

# Service Manual

AM/FM Stereo Receiver

Receiver

SA-130

SA-130



Color

(S) ... Silver Type  
(K) ... Black Type

Color	Areas
(K), (S)	[EX] ..... Continental Europe.
(K), (S)	[EH] ..... Holland.
(S)	[Ei] ..... Italy.

## SPECIFICATIONS

(DIN 45 500)

### ■ AMPLIFIER SECTION

1 kHz continuous power output both channels driven	2 × 35 W (8Ω)
Total harmonic distortion rated power at 1 kHz	0.07 % (8Ω)
Intermodulation distortion rated power at 60 Hz: 7 kHz = 4: 1, SMPTE, 8Ω	0.5 %
Power bandwidth both channels driven, -3 dB	10 Hz ~ 30 kHz (8Ω)
Damping factor	
Input sensitivity and impedance	
PHONO	2.5 mV / 47 kΩ
CD/AUX, TAPE	150 mV / 18 kΩ
PHONO maximum input voltage (1 kHz, RMS)	130 mV
S/N	
rated power (8Ω)	
PHONO	68 dB (IHF, A: 71 dB)
CD/AUX, TAPE	88 dB (IHF, A: 95 dB)
Frequency response	
PHONO	RIAA standard curve ± 0.8 dB (30 Hz ~ 15 kHz)
CD/AUX, TAPE	5 Hz ~ 70 kHz (-3 dB)
Tone controls	
BASS	50 Hz, +10 dB ~ -10 dB
TREBLE	20 kHz, +10 dB ~ -10 dB
Output voltage	
REC OUT	150 mV
Channel balance, CD/AUX 250 Hz ~ 6,300 Hz	± 1 dB
Channel separation, CD/AUX	55 dB
Headphones output level and impedance	390 mV / 330Ω
Load impedance	
MAIN or REMOTE	8Ω ~ 16Ω
MAIN and REMOTE	8Ω ~ 16Ω

### ■ FM TUNER SECTION

Frequency range	87.5 ~ 108 MHz
Sensitivity	
S/N 30 dB	1.9 μV (300Ω), 1.3 μV (75Ω)
S/N 26 dB	1.7 μV (300Ω), 1.2 μV (75Ω)
S/N 20 dB	1.5 μV (300Ω), 0.9 μV (75Ω)
IHF usable sensitivity	1.9 μV (IHF '58)
IHF 46 dB stereo quieting sensitivity	22 μV / 75Ω
Total harmonic distortion	
MONO	0.15 %
STEREO	0.3 %
S/N	
MONO	60 dB (76 dB, IHF)
STEREO	58 dB (70 dB, IHF)
Frequency response	20 Hz ~ 15 kHz, +1 dB ~ -2 dB
Alternate channel selectivity ± 400 kHz	60 dB
Capture ratio	1 dB
Image rejection at 98 MHz	40 dB
IF rejection at 98 MHz	60 dB
Spurious response rejection at 98 MHz	70 dB
AM suppression	50 dB
Stereo separation	
1 kHz	40 dB
10 kHz	30 dB
Carrier leak	
19 kHz	-33 dB (-35 dB, IHF)
38 kHz	-50 dB (-50 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	300Ω (balanced) 75Ω (unbalanced)

# Technics

Matsushita Electric Trading Co., Ltd.  
P.O. Box 288, Central Osaka Japan

## ■ AM TUNER SECTION

Frequency range	527~1605 kHz
Sensitivity (S/N 20dB)	20 $\mu$ V, 300 $\mu$ V/m
Selectivity	27 dB
Image rejection at 1,000 kHz	40 dB
IF rejection at 1,000 kHz	55 dB

## ■ GENERAL

Power consumption	180 W
Power supply	AC 50 Hz/60 Hz, 220 V
Dimensions (W×H×D)	430×97×249 mm (16-15/16"×3-13/16"×9-13/16")
Weight	5.0 kg (11.0 lb.)

### Note:

Specifications are subject to change without notice.  
Weight and dimensions are approximate.

## ■ CONTENTS

	Page
PROTECTION CIRCUITRY . . . . .	2
BEFORE REPAIR AND ADJUSTMENT . . . . .	2
LOCATION OF CONTROLS . . . . .	3
DISASSEMBLY INSTRUCTIONS . . . . .	4, 5
DIAL CORD INSTALLATION GUIDE . . . . .	5
MEASUREMENTS AND ADJUSTMENTS . . . . .	6, 7
RESISTORS & CAPACITORS . . . . .	8

	Page
PRINTED CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM . . . . .	9, 10
BLOCK DIAGRAM . . . . .	11, 12
TERMINAL GUIDE OF TRANSISTORS, DIODES AND IC'S . . . . .	11, 12
REPLACEMENT PARTS LIST . . . . .	13
SCHEMATIC DIAGRAM . . . . .	14~18
EXPLODED VIEWS . . . . .	19, 20

## ■ 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 outlined below.

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

### Note:

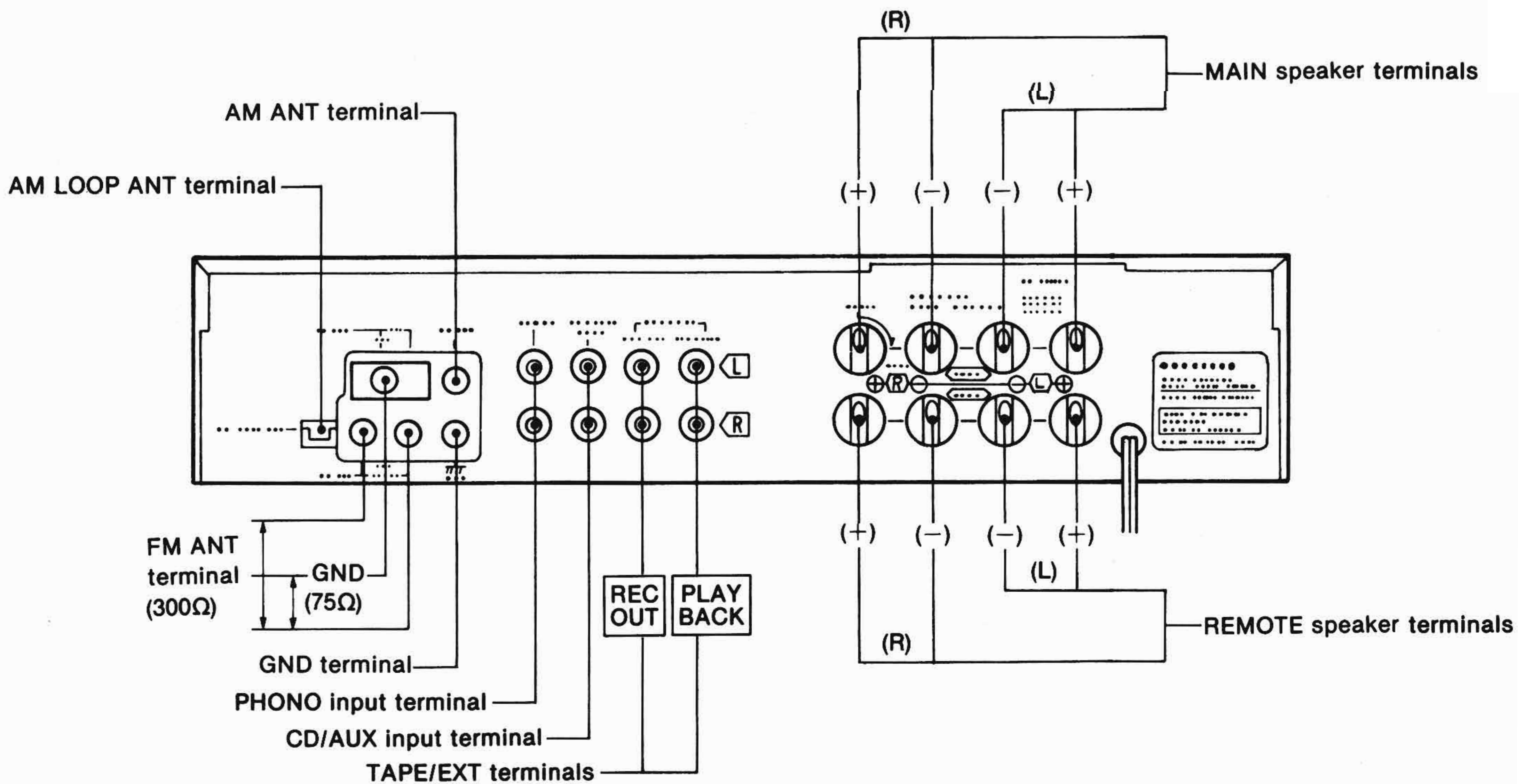
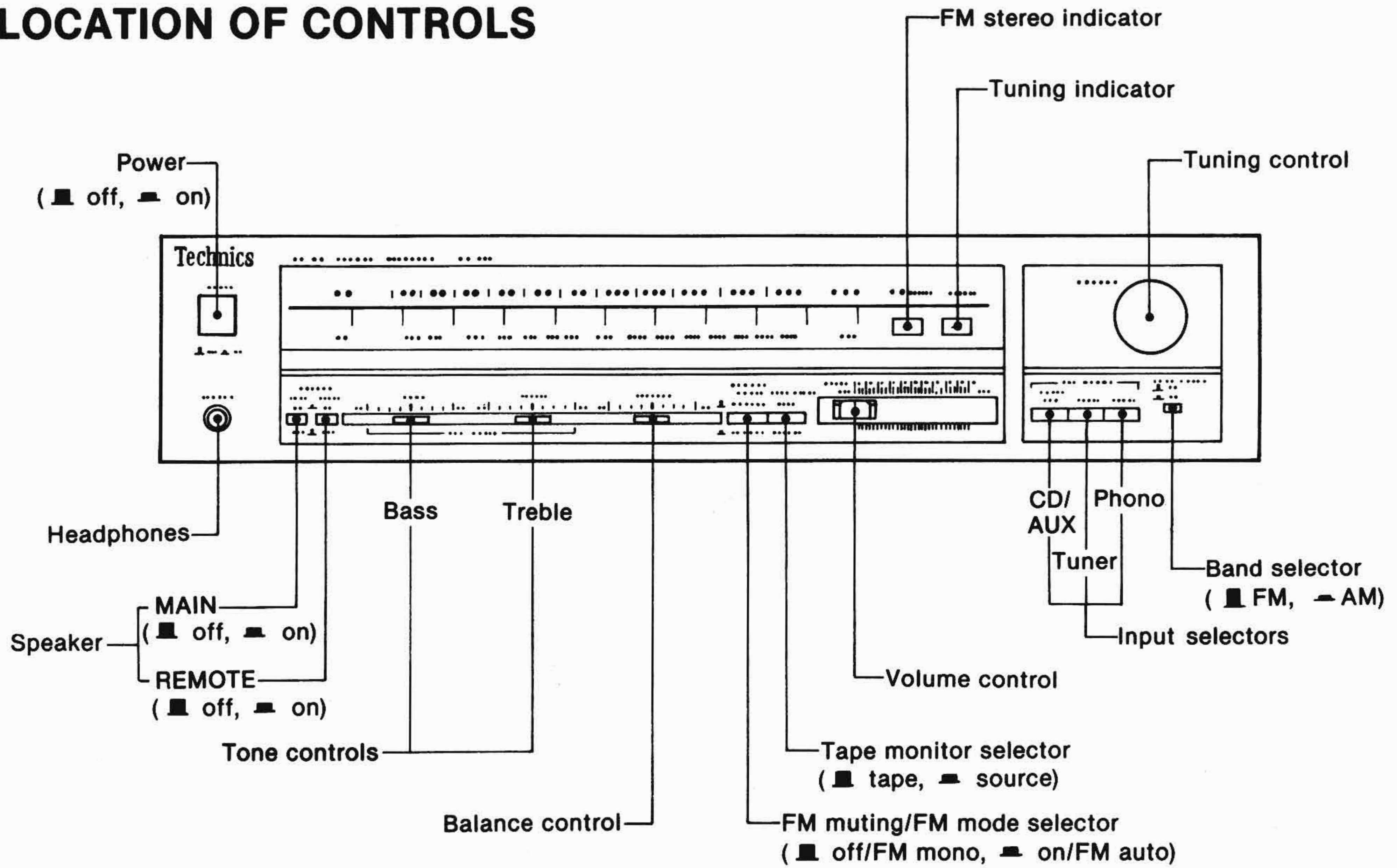
When the protection circuitry functions, the unit will not operate unless the power is first turned off and then on again.

## ■ BEFORE REPAIR AND ADJUSTMENT

1. Turn off the power supply and short-circuit both ends of the power supply capacitors (C701, C702, 4700 $\mu$ F) with a resistor (about 10 $\Omega$ , 5W) to discharge the charged voltage. Do not short both ends of C701 and C702 with a screwdriver. It may damage the component.
2. Before turning on the power supply after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current is free of abnormality. The consumed current at 50 Hz in no signal mode is shown below with respect to supply voltage 220V.

