

Model 61

Automobile Receiver

Specifications

Frequency Range:
530 to 1680 K.C.

I.F.:
175 K.C.

Tubes:

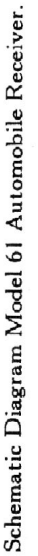
Type	Position
77	R.F. Amplifier
77	1st Detector and Oscillator
78	1st I.F. Amplifier

75	2nd Detector, A.V.C., 1st Audio Amplifier
42	Power Amplifier
84	Rectifier

Power Supply:
6 volt Automobile storage battery

Controls:

The control unit is intended for steering column mounting and contains the station selector control and a combined volume control and power switch.



Schematic Diagram Model 61 Automobile Receiver.

REPLACEMENT PARTS LIST

CAPACITORS:

		Part No
C-1	R.F. Tuning (antenna)	K-1265
C-2	R.F. Tuning (first detector)	
C-3	Oscillator	
C-4	Trimmer for Antenna R.F. tuning	
C-5	Trimmer for First Detector R.F. Tuning	
C-6	Oscillator Trimmer	K-1018-1
C-7	Trimmer, primary first I.F. Transformer; 70-140 mmf.	
C-8	Trimmer, secondary first I.F. Transformer; 70-140 mmf.	
C-9	Trimmer, primary second I.F. Transformer; 40-180 mmf.	
C-10	A.V.C. Filter; .05 mfd; 175 volts	
C-11	R.F. Cathode By-Pass; .25 mfd; 175 volts	K-1314-1
	mounted in K-1272	
C-12	Screen By-Pass; .25 mfd; 175 volts	K-2227-8
	mounted in K-1272	
C-13	First Detector Cathode By-Pass; .002 mfd; 350 volts	K-1272
C-14	Plate Filter; .05 mfd; 350 volts	K-2228-2
C-15	A.V.C. Filter; .05 mfd; 175 volts	K-2228-8
C-16	I.F. By-Pass; 100 mmf; mica	K-1611-2
C-17	I.F. By-Pass; 100 mmf; mica	K-1611-2
C-18	Blocking; .005 mfd; 175 volts	K-1611-2
C-19	Blocking (diode paralleling); 100 mmf; mica	K-2227-4
	mounted in K-1009-2	
C-20	Second Detector Cathode By-Pass; .5 mfd; 175 volts	K-1272
	mounted in K-1272	
C-21	Plate By-Pass; .002 mfd; 350 volts	K-1272
	mounted in K-1272	
C-22	Tone Control; .02 mfd; 350 volts	K-1272
	mounted in K-1272	
C-23	Blocking; .005 mfd; 350 volts	K-1272
	mounted in K-1272	
C-24	Audio Cathode By-Pass; .1 mfd; 175 volts	K-1272
	mounted in K-1272	
C-25	Audio Plate By-Pass; .005 mfd; 350 volts	K-1272
	mounted in K-1272	
C-26	Plate By-Pass; .25 mfd; 350 volts	K-1272
	mounted in K-1272	
C-27	Divider By-Pass; .001 mfd; mica	K-1611-23
C-28	Power Filter, 10 mfd; 450 volts	K-1271
C-29	Power Filter; 6 mfd; 450 volts	K-1271
C-30	Power Rectifier Cathode By-Pass; 100 mmf	K-1611-2
C-31	Power Transformer secondary (H.T. buffer; .02 mfd; 1100 volts A.C.)	K-1267-1
C-32	Vibrator Primary Filter; .5 mfd; 175 volts	K-1292-2
C-33	Battery Line Filter; .001 mfd; mica	K-1317
	mounted in K-1317	
C-34	Battery Line Filter; .5 mfd; 175 volts	K-1317
	mounted in K-1317	
C-35	A.V.C. Filter—.05 mfd; 175 volts	K-1272
	mounted in K-1272	

RESISTORS:

		Part No.
R-1	A.V.C. Filter; 100,000 ohms; ½ watt.	K-2226-5
R-2	Grid Reducing; 5,000 ohms; ½ watt.	K-2226-12
R-3	R.F. Cathode Bias; 500 ohms; ½ watt.	K-2226-18
R-4	Grid Reducing; 5,000 ohms; ½ watt.	K-2226-12
R-5	First Detector Cathode Bias; 7,500 ohms; ½ watt.	K-2226-11
R-6	First Detector Plate Filter; 2,000 ohms; ½ watt.	K-2226-14
R-7	A.V.C. Filter; .5 meg; ½ watt.	K-2226-3
R-8	A.V.C. Load; .5 meg; ½ watt.	K-2226-3
R-9	A.V.C. Load; .5 meg; ½ watt.	K-2226-3
R-10	Diode Plate Filter; 50,000 ohms; ½ watt.	K-2226-6
R-11	Volume Control; variable 0-500,000 ohms	K-1092-5
R-12	Second Detector Grid; 1 megohm; ½ watt	K-2226-2
R-13	Second Detector Cathode Bias; 5,000 ohms; ½ watt.	K-2226-12
R-14	Tone Control; variable 0-500,000 ohms.	K-1142-3
R-15	Plate Filter; 100,000 ohms ½ watt.	K-2226-5
R-16	Audio Grid; .25 meg; ½ watt.	K-2226-4
R-17	Cathode Filter; .25 meg; ½ watt.	K-2226-4
R-18	Divider Resistors { 40,000 ohms; ½ watt.	K-2226-34
R-19	{ 75,000 ohms; ½ watt.	K-2226-27
R-20	{ 4,000 ohms; 1 watt.	K-2226-35
R-21	Centre Tap; wire wound 200 ohms	K-1268

