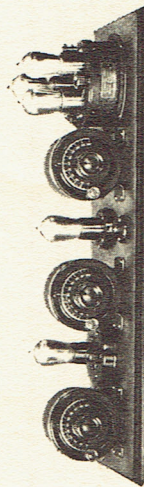


INSTRUCTIONS FOR

ATWATER KENT

OPEN MOUNTED STYLE

RADIO RECEIVING SETS



ATWATER KENT MANUFACTURING COMPANY

4700 WISSAHICKON AVENUE

PHILADELPHIA

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INSTRUCTIONS FOR ATWATER KENT OPEN MOUNTED RADIO RECEIVERS

Equipment Required

ANTENNA

For the best results we suggest an outdoor antenna, consisting of a single horizontal stretch of wire between 50 and 80 feet long. Standard seven-strand copper wire is very satisfactory. The antenna must be suspended from insulators at both ends, should be as high as possible and preferably several feet clear of any surrounding objects. We recommend that the lead-in be of insulated wire, soldered and taped at the point of connection to the antenna. No. 14 B & S rubber-covered wire or other good weather-proof wire is suggested. A standard lightning arrester should be used in the lead-in, connected to a good outside ground.

Good results may also be obtained by the use of various forms of inside antennas. A 50-foot length of bell wire or lamp cord run around the picture moulding of a room, under the rug, in the attic or thru a hallway is usually satisfactory. It should be as high in the house as practical and a fairly long straight stretch is desirable.

GROUND

The house water system usually makes an entirely satisfactory ground. Connection may be made to it by means of a "ground clamp" secured to the nearest available water-pipe, the ground wire (preferably insulated wire) being run from this clamp to the ground post on the set. The pipe must be scraped clean and bright before attaching the clamp.

TUBES

Standard 5-volt $\frac{1}{4}$ ampere 201-A or 301-A type tubes must be used. A "special detector" type 200-A or 300-A may be employed if desired. It will usually give more sensitivity and volume, but may be a trifle noisy at first. (The detector tube is the one at the rear of the 3-tube unit, except in Model 12 where it is the fourth tube from the right.)

POWER SUPPLY

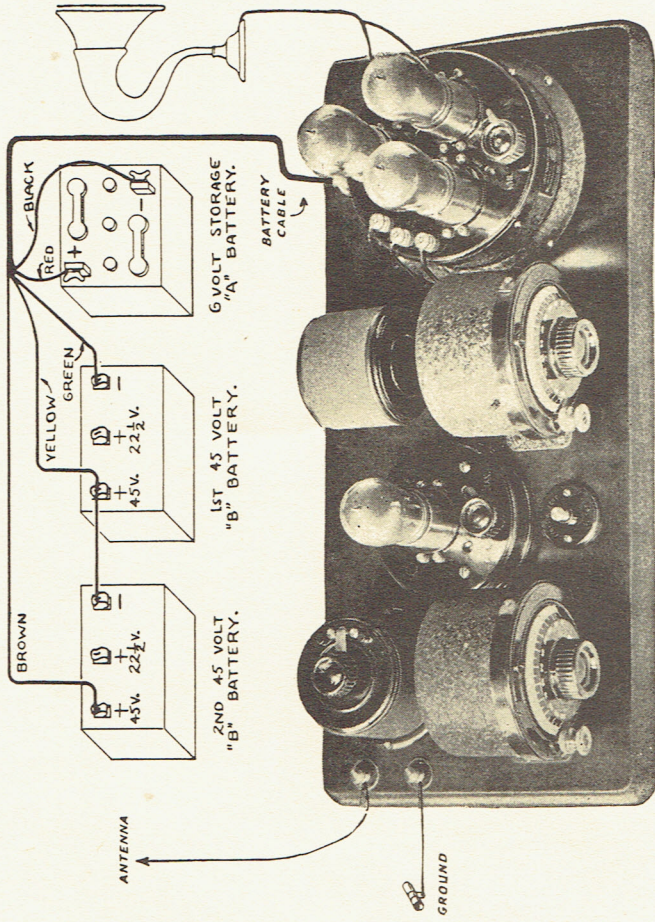
The power supply should consist of a standard 6-volt storage "A" battery, and a set of two 45-volt dry B batteries. If electric house current supply (110 volts A. C.) is available, we recommend the use of a charger for the A battery, and also a "B" eliminator or "B" power unit operating from the house current, instead of the dry B batteries.

