Models 42-KR-3; 42-KR-5; 42-22CL

SPECIFICATIONS

MODELS 42-KR-3, 42-KR-5

Models KR-3 and KR5 are five (5) tube superheterodyne compact radios employing a built-in loop aerial. These models are similar with the exception of the cabinet, clock and power supply.

Model KR-5 includes a clock and is designed for operation on 115 volts, 60 cycles A.C. current only. Model KR-3 is designed for operation on a 115 volt, A.C. or D.C. power supply.

In addition each model includes a tuning band from **540 to 1600 K.C.**; automatic volume control; beam power pentode audio output stage; PHILCO LOKTAL tubes, and a permanent magnet speaker.

INTERMEDIATE FREQUENCY: 455 K.C.

POWER SUPPLY: 115 Volts, A.C. or D.C.

PHILCO TUBES: 7A8, converter; 7B7, I. F. Amplifier; 7C6, 2nd detector, A. V. C., 1st audio; 50L6GT, beam power audio output and 35Z3, rectifier.

CABINET DIMENSIONS:	Height	Width	Depth
Model 42-KR-3	6 1/16"	11 1/4"	5 7/8"
42-KR-5	6 1/16"	14 3/8"	5 7/8"

MODEL 42-22CL

Model 42-22CL is a combination Clock and Radio which operates on a 115 volt, 50 or 60 cycle power supply. The radio consists of a six (6) tube superheterodyne circuit with two tuning ranges covering standard, State and City Police, aircraft and amateur broadcast frequencies; built-in loop aerial system; R. F. stage; beam power audio stage; automatic volume control; and PHILCO LOKTAL tubes.

TUNING BAND FREQUENCIES: 540 to 1600 K.C. and 1.6 to 3.3 M.C.

INTERMEDIATE FREQUENCY: 455 K.C.

AUDIO OUTPUT: 1 Watt.

POWER SUPPLY: The radio will operate on a 115 volt, 50 or 60 cycle power supply. The clock, however, is designed to operate on a single frequency only. The 115 volt, 50 cycle clock and 115 volt, 60 cycle clock are indicated in the replacement parts list.

PHILCO TUBES USED: 7C7, R. F. stage; 7A8, converter; 7B7, I. F. stage; 7C6, 2nd detector, A. V. C. 1st audio; 35A5, audio output and a 35Z3, rectifier.

CABINET DIMENSIONS:	Height	Width	Depth
	7 5/16"	15 7/8"	6 7/8"

OUTSIDE AERIAL AND GROUND

AERIAL AND GROUND: Under ordinary operating conditions the loop aerial is sufficient for reception of stations, and an outside aerial or ground is not required. In some locations, however, such as steel reinforced buildings and other shielded areas, an outside aerial should be used for maximum performance. For this purpose an outside aerial connection is located on the rear lower left corner of the chassis. Simply remove the lug from under the screw and attach the aerial lead to the lug. The PHILCO SAFETY AERIAL, Part No. 40-6370, is recommended for these models.

ALIGNING R. F. AND I. F. COMPENSATORS

The following procedure covers all models in this Bulletin.

EQUIPMENT REQUIRED

1. **SIGNAL GENERATOR:** Covering the frequency range of the receiver, such as Philco Model 070.
2. **ALIGNING INDICATOR:** Either a vacuum tube voltmeter or an audio output meter may be used as an aligning indicator. Philco Models 027 and 028 circuit testers contain both these meters.
3. **TOOLS:** Philco Fiber Screw Driver, Part No. 45-2610.

CONNECTING ALIGNING INSTRUMENTS

Audio Output Meter: If this type of aligning meter is used, connect it to the voice coil terminals of the speaker or from the plate of the output tube to "B" (—) negative. Adjust the meter for the 0 to 10 volt scale.

