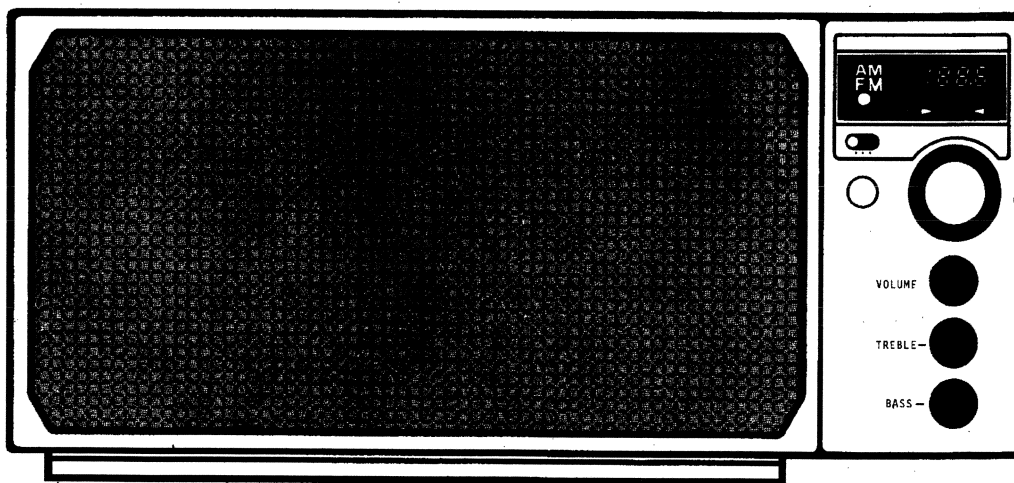


Service Manual

PROTON MODEL 300 AM/FM STEREO RECEIVER



CONTENTS

CONTENTS.....	2
SPECIFICATIONS.....	3
ALIGNMENT(TUNER).....	4
ALIGNMENT(AMPLIFIER).....	6
WIRING DIAGRAM(TUNER).....	7
WIRING DIAGRAM(AMPLIFIER).....	8
BLOCK DIAGRAM.....	9
CIRCUIT DIAGRAM(TUNER).....	10
PCB PARTS LOCATION(TUNER).....	11
CIRCUIT DIAGRAM(AMPLIFIER).....	12
PCB PARTS LOCATION(AMPLIFIER).....	13
ASSEMBLY DIAGRAM.....	14
MECHANICAL PARTS.....	15
DIAL STRING DIAGRAM.....	17
DISASSEMBLY INSTRUCTIONS.....	18
ELECTRICAL PARTS LIST.....	23
PACKING DIAGRAM.....	34

SPECIFICATIONS

FM Tuner Section

Input Sensitivity IHF, 30 dB quieting
 IHF, 50 dB S/N
 Signal to Noise Ratio(A Weighted,at 65 dBf)
 Frequency Response, 30-15K Hz
 De-emphasis Accuracy 75u Sec
 Stereo Separation 1K Hz
 Selectivity, Alternate Channel (\pm 400K Hz)
 Capture Ratio at 45 dBf and 65 dBf
 AM Suppression at 45 dBf and 65 dBf
 Image Rejection
 IF Rejection
 SCA Rejection
 Pilot Signal Suppression
 THD at 100% Modulation 1K Hz Mono/Stereo

AM Tuner Section

Usable Sensitivity
 Signal to Noise Ratio
 Image Rejection
 IF Rejection

Tone Controls
 Bass Control range at 100 Hz
 Treble Control range at 10K Hz

Audio Section

Bass EQ Active Crossover
 Bass EQ at 60 Hz
 Crossover frequency (-3 dB)
 Low-Pass Filter Slope
 Hi-Pass Filter Slope
 Input Impedance Resistance/Capacitance

Speaker Driver Amplifier

Continuous Average (Rated) Power at 8 ohm
 Rated Power THD
 Dynamic Power at 8 ohm
 Signal to Noise Ratio A-Weight, Ref Rated Power
 Input Sensitivity for Rated Power for 1W Out

Speaker

Type
 Impedance
 Power Handling Ability (Free Air)
 Size

System Frequency Response (\pm 6 dB)
 Power Consumption
 Weight
 Dimension Width x Height x Depth

+6 dB
 2K6 Hz
 18 dB/oct
 12 dB/oct
 20K ohm/<50 pF

Woofer Section
 Tweeter Section

>20 W
 <0.03 %
 30 W
 96 dB
 550 mV
 120 mV
 >5 W
 <0.03 %
 7 W
 93 dB
 400 mV
 170 mV

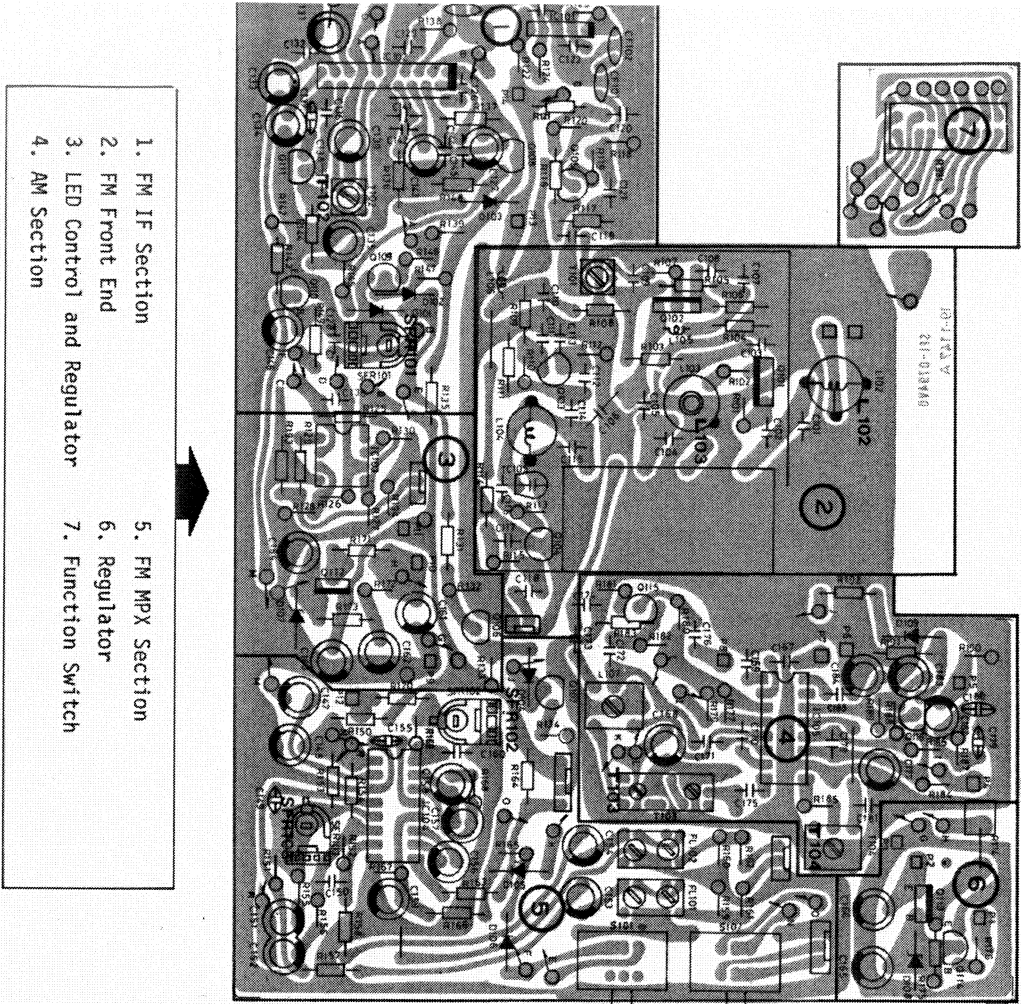
Woofer
 Acoustic Suspension
 8 ohm
 20 W
 5 1/4 Inch
 Tweeter
 Cone
 8 ohm
 8 W
 2 Inch

60-20K Hz
 100 VA Max
 8.25 Kg
 364x167x208 (mm)

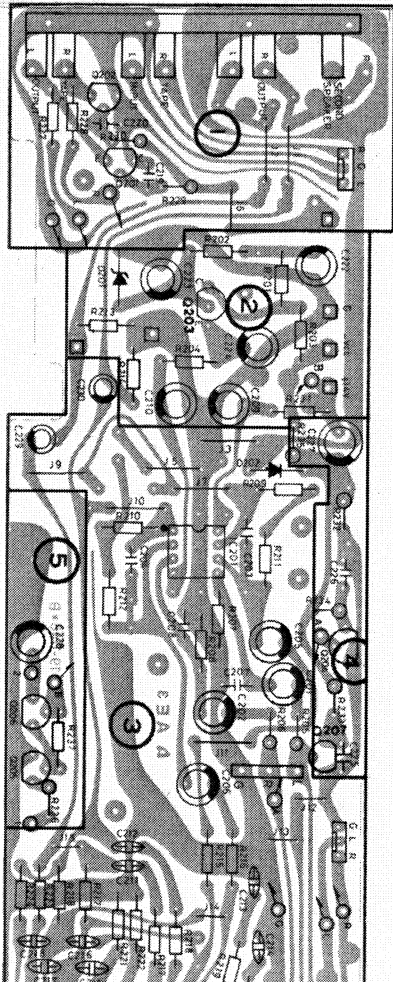
ALIGNMENT (TUNER)

1. AM ALIGNMENT: 1. Selector switch in AM position 2. AC line voltage at rated voltage 3. Monitor output at TAPE OUT							
Section	Connection	Carrier Freq.	Modulation	Dial Setting	Indicator	Adjustment Point	Adjust for
AM IF	Hot side of S6 output through 200PF to EXT AM antenna terminal on bottom panel	455K Hz	30% Mod 400 Hz	Point of non-interference	VTVM or Oscilloscope	T103 and T104	Maximum output
		600K Hz	30% Mod. 400 Hz	600K Hz		Antenna Bar L108	
		1400K Hz	30% Mod. 400 Hz	1400K Hz		TC102	
Repeat Step 1 and Step 2 several times.							
2. FM ALIGNMENT: 1. Selector switch in FM position 2. AC line voltage at rated voltage 3. Monitor output at TAPE OUT							
Section	Connection	Carrier Freq.	Modulation	Dial Setting	Indicator	Adjustment	Adjust for
FM IF	Muting switch at off position	90M Hz	100% Mod.	90M Hz	VTVM and Oscilloscope	L102, L103	Center Indication and white noise waveforms.
		106M Hz	1K Hz	106M Hz		TC101, TC103	
		Repeat Step 1 and Step 2 several times.					
3. FM MPX ALIGNMENT: 1. Same as FM ALIGNMENT 1. 2. 3. 2. FM SG is external modulated by STEREO SG and connected to FM 300Ω antenna terminal on the bottom panel through FM dummy antenna.							
Section	Step	FM SG	Stereo SG	Dial Setting	Indicator	Adjustment	Adjust for
MPX Pilot	1	—	—	Point of no signal received	Connect Frequency counter through 100K ohm to P12	SFR 102	76K Hz ± 100 Hz
	2	98M Hz	10% 19K Hz Pilot 90% L+R, L-R	98M Hz	Check Step 1		Stereo LED light
Separation	1		10% 19K Hz Pilot L only	98M Hz	Connect VTVM or Oscilloscope to R TAPE OUT	SFR 103	Minimum Output
	2	98M Hz	10% 19K Hz Pilot R only	98M Hz	Connect VTVM or Oscilloscope to L TAPE OUT	SFR 103	Minimum Output
Repeat Step 1 and Step 2							
If there is an excessive difference between leakage effect of both channels slightly adjust VR 103 until the level of signal leakage of both channels are equal.							

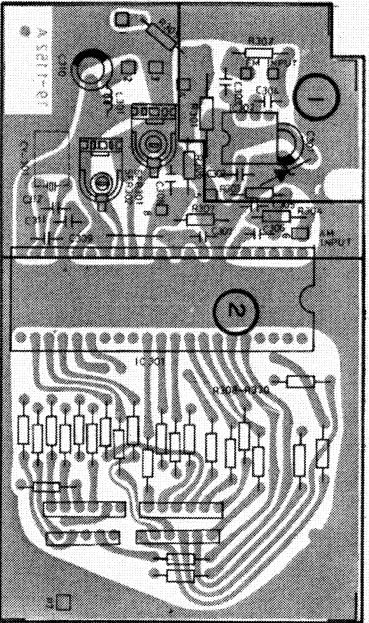
3. FM MPX ALIGNMENT 1. Same as FM ALIGNMENT 1. 2. 3. 2. FM SG is external modulated by STEREO SG and connected to FM 300Ω antenna terminal on the bottom panel through FM dummy antenna.							
Section	Step	FM SG	Stereo SG	Dial Setting	Indicator	Adjustment	Adjust for
MPX Pilot	1	—	—	Point of no signal received	Connect Frequency counter through 100K ohm to P12	SFR 102	76K Hz ± 100 Hz
	2	98M Hz	10% 19K Hz Pilot 90% L+R, L-R	98M Hz	Check Step 1		Stereo LED light
Separation	1		10% 19K Hz Pilot L only	98M Hz	Connect VTVM or Oscilloscope to R TAPE OUT	SFR 103	Minimum Output
	2	98M Hz	10% 19K Hz Pilot R only	98M Hz	Connect VTVM or Oscilloscope to L TAPE OUT	SFR 103	Minimum Output
Repeat Step 1 and Step 2							
If there is an excessive difference between leakage effect of both channels slightly adjust VR 103 until the level of signal leakage of both channels are equal.							