A very satisfactory combination (where A. C. house current is available) consists of a 60 ampere hour storage battery, a "trickle" charger and any standard-make dry (tube type) "B" power unit. Wiring instructions for chargers and B power units are supplied with these devices.

If dry B batteries are used, we suggest two standard-make 45-volt units of large size, connected as shown in the diagram covering the set in question, on a later page of this leaflet. It is advisable to purchase a pocket voltmeter reading from 0 to 50, so that the voltage of the B batteries can be checked occasionally. When it falls below about 35, they should be replaced.

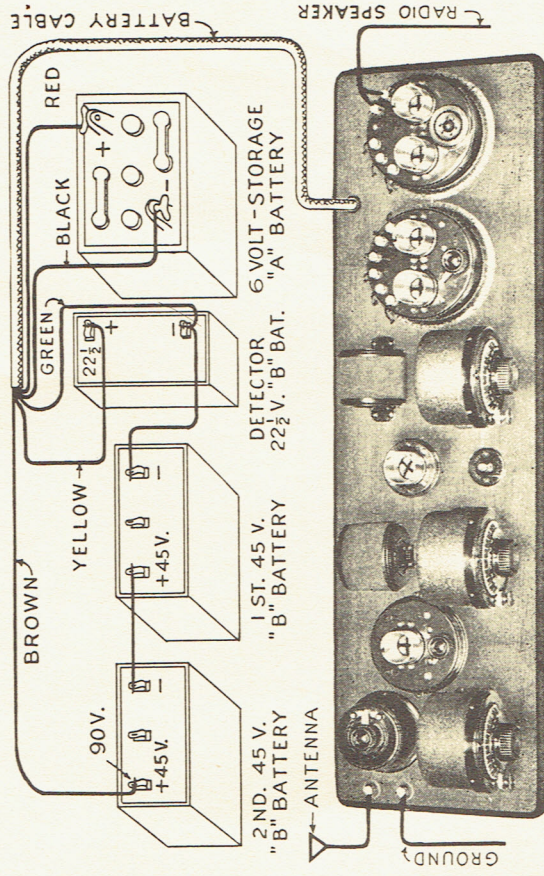
SPEAKER

Any standard horn type or magnetic cone type speaker may be used.



MODELS 9, No. 4660, and 10, No. 4700

NOTE: Cut of Model 10, No. 4700, appears on front cover of this booklet



MODEL 12, No. 4910

Preliminary Procedure

CONNECTING ANTENNA AND GROUND

Scrape about $\frac{1}{4}$ inch of insulation off the ends of the antenna and ground lead-in wires and connect the cleaned ends of these wires to the binding posts provided on the set and designated by the metal washer on each post. In models 4052, 4066 and Model 5 No. 4333, antenna and ground connections are made direct to the posts on the back of the tuner. On Models 10A (No. 4550 and No. 4560) and 9A (No. 4445A), ground connection is made to the white wire in the battery cable (except when these sets have had their wiring modified in accordance with factory instructions, when a binding post is provided for the ground connection, and the white wire is eliminated from the cable).

CONNECTING SPEAKER

Connect the two speaker cord terminals to the two brass binding posts marked "out" on the right hand side of the tube unit at the right end of the board when facing set. The cord with the red thread interwoven thru it, should be connected to the post marked "+B."

CONNECTING BATTERIES

The "A" and "B" batteries should be connected in accordance with the diagram furnished in this leaflet. In the earlier sets, which were not equipped at the factory with a battery cable, connections to the batteries (or other power supply) should be made by means of suitable lengths of insulated wire, such as No. 18 bell wire. Make sure all connections are clean and tight.

Batteries and power supply devices may be placed under the table, in the cellar (if cable will reach) or in a closet nearby. Do not allow battery cable or connecting wires to rest on top of storage battery.

