

INSTRUCTIONS FOR

ATWATER KENT

OPEN MOUNTED STYLE

RADIO RECEIVING SETS



ATWATER KENT MANUFACTURING COMPANY
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PHILADELPHIA

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.

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

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 1.225.

(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.

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	10	20
286	16	28
309	19	32
326	21	35
345	24	39
360	26	42
380	28	45
395	32	49
411	33	51
417	34	52
429	35	55
455	39	59
469	40	61
484	41	63
492	42	64
509	47	70
517	48	72
536	51	76
546	53	78

MODEL 10 (No. 4340)

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

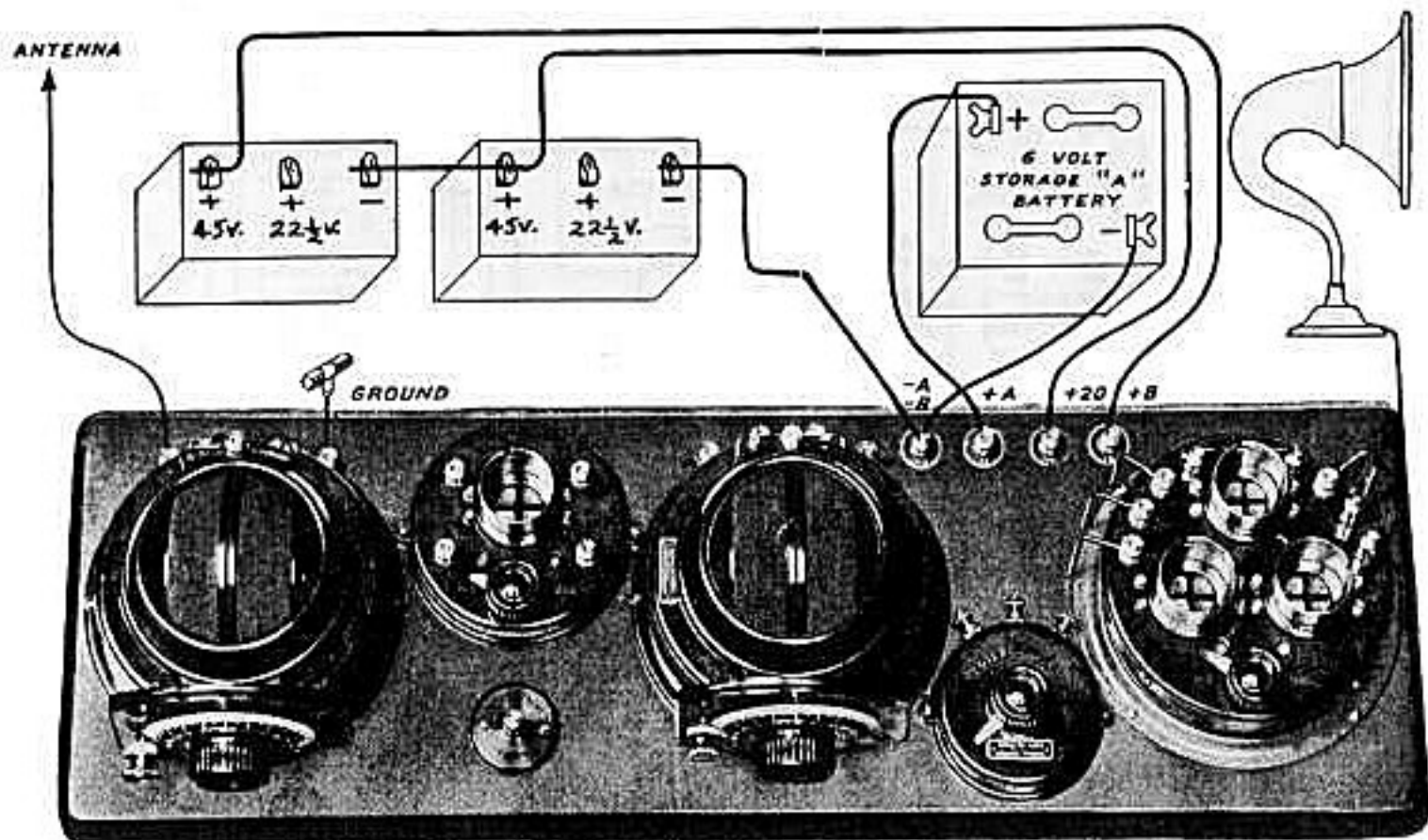
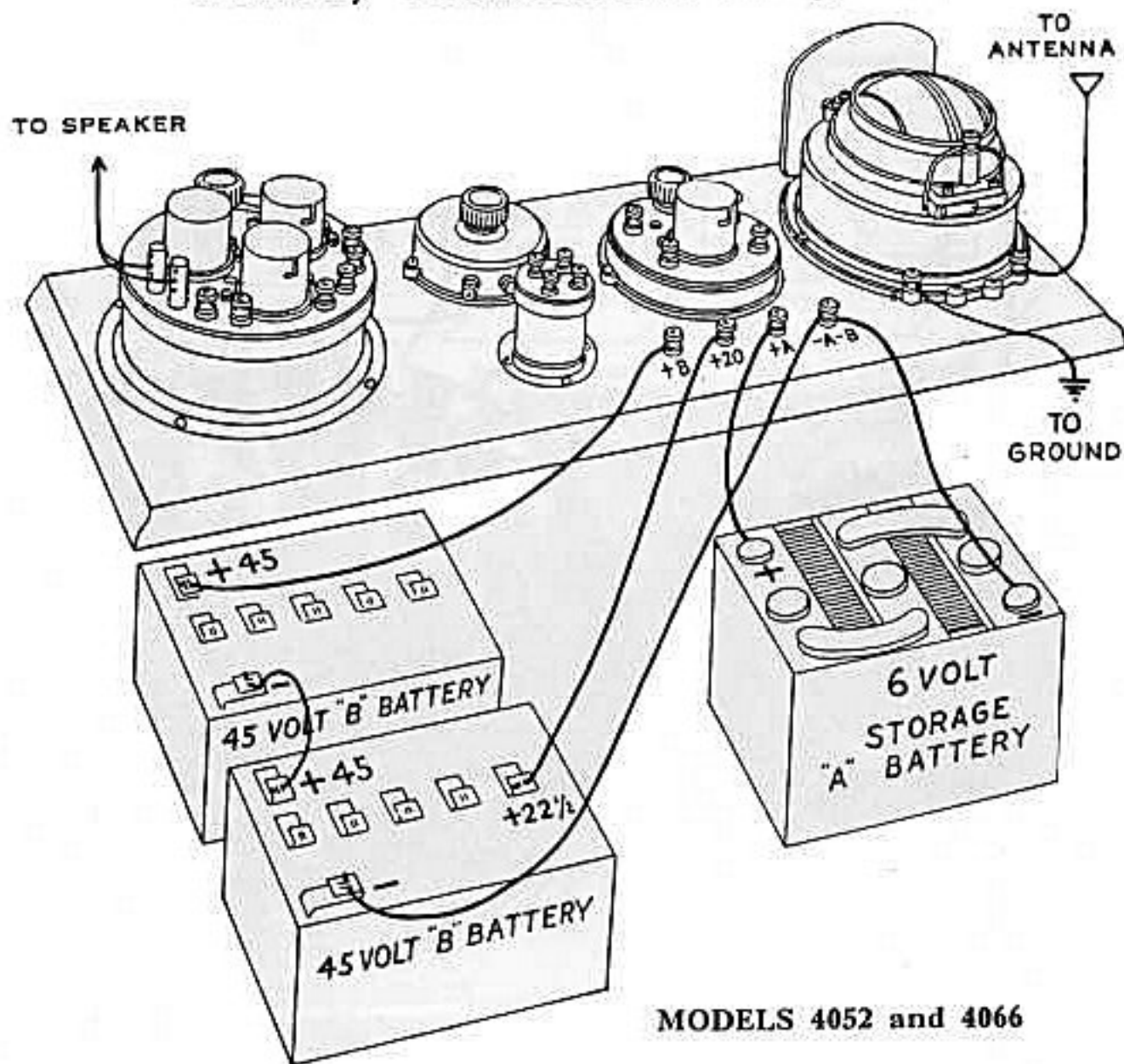
MODEL 10B (4550 or 4560) and MODEL 12 (No. 4620)

