECEA1EK3R3	3.3 25	C590	ECEA1EK3R3	3.3 25	C771	ECQE1104KN	0.1 100
C462	ECEA1EK3R3	3.3 25	C601	ECEA1EK3R3	3.3 25	C781	ECEA1JU471	470 63
C463	ECEA0JK330	33 6.3	C602	ECEA1EK3R3	3.3 25	C791	ECKWNS103ZV	0.01 125
C464	ECEA0JK330	33 6.3	C603	ECQP1271JZ	270P 100	C811	ECEA1CKS100	10 16
C501	ECKD1H331KB	330P 50	C604	ECQP1271JZ	270P 100	C812	ECEA1CKS100	10 16
C502	ECKD1H331KB	330P 50	C605	ECEA1CK220	22 16	C813	ECEA1CKS100	10 16
C503	ECFTD333KXL	0.033 25	C606	ECEA1CK220	22 16	C814	ECEA1CKS100	10 16
C504	ECFTD333KXL	0.033 25	C607	ECCD1H100KC	10P 50	C815	ECEA1CKS100	10 16
C505	ECEA1EK3R3	3.3 25	C608	ECCD1H100KC	10P 50	C816	ECEA1CKS100	10 16
C506	ECEA1EK3R3	3.3 25	C609	ECCD1H151K	150P 50	C817	ECEA1CKS100	10 16
C509	ECEA1CKS100	10 16	C610	ECCD1H151K	150P 50	C818	ECEA1HK0R1	0.0039 50
C510	ECEA1CKS100	10 16	C611	ECKD1H223PF	0.022 50	C819	ECEA1HK0R1	0.0039 50
C511	ECCD1H120KC	12P 50	C612	ECKD1H223PF	0.022 50	C820	ECFTD473KXL	0.047 25
C512	ECCD1H120KC	12P 50	C613	ECEA1CU101	100 16	C821	ECFTD473KXL	0.047 25
C513	ECEA1EK3R3	3.3 25	C614	ECEA1HS330	33 50	C822	ECFTD183KXL	0.018 25
C514	ECEA1EK3R3	3.3 25	C615	ECEA2AU100	10 100	C823	ECFTD183KXL	0.018 25
C515	ECBT1E103ZF	0.01 25	C616	ECEA2AN2R2S	2.2 100	C824	ECFTD682KXL	0.0068 25
C516	ECEA1EK3R3	3.3 25	C617	ECQM1H681KF	680P 50	C825	ECFTD682KXL	0.0068 25
C517	ECKD1H103PF	0.01 50	C618	ECQM1H681KF	680P 50	C826	ECFTD272KXL	0.0027 25
C518	ECKD1H103PF	0.01 50	C651	ECEA1CKS100	10 16	C827	ECFTD272KXL	0.0027 25
C520	ECEA1EK3R3	3.3 25	C671	ECCD1H180KC	18P 50	C828	ECFTD122KXL	0.0012 25
C541	ECCD1H330K	33P 50	C672	ECCD1H180KC	18P 50	C829	ECFTD122KXL	0.0012 25
C542	ECCD1H330K	33P 50	C673	ECCD1H221K	220P 50	C830	ECKD1H561KB	560P 50
C543	ECCD1H101K	100P 50	C674	ECCC1H221K	220P 50	C831	ECKD1H561KB	560P 50
C551	ECFTD273KXL	0.027 25	C675	ECCD1H101K	100P 50	C832	ECEA1EK3R3	3.3 25
C552	ECFTD273KXL	0.027 25	C676	ECCD1H101K	100P 50	C851	ECFTD104KXL	0.1 25
C553	ECEA1HKR47	0.47 50	C677	ECCD1H101K	100P 50	C852	ECEA0JU101	100 6.3
C554	ECEA1HKR47	0.47 50	C678	ECCD1H101K	100P 50	C853	ECFTD104KXL	0.1 25
C555	ECFTD682KXL	0.0068 25	C679	ECCD1H101K	100P 50	C854	ECFTD104KXL	0.1 25
C556	ECFTD682KXL	0.0068 25	C680	ECCD1H101K	100P 50	C891	ECKD1H392KB	3900P 50
C557	ECEA1HKR22	0.22 50	C683	ECCD1H101K	100P 50	C901	ECEA0JS102	1000 6.3
C558	ECEA1HKR22	0.22 50	C684	ECCD1H101K	100P 50	C902	ECEA0JS102	1000 6.3
C559	ECFTD472KXL	0.0047 25	C685	ECKD1H103PF	0.01 50	C903	ECEA1HK010	1 50
C560	ECFTD472KXL	0.0047 25	C686	ECKD1H103PF	0.01 50	C905	ECKD1H331KB	330P 50
C561	ECFTD683KXL	0.068 25	C687	ECKD1H103PF	0.01 50	C910	ECKD1H103PF	0.01 50
C562	ECFTD683KXL	0.068 25	C688	ECKD1H103PF	0.01 50	C911	ECEA1HU3R3	3.3 50
C563	ECFTD152KXL	0.0015 25	C689	ECCD1H101K	100P 50	C912	ECEA1HK3R3	3.3 50
C564	ECFTD152KXL	0.0015 25	C690	ECCD1H101K	100P 50	C913	ECEA1HK3R3	3.3 50
C565	ECFTD333KXL	0.033 25	C693	ECCD1H820K	82P 50	C914	ECEA1VK100	10 35
C566	ECFTD333KXL	0.033 25	C694	ECCD1H820K	82P 50	C915	ECEA1HU101	100 50
C567	ECFTD102KXL	0.001 25	C695	ECCD1H331K	330P 50	C916	ECEA0JS102	1000 6.3
C568	ECFTD102KXL	0.001 25	C696	ECCD1H331K	330P 50	C917	ECKD1H102PF	0.001 50
C569	ECFTD822KXL	0.0082 25	C697	ECCD1H101K	100P 50	C918	RCBS1H150JCY	15P 50
C570	ECFTD822KXL	0.0082 25	C698	ECCD1H101K	100P 50	C919	ECEA1EK3R3	3.3 25
C571	ECCD1H820K	82P 50	C701	ECES1JU822U	8200 63	C922	ECKD1H331KB	330P 50
						C951	ECEA0JU101	100 6.3

## REPLACEMENT PARTS LIST

### Notes : \* Important safety notice :

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

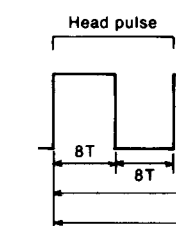
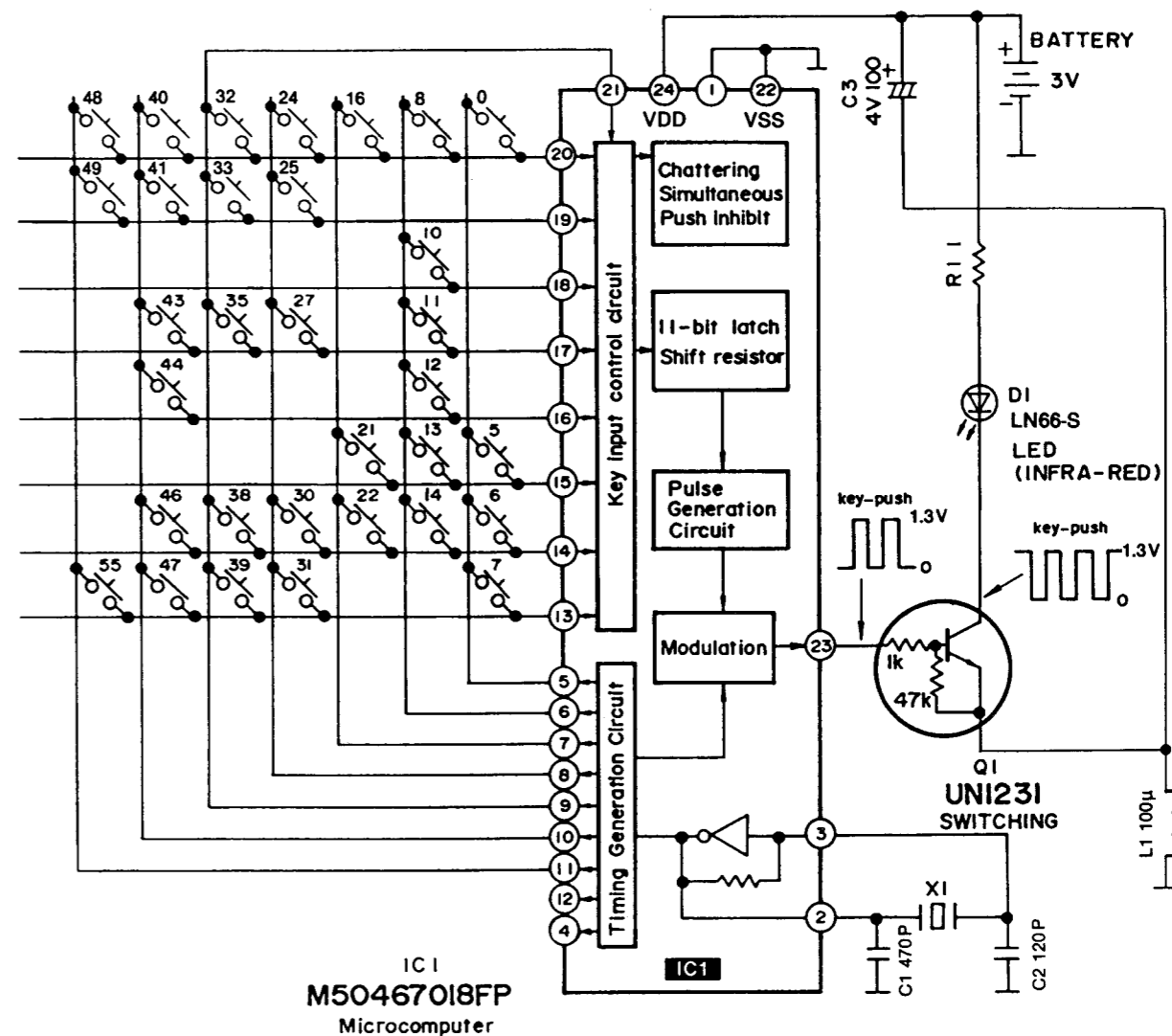
\* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)  
Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
<b>INTEGRATED CIRCUITS</b>			Q951	UN4115	TRANSISTOR
IC101	LM7001	I.C. PLL SYNTHESIZER	Q952	UN4115	TRANSISTOR
IC201	AN7273B	I.C. FM/AM IF AMP	Q953	UN4115	TRANSISTOR
IC301	SV1UPC1161C3	I.C. FM MULTIPLEX	Q954	UN4115	TRANSISTOR
IC401	TC9163N	I.C. INPUT SELECTOR	Q955	UN4115	TRANSISTOR
IC402	AN6552F	I.C. BUFFER AMP	Q956	UN4115	TRANSISTOR
IC451	AN6558F	I.C. PHONO EQ AMP	Q957	UN4115	TRANSISTOR
IC501	AN6558F	I.C. BUFFER AMP	Q958	UN4213	TRANSISTOR
IC502	LC4966	I.C. GRAPHIC EQ CONTROL	Q959	UN4213	TRANSISTOR
IC551	M5226P	I.C. GRAPHIC EQ AMP	Q960	UN4213	TRANSISTOR
IC552	M5226P	I.C. GRAPHIC EQ AMP	Q961	UN4213	TRANSISTOR
IC601	SV13205	I.C. POWER AMP	Q962	UN4213	TRANSISTOR
IC803	AN6554F	I.C. BAND PASS FILTER	Q963	UN4213	TRANSISTOR
IC804	AN6554F	I.C. BAND PASS FILTER	Q964	UN4213	TRANSISTOR
IC851	BA6218	I.C. MOTOR DRIVE	Q965	UN4115	TRANSISTOR
IC901	LC6554H3682	I.C. MICROCOMPUTOR	Q966	UN4115	TRANSISTOR
IC902	AN90B70	I.C. DATA COAD DET	Q967	UN4115	TRANSISTOR
IC951	BA6148	I.C. FL DRIVE	Q968	UN4115	TRANSISTOR
<b>TRANSISTORS</b>			Q969	UN4115	TRANSISTOR
Q101	2SC2785FE	TRANSISTOR	Q970	UN4115	TRANSISTOR
Q102	2SC2785FE	TRANSISTOR	Q971	UN4115	TRANSISTOR
Q201	2SC2787L	TRANSISTOR	Q972	UN4115	TRANSISTOR
Q202	2SC2787L	TRANSISTOR	Q973	UN4115	TRANSISTOR
Q204	2SC1740SQ	TRANSISTOR	<b>DIODES</b>		
Q205	2SC1740SQ	TRANSISTOR	D101	MA165	DIODE
Q206	2SA933SQR	TRANSISTOR	D202	MA4110M	DIODE
Q207	2SC1740SQ	TRANSISTOR	D204	MA165	DIODE
Q208	2SA933SQR	TRANSISTOR	D206	MA165	DIODE
Q209	2SA933SQR	TRANSISTOR	D301	MA165	DIODE
Q210	2SC1740SQ	TRANSISTOR	D551	MA4030M	DIODE
Q301	2SD1450RS	TRANSISTOR	D552	MA4030M	DIODE
Q302	2SD1450RS	TRANSISTOR	D601	MA4120	DIODE
Q303	2SA933SQR	TRANSISTOR	D602	MA4120	DIODE
Q501	2SJ40CD	TRANSISTOR	D651	MA165	DIODE
Q502	2SJ40CD	TRANSISTOR	D652	MA4051-M	DIODE
Q503	2SK117-GR	TRANSISTOR	D653	MA165	DIODE
Q504	2SK117-GR	TRANSISTOR	D701	$\Delta$ SVDS3V40	DIODE
Q505	UN4111	TRANSISTOR	D702	$\Delta$ SVDS3V40	DIODE
Q506	UN4211	TRANSISTOR	D703	$\Delta$ SVDS3V40	DIODE
Q507	UN4211	TRANSISTOR	D704	$\Delta$ SVDS3V40	DIODE
Q508	UN4111	TRANSISTOR	D705	MA4062-M	DIODE
Q509	UN4211	TRANSISTOR	D706	MA4062-M	DIODE
Q510	2SJ40CD	TRANSISTOR	D709	MA4300M	DIODE
Q513	UN4211	TRANSISTOR	D710	MA29WA	DIODE
Q514	UN4211	TRANSISTOR	D711	MA4150M	DIODE
Q551	2SC2603EFG	TRANSISTOR	D712	MA165	DIODE
Q552	2SC2603EFG	TRANSISTOR	D713	MA165	DIODE
Q553	2SC2603EFG	TRANSISTOR	D751	$\Delta$ SVD1SR35200A	DIODE
Q554	2SC2603EFG	TRANSISTOR	D752	$\Delta$ SVD1SR35200A	DIODE
Q601	2SA684-RNC	TRANSISTOR	D753	$\Delta$ SVD1SR35200A	DIODE
Q651	2SC3311A-Q	TRANSISTOR	D754	$\Delta$ SVD1SR35200A	DIODE
Q652	2SA1309AQS	TRANSISTOR	D755	MA165	DIODE
Q701	2SD1761DEF	TRANSISTOR	D756	MA165	DIODE
Q702	2SD1761DEF	TRANSISTOR	D757	MA4063M	DIODE
Q703	2SC2631QRS	TRANSISTOR	D781	$\Delta$ SVD1SR35200A	DIODE
Q704	2SC2631QRS	TRANSISTOR	D818	MA165	DIODE
Q705	2SC1384A-R	TRANSISTOR	D819	MA165	DIODE
Q708	2SB1187DEF	TRANSISTOR	D820	MA165	DIODE
Q709	2SC2631QRS	TRANSISTOR	D821	MA165	DIODE
Q710	2SB1185DEF	TRANSISTOR	D822	MA165	DIODE
Q711	UN4211	TRANSISTOR	D823	MA165	DIODE
Q712	2SA1309AQS	TRANSISTOR	D824	MA165	DIODE
Q713	UN4215	TRANSISTOR	D891	MA165	DIODE
Q751	2SC3311A-Q	TRANSISTOR	D892	LN846RP	L.E.D
Q752	2SC1384A-R	TRANSISTOR	D901	MA165	DIODE
Q891	UN4113	TRANSISTOR	D902	MA165	DIODE
Q892	UN4215	TRANSISTOR	D903	MA165	DIODE
Q893	UN4215	TRANSISTOR	D904	MA165	DIODE
Q894	UN4215	TRANSISTOR	D905	MA165	DIODE
Q901	2SC1740SQ	TRANSISTOR	D906	MA165	DIODE
Q902	UN4215	TRANSISTOR	D907	MA165	DIODE

