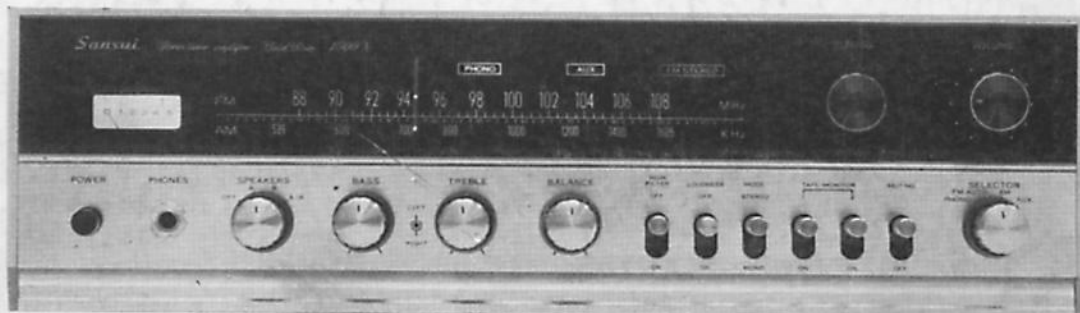


# SERVICE MANUAL

SOLID-STATE AM/FM STEREO TUNER AMPLIFIER

## SANSUI 1000X



*Sansui*

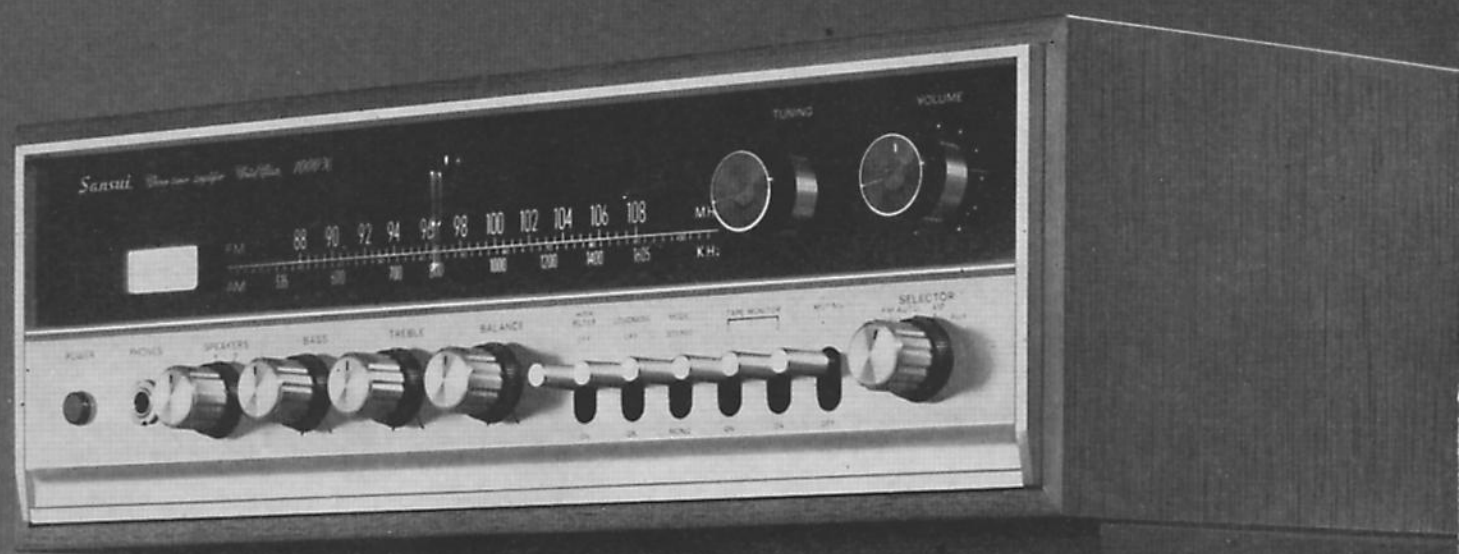
SANSUI ELECTRIC COMPANY LIMITED

SERVICE MANUAL  
SOLID-STATE AMMETER DRIVER APPLICATIONS  
SERIES BOOK

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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 atmospherics, statics or thunderbolts</li> <li>* Insufficient antenna input due to ferroconcrete 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 amplifier's 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 tuning 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 S/N ratio due to insufficient antenna input</li> </ul>	<ul style="list-style-type: none"> <li>* Install the antenna (supplied) 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 splitter, 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>		

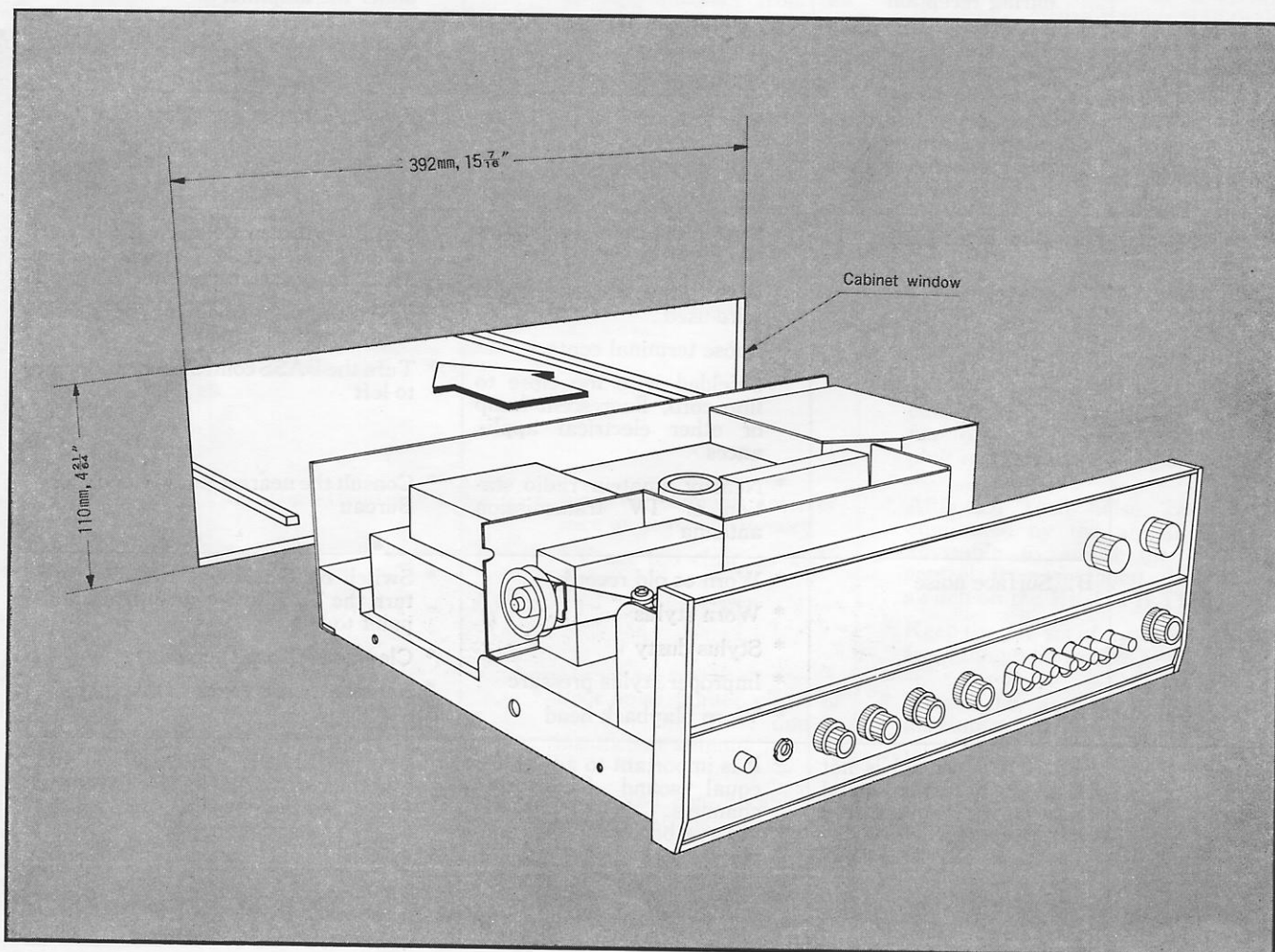
PROGRAM	SYMPTOM	PROBABLE CAUSE	WHAT TO DO
FM reception (cont'd)	B. A series of pops is heard	* Ignition noise caused by an automobile engine	* Install the antenna and its lead-in wire in proper distance from the road or raise the antenna input as described above
	C. Tuning noise between stations	* This 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 * Turn the BASS control from midpoint to left * Consult the nearest Radio Regulatory Bureau
	B. Surface noise	* Worn or old record * Worn stylus * Stylus dusty * Improper stylus pressure * Worn playback head	* Switch on the HIGH FILTER and turn the TREBLE control from midpoint to left * Clean or replace the stylus * Replace the playback head.
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 MODE switch to MONO and then set the BALANCE control to a position where equal sound comes from both channels

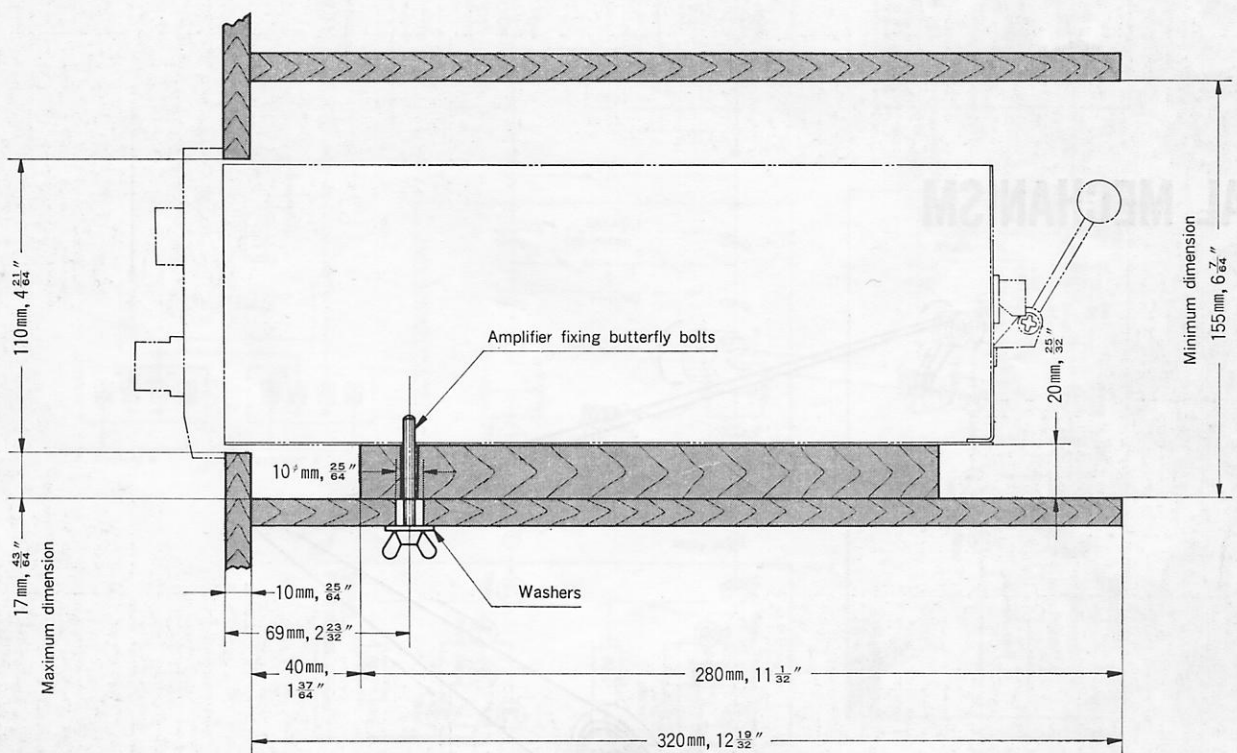
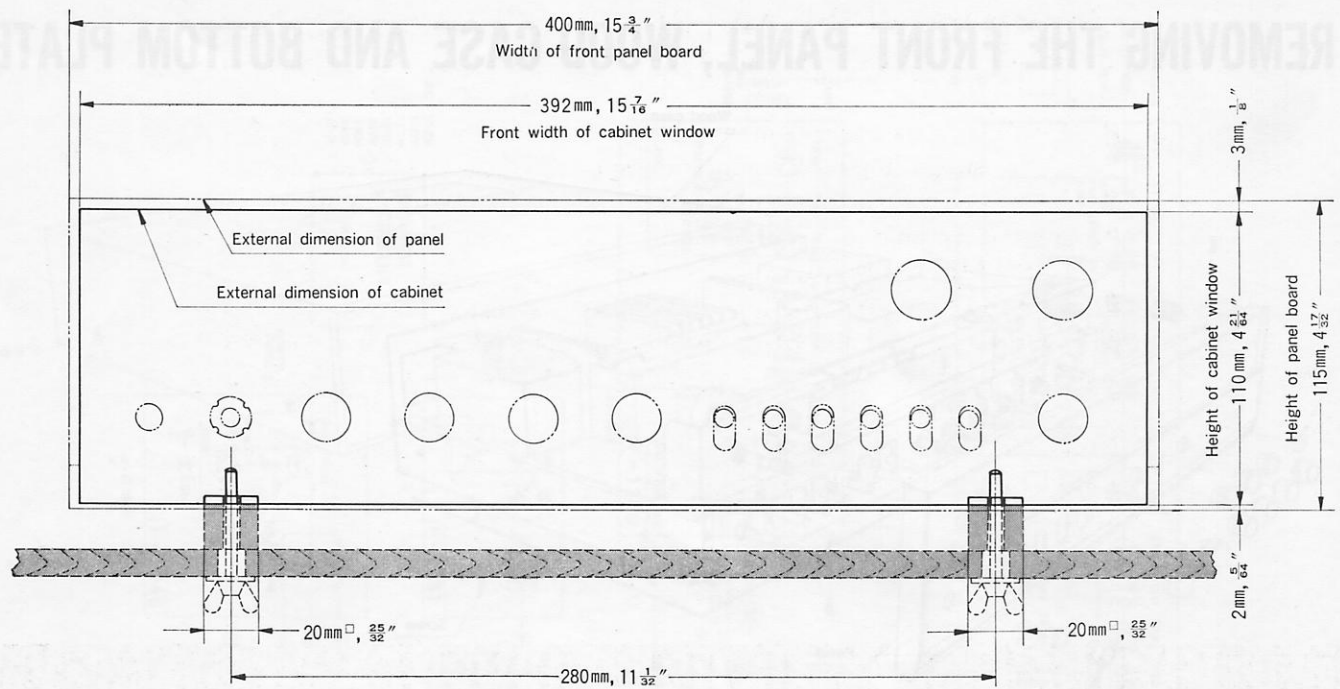
# CUSTOM MOUNTING