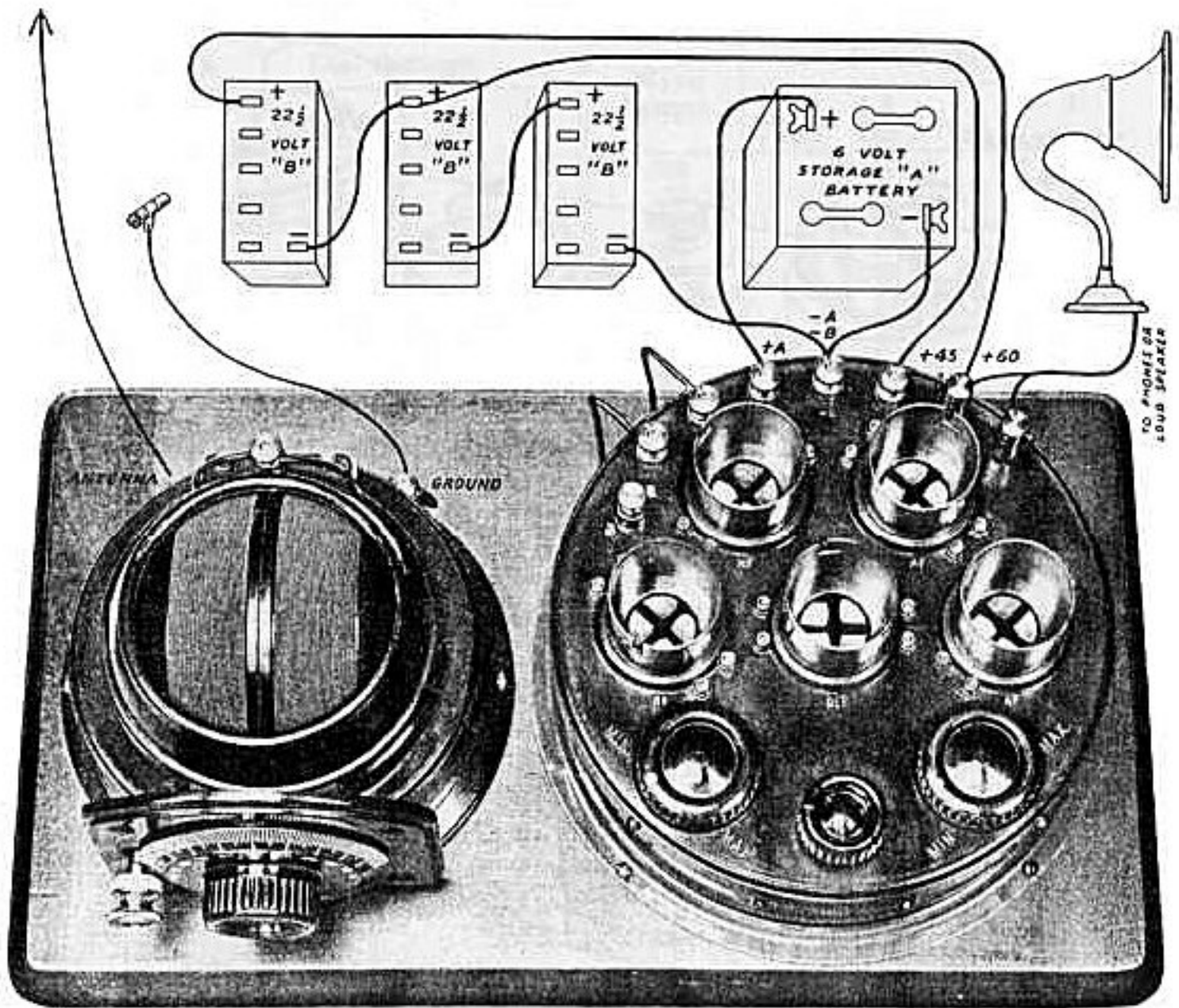
Wave Length	Dial Settings				
	Tap 1	1		2	3
		Tap 2	Tap 3		
286		14		18	17
309		19		23	23
326		22		26	26
337		25		29	28
360		28		32	32
380		32		36	37
390		36		39	39
395		37		40	41
400		39		43	42
405		40		44	43
411		41		45	44
429		45		49	49
448		48		53	52
455		52		57	56
469		56		60	59
484		59		63	62
492		62		65	65
509		66		71	70
517		72		76	76
536		77		83	82

