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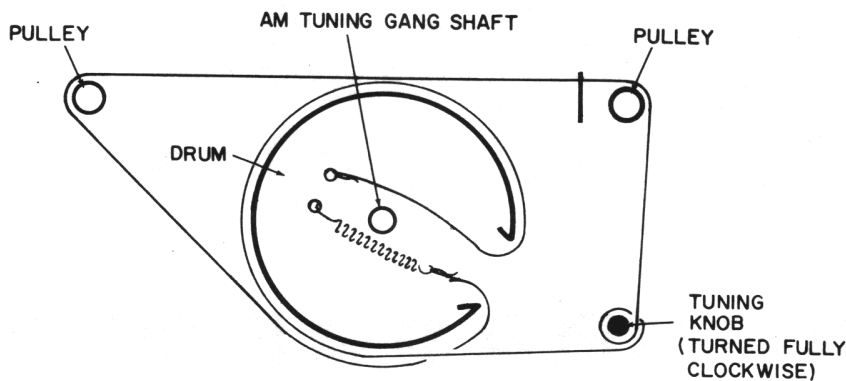
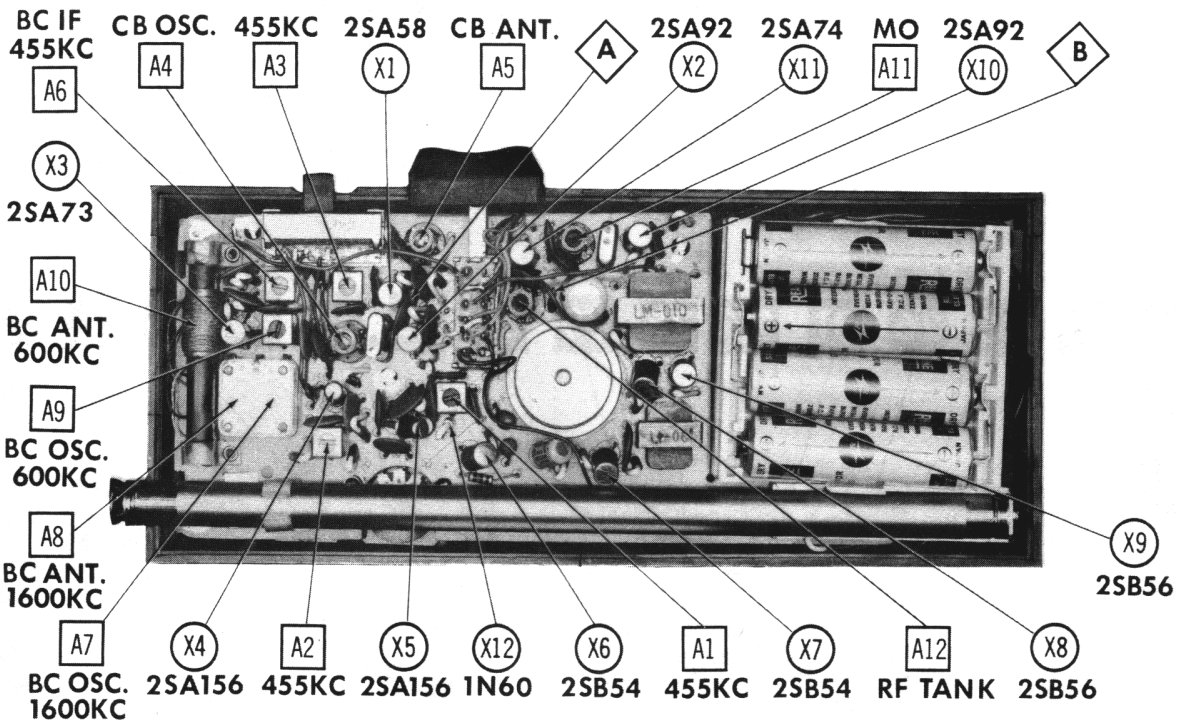