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D908	MA165	DIODE	Z891	GPIU509M	DIODE, REMOTE SENSOR
D909	MA165	DIODE	Z901	EXFP12331MF	COMPONENT COMBINATION
D910	MA165	DIODE	Z902	EXBF8E473J	COMPONENT COMBINATION
D911	MA165	DIODE	Z903	EXBF9E103J	COMPONENT COMBINATION
D912	MA4063M	DIODE	Z904	EXBF8E103J	COMPONENT COMBINATION
D914	MA165	DIODE	Z905	EXBF9E103J	COMPONENT COMBINATION
D915	MA165	DIODE	Z951	EXBF10E104J	100K Ω X 10
D919	MA165	DIODE	<b>FILTERS</b>		
D921	MA165	DIODE	CF201	SVFE107MM-A	CERAMIC FILTER
D922	MA165	DIODE	CF201	SVFE107MM-D	CERAMIC FILTER
D951	MA165	DIODE	CF201	SVFE107MM-E	CERAMIC FILTER
D952	MA165	DIODE	CF202	SVFE107MZ-A	CERAMIC FILTER
D953	MA165	DIODE	CF202	SVFE107MZ-D	CERAMIC FILTER
D954	MA165	DIODE	CF202	SVFE107MZ-E	CERAMIC FILTER
D955	MA165	DIODE	CF901	EF0FC4004A4	CERAMIC FILTER
D956	MA165	DIODE	<b>OSCILLATORS</b>		
D957	MA165	DIODE	X101	SVQ49U722-S	CRYSTAL OSCILLATOR
D958	MA4075M	DIODE	<b>DISPLAYS</b>		
D959	MA4075M	DIODE	FL901	SADB6541GK	DISPLAY TUBE
D960	MA165	DIODE	<b>FRONT PACKS</b>		
<b>VARIABLE RESISTORS</b>			TN101	SNVFE337G01	TUNER PACK
VR301	EVND4AA00B53	V.R. MPX VCO	<b>LAMPS</b>		
VR302	EVND4AA00B53	V.R. SEPARATION	PL1	SWL126-1	LAMP
VR501	EUMV7F20B15	V.R. BALANCE	<b>FUSES</b>		
VR502	EWHFDAF20G15	V.R. MAIN	F1	XBA2C12TR0	FUSE
VR551	EVBJJAJ15G15	V.R. EQ	<b>SWITCHES</b>		
VR552	EVBJJAJ15G15	V.R. EQ	S1	EVQQB005R	SW. PRESET TUNING
VR553	EVBJJAJ15G15	V.R. EQ	S2	EVQQB005R	SW. PRESET TUNING
VR554	EVBJJAJ15G15	V.R. EQ	S3	EVQQB005R	SW. PRESET TUNING
VR555	EVBJJAJ15G15	V.R. EQ	S4	EVQQB005R	SW. PRESET TUNING
VR556	EVBJJAJ15G15	V.R. EQ	S5	EVQQB005R	SW. PRESET TUNING
VR557	EVBJJAJ15G15	V.R. EQ	S6	EVQQB005R	SW. PRESET TUNING
<b>POSISTORS</b>			S7	EVQQB005R	SW. PRESET TUNING
PS601	SRPBD47101	POSISTOR	S8	EVQQB005R	SW. PRESET TUNING
<b>COILS AND TRANSFORMERS</b>			S9	EVQQB005R	SW. PRESET TUNING
L101	RLQZPR47KT-Y	CHOKE COIL	S10	EVQQB005R	SW. PRESET TUNING
L102	RLQZP1R2KT-Y	CHOKE COIL	S11	EVQQB005R	SW. MEMORY/GROUP
L203	ELEPK1ROMA	COIL	S12	EVQQB005R	SW. FM MODE SELECT
L204	ELEPK1ROMA	COIL	S13	EVQQB005R	SW. BAND SELECT(FM)
L321	SLM1B9-P	MPX COIL	S14	EVQQB005R	SW. BAND SELECT(AM)
L322	SLM1B9-P	MPX COIL	S16	EVQQB005R	SW. TUNING(MANUAL)
L324	SLM1B10-M	COIL	S17	EVQQB005R	SW. TUNING(AUTE)
L325	RLQZP1R2KT-Y	CHOKE COIL	S18	EVQQB005R	SW. CHANGE MODE SELECT
L601	SLQY07G-40	CHOKE COIL	S19	EVQQB005R	SW. ASSRT MODE SELECT
L602	SLQY07G-40	CHOKE COIL	S20	EVQQB005R	SW. GROUP SELECT
L791	SLQX400-D	COIL	S21	EVQQB005R	SW. MEMORY
L792	SLQX400-D	COIL	S22	EVQQB005R	SW. LOUDNESS
L851	ELEPK1ROMA	COIL	S23	EVQQB005R	SW. PHONO
L852	ELEPK1ROMA	COIL	S24	EVQQB005R	SW. TUNER
L853	RLQZP101KT-Y	COIL	S25	EVQQB005R	SW. CD
L893	RLQZP101KT-Y	COIL	S26	EVQQB005R	SW. VCR1
L902	RLQZP101KT-Y	COIL	S27	EVQQB005R	SW. VCR2
T201	SLI4B511-Z	I.F. TRANSFORMER	S601	SSH2137	SW. SP SELECT
T202	SLI4B513-Z	I.F. TRANSFORMER	S701	SSH1238	SW. POWER
T701	SLT5U70-W	POWER TRANSFORMER	S702	SSH1193	SW. SP IMPEDANCE
T751	SLT5128	POWER TRANSFORMER	<b>RELAYS</b>		
<b>COMPONENT COMBINATIONS</b>			RL601	SSY134	RELAY
Z201	SLA2Z1-T	COIL	RL751	SSY140	RELAY
Z202	SLI7Z101-T	I.F. TRANSFORMER			
Z321	SLA4Z13-Z	ANTENNA COIL			

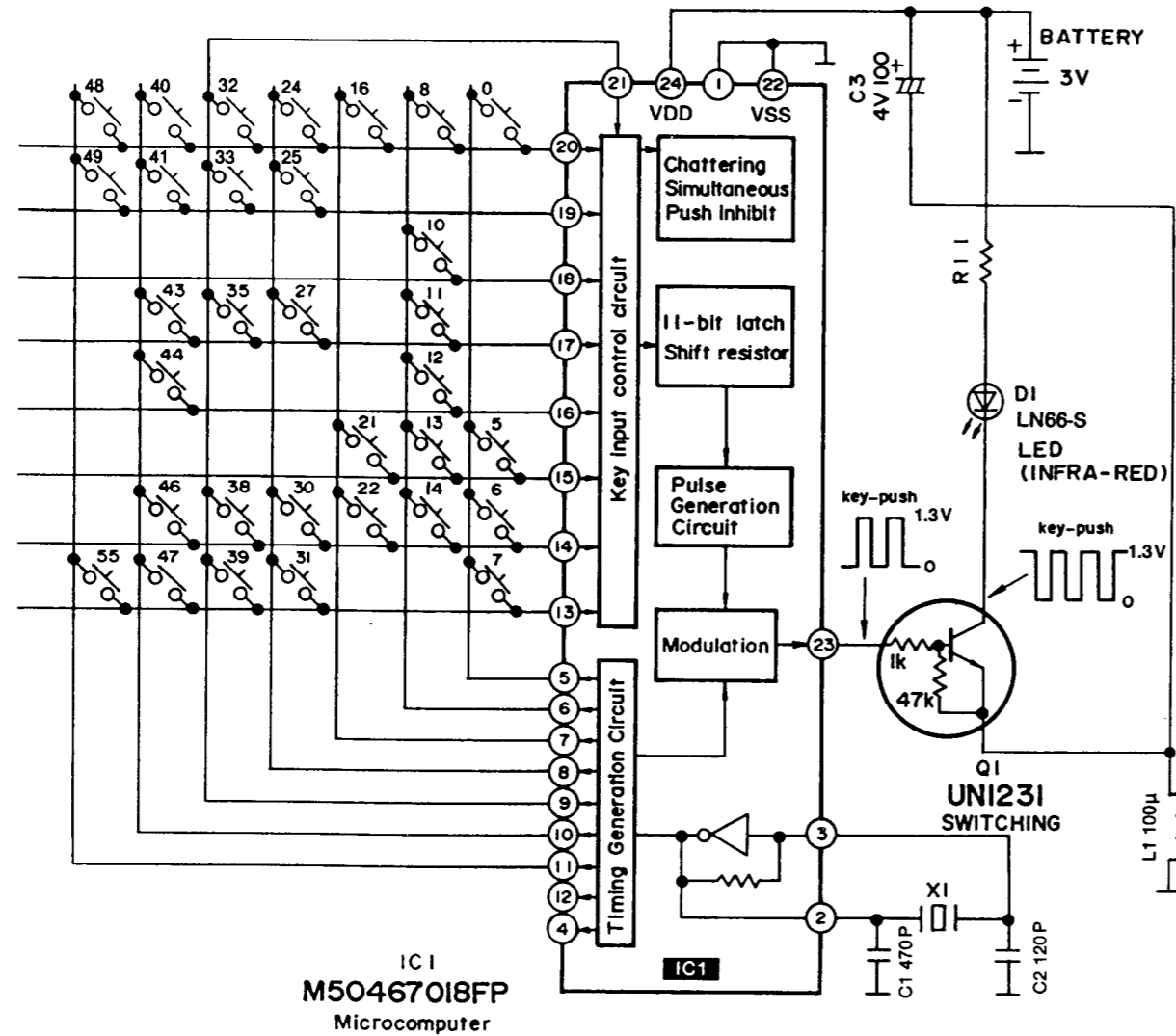
## SCHEMATIC DIAGRAM OF REMOTE-CONTROL TRANSMITTER

