Philco Radio & Television Corp.

Model: 39-116	Chassis:	Year: Pre October 1938
Power:	Circuit:	IF:
Tubes:		
Bands:		

Resources
Riders Volume 9 - PHILCO 9-56
Riders Volume 9 - PHILCO 9-57
Riders Volume 9 - PHILCO 9-58
Riders Volume 9 - PHILCO 9-59, 60
Riders Volume 9 - PHILCO 9-61
Riders Volume 9 - PHILCO 9-62

MODELS 39-55,39-116
Cont.Freq.Amplifier
Adjustments

PHILCO RADIO & TELEV. CORP.

MODEL 39-55
Parts

Adjusting Control Frequency Amplifier

The Mystery Control receivers are shipped with five (5) different control frequencies which range from 350 to 400 K.C. These are identified by code numbers appearing on the serial number ticket and on the rear of the chassis. These code numbers and frequencies are as follows:

Code 5—355 K.C.
Code 6—367 K.C.
Code 7—375 K.C.
Code 8—383 K.C.
Code 9—395 K.C.

The purpose of the different control frequencies is to prevent interaction between two Mystery Control receivers which are on the same floor or are exceptionally close together. When several Mystery Control receivers are to be located close together, it will be necessary to use different control frequencies to avoid interaction between the receivers. In order to prevent interaction between receivers, there should be a difference of 20 K.C. between their control frequencies.

If three receivers are to be operated at the same time and are closely situated, it will be advisable to adjust the control frequency of the first set to 355 K.C., the second set to 375 K.C. and the third to 395 K.C.

When realigning or changing the control frequency of the Mystery Control circuit, a Philco Model 077 Signal Generator with a coil of wire (about 4 or 5 turns—12" in diameter) attached to the output terminals is required. The leads between the coil of wire and Signal Generator should be long enough so that the coil of wire can be placed near the large secondary inductor in the bottom of the receiver cabinet.

With this apparatus, the Control Frequency is adjusted as follows:

1. With the temporary coil of wire in the center of (or near) the secondary inductor, the control frequency to which the Mystery Control Amplifier is tuned can be determined by tuning the Signal Generator between 350 and 400 K.C. When the Signal Generator is tuned to the control frequency, the Thyratron (2A4G) tube will glow (blue haze). If this frequency is to be used, leave the Signal Generator indicator at this point or turn the indicator to any other frequency desired between 350 and 400 K.C.
2. When the control frequency is selected, turn the sensitivity control (117) in Model 116 and (89) Model 55 located on the left rear of the chassis—towards the position marked "extreme." Using the 2A4G Thyratron tube as a resonance indicator, adjust padders (103), (115), (119) in Model 116 and (74), (85), (90) in Model 55 for maximum signal. This will be indicated by the brilliance of the glow in the 2A4G Thyratron tube. As the padders are adjusted, gradually turn the sensitivity control to the "near" position or reduce the output from the Signal Generator. When the padders are correctly adjusted to maximum, the Thyratron will glow with the sensitivity control (117) at the "near" position and with a very weak signal from the Signal Generator.
3. Next, adjust the padding condenser (121) in Model 116 and (92) in Model 55 on the secondary inductor located in the bottom of the receiver. The padding condenser is located in one corner of the secondary inductor and is encased in a cardboard container. This padding condenser should be carefully adjusted for maximum glow in the 2A4G tube. Use the weakest signal possible from the Signal Generator that will cause the 2A4G to glow. Also, have the sensitivity control as close as possible to the "near" position. Extreme care should be used in adjusting the padder to the exact point of resonance, as the secondary inductor is a very sharply tuned circuit. After adjusting the circuit, remove the Signal Generator and loop from the receiver.
4. The Mystery Control unit is now adjusted as follows:
   - A. Dial any one of the stations indicated on the remote unit by pulling the selector to the "Stop" position. Then, as the dial is released at the "Stop," press the "Stop" down and hold it in this position.
   - B. Holding the "Stop" in this position, bring the Mystery Control unit close to the receiver. Using the padding wrench, tune the padding screw (126) located on the bottom of the unit until the 2A4G Thyratron in the receiver glows at full brilliance.

   Now, turn the sensitivity control on the receiver towards the "near" position until a point is reached where the 2A4G tube almost stops glowing. Then readjust the padder (126) of the unit again for maximum brilliance in the 2A4G tube. The Mystery Control unit should now be adjusted to the same frequency as the control frequency in the receiver.

