MODEL 1014, Centurion
Schematic, Socket, Parts

CROSLEY RADIO CORP.

MARCH 1935

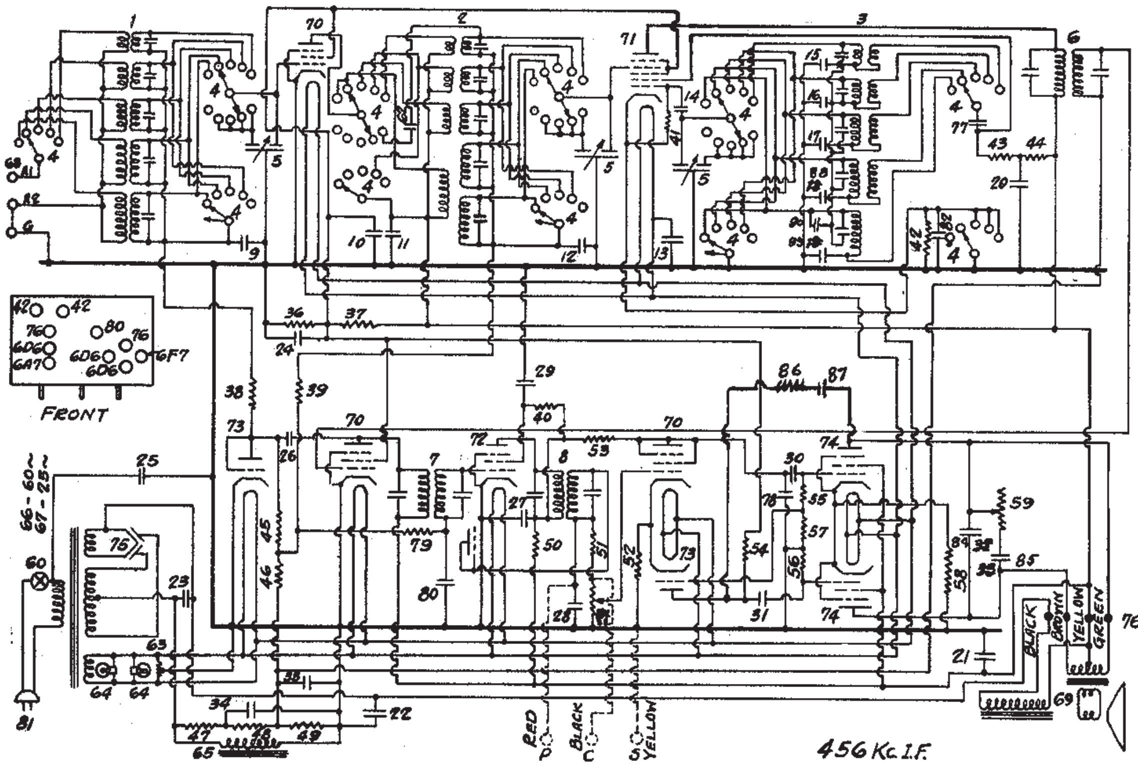

Fig. 1—Wiring Diagram of Model 1014 "Centurion"

PARTS LIST—MODEL 1014 "CENTURION"

Figures in first column refer to parts shown in diagrams.