• KEY NUM



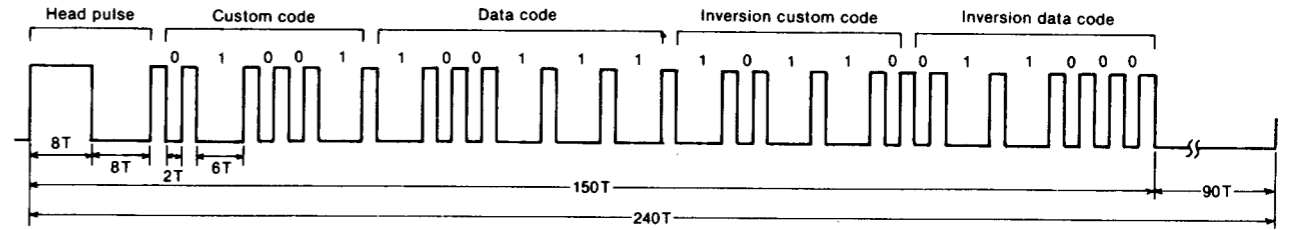
Key No.	
0	CD 5
5	▲ vo
6	Tuner
7	Power
8	CD 6
10	prog
11	CD ▶
12	Deck
13	▼ vo
14	Tuner
16	CD 7
21	mutin
22	Tuner
24	CD 8
25	CD 1
27	CD ■

■ SCHEMATIC DIAGRAM OF REMOTE-CONTROL TRANSMITTER



• KEY NUMBER DESCRIPTION AND DATA CODE (Example key No. 21)

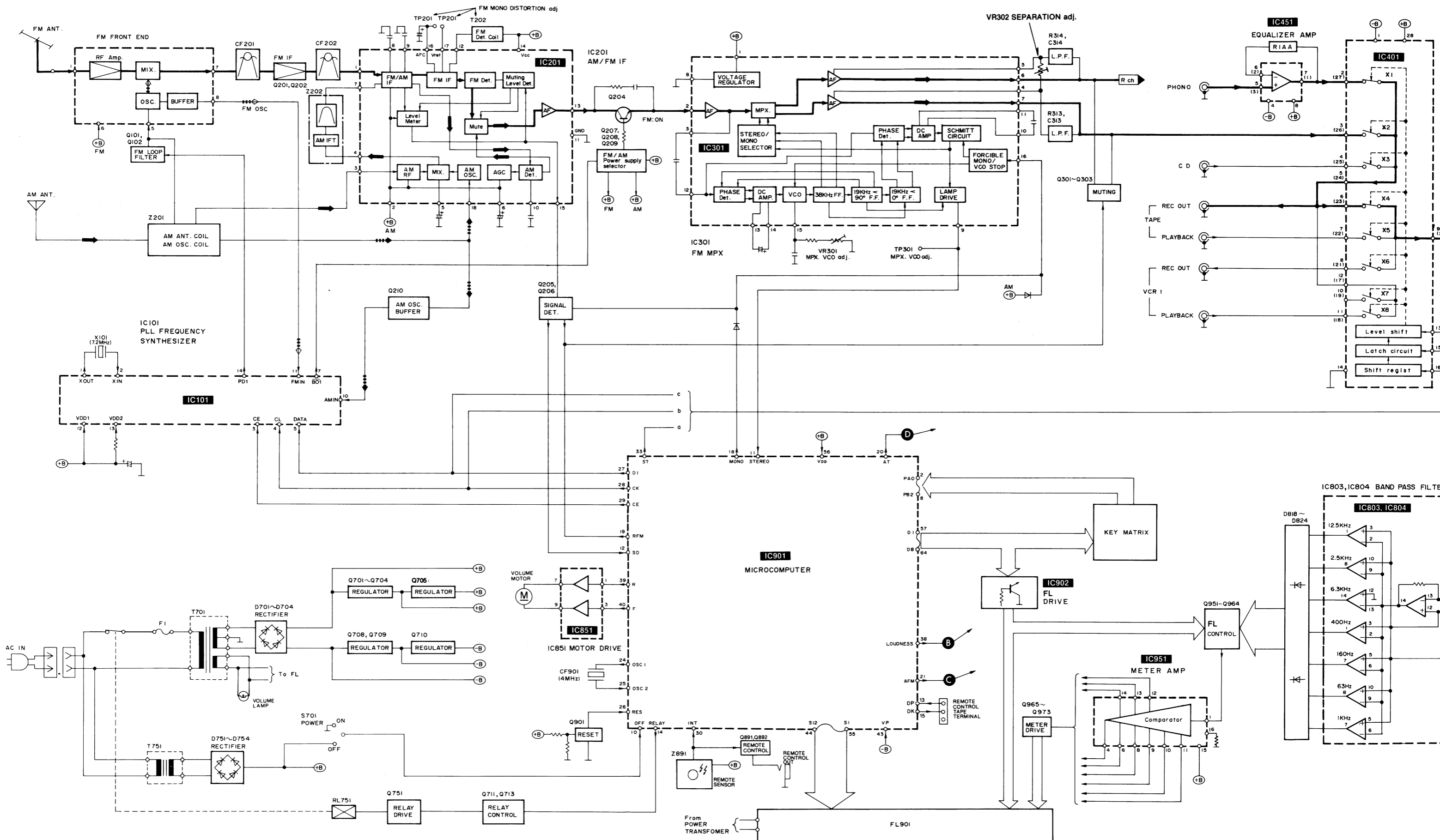
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fcar=fosc/12  
fclk=fcar/16  
T=1/fclk

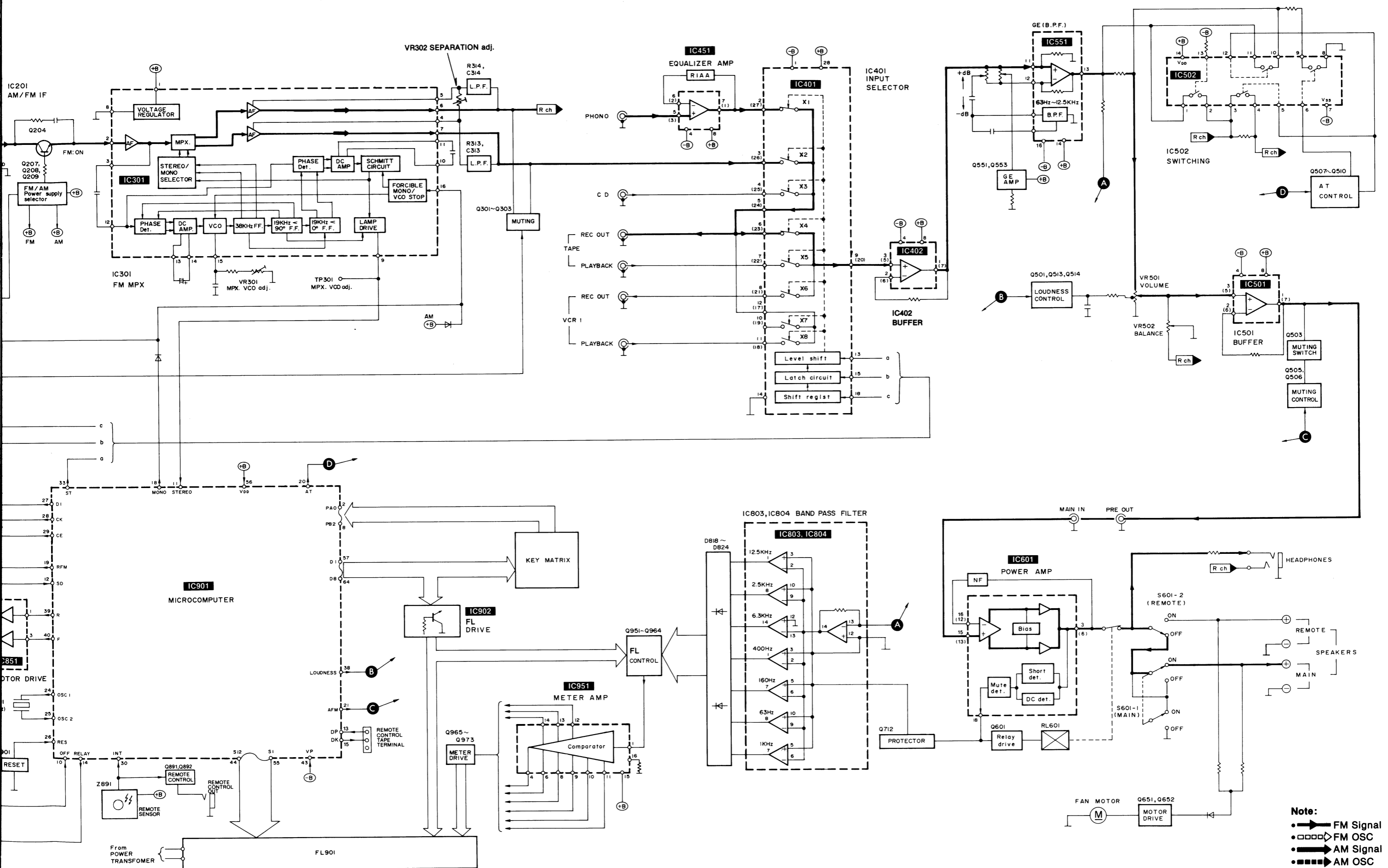


Key No.	Function	Custom code	Data code	Key No.	Function	Custom code	Data code
0	CD 5	01100	010100	30	Tuner 8	01001	010111
5	▲ volume	01001	100100	31	Tuner 1	01001	010000
6	Tuner 5	01001	010100	32	CD 9	01100	011000
7	Power on/off	01001	100000	33	CD 2	01100	010001
8	CD 6	01100	010101	35	CD ◀ skip	01100	000010
10	program/continue	01100	011101	38	Tuner 9	01001	011000
11	CD ▶ play	01100	001010	39	Tuner 2	01001	010001
12	Deck ▶ play	01001	001010	40	CD 10	01100	011001
13	▼ volume	01001	100101	41	CD 3	01100	010010
14	Tuner 6	01001	010101	43	CD ▶▶ skip	01100	000011
16	CD 7	01100	010110	44	Deck ■ stop	01001	000000
21	muting	01001	100111	46	Tuner 10	01001	011001
22	Tuner 7	01001	010110	47	Tuner 3	01001	010010
24	CD 8	01100	010111	48	CD +10	01100	011010
25	CD 1	01100	010000	49	CD 4	01100	010011
27	CD ■ stop	01100	000000	55	Tuner 4	01001	010011



BLOCK DIAGRAM

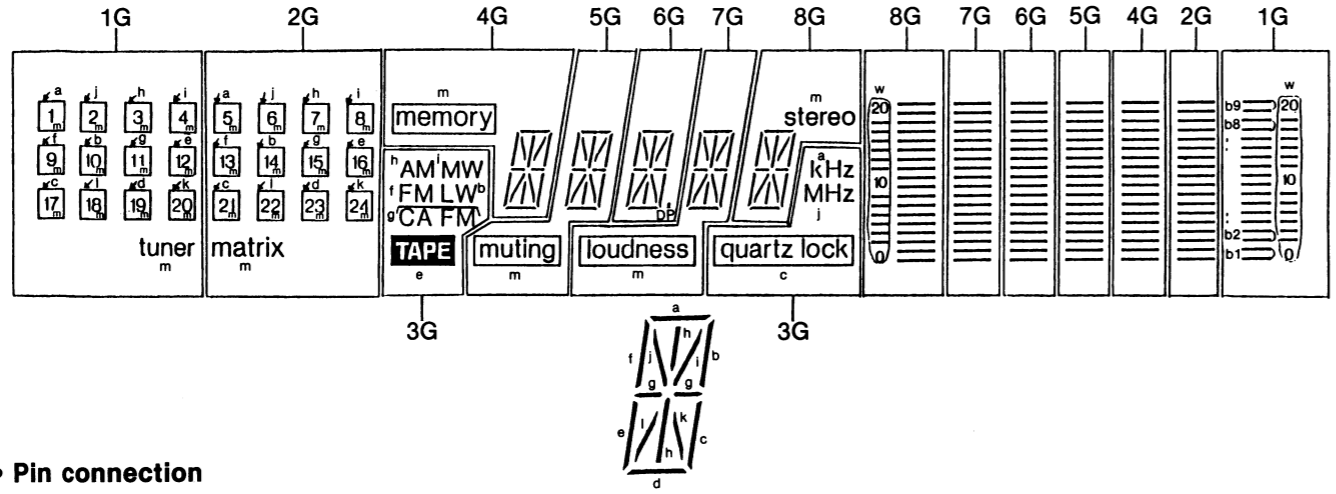




**Note:**  
 ●—— FM Signal  
 ○—— FM OSC  
 ▲—— AM Signal  
 ○—— AM OSC

### DESCRIPTION OF FLUORESCENT DISPLAY

• Grid assignment



• Pin connection

PIN NO.	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29
CONNECTION	N	F	N	N	N	k	d	l	c	e	g	b	f	i	h	j	a	N	N	N	1	N	2	N	3	N	4	N	N	5	N	6	N	7	G
PIN NO.	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1							
CONNECTION	N	N	8	N	m	N	N	N	N	N	N	N	w	n	o	p	q	r	s	t	u	v	N	N	N	F	N	P							