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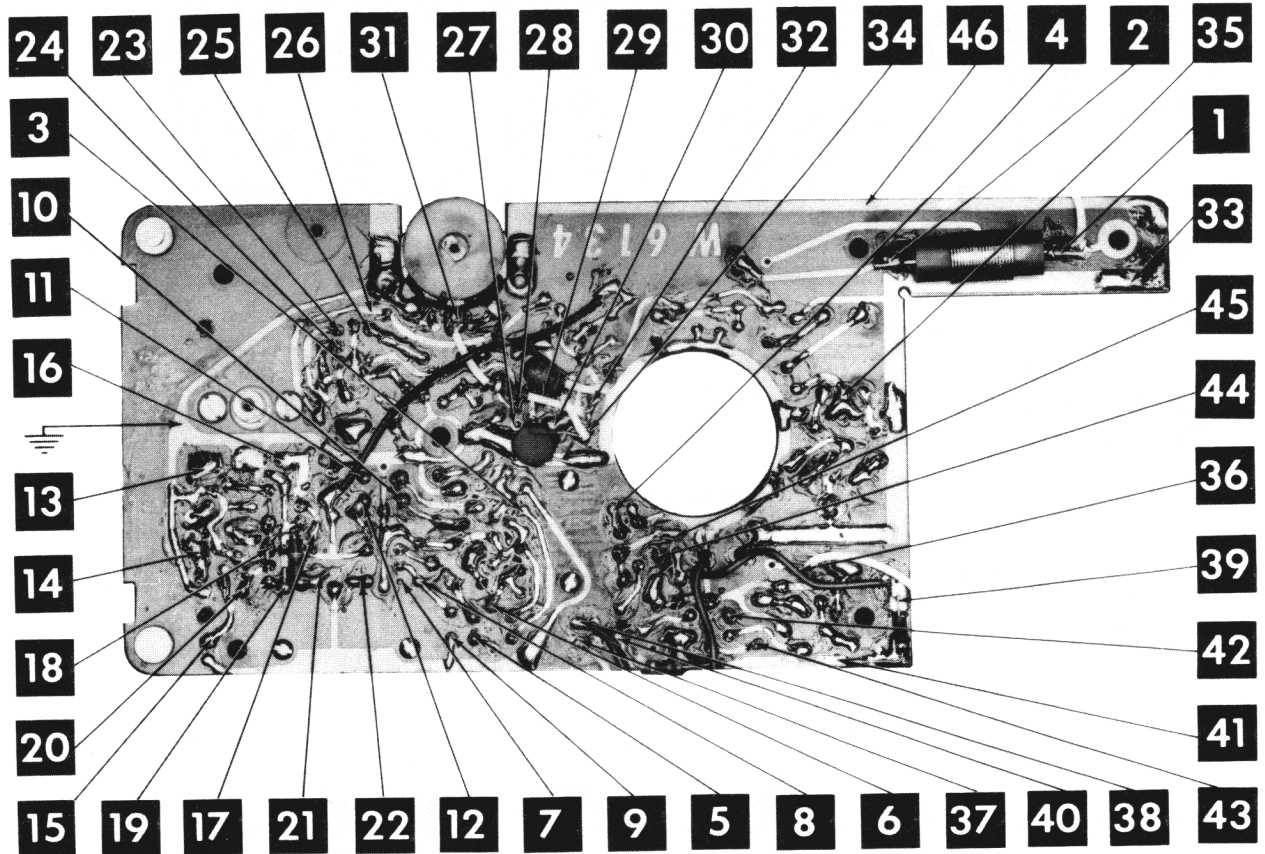
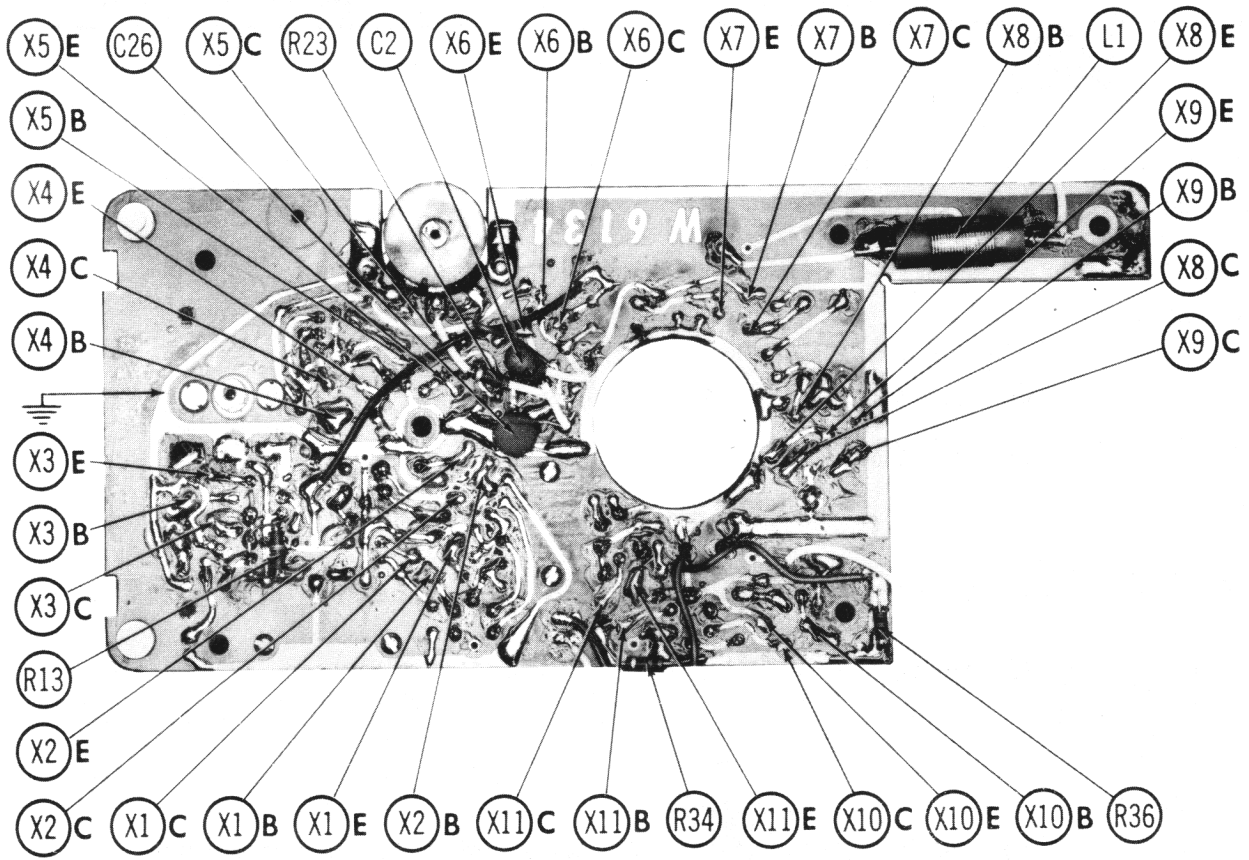
**CIRCUITRACE<sup>®</sup>**

