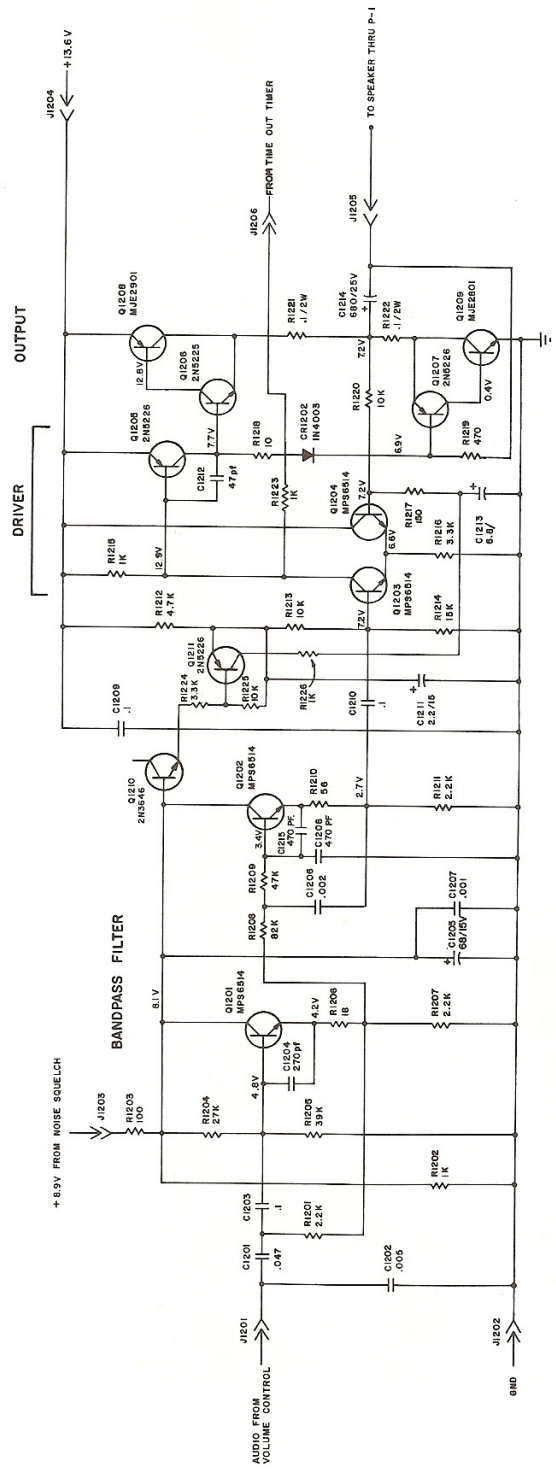
