

Philco Radio & Television Corp.

Model: 116-X (Code 122)

Chassis:

Year: Pre November 1935

Power:

Circuit:

IF:

Tubes:

Bands:

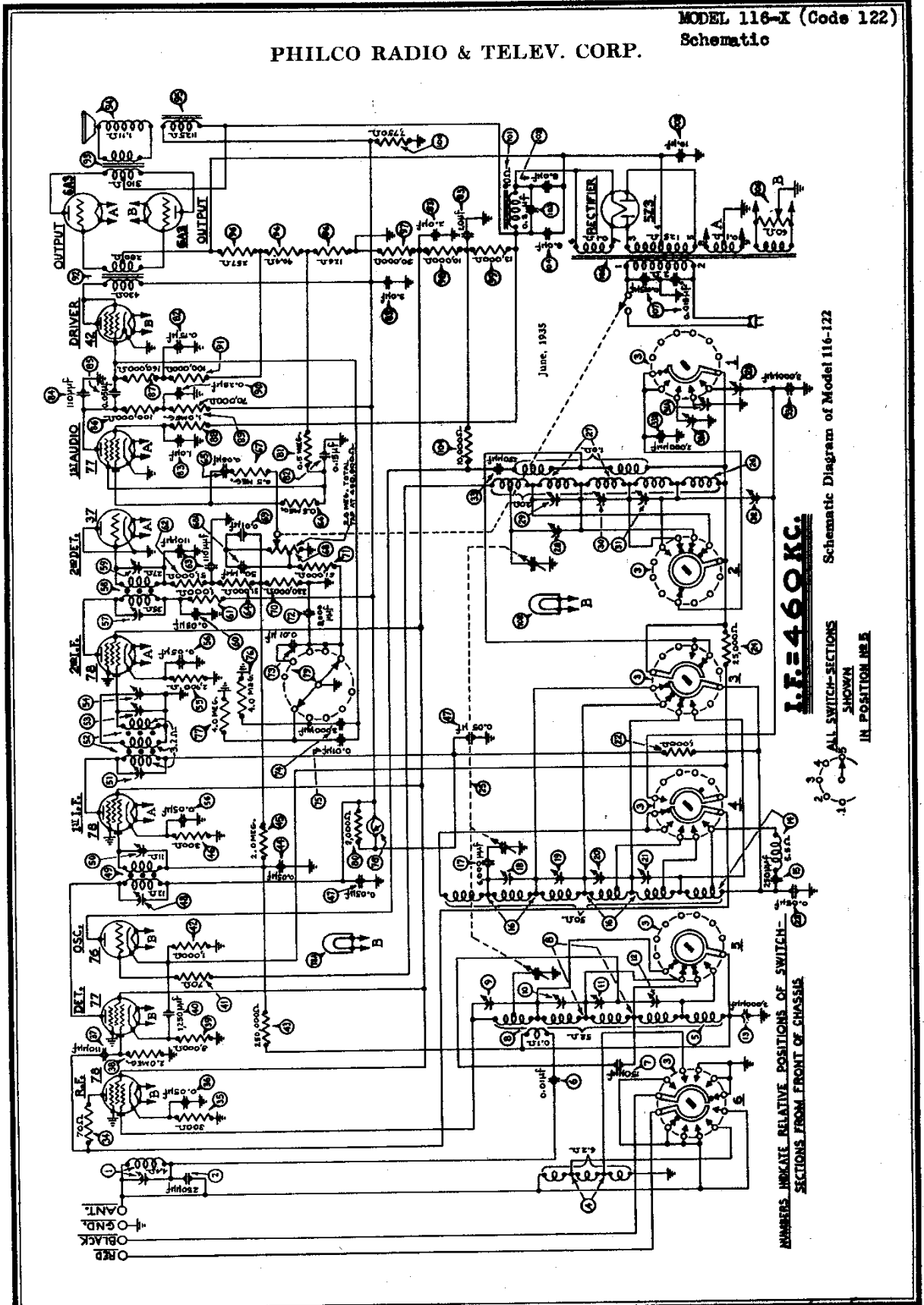
Resources

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PHILCO RADIO & TELEV. CORP.

MODEL 116-K (Code 122)
Schematic



June, 1935

IF=460 KC.

Schematic Diagram of Model 116-122

ALL SWITCH-SECTIONS SHOWN IN POSITION HERE

NUMBERS INDICATE RELATIVE POSITIONS OF SWITCH-SECTIONS FROM FRONT OF CHASSIS

MODEL 116-X (Code 122)
Voltage, Chassis, Socket PHILCO RADIO & TELEV. CORP.
Parts, Data

Model 116X (Code 122)

Type Circuit: Superheterodyne. Push-pull, 6A3 tubes, in output, 15 watts. Built in connections for Philco All-wave Aerial. Aerial Selector operated by waveband switch.