TRADE NAME : Realtone Model TR-6134  
 SUPPLIER : Realtone Electronics  
 71 Fifth Ave., New York 3, N. Y.  
 TYPE SET : 11 Transistor AM-CB Transceiver  
 POWER SUPPLY : 12 Volts DC  
 RATING : 6MA @12VDC (AM, No Signal)  
 7MA @12VDC (CB, Receive, No Signal)  
 16MA @12VDC (CB, Transmit, No Mod.)  
 TUNING RANGE : Any one CB Channel 1 thru 22  
 BROADCAST 540 - 1620KC



REALTONE MODEL TR-6134

**HOWARD W. SAMS & CO., INC.** Indianapolis 6, Indiana



# ALIGNMENT INSTRUCTIONS

This transceiver meets all requirements of F.C.C. Rules & Regulations, Part 15, Subpart "E" for low power communications devices and requires no station license. However, only those persons properly licensed by the F.C.C. are permitted to repair or adjust any malfunctioning unit found to be transmitting illegally. (Refer to F.C.C. Rules & Regulations, Part 19, Subpart "D", Section 19.71.)

## Equipment Required

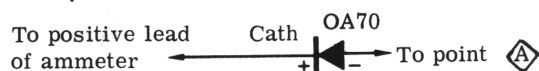
1. AM Signal Generator
2. Audio Signal Generator
3. Frequency Meter
4. Oscilloscope
5. Output Meter
6. Milliammeter

## CB Receiver Alignment

1. Connect output meter across speaker voice coil (use earphone jack).
2. Set receiver volume control to maximum.
3. Slide Radio-Trans switch to Trans.
4. Connect high side of signal generator through a .01 mfd capacitor to telescoping antenna (antenna must be fully collapsed) connect low side to receiver ground. Set generator to 455 KC 1000 $\nu$  30% Modulation. Output of generator should be no higher than is necessary to obtain output readings.
5. Turn receiver on. (Batteries should be new or up to full voltage while aligning receiver and transmitter sections).
6. Adjust A1, A2 and A3 for maximum reading on output meter.

## CB Receiver Oscillator and RF Alignment

1. Disconnect signal generator and output meter.
2. Connect negative lead of milliammeter (set on 100  $\mu$ a scale) to receiver ground. Connect positive ammeter lead through an OA70 (or equivalent) diode to point  $\diamond$  as follows:



3. Adjust A4 counterclockwise (out) for maximum current reading. Then turn A4 clockwise (in) until reading is 5% less than maximum.
4. Disconnect milliammeter and reconnect output meter and signal generator. Connect high side of generator through a 13 mmf capacitor to telescoping antenna, low side to receiver ground. Set generator to operating frequency specified for the unit being aligned. Use 1000 $\nu$  30% modulation.
5. Adjust A5 for maximum reading on output meter.