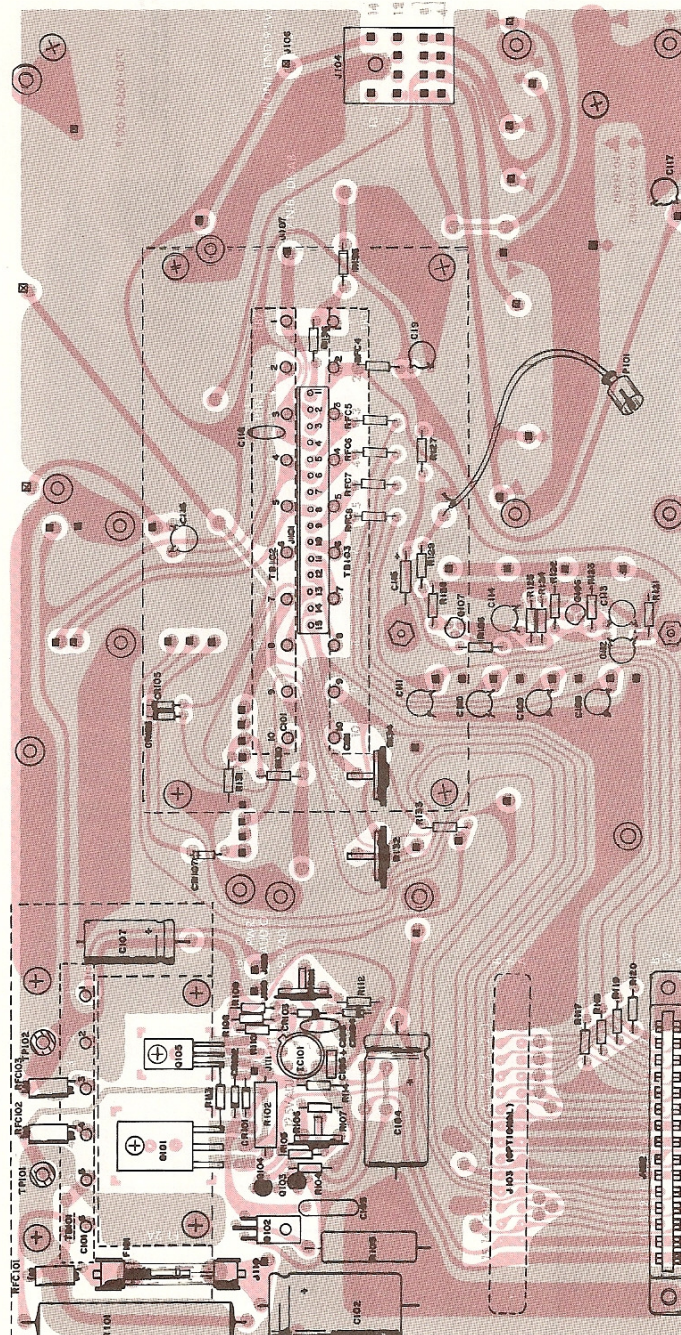