Vacuum Tube Voltmeter: To use the vacuum tube voltmeter as an aligning indicator, make the following connections: Attach the negative (—) terminal of the voltmeter to any point in the circuit where the A. V. C. voltage can be obtained. Connect the positive (+) terminal of the vacuum tube voltmeter to the chassis.

Signal Generator: When adjusting the I. F. padders, the high side of the signal generator is connected through a .1 mfd. condenser to the antenna section of the tuning condenser. Connect the ground or low side of the generator to the chassis.

When aligning the R. F. padders a loop is made from a few turns of wire and connected to the signal generator output terminals; the signal generator is then placed close to the loop of the radio.

The receiver can be adjusted in the cabinet or removed from the cabinet.

When adjusting the radio outside the cabinet the loop aerial should be placed in approximately the same position around or near the chassis as when assembled.

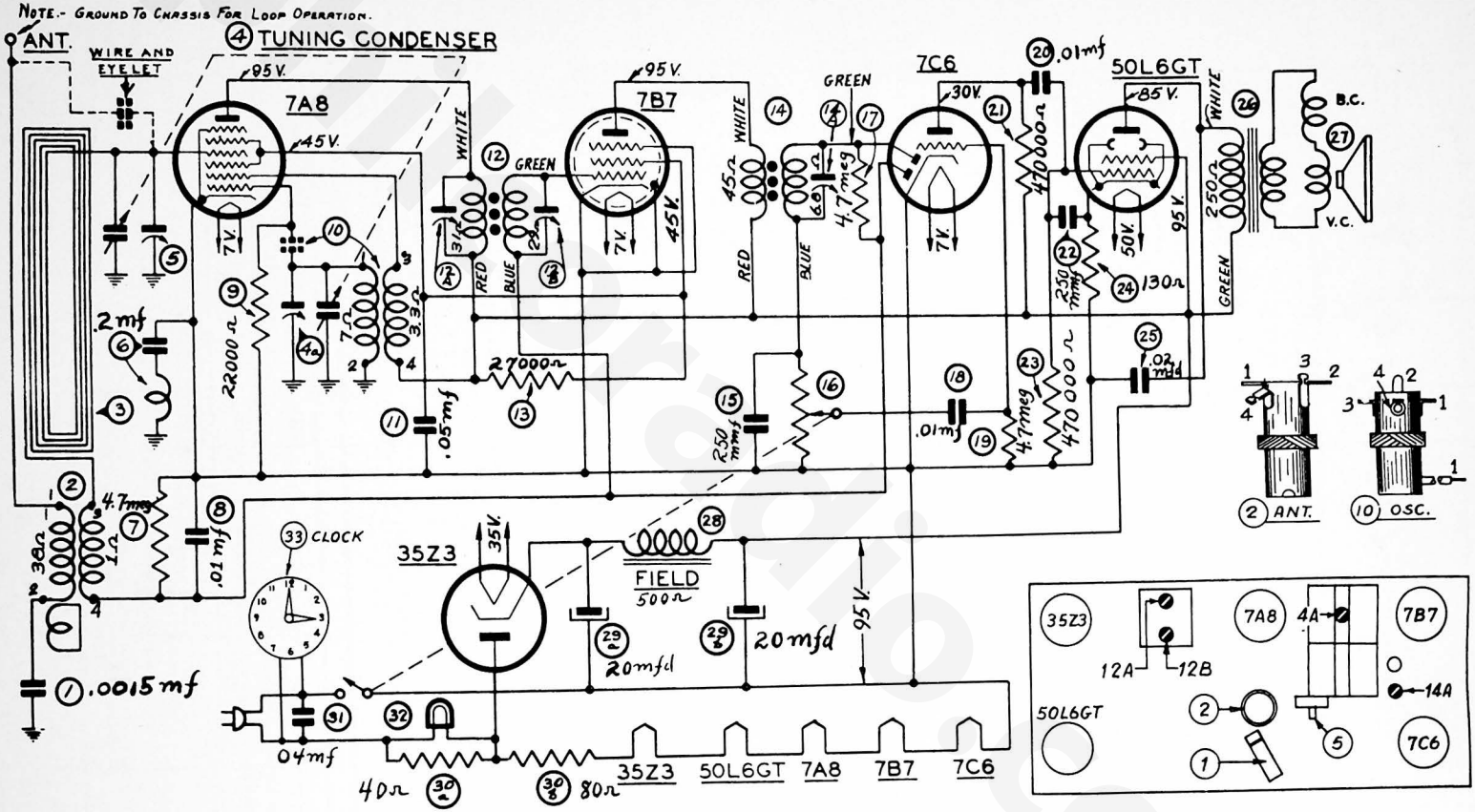
After connecting the aligning instruments adjust the compensators as shown in the tabulation below.