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

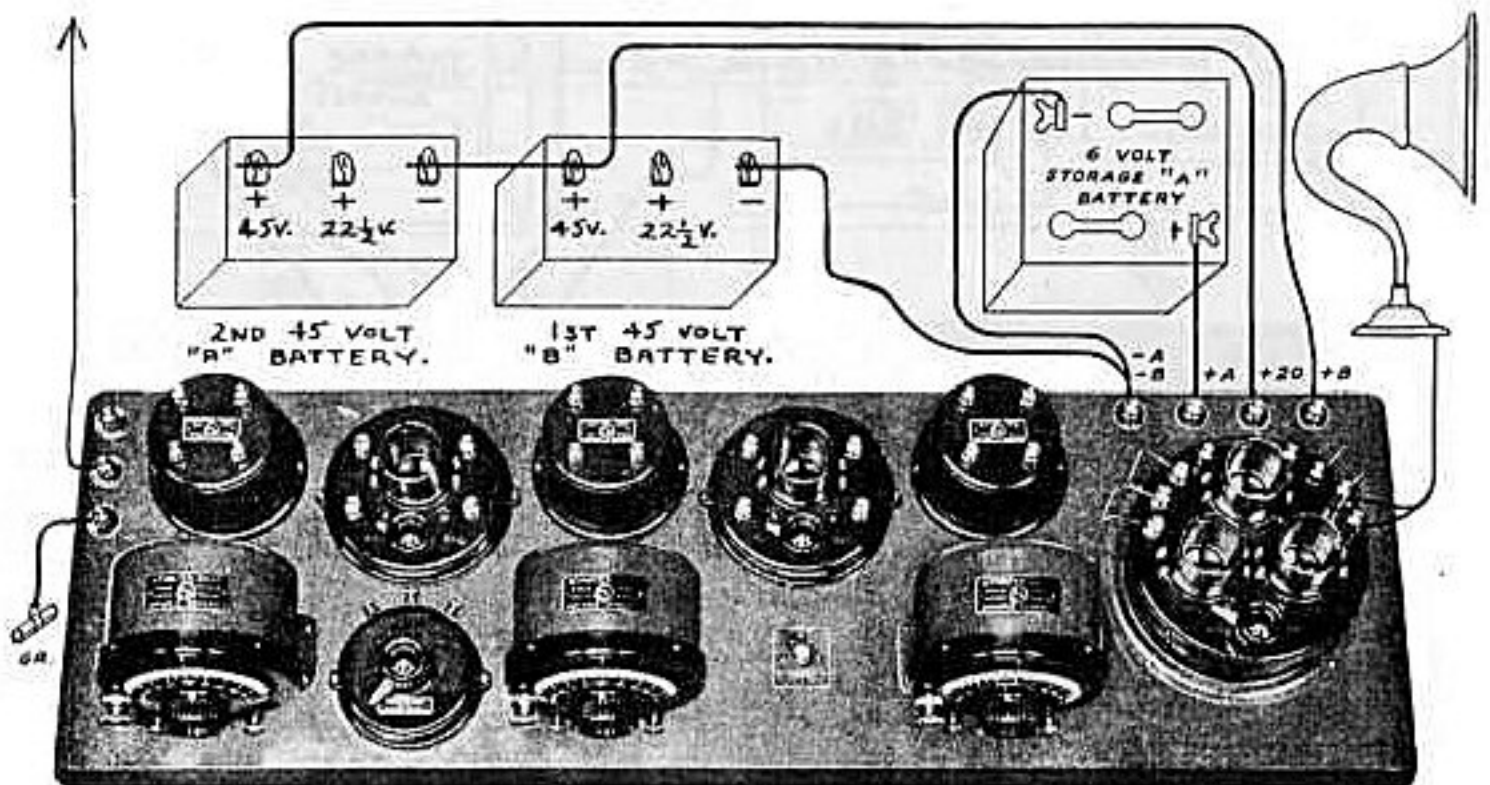
Wave Length	Dial Settings				
	Tap 1	1		2	3
		Tap 2	Tap 3		
278		15		16	16
309		21		22	22
326		24		25	25
337		26		26	26
360		31		31	31
380		36		36	36
390		38		38	38
400		40		40	40
405		41		41	41
411		42		42	42
429		48		47	47
448		53		52	52
455		55		54	54
469		59		58	58
484		64		63	63
492		65		64	64
509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

