



Models 405 & 406

SPECIFICATIONS

Type of Circuit—Model 405 is a four tube portable superheterodyne receiver with a built-in antenna system.

Power Supply—60 volts "B"; 1.5 volts "A"

Power Consumption—5.2 M.A. "B"; 200 M.A. "A".

Intermediate Frequency—460 K.C.

Tuning Range—540-1600 K.C.

Audio Output—70 M.W.

Philco Tubes Used—1-1A7EG Converter; 1-1N5EG I.F. Amplifier; 1-1H5G 2nd det. A.V.C., 1st A.F. 1-1A5EG Output.

Type of Circuit—Model 406 is a five tube portable superheterodyne with a built-in antenna system.

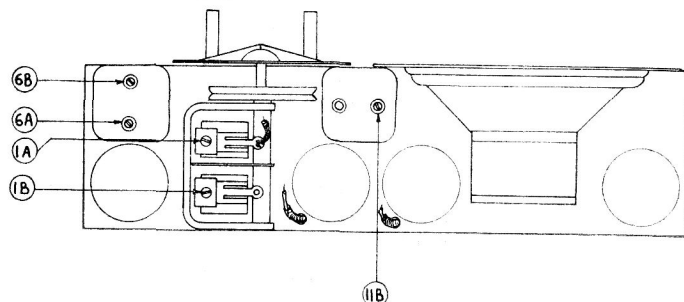
Power Supply—60 volts "B"; 1.5 volts "A" 5.4 M.A. "B"; 200 M.A. "A".

Intermediate Frequency—460 K.C.

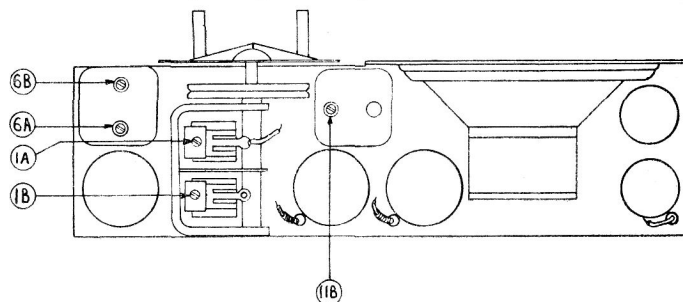
Tuning Range—540-1600 K.C.

Audio Output—80 M.W.

Philco Tubes Used—1-1A7EG Converter; 1-1N5EG I.F. Amplifier; 1-1H5G 2nd det. A.V.C., 1st A.F. 2-1LA4E push-pull output.



LOCATION OF COMPENSATORS—405



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ALIGNMENT OF COMPENSATORS

Equipment Required

1. **Signal Generator** with a frequency range from 115 to 32,500 K.C. such as Philco Model 177.

2. **Aligning Indicator**, Philco Model 028, vacuum tube voltmeter and circuit tester incorporates a sensitive audio output meter and vacuum tube voltmeter. This instrument can be used as an aligning indicator.

3. **Fibre Handled Screw Driver**—Philco Part No. 45-2610, and **Fibre Wrench**, Philco Part No. 3164.

Connecting Aligning Instruments—To align the receiver accurately, connect an audio output meter, such as Philco Model 028, to the speaker voice coil terminals or to the plate and screen terminals of the output tube. Adjust the compensators in the order as shown in the table below. If the aligning meter goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