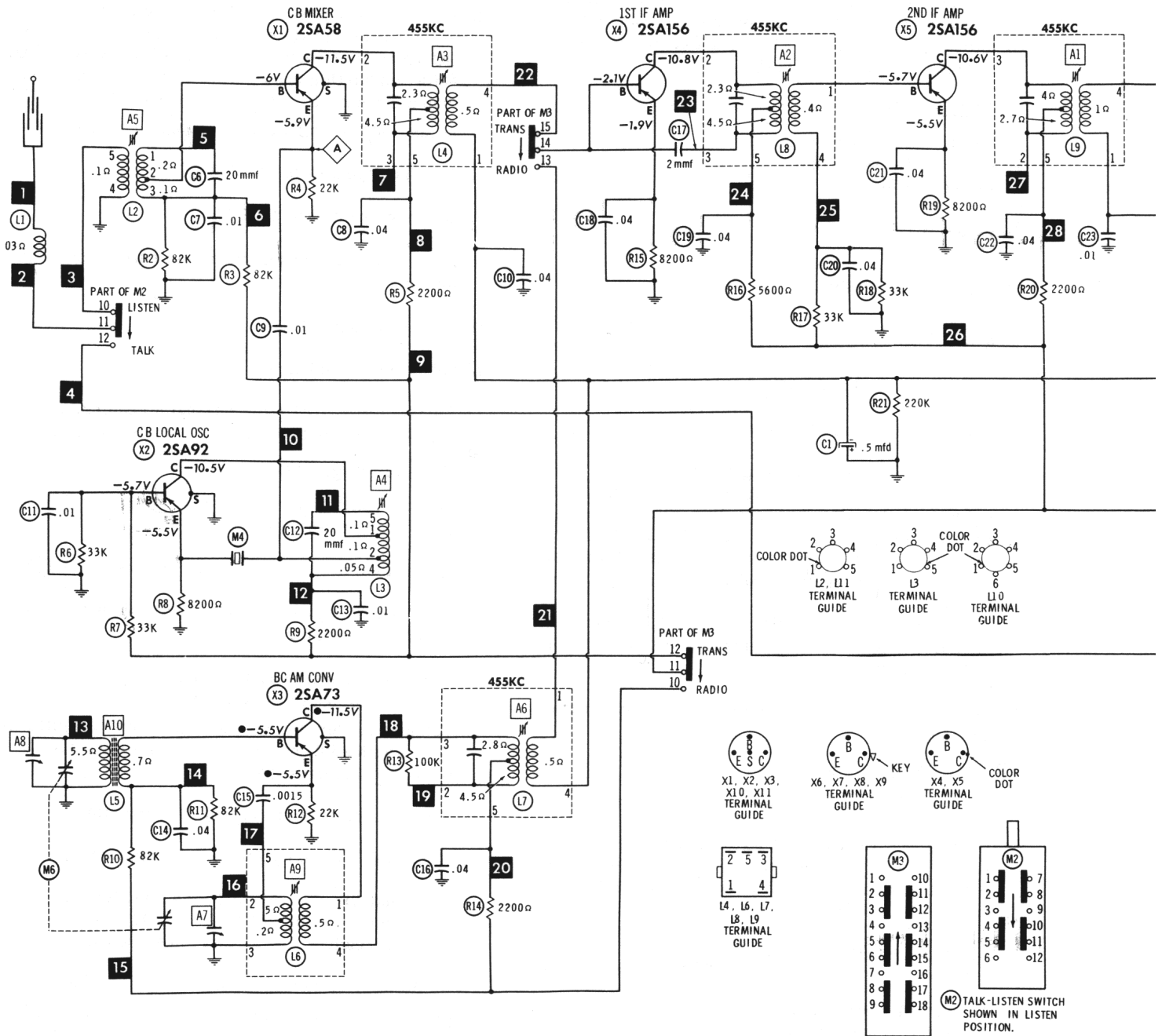
## Broadcast AM Receiver Alignment

1. Slide Radio-Trans switch to Radio Position.

2. Set receiver volume control to maximum. Tuning gang fully open.
3. Connect output meter to earphone jack.
4. Fashion loop of several turns of wire and connect to output of signal generator to radiate signal into BC antenna of receiver. **Set generator to 455KC 400 $\nu$**  modulation and operate with output no higher than necessary to obtain an output reading.
5. Adjust A6 for maximum reading on output meter.
6. Set signal generator to 1600 KC.
7. Set receiver dial to 1600 KC.
8. Adjust A7 and A8 for maximum reading on output meter.
9. Set signal generator to 600 KC.
10. Set receiver dial to 600 KC.
11. Adjust A9 and A10 for maximum reading. A10 is adjusted by moving coil along ferrite core.

## Transmitter Alignment

1. Connect milliammeter (10 ma range) into RF output circuit as follows:
  - a. Cut loop in lead of resistor (R35) at point  $\diamond$ .
  - b. Connect negative lead of milliammeter to cut lead on resistor (R35).
  - c. Connect positive lead of milliammeter to cut lead on wiring board at point 39.
2. Connect a dummy antenna (13 mmf capacitor in series with a 39 $\Omega$  resistor) between telescoping antenna and receiver ground.
3. Set receiver volume control to maximum.
4. Hold Talk-Listen switch in Talk position and:
  - a. Adjust A11 counterclockwise (out) for maximum current reading. Then turn A11 clockwise (in) for a reading .15 ma less than maximum.
  - b. Adjust A12 for minimum current reading.
5. Connect the audio generator to earphone jack. Connect the oscilloscope to the earphone jack of another TR6134 (known to be in good operating condition and operating on the same frequency) and set this unit to receive the signal from the unit being aligned.
6. Press the Talk-Listen switch on the unit being aligned and check the waveform for distortion on the oscilloscope connected to the second unit. Realign if necessary.
7. Remove milliammeter and solder cut lead of resistor R35.
8. Use a good frequency meter to check the frequency of the TR 6134 to make certain it is within the  $\pm .005\%$  deviation permitted by the F.C.C.