- 1. FM IF Section
- 2. FM Front End
- 3. LED Control and Regulator
- 4. AM Section
- 5. FM MPX Section
- 6. Regulator
- 7. Function Switch



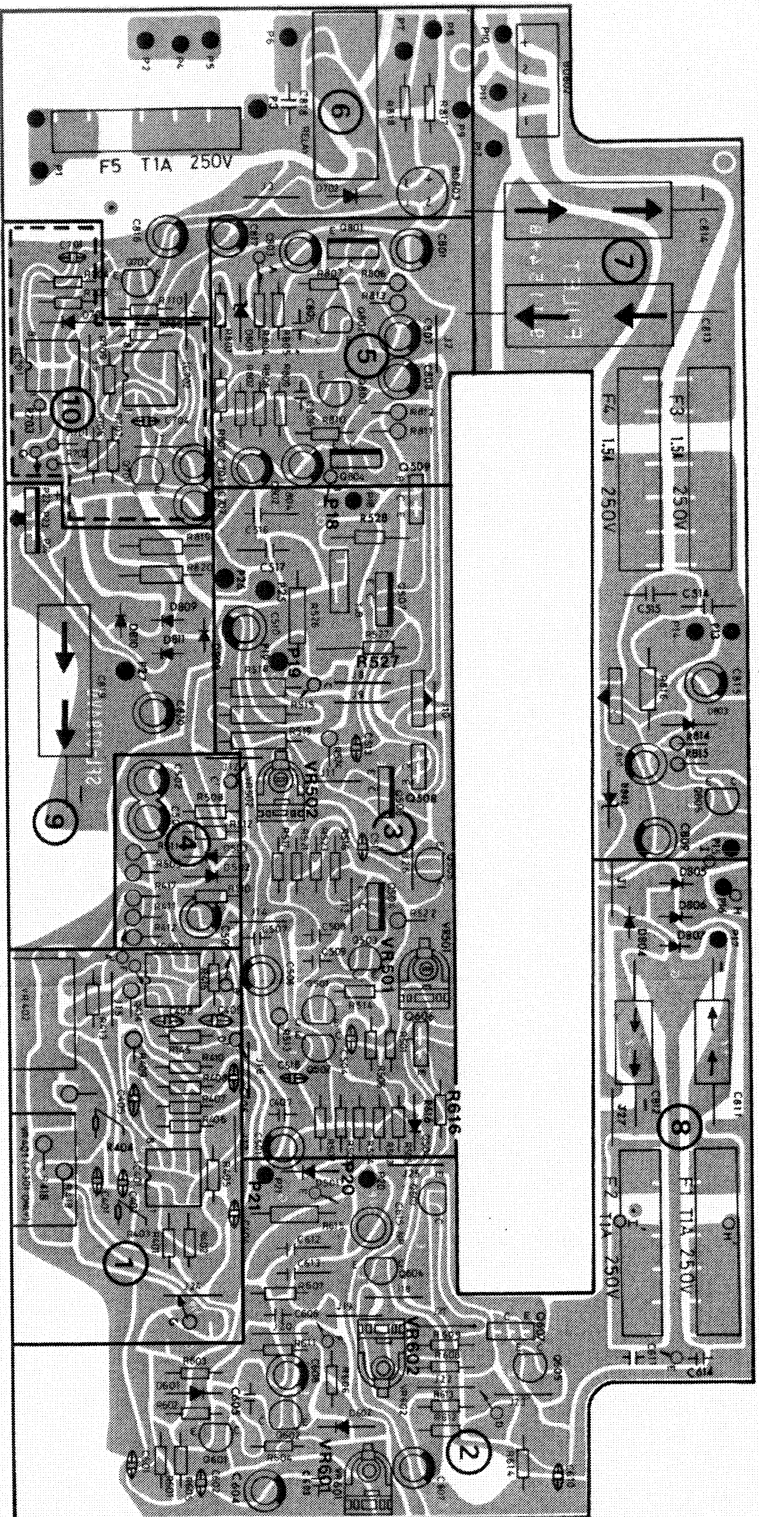
- 1. Input Output Section
- 2. Regulator
- 3. Tone Control
- 4. Power on Delay Circuit
- 5. LED Control Section



- FM Fine Adjust
- SFR 301
- AM Fine Adjust
- SFR 302

- 1. FM Prescaler
- 2. LED Display Driver

ALIGNMENT (AMPLIFIER)



1. Crossover CKT
2. Tweeter driving AMP
3. Woofer driving AMP
4. Soft clipping CKT
5. Regulator CKT
6. Relay control CKT
7. Woofer section power supply
8. Tweeter section power supply
9. Turner power supply
10. This area is not used

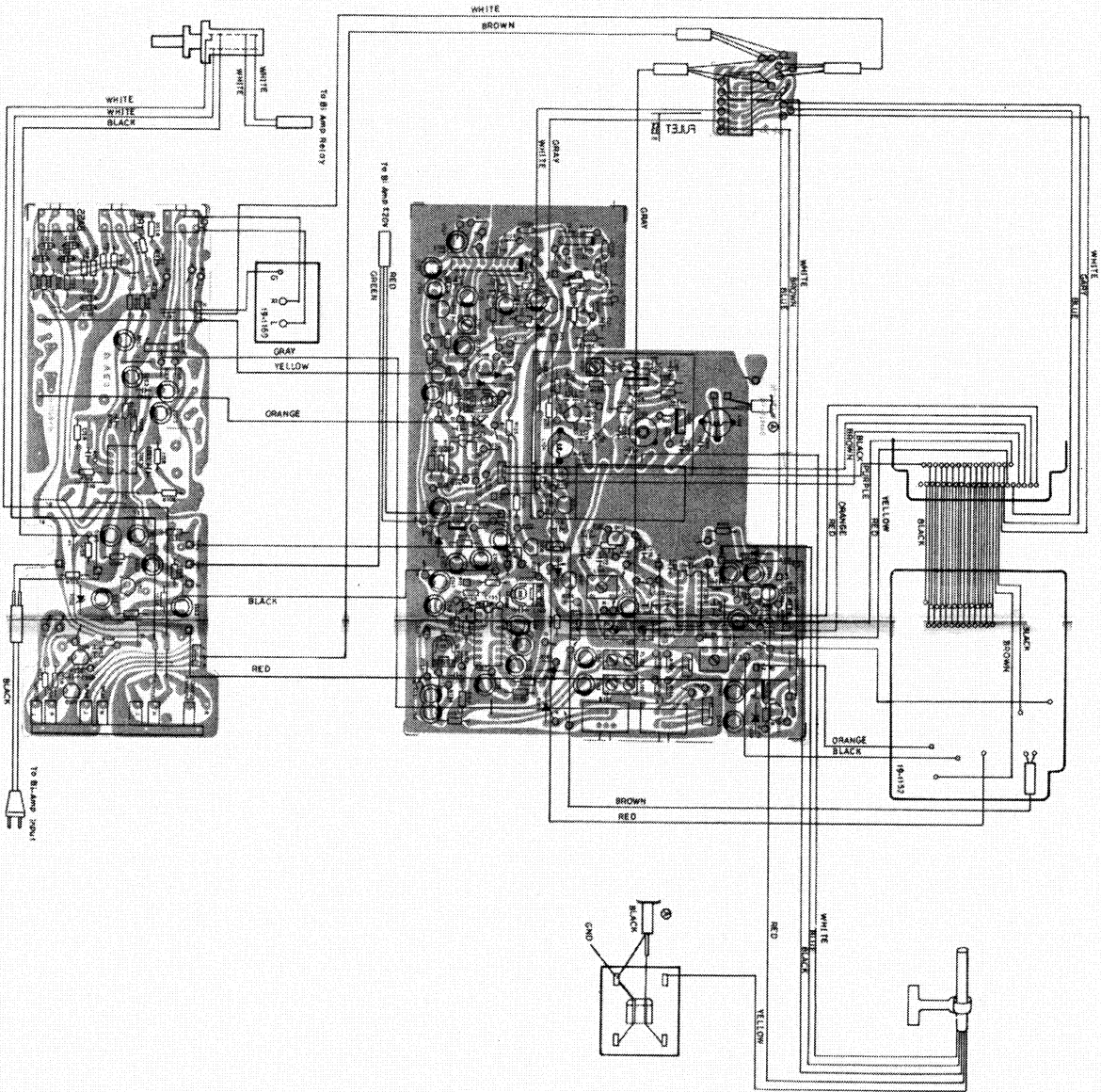
IDEL CURRENT ALIGNMENT

1. Speaker lead wires must be pull out from PCB pin P18, P19 (Woofer) and P20, P21 (Tweeter)
2. Soldered an 1 OHM resistor on R616, Position then Pre-heating 5 minutes minimum.
3. Connect DC milli-voltmeter across R527 (0.22 OHM) for woofer AMP and across R616 (1 OHM) for tweeter AMP. The meter sensitivity should be set at 30-100 mV full scale deflection.
4. If the reading of meter were between 4.4 to 7.7 mV for woofer AMP, and 15 mV to 40 mV for tweeter AMP then the alignment is completed, if not, should adjust VR 502 (Woofer AMP) and VR 602 (Tweeter AMP) till the reading is correct.
5. After idle current alignment R616 should be shorted.

DC OFF-SET ALIGNMENT

1. Speaker lead wires must be pull out from PCB pin P18, P19 (woofer) and P20, P21 (Tweeter)
2. 5 minutes minimum Pre-heating is necessary.
3. Connect DC milli-voltmeter across P18, P19 for Woofer AMP and P20, P21 for Tweeter AMP. The meter sensitivity should be set at 100-300 mV full scale deflection.
4. If the reading were within +50 mV then the alignment is completed, if not should adjust VR 501 (Woofer AMP) and VR 601 (Tweeter AMP) till the reading is zero.

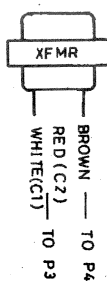
WIRING DIAGRAM (TUNER)



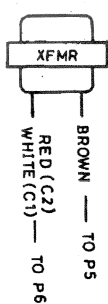
WIRING DIAGRAM (AMPLIFIER)

PRIMARY SECTION

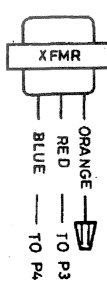
FOR: C1 C2
 29-2075-1 (C2)
 -4 (C1)



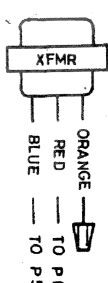
29-2075-1 (C2)
 29-2078-4 (C1)



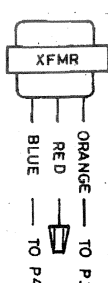
FOR: E1, E4
 29-2075-7



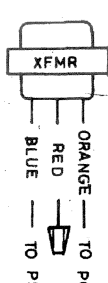
29-2076-7
 29-2079-7



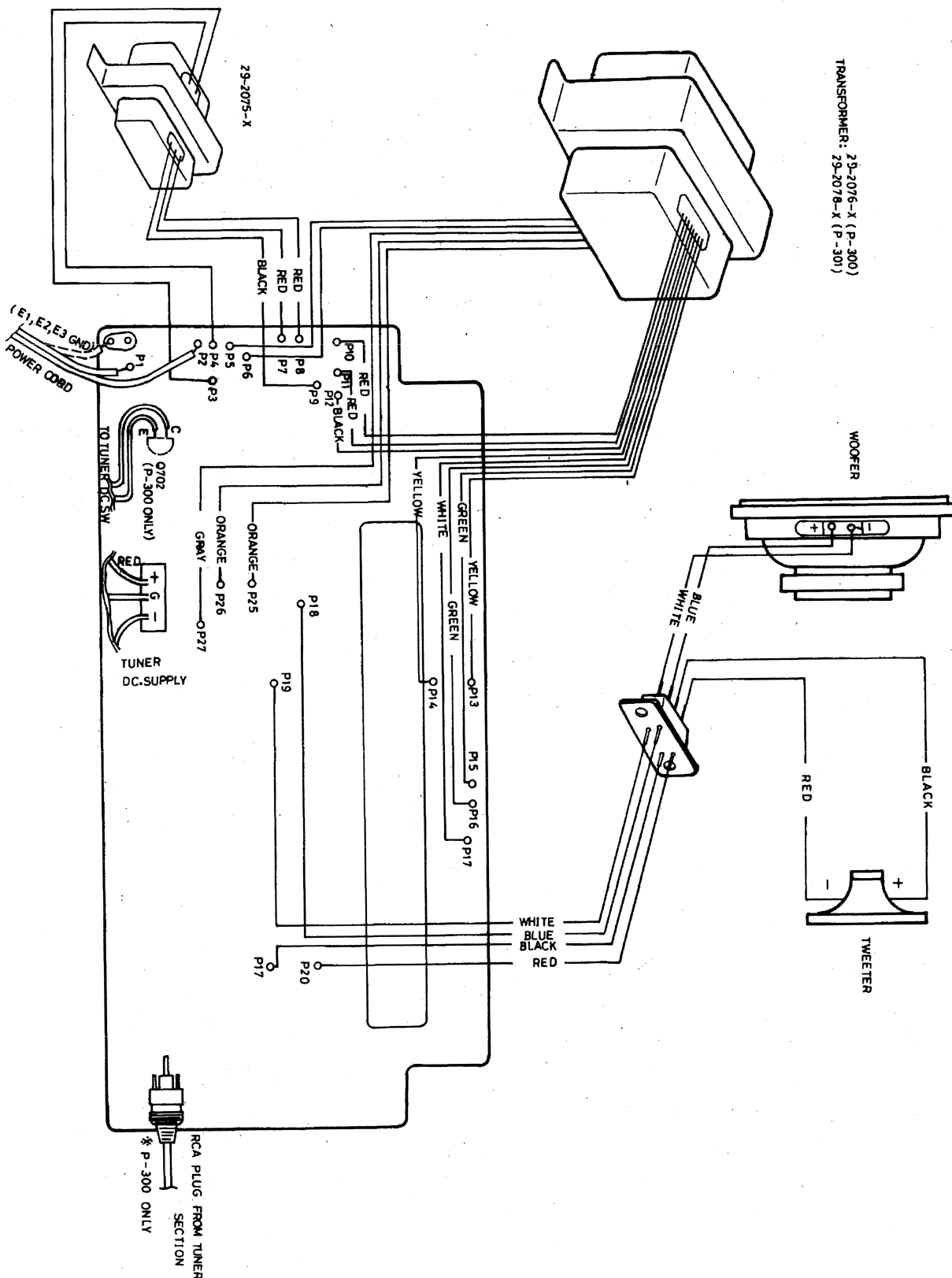
FOR: E2, E3
 29-2075-7



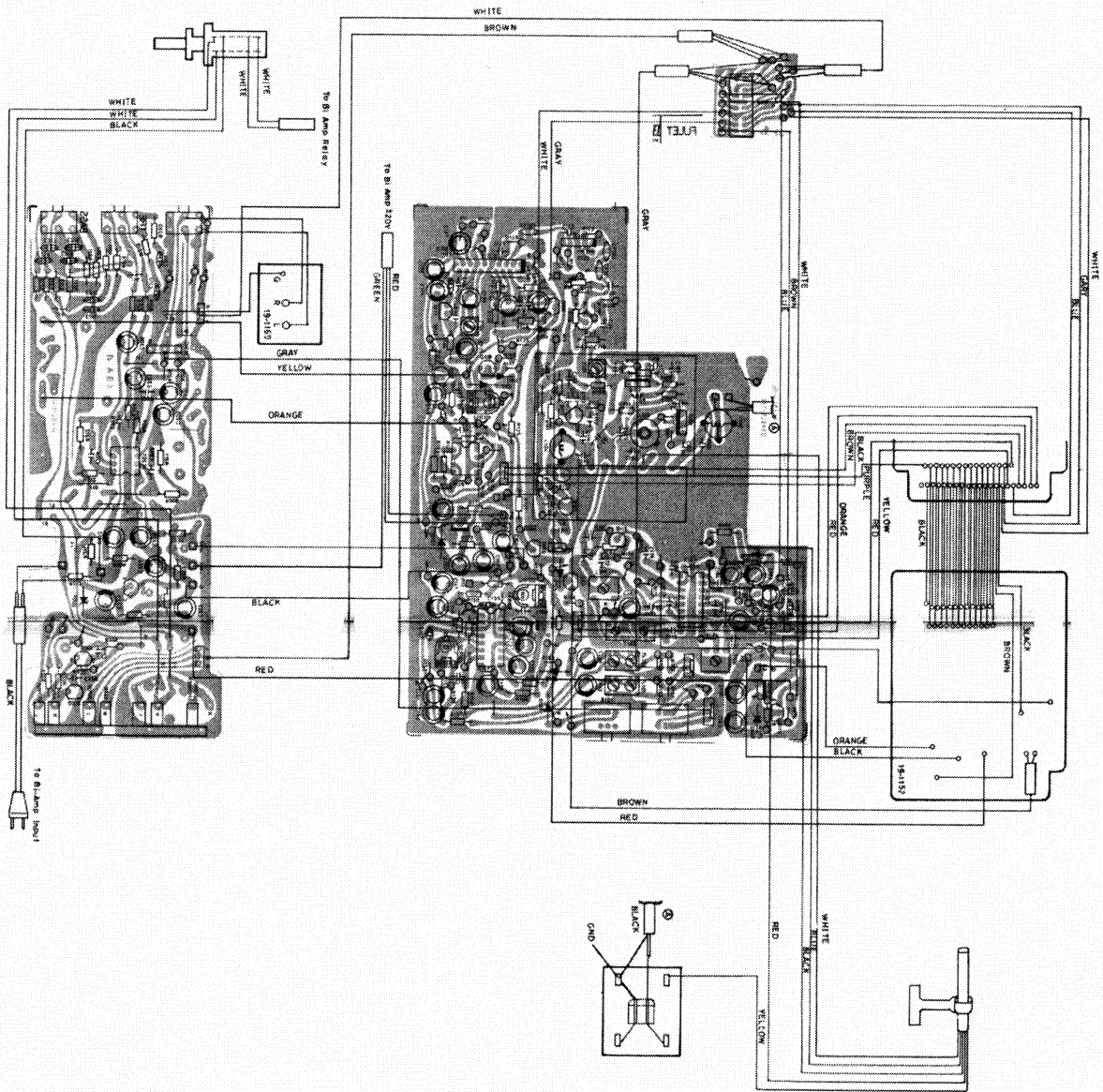
29-2076-7
 29-2078-7



TRANSFORMER: 29-2076-X (P-300)
 29-2078-X (P-30)