Power Supply: Alternating Current. Voltage and frequency as specified on chassis nameplate.

Tubes Used: Eleven Total: 1 type 78 R.F., 1 type 77 1st detector, 1 type 76 Oscillator, 2 type 78 I.F., 1 type 37 2nd Detector, 1 type 77 1st Audio, 1 type 42 Driver, 2 type 6A3 Output, 1 type 5-Z-3.

Wave Bands: Five—(1) Shortwave, daytime; (2) Shortwave, night-time; (3) Police and amateur; (4) Standard broadcast; (5) Longwave (weather forecasts).

Frequency Ranges: Band (1)—9.7-22.5 Megacycles; Band (2)—4.1-10.0 Megacycles; Band (3)—1.5-4.1 Megacycles; Band (4)—540 to 1500 K.C.; Band (5)—150-390 K.C.

Program Control: 5 positions: (1) Mellow, (2) Brilliant, (3) Speech, (4) Normal, (5) Noise-reducing. Last two positions recommended for foreign short wave stations.

Tuning Meter: Shadow type tuning meter, mounted directly above scale.

Waveband Indicator: Glowing arrow on tuning scale shifts to proper scale when waveband switch is turned.

Automatic Volume Control: Fully effective on all stations.

Potentiometer: To compensate for differences in characteristics of 6A3 tubes. Adjust for minimum low-pitched hum when set is in operation, volume at minimum.

Acoustic Clarifiers: Three: mounted on inclined sounding board with speaker.

Bass Compensation: Automatic, effective when needed.
Speaker: Type U-9 (High-fidelity).
Tuning Drive: Dual Planetary, ball-bearing. 80 to 1 ratio for slow-speed tuning, 10 to 1 for main drive.
Intermediate Frequency: 460 K.C.
Power Consumption: 135 watts.

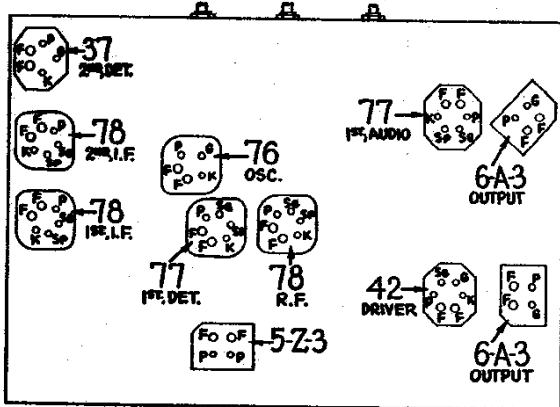


Fig. 1. Tube Sockets as viewed from bottom

Tube Socket Voltages
 (Line Voltage 115) All Voltages Measured to Ground

Tube Point	78 R.F.	77 1st Det.	76 Osc.	78 1st I.F.	78 2d I.F.	37 2d Det.	77 1st A.F.	42 Driver	6A3 Output	5Z3
P	207	215	98	208	212	0	95	220	320	...
SG	89	89	...	89	89	..	72	220	320	...
K	2.2	5.2	5.2	2.1	6.4	0	...	...	...	340

Above voltages were obtained by using a PHILCO type 025 Circuit Tester (or 048A All-purpose Tester), using test prods applied to underside of chassis. Volume control at minimum; dial at 55; waveband switch at standard broadcast. Use Fig. 1 for test points. U-9 Speaker used.

Replacement Parts Model 116 (122)

Note: All parts on schematic and base view numbered from ① to ④ inclusive are the same as used on model 116B (121). Refer to Bulletin No. 222. Parts subsequent to 64 are listed herewith.

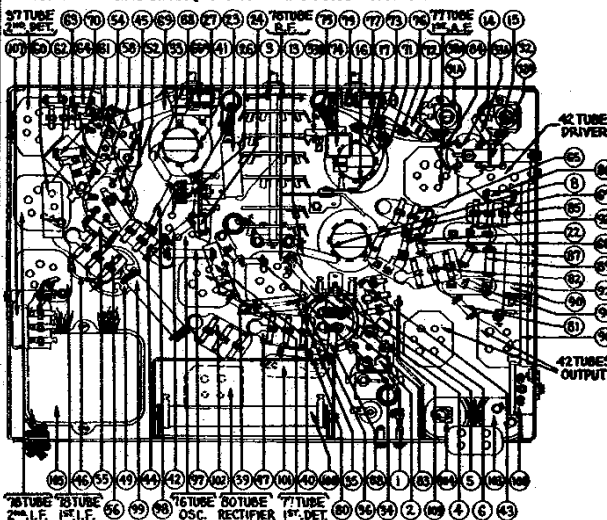


Fig. 2. Base View

Description	Part No.	List Price
Condenser (.05 Mfd. Bakelite Block)	3615-SU	\$0.35
Resistor (.5 Meg.) (Yellow-White-Yellow)	6097	.20
Resistor (.5 Meg.) (Yellow-White-Yellow)	6097	.20

