

VANTAGE ELECTRONICS CORP

3171-16 RFB  
RICHMOND BC V6V 1A6

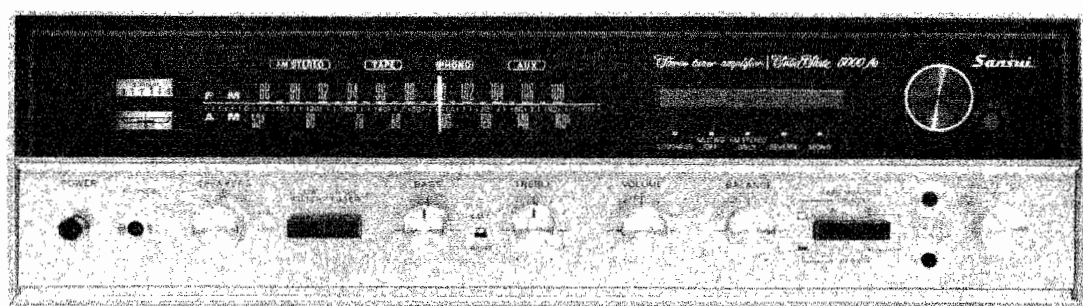
276-988

DAVID C. CAKERE 286648-9771603

# SERVICE MANUAL

## AM/FM STEREO TUNER AMPLIFIER

### SANSUI 5000A



SANSUI ELECTRIC COMPANY LIMITED

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# GENERAL TROUBLESHOOTING CHART

If the amplifier is otherwise operating satisfactorily, the more common causes of trouble may generally be attributed to the following:

1. Incorrect connections or loose terminal contacts. Check the speakers, record player, tape recorder, antenna and line cord.
2. Improper operation. Before operating any audio com-

ponent, be sure to read the manufacturer's instructions.

3. Improper location of audio components. The proper positioning of components, such as speakers and turntable, is vital to stereo.

4. Defective audio components.

The following are some other common causes of malfunction and what to do about them.

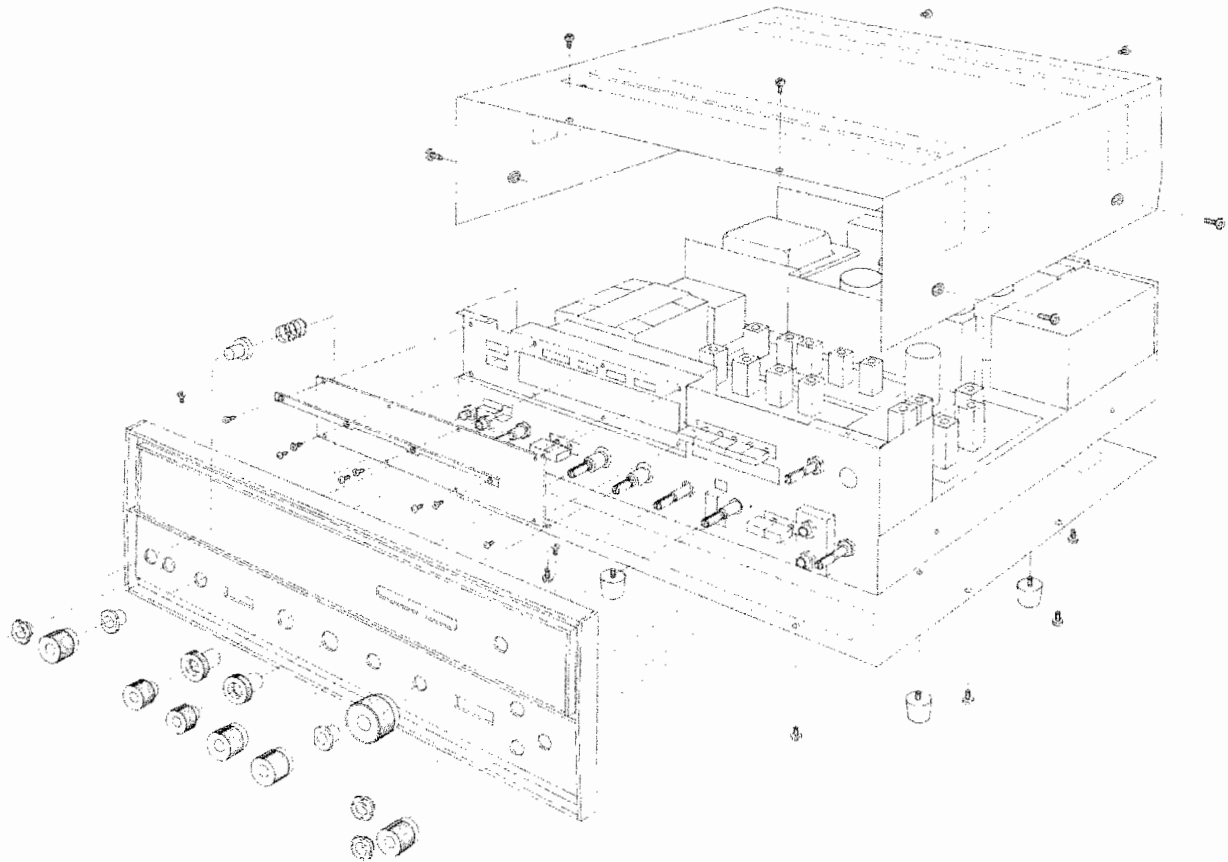
PROGRAM	SYMPTOM	PROBABLE CAUSE	WHAT TO DO
AM, FM or MPX reception	A. Constant or intermittent noise heard at times or in a certain area	<ul style="list-style-type: none"> <li>* Discharge or oscillation caused by electrical appliances, such as fluorescent lamp, TV set, D.C. motor rectifier or oscillator</li> <li>* Natural phenomena, such as atmospheric static or thunderbolts</li> <li>* Insufficient antenna input due to ferr oconcrete wall or long distance from the station</li> <li>* Wave interference from other electrical appliances</li> </ul>	<ul style="list-style-type: none"> <li>* Attach a noise limiter to the electrical appliance causing the noise, or attach it to the amplifiers power source</li> <li>* Install an outdoor antenna and ground the amplifier to raise the signal-to-noise ratio</li> <li>* Reverse the power cord plug-receptacle connections</li> <li>* If the noise occurs at a certain frequency, attach a wave trap to the ANT. input</li> <li>* Keep the set at a proper distance from other electrical appliances</li> </ul>
	B. The needle of the signal and tune meter does not move sharply	<ul style="list-style-type: none"> <li>* Receiver is located in a weak signal area</li> </ul>	<ul style="list-style-type: none"> <li>* Place the set to Receive maximum signal strength</li> </ul>
	C. The zero point of the meter diverges much	<ul style="list-style-type: none"> <li>* Regional difference in field intensity</li> </ul>	<ul style="list-style-type: none"> <li>* The unit is not at fault</li> </ul>
AM reception	A. Noise heard at a particular time of a day, in a certain area or over part of dial	<ul style="list-style-type: none"> <li>* Due to the nature of AM broadcasts</li> </ul>	<ul style="list-style-type: none"> <li>* Install the antenna for maximum antenna efficiency. See "ANTENNA" in the operating instructions</li> <li>* In some cases, the noise can be eliminated by grounding the amplifier or reversing the power cord plug-receptacle connections</li> </ul>
	B. High-frequency noise	<ul style="list-style-type: none"> <li>* Adjacent-channel interference or beat interference</li> <li>* TV set too close to audio system</li> </ul>	<ul style="list-style-type: none"> <li>* Although such noise cannot be eliminated by the amplifier, it is advisable to adjust the TREBLE control from midpoint to left and switch on the HIGH FILTER</li> <li>* Keep the TV set at a proper distance from the audio system</li> </ul>
FM reception	A. Noisy	<ul style="list-style-type: none"> <li>* Poor noise limiter effect or too low SN ratio due to insufficient antenna input</li> </ul>	<ul style="list-style-type: none"> <li>* Install the antenna (attached) for maximum signal strength</li> <li>* If this does not prove effective, use an outdoor antenna designed exclusively for FM. When you use a TV antenna for both TV and FM with a divider, make sure TV reception is not affected</li> <li>* An excessively long antenna may cause noise</li> </ul>
	<p>Note: FM reception is affected considerably by transmission conditions of stations: power and antenna efficiency. As a result, you may receive one station quite well while receiving another station poorly</p>		

PROGRAM	SYMPTOM	PROBABLE CAUSE	WHAT TO DO
FM reception (cont'd)	B. Noise heard like "Scratch noise" heard	* Ignition noise caused by starting of an automobile engine	* Install the antenna and its lead-in wire in proper distance from the road or raise the antenna input as described above
	C. Tuning noise between stations	* This results from the nature of the FM reception. As the station signal becomes weak, the noise limiter effect is decreased, and the amplification of the limiter, in turn, is enlarged, generating a noise	* Turn the MUTING switch on. It reduces the sensitivity, and therefore it should be used sparingly
FM-MPX reception	A. Noise heard during FM-MPX reception while not heard during FM mono reception	* Weaker signal because the service area of the FM-MPX broadcast is only half that of the FM mono broadcast	* Install the antenna for maximum antenna input * Switch on the high filter and/or turn the TREBLE control from midpoint, left
	B. Clearness of channel separation is decreased during reception	* Excess heat	* Circulation of air is important to the amplifier. Be sure that air is flowing under the amplifier
	C. The stereo indicator blinks on and off	* Interference	* The indicator is not at fault, adjust VR <sub>401</sub>
	D. The stereo indicator blinks on and off even though stereo station is not received	* Interference	* The indicator is not at fault, adjust VR <sub>401</sub>
Record playing or tape playback	A. Hum or howling	* Record player placed directly on speaker * Wire other than shielded wire used * Loose terminal contact * Shielded wire too close to line cord, fluorescent lamp or other electrical appliances * Nearby amateur radio station or TV transmission antenna	* Place a cushion between the player and the speaker box or place them away from each other * The connecting shielded wire should be as short as possible * Switch on the LOW FILTER and adjust the BASS control from midpoint, left * Consult the nearest Radio Regulatory Bureau
	B. Surface noise	* Worn or old record * Worn needle * Needle dusty * Improper needle pressure	* Recondition the playback head of the tape recorder or the needle the record player * Adjust the TREBLE control from midpoint, left * HIGH FILTER on
All stereo programs	BALANCE control is not at midpoint when equal sound comes from left and right channels	* It is important to adjust for equal sound from both channels. It should not always be set to the midpoint	* Set the MONO switch to MONO and then set the BALANCE control to a position where equal sound comes from both channels

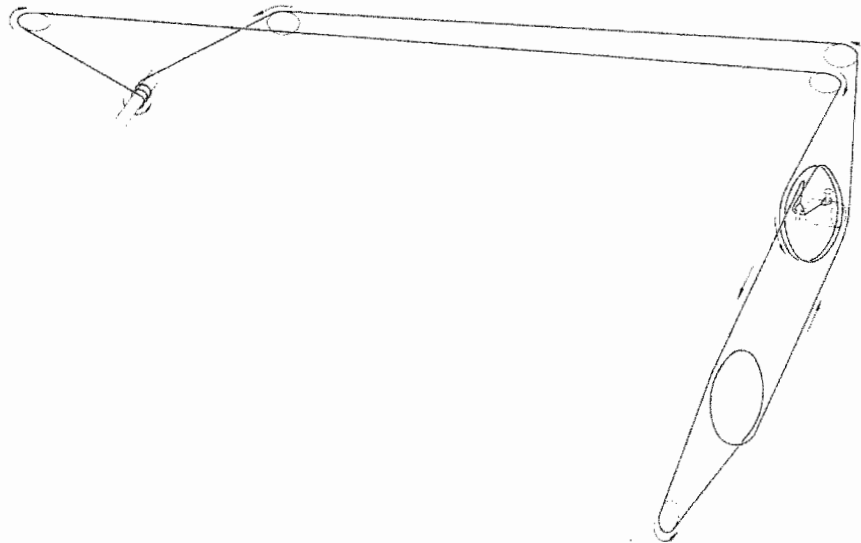
# DISASSEMBLY PROCEDURE

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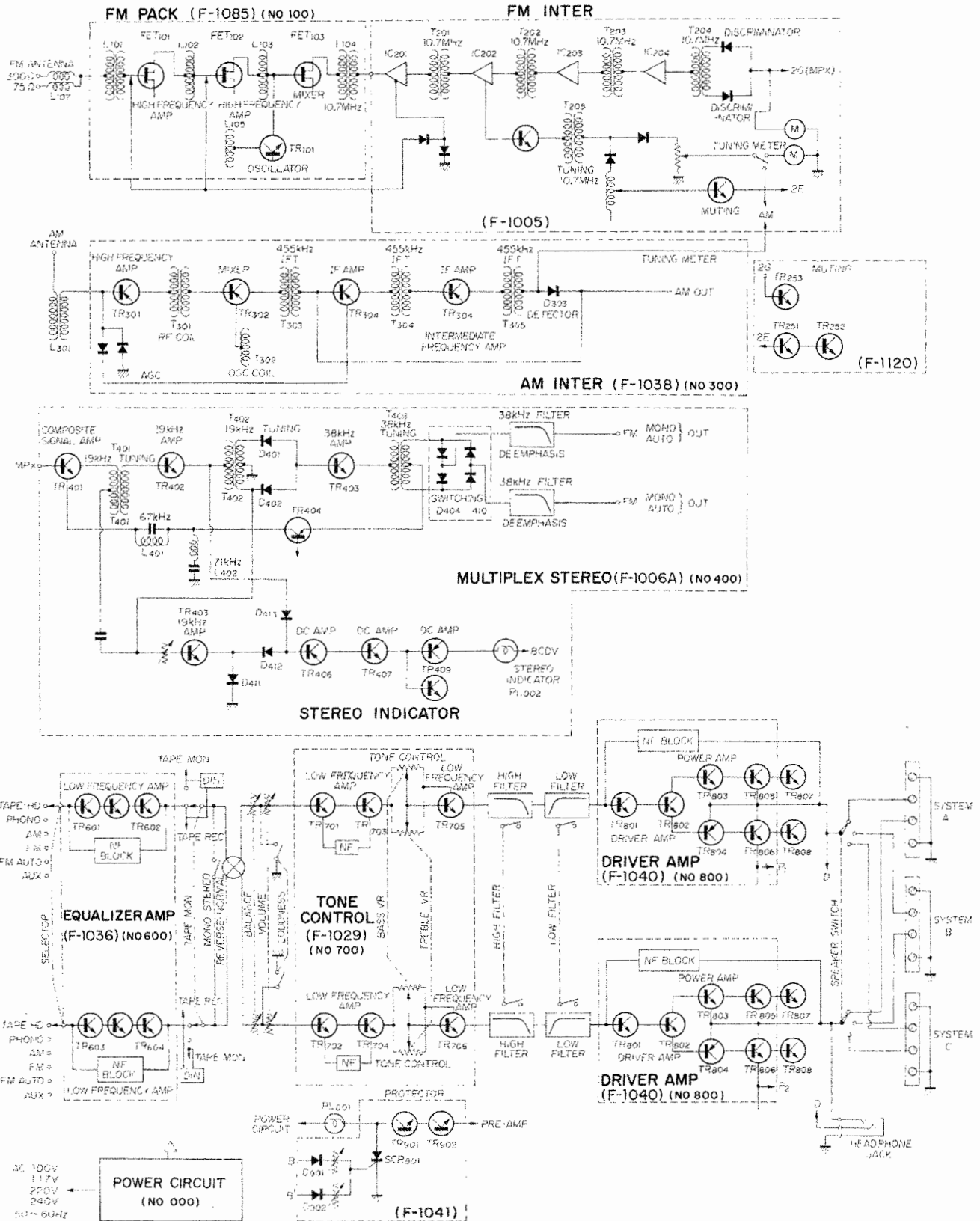
## REMOVING THE FRONT PANEL, BONNET AND BOTTOM PLATE



## DIAL MECHANISM



# BLOCK DIAGRAM



# CUSTOM MOUNTING

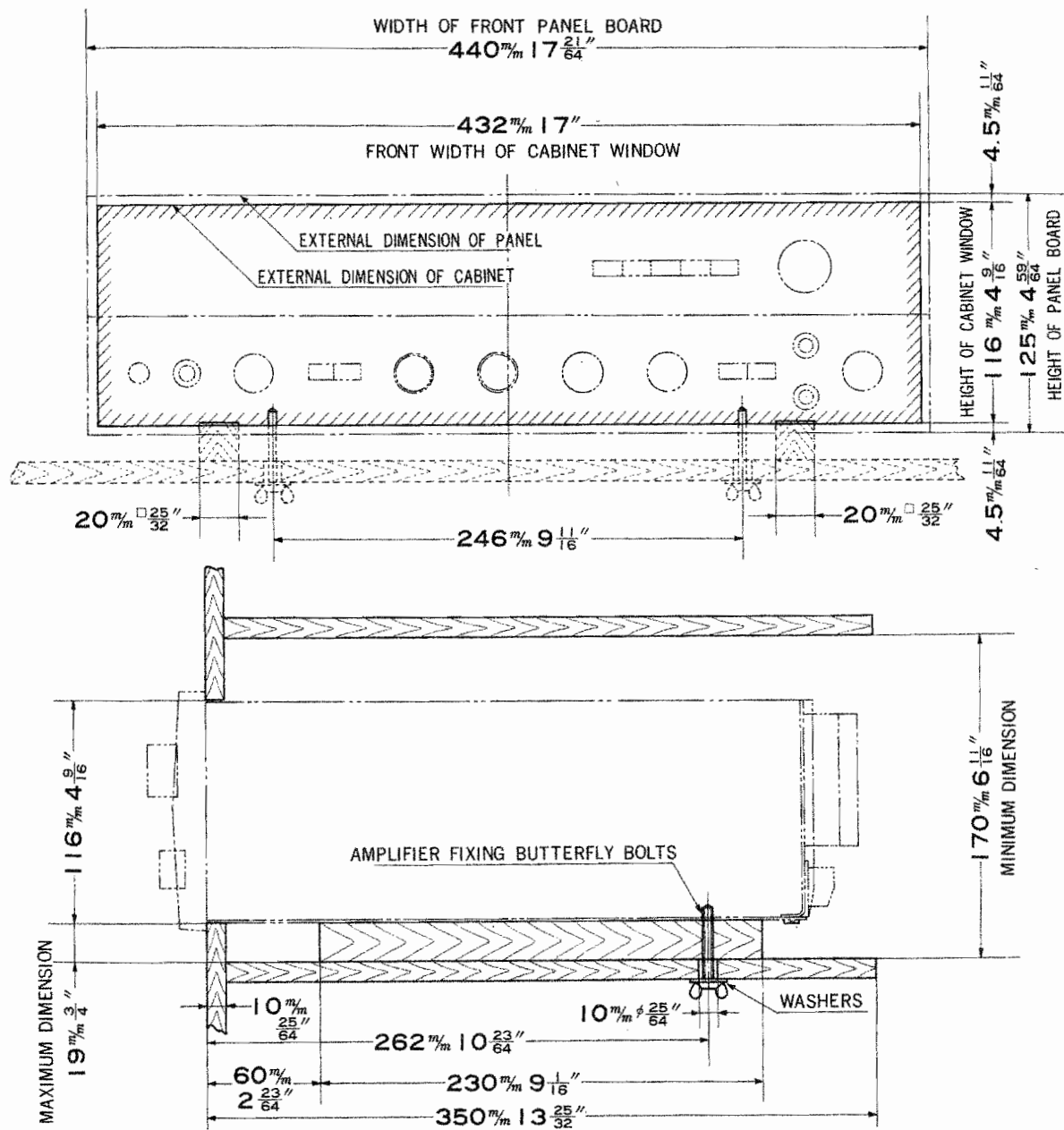
This diagram shows the size and dimensions required for mounting the 5000A into a custommade cabinet. Note that ample space is provided for complete air circulation above and below the tuner.

