

Service Manual

FM/AM Stereo Receiver

SA-404

(M), (MC)



Simulated wood cabinet

* The model SA-404 (M) is available in U.S.A.
 * The model SA-404 (MC) is available in Canada.

TECHNICAL SPECIFICATIONS (Specifications are subject to change without notice for further improvement.)

AMPLIFIER SECTION

Rated minimum sine wave RMS power output 20 Hz ~ 20 kHz both channels driven 0.04% total harmonic distortion	50 W per channel (8 ohms)
1 kHz continuous power output both channels driven 0.04% total harmonic distortion	55 W per channel (8 ohms) 60 W per channel (4 ohms)
Dynamic headroom Total harmonic distortion	1.4 dB (8 ohms)
rated power at 20 Hz ~ 20 kHz	0.04% (8 ohms)
half power at 20 Hz ~ 20 kHz	0.02% (8 ohms)
half power at 1 kHz	0.009% (8 ohms)
SMPTE intermodulation distortion	0.04% (8 ohms)
Frequency response PHONO TUNER, AUX, TAPE	RIAA standard curve +0.3 dB 7 Hz ~ 45 kHz, -1 dB 20 Hz ~ 20 kHz, +0.2 dB, -0.2 dB
Input sensitivity PHONO TAPE 1, 2	0.4 mV (2.5 mV, IHF '66) 20 mV (150 mV, IHF '66)
S/N (IHF, A) PHONO TUNER, AUX, TAPE	73 dB (80 dB, IHF '66) 78 dB (95 dB, IHF '66)
Maximum input voltage PHONO	120 mV (150 mV, 1 kHz)
Input impedance PHONO TAPE 1, 2	47 kilohms 27 kilohms
Tone controls BASS TREBLE	50 Hz, +10 dB ~ -10 dB 20 kHz, +10 dB ~ -10 dB
Acoustic controls (at tone "0" position) LOW BOOST HIGH BOOST	100 Hz, +6 dB 10 kHz, +6 dB
Low filter	100 Hz, -6 dB/oct.
High filter	7 kHz, -6 dB/oct.
Loudness control (volume at -30 dB)	50 Hz, +9 dB
Output voltage REC OUT	150 mV
Low frequency damping factor	34 (8 ohms) 17 (4 ohms)

Load impedance MAIN or REMOTE MIAN and REMOTE	4 ~ 16 ohms 8 ~ 16 ohms
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FM TUNER SECTION E (500 ~ 599)

Frequency range	88 ~ 108 MHz
Sensitivity	10.8 dBf (1.9 μV, IHF '58)
50 dB quieting sensitivity	
MONO	13.7 dBf (2.7 μV IHF '58)
STEREO	37.2 dBf (39.7 μV IHF '58)
Total harmonic distortion	
100 Hz	0.15% (MONO), 0.3% (STEREO)
1 kHz	0.15% (MONO), 0.3% (STEREO)
6 kHz	0.3% (MONO), 0.4% (STEREO)
S/N	
MONO	75 dB
STEREO	70 dB
Frequency response	20 Hz ~ 15 kHz, +1 dB, -2 dB
Alternate channel selectivity	70 dB
Capture ratio	1.2 dB
Image rejection at 98 MHz	60 dB
IF rejection at 98 MHz	75 dB
Spurious response rejection at 98 MHz	82 dB
AM suppression	55 dB
Stereo separation	
1 kHz	45 dB
10 kHz	35 dB
Carrier leak	
19 kHz	-40 dB
38 kHz	-50 dB
Antenna terminals	300 ohms (balanced) 75 ohms (unbalanced)

AM TUNER SECTION

Frequency range	525 ~ 1605 kHz
Sensitivity	30 μV, 300 μV/m
Selectivity	30 dB
Image rejection at 1000 kHz	50 dB
IF rejection at 1000 kHz	40 dB

GENERAL

Power consumption	300 W, 345 VA
Power supply	AC 120V, 60 Hz
Dimensions (W x H x D)	480 x 160 x 293 mm (18-29/32" x 6-5/16" x 11-17/32")
Weight	8.4 kg (18.5 lb.)

Weights and dimensions shown are approximate.

Technics

Panasonic Company
 Division of Matsushita Electric
 Corporation of America
 One Panasonic Way, Secaucus,
 New Jersey 07094

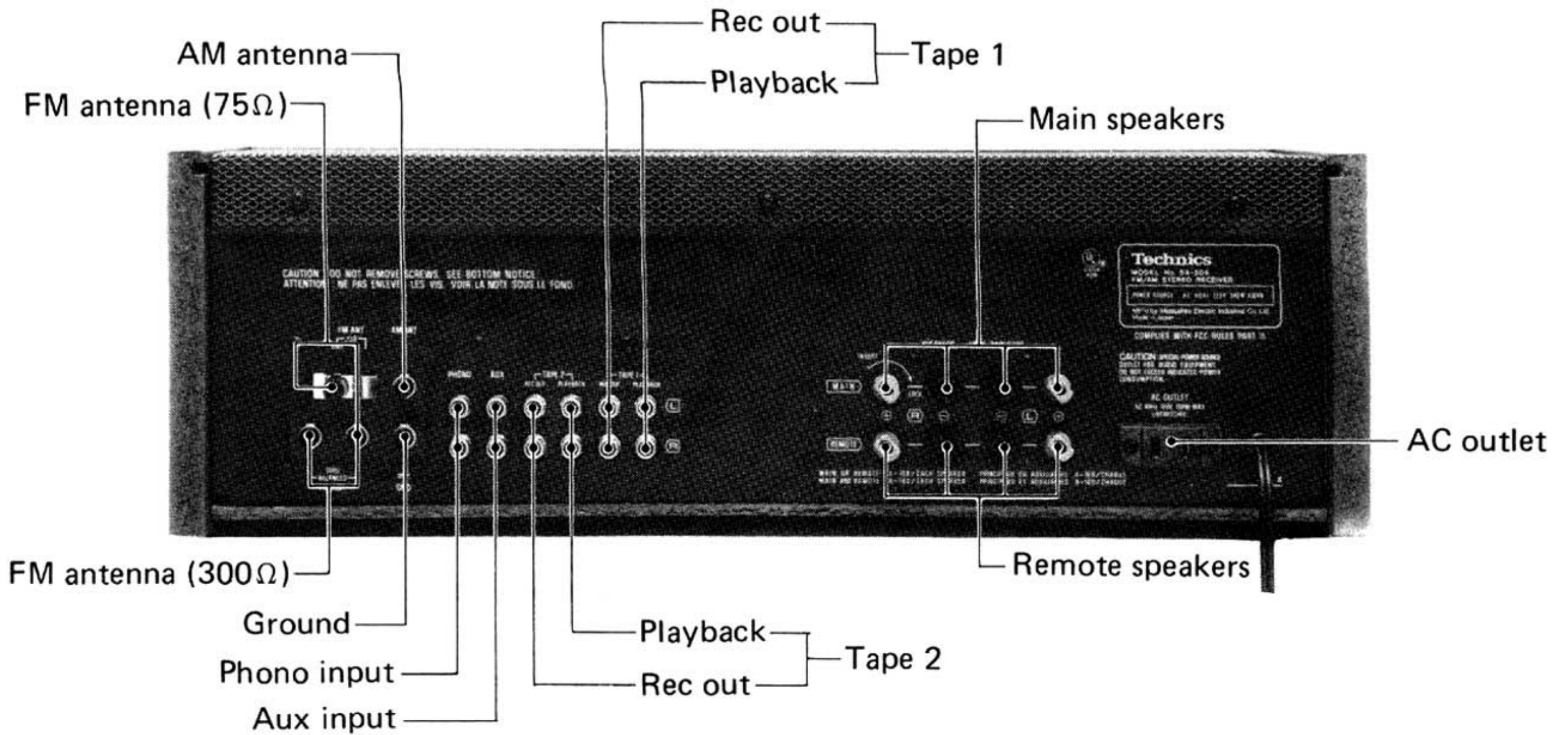
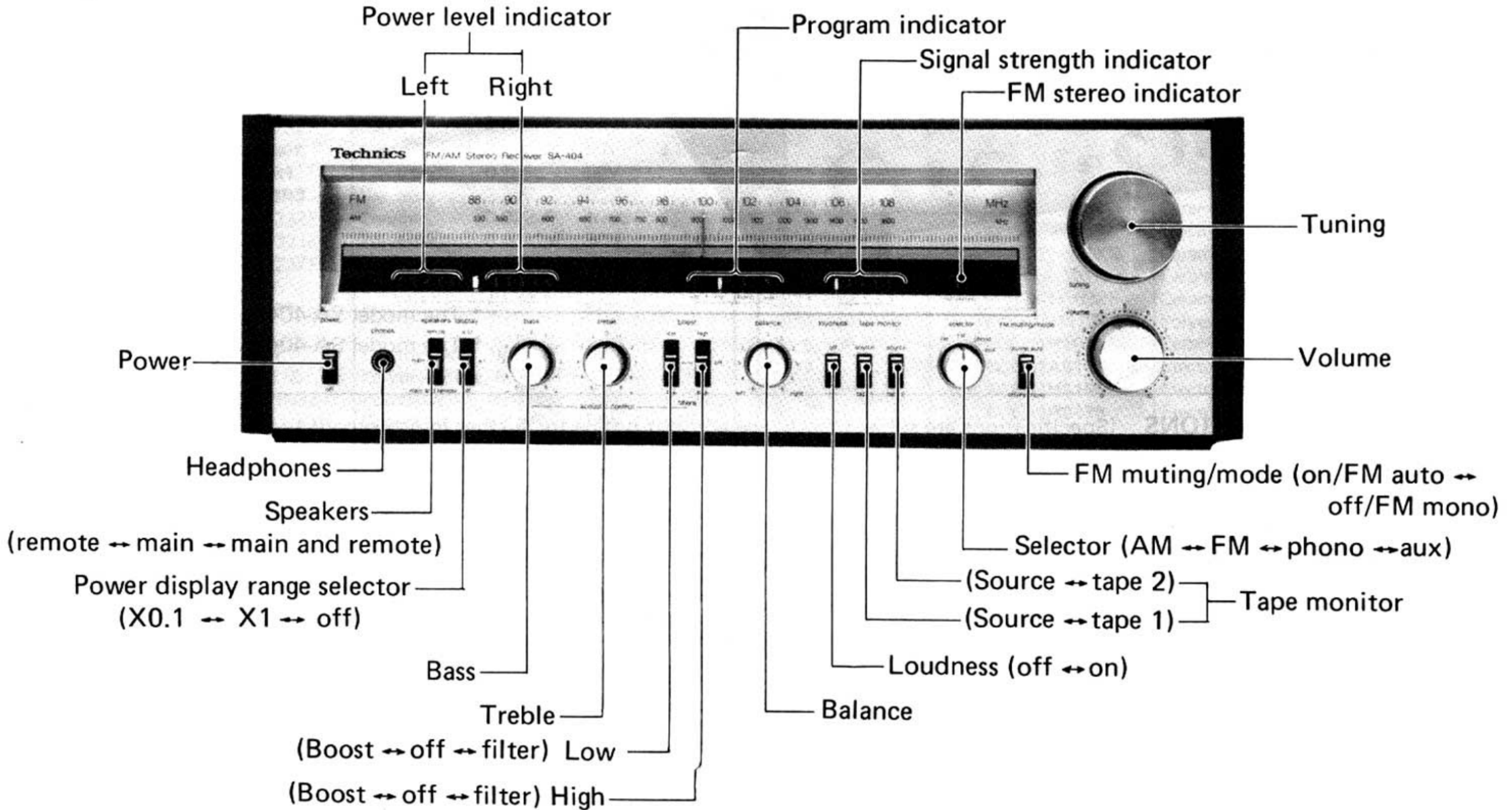
Panasonic Hawaii, Inc.
 320 Waiakamilo Road, Honolulu,
 Hawaii 96817

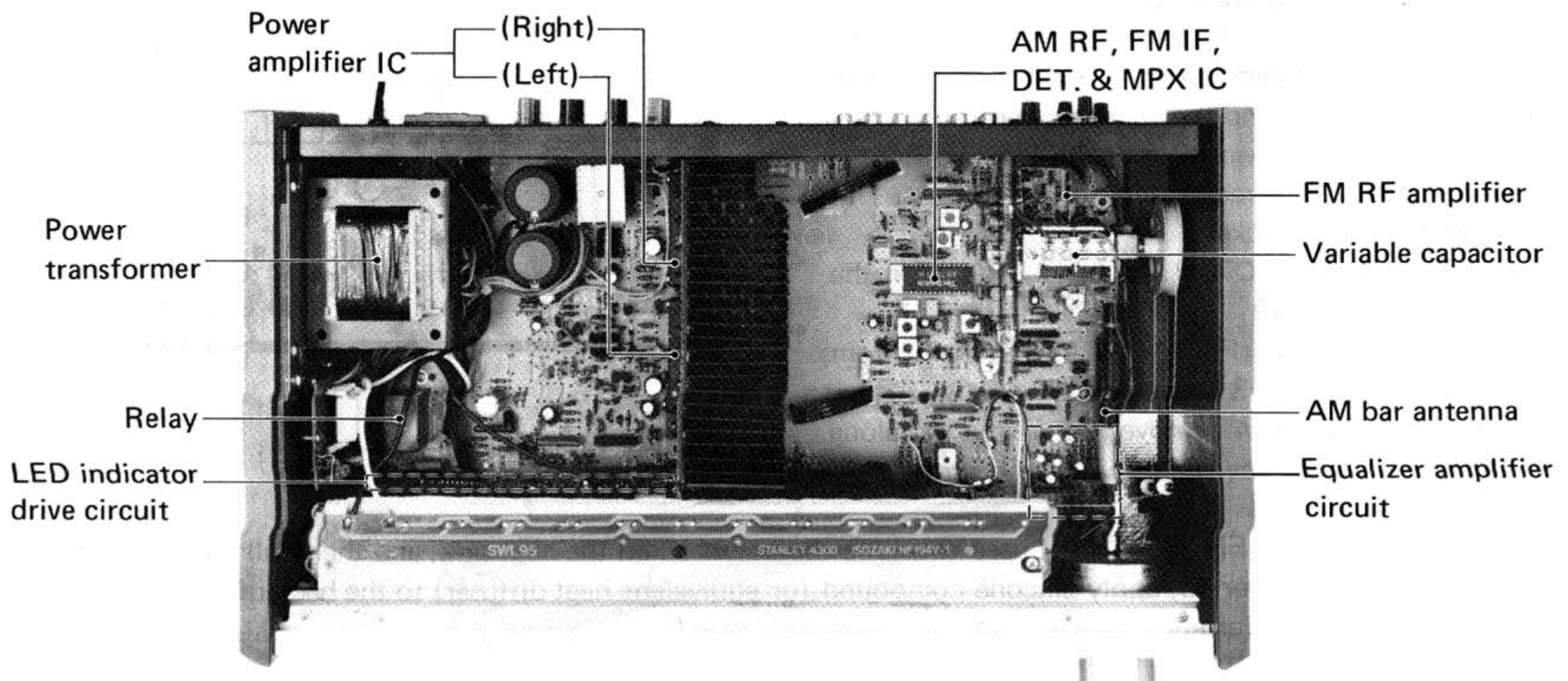
Matsushita Electric of Canada Ltd.
 5770 Ambler Drive,
 Mississauga, Ontario L4W 2T3

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LOCATION OF CONTROLS

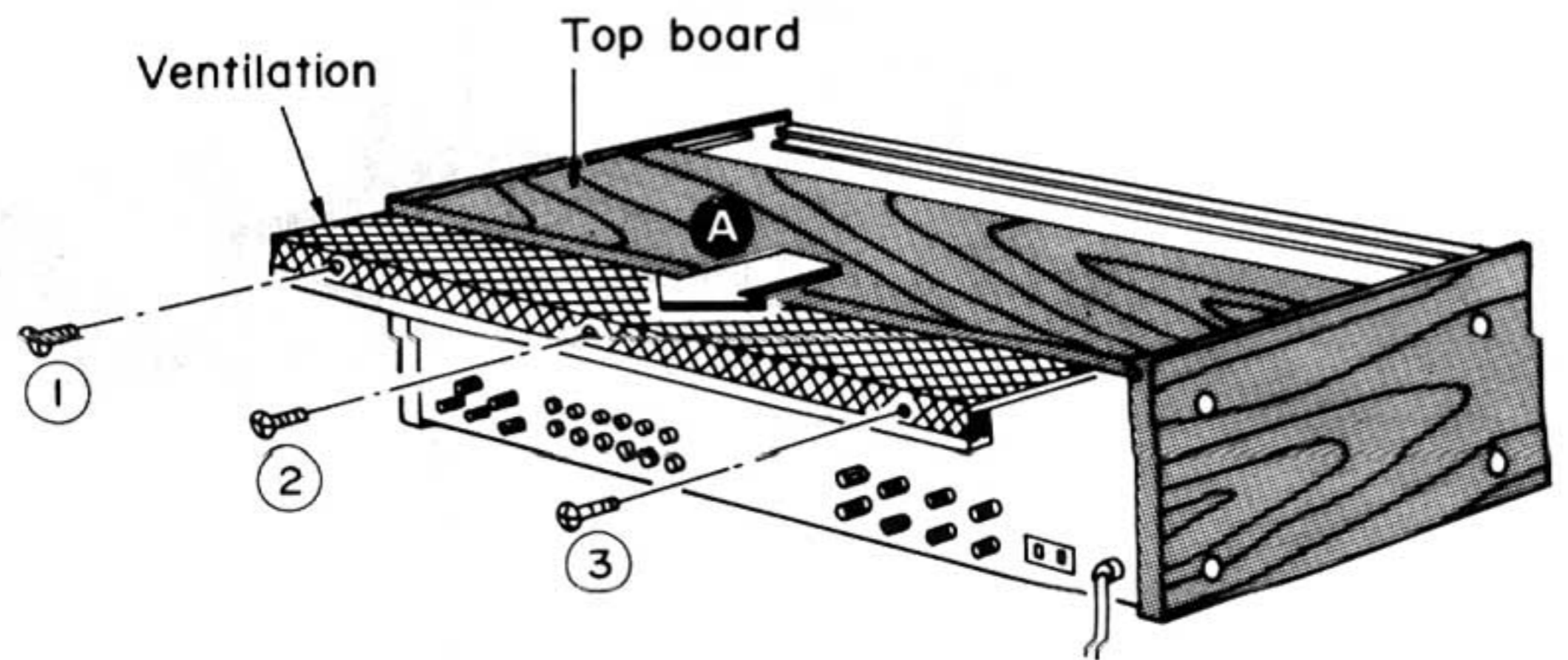




■ DISASSEMBLY INSTRUCTIONS

* How to remove the top board

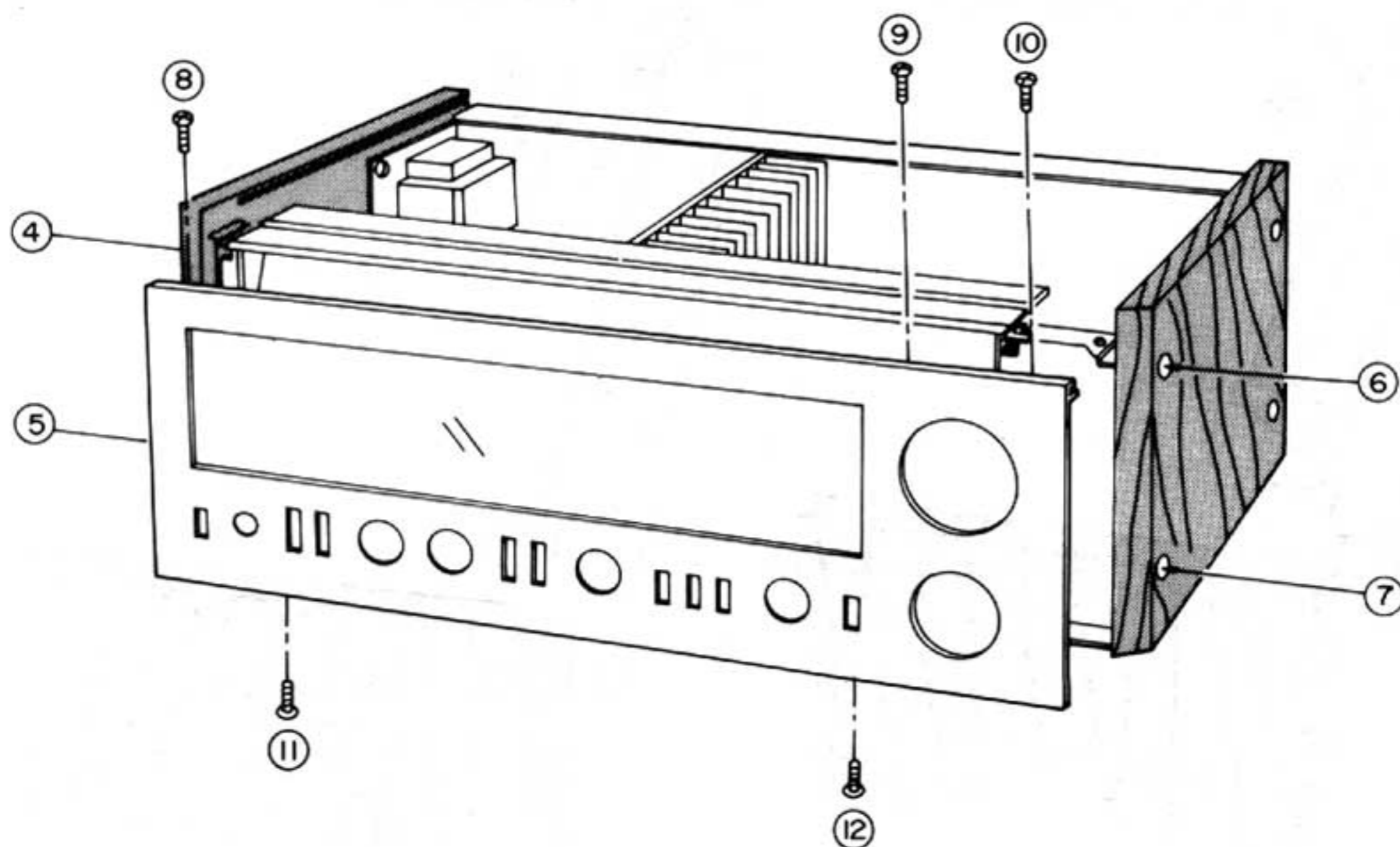
1. Remove the 3 setscrews (Fig. 1 : ① ~ ③) holding the top board and ventilation.
2. Move the top board and ventilation slightly toward the rear of the unit (Fig. 1 : A).