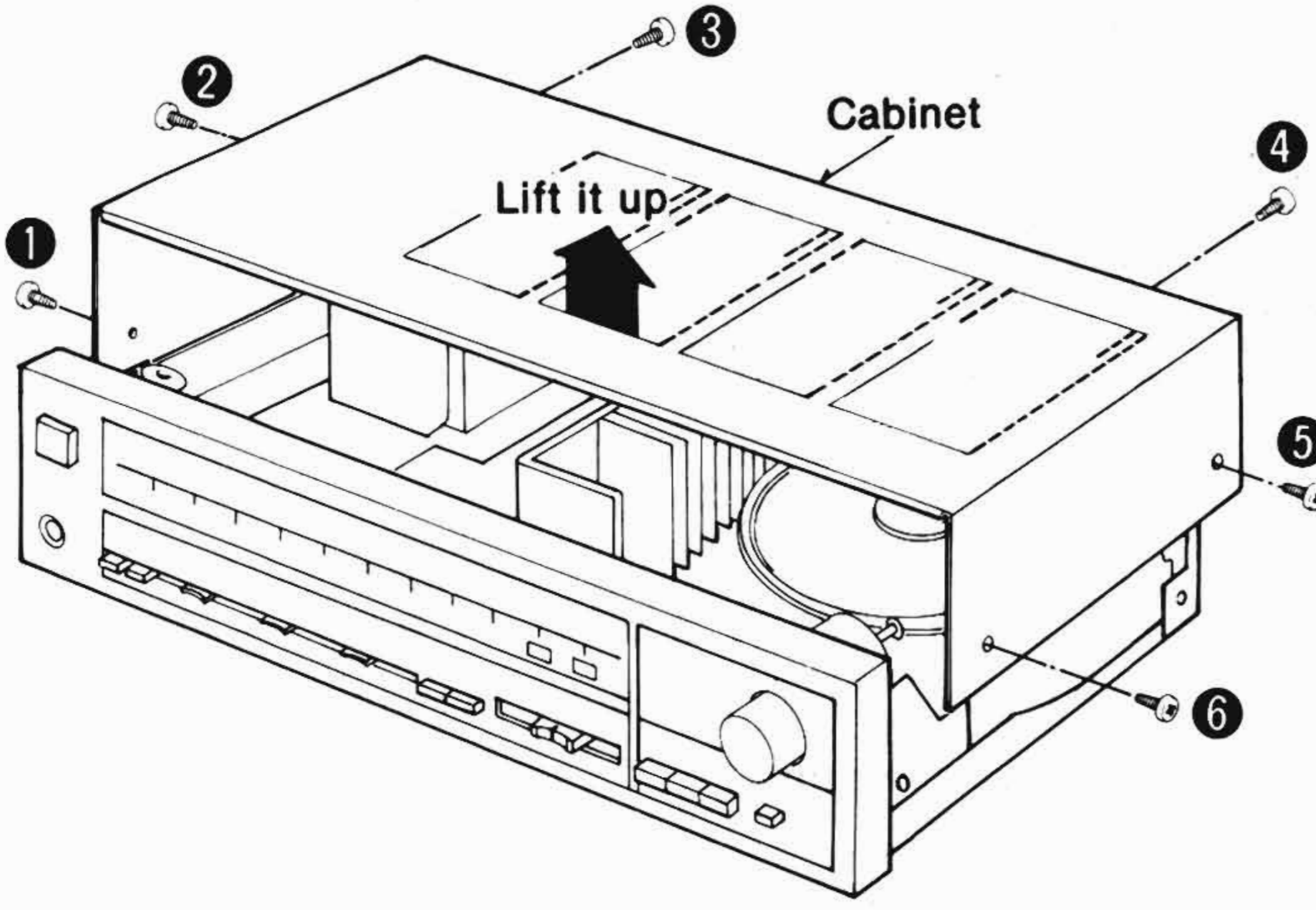
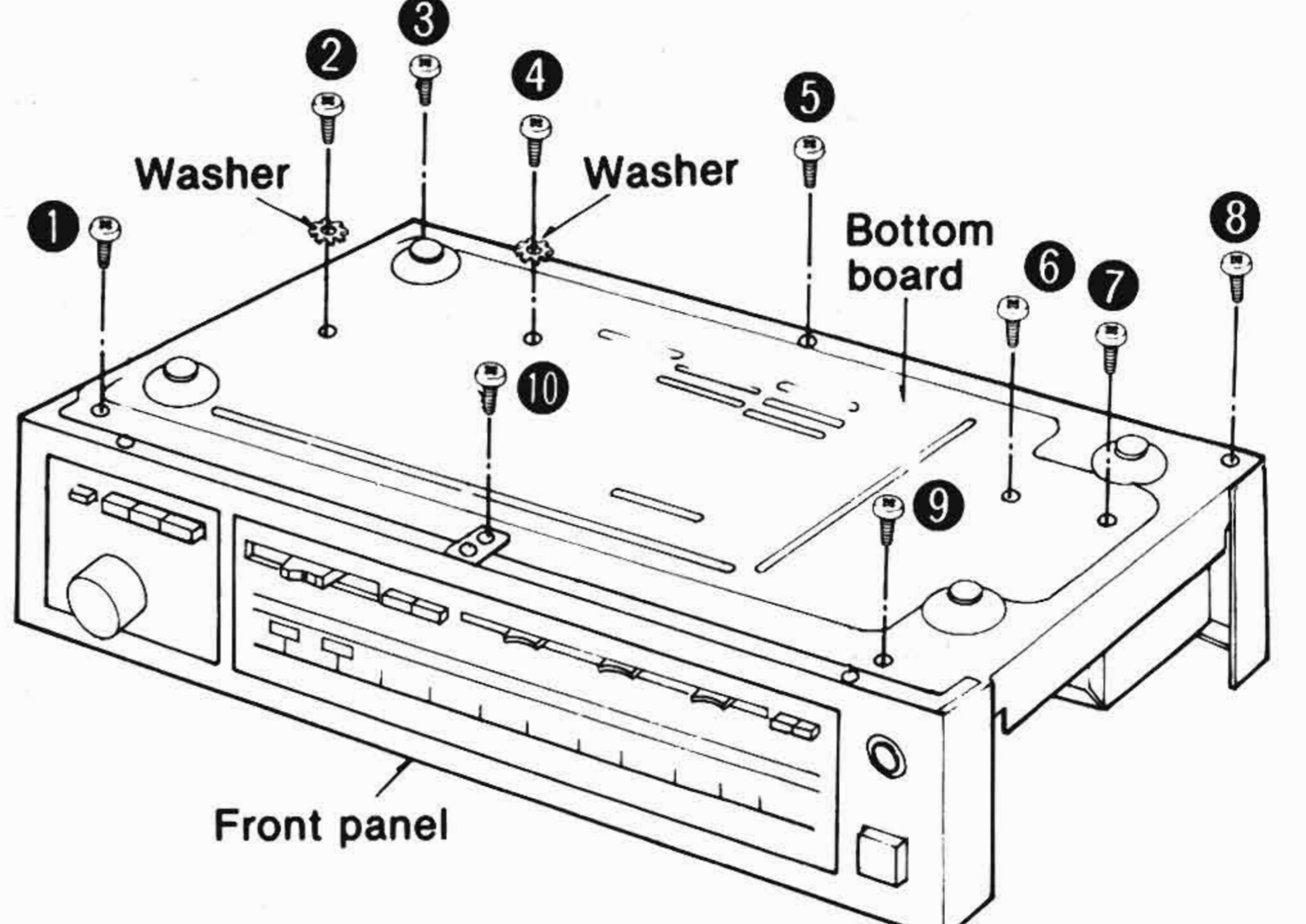
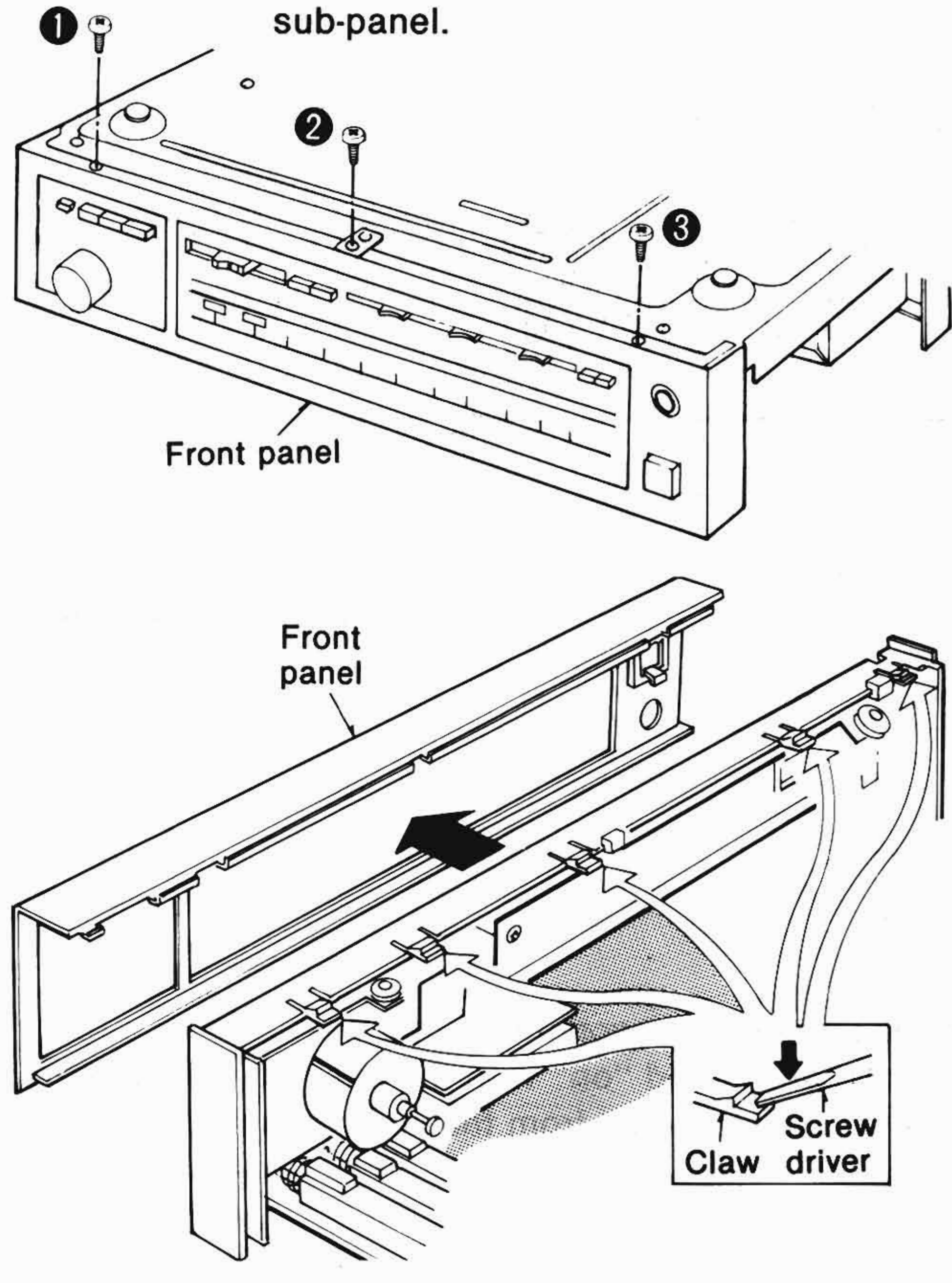
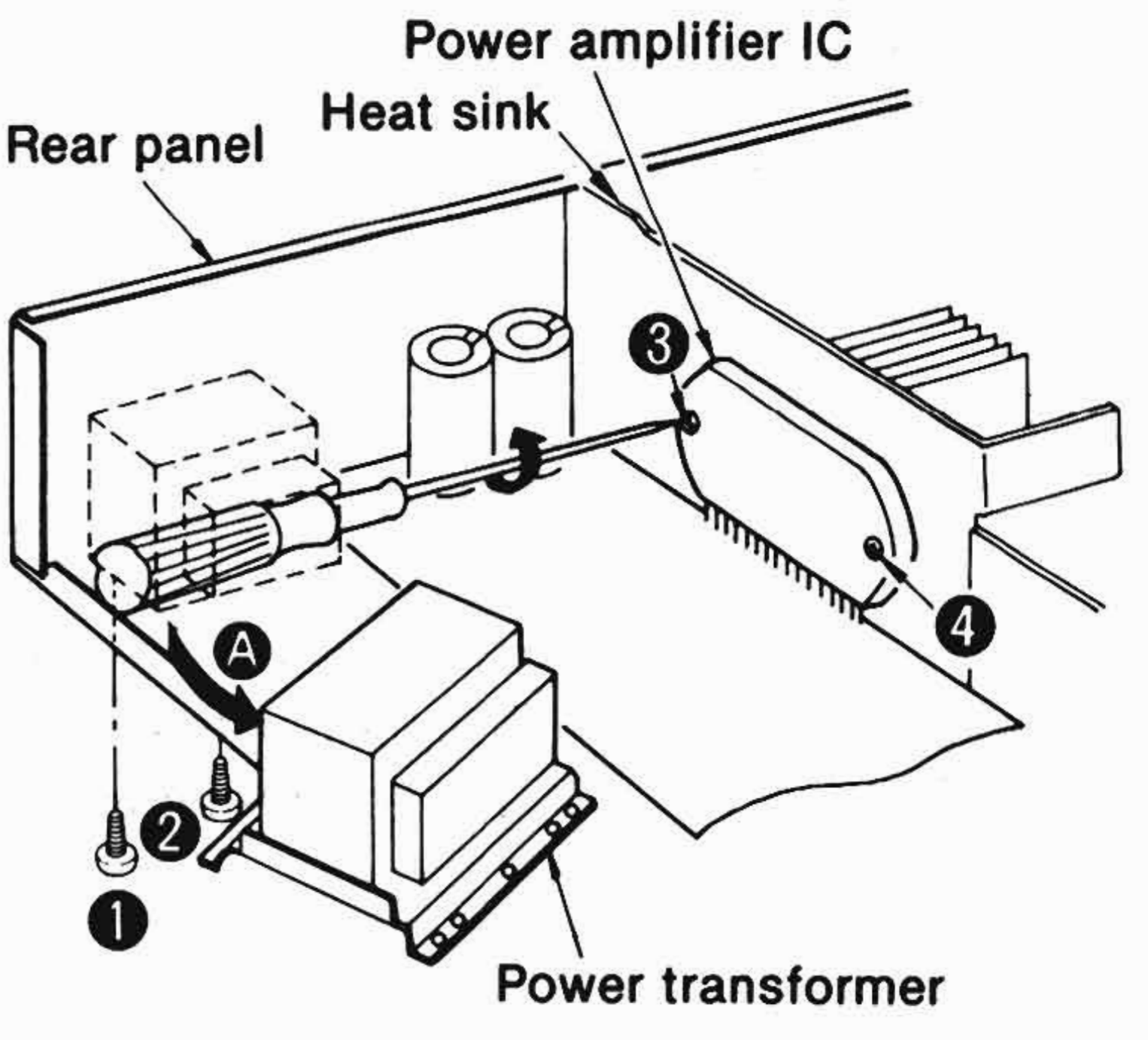
Power supply voltage		AC 220 V
Current consumed	50/60 Hz	50~150 mA

## ■ LOCATION OF CONTROLS



- Phono input capacitance is about 150pF.
- Series connection method is employed for the main and remote speaker connections of this set. Therefore, if both speaker changeover switches (main and remote) are turned "on" with the speaker unit connected only to main or remote speaker terminal, then no output signal will be delivered from the speaker unit.
- The power supply for this unit varies depending upon the areas. Also, the parts used for power supply are different. ※ 220V (50/60Hz) for continental Europe.