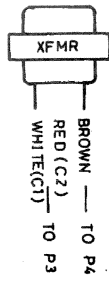
WIRING DIAGRAM (TUNER)



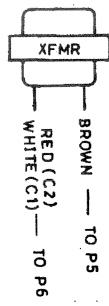
WIRING DIAGRAM (AMPLIFIER)

PRIMARY SECTION

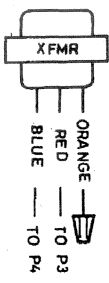
FOR : C1 C2
 29-2075-1 (C2)
 -4 (C1)



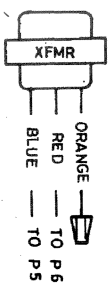
29-2076-1 (C2)
 -4 (C1)



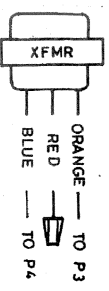
FOR : E1, E4
 29-2075-7



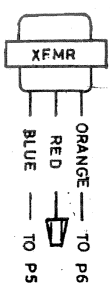
29-2076-7



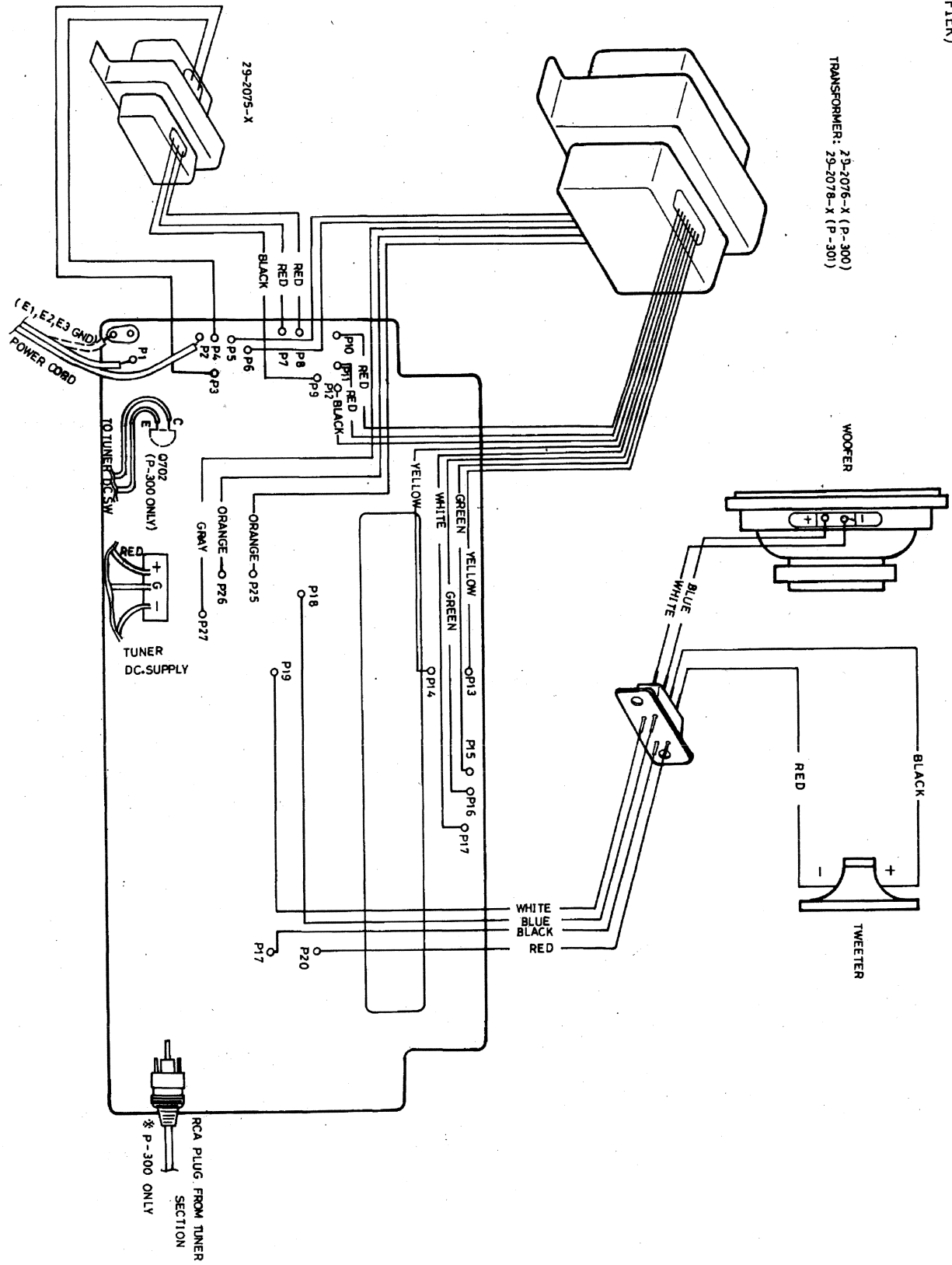
FOR : E2, E3
 29-2075-7



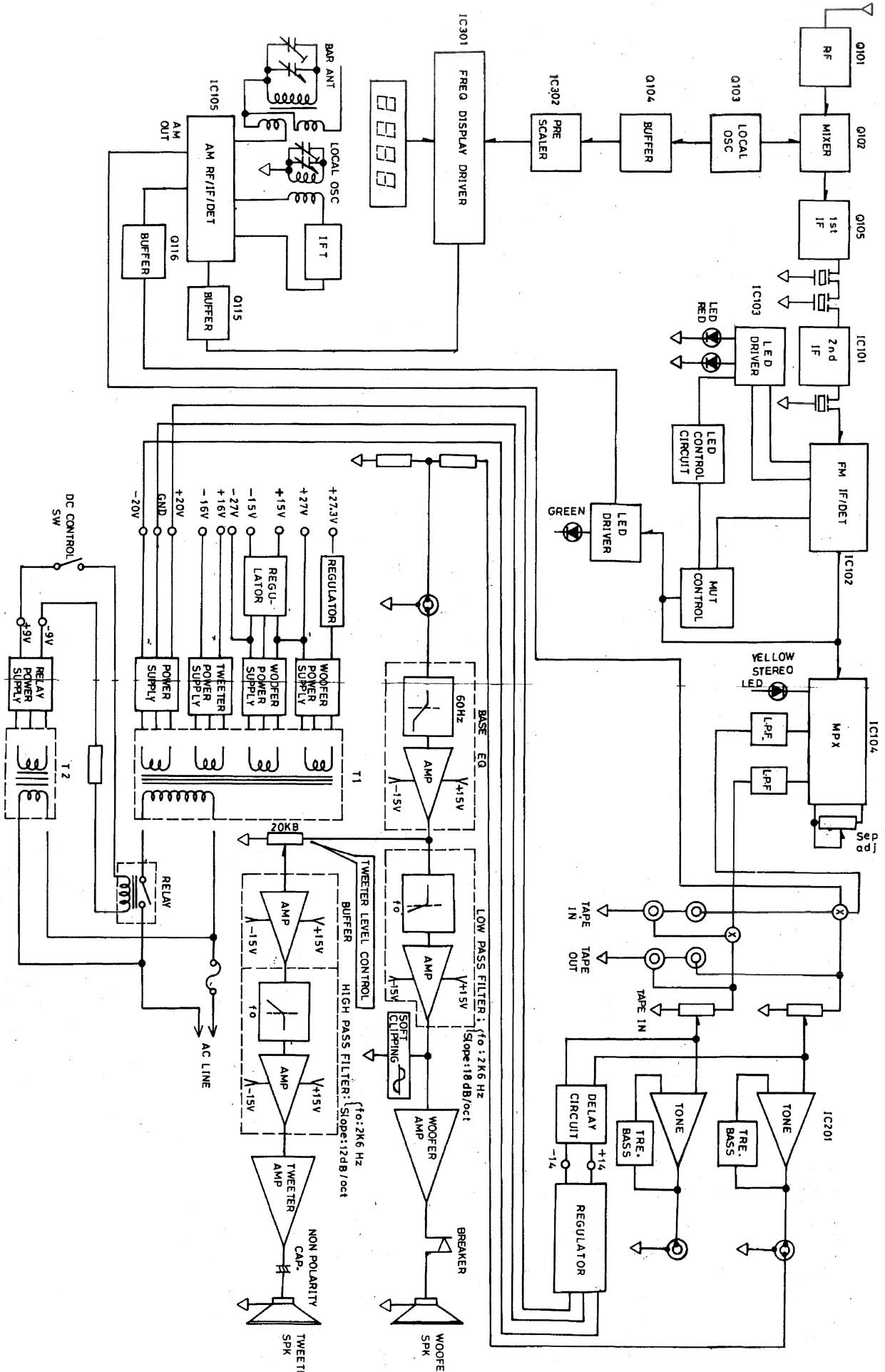
29-2076-7



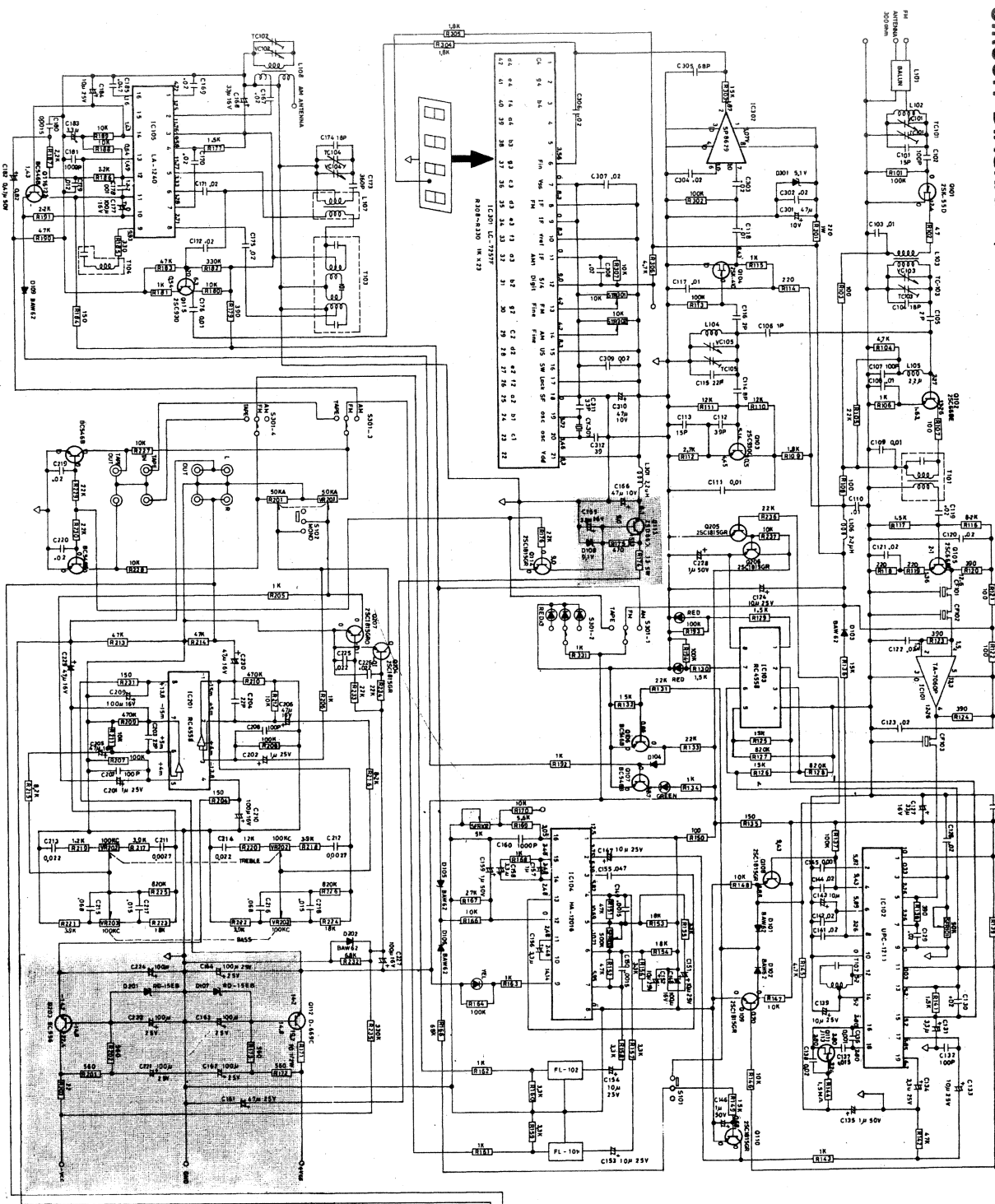
TRANSFORMER: 29-2076-X (P-300)
 29-2078-X (P-301)



BLOCK DIAGRAM

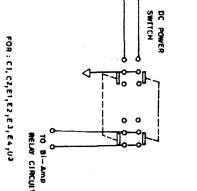
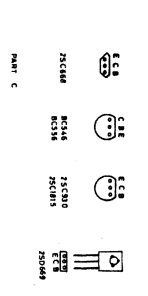
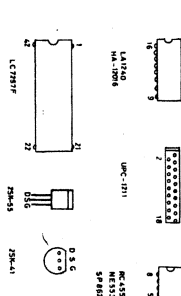


CIRCUIT DIAGRAM (TUNER)

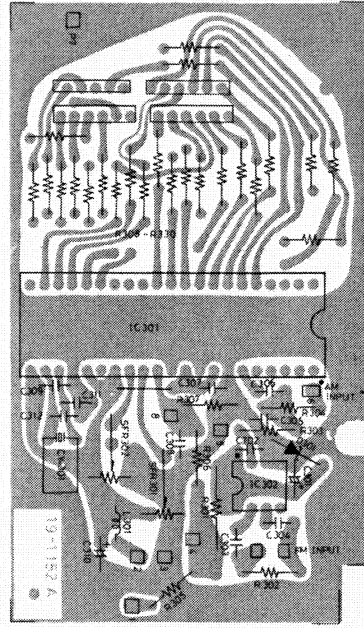


PART A
 1 ALL RESISTORS ARE 1/4W 5% EXCEPT UNLESS OTHERWISE SPECIFIED.
 2 CAPACITORS ARE IN P.F. UNLESS OTHERWISE SPECIFIED.
 3 THE POLARITY SHOWN AT DOT POINTS TESTED ON STATIC CONDITION.