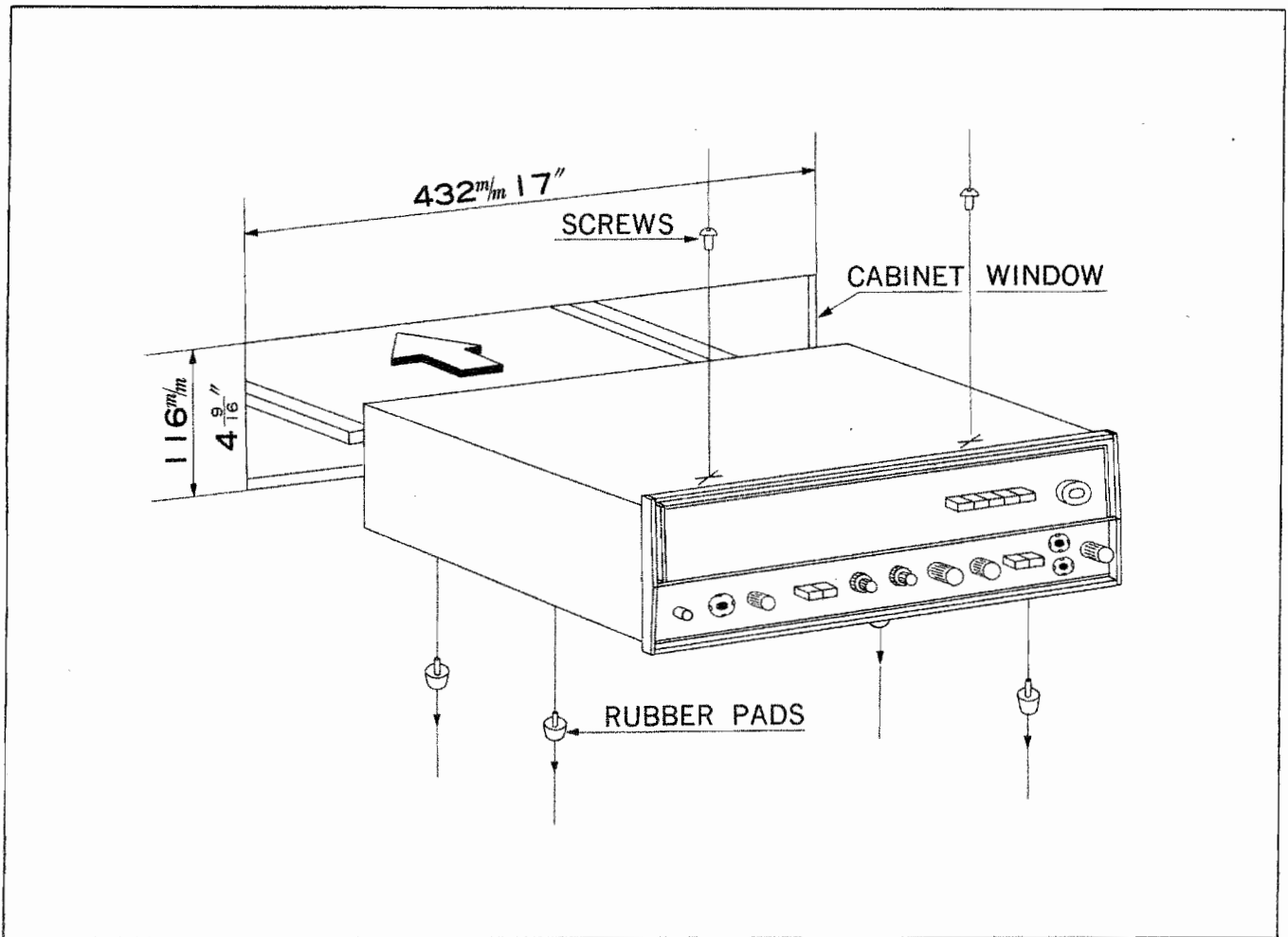
1. Be sure the cabinet window measures  $17'' \times 4 \frac{9}{16}''$  as indicated in the diagram.
2. Place two boards on the floor of the cabinet as illustrated. Boards should measure  $\frac{25}{32}'' \times \frac{25}{32}'' \times 9 \frac{1}{16}''$ .

3. Drill two holes in the bottom of the cabinet at points corresponding to holes in the bottom of the tuner.

4. Remove the four rubber feet from the 5000A. (Retain for future use.)

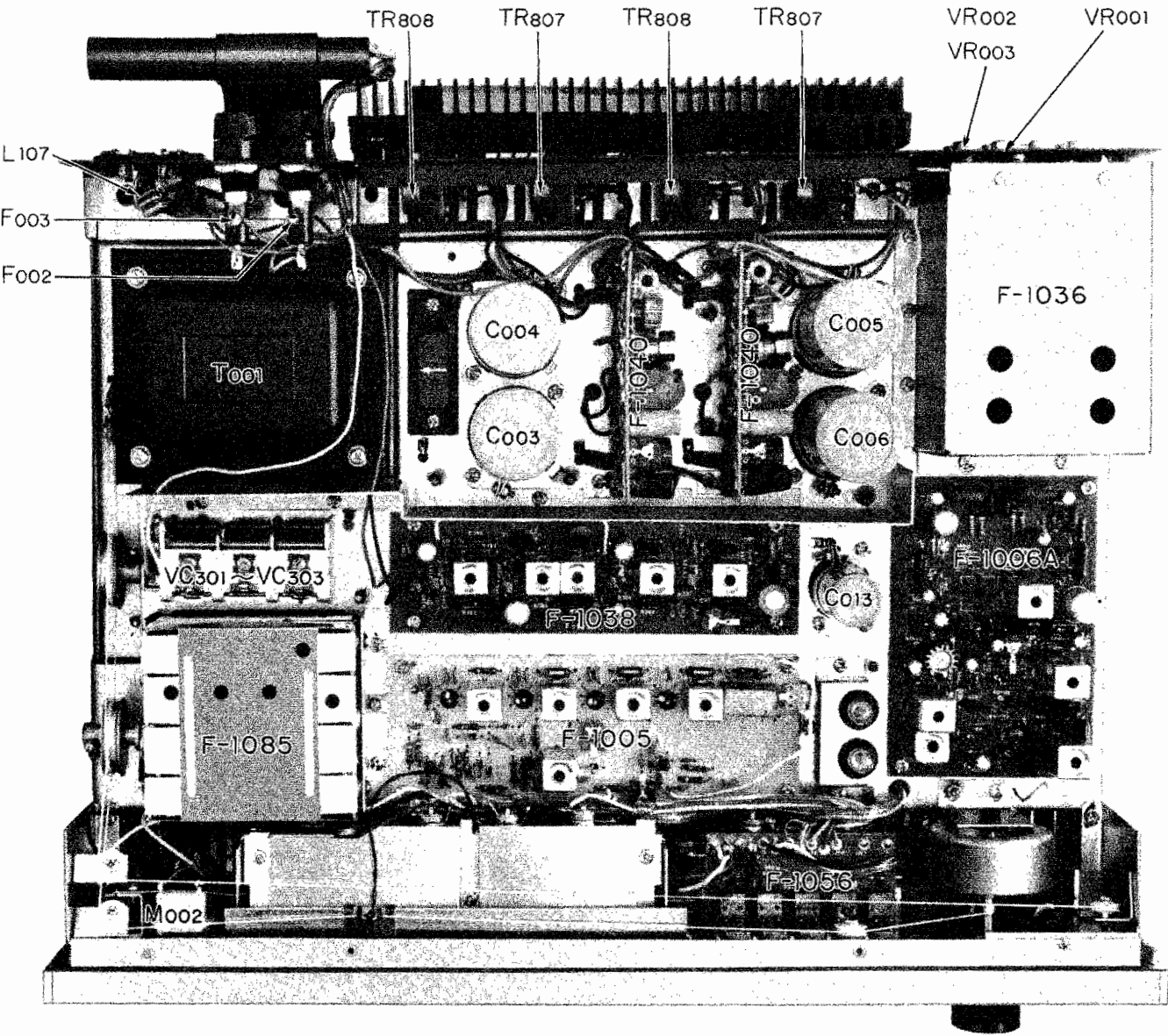
5. Insert the 5000A into the cabinet through the window until the edges of its front panel are flush with the cabinet, and secure both tuner and cabinet with washers and butterfly bolts provided.

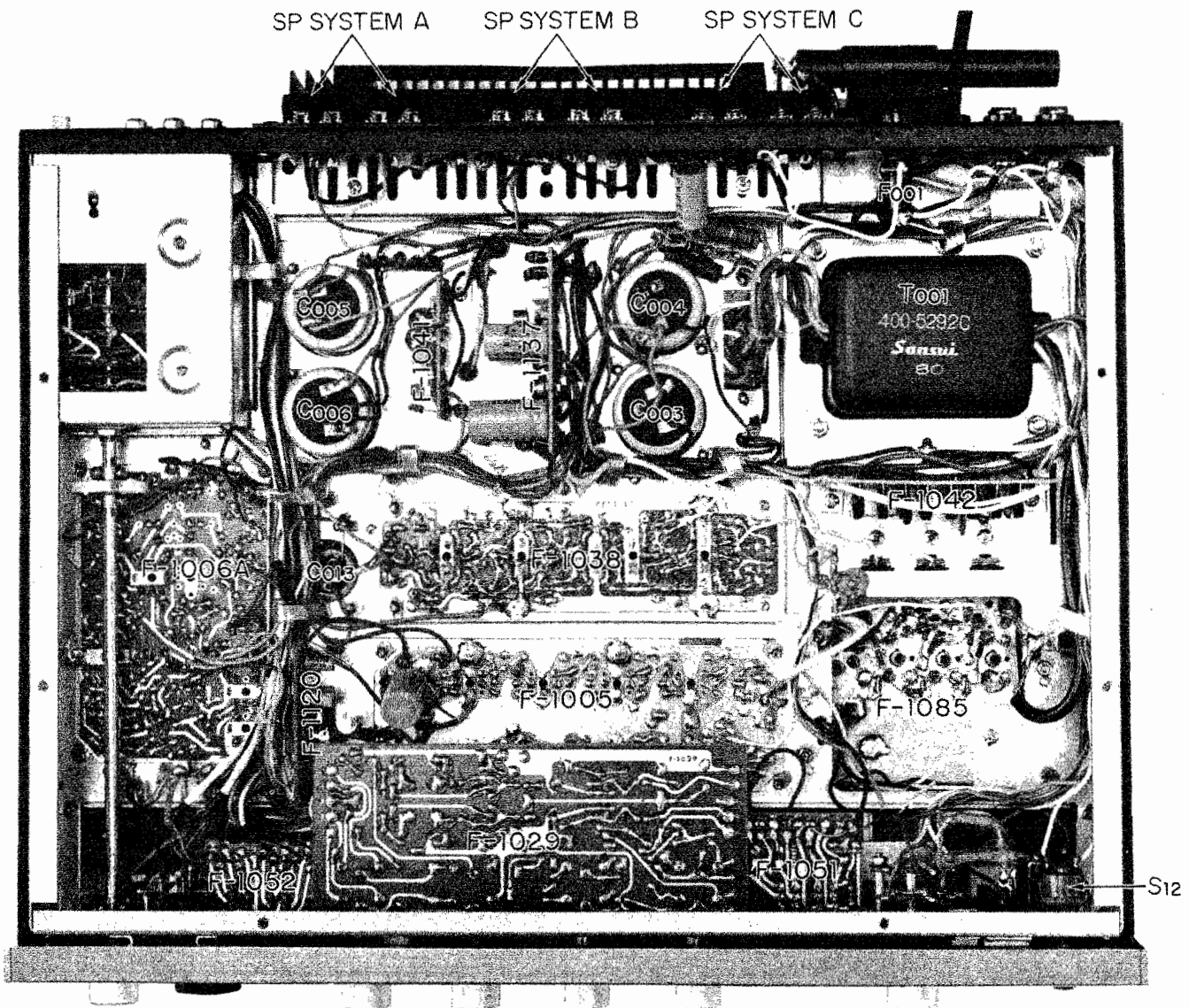






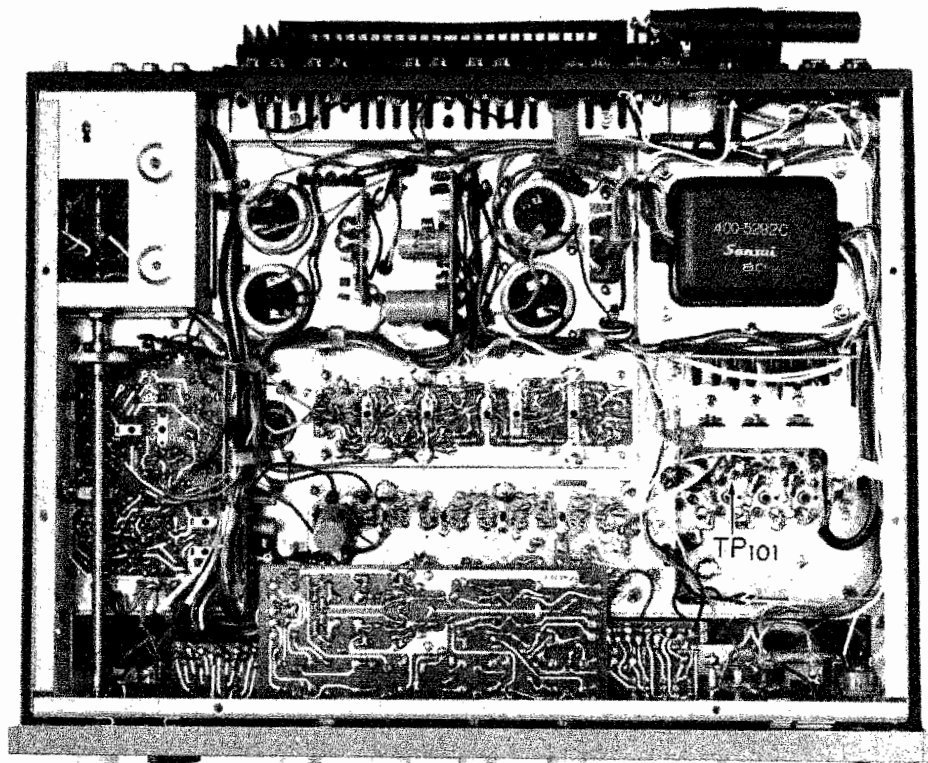
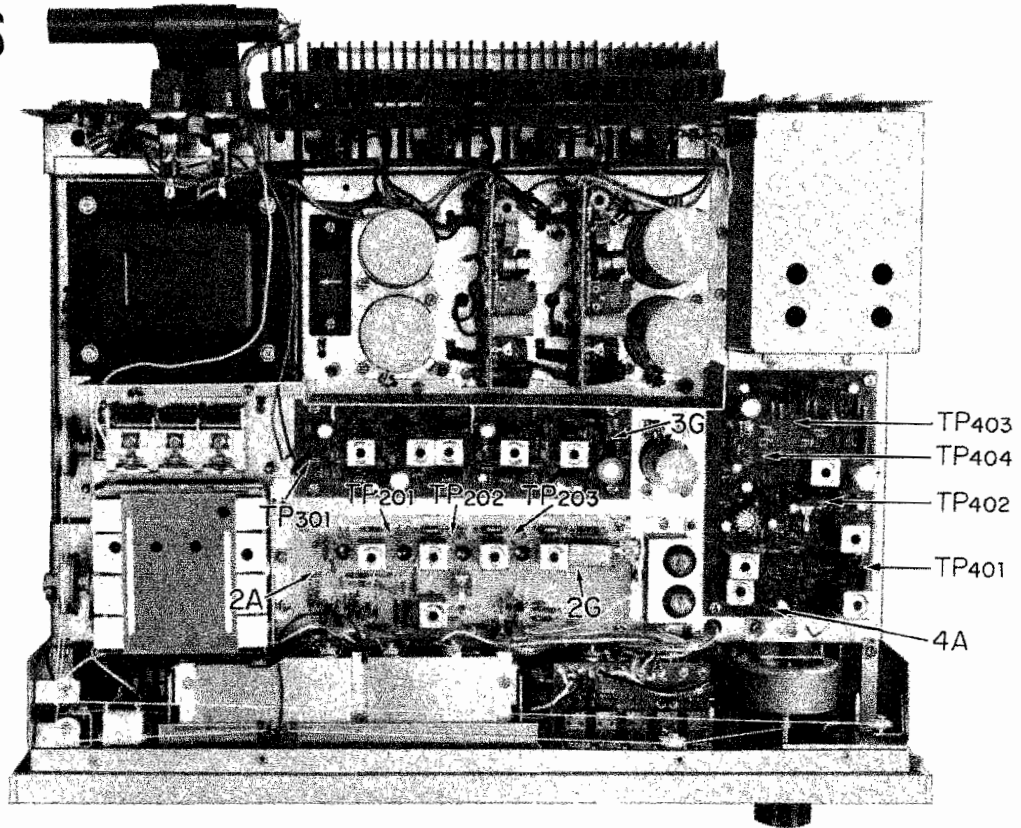
# PARTS LAYOUT





# ALIGNMENT

## TEST POINTS

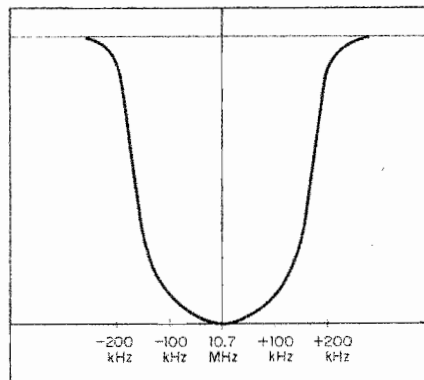


# FM ALIGNMENT PROCEDURE

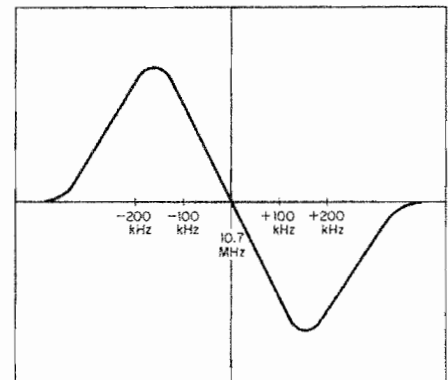
NOTE: To align, set the signal generator level to minimum.  
 Turn tuning gang fully.  
 Center carrier wave.  
 Set pointer at reference mark.