INSERTING TUBES

After batteries have been connected, pull up switch knob at front of set, thereby turning the power on, turn rheostat knobs (on tube units) about half way to right, and insert one tube in any socket. If this tube burns at a dull glow, it indicates battery connections are correct, and the other tubes may then be inserted. Note if each lights properly as it is put in.

Operation

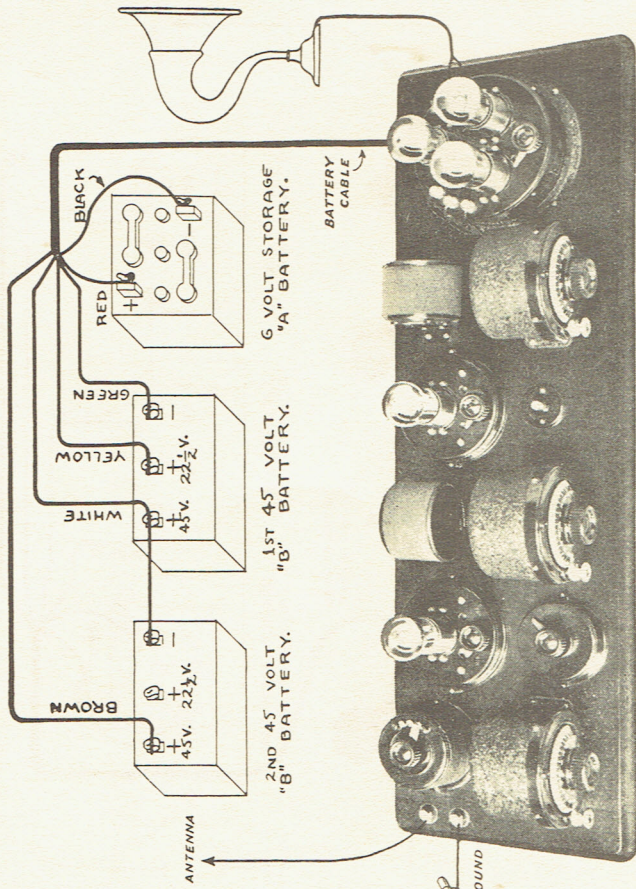
MODELS 4052, 4066 and 4333

Turn potentiometer and rheostats about half way on, and adjust tuning dial until a suitable program is heard. Then adjust potentiometer and tuner together until desired volume and clarity is secured. If a further adjustment of volume is required, use the left hand (R. F.) rheostat.

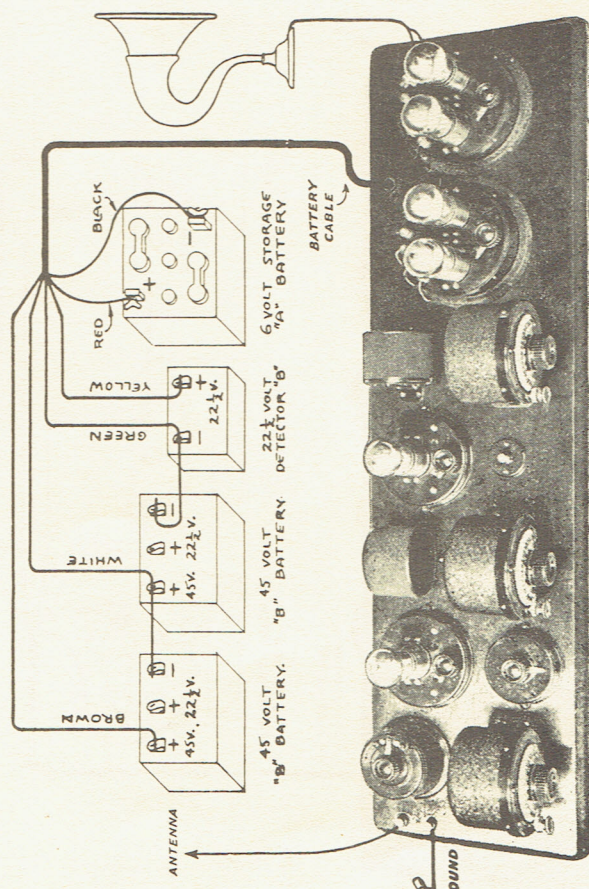
MODELS 9 (No. 4445) and 9-A (No. 4445A)

To tune this type set, turn the potentiometer indicator toward the front of the board. Next set dial No. 2 on the setting shown in the table on page 5 for wavelength of station desired. These settings have been secured by actual reception, and the settings shown for dial No. 1 will vary according to the characteristics of your antenna. Dial settings for No. 2 dial will, however, be approximately correct for any installation.