COILS:

L-1	Antenna, R.F. Transformer Primary	K-1259-1
L-2	Antenna, R.F. Transformer Secondary	
L-3	Second R.F. Transformer Primary	
L-4	Second R.F. Transformer Secondary	K-1259-2
L-5	Oscillator Coil	
L-6	Primary First I.F. Transformer	
L-7	Secondary First I.F. Transformer	K-1261-1
L-8	Primary Second I.F. Transformer	
L-9	Secondary Second I.F. Transformer	
L-10	Loudspeaker Field Coil; Resistance 4.60 ohms	K-1241-2
L-11	Loudspeaker Voice Coil & Diaphragm Assembly (Impedance 3.8 ohms)	K-1242-2
L-12	Filter Choke	K-1264
L-13	Vibrator Energizer Coil	Part of K-1266
L-14	Filter R.F. Choke	K-1263
L-15	Filter Choke	K-1262
L-16	R.F. Choke	Part of K-1317

MISCELLANEOUS:

T-1	A.F. Output Transformer	K-1247-2
T-2	Power Transformer	K-1322-1
V-1	Vibrator Assembly	K-1266
F-1	Fuse, 10 amperes	K-1327-1
S-1	Battery Switch	Mounted on K-1092-5

MODEL 61 AUTOMOBILE RECEIVER

REALIGNING DETAILS

1. (a) Set signal generator to 175 K.C. and feed output to control grid autodyne first detector tube type 77.
(b) Align C-7, C-8, C-9.
2. (a) Set signal generator to 1680 K.C. and feed to control grid first detector.
(b) Set receiver dial to 1680 K.C.
(c) Align oscillator pad C-5.
3. (a) Set signal generator to 1400 K.C. and feed to antenna lead of receiver.
(b) Set receiver dial to 1400 K.C.
(c) Align C-4 and C-5.
4. (a) Set signal generator to 530 K.C. and feed to antenna.

- (b) Set receiver dial to 530 K.C. and check dial calibration.
- (c) Set signal generator to 1000 K.C. and check dial calibration at that point.

If correct aligning has been carried out, a sensitivity of from two to three microvolts will have been obtained. No oscillator lagging capacitor is used as the oscillator section of the tuning gang has cut plates.

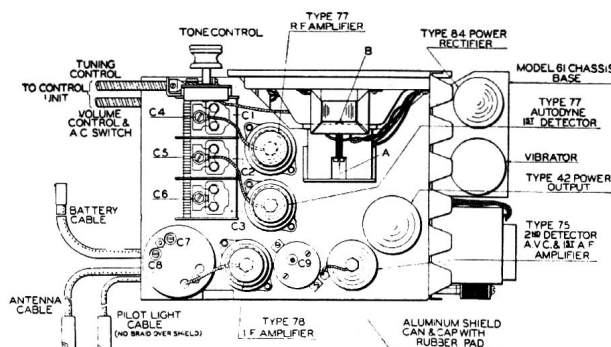
Where the antenna coil has been replaced, care should be taken to see that the primary leads are not reversed. An insensitive receiver will result. This coil is litz wound and care should be taken to see that all seven strands are soldered.

SOCKET VOLTAGE AND CURRENT READINGS

Tube	Position	Filament Volts	Plate Volts	Screen Volts	Cathode Volts	Control Grid or Bias Volts	Plate Current	
							Normal Bias	Reduced Bias
77	R.F.....	6.8	235	60	2.4 (a)	.6	.2 (e)	.95
77	Autodyne, 1st Det. & Oscillator.....	6.8	235	60	2.4	2.8	.15 (d)	.45
78	I.F.....	6.8	235	70	1.9	.6	.15	.45
75	2nd Det. A.V.C. & 1st A.F.	6.8	160	..	1.8	.2	.15	.45
42	Output.....	6.8	245	280	..	18.0 (b)	23.0 (c)	38.0 (c)
84	Rectifier.....	6.8	300 V. to Cathode each plate.				24.0 mls. No. 1 plate 30.0 mls. No. 2 plate	

The above readings were taken with a Weston Type 566 Analyzer modified to use the type 666-1A Unit. The storage battery read 7.6 volts on open circuit at the time of the tests. The volume control was turned to maximum and the tone control to treble for all readings. Readings differing from those listed above will be obtained if the analyzing is carried out inside the car.

- (a) To heater.
- (b) Read across choke L-12 inside chassis.
- (c) Change obtained from introduction negative 16.5 volts to grid circuit from external battery at analyzer.
- (d) 3 volt bias battery used at analyzer.
- (e) Read with 1.5 volt external battery bias only.



Chassis Layout Model 61 Automobile Receiver.