## How to Install the Amplifier in a Wooden Cabinet

1. Make a cabinet window of 392mm or  $15\frac{7}{16}$ " in width and 110mm or  $4\frac{21}{64}$ " in height.
2. Place two square pieces of wood ( $20 \times 20 \times 210$ mm or  $\frac{25}{32} \times \frac{25}{32} \times 8\frac{17}{64}$ " ) for supporting the amplifier in the bottom board of the cabinet.
3. Cut two holes for attachment bolts in the bottom board of the cabinet.
4. Remove the amplifier from the wood case (Refer to the section entitled "DISASSEMBLY PROCEDURE").
5. Place the amplifier in position through the cabinet window.
6. Make sure the amplifier is in position, then put the washers in butterfly bolts ( $4 \times 40$ mm) and fix the amplifier to the cabinet with the butterfly bolts.

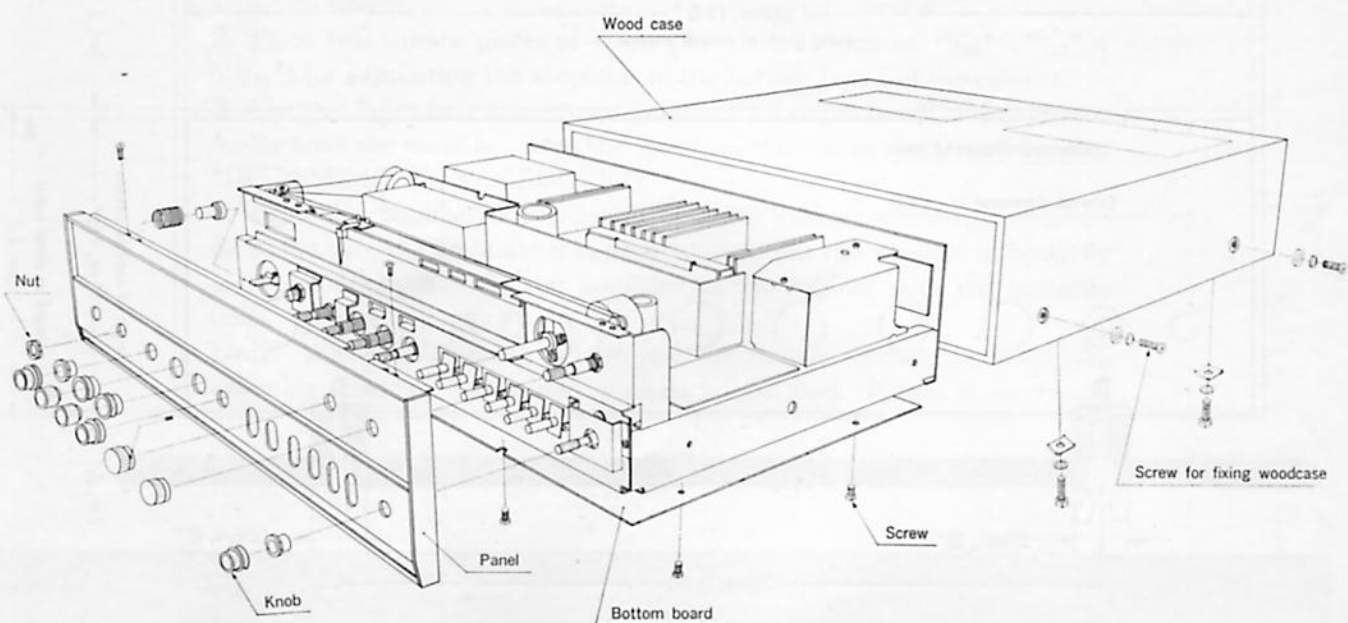
**Note:** When the amplifier is built into the custom cabinet, the wood case assembly including screws and washers is not used. Retain it for future use.



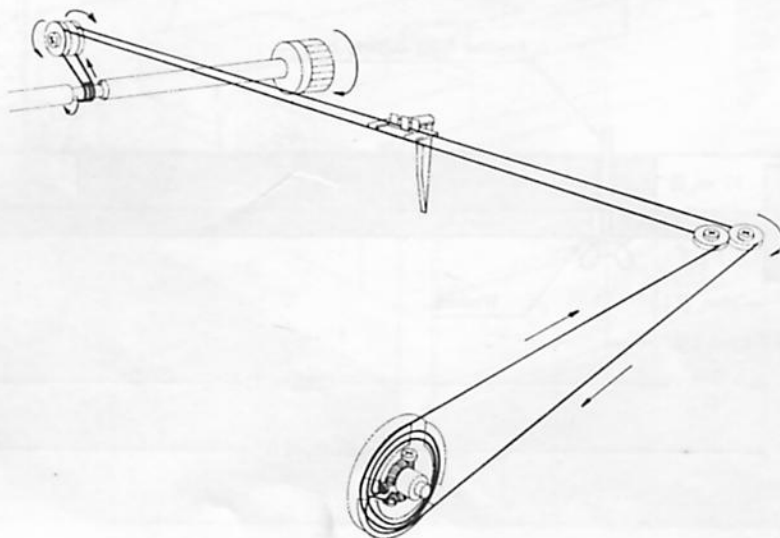


# DISASSEMBLY PROCEDURE

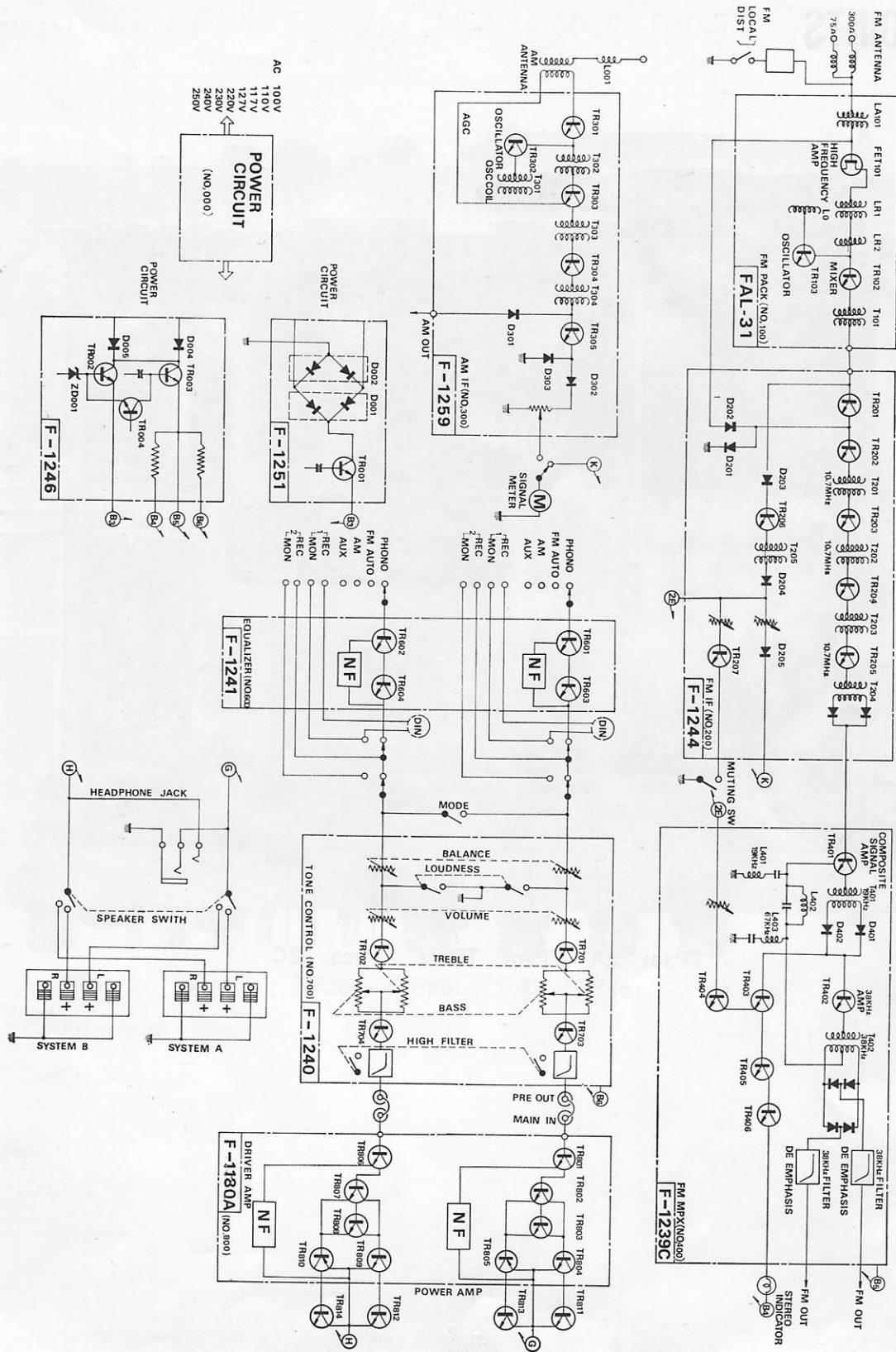
## REMOVING THE FRONT PANEL, WOOD CASE AND BOTTOM PLATE



