

SERVICE DATA

MODEL CRX-101



156-011952

Figure 1. Hallicrafters Model CRX-101 Monitor Receiver.

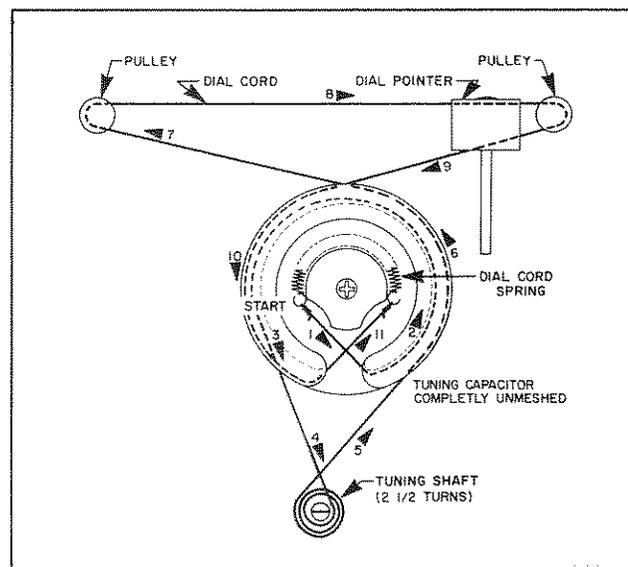
SPECIFICATIONS

Circuit:	Single band superheterodyne with untuned RF stage. Circuit contains 9 transistors and 3 diodes.
Tuning Range:	108-135 MHz
Input Impedance (external antenna):	50 ohms
Sensitivity:	12 μ V for 12db S/N
Selectivity (IF):	120 KHz at 6db
IF Rejection:	40db min.
AGC Figure of Merit:	40db min.
IF Frequency:	10.7 MHz
Audio Output:	150 milliwatts
Audio Distortion:	7% max. at 50 milliwatts.
Power Source:	9 VDC (one Burgess 2U6 or equivalent)
Battery Drain:	15 MA (without input signal)

DIAL CORD RESTRINGING

To restring the dial cord, remove the receiver from the cabinet. Remove the dial plate from the receiver printed circuit board and rotate the tuning capacitor pulley to completely unmesh the capacitor plates. Refer to figure 2 while using the following procedure:

1. Remove the cover plate over the dial cord spring and replace the screw to secure the tuning capacitor pulley to the tuning capacitor shaft.
2. Tie one end of the dial cord to one end of the dial cord spring.
3. Hold the spring in place with one hand, while stringing the dial cord with the other hand. Start at location 1 (figure 2) and continue stringing along the direction of the arrows in sequence to location 11. Finish by tying the dial cord to the free end of the spring.
4. Replace the dial pointer on the dial cord in the position shown in figure 2. Replace the cover plate over the dial cord spring and mount the dial plate on the printed circuit board.
5. Rotate the tuning shaft to completely mesh the tuning capacitor plates and position the dial pointer exactly 1/2 inch from the left edge of the dial plate.



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Figure 2. Dial Cord Restringing Diagram.