5 WATT, RECEIVER AUDIO AMPLIFIER MODULE PARTS LOCATION



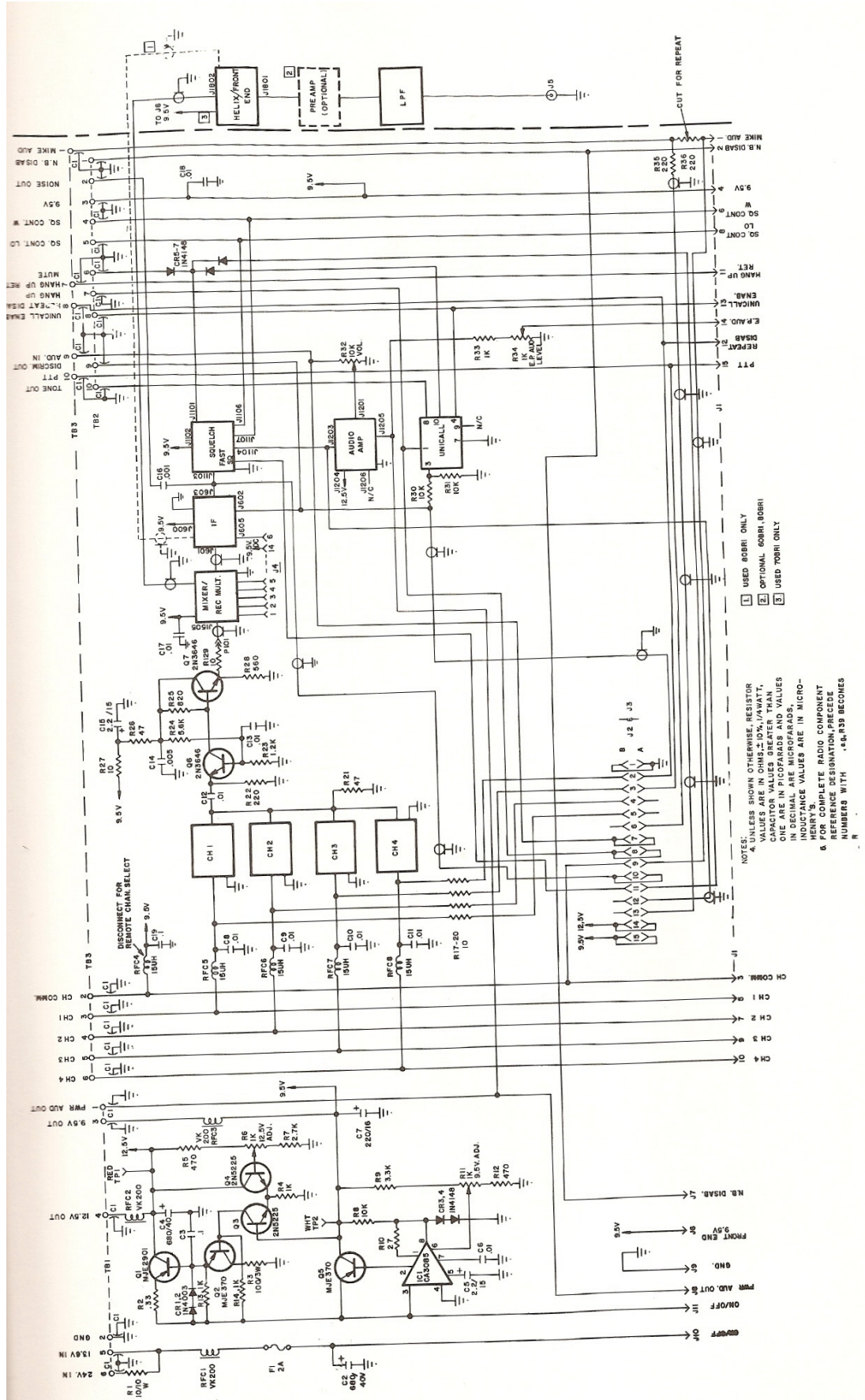
NOTES:  
 1. UNLESS SHOWN OTHERWISE,  
 RESISTOR VALUES ARE IN OHMS, 2.10%, 1/4 WATT,  
 CAPACITOR VALUES IN MICROFARADS

5 WATT, RECEIVER AUDIO AMPLIFIER SCHEMATIC



B/74 1999 0084 1E2

MASTER INTERCONNECT MODULE PARTS LOCATION



NOTES: UNLESS SHOWN OTHERWISE, RESISTOR VALUES ARE IN OHMS, ±10%/AWATT, CAPACITOR VALUES GREATER THAN ONE ARE IN PICOGRAMS, SMALLER VALUES IN MICROGRAMS, INDUCTANCE VALUES ARE IN MICROHENRYS.