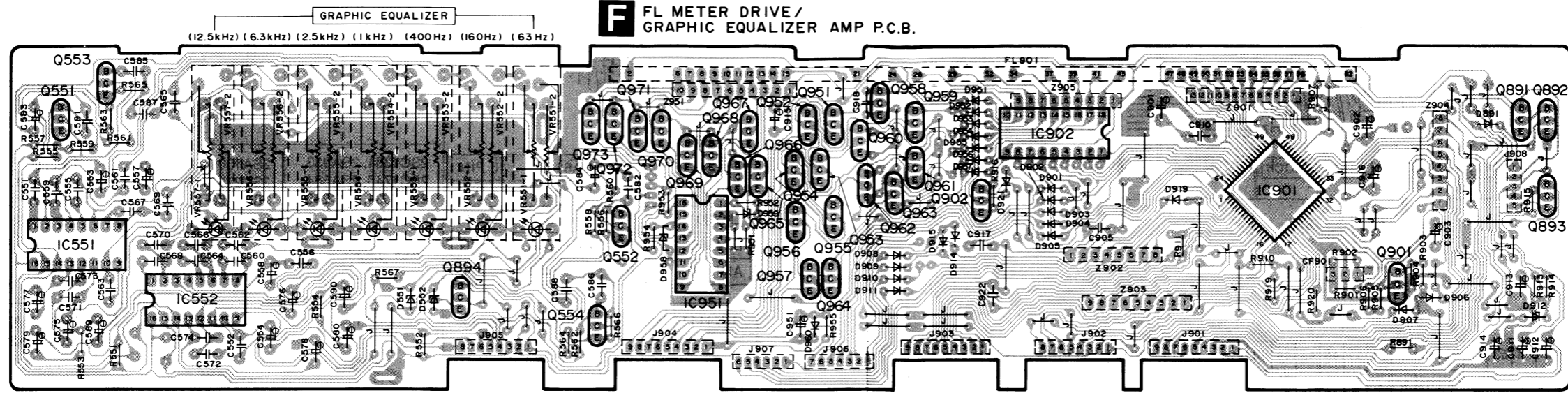
• Anode connection

	1G	2G	3G	4G	5G	6G	7G	8G
a	□ 1	□ 5	KHz	a	a	a	a	a
b	□ 10	□ 14	LW	b	b	b	b	b
c	□ 17	□ 21	quartz lock	c	c	c	c	c
d	□ 19	□ 23	-	d	d	d	d	d
e	□ 12	□ 16	TAPE	e	e	e	e	e
f	□ 9	□ 13	FM	f	f	f	f	f
g	□ 11	□ 15	CAFm	g	g	g	g	g
h	□ 3	□ 7	AM	h	h	h	h	h
i	□ 4	□ 8	MW	i	i	i	i	i
j	□ 2	□ 6	MHz	j	j	j	j	j
k	□ 20	□ 24	-	k	k	k	k	k
l	□ 18	□ 22	-	l	l	l	l	l
m	1-4 9-12 17-20 tuner	5-8 13-16 21-24 matrix	-	memory	muting	D.P	loudness	stereo
n	≡ b1	≡ b1	-	≡ b1	≡ b1	≡ b1	≡ b1	≡ b1
o	≡ b2	≡ b2	-	≡ b2	≡ b2	≡ b2	≡ b2	≡ b2
p	≡ b3	≡ b3	-	≡ b3	≡ b3	≡ b3	≡ b3	≡ b3
q	≡ b4	≡ b4	-	≡ b4	≡ b4	≡ b4	≡ b4	≡ b4
r	≡ b5	≡ b5	-	≡ b5	≡ b5	≡ b5	≡ b5	≡ b5
s	≡ b6	≡ b6	-	≡ b6	≡ b6	≡ b6	≡ b6	≡ b6
t	≡ b7	≡ b7	-	≡ b7	≡ b7	≡ b7	≡ b7	≡ b7
u	≡ b8	≡ b8	-	≡ b8	≡ b8	≡ b8	≡ b8	≡ b8
v	≡ b9	≡ b9	-	≡ b9	≡ b9	≡ b9	≡ b9	≡ b9
w	20~0	-	-	-	-	-	-	20~0

### TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

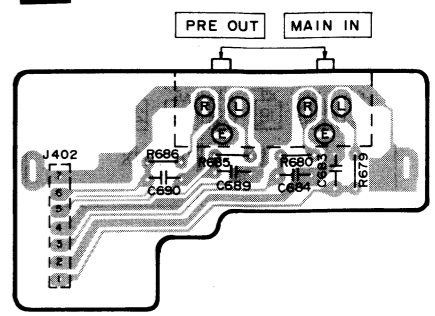
 AN6554 14 PIN AN6552F 8 PIN AN6558F 8 PIN LM7001 8 PIN LC4966 14 PIN AN7470 16 PIN	LC6554H3682 (64 PIN) 	SVI3205 (18 PIN) 	BA6218 (9 PIN) 	
	AN6148 16 PIN M5226P 16 PIN AN90B70 18 PIN AN7273A 18 PIN TC9163N 28 PIN	2SC1384, 2SA933, 2SC1740, 2SA684, 2SC2631, 2SC2603 	2SA1309, 2SC2785, 2SC2787, 2SC3311, 2SD1450 	2SK117, 2SJ40CD, 2SK381 
	UN4111, UN4113 	UN4211, UN4213 	UN4115 	UN4215 
	MA4051M, MA4068M, MA4062M, MA4075M, MA4150M, MA4110M, MA4300M, MA4120M, MA4030M 	LN846RP 	2SB1187, 2SD1761 	2SC684 
	SVDS3V20, MA165, 1SR35200, MA29WA 			

PRINTED CIRCUIT BOARDS

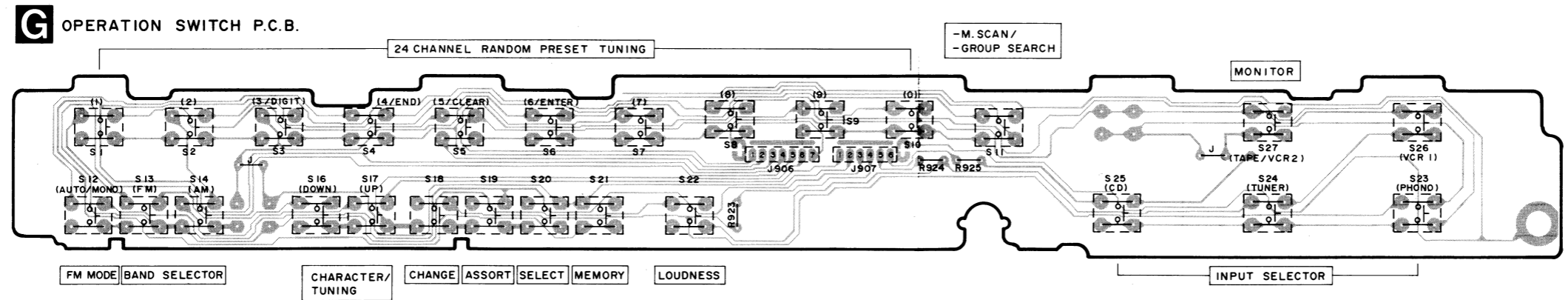
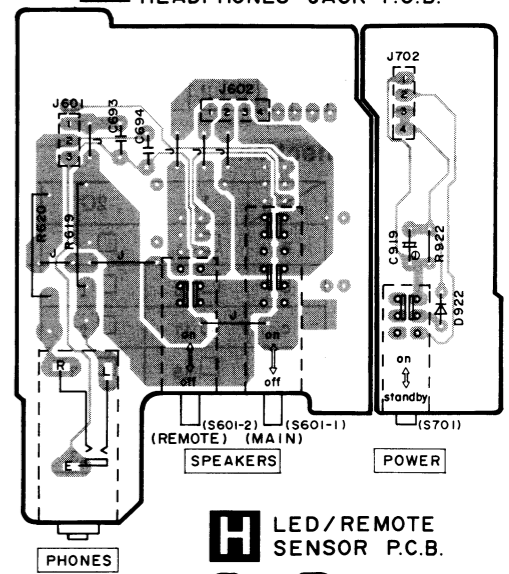


**F** FL METER DRIVE / GRAPHIC EQUALIZER AMP P.C.B.

**C** INPUT/OUTPUT TERMINAL P.C.B.

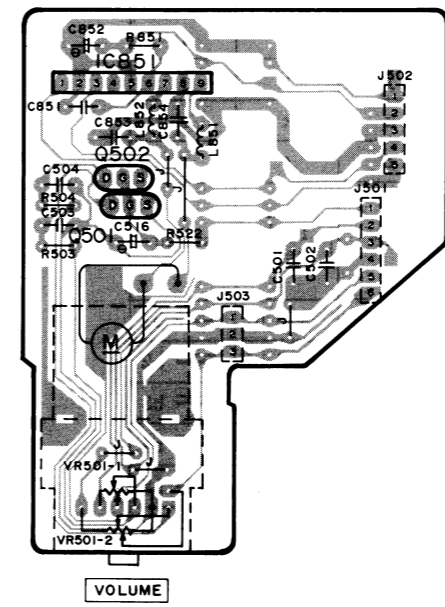


**I** POWER SWITCH / SPEAKER SWITCH / HEADPHONES JACK P.C.B.

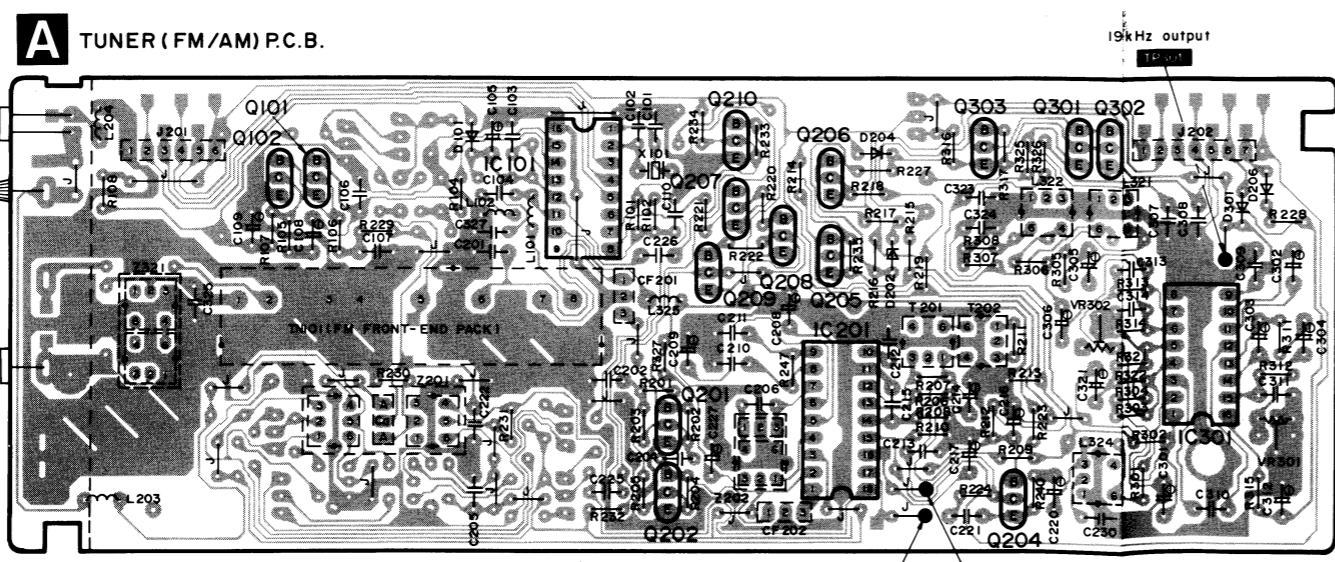
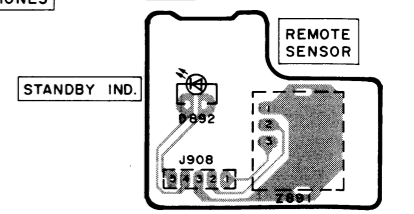