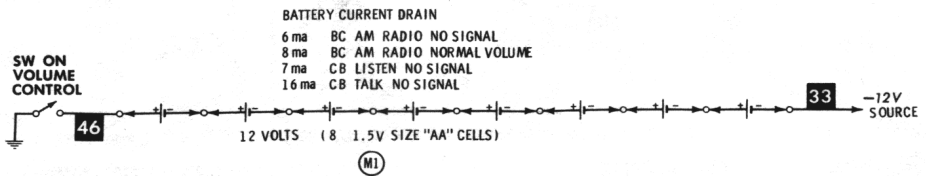
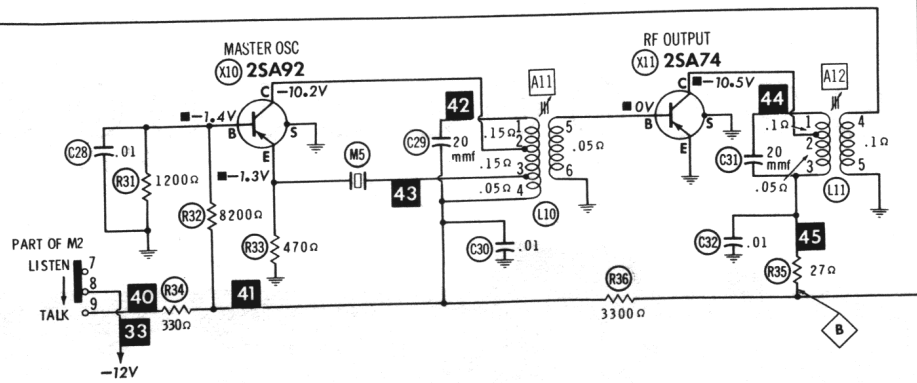
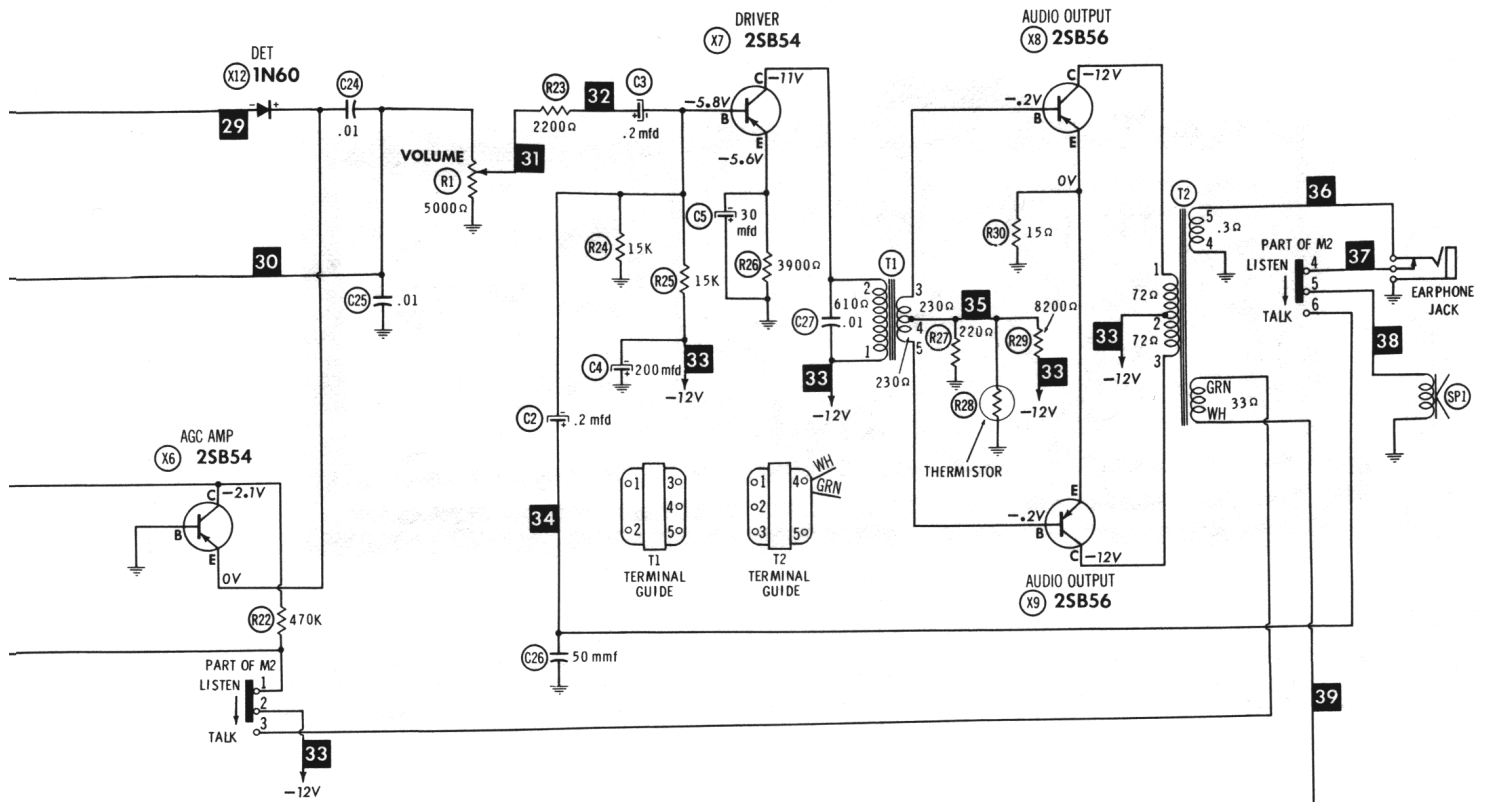
1. DC voltage measurements taken with vacuum tube voltmeter.
2. Socket connections or transistor terminals are shown as bottom views.
3. Measured values are from socket pin or terminal to common ground.
4. Nominal tolerance on component values makes possible a variation of  $\pm 15\%$  in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