⊗ FOR COMPLETE RADIO COMPONENT REFERENCE DESIGNATION, PREFIX LETTER NUMBERS WITH .45, .75 BECOMES

- 1 USED 400R ONLY
- 2 OPTIONAL 600R 100R1
- 3 USED 700R ONLY

MASTER INTERCONNECT SCHEMATIC

# PARTS LIST

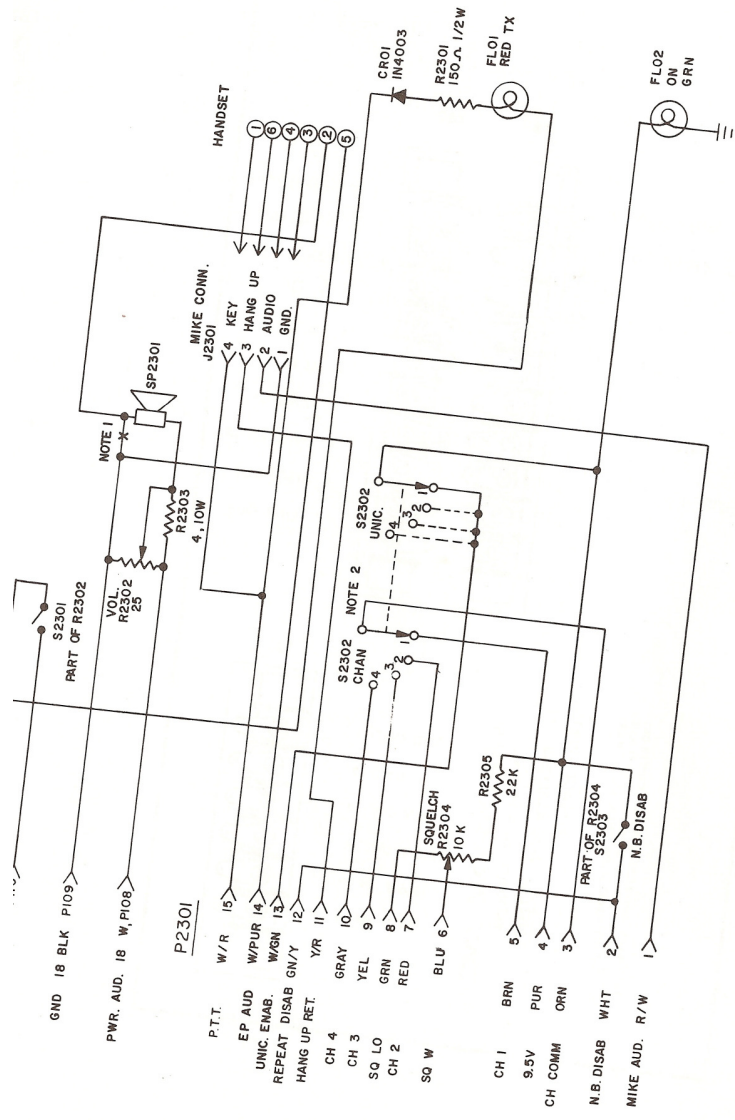
Item	Description	Part No
	MASTER INTERCONNECT BOARD ASSEMBLY	
	To order complete board assembly, use part number	
	1939-0654-112	
C2	Capacitor, elect. 680/40	1518-6809-001
C3	Capacitor, .1F.F.	529- 1 008-00 1
C5	Capacitor, tant., 2.2/15	1532-2207-015
C6	Capacitor, disc., .01	1502-1005-004
C7	Capacitor, elect., 220/1~	1518-2209-018
C8	Capacitor, disc . 01	1502-1005-004
thru		
C13		
C14	Capacitor, disc. .005	1510-5004-00 1
C15	Capacitor, 2.2/15	1532-2207-026
C16	Capacitor, disc . 001	1508-1004-001
C17	Capacitor, disc . 01	1502-1005-004
thru		
C18		
C19	Capacitor, .1 uf disc.	1505- 1006-005
F1	Fuse. 2 amp	5' 50-2004-004
R1	Resistor. 10 ohm, 10W	4716-1002-001
R2	Resistor, 33 ohm	4713-3300-001
R3	Resistor, 100 ohm 3W	4718-1003-001
R4	Resistor, 1 K	4704-1004-001
R6	Pot.1K	4735-1004-002
R7	Resistor, 2.7K	4704-2704-001
R8	Resistor. 10K	4704-1005-001
R9	Resistor. 3.3K	4704-3304-001
R10	Resistor 27 ohm	4704-2702-001
R11	Pot.1K	4735- 1 004-002
R12	Resistor. 470 ohm	4704-4703-001
R13		
R14	Resistor, 1 K	4704- , 004-00 1
R11	Resistor, 10 ohm	4704-1002-001
thru		
R20		
R21	Resistor, 47 ohm	4704-4702-001
R22	Resistor, 220 ohm	4704-2203-001
R23	Resistor, 1.2K	4704-1204-001
R24	Resistor, 5.6K	4704-5604-001
R25	Resistor. 820 ohm	4704-8203-001
R26	Resistor. 47 ohm	4704-4702-001
R27	Resistor, 10 ohm	4704-1002-001
R28	Resistor, 560 ohm	4704-5603-001
R29	Resistor. 10 ohm	4704-1002-001
R30		
R31	Resistor. 10K	4704-1005-001