STEP	ALIGN	GENERATOR	FEED SIGNAL	OUTPUT INDICATOR	DIAL SETTING	ADJUST	ADJUST FOR
1.	IF Transformer	10.7 MHz ±200 kHz	Sweep signal is sent to TP <sub>101</sub> via the 10pF ceramic condenser	Oscilloscope is connected to TP <sub>201</sub> , TP <sub>202</sub> and TP <sub>203</sub> via the 10pF ceramic condenser with probe		Top and bottom sides of T <sub>202</sub> , T <sub>203</sub>	Best I.F.T. wave form
2.	Discriminator	10.7 MHz ±200 kHz	Sweep signal is sent to TP <sub>101</sub> via the 10pF ceramic condenser	Oscilloscope is connected to 2G		FM Discriminator is transformer T <sub>204</sub> top and bottom sides	S curve
3.	O.S.C	90 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	90 MHz	O.S.C. coil L <sub>104</sub>	Maximum
4.	O.S.C	106 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	106 MHz	O.S.C. trimmer TC <sub>105</sub>	Maximum
5.	Reiterate 3 and 4.						
6.	High-frequency Amp. Circuit	90 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	90 MHz	Antenna coil L <sub>101</sub> , L <sub>102</sub> and L <sub>103</sub>	Maximum
7.	High-frequency Amp. Circuit	106 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	106 MHz	Trimmer TC <sub>101</sub> , TC <sub>102</sub> , TC <sub>103</sub> and, TC <sub>104</sub>	Maximum
8.	Reiterate 6 and 7.						

FM IF WAVE FORM



FM DISCRIMINATOR WAVE FORM



# ALIGNMENT

## FM MULTIPLEX ALIGNMENT PROCEDURE

1. Do not attempt to align the Multiplex Circuit unless the following equipment is available:

a. Multiplex Stereo Generator b. Oscilloscope c. AC. V.T.V.M. d. Audio Oscillator e. FM Signal Generator

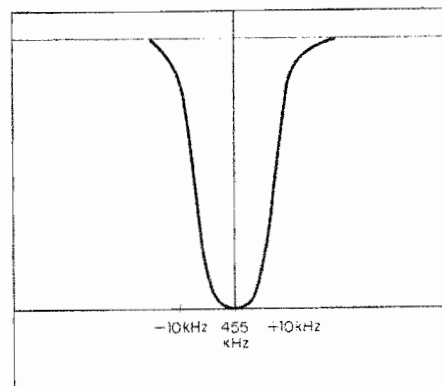
STEP	ALIGN	GENERATOR	FEED SIGNAL	OUTPUT INDICATOR	ADJUST	ADJUST FOR
1.	67 kHz Trap	67 kHz Audio Signal	Connect to TP <sub>4A</sub>	V.T.V.M. at TP <sub>404</sub>	L <sub>401</sub>	Minimum
2.	71 kHz Trap	71 kHz Audio Signal	Connect to TP <sub>4A</sub>	V.T.V.M. at TP <sub>404</sub>	L <sub>402</sub>	Minimum
3.	19 kHz Transformer	FM Signal Gen. Modulated 30% by STEREO Gen. sub-channel	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at TP <sub>401</sub>	T <sub>401</sub>	Maximum
4.	19 kHz Transformer	FM Signal Gen. Modulated 30% by STEREO Gen. sub-channel	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at TP <sub>402</sub>	T <sub>402</sub>	Maximum
5.	36 kHz Transformer	FM Signal Gen. Modulated 30% by STEREO Gen. sub-channel	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at TP <sub>403</sub>	T <sub>403</sub>	Maximum
6.	38 kHz Transformer and Separation VR	FM Signal Gen. Modulated 30% by STEREO Signal Gen. channel-L	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at output load channel-R	T <sub>402</sub> within ¼ turn and Separation VR(VR <sub>001</sub> )	Channel-R Minimum

# AM ALIGNMENT PROCEDURE

NOTE: To align, set the signal generator level to minimum.

STEP	ALIGN	GENERATOR	FEED SIGNAL	OUTPUT INDICATOR	DIAL SETTING	ADJUST	ADJUST FOR
1.	I.F. Transformer	455 kHz ±30 kHz Sweep-generator	Antenna terminals	Oscilloscope and V.T.V.M. at 3G		top and bottom sides from the 1st I.F.T. (T <sub>302</sub> ) to the 3rd I.F.T. (T <sub>304</sub> )	Best I.F.T. wave form
2.	O.S.C.	AM-generator 535 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	535 kHz	O.S.C. Coil L <sub>302</sub>	Maximum
3.	O.S.C.	AM-generator 1600 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1600 kHz	O.S.C. Trimmer TC <sub>303</sub>	Maximum
4.	Reiterate 2 and 3						
5.	RF amp.	AM-generator 600 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	600 kHz	RF transformer T <sub>301</sub>	Maximum
6.	Antenna circuit	AM-generator 600 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	600 kHz	Ferrite bar Antenna L <sub>301</sub>	Maximum
7.	RF amp.	AM-generation 1400 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1400 kHz	RF Trimmer TC <sub>302</sub>	Maximum
8.	Antenna circuit	AM-generation 1400 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1400 kHz	Antenna circuit Trimmer TC <sub>301</sub>	Maximum
9.	Reiterate 5. 6. 7. 8.						

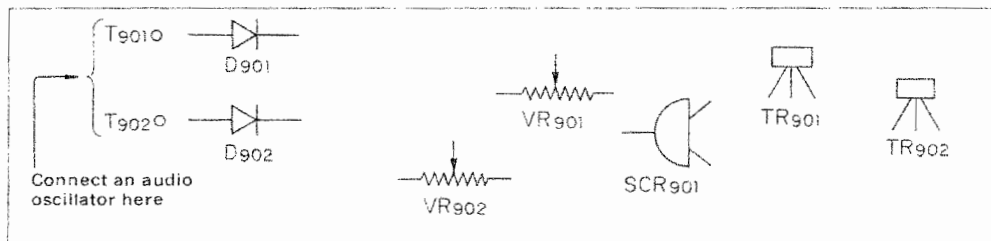
**AM IF WAVE FORM**



# ALIGNMENT

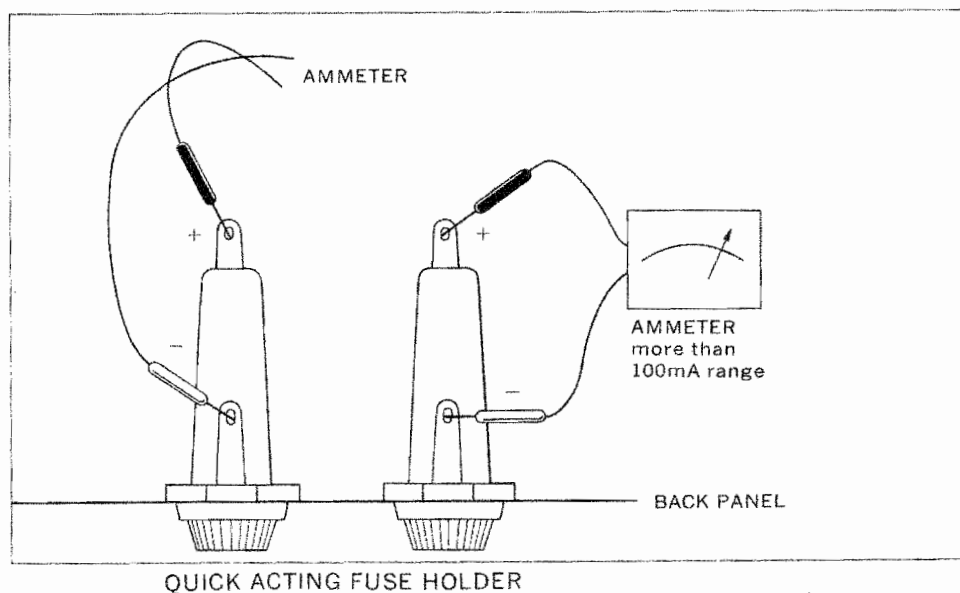
## TO ADJUST THE PROTECTOR CIRCUIT (F-1041)

1. Remove wiring from  $T_{901}$  and  $T_{902}$ .
2. Send a 6-volt RMS signal (1 kHz) to  $T_{901}$  and adjust  $VR_{901}$  to make the protector lamp glow.
3. Send a 6-volt RMS signal (1 kHz) to  $T_{902}$  and adjust  $VR_{902}$  to make the protector lamp glow.
4. Attach wiring to  $T_{901}$  and  $T_{902}$  in its original place.



## TO ADJUST THE BIAS CURRENT IN THE OUTPUT STAGE

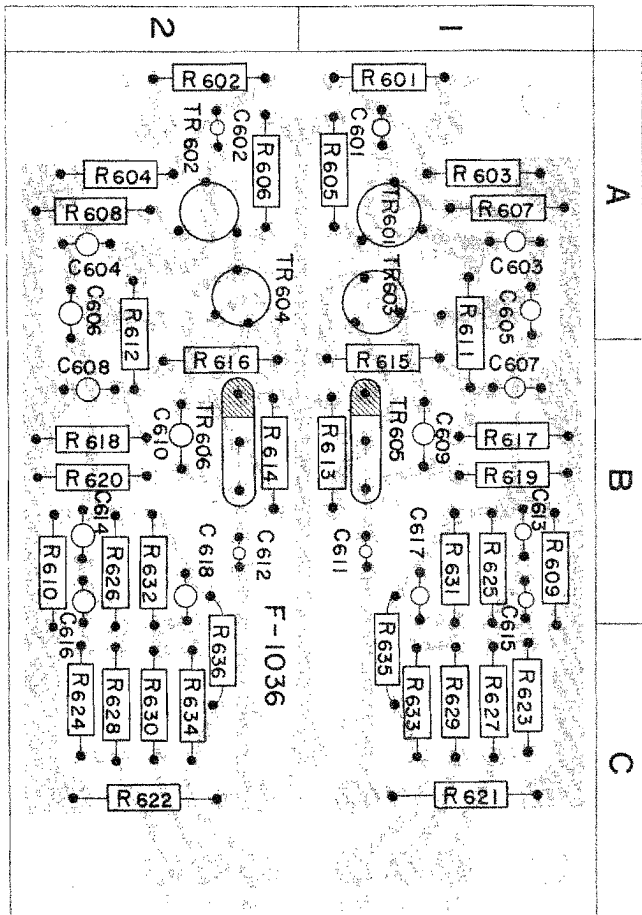
1. Set the MAIN VOL. control to the MINIMUM position.
2. Connect a resistor (approx. 10 ohms and 1 watt) to each of the SPEAKER output terminals.
3. Remove quick-acting fuse from its holder.
4. Connect an ammeter (about 100 milliamperes) to CHANNEL R as illustrated.
5. Adjust the  $VR_{802}$  on F-1040 sheet so that the ammeter indicates 23 milliamperes.
6. Remove the ammeter and secure the fuse in place.
7. Adjust CHANNEL L as above.



# PRINTED CIRCUIT SHEETS AND PARTS LIST

X: Parts No. Y: Parts Name Z: Co-ordinates in Printed Circuit Sheets

## F-1036 < EQUALIZER AMP. >



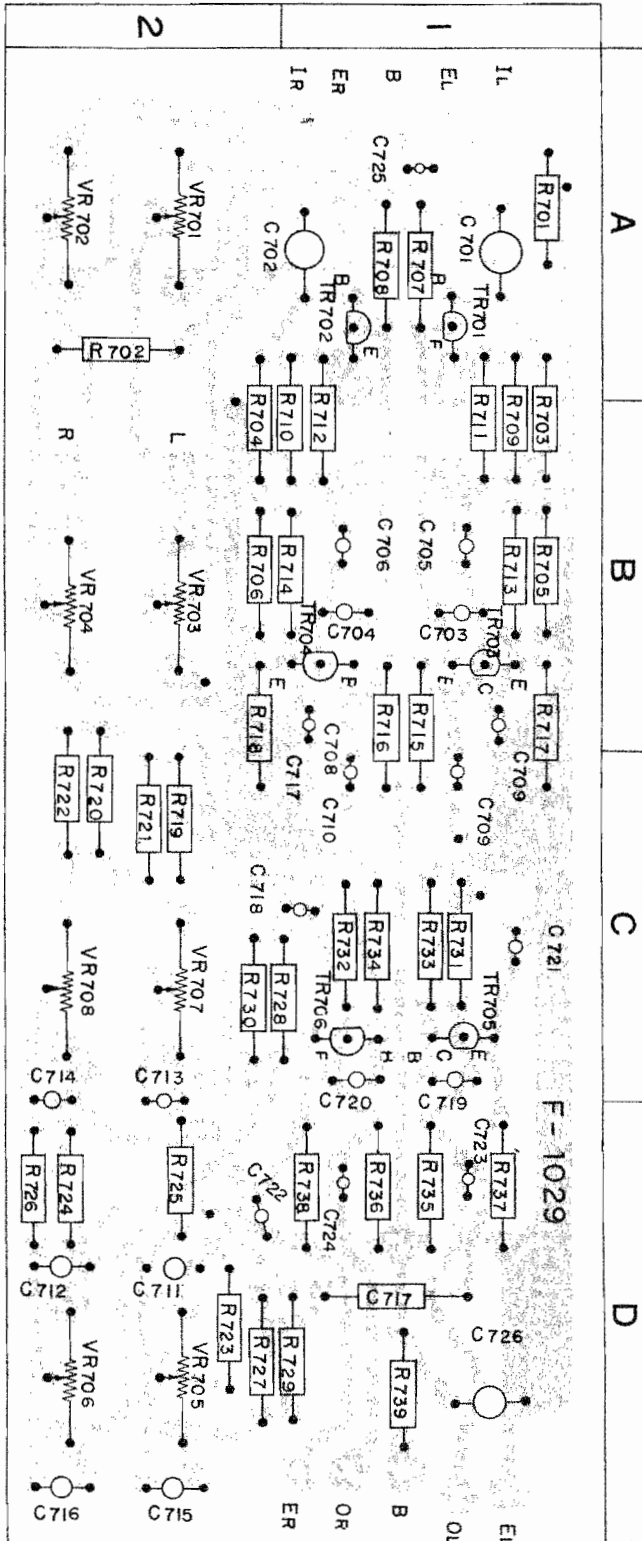
X	Y				Z
R605	220 kΩ	¼W	±10%	PREC. Fixed	1A
R606	220 kΩ	¼W	±10%	PREC. Fixed	1A
R607	1 kΩ	¼W	±10%	PREC. Fixed	1A
R608	1 kΩ	¼W	±10%	PREC. Fixed	1A
R609	470 Ω	¼W	±10%	PREC. Fixed	1B
R610	470 Ω	¼W	±10%	PREC. Fixed	1B
R611	270 kΩ	¼W	±10%	PREC. Fixed	1A, B
R612	270 kΩ	¼W	±10%	PREC. Fixed	1A, B
R613	33 kΩ	¼W	±10%	PREC. Fixed	1B
R614	33 kΩ	¼W	±10%	PREC. Fixed	1B
R615	680 Ω	¼W	±10%	PREC. Fixed	1B
R616	680 Ω	¼W	±10%	PREC. Fixed	1B
R617	2.2 kΩ	¼W	±10%	PREC. Fixed	1B
R618	2.2 kΩ	¼W	±10%	PREC. Fixed	1B
R619	3.9 kΩ	¼W	±10%	PREC. Fixed	1B
R620	3.9 kΩ	¼W	±10%	PREC. Fixed	1B
R621	39 kΩ	¼W	±10%	PREC. Fixed	1C
R622	39 kΩ	¼W	±10%	PREC. Fixed	1C
R623	820 Ω	¼W	±10%	PREC. Fixed	1C
R624	820 Ω	¼W	±10%	PREC. Fixed	1C
R625	220 kΩ	¼W	±10%	PREC. Fixed	1B
R626	220 kΩ	¼W	±10%	PREC. Fixed	1B
R627	18 kΩ	¼W	±10%	PREC. Fixed	1C
R628	18 kΩ	¼W	±10%	PREC. Fixed	1C
R629	10 kΩ	¼W	±10%	PREC. Fixed	1C
R630	10 kΩ	¼W	±10%	PREC. Fixed	1C
R631	680 kΩ	¼W	±10%	PREC. Fixed	1B
R632	680 kΩ	¼W	±10%	PREC. Fixed	1B
R635	4.7 kΩ	¼W	±10%	PREC. Fixed	1C
R636	4.7 kΩ	¼W	±10%	PREC. Fixed	1C
C601	1.5 μF		10 VDCW.	To.	1A
C602	1.5 μF		10 VDCW.	To.	1A
C603	150 pF	±10%	50 VDCW.	CER.	1A
C604	150 pF	±10%	50 VDCW.	CER.	1A
C605	220 μF		6.3 VDCW.	ELECT.	1A
C606	220 μF		6.3 VDCW.	ELECT.	1A
C607	10 μF		10 VDCW.	ELECT.	1B
C608	10 μF		10 VDCW.	ELECT.	1B
C609	30 pF	±10%	50 VDCW.		1B
C610	30 pF	±10%	50 VDCW.		1B
C611	10 μF		25 VDCW.	ELECT.	1B
C612	10 μF		25 VDCW.	ELECT.	1B
C613	0.015 μF	±10%	50 VDCW.	My.	1B
C614	0.004 pF	±10%	50 VDCW.	My.	1B
C615	0.004 pF	±10%	50 VDCW.	My.	1B
C616	0.005 pF	±10%	50 VDCW.	My.	1B
C617	0.0047 pF	±10%	50 VDCW.	My.	1B
C618	0.0047 pF	±10%	50 VDCW.	My.	1B
TR601	2SC458LG		Si N-P-N		1A
TR602	2SC458LG		Si N-P-N		2A
TR603	2SC281 or (2SC631)		Si N-P-N		1A
TR604	2SC281 or (2SC631)		Si N-P-N		2A
TR605	2SC281 or (2SC631)		Si N-P-N		1B
TR606	2SC281 or (2SC631)		Si N-P-N		2B