Then manipulate the No. 1 dial on or around the setting shown for that dial in the table. If no signal is obtained, slowly advance the potentiometer in a clockwise direction and continue to turn dial No. 1 about five or ten



MODEL 10B, No. 4550 and No. 4560



MODEL 12, No. 4620

degrees on either side of settings shown, gradually decreasing the degree of movement as the station is heard. On distance reception, it may be necessary to make a slight simultaneous adjustment of both dials.

MODELS 10 (No. 4340) and 10-A (No. 4550 and No. 4560)

Turn rheostats about half way on and turn potentiometer pointer toward front of board. Set dials approximately for wavelength desired, according to table on page 5. These settings are approximate only, but further minor adjustments of the dials can be made to bring in the station and clear up the signal. Volume can best be regulated by the potentiometer and rheostats, after the station has been accurately tuned in with the tuning dials.

MODELS 10-B (No. 4550 and 4560) and 12 (No. 4620)

The same instructions apply to these sets as to the foregoing Models 10 and 10-A, excepting that these later sets are equipped with the 3-point antenna tap switch. For most purposes this should be set at the center point. For stations which come in below 20 on the dial, the first or nearest point should be used. The 3rd or farthest point may be useful when a very short antenna is used, or for reception of the higher wavelength stations. A change in the position of this switch requires a readjustment of the first or left hand dial.

A table of dial settings for these sets appears on page 6.

MODELS 9 (No. 4660), 10 (No. 4700) and 12 (No. 4910)

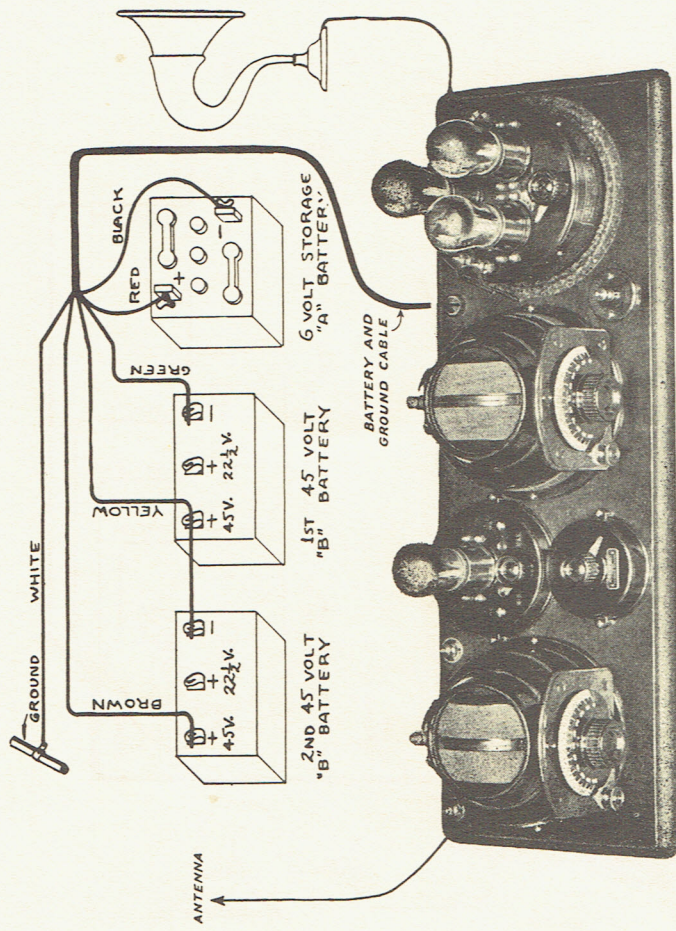
Turn rheostats about $\frac{2}{3}$ of the way on, and set antenna tap switch at middle point. All tuning is then done with the dials, the approximate settings for the wavelength of station desired being obtained from the dial setting table on page 6. However, it may sometimes be desirable to use a different point on the 3-point switch, as outlined above.

