

Montgomery Ward & Co.

Model: 04BR-515B

Chassis:

Year: Pre April 1941

Power:

Circuit:

IF:

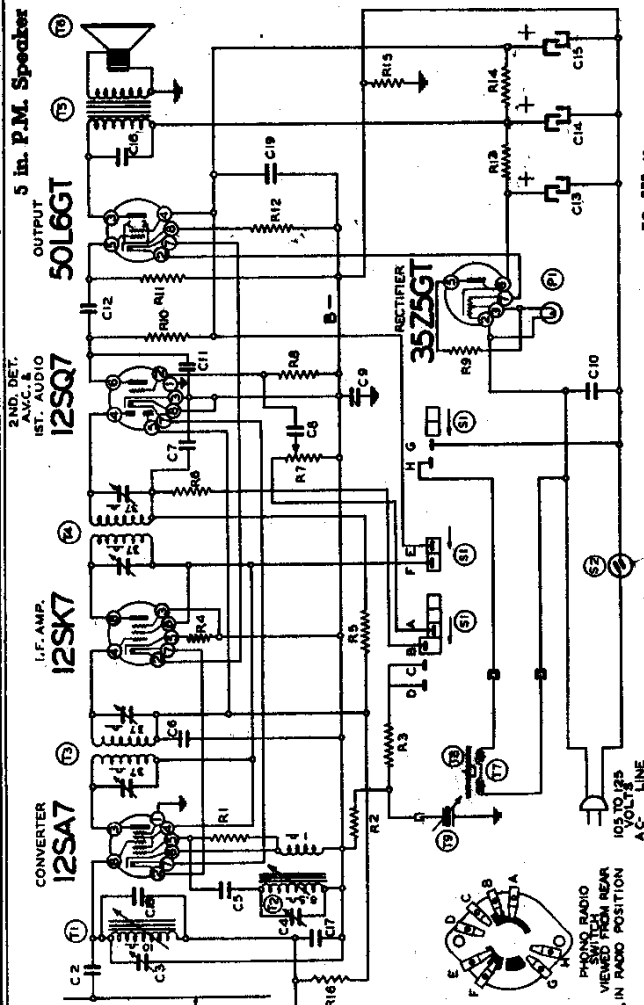
Tubes:

Bands:

Resources

Riders Volume 12 - MONT WARD 12-9

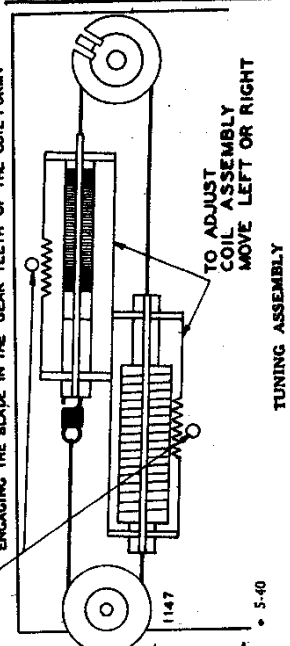
Riders Volume 12 - MONT WARD 12-10



Power Consumption 50 Watts
Power Output 900 Milliwatts Undistorted
Sensitivity (for .5 Watts Output)
Broadcast Band—40 Microvolts Average
Selectivity - 65 KC Broad at 1000 Times Signal at 1000 KC
Tuning Frequency Range 535 to 1690 KC

I.F. 465 KC

NOTE: "A" THE ANTENNA COIL ASSEMBLY IS MADE SO THAT IT IS
POSSIBLE TO ADJUST THE COIL ASSEMBLY TO
OBTAIN THE BEST ALIGNMENT. THE COIL ASSEMBLY
CAN BE MOVED BY HAND OR BY PIVOTING ONE
EDGE OF THE BLADE OF A SCREWDRIVER IN THE HOLE AND
ENGAGING THE BLADE IN THE GEAR TEETH OF THE COIL FORM.