## DIAL MECHANISM

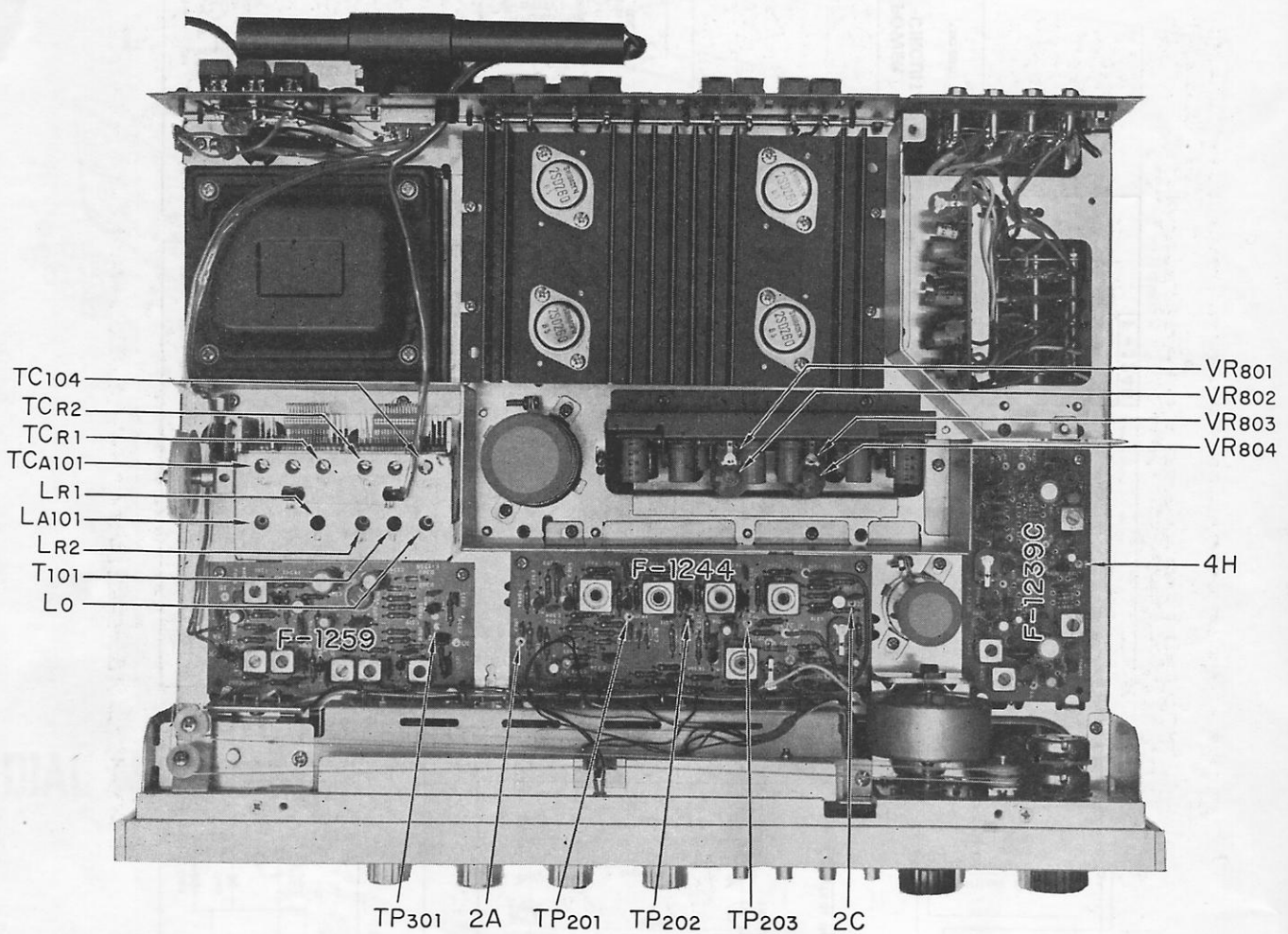


# BLOCK DIAGRAM



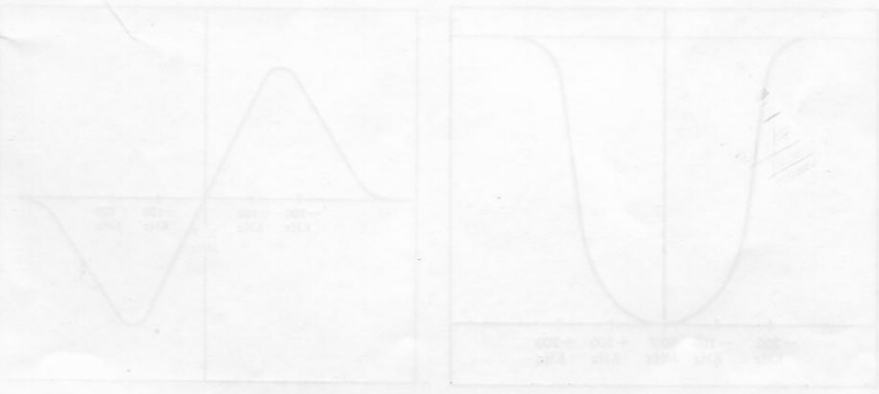
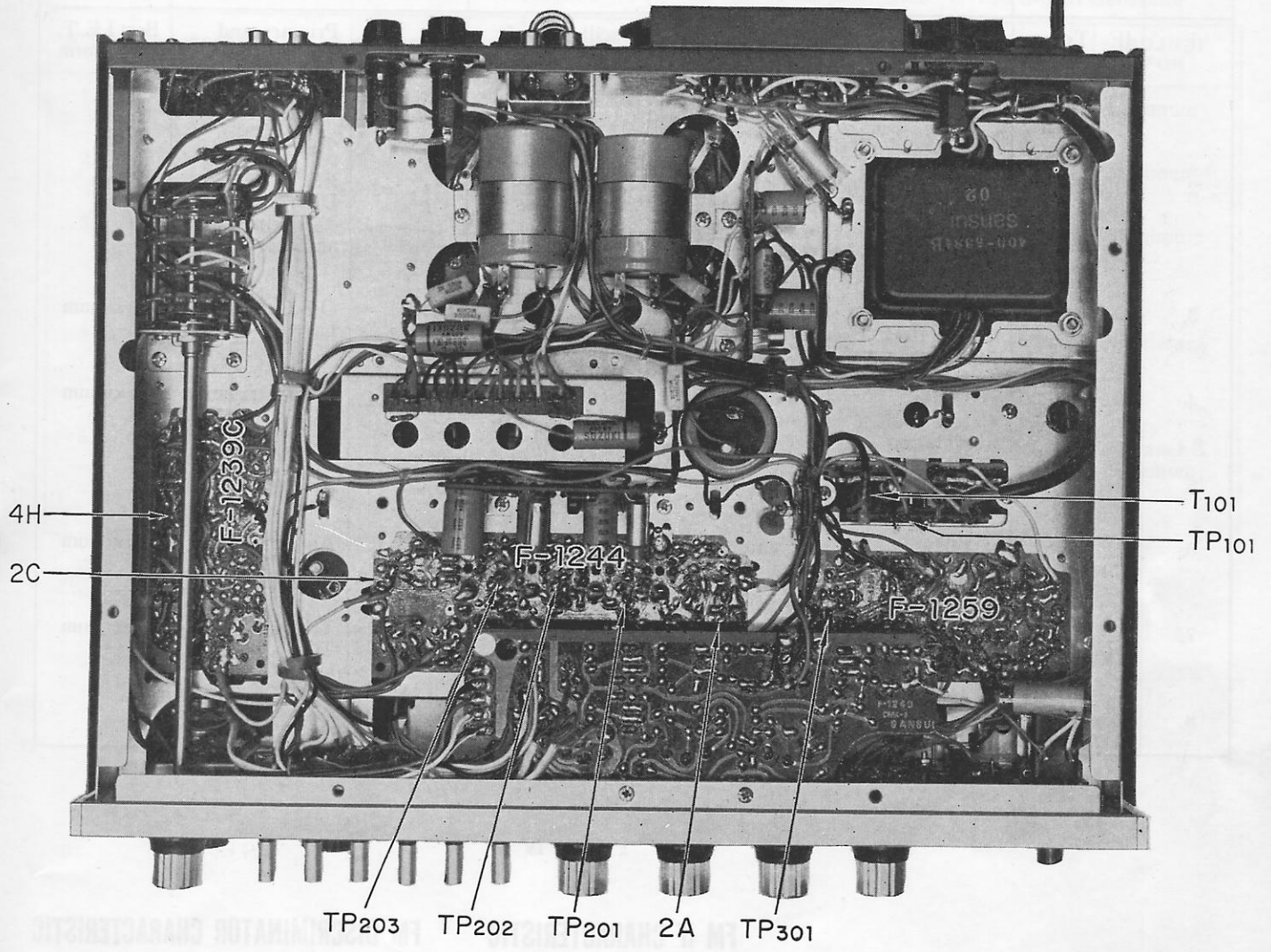
# ALIGNMENT

## TEST POINTS



FM ALIGNMENT PROCEDURE BOOK

STEP	FUNCTION	GENERATOR	FEED SIGNAL	INDICATOR	OUTPUT	DIAL	ADJUST	ADJUST
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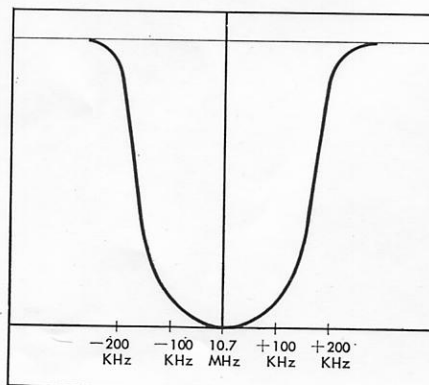
# ALIGNMENT

## FM ALIGNMENT PROCEDURE

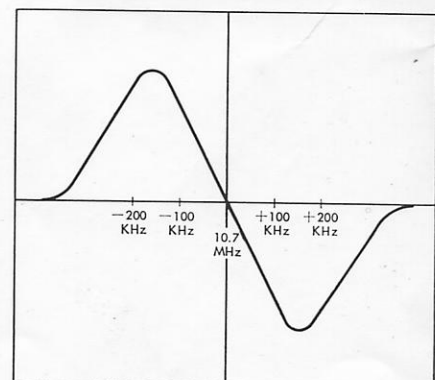
NOTE: To align, set the EM signal generator level to minimum turn tuning gang fully, center carrier wave, and set pointer to reference mark.

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 capacitor	Oscilloscope is connected to TP <sub>201</sub> , TP <sub>202</sub> and TP <sub>203</sub> via the 0.02μF ceramic capacitor		Primary and secondary sides of T <sub>201</sub> , T <sub>202</sub> , and T <sub>203</sub>	Best I.E.T. wave form
2.	Discriminator	10.7 MHz ±200 kHz	Sweep signal is sent to 2A via the 0.02μF ceramic capacitor	Oscilloscope is connected to 2C via the 0.05μF capacitor		FM Discriminator T <sub>204</sub> primary and secondary	S curve
3.	O.S.C	88 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	88 MHz	O.S.C. coil L <sub>0</sub>	Maximum
4.	O.S.C	108 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	108 MHz	O.S.C. trimmer TC <sub>104</sub>	Maximum
5.	Repeat 3&4						
6.	RF Amp. Circuit	90 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	90 MHz	Antenna Coil LA <sub>101</sub> , LR <sub>1</sub> and LR <sub>2</sub>	Maximum
7.	RF Amp. Circuit	106 MHz 400 Hz 100% Modulation	To antenna terminals	Oscilloscope and V.T.V.M. at output load	106 MHz	Trimmer TCA <sub>101</sub> , TC <sub>R1</sub> and TC <sub>R2</sub>	Muximum
8.	Repeat 6 & 7						

FM IF CHARACTERISTIC



FM DISCRIMINATOR CHARACTERISTIC



# 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.	19 kHz Trap	19 kHz Audio Signal	Connect to 4A	V.T.V.M. at 4G	L <sub>401</sub>	Minimum
2.	67 kHz Trap	67 kHz Audio Signal	Connect to 4A	V.T.V.M. at 4G	L <sub>403</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 4H	T <sub>401</sub>	Maximum
4.	38 kHz Transformer	FM Signal Gen. Modulated 30% by STEREO Gen.	Antenna terminals Tune to signal	V.T.V.M. and Oscilloscope at 4H	T <sub>402</sub>	Maximum
5.	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>601</sub> )	Channel-R Minimum

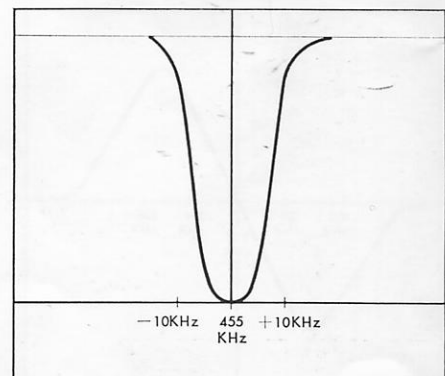
# ALIGNMENT

## AM ALIGNMENT PROCEDURE

NOTE: To align, set AM Signal Generator level to minimum.

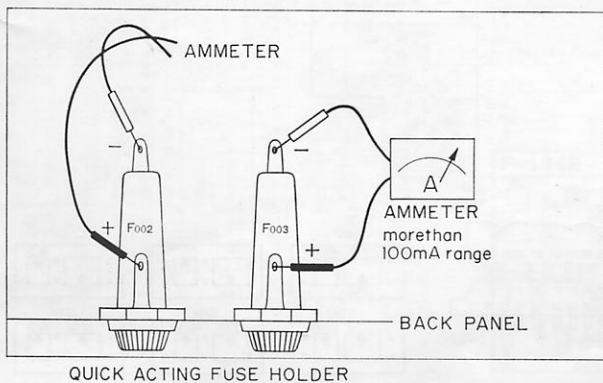
STEP	ALIGN	GENERATOR	FEED SIGNAL	OUTPUT INDICATOR	DIAL SETTING	ADJUST	ADJUST FOR
1.	I.F. Transformer	455 kHz ±30 kHz Sweep-generator	Antenna terminals	Oscilloscope and V.T.V.M. is connected to TP <sub>301</sub>		Primary and secondary sides from the 1st I.F.T. (T <sub>302</sub> ~T <sub>304</sub> )	Best I.F.T. wave form
2.	O.S.C.	AM-generator 600 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	600 kHz	O.S.C. Coil T <sub>301</sub>	Maximum
3.	O.S.C.	AM-generator 1400 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1400kHz	O.S.C. Trimmer cap. TC <sub>302</sub>	Maximum
4.	Repeat 2 and 3						
5.	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 coil T <sub>002</sub>	Maximum
6.	Antenna circuit	AM-generator 1400 kHz 400 Hz 30% Modulation	Antenna terminals	Oscilloscope and V.T.V.M. at output load	1400kHz	Antenna circuit Trimmer TC <sub>301</sub>	Maximum
7.	Repeat 5 and 6						