NOTE:—A complete list of broadcasting stations, together with wavelength, frequency, etc., can be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C.

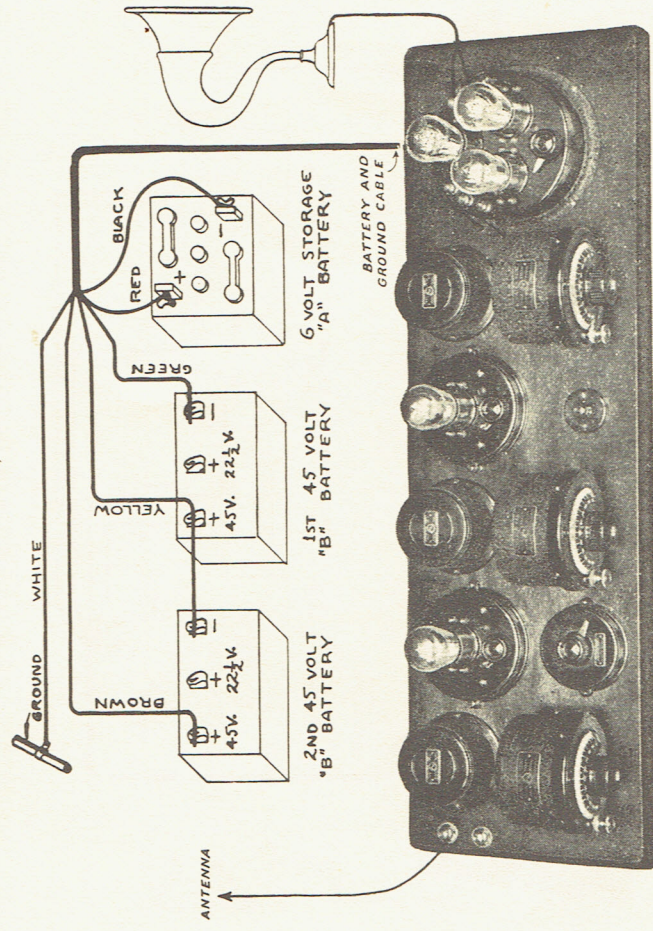
Suggestions in Case of Trouble

If for some reason your set should cease to function properly, we suggest the following procedure:—

- (1) **Power Supply:**—Test A battery with hydrometer, and B batteries with voltmeter. B batteries should be replaced when their voltage has fallen to 35 volts or less each. The A battery should be recharged if the hydrometer reads below about 1225.
- (2) **Antenna and Ground:**—See if antenna and ground lead-in wires are properly connected to set. Inspect outside antenna installation (if used).
- (3) **Tubes:**—See if tubes are all lighted. Also, since all tubes have a tendency to weaken with use, have all tubes tested by the nearest radio dealer, and those found to be weak, replaced.
- (4) **Speaker:**—Note if speaker terminals are properly secured in their posts in set (turn set switch off when doing this). Try another speaker, if one is available.
- (5) If the above tests fail to locate the trouble, the best plan would be to take the set to the nearest Atwater Kent dealer, for a thorough inspection.



MODEL 9A, No. 4445A



MODEL 10A, No. 4550 and No. 4560
(See page 3, "Connecting Antenna and Ground")

Dial Setting Tables

The following tables give the approximate dial settings for a number of different wavelengths on our two-dial and three-dial open type receivers. It should be remembered that these settings are approximate only, and a variation of a few degrees one way or the other does not indicate anything wrong. The setting of the first or left hand dial will depend to some extent on the length of antenna used, and in the case of the sets having the antenna tap switch, on the setting of this switch.

It is suggested that the individual make a record of the dial settings of each station he hears, noting the call letters and wavelength or frequency, so that he can return to that station when he again wishes to hear it.