RECEIVER ALIGNMENT

TEST EQUIPMENT REQUIRED

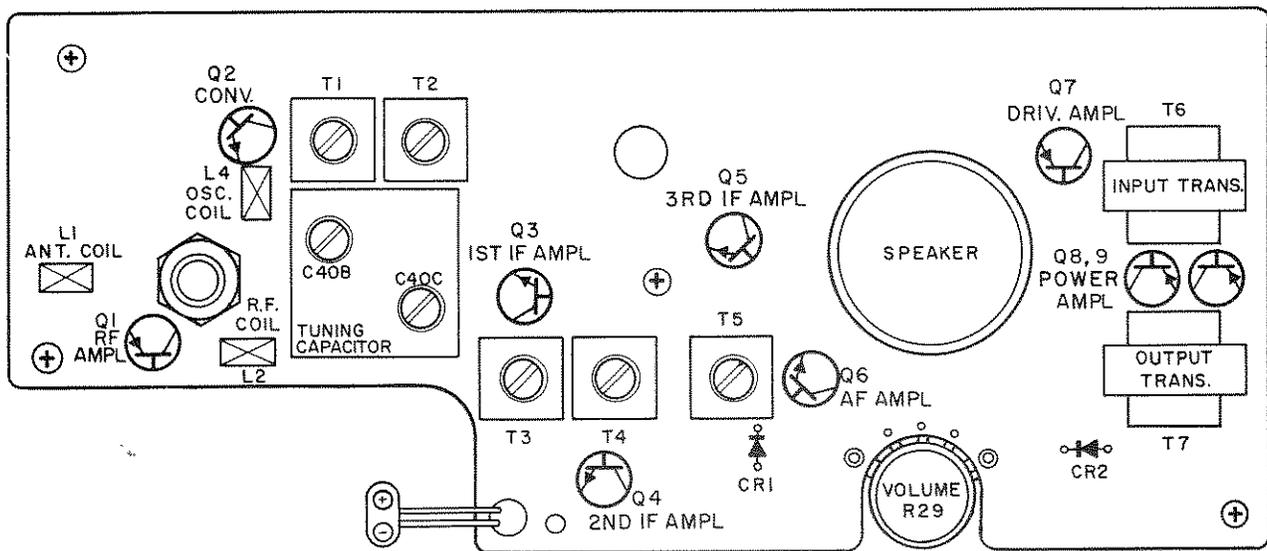
1. Audio Power Meter (8 ohm impedance).
2. RF Signal Generator (AM,) covering 108-135 MHz and 10.7 MHz.
3. Non-Metallic Alignment tool.
2. Set the receiver volume control to maximum.
3. Set the signal generator modulation level to 30% AM at 1000 Hertz.
4. Set the audio output power meter to its most sensitive range and use the minimum signal generator output required to produce a 10db S/N ratio.

GENERAL

1. Connect an 8 ohm audio power meter to the ear-phone jack on the receiver.
5. Each adjustment should be performed for maximum output on the audio power meter.