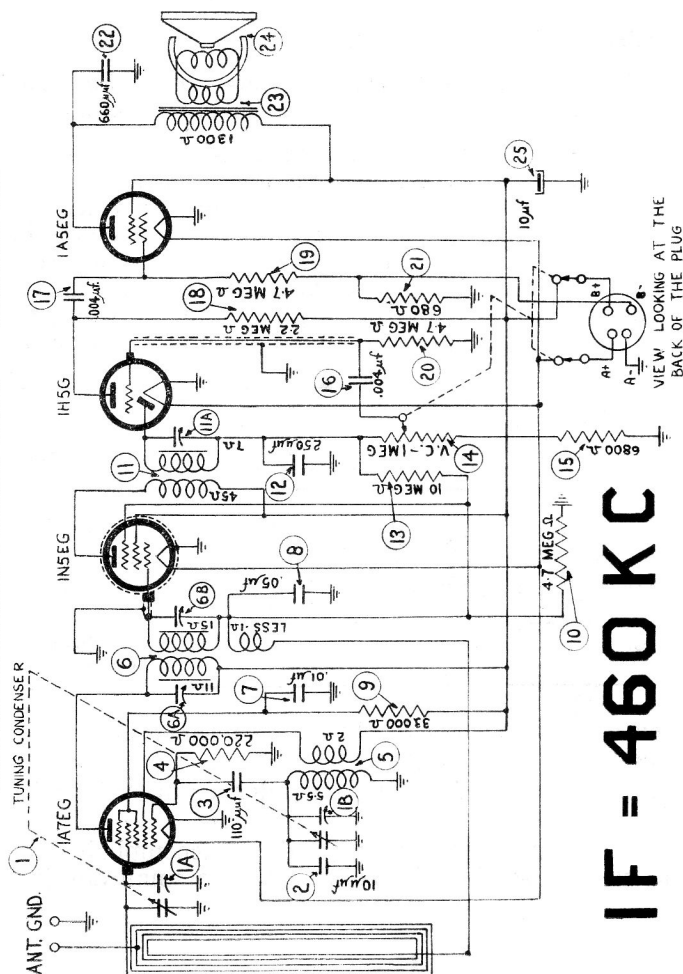
Operations in Order	SIGNAL GENERATOR		RECEIVER			Special Instructions
	Output Connections to Receiver	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	
1	High Side to 1A7EG Grid Cap	460 K.C.	580 K.C.	Volume Maximum	11 A 6B 6A	Note A
2	To Antenna Lead	1500 K.C.	1500 K.C.	Volume Maximum	1B 1A	Note B, C
3	To Antenna Lead	600 K.C.	600 K.C.	Volume Maximum		Check Calibration

Note A: A dummy antenna consisting of a .1 mfd. condenser is connected in series with the high side of the signal generator output lead. This dummy is used for I.F. alignment only.

Note B: A dummy antenna for aligning the R.F. circuits consists of a 100 Mmfd. condenser in series with the high side of the signal generator output lead.

Note C: The dial must be aligned to track properly with the tuning condenser. This is accomplished by closing the tuning condenser (maximum capacity) and setting the pointer on the small dot just below the 550 K.C. mark on the scale.