Power Transformer Data

Terminals	A.C. Volts	Current	Circuit	Color of Leads
1-2	120	.....	Primary	White
3-5	830	170 M. A.	Secondary	Yellow
6-7	5.0	3.0 A.	Rectifier Filament	Blue
8-9	6.3	2.7 A.	Filaments	Black
4	...	.....	Center Tap of 3-5	Yellow, Green Tracer

Compensating Condensers

Adjustment same as Model 116 Code 121
 (Refer to Bulletin No. 222)

Description	Part No.	List Price
Volume Control and On-Off Switch	33-5110	\$1.45
Condenser (.00065 Mfd. Mica)	30-1029	.35
Condenser (.01 Mfd. Tubular)	30-4169	.30
Resistor (330000 ohms) (Orange-Orange-Yellow)	33-1200	.20
Resistor (51000 ohms) (Green-Brown-Orange)	6098	.20
Condenser (.008 Mfd. Tubular)	30-4112	.25
Condenser (.01 Mfd. Tubular)	30-4169	.30
Condenser (.003 Mfd. Mica)	30-1028	.30
Condenser (.01 Mfd. Tubular)	30-4169	.30
Resistor (4 Meg.) (Yellow-Black-Green)	6010	.20
Resistor (4 Meg.) (Yellow-Black-Green)	6010	.20
Shadow Tuning Meter	45-2083	2.50
Pilot Lamp for Shadow Tuning Meter	Part of ②	
Tone Control Switch	42-1119	.50
Resistor (2000 ohms) (Red-White-Red)	6984	.20
Resistor (.5 Meg.) (Yellow-White-Yellow)	6097	.20
Condenser (.15 Mfd. Twin Bakelite Block)	6287-DU	.40
Condenser (Electrolytic) (1 Mfd., 3 Mfd., 2 Mfd., 1 Mfd.)	30-2121	2.50
Condenser (.0011 Mfd. Mica)	30-1081	.35
Condenser (.05 Mfd. Bakelite Block)	3615-SU	.35
Resistor (100000 ohms) (White-White-Yellow)	4411	.20
Resistor (100000 ohms) (Brown-Blue-Yellow)	33-1191	.20
Resistor (1 Meg.) (Brown-Black-Green)	4409	.20
Resistor (70000 ohms) (Violet-Black-Orange)	5385	.20
Condenser (.25 Mfd. Tubular)	30-4134	.45
Resistor (100000 ohms) (White-White-Orange)	6099	.20
Audio Transformer	32-7447	3.00
Output Transformer (On Speaker)	32-7446	1.75
Cone & Voice Coil Assembly (U-9)	36-3381	1.75
Field Coil & Pot Assembly (U-9)	36-3088	8.00
Resistor (Wirewound, Flat Type—17.6, 90.4, 257 ohms)	33-3212	.65
Resistor (80000 ohms) (Orange-Black-Orange)	7836	.20
Resistor (10000 ohms) (Brown-Black-Orange)	3524	.20
Resistor (13000 ohms) (Brown-Orange-Orange)	6450	.40
Resistor (7750 ohms, Wirewound Porcelain Tube)	33-3020	.35
Filter Choke	32-7086	2.20
Condenser (.3 Mfd. Bakelite Block)	6287-DU	.40
Condenser (Electrolytic) (8 Mfd., 10 Mfd.)	30-2123	1.80
Condenser (Electrolytic) (8 Mfd.)	30-3011	1.40
Condenser (Electrolytic) (8 Mfd.)	32-7431	7.50
Power Transformer 115 Volts, 25 Cycles	32-7432	12.00
Power Transformer 115 Volts, 60 Cycles	32-7433	8.75
Potentiometer	33-5111	.70
Condenser (.015 Mfd. Twin Bakelite Block)	3793-DG	.40
Pilot Lamp (Dial Scales)	34-2064	.09
4-Prong Socket (6A3 Tubes)	27-6044	.10