# PARTS LIST

Item	Description	Part No
	<p>FRONT PANEL ASSEMBLY 4 CHANNEL,</p> <p>with CONTROLS AND MICROPHONE CONTROLS</p> <p>To order complete assembly, use part number</p> <p>1939-0654-111</p>	
R2301	Resistor, 68 ohm, %W	4701-6802-001
R2302	Pot, W-SW, 25 ohm W.W.	4742-2502-003
R2303	Resistor, 4 ohm, 10W	4716-4001-001
R2304	Pot, W-SW, 10K	4731-1005-022
R2305	Resistor, 22K	4704-2205-001
82302	Switch, channel select	5110-0000-020
	Plug, 15 pin	2108-0000-017
	Harness, front panel	6057-0654-030
	Terminals, 15 pin connector	2108-0000-018
	Mike connector	2105-0000-019
	Clamp, cable	2142-0000-016
	Terminal strip	2162-0000-010
	Knob	2509-0000-029
	Knob	2409-0000-030
	Green window	3943-0000-001
	Lamp	3959-0000-009

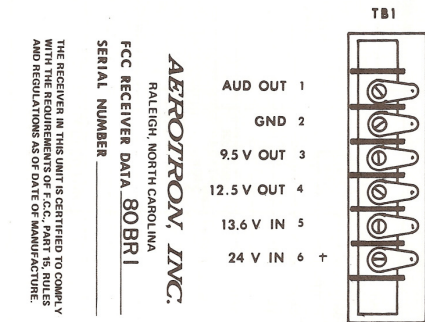
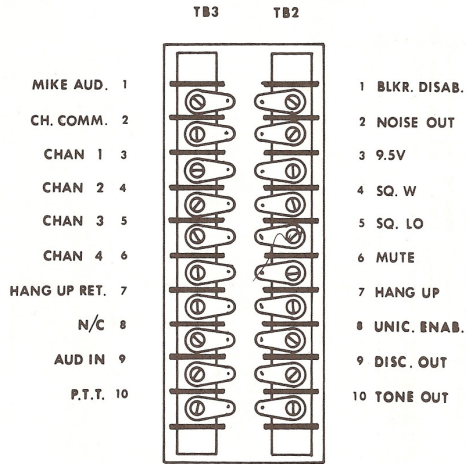


NOTE:  
 1. NO CONNECTION WHEN HANDSET INSTALLED  
 2. 1 CHANNEL VERSION DELETE S2302 AND WIRES CONNECTED TO PINS 10,9,7,4,3,1.  
 3. UNLESS SHOWN OTHERWISE, RESISTOR VALUES ARE IN OHMS, ±10%, 1/4WATT, ONE ARE IN PICO FARADS, GREATER THAN IN DECIMAL ARE MICROFARADS, INDUCTANCE VALUES ARE IN MICRO-HENRY'S.



FRONT PANEL SCHEMATIC





**AEROTRON, INC.**  
 RALEIGH, NORTH CAROLINA  
 FCC RECEIVER DATA 80BR1  
 SERIAL NUMBER \_\_\_\_\_

THIS RECEIVER IN THIS UNIT IS CERTIFIED TO COMPLY WITH FEDERAL COMMUNICATIONS COMMISSION AND REGULATIONS AS OF DATE OF MANUFACTURE.