MODELS 9 (No. 4445) and 9A (No. 4445A)

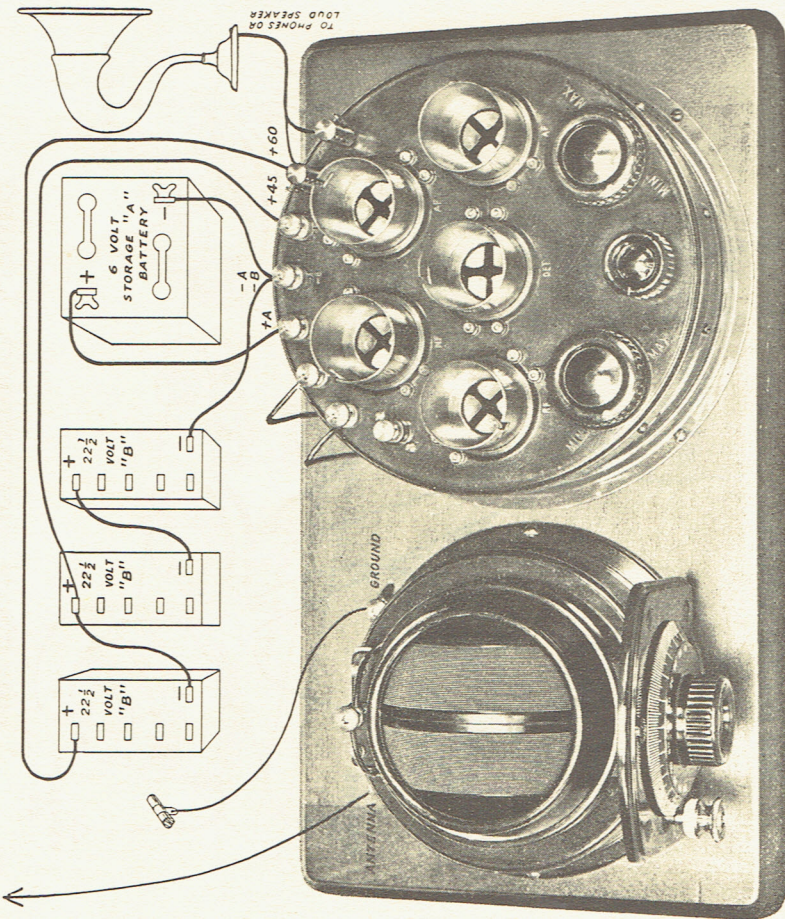
Wave Length	Dial Settings	
	1	2
234		20
286		28
309		32
326		35
345		39
360		42
380		45
395		49
411		51
417		52
429		55
455		59
469		61
484		63
492		64
509		70
517		72
536		76
546		78

MODEL 10 (No. 4340)

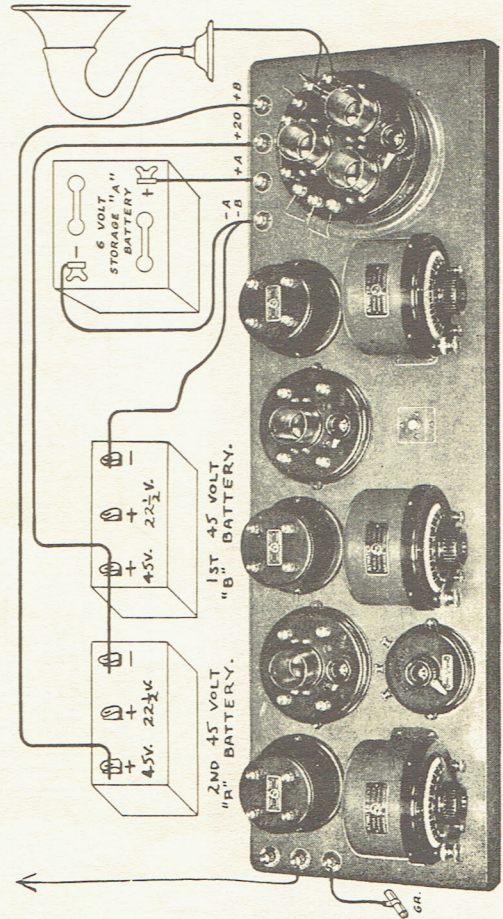
Wave Length	Dial Settings			Wave Length	Dial Settings		
	1	2	3		1	2	3
286	7	6	5	286	14	13	12
309	11	10	9	309	18	17	16
326	13	13	11	326	20	20	18
337	18	16	16	337	25	23	23
360	22	21	22	360	29	28	29
380	24	24	23	380	31	31	30
390	27	26	26	390	34	33	33
395	29	28	27	395	36	35	34
400	30	30	28	400	37	37	35
405	32	32	31	405	38	38	37
411	33	33	32	411	39	38	38
429	36	36	33	429	42	42	39
448	40	40	39	448	46	46	45
455	44	44	43	455	50	50	49
469	47	47	46	469	53	53	52
484	50	50	49	484	56	56	55
492	53	52	52	492	59	58	58
509	61	61	59	509	67	67	65
517	63	63	61	517	69	69	67
536	68	67	67	536	74	73	73
546	72	71	71	546	78	77	77