Item No.	Part No.	Description
1	G32—32000	Ant. Trans. Assembly
	G6 —34593	Ant. Coil Assembly Only
	G4 —34593	Ant. Coil Shield Assembly Only
	W —34683	Aligning Condenser Assembly Only
2	G20—32001	Inter. Trans. Assembly
	G7 —34593	Inter. Coil Assembly Only
	G5 —34593	Inter Coil Shield Assembly Only
	W —34683	Aligning Condenser Assembly Only
3	G25—32002	Osc. Trans. Assembly
	G8 —34593	Osc. Coil Assembly Only
	G5 —34593	Osc. Coil Shield Assembly Only
	W —34683	Aligning Condenser Assembly Only
	G6 —34002	.000025 Mfd. Condenser
4	B —34646	Band Change Switch
5	G23—33002	Variable Condenser Assembly
	G20—32086	Dial Drive Assembly
	W —34657A	Dial Hand
	W —34655B	Band Spread Pointer.
	G4 —27134	Dial Light Bracket Assembly
	W —32128	Light Diffuser
	W —32244	Diffuser Retainer
6	G27—32004	1st I. F. Trans. Assembly
7	G28—32004	2nd I. F. Trans. Assembly
8	G29—32004	3rd I. F. Trans. Assembly
9	W —32379	0.02 Mfd. 200 V. Condenser
10	W —32378	0.01 Mfd. 400 V. Condenser
11	G8 —34000	1500 MMfd. Condenser
12	W —32380	0.05 Mfd 200 V. Condenser
13	G1 —34002	0.00025 Mfd. Condenser
14	G1 —34002	0.00025 Mfd. Condenser
15	G1 —34000	1647 Mmfd. Condenser
16	G2 —34000	3104 Mmfd. Condenser
17	G10—34000	1050 Mmfd. Condenser
18	See Item 88	
19	See Item 89	
20	W —34596	6. Mfd. 300 Volt
21		8. Mfd. 475 Volt Condenser
22		8. Mfd. 475 Volt
23	W —26194B	12. Mfd. 475 Volt Condenser
24	W —23615	0.05 Mfd. 400 Volt Condenser
25	W —30805	0.01 Mfd. 400 Volt Condenser
26	G1 —34005	0.00025 Mfd. Condenser
27	W —23191A	0.01 Mfd. 400 Volt Condenser
28	G2 —32004	0.0001 Mfd. Condenser
29	W —23191A	0.01 Mfd. 400 Volt Condenser
30	W —23615	0.05 Mfd. 400 Volt Condenser
31	W —23615	0.05 Mfd. 400 Volt Condenser
32	See Item 84	
33	See Item 85	
34	W —20910A	0.25 Mfd. 400 Volt Condenser
35	W —29910A	0.25 Mfd. 400 Volt Condenser
36	W —32301	15,000 Ohms
37		10,000 Ohms Resistor
38	—26577	3 Megohm Resistor
39	—26577	3 Megohm Resistor
40	—23403	150,000 Ohms Resistor
41	—21875	100,000 Ohms Resistor
42	W —27503	1,400 Ohms Flex. Resistor
43	—24814	7,000 Ohms Resistor
44	—24814	7,000 Ohms Resistor
45	—21455	300,000 Ohms Resistor
46	—21455	300,000 Ohms Resistor
47	—21455	800,000 Ohms Resistor
48	—23403	150,000 Ohms Resistor
49	—21237A	60,000 Ohms Resistor
50	W —30127	450 Ohms Flex. Resistor
51	—21455	300,000 Ohms Resistor
52	—31093	2,700 Ohms Resistor
53	—23403	150,000 Ohms Resistor
54	—23403	150,000 Ohms Resistor
55	—23785	500,000 Ohms Resistor
56	—23785	500,000 Ohms Resistor
57	—21237A	60,000 Ohms Resistor
58	W —22373	220 Ohms Flex. Resistor
59	W —25304B	Tone Control
60		On-Off Switch
61	See Item 83	
62	G1 —34005	0.00025 Mfd. Condenser
63	W —32337	10-10 Ohms Resistor
64	See Item 5	Dial Light
65	G1 —24628	Filter Choke
66	G40—25669	Power Trans. 60 Cy 110 Volt
67	B —35007	25 Cy. Power Trans.
68	G16—26719	Ant. Gnd. Terminal
69	—68CL	Speaker (Console)
	—48CL	Speaker (Table)
70	G75—28807	Socket 6D6
	B—26000D	Tube Shield
	W —27981A	Tube Shield Base
71	G2 —33007	Socket 6A7
	W —33072	Socket Cushion
	W —28623A	Tube Shield
	G1 —34672	Tube Shield Base
72	G40—28807	Socket 6F7
	W —28623A	Tube Shield
	W —27981A	Tube Shield Base
73	G80—28807	Socket 76
	W —26231B	Tube Shield
	W —27981A	Tube Shield Base
74	G25—28807	Socket 42
75	G6 —28807	Socket 80
76	G5 —31128	Speaker Terminal Board
	W —34628	Terminal Board Cover
	W —34627	Terminal Board Insulator
77	W —34647	0.0006 Mfd. 400 Volt Condenser
78	G1 —34005	0.00025 Mfd. Condenser
79	—26577	3 Megohm Resistor
80	W —28821	0.02 Mfd. 200 Volt Condenser
81	B —33906A	Cord and Plug
82	W —32379	.02 Mfd. 200 Volt Condenser
83	W —28552	Level Control (1 Megohm)
84	W —35139	0.004 Mfd. 400 Volt Condenser
85	W —23615	0.05 Mfd. 400 Volt Condenser
86	—35140	350,000 Ohm Resistor
87	G6 —34005	0.0002 Mfd. 300 Volt Condenser
88	G26—33006	Osc. Trimmer Condenser
89		Osc. Trimmer Condenser
90	G6 —34002	0.00025 Mfd. Condenser
	W —34678B	Switch Knob
	W —31585B	Volume Control Knob
	W —31585B	Tone Control Knob
	W —33994A	Station Selector Knob
	W —33995A	Vernier Knob
	B —33708B	Escutcheon
	W —34307	Escutcheon Lens
	W —33985	Escutcheon Gasket
	W —34680	Band Change Plate
	W —34681	Volume Control Plate