AM IF CHARACTERISTIC



# 1. CURRENT ADJUSTMENT

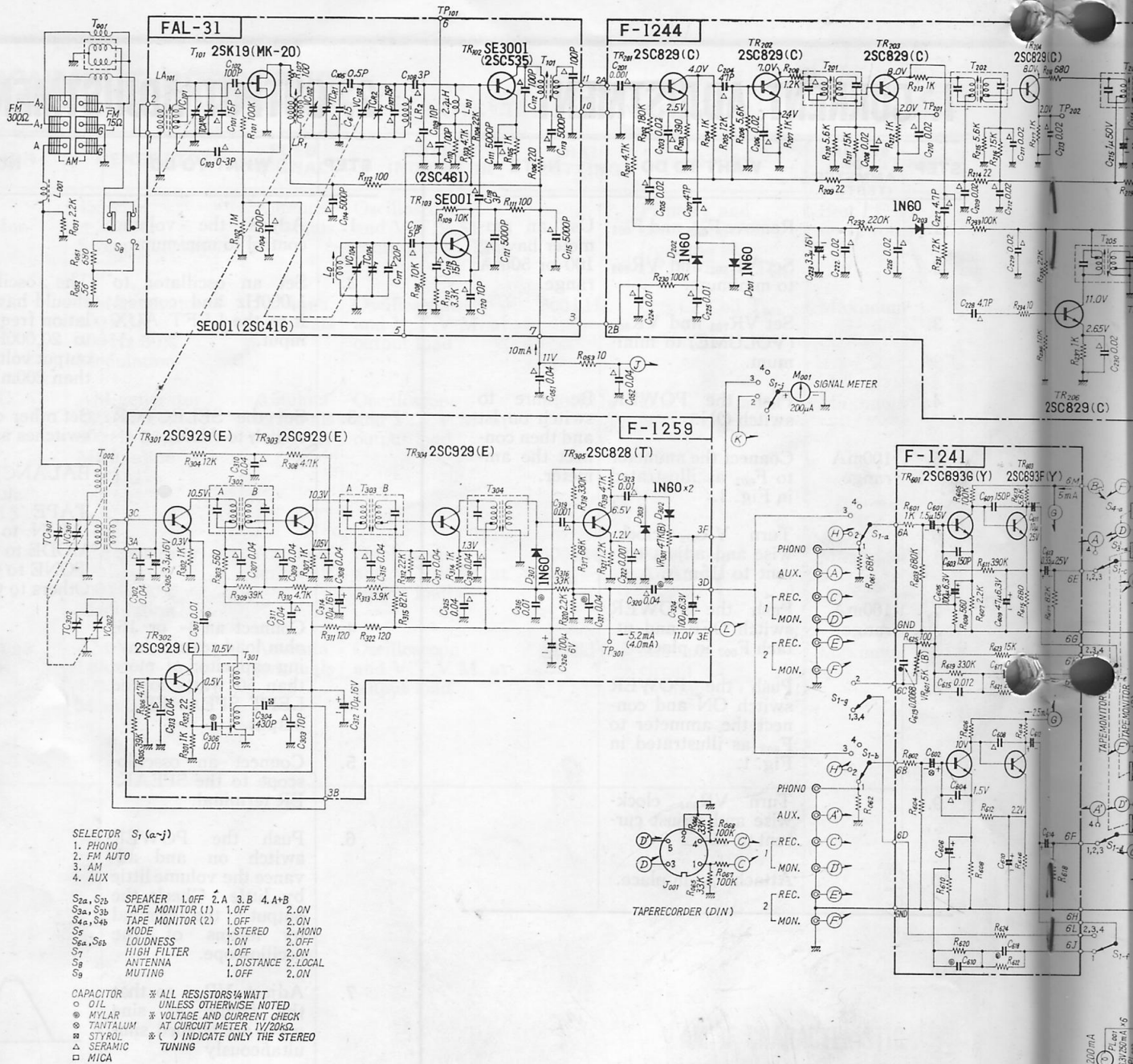
STEP	SETTING OF AMMETER (TESTER)	WHAT TO DO	NOTE
1.		Remove F <sub>002</sub> and F <sub>003</sub> .	Use an ammeter having 100 or 50mA range.
2.		Set VR <sub>802</sub> and VR <sub>803</sub> to minimum.	
3.		Set VR <sub>703</sub> and VR <sub>804</sub> (VOLUME) to minimum.	
4.		Push the POWER switch ON.	Be sure to switch on 1st and then connect the ammeter.
5.	100mA range.	Connect the ammeter to F <sub>002</sub> as illustrated in Fig. 1.	
6.		Turn VR <sub>802</sub> clockwise and adjust current to 15mA.	
7.	100mA range.	Push the POWER switch OFF and attach F <sub>002</sub> in place.	
8.		Push the POWER switch ON and connect the ammeter to F <sub>003</sub> as illustrated in Fig. 1.	
9.		Turn VR <sub>804</sub> clockwise and adjust current to 15	
10.		Attach F <sub>003</sub> in place.	

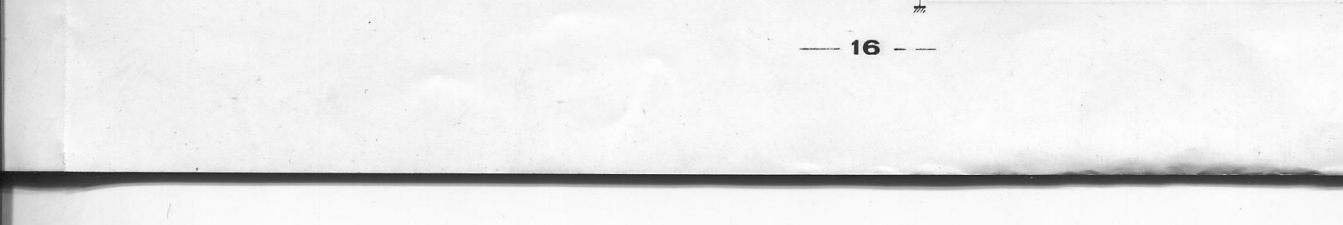
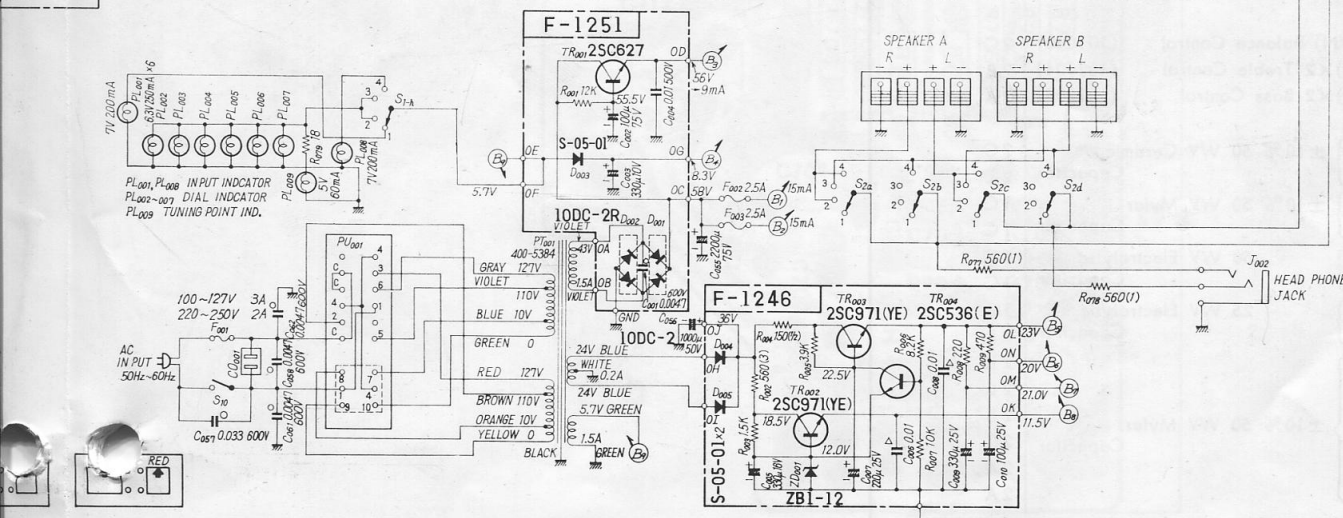
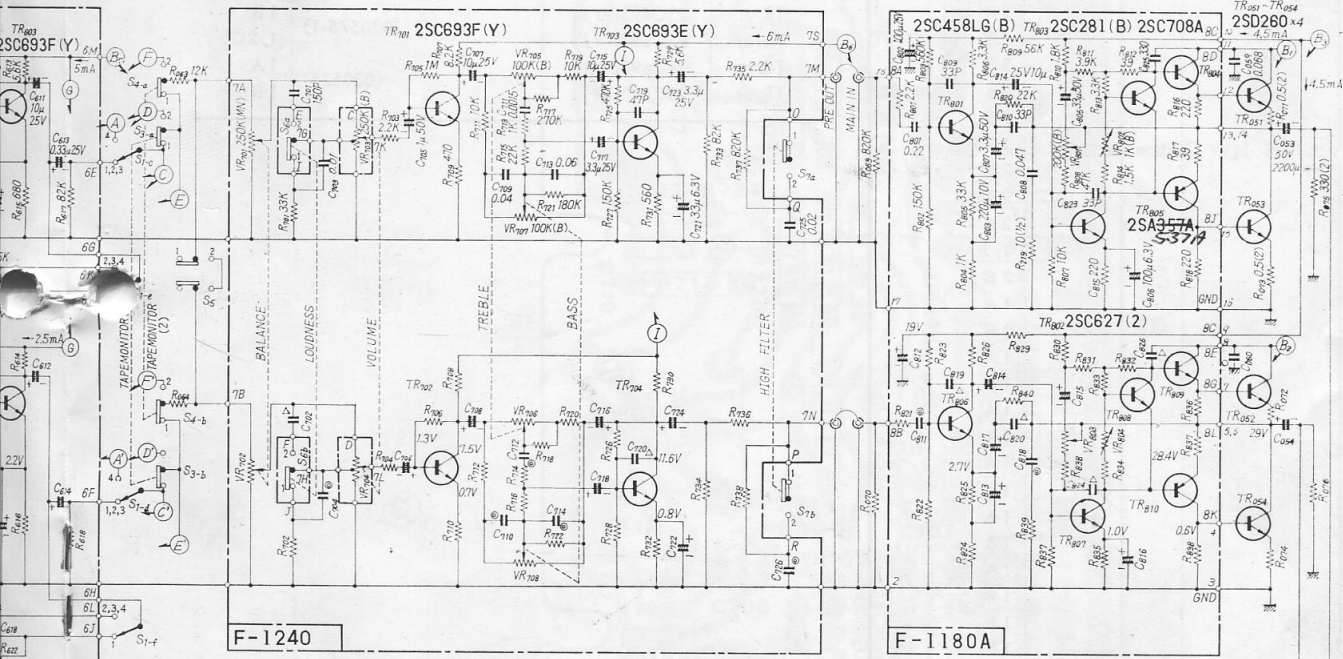
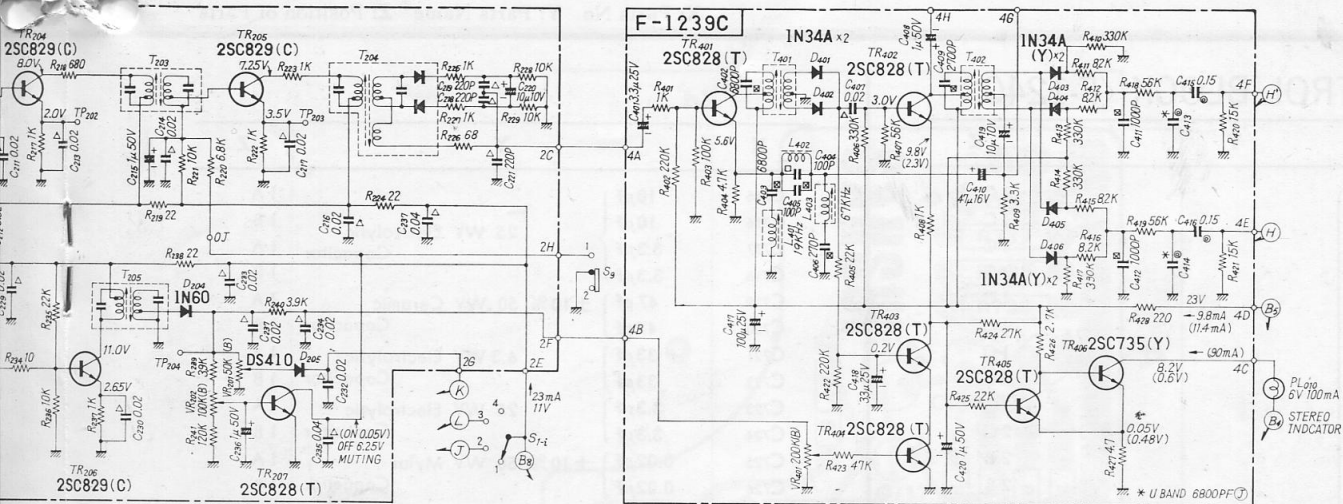


# 2. OUTPUT ADJUSTMENT

STEP	WHAT TO DO	NOTE
1.	Adjust the volume control to minimum.	
2.	Set an oscillator to 1,000Hz and connect it to the LEFT AUX input.	The oscillator used should have the oscillation frequency of 20 to 20,000Hz and the output voltage of more than 200mV.
3.	Set the SELECTOR switch to AUX.	Set other controls and switches as follows:  BALANCE to CENTER TAPE MON. to OFF MODE to STEREO TONE to CENTER Others to OFF
4.	Connect an 8- or 16-ohm load resistor having capacitor of more than 50 watts to the LEFT SPEAKER output.	
5.	Connect an oscilloscope to the SPEAKER terminal.	
6.	Push the POWER switch on and advance the volume little by little. Check the output at the terminal by means of the oscilloscope.	
7.	Adjust VR <sub>801</sub> so that the fronts of sine wave are clipped simultaneously	
8.	Adjust the right channel as above. In Step 7, adjust VR <sub>803</sub> .	