MODEL 10A (No. 4550 or No. 4560)

Wave Length	Dial Settings			Wave Length	Dial Settings		
	1	2	3		1	2	3
286	7	6	5	286	14	13	12
309	11	10	9	309	18	17	16
326	13	13	11	326	20	20	18
337	18	16	16	337	25	23	23
360	22	21	22	360	29	28	29
380	24	24	23	380	31	31	30
390	27	26	26	390	34	33	33
395	29	28	27	395	36	35	34
400	30	30	28	400	37	37	35
405	32	32	31	405	38	38	37
411	33	33	32	411	39	38	38
429	36	36	33	429	42	42	39
448	40	40	39	448	46	46	45
455	44	44	43	455	50	50	49
469	47	47	46	469	53	53	52
484	50	50	49	484	56	56	55
492	53	52	52	492	59	58	58
509	61	61	59	509	67	67	65
517	63	63	61	517	69	69	67
536	68	67	67	536	74	73	73
546	72	71	71	546	78	77	77

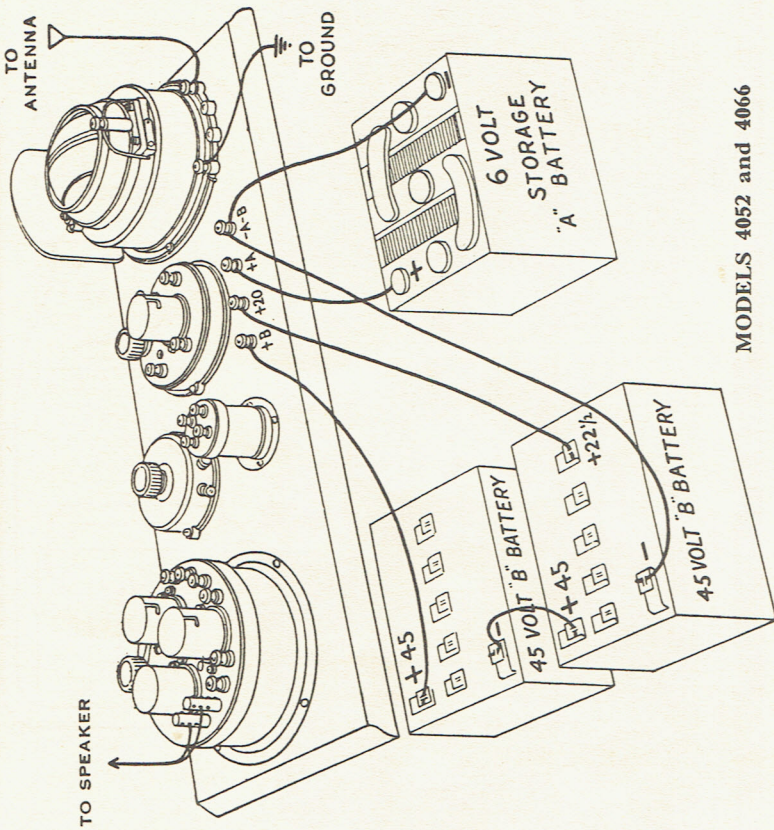


MODEL 5, No. 4333

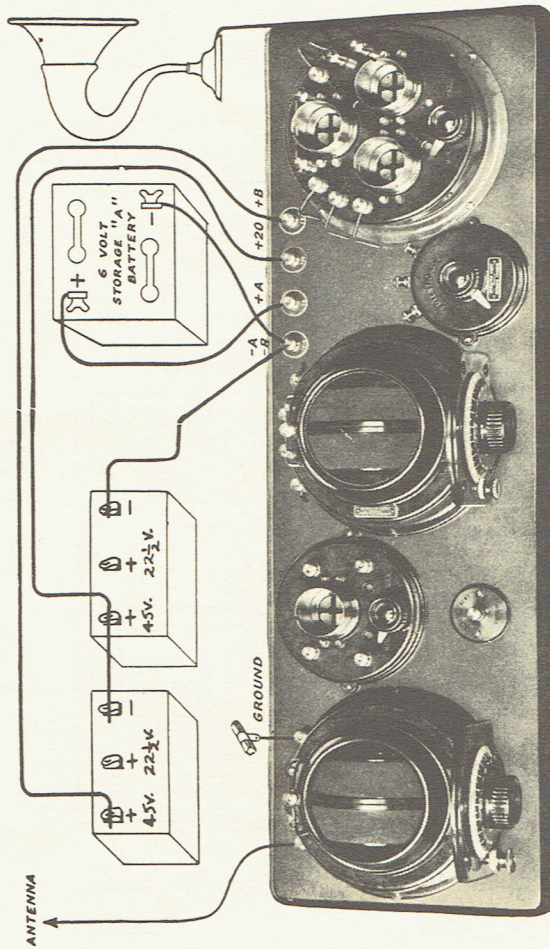


MODEL 10, No. 4340

Battery Connection Diagrams



MODELS 4052 and 4066



MODEL 9, No. 4445

MODEL 9 (No. 4660)

Wave Length	Dial Settings			Wave Length	Dial Settings		
	1		2		1		2
	Tap 1	Tap 2	Tap 3		Tap 1	Tap 2	Tap 3
278	17			429	50		51
309	23	18	24	455	57		58
326	25	24	26	469	61		62
345	29	30	30	484	66		67
360	32	33	33	492	68		69
380	36	37	37	509	74		75
395	40	41	41	517	76		77
411	44	45	45	536	82		83
417	46	47	47	546	85		86