Replacement Parts

Schem. No.	Description	Part No.
1	Antenna Transformer	32-3056
2	Tubular Condenser (.05 mfd.)	30-4519
3	Tuning Condenser	31-2311
4	Mica Condenser (250 mmfd.)	30-1032
5	Resistor (32,000 ohm—½ watt)	33-332339
6	Oscillator Transformer	32-2120
7	Compensator	31-6230
8	Resistor (10,000 ohm—½ watt)	33-310339
9	Resistor (5,000 ohm—2 watt)	33-250539
10	Resistor (13,000 ohm—1 watt)	33-313339
11	Electrolytic Condenser (4 mfd.—250 V.)	30-2334
12	Tubular Condenser (.05 mfd.)	30-4123
13	1st I.F. Transformer Assembly	32-3089
14	2nd I.F. Transformer Assembly	32-2645
15	Mica Condenser (110 mmfd.)	30-1031
16	Resistor (2.0 meg.)	33-520339
17	Resistor (1.0 meg.)	33-510339
18	Tubular Condenser (.01 mfd.)	30-4479
19	Mica Condenser (50 mmfd.)	30-1029
20	Resistor (70,000 ohm)	33-370339
21	Volume Control (2 meg.)	33-5300
22	Tubular Condenser (.004 mfd.)	30-4334
23	Resistor (1 meg.)	33-510339
24	Tubular Condenser (.015 mfd.)	30-4358
25	Tone Control (3.0 meg.)	33-5287
26	Tubular Condenser (.02 mfd.)	30-4481
27	Resistor (99,000 ohm)	33-399339
28	Resistor (330,000 ohm)	33-433339
29	Resistor (490,000 ohm)	33-449339
30	Tubular Condenser (.03 mfd.)	30-4517
31	Tubular Condenser (.01 mfd.)	30-4501
32	Resistor (3500 ohm)	33-235339
33	Tubular Condenser (.01 mfd.)	30-4501
34	Output Transformer	32-7997
35	Voice Coil & Cone Assembly (Spkr. No. 36-1450)	36-4089
36	Tubular Condenser (.01 mfd.)	30-4501
37	Resistor (3,000 ohm—½ watt)	33-230339
38	Tubular Condenser (.1 mfd.)	30-4499
39	Resistor (1 meg.)	33-510339
40	Electrolytic Condenser (25 mfd.—300 V.)	30-2360
41	B.C. Resistor	33-3361
42	Electrolytic Condenser (18 mfd.—475 V.)	30-2200
43	Field Coil Replace Speaker No. 36-1450	
44	Power Trans. (115 V., 50 to 60 cycles)	32-7999
	Power Trans. (115 V., 25 to 40 cycles)	32-8013
45	Condenser (.05 mfd.) (110 V. Plug)	30-4576
46	Pilot Light Bulb (Bullseye)	34-2210
47	Pilot Light Resistor (16 ohm—1 watt)	33-0164.31
48	Filament Transformer (115 V., 50 to 60 cycles)	32-7993
	Filament Trans. (115 V., 25 to 40 cycles)	32-8016
49	Pilot Lamp Bulbs (Dial)	34-2064
50	Motor Trans. (115 V., 50 to 60 cycles)	32-7990
	Motor Trans. (115 V., 25 to 40 cycles)	32-8015
51	Volume Control Motor Assembly	35-1151
52	Rotary Switch	42-1468
53	Resistor—Bias	33-3363
54	Pilot Lamps (Station Indicator)	34-2064
55	Resistor (150 ohm)	33-115339
56	Volume Control Switch (Motor Control)	42-1469
57	Tubular Condenser (.1 mfd.)	30-4499
58	Tubular Condenser (.1 mfd.)	30-4499
59	Electrolytic Condenser (30 mfd.—30 V.)	30-2361
60	Push Button Compensator Strip	31-6264
60A	Compensator No. 1 (540—1030 K.C.)	
60B	Compensator No. 2 (540—1030 K.C.)	
60C	Compensator No. 3 (670—1160 K.C.)	
60D	Compensator No. 4 (670—1160 K.C.)	
60E	Compensator No. 5 (900—1470 K.C.)	
60F	Compensator No. 6 (900—1470 K.C.)	
60G	Compensator No. 7 (1170—1600 K.C.)	
60H	Compensator No. 8 (1170—1600 K.C.)	
61	Electric Push Button Coil Assembly	32-3091
61A	Oscillator Coil No. 1 (540—1030 K.C.)	32-3042
61B	Oscillator Coil No. 2 (540—1030 K.C.)	32-3042
61C	Oscillator Coil No. 3 (670—1160 K.C.)	32-3042
61D	Oscillator Coil No. 4 (670—1160 K.C.)	32-3042
61E	Oscillator Coil No. 5 (900—1470 K.C.)	32-3041
61F	Oscillator Coil No. 6 (900—1470 K.C.)	32-3041
61G	Oscillator Coil No. 7 (1170—1600 K.C.)	32-3041
61H	Oscillator Coil No. 8 (1170—1600 K.C.)	32-3041
62	Silver Mica Condenser (370 mmfd.)	30-1110
63	Silver Mica Condenser (370 mmfd.)	30-1110
64	Bakelite Condenser (.05 mfd.)	3615-SG
65	Resistor (150 ohm wirewound)	33-3362
66	Electrolytic Condenser (16 mfd.—200 V.)	30-2356
67	Choke Coil	32-1281
68	Tubular Condenser (.05 mfd.)	30-4123
69	Tubular Condenser (.05 mfd.)	30-4123
70	Tubular Condenser (.1 mfd.)	30-4499
71	Tubular Condenser (.5 mfd.)	30-4551
72	Resistor (4,000 ohm—½ watt)	33-240339
73	Resistor (51,000 ohm—½ watt)	33-351339
74	No. 3 Control Amp. Coil	32-3088
75	Tubular Condenser (.02 mfd.)	30-4516
76	Resistor (750,000 ohm)	33-475339
77	Tubular Condenser (.05 mfd.)	30-4123
78	Resistor (99,000 ohm)	33-399339
79	Mica Condenser (550 mmfd.)	30-1092
80	Tubular Condenser (.05 mfd.)	30-4123
81	Resistor (99,000 ohm)	33-399339
82	Tubular Condenser (.05 mfd.)	30-4444
83	Resistor (1.5 meg.—½ watt)	33-515339
84	Tubular Condenser (.05 mfd.)	30-4519
85	No. 2 Control Amp. Coil	32-3087
86	Resistor (1.0 meg.—½ watt)	33-510339
87	Tubular Condenser (.05 mfd.)	30-4444
88	Resistor (300 ohm)	33-130339
89	Sensitivity Control (50,000 ohm)	33-5295
90	No. 1 Control Amp. Coil	32-3086
91	Silver Mica Condenser (155 mmfd.)	30-1121
92	Air Padder (Secondary Inductor)	31-6268
93	Secondary Inductor Cabinet	40-6414
94	Range Switch	42-1454