MODEL 1014, Centurion
Chassis, Trimmers
Voltage, Data

CROSLEY RADIO CORP.

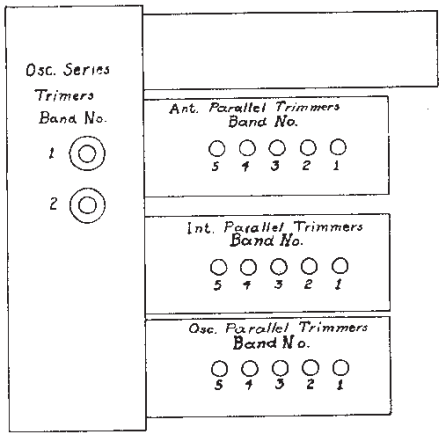

Fig 3 End View

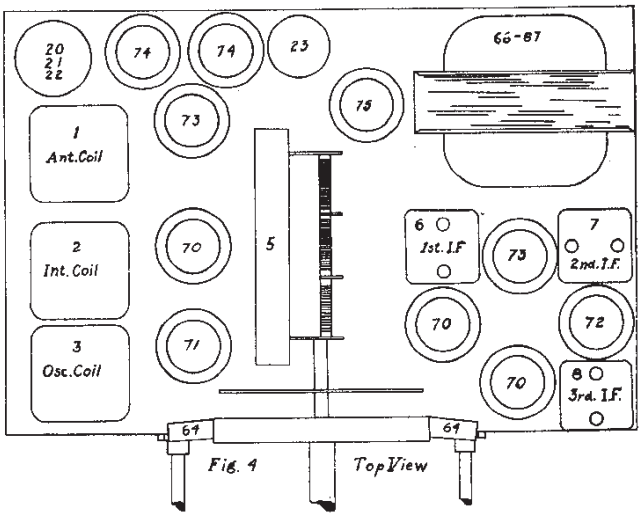

Fig. 4 Top View

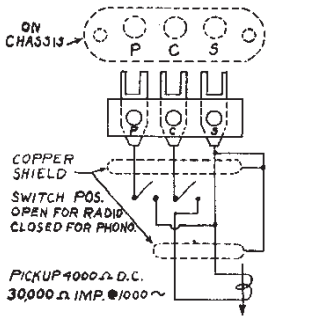

Fig. 5 - Phono. Connections

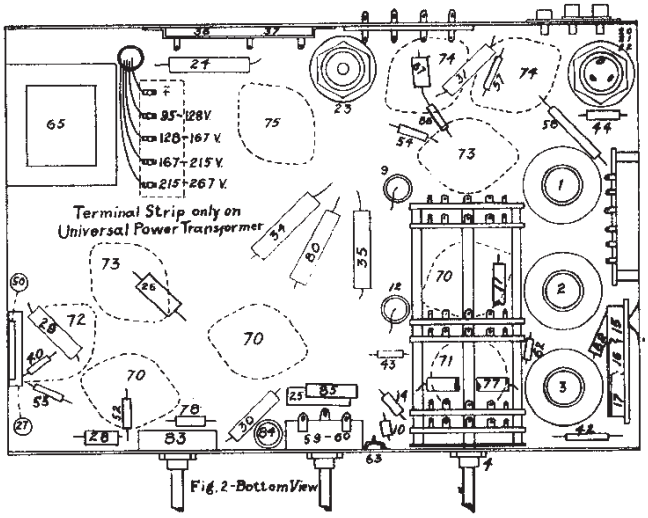

Fig. 2-Bottom View

TUBES AND VOLTAGE LIMITS

The following are the tubes and voltages measured from the tube contact to chassis with a 500,000 ohm 500-Volt voltmeter with receiver in operating condition but with no signal to the antenna, and with a line voltage of 117.5 volts 60 cycle. Voltage limits are plus or minus 10% of values given.

TUBE VOLTAGES—MODEL 1014 "CENTURION"

Type	Where Used	Ef	Ek Bands 1-2	Ek Bands 3-4-5	Eg	Esg	Esup.	Ep	Es1	Ep1
6D6	R. F. Amp.	6.3	0	0	x	100	0	250	—	—
6A7	Osc. Mod.	6.3	11.0	0	x	100	0	250	—	—
6D6	1st I. F.	6.3	0	0	x	100	0	250	—	—
6F7	2nd I. F. & Det.	6.3	0	0	x	75	—	240	0	0
76	A. V. C.	6.3	0	0	x	—	—	x	—	—
6D6	1st A. F. Amp.	6.3	4	4	0	40	40	40	—	—
76	Phase Inv.	6.3	4	4	0	—	—	50	—	—
(2) 42	Output	6.3	16	16	0	250	—	245	—	—
80	Rect.	5.0	—	—	—	—	—	—	—	—

VOLTAGE DROP ACROSS FILTER CHOKE 20 VOLTS
VOLTAGE DROP ACROSS FIELD COIL 65 VOLTS

x IN ABOVE TABLE INDICATES HIGH RESISTANCE IN CIRCUIT WHICH PREVENTS ACCURATE MEASUREMENT.

ALL Measurements Made With A 1000 Ohms Per Volt Voltmeter From Chassis

(The power consumption at 117.5 volts is approximately 95 watts.)

MODEL 1014,Centurion
Alignment,Data

CROSLEY RADIO CORP.

MODEL 1014 "CENTURION"

SPECIFICATIONS