**G** OPERATION SWITCH P.C.B.

**E** VOLUME / MOTOR DRIVE P.C.B.

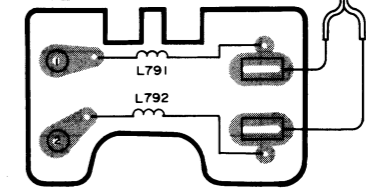


**H** LED / REMOTE SENSOR P.C.B.

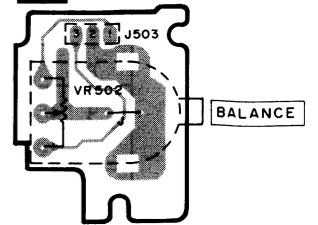


**A** TUNER (FM/AM) P.C.B.

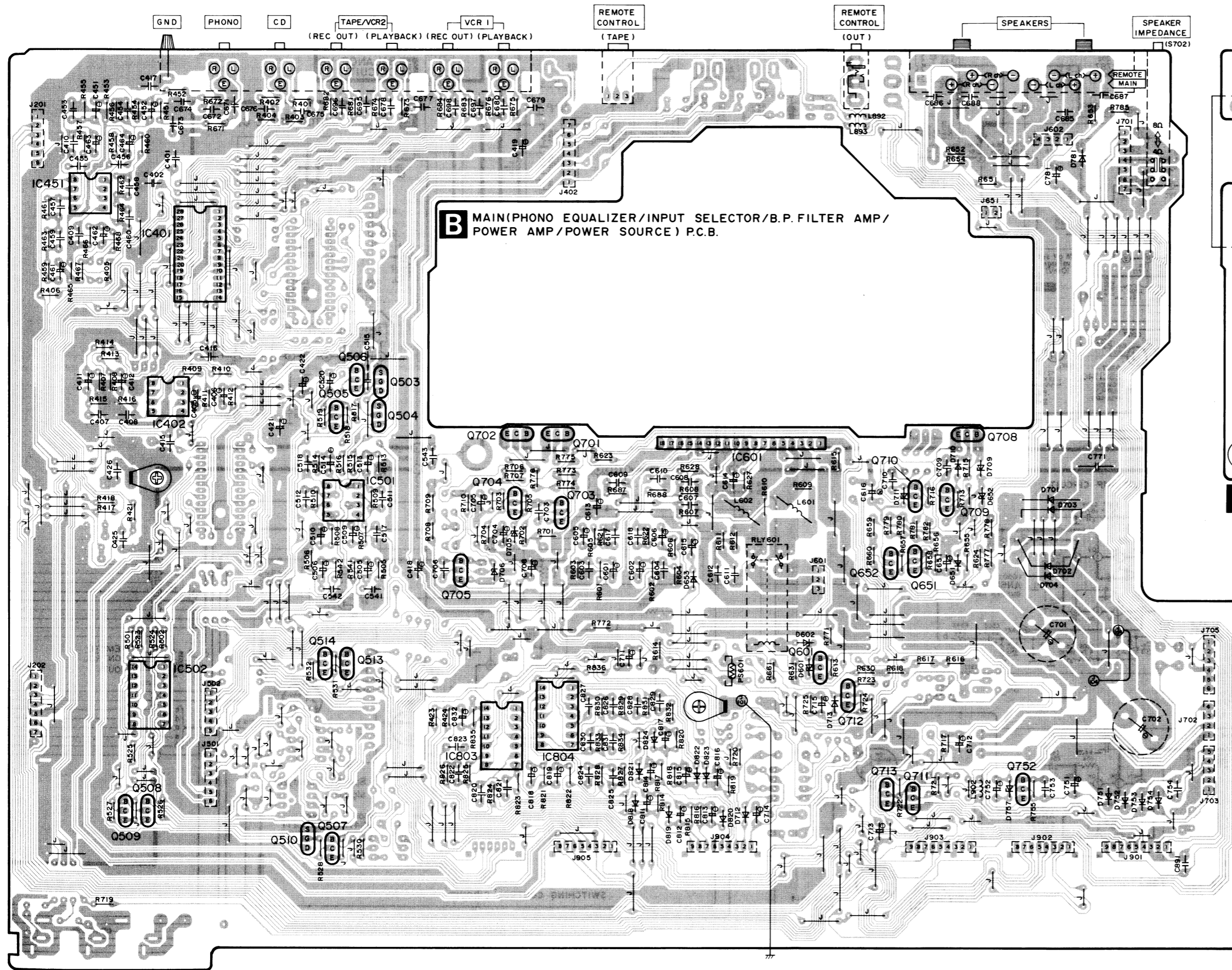
**K** AC IN TERMINAL P.C.B.



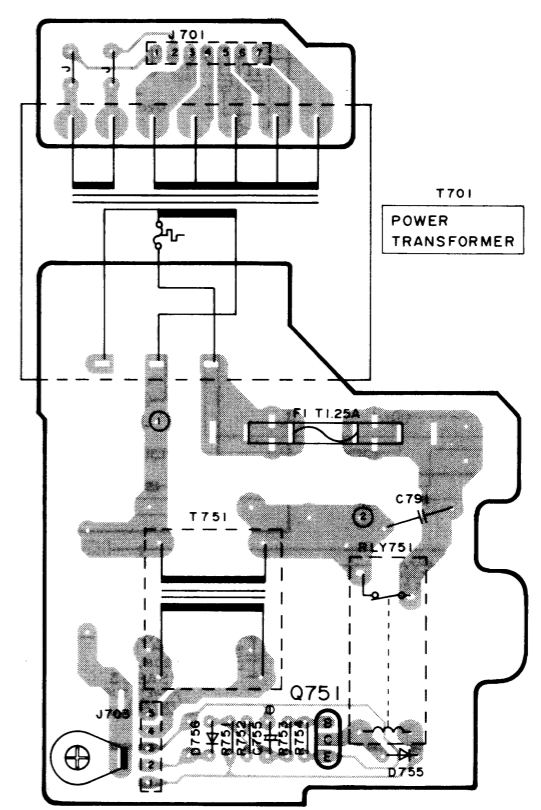
**D** BALANCE VR P.C.B.



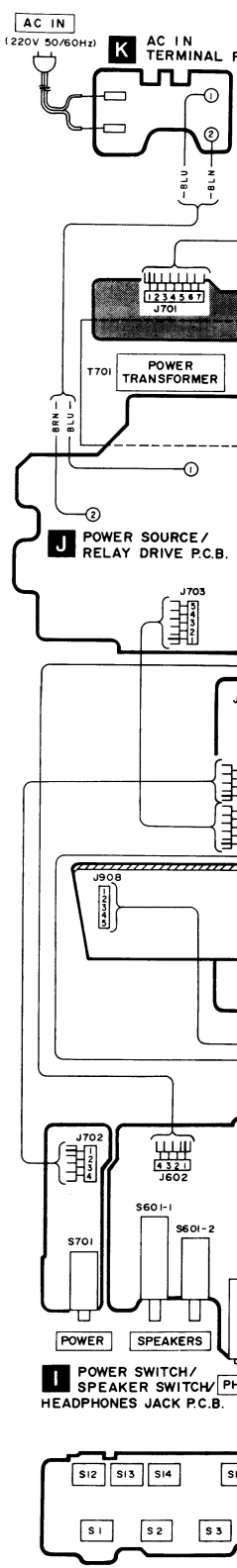
FM off set voltage (0mV)



**B** MAIN (PHONO EQUALIZER/INPUT SELECTOR/B.P. FILTER AMP/ POWER AMP/POWER SOURCE) P.C.B.



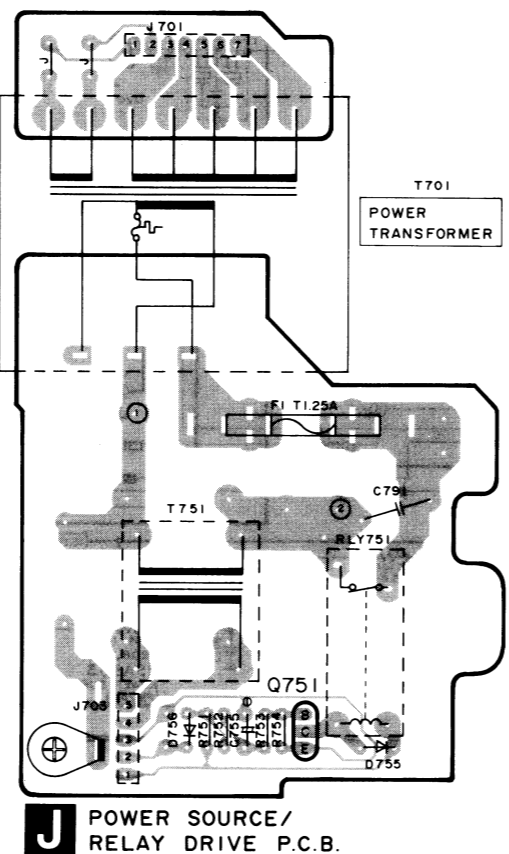
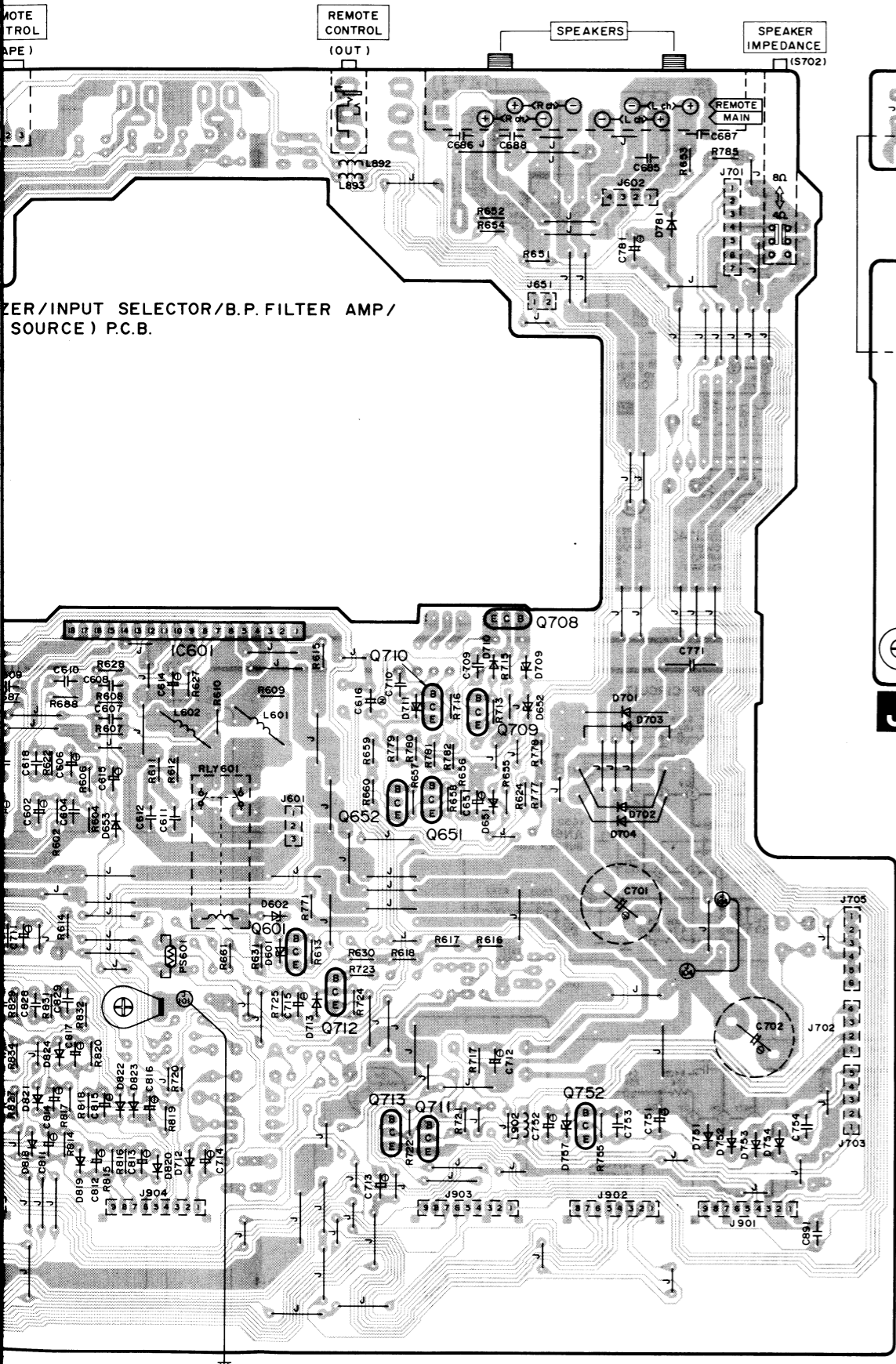
**J** POWER SOURCE/ RELAY DRIVE P.C.B.