# DISASSEMBLY INSTRUCTIONS

<p><b>Ref. No.</b> 1</p>	<p><b>How to remove the cabinet</b></p>	<p><b>Ref. No.</b> 2</p>	<p><b>How to remove the bottom board</b></p>
<p><b>Procedure</b> 1</p>	<p>1. Remove the 6 setscrews (①~⑥) of the cabinet.</p>	<p><b>Procedure</b> 1→2</p>	<p>1. Remove the 10 setscrews (①~⑩) of the bottom board.</p>
			
<p><b>Ref. No.</b> 3</p>	<p><b>How to remove the front panel</b></p>	<p><b>Ref. No.</b> 4</p>	<p><b>How to remove the power amplifier IC</b></p>
<p><b>Procedure</b> 1→3</p>	<p>1. Remove the 3 setscrews (①~③) of the front panel. 2. The claws projected (at 5 portions) from the front panel are engaged with the front sub-panel. Disengage the claws from by screwdriver or the like to remove the front sub-panel.</p>	<p><b>Procedure</b> 1→2→4</p>	<p>1. Remove the 2 setscrews (①, ②) to detach the power transformer from rear panel in the direction of arrow A. 2. Unsolder of power amplifier IC. 3. Remove the 2 setscrews (③, ④) used to secure the power amplifier IC on the heat sink, and then pull the power amplifier IC. 4. When mounting the power amplifier IC, apply silicone compound (SZZ0L15) to the rear side of power amplifier IC, and then follow the steps 1~3 reversely.</p>
			

Ref. No. 5	How to remove the slide volume.
Procedure 1 → 2 → 5	<ol style="list-style-type: none"> <li>1. Set the dial to the start position (minimum frequency) then stick a cellophane tape to the contact ③ of dial cord so that the dial drum will not come loose from the dial cord.</li> <li>2. Remove the 1 setscrew (①) from the dial drum.</li> <li>3. Remove the dial cord from the pulley. (②)</li> <li>4. Remove the 3 setscrews (②~④) and 1 connector. (⑤)</li> <li>5. Remove the front panel in the direction of the arrow.</li> <li>6. The claws projected (at 4 portions) from the slide volume printed circuit board are engaged with the slide volume.</li> <li>7. Unsolder the slide volume.</li> </ol>

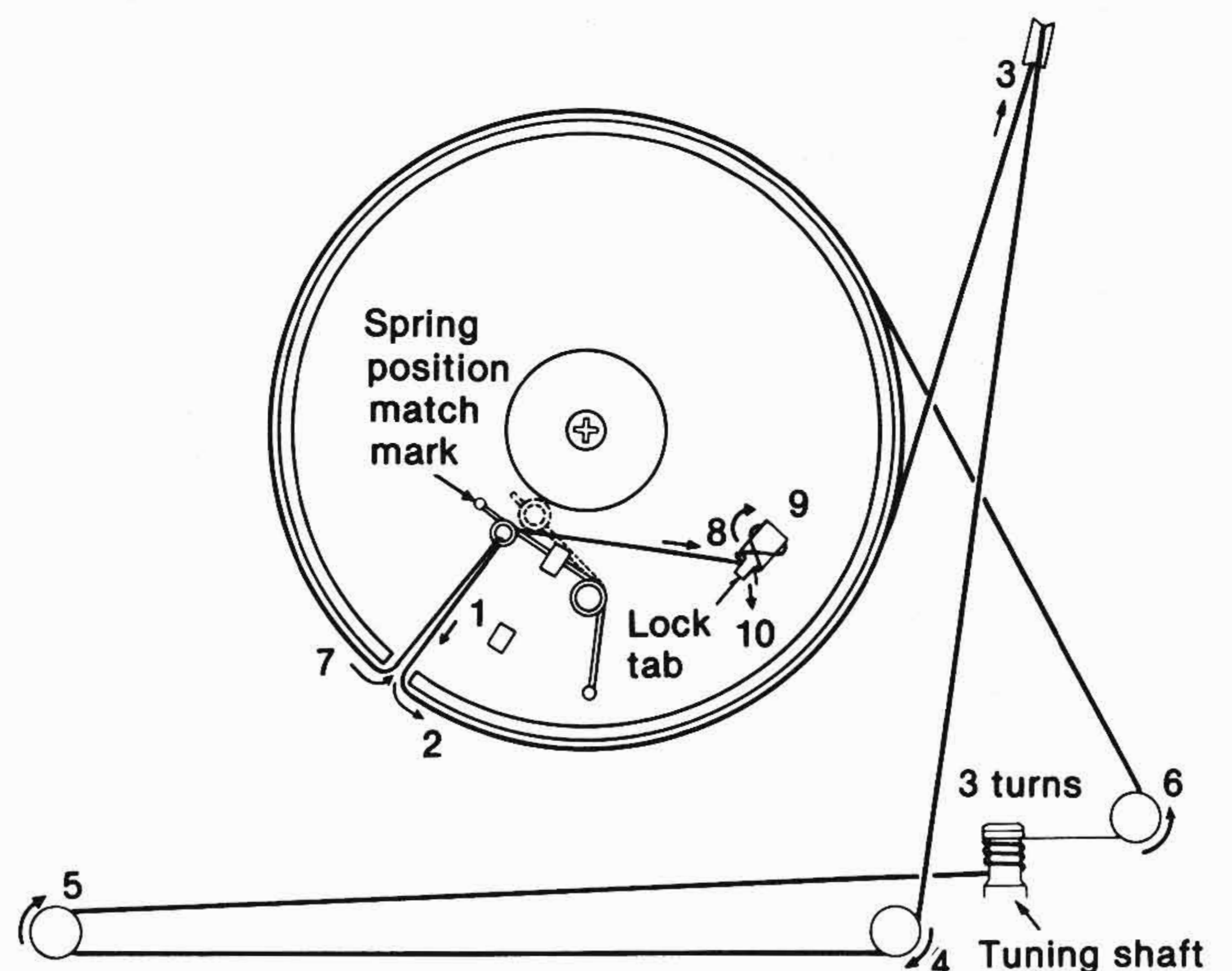
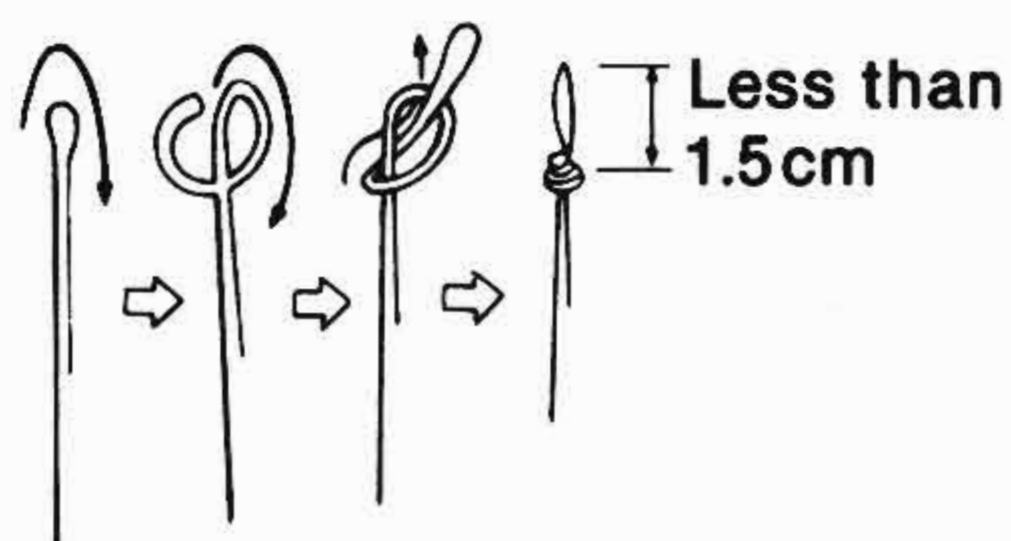
## ■ DIAL CORD INSTALLATION GUIDE

• When setting the cord, follow the procedure given below

1. The cord should be at least 180cm long.
2. Completely turn the tuning gang (variable capacitor) counterclockwise. (Variable capacity: max. Frequency; min.)
3. Make a knot at the cord and as shown in Figure.
4. Set the spring to the knot, and set the cord in the order of 1-10.

Note: At step 7, pull the cord strongly, slacken the spring up to the mark of the drum, then go to steps 9-10 to set the cord.

5. Fix the cord terminal with adhesive.
6. Cut off the cord about 0.5cm at its either end.



# MEASUREMENTS AND ADJUSTMENTS

## • AM/FM

### Control positions and equipment used

- AM and FM signal generators (AM and FM-SG).
- Stereo modulator
- Distortion analyser
- Oscilloscope
- AC and DC electronic voltmeter (EVM)
- Frequency counter
- Choke coil (100 $\mu$ H)
- Resistor (100k $\Omega$ )
- Ceramic capacitor (200pF)

**Note:** For T202 (AM-IFT) and L201(FM ANT coil), adjusted parts are supplied.  
So, do not turn the cores of these parts.

### AM-RF ADJUSTMENT

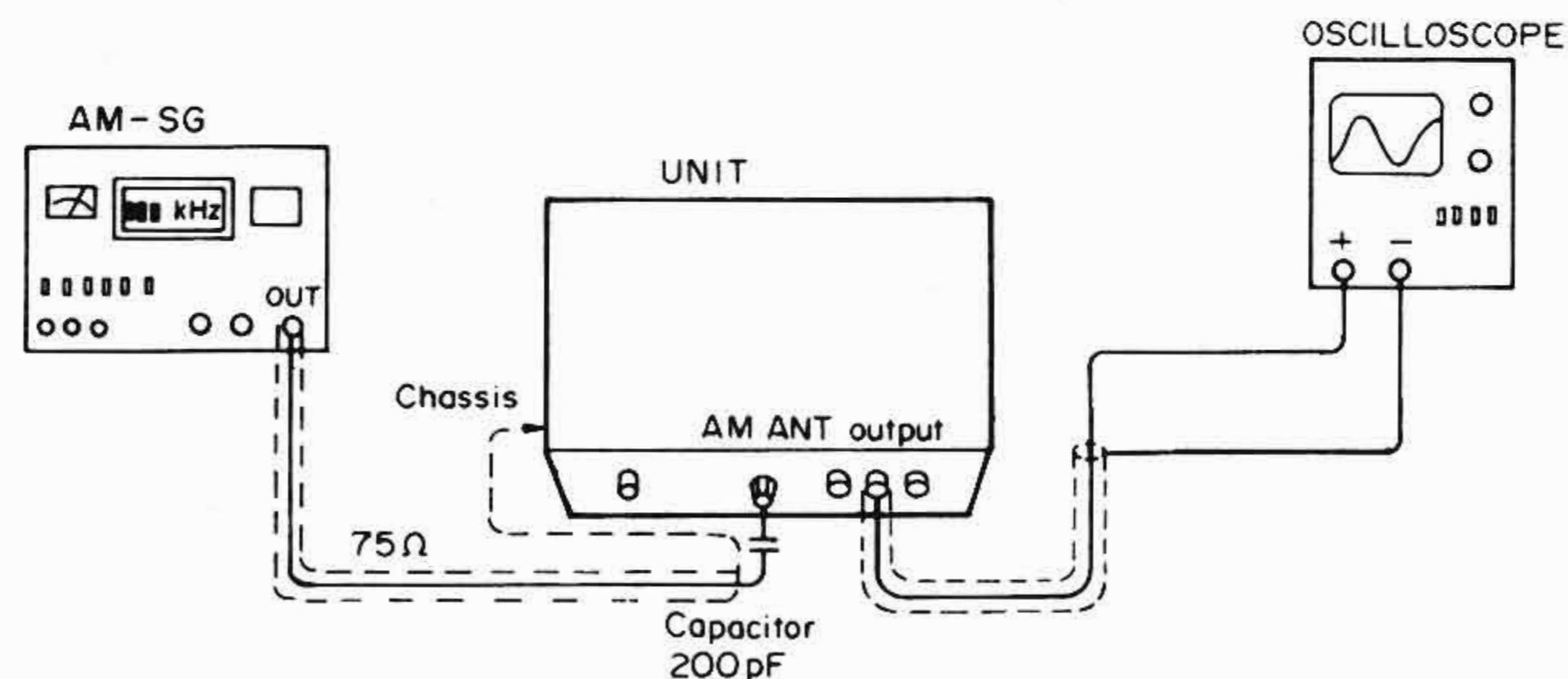
1. Test equipment connection is shown in figure.
2. Set the unit to "AM" position.
3. Place the radio frequency display and signal generator setting to 600kHz.
4. Adjust L205 and L206 for maximum output.
5. Place the radio frequency display and signal generator setting to 1500kHz.
6. Adjust CT204 and CT203 for maximum output.
7. Repeat steps 3.~6.