The Crosley Model 1014 is a ten tube superheterodyne all wave receiver designed for A.C. operation. It may be obtained for 110 volts, 60 cycles, or with a universal transformer for other voltages and frequencies. (See Universal Power Transformer). It is designed for five band operation covering the following frequencies:

Band 1. 150-350 Kilocycles.
Band 2. 540-1500 Kilocycles.
Band 3. 1500-4000 Kilocycles.
Band 4. 4000-10000 Kilocycles.
Band 5. 10000-22000 Kilocycles.

Bands 1 and 2 are calibrated on the dial in Myriacycles (10 Kc.). Bands 3, 4 and 5 are calibrated in Megacycles (1000 Kc.). It employs a retroactive automatic volume control together with level control, continuously variable tone control, class "A" audio amplification and band spread dial pointer, 36 to 1 ratio.

CIRCUIT DESCRIPTION

The circuit consists of one stage of R.F. amplification, an oscillator-detector, two stages of I.F. amplification, automatic volume control, second detector, two stages of A.F. amplification and power supply. The R.F. stage employs a Type 6D6 tube. A Type 6A7 tube is used as an oscillator-detector. The first I.F. stage employs a Type 6D6 tube and the second stage uses a Type 6F7 tube which also serves as a second detector. A Type 76 tube is used in the A.V.C. circuit and is actuated by the output of the first I.F. stage. The first A.F. stage uses a Type 6D6 tube, connected as a variable mu triode, which is used in conjunction with a Type 76 tube in a phase inverter circuit to drive a pair of Type 42 tubes in push-pull. A Type 80 Tube is used in the power supply.