Ref. No.	Part No.	Description
R1	BE10019	.1 x 400 v.
R2	BE10001	.00025 mica
R3	BE12912	.006 x 50 v.
R4	BE10009	.006 x 50 v.
R5	BE10018	20 m. ohm—150 w.
R6	BE10019	20 m. ohm—150 w.
R7	BE10019	20 m. ohm—150 w.
R8	BE10019	20 m. ohm—150 w.
R9	BE10019	20 m. ohm—150 w.
R10	BE10019	20 m. ohm—150 w.
R11	BE10019	20 m. ohm—150 w.
R12	BE10019	20 m. ohm—150 w.
R13	BE10019	20 m. ohm—150 w.
R14	BE10019	20 m. ohm—150 w.
R15	BE10019	20 m. ohm—150 w.
R16	BE10019	20 m. ohm—150 w.
C1	BE10019	.001 Mica Condenser
C2	BE10019	.001 Mica Condenser
C3	BE10019	.001 Mica Condenser
C4	BE10019	.001 Mica Condenser
C5	BE10019	.001 Mica Condenser
C6	BE10019	.001 Mica Condenser
C7	BE10019	.001 Mica Condenser
C8	BE10019	.001 Mica Condenser
C9	BE10019	.001 Mica Condenser
C10	BE10019	.001 Mica Condenser
C11	BE10019	.001 Mica Condenser
C12	BE10019	.001 Mica Condenser
C13	BE10019	.001 Mica Condenser
C14	BE10019	.001 Mica Condenser
C15	BE10019	.001 Mica Condenser
C16	BE10019	.001 Mica Condenser
C17	BE10019	.001 Mica Condenser
C18	BE10019	.001 Mica Condenser
C19	BE10019	.001 Mica Condenser
T1	BE11276	Antenna Coil-Permeability
T2	BE11276	tuning assembly complete
T3	BE11276	Oscillator Coil—465 kc
T4	BE11276	Output I. F. Coil—465 kc
T5	BE11276	Output I. F. Coil—465 kc
T6	BE11276	Output I. F. Coil—465 kc
T7	BE11276	Output I. F. Coil—465 kc
T8	BE11276	Output I. F. Coil—465 kc
T9	BE11276	Output I. F. Coil—465 kc
T10	BE11276	Output I. F. Coil—465 kc
T11	BE11276	Output I. F. Coil—465 kc
T12	BE11276	Output I. F. Coil—465 kc
T13	BE11276	Output I. F. Coil—465 kc
T14	BE11276	Output I. F. Coil—465 kc
T15	BE11276	Output I. F. Coil—465 kc
T16	BE11276	Output I. F. Coil—465 kc
T17	BE11276	Output I. F. Coil—465 kc
T18	BE11276	Output I. F. Coil—465 kc
T19	BE11276	Output I. F. Coil—465 kc
T20	BE11276	Output I. F. Coil—465 kc
T21	BE11276	Output I. F. Coil—465 kc
T22	BE11276	Output I. F. Coil—465 kc
T23	BE11276	Output I. F. Coil—465 kc
T24	BE11276	Output I. F. Coil—465 kc
T25	BE11276	Output I. F. Coil—465 kc
T26	BE11276	Output I. F. Coil—465 kc
T27	BE11276	Output I. F. Coil—465 kc
T28	BE11276	Output I. F. Coil—465 kc
T29	BE11276	Output I. F. Coil—465 kc
T30	BE11276	Output I. F. Coil—465 kc
T31	BE11276	Output I. F. Coil—465 kc
T32	BE11276	Output I. F. Coil—465 kc
T33	BE11276	Output I. F. Coil—465 kc
T34	BE11276	Output I. F. Coil—465 kc
T35	BE11276	Output I. F. Coil—465 kc
T36	BE11276	Output I. F. Coil—465 kc
T37	BE11276	Output I. F. Coil—465 kc
T38	BE11276	Output I. F. Coil—465 kc
T39	BE11276	Output I. F. Coil—465 kc
T40	BE11276	Output I. F. Coil—465 kc
T41	BE11276	Output I. F. Coil—465 kc
T42	BE11276	Output I. F. Coil—465 kc
T43	BE11276	Output I. F. Coil—465 kc
T44	BE11276	Output I. F. Coil—465 kc
T45	BE11276	Output I. F. Coil—465 kc
T46	BE11276	Output I. F. Coil—465 kc
T47	BE11276	Output I. F. Coil—465 kc
T48	BE11276	Output I. F. Coil—465 kc
T49	BE11276	Output I. F. Coil—465 kc
T50	BE11276	Output I. F. Coil—465 kc
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T83	BE11276	Output I. F. Coil—465 kc
T84	BE11276	Output I. F. Coil—465 kc
T85	BE11276	Output I. F. Coil—465 kc
T86	BE11276	Output I. F. Coil—465 kc
T87	BE11276	Output I. F. Coil—465 kc
T88	BE11276	Output I. F. Coil—465 kc
T89	BE11276	Output I. F. Coil—465 kc
T90	BE11276	Output I. F. Coil—465 kc
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T93	BE11276	Output I. F. Coil—465 kc
T94	BE11276	Output I. F. Coil—465 kc
T95	BE11276	Output I. F. Coil—465 kc
T96	BE11276	Output I. F. Coil—465 kc
T97	BE11276	Output I. F. Coil—465 kc
T98	BE11276	Output I. F. Coil—465 kc
T99	BE11276	Output I. F. Coil—465 kc
T100	BE11276	Output I. F. Coil—465 kc