#### Note:

Antenna input level must be as low as possible being free from AGC.

### AM SIGNAL GENERATOR CONDITION

Modulation..... 30%  
Modulation frequency ..... 400Hz

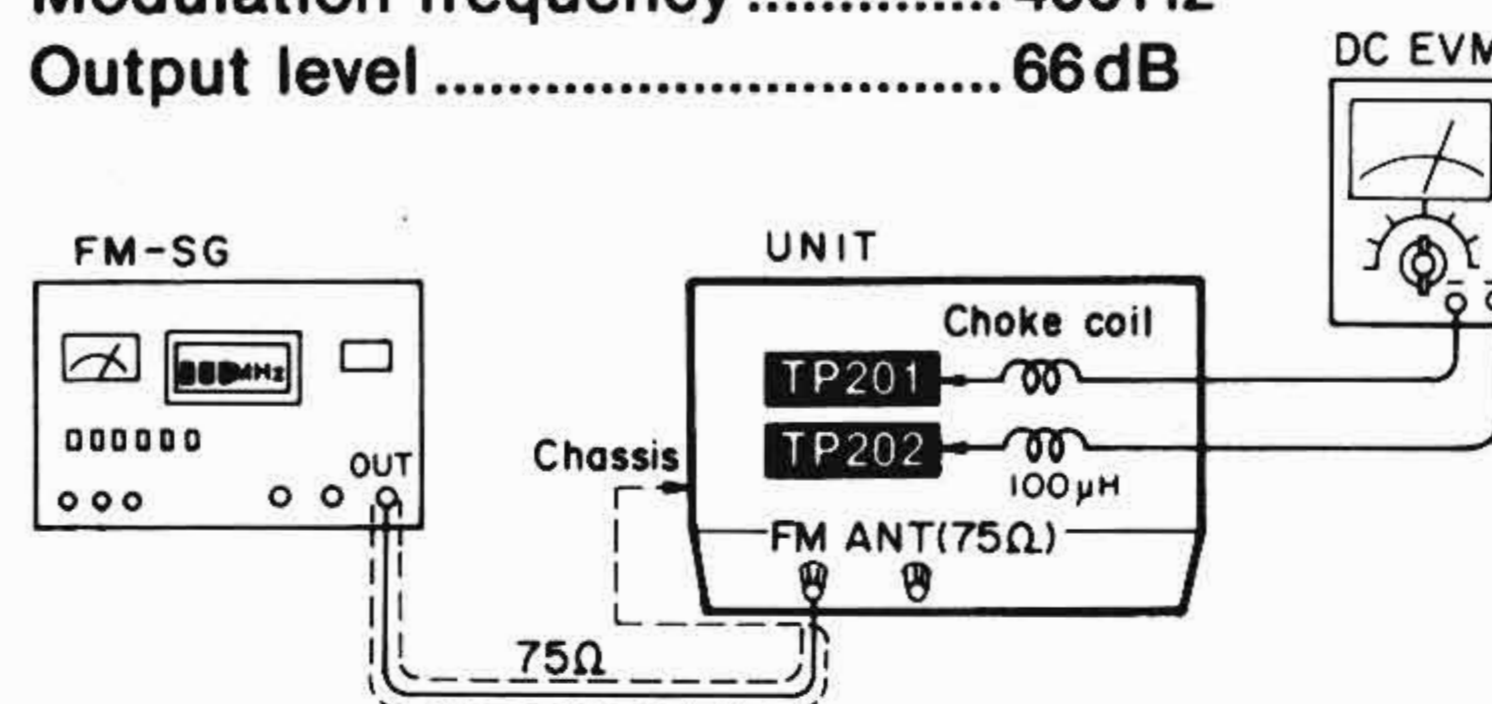


### FM-IF ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "FM" position.
3. Place the radio dial and signal generator setting to 100MHz.
4. Adjust T201 core so that voltage measured in signal mode is 0mV (0 $\pm$ 50mV) in 150mV range.

### FM SIGNAL GENERATOR CONDITION

Modulation..... 100%  
Modulation frequency ..... 400Hz  
Output level ..... 66dB

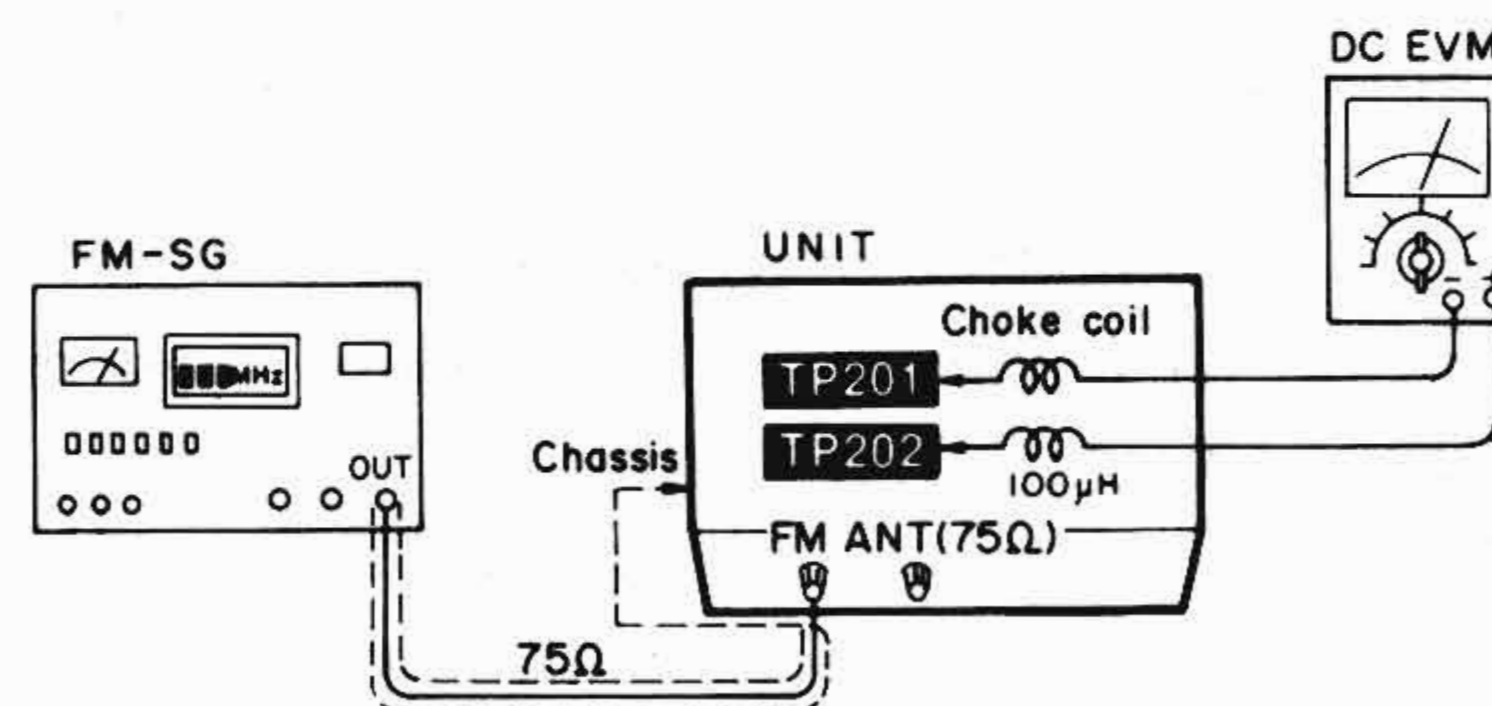


### FM-RF ADJUSTMENT

1. Test equipment connection is shown in figure.
2. Set the unit to "FM" position.
3. Place the radio dial and signal generator setting to 90MHz. Add weak input so that noise is included in the output waveform.
4. Adjust L204 and L202 so that the output waveform is vertically symmetrical.
5. Place the radio dial and signal generator setting to 106MHz.
6. Adjust CT202 so that the output waveform is vertically symmetrical.
7. Repeat steps 3.~6.

### FM SIGNAL GENERATOR CONDITION

Modulation..... 100%  
Modulation frequency ..... 400Hz  
Output level ..... 66dB



## MPX VCO ADJUSTMENT

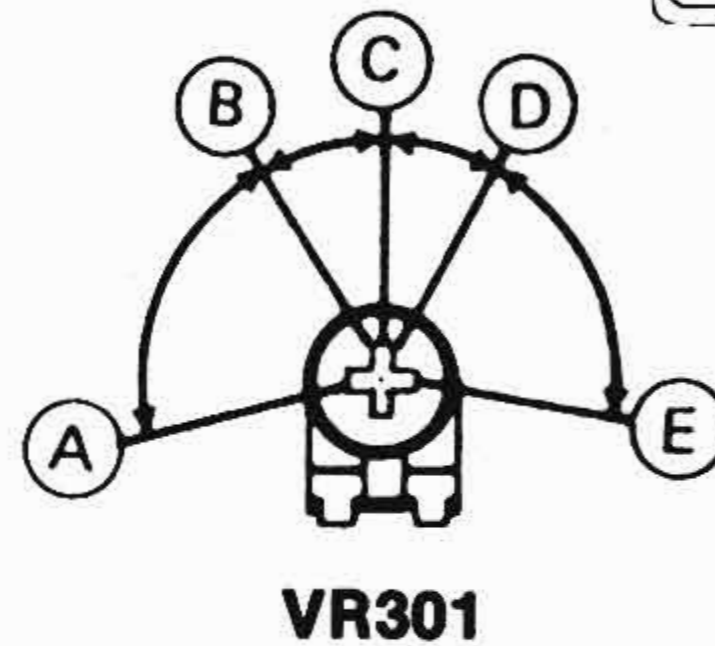
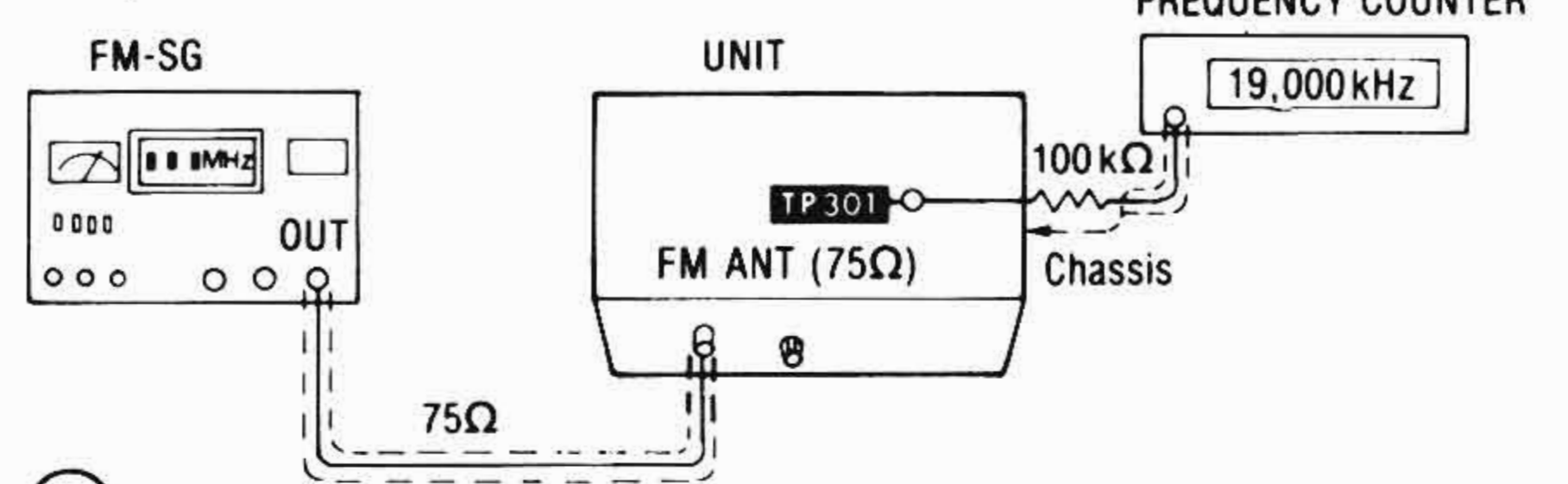
1. Test equipment connection is shown in figure.
2. Set the unit to "on/auto" position.
3. Place the radio dial and signal generator setting to 100MHz.
4. Adjust VR301 for 19kHz ± 30Hz on frequency counter reading.