X	Y				Z
R601	1 kΩ	¼W	±10%	PREC. Fixed	1A
R602	1 kΩ	¼W	±10%	PREC. Fixed	1A
R603	680 kΩ	¼W	±10%	PREC. Fixed	1A
R604	680 kΩ	¼W	±10%	PREC. Fixed	1A



# PRINTED CIRCUIT SHEETS AND PARTS LIST

## F-1029 < TONE CONTROL >

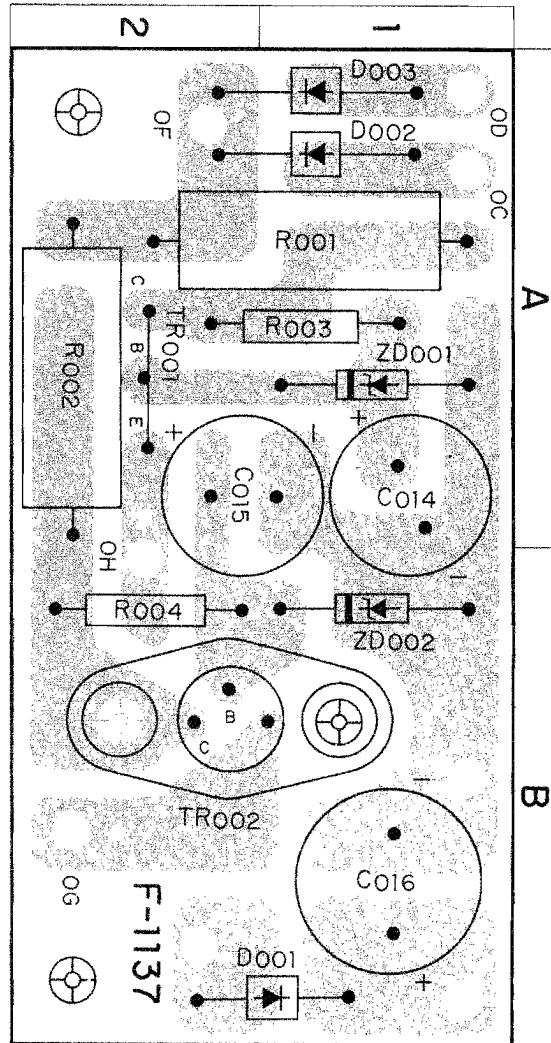


X	Y			Z	
R701	1 kΩ	¼W	±10%	PREC. Fixed	2 A
R702	1 kΩ	¼W	±10%	PREC. Fixed	1 A
R703	47 kΩ	¼W	±10%	PREC. Fixed	2 A, B
R704	47 kΩ	¼W	±10%	PREC. Fixed	1 A, B
R705	68 kΩ	¼W	±10%	PREC. Fixed	2 B
R706	68 kΩ	¼W	±10%	PREC. Fixed	1 B
R707	100 kΩ	¼W	±10%	PREC. Fixed	1 A
R708	100 kΩ	¼W	±10%	PREC. Fixed	1 A
R709	1 kΩ	¼W	±10%	PREC. Fixed	1 A, B
R710	1 kΩ	¼W	±10%	PREC. Fixed	1 A, B
R711	8.2 kΩ	¼W	±10%	PREC. Fixed	1 A, B
R712	8.2 kΩ	¼W	±10%	PREC. Fixed	1 A, B
R713	120 kΩ	¼W	±10%	PREC. Fixed	1 B
R714	120 kΩ	¼W	±10%	PREC. Fixed	1 B
R715	15 kΩ	¼W	±10%	PREC. Fixed	2 B
R716	15 kΩ	¼W	±10%	PREC. Fixed	1 B, C
R717	2.7 kΩ	¼W	±10%	PREC. Fixed	2 B, C
R718	2.7 kΩ	¼W	±10%	PREC. Fixed	1 B, C
R719	10 kΩ	¼W	±10%	PREC. Fixed	2 C
R720	10 kΩ	¼W	±10%	PREC. Fixed	2 C
R721	6.8 kΩ	¼W	±10%	PREC. Fixed	2 C
R722	6.8 kΩ	¼W	±10%	PREC. Fixed	2 C
R723	150 kΩ	¼W	±10%	PREC. Fixed	2 D
R724	150 kΩ	¼W	±10%	PREC. Fixed	2 D
R725	22 kΩ	¼W	±10%	PREC. Fixed	2 D
R726	22 kΩ	¼W	±10%	PREC. Fixed	2 D
R727	10 kΩ	¼W	±10%	PREC. Fixed	12 C
R728	10 kΩ	¼W	±10%	PREC. Fixed	2 D
R729	6.8 kΩ	¼W	±10%	PREC. Fixed	2 C
R730	6.8 kΩ	¼W	±10%	PREC. Fixed	1 D
R731	470 kΩ	¼W	±10%	PREC. Fixed	1 C
R732	470 kΩ	¼W	±10%	PREC. Fixed	1 C
R733	150 kΩ	¼W	±10%	PREC. Fixed	1 C
R734	150 kΩ	¼W	±10%	PREC. Fixed	1 C
R735	5.6 kΩ	¼W	±10%	PREC. Fixed	1 D
R736	5.6 kΩ	¼W	±10%	PREC. Fixed	1 D
R737	560 Ω	¼W	±10%	PREC. Fixed	1 D
R738	560 Ω	¼W	±10%	PREC. Fixed	1 D
R739	100 Ω	¼W	±10%	PREC. Fixed	1 D
C701	0.2 μF	50 VDCW.		My.	1 A
C702	0.2 μF	50 VDCW.		My.	1 A
C703	20 pF	50 VDCW.		CER.	1 B
C704	20 pF	50 VDCW.		CER.	1 B
C705	30 μF	15 VDCW.		ELECT.	1 B
C706	30 μF	15 VDCW.		ELECT.	1 B
C707	30 μF	15 VDCW.		ELECT.	1 B
C708	30 μF	15 VDCW.		ELECT.	1 B, C
C709	3 μF	25 VDCW.		ELECT.	1 B
C710	3 μF	25 VDCW.		ELECT.	1 B, C
C711	0.04 μF	50 VDCW.		My.	2 D
C712	0.04 μF	50 VDCW.		My.	2 D
C713	0.0015 μF	50 VDCW.		My.	2 C
C714	0.0015 μF	50 VDCW.		My.	2 C
C715	0.04 μF	50 VDCW.		My.	2 D
C716	0.04 μF	50 VDCW.		My.	2 D

X: Parts No.  
 Y: Parts Name  
 Z: Co-ordinates in Printed Circuit Sheets

X	Y	Z
C717	3 $\mu$ F	25 VDCW. ELECT. 1C
C718	3 $\mu$ F	25 VDCW. ELECT. 1D
C719	80 pF	50 VDCW. CER. 1C
C720	80 pF	50 VDCW. CER. 1C
C721	30 $\mu$ F	15 VDCW. ELECT. 2D
C722	30 $\mu$ F	15 VDCW. ELECT. 1C
C723	1 $\mu$ F	50 VDCW. ELECT. 1D
C724	1 $\mu$ F	50 VDCW. ELECT. 1D
C725	0.47 $\mu$ F	25 VDCW. ELECT. 1A
C726	200 pF	25 VDCW. ELECT. 1D
VR701	250 k(M)	Balance Control (101021) 2A
VR702	250 k(N)	
VR703	250 k(B)	Main Control (101020) 2B
VR704	250 k(B)	
VR705	100 k(B)	Bass Control (102004) 2D
VR706	100 k(B)	
VR707	100 k(B)	Treble Control (102004) 2C
VR708	100 k(B)	
TR701	2SC693F	Si N-P-N 1A
TR702	2SC693F	Si N-P-N 1A
TR703	2SC536E	Si N-P-N 1B
TR704	2SC536E	Si N-P-N 1B
TR705	2SC871D	Si N-P-N 1C
TR706	2SC871D	Si N-P-N 1C

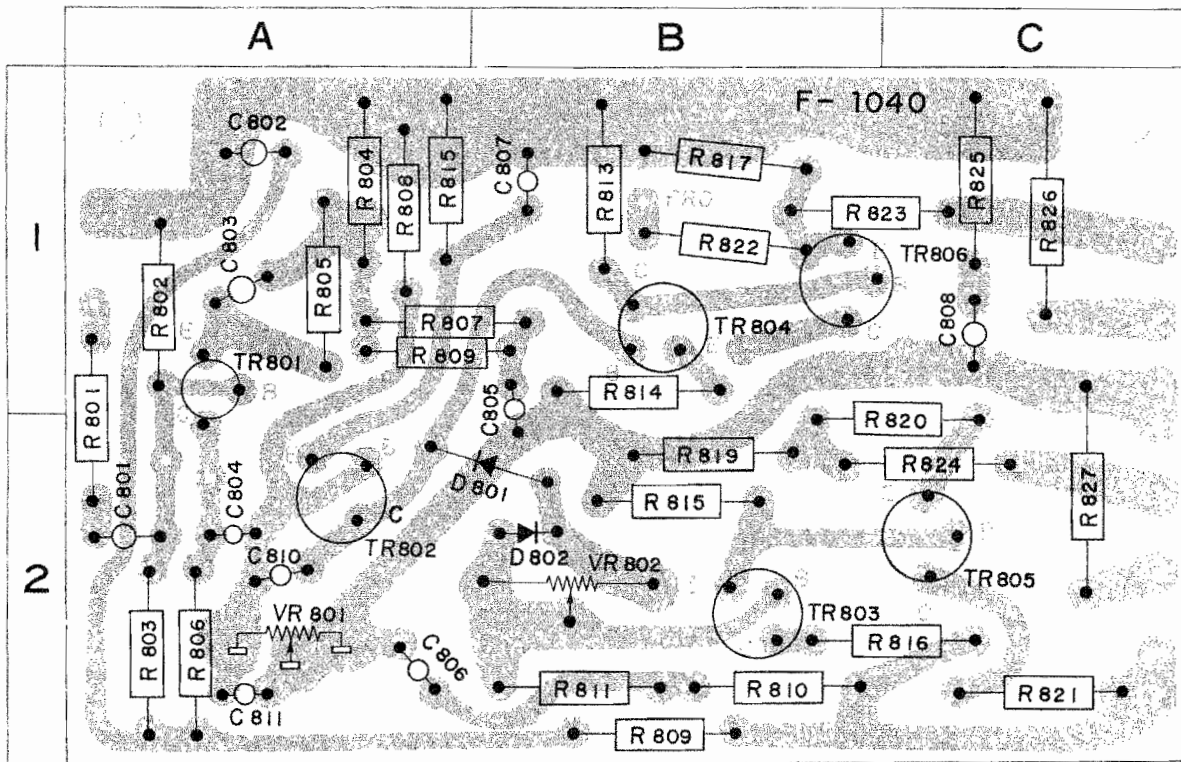
## F-1137 RIPPLE FILTER



X	Y	Z
R001	68 $\Omega$ 3 W $\pm$ 10% WW Fixed	
R002	180 $\Omega$ 3 W $\pm$ 10% WW Fixed	
R003	3.9k $\Omega$ 1/2 W $\pm$ 10% WW Solid Fixed	
R004	1.5k $\Omega$ 1/2 W $\pm$ 10% WW Solid Fixed	
C014	100 $\mu$ F 50 VDCW. ELECT.	
C015	330 $\mu$ F 16 VDCW. ELECT.	
C016	1000 $\mu$ F 10 VDCW. ELECT.	
TR001	2SD72 TR	030812-1
TR002	2SD223 TR	030823-0~2
D001	SW-05-02 D	031017
D002	SW-05-02 D	031017
D003	SW-05-02 D	031017
ZD001	ZB1-27	031074
ZD002	ZB1-13	031073

# PRINTED CIRCUIT SHEETS AND PARTS LIST

## F-1040 < DRIVER AMP. >

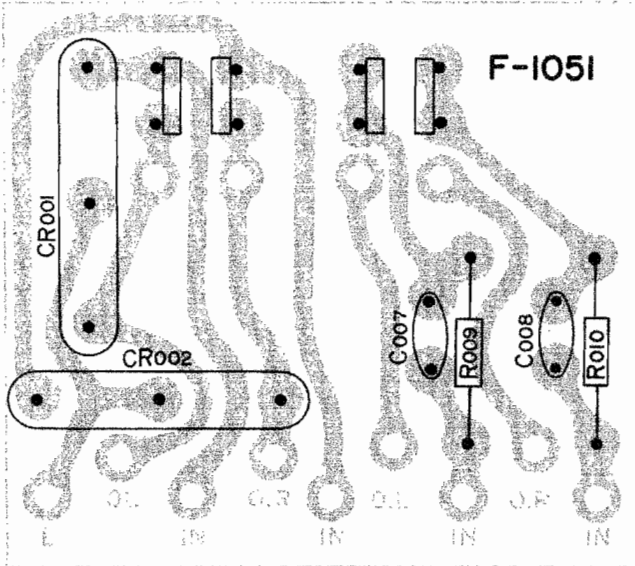


X	Y	Z
R801	2.2kΩ ¼W ±10% COMP. Fixed	1, 2 A
R802	220kΩ ¼W ±10% COMP. Fixed	1 A
R803	560kΩ ¼W ±10% COMP. Fixed	2 A
R804	220Ω ¼W ±10% COMP. Fixed	1 A
R805	2.2kΩ ¼W ±10% COMP. Fixed	1 A
R806	2.7kΩ ¼W ±10% COMP. Fixed	2 A
R807	6.8kΩ ¼W ±10% COMP. Fixed	1 A, B
R808	10kΩ ¼W ±10% COMP. Fixed	1 A
R809	47kΩ ¼W ±10% COMP. Fixed	1 A, B
R810	1kΩ ¼W ±10% COMP. Fixed	
R811	3.3kΩ ¼W ±10% COMP. Fixed	
R812	220Ω ¼W ±10% COMP. Fixed	
R813	120Ω ¼W ±10% COMP. Fixed	1 B
R814	120Ω ¼W ±10% COMP. Fixed	1 B
R815	120Ω ¼W ±10% COMP. Fixed	1 A
R816	33Ω ¼W ±10% COMP. Fixed	
R817	100Ω ¼W ±10% COMP. Fixed	
R818	3.3Ω ¼W ±10% COMP. Fixed	
R819	100Ω ¼W ±10% COMP. Fixed	
R820	4.7Ω ¼W ±10% COMP. Fixed	
R821	3.3Ω ¼W ±10% COMP. Fixed	
R822	1kΩ ¼W ±10% COMP. Fixed	1 B
R823	3.3Ω ¼W ±10% COMP. Fixed	1 B, C
R824	3.3Ω ¼W ±10% COMP. Fixed	
R825	22Ω ¼W ±10% COMP. Fixed	

X	Y	Z
R826	0.3Ω 1W ±10% WW.	
R827	0.3Ω 1W COMP. Fixed	2 C
VR801	500kΩ(B) (103050)	2 A
VR802	500Ω(B) (103051)	2 B
C801	0.5μF 50 VDCW. My.	2 A
C802	100μF 35 VDCW. ELECT.	1 A
C803	220μF 15 VDCW. ELECT.	1 A
C804	1μF 50 VDCW. Ta.	2 A
C805	10μF 50 VDCW. ELECT.	1 B
C806	33μF 50 VDCW. ELECT.	2 A
C807	47μF 15 VDCW. ELECT.	1 B
C808	0.05μF 50 VDCW. CER.	1 C
C809	100pF 50 VDCW. CER.	1 A, B
C810	100pF 50 VDCW. CER.	2 A
TR801	2SC458LG(C) Si N-P-N	1 A
TR802	2SC756 Si N-P-N	2 A
TR803	2SC485 Si N-P-N	2 B
TR804	2SA485 Si N-P-N	1 B
TR805	2SC756 Si N-P-N	2 C
TR806	2SC756 Si N-P-N	1 B, C
D801	LV-2 Si Varister (034002)	2 A, B
D802	LV-2 Si Varister (034002)	2 B