REAR PANEL MODULE PARTS LOCATION

## 1091 AUDIO AMPLIFIER

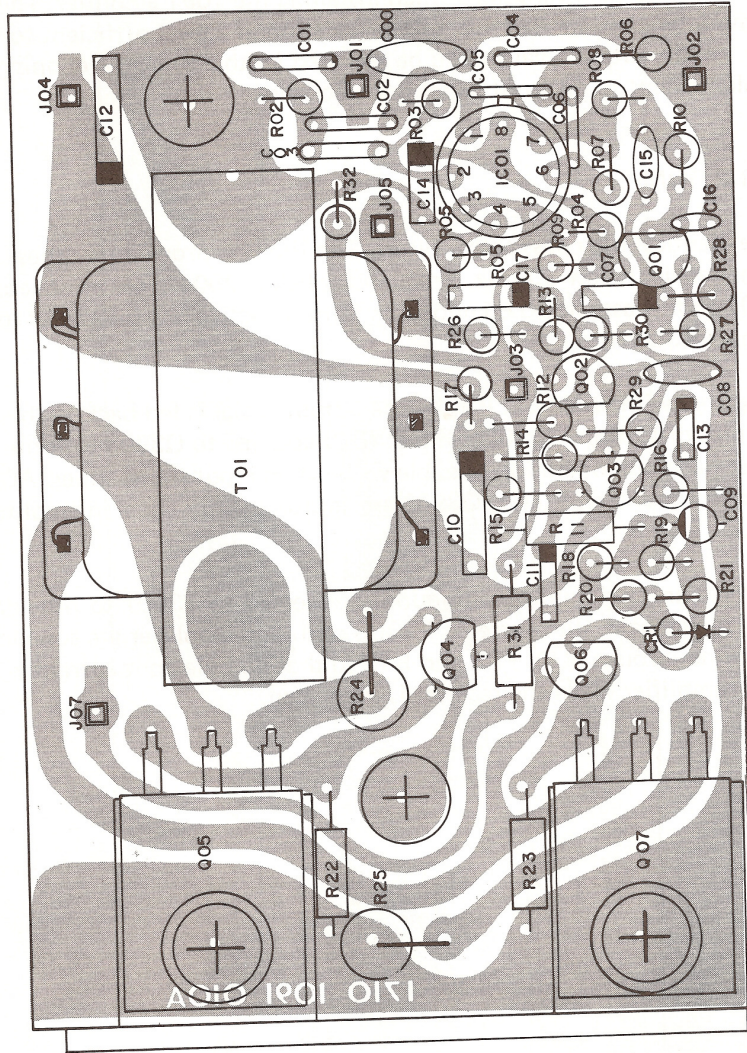
The 1091 Audio Amplifier module is capable of providing greater than ten Watts to a 3.2 ohm speaker and 5 Watts to an 8 ohm speaker at less than 5% distortion. The 1091 will directly interchange with the standard (5 Watt) amplifier module. It may be necessary to re-adjust R32 on the master interconnect board. (Vertical potentiometer; vol, near A. F. amplifier) to accommodate gain variations when installing the 1091 amplifier. The input signal should be modulated at 1 KHz with 5 KHz deviation at a level sufficient to fully quiet the receiver. Audio output level should be adjusted (with R9) below clipping (approx. 6V RMS) with volume control on front panel full clockwise.

### CIRCUIT DESCRIPTION:

IC3901 A & B are identical high pass active filters. The filtering provided by these circuits attenuates low frequencies below 300 Hz. Frequencies below 200 Hz are attenuated more than 20 dB. 03901 and its associated components form an active low pass filter to attenuate frequencies above 300 Hz.

03902 is a preamplifier with feedback. Part of the output signal is fed back to the emitter of this stage to minimize distortion. 03902 is direct (DC) coupled to 03903 to form a phase splitter. This makes push-pull operation possible without an input transformer. AC (audio) signals from the collector and emitter of 03903 are approximately equal in amplitude and 180 out of phase.

The output amplifiers are darlington (compound) connected to T3901 to provide the required current and power gain. Bias currents for this push-pull amplifier are supplied from the squelched 9.5 Volt line through R11, R18 and R19 so that no quiescent current is drawn through the output amplifier when the receiver is squelched.