### ★ 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.

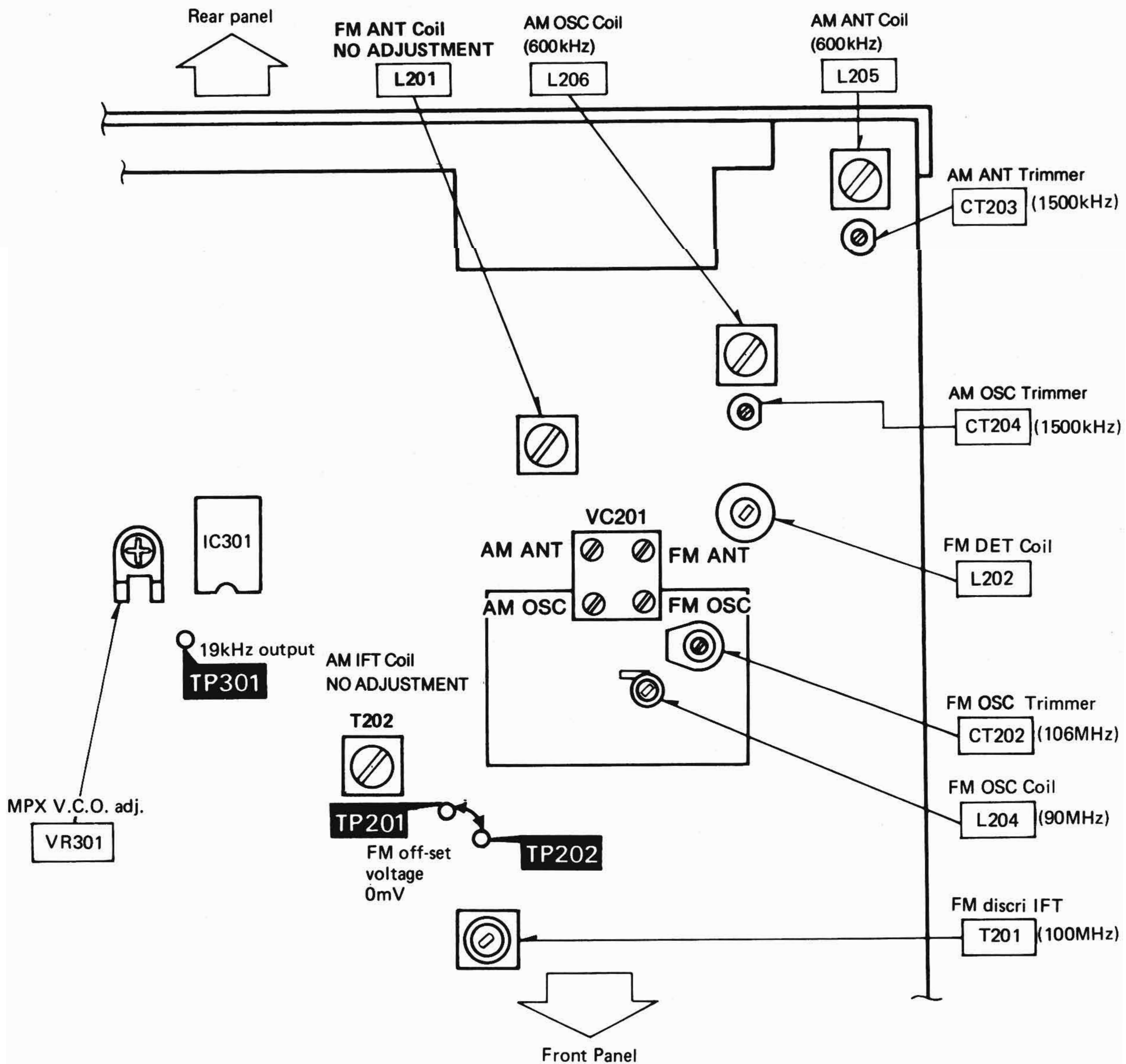
### FM SIGNAL GENERATOR CONDITION

Modulation..... 0% (non-moduration)  
Output level..... 66dB



(A) - (B), (D) - (E) : Stereo OFF Position  
(B) - (D) : Stereo ON Position (Indicator lighting)  
(C) : Adjust Point of Pilot Circuit

### ● Adjustment points



# 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.
  - The unit of resistance is  $\Omega$ . (ohm)  $K=1000\Omega$ ,  $M=1000k\Omega$ .
  - The unit of capacitance is  $\mu F$ . (microfarad)  $P=10^{-6}\mu F$ .

## Numbering System of Resistor

Example	ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value	

Resistor Type	Wattage	Tolerance
ERD : Carbon	25 : 1/4W	J : $\pm 5\%$
ERX : Metal Film	S1 : 1/2W	
ERG : Metal Oxide	1 : 1W 2 : 2W	

## Numbering System of Capacitor

Example	ECKD	1H	102	M	D
Type	Voltage	Value	Tolerance	Peculiarity	
ECEA	50	M	R47	R	
Type	Voltage	Peculiarity use	Value	Special use	

Capacitor Type	Voltage		Tolerance
	ECEA Type	Others	
ECEA : Electrolytic	0J : 6.3V	1H : 50V DC	C : $\pm 0.25\mu F$
ECCD : Ceramic	1A : 10V	KC : 400V AC	J : $\pm 5\%$
ECKD : Ceramic	1C : 16V		K : $\pm 10\%$
ECQM : Polyester	1E : 25V		Z : +80%, -20%
ECQP : Polypropylene	1V : 35V		P : +100%, -0%
ECET : Electrolytic	42 : 42V		
ECQE : Polyester	1H : 50V 50 : 50V		

## RESISTORS

Ref. No.	Part No.	Value
R201	ERD25FJ102	1K
R202	ERD25FJ220	22
R203	ERD25FJ221	220
R204	ERD25TJ474	470K
R205	ERD25FJ471	470
R206	ERD25TJ123	12K
R207	ERD25FJ822	8.2K
R208	ERD25FJ102	1K
R209	ERD25FJ562	5.6K
R210	ERD25TJ224	220K
R211	ERD25FJ472	4.7K
R212	ERD25FJ152	1.5K
R213	ERD25TJ564	560K
R214	ERD25TJ684	680K
R215	ERD25FJ471	470
R216	ERD25TJ824	820K
R217	ERD25FJ152	1.5K
R218	ERD25FJ122	1.2K
R220	ERD25FJ102	1K
R221	ERD25FJ331	330
R222	ERD25FJ103	10K
R223	ERD25FJ562	5.6K
R224	ERD25FJ103	10K
R225, 226	ERD25FJ472	4.7K
R227	ERD25TJ154	150K
R228	ERD25FJ122	1.2K
R229	ERD25FJ821	820
R230	ERD25FJ471	470
R231	ERD25FJ102	1K
R232	ERD25FJ151	150
R301, 302	ERD25FJ103	10K
R303	ERD25TJ104	100K
R304	ERD25FJ470	47
R305, 306	ERD25TJ223	22K
R307, 308	ERD25FJ222	2.2K
R309, 310	ERD25TJ333	33K
R311	ERD25TJ334	330K
R312	ERD25TJ153	15K
R314	ERD25FJ561	560
R315	ERD25FJ102	1K
R401, 402	ERD25FJ391	390
R403, 404	ERD25TJ224	220K
R405, 406	ERD25TJ563	56K
R407, 408	ERD25FJ271	270
R409, 410	ERD25FJ680	68
R411, 412	ERD25TJ184	180K
R413, 414	ERD25TJ123	12K
R415, 416	ERD25TJ563	56K
R417, 418	ERD25FJ102	1K
R419, 420	ERD25FJ100	10
R501, 502	ERD25FJ222	2.2K
R503, 504	ERD25FJ222	2.2K
R505, 506	ERD25FJ561	560

Ref. No.	Part No.	Value
R507, 508	ERD25TJ183	18K
R509, 510	ERD25FJ222	2.2K
R511, 512	ERD25TJ124	120K
R513, 514	ERD25TJ823	82K
Except [Ei, EX]		
R515, 516	ERD25TJ473	47K
Except [Ei, EX]		
R521, 522	ERD25FJ102	1K
R601, 602	ERD25FJ102	1K
R603, 604	ERD25TJ393	39K
R605, 606	ERD25FJ222	2.2K
R607, 608	$\Delta$ ERD25FJ272	2.7K
R609	$\Delta$ ERG1ANJ152	1.5K
R610	$\Delta$ ERDS1FJ101	100
R611, 612	ERX2ANJR22	0.22
R613, 614	$\Delta$ ERDS1FJ100	10
R615, 616	ERD25FJ222	2.2K
R617, 618	ERD25TJ153	15K
R619, 620	ERD25TJ123	12K
R621, 622	ERD25TJ123	12K
R623, 624	ERD25TJ473	47K
R625, 626	$\Delta$ ERD25TJ153	15K
R627, 628	ERD25FJ102	1K
R629	ERD25FJ102	1K
R630	$\Delta$ ERD25TJ223	22K
R631, 632	ERG1ANJ331	330
R633	ERD25FJ562	5.6K
R634	ERD25TJ123	12K
R635	ERD25TJ473	47K
R636	ERD25TJ154	150K
R637	ERD25TJ104	100K
R638	ERG1ANJ152	1.5K
R639	ERD25TJ184	180K
R640, 641	$\Delta$ ERD25FJ470	47
R643	$\Delta$ ERD25FJ470	47
R644	$\Delta$ ERD25FJ470	47
R645	$\Delta$ ERD25FJ470	47
R647, 648	ERD25TJ104	100K
R649, 650	$\Delta$ ERDS1FJ100	10
R701	$\Delta$ ERDS1FJ270	27
R702	ERD25FJ821	820
R703	$\Delta$ ERDS1FJ152	1.5K
R704	ERD25FJ681	680
R705	ERD25FJ272	2.7K
R706	ERD25FJ392	3.9K
R707	ERDS1FJ152	1.5K
R708	ERD25FJ221	220
R710	$\Delta$ ERD25FAJ2R2	2.2

## CAPACITORS

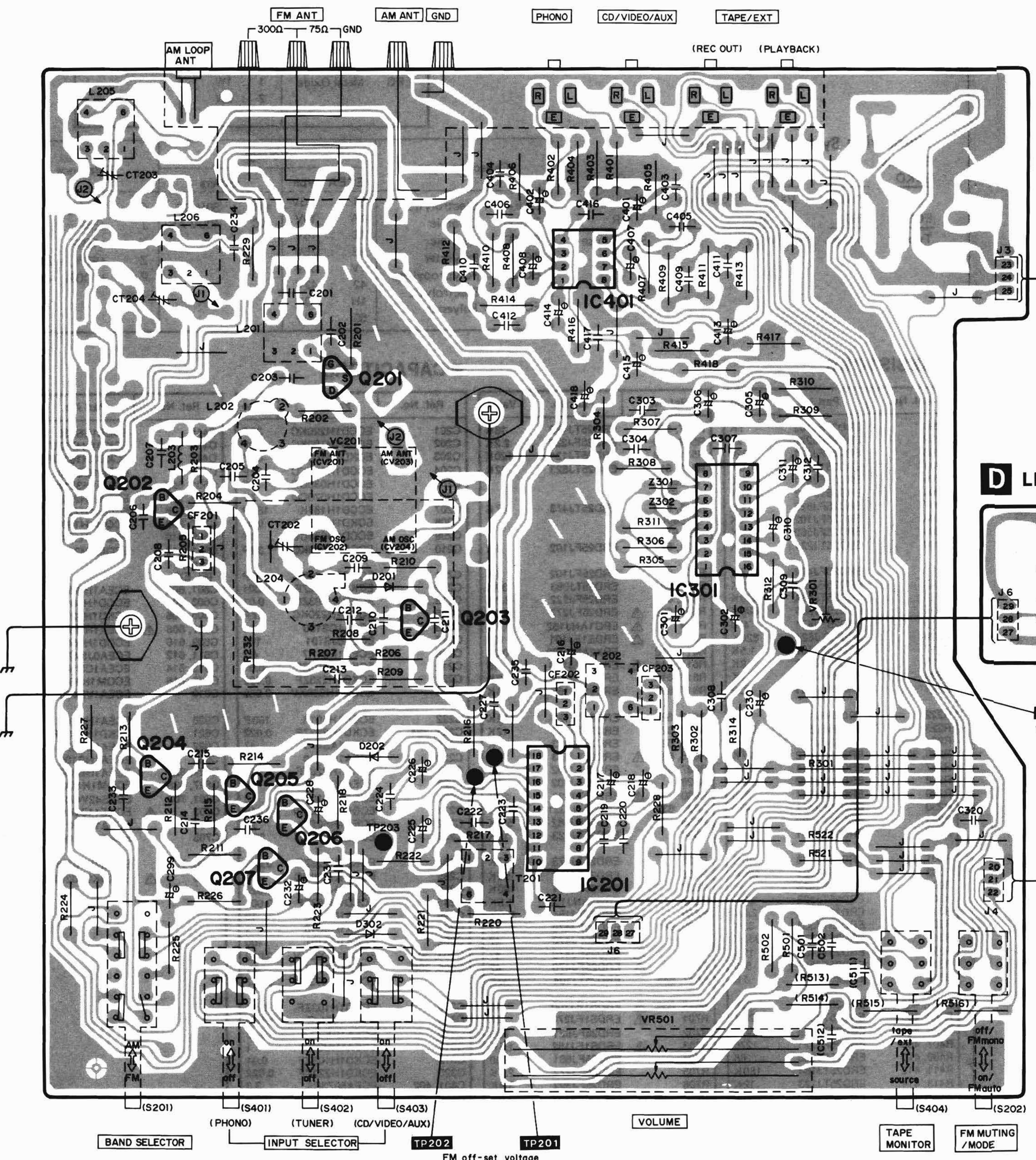
Ref. No.	Part No.	Value
C201	ECCD1H220KC	22P
C202	ECCD1H180KC	18P
C203	ECKD1H103ZF	0.01
C204	ECCD1H220KC	22P
C205	ECCD1H030CC	3P
C206	ECCD1H070CC	7P
C207	ECCD1H181K	180P
C208	ECKD1H103ZF	0.01
C209	ECCD1H080CC	8P
C210	ECCD1H390KC	39P
C211	ECCD1H100KC	10P
C212	ECKD1H102ZF	0.001
C213, 214	ECKD1H103ZF	0.01
C215	ECCD1H220KC	22P
C216	ECEA1CS100	10
C217	ECEA0JS101	100
C218	ECEA1ES4R7	4.7
C219	ECKD1H103ZF	0.01
C220	ECKD1H223ZF	0.022
C221	ECQM1H333KV	0.033
C222	ECCD1H101K	100P
C223, 224	ECKD1H223ZF	0.022
C225	ECEA1AS470	47
C226	ECEA1HS010	1
C227	ECKD1H223ZF	0.022
C228	ECEA1CS100	10
C230	ECEA1CS100	10
C231	ECQM1H183KV	0.018
C232	ECEA1HS2R2	22
C233	ECCD1H270KC	27P
C234	ECKD1H223ZF	0.022
C235	ECGD1H330KC	33P
C236	ECKD1H223ZF	0.022
C245	ECKD1H102ZF	0.001
C299	ECEA1CS100	10
C301	ECEA1HS010	1
C302	ECEA1CS101	100
C303, 304	ECQM1H223KV	0.022
C305, 306	ECEA1ES4R7	4.7
C307	ECQM1H473KV	0.047
C308	ECKD1H103ZF	0.01
C309	ECQP1471JZ	470P
C310	ECEA1HSR47	0.47
C311	ECEA1HU010	1
C312	ECKD1H103ZF	0.01
C320	ECKD1H223ZF	0.022
C401, 402	ECEA50Z3R3	3.3
C403, 404	ECCD1H101K	100P
C405, 406	ECKD1H471KB	470P
C407, 408	ECEA0JS330	33
C409, 410	ECQM1H223KV	0.022
C411, 412	ECQM1H682KV	0.0068
C413, 414	ECEA1HS010	1