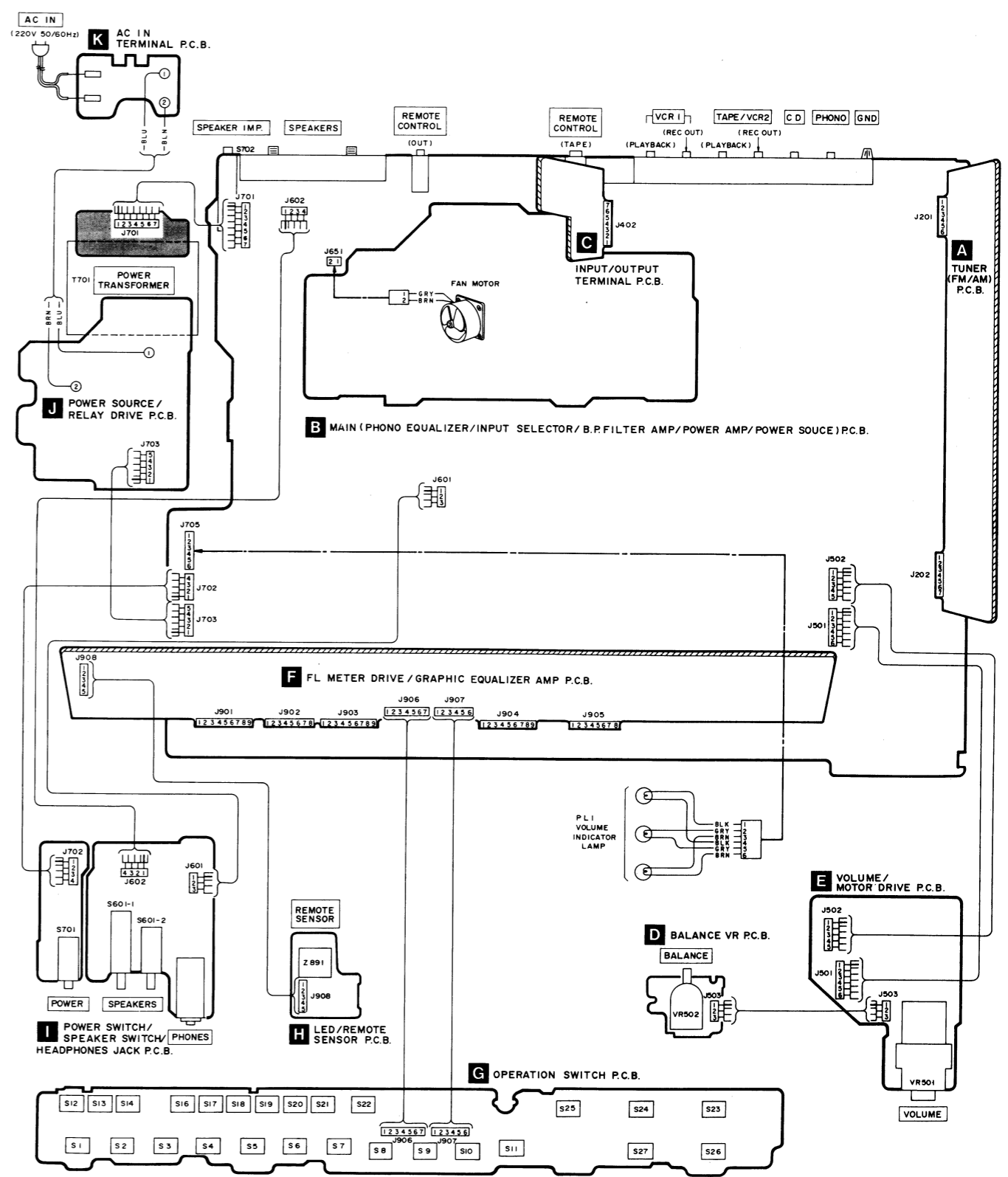
**K** AC IN TERMINAL P.C.B.

**L** POWER SOURCE/ RELAY DRIVE P.C.B.

**M** POWER SWITCH/ SPEAKER SWITCH/ PH HEADPHONES JACK P.C.B.



### WIRING CONNECTION DIAGRAM

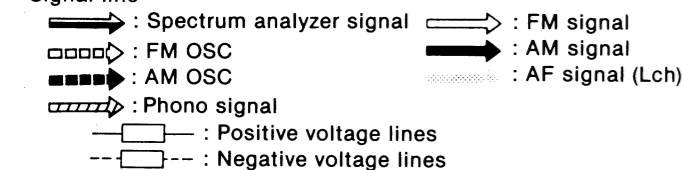


# SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology)

**Note 1:**

- **S1~S10** : Preset tuning switches.  
[S1: 1, S2: 2, S3: 3, S4: 4, S5: 5,  
S6: 6, S7: 7, S8: 8, S9: 9, S10: 0]
- **S11** : Memory-scan/group-search switch.
- **S12** : FM mode select switch. (AUTO→MONO)
- **S13, S14** : Band selectors.  
S13: FM, S14: AM
- **S16, S17** : Character-input/tuning switches.  
S16: manual, S17: auto
- **S18** : Change-mode selector.
- **S19** : Assort-mode selector.
- **S20** : Group select switch.
- **S21** : Memory switch.
- **S22** : Loudness switch.
- **S23~S27** : Input selector switches.  
[S23: phono, S24: tuner, S25: CD,  
S26: VCR1, S27: tape/VCR2]
- **S601-1, S601-2** : Speaker selectors.  
S601-1: main, S601-2: remote
- **S701** : Power switch in "on" position.
- **S702** : Speaker impedance selector.



**Important safety notice:**

Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts. Indicated voltage values are standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on internal impedance of the DC circuit tester.

All voltage values shown in circuitry are DC voltage in FM signal (Stereo signal) reception mode.

\* Figures in ( ) Stand for DC-voltage in AM signal reception mode

**Caution!**  
IC and LSI are sensitive to static electricity. Secondary trouble can be prevented by taking care during repair.

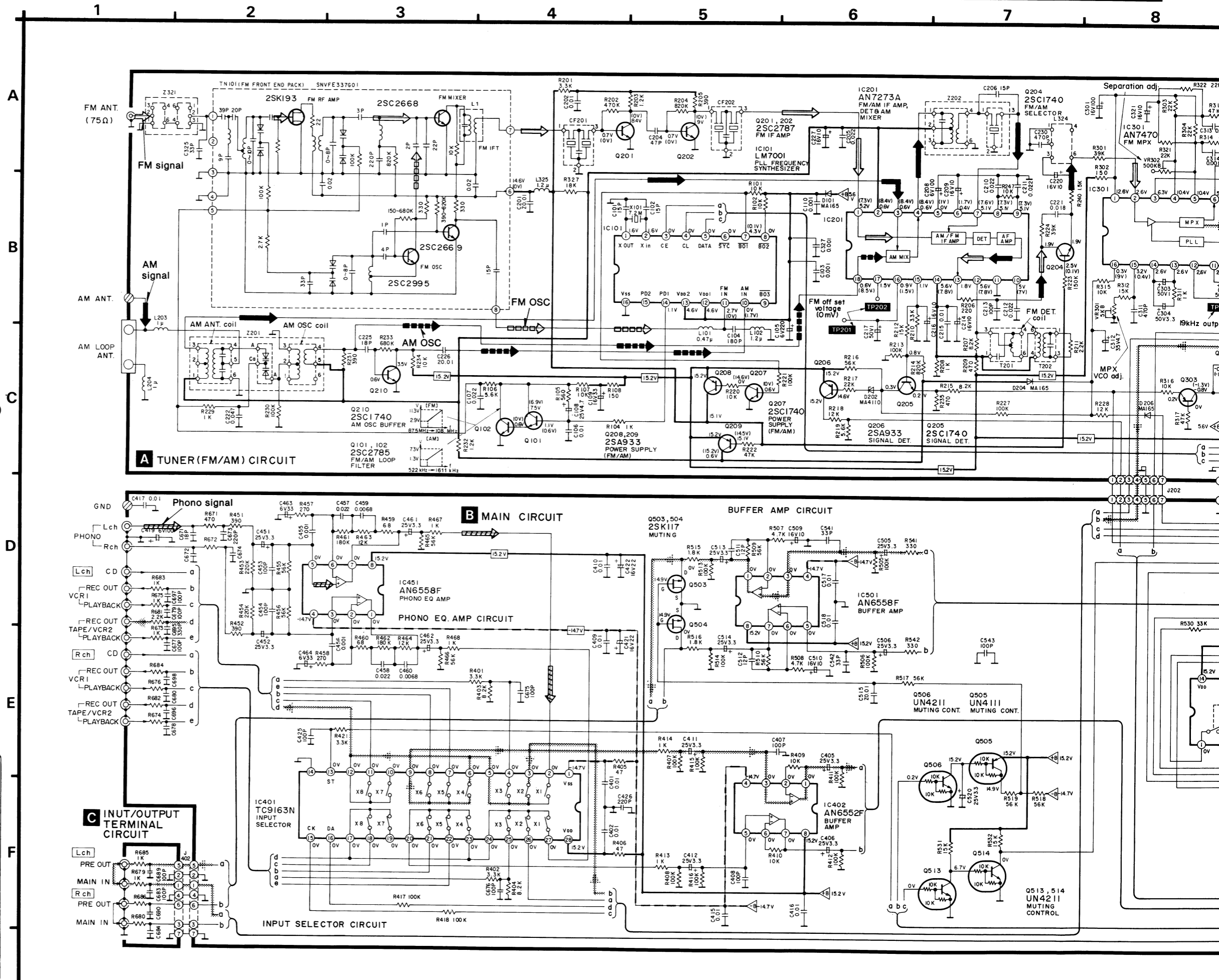
- \* Cover the parts boxes made of plastics with aluminum foil.
- \* Ground the soldering iron.
- \* Put a conductive mat on the work table.
- \* Do not touch the legs of IC or LSI with the fingers directly.

**Note2:**

**Use of ceramic filters in pairs**  
The ceramic filters (CF201, CF202) for FM-IF circuit are available in three ranks. For this circuit, be sure to use the ceramics of the same rank in a pair.  
At repairing and replacement, pay close attention to the diodes (D914, D915) for use as different diodes must be used depending on each rank of the ceramic filters.

Color marking (Red, Black or White)	RANK (Color)	D914	D915	CENTER FREQUENCY
Black	Black	○	×	10.65MHz
Red	Red	×	×	10.70MHz
White	White	×	○	10.75MHz

Note: ○ mark: Diode is used.  
× mark: Diode is not used.