# SCHEMATIC DIAGRAM





# PRINTED CIRCUIT BOARDS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

## tone control block <F-1240>

X	Y	Z
R701	33kΩ	1C
R702	33kΩ	1C
R703	2.2kΩ	1C
R704	2.2kΩ	1C
R705	1MΩ	1C
R706	1MΩ	1C
R707	8.2kΩ	1C
R708	8.2kΩ	2C
R709	470Ω	1C
R710	470Ω	2C
R711	10kΩ	2B
R712	10kΩ	2B
R713	1kΩ	2B
R714	1kΩ	2B
R715	22kΩ	2A
R716	22kΩ	2B
R717	270kΩ	2B
R718	270kΩ	2B, C
R719	10kΩ	1B
R720	10kΩ	2B
R721	180kΩ	2A, B
R722	180kΩ	2B
R723	10kΩ	1, 2A
R724	10kΩ	2B
R725	470kΩ	1A
R726	470kΩ	1B
R727	150kΩ	1A
R728	150kΩ	1B
R729	5.6kΩ	1A
R730	5.6kΩ	1B
R731	560Ω	1A
R732	560Ω	1B
R733	82kΩ	1A
R734	82kΩ	1B
R735	2.2kΩ	1A
R736	2.2kΩ	1B
R737	820kΩ	1A
R738	820kΩ	1B
VR701,702	250kΩ(MN) Balance Control (101040)	2C
VR705,706	100kΩ(B)×2 Treble Control (102004)	2B
VR707,708	100kΩ(B)×2 Bass Control (102004)	2A, B
C701	150 pF } ±10% 50 WV Ceramic	2C
C702	150 pF } Capacitor	2C
C703	0.01 μF } ±10% 50 WV Mylar	1C
C704	0.01 μF } Capacitor	1C
C705	1 μF } 50 WV Electrolytic	1C
C706	1 μF } Capacitor	1C
C707	10 μF } 25 WV Electrolytic	1B
C708	10 μF } Capacitor	2B
C709	0.04 μF } 2B	2B
C710	0.04 μF } 2B	2B
C711	0.0015 μF } ±10% 50 WV Mylar	2B
C712	0.0015 μF } Capacitor	2C
C713	0.06 μF } 2A, B	2A, B
C714	0.06 μF } 2A	2A

X	Y	Z
C715	10 μF } 25 WV Electrolytic	1A
C716	10 μF } Capacitor	1B
C717	3.3 μF } 25 WV Electrolytic	1A
C718	3.3 μF } Capacitor	1B
C719	47 pF } ±10% 50 WV Ceramic	1A
C720	47 pF } Capacitor	1B
C721	33 μF } 6.3 WV Electrolytic	1A
C722	33 μF } Capacitor	1B
C723	3.3 μF } 25 WV Electrolytic	1A
C724	3.3 μF } Capacitor	1B
C725	0.02 μF } ±10% 50 WV Mylar	1A
C726	0.02 μF } Capacitor	1B
TR701	2SC693F(Y) } (030575-1)	1B
TR702	2SC693F(Y) } 1, 2C	1, 2C
TR703	2SC693E(Y) } (030575)	1A
TR704	2SC693E(Y) } 1B	1B



# PRINTED CIRCUIT BOARDS AND PARTS LIST

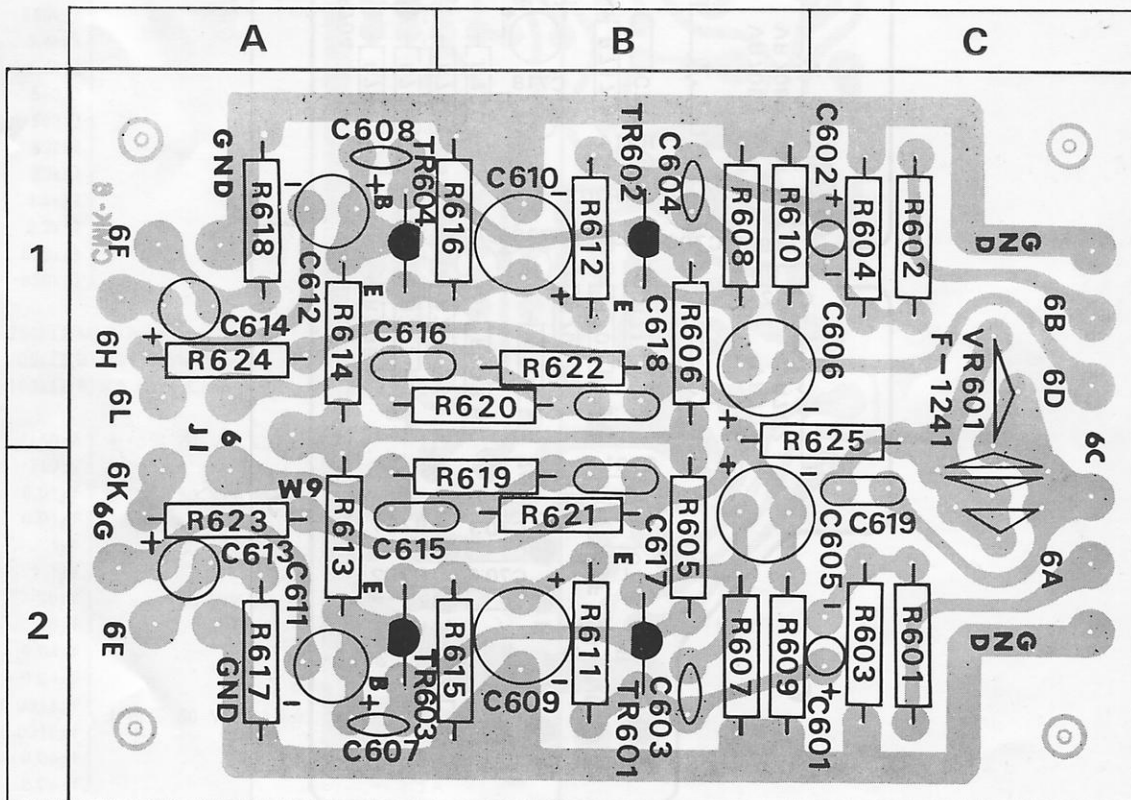
X: Parts No Y: Parts Name Z: Position of Parts

## EQUALIZER AMP BLOCK <F-1241>

X	Y	Z
R601	1k $\Omega$	2C
R602	1k $\Omega$	1C
R603	680k $\Omega$	2C
R604	680k $\Omega$	1C
R605	100k $\Omega$	2B
R606	100k $\Omega$	1B
R607	2.2k $\Omega$	2B
R608	2.2k $\Omega$	1B
R609	560 $\Omega$	2B
R610	560 $\Omega$	1B
R611	390k $\Omega$	2B
R612	390k $\Omega$	1B
R613	5.6k $\Omega$	2A
R614	5.6k $\Omega$	1A
R615	680 $\Omega$	2B
R616	680 $\Omega$	1B
R617	82k $\Omega$	2A
R618	82k $\Omega$	1A
R619	330k $\Omega$	2A, B
R620	330k $\Omega$	1A, B
R621	22k $\Omega$	2B
R622	22k $\Omega$	1B
R623	15k $\Omega$	2A
R624	15k $\Omega$	1A
R625	100 $\Omega$	1B, C

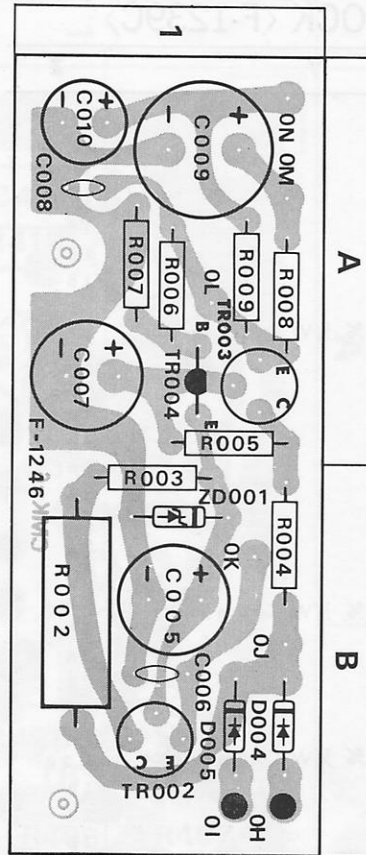
±10% ¼W Carbon Resistor

X	Y	Z
VR601	5k $\Omega$ (B) (103037)	1C
C601	1.5 $\mu$ F } 15 WV Tantalum	2C
C602	1.5 $\mu$ F } Capacitor	1C
C603	150 pF } ±10% 50 WV Ceramic	2B
C604	150 pF } Capacitor	1B
C605	100 $\mu$ F } 6.3 WV Electrolytic	2B, C
C606	100 $\mu$ F } Capacitor	1B, C
C607	150 pF } ±10% 50 WV Ceramic	2A
C608	150 pF } Capacitor	1A
C609	47 $\mu$ F } 6.3 WV Electrolytic	2B
C610	47 $\mu$ F } Capacitor	1B
C611	10 $\mu$ F } 25 WV Alum. Electrolytic	2A
C612	10 $\mu$ F } Capacitor	1A
C613	0.33 $\mu$ F } 25 WV Electrolytic	2A
C614	0.33 $\mu$ F } Capacitor	1A
C615	0.012 $\mu$ F } ±10% 50 WV Mylar	2A, B
C616	0.012 $\mu$ F } Capacitor	1A, B
C617	0.0033 $\mu$ F } ±10% 50 WV Mylar	2B
C618	0.0033 $\mu$ F } Capacitor	1B
C619	0.0068 $\mu$ F } ±10% 50 WV Mylar	2C
TR601	2SC693G(Y) } (030575-2)	2B
TR602	2SC693G(Y) } (030575-2)	1B
TR603	2SC693F(Y) } (030575-1)	2A
TR604	2SC693F(Y) } (030575-1)	1A



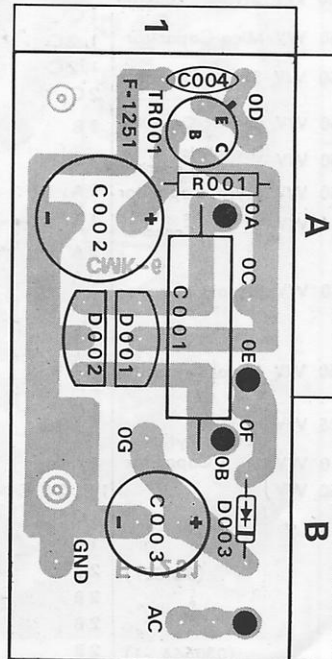
### LIPPLE FILTER BLOCK <F-1246>

X	Y	Z
R002	560Ω ±10% 3W Cement Resistor	1 B
R003	1.5kΩ ±10% ¼W Carbon Resistor	1 B
R004	150Ω ±10% ½W Solid Resistor	1 B
R005	3.9kΩ } ±10% ¼W Carbon Resistor	1 A
R006		8.2kΩ
R007		10kΩ
R008		220Ω
R009		470Ω
C005	330μF 16 WV Electrolytic Capacitor	1 B
C006	0.01μF +100% -0% 50 WV Ceramic Capacitor	1 B
C007	220μF 25 WV Electrolytic Capacitor	1 A
C008	0.01μF +100% -0% 50 WV Ceramic Capacitor	1 A
C009	330μF } 25 WV Electrolytic Capacitor	1 A
C010		100μF
TR002	2SC971(Y) (030553, -1)	1 B
TR003	2SC971(Y) (030553, -1)	1 A
TR004	2SC536(E) (030515-4)	1 A
D004	S-05-01 or 10D-1 (031077) (031034)	1 B
D005	S-05-01 or 10D-1 (031077) (031034)	1 B
ZD001	ZB1-12 (031064-1)	1 B



### POWER BLOCK <F-1251>

X	Y	Z
R001	12kΩ ±10% ¼W Carbon Resistor	1 A
C001	0.0047μF ±10% 600WV Oil Capacitor	1 A, B
C002	100μF 75 WV Electrolytic Capacitor	1 A
C003	330μF 10 WV Electrolytic Capacitor	1 B
C004	0.01μF 500WV Ceramic Capacitor	1 A
TR001	2SC627 (1~3) (030558, -1, -2)	1 A
D001	10DC-2 (031080)	1 A
D002	10DC-2R (031080-1)	1 A
D003	S-05-01 or 10D-1 (031077) (031034)	1 B