(M3) RADIO-TRANSCEIVER SWITCH SHOWN IN TRANSCEIVER POSITION.

VOLTAGE READINGS TAKEN WITH M2 IN LISTEN POSITION AND M3 IN TRANS POSITION, UNLESS OTHERWISE INDICATED.  
 ■ TAKEN WITH M2 IN TALK POSITION AND M3 IN TRANS POSITION.  
 ● TAKEN WITH M2 IN LISTEN POSITION AND M3 IN RADIO POSITION.

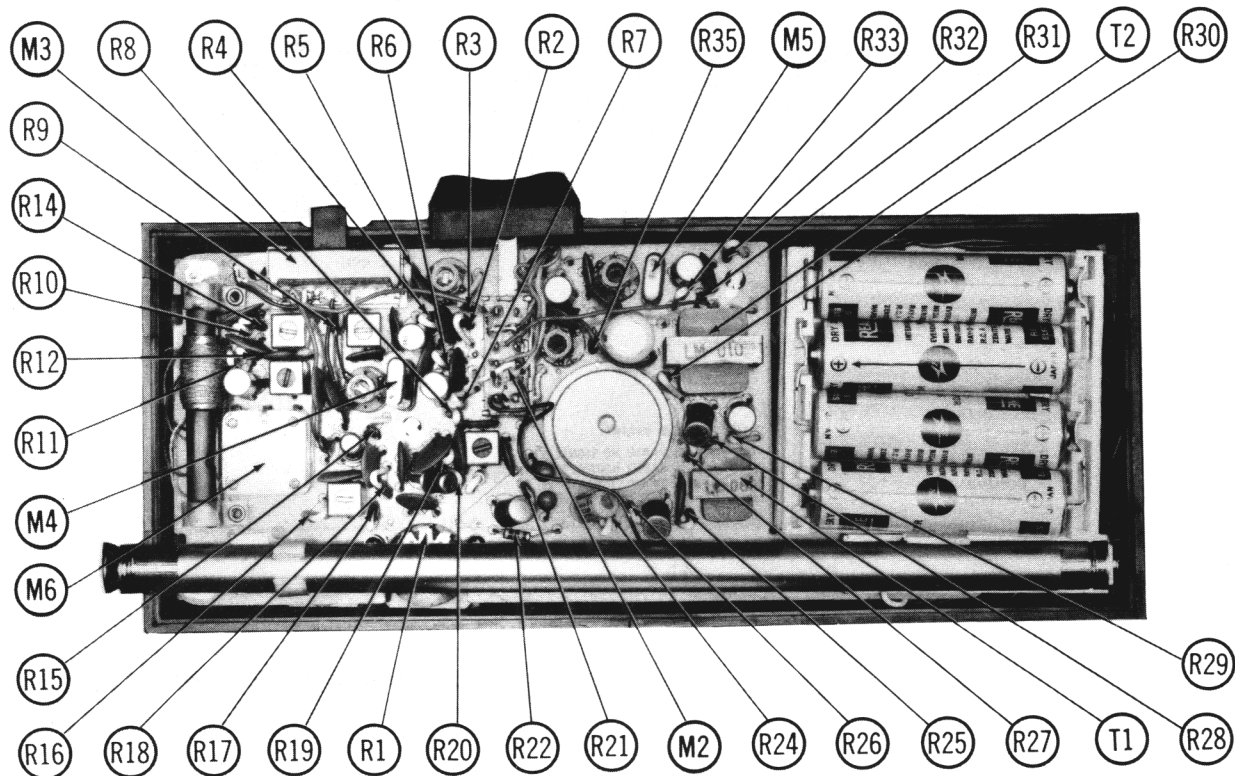
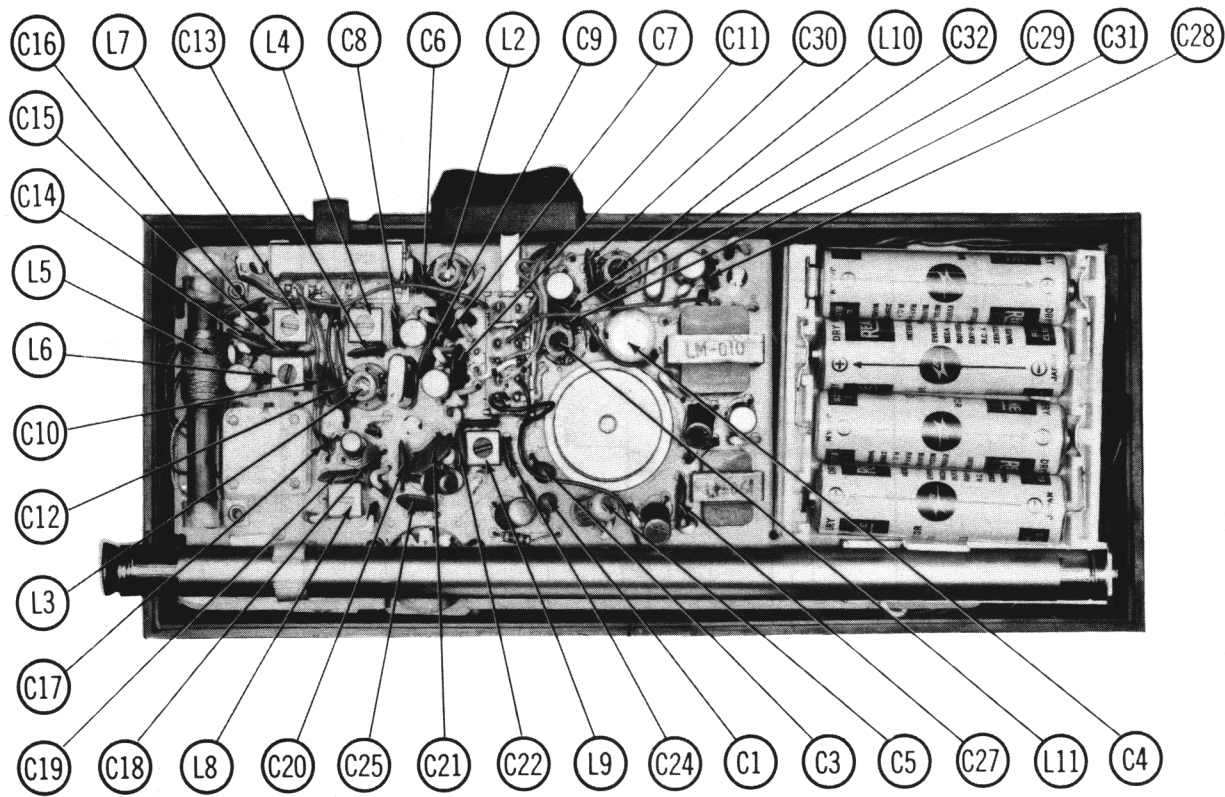
A PHOTOFAC STANDARD NOTATION SCHEMATIC  
 with CIRCUITRACE