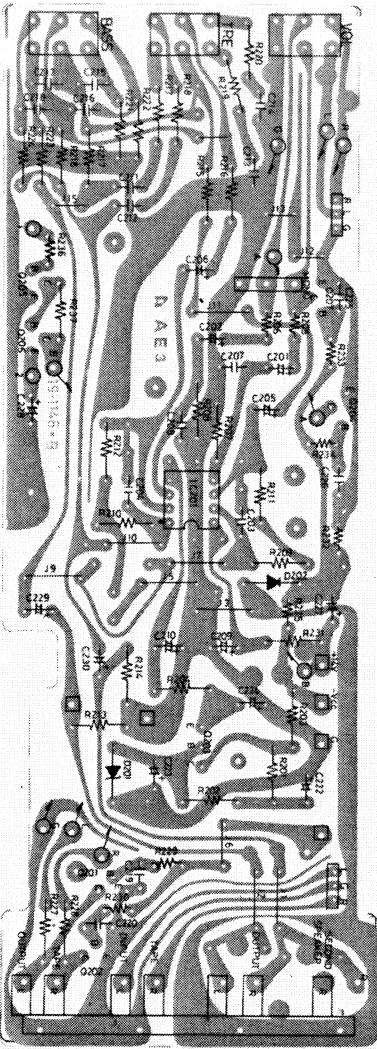
PART B



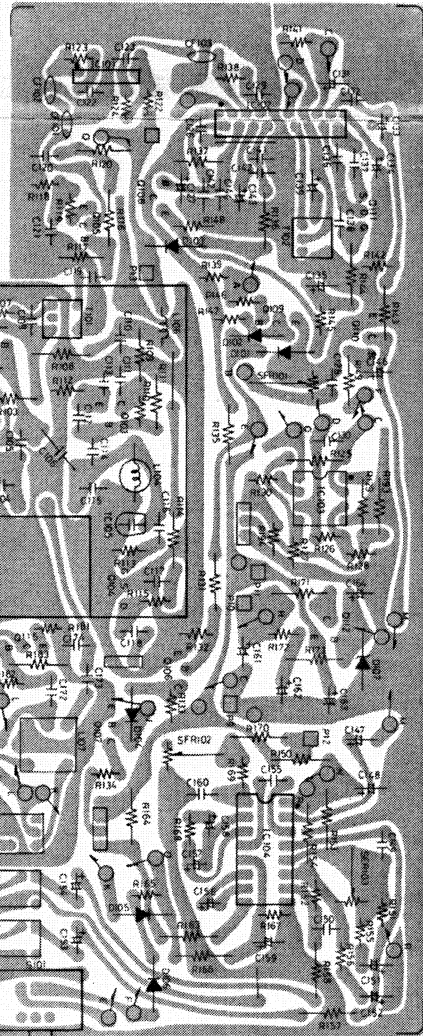
PCB PARTS LOCATION (BOTTOM VIEW)
(TUNER)



DISPLAY PCB

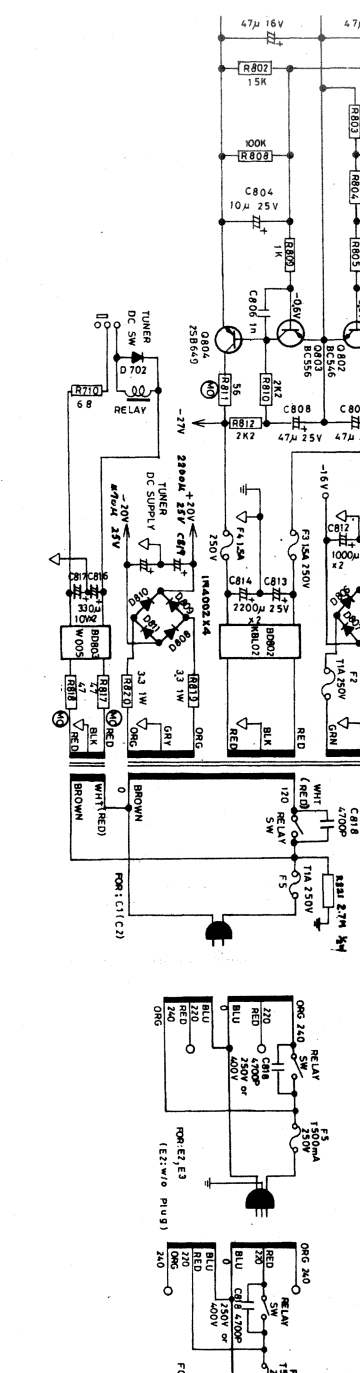
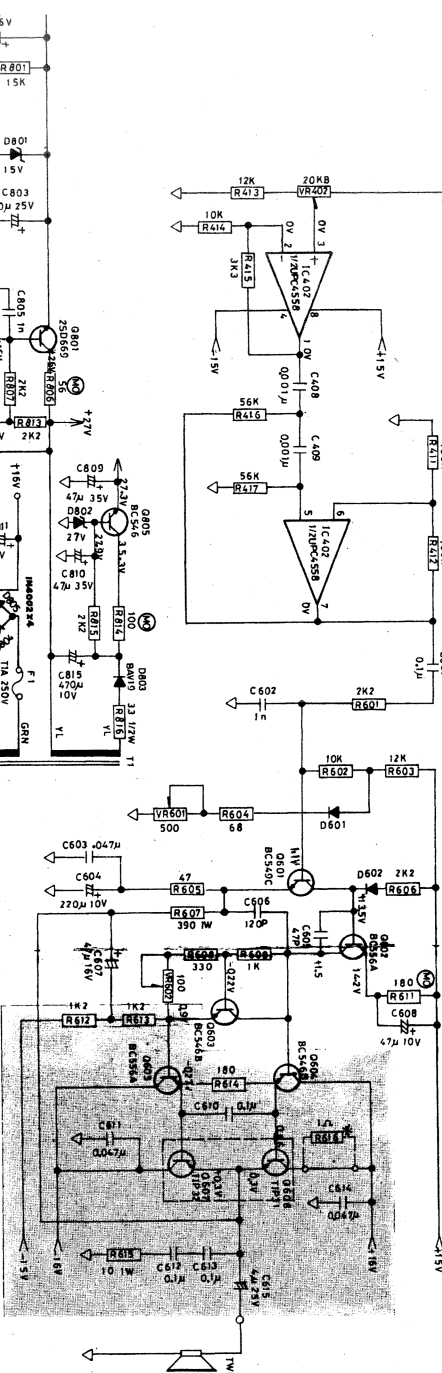
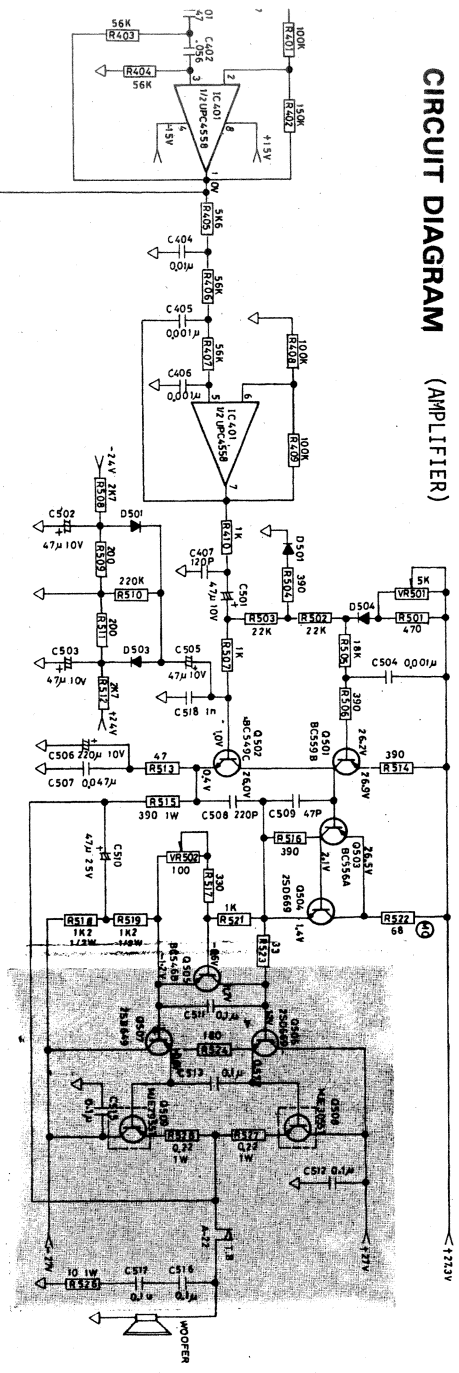


TONE PCB

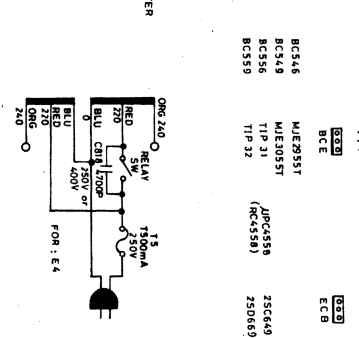


(TUNER)

CIRCUIT DIAGRAM (AMPLIFIER)



- PART A**
- 1 ALL RESISTORS ARE 1/4W±5% CARBON UNLESS OTHERWISE SPECIFIED. Ⓢ MEANS METAL OXIDE FILM RESISTORS.
 - 2 CAPACITANCE ARE IN μF UNLESS OTHERWISE SPECIFIED.
 - 3 ALL DIODES ARE BAW/6710H (MAB2) UNLESS OTHERWISE SPECIFIED.
 - 4 □ MEANS MOUNT ON COMMON HEAT SINK.
 - 5 * MEANS R616 WILL BE SHORTED AFTER IDEAL CURRENT ALIGNMENT.
 - 6 THE VOLTAGE SHOWN AT EACH POINTS ARE TESTED ON SINIC CONDITION.
- PART B**
- Ⓢ CBE
 - Ⓢ BCE
 - Ⓢ E2B
 - Ⓢ E2D
 - Ⓢ E2E
 - Ⓢ E2F
 - Ⓢ E2G
 - Ⓢ E2H
 - Ⓢ E2I
 - Ⓢ E2J
 - Ⓢ E2K
 - Ⓢ E2L
 - Ⓢ E2M
 - Ⓢ E2N
 - Ⓢ E2O
 - Ⓢ E2P
 - Ⓢ E2Q
 - Ⓢ E2R
 - Ⓢ E2S
 - Ⓢ E2T
 - Ⓢ E2U
 - Ⓢ E2V
 - Ⓢ E2W
 - Ⓢ E2X
 - Ⓢ E2Y
 - Ⓢ E2Z



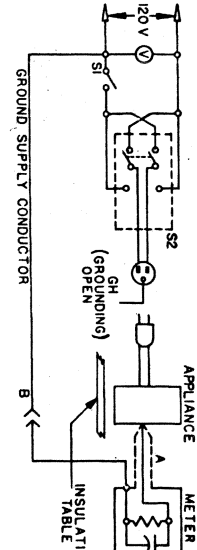
SERVICE INFORMATION

CAUTION - Each precaution to be followed during servicing.

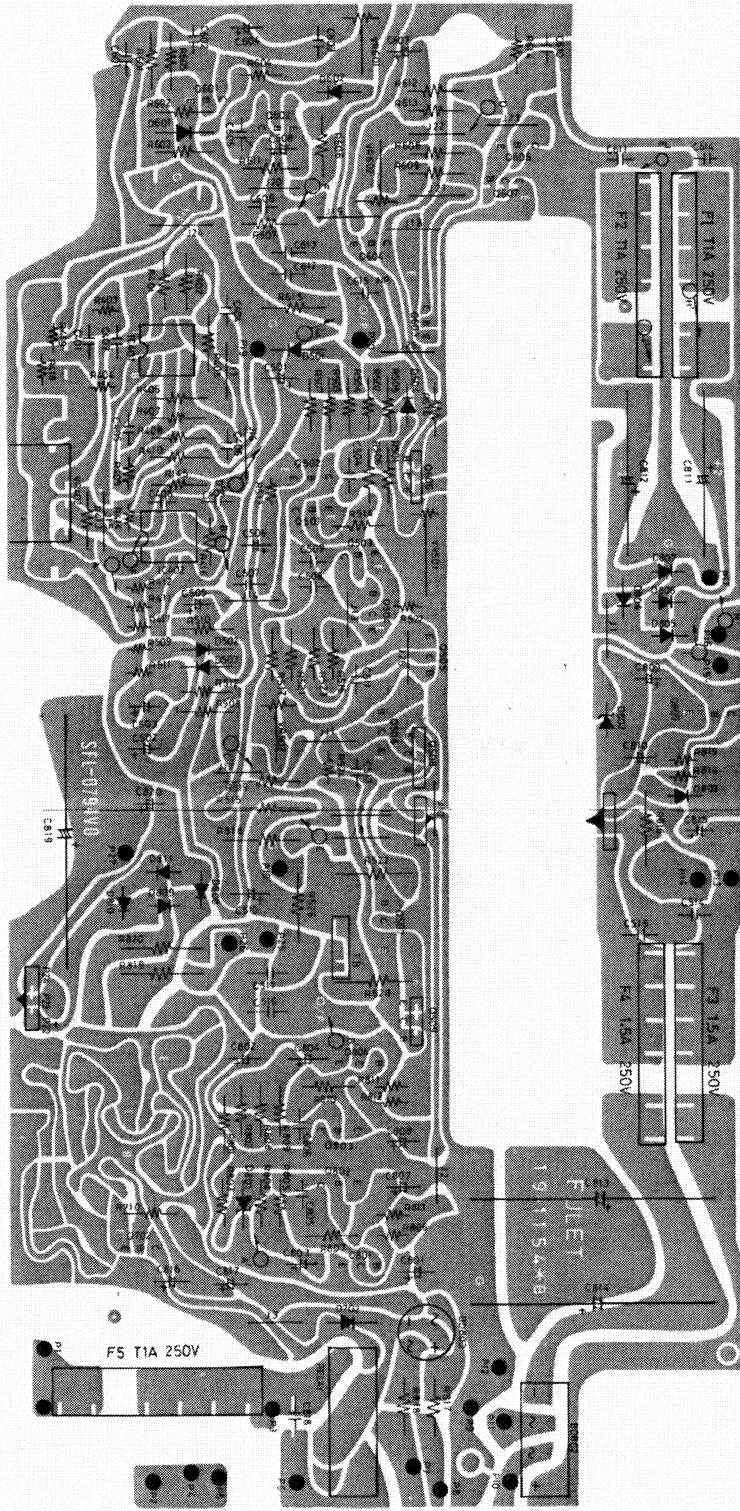
CRITICAL COMPONENT WARNING

- These CRITICAL COMPONENTS that are shaded on the schematic diagram are used to prevent electric shock and fire hazard. All these special components must be replaced only with the same type identical to these in the schematic diagram.