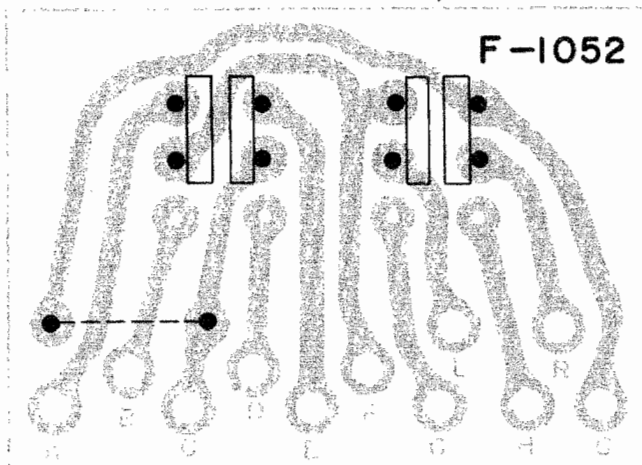
X: Parts No.  
 Y: Parts Name  
 Z: Co-ordinates in Printed Circuit Sheets

### F-1051 < HIGH-LOW FILTER >

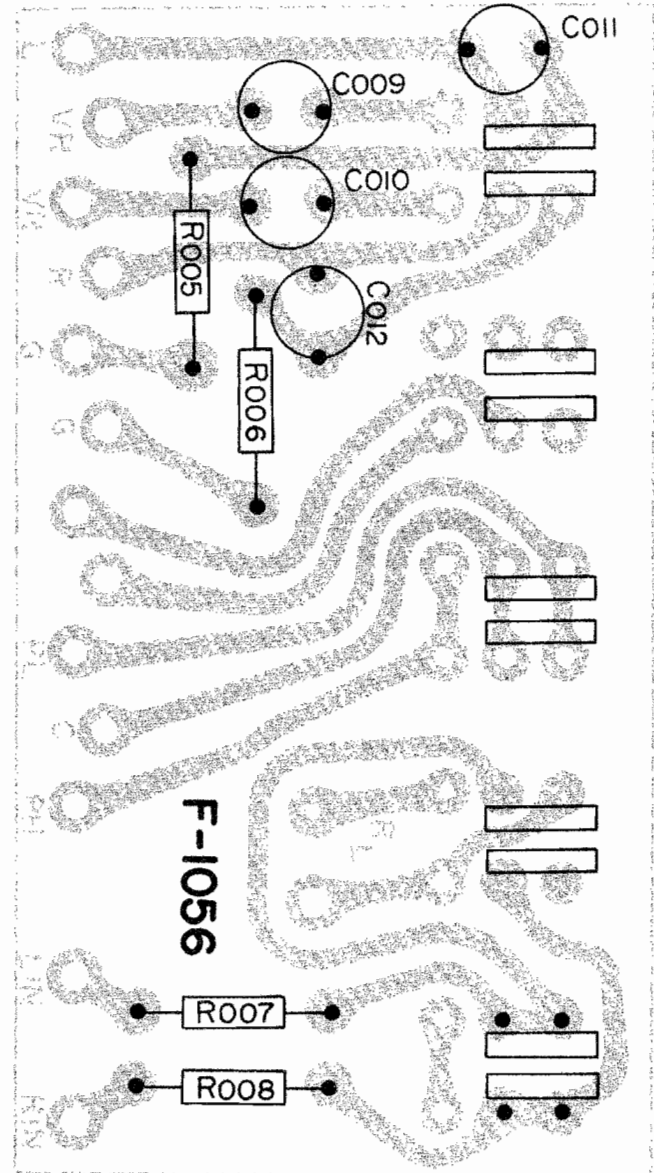


X	Y		Z
R009	470 kΩ	¼W ±10% PREC. Fixed	
R010	470 kΩ	¼W ±10% PREC. Fixed	
C007	0.0068 μF	50 VDCW. My.	
C008	0.0068 μF	50 VDCW. My.	
CR001		Low Filter CER.	
CR002		Low Filter CER.	

### < TAPE MONITOR SW >



### F-1056 < ACCESSORY CIRCUIT >



X	Y		Z
R005	33 kΩ	¼W ±10% PREC. Fixed	
R006	33 kΩ	¼W ±10% PREC. Fixed	
R007	8.2 kΩ	¼W ±10% PREC. Fixed	
R008	8.2 kΩ	¼W ±10% PREC. Fixed	
C009	0.022 μF	50 VDCW. My.	
C010	0.022 μF	50 VDCW. My.	
C011	150 pF	50 VDCW. Mc.	
C012	150 pF	50 VDCW. Mc.	

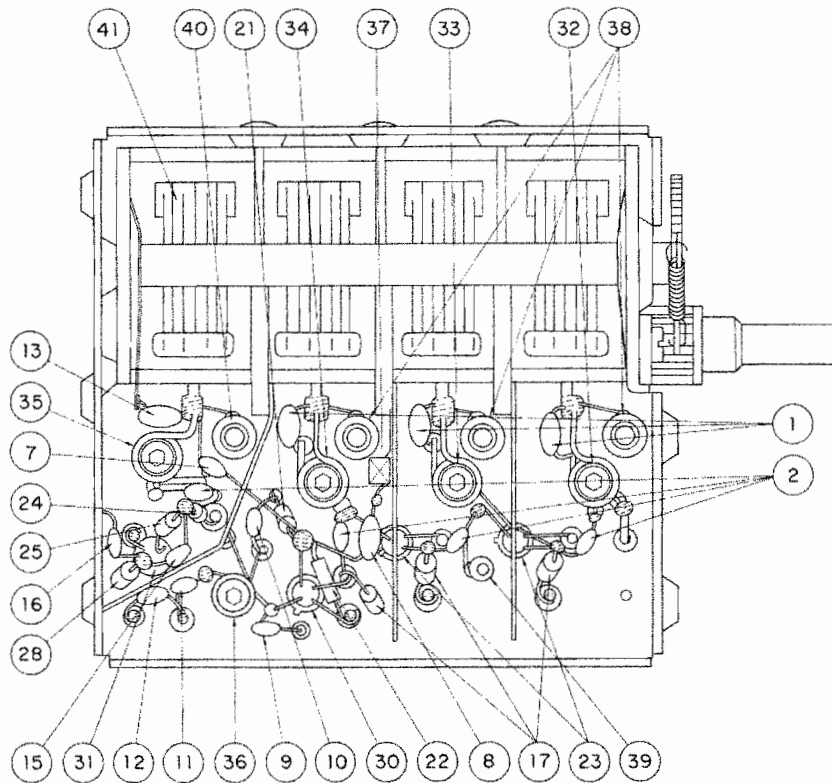
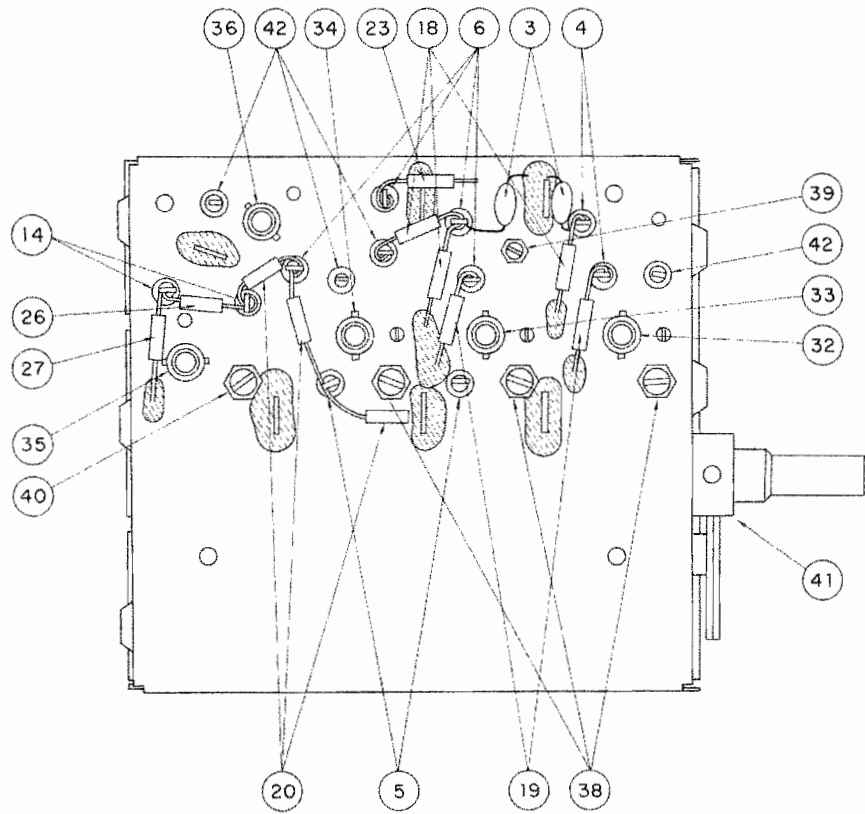
# PRINTED CIRCUIT SHEETS AND PARTS LIST

## F-1085

X	Y	Z
C101	15 pF ± 5 % NPO 50 VDCW. CER.	①
C102	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	②
C103	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	④
C104	0.02 μF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	③
C105	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	④
C106	2000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	⑤
C107	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	②
C108	15 pF ± 5 % NPO 50 VDCW. CER.	①
C109	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	⑥
C110	0.02 μF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	③
C111	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	⑥
C112	2000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	⑤
C113	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % NPO 50 VDCW. CER.	②
C114	15 pF ± 5 % NPO 50 VDCW. CER.	①
C115	1 pF ± 5 % 50 VDCW GIMMICK.	⑦
C116	470 pF ± 20 % 50 VDCW. CER.	⑧
C117	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % 50 VDCW. CER.	⑥
C118	120 pF ± 10 % 50 VDCW. CER.	⑨
C119	0.02 μF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % 50 VDCW. CER.	⑩
C120	180 pF ± 10 % 50 VDCW. CER.	⑪
C121	330 pF ± 10 % 50 VDCW. CER.	⑫
C122	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % 50 VDCW. CER.	⑥
C123	17 pF ± 10 % N80 50 VDCW. CER.	⑬
C124	1000 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % 50 VDCW. CER.	②
C125	100 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % 50 VDCW. CER.	⑭
C126	8.2 pF ± 5 % NPO 50 VDCW. CER.	⑮
C127	100 pF $\begin{smallmatrix} +100 \\ -0 \end{smallmatrix}$ % 50 VDCW. CER.	⑭
C128	22 pF ± 5 % NPO 50 VDCW. CER.	⑯
R101	220 kΩ ± 10 % ¼W SOLID.	⑰
R102	470 kΩ ± 10 % ¼W SOLID.	⑱
R103	100 Ω ± 10 % ¼W SOLID.	⑲
R104	220 kΩ ± 10 % ¼W SOLID.	⑰
R105	470 kΩ ± 10 % ¼W SOLID.	⑱
R106	100 Ω ± 10 % ¼W SOLID.	⑲
R107	120 Ω ± 10 % ¼W SOLID.	⑳
R108	470 kΩ ± 10 % ¼W SOLID.	⑱
R109	220 kΩ ± 10 % ¼W SOLID.	⑰
R111	100 kΩ ± 10 % ¼W SOLID.	㉑
R112	15 kΩ ± 10 % ¼W SOLID.	㉒
R113	270 Ω ± 10 % ¼W SOLID.	㉓
R114	120 Ω ± 10 % ¼W SOLID.	㉔
R115	3.9 kΩ ± 10 % ¼W SOLID.	㉕
R116	120 Ω ± 10 % ¼W SOLID.	㉖
R117	6.8 kΩ ± 5 % ¼W SOLID.	㉗
R118	2.2 kΩ ± 5 % ¼W SOLID.	㉘
R119	1.5 kΩ ± 10 % ¼W SOLID.	㉙
FET101	40468 MOS FET (037001)	㉚
FET102	40468 MOS FET (037001)	㉚

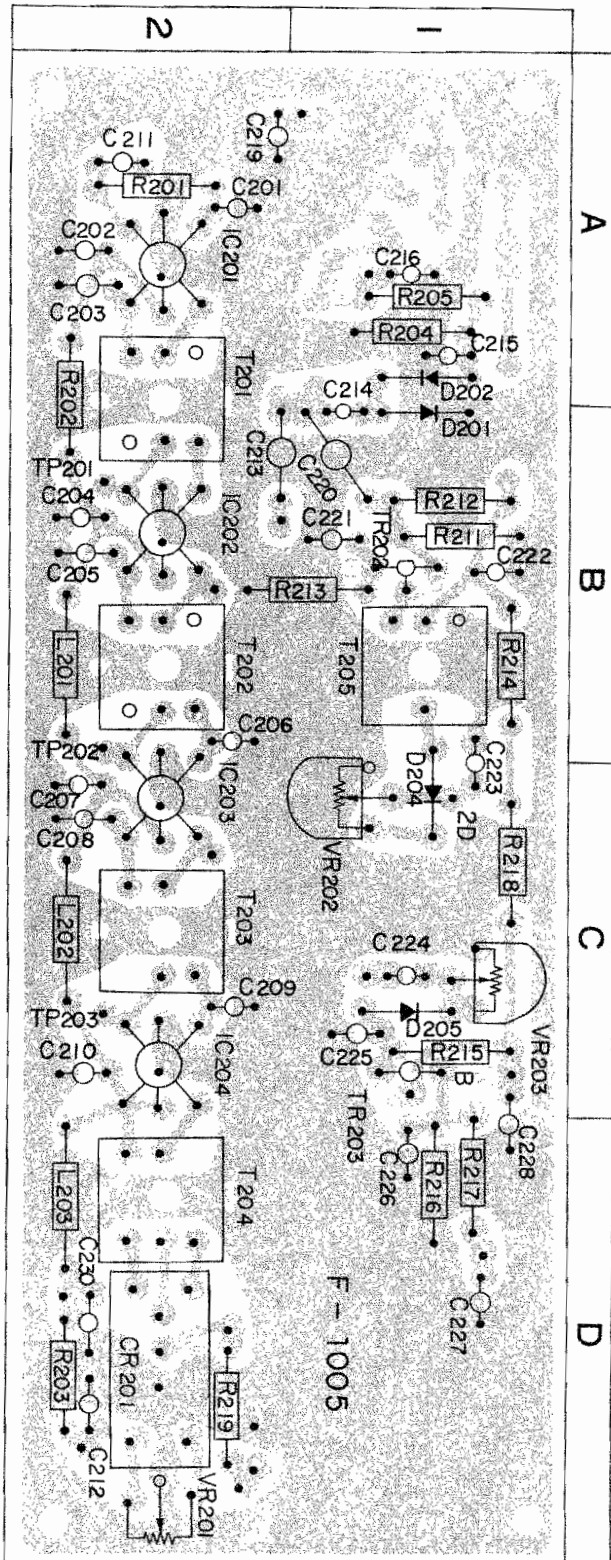
X	Y	Z
FET103	40604 MOS FET (037002)	㉛
TR101	SE 3001 (030541)	㉜
L101	FM ANT COIL	㉝
L102	FM INTERSTAGE COIL	㉞
L103	FM INTERSTAGE COIL	㉟
L104	FM OSC COIL	㊱
L105	FM IF TRANSF	㊲
L106	RF CHOKE COIL	
TC101	2~6pF TRIM (123004)	㉞
TC102	2~6pF TRIM (123004)	㉞
TC103	0.5~3pF TRIM (123002)	㉟
TC104	2~6pF TRIM (123004)	㉞
TC105	2~5pF TRIM (123003)	㊰
VC101~104	4 SEC GANG	㊱

**X:** Parts No.  
**Y:** Parts Name  
**Z:** Co-ordinates in Printed Circuit Sheets



# PRINTED CIRCUIT SHEETS AND PARTS LIST

## F-1005 (FM IF)

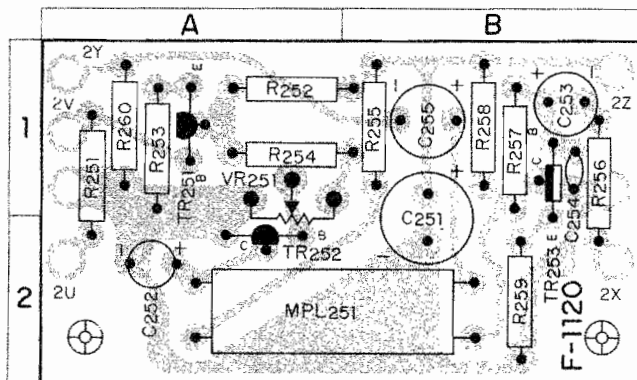


X	Y				Z
R201	1.2k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	2A
R202	22 $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	2A, B
R203	56 $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	2D
R204	100k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1A
R205	47k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1A
R211	10k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1B
R212	22k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1B
R213	1k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1, 2B
R214	22k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1B
R215	220k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1C
R216	2.2k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1D
R217	1k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1D
R218	22 $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	1C
R219	22k $\Omega$	1/4W	$\pm 10\%$	PREC. Fixed	2D
CR201				(080016)	2D
C201	0.02 $\mu$ F	50 VDCW.		CER.	2A
C202	0.02 $\mu$ F	50 VDCW.		CER.	2A
C203	0.02 $\mu$ F	50 VDCW.		CER.	2A
C204	0.02 $\mu$ F	50 VDCW.		CER.	3B
C205	0.02 $\mu$ F	50 VDCW.		CER.	3B
C206	0.02 $\mu$ F	50 VDCW.		CER.	3B
C207	0.02 $\mu$ F	50 VDCW.		CER.	3C
C208	0.02 $\mu$ F	50 VDCW.		CER.	2C
C209	0.02 $\mu$ F	50 VDCW.		CER.	2C
C210	0.02 $\mu$ F	50 VDCW.		CER.	2C
C211	0.02 $\mu$ F	50 VDCW.		CER.	2A
C212	0.05 $\mu$ F	50 VDCW.		CER.	2D
C213	7 pF	50 VDCW.		CER.	1, 2B
C214	100 pF	50 VDCW.		CER.	1A, B
C215	100 pF	50 VDCW.		CER.	1A
C216	0.02 $\mu$ F	50 VDCW.		CER.	1A
C221	0.02 $\mu$ F	50 VDCW.		CER.	1B
C222	0.02 $\mu$ F	50 VDCW.		CER.	1B
C223	1000 pF	50 VDCW.		CER.	1B, C
C224	2 pF	50 VDCW.		CER.	1C
C225	0.02 $\mu$ F	50 VDCW.		CER.	1C
C226	0.02 $\mu$ F	50 VDCW.		CER.	1D
C227	0.02 $\mu$ F	50 VDCW.		CER.	1D
C228	0.05 $\mu$ F	50 VDCW.		CER.	1C, D
C230	0.05 $\mu$ F	50 VDCW.		CER.	2D
TR202	25C380(O) or (25C829)	Si N-P-N			1B
TR203	25C536(G) or (25C828T)	Si N-P-N			1C
IC201	PA-7703 (036001)				2A
IC202	PA-7703 (036001)				2B
IC203	PA-7703 (036001)				2C
IC204	PA-7703 (036001)				2C
T201	FM IF 10.7MHz (423519)				2A, B
T202	FM IF 10.7MHz (423519)				2B
T203	FM IF 10.7MHz (423520)				2C
T204	FM IF 10.7MHz (423518)				2D
T205	10.7MHz Tuning trap (423521)				1B