MODEL 10B (4550 or 4560) and MODEL 12 (No. 4620)

Wave Length	Dial Settings			Wave Length	Dial Settings		
	1		2		1		2
	Tap 1	Tap 2	Tap 3		Tap 1	Tap 2	Tap 3
286	14			17			17
309	19	18	23	23			23
326	22	23	26	26			26
337	25	29	29	28			28
360	28	32	32	32			32
380	32	36	36	36			36
390	36	37	39	37			37
395	37	39	40	39			39
400	39	42	42	41			41
405	40	44	44	42			42
411	41	45	45	43			43
429	45	49	49	44			44
448	48	53	53	45			45
455	52	57	57	49			49
469	56	60	60	52			52
484	59	63	63	56			56
492	62	65	65	59			59
509	66	71	71	60			60
517	72	76	76	62			62
536	77	83	83	65			65
				66			66
				70			70
				72			72
				76			76
				77			77
				83			83
				88			88

MODEL 10 (No. 4700) and MODEL 12 (No. 4910)

Wave Length	Dial Settings			Wave Length	Dial Settings		
	1		2		1		2
	Tap 1	Tap 2	Tap 3		Tap 1	Tap 2	Tap 3
278	15			16			16
309	21	21	22	22			22
326	24	25	25	25			25
337	26	26	26	26			26
360	31	31	31	31			31
380	36	36	36	36			36
390	38	38	38	38			38
400	40	40	40	40			40
405	41	41	41	41			41
411	42	42	42	42			42
429	48	48	48	47			47
448	53	53	53	52			52
455	55	55	55	54			54
469	59	59	59	58			58
484	64	64	64	63			63
492	65	65	65	64			64
509	71	71	71	69			69
517	73	73	73	71			71
536	79	79	79	77			77