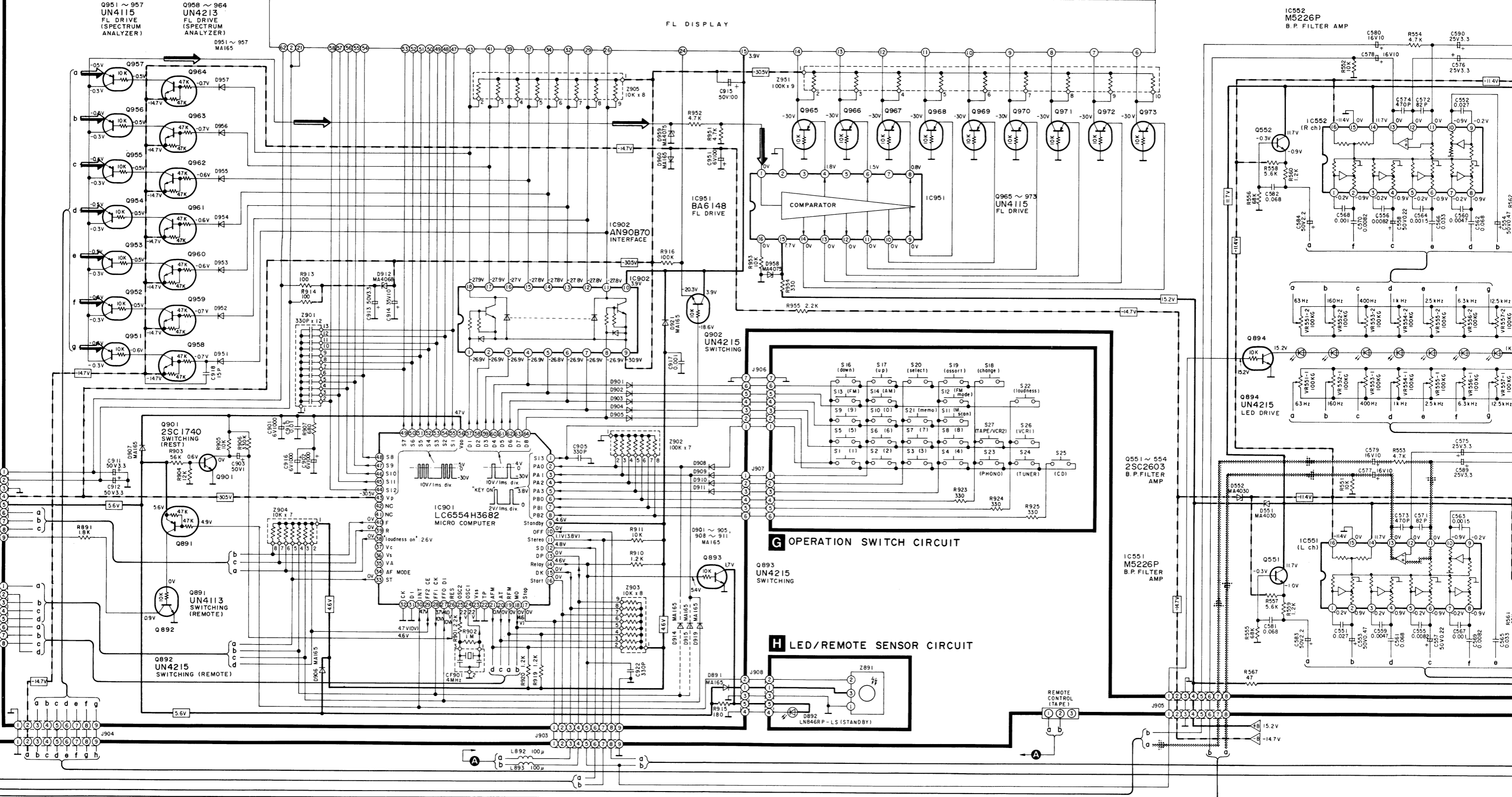


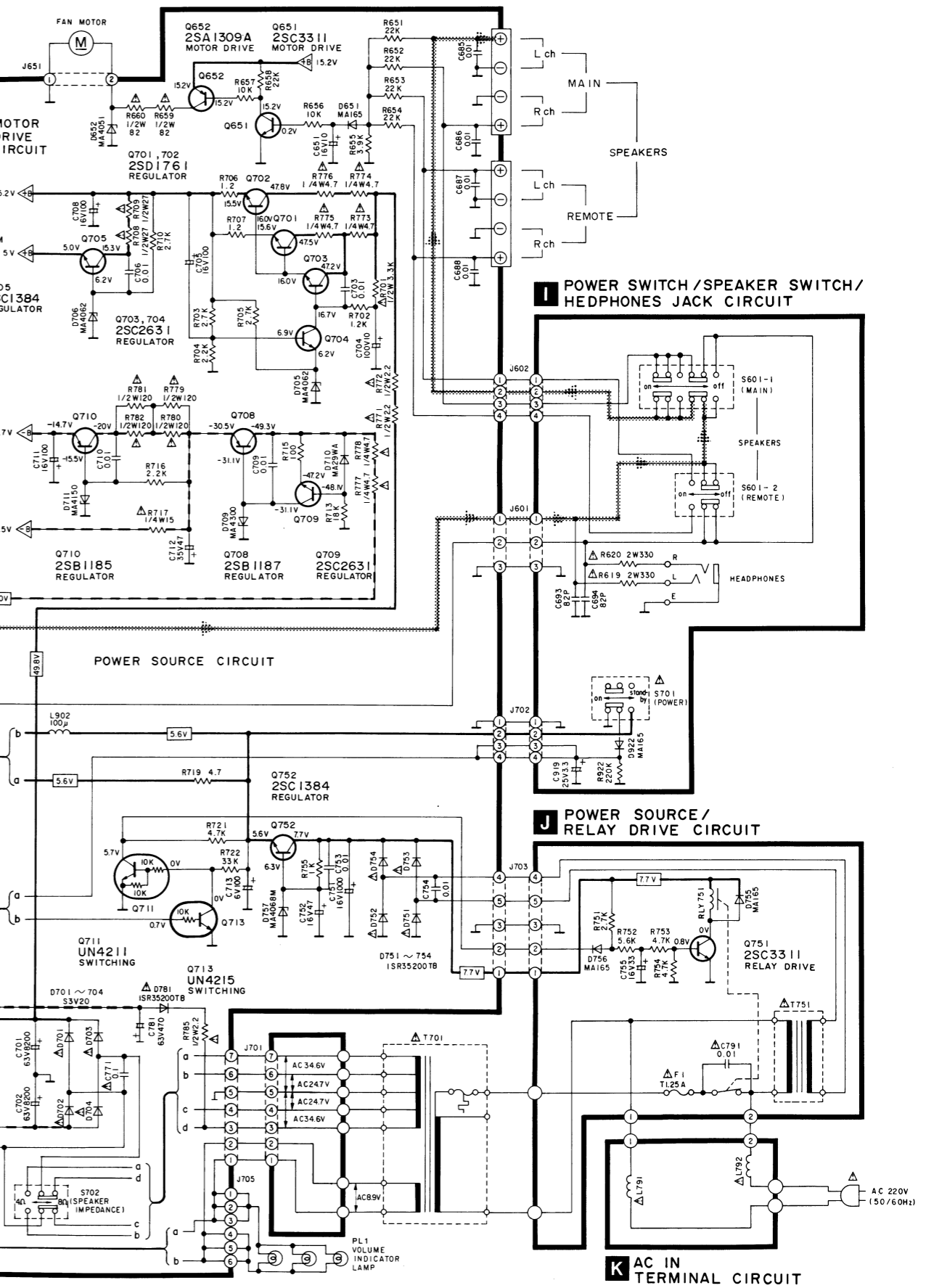
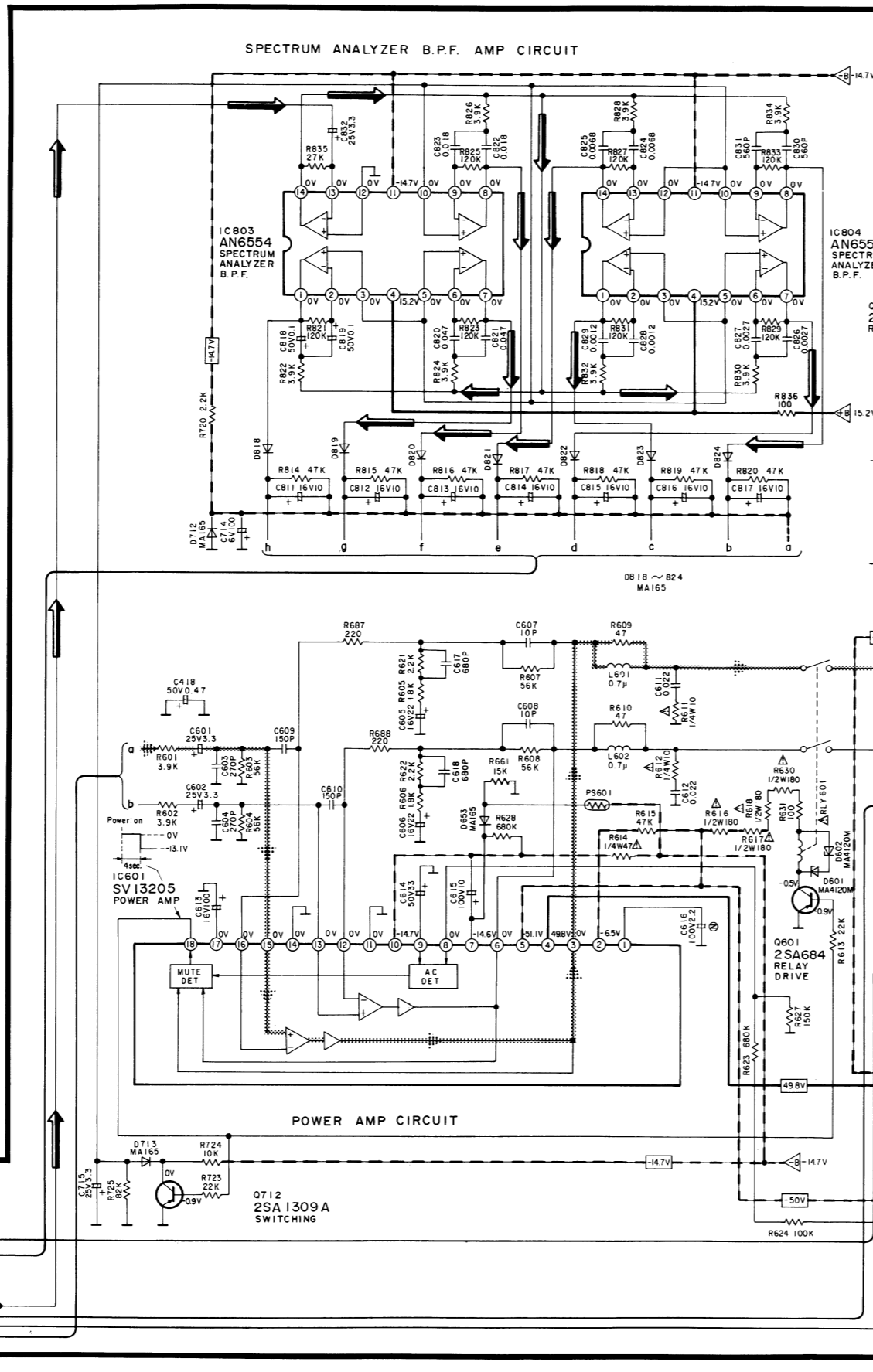
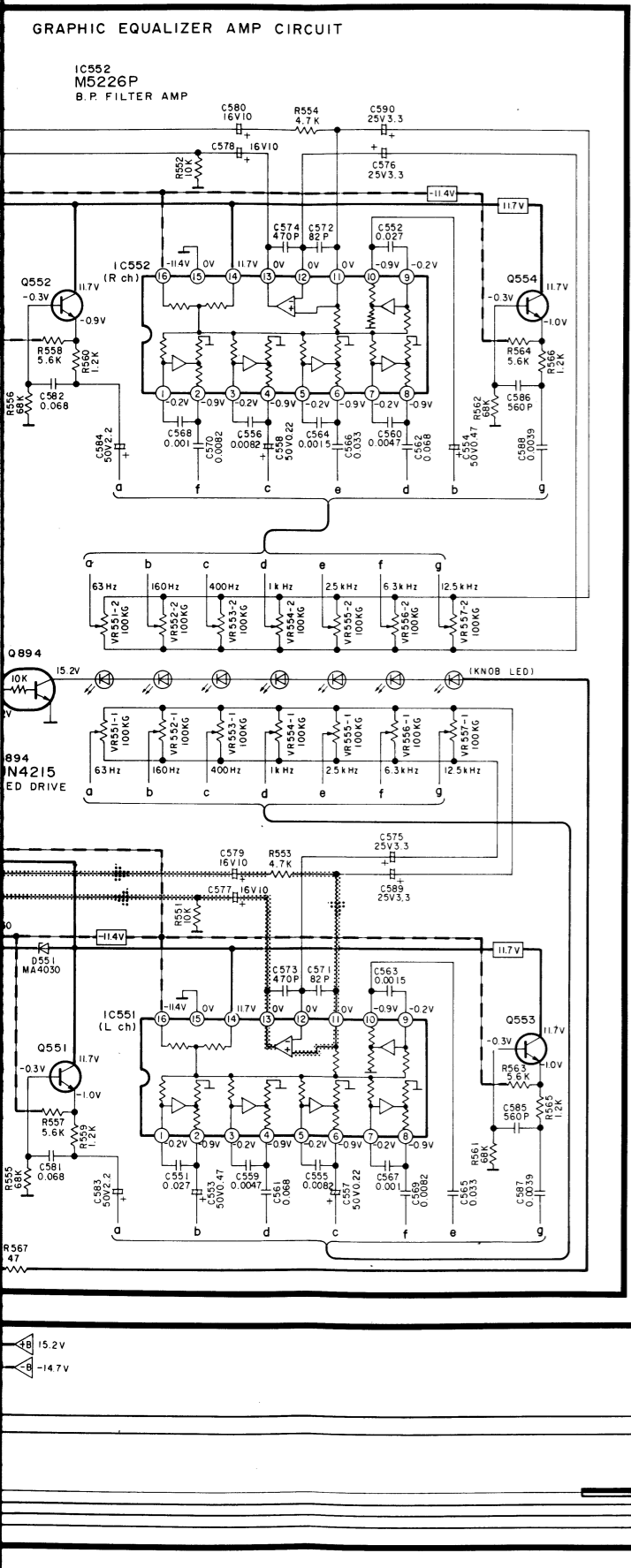
**F** FL METER DRIVE/  
GRAPHIC EQUALIZER AMP CIRCUIT

SYSTEM CONTROL CIRCUIT

FL DISPLAY

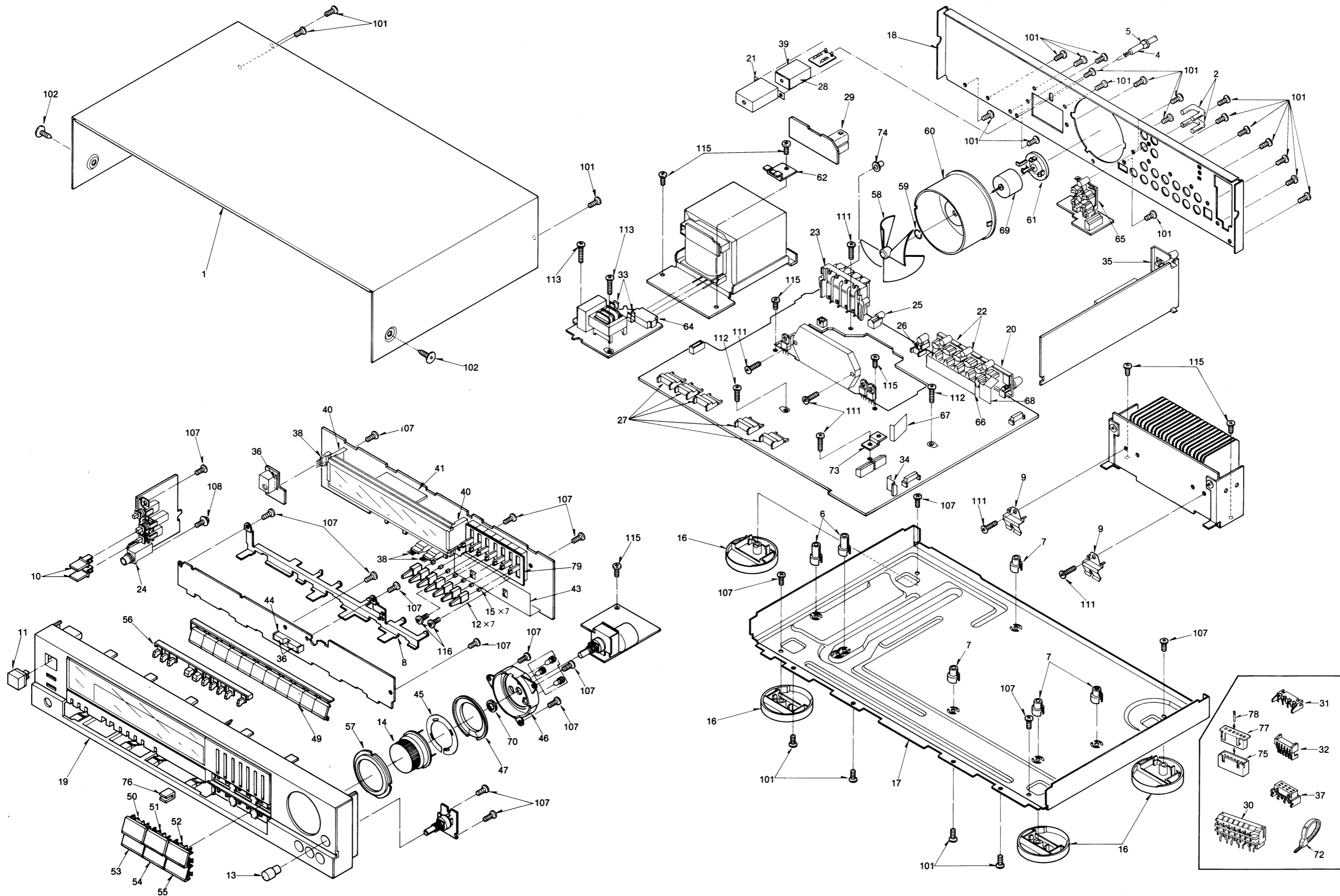
GRAPHIC EQUALIZER AMP CIRCUIT





**CABINET PARTS LOCATION**

A  
B  
C  
D  
E  
F  
G



**REPLACEMENT PARTS**

Notes : \* Important safety note  
Components identified by a triangle symbol are not available from the manufacturer's specifications.  
\* Bracketed indicates parts that are not included in the standard parts list.  
Parts without these notes are available from the manufacturer's specifications.