If the indicating meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

Operations in Order	SIGNAL GENERATOR		RECEIVER				SPECIAL INSTRUCTIONS
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators in Order		
					Models KR-3, KR-5	Model 42-22CL	
1	Ant. Section of Tuning	455 K.C.	540 K.C. Tuning Cond. Closed	Vol. Max. Range Switch Brdcst.	12A, 12B, 14A	26A, 23B, 23A	Compensator Locations on Diagram, and Base
2	Loop see above instructions	1600 K.C.	1600 K.C.	Vol. Max. Range Switch Brdcst.	4A	14	Note A Note B
3	Loop see above instructions	1500 K.C.	1500 K.C.	Vol. Max. Range Switch Brdcst.	5	13	

NOTE A — DIAL CALIBRATION: In order to adjust the receiver correctly, the dial must be aligned to track properly with the tuning condenser. To do this, proceed as follows: Turn the tuning condenser to the maximum capacity position (plates fully meshed). With the condenser in this position, set the tuning pointer on the small dot below 550 K.C.

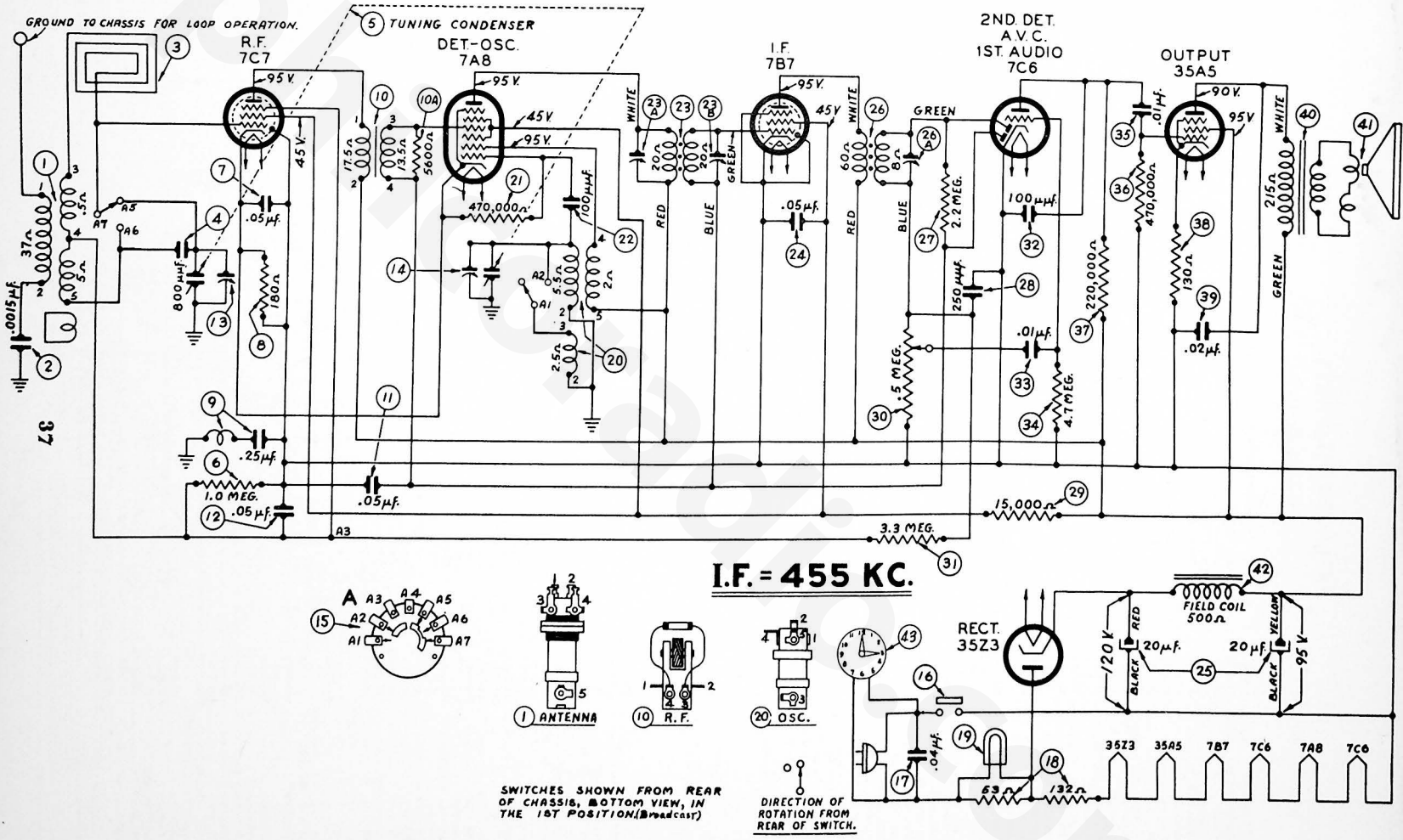
NOTE B — The police tuning range of Model 42-22CL is automatically aligned when the broadcast band compensators are adjusted.