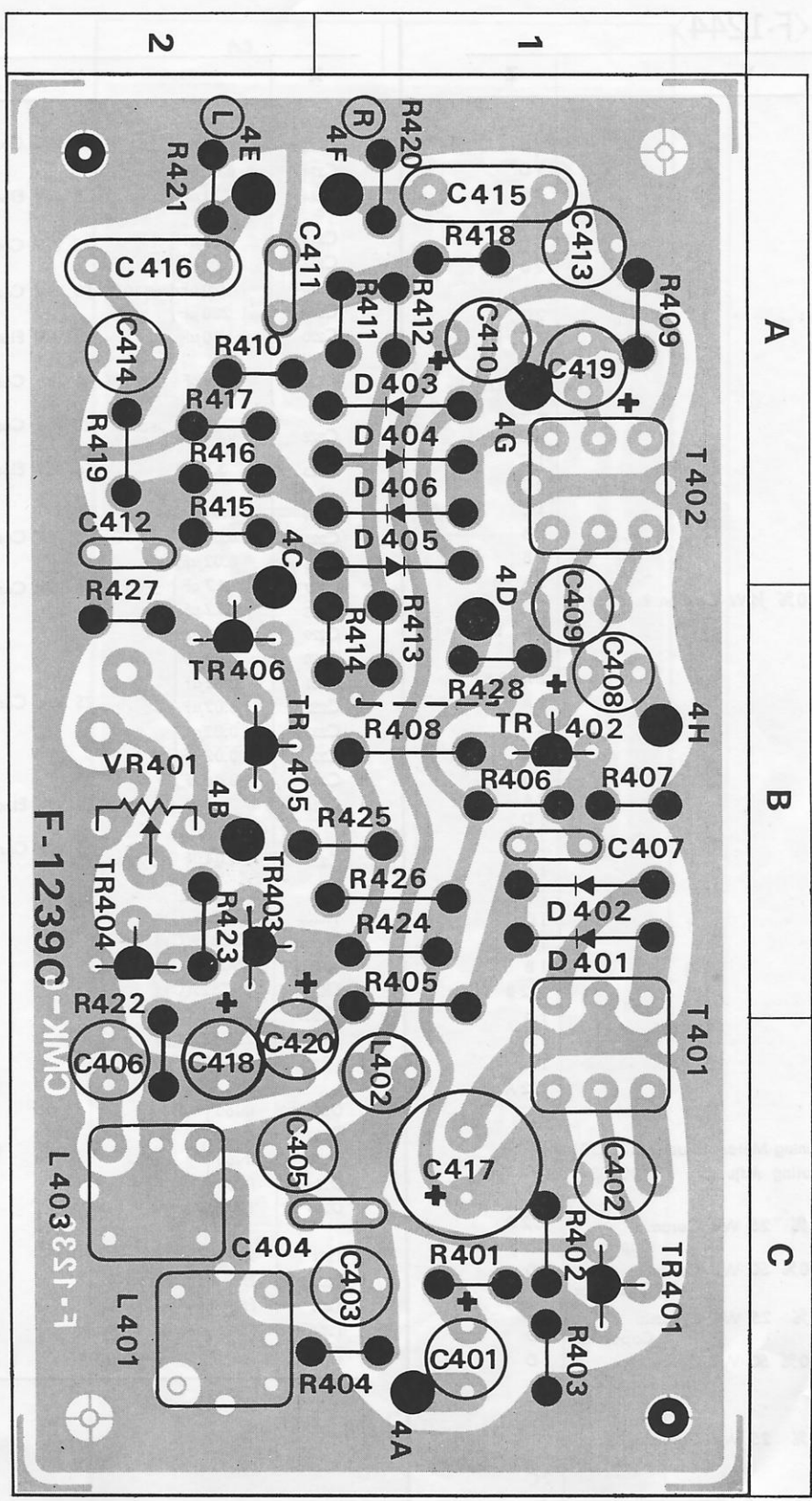
# PRINTED CIRCUIT BOARDS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

## MULTIPLEX BLOCK <F-1239C>

X	Y	Z
R401	1k $\Omega$	1 C
R402	220k $\Omega$	1 C
R403	100k $\Omega$	1 C
R404	4.7k $\Omega$	1, 2 C
R405	22k $\Omega$	1 B
R406	330k $\Omega$	1 B
R407	56k $\Omega$	1 B
R408	1k $\Omega$	1 B
R409	3.3k $\Omega$	1 A
R410	330k $\Omega$	2 A
R411	8.2k $\Omega$	1 A
R412	8.2k $\Omega$	1 A
R413	330k $\Omega$	1 B
R414	330k $\Omega$	1 B
R415	8.2k $\Omega$	2 A
R416	8.2k $\Omega$	2 A
R417	330k $\Omega$	2 A
R418	56k $\Omega$	1 A
R419	56k $\Omega$	2 A
R420	15k $\Omega$	1 A
R421	15k $\Omega$	2 A
R422	220k $\Omega$	2 B, C
R423	47k $\Omega$	2 B
R424	27k $\Omega$	1 B
R425	22k $\Omega$	1, 2 B
R426	2.7k $\Omega$	1 B
R427	4.7 $\Omega$	2 B
R428	220 $\Omega$	1 B
VR401	200k $\Omega$ (B) Stereo Indicator Adj. (103035)	2 B
C401	3.3 $\mu$ F 25 WV Electrolytic Capacitor	1 C
C402	6800pF $\pm$ 5% 50 WV Styrol Capacitor	1 C
C403	6800pF $\pm$ 5% 50 WV Styrol Capacitor	1 C
C404	100pF $\pm$ 5% 50 WV Mica Capacitor	1, 2 C
C405	1000pF $\pm$ 5% 50 WV Styrol Capacitor	1, 2 C
C406	270pF $\pm$ 5% 50 WV Styrol Capacitor	2 C
C407	0.02 $\mu$ F $\pm$ 100% 50 WV Ceramic Capacitor	1 B
C408	1 $\mu$ F 50 WV Electrolytic Capacitor	1 B
C409	2700pF $\pm$ 5% 50 WV Styrol Capacitor	1 A, B
C410	47 $\mu$ F 16 WV Electrolytic Capacitor	1 A
C411	1000pF $\pm$ 5% 50 WV Styrol Capacitor	2 A
C412	1000pF $\pm$ 5% 50 WV Styrol Capacitor	2 A
C413	6800pF $\pm$ 5% 50 WV Styrol Capacitor	1 A
C414	6800pF $\pm$ 5% 50 WV Styrol Capacitor	2 A
C415	0.15 $\mu$ F $\pm$ 10% 50 WV Mylar Capacitor	1 A
C416	0.15 $\mu$ F $\pm$ 10% 50 WV Mylar Capacitor	2 A
C417	100 $\mu$ F 25 WV Electrolytic Capacitor	1 C
C418	3.3 $\mu$ F 10 WV Electrolytic Capacitor	2 C
C419	10 $\mu$ F 50 WV Electrolytic Capacitor	1 A
C420	1 $\mu$ F 50 WV Electrolytic Capacitor	1 C, 2 B C
TR401	2SC828(T)	1 C
TR402	2SC828(T)	1 B
TR403	2SC828(T) (030527)	2 B
TR404	2SC828(T)	2 B
TR405	2SC828(T)	2 B
TR406	2SC735 (O or Y) (030564, -1)	2 B

X	Y	Z
D401	IN34A	1 B
D402	IN34A (031040)	1 B
D403	IN34A (Y)	1 A
D404	IN34A (Y)	1 A
D405	IN34A (Y) (031040-1)	1 A
D406	IN34A (Y)	1 A
T401	19kHz Tuning Trap (424043)	1 B, C
T402	38kHz Tuning Trap (424044)	1 A
L401	19kHz Filter (424045)	2 C
L402	Inductor (490003-1)	1 C
L403	67kHz Filter (424046)	2 C



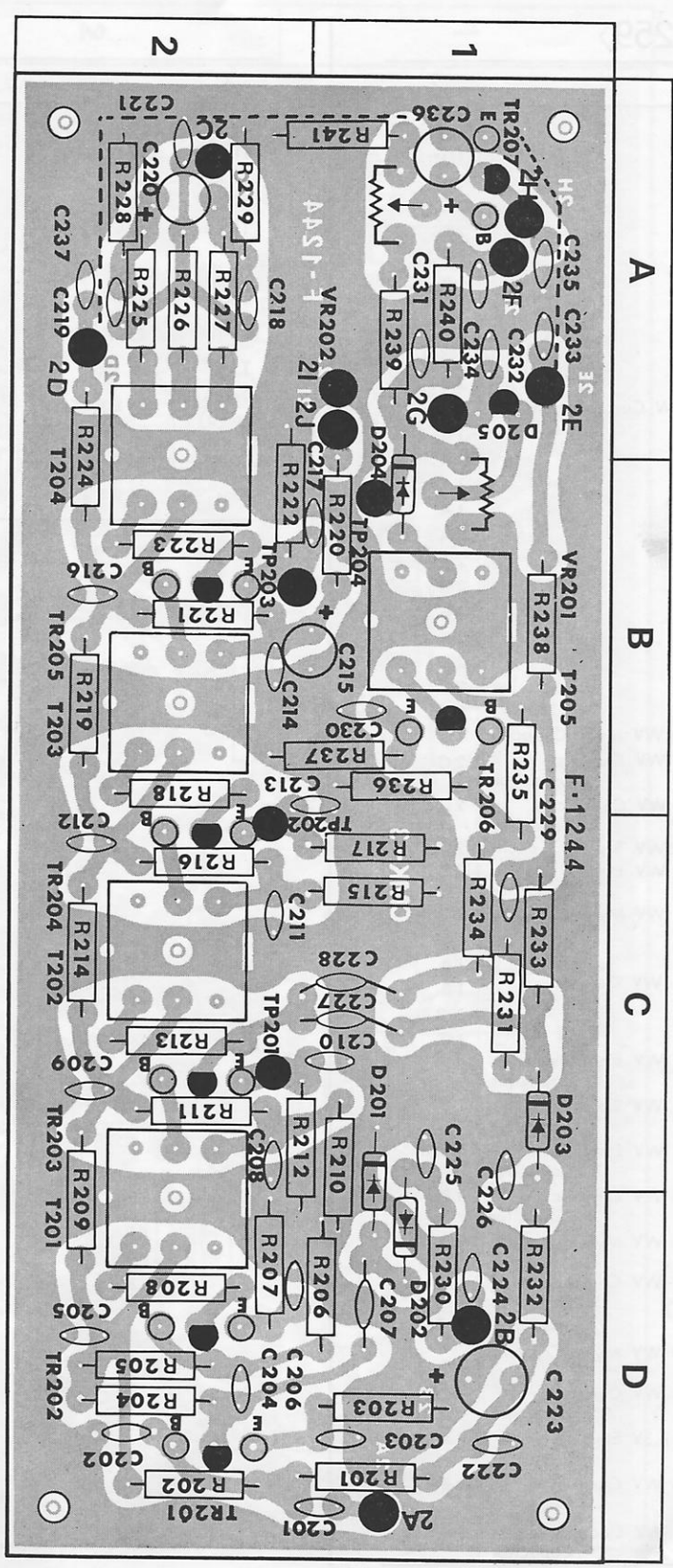
# PRINTED CIRCUIT BOARDS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

## FM IF BLOCK <F-1244>

X	Y	Z
R201	4.7kΩ	1, 2 D
R202	180kΩ	2 D
R203	390Ω	1 D
R204	1kΩ	2 D
R205	12kΩ	2 D
R206	5.6kΩ	1 D
R207	1kΩ	2 D
R208	1.2kΩ	2 D
R209	22Ω	2 C, D
R210	5.6kΩ	1 C, D
R211	15kΩ	2 C
R212	1kΩ	2 C, D
R213	1kΩ	2 C
R214	22Ω	2 C
R215	5.6kΩ	1 C
R216	15kΩ	2 C
R217	1kΩ	1 C
R218	680Ω	2 B
R219	22Ω	2 B
R220	6.8kΩ	1 A, B
R221	10kΩ	2 B
R222	1kΩ	2 A, B
R223	1kΩ	2 B
R224	22Ω	2 A, 2 B
R225	1kΩ	2 A
R226	68Ω	2 A
R227	1kΩ	2 A
R228	10kΩ	2 A
R229	10kΩ	2 A
R230	100kΩ	1 D
R231	12kΩ	1 C
R232	220kΩ	1 D
R233	100kΩ	1 C
R234	10Ω	1 C
R235	22kΩ	1 B, C
R236	10kΩ	1 B
R237	1kΩ	1, 2 B
R238	22Ω	1 B
R239	3.9kΩ	1 A
R240	3.9kΩ	1 A
R241	120kΩ	1, 2 A
VR201	50kΩ(B) Tuning Meter Adjustor(103020)	1 B
VR202	100kΩ(B) Muting Adjustor (103034)	1 A
C201	1000 pF } +80% 25 WV Ceramic	1, 2 D
C203	0.02μF } -20% Capacitor	1 D
C204	47 pF ±10% 50 WV Ceramic	2 D
	Capacitor	
C205	0.02μF } +80% 25 WV Ceramic	2 D
C206	0.02μF } -20% Capacitor	2 D
C207	47 pF ±10% 50 WV Ceramic	1 D
	Capacitor	
C208	0.02μF	2 C
C209	0.02μF	2 C
C210	0.02μF } +80% 25 WV Ceramic	1 C
C211	0.02μF } -20% Capacitor	2 C

X	Y	Z
C212	0.02μF	2 C
C213	0.02μF } +80% 25 WV Ceramic	1, 2 B
C214	0.02μF } -20% Capacitor	2 B
C215	1μF 50 WV Electrolytic	1, 2 B
	Capacitor	
C216	0.02μF } +80% 25 WV Ceramic	2 B
C217	0.02μF } -20% Capacitor	1, 2 B
C218	220 pF } ±10% 50 WV Ceramic	2 A
C219	220 pF } Capacitor	2 A
C220	10μF 10 WV Electrolytic	2 A
	Capacitor	
C221	220 pF ±10% 50 WV Ceramic	2 A
	Capacitor	
C222	0.02μF } +80% 25 WV Ceramic	1 D
C223	3.3μF } -20% 16 WV Electrolytic	1 D
	Capacitor	
C224	0.01μF	1 D
C225	0.01μF } +80% 25 WV Ceramic	1 C
C226	0.02μF } -20% Capacitor	1 C, D
C227	4.7 pF } ±10% 50 WV Ceramic	1 C
C228	4.7 pF } Capacitor	1 C
C229	0.02μF	1 C
C230	0.02μF	1 B
C231	0.02μF	1 A
C232	0.02μF } +80% 25 WV Ceramic	1 A
C233	0.02μF } -20% Capacitor	1 A
C234	0.02μF	1 A
C235	0.04μF	1 A
C236	1μF 50 WV Electrolytic	1 A
	Capacitor	
C237	0.04μF } +80% 25 WV Ceramic	2 A
	Capacitor	
TR201	2SC829(C)	2 D
TR202	2SC829(C)	2 D
TR203	2SC829(C)	2 C
TR204	2SC829(C)	2 C
TR205	2SC829(C)	2 B
TR206	2SC829(C)	1 B
TR207	2SC828(T)	1 A
	(030546-1)	
	(030527)	
D201	IN60	1 C, D
D202	IN60	1 C, D
D203	IN60	1 C
D204	IN60	1 A, B
D205	DS410	1 A
	(034003)	
T201	FM IFT } 10.7MHz	2 C, D
T202	FM IFT } (423543)	2 C
T203	FM IFT 10.7MHz	2 B
T204	FM Detector 10.7MHz	2 A, B
T205	FM Meter Transformer	1 B
	(423518)	
	(423529)	