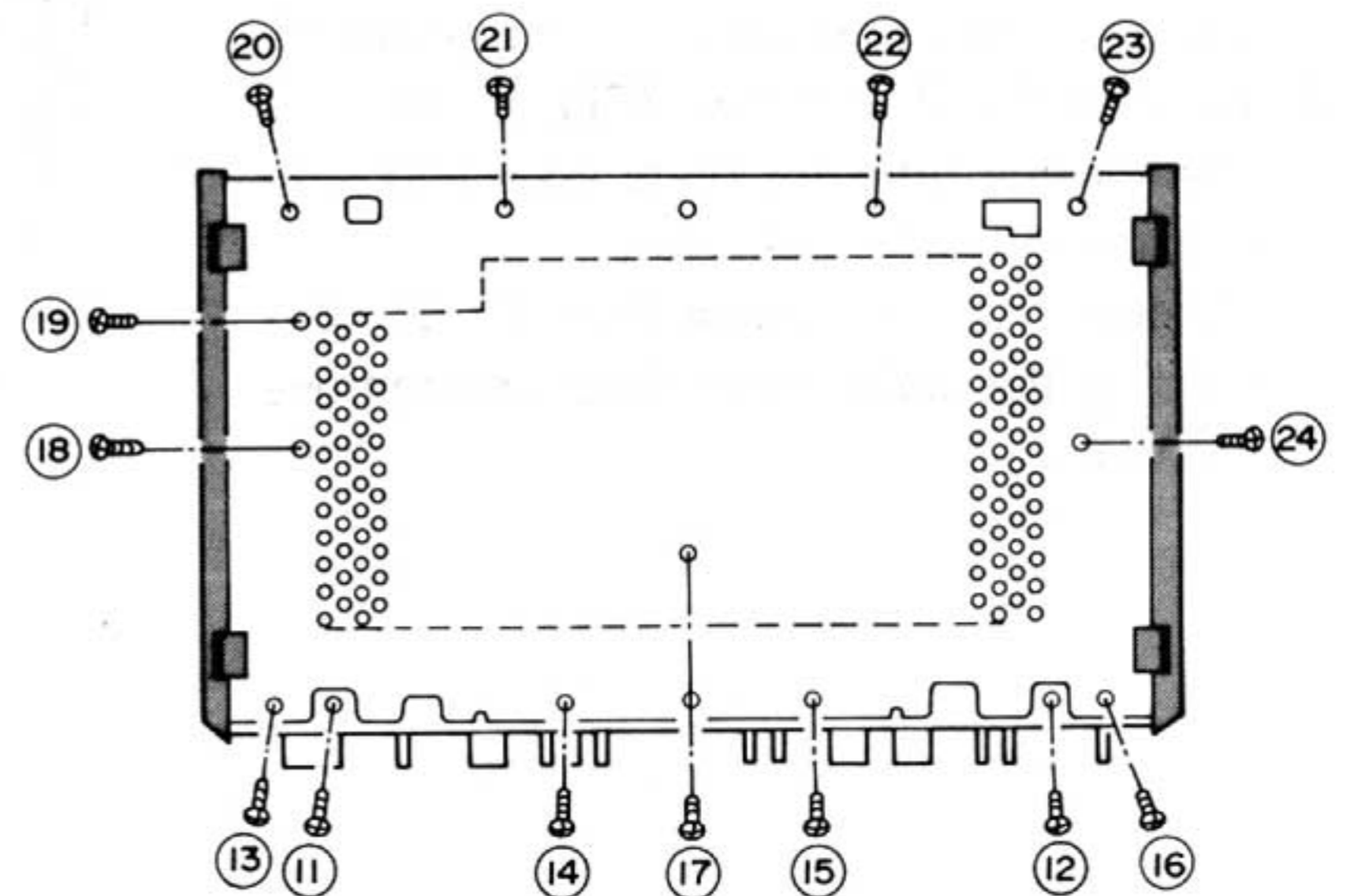
[Fig. 1]

* How to remove the front panel and the bottom board

1. Loosen the 4 setscrews (Fig. 2 : ④ ~ ⑦) holding the side boards.
2. Remove the 5 setscrews (Fig. 2 : ⑧ ~ ⑫) holding the front panel and remove the 2 setscrews (Fig. 3 : ⑭, ⑮) holding the bottom board.
3. Pull the front panel outward from the front of the unit.
4. To remove the bottom board, remove the 12 setscrews (Fig. 3 : ⑬ ~ ⑳) holding the bottom board.



[Fig. 2]



[Fig. 3]

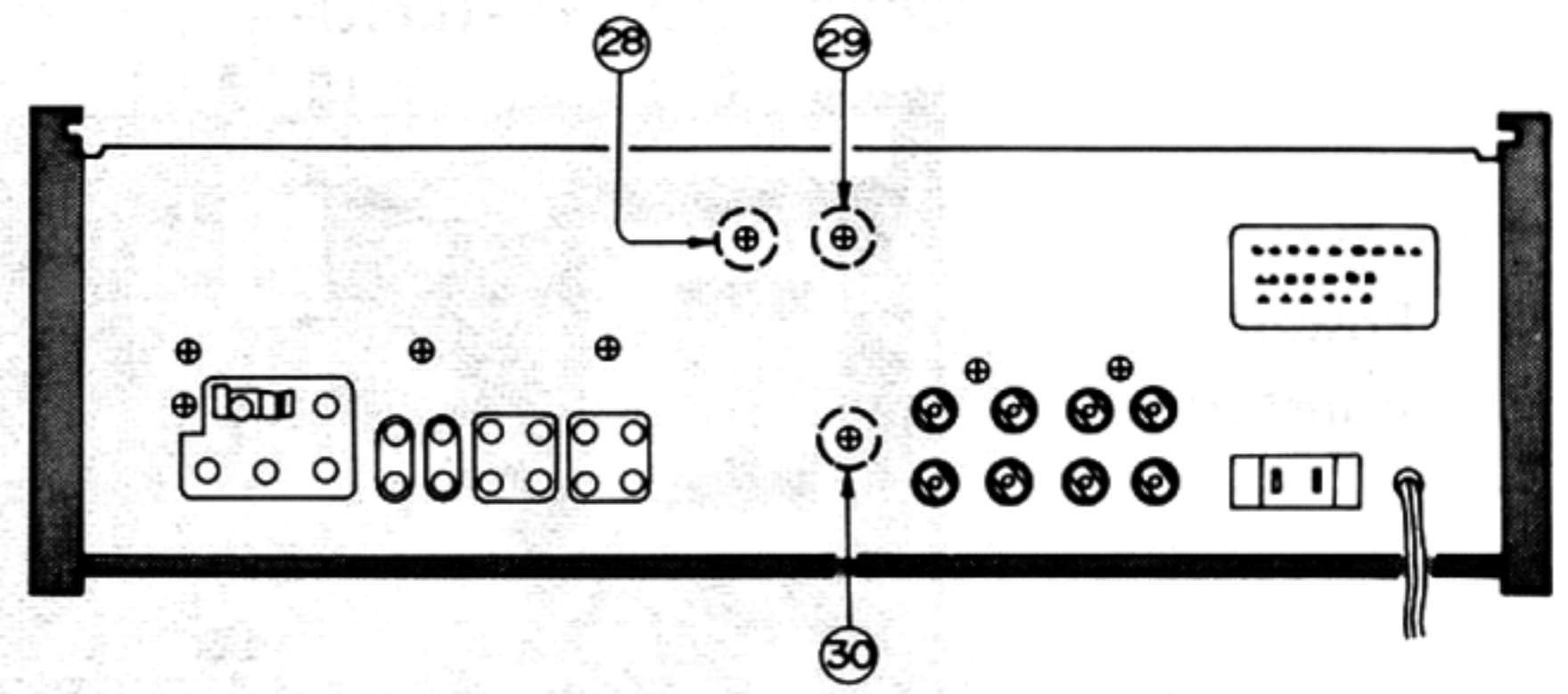
*** How to remove the power IC**

1. Remove the top board and bottom board. (Refer to the sections "How to remove the top board" and "How to remove the front panel and the bottom board".)
2. Remove the solder of power IC for both Lch and Rch.
3. Remove the transistor bracket setscrew (Fig. 5 : ②⑤) to detach the transistor bracket.

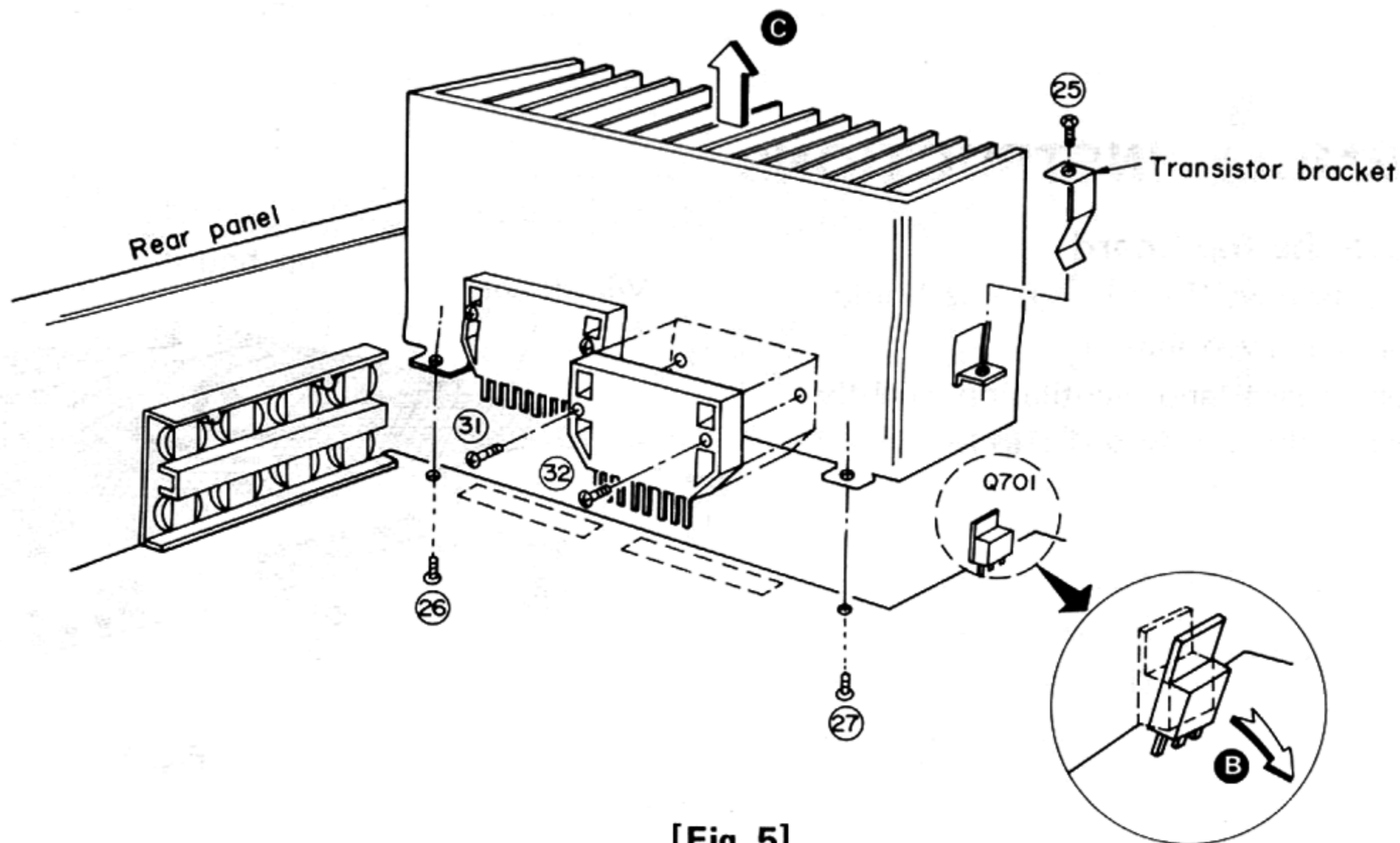
Unsolder the transistor Q701 and bend it down in the direction of the arrow **B**.

4. Remove the 2 setscrews (Fig. 5 : ②⑥, ②⑦) at the bottom of the heat sink and the 3 setscrews (Fig. 4 : ②⑧ ~ ③⑩) at the rear panel, and then remove the heat sink along with the power IC in the direction of the arrow **C**. (Refer to Fig. 5.)

5. Remove the 2 setscrews (Fig. 5 : ③①, ③②) used to secure the power IC on the heat sink, and then pull the power IC.
6. When mounting the power IC, apply silicone compound (or equivalent heat diffuser) to the back of power IC, and then follow the steps 1 ~ 5 reversely.



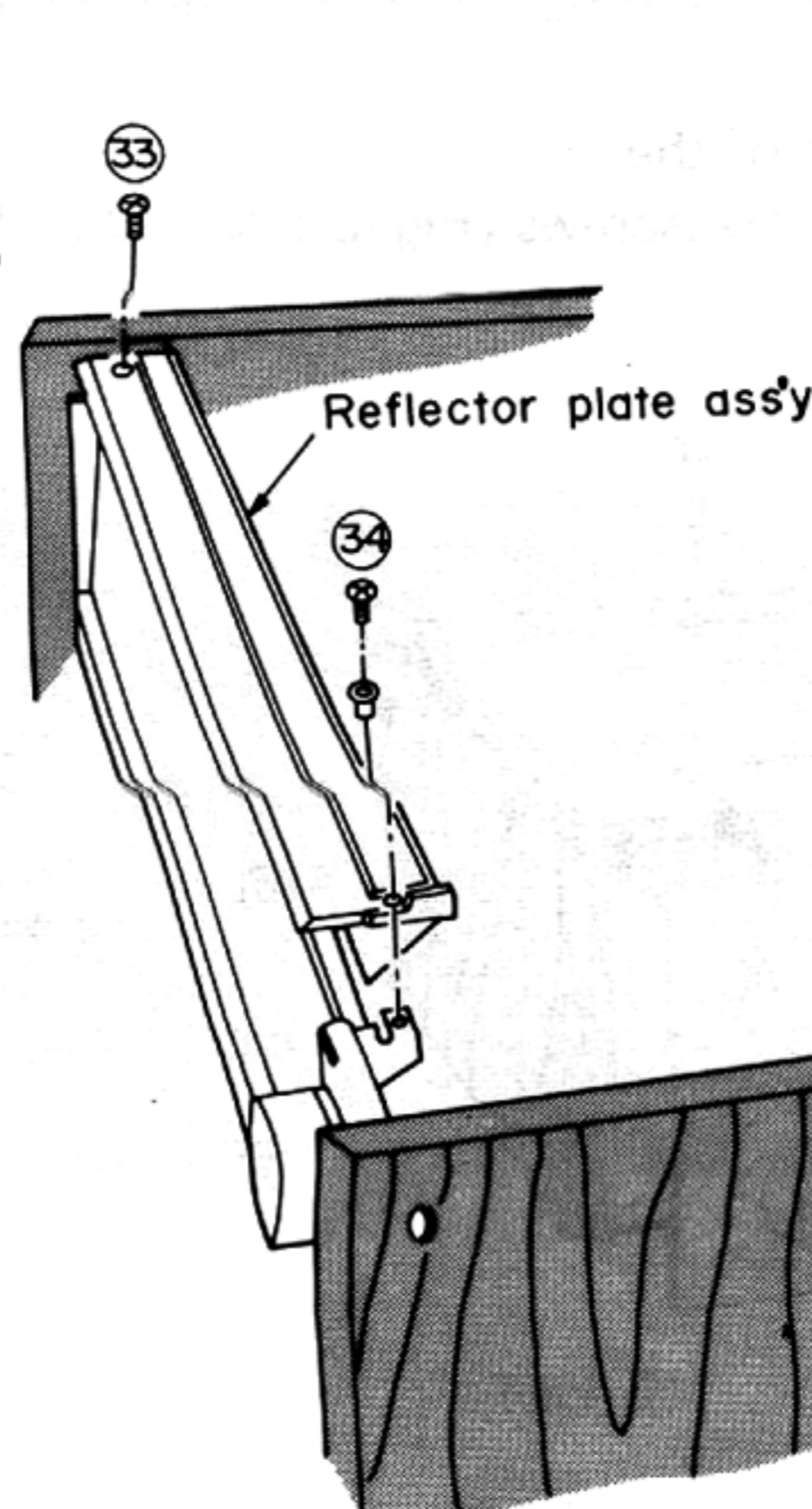
[Fig. 4]



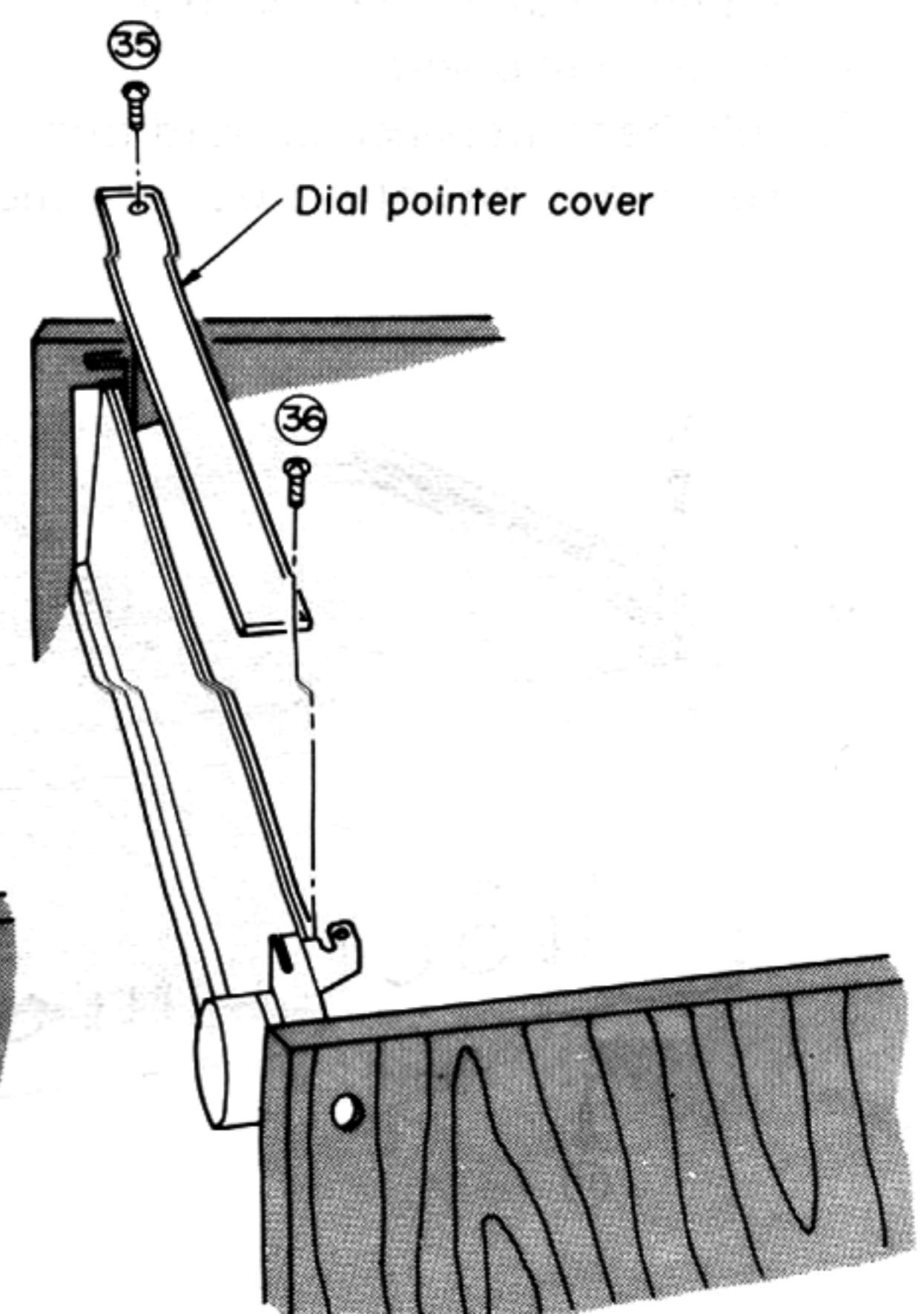
[Fig. 5]

*** How to remove the LED indicator P.C.B. and LED indicator drive circuit P.C.B.**

1. Remove the top board (Refer to the section "How to remove the top board.")
2. Remove the 2 setscrews (Fig. 6 : ③③, ③④) holding the reflector plate ass'y and remove the reflector plate ass'y.
3. Remove the 2 setscrews (Fig. 7 : ③⑤, ③⑥) holding the dial pointer cover and remove the dial pointer cover.