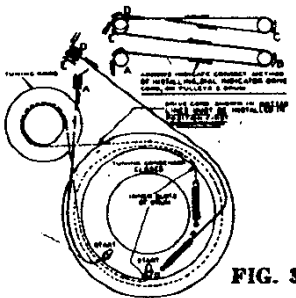
Miscellaneous Parts

Bezel Assembly (Cabinet)	38-9746
Bezel Screws	W-1835
Cable (Tuning Drum)	31-2315
Cable (Pointer)	31-2320
Dial	27-5422
Dial Pointer	56-1033
Disc (Tuning)	27-4766
Disc (Volume)	27-4765
Disc (Range Switch)	27-4767
Disc (Tone Control)	27-4764
Pilot Lamp Assembly	38-9694
Pilot Lamp Assembly	38-9711
Pilot Lamp Assembly	38-9712
Socket (4 Prong)	27-6044
Socket (5 Prong)	27-6035
Socket (6 Prong)	27-6036
Socket (7 Prong)	27-6057
Socket (6 Prong)	27-6086
Socket (7 Prong)	27-6099
Speaker	36-1450
Spring (Tuning Cables)	28-8913
Washer (Keyed Washer Tuning Disc)	56-1029
Washer (Spring Washer Tuning Disc)	6717

MODEL 39-55
Chassis Layout

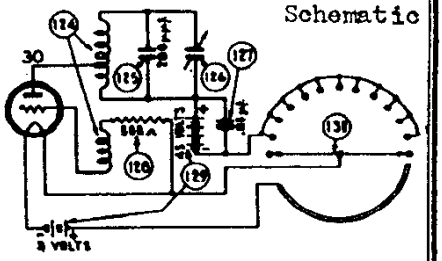
PHILCO RADIO & TELEV. CORP.

MODELS 39-55, 39-116
Trimmers, Dial Drive
"Mystery Control"
Schematic



ARRANGEMENT OF DRIVE CORDS ON TUNING CONDENSER DRUM & PULLEYS

FIG. 3—Arrangement of Dial Pointer and Cables



Mystery Control Unit Diagram

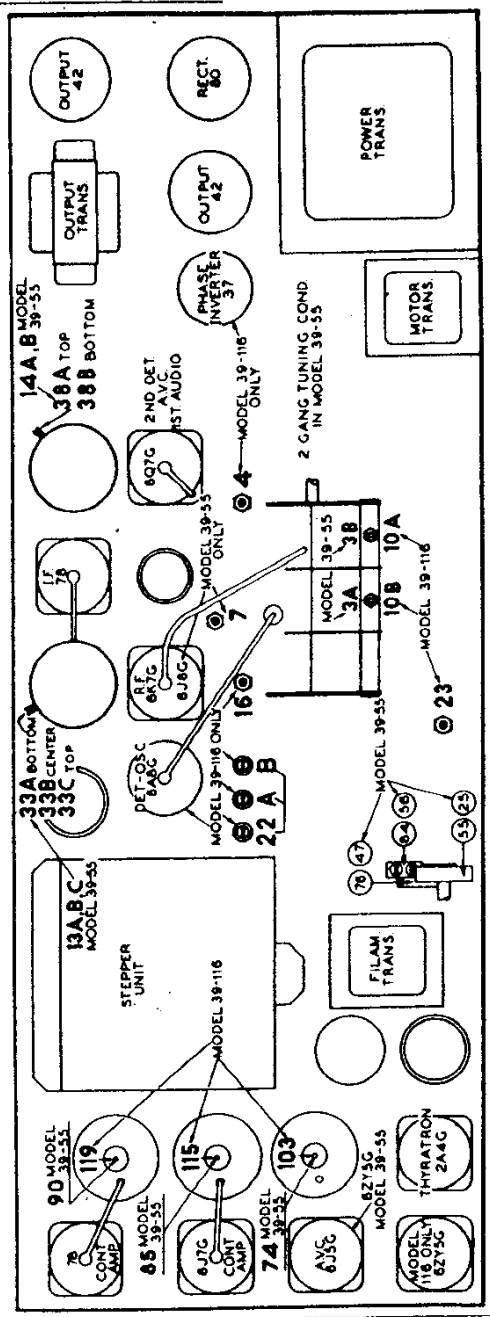
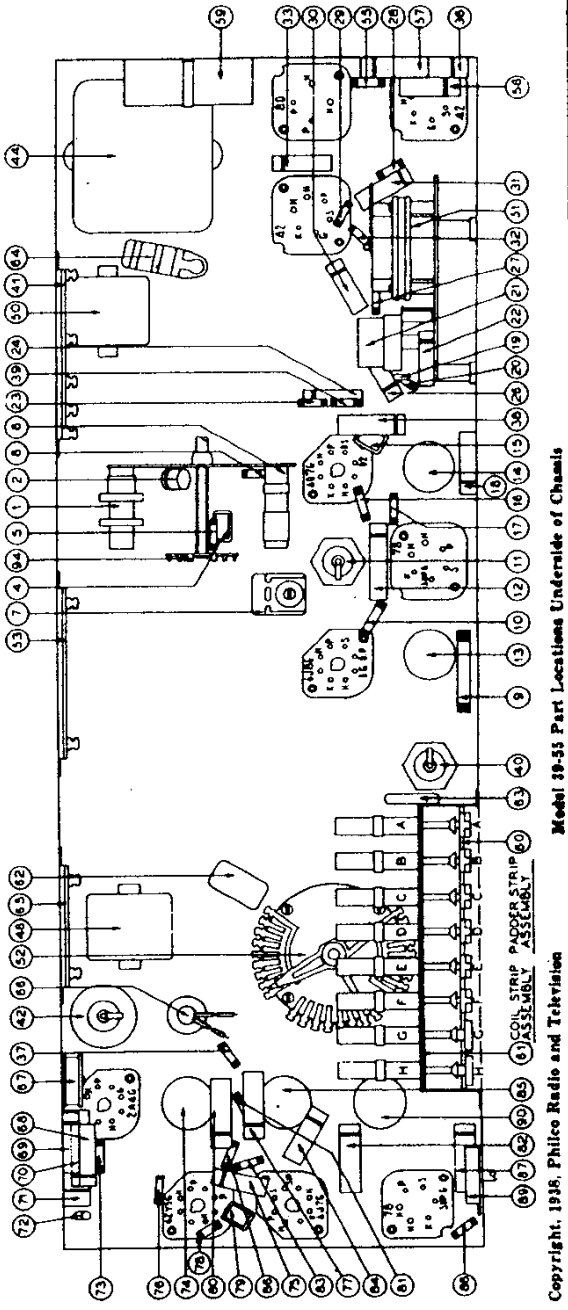