Ref. No.	Part No.	Value
C415	ECEA1CS330	33
C416	ECKD1H473ZF	0.047
C417	ECKD1H103ZF	0.01
C418	ECEA1CS330	33
C501, 502	ECKD1H331KB	330P
C503, 504	ECQM1H222KV	0.0022
C505, 506	ECQM1H223KV	0.022
C507, 508	ECQM1H183KV	0.018
C509, 510	ECQM1H104KV	0.1
C511, 512	ECQM1H333KV	0.033
Except [Ei, EX]		
C601, 602	ECEA1HS2R2	2.2
C603, 604	ECCD1H101K	100P
C605, 606	ECKD1H221KB	220P
C607, 608	$\Delta$ ECEA1HN3R3S	3.3
C609, 610	ECCD1H050CC	5P
C611, 612	ECEA0JS470	47
C613, 614	ECEA1CS100	10
C615, 616	ECQM1H104KV	0.1
C619	ECEA1VS470	47
C620	ECEA1HS101	100
C621	ECKD1H103ZF	0.01
C622	ECEA1HS330	33
C623	ECEA1HS100	10
C624, 625	ECEA1HS330	33
C627, 628	ECQM1H104KV	0.1
C701, 702	ECES42V47Z	0.0047
C703	$\Delta$ ECQE1104KN	0.1
C704	ECEA1ES101	100
C705	ECEA1CS100	10
C706, 707	ECKD1H103ZF	0.01
C708	$\Delta$ ECKDKC103PF2	0.01