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**REALTONE MODEL TR-6134**





# PARTS LIST AND DESCRIPTION

## TRANSISTORS

ITEM No.	ORIG. TYPE	USE	REPLACEMENT DATA			NOTES
			DELCO PART No.	GENERAL ELECTRIC PART No.	RCA PART No.	
X1	2SA58	CB Mixer	DS-25	GE-1	2N1179	PNP
X2	2SA92	CB Oscillator	DS-25	GE-1	2N1178	PNP
X3	2SA73	AM Converter			2N412	PNP
X4	2SA156	1st IF Amp.	DS-25	GE-1	2N410	PNP
X5	2SA156	2nd IF Amp.	DS-25	GE-1	2N410	PNP
X6	2SB54	AGC Amp.	DS-26	GE-2	2N406	PNP
X7	2SB54	Driver	DS-26	GE-2	2N406	PNP
X8	2SB56	Output	DS-26	GE-2	2N408	PNP
X9	2SB56	Output	DS-26	GE-2	2N408	PNP
X10	2SA92	Transmitter Osc.	DS-25	GE-1	2N410	PNP
X11	2SA74	Final RF Output	DS-26	GE-2	2N408	PNP
X12	1N60	Detector		1N60	1N60	Diode

## ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA						
	CAP.	VOLT.	REALTONE PART No.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	GENERAL ELECTRIC PART No.	GENERAL INSTRUMENT PART No.	MALLORY PART No.	SPRAGUE PART No.
C1	.5	6	CA0.5	BCD6001	NLW1-6	MT1-1			
C2	.2	6	CA0.2	BCD6001	NLW1-6	MT1-1			
C3	.2	6	CA0.2	BCD6001	NLW1-6	MT1-1			
C4	200	12	V-200-12	BCD10190	ECPB421	MT1-23	MLV200-10	TT15X200	TE-1119, 6
C5	30	6	V-30-6	PTT10	NLW30-6	MT1-13	MLV30-6	TT6X30	TE-1056