Ref. No.	Part No.
<b>CABINET AND CHASSIS</b>	
1	SKC1741K993
2	SJP9205-2Y
4	SJA138-3
5	SHR127
6	SHE181
7	SHE185-1
8	SUN3121
9	SUS884
10	SBC315-7
11	SBC666-5
12	SBDK9
13	SBDM10ZK0A
14	SBN1251
15	SBZK29
16	SKL313
17	SKU11813
18	SGP7410-13A
19	SGYAR330-KE
20	SJF3067NJ
21	SMC1200
22	SJF3069NJ
23	SJF5813-1
24	SJJ134B
25	SJJ141-1
26	SJS306
27	SJS50880WL
27	SJS50980WL
28	SMX891
30	SJT30543-V
30	SJT30640LX-V
30	SJT30743LX-V
31	SJT30645JQ
31	SJT30745JQ
32	SJT30847WL
32	SJT30947WL
33	SJT390
34	SME103-5
35	SJF8305N
36	SJS50581BB
36	SJS50681BB
36	SJS50781BB
37	SJS50678JQ
37	SJS50778JQ
38	SJT30549BB
38	SJT30648BB
38	SJT30748BB
39	SMX940

Ref. No.	Part No.
<b>PACKING MATERIAL</b>	
P1	SPG6446
P2	SPS5174
P3	SPS5175
P5	SPP699
P6	SPSD152

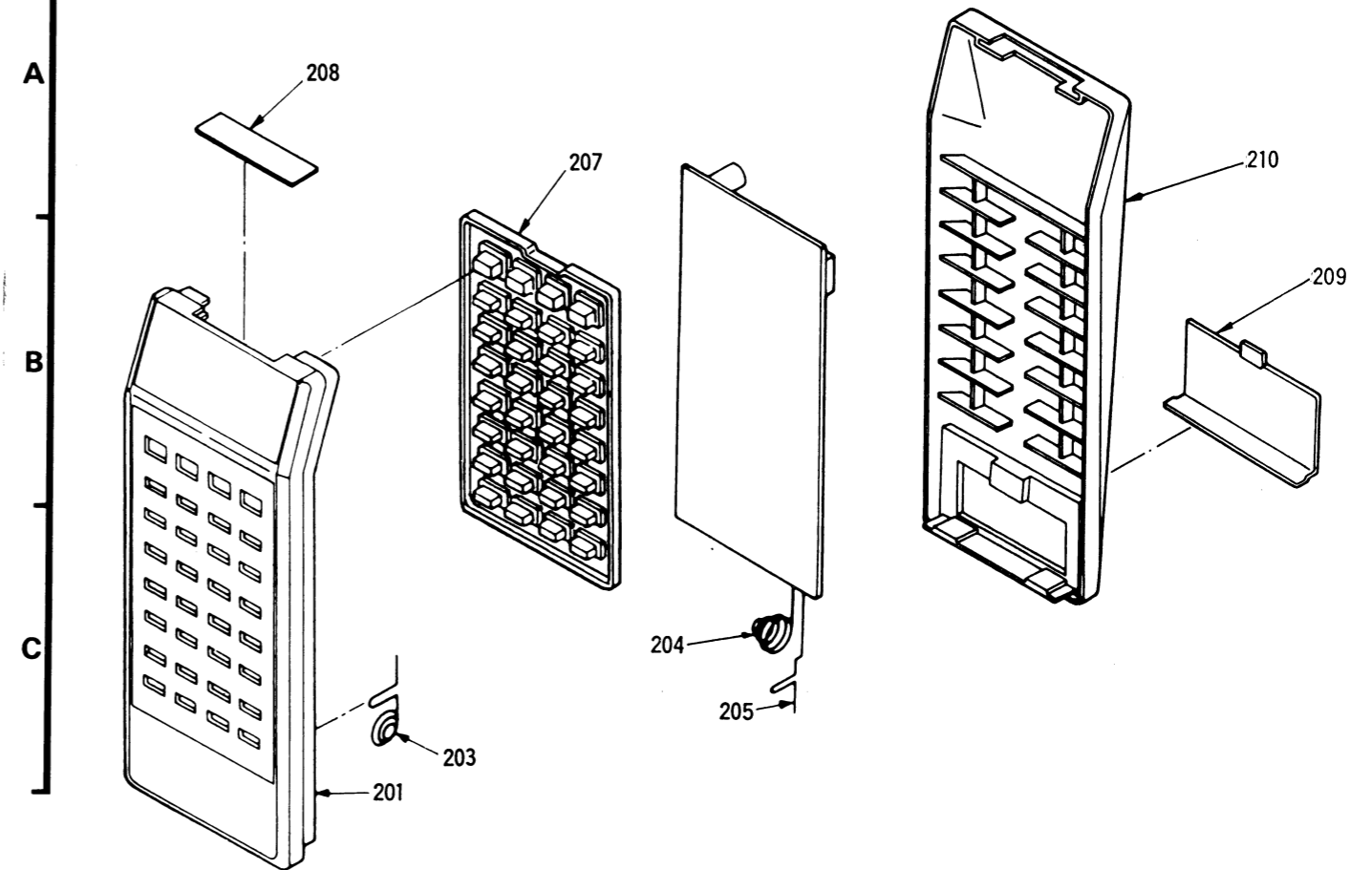
## REPLACEMENT PARTS LIST

**Notes :** \* Important safety notice :  
 Components identified by  $\Delta$  mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.  
 \* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)  
 Parts without these indications can be used for all areas.

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
<b>CABINET AND CHASSIS</b>					
1	SKC1741K993	CABINET BODY	40	SUW3122	BRACKET
2	SJP9205-2Y	SHORT ING PIN	41	SUW3123	BRACKET
4	$\Delta$ SJA138-3	POWER CORD	43	SMC6465	SHIELD PLATE
5	SHR127	SPACER, POWER CORD	44	SMC6466	SHIELD PLATE
6	SHE181	HOLDER	45	SHR6080	SMOKE PLATE
7	SHE185-1	HOLDER	46	SDH571	VOLUME ORNAMENT
8	SUW3121	BRACKET	47	SDL101	SPACER
9	SUS894	BRACKET (SPRING)	49	SBC1033A	BUTTON
10	SBC315-7	BUTTON	50	SBC1034A	BUTTON
11	SBC666-5	BUTTON	51	SBC1034B	BUTTON
12	SBDK9	KNOB	52	SBC1034C	BUTTON
13	SBDM102K0A	KNOB	53	SBC1035	BUTTON
14	SBN1251	KNOB	54	SBC1035D	BUTTON
15	SBZK29	SPACER (KNOB)	55	SBC1035B	BUTTON
16	SKL313	FOOT	56	SBC1036	BUTTON
17	SKU11813	BOTTOM BOARD	57	SGL265-1	INDICATION PLATE
18	SGP7410-13A	REAR PANEL	58	SHE232	FAN
19	SGYAR330-KE	FRONT PANEL	59	SUS271	SPRING
20	SJF3067NJ	TERMINAL BOARD	60	SHE233-1	FAN CASE
21	SMC1200	SHIELD COVER	61	SHE234	CAP
22	SJF3069NJ	TERMINAL BOARD	62	SUW3132	BRACKET
23	SJF5813-1	TERMINAL BOARD	64	SJS305-1	PT SOCKET
24	SJJ134B	JACK	65	SJF3069N	TERMINAL BOARD
25	SJJ141-1	M3 JACK	66	SMC6472	SHIELD COVER
26	SJS306	REMOTE CONTROL CONNECTOR	67	SMC1009	SHIELD PLATE
27	SJS50880WL	SOCKET (8P)	68	SMC6471	SHIELD PLATE
27	SJS50980WL	SOCKET (9P)	69	MDN-4RB4MXA	MOTOR
28	SMX891	SHIELD SPACER	70	XNS7	NUT
30	SJT30543-V	CONNECTOR (5P)	72	SHR328	LEAD WIRE CLAMPER
30	SJT30640LX-V	CONNECTOR (6P)	73	SUW3128	BRACKET
30	SJT30743LX-V	CONNECTOR (7P)	74	SBC165	BUTTON, IMPEDANCE
31	SJT30645JQ	CONNECTOR (6P)	75	SJT3213	CONNECTOR (2P)
31	SJT30745JQ	CONNECTOR (7P)	75	SJT3611	CONNECTOR (6P)
32	SJT30847WL	CONNECTOR (8P)	76	SHR9866	SPACER
32	SJT30947WL	CONNECTOR (9P)	77	SJS5215	SOCKET (2P)
33	$\Delta$ SJT390	FUSE HOLDER	77	SJS5629	SOCKET (6P)
34	SME103-5	SHIELD PLATE	78	SJT783	CONTACT
35	SJF8305N	TERMINAL BOARD	79	SHR5354-1	ORNAMENT
36	SJS50581BB	SOCKET (5P)	<b>SCREWS, WASHERS AND NUTS</b>		
36	SJS50681BB	SOCKET (6P)	101	XTB3*8JFZ1	SCREW
36	SJS50781BB	SOCKET (7P)	102	SNE2129-3	SCREW
37	SJS50678JQ	SOCKET (6P)	107	XTB3*8G	SCREW
37	SJS50778JQ	SOCKET (7P)	108	XTW3*8T	SCREW
38	SJT305498B	CONNECTOR (5P)	111	XTB3*16JFZ	SCREW
38	SJT306488B	CONNECTOR (6P)	112	XTB3*16F1	SCREW
38	SJT307488B	CONNECTOR (7P)	113	XTB3*20JFZ	SCREW
39	SMX940	SHIELD PLATE	115	XTB3*8JFZ	SCREW
			116	XSN2*2FZ	SCREW

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
<b>PACKING MATERIAL</b>			<b>ACCESSORIES</b>		
P1	SPG6446	PACKING CASE	A2	SSA270M	FM ANTENNA
P2	SPS5174	PAD	A3	SQF13357	INSTRUCTION BOOK
P3	SPS5175	PAD	A4	SWKST11M-1	CORD (REMOTE CONTROL)
P5	SPP699	POLYETHYLENE SHEET	A5	SPB1162T	AM LOOP ANTENNA
P6	SPSD152	ACCESSORY BOX	A6	UM-4NE	BATTERY
			A7	SJP225TT	CORD

## REMOTE-CONTROL PARTS LOCATION



## REPLACEMENT PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
<b>REMOTE CONTROL ASS'Y</b>			<b>OSCILLATOR</b>		
RC1	EUR64758	REMOTE CONTROL	X1	CSB420PB1	OSCILLATOR
<b>REMOTE CONTROL</b>			<b>RESISTORS</b>		
<b>INTEGRATED CIRCUITS</b>			R1	ERDS2TJ1R0	CARBON, 1 $\Omega$ , 1/4W
IC1	M50467018FP	I.C. MICRO COMPUTER	<b>CAPACITORS</b>		
<b>TRANSISTORS</b>			C1	ECKD1H471KB	CERAMIC, 470PF, 50V
Q1	UN1231	TRANSISTOR	C2	ECKD1H121KB	CERAMIC, 120PF, 50V
<b>DIODES</b>			C3	ECEA0GK101	ELECTROLYTIC, 100 $\mu$ F, 4V
D1	LN66-S	L.E.D	<b>MECHANISM PARTS</b>		
D2	MA154WK	DIODE	201	UR64VCS806	UPPER CABINET
D3	MA154WK	DIODE	203	UR64TD374	BATTERY TERMINAL (COMMON)
<b>COIL</b>			204	UR64TD809	TERMINAL (-)
L1	ELEA101JA	COIL	205	UR64TD808	TERMINAL (+)
			207	UR64CT805	RUBBER (SWITCH)
			208	UR52SB327	PLATE (SMOKE)
			209	UR64EC804	BATTERY COVER
			210	UR64CS803A	LOWER CABINET