FIG. 4—Locations of Compensators—Model 39-55 and 39-116



Alignment of Compensators and Mystery Control Models 39-55, 39-116

EQUIPMENT REQUIRED:

(1) Signal Generator; Philco Model 077.

(2) Output Meter, Philco Model 027 Circuit Tester.

(3) Philco Fiber Handle Screw Driver, Part No. 27-7059, and Fiber Wrench, Part No. 3164.

OUTPUT METER:

The Philco 027 Output Meter is connected to the plate terminals of the type 42 tubes and adjusted for the 0 to 30 V.A.C. scale. After connecting the output meter, adjust the compensators in the order as shown in the tabulations below. Locations of the Compensators are shown in Fig. 4. If the output meter pointer goes off scale when adjusting the compensators, reduce the strength of the signal from the generator.

RADIO RECEIVER CIRCUIT ADJUSTMENTS Model 39-116

Operation	SIGNAL GENERATOR			RECEIVER			Special Instructions
	Output Connections to Receiver	Dummy Antenna (Note A)	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	
1	78 Grid	.1 mfd.	470 K.C.	580 K.C.	Vol. Max. Range Switch Brdcst.	38A, 38B	Turn Out 33B Full
2	6A8 Grid	.1 mfd.	470 K.C.	580 K.C.	Vol. Max. Range Switch Brdcst.	33C, 33A, 33B, 38B	Note B
3	Antenna and Ground	150 mmfd.	1550 K.C.	1550 K.C.	Vol. Max. Range Switch Brdcst.	22, 10B, 10A	
4	Antenna and Ground	150 mmfd.	580 K.C.	580 K.C.	Vol. Max. Range Switch Brdcst.	23	Rollgang
5	Antenna and Ground	150 mmfd.	1550 K.C.	1550 K.C.	Vol. Max. Range Switch Brdcst.	22	
6	Antenna and Ground	400 ohms	5.0 M.C.	5.0 M.C.	Vol. Max. Range Switch Police	22A	
7	Antenna and Ground	400 ohms	18.0 M.C.	18.0 M.C.	Vol. Max. Range Switch Short Wave	22B, 16, 4	Note C

RADIO RECEIVER CIRCUIT ADJUSTMENTS Model 39-55

Operation	SIGNAL GENERATOR			RECEIVER			Special Instructions
	Output Connections to Receiver	Dummy Antenna (Note A)	Dial Setting	Dial Setting	Control Setting	Adjust Compensators	
1	78 Grid	.1 mfd.	470 K.C.	580 K.C.	Vol. Max. Range Switch Brdcst.	14A, 14B	Turn Out 13B Full
2	6J8G Grid	.1 mfd.	470 K.C.	580 K.C.	Vol. Max. Range Switch Brdcst.	13C, 13A 13B, 14B	Note B
3	Antenna and Ground	150 mmfd.	1550 K.C.	1550 K.C.	Vol. Max. Range Switch Brdcst.	3B, 3A	
4	Antenna and Ground	150 mmfd.	580 K.C.	580 K.C.	Vol. Max. Range Switch Brdcst.	7	Rollgang
5	Antenna and Ground	150 mmfd.	1550 K.C.	1550 K.C.	Vol. Max. Range Switch Brdcst.	3B, 3A	Note C

NOTE A—The "Dummy Antenna" consists of a condenser connected in series with the signal generator output lead (high side). Use the capacity as specified in each step of the above procedure.

NOTE B—Dial Calibration: In order to adjust the receiver correctly the dial must be aligned to track properly with the tuning condenser. To adjust the dial, proceed as follows: With the tuning condenser closed (maximum capacity), set the dial pointer on the extreme left index line at the low frequency end of the broadcast scale. The arrangement of the drive cable is shown in Fig. 3.

NOTE C - SEE PAGE 9-56 FOR CONTROL FREQUENCY AMPLIFIER ADJUSTMENTS FOR MODELS 39-55 AND 39-116.

PHILCO RADIO & TELEV. CORP.