UNIVERSAL POWER TRANSFORMER

The Model 1014 chassis for use on other than 110 volts, 60 cycles, is supplied with a universal power transformer designed to operate on 25 cycles and up. When leaving the factory it is wired for the voltage indicated on the name plate. It is possible however by a slight wiring change in power transformer circuit to adapt the set to a different voltage anywhere from 95 to 265 volts. To adapt the set to a different line voltage it is necessary to remove the chassis from the cabinet, remove bottom from chassis and locate the terminal strip on the bottom of the power transformer. Fig. 2. After careful measurement of the maximum and minimum values of line voltage and determining the average value, unsolder the wire of the A.C. line cord and solder it to the terminal which most nearly represents the line voltage at which the set is to be operated.

PHONOGRAPH PICKUP

Chasses equipped with a universal power transformer also have three terminals on the back for connecting a phonograph pickup. These terminals are marked P.C.S. and the pickup is connected through a double pole—single throw switch to these terminals as shown in Fig. 5.

PEAKING PROCEDURE

All the circuits in this receiver are very accurately adjusted at the factory and will not need readjustment unless some coil or condenser has been replaced. Do not change the setting of any trimmer condenser unless it is definitely known that the adjustment is necessary. If re-alignment is found necessary, the circuits can be properly adjusted only with the use of a modulated test oscillator and output meter.

CONNECTING OUTPUT METER

Connect one terminal of the output meter to the plate of one of the Type 42 tubes and the other terminal to the plate of the other Type 42 tube. Looking at the bottom of the tube with the filament prongs toward you the plate prong will be the first to the left of the filament prongs. Be sure that the meter is protected from D.C. by connecting a condenser. (.1 mfd. or larger—not electrolytic) in series with one of the leads.

PEAKING I. F. STAGES AT 456 Kc.

I. Connect the ground lead of the test oscillator to the chassis frame. Connect a .1 mfd., or larger, condenser in series with the other lead and connect this lead to the grid cap of the 6A7 tube, leaving the tube's grid clip in place. The .1 mfd. condenser is necessary to prevent a short circuit which would remove the bias voltage.

II. Set the test oscillator at 456 kilocycles.

III. Turn the volume control of the receiver on full. Turn the station selector until the tuning condenser plates are completely meshed and set the band switch to band No. 5.

IV. (a) Peak both tuning condensers located on top of the first I.F. transformer shown on Fig. 4. NOTE: Be sure to use the lowest oscillator output that will give a reasonable scale deflection on the output meter. 30 to 90 volts output is satisfactory.

(b) Peak both tuning condensers located on top of the 2nd I. F. transformer shown on Fig. 4.

(c) Peak both tuning condensers located on top of the 3rd. I.F. transformer shown on Fig. 4.

V. Repeat IV to insure accurate adjustment of the I.F. tuning condensers.

PEAKING R. F. CIRCUITS

I. Connecting test oscillator to receiver: It is necessary to connect a dummy antenna in series with the test oscillator and the antenna terminal of the receiver. On bands 1 and 2 this consists of a .0002 mfd. *mica* condenser. On bands 3, 4 and 5 it consists of a *carbon* resistor of approximately 400 ohms. With the tuning condenser plates completely meshed make certain that the dial pointer is exactly horizontal. If not, loosen nut and set pointer horizontal and tighten nut again. The setting of the band spread pointer is not important.

II. To Peak Band No. 1. NOTE: Be sure to use the lowest oscillator output that will give a reasonable scale deflection on the output meter. 30 to 90 volts output is satisfactory.

(a) Set test oscillator at 350 Kc. Tune station selector to 350 Kc. (35 on dial). Then adjust oscillator parallel trimmer condenser, Fig. 3, for maximum output.

(b) With same dial settings peak the interstage and antenna parallel trimmer condenser for Band No. 1.

(c) (1) Set test oscillator at 150 Kc.

(2) Tune station selector in the region of 15—Band No. 1—on dial for maximum reading on the output meter.

(3) Close the oscillator series trimmer condenser for Band No. 1, Fig. 3, ⅛ turn and re-tune station selector to 150 Kc. signal for maximum output, noting reading on output meter.