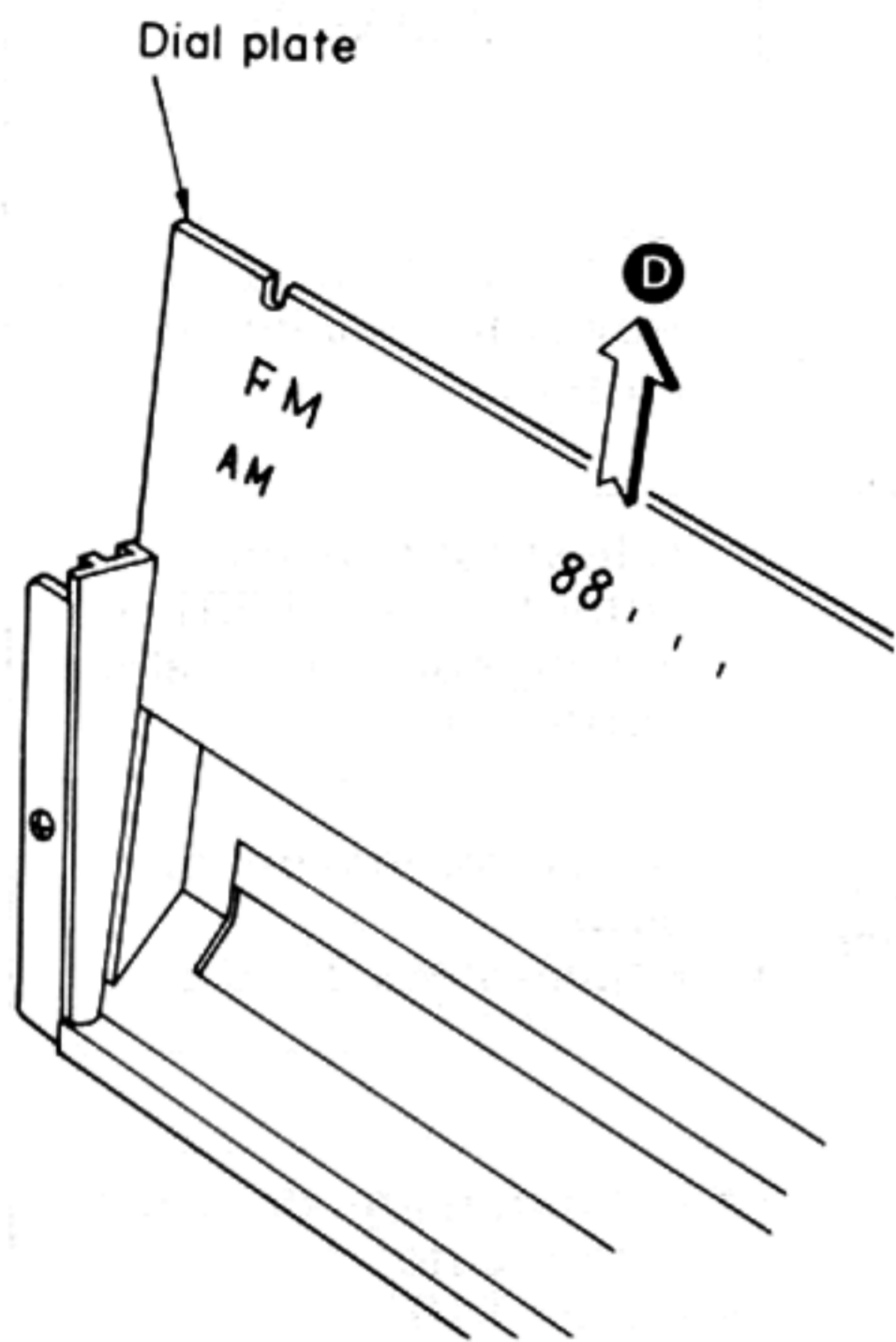


[Fig. 6]

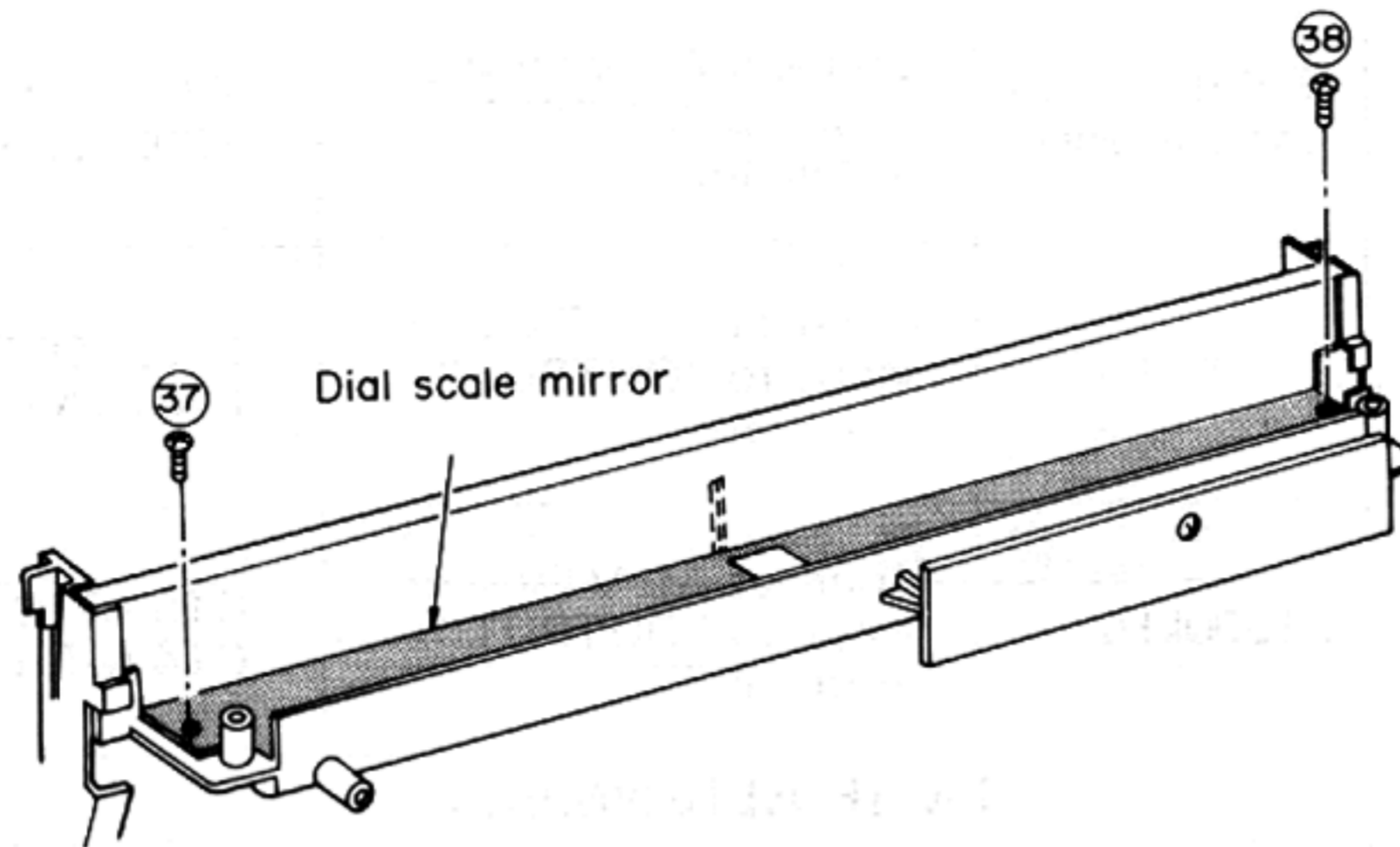


[Fig. 7]

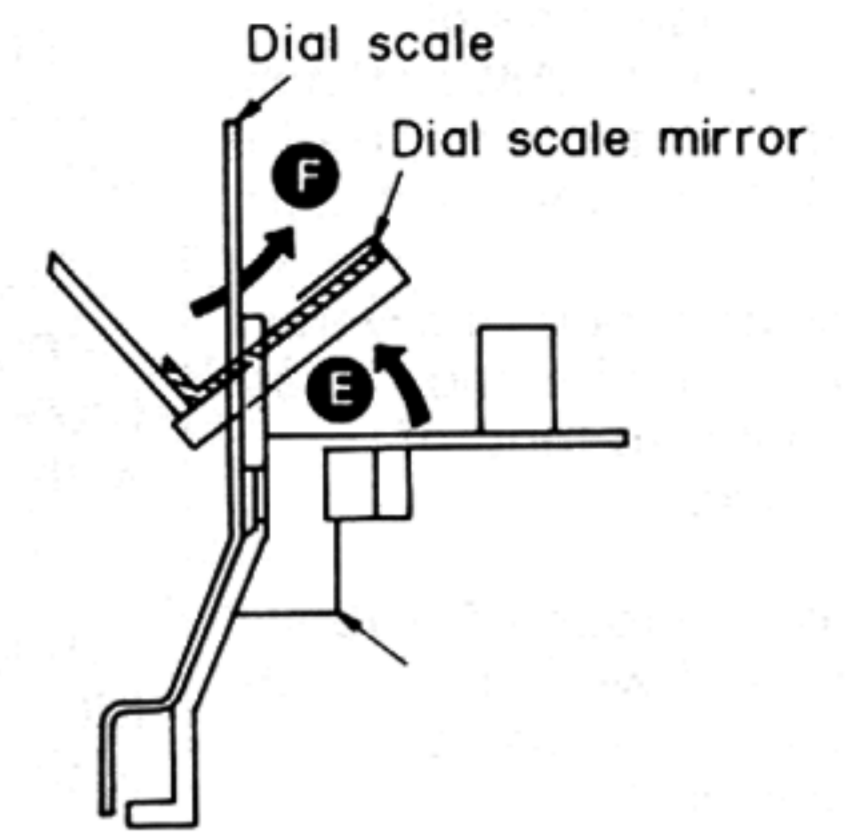
4. Move the dial plate slightly toward the top of the unit. (Fig. 8 : ㉔)
5. Disconnect the dial cord and remove the 2 setscrews (Fig. 9 : ㉗, ㉘), which fasten the dial scale mirror. Next, raise the dial scale mirror in the direction of the arrow ㉙ and then pull it out in the direction of the arrow ㉚. (Refer to Fig. 10.)



[Fig. 8]

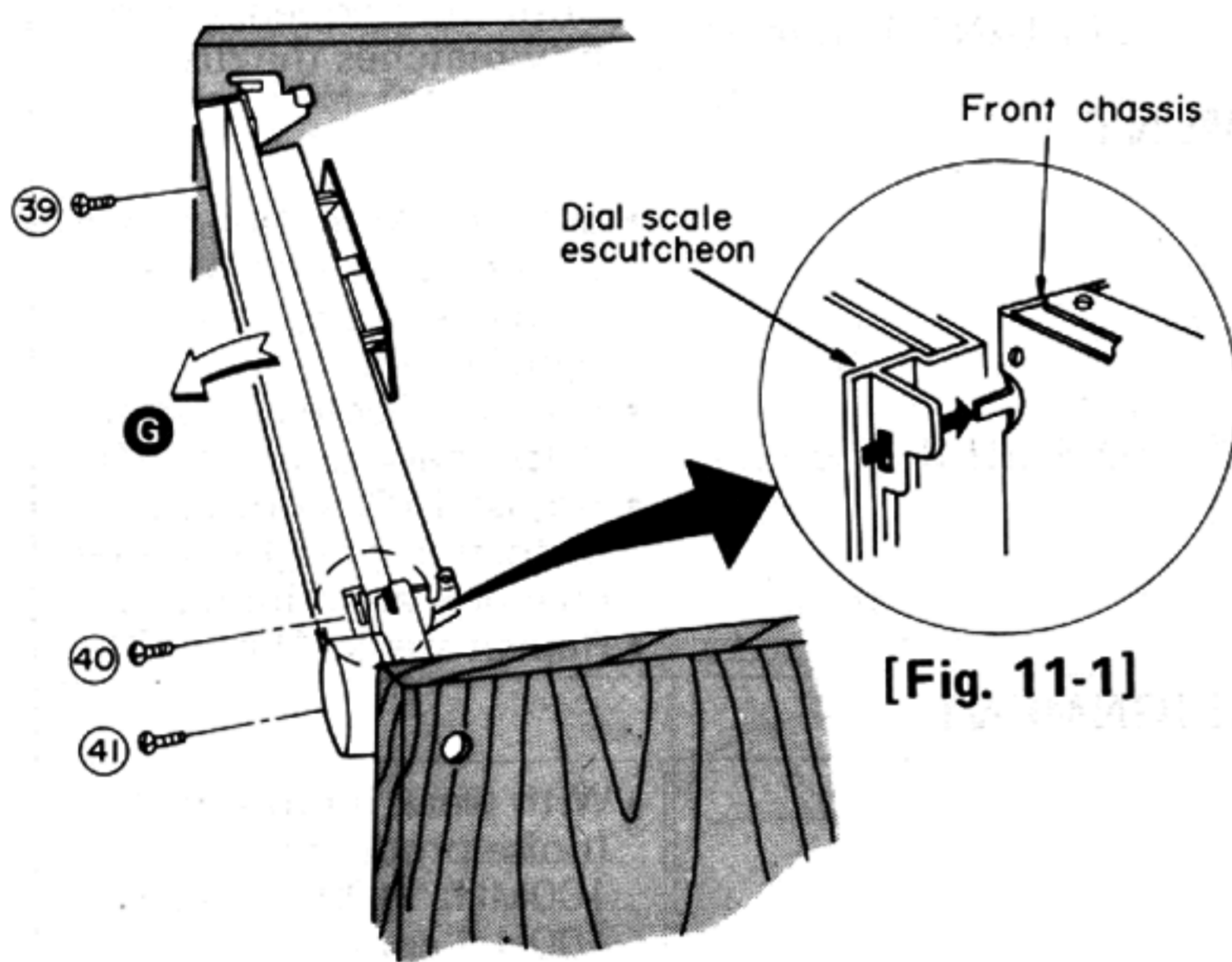


[Fig. 9]

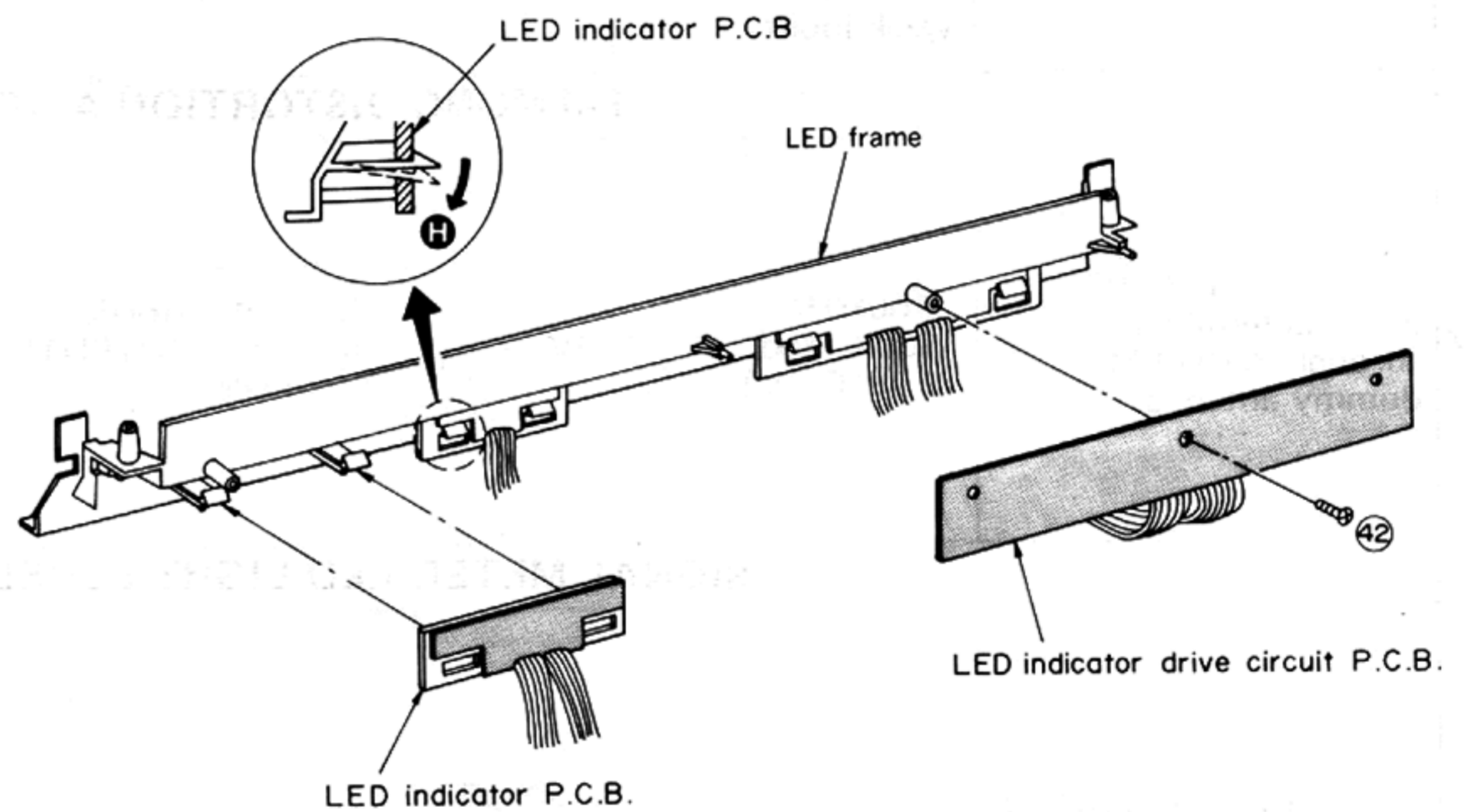


[Fig. 10]

6. Remove the 3 setscrews (Fig. 11 : ㉙ ~ ㉛) which fasten the dial scale ass'y and then detach the dial scale ass'y in the direction of the arrow ㉜ (Fig. 11.)
7. The LED indicator P.C.B. is secured with the lug projected from the LED frame. So, bend the lug down (㉝ in Fig. 12) to remove the LED indicator P.C.B.
8. Remove the setscrew (Fig. 12 : ㉞) which fastens the LED indicator drive circuit P.C.B. Then the LED indicator drive circuit P.C.B. can be detached.

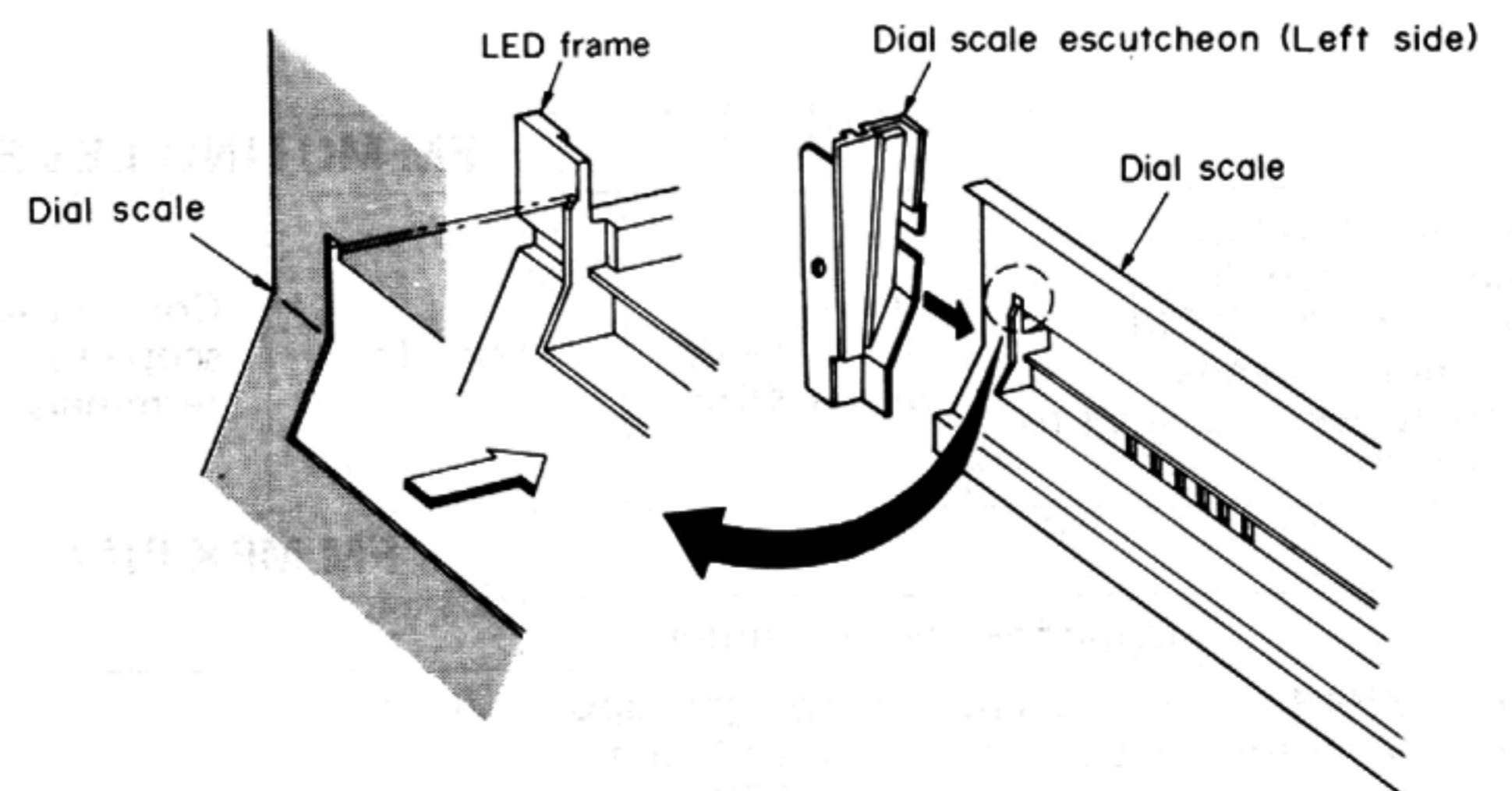


[Fig. 11]



[Fig. 12]

9. When re-assembling, reversely follow the steps 1 through 8. To install the dial scale, completely fit the LED frame in the grooves of the dial scale and then install the right and left dial scale escutcheons (Fig. 13).
- Next, completely fit the right and left dial scale escutcheons onto the lugs projected from the front chassis and secure them with setscrews (Fig. 11-1).