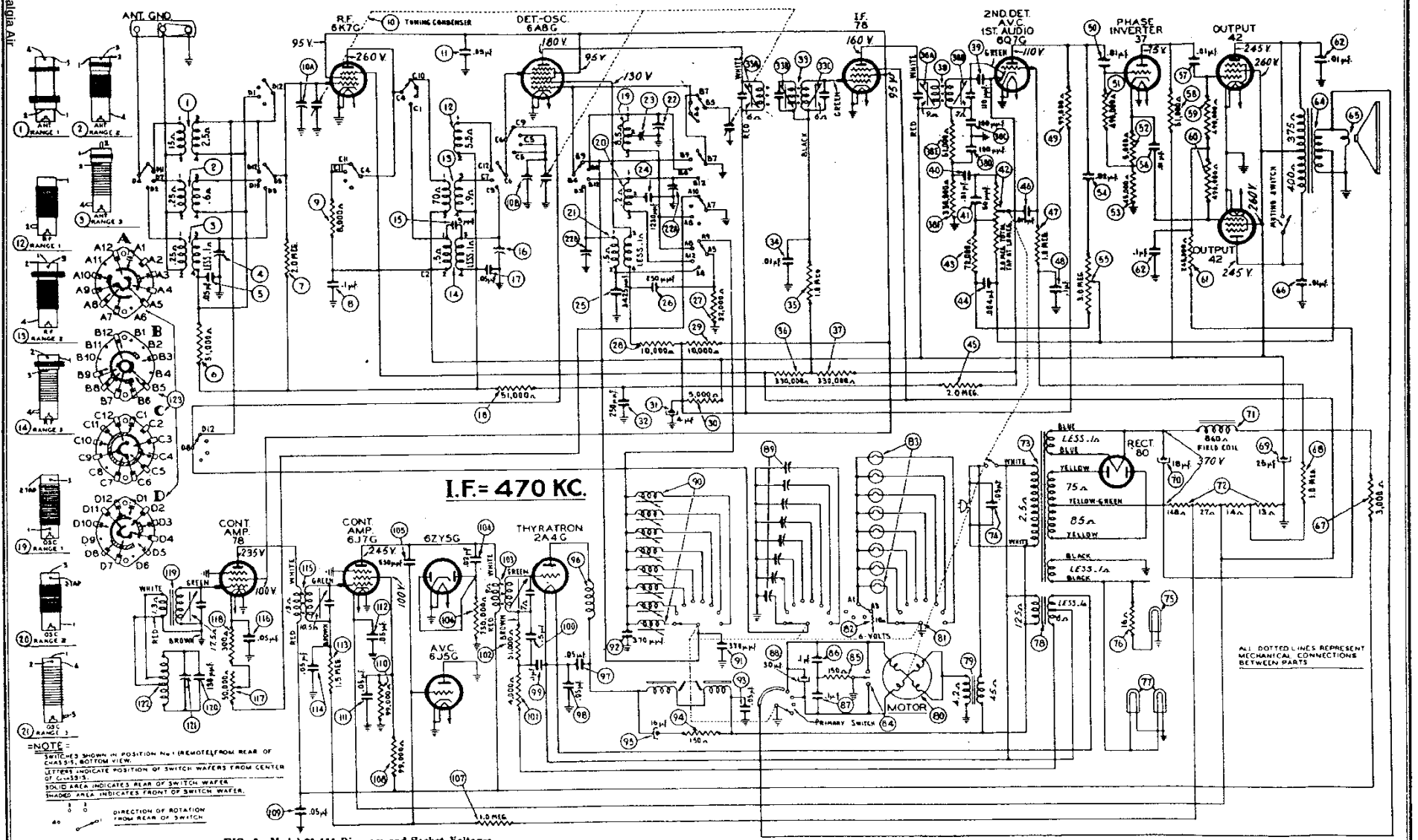


FIG. 2—Model 39-116 Diagram and Socket Voltages

See Bulletin 116 A for 39-66 Schematic and Parts List.

Socket Voltage Measured for Socket Contacts to Chassis, Line Voltage 115 VAC, Volume Minimum, Range Selector (Broadcast)

PHILCO RADIO & TELEV. CORP.