BOTTOM VIEW OF CHASSIS

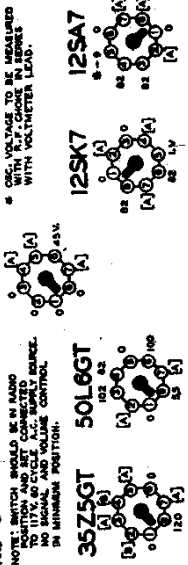
VOLTAGES MEASURED WITH 500 OHM PER MILE VOLTMETER BETWEEN SOCKET TERMINALS AND "B"

12SQ7

12SK7

50L6GT

35Z5GT



REAR VIEW OF CHASSIS

Aligning Instructions

CAUTION—No aligning adjustments should be attempted without first thoroughly checking over all other possible causes of trouble, such as poor installations, open or grounded antenna systems, low line voltage, defective tubes, condensers and resistors. In order to properly align this radio, the chassis should be removed from the cabinet.

To remove chassis from the cabinet pull tuning knob and volume knob off their shafts. Remove the four mounting screws that hold the chassis to the cabinet. Move the chassis toward back of cabinet so that control shafts and dial assembly clear holes in cabinet, then chassis can be slipped out.

MODEL 04BR-515, A & B
above ser #OE507100
MODEL 04BR-679A

MONTGOMERY WARD & CO.

Model No. 04BR-515A

• Volume control—Maximum all adjustments.

- Connect — B of radio chassis to ground post of signal generator through .1 Mfd. condenser.
- Connect dummy antenna value in series with generator output lead.
- Connect output meter across primary of output transformer.
- Allow chassis and signal generator to "heat up" for several minutes.

The following equipment is required for aligning:

- An all wave signal generator which will provide an accurately calibrated signal at the test frequencies as listed.
- Output indicating meter.
- Non-metallic screwdriver.
- Dummy antennas—.1 Mfd., and 200 Mmf.