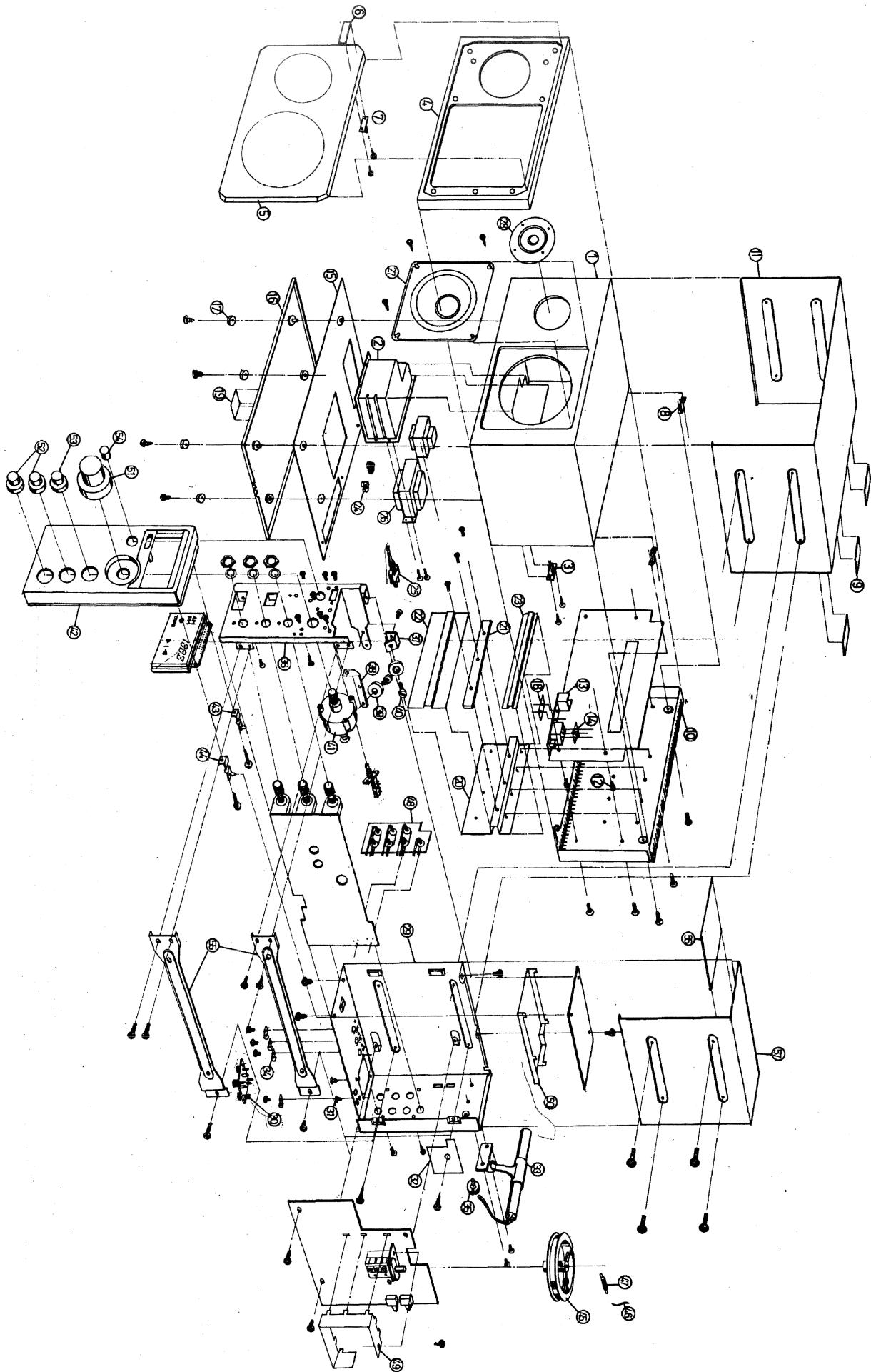
CAUTION - Make leakage current measurement before returning the appliance to the customer. See measurement circuit as shown below.



PCB PARTS LOCATION (BOTTOM VIEW)
(AMPLIFIER)



ASSEMBLY DIAGRAM

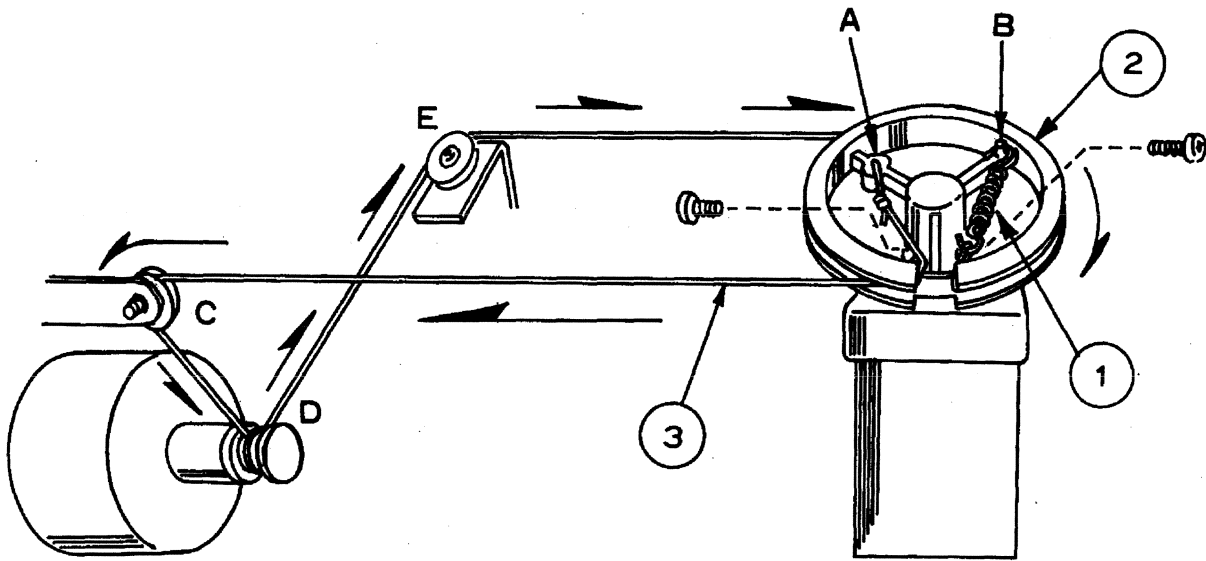


MECHANICAL PARTS

ITEM	PARTS NO.	DESCRIPTION	Q'TY
1	50-1T01	Speaker Box	1
2	13-1T01	Transformer Fixture	1
3	12-2116	SPK Connector	1
4	11-8T02	Front Panel	1
5	50-1T02	Fix Frame for Saloon Net	1
7	13-7T01	Button	3
8	11-2T04	Fixed Bracket on Rear Side	2
9	28-2T01	Damping Pads	3
10	11-5T01	Rear Cab & Heat Sink	1
11	11-1T02	Top Cover	1
12	11-9T04	Copper Pole	4
13	13-2T02	Bottom Control Panel	1
14	12-2117	RCA Jack (1P Pin Jack)	1
15	11-1T04	Bottom Cover	1
16	13-2T01	Bottom Base	1
17	28-1T01	Pad	4
18	21-1T03	VR Decoration Plate	1
19	21-2T02	Specification Label	1
20	11-5T02	AUX Heat Sink.	1
21	11-2T05	Transistor Fix Bracket	1
22	13-4T04	Bottom Fiber for Heat Sink	1
23	13-4T03	Fiber(Upper)for Heat Sink	1
24	14-5004	Cord Bushing 5N4	1
25	14-5047	Power Cord UL/CSA	1
26	29-2076-X	Transformer	1
27	35-6008	Woofer	1
28	35-6007	Tweeter	1
29	11-6T01	Bottom Chassis	1

ITEM	PARTS NO.	DESCRIPTION	Q'TY
30	29-5T01	ANT Bar	1
32	13-4T01	Insulated Fiber	1
33	29-5008	AM ANT Bar	1
34	13-7T04	Wire Clamp	4
35	14-5003	Cord Bushing 4N4	1
36	11-6T02	Front Chassis	1
37	11-2T02	Pulley Bracket Left	1
38	11-2T03	Pulley Bracket Right	1
39	13-5004*A	Pulley	2
40	11-7032*A	Pulley Shaft	2
41	13-5T01	Micro Wheel	1
42	11-8T01	Front Panel	1
43	13-7T03	Display Holder Left	1
44	13-7T02	Display Holder Right	1
45	13-5029*A	Tuning Wheel	1
46	14-3001	Tuning Thread	1
47	12-5007	Spring	1
48	12-2T01	7P Pin Jack	1
49	11-9T03	VAR CAP Shield Case	1
50	11-9T02	IC Shield Case	1
51	12-3T03	Tuning Knob	1
52	12-3T01-1	Treble/Bass Knob	2
53	12-3T01-2	Volume Knob	1
54	12-3T02	Power Knob	1
55	11-2T01	Bracket Side	2
56	13-4T02	Insulated Fiber	1
57	11-1T01	Top Cover	1

DIAL STRING DIAGRAM



TUNING KNOB INSTALLATION

1. Mount one end of tuning thread 3 to point A wheel 3 with other end to spring 1
2. Mount wheel 2 to shaft of air vari -capacitor and fix with screw.
3. Pass tuning thread through C.D.E.to wheel 2 Mount spring 1 to point B to wheel
4. Fix point A and B with glue.
5. Install test Knob and rotate to check

*Tools and parts Needed: Screw driver

glue

tuning Knob for test

DISASSEMBLY INSTRUCTIONS

1. Removal of Top Cover (Tuner Section)

Remove four screws from L shaped Top Cover as shown in Figure 1.

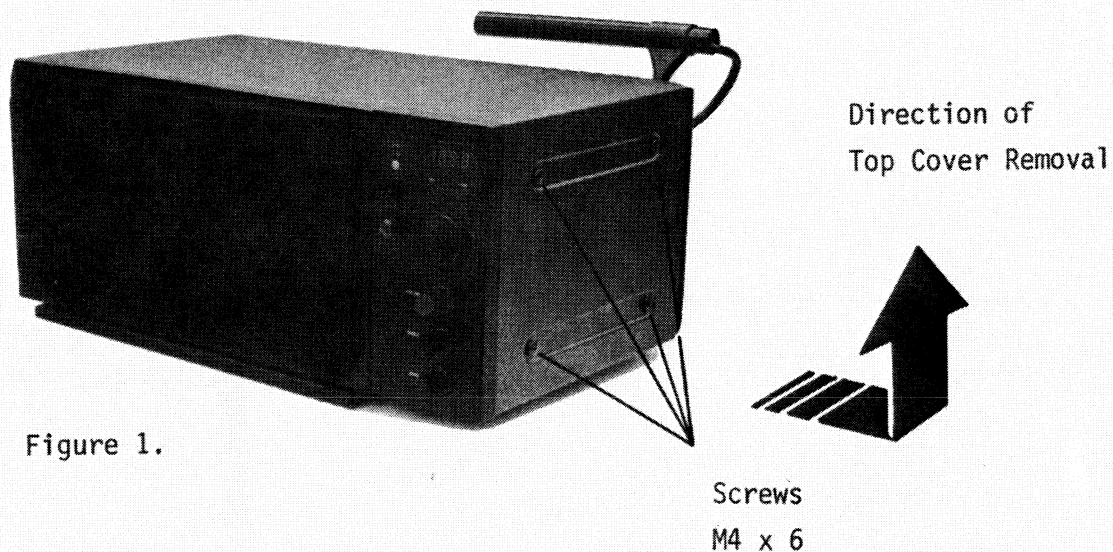


Figure 1.

2. Removal of Tuner Section

- (1) Remove one screw indicated by "A" from Display PCB as shown in Figure 2&3.
- (2) Lift the left plastic holder of Display PCB by Pincers as shown in Figure 2&4, then remove the screw indicated by "B" from Bottom Chassis as shown in Figure 5.
- (3) Remove four screw indicated by "C" from Bottom Chassis as shown in Figure 2.
- (4) Remove two screw indicated by "D" from Bottom Chassis as shown in Figure 2.
- (5) Remove two screw indicated by "E" from Tuner PCB as shown in Figure 2&6.
- (6) Remove two screw indicated by "F" from Bottom Chassis as shown in Figure 2.

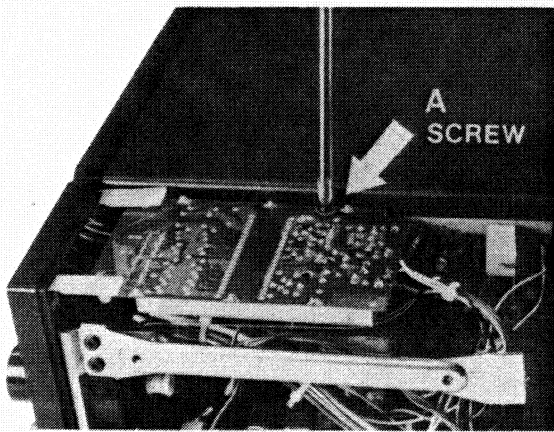
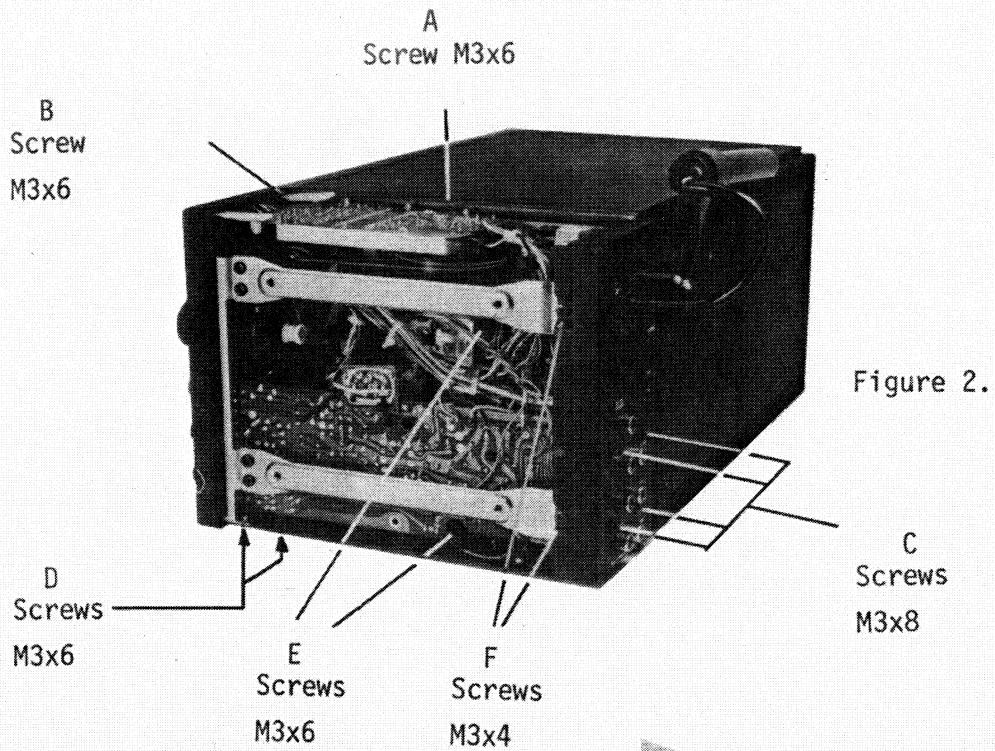


Figure 3.