MODEL 39-116 Chassis Layout Parts

Schem. No.	Description	Part No.
1	Antenna Transformer (BC)	32-3056
2	Antenna Transformer (Police)	32-3053
3	Antenna Transformer (S.W.)	32-3055
4	Compensator Antenna Shortwave	31-6212
5	Tubular Condenser (.05 mfd.)	30-4519
6	Resistor (51,000 ohm—½ watt)	33-351339
7	Resistor (2.0 meg.—½ watt)	33-520339
8	Tubular Condenser (.1 mfd.)	30-4455
9	Resistor (8,000 ohm—½ watt)	33-280339
10	Tuning Condenser	31-2306
11	Tubular Condenser (.05 mfd.)	30-4123
12	R.F. Transformer (B.C.)	32-2379
13	R.F. Transformer (Police)	32-3054
14	R.F. Transformer (S.W.)	32-3046
15	Mica Condenser (5 mmfd.)	30-1097
16	Compensator R.F. Shortwave	31-6212
17	Tubular Condenser (.05 mfd.)	30-4519
18	Resistor (51,000 ohm—½ watt)	33-351339
19	Oscillator Transformer (B.C.) (A3)	32-2120
20	Oscillator Transformer (Police)	32-3052
21	Oscillator Transformer (S.W.)	32-3051
22	Compensator Strip (oscillator)	31-6266
23	Compensator Broadcast Low Frequency	31-6210
24	Condenser Semi-fixed (1250 mmfd.)	31-6262
25	Condenser Semi-fixed (3425 mmfd.)	31-6263
26	Mica Condenser (250 mmfd.)	30-1032
27	Resistor (32,000 ohm—½ watt)	33-332339
28	Resistor (10,000 ohm—½ watt)	33-310339
29	Resistor (10,000 ohm—1 watt)	33-310339
30	Resistor (5,000 ohm—2 watt)	33-250339
31	Electrolytic Condenser (4 mfd.—250 V.)	30-2334
32	Mica Condenser (250 mmfd.)	30-1032
33	1st I.F. Transformer Assembly	32-3089
34	Tubular Condenser (.01 mfd.)	30-4572
35	Resistor (1.0 meg.—½ watt)	33-510339
36	Resistor (330,000 ohm—½ watt)	33-433339
37	Resistor (330,000 ohm—½ watt)	33-433339
38	2nd I.F. Transformer Assembly	32-3065
39	Mica Condenser (110 mmfd.)	30-1031
40	Tubular Condenser (.01 mfd.)	30-4479
41	Mica Condenser (50 mmfd.)	30-1029
42	Volume Control	33-5300
43	Resistor (70,000 ohm—½ watt)	33-370339
44	Tubular Condenser (004 mfd.)	30-4334
45	Resistor (2.0 meg.—½ watt)	33-520339
46	Tubular Condenser (.015 mfd.)	30-4529
47	Resistor (1.0 meg.—½ watt)	33-510339
48	Tubular Condenser (.1 mfd.)	30-4527
49	Resistor (99,000 ohm—½ watt)	33-399339
50	Tubular Condenser (.01 mfd.)	30-4169
51	Resistor (490,000 ohm—½ watt)	33-449339
52	Resistor (5,000 ohm—½ watt)	33-250339
53	Resistor (45,000 ohm—½ watt)	33-345339
54	Tubular Condenser (02 mfd.)	30-4481
55	Tone Control (3 meg.)	33-5287
56	Tubular Condenser (.01 mfd.)	30-4572
57	Tubular Condenser (.01 mfd.)	30-4572
58	Resistor (51,000 ohm—½ watt)	33-351339
59	Resistor (490,000 ohm—½ watt)	33-449339
60	Resistor (490,000 ohm—½ watt)	33-449339
61	Resistor (240,000 ohm—½ watt)	33-424339
62	Tubular Condenser (.1 mfd.)	30-4499
63	Tubular Condenser (.01 mfd.)	30-4501
64	Output Transformer	32-7996
65	Voice Coil & Cone Assembly (Speaker No. 36-1450)	36-4689
66	Tubular Condenser (.01 mfd.)	30-4501
67	Resistor (3,000 ohm—½ watt)	33-230339
68	Resistor (1.0 meg.—½ watt)	33-510339
69	Electrolytic Condenser (25 mfd.—300 V.)	30-2346
70	Electrolytic Condenser (18 mfd.—475 V.)	30-2206
71	Field Coil (Replace Speaker No. 36-1450)	
72	Resistor (Wirewound—Bias)	33-3364
73	Power Transformer (115 V.—50 to 60 cycles)	32-8001
	Power Trans. (115 V.—25 to 40 cycles)	32-8017
74	Bypass Condenser (.05 mfd.) (110 V. plug)	30-4576
75	Pilot Lamp (Bullseye)	34-2210
76	Pilot Lamp Resistor (16 ohm)	33-016431
77	Pilot Lamps (Dial)	34-3004
78	Filament Trans. (115 V.—50 to 60 cycles)	32-7993
	Filament Trans. (115 V.—25 to 40 cycles)	32-8018
79	Motor Trans. (115 V.—50 to 60 cycles)	32-7998
	Motor Trans. (115 V.—25 to 40 cycles)	32-8015
80	Motor (Volume Control) Assembly	35-1151
81	Rotary Switch (Wafer Unit)	42-1468
82	R.C. Resistor (10 ohm) Wirewound	33-3363
83	Pilot Lamp Assembly (Station Indicator)	34-2064
84	Switch (Volume Control—Motor)	42-1468
85	Resistor (150 ohm—½ watt)	33-115339
86	Tubular Condenser (.1 mfd.)	30-4499
87	Tubular Condenser (.1 mfd.)	30-4499
88	Electrolytic Condenser (30 mfd.—30 V.)	30-2361
89	Push Button Packet Unit	31-6264
89A	Compensator No. 1 (540-1030 K.C.) Part of 89	
89B	Compensator No. 2 (540-1030 K.C.) Part of 89	
89C	Compensator No. 3 (670-1160 K.C.) Part of 89	
89D	Compensator No. 4 (670-1160 K.C.) Part of 89	
89E	Compensator No. 5 (900-1470 K.C.) Part of 89	
89F	Compensator No. 6 (900-1470 K.C.) Part of 89	
89G	Compensator No. 7 (1100-1600 K.C.) Part of 89	
89H	Compensator No. 8 (1100-1600 K.C.) Part of 89	
90	Electric Push Button Transformer Assembly (8 Trans.)	32-3091
90A	Oscillator Trans. No. 1 (540-1030 K.C.)	32-3042
90B	Oscillator Trans. No. 2 (540-1030 K.C.)	32-3042
90C	Oscillator Trans. No. 3 (670-1160 K.C.)	32-3042
90D	Oscillator Trans. No. 4 (670-1160 K.C.)	32-3042
90E	Oscillator Trans. No. 5 (900-1470 K.C.)	32-3041
90F	Oscillator Trans. No. 6 (900-1470 K.C.)	32-3041
90G	Oscillator Trans. No. 7 (1100-1600 K.C.)	32-3041
90H	Oscillator Trans. No. 8 (1100-1600 K.C.)	32-3041
91	Silver Mica Condenser (370 mmfd.)	30-1110
92	Silver Mica Condenser (370 mmfd.)	30-1110
93	Bakelite Condenser (.05 mfd.)	3615-805
94	Resistor (150 ohm)	33-1362
95	Electrolytic Condenser (16 mfd.—200 V.)	30-2356
96	Choke Coil	32-1281
97	Tubular Condenser (.05 mfd.)	30-4123
98	Tubular Condenser (.05 mfd.)	30-4123
99	Tubular Condenser (.1 mfd.)	30-4499
100	Tubular Condenser (.5 mfd.)	30-4551
101	Resistor (4,000 ohm—½ watt)	33-240339
102	Resistor (51,000 ohm—½ watt)	33-351339
103	No. 3 Control Amp. Transformer	32-3088
104	Tubular Condenser (.02 mfd.)	30-4516
105	Mica Condenser (550 mmfd.)	30-1092
106	Resistor (750,000 ohm—½ watt)	33-475339
107	Resistor (1.0 meg.—½ watt)	33-510339
108	Resistor (99,000 ohm—½ watt)	33-399339
109	Tubular Condenser (.05 mfd.)	30-4123
110	Resistor (99,000 ohm—½ watt)	33-399339
111	Tubular Condenser (.05 mfd.)	30-4123
112	Tubular Condenser (.05 mfd.)	30-4444
113	Resistor (1.5 meg.—½ watt)	33-515339
114	Tubular Condenser (05 mfd.)	30-4519
115	No. 2 Control Amp. Transformer	32-3087
116	Tubular Condenser (.05 mfd.)	30-4444
117	Sensitivity Control	33-5295
118	Resistor (300 ohm—½ watt)	33-130339
119	No. 1 Control Amp. Transformer	32-3086
120	Silver Mica (200 mmfd.)	30-1122
121	Compensator (Secondary Inductor)	31-6268
122	Secondary Inductor (Mystery Tuning)	40-6415
123	Wave Switch	42-1451