[Fig. 13]

ALIGNMENT INSTRUCTIONS

Notes:						
1. Band selector switch		<ul style="list-style-type: none"> { AM (AM Alignment) { FM (FM Alignment) 		4. Maintain line voltage at 120 volts.		
2. FM muting & mode switch		off/mono		5. 300Ω FM dummy antenna		
3. Fix the bottom board to chassis before adjustment.				6. Output of signal generator should be no higher than necessary to obtain an output reading.		
AM/FM SIGNAL GENERATOR		DIAL SETTING	INDICATOR (VTVM or SCOPE)	ADJUSTMENT POINTS	REMARKS	
CONNECTION	FREQUENCY					
AM ALIGNMENT						
1	High side through 0.001μF to AM antenna trimmer terminal. (point A). Common to chassis.	450kHz (30% Mod. with 400Hz)	Point of non-inter-ferece	Connect AC VTVM or scope to "OUTPUT" terminals.	T201 (1st IFT) T202 (2nd IFT) Adjust for maximum output.	
2	Fashion loop of several turns of wire and radiate signal into loop of receiver	600kHz (30% Mod. with 400Hz)	600kHz	Connect AC VTVM or scope to "OUTPUT" terminals.	L202 (OSC Coil) L201 (ANT Coil) Adjust for maximum output, Adjust L201 by moving coil bobbin along ferrite core.	
3	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1500kHz (30% Mod. with 400Hz)	1500kHz	Connect AC VTVM or scope to "OUTPUT" terminal.	CT5 (OSC Trimmer) CT4 (ANT Trimmer) Adjust for maximum output. Repeat steps 2 and 3.	
FM IF ALIGNMENT						
4	/	No-Signal	Point of non-inter-ferece	Connect DC VTVM to TP102, TP103 terminals. (Refer to fig. 14)	T101 (DISCRI IFT) A <ul style="list-style-type: none"> • FM muting/mode switch to "on/auto" position. • Adjust T101 (A) core so that voltage measured in signal mode is 0V in 300mV range. 	
FM RF ALIGNMENT						
5	Connect to FM 300Ω antenna terminal through 300Ω FM dummy antenna.	90MHz (100% Mod. with 400Hz) weak input	90MHz	Connect scope to "OUTPUT" terminal.	L5 (OSC Coil) L3 (RF DET Coil) L1 (ANT Coil) <ul style="list-style-type: none"> • Add weak input so that noise is included in the output wave form. • Make the adjustment so that the output wave form is vertically symmetrical. (Fig. 15) • Repeat the steps 5 and 6 until the frequency corre ctly matches the dial scale. 	
6		106MHz (100% Mod. with 400Hz) weak input	106MHz	Connect scope to "OUTPUT" terminal.	CT3 (OSC Trimmer) CT2 (RF DET Trimmer) CT1 (ANT Trimmer)	
FM MONO DISTORTION ALIGNMENT						
7	Connect to FM 300Ω antenna terminal through 300Ω FM dummy antenna.	100MHz (100% Mod. with 400Hz)	100MHz	Connect distortion meter to "OUTPUT" terminals.	T102 (DISCRI IFT) B <ul style="list-style-type: none"> • Set the FM muting/mode switch to "on/auto" and then check step 4 in no signal mode. • If it is deflected, re-adjust A (primary side) of T101. • Adjust T102 core so that distortion of right and left channels are minimized. • Repeat steps (4) and (7). 	
SIGNAL METER LED LIGHT LEVEL ALIGNMENT						
8	Connect to FM 300Ω antenna terminal through 300Ω FM dummy antenna.	100MHz (100% Mod. with 400Hz)	100MHz	Connect scope to "OUTPUT" terminal	VR102 (LED LIGHT LEVEL) <ul style="list-style-type: none"> • With weak input signal (noise produced) at 100MHz (100% Mod. with 400Hz) applied, make tuning so that the upper and lower wave forms are symmetrical. • With the input set at 45dB (signal generator at 57dB), adjust VR102 so that all the signal strength LED's light up. 	
FM MUTING LEVEL ALIGNMENT						
9	Connect to FM 300Ω antenna terminal through 300Ω FM dummy antenna. Apply 16dB (6.3μV) to receiver.	100MHz (100% Mod. with 400Hz)	100MHz	Connect AC VTVM or scope to "OUTPUT" terminals.	VR101 (MUTING LEVEL) FM muting/mode switch to "on/auto". Adjust so that output can be obtained.	
FM MPX PILOT ALIGNMENT						
Using frequency counter			Using alternate system			
10	<ol style="list-style-type: none"> 1 100MHz Non-modulated mono signal applied to set. 2 FM muting/mode switch to "on/FM auto". 3 Connect frequency counter to TP301 through resistor (100kΩ). 4 Adjust VR301 to 19kHz, ± 30Hz. 			<ol style="list-style-type: none"> 1 Apply stereo signal from generator or stereo station to tuner. 2 Adjust VR301 until stereo indicator lights up. Cement arm of VR301 as shown in fig. 16. 		

SEPARATION ALIGNMENT

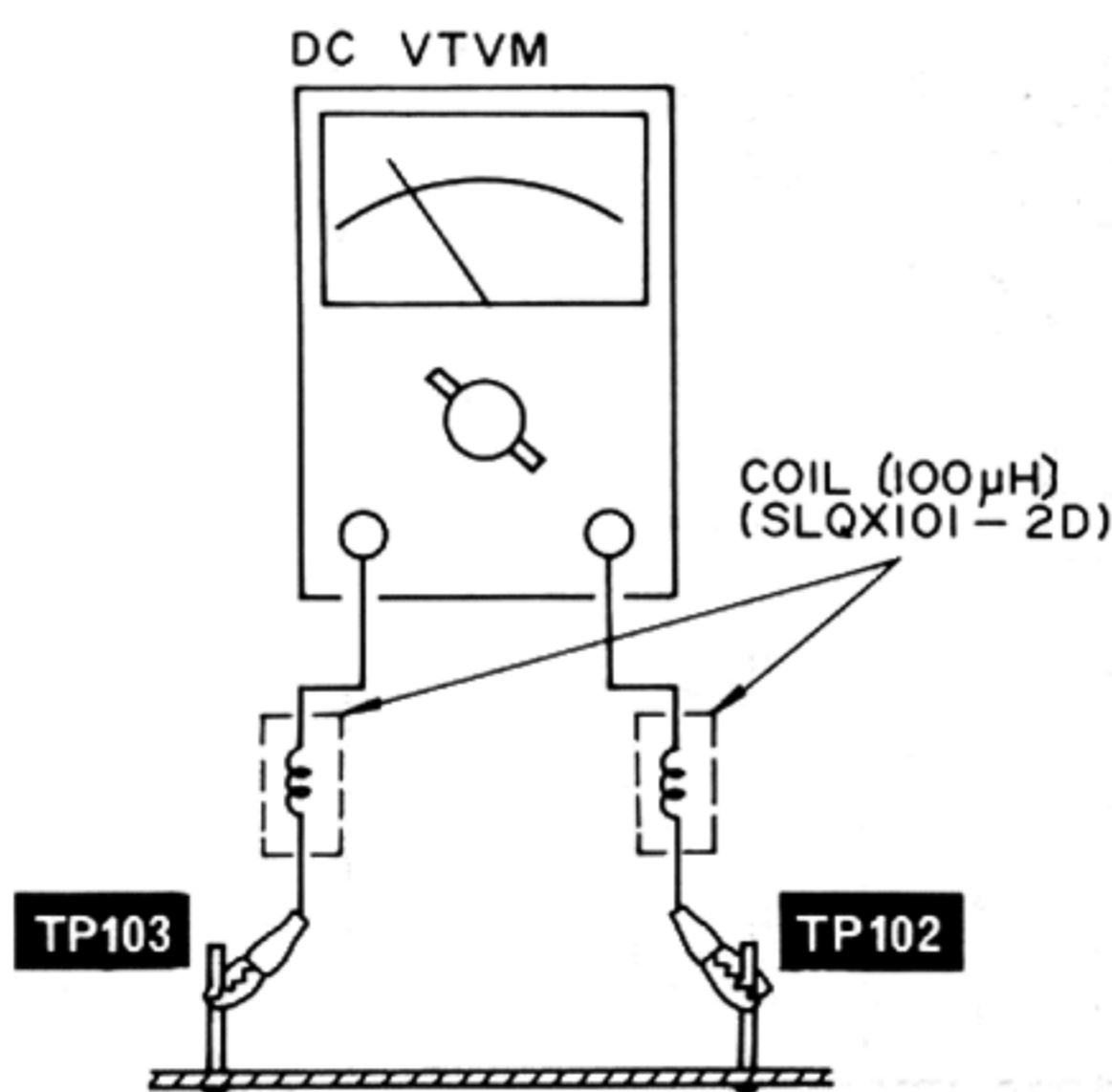
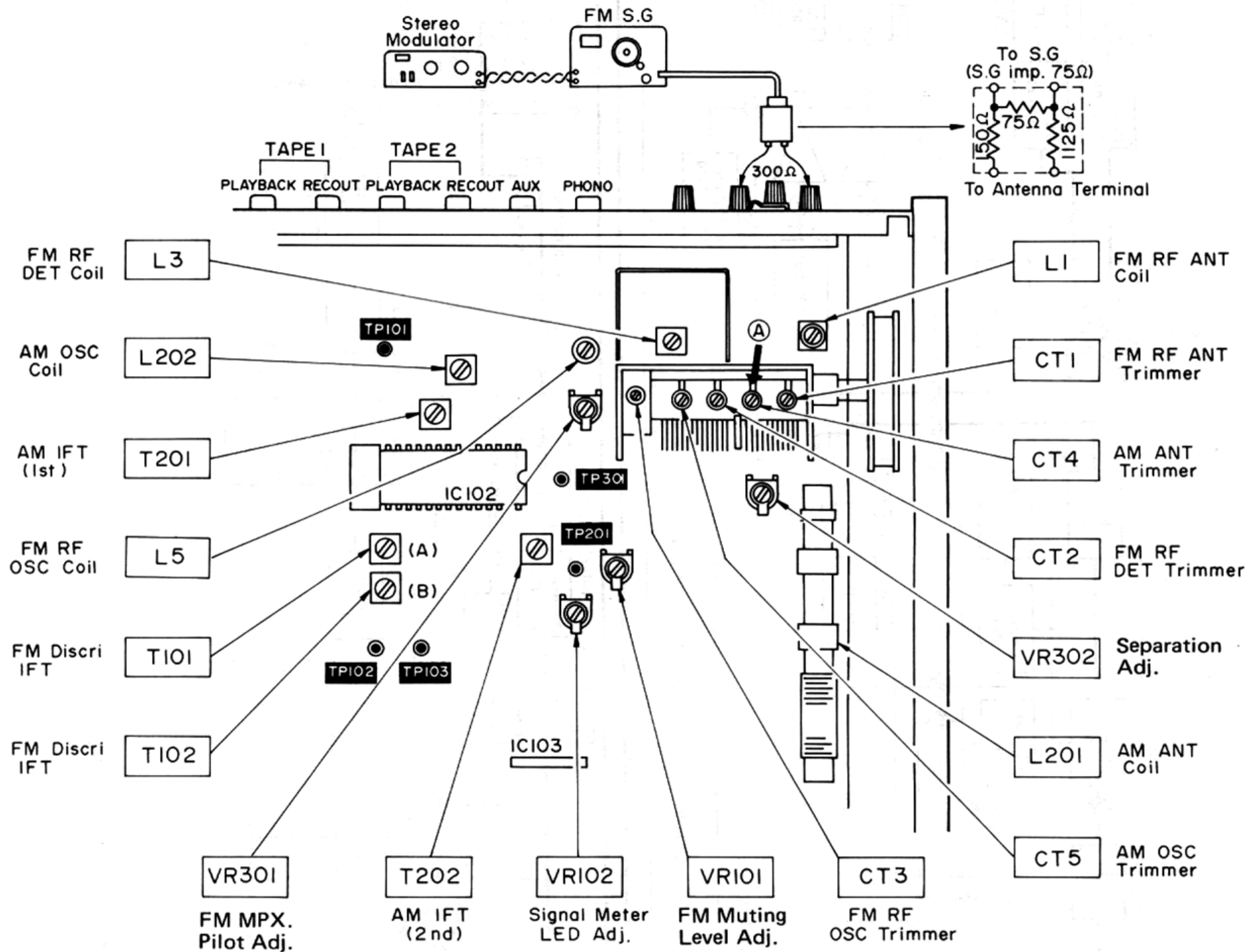
PREPARATIONS

- 1 Add 100MHz, 1kHz, 30% pilot 10% modulation, 60dB stereo signal to the receiver.
- 2 Connect AC VTVM or scope to output terminal through low pass filter. Refer to fig. 17.

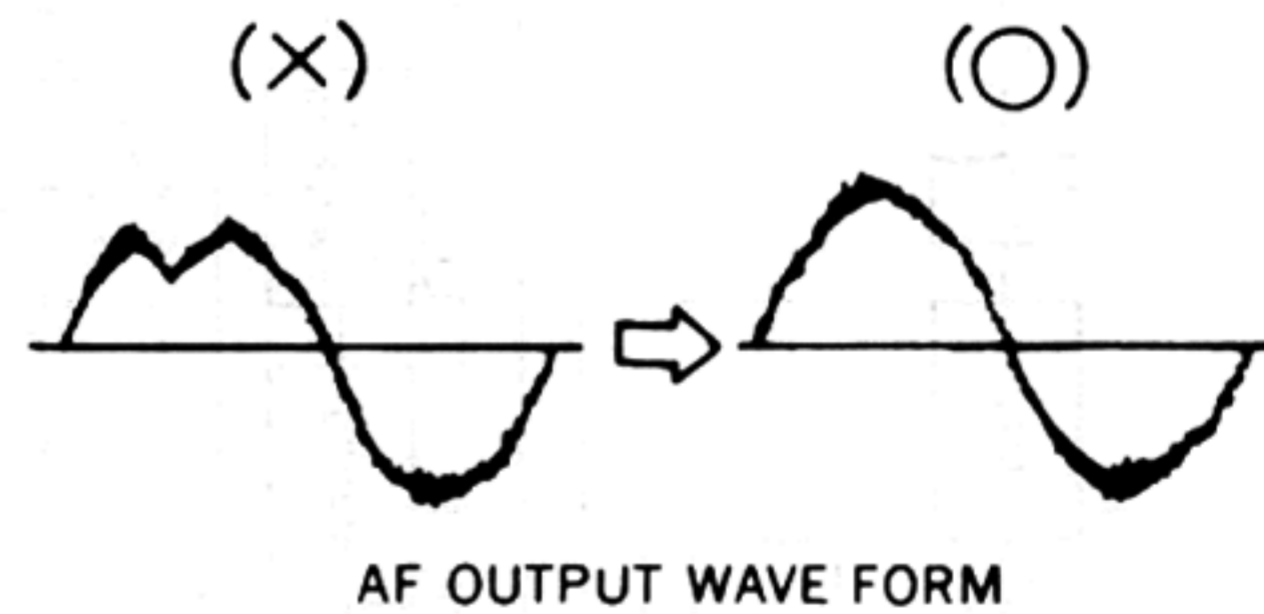
ADJUSTING PROCEDURE

- 1 FM muting/mode switch to "on/auto".
- 2 Adjust **VR302** so that **R** output is minimized when stereo modulator is in **L** (Lch.modulation) mode and that **L** output is minimized in **R** mode.

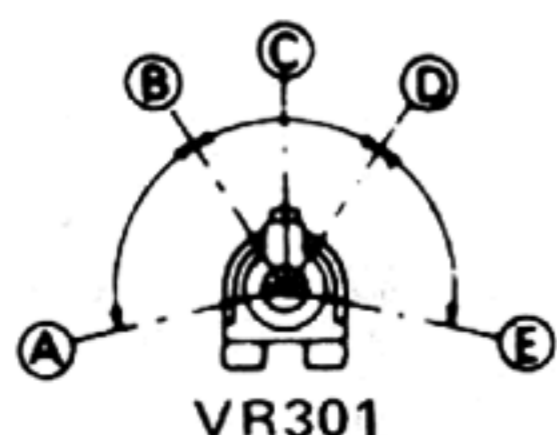
■ ALIGNMENT POINTS



[Fig. 14]

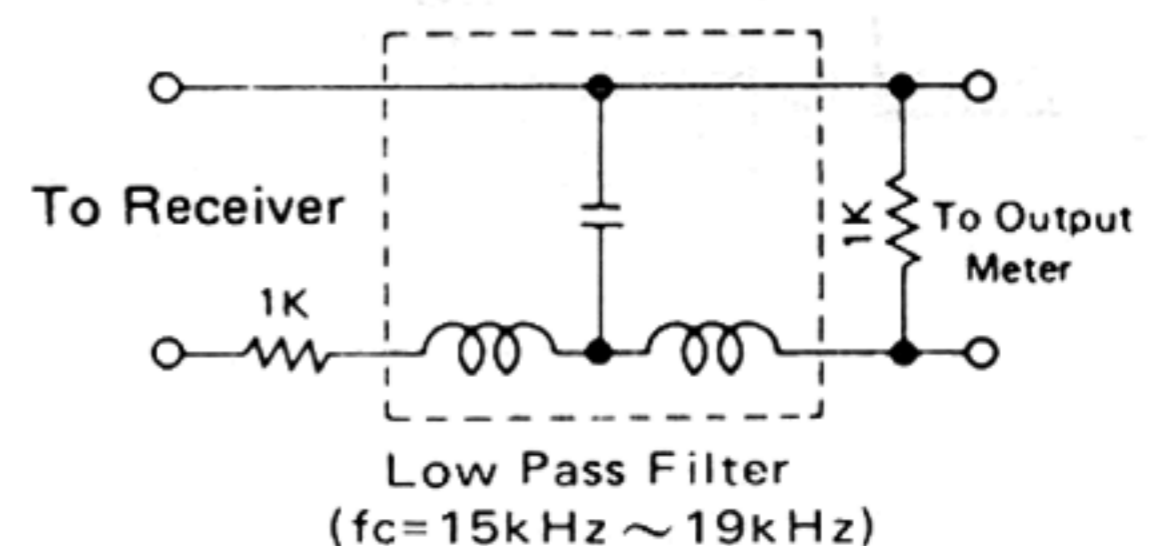


[Fig. 15]



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

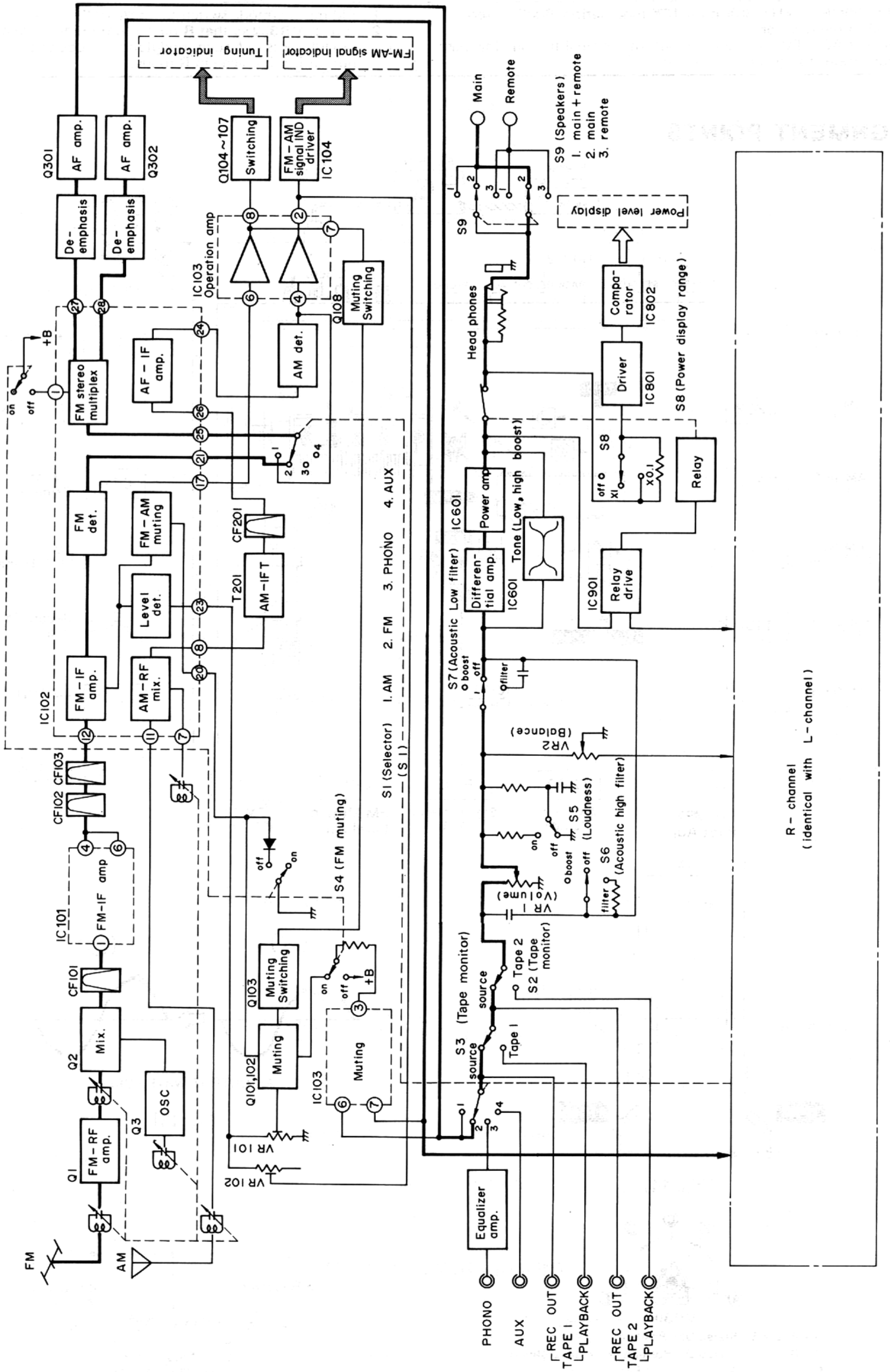
[Fig. 16]



Low Pass Filter
($f_c = 15\text{kHz} \sim 19\text{kHz}$)

[Fig. 17]