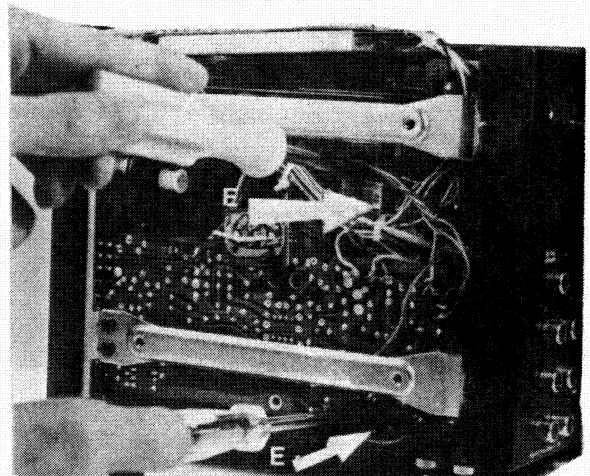


Figure 6.

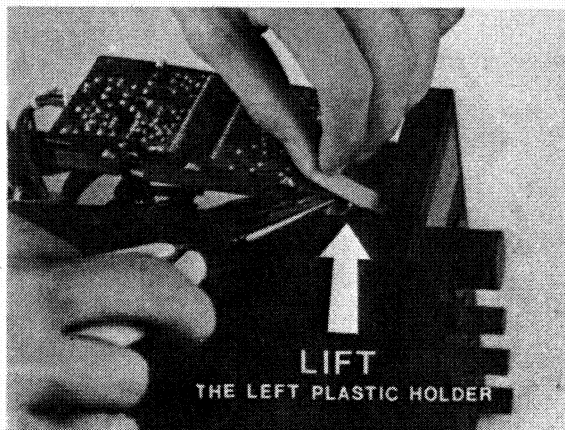


Figure 4.

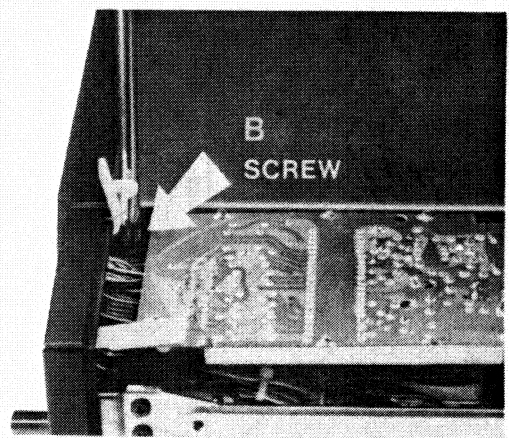


Figure 5.

3. removal of Tuner Section
for Service
Detail please refer to
following steps as shown
in Figure 7. 8. 9.

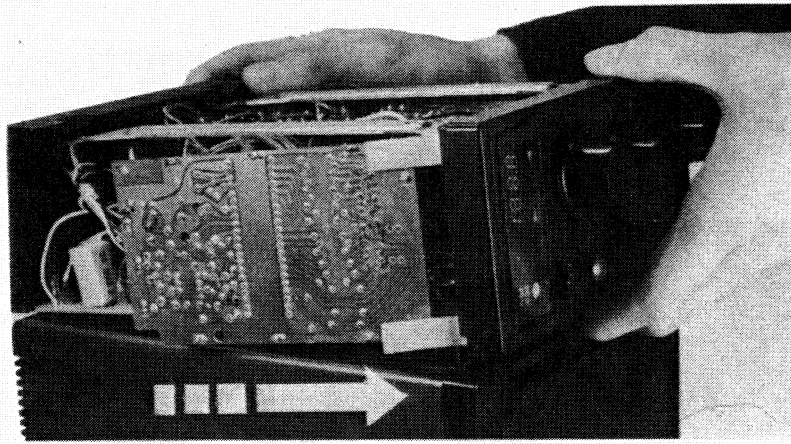
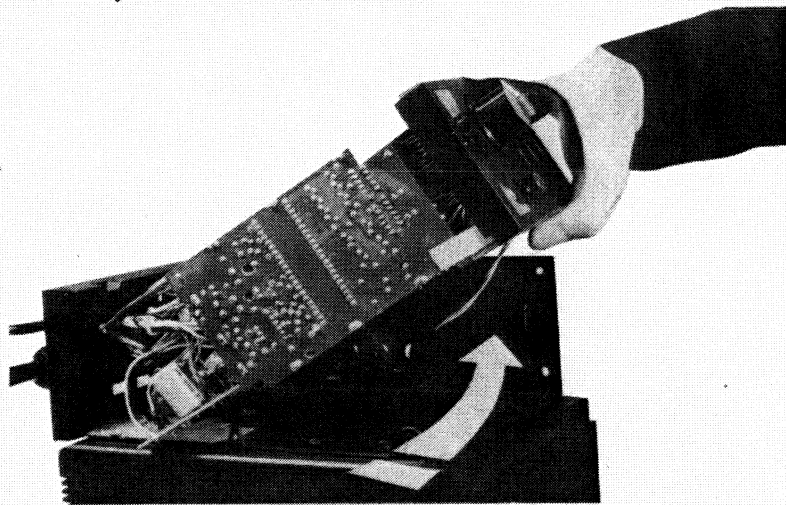


Figure 7.



** Tuner Section shall be
set at the upper position
before removing.

Figure 8.

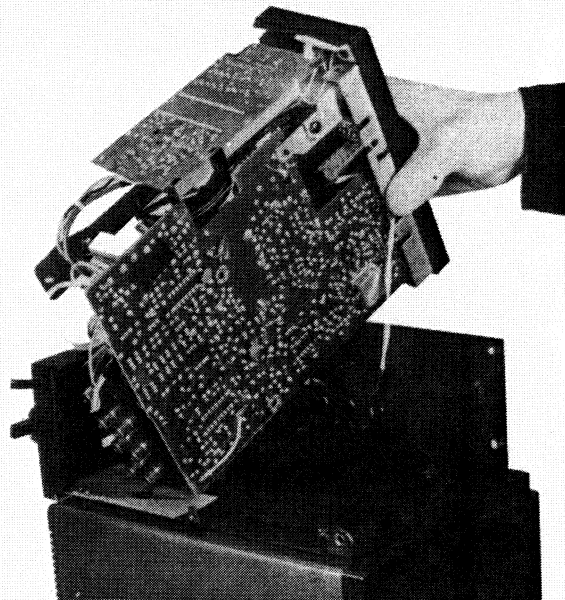
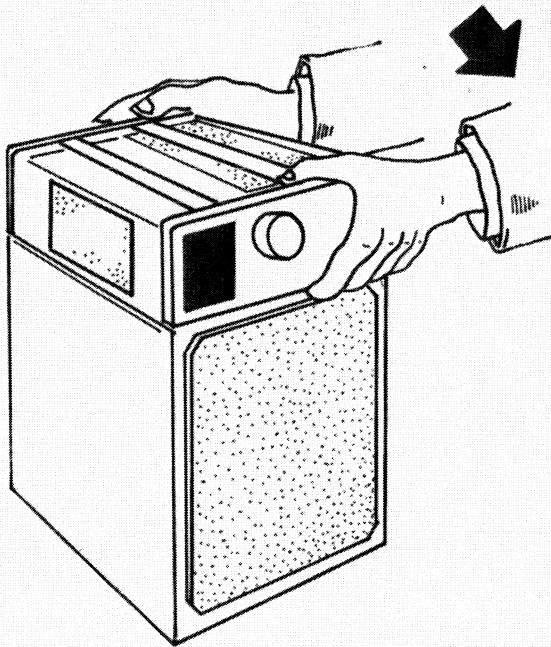
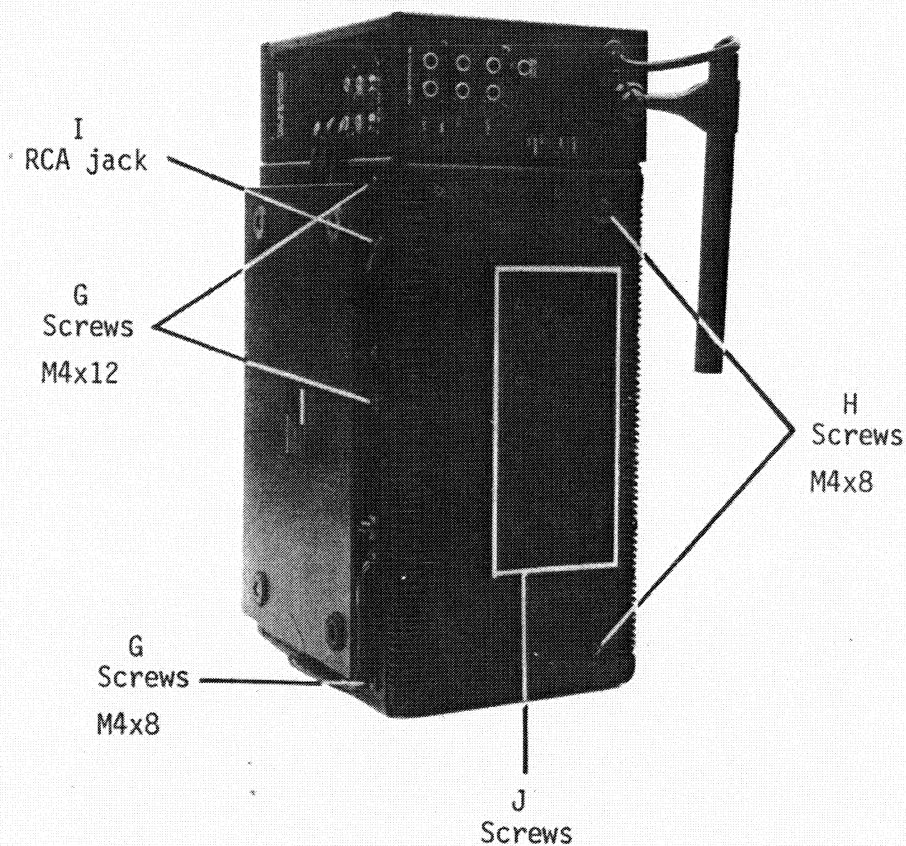


Figure 9.

4. Removal of Rear Cabinet

- (1) Remove three screw indicated by "G" from Bottom Chassis as Shown in Figure 10.
 - (2) Remove two screw indicated by "H" from Rear Cabinet as shown in Figure 10.
 - (3) Remove RCA jack indicated by "I" from Rear Cabinet as shown in Figure 10.
- * Do not remove eight screws indicated by "J" from Rear Cabinet.

Figure 10.



5. Removal of Amplifier PCB

- (1) Remove four screws indicated by "K" from Rear Cabinet as shown in Figure 11.
- (2) Remove three screws indicated by "L" from fixed bracket of Power Transistor as shown in Figure 12.

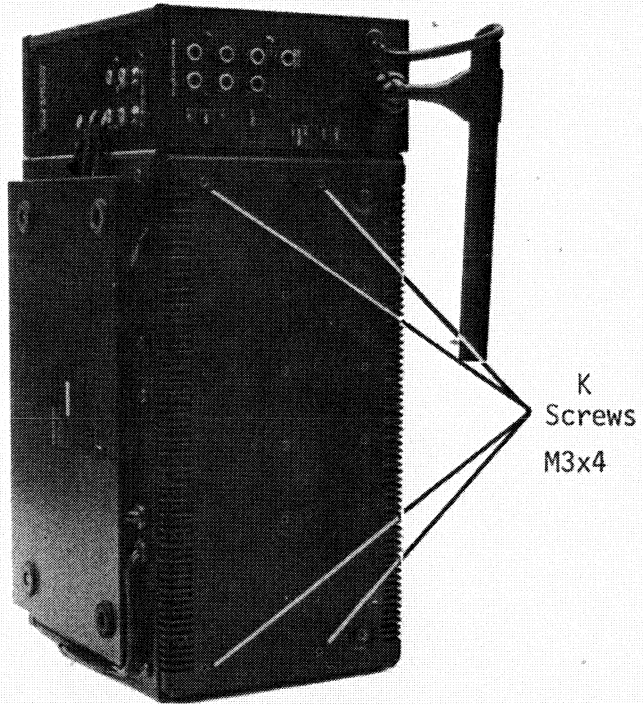


Figure 11.

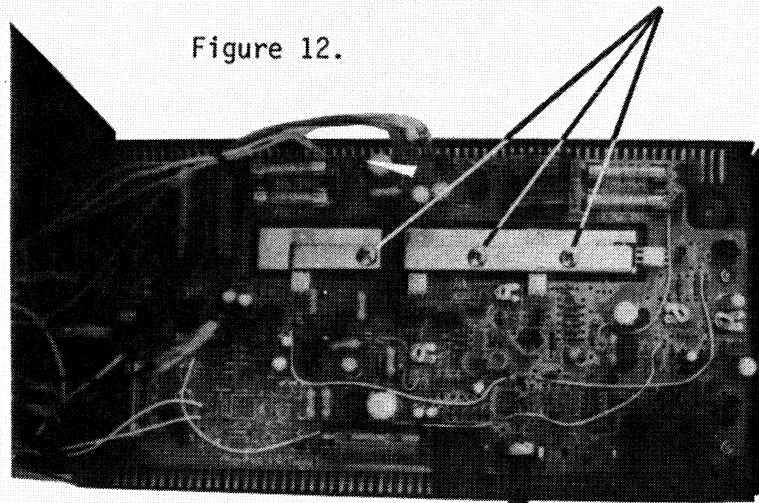
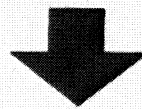


Figure 12.