10 WATT, RECEIVER AUDIO AMPLIFIER MODULE PARTS LOCATION



# PARTS LIST

Item	Description	Part No
	O RECEIVER AUDIO, 10 WATT  " " 19311-1091-101	
C1200	Capacitor, .001 disc. cer.	1606-1004-001
C1201 thru C1205	Capacitor, .039uf disc cer.	1526-3905-001
C1207	Capacitor, 6.8uf. tant., , 5V	1532-6807-Q35
C1208	Capacitor, .022uf mono cer.	1526-2205-002
C1209	Capacitor, 10uf 15V-tent.,	1532-2008-015
C1210	Capacitor, 68uf tant., 15V	1532-6808-015
C1211	Capacitor, 4.7uf tant., 15V	15324707-001
C1212	Capacitor, 68uf tant., 15V	1532-6808-015
C1213	Capacitor, 4. Juf tant., 15V	15324704-001
C1214	Capacitor, 6.8uf tant., 15V	1532-6807-035
C1215	Capacitor, .022uf mono cer.	1526-2205-002
C1216	Capacitor, .0022uf mono cer.	1526-2204-001
C1217	Capacitor, 33uf tant., 10V	1532-33011-Q 1 0
C1218	Capacitor, 4uf 40VDC	15184007-002
01201	Transistor. MPS6514	4811-ooOO-012
01202		
01203	Transistor, NPN 2N5225	4811-ooOO-027
01204		
01205	Transistor, NPN MJE 2801	4810-0100-Q20
01205	Transistor, NPN, 2N5225	4811-0100-Q27
01207	Transistor, NPN MJE 2801	4810-0000-020
R1202	Resistor, 4.7K	47044704-001
R1203	Resistor, 33K	4704-3305-001
R1204 thru R120B	Resistor,4.7K	47044704-001
R1207	Resistor,33K	4704-3305-001
R1209	Resistor, 10K	4704-1005-001
R1209	Resistor, 47 ohm	47044702-001
R1210	Resistor, 470 ohm	47044703-001
R1211		
R1212	Resistor, 47K	4704-4705-001
R1213	Resistor, 56 ohm	4704-5602-001
R1214	Resistor, 4.7K	47044704-001
R1215	Resistor, 470 ohm	47044703-001
R1216		
R1217	Resistor, 120 ohm	4704-1203-001
R1218	Resistor,8.2K	4704-8204-001
R1219		
R1220	Resistor, 680 ohm	4704-8803-001
R1221		
R1222	Resistor, 470 ohm	4704-4703-001
R1223		
R1224	Resistor, .33 ohm	4713-33oo-001
R1225		
R1226	Resistor, 2. ~	4704-2704-001
R1227	Resistor, 47 ohm	47044702-001
R1228	Resistor, 2.2K	4704-2204-001
R1229	Resistor, 10K	4704-1005-001
R1230	Resistor, 1.2K	4704- 1204-001
R1231	Resistor, 22K	4704-2205-001
R1232	Resistor,1K	4704-1001-001
T1201	Transformer, audio output	5802-ooOO-015
CR1201	Diode, 1 N4003	4803-ooOO-019
IC1201	Integrated CKT MC145BCG	4850-C1000-011

## **1088 PREAMP**

The 1088 preamp option provides a 6 db increase in receiver sensitivity. The preamp assembly plugs into the front end cavity assembly and is held in position by a screw into a standoff which supports one end of the preamp assembly. Power for the 1088 is obtained from the 9.5V regulated supply in the MPAC-8. The red flying lead from the 1088 is routed through the divider panel and soldered to the pad on the MOTHERBOARD marked +9.5 V PREAMP. [Requires Removal of transmit multiplier board.]

The neutralization circuit is factory adjusted; however, the input and output tuning must be realigned at the frequency in use. Tuning consists merely of adjusting C2002 and C2006 for best quieting. Optimum results may require retuning of C801 and C802 in the front end cavity assembly. Proper alignment should yield a sensitivity (quieting) of approximately .25uv for 20db quieting.