SCHEMATIC DIAGRAM, MODELS 42-KR-3, 42-KR-5

THE D.C. VOLTAGES INDICATED IN THE ABOVE DIAGRAM WERE MEASURED AT THE TUBE SOCKET CONTACTS WITH A 1,000 OHMS PER VOLT, VOLTMETER PHILCO MODEL 027 — LINE VOLTAGE 117 VOLTS A.C.

SEE PAGE 4 FOR REPLACEMENT PARTS



SCHEMATIC DIAGRAM — MODEL 42-22CL

THE D.C. VOLTAGES INDICATED IN THE ABOVE DIAGRAM WERE MEASURED AT THE TUBE SOCKET CONTACTS WITH A 1,000 OHMS PER VOLT, VOLTMETER PHILCO MODEL 027 — LINE VOLTAGE 117 VOLTS A.C.

SEE PAGE 4 FOR REPLACEMENT PARTS

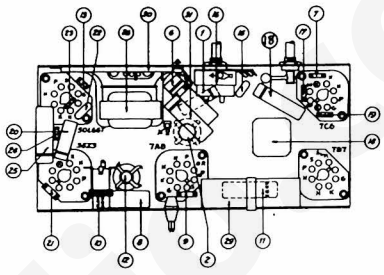
REPLACEMENT PARTS

42-KR-3, 42-KR-5

SCHEM. No.	DESCRIPTION	PART No.
1.	Condenser (.0015 mfd., 200 volts)	30-4621
2.	Aerial Transformer	32-3394
3.	Loop Aerial (42-KR-3)	32-3767
	Loop Aerial (42-KR-5)	32-3752
4.	Tuning Condenser	31-2567
	Drive Cord	31-2358
	Drive Shaft	31-2568
	Spring Drive Cord	28-8954
	Spacer (Tuning Cond. Mtg.)	56-1669
5.	Compensator (Aerial)	31-6344
6.	Condenser and Choke Assembly	76-1161
7.	Resistor (4.7 megohms)	33-547339
8.	Condenser (.1 mfd., 200 volts)	61-0104
9.	Resistor (22,000 ohms)	33-322339
10.	Oscillator Transformer	32-3562
11.	Condenser (.05 mfd.)	30-4519
12.	1st I. F. Transformer	32-3390
13.	Resistor (27,000 ohms)	33-327339
14.	2nd I. F. Transformer	32-3391
15.	Condenser (250 mmfd.)	60-125157
16.	Volume Control	33-5456
17.	Resistor (4.7 megohms)	33-547339
18.	Condenser (.01 mfd., 400 volts)	30-4572
19.	Resistor (4.7 megohms)	33-547339
20.	Condenser (.01 mfd., 400 volts)	30-4572
21.	Resistor (470,000 ohms)	33-447339
22.	Mica Condenser (250 mmfd.)	60-125157
23.	Resistor (470,000 ohms)	33-447339
24.	Resistor (130 ohms)	33-113336
25.	Condenser (.02 mfd., 400 volts)	30-4516
26.	Output Transformer	32-8144
27.	Cone Assembly (for Speaker 36-1512-9)	36-4167
28.	Field Coil (replace Speaker 36-1512-9)	
29A, B.	Electrolytic Condenser (20-20 mfd.).. Clamp	30-2382 56-1346
30.	Resistor (40-80 ohms)	33-3401
31.	Condenser (.04 mfd., 400 volts)	30-4119
32.	Pilot Lamp	34-2068

SCHEM. No.	DESCRIPTION	PART No.
33.	Cable Clock	41-3538
	Clock (115 volt & 60 cycle)	45-2898
	Clock (115 volt & 50 cycle)	45-2891
	Screw (Clock Mtg.)	W-1837
	MISCELLANEOUS PARTS	
	Cabinet 42-KR-3	10564A
	Cabinet 42-KR-5	10568A
	Cabinet Back 42-KR-3	27-9907
	Cabinet Back 42-KR-5	27-9898
	Clip (Coil Mtg.)	28-5002
	Cord (Power)	L-3199
	Disc Feet (Cabinet)	27-4804
	Dial Scale (42-KR-5)	27-5732

SCHEM. No.	DESCRIPTION	PART No.
	Dial Scale (42-KR-3)	27-5733
	Dial Pointer	27-4972
	Knob (42-KR-3)	54-4004
	Knob (42-KR-5)	27-4820
	Rubber Grommet (Tuning Cond.)	27-4610
	Speaker	36-1512
	Socket (Loktal tubes)	27-6157
	Socket (Octal)	27-6164
	Socket Assembly (Pilot Lamp)	76-1177
	Screw (Chassis Mtg.)	W-2030
	Screw (Back Mtg.)	W-2076
	Screw (Back Mtg.) (42-KR-3)	W-2023
	Washer (Chassis Mtg.)	W-410
	Washer (Chassis Mtg.)	W-152