ELECTRICAL PARTS LIST

(TUNER)

REF.NO.	PART NO.	DESCRIPTION	NOTE
CAPACITORS			
C101	17-5DF150K PH	Ceramic 15 PF +-10% PH 50V	
C102,C107	17-5D101J RH	Ceramic 100 PF +-5% RH 50V	
C132	17-5D101J RH	Ceramic 100 PF +-5% RH 50V	
C103,C176	17-5DF103Z	Ceramic 0.01 uF +80-20% 50V	
C108,C111	17-5DF103Z	Ceramic 0.01 uF +80-20% 50V	
C117,C118	17-5DF103Z	Ceramic 0.01 uF +80-20% 50V	
C104,C174	17-5DF180K PH	Ceramic 18 PF +-10% PH 50V	
C105,C116	17-5DF2ROD CH	Ceramic 2 PF +-0.5PF CH 50V	
C106	17-5D1ROC CH	Ceramic 1 PF +-0.25 CH 50V	
C112	17-5DF390K CH	Ceramic 39 PF +-10% CH 50V	
C113	17-5DF150K CH	Ceramic 15 PF +-10% CH 50V	
C114	17-5DF8ROD CH	Ceramic 8 PF +-0.5 CH 50V	
C115	17-5DF220K PH	Ceramic 22 PF +-10% RH 50V	
C119,C124	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C126,C138	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C128,C130	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C140,C142	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C167,C175	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C169,C172	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C184,C178	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C219,C220	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C225,C226	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C302,C304	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C306,C309	17-2.5D223Z	Ceramic 0.022uF +80-20% 25V	
C145	17-5DF102Z	Ceramic 0.001uF +80-20% 50V	
C311	17-5DF330K	Ceramic 33 PF +-10% 50V	
C312	17-5DF390K	Ceramic 39 PF +-10% 50V	
C127	17-1.6ER336Y	Electrolytic 33 uF +50-10% 16V	
C165,C168	17-1.6ER336Y	Electrolytic 33 uF +50-10% 16V	
C131,C134	17-2.5ER335Y	Electrolytic 3.3 uF +50-10% 25V	
C183	17-2.5ER335Y	Electrolytic 3.3 uF +50-10% 25V	
C133,C137	17-2.5EF106Y	Electrolytic 10 uF +50-10% 25V	
C143,C147	17-2.5EF106Y	Electrolytic 10 uF +50-10% 25V	
C151,C154	17-2.5EF106Y	Electrolytic 10 uF +50-10% 25V	

REF.NO	PART NO.	DESCRIPTION					NOTE
C135,C146	17-2.5ER105Y	Electrolytic	1	uF	+75-10%	25V	
C148,C177	17-1.6ER107Y	Electrolytic	100	uF	+50-10%	16V	
C209,C210	17-1.6ER107Y	Electrolytic	100	uF	+50-10%	16V	
C227	17-1.6ER107Y	Electrolytic	100	uF	+50-10%	16V	
C161	17-2.5ER476Y	Electrolytic	47	uF	+50-10%	25V	
C162,C164	17-2.5ER107Y	Electrolytic	100	uF	+50-10%	25V	
C222,C224	17-2.5ER107Y	Electrolytic	100	uF	+50-10%	25V	
C166	17-1ER476Y	Electrolytic	47	uF	+50-10%	10V	
C301,C310	17-1ER476Y	Electrolytic	47	uF	+50-10%	10V	
C182	17-5EF474Y	Electrolytic	0.47	uF	+50-10%	50V	
C201,C202	17-5EF105Y	Electrolytic	1	uF	+50-10%	50V	
C228	17-5EF105Y	Electrolytic	1	uF	+50-10%	50V	
C205,C206	17-1.6ER476Y	Electrolytic	47	uF	+50-10%	16V	
C229,C230	17-1.6ER476Y	Electrolytic	47	uF	+50-10%	16V	
C137	17-5FF153J	Mylar	0.015	uF	+/-5%	50V	
C217,C218	17-5FF153J	Mylar	0.015	uF	+/-5%	50V	
C149,C150	17-5FF152J	Mylar	0.0015	uF	+/-5%	50V	
C180	17-5FF152J	Mylar	0.0015	uF	+/-5%	50V	
C179	17-5FF123J	Mylar	0.012	uF	+/-5%	50V	
C211,C212	17-5FF272J	Mylar	0.0027	uF	+/-5%	50V	
C213,C214	17-5FF223J	Mylar	0.022	uF	+/-5%	50V	
C215,C216	17-5FF153J	Mylar	0.068	uF	+/-5%	50V	
C155	17-5FF473J	Mylar	0.047	uF	+/-5%	50V	
C156,C158	17-1.60335M	Tantallu Solid	3.5	uF	+/-20%	16V	
C157	17-1.60105M	Tantallu Solid	1	uF	+/-20%	16V	
C160,C181	17-5U102J	Polystyrene	1000	PF	+/-5%	50V	
C173	17-5U361J	Polystyrene	360	PF	+/-5%	50V	
RESISTORS (OHM)							
R101,R113	16- $\frac{1}{4}$ CR104J	Carbon	$\frac{1}{4}$ W	100K		+/-5%	
R137,R164	16- $\frac{1}{4}$ CA104J	Carbon	$\frac{1}{4}$ W	100K		+/-5%	
R139	16- $\frac{1}{4}$ CA104J	Carbon	$\frac{1}{4}$ W	100K		+/-5%	
R149	16- $\frac{1}{4}$ CR104J	Carbon	$\frac{1}{4}$ W	100K		+/-5%	
R207,R208	16- $\frac{1}{4}$ CS104J	Carbon	$\frac{1}{4}$ W	100K		+/-5%	

REF.NO.	PART NO.	DESCRIPTION				NOTE
R302	16- $\frac{1}{4}$ CS104J	Carbon	$\frac{1}{4}$ W	100K	+5%	
R102,R108	16- $\frac{1}{4}$ CA101J	Carbon	$\frac{1}{4}$ W	100	+5%	
R107,R122	16- $\frac{1}{4}$ CR101J	Carbon	$\frac{1}{4}$ W	100	+5%	
R121	16- $\frac{1}{4}$ CA101J	Carbon	$\frac{1}{4}$ W	100	+5%	
R150	16- $\frac{1}{4}$ CA101J	Carbon	$\frac{1}{4}$ W	100	+5%	
R104	16- $\frac{1}{4}$ CA472J	Carbon	$\frac{1}{4}$ W	4K7	+5%	
R145	16- $\frac{1}{4}$ CR472J	Carbon	$\frac{1}{4}$ W	4K7	+5%	
R306	16- $\frac{1}{4}$ CS472J	Carbon	$\frac{1}{4}$ W	4K7	+5%	
R105,R131	16- $\frac{1}{4}$ CA223J	Carbon	$\frac{1}{4}$ W	22K	+5%	
R133,R176	16- $\frac{1}{4}$ CR223J	Carbon	$\frac{1}{4}$ W	22K	+5%	
R229,R230	16- $\frac{1}{4}$ CU223J	Carbon	$\frac{1}{4}$ W	22K	+5%	
R233,R234	16- $\frac{1}{4}$ CU223J	Carbon	$\frac{1}{4}$ W	22K	+5%	
R236	16- $\frac{1}{4}$ CU223J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R106,R192	16- $\frac{1}{4}$ CA102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R115,R134	16- $\frac{1}{4}$ CA102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R143,R163	16- $\frac{1}{4}$ CA102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R161,R162	16- $\frac{1}{4}$ CR102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R168,R181	16- $\frac{1}{4}$ CR102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R205,R206	16- $\frac{1}{4}$ CU102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R308,R309	16- $\frac{1}{4}$ CS102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R310,R330	16- $\frac{1}{4}$ CS102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R331	16- $\frac{1}{4}$ CA102J	Carbon	$\frac{1}{4}$ W	1K	+5%	
R109	16- $\frac{1}{4}$ CA182J	Carbon	$\frac{1}{4}$ W	1K8	+5%	
R304,R305	16- $\frac{1}{4}$ CS182J	Carbon	$\frac{1}{4}$ W	1K8	+5%	
R110	16- $\frac{1}{4}$ CR123J	Carbon	$\frac{1}{4}$ W	12K	+5%	
R111	16- $\frac{1}{4}$ CA123J	Carbon	$\frac{1}{4}$ W	12K	+5%	
R112	16- $\frac{1}{4}$ CR272J	Carbon	$\frac{1}{4}$ W	2K7	+5%	
R114	16- $\frac{1}{4}$ CA221J	Carbon	$\frac{1}{4}$ W	220	+5%	
R301	16-1AS221J	Metal Oxide	1W	220	+5%	
R116	16- $\frac{1}{4}$ CA822J	Carbon	$\frac{1}{4}$ W	8K2	+5%	
R215,R216	16- $\frac{1}{4}$ CS822J	Carbon	$\frac{1}{4}$ W	8K2	+5%	
R117,R129	16- $\frac{1}{4}$ CA152J	Carbon	$\frac{1}{4}$ W	1K5	+5%	
R177	16- $\frac{1}{4}$ CR152J	Carbon	$\frac{1}{4}$ W	1K5	+5%	
R118,R119	16- $\frac{1}{4}$ CR221J	Carbon	$\frac{1}{4}$ W	200	+5%	
R120	16- $\frac{1}{4}$ CR391J	Carbon	$\frac{1}{4}$ W	390	+5%	

REF. NO.	PART NO.	DESCRIPTION				NOTE
R123,R124	16- $\frac{1}{4}$ CR391J	Carbon	$\frac{1}{4}$ W	390	+5%	
R138,R179	16- $\frac{1}{4}$ CR391J	Carbon	$\frac{1}{4}$ W	390	+5%	
R125,R136	16- $\frac{1}{4}$ CA153J	Carbon	$\frac{1}{4}$ W	15K	+5%	
R126,R132	16- $\frac{1}{4}$ CR153J	Carbon	$\frac{1}{4}$ W	15K	+5%	
R149	16- $\frac{1}{4}$ CA153J	Carbon	$\frac{1}{4}$ W	15K	+5%	
R303	16- $\frac{1}{4}$ CS153J	Carbon	$\frac{1}{4}$ W	15K	+5%	
R127,R128	16- $\frac{1}{4}$ CR824J	Carbon	$\frac{1}{4}$ W	820K	+5%	
R225,R226	16- $\frac{1}{4}$ CS824J	Carbon	$\frac{1}{4}$ W	820K	+5%	
R135	16- $\frac{1}{4}$ CA151J	Carbon	$\frac{1}{4}$ W	150	+5%	
R184	16- $\frac{1}{4}$ CR151J	Carbon	$\frac{1}{4}$ W	150	+5%	
R231,R204	16- $\frac{1}{4}$ CS151J	Carbon	$\frac{1}{4}$ W	150	+5%	
R139,R169	16- $\frac{1}{4}$ CR562J	Carbon	$\frac{1}{4}$ W	5K6	+5%	
R142,R190	16- $\frac{1}{4}$ CR473J	Carbon	$\frac{1}{4}$ W	47K	+5%	
R151,R152	16- $\frac{1}{4}$ CR473J	Carbon	$\frac{1}{4}$ W	47K	+5%	
R183	16- $\frac{1}{4}$ CA473J	Carbon	$\frac{1}{4}$ W	47K	+5%	
R213,R214	16- $\frac{1}{4}$ CS473J	Carbon	$\frac{1}{4}$ W	47K	+5%	
R144	16- $\frac{1}{4}$ CA155J	Carbon	$\frac{1}{4}$ W	1M5	+5%	
R146,R147	16- $\frac{1}{4}$ CR103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R148,R166	16- $\frac{1}{4}$ CA103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R170	16- $\frac{1}{4}$ CA103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R180	16- $\frac{1}{4}$ CR103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R188,R189	16- $\frac{1}{4}$ CR103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R211,R212	16- $\frac{1}{4}$ CS103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R227,R228	16- $\frac{1}{4}$ CS103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R237,R307	16- $\frac{1}{4}$ CS103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R153,R154	16- $\frac{1}{4}$ CA183J	Carbon	$\frac{1}{4}$ W	18K	+5%	
R223,R224	16- $\frac{1}{4}$ CS183J	Carbon	$\frac{1}{4}$ W	18K	+5%	
R155,R156	16- $\frac{1}{4}$ CR332J	Carbon	$\frac{1}{4}$ W	3K3	+5%	
R157,R158	16- $\frac{1}{4}$ CA332J	Carbon	$\frac{1}{4}$ W	3K3	+5%	
R159,R160	16- $\frac{1}{4}$ CR332J	Carbon	$\frac{1}{4}$ W	3K3	+5%	
R165	16- $\frac{1}{4}$ CR683J	Carbon	$\frac{1}{4}$ W	68K	+5%	
R167	16- $\frac{1}{4}$ CR273J	Carbon	$\frac{1}{4}$ W	27K	+5%	
R171	16- $\frac{1}{2}$ CN100J	Carbon	$\frac{1}{2}$ W	10	+5%	
R172	16- $\frac{1}{4}$ CR561J	Carbon	$\frac{1}{4}$ W	560	+5%	
R173	16- $\frac{1}{4}$ CN561J	Carbon	$\frac{1}{4}$ W	560	+5%	

REF. NO	PART NO.	DESCRIPTION				NOTE
R201, R202	16- $\frac{1}{4}$ CS561J	Carbon	$\frac{1}{4}$ W	560	+5%	
R174	16-5B330J	Cement	5 W	33	+5%	
R175	16- $\frac{1}{4}$ CN471J	Cement	$\frac{1}{4}$ W	470	+5%	
R182	16- $\frac{1}{4}$ CR334J	Carbon	$\frac{1}{4}$ W	330K	+5%	
R235	16- $\frac{1}{4}$ CU334J	Carbon	$\frac{1}{4}$ W	330K	+5%	
R815	16- $\frac{1}{4}$ CR331J	Carbon	$\frac{1}{4}$ W	330	+5%	
R186, R187	16- $\frac{1}{4}$ CR222J	Carbon	$\frac{1}{4}$ W	2K2	+5%	
R191	16- $\frac{1}{4}$ CA222J	Carbon	$\frac{1}{4}$ W	2K2	+5%	
R203	16- $\frac{1}{4}$ CS220J	Carbon	$\frac{1}{4}$ W	22	+5%	
R209, R210	16- $\frac{1}{4}$ CS474J	Carbon	$\frac{1}{4}$ W	470K	+5%	
R217, R218	16- $\frac{1}{4}$ CS392J	Carbon	$\frac{1}{4}$ W	3K9	+5%	
R221, R222	16- $\frac{1}{4}$ CS392J	Carbon	$\frac{1}{4}$ W	3K9	+5%	
R219, R220	16- $\frac{1}{4}$ CS122J	Carbon	$\frac{1}{4}$ W	1K2	+5%	
R232	16- $\frac{1}{4}$ CU682J	Carbon	$\frac{1}{4}$ W	1K8	+5%	
SEMICONDUCTORS						
Q101	30-2298	FET		2SK55D		
Q102, Q105	30-2239-1	TR		2SC668E/2SC278K		
Q103	30-2019	TR		2SC930C		
Q104	10-2148	FET		2SK41D		
Q106, Q107	30-2090-2	TR		BC546B		
Q108-Q110	30-2156	TR		2SC1815GR		
Q111	30-2309	FET		J113		
Q112, Q113	30-2260	TR		2SD669C/2SD669D		
Q114	30-2156	TR		2SC1815GR		
Q115	30-2019	TR		2SC930C		
Q116	30-2090-2	TR		BC546B		
Q201, Q202	30-2319	TR		HIT 9013		
Q203	30-2096	TR		BC556B		
Q204-Q207	30-2156	TR		2SC1815GR		
D101-D106	30-1019	Diode		BAW62/BAW76		
D107	30-1044	Diode		Zener RD15EB3		
D108	30-1063	Diode		Zener RD9.1EB3		
D109	30-1019	Diode		BAW62/BAW76		
D301	30-1058P	Diode		Zener 5V $\frac{1}{2}$ W		

PART NO.	REF.NO.	DESCRIPTION	NOTE
IC101	30-3035	IC FM IF TA7060P/AP	
IC102	30-3185	IC FM IF uPC1211V	
IC103 IC 201	30-3069	IC Dual OP RC4558/uPC4558C	
IC104	30-3079	IC MPX HA12016	
IC105	30-3036	IC AM Tuner HA1197	
IC301	30-3198	IC Freq Display Driver LC7257F	
IC302	30-3199	IC Divider SP8629	
MISCELLANEOUS PARTS			
VC101-VC105	17-1030	Trimmer TZ03T110F	
TC105	17-1031	Trimmer Ploy CA51J311	
CF101-CF103	29-3044	Ceramic Filter FM SFE 10.7ML	
FL101,FL102	29-3049	LOW Pass Filter LA1196	
D202,D201	30-1044	Diode Zener RD15EB3	
T101	29-3111	IFT FM Mixer 119AC-AP178N	
T102	29-3106	IFT FM DET 119FES-14855Y	
T103	29-3110	IFT AM CFTS-455C	
T104	29-3029	IFT AM White	
SFR101	29-4163	VR H0811A 5503-50KB	
SFR102	29-4165	VR Semi H0811A 5502-FL (5KB)	
SFR103	29-4169	VR Semi H0811A 5504-FL (500KB)	
SRF301/302	29-4077	VR Semi H0811A 5103-FL (10KB)	
S101,S102	31-1226	SW Slide SSP22FL080	
S301	31-1227	SW Slide SLW43-17K	
VR201	29-4097F*A	VR GM80B00373-FL(50KBx2)	
VR202,VR203	29-4166	VR GM70EFL374-100KC X2	
L101	18-1016-1D	Core Ass'y	
L108	29-5008*B	AM ANT BAR	
L102	29-1063*A	Coil Variable RF	
L103	29-1111	Coil Variable RF	
L104	29-1112	Coil Variable RF	
L105,L106	29-1051	Coil 2.2 uH	
L107	29-3018	Coil AM OSC	
L301	29-1051	Coil 2.2 uH	
CY-301	30-4001	Xtal 4MHZ	