Mystery Control Unit

Schem. No.	Description	Part No.
124	Primary Inductor	32-3087
125	Silver Mica Cond.	30-1115
126	Air Padder	31-6268
127	Tubular Cond. (.05 mf.)	30-4519
128	Resistor (300 ohms—½ watt)	33-130339
129	Mystery Pack	41-8016
130	Dial Unit (Pulsar)	38-8764

Miscellaneous Parts

Bezel Assembly (Cabinet)	38-8723	
Bezel Screws	W-1835	
Cable (Tuning Drum)	41-2315	
Dial (Pointer)	41-5429	
Dial Pointer	41-5428	
Dial (Tuning)	56-1033	
Dial (Volume)	27-4764	
Disc (Band Switch)	27-4765	
Disc (Tone Control)	27-4764	
Pilot Lamp Assembly	34-3004	
Pilot Lamp Assembly (Dial)	38-8711	
Pilot Lamp Assembly (Tube)	38-8712	

Bezel	50-1340	
Bezel Screws	W-1838	
Cap Tuning Disc	27-4793	
Disc (Tuning)	27-4792	
Pulser Assembly	38-8704	
Stop (Tuning Disc)	27-4779	
Socket (4 prong)	27-4779	
Screw (Finger Stop)	W-4139	
Spacer (Finger Stop)	27-4795	

Mystery Control Unit

Socket (4 prong)	27-6044	
Socket (5 prong)	27-6035	
Socket (6 prong)	27-6036	
Socket (7 prong) Octal	27-6037	
Socket (8 prong) Octal	27-6086	
Socket (7 prong) Octal	27-6099	
Speaker	36-1450	
Spring (Tuning Cable) Tuning Disc	27-4813	
Washer (Keyed Washer Tuning Disc)	27-4939	
Washer (Spring Washer Tuning Disc)	6717	

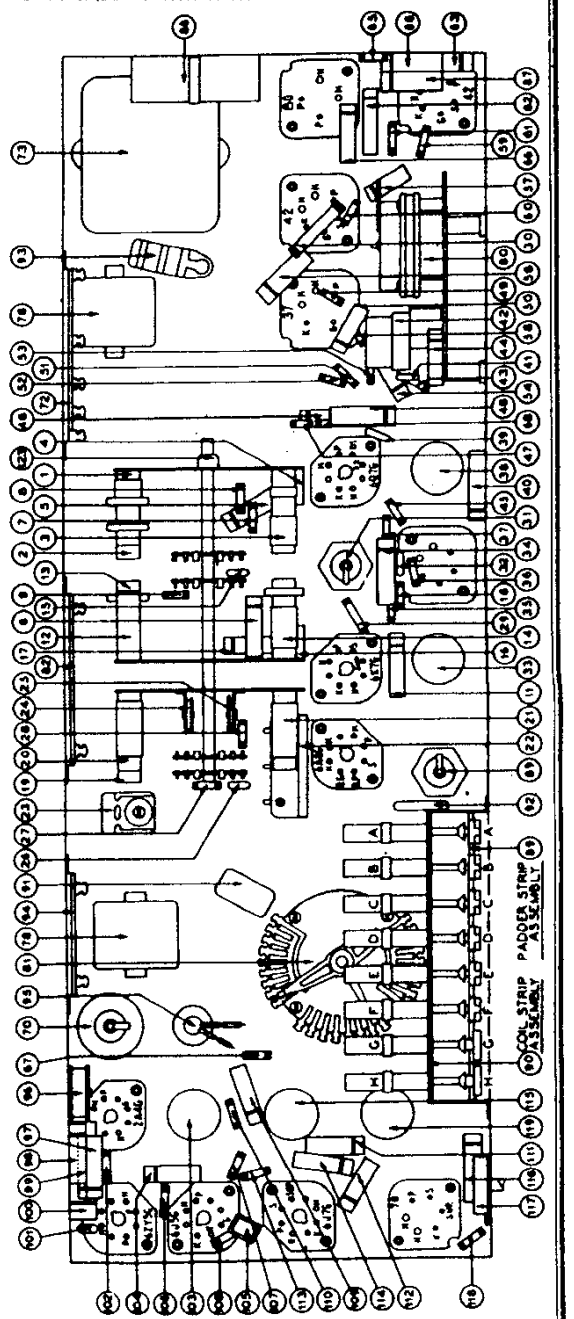


FIG. 1—Model 39-116 Part Locations Underside of Chassis

MODELS 39-55,39-116
Specifications
"Mystery Control"
Adjustments

PHILCO RADIO & TELEV. CORP.

SPECIFICATIONS

Model 39-55

TYPE CIRCUIT: Philco Model 39-55, code 121, is an 11-tube receiver employing a superheterodyne circuit for reception of standard broadcast stations with Philco Mystery Control for Electric Automatic Tuning of eight (8) stations. The Philco Mystery Control also controls Volume and turns off set without any connections between receiver and Control Unit. In addition, other features of design are—Automatic Volume Control; Continuously Variable Tone Control; Bass Compensations; Degenerated Push-pull Pentode Audio Output Circuit, and Compensators selected for minimum drift.