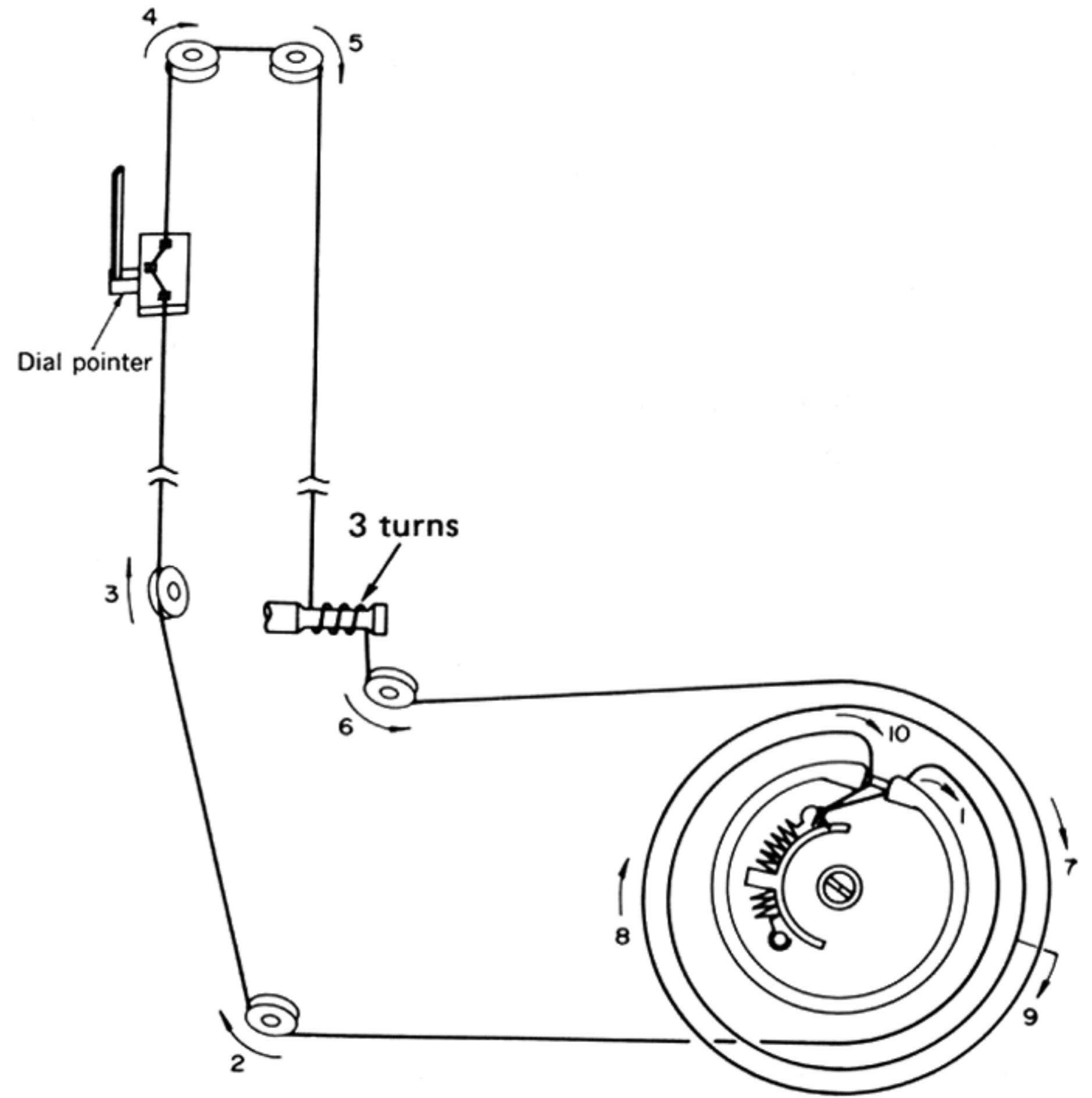
■ BLOCK DIAGRAM



■ DIAL CORD INSTALLATION GUIDE

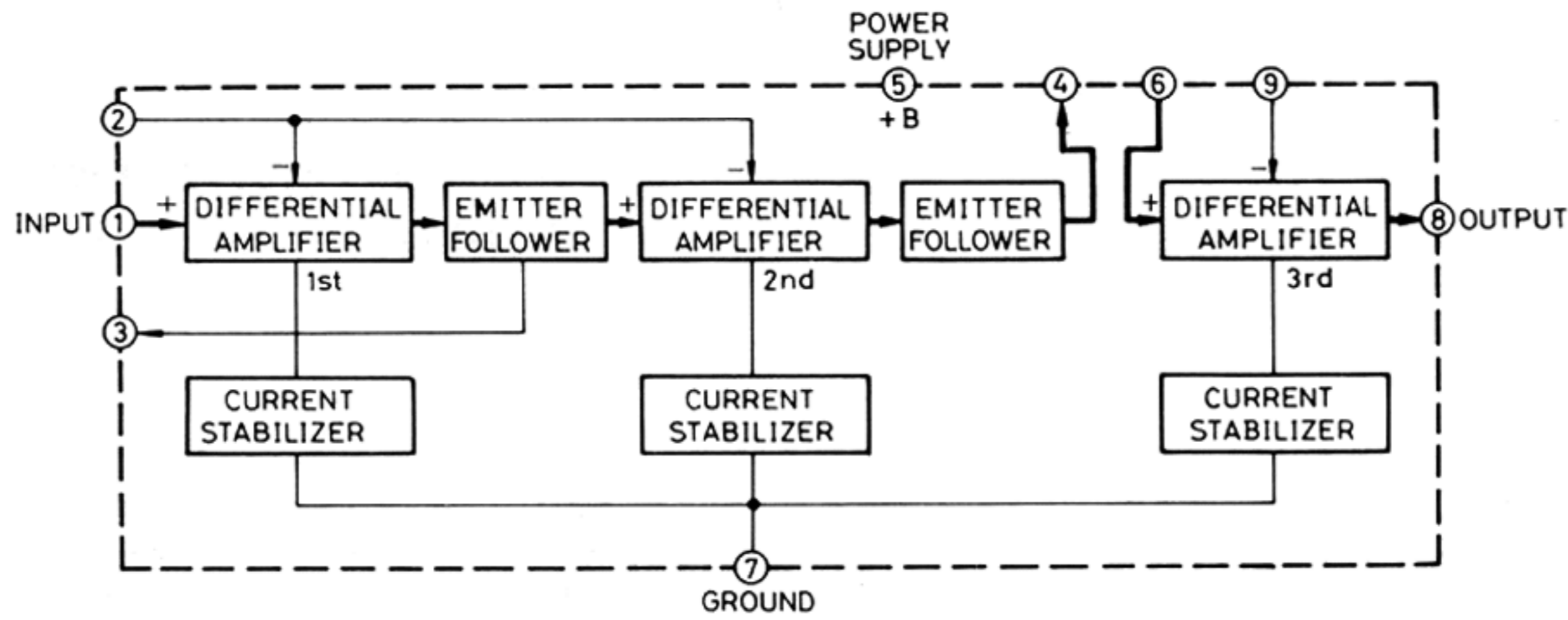
* For threading a fresh cord, proceed as follows.

1. Prepare a fresh cord more than 180cm (70-15/16") in length.
2. Bring the variable capacitor into a state where the drum is completely turned to the right (maximum capacity and lowest frequency for the variable capacitor.)
3. Direct the cord in the order from 1 to 10.
4. Stretch the cord in such a tension as the spring length is elongated by 1.5 times that of the original state.
5. Fix the knot of the cord with the adhesive.

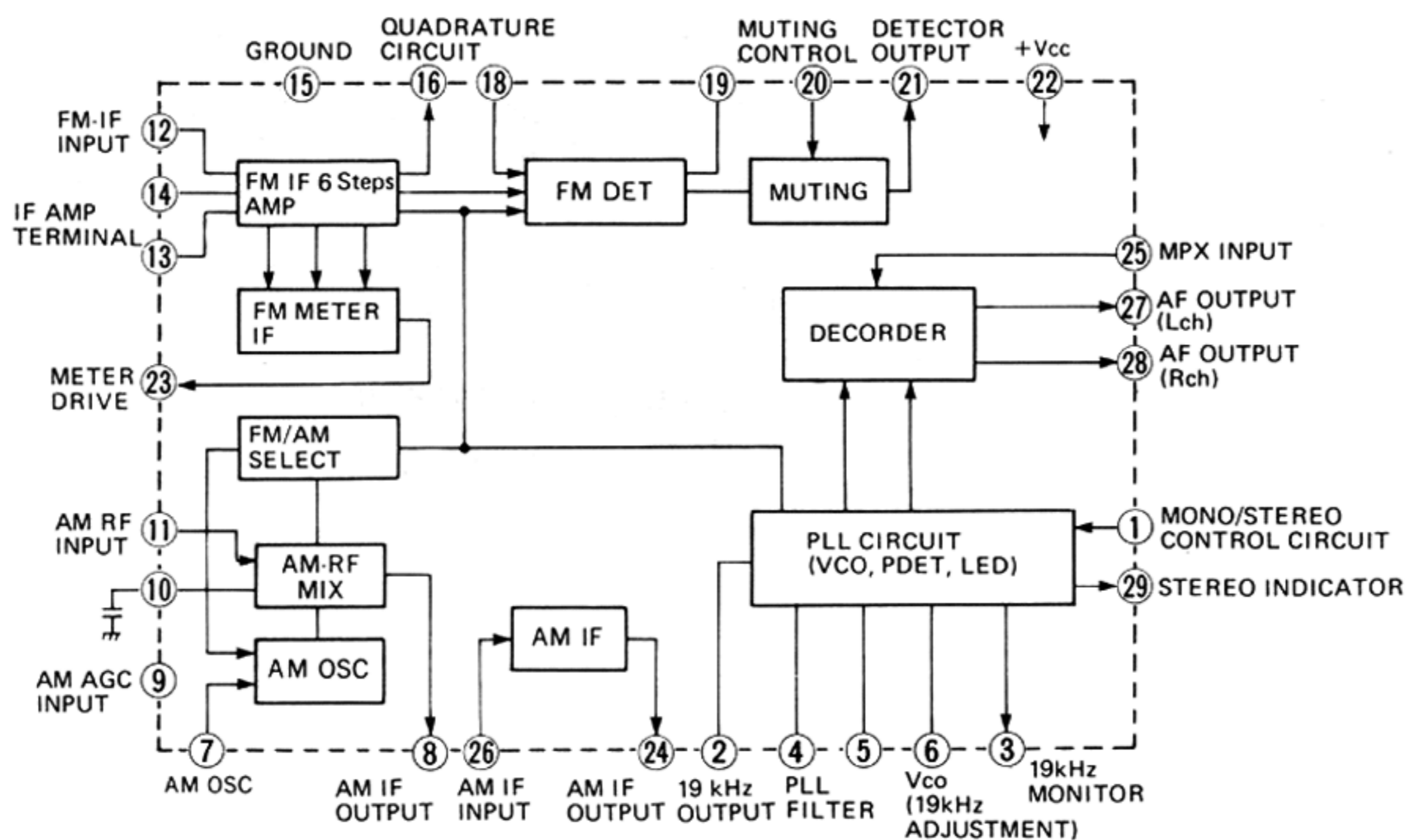


■ BLOCK DIAGRAM OF IC

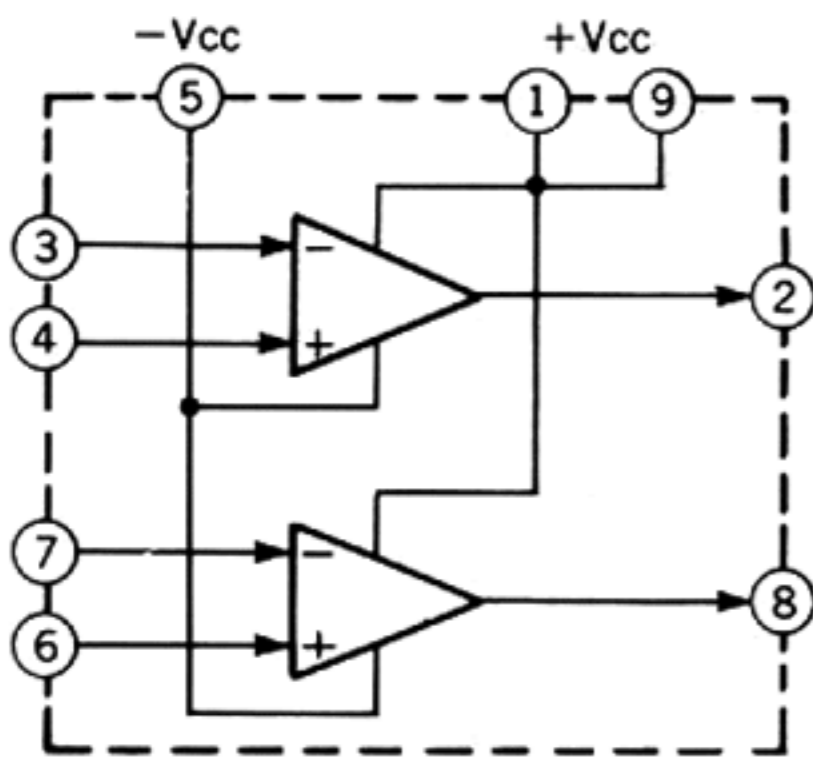
* This is the basic block diagram of the inside circuit of IC. In an actual circuit, there may be sometimes idle terminals or some different functions other than the basic circuit.



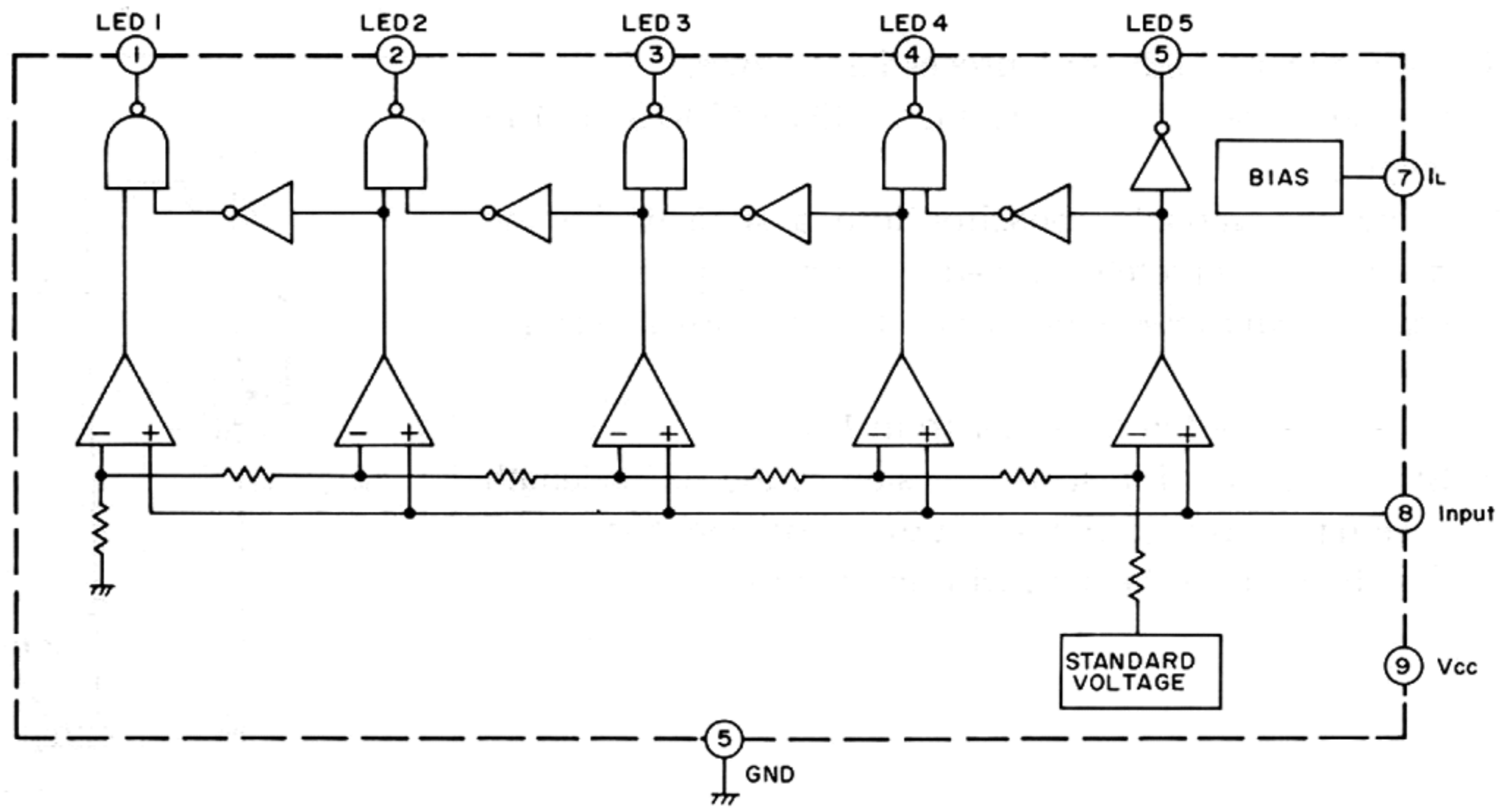
IC101 (AN278)
FM IF amplifier



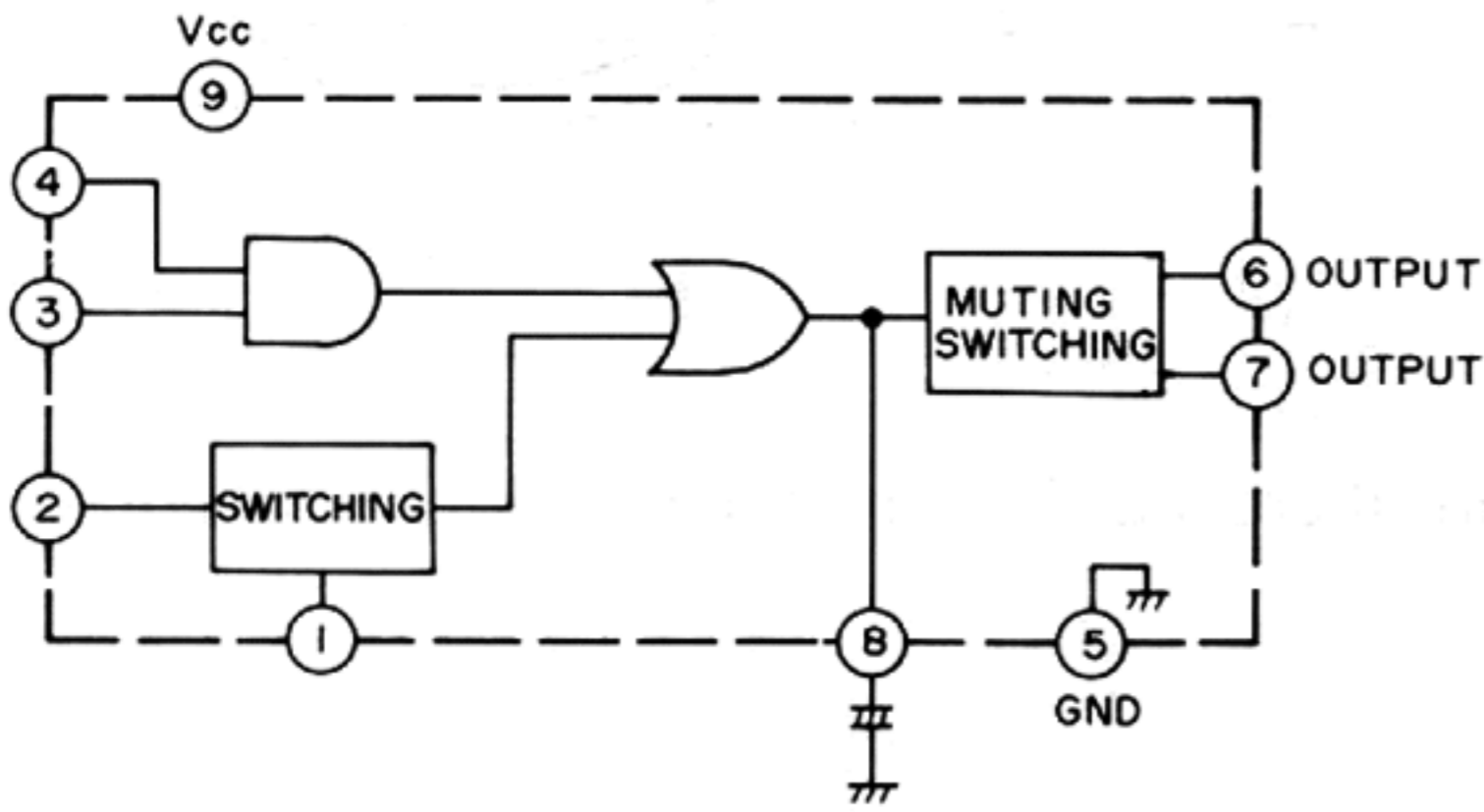
IC102 (AN7001ST)
AM converter, FM IF amplifier
FM detector & stereo decoder (MPX)