**X:** Parts No.  
**Y:** Parts Name  
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X	Y	Z
D201	IN60 (031033)	1 B
D202	IN60 (031033)	1 A
D204	IN60 (031033)	1 C
D205	IN60 (031033)	1 C
VR201	10 kΩ(B) (103019)	2 D
VR202	50 kΩ(B) (103020)	1 C
VR203	250 kΩ(B) (103036)	1 C
L201	3.5 μH (429001)	2 B
L202	3.5 μH (429001)	2 C
L203	3.5 μH (429001)	2 D

## F-1120 ◀ MUTING ▶

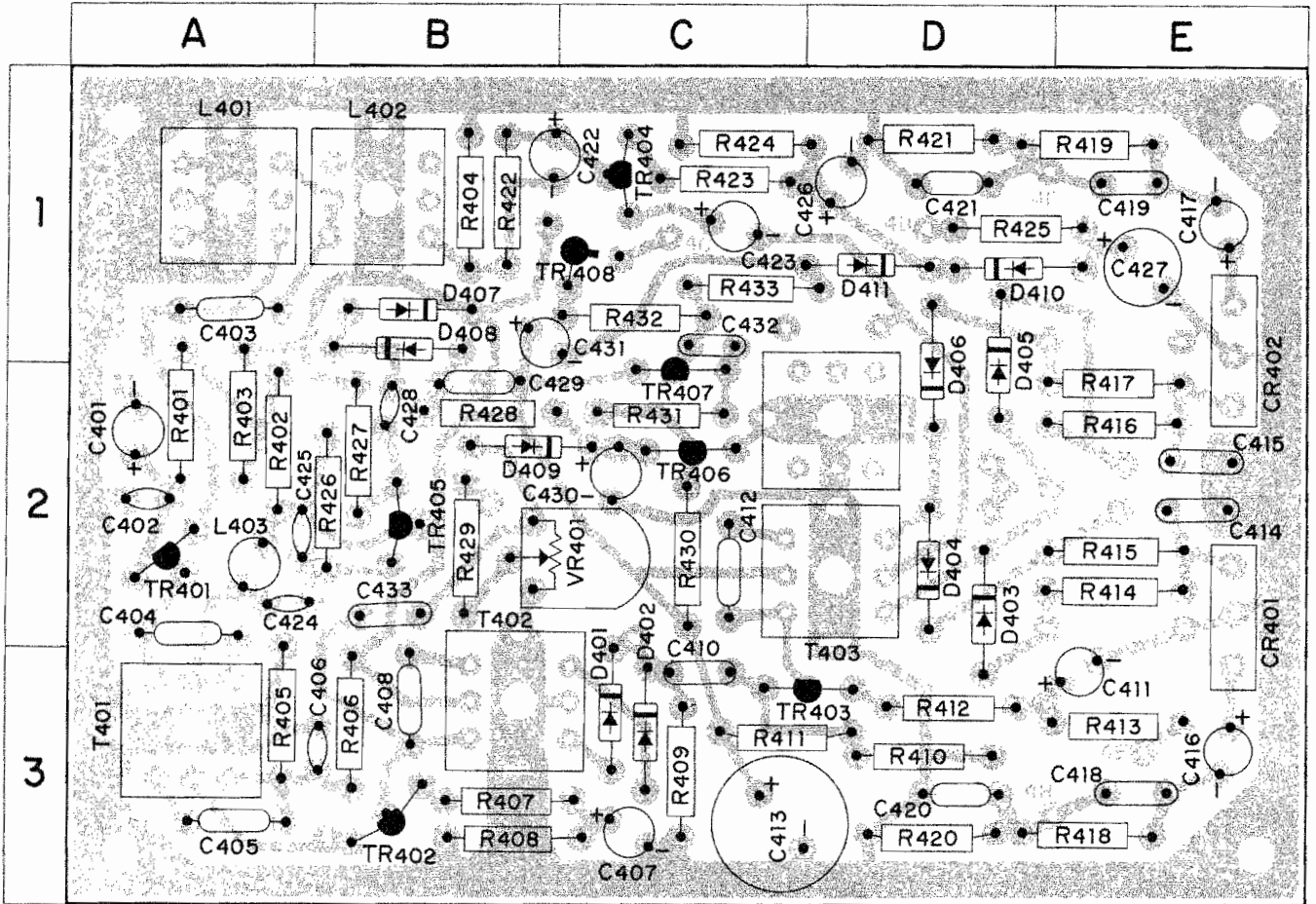


X	Y	Z
R251	2.2 kΩ ¼W ±10% Carbon Fixed	1 A
R252	4.7 kΩ ¼W ±10% Carbon Fixed	1 A
R253	680 Ω ¼W ±10% Carbon Fixed	1 A
R254	5.6 kΩ ¼W ±10% Carbon Fixed	1 A
R255	270 Ω ¼W ±10% Carbon Fixed	1 B
R256	1 kΩ ¼W ±10% Carbon Fixed	1 B
R257	220 kΩ ¼W ±10% Carbon Fixed	1 B
R258	4.7 kΩ ¼W ±10% Carbon Fixed	1 B
R259	1 kΩ ¼W ±10% Carbon Fixed	2 B
R260	4.7 Ω ¼W ±10% Carbon Fixed	1 A
C251	47 μF 16 VDCW. ELECT.	2 B
C252	1 μF 50 VDCW. ELECT.	1 A
C253	3.3 μF 25 VDCW. ELECT.	1 B
C254	100 μF ±20% 50 VDCW. CER.	1 B
C255	10 μF 25 VDCW. ELECT.	1 B
MPL251	Cds	2 B
TR251	2SC828T TR (030527)	1 A
TR252	2SC828T TR (030527)	2 A
TR253	2SC458LB TR (030511-1)	2 B
VR251	5 kΩ(B) Semi-Variable (103037)	1 A



# PRINTED CIRCUIT SHEETS AND PARTS LIST

## F-1006A <MULTIPLEX>



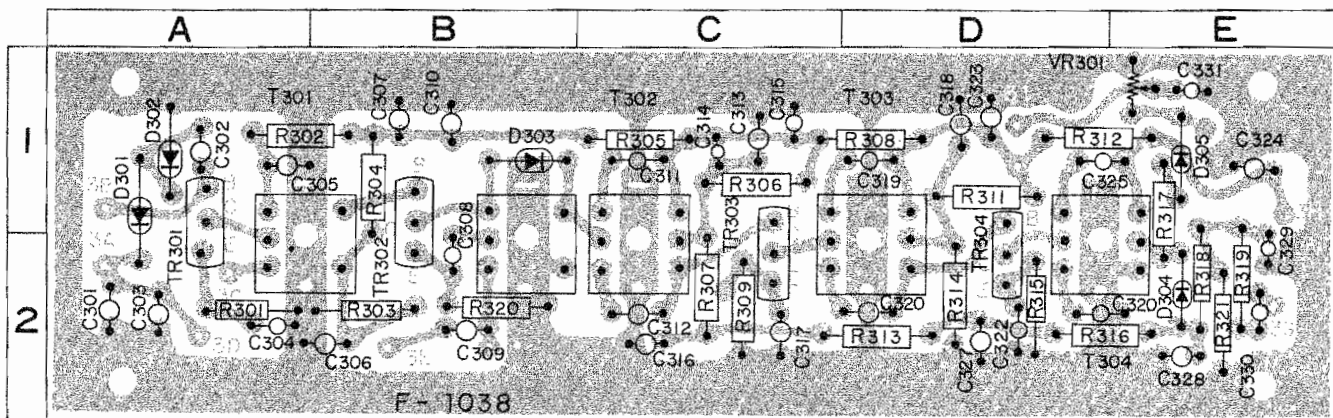
**X:** Parts No.  
**Y:** Parts Name  
**Z:** Co-ordinates in Printed Circuit Sheets

X	Y	Z
R401	47kΩ ¼W ±10% PREC. Fixed	2A
R402	120kΩ ¼W ±10% PREC. Fixed	2A
R403	100kΩ ¼W ±10% PREC. Fixed	2A
R404	2.2kΩ ¼W ±10% PREC. Fixed	1B
R405	27kΩ ¼W ±10% PREC. Fixed	3A
R406	330kΩ ¼W ±10% PREC. Fixed	3B
R407	330Ω ¼W ±10% PREC. Fixed	3B
R408	1.2kΩ ¼W ±10% PREC. Fixed	3B
R409	10kΩ ¼W ±10% PREC. Fixed	3C
R410	27kΩ ¼W ±10% PREC. Fixed	3D
R411	270kΩ ¼W ±10% PREC. Fixed	3C, D
R412	680Ω ¼W ±10% PREC. Fixed	3D
R413	1.2kΩ ¼W ±10% PREC. Fixed	3E
R414	22kΩ ¼W ±10% PREC. Fixed	2E
R415	22kΩ ¼W ±10% PREC. Fixed	2E
R416	22kΩ ¼W ±10% PREC. Fixed	2E
R417	22kΩ ¼W ±10% PREC. Fixed	2E
R418	100kΩ ¼W ±10% PREC. Fixed	3E
R419	100kΩ ¼W ±10% PREC. Fixed	1E
R420	47kΩ ¼W ±10% PREC. Fixed	3D
R421	47kΩ ¼W ±10% PREC. Fixed	1D
R422	39kΩ ¼W ±10% PREC. Fixed	1B
R423	22kΩ ¼W ±10% PREC. Fixed	1C
R424	100kΩ ¼W ±10% PREC. Fixed	1C
R425	15kΩ ¼W ±10% PREC. Fixed	1D
R426	820kΩ ¼W ±10% PREC. Fixed	2B
R427	10kΩ ¼W ±10% PREC. Fixed	2B
R428	220kΩ ¼W ±10% PREC. Fixed	2B
R429	180kΩ ¼W ±10% PREC. Fixed	2B
R430	10kΩ ¼W ±10% PREC. Fixed	2C
R431	22kΩ ¼W ±10% PREC. Fixed	2C
R432	5.6kΩ ½W ±10% PREC. Fixed	1C
R433	10kΩ ¼W ±10% PREC. Fixed	1C
R434	150kΩ ¼W ±10% PREC. Fixed	2C, D
VR401	200KΩ(B) (103035)	2B, C
C401	10μF 25 VDCW. ELECT.	2A
C402	42pF 50 VDCW. CER.	2A
C403	2800pF 50 VDCW. Mc.	1A
C404	6800pF 50 VDCW. Mc.	2A
C405	6800pF 50 VDCW. Mc.	3A
C406	0.05μF 50 VDCW. My.	3A, B
C407	1μF 50 VDCW. ELECT.	3C
C408	6800pF 25 VDCW. Mc.	3B
C410	0.05μF 50 VDCW. My.	3C
C411	1μF 50 VDCW. ELECT.	3E
C412	1700pF 50 VDCW. Mc.	2C
C413	220μF 25 VDCW. ELECT.	3C
C414	220pF 50 VDCW. Mc.	2E
C415	220pF 25 VDCW. Mc.	2E
C416	0.047μF 50 VDCW. ELECT.	3E
C417	0.047μF 50 VDCW. ELECT.	1E
C418	390pF 50 VDCW. Mc.	3E
C419	390pF 50 VDCW. Mc.	1E
C420	1800pF 50 VDCW. Mc.	3D
C421	1800pF 50 VDCW. Mc.	1D

X	Y	Z
C422	10μF 25 VDCW. ELECT.	1B, C
C423	10μF 25 VDCW. ELECT.	1C
C424	0.005μF 50 VDCW. My.	2A
C425	100PF 50 VDCW. CER.	2A
C426	3.3μF 25 VDCW. ELECT.	1D
C427	33μF 25 VDCW. ELECT.	1E
C428	0.05μF 50 VDCW. My.	2B
C429	0.005μF 50 VDCW. My.	2B
C430	1μF 50 VDCW. ELECT.	2C
C431	3.3μF 25 VDCW. ELECT.	1B
C432	0.03μF 50 VDCW. My.	1C
C433	0.002μF 50 VDCW. My.	2B
TR401	2SC536V <sub>1</sub> E <sub>2</sub> (030524-5)	2A
TR402	2SC536V <sub>1</sub> E <sub>2</sub> (030524-5)	3B
TR403	2SC536V <sub>1</sub> E <sub>2</sub> (030524-5)	3C, D
TR404	2SC536V <sub>1</sub> G <sub>2</sub> (030524-9)	1C
TR405	2SC536V <sub>1</sub> F <sub>2</sub> (030524-7)	2B
TR406	2SC373 (030504)	2C
TR407	2SA564A (036008)	1, 2C
TR408	2SC708 (030548~1,-2)	1B, C
D401	IN34A (031040)	3C
D402	IN34A (031040)	3C
D403	IN34A (YL) (031040-1)	2D
D404	IN34A (YL) (031040-1)	2D
D405	IN34A (YL) (031040-1)	1, 2D
D406	IN34A (YL) (031040-1)	1, 2D
D407	IN34A (031040)	1B
D408	IN34A (031040)	1B
D409	IN34A (031040)	2B
D410	IN34A (031040)	1D
D411	IN34A (031040)	1D
T401	19kHz Tuning Trap (424021)	3A
T402	19kHz Tuning Trap (424022)	3B
T403	38kHz Tuning Trap (424022)	2C, D
L401	67kHz Filter (424038)	1A
L402	71kHz Filter (424025)	1B
L403	19kHz Filter (490003)	2A
CR401	38kHz Filter (080008)	1E
CR402	38kHz Filter (080008)	2E

# PRINTED CIRCUIT SHEETS AND PARTS LIST

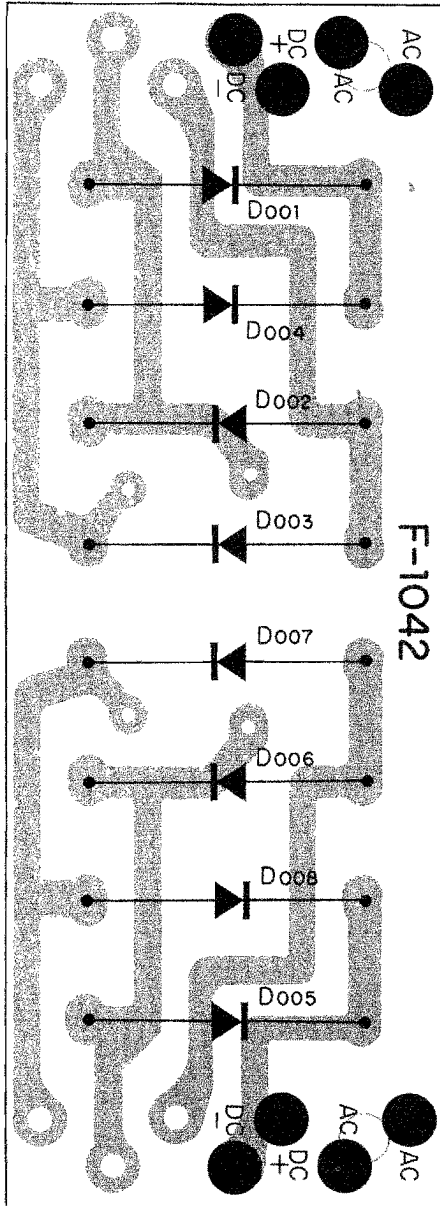
## F-1038 <AM IF>



X	Y			Z	X	Y			Z
R301	1 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2A	C313	5 $\mu$ F	15 VDCW. ELECT.	1C	
R302	100 $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1A, B	C314	0.02 $\mu$ F	50 VDCW. CER.	1C	
R303	3.9 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2B	C315	0.02 $\mu$ F	50 VDCW. CER.	1C	
R304	33 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1B	C316	0.04 $\mu$ F	50 VDCW. CER.	2C	
R305	100 $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1C	C317	50 $\mu$ F	6 VDCW. ELECT.	2C	
R306	68 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1C	C318	0.02 $\mu$ F	50 VDCW. CER.	1D	
R307	22 $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2C	C319	500 pF	50 VDCW. Mc.	1D	
R308	22 $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1D	C320	500 pF	50 VDCW. Mc.	2D	
R309	1 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2C	C322	0.04 $\mu$ F	50 VDCW. CER.	2D	
R311	10 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1D	C323	0.02 $\mu$ F	50 VDCW. CER.	1D	
R312	22 $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1D, E	C324	200 $\mu$ F	15 VDCW. ELECT.	1E	
R313	100 $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2D	C325	500 pF	50 VDCW. Mc.	1D, E	
R314	6.8 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2D	C326	500 pF	50 VDCW. Mc.	2D, E	
R315	470 $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2D	C327	0.02 $\mu$ F	50 VDCW. CER.	2D	
R316	8.2 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2D, E	C328	0.02 $\mu$ F	50 VDCW. My.	2E	
R317	1 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	1, 2E	C329	0.01 $\mu$ F	50 VDCW. My.	2E	
R318	1 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2E	C330	0.04 $\mu$ F	50 VDCW. CER.	2E	
R319	120 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2E	C331	10 $\mu$ F	6 VDCW. ELECT.	1E	
R320	1 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2B					
R321	47 k $\Omega$	1/4W	$\pm 10\%$ PREC. Fixed	2E	D301	IN60		1A	
VR301	20 k $\Omega$	(103019)		1E	D302	IN60		1A	
C301	0.04 $\mu$ F	50 VDCW. CER.		2A	D303	IN60		1B	
C302	0.04 $\mu$ F	50 VDCW. CER.		1A	D304	IN60		2E	
C303	100 $\mu$ F	6 VDCW. ELECT.		2A	D306	IN60		1E	
C304	0.02 $\mu$ F	50 VDCW. CER.		2A	TR301	2SC460 or 2SC461(C)	Si N-P-N	1, 2A	
C305	0.04 $\mu$ F	50 VDCW. CER.		1A	TR302	2SC460	Si N-P-N	1, 2B	
C306	0.04 $\mu$ F	50 VDCW. CER.		2B	TR303	2SC460	Si N-P-N	1, 2C	
C307	100 $\mu$ F	15 VDCW. ELECT.		1B	TR304	2SC460 or 2SC461(C)	Si N-P-N	1, 2D	
C308	0.01 $\mu$ F	50 VDCW. My.		1B	T301	AMRF (421005)		1, 2A B	
C309	430 pF	50 VDCW. Mc.		2B	T302	AMOSC (422007)		1, 2B	
C310	0.02 $\mu$ F	50 VDCW. CER.		1B	T303	AM IFT 455 kHz (423019)		1, 2C	
C311	500 pF	50 VDCW. Mc.		1C	T304	AM IFT 455 kHz (423019)		1, 2C D	
C312	500 pF	50 VDCW. Mc.		2C	T305	AM IFT 455 kHz (423018)		1, 2D E	