LOCATIONS OF PARTS — UNDERSIDE OF CHASSIS
MODELS 42-KR-3, 42-KR-5

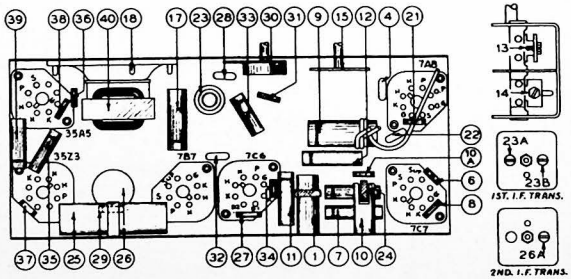
REPLACEMENT PARTS

MODEL 42-22CL

SCHEM. No.	DESCRIPTION	PART No.
1.	Aerial Transformer	32-3649
2.	Condenser (.0015 mfd., 200 volts)	30-4555
3.	Loop Aerial	32-3645
4.	Mica Condenser (800 mmfd.)	60-180127
5.	Tuning Condenser	31-2492
	Drive Cord	31-2489
	Drive Shaft	31-2370
	Grommet (Mtg. Cond.)	27-4610
	Nut (Mtg. Cond.)	W-1543
	Sleeve (Mtg. Cond.)	28-5583
	Spring (Drive Cord)	28-8954
6.	Resistor (1 megohm)	33-510339
7.	Condenser (.05 mfd., 200 volts)	30-4519
8.	Resistor (180 ohms)	33-118336
9.	Condenser (.25 mfd.) and Choke	76-1226
10.	R. F. Transformer	32-3273
10A.	Resistor (5.600 ohms) part of 10	33-256339
11.	Condenser (.05 mfd., 200 volts)	30-4519
12.	Condenser (.05 mfd., 200 volts)	30-4519
13.	Compensator part of 5	
14.	Compensator part of 5	
15.	Range Switch	42-1505
16.	Off-On Switch part of 30	
17.	Condenser (.04 mfd., 400 volts)	30-4119
18.	Resistor (53-132 ohms)	33-3375
19.	Pilot Lamp	34-2068
20.	Oscillator Transformer	32-3256
21.	Resistor (47,000 ohms)	33-347339
22.	Condenser (100 mmfd.)	60-110157
23.	1st I. F. Transformer	32-3489
24.	Condenser (.05 mfd.)	30-4519
25A.	Electrolytic Cond. (20 mfd., 20 mfd.)	30-2403
25B.	Electrolytic Cond. (20 mfd.) part of 25A	
26.	2nd I. F. Transformer	32-3304
27.	Resistor (2.2 megohms)	33-522154
28.	Mica Condenser (250 mmfd.)	60-125157
29.	Resistor (15,000 ohms)	33-315339
30.	Volume Control	33-5405
	Mtg. Nut	W-2157
31.	Resistor (3.3 megohms)	33-533339

SCHEM. No.	DESCRIPTION	PART No.
32.	Condenser (100 mfd.)	61-0033
33.	Condenser (.01 mfd., 200 volts)	30-4572
34.	Resistor (4.7 megohms)	33-547154
35.	Condenser (.01 mfd., 400 volts)	61-0100
36.	Resistor (470,000 ohms)	33-447339
37.	Resistor (220,000 ohms)	33-422339
38.	Resistor (130 ohms)	33-113336
39.	Condenser (.02 mfd., 400 volts)	30-4516
40.	Output Transformer	32-8144
41.	Cone Assembly (for Speaker 36-1512-9)	36-4167
42.	Field Coil (replace Speaker 36-1512)	
43.	Clock (115 volts, 60 cycles)	45-2855
	Clock (115 volts, 50 cycles)	45-2877
	Screw (Clock Mtg.)	W-1824
	Cable (Clock)	41-3484
	MISCELLANEOUS PARTS	
	Cabinet	10539A
	Cardboard Back	27-9867
	Screw	W-2023

SCHEM. No.	DESCRIPTION	PART No.
	Cord (Power)	L-3199
	Dial Scale	27-5691
	Dial Pointer	27-4891
	Knob (Tuning-Volume)	27-4809
	Knob (Range Switch)	54-4005
	Socket (Tubes)	27-6159
	Socket Assembly (Pilot Lamp)	76-1177
	MOUNTING PARTS	
	Clip (R. F. Coil Mounting)	28-5002
	Clamp (Electro-Condenser)	56-1346
	Painut (Vol. Cont. Drive Shaft Mtg.)	W-2157
	Painut (1st & 2nd I. F. Mtg.)	W-1949
	Screw (Dial Scale Mounting)	W-685
	Screw (Chassis Mtg.)	W-2030
	Washer (Chassis Mtg.)	W-410
	Screw (Chassis Mtg.)	W-2030
	Eyelet (Mtg. Socket)	W-1850



LOCATIONS OF PARTS — UNDERSIDE OF CHASSIS
MODEL 42-22CL