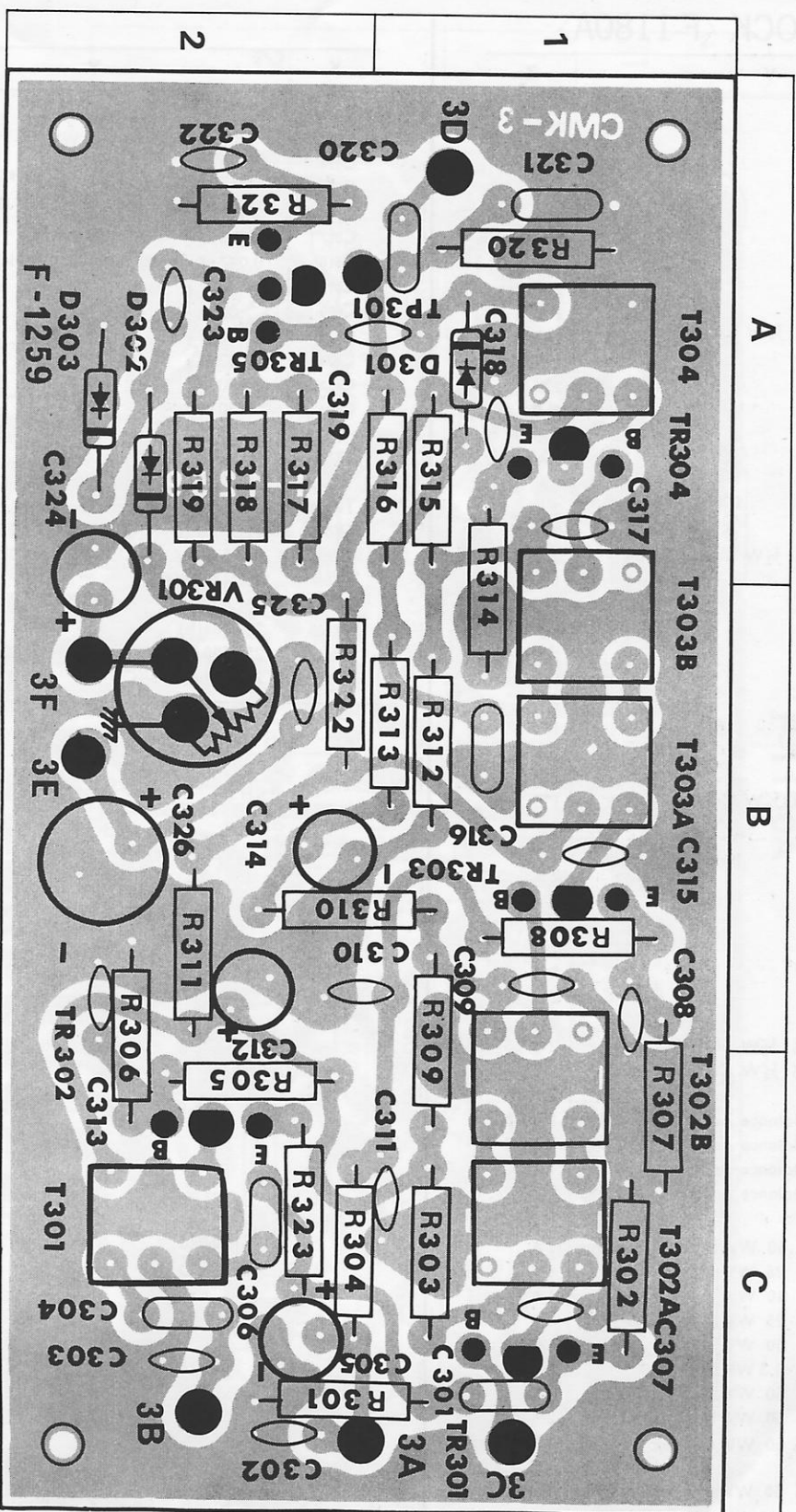
# PRINTED CIRCUIT BOARDS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

## AM IF BLOCK <F-1259>

X	Y	Z
R301	1kΩ	1, 2C
R302	1kΩ	1C
R303	560Ω	1C
R304	12kΩ	2C
R305	39kΩ	2C
R306	4.7kΩ	2B, C
R307	1kΩ	1B, C
R308	4.7kΩ	1B
R309	39kΩ	1B, C
R310	4.7kΩ	1, 2B
R311	120Ω	2B
R312	22kΩ	1B
R313	3.9kΩ	1B
R314	1kΩ	1A, B
R315	82kΩ	1A
R316	33kΩ	1A
R317	68kΩ	2A
R318	330kΩ	2A
R319	4.7kΩ	2A
R320	2.2kΩ	1A
R321	1.2kΩ	2A
R322	120Ω	2B
R323	22Ω	2C
VR301	47kΩ(B) (103517)	2B
C301	0.01μF ±10% 50 WV Mylar Capacitor	1C
C302	0.04μF $\begin{matrix} +80\% \\ -20\% \end{matrix}$ 25 WV Ceramic Capacitor	2C
C303	10pF ±10% 50 WV Ceramic Capacitor	2C
C304	430pF ± 5% 125WV Styrol Capacitor	2C
C305	3.3μF 16 WV Electrolytic Capacitor	2C
C306	0.01μF ±10% 50 WV Mylar Capacitor	2C
C307	0.04μF	1C
C308	0.04μF	1B
C309	0.04μF $\begin{matrix} +80\% \\ -20\% \end{matrix}$ 25 WV Ceramic Capacitor	1B
C310	0.04μF	1, 2B
C311	0.04μF	1C
C312	10μF 16 WV Electrolytic Capacitor	2B
C313	0.04μF $\begin{matrix} +80\% \\ -20\% \end{matrix}$ 25 WV Ceramic Capacitor	2B
C314	10μF 16 WV Electrolytic Capacitor	1, 2B
C315	0.04μF $\begin{matrix} +80\% \\ -20\% \end{matrix}$ 25 WV Ceramic Capacitor	1B
C316	0.01μF ±10% 50 WV Mylar Capaitor	1B
C317	0.04μF	1A
C318	0.04μF $\begin{matrix} +80\% \\ -20\% \end{matrix}$ 25 WV Ceramic Capacitor	1A, 1B
C319	0.001μF	1, 2A
C320	0.04μF	1A
C321	0.04μF	1A
C322	0.001μF $\begin{matrix} +80\% \\ -20\% \end{matrix}$ 25 WV Ceramic Capacitor	2A
C323	0.01μF	2A
C324	100μF 6.3V Electrolytic Capacitor	2A, B
C325	0.04μF $\begin{matrix} +80\% \\ -20\% \end{matrix}$ 25 WV Ceramic Capacitor	2B
C326	100μF 16 WV Electrolytic Capacitor	2B

X	Y	Z
TR301	2SC929 (C~E) (030572-1~3)	1C
TR302	2SC929 (D) (030572-2)	2C
TR303	2SC929 (C~E) (030572-1~3)	1B
TR304	2SC929 (C~E) (030572-1~3)	1A
TR305	2SC828 (T) (030527)	2A
D301	IN60	1, 2A
D302	IN60	(031033, -1) 2A
D303	IN60	2A
T301	AM OSC (422023)	2C
T302(A)	AM IFT 455kHz (423030)	1C
T302(B)	AM IFT 455kHz (423031)	1B, C
T303(A)	AM IFT 455kHz (423030)	1B
T303(B)	AM IFT 455kHz (423031)	1A, B
T304	AM IFT 455kHz (423041)	1A



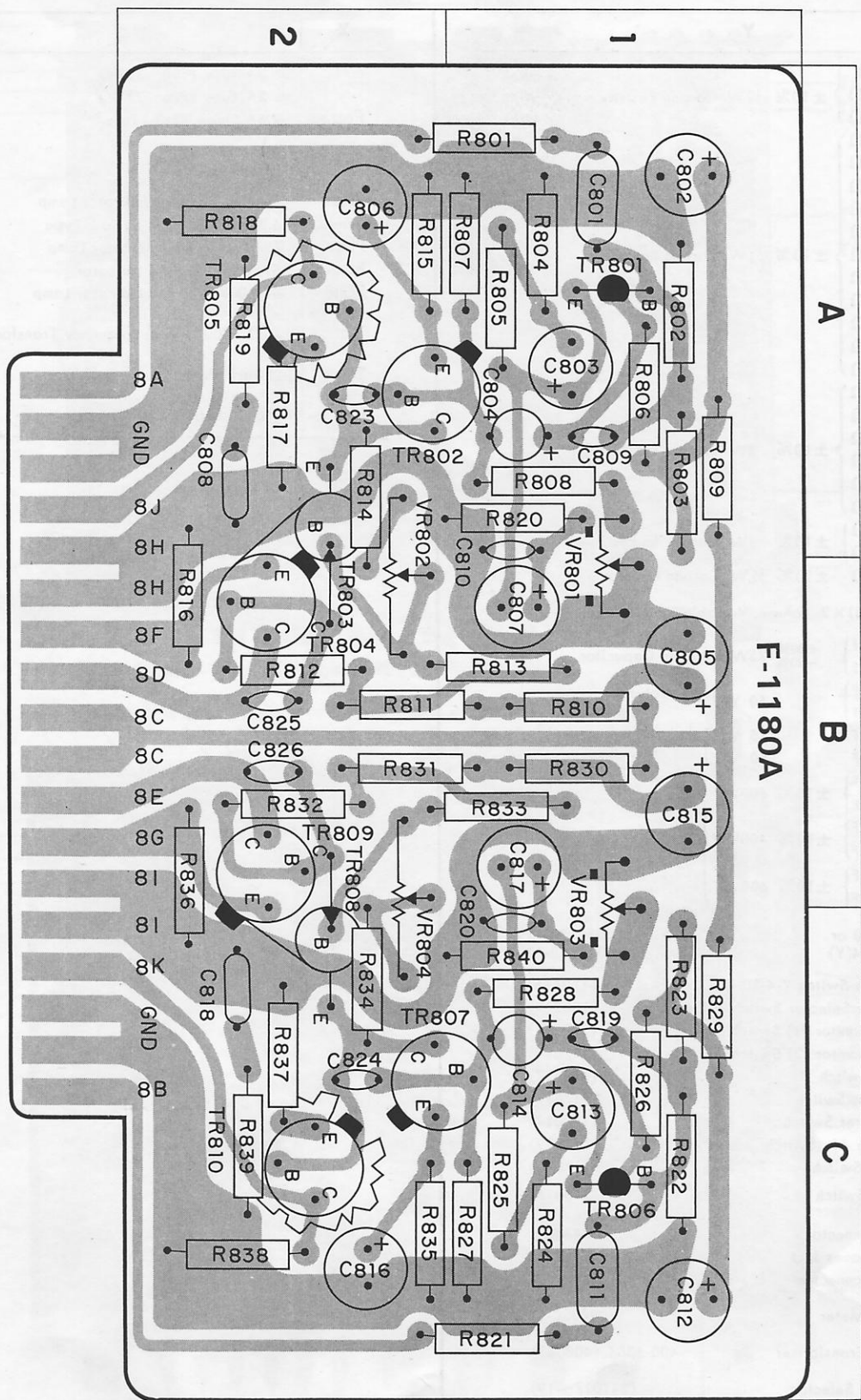
# PRINTED CIRCUIT BOARDS AND PARTS LIST

X: Parts No Y: Parts Name Z: Position of Parts

## DRIVER AMP BLOCK <F-1180A>

X	Y	Z
R801	2.2k $\Omega$	1, 2 A
R802	150k $\Omega$	1 A
R803	-560k $\Omega$	1 A
R804	1k $\Omega$	1 A
R805	3.3k $\Omega$	1 A
R806	3.3k $\Omega$	1 A
R807	10k $\Omega$	1 A
R808	47k $\Omega$	1 A
R809	56k $\Omega$	1 A
R810	1.8k $\Omega$	1 B
R811	3.9k $\Omega$	1, 2 B
R812	39 $\Omega$	2 B
R813	3.3k $\Omega$	1, 2 B
R814	1.5k $\Omega$	2 A, B
R815	220 $\Omega$	2 A
R816	220 $\Omega$	2 A, B
R817	39 $\Omega$	2 A
R818	220 $\Omega$	2 A
R819	10 $\Omega$	2 A
R820	22k $\Omega$	1 A
R821	2.2k $\Omega$	1, 2 C
R822	150k $\Omega$	1 C
R823	560k $\Omega$	1 C
R824	1k $\Omega$	1 C
R825	3.3k $\Omega$	1 C
R826	3.3k $\Omega$	1 C
R827	10k $\Omega$	1 C
R828	47k $\Omega$	1 C
R829	56k $\Omega$	1 C
R830	1.8k $\Omega$	1 B
R831	3.9k $\Omega$	1, 2 B
R832	39 $\Omega$	2 B
R833	3.3k $\Omega$	1, 2 B
R834	1.5k $\Omega$	2 C
R835	220 $\Omega$	2 C
R836	220 $\Omega$	2 B, C
R837	39 $\Omega$	2 C
R838	220 $\Omega$	2 C
R839	10 $\Omega$	2 C
R840	22k $\Omega$	1, 2 C
VR801	200k $\Omega$ (B) AC Balance Adjustor (103015)	1 A, B
VR802	1k $\Omega$ (B) DC Balance Adjustor (103069)	2 A, B
VR803	200k $\Omega$ (B) AC Balance Adjustor (103015)	1 B, C
VR804	1k $\Omega$ (B) DC Balance Adjustor (103069)	2 B, C
C801	0.22 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor	1 A
C802	100 $\mu$ F 25 WV	1 A
C803	220 $\mu$ F 10 WV	1 A
C804	10 $\mu$ F 25 WV	1 A
C805	33 $\mu$ F 50 WV	1 B
C806	100 $\mu$ F 6.3 WV	2 A
C807	3.3 $\mu$ F 50 WV	1 B
C808	0.047 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor	2 A
C809	33 pF $\pm 10\%$ 50 WV Ceramic	1 A
C810	33 pF	1 A
C811	0.22 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor	1 C