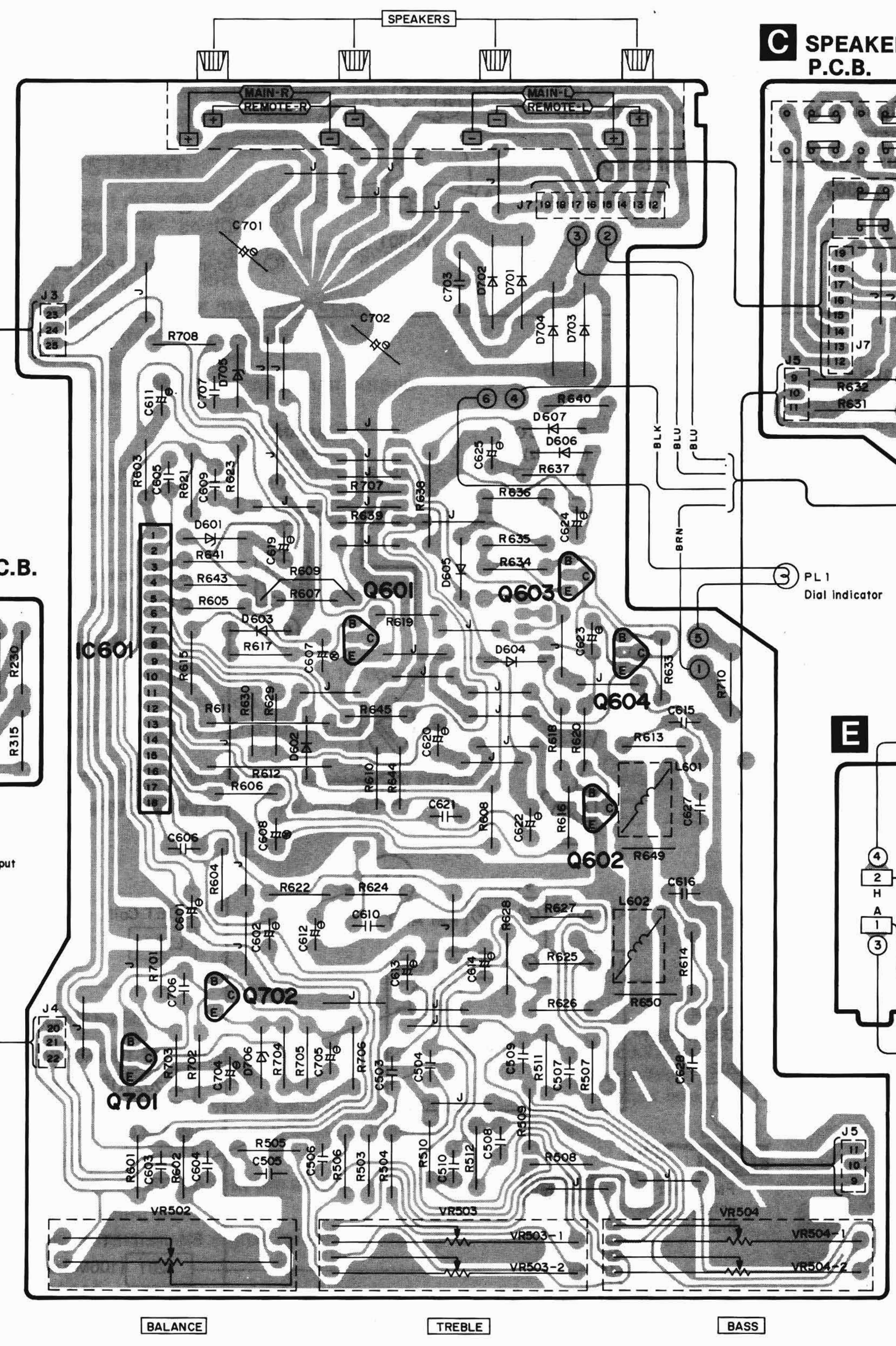


# CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

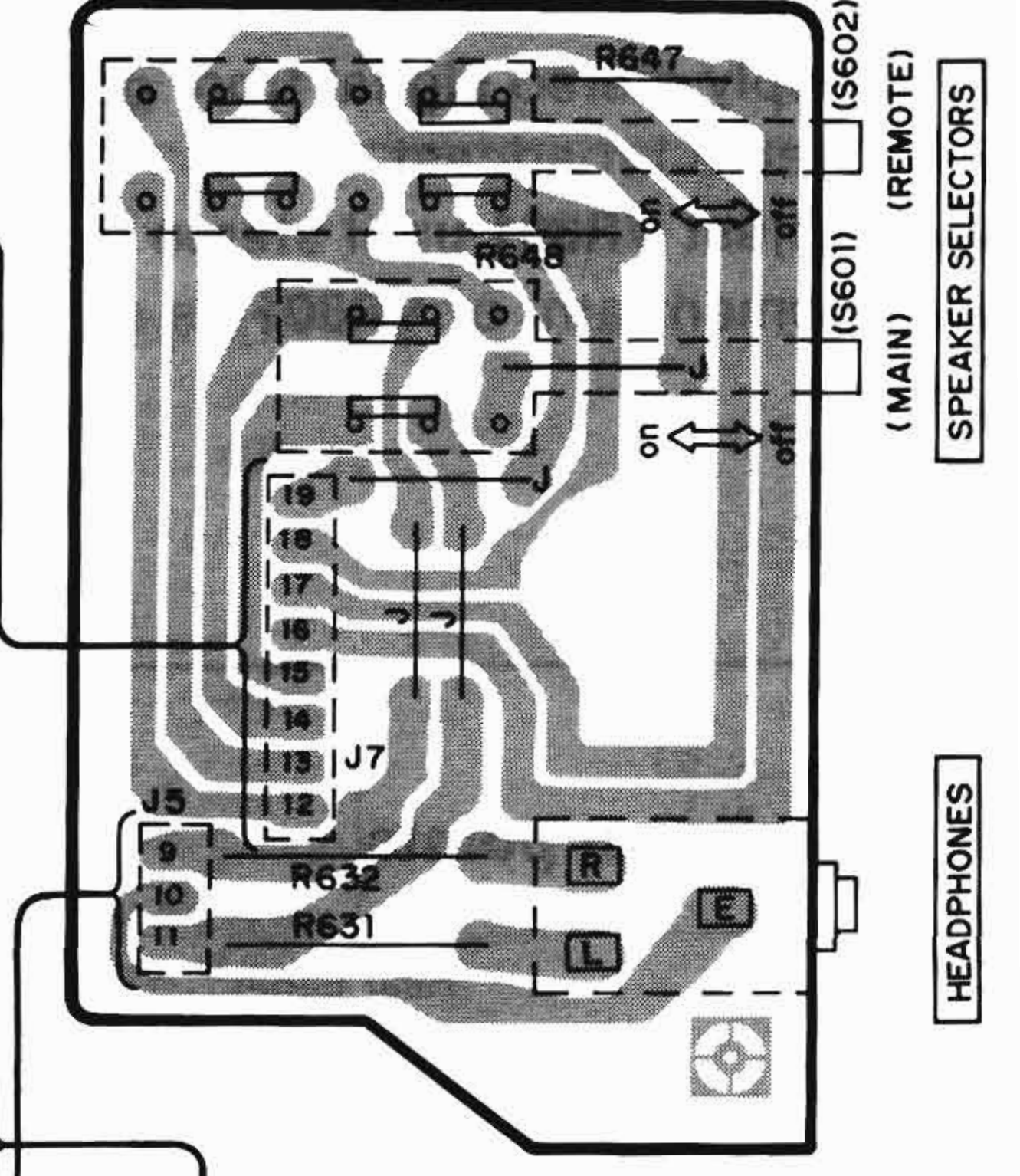
**A TUNER P.C.B.**



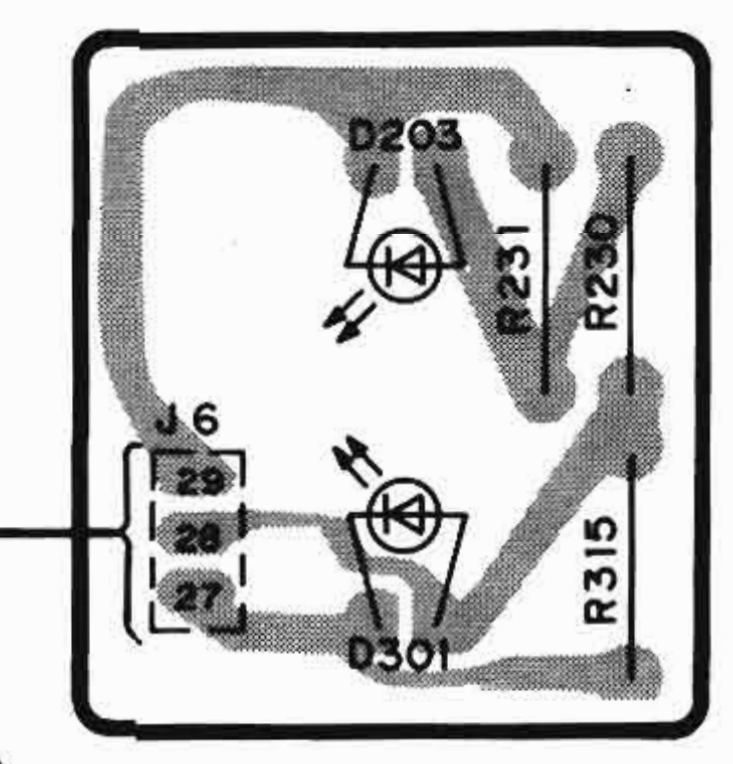
**B AMP P.C.B.**



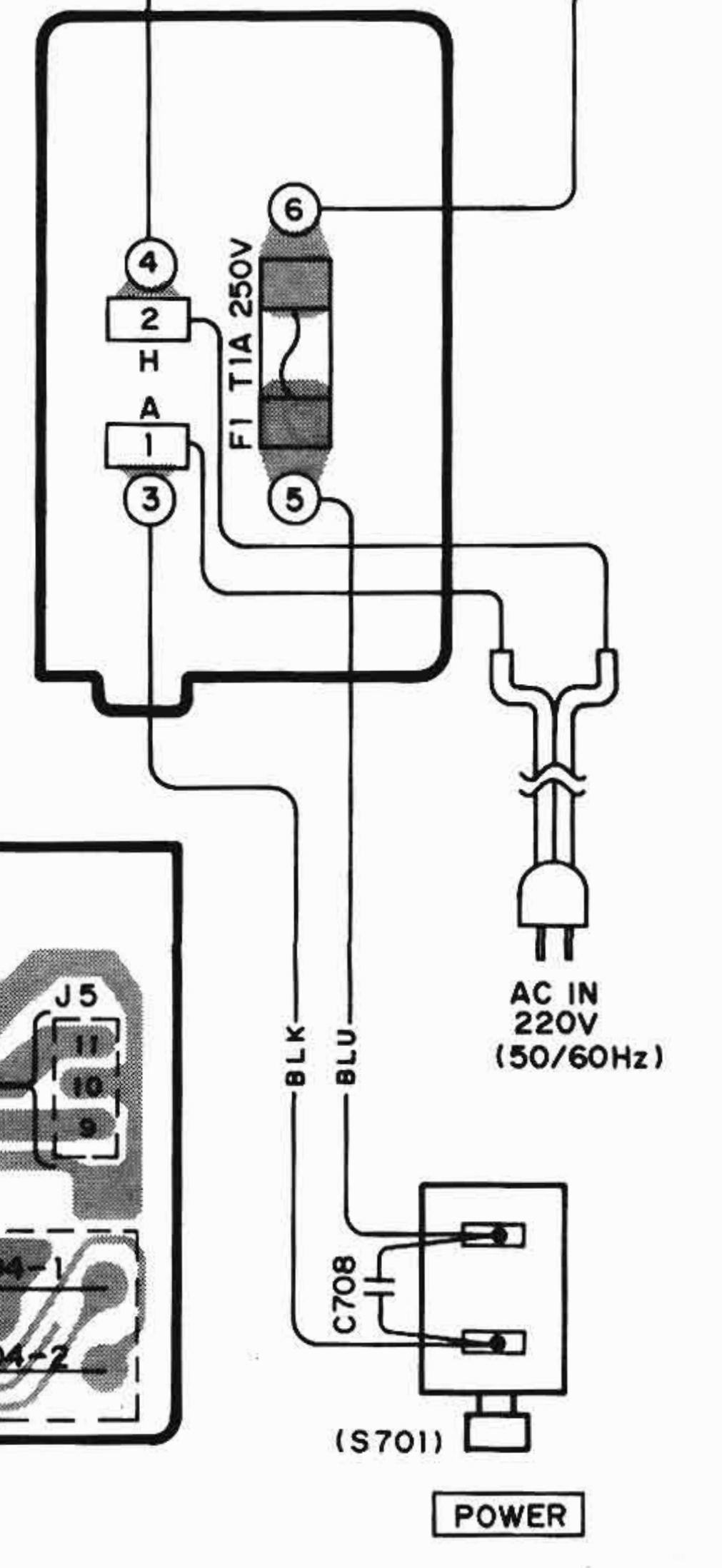
**C SPEAKER SELECTOR P.C.B.**



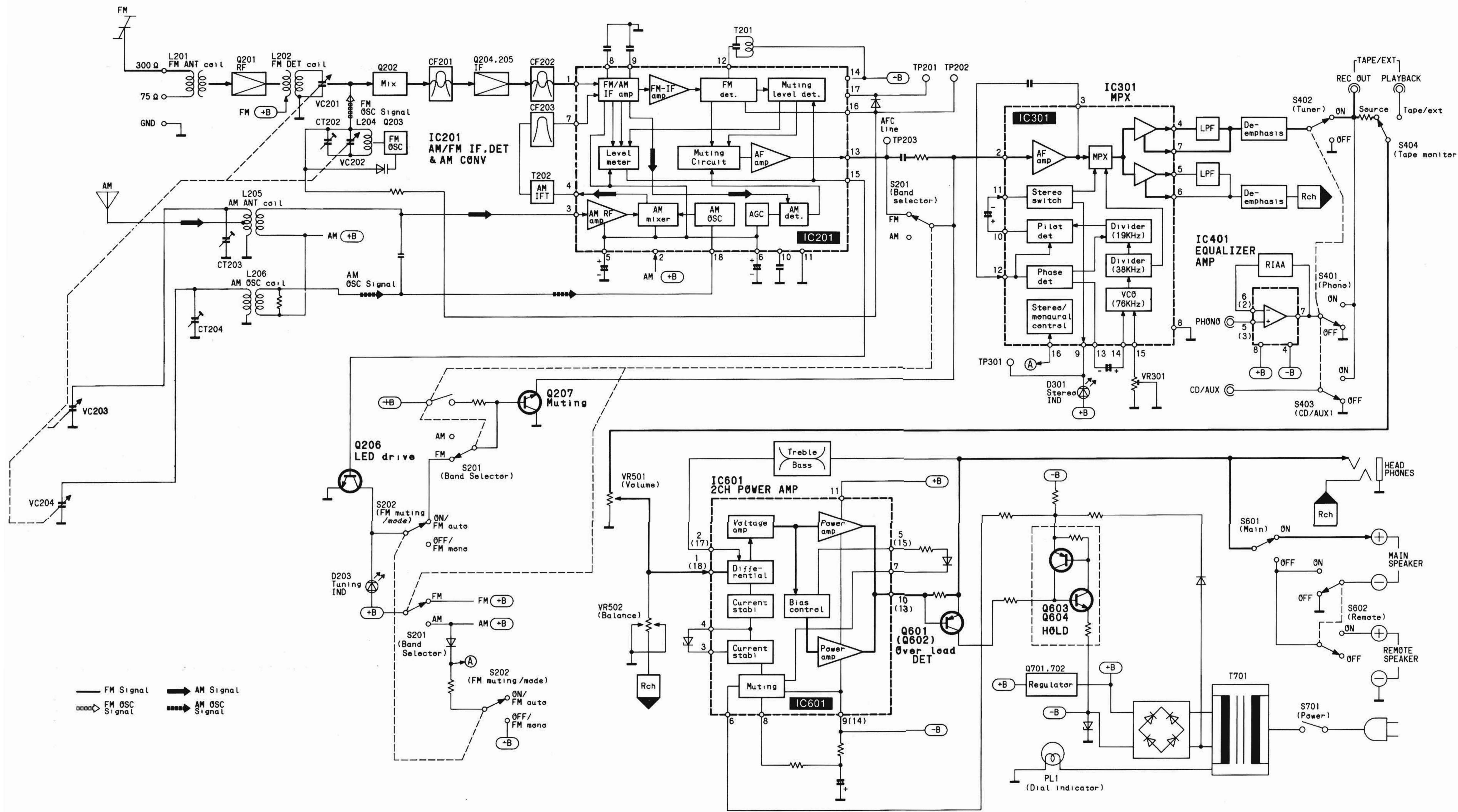
**D LED P.C.B.**



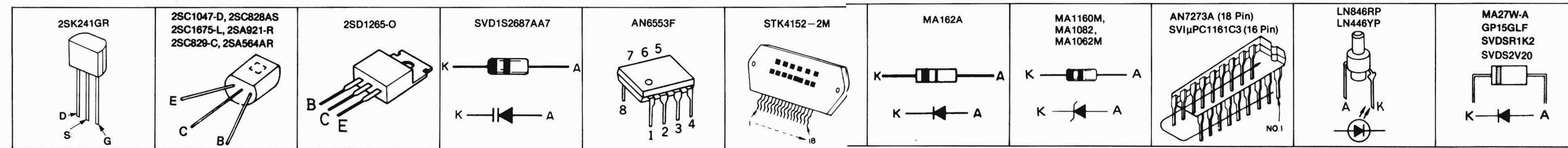
**E**



# ■ BLOCK DIAGRAM



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



# ■ REPLACEMENT PARTS LIST

**Notes:**

- Part numbers are indicated on most mechanical parts. Please use this part number for parts orders.
- 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.
- The parenthesized numbers in the column of description stand for the quantity per set.
- Bracketed indications in Ref. No. columns specify the areas. Parts without these indications can be used for all areas.
- $\otimes$ -marked parts are used for black only, while  $\circ$ -marked parts are for silver type only.
- Part other than  $\otimes$  and  $\circ$ -marked are use for both black and silver type.

Ref. No.	Part No.	Description
<b>INTEGRATED CIRCUITS</b>		
IC201	AN7273A	IC
IC301	SV1JPC1161C3	IC
IC401	AN6553F	IC
IC801	$\Delta$ STK4152-2M	IC
<b>TRANSISTORS</b>		
Q201	2SK241-GR	Transistor
Q202	2SC1047-D	Transistor
Q203	2SC1675-L	Transistor
Q204, 205	2SC829-C	Transistor
Q206, 207, 604, 702	2SC828AS	Transistor
Q601, 602	2SA921-R	Transistor
Q603	2SA564AR	Transistor
Q701	2SD1265-O	Transistor
<b>DIODES</b>		
D201	SVD1S2687AA7	FM AFC
D202	MA27W-A	L.E.D. (Tuning)
D203	LN446YP	L.E.D. (Stereo)
D301	LN846RP	L.E.D. (Stereo)
D302, 602-606	MA162A	Switching Zener, 8.2V
D601	MA1082	Zener, 8.2V
D701-704	SVDSR1K2	Rectifier
D705	SVDS2V20	Rectifier
D706	MA1160M	Zener, 16V
D706	MA1062M	Zener, 6.2V
<b>COILS</b>		
L201	SLA4N39	FM Antenna
L202	SLD4P71-P	FM Detector
L203	SLQ212G1-D	Choke
L204	SLO4P121-P	FM Oscillator
L205	SLA2C9-P	AM Antenna
L206	SLO2C33-P	AM Oscillator
L601, 602	SLOQ7G-30	Choke
<b>TRANSFORMERS</b>		
T201	SLI4C539-P	FM IFT
T202	SLI2C139-M	AM IFT
T701	$\Delta$ SLT5M383	Power Source (MESA)
<b>CERAMIC FILTERS</b>		
CF201, 202	SVFE107MS8A	FM, 10.7MHz (Red)
	SVFE107MS8B	FM, 10.675MHz (Blue)
	SVFE107MS8C	FM, 10.725MHz (Orange)
	SVFE107MS8D	FM, 10.650MHz (Black)
	SVFE107MS8E	FM, 10.750MHz (White)
CF203	SVFSFU450B3	AM, 450kHz

Ref. No.	Part No.	Description
<b>VARIABLE RESISTORS</b>		
VR301	EVN75AA00B53	VCO Adjustment, 5k $\Omega$ (B)
VR501	EWE00605A15S	Volume Control, 100k $\Omega$ (A)
	EVD00305G15S	Balance Control, 100k $\Omega$ (G)
VR503, 504	EWD00205C15S	Tone Control, 100k $\Omega$ (C)
<b>VARIABLE CAPACITORS</b>		
CT202	ECV1ZW10X32E	Trimmer, FM OSC
CT203	ECRHA007A11	Trimmer, AM Antenna
CT204	ECRHA010A11	Trimmer, AM OSC
VC201~204	SVCCB41T914	Tuning Gang
<b>COMPONENT COMBINATIONS</b>		
Z301, 302	EXRP181K473C	180pF, 47k $\Omega$
<b>LAMP</b>		
PL1	$\Delta$ XAMR78S250	12V, 0.22A
<b>FUSE</b>		
F1	$\Delta$ XBA2C10TRO	Power Source, 250V, T1A
<b>SWITCHES</b>		
S201	SSH1151	Band Selector (FM/AM) Mode,
S202, 403	SSH1031	Tape Monitor Input Selector
S401, 402, 404	SSH3069	Speaker (Main)
S601	SSH1149	Speaker (Remote)
S602	SSH1073	Speaker (Remote)
S701	$\Delta$ SSH1071	Power Source

Ref. No.	Part No.	Description
<b>CABINET and CHASSIS PARTS</b>		
1	SUS305	Bracket (1)
2	$\circ$ SGWA130-SE	Front Panel, Ass'y (MESA) (1)
2	$\otimes$ SGWA130-KE	Front Panel, Ass'y (MESA) (1)
3	SGU333-19	Dial Scale (MESA) (1)
4	$\circ$ SBN1091	Knob, Tuning (1)
4	$\otimes$ SBN1091-3	Knob, Tuning (MESA) (1)
5	$\circ$ SGX7657-9	Front Sub Panel (MESA) (1)
5	$\otimes$ SGX7657-8	Front Sub Panel (MESA) (1)
6	$\circ$ SBD99-2T	Knob, Tone (3)
6	$\otimes$ SBD99-5	Knob, Tone (3)
7	$\circ$ SBC627	Power Button (1)
7	$\otimes$ SBC666-3	Power Button (1)
8	SHG6363	Spacer, Button (1)
9	SUS257	Spring, Button (8)
10	$\circ$ SBC583-1T	Button, Input Selector (3)
10	$\otimes$ SBC583-2T	Button, Input Selector (MESA) (3)