POWER SUPPLY: 115 volts, 50 to 60 cycles, A.C.

POWER CONSUMPTION: 180 watt.

TUNING RANGES: 540 to 1720 K.C.

I.F. FREQUENCY: 470 K.C.

PHILCO TUBES USED: Receiver—6J8G, First Detector Oscillator; 78, I.F. Amplifier; 6Q7G, Second Detector, A.V.C. and first Audio; two (2) 42 Audio Output, and one 80 Rectifier.

Mystery Tuning Control Amplifier—78, First Control Amplifier; 6J7G, Second Control Amplifier; A.V.C.; 6ZY5G, A.V.C. and a 2A4G Thyratron Rectifier.

Mystery Control Unit—One type 30.

AUDIO OUTPUT: 10 watts.

CABINET DIMENSIONS:	*Height*	*Width*	*Depth*
Console	38⅛"	29½"	14⅜"
Mystery Control	5½"	7¼"	9⅛"

Note: The Schematic Diagram and Replacement Parts List for Model 39-55 will be found in Bulletin 310 A.

Model 39-116

TYPE CIRCUIT: Philco Model 39-116, code 121, is a 14-tube receiver employing a superheterodyne circuit with three tuning ranges for reception of standard and short wave broadcast stations and Philco Mystery Control for Electric Automatic Tuning of eight (8) standard broadcast stations. The Philco Mystery Control also controls the volume and turns the set "off" without any connections between the receiver and control unit. In addition, other features of design are—Automatic Volume Control; Continuously Variable Tone Control; Bass Compensation Degenerated Push-pull Pentode Audio Output Circuit, and Compensators selected for minimum drift.

POWER SUPPLY: 115 volts, 50 to 60 cycles, A.C.

POWER CONSUMPTION: 190 watts.

TUNING RANGES: 540 to 1720 K.C.; 1.7 to 5.8 M.C.; 5.8 to 18 M.C.

I.F. FREQUENCY: 470 K.C.

PHILCO TUBES USED: Receiver—6K7G, R.F. Amplifier; 6A8G, First Detector Oscillator; 78, I.F. Amplifier; 6Q7G, Second Detector, A.V.C. and first Audio; 37, Phase Invertor; two (2) 42, Audio Output, and one 80, Rectifier.

Mystery Control Amplifier—78, First Control Amplifier; 6J7G, Second Control Amplifier; 6J5G, A.V.C.; 6ZY5G, and a 2A4G, Thyratron Rectifier.

Mystery Control Unit—One type 30.

AUDIO OUTPUT: 10 watts.

AERIAL AND GROUND: To obtain maximum performance from this receiver, the Philco Safety Aerial, Part No. 40-6370, should be used. The antenna circuit of this receiver is especially designed for use with this aerial. When installing the aerial, care should be taken to keep the aerial lead-in wire away from the horizontal inductor coil located in the bottom of the cabinet.

Do not coil up any excess lead-in and drop it in the back of the cabinet. Run the aerial lead-in directly to the "Ant" terminal post on the back of the receiver. A good ground connection should be connected to the terminal post marked "Gnd." When this is done, the link connecting to the "Gnd" terminal should be disconnected and swung around so that it does not touch the "Gnd" post. If, however, no ground is used this link should be connected to the "Gnd" terminal.

CABINET DIMENSIONS:	*Height*	*Width*	*Depth*
Console	36⅜"	34⅜"	14⅜"
Mystery Control	5½"	7¼"	9⅛"

Adjusting Mystery Control for Reception of Stations

The procedure for setting up stations on the Mystery Control receivers is similar to the procedure followed in setting up Philco Electric Automatic Tuning Models. The eight (8) stations, however, are automatically dialed by the remote control unit instead of by pushing buttons.

To set up stations on Mystery Tuning, proceed as follows:

1. Select and remove the desired eight (8) station call letters from the station tab card supplied with the receiver. Insert the station tabs in the apertures (windows) of the bezel. The lowest frequency station is placed in the first window on the left, and the remaining station tabs in the order of increasing frequency.
2. Connect a Model 077 Signal Generator to the "Ant" and "Gnd" terminals of the receiver, set the Signal Generator with modulation "On." Turn the range selector switch to "Broadcast" and tune in the lowest frequency station. This should be between 540 and 1030 K.C. Then adjust the Signal Generator to the frequency of the station until a beat note is heard.
3. Leaving the Signal Generator connected, turn the Range Selector Disc of the receiver to "Automatic." Now, using a padding screw driver, adjust the first 540 to 1030 K.C. oscillator padder (bottom row of holes) at the rear of the chassis, until the station identified by the modulated signal of the generator is tuned in to maximum signal. Next, adjust the first 540 to 1030 K.C. Antenna Padder (top row of holes) for maximum signal.
4. Turn the Signal Generator off the station frequency and readjust the "Ant" and "Osc" Padders for maximum output. This should be done with the volume control adjusted for low volume. This procedure is repeated for each of the remaining stations. The next station, of course, will be the next highest in frequency, that is within the 540 to 1030 K.C. range of the second set of padders. The Third Station is adjusted by the third set of padders under 670 to 1160 K.C. and the remaining stations in the order of increasing frequency.
5. Now, insert the small call letter tab of the first station in the third aperture of the bezel on the remote Mystery Control unit. Celluloid tabs are also supplied to be placed over each call letter. The remaining call letter tabs are then placed in the order of increasing frequency around the bezel from right to left (counter clockwise).
6. Insert the "loud" and "soft" tabs in the first and second apertures on the right hand side of the bezel. See instructions supplied with each model for dialing stations and controlling volume.