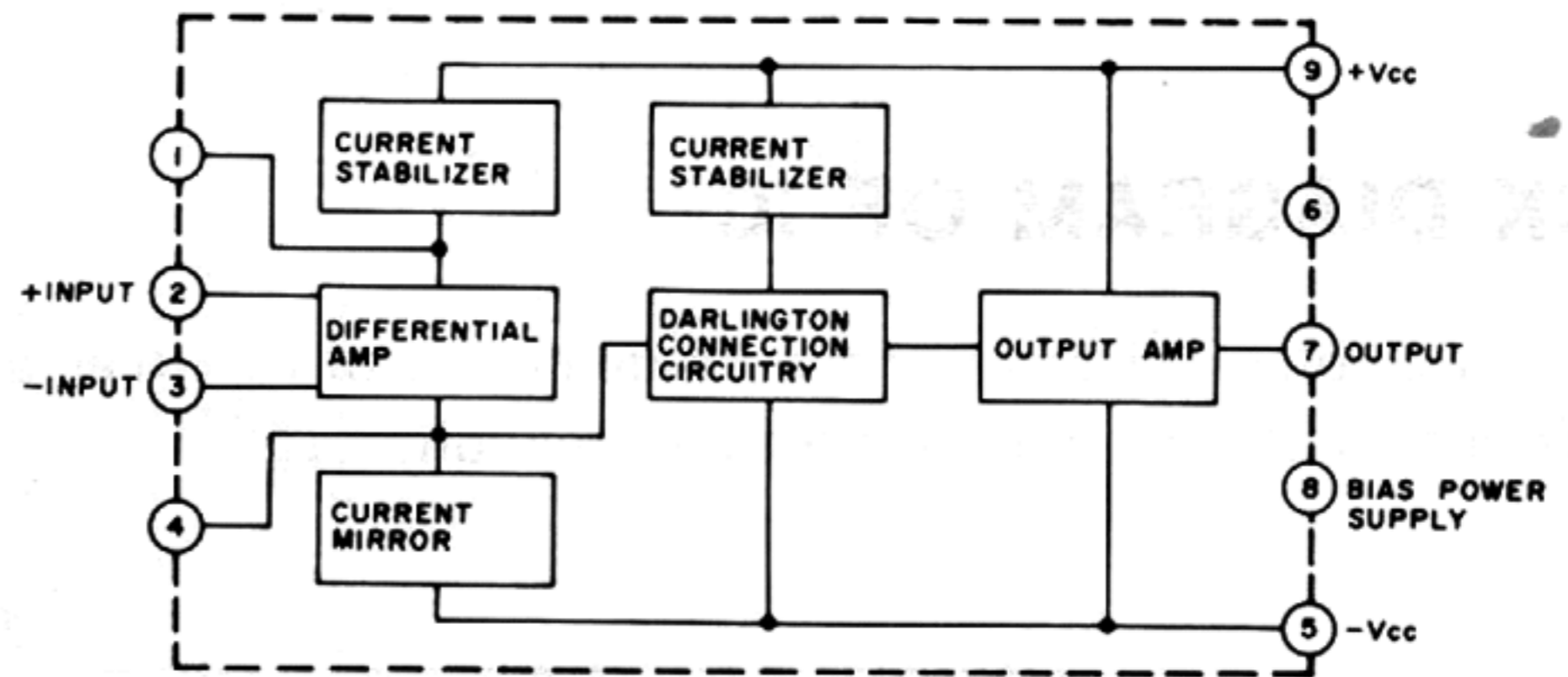
IC103, 801 (AN6551)
Operation amplifier



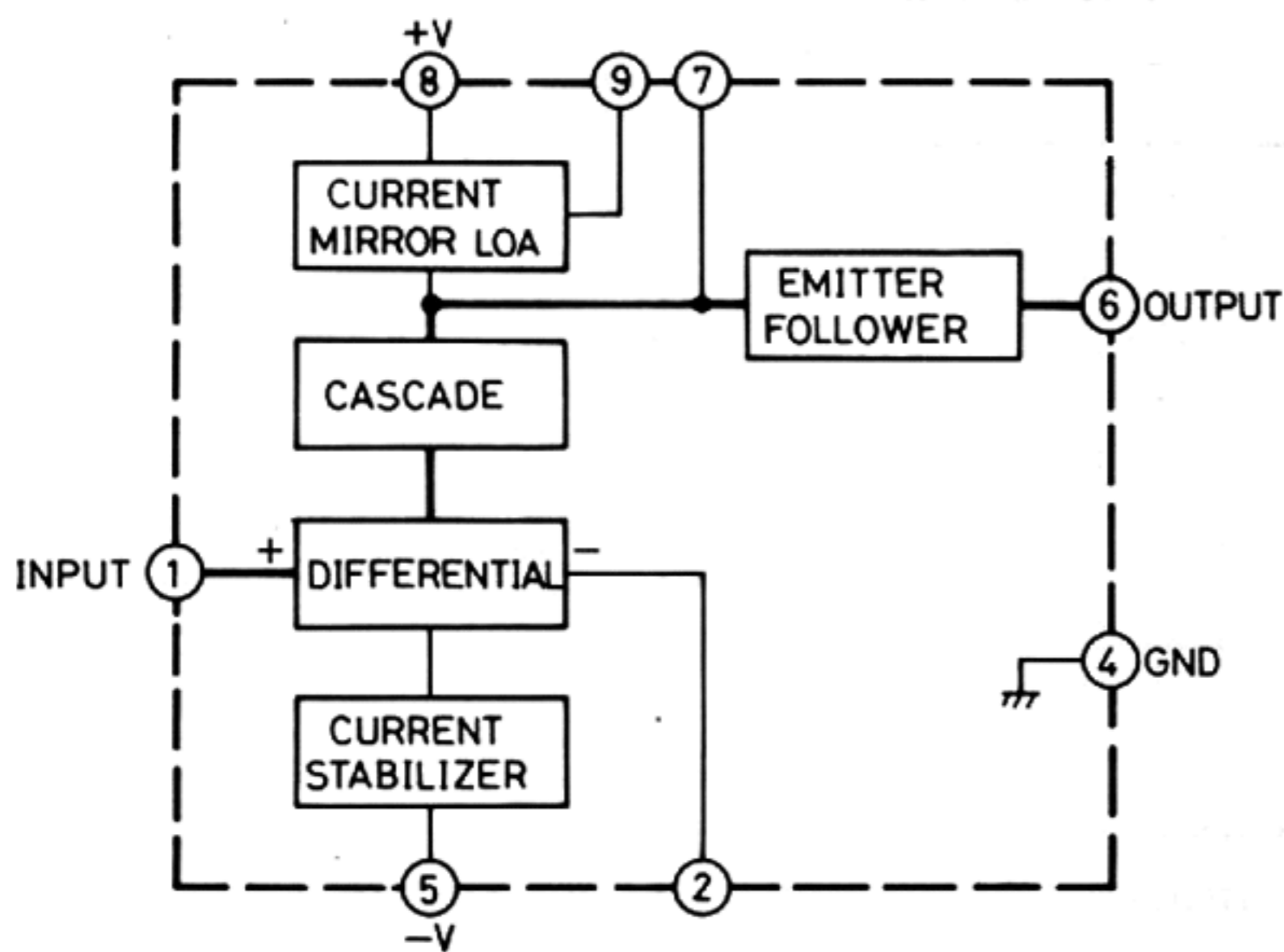
IC104 (AN6876)
FM AM signal indicator driver



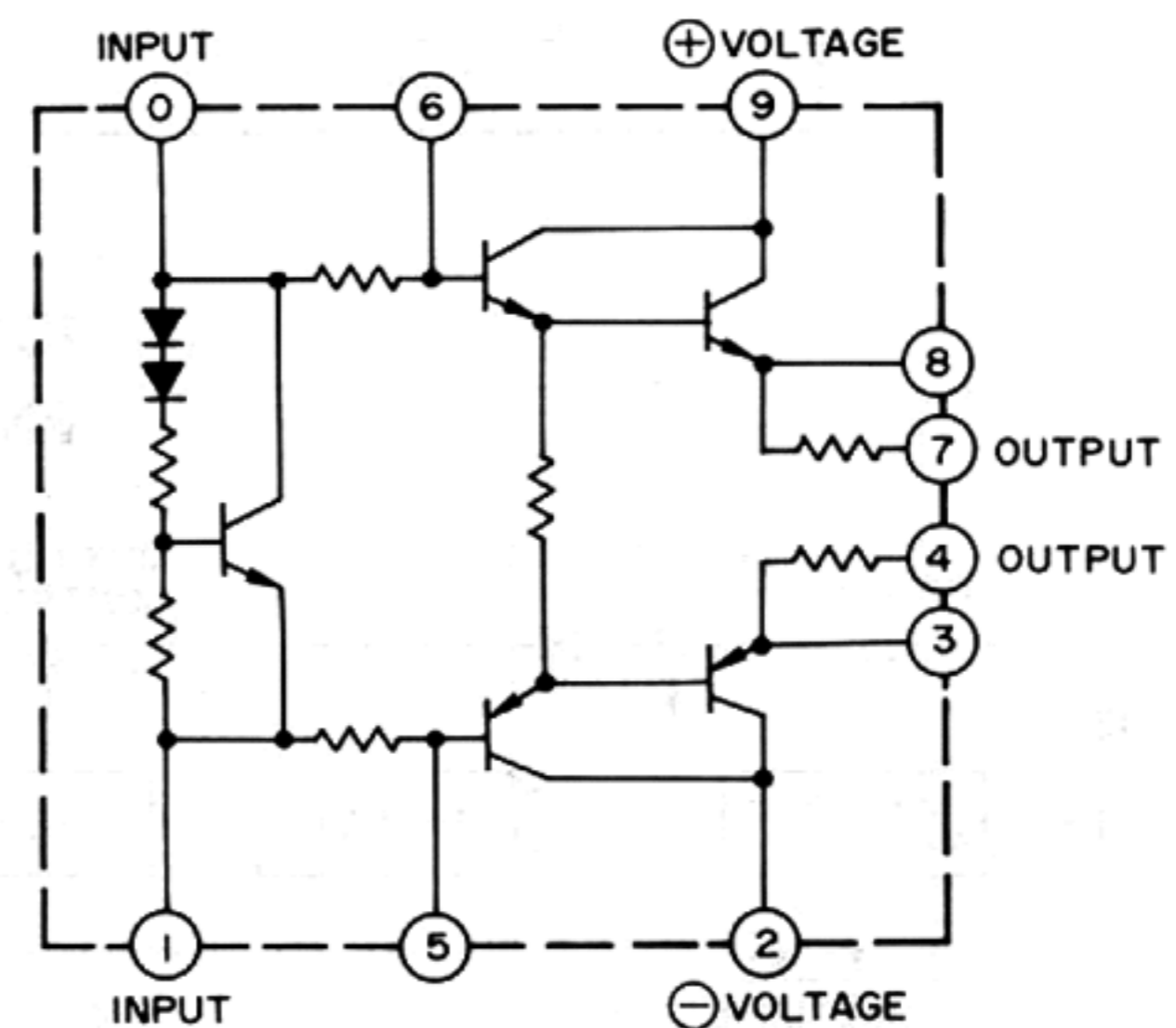
IC301 (AN6136)
AF muting



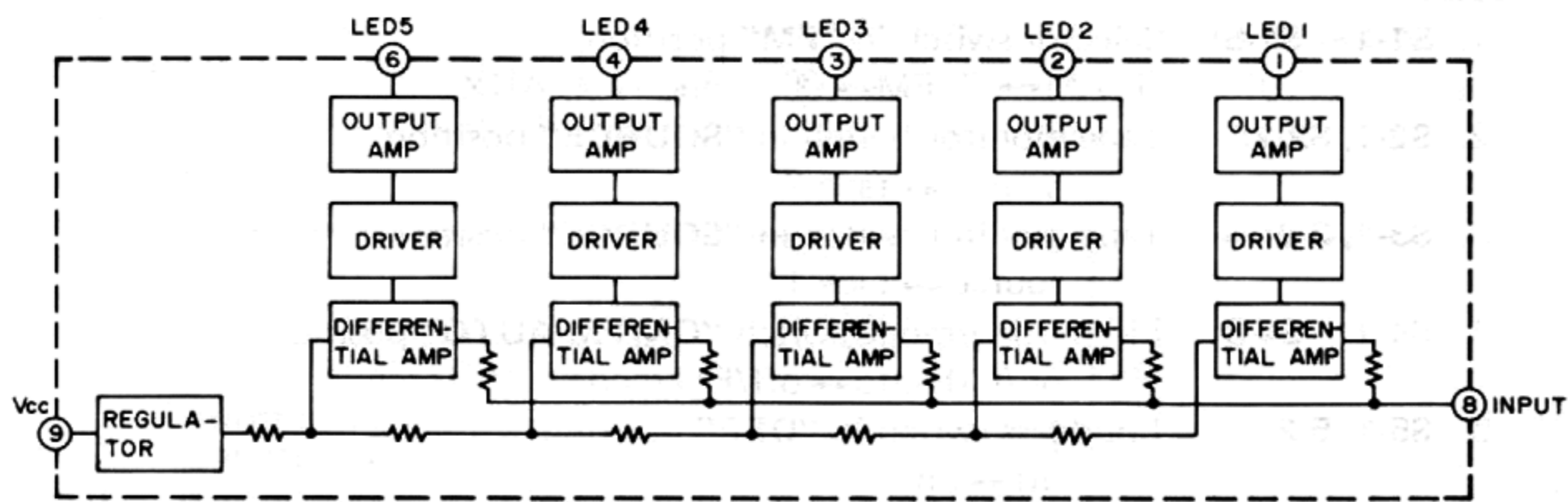
IC401, 402 (SVITA7322P)
Equalizer amplifier



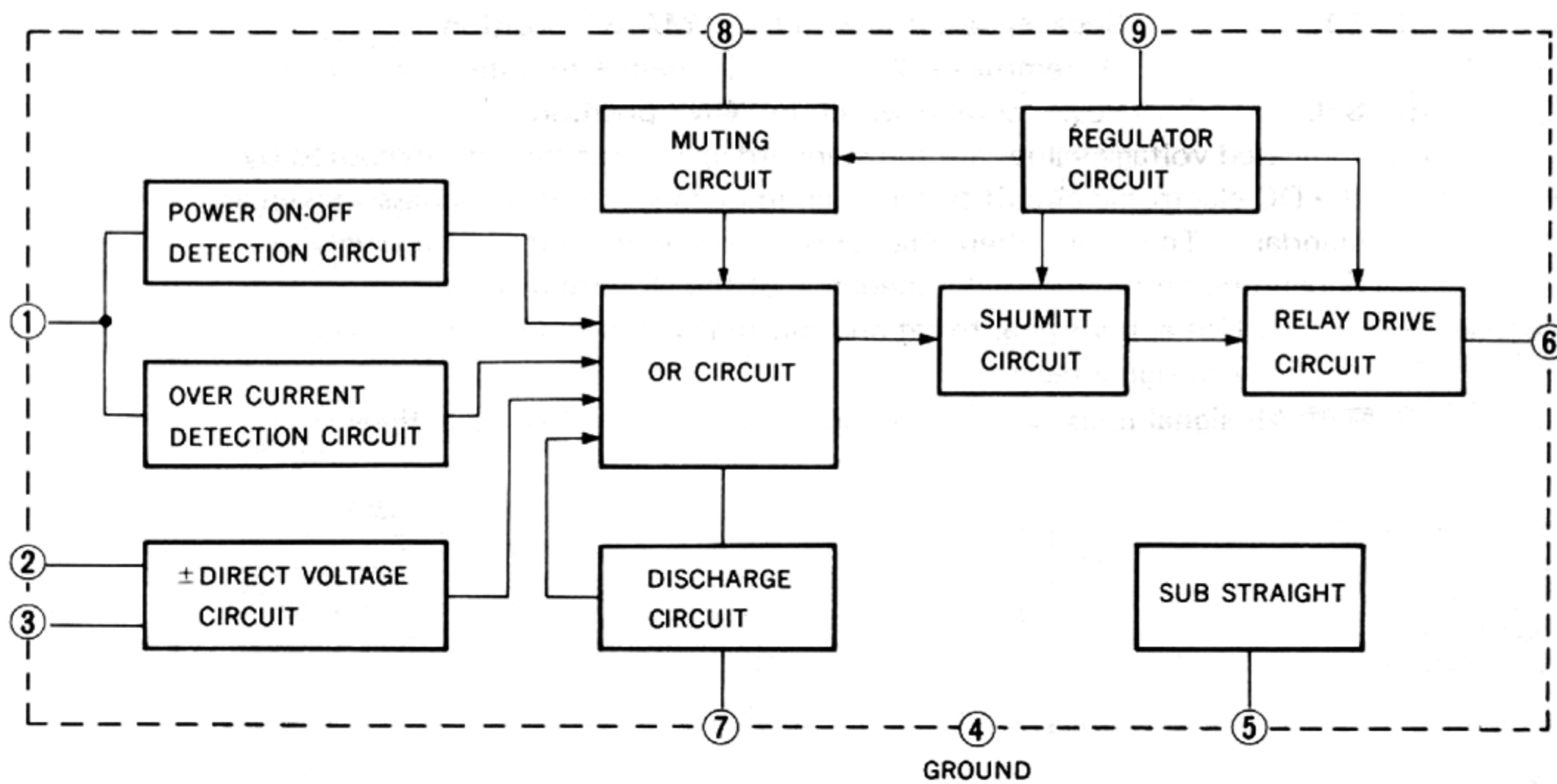
IC601, 602 (AN7060F)
Differential amplifier



IC603, 604 (SVISTK1050K)
Power amplifier



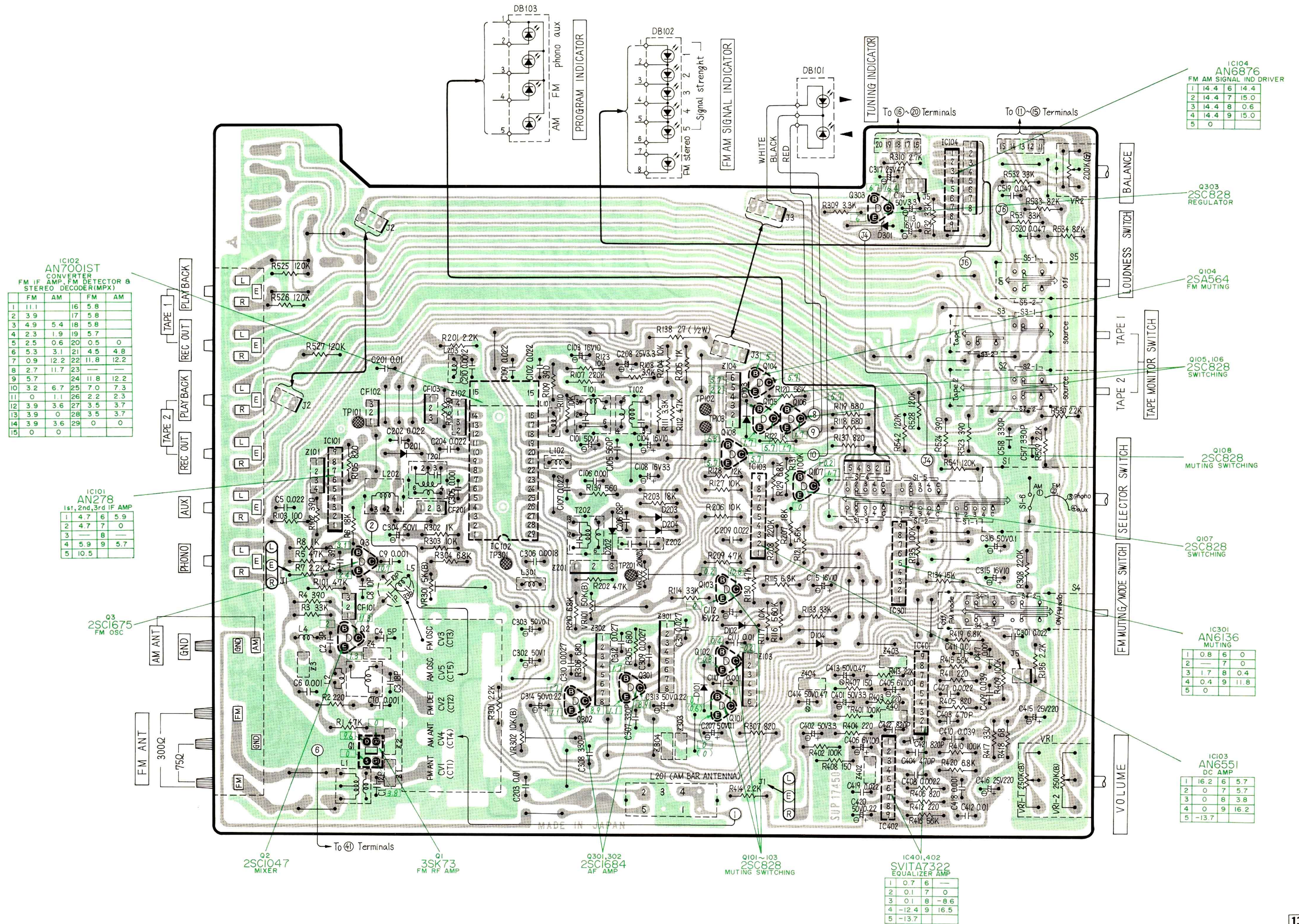
IC802, 803 (AN6875)
LED comparator



IC901 (SVITA7317P)
Speaker protection operation amplifier

■ **PRINTED CIRCUIT BOARD WIRING VIEW**
(FM/AM tuner and equalizer circuit board)

Earth (Ground) Lines

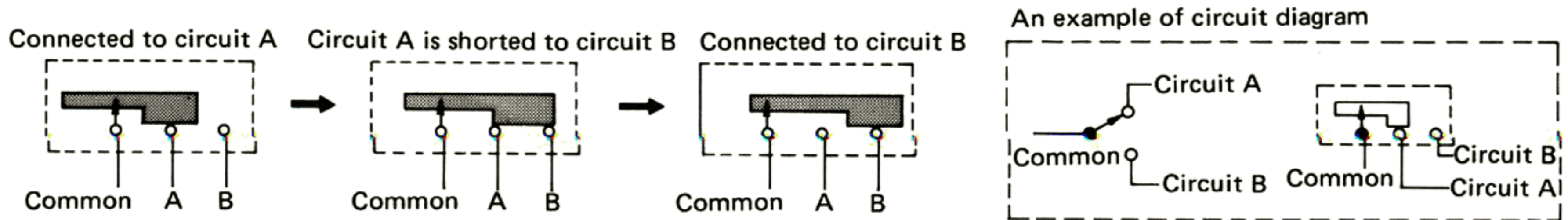


Notes:

1. **S1-1 ~ S1-6:** Selector switch in "FM" position.
① AM ↔ ② FM ↔ ③ phono ↔ ④ AUX
2. **S2-1, S2-2:** Tape monitor switch in "SOURCE" position.
source ↔ tape 2
3. **S3-1, 3-2:** Tape monitor switch in "SOURCE" position.
source ↔ tape 1
4. **S4-1 ~ S4-3:** FM muting/mode switch "ON/FM AUTO" position.
on/FM auto ↔ off/FM mode
5. **S5-1, 5-2:** Loudness switch in "OFF" position.
off ↔ on
6. **S6-1 ~ S6-4:** Boost/filter switch (high) in "OFF" position
① high boost ↔ ② off ↔ ③ high filter
7. **S7-1 ~ S7-4:** Boost/filter switch (low) in "OFF" position.
① low boost ↔ ② off ↔ ③ low filter
8. **S8:** Power display range selector switch in "X1" position.
① X0.1 ↔ ② X1 ↔ ③ off
9. **S9:** Speaker selector switch in "MAIN" position.
① remote ↔ ② main ↔ ③ main + remote
10. **S10:** Power source switch in "ON" position.
11. 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.
 Not apply signal to set and muting switch to OFF condition.
AM signal reception.
12. → AF signal lines FM signal lines → AM signal lines.