REF. NO.	PART NO.	DESCRIPTION	NOTE
	12-1065	Connector PCB 2P Plug	
	12-1066	Connector PCB 3P Plug	
	12-1067	Connector PCB 4P Plug	
	13-6027	PIN for P-300 P-301 PCB	
	14-4019	Wire Assy Socket 3P 300mm	
	14-4020	Wire Assy Socket 3P 250mm	
	14-4022	Wire Assy Socket 3P 120mm	
	14-4032	Wire Assy Socket 1P 250mm	
	14-3036	Wire Assy Socket 1P 250mm	
	14-4037	Wire Assy Socket 1P 250mm	
	14-4038	Wire Assy Socket 1P 180mm	
	14-4039	Wire Assy Socket 1P 250mm	
	12-1066	Connector PCB 3P Plug	
	14-4021	Wire Assy Socket 3P 180mm	
	14-4023	Wire Assy 3P 160mm	
	WA-0A0505004-04	Jumper Lead Assy 2468 5 x 50mm	
	WA-0A0605004-04	Jumper Lead Assy 2468 5 x 50mm	
	WA-0A0606004-04	Jumper Lead Assy 2468 6 x 60mm	
	14-4016	Wire Assy Socket 2P 180mm	
	14-4017	Wire Assy Socket 3P 200mm	
	14-4018	Wire Assy Socket 4P 250mm	
	14-4031	Wire Assy Socket 1P 160mm	
	14-4033	Wire Assy Socket 1P 320mm	
	14-4034	Wire Assy Socket 1P 150mm	
	14-4035	Wire Assy Socket 1P 220mm	
	14-1027	FM ANT T Type	
	31-1231	DC Power SW Push SUE12AF014-FL	

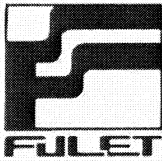
(AMPLIFIER)

REF. NO.	PART NO.	DESCRIPTION				NOTE
CAPACITORS						
C401	17-5FF473J	Mylar	0.047 uF	+ -5%	50V	
C402	17-5FF563J	Mylar	0.056 uF	+ -5%	50V	
C404	17-5FF103J	Mylar	0.01 uF	+ -5%	50V	
C405,C406	17-5FF102J	Mylar	0.001 uF	+ -5%	50V	
C408,C409	17-5FF102J	Mylar	0.001 uF	+ -5%	50V	
C504,C518	17-5FF102J	Mylar	0.001 uF	+ -5%	50V	
C602	17-5FF102J	Mylar	0.001 uF	+ -5%	50V	
C407,C606	17-5DR121M	Ceramic	120 pF	+ -20%	50V	
C501,C502	17-1ER476Y	Electrolytic	47 uF	+50-10%	10V	
C503,C505	17-1ER476Y	Electrolytic	47 uF	+50-10%	10V	
C608	17-1ER476Y	Electrolytic	47 uF	+50-10%	10V	
C506,C604	17-1ER227Y	Electrolytic	220 uF	+50-10%	10V	
C507,C603	17-5DR473Z	Ceramic	0.047 uF	+80-20%	50V	
C611,C614	17-5DR473Z	Ceramic	0.047 uF	+80-20%	50V	
C508	17-5DR221M	Ceramic	220 pF	+ -20%	50V	
C509,C605	17-5DR470M	Ceramic	47 pF	+ -20%	50V	
C510,C807	17-2.5ER476Y	Electrolytic	47 uF	+50-10%	25V	
C511,C513	17-5FF104J	Mylar	0.1 uF	+ -5%	50V	
C601,C610	17-5FF104J	Mylar	0.1 uF	+ -5%	50V	
C514,C515	17-5DH104Z	Ceramic	0.1 uF	+80-20%	50V	
C516,C517	17-5DH104Z	Ceramic	0.1 uF	+80-20%	50V	
C612,C613	17-5DH104Z	Ceramic	0.1 uF	+80-20%	50V	
C607,C801	17-1.6ER476Y	Electrolytic	47 uF	+50-10%	16V	
C802	17-1.6ER476Y	Electrolytic	47 uF	+50-10%	16V	
C615	17-2.5SF405M	Electrolytic Bipolar	4 uF	+ -20%	25V	
C803,C804	17-2.5ER106Y	Electrolytic	10 uF	+50-10%	25V	
C805,C806	17-2.5DR102M	Ceramic	1000 pF	+ -20%	25V	
C808	17-2.5EF476Y	Electrolytic	47 uF	+50-10%	25V	
C809,C810	17-3.5ER476Y	Electrolytic	47 uF	+50-10%	35V	
C811,C812	17-1.6A108M	Electrolytic	1000 uF	+ -20%	16V	
C813,C814	17-2.5A228M	Electrolytic	2200 uF	+ -20%	25V	
C815	17-1EF477Y	Electrolytic	470 uF	+50-10%	10V	
C816,C817	17-1ER337Y	Electrolytic	330 uF	+50-10%	10V	

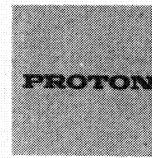
REF. NO.	PART NO.	DESCRIPTION	NOTE
C819	17-2.5A228M	Electrolytic 2200 uF +-20% 25V	
C820	17-2.5EF477Y	Electrolytic 470 uF +50-10% 25V	
RESISTORS (OHM)			
R401, R408	16- $\frac{1}{4}$ CA104J	Carbon $\frac{1}{4}$ W 100K +-5%	
R808	16- $\frac{1}{4}$ CA104J	Carbon $\frac{1}{4}$ W 100K +-5%	
R402	16- $\frac{1}{4}$ CA154J	Carbon $\frac{1}{4}$ W 150K +-5%	
R403, R404	16- $\frac{1}{4}$ CR563J	Carbon $\frac{1}{4}$ W 56K +-5%	
R417	16- $\frac{1}{4}$ CR563J	Carbon $\frac{1}{4}$ W 56K +-5%	
R405	16- $\frac{1}{4}$ CA562J	Carbon $\frac{1}{4}$ W 5K6 +-5%	
R406, R407	16- $\frac{1}{4}$ CA563J	Carbon $\frac{1}{4}$ W 56K +-5%	
R416	16- $\frac{1}{4}$ CA563J	Carbon $\frac{1}{4}$ W 56K +-5%	
R409, R411	16- $\frac{1}{4}$ CR104J	Carbon $\frac{1}{4}$ W 100K +-5%	
R412	16- $\frac{1}{4}$ CR104J	Carbon $\frac{1}{4}$ W 100K +-5%	
R410, R507	16- $\frac{1}{4}$ CA102J	Carbon $\frac{1}{4}$ W 1K +-5%	
R521, R609	16- $\frac{1}{4}$ CA102J	Carbon $\frac{1}{4}$ W 1K +-5%	
R804, R805	16- $\frac{1}{4}$ CA102J	Carbon $\frac{1}{4}$ W 1K +-5%	
R809	16- $\frac{1}{4}$ CA102J	Carbon $\frac{1}{4}$ W 1K +-5%	
R413, R603	16- $\frac{1}{4}$ CA123J	Carbon $\frac{1}{4}$ W 12K +-5%	
R414	16- $\frac{1}{4}$ CR103J	Carbon $\frac{1}{4}$ W 10K +-5%	
R415	16- $\frac{1}{4}$ CA332J	Carbon $\frac{1}{4}$ W 3K3 +-5%	
R418	16- $\frac{1}{4}$ CR472J	Carbon $\frac{1}{4}$ W 4K7 +-5%	
R501	16- $\frac{1}{4}$ CA471J	Carbon $\frac{1}{4}$ W 470 +-5%	
R502, R503	16- $\frac{1}{4}$ CA223J	Carbon $\frac{1}{4}$ W 22K +-5%	
R504, R506	16- $\frac{1}{4}$ CA391J	Carbon $\frac{1}{4}$ W 390 +-5%	
R514, R516	16- $\frac{1}{4}$ CA391J	Carbon $\frac{1}{4}$ W 390 +-5%	
R607	16- $\frac{1}{4}$ CA391J	Carbon $\frac{1}{4}$ W 390 +-5%	
R505	16- $\frac{1}{4}$ CA183J	Carbon $\frac{1}{4}$ W 18K +-5%	
R508, R512	16- $\frac{1}{4}$ CA272J	Carbon $\frac{1}{4}$ W 2K7 +-5%	
R509, R511	16- $\frac{1}{4}$ CR201J	Carbon $\frac{1}{4}$ W 200 +-5%	
R510	16- $\frac{1}{4}$ CA224J	Carbon $\frac{1}{4}$ W 220 +-5%	
R513	16- $\frac{1}{4}$ CR470J	Carbon $\frac{1}{4}$ W 47 +-5%	
R515	16-1AS391J	Metal oxide 1 W 390 +-5%	
R517, R608	16- $\frac{1}{4}$ CA331J	Carbon $\frac{1}{4}$ W 330 +-5%	
R518, R519	16- $\frac{1}{2}$ CS122J	Carbon $\frac{1}{2}$ W 1K2 +-5%	

REF. NO.	PART NO.	DESCRIPTION				NOTE
R522	16- $\frac{1}{4}$ AP680J	Metal oxide	$\frac{1}{4}$ W	68	+5%	
R523	16- $\frac{1}{4}$ CA330	Carbin	$\frac{1}{4}$ W	33	+5%	
R524	16- $\frac{1}{4}$ CR181J	Carbon	$\frac{1}{4}$ W	180	+5%	
R526,R615	16-1AS100J	Metal oxide	1 W	10	+5%	
R527,R528	16-1ANR22J	Metal oxide	1 W	0.22	+5%	
R601,R606	16- $\frac{1}{4}$ CA222J	Carbon	$\frac{1}{4}$ W	2K2	+5%	
R807,R810	16- $\frac{1}{4}$ CA222J	Carbon	$\frac{1}{4}$ W	2K2	+5%	
R602	16- $\frac{1}{4}$ CA103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R604,R710	16- $\frac{1}{4}$ CR470J	Carbon	$\frac{1}{4}$ W	47	+5%	
R605	16- $\frac{1}{4}$ CA560J	Carbon	$\frac{1}{4}$ W	56	+5%	
R611	16- $\frac{1}{4}$ AP181J	Metal oxide	$\frac{1}{4}$ W	180	+5%	
R612,R613	16- $\frac{1}{4}$ CA122J	Carbon	$\frac{1}{4}$ W	1K2	+5%	
R614	16- $\frac{1}{4}$ CA181J	Carbon	$\frac{1}{4}$ W	180	+5%	
R616	16- $\frac{1}{4}$ CN1R0J	Carbon	$\frac{1}{4}$ W	1	+5%	
R801,R802	16- $\frac{1}{4}$ CA153J	Carbon	$\frac{1}{4}$ W	15K	+5%	
R803	16- $\frac{1}{4}$ CA221J	Carbon	$\frac{1}{4}$ W	220	+5%	
R806,R811	16- $\frac{1}{4}$ AP560J	Metal oxide	$\frac{1}{4}$ W	56	+5%	
R812,R813	16- $\frac{1}{4}$ CR222J	Carbon	$\frac{1}{4}$ W	2K2	+5%	
R815	16- $\frac{1}{4}$ CR222J	Carbon	$\frac{1}{4}$ W	2K2	+5%	
R814	16- $\frac{1}{4}$ AP101J	Metal oxide	$\frac{1}{4}$ W	100	+5%	
R816	16- $\frac{1}{2}$ AS3R3J	Metal oxide	$\frac{1}{2}$ W	3.3	+5%	
R817,R818	16- $\frac{1}{4}$ AP470J	Metal oxide	$\frac{1}{4}$ W	47	+5%	
R419,R420	16- $\frac{1}{4}$ CR103J	Carbon	$\frac{1}{4}$ W	10K	+5%	
R819,R820	16-1AS3R3J	Metal oxide	1 W	3.3	+5%	
SEMICONDUCTORS						
D501,D502	30-1019-1	Diode	BAW62/BAW76			
D503,D504	30-1019-1	Diode	BAW62/BAW76			
D601,D602	30-1019-1	Diode	BAW62/BAW76			
D702	30-1019-1	Diode	BAW62/BAW76			
D801	30-1044	Diode Zener	RD15EB3			
D802	30-1135	Diode Zener	RD27EB4			
D803	30-1078	Diode	BAV19			
D804~D811	30-1002	Diode	1N4002			

REF. NO.	PART NO.	DESCRIPTION	NOTE
BD803	30-1035	Diode Rectifier 1.5A 50V W005	
BD802	30-1049	• Diode Rectifier 3A 200V KBL 02	
IC401,IC402	30-3069	IC UPC 4558/RC4558	
Q501	30-2085-2	TR BC559B	
Q502,Q601	30-2084-3	TR BC549C	
Q503,Q602	30-2096	TR BC556B	
Q605,Q803	30-2096	TR BC556B	
Q504,Q506	30-2260	TR 2SD669C/25D669D	
Q801	30-2260	TR 2SD669C/25D669D	
Q505,Q603	30-2090-2	TR BC546B	
Q604,Q802	30-2090-2	TR BC546B	
Q805	30-2090-2	TR BC546B	
Q507,Q804	30-2259	TR 2SB649C/2SB649D	
Q508	30-2303	TR MJE3055T	
Q509	30-2302	TR MJE2955T	
Q606	30-2307	TR TIP31	
Q607	30-2308	TR TIP32	
MISCELLANEOUS PARTS			
TB	35-3011	Breaker A-22	
RELAY	35-3029	Relay HA1-DC12V UL/CSA	
WOOFER	35-6008	Speaker Woofer 15W 8 ohm 5- $\frac{1}{2}$ Inch	
TWEETER	35-6007	Speaker Tweeter 8W 8 ohm 2 Inch	
VR401	29-4160	VR K161 AFL 089-20KB	
VR501	29-4165	VR Semi H0811A5502-FL(5KB)	
VR502,VR602	29-4170	VR Semi H0811A5101-100B	
VR601	29-4168	VR Semi H0811A5501-500B	



FULET ELECTRONIC INDUSTRIAL CO., LTD
63, Sec. 1, San Ming Rd.,
Panchiao, Taipei Hsien,
Taiwan, R.O.C.
Tel: (02) 9625135-40
Telex: 31303 FULETCO



PROTON CORPORATION
Pacific Tower Plaza,
1431 Ocean Avenue,
Santa Monica, CA90401
Tel: (213) 395-3358
Telex: 02340652344

Printed in Taiwan