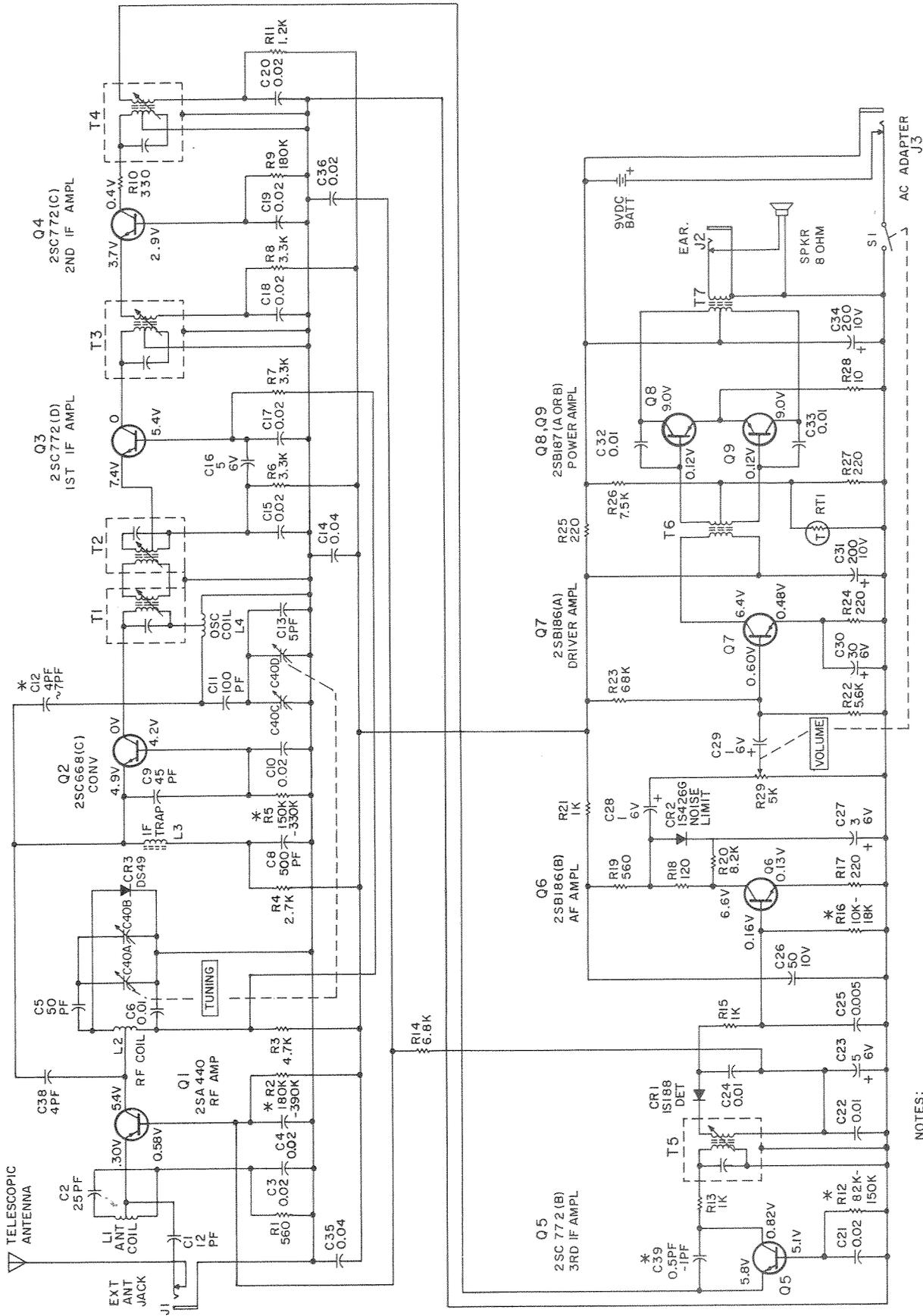
ALIGNMENT CHART

STEP	SIGNAL GENERATOR		RECEIVER	
	CONNECTION TO RECEIVER	INPUT SIGNAL FREQ	DIAL SETTING	ADJUST
1	Connect the signal generator through a 1000-PF capacitor to the emitter of Q2. Connect the ground lead to the receiver chassis.	10.7 MHz	Tuning capacitor fully closed (max. capacitance)	IF Transformers T1, 2, 3, 4, 5
2	Connect the signal generator 50-ohm output to the external antenna jack. Connect the ground lead to the external antenna jack.	107 MHz	Same as step 1	Osc. Coil L4 (adjust turn spacing)
3	Same as step 2.	137 MHz	Tuning capacitor fully open (min. capacitance)	Oscillator Trimmer C40C
4	Same as step 2.	108 MHz	108 MHz	RF Coil L2
		124 MHz	124 MHz	ANT. Coil L1
5	Same as step 2.	135 MHz	135 MHz	RF Trimmer C40B
6	Repeat steps 2, 3, 4, and 5 until no further improvement is obtained.			



156-011735

Figure 3. Alignment Points and Transistor Location.



- NOTES:
1. ALL RESISTANCE VALUES IN OHMS UNLESS OTHERWISE SPECIFIED K=1000.
 2. ALL CAPACITOR VALUES IN UF UNLESS OTHERWISE SPECIFIED. ALL VOLTAGE VALUES INDICATED ARE MEASURED WITHOUT SIGNAL APPLICATION.
 3. ALL VOLTAGE MEASUREMENTS WERE MADE WITH DC VTVM AND ARE NEGATIVE WITH RESPECT TO POSITIVE TERMINAL OF DIRECT CURRENT POWER SOURCE.

* FACTORY SELECTED VALUES

Figure 4. Model CRX-101 Schematic Diagram.

SERVICE REPAIR PARTS LIST

Schematic Symbol	Description	Hallicrafters Part Number
CAPACITORS		
C1	12PF, ± 0.5 PF, Ceramic	120-004677
C2	25PF, $\pm 10\%$, Ceramic	120-004678
C3,4,10, 15,17,18,19, 20,21,36	0.02 μ F, +80%, -20%, Ceramic	120-004684
C5	50PF, $\pm 10\%$, Ceramic	120-004680
C6,22,24	0.01 μ F, $\pm 20\%$, Ceramic	120-004683
C8	500PF, $\pm 10\%$, Ceramic	120-004682
C9	45PF, $\pm 10\%$, Ceramic	120-004679
C11	100PF, $\pm 10\%$, Ceramic	120-004681
C12	4PF-7PF; nominally 6PF, ± 0.5 PF, Ceramic	120-004676
C13	5PF, ± 0.5 PF, Ceramic	120-004675
C14,35	0.04 μ F, +80%, -20%, Ceramic	120-004685
C16,23	5 μ F, 6V, Electrolytic	120-004771
C25	0.005 μ F, $\pm 20\%$, Mylar	120-004687
C26	50 μ F, 10V, Electrolytic	120-004773
C27	3 μ F, 6V, Electrolytic	120-004770
C28,29	1 μ F, 6V, Electrolytic	120-004769
C30	30 μ F, 6V, Electrolytic	120-004772
C31,34	200 μ F, 10V, Electrolytic	120-004774
C32,33	0.01 μ F, $\pm 20\%$, Mylar	120-004688
C38	4PF, ± 0.5 PF, Ceramic	120-004674
C39	1PF, ± 0.5 PF, Ceramic	120-004961
C40A,40B 40C,40D	Tuning Capacitor Assembly with RF and Osc. Trimmers	120-004689