BAND	SIGNAL GENERATOR Frequency Setting	Dummy Antenna	Connection to Radio	Position of Iron Cores (Dial Setting)	Trimmers Adjusted (in Order Shown)	Trimmer Function	Adjustment
I. F.	465 Kc.	.1 MFD.	Connect to Antenna Plate See Trimmer View	Iron Cores All the way out	Two trimmers on top (See Top View)	Output I. F.	Adjust to maximum output
	465 Kc.	.1 MFD.	Connect to Antenna Plate See Trimmer View	Iron Cores All the way out	Two trimmers on top (See Top View)	Input I. F.	Adjust to maximum output
BROAD- CAST BAND	1690 Kc.	.1 MFD.	Connect to Antenna Plate See Trimmer View	Iron Cores All the way out	Trimmer (C4) (See Trimmer View)	Oscillator	Adjust to maximum output
	1690 Kc.	200 MMF.	Connect to Antenna Lead See Trimmer View	Iron Cores All the way out	Trimmer (C3) (See Trimmer View)	Antenna	Adjust to maximum output
	1400 Kc.	200 MMF.	Connect to Antenna Lead See Trimmer View	Turn Dial to 1400 Kc.	Adjust position of antenna coil right or left.	Antenna Coil Adjustment	(See Note "A") Adjust to maximum output
	1690 Kc.	200 MMF.	Connect to Antenna Lead See Trimmer View	Turn Dial to 1690 Kc.	Adjust trimmer View (C3) (See Trimmer View)	Antenna	Check for tracking (See Note "B")

NOTE "A"—The antenna coil assembly is made so that it is movable right or left. When making the adjustment as given in the alignment procedure move the coil assembly very slowly. It can be moved by hand or by pivoting one edge of the blade of a screwdriver in the hole and engaging the blade in the gear teeth of the coil form.

NOTE "B"—After the antenna coil has been tracked at 1400 Kc. it is necessary to check the antenna trimmer (C3) adjustment again at 1690 Kc. If no appreciable change in trimmer adjustment is made the coil is in track, if the trimmer requires considerable change it will be necessary to again adjust the position of the antenna coil at 1400 Kc. These two adjustments should be tried several times until no change of trimmer adjustment is required at 1690 Kc.

Model Nos. 04BR-679A

• Volume control—Maximum all adjustments.

- Connect radio chassis to ground post of signal generator with a short heavy lead.
- Connect dummy antenna value in series with generator output lead.
- Connect output meter across primary of output transformer.
- Allow chassis and signal generator to "heat up" for several minutes.

The following equipment is required for aligning:

- An all wave signal generator which will provide an accurately calibrated signal at the test frequencies as listed.
- Output indicating meter.
- Non-metallic screwdriver.
- Dummy antennas—.1 mfd., 175 mmf.

BAND	SIGNAL GENERATOR Frequency Setting	Dummy Antenna	Connection to Radio	Variable Condenser Setting	Trimmers Adjusted (in Order Shown)	Trimmer Function	Adjustment
I. F.	455 Kc.	.5 MFD.	Grid of 6K7G I.F. Tube	Rotor full open (Plates out of mesh)	Two trimmers on top (See Fig. 2)	Output I. F.	Adjust to maximum output
	455 Kc.	.5 MFD.	Grid of 6AG	Rotor full open (Plates out of mesh)	Two trimmers on top (See Fig. 2)	Input I. F.	Adjust to maximum output
BROAD- CAST BAND	1550 Kc.	175 mmf.	Antenna lead	Rotor full open (Plates out of mesh)	Trimmer—Top of Middle section of gang (See Fig. 2)	Oscillator	Adjust to maximum output
	1400 Kc.	175 mmf.	Antenna lead	Set dial at 1400 Kc.	Trimmers—Top of front and rear section of gang (See Fig. 2)	Antenna and R. F.	Adjust to maximum output
	600 Kc.	175 mmf.	Antenna lead	Set dial at 600 Kc.	B.C. Series Pad (See Fig. 2)	Oscillator series pad	Adjust to maximum rock dial. (See note "A")

NOTE "A"—Turn the dial back and forth slightly (rock) and adjust trimmer until the peak of greatest intensity is obtained. Trimmer is located on top of chassis along side of gang. Attenuate the signal from the signal generator to prevent the leveling-off action of the AVC.

After each band is completed, repeat the procedure as a final check. Do not bend plates of variable condenser to correct tracking.