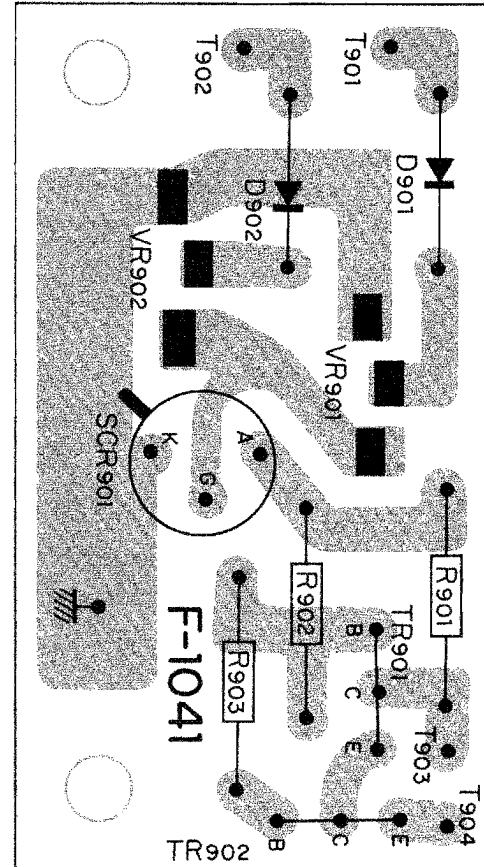
X: Parts No.  
 Y: Parts Name  
 Z: Co-ordinates in Printed Circuit Sheets

## F-1042 <DIODES STACK>



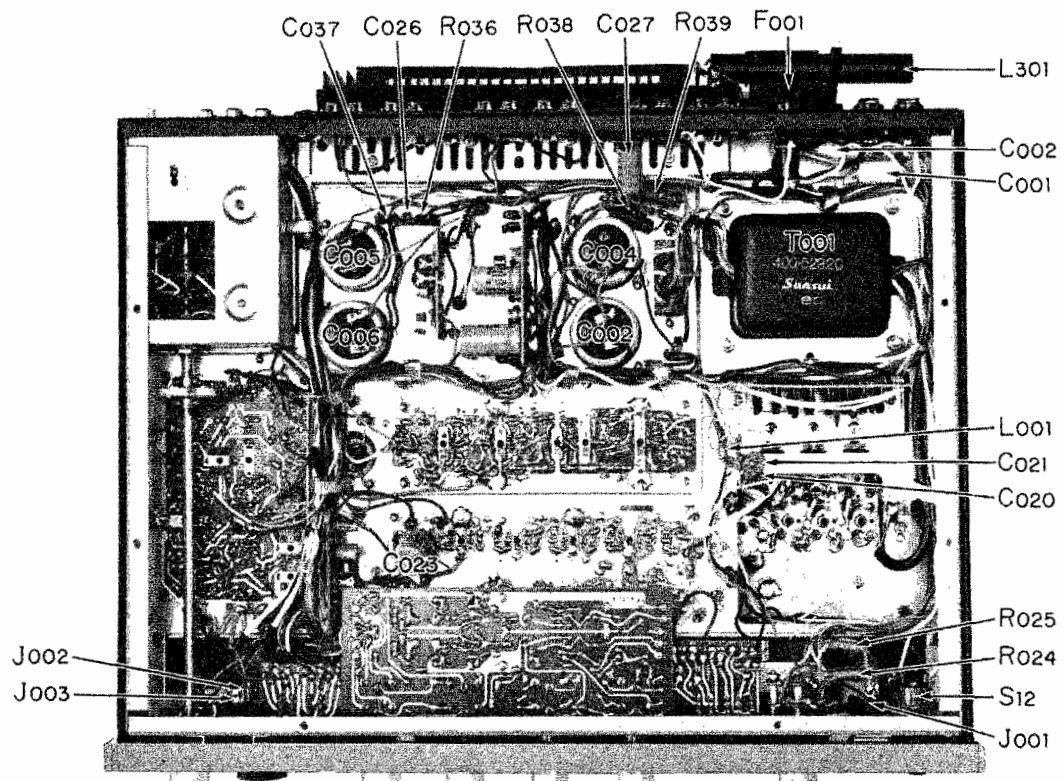
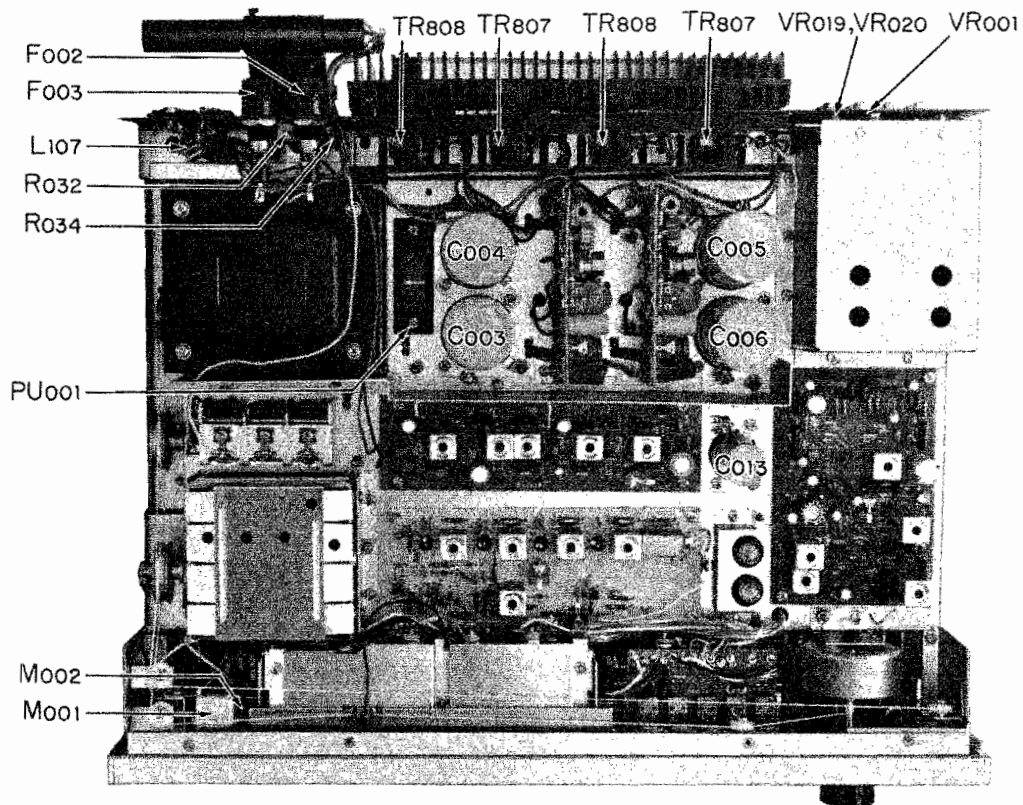
X	Y	Z
D001	SW-1-02 (031055)	
D002	SW-1-02 (031055)	
D003	SW-1-02 (031055)	
D004	SW-1-02 (031055)	
D005	SW-1-02 (031055)	
D006	SW-1-02 (031055)	
D007	SW-1-02 (031055)	
D008	SW-1-02 (031055)	

## F-1041 <PROTECTOR>



X	Y	Z
R901	2.2Ω ¼W ±10% COMP. Fixed	
R902	10Ω ¼W ±10% COMP. Fixed	
R903	10Ω ¼W ±10% COMP. Fixed	
VR901	2kΩ (B) Semi-Variable	
VR902	2kΩ (B) Semi-Variable	
D901	1N60 (031033)	
D902	1N60 (031033)	
SCR901	25F521 (035003)	
TR901	2SC458 L (B) (030542)	
TR902	2SC458 L (B) (030542)	

# OTHER PARTS CHART AND PARTS LIST



X: Parts No.  
Y: Parts Name

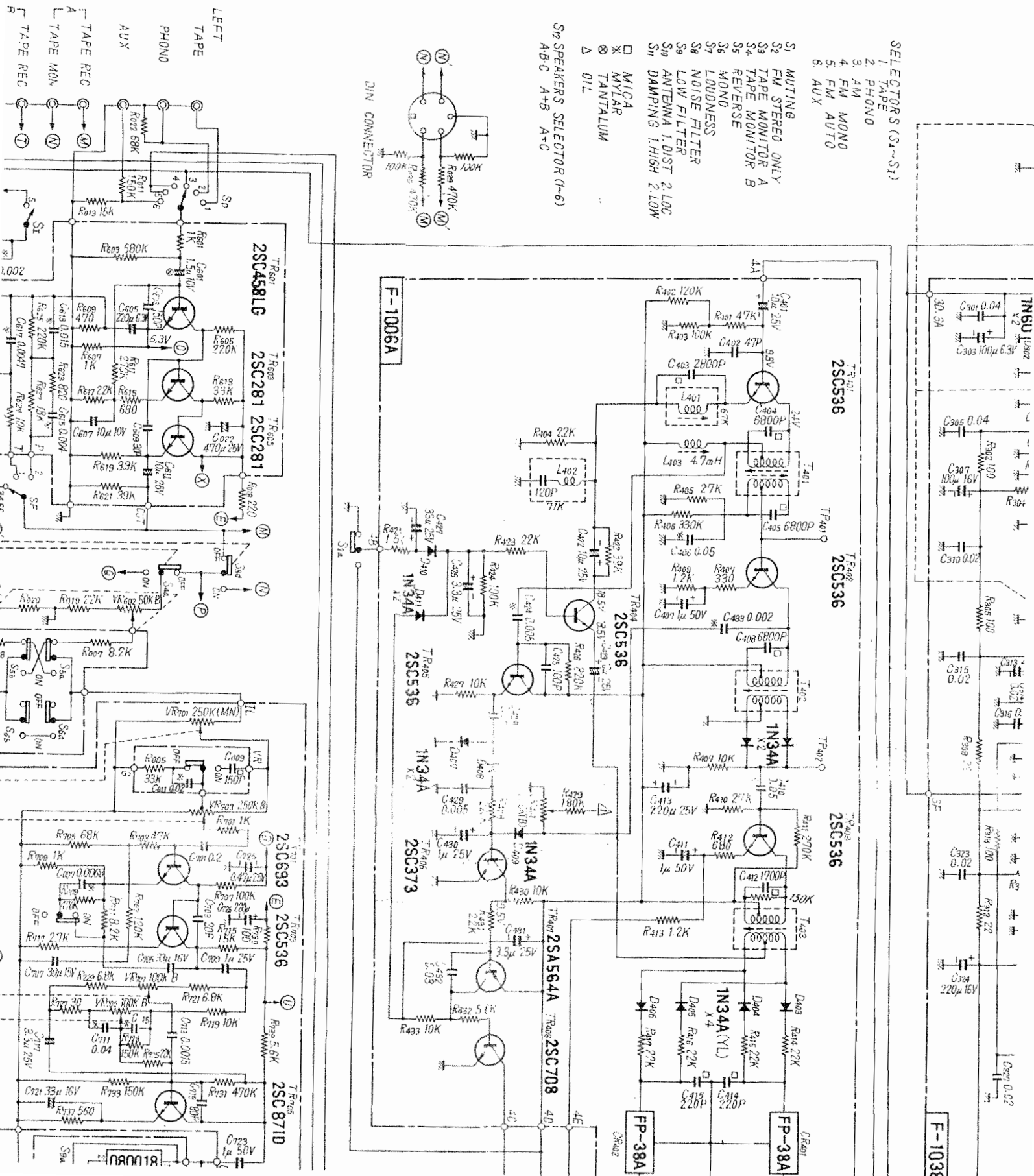
X	Y			
R005	33kΩ	¼W	±10%	PREC. Fixed
R006	33kΩ	¼W	±10%	PREC. Fixed
R007	8.2kΩ	¼W	±10%	PREC. Fixed
R008	8.2kΩ	¼W	±10%	PREC. Fixed
R009	470kΩ	¼W	±10%	PREC. Fixed
R010	470kΩ	¼W	±10%	PREC. Fixed
R011	150kΩ	¼W	±10%	PREC. Fixed
R012	150kΩ	¼W	±10%	PREC. Fixed
R013	12kΩ	¼W	±10%	PREC. Fixed
R014	12kΩ	¼W	±10%	PREC. Fixed
R015	22kΩ	¼W	±10%	PREC. Fixed
R017	22kΩ	¼W	±10%	PREC. Fixed
R018	22kΩ	¼W	±10%	PREC. Fixed
R019	22kΩ	¼W	±10%	PREC. Fixed
R020	22kΩ	¼W	±10%	PREC. Fixed
R022	68kΩ	¼W	±10%	PREC. Fixed
R023	68kΩ	¼W	±10%	PREC. Fixed
R024	680Ω	1W	±10%	Carbon Fixed
R025	680Ω	1W	±10%	Carbon Fixed
R026	18Ω	¼W	±10%	PREC. Fixed
R027	100kΩ	¼W	±10%	PREC. Fixed
R028	100kΩ	¼W	±10%	PREC. Fixed
R029	470kΩ	¼W	±10%	PREC. Fixed
R030	470kΩ	¼W	±10%	PREC. Fixed
R031	680Ω	¼W	±10%	PREC. Fixed
R032	56Ω	¼W	±10%	PREC. Fixed
R033	0.3Ω	5W	±10%	WW
R034	0.3Ω	5W	±10%	WW
R035	1kΩ	¼W	±10%	PREC. Fixed
R036	6.8kΩ	¼W	±10%	PREC. Fixed
R037	6.8kΩ	¼W	±10%	PREC. Fixed
R038	680Ω	3W	±10%	WW
R039	150Ω	½W	±10%	PREC. Fixed
R040	33kΩ	¼W	±10%	PREC. Fixed
R041	33kΩ	¼W	±10%	PREC. Fixed
R042	47Ω	¼W	±10%	PREC. Fixed
C001	0.033μF	±20%	600 VDCW.	Oil
C002	0.0047μF	±20%	600 VDCW.	Oil
C003	2200μF	+100% -0%	80 VDCW.	ELECT.
C004	2200μF	+100% -0%	80 VDCW.	ELECT.
C005	2200μF	+100% -0%	80 VDCW.	ELECT.
C006	2200μF	+100% -0%	80 VDCW.	ELECT.
C007	0.0047μF	±10%	50 VDCW.	My.
C008	0.0047μF	±10%	50 VDCW.	My.
C009	150pF	±10%	50 VDCW.	Mc.
C010	150pF	±10%	50 VDCW.	Mc.
C011	0.02μF	±10%	50 VDCW.	My.
C012	0.02μF	±10%	50 VDCW.	My.
C013	1000μF	+100% -0%	35 VDCW.	ELECT. (020528)
C019	0.002μF	±10%	50 VDCW.	ELECT.
C020	220μF	+100% -0%	16 VDCW.	ELECT.
C021	0.04μF	+100% -0%	50 VDCW.	CER.
C022	470μF	+100% -0%	25 VDCW.	ELECT.
C023	470μF	+100% -0%	15 VDCW.	ELECT.

X	Y			
C024	1μF	+100% -0%	50 WV	ELECT.
C025	70pF	+100% -0%	50 WV	CER.
C026	70pF	+100% -0%	50 WV	CER.
C027	330μF	+100% -0%	16 WV	ELECT.
TR807,808	2SD118	Si	N-P-N	
TR807,808	2SD118	Si	N-P-N	
D004	IN60	Ge	Diode	
D005	IN60	Ge	Diode	
Z003	ZBI-14			
PL001	25V 90mA	Protector	indicator	(040007)
PL002	8V 150mA	Stereo	Indicator Lamp	(340005)
PL003	6.3V 250mA	Power	Indicator Lamp	(040009)
PL004	6.3V 250mA	Power	Indicator Lamp	(040009)
PL005	6.3V 250mA	Tape	Indicator Lamp	(040009)
PL006	6.3V 250mA	Phono	Indicator Lamp	(040009)
PL007	6.3V 250mA	Dial	Indicator Lamp	(040009)
PL008	6.3V 250mA	Dial	Indicator Lamp	(040009)
PL009	6.3V 250mA	Dial	Indicator Lamp	(040009)
PL010	6.3V 250mA	Dial	Indicator Lamp	(040009)
PL011	6.3V 250mA	Dial	Indicator Lamp	(040009)
PL012	6.3V 250mA	Aux	Indicator Lamp	(040009)
PL013	5V 60mA	Needle	Indicator Lamp	(040010)
CO001	AC Outlet	(245002)		
CO002	AC Outlet	(245002)		
PU001	Line Voltage	Controller	(241008, 241009)	
M001	100μA	Tune	Meter (090012)	
M002	100μA	Signal	Meter (090011)	
L301	AM Ferrite	Bar Antenna	240μH (420014)	
T001	Power	Transformer	(400025)	
F001	5A	Power	Fuse (043006)	
F002	5A	Quick Acting	Fuse (043014)	
F003	5A	Quick Acting	Fuse (043014)	
S(1~10)	Selector	(110504)		
S1a	Muting			
S2a	FM Stereo	Only		
S3(a~b)	Tape Monitor	A	}(113007)	
S4(a~b)	Tape Monitor	B		
S5(a~b)	Reverse			
S6(a~b)	Mono			
S7(a~b)	Loudness			
S8(a~b)	HIGH	Filter	}(113007)	
S9(a~b)	Low	Filter		
S10	FM Attenuator	(111004)		
S11	Damping	Switch (111009)		
S2a~b	Speaker	Selector Switch (110208)		
S12	Power	Switch (113009)		
J001	Head	Phone Jack (243007)		
J002	Tape	Recording Jack B (243006)		
J003	Tape	Monitor Jack B (243006)		
VR001	5kΩ(B)	Separation	Adjust (100501)	
VR019	50kΩ(B)	Level	Adjust (101501)	
VR020				

\* All rights reserve specifications to change without notice.