Battery Connection Diagrams

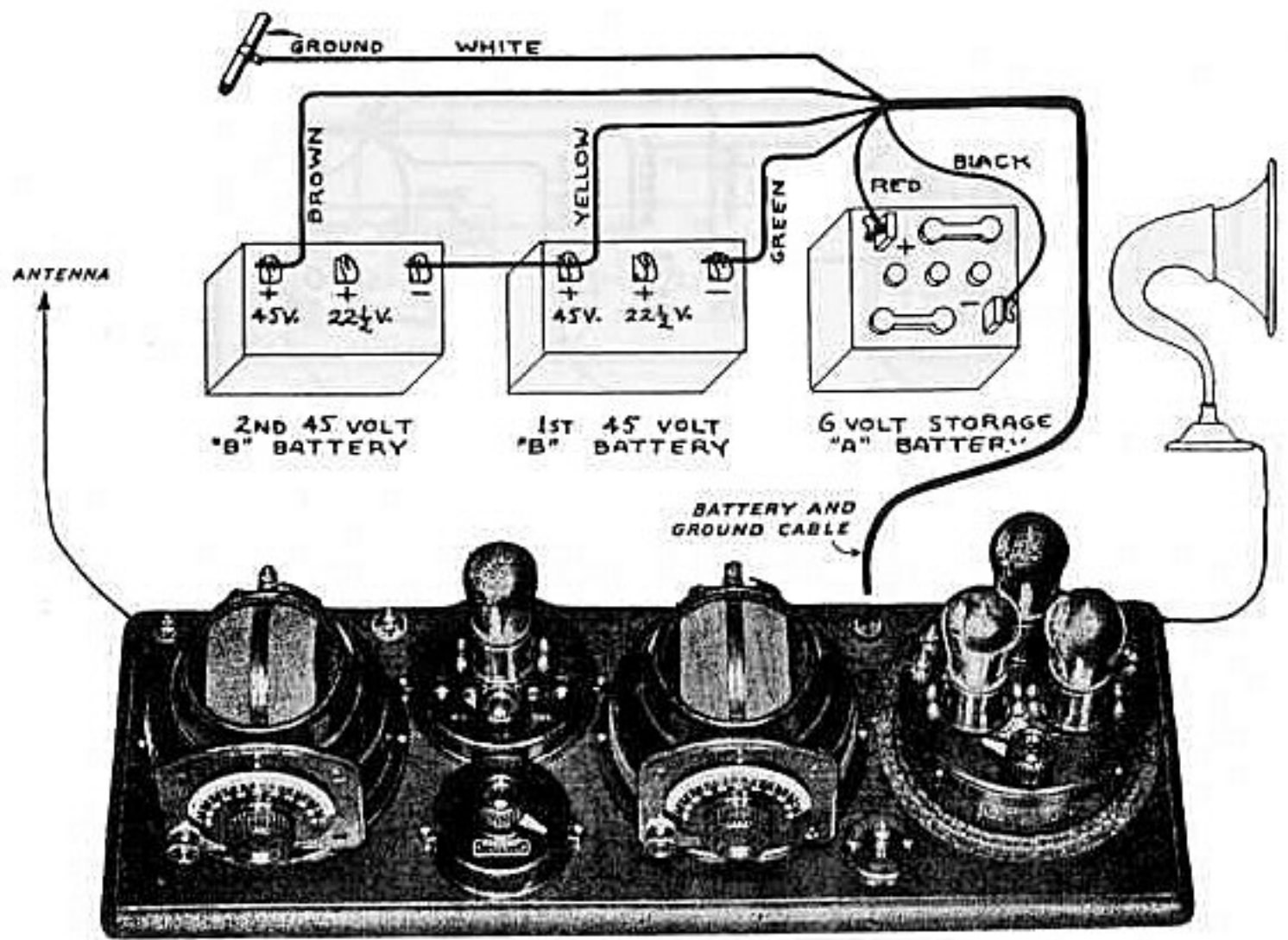