Shorting Switch

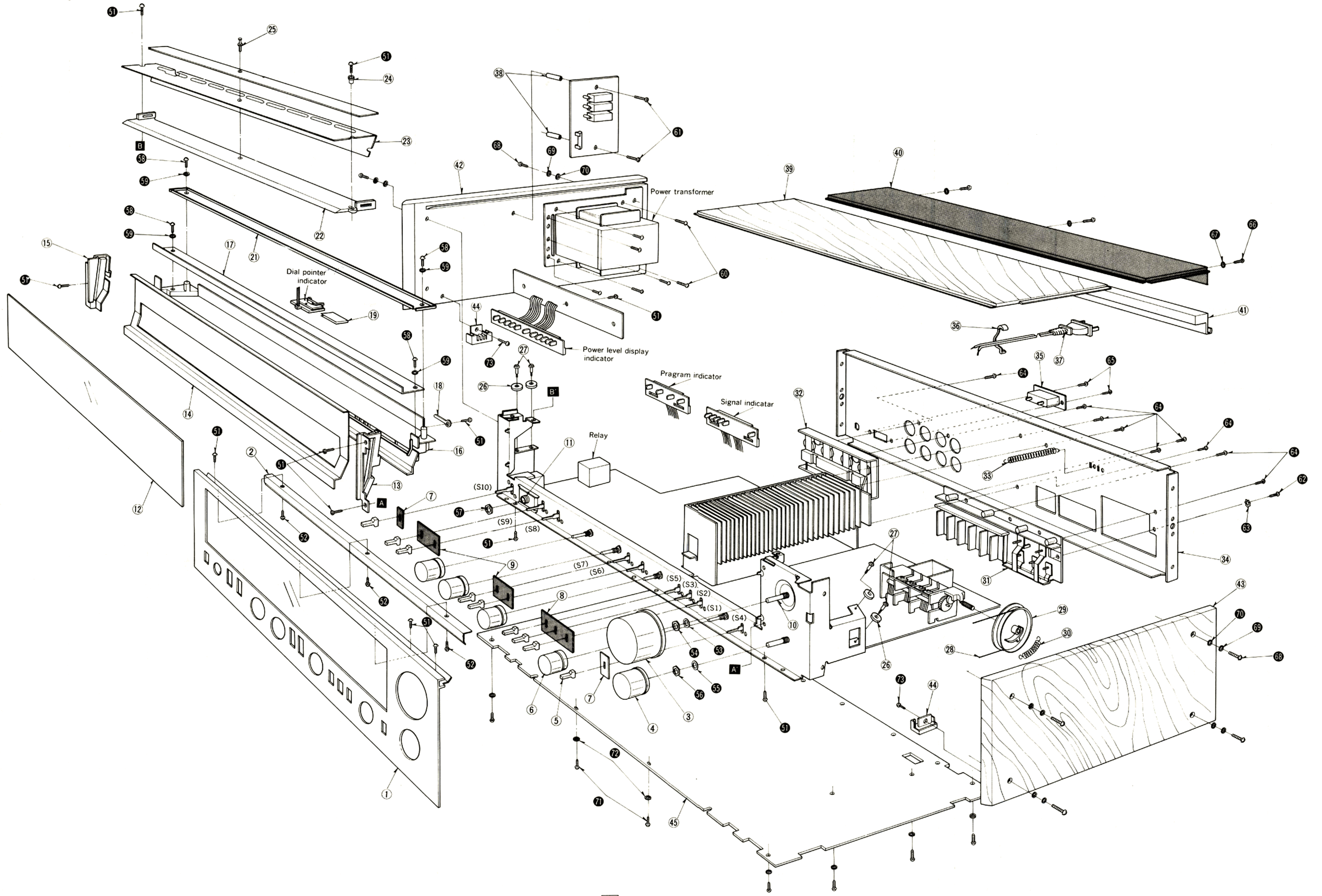
This unit uses a shorting switch. As illustrated below, the circuit is shorted to the next circuit without being opened. In the circuit diagram, the shaded area represents the common terminal.



■ TERMINAL GUIDE OF TRANSISTOR AND IC

<p>AN278, AN6551</p>	<p>3SK73</p>	<p>AN6876, AN6136, AN7060 AN6875</p>	<p>SVITA7322P</p>	<p>SVISTK1050K</p>
<p>SVITA7317P</p>	<p>2SA1123, 2SC828, 2SC1509, 2SA564, 2SC1047, 2SC1675, 2SC1684</p>	<p>2SD762</p>	<p>AN7001ST</p>	

EXPLODED VIEW



REPLACEMENT PARTS LIST Cabinet, Chassis and Packing Parts

- NOTES:** 1. Part numbers are indicated on most mechanical parts
Please use this part number for parts orders.
2. **△** indicates that only parts specified by the manufacturer
be used for safety.

3. (M) is available in U.S.A.
(MC) is available in Canada.

Ref. No.	Part No.	Part Name & Description
CABINET and CHASSIS PARTS		
1	SGWA404M	Panel, Front Ass'y
2	SDH493	Bracket, Front Panel
3	SBN879	Knob, Tuning
4	SBN883	Knob, Volume
5	SBD29	Knob, Lever Switch
6	SBN887	Knob, Selector, Balance, Treble and Bass
7	SHS2425	Fiber, Lever Switch
8	SHS2429	Fiber, Lever Switch
9	SHS2427	Fiber, Lever Switch
10	SDT8061	Shaft, Tuning
11	XCJ6P21E-A	Jack, Headphones
12	SKD3810	Plate, Dial
13	SGX6753	Escutcheon, Dial Scale (Right)
14	SDH495-1	Dial Scale
15	SGX6755	Escutcheon, Dial Scale (Left)
16	SGX6751	Escutcheon, Dial Scale
17	SUG71	Mirror, Dial Scale
18	SXE513-1	Terminal, Lead Wire
19	SDA83	Paper, Pointer Slide
21	SUV457	Bracket, Dial Pointer Cover
22	SDL25	Reflector Plate
23	SHP9291	Paper, Reflector
24	SHR9339	Spacer, Reflector Plate
25	SHRA403	Lock Pin, Dial Lamp Printed Circuit Board M'tg
26	SDR3	Pulley, Dial Cord
27	SHD3X21F	Screw, Pulley M'tg
28	SDZ051-2	Cord, Dial 180 cm (70-15/16)
29	SDD47-1	Drum, Variable Capacitor
30	SDSA4121	Spring, Dial Cord
31	SJF8017	Terminal, Input and Antenna
32	SJF5811	Terminal, Speakers
33	SUS175	Spring, Dial Pointer-Cord
34	SGP2030B	Rear Panel
35	△ SJS9205-1	Socket, AC Outlet
36	RHR111	Bushing, AC Cord
37	△ RJA9YA	AC Cord, Power Source
38	SUD199-1	Spacer, Fuse Printed Circuit Board
39	SYK761	Top Board
40	SGM77	Ventilation
41	SGX6757	Escutcheon, Ventilation
42	SKZ1629	Side Board, Left
43	SKZ1631	Side Board, Right
44	SKL243	Foot, Set

Ref. No.	Part No.	Part Name & Description
45	SYU211	Bottom Board
SCREWS WASHER and NUTS		
●	XTB3+10BFN	Screw, Front Panel, Dial Scale Escutcheon, Reflector Plate M'tg
●	XTB3+6BFN	Screw, Front Panel Bracket M'tg
●	XNS11	Washer, Tuning Shaft
●	XWV11	Nut, Tuning Shaft M'tg
●	XWV8	Washer, Volumes & Selector
●	XSN8	Nut, Volumes & Selector M'tg
●	XNS12	Nut, Headphones Jack M'tg
●	XTV3+10BFN	Screw, Dial Scale Mirror, Dial Pointer Cover Bracket M'tg
●	XWG3BFZ	Washer, Dial Scale Mirror, Dial Pointer Cover Bracket
●	XTN5+12B	Screw, Power Transformer M'tg
●	XTB4+25AFZ	Screw, Fuse Printed Circuit Board M'tg
●	XTB3+8BFZ	Screw, Input and Antenna Terminal M'tg
●	XWC3B	Washer, Input and Antenna Terminal
●	XTB3+10BFZ	Screw, Input and Antenna, Speakers Terminal & Heat Sink M'tg
●	XTN3+12BFZ	Screw, AC Outlet Socket M'tg
●	XTV3+10BFZ	Screw, Ventilation M'tg
●	XWG3FZ	Washer, Ventilation
●	XSN4+20BVS	Screw, Side Board M'tg
●	XWA4BFZ	Washer, Side Board
●	XWG4FZ	Washer, Side Board
●	XTV3+8BFZ	Screw, Bottom Board M'tg
●	XWG3FZ	Washer, Bottom Board
●	XMA31+13	Screw, Foot M'tg
ACCESSORY		
A1	SSA267	Cord, FM Indoor Antenna
PACKING PARTS		
P1	SPP567	Polyethylene Bag
P2	SPS2391	Pad, Left and Right Side
P3 [M]	SPG2253-1	Carton Box
P3 [MC]	SPG2255	Carton Box
P4 [M]	SQF10267	Instructions Book, Printed Matter
P4 [MC]	SQF10269	Instructions Book, Printed Matter

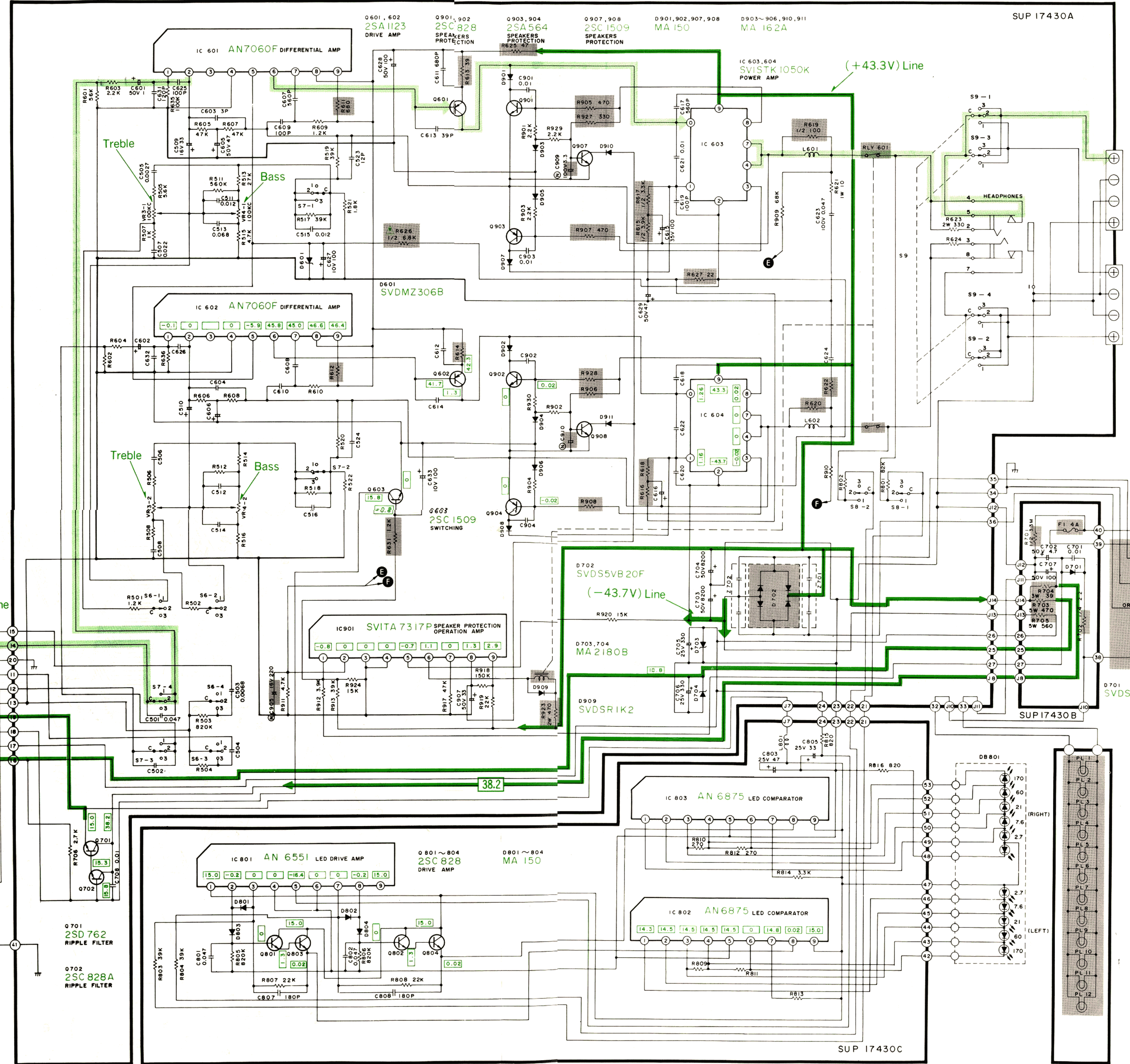
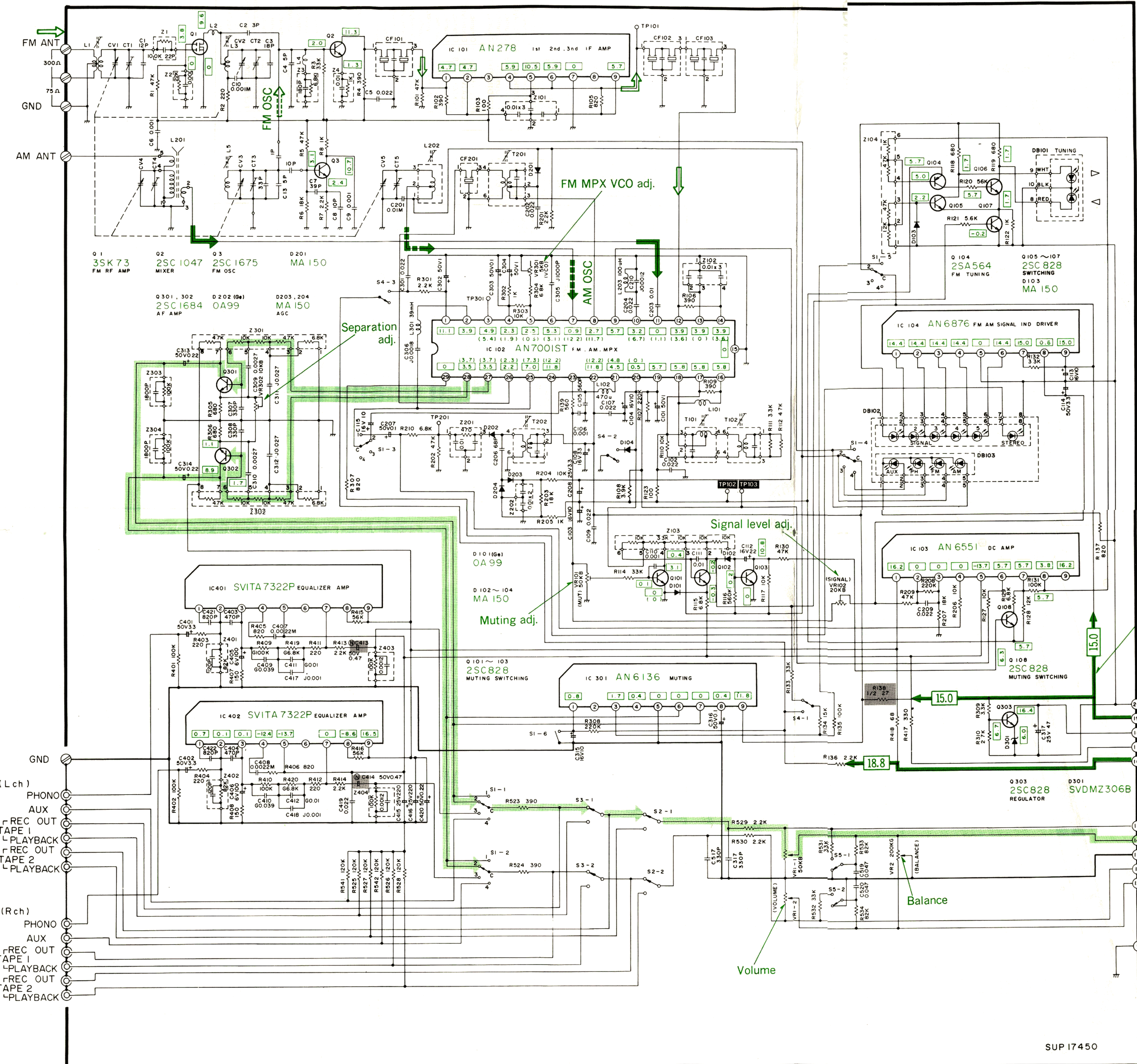
REPLACEMENT PARTS LIST Electrical Parts

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
IC101	AN278	IC, FM IF Amplifier
IC102	AN7001ST	IC, AM Converter, FM IF Amplifier, FM Detector & Stereo Decoder (MPX)
IC103	AN6551	IC, Operation Amplifier
IC104	AN6876	IC, FM AM Signal Indicator Driver
IC301	AN6136	IC, AF Muting
IC401, 402	SVITA7322P	IC, Equalizer Amplifier
IC601, 602	AN7060F	IC, Tone Amplifier
IC603, 604	SVISTK1050K	IC, Power Amplifier
IC801	AN6551	IC, LED Driver Amplifier
IC802, 803	AN6875	IC, LED Comparator
IC901	SVITA7317P	IC, Speaker protection Operation Amplifier
TRANSISTORS		
Q1	3SK73-R	Transistor, FM-RF Amplifier (Use in ranks G or R)
Q2	2SC1047-D	Transistor, FM Mixer
Q3	2SC1675-L1	Transistor, FM Oscillator
Q101, 102, 103 105, 106, 107 108, 303	2SC1328-T	Transistor, Muting Switching & Regulator
Q104	2SA666A1-R	Transistor, FM Tuning
Q301, 302	2SC1684-R	Transistor, AF Amplifier (Use in ranks S or T)

Ref. No.	Part No.	Part Name & Description
Q601, 602	2SA1123-R	Transistor, Pre Drive Amplifier (Use in ranks S, T or R)
Q603	2SC1509F-R	Transistor, Switching
Q701	2SD762-O	Transistor, Ripple Filter (Use in ranks O or P)
Q702	2SC1328-T	Transistor, Ripple Filter
Q801, 802, 803 804	2SC1328-T	Transistor, Buffer
Q901, 902	2SC1328-T	Transistor, Power Drive
Q903, 904	2SA666A1-R	Transistor, Power Drive
Q907, 908	2SC1509F-R	Transistor, Speakers Protection
DIODES		
D101, 202	2-OA99	Diode, Switching & AM Detector
D102, 103, 104 201, 203, 204	MA162A	Diode, Detector, Bias, & A, G, C
D301, 601	SVDMZ306B	Diode, 6V Zener
D701, 909	SVDSR1K2	Diode, Bias
D702	△ SVDS5VB20F	Rectifier
D703, 704	MA2180B	Diode, 8V Zener
D801, 802, 803 804, 901, 902 907, 908	MA162A	Diode, Detector
D903, 904, 905 906, 910, 911	MA162A	Diode, Bias

Ref. No.	Part No.	Part Name & Description
COILS and TRANSFORMERS		
L1	SLA4N15	Coil, FM Antenna
L2	RLQY25S2	Coil, Choke
L3	SLD4P13	Coil, FM RF Detector
L4	RLQY15G5-Y	Coil, Choke
L5	SLO4P63-P	Coil, FM Oscillator
L101	SLQX180-2	Coil, Choke
L102	SLQX471-M	Coil, Choke
L201	SLF2C25	Coil, AM Antenna
L202	SLO2C15	Coil, AM Oscillator
L203	SLQX101-3M	Coil, Choke
L301	SLQX393-1Z	Coil, Choke
L601, 602	SLQY15G-3U	Coil, Choke
L801	SLQX101-3M	Coil, Choke
T101	SLI4C515	Transformer, FM IF
T102	SLI4C517	Transformer, Discriminator
T201	SLI2C129R-M	Transformer, AM IF
T202	SLI2C413R	Transformer, AM IF
T1001	SLT5P161	Transformer, Power Source
	▲	
CERAMIC FILTERS		
CF101, 102, 103	SVFE107MM-A	Ceramic Filter, 10.70 MHz (Red)
	SVFE107MM-B	Ceramic Filter, 10.68MHz (Blue)
	SVFE107MM-C	Ceramic Filter, 10.72 MHz (Orange)
	SVFE107MM-D	Ceramic Filter, 10.66 MHz (Brown)
	SVFE107MM-E	Ceramic Filter, 10.74 MHz (Grey)
	(Use pair ranks as same as CF101, 102 and 103)	
CF201	SVFSFU450B	Ceramic Filter, AM 457 kHz
VARIABLE RESISTORS		
VR1	EWV2F25BF5S	Volume Control, 250kΩ(B)
VR2	EVH64F25G25S	Balance Control, 200kΩ(W)
VR3	EWK33F25C15S	Treble Control, 100kΩ(C)
VR4	EWK34F25C15S	Bass Control, 100kΩ(C)
VR101	EVLS3AA00B54	Muting Level Adjustment, 50kΩ(B)
VR102	EVLS3AA00B24	Signal Level Adjustment, 20kΩ(B)
VR301	EVTS3MA00B53	FM MPX VCO Adjustment, 5kΩ(B)
VR302	EVLS3AA00B14	Separation Adjustment, 10kΩ(B)
COMPONENT COMBINATIONS		
Z1	EXRP220K104C	Component Combination, 100kΩ & 22pF
Z2	EXRP102Z223C	Component Combination, 220kΩ & 0.001μF
Z3	EXRP181K682C	Component Combination, 6.8kΩ & 180pF
Z4	EXRP103P102C	Component Combination, 1kΩ & 0.01 μF

Ref. No.	Part No.	Part Name & Description
Z101, 102	EXF3YL01C	Component Combination, 0.01 μF (X3)
Z103	EXBH85071K	Component Combination, 70Ω (X5)
Z104	EXBH84072K	Component Combination, 7kΩ (X4)
Z201	EXRF203Z471S	Component Combination, 470Ω & 0.02μF
Z202	EXRFS203ZS	Component Combination, 0.01μF (X2)
Z301, 302	EXBH85063K	Component Combination, 6kΩ (X5)
Z303, 304	EXRP182K104C	Component Combination, 100kΩ & 0.0018μF
Z401, 402	EXRP121K823C	Component Combination, 82kΩ & 120pF
Z403, 404	EXRP122K104C	Component Combination, 100kΩ & 0.00012μF
Z701, 702	EXRFS203ZS	Component Combination, 0.01μF (X2)
VARIABLE CAPACITORS		
CV1~CV5 (CT1~CT5)	ECVC751K144A	Variable Capacitor, with Trimmer
FUSE		
F1	▲ XBA1F40NU14	Fuse, 4A (125V)
SWITCHES		
S1	SSR149	Switch, Selector
S2, 3	SSL153	Switch, Tape Monitor & Rec Mode
S4	SSL155	Switch, FM Muting
S5	SSL149	Switch, Loudness
S6, 7	SSL159	Switch, Acoustic High & Acoustic Low
S8	SSL151	Switch, Power Display Range Selector
S9	SSL163	Switch, Speaker
S10	▲ SSL133	Switch, Power Source
LAMPS		
PL1~12	▲ XAMR68S17	Lamp Dial, 80mA (8V)
INDICATORS		
DB101	SWV13	Indicator, Dial Pointer
DB102	SWV17	Indicator, Signal
DB103	LN04209	Indicator, Program
DB801	LN11107	Indicator, Power Level Display
RELAY		
RLY601	▲ SSY69	Relay, Speaker Protection



IMPORTANT SAFETY NOTICE

THE SHADED AREA ON THIS SCHEMATIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR SAFETY. WHEN SERVICING IT IS ESSENTIAL THAT ONLY MANUFACTURER'S SPECIFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE SHADED AREAS OF THE SCHEMATIC.