*RESISTORS AND THERMISTORS

R1,19	560 ohm	120-004694
R2	180K ohm-390K ohm; nominally 270K ohm	120-004708
R3	4.7K ohm	120-004699
R4	2.7K ohm	120-004697
R5	150K ohm-330K ohm; nominally 220K ohm	120-004707
R6,7,8	3.3K ohm	120-004698
R9	180K ohm	120-004709
R10	330 ohm	120-004693
R11	1.2K ohm	120-004696
R12	82K ohm-150K ohm; nominally 100K ohm	120-004705
R13,15,21	1K ohm	120-004695
R14	6.8K ohm	120-004701
R16	10K ohm-18K ohm; nominally 15K ohm	120-004962
R17,24,25, 27	220 ohm	120-004692
R18	120 ohm	120-004691
R20	8.2K ohm	120-004703
R22	5.6K ohm	120-004700
R23	68K ohm	120-004704
R26	7.5K ohm	120-004702
R28	10 ohm	120-004690
R29/S1	5K ohm, VOLUME Control with Switch	120-004710
RT1	250 ohm, Thermistor	120-004711

*NOTE: All Resistors are 1/2 watt, Carbon Composition

SERVICE REPAIR PARTS LIST

(Continued)

Schematic Symbol Description Hallicrafters Part Number

COILS AND TRANSFORMERS

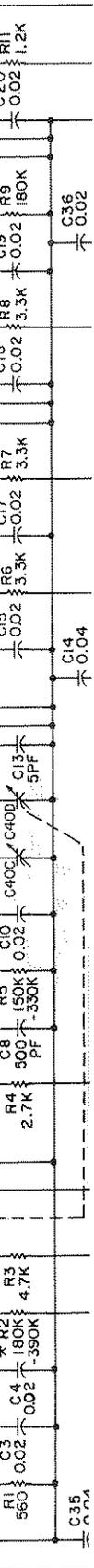
L1	Coil, Antenna	120-004712
L2	Coil, Collector, RF Amp	120-004713
L3	Coil, IF Trap	120-004715
L4	Coil, Oscillator	120-004714
T1	Transformer, 1st IF, Primary	120-004716
T2	Transformer, 1st IF, Secondary	120-004717
T3,4	Transformer, 2nd and 3rd IF	120-004718
T5	Transformer, 4th IF	120-004719
T6	Transformer, Audio Driver	120-004720
T7	Transformer, Audio Output	120-004721