## FIXED CAPACITORS

ITEM No.	RATING	REMARKS	REPLACEMENT DATA						
			AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ELMENCO PART No.	MALLORY PART No.	SPRAGUE PART No.	
C6	20			DD-200	L10Q2		CCD-200	GP420	5GA-Q20
C7	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C8	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C9	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C10	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C11	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C12	20			DD-200	L10Q2		CCD-200	GP420	5GA-D20
C13	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C14	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C15	.0015		BPD-0015	DD-152	BYA10D15		CCD-152	GP215	10TS-D15
C16	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C17	2		NPO-DI 2.2	DTZ-2R2	C10V22C		CCCTO-2R2	CNO-522	10TCC-V22
C18	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C19	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C20	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C21	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C22	.04		TTD-05	CK-503	H5			TA-150	TG-S50
C23	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C24	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C25	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C26	50		DI 50	DD-500	L10Q50		CCD-500	GP450	10TS-Q50
C27	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C28	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C29	20			DD-200	L10Q2		CCD-200	GP420	5GA-Q20
C30	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10
C31	20			DD-200	L10Q2		CCD-200	GP420	5GA-Q20
C32	.01		TTD-01	DDM-103	H05S1			TA-110	TG-S10

## CONTROLS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	USE	RESIST-ANCE	REPLACEMENT DATA				
			REALTONE PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	CTS-IRC PART No.	MALLORY PART No.
R1	Volume & Switch	5000Ω	RV-014				

## RESISTORS (Power and Special)

ITEM No.	RATING	REPLACEMENT DATA			ITEM No.	RATING	REPLACEMENT DATA		
		IRC PART No.	WORKMAN PART No.	REMARKS			IRC PART No.	WORKMAN PART No.	REMARKS
R28	Thermistor			#D-22A					

# Realtone Part Number.



# PARTS LIST AND DESCRIPTION (CONTINUED)

## COILS (RF-IF)

ITEM No.	USE	REPLACEMENT DATA					NOTES
		REALTONE PART No.	MERIT PART No.	MILLER PART No.	STANCOR PART No.	WORKMAN PART No.	
L1	Antenna Loading	HL-010					
L2	Antenna	HA-155					
L3	Oscillator	HO-130					
L4	1st IF	HI-040					
L5	AM Loopstick	HA-015					
L6	AM Oscillator	HO-091					
L7	1st AM IF	HI-043					
L8	2nd IF	HI-051					
L9	3rd IF	HI-062					
L10	Trans. Osc.	HM-010					
L11	RF Tank	HN-010					

## TRANSFORMER (DRIVER)

ITEM No.	TURNS RATIO		REPLACEMENT DATA					NOTES
			REALTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC.						
T1	1.5	1	LI-061					

## TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA					NOTES
			REALTONE PART No.	MERIT PART No.	STANCOR PART No.	THORDARSON PART No.	TRIAD PART No.	
	PRI.	SEC. 1						
T2	500Ω CT	6-8Ω	LM-010					
		SEC. 2						
		450Ω						

## SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA		NOTES
		REALTONE PART No.	QUAM PART No.	
SP1	2 1/2" PM 6-8Ω	AS-088		

## BATTERIES

ITEM No.	VOLTAGE	REALTONE PART No.	REPLACEMENT DATA			NOTES
			BURGESS	EVEREADY	MALLORY	
M1	1.5V	703	930 (or AL-9, Hg-9)	1015 (or E91, E9)	M-15R (or MN1500, ZM-9)	4 Used

## MISCELLANEOUS

ITEM No.	PART NAME	REALTONE PART No.	NOTES
M2	Switch	SH-087	Talk-Listen (Push-to-talk) Radio-Trans. -Selector (Slide Type DPST) Receiving (27.065MC) Receiving (27.135MC) Transmitting (27.065MC) Transmitting (27.135MC) 2 Gang (AM Receiver)
M3	Switch	SH-086	
M4	Crystal	W6134-2002	
	Crystal	W6134-2004	
M5	Crystal	W6134-2001	
	Crystal	W6134-2003	
M6	Tuning Cap.	CV-013	

## CABINETS & CABINET PARTS

(When Ordering Specify Model, Chassis & Color)

ITEM	PART No.	ITEM	PART No.
Knob - Volume	W6134-0012	Knob - Talk-Listen	W6134-0020
Knob - Tuning	W6134-0013	Cabinet	W6134-0001

## WIRING DATA

General-use Hook-up Wire . . . . .	Use BELDEN No. 8530 (Solid) Available in 12 Colors 8524 (Stranded) Available in 12 Colors)
Shielded Antenna Lead . . . . .	Use BELDEN No. 8214 Lowest Loss (RG-8/U Type) 8237 Low Loss (RG-8/U) 8240 (Solid) Miniature (RG-58/U) 8259 (Stranded) Miniature (RG-58A/U)
Coiled Microphone Cable . . . . .	Use BELDEN No. 8499 Single Conductor Shielded (Neoprene) 8498 Single Conductor Shielded (Vinyl)
Ignition Noise Suppression . . . . .	Use BELDEN No. 7300-Series Spark-Plug Sets
Bonding Strap . . . . .	Use BELDEN No. 8661 (3/8 In.)