(4) If meter reads higher after operation (3) repeat the operation again and again until no further improvement in the reading of the output meter can be obtained. If meter reads lower after operation (3) open the oscillator series trimmer condenser ⅛ turn and re-tune station selector to 150 Kc. signal, noting reading on output meter as above and repeat as many times as necessary to obtain the highest meter reading. Do not reset the parallel trimmer condensers at this frequency.

(d) Repeat operations (a) and (b) for more accurate adjustments.

III. To Peak Band No. 2.

(a) Set test oscillator at 1400 Kc. Tune station selector to 1400 Kc. (140 on dial). Then adjust oscillator parallel trimmer condenser for Band No. 2 for maximum output.

(b) With same dial settings peak the interstage and antenna parallel trimmer condensers for Band No. 2.

(c) (1) Set test oscillator at 600 Kc.

(2) Tune station selector in the region of 60—Band No. 2—on dial for maximum reading on the output meter.

(3) Close the oscillator series trimmer condenser for Band No. 2, Fig. 3, ⅛ turn and re-tune station selector to 600 Kc. signal for maximum output, noting reading on output meter.

(4) If meter reads higher after operation (3) repeat the operation again and again until no further improvement in the reading of the output meter can be obtained. If meter reads lower after operation (3) open the oscillator series trimmer condenser ⅛ turn and re-tune station selector to 600 Kc. signal, noting reading on output meter as above and repeat as many times as necessary to obtain the highest meter reading. Do not reset the parallel trimmer condensers at this frequency.

(d) Repeat operations (a) and (b) for more accurate adjustments.

IV. To Peak Band No. 3.

(a) Be sure to change dummy antenna as described in I under Peaking R.F. Circuits.

(b) Set test oscillator at 4 megacycles. Tune the station selector to 4 megacycles (4.0—Band No. 3 on dial). Then adjust oscillator parallel trimmer condenser for Band No. 3 for maximum output.

(c) With the same dial settings peak the interstage and antenna parallel trimmer condensers for Band No. 3.

V. To Peak Band No. 4.

(a) Set test oscillator at 10 megacycles.

(b) Tune station selector to 10 megacycles (10—Band No. 4 on dial).

(c) Open oscillator parallel trimmer condenser for Band No. 4 about 3 turns from closed.

(d) Close the interstage parallel trimmer condenser for Band No. 4 and open ⅛ turn.

(e) Close the antenna parallel trimmer condenser for Band No. 4 and then open ½ turn.

(f) Peak the oscillator parallel trimmer condenser on the first signal heard when closing the condenser. As a check on the adjustment set the station selector to approximately 9 on the dial and try to tune in the 10 megacycle signal from the test oscillator. If a signal is heard the oscillator has been aligned on the correct frequency.

(g) Re-tune to 10 megacycles and peak the antenna parallel trimmer condenser for maximum output.

(h) Open the interstage parallel trimmer condenser another ⅛ turn and re-tune the station selector to the 10 megacycle signal.

(i) Repeat operation (h) as many times as necessary to obtain the highest reading on the output meter on first peak obtained when opening trimmer condenser from closed position.

(j) Repeat operation (g) above.

VI. To Peak Band No. 5.

(a) Set test oscillator at 21 megacycles.

(b) Tune station selector to 21 megacycles (21—Band No. 5 on dial).

(c) Open oscillator parallel trimmer condenser for Band No. 5 about 3 turns from closed.

(d) Close the interstage parallel trimmer condenser for Band No. 5 and open ⅛ turn.

(e) Close the antenna parallel trimmer condenser for Band No. 5 and then open ½ turn.

(f) Peak the oscillator parallel trimmer condenser on the first signal heard when closing the condenser. As a check on the adjustment set the station selector to approximately 20 on the dial and try to tune in the 21 megacycle signal from the test oscillator. If a signal is heard the oscillator has been aligned on the correct frequency.

(g) Re-tune to 21 megacycles and Peak the antenna parallel trimmer condenser for maximum output.

(h) Open the interstage parallel trimmer condenser another ⅛ turn and re-tune the station selector to the 21 megacycle signal.

(i) Repeat operation (h) as many times as necessary to obtain the highest reading on the output meter on first peak obtained when opening trimmer condenser from closed position.

(j) Repeat operation (g) above.