Ref. No.	Part No.	Description
<b>CABINET and CHASSIS PARTS</b>		
12	SUR152M	Bracket, Tuning Shaft (MESA) (1)
13	SHR5253	Spacer, Drum (1)
14	SDD105-2	Drum, Dial (1)
15	SUS295-1	Spring, Dial Drum (1)
16	SDZ051-2	Cord, Dial (1.8m)
17	SDT8095-1M	Tuning Shaft (MESA) (1)
18	SDR31	Roller, Dial (4)
20	SHR411	Lock Pin (2)
21	$\circ$ SBD77T	Knob, Volume (1)
21	$\otimes$ SBD77-2T	Knob, Volume (MESA) (1)
22	$\circ$ SBZ657-2	Slider (MESA) (1)
22	$\otimes$ SBZ657-3	Slider (MESA) (1)
23	$\circ$ SBC423T	Button (2)
23	$\otimes$ SBC423-3T	Button (MESA) (2)
24	$\circ$ SHR9727-1	Sheet (MESA) (1)
24	$\otimes$ SHR9727	Sheet (1)
<b>COMPONENT COMBINATIONS</b>		
Z301, 302	EXRP181K473C	180pF, 47k $\Omega$
<b>LAMP</b>		
PL1	$\Delta$ XAMR78S250	12V, 0.22A
<b>FUSE</b>		
F1	$\Delta$ XBA2C10TRO	Power Source, 250V, T1A

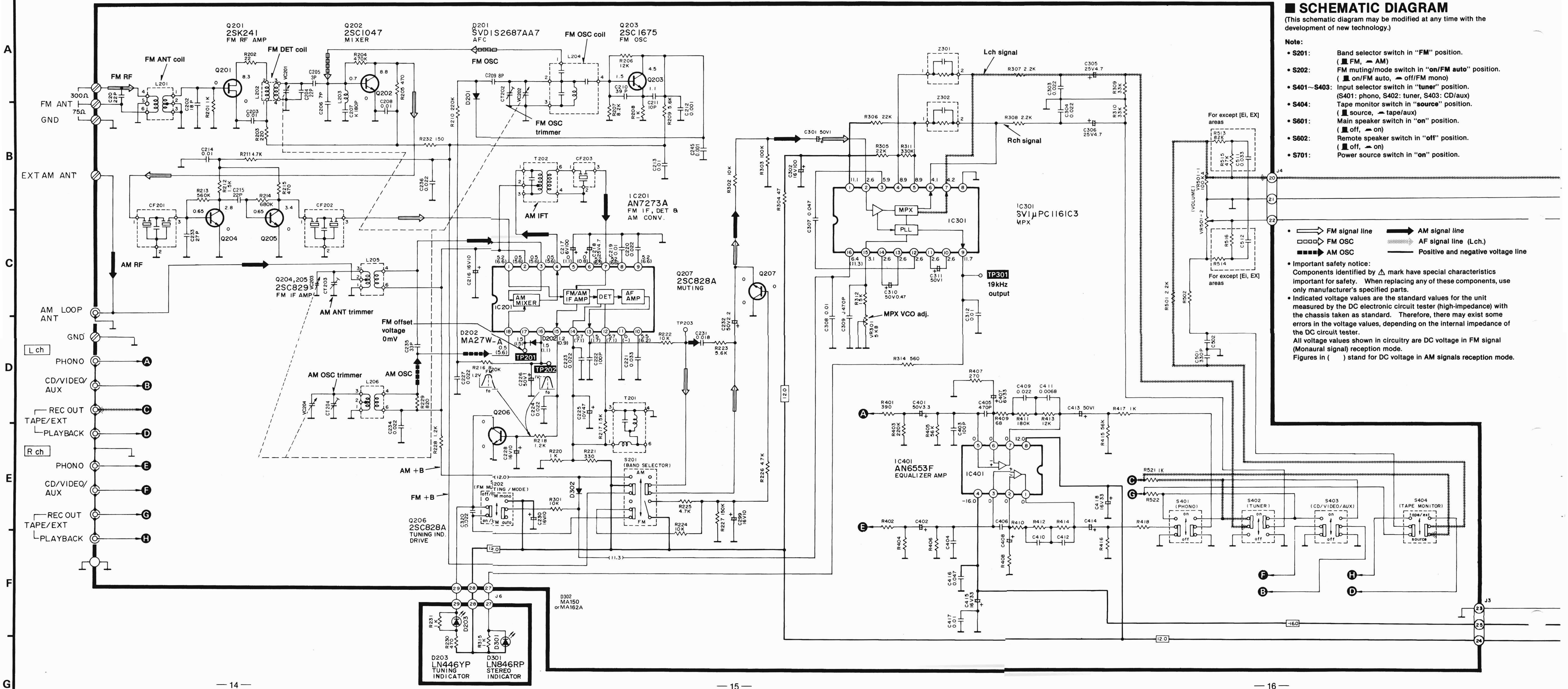
Ref. No.	Part No.	Description
<b>CABINET and CHASSIS PARTS</b>		
31	SJ718	Jack, Headphone (1)
32	SUW1989	Bracket (1)
33	$\circ$ SKCA121-SM	Cabinet (1)
33	$\otimes$ SKCA121-KC	Cabinet (1)
34	SKUA120-SE	Bottom Board (1)
35	(SKL245-2)	Foot (4)
35	SJF8035-8N	Terminal Board (1)
36	SJF4815-2	Terminal Board (1)
37	SGP6130-2F	Rear Panel (MESA) (1)
37	[EX, EH] SGP6130-2J	Rear Panel (MESA) (1)
39	SHR127	Bushing, AC Cord (1)
41	SFDA31E01	AC Cord (1)
42	SJT347	Fuse Holder (2)
42	SJT30343-V	Socket (1)
43	SMN1823	Bracket, P.C.B. (1)
44	SMX435	Insulation Cover (1)
<b>SCREWS, WASHERS and NUT</b>		
N1	XTB3+8JFZ1	Tapping, $\otimes 3 \times 8$ (11)
N2	XTB3+8JFR	Tapping, $\otimes 3 \times 8$ (8)
N3	XTW3+8T	Tapping, $\otimes 3 \times 8$ (1)
N4	XTB3+8G	Tapping, $\otimes 3 \times 8$ (8)
N5	XSN26+C5FZ	Tapping, $\otimes 2.6 \times 5$ (1)
N6	XSN3+8FR	Tapping, $\otimes 3 \times 8$ (2)
N7	XTB3+16JFZ	Tapping, $\otimes 3 \times 16$ (2)
N8	$\circ$ SNE2095-4	Cabinet (4)
N8	$\otimes$ SNE2095-5	Cabinet (4)
N9	$\circ$ XTB3+8JFN	Tapping, $\otimes 3 \times 8$ (2)
N9	$\otimes$ XTB3+8JFZ	Tapping, $\otimes 3 \times 8$ (2)
N10	SHW14E100M	Knob (MESA) (8)
N11	XWD11A	External Toothed Lock, $\phi 11$ (1)
N12	XWG3	Plain, $\phi 3$ (1)
N13	XWA28BFZ	Spring, $\phi 2.6$ (1)
N14	XWC3B	External Toothed Lock, $\phi 3$ (2)
N15	XNS11	$\phi 11$ (1)
N16	XTB3+8JFR	Tapping, $\otimes 3 \times 8$ (1)
N17	XTB3+8BFZ1	Tapping, $\otimes 3 \times 8$ (2)
N18	XTW3+8T	Tapping, $\otimes 3 \times 8$ (1)
N19	XTB3+8J	Tapping, $\otimes 3 \times 8$ (1)

### SCHEMATIC DIAGRAM

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

- Note:**
- S201: Band selector switch in "FM" position. (FM, AM)
  - S202: FM muting/mode switch in "on/FM auto" position. (on/FM auto, off/FM mono)
  - S401-S403: Input selector switch in "tuner" position. (S401: phono, S402: tuner, S403: CD/aux)
  - S404: Tape monitor switch in "source" position. (source, tape/aux)
  - S601: Main speaker switch in "on" position. (off, on)
  - S602: Remote speaker switch in "off" position. (off, on)
  - S701: Power source switch in "on" position.

- FM signal line
  - AM signal line
  - FM OSC
  - AM OSC
  - AF signal line (Lch.)
  - Positive and negative voltage line
- 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 the 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 the internal impedance of the DC circuit tester.  
All voltage values shown in circuitry are DC voltage in FM signal (Monaural signal) reception mode.  
Figures in ( ) stand for DC voltage in AM signals reception mode.



IC601  
STK4152 - 2M  
2CH POWER AMP

D601  
MA1082  
8.2V ZENER

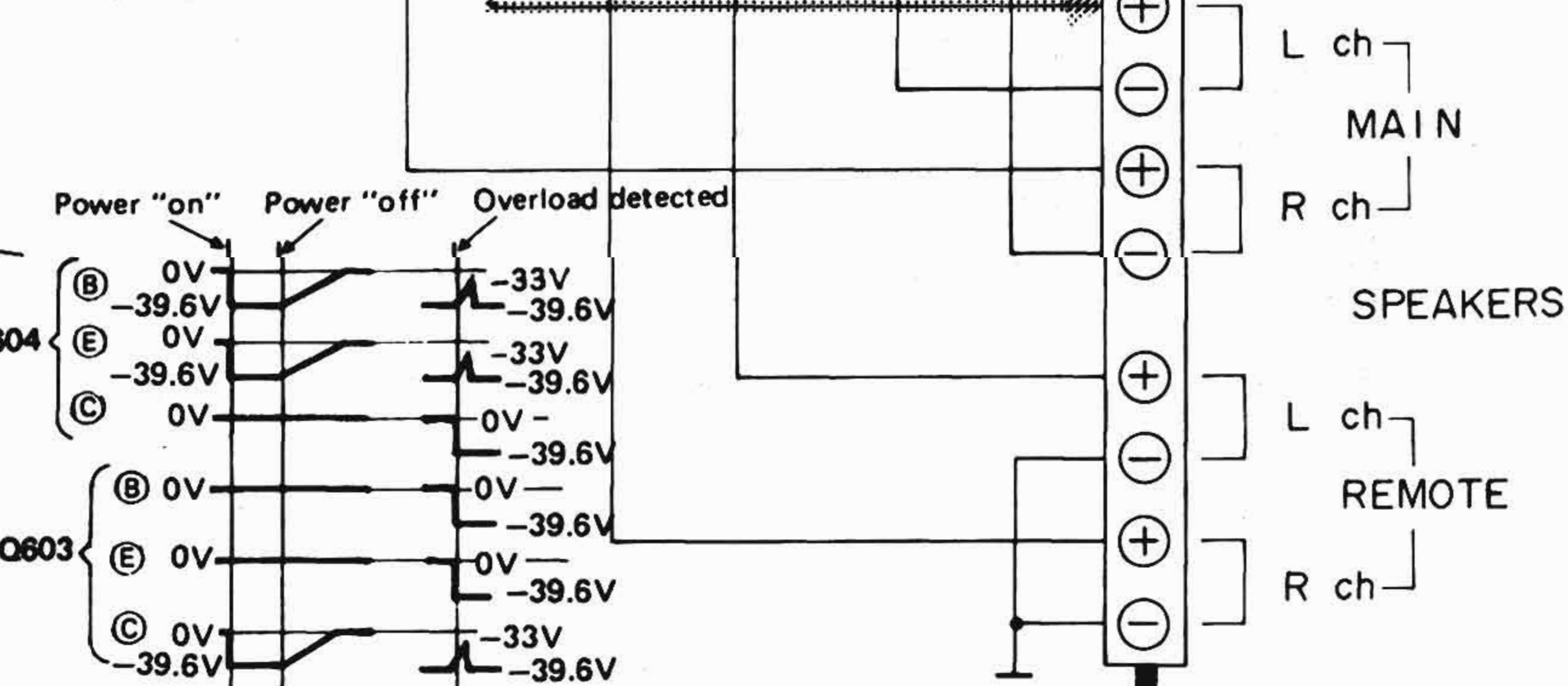
D602  
MA162

Series connection method is employed for the main and remote speaker connections of this set. Therefore, if both speaker changeover switches (main and remote) are turned "on" with the speaker unit connected only to main or remote speaker terminal, then no output signal will be delivered from the speaker unit.

Q601, 602  
2SA921  
OVER LOAD DET

D603, 604  
MA162

D605, 606  
MA162



Part No.	Original Part No.	Supplier Part No.
D701~704	GP15GLF	SVDS2V20

Lch. Treble Control

Lch. Bass Control

Rch. Treble Control

Rch. Bass Control

Q701  
2SD1265  
REGULATOR

Q702  
2SC828A  
REGULATOR

D706  
MA1062M  
6.2V ZENER

D701 ~ D704  
GP15GLF  
RECTIFIER

D705  
MA1160M  
16V ZENER

A  
B  
C  
D  
E  
F  
G

EXPLODED VIEWS