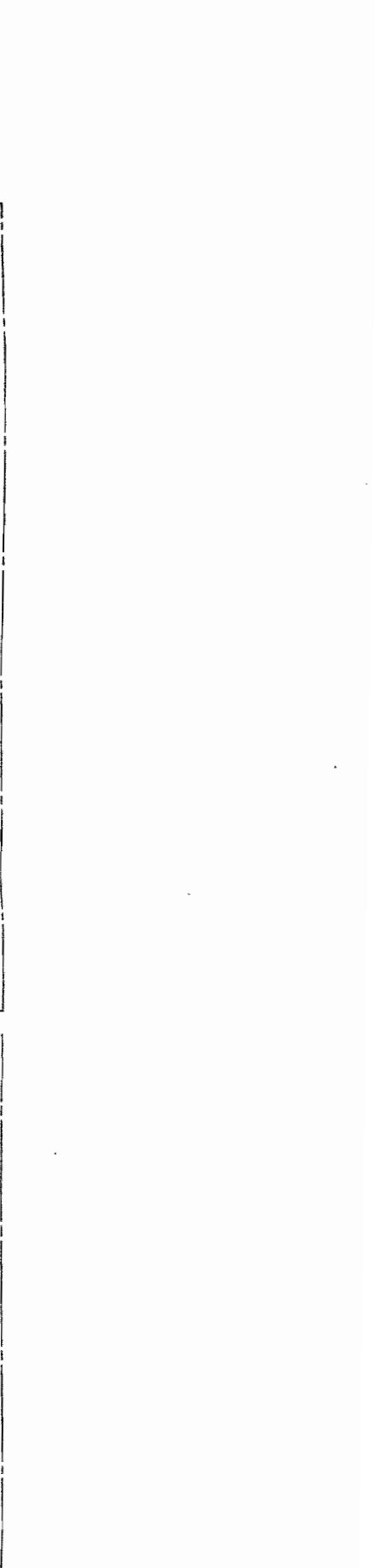
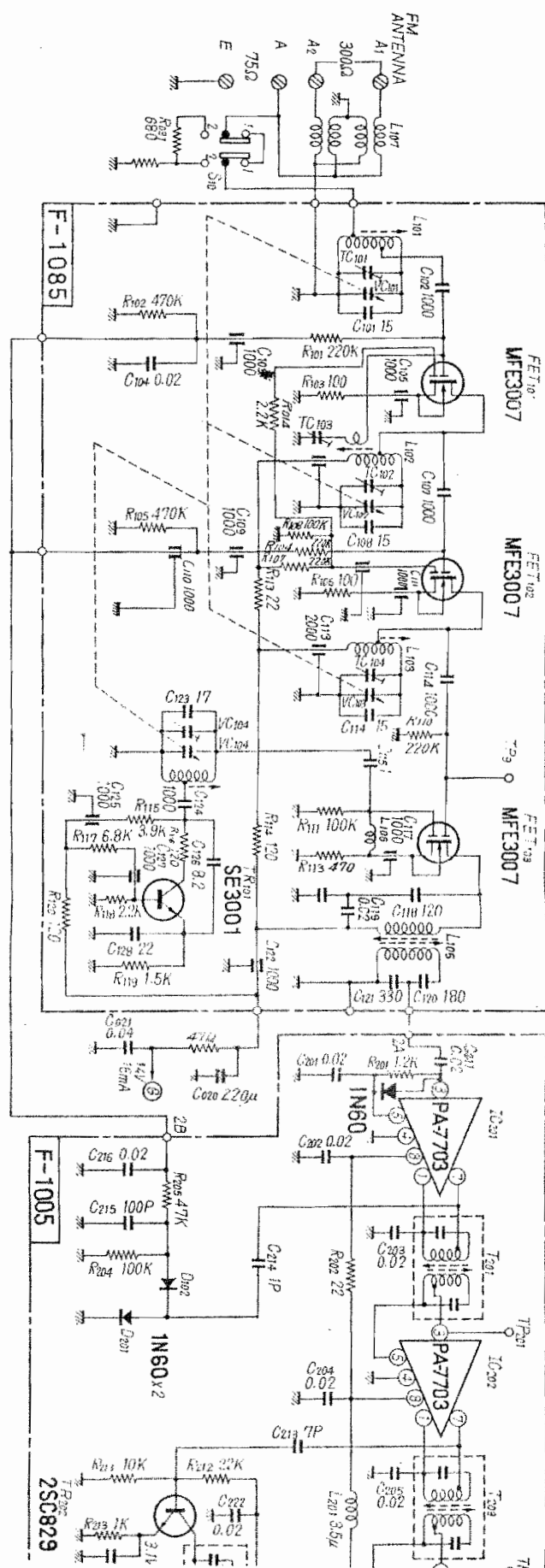
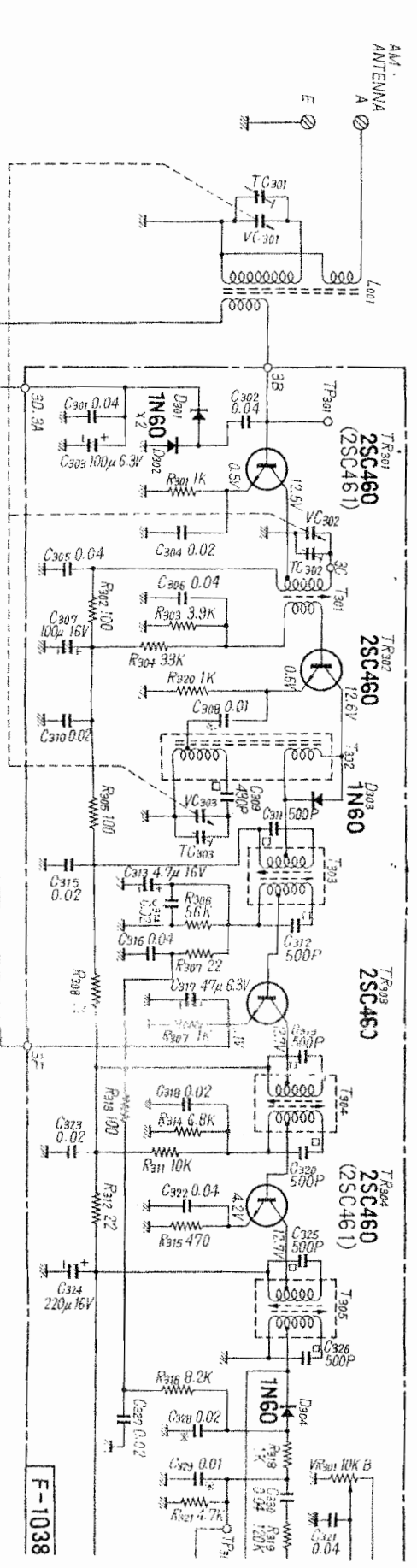
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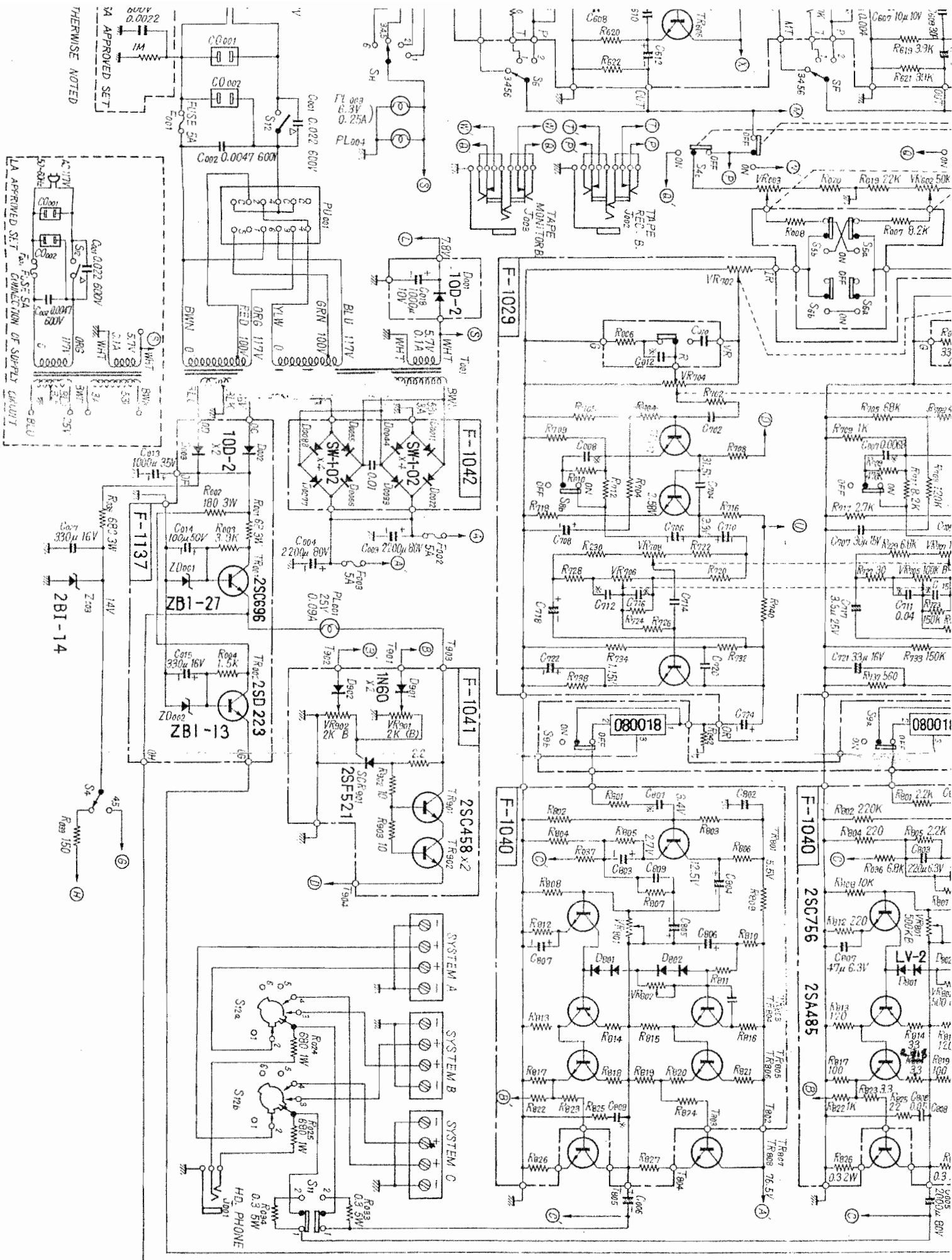




# GRAM

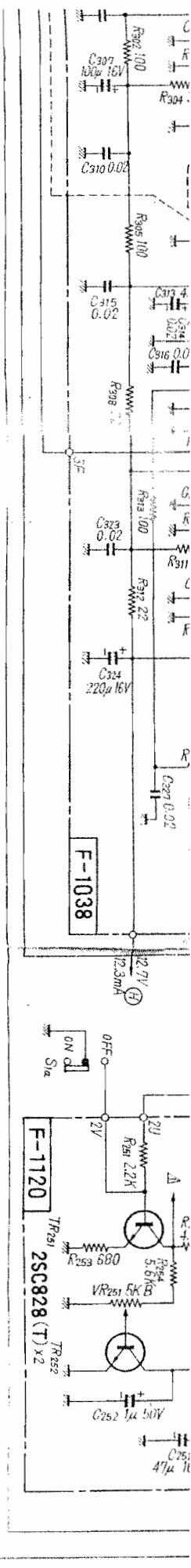
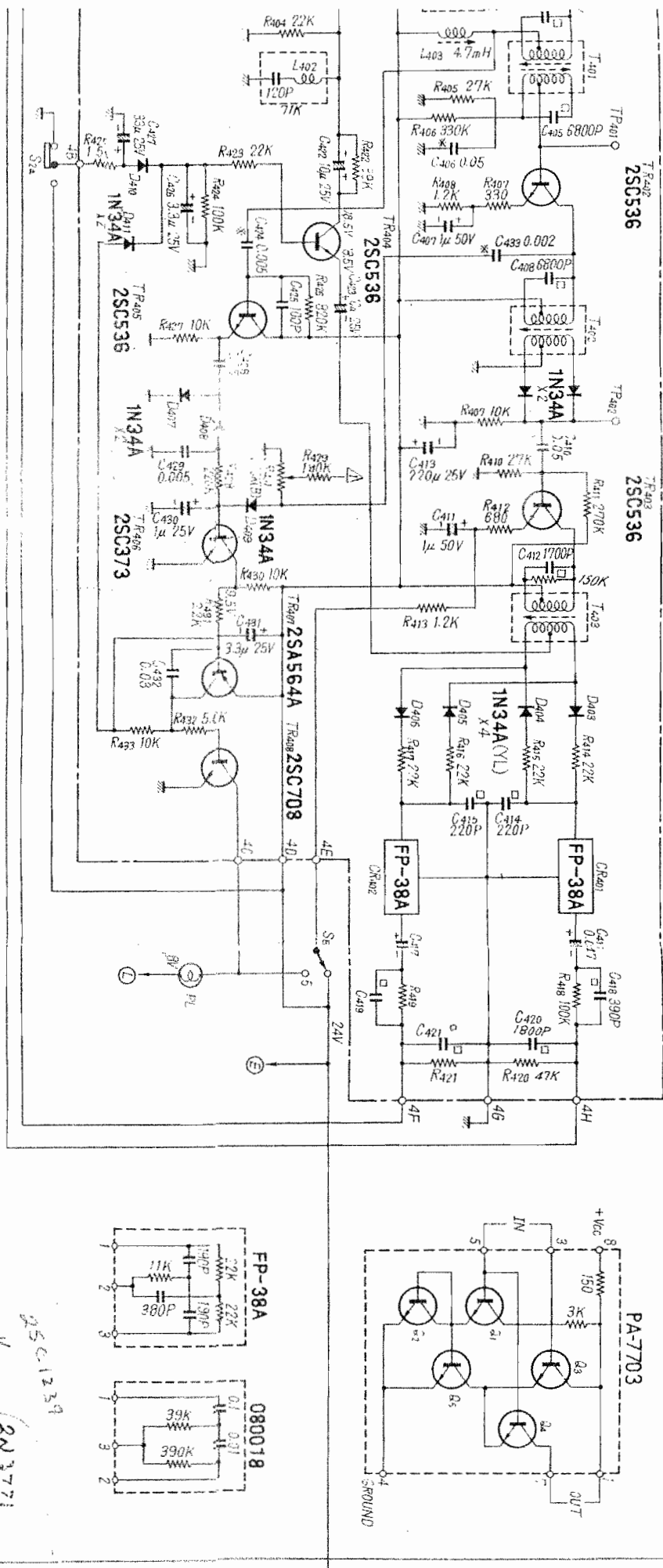
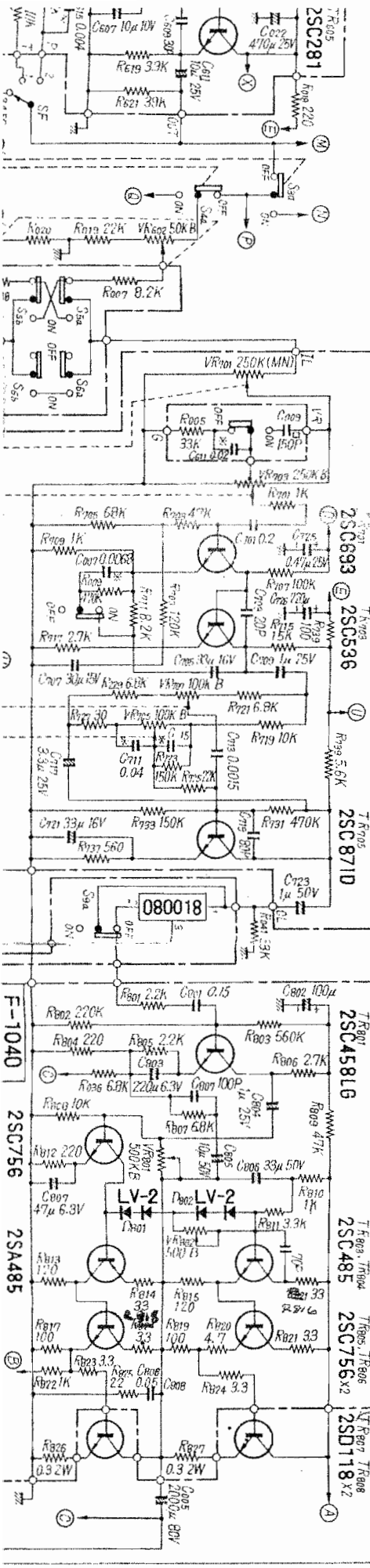
SELECTORS (S1-S7)





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Bottom



BOTTOM 2