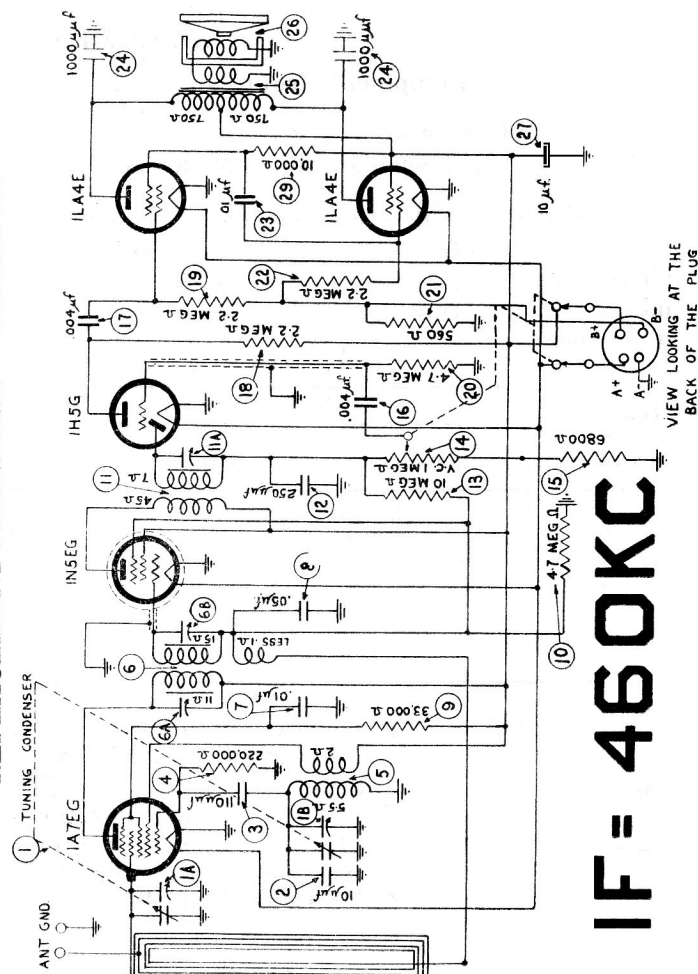
REPLACEMENT PARTS LIST — MODEL 405



SCHEMATIC DIAGRAM — MODEL 405

Schem. No.	Description	Part No.	Schem. No.	Description	Part No.
1	Tuning Condenser (10 mmfd.)	31-2455	24	Speaker	36-1481C
2	Mica Condenser (110 mmfd.)	60-010837	25	Electrolytic Condenser (10 mfd.)	80-2396
3	Mica Condenser (110 mmfd.)	60-111157		Socket	27-6133
4	Resistor (220,000 ohms, 1/3 watt)	33-422244		Grounding Clip (Tube Shield)	56-1567
5	Oscillator Coil	32-3425		Drive Shaft	76-1036
6	First I.F. Transformer	32-3265		Coil Clip	28-5002
7	Tubular Cond. (.01 mfd. 400 volts)	30-4572		Drive Cord	31-2411
8	Tubular Cond. (.05 mfd. 200 volts)	30-4519		Spring	28-8751
9	Resistor (33,000 ohms, 1/3 watt)	33-333244		Rubber Band	3622
10	Resistor (4.7 megohms, 1/3 watt)	33-547244		Battery Cable	41-3487
11	Second I.F. Transformer	32-3266		Dial Scale	27-5578
12	Mica Condenser (250 mmfd.)	60-125157		Pointer	27-4891
13	Resistor (10 megohms, 1/3 watt)	33-610244		Tube Shield	56-1566
14	Volume Control (1 megohm)	33-5389		Speaker Felt	27-9439
15	Resistor (6800 ohms, 1/3 watt)	33-268244		Grille Cloth	44-1376
16	Tubular Cond. (.004 mfd. 400 volts)	30-4578		Bezel	27-4965
17	Tubular Cond. (.004 mfd. 400 volts)	30-4578		Loop Assembly (Part of Cabinet)	76-1039
18	Resistor (2.2 megohms, 1/3 watt)	33-522244		Knob Assembly	27-4970
19	Resistor (4.7 megohms, 1/3 watt)	33-547244		Washer (Chassis)	W-410FA3
20	Resistor (4.7 megohms, 1/3 watt)	33-547244		Screw (Chassis)	W-2030FA3
21	Resistor (680 ohms, 1/2 watt)	33-168366		Cabinet	10477A
22	Mica Condenser (680 mmfd.)	60-166137		Cone and Voice Coil Assembly	36-4121
23	Output Transformer	32-8062			

REPLACEMENT PARTS LIST — MODEL 406



SCHEMATIC DIAGRAM — MODEL 406

Schem. No.	Description	Part No.	Schem. No.	Description	Part No.
1	Tuning Condenser (10 mmfd.)	31-2455	26	Speaker	36-1481C
2	Mica Condenser (110 mmfd.)	60-010837	27	Electrolytic Condenser (10 mfd.)	80-2396
3	Mica Condenser (110 mmfd.)	60-111157	29	Resistor (10,000 ohms, 1/3 watt)	33-310244
4	Resistor (220,000 ohms, 1/3 watt)	33-422244		Socket (Octal)	27-6133
5	Oscillator Coil	32-3425		Socket (Loktal)	27-6138
6	First I.F. Transformer	32-3265		Grounding Clip (Tube Shield)	56-1567
7	Tubular Cond. (.01 mfd. 400 volts)	30-4572		Drive Shaft	76-1036
8	Tubular Cond. (.05 mfd. 200 volts)	30-4519		Coil Clip	28-5002
9	Resistor (33,000 ohms, 1/3 watt)	33-333244		Drive Cord	31-2411
10	Resistor (4.7 megohms, 1/3 watt)	33-547244		Spring	28-8751
11	Second I.F. Transformer	32-3266		Rubber Band	3622
12	Mica Condenser (250 mmfd.)	60-125157		Battery Cable	41-3487
13	Resistor (10 megohms, 1/3 watt)	33-610244		Dial Scale	27-5578
14	Volume Control (1 megohm)	33-5389		Pointer	27-4891
15	Resistor (6800 ohms, 1/3 watt)	33-268244		Tube Shield	56-1566
16	Tubular Cond. (.004 mfd. 400 volts)	30-4578		Speaker Felt	27-9439
17	Tubular Cond. (.004 mfd. 400 volts)	30-4578		Grille Cloth	44-1376
18	Resistor (2.2 megohms, 1/3 watt)	33-522244		Bezel	27-4965
19	Resistor (4.7 megohms, 1/3 watt)	33-547244		Loop Assembly (Part of Cabinet)	76-1039
20	Resistor (4.7 megohms, 1/3 watt)	33-547244		Knob Assembly	27-4970
21	Resistor (560 ohms, 1/2 watt)	33-156336		Washer (Chassis)	W-410FA3
22	Resistor (2.2 megohms, 1/3 watt)	33-522244		Screw (Chassis)	W-2030FA3
23	Tubular Cond. (.01 mfd. 400 volts)	30-4572		Cabinet	10477A
24	Mica Condenser (1000 mmfd.)	60-210137		Cone and Voice Coil Assembly	36-4121
25	Output Transformer	32-8107			