X	Y	Z
C812	100 $\mu$ F 25 WV	1 C
C813	200 $\mu$ F 10 WV	1 C
C814	10 $\mu$ F 25 WV	1 C
C815	33 $\mu$ F 50 WV	1 B
C816	100 $\mu$ F 6.3 WV	2 C
C817	3.3 $\mu$ F 50 WV	1 B
C818	0.047 $\mu$ F $\pm 10\%$ 50 WV Mylar Capacitor	2 C
C819	33 pF	1 C
C820	33 pF	1 C
C823	33 pF	2 A
C824	33 pF	2 C
C825	330 pF	2 B
C826	330 pF	2 B
TR801	2SC458LG(B) (030531)	1 A
TR802	2SC627(2) (030558-1)	2 A
TR803	2SC281(B) (030512-1)	2 A, B
TR804	2SC708A(A)~(C) (030548,-1,-2)	2 B
TR805	2SA537A(A)~(C) (030012,-1,-2)	2 A
TR806	2SC458LG(B) (030531)	1 C
TR807	2SC627(2) (030558-1)	1, 2 C
TR808	2SC281(B) (030512-1)	2 B, C
TR809	2SC708A(A)~(C) (030548,-1,-2)	2 B, C
TR810	2SC537A(A)~(C) (030012,-1,-2)	2 C



F-1180A

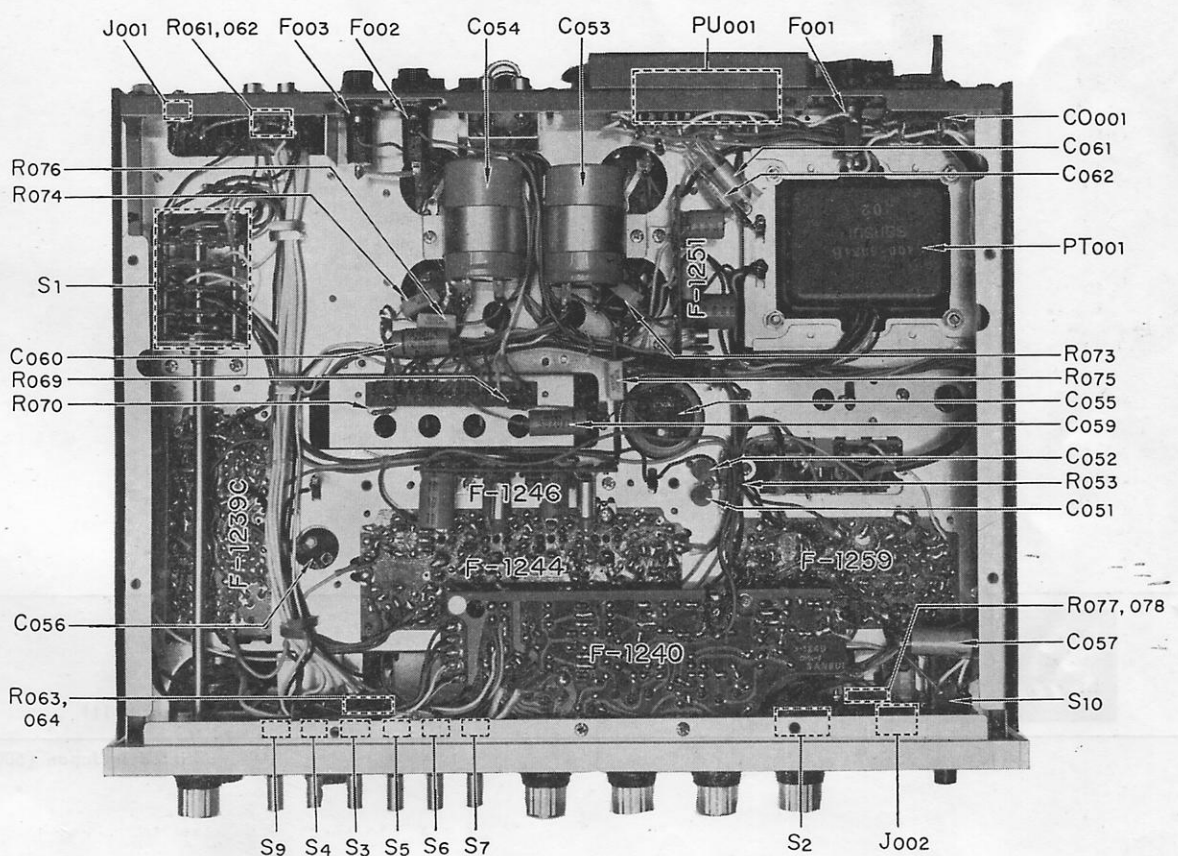
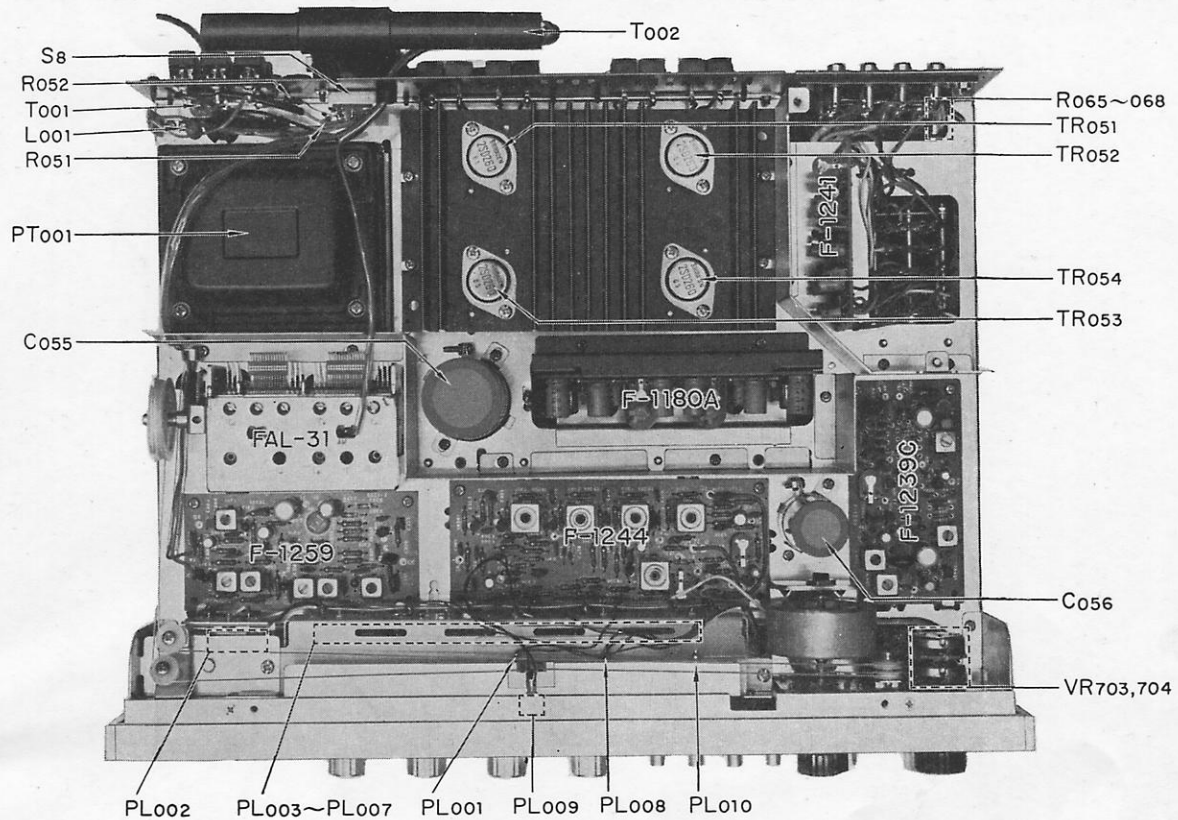
# OTHER PARTS AND THEIR POSITION ON CHASSIS

X: Parts No Y: Parts Name

X	Y
R031	2.2k $\Omega$
R051	56 $\Omega$
R052	680 $\Omega$
R053	10 $\Omega$
R061	68k $\Omega$
R062	68k $\Omega$
R063	12k $\Omega$
R064	12k $\Omega$
R065	33k $\Omega$
R066	33k $\Omega$
R067	100k $\Omega$
R068	100k $\Omega$
R069	820k $\Omega$
R070	820k $\Omega$
R071	0.5 $\Omega$
R072	0.5 $\Omega$
R073	0.5 $\Omega$
R074	0.5 $\Omega$
R075	330 $\Omega$
R076	330 $\Omega$
R077	560 $\Omega$
R078	560 $\Omega$
R079	18 $\Omega$
VR703, 704	250k $\Omega$ (B) $\times$ 2 Volume, Variable Resistor
C051	0.04 $\mu$ F
C052	0.04 $\mu$ F
C053	2200 $\mu$ F
C054	2200 $\mu$ F
C055	2200 $\mu$ F
C056	1000 $\mu$ F
C057	0.033 $\mu$ F
C058	0.0047 $\mu$ F
C059	0.068 $\mu$ F
C060	0.068 $\mu$ F
C061	0.0047 $\mu$ F
C062	0.0047 $\mu$ F
TR051~054	2SD260 or 2SC494(Y)
S1	Selector Switch Y-4-10-4
S2	Speaker Selector Switch Y-1-4-4
S3	Tape Monitor (1) Switch
S4	Tape Monitor (2) Switch
S5	Mode Switch
S6	Loudness Switch
S7	High Filter Switch
S8	Antenna Att. Switch
S9	Muting Switch
S10	Power Switch
J001	DIN Connector
J002	Headphones Jack
J003	Multi Connector
M001	Tuning Meter
PT001	Power Transformer
PU001	Voltage Selector

X	Y
F001	3A Fuse (100~127V)
	2A Fuse (220~250V)
F002,003	2.5A Quick Acting Fuse
CO001	AC Outlet
PL001	7V 200mA Phono Indicator Lamp
PL002~007	6.3V 250mA Pilot Lamp F Type
PL008	7V 200mA AUX Indicator Lamp
PL009	5V 60mA Needle Indicator
PL010	6V 100mA Stereo Indicator Lamp
T001	75 $\Omega$ : 300 $\Omega$ High Frequency Transformer
T002	220 $\mu$ H AM Bar Antenna
L001	150 $\mu$ H Ferri Inductor

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SANSUI ELECTRIC COMPANY LIMITED

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# Sansui SERVICE BULLETIN

July 26, 1970

Ref. CE-016

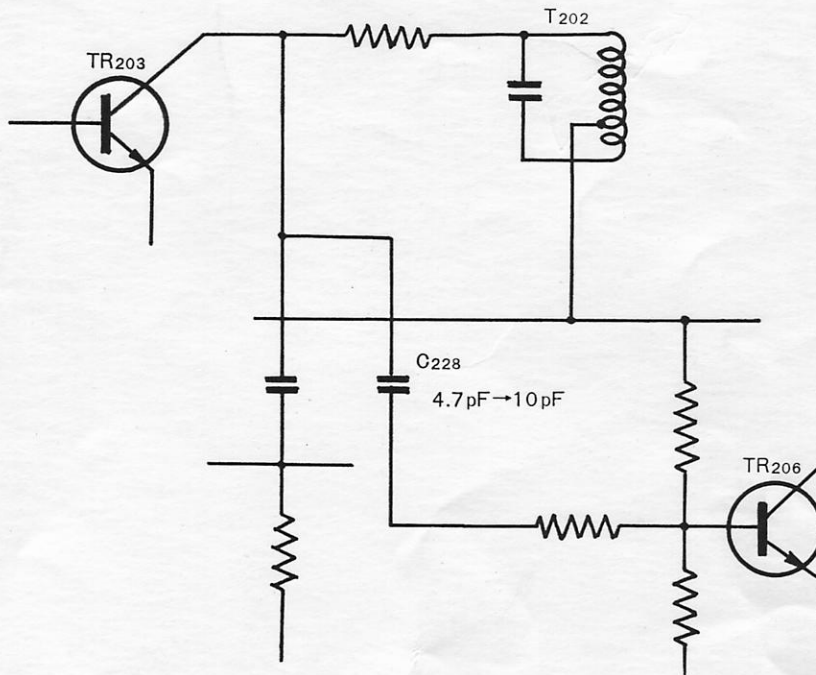
Subject: LIGHTING LEVEL OF "STEREO" INDICATOR

Model: 1000X

If lighting level of the "STEREO" indicator is too high, change the 4.7 pF ceramic capacitor (C<sub>228</sub>) in the circuit board F-1244 to 10 pF ceramic capacitor.

See Fig. below:

F-1244



# SCHEMATIC DIAGRAM