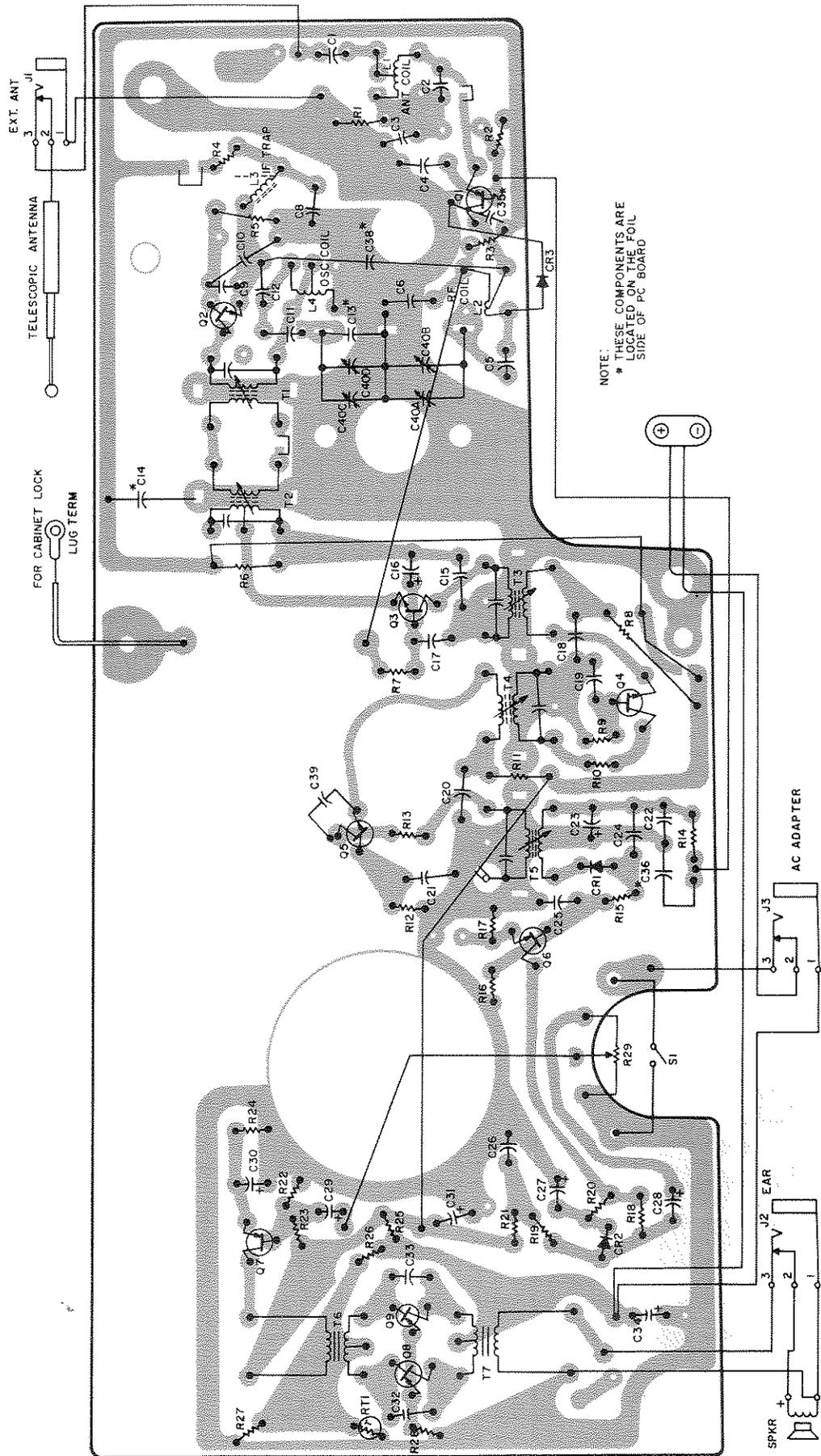
TRANSISTORS AND DIODES

Q1	Transistor, Type 2SA440	120-004722
Q2	Transistor, Type 2SC668(C)	120-004723
Q3	Transistor, Type 2SC772(D)	120-004724
Q4	Transistor, Type 2SC772(C)	120-004725
Q5	Transistor, Type 2SC772(B)	120-004726
Q6	Transistor, Type 2SB186(B)	120-004727
Q7	Transistor, Type 2SB186(A)	120-004728
Q8,9	Transistor, Type 2SB187(A or B)	120-004729
CR1	Diode, Germanium, Type 1S188	120-004730
CR2	Diode, Germanium, Type 1S426G	120-004731
CR3	Diode, Silicon, Type DS-49	120-004732

MISCELLANEOUS

	Antenna, Telescopic Whip	120-004747
	Bracket, Antenna	120-004750
	Bracket, Ext. Ant. Jack	120-004761
	Bushing, Antenna	120-004748
	Cabinet	120-004736
	Connector, Battery	120-004735
	Cushion, Battery	120-004753
	Dial Plate	120-004740
	Disc, Earphone Jack	120-004762
	Disc, Spring Check	120-004760
	Drum, Tuning Drive	120-004756
	Fabric, Speaker Front	120-004752
J1,3	Jack, AC Adapter and Ext. Ant.	120-004734
J2	Jack, Earphone	120-004733
	Knob, TUNING	120-004745
	Knob, VOLUME	120-004746
	Label, Battery	120-004754
	Label, "FCC Certificate"	120-004744
	Lid, Back	120-004737
	Lid, Battery	120-004738
	Lug, Cabinet Ground	120-004763
	Name Plate, "Hallicrafters"	120-004742
	Name Plate, TUNING	120-004743
	Packing Case	120-004764
	Pointer, Dial	120-004741
	Shaft, Tuning	120-004757
	Sleeve	120-004765
	Slide, Pointer	120-004751
SPKR	Speaker	120-004755
	Spring, Dial Cord	120-004759
	Stanchion, Dial Support	120-004758
	Washer, P.C. Board	120-004749
	Washer, Tuning Knob	120-004989
	Window, Dial	120-004739





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Figure 5. Model CRX-101 Wiring Diagram.