Notes:

- S1-1~S1-6: Selector switch in "FM" position.
 - ① AM → ② FM → ③ phono → ④ AUX
- S2-1, S2-2: Tape monitor switch in "source" position, source → tape 1
- S3-1, S3-2: Tape monitor switch in "source" position, source → tape 2
- S4-1~S4-3: FM muting/mode switch in "ON/FM AUTO" position.
- S5-1, S5-2: Loudness switch in "OFF" position.
- S6-1~S6-4: Boost/filter switch (high) in "OFF" position.
 - ① high boost → ② off → ③ high filter
- S7-1~S7-4: Boost/filter switch (low) in "OFF" position.
 - ① low boost → ② off → ③ low filter
- S8: Power display rang selector switch in "X1" position.
 - ① X0.1 → ② X1 → ③ off
- S9: Speaker selector switch in "MAIN" position.
 - ① remote → ② main → ③ main + remote
- S10: Power source switch in "ON" position.

REPLACEMENT PARTS LIST Resistors and Capacitorst Parts

NOTES: 1. Part numbers are indicated on most mechanical parts
Please use this part number for parts orders.

2. **△** indicates that only parts specified by the manufacturer
be used for safety.

3. (M) is available in U.S.A.
(MIC) is available in Canada.

Ref. No.	Part No.	Part Name & Description
RESISTORS		
R1	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R2	ERD25FJ221	Carbon, 220Ω, 1/4W, ±5%
R3	ERD25TJ333	Carbon, 33kΩ, 1/4W, ±5%
R4	ERD25FJ391	Carbon, 390Ω, 1/4W, ±5%
R5	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R6	ERD25TJ183	Carbon, 18kΩ, 1/4W, ±5%
R7	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R8	ERD25FJ102	Carbon, 1kΩ, 1/4W, ±5%
R101	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R102	ERD25FJ391	Carbon, 390Ω, 1/4W, ±5%
R103	ERD25FJ101	Carbon, 100Ω, 1/4W, ±5%
R105	ERD25FJ821	Carbon, 820Ω, 1/4W, ±5%
R106	ERD25FJ391	Carbon, 390Ω, 1/4W, ±5%
R107	ERD25TJ224	Carbon, 220kΩ, 1/4W, ±5%
R108	ERD25FJ392	Carbon, 3.9kΩ, 1/4W, ±5%
R109	ERD25FJ391	Carbon, 390Ω, 1/4W, ±5%
R110	ERD25FJ103	Carbon, 10kΩ, 1/4W, ±5%
R111	ERD25FJ332	Carbon, 3.3kΩ, 1/4W, ±5%
R112	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R114	ERD25TJ333	Carbon, 33kΩ, 1/4W, ±5%
R115	ERD25FJ682	Carbon, 6.8kΩ, 1/4W, ±5%
R116	ERD25TJ564	Carbon, 560kΩ, 1/4W, ±5%
R117	ERD25FJ103	Carbon, 10kΩ, 1/4W, ±5%
R118, 119	ERD25FJ681	Carbon, 680Ω, 1/4W, ±5%
R120	ERD25TJ563	Carbon, 56kΩ, 1/4W, ±5%
R121	ERD25FJ562	Carbon, 5.6kΩ, 1/4W, ±5%
R122	ERD25FJ102	Carbon, 1kΩ, 1/4W, ±5%
R123	ERD25FJ101	Carbon, 100Ω, 1/4W, ±5%
R127	ERD25FJ103	Carbon, 10kΩ, 1/4W, ±5%
R128	ERD25TJ123	Carbon, 12kΩ, 1/4W, ±5%
R129	ERD25FJ682	Carbon, 6.8kΩ, 1/4W, ±5%
R130	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R131	ERD25TJ104	Carbon, 100kΩ, 1/4W, ±5%
R132	ERD25FJ332	Carbon, 3.3kΩ, 1/4W, ±5%
R133	ERD25TJ333	Carbon, 33kΩ, 1/4W, ±5%
R134	ERD25TJ153	Carbon, 15kΩ, 1/4W, ±5%
R135	ERD25TJ104	Carbon, 100kΩ, 1/4W, ±5%
R136	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R137	ERD25FJ821	Carbon, 820Ω, 1/4W, ±5%
R138	△ ERQ12HJ270	Fuse Type Metallic, 27Ω, 1/2W, ±5%
R139	ERD25FJ561	Carbon, 560Ω, 1/4W, ±5%
R201	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R202	ERD25FJ472	Carbon, 4.7kΩ, 1/4W, ±5%
R203	ERD25TJ183	Carbon, 18kΩ, 1/4W, ±5%
R204	ERD25FJ103	Carbon, 10kΩ, 1/4W, ±5%
R205	ERD25FJ102	Carbon, 1kΩ, 1/4W, ±5%
R206	ERD25FJ103	Carbon, 10kΩ, 1/4W, ±5%
R207	ERD25TJ183	Carbon, 18kΩ, 1/4W, ±5%
R208	ERD25TJ224	Carbon, 220kΩ, 1/4W, ±5%
R209	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R210	ERD25FJ682	Carbon, 6.8kΩ, 1/4W, ±5%
R301	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R302	ERD25FJ102	Carbon, 1kΩ, 1/4W, ±5%
R303	ERD25FJ103	Carbon, 10kΩ, 1/4W, ±5%
R304	ERO25CKF6801	Metal film, 6.8kΩ, 1/4W, ±1%
R305, 306	ERD25FJ681	Carbon, 680Ω, 1/4W, ±5%
R307	ERD25FJ821	Carbon, 820Ω, 1/4W, ±5%
R308	ERD25TJ224	Carbon, 220kΩ, 1/4W, ±5%
R309	ERD25FJ332	Carbon, 3.3kΩ, 1/4W, ±5%
R310	ERD25FJ272	Carbon, 2.7kΩ, 1/4W, ±5%
R401, 402	ERO25CKF1003	Metal Film, 100kΩ, 1/4W, ±1%
R403, 404	ERD25FJ221	Carbon, 220Ω, 1/4W, ±5%
R405, 406	ERD25FJ821	Carbon, 820Ω, 1/4W, ±5%
R407, 408	ERD25FJ151	Carbon, 150Ω, 1/4W, ±5%
R409, 410	ERO25CKF1003	Metal Film, 100kΩ, 1/4W, ±1%
R411, 412	ERD25FJ221	Carbon, 220Ω, 1/4W, ±5%
R413, 414	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R415, 416	ERD25TJ563	Carbon, 56kΩ, 1/4W, ±5%
R417	ERD25FJ331	Carbon, 330Ω, 1/4W, ±5%
R418	ERD25FJ680	Carbon, 68Ω, 1/4W, ±5%
R419, 420	ERO25CKF6801	Metal Film, 6.8kΩ, 1/4W, ±1%
R501, 502	ERD25FJ122	Carbon, 1.2kΩ, 1/4W, ±5%
R503, 504	ERD25TJ824	Carbon, 820kΩ, 1/4W, ±5%
R505, 506	ERD25FJ562	Carbon, 5.6kΩ, 1/4W, ±5%
R507, 508	ERD25FJ102	Carbon, 1kΩ, 1/4W, ±5%

Ref. No.	Part No.	Part Name & Description
R511, 512	ERD25TJ564	Carbon, 560kΩ, 1/4W, ±5%
R513, 514	ERD25TJ273	Carbon, 27kΩ, 1/4W, ±5%
R515, 516	ERD25FJ472	Carbon, 4.7kΩ, 1/4W, ±5%
R517, 518	ERD25TJ393	Carbon, 39kΩ, 1/4W, ±5%
R519, 520	ERD25TJ393	Carbon, 39kΩ, 1/4W, ±5%
R521, 522	ERD25FJ182	Carbon, 1.8kΩ, 1/4W, ±5%
R523, 524	ERD25FJ391	Carbon, 390Ω, 1/4W, ±5%
R525, 526	ERD25TJ124	Carbon, 120kΩ, 1/4W, ±5%
R527, 528	ERD25TJ124	Carbon, 120kΩ, 1/4W, ±5%
R529, 530	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R531, 532	ERD25TJ333	Carbon, 33kΩ, 1/4W, ±5%
R533, 534	ERD25TJ823	Carbon, 82kΩ, 1/4W, ±5%
R541, 542	ERD25TJ124	Carbon, 120kΩ, 1/4W, ±5%
R601, 602	ERD25TJ563	Carbon, 56kΩ, 1/4W, ±5%
R603, 604	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R605, 606	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R607, 608	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R609, 610	ERD25FJ122	Carbon, 1.2kΩ, 1/4W, ±5%
R611, 612	△ ERD25FJ681	Carbon, 680Ω, 1/4W, ±5%
R613, 614	△ ERD25FJ390	Carbon, 39Ω, 1/4W, ±5%
R615, 616	△ ERD50FJ392	Carbon, 3.9kΩ, 1/2W, ±5%
R617, 618	△ ERD50FJ332	Carbon, 3.3kΩ, 1/2W, ±5%
R619, 620	△ ERD50FJ101	Carbon, 100Ω, 1/2W, ±5%
R621, 622	ERG1ANJ100	Carbon, 10Ω, 1W, ±5%
R623, 624	ERG2ANJ331	Metal Oxide, 330Ω, 2W, ±5%
R625	△ ERD25FJ470	Carbon, 47Ω, 1/4W, ±5%
R626	△ ERD50FJ682	Carbon, 6.8kΩ, 1/2W, ±5%
R627	△ ERD25FJ220	Carbon, 22Ω, 1/4W, ±5%
R631	ERD25FJ122	Carbon, 1.2kΩ, 1/4W, ±5%
R635, 636	ERD25TJ104	Carbon, 100kΩ, 1/4W, ±5%
R701	△ ERC12ZGK335	Solid, 3.3MΩ, 1/2W, ±10%
R702	ERD25FAJ2R2	Carbon, 2.2Ω, 1/4W, ±5%
R703	△ ERF5SJ471	Non-Flammable, 470Ω, 5W, ±5%
R704	△ ERQ3CJ390	Fuse Type Metallic, 39Ω, 3W, ±5%
R705	△ ERF5SJ561	Non-Flammable, 560Ω, 5W, ±5%
R706	ERD25FJ272	Carbon, 2.7kΩ, 1/4W, ±5%
R801, 802	ERD25TJ823	Carbon, 82kΩ, 1/4W, ±5%
R803, 804	ERD25TJ393	Carbon, 39kΩ, 1/4W, ±5%
R805, 806	ERD25TJ824	Carbon, 820kΩ, 1/4W, ±5%
R807, 808	ERD25TJ223	Carbon, 22kΩ, 1/4W, ±5%
R809, 810	ERD25FJ271	Carbon, 270Ω, 1/4W, ±5%
R811, 812	ERD25FJ271	Carbon, 270Ω, 1/4W, ±5%
R813, 814	ERD25FJ332	Carbon, 3.3kΩ, 1/4W, ±5%
R815, 816	ERD25FJ821	Carbon, 820Ω, 1/4W, ±5%
R901, 902	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R903, 904	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
R905	△ ERD25FJ471	Carbon, 470Ω, 1/4W, ±5%
R906	△ ERD25FJ331	Carbon, 330Ω, 1/4W, ±5%
R907, 908	△ ERD25FJ471	Carbon, 470Ω, 1/4W, ±5%
R909, 910	ERD25TJ683	Carbon, 68kΩ, 1/4W, ±5%
R911	ERD25FJ472	Carbon, 4.7kΩ, 1/4W, ±5%
R912	ERD25FJ392	Carbon, 3.9kΩ, 1/4W, ±5%
R913	ERD25TJ393	Carbon, 39kΩ, 1/4W, ±5%
R917	ERD25TJ473	Carbon, 47kΩ, 1/4W, ±5%
R918	ERD25TJ154	Carbon, 150kΩ, 1/4W, ±5%
R919	ERD25TJ223	Carbon, 22kΩ, 1/4W, ±5%
R920	ERD25TJ153	Carbon, 15kΩ, 1/4W, ±5%
R923	ERG2ANJ471	Metal Oxide, 470Ω, 2W, ±5%
R924	ERD25TJ153	Carbon, 15kΩ, 1/4W, ±5%
R927	△ ERD25FJ331	Carbon, 330Ω, 1/4W, ±5%
R928	ERD25FJ471	Carbon, 470Ω, 1/4W, ±5%
R929, 930	ERD25FJ222	Carbon, 2.2kΩ, 1/4W, ±5%
CAPACITORS		
C1	ECCD1H120KC	Ceramic, 12pF, 50V, ±10%
C2	ECCD1H030CC	Ceramic, 3pF, 50V, ±0.25pF
C3	ECCD1H180KC	Ceramic, 18pF, 50V, ±10%
C4	ECCD1H050KC	Ceramic, 5pF, 50V, ±0.25pF
C5	ECKD1H223ZF	Ceramic, 0.022μF, 50V, ±80%
C6	ECKD1H102ZF	Ceramic, 0.001μF, 50V, ±80%
C7	ECCD1H390KC	Ceramic, 39pF, 50V, ±10%
C8	ECCD1H100KC	Ceramic, 10pF, 50V, ±10%
C9	ECKD1H102ZF	Ceramic, 0.001μF, 50V, ±80%
C10	ECKD1H102MDA	Ceramic, 0.001μF, 50V, ±20%
C13	ECCD1H050CC	Ceramic, 5pF, 50V, ±0.25pF
C101	ECEA50Z1	Electrolytic, 1μF, 50V

Ref. No.	Part No.	Part Name & Description
C102	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C103, 104	ECEA1HS100	Electrolytic, 10 μ F, 50V
C105	ECKD1H561KB	Ceramic, 560pF, 50V, $\pm 10\%$
C106	ECKD1H102ZF	Ceramic, 0.001 μ F, 50V, $\pm 80\%$
C107	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C108	ECEA1CS330	Electrolytic, 33 μ F, 16V
C109	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C110	ECKD1H102ZF	Ceramic, 0.001 μ F, 50V, $\pm 80\%$
C111	ECKD1H103ZF	Ceramic, 0.01 μ F, 50V, $\pm 80\%$
C112	ECEA1ES220	Electrolytic, 22 μ F, 25V
C113	ECEA1HS100	Electrolytic, 10 μ F, 50V
C114	ECEA50Z3R3	Electrolytic, 3.3 μ F, 50V
C115	ECEA1HS100	Electrolytic, 10 μ F, 50V
C201	ECKD1H103MD	Ceramic, 0.01 μ F, 50V, $\pm 20\%$
C202	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C203	ECKD1H103ZF	Ceramic, 0.01 μ F, 50V, $\pm 80\%$
C204	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C206	ECCD1H680K	Ceramic, 68pF, 50V, $\pm 10\%$
C207	ECEA50ZR1	Electrolytic, 0.1 μ F, 50V
C208	ECEA50Z3R3	Electrolytic, 3.3 μ F, 50V
C209	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C210	ECQM1H122JZ	Polyester, 0.0012 μ F, 50V, $\pm 5\%$
C301	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C302	ECEA50Z1	Electrolytic, 1 μ F, 50V
C303	ECEA50ZR1	Electrolytic, 0.1 μ F, 50V
C304	ECEA50Z1	Electrolytic, 1 μ F, 50V
C305	ECQP1102JZ	Polypropylene, 0.001 μ F, 125V, $\pm 5\%$
C306	ECQM1H182JZ	Polyester, 0.0018 μ F, 50V, $\pm 5\%$
C307, 308	ECKD1H331KB	Ceramic, 330pF, 50V, $\pm 10\%$
C309, 310	ECQM1H272KZ	Polyester, 0.0027 μ F, 50V, $\pm 10\%$
C311, 312	ECQM1H273JZ	Polyester, 0.027 μ F, 50V, $\pm 5\%$
C313, 314	ECEA50ZR22	Electrolytic, 0.22 μ F, 50V
C315	ECEA1HS100	Electrolytic, 10 μ F, 50V
C316	ECEA50ZR1	Electrolytic, 0.1 μ F, 50V
C317	ECEA1ES470	Electrolytic, 47 μ F, 25V
C401, 402	ECEA50M3R3R	Electrolytic, 3.3 μ F, 50V
C403, 404	ECKD1H471KB	Ceramic, 470pF, 50V, $\pm 10\%$
C405, 406	ECEA1AS101	Electrolytic, 100 μ F, 10V
C407, 408	ECKD1H222MD	Ceramic, 0.0022 μ F, 50V, $\pm 20\%$
C409, 410	ECQP1393GZ	Polypropylene, 0.039 μ F, 125V, $\pm 2\%$
C411, 412	ECQP1103GZ	Polypropylene, 0.01 μ F, 125V, $\pm 2\%$
C413, 414	Δ ECEA1HNR47	Non-polar Electrolytic, 0.47 μ F, 50V
C415, 416	ECEA1ES221	Electrolytic, 220 μ F, 25V
C417, 418	ECQM1H102KZ	Polyester, 0.001 μ F, 50V, $\pm 10\%$
C419	ECKD1H223ZF	Ceramic, 0.022 μ F, 50V, $\pm 80\%$
C420	ECEA50ZR22	Electrolytic, 0.22 μ F, 50V

Ref. No.	Part No.	Part Name & Description
C421, 422	ECKD1H821KB	Ceramic, 820pF, 50V, $\pm 10\%$
C501, 502	ECQM1H473KZ	Polyester, 0.047 μ F, 50V, $\pm 10\%$
C503, 504	ECQM1H682KZ	Polyester, 0.0068 μ F, 50V, $\pm 10\%$
C505, 506	ECQM1H272KZ	Polyester, 0.0027 μ F, 50V, $\pm 10\%$
C507, 508	ECQM1H223KZ	Polyester, 0.022 μ F, 50V, $\pm 10\%$
C509, 510	ECEA1CS330	Electrolytic, 33 μ F, 16V
C511, 512	ECQM1H123KZ	Polyester, 0.012 μ F, 50V, $\pm 10\%$
C513	ECQM1H683KZ	Polyester, 0.068 μ F, 50V, $\pm 10\%$
C514	ECQM1H683KZ	Polyester, 0.068 μ F, 50V, $\pm 10\%$
C515, 516	ECQM1H123KZ	Polyester, 0.012 μ F, 50V, $\pm 10\%$
C517, 518	ECKD1H331KB	Ceramic, 330pF, 50V, $\pm 10\%$
C519, 520	ECQM1H473KZ	Polyester, 0.047 μ F, 50V, $\pm 10\%$
C523, 524	ECCD1H120K	Ceramic, 12pF, 50V, $\pm 10\%$
C601, 602	ECEA50M1	Electrolytic, 1 μ F, 50V
C603, 604	ECCD2H030C	Ceramic, 3pF, 500V, $\pm 0.25\mu$ F
C605, 606	ECEA1HS470	Electrolytic, 47 μ F, 50V
C607, 608	ECKD1H561KB	Ceramic, 560pF, 50V, $\pm 10\%$
C609, 610	ECCD1H101K	Ceramic, 100pF, 50V, $\pm 10\%$
C611, 612	ECKD1H681KB	Ceramic, 680pF, 50V, $\pm 10\%$
C613, 614	ECCD2H390K	Ceramic, 39pF, 500V, $\pm 10\%$
C615, 616	ECEA1VS101	Electrolytic, 100 μ F, 35V
C617, 618	ECKD2H561KB	Ceramic, 560pF, 500V, $\pm 10\%$
C619, 620	ECCD2H101K	Ceramic, 100pF, 500V, $\pm 10\%$
C621, 622	ECKD1H103ZF	Ceramic, 0.01 μ F, 50V, $\pm 80\%$
C623, 624	ECQM1H473KZ	Polyester, 0.047 μ F, 50V, $\pm 10\%$
C625, 626	ECCD1H101K	Ceramic, 100pF, 50V, $\pm 10\%$
C627	ECEA1AS101	Electrolytic, 100 μ F, 10V
C628	ECEA1HS101	Electrolytic, 100 μ F, 50V
C629	ECEA1HS470	Electrolytic, 47 μ F, 50V
C631, 632	ECCD1H121K	Ceramic, 120pF, 50V, $\pm 10\%$
C633	ECEA1AS101	Electrolytic, 100 μ F, 10V
C701	ECKD1H103ZF	Ceramic, 0.01 μ F, 50V, $\pm 80\%$
C702	ECEA50Z4R7	Electrolytic, 4.7 μ F, 50V
C703, 704	ECETS1HV822U	Electrolytic, 8200 μ F, 50V
C705, 706	ECEA1ES331	Electrolytic, 330 μ F, 25V
C707	ECEA1HS101	Electrolytic, 100 μ F, 50V
C708	ECKD1H103ZF	Ceramic, 0.01 μ F, 50V, $\pm 80\%$
C801, 802	ECQM1H473KZ	Polyester, 0.047 μ F, 50V, $\pm 10\%$
C803	ECEA1ES470	Electrolytic, 47 μ F, 25V
C805	ECEA1VS330	Electrolytic, 33 μ F, 35V
C807, 808	ECCD1H181K	Ceramic, 180pF, 50V, $\pm 10\%$
C901, 902	ECKD1H103ZF	Ceramic, 0.01 μ F, 50V, $\pm 80\%$
C903, 904	ECKD1H103ZF	Ceramic, 0.01 μ F, 50V, $\pm 80\%$
C905	Δ ECEA1CN221	Non-polar Electrolytic, 220 μ F, 16V
C907	ECEA1JS330	Non-polar Electrolytic, 33 μ F, 63V
C909, 910	Δ ECEA1HN3R3	Non-polar Electrolytic, 3.3 μ F, 50V
C1001	Δ ECKDMY103PF	Ceramic, 0.01 μ F, 125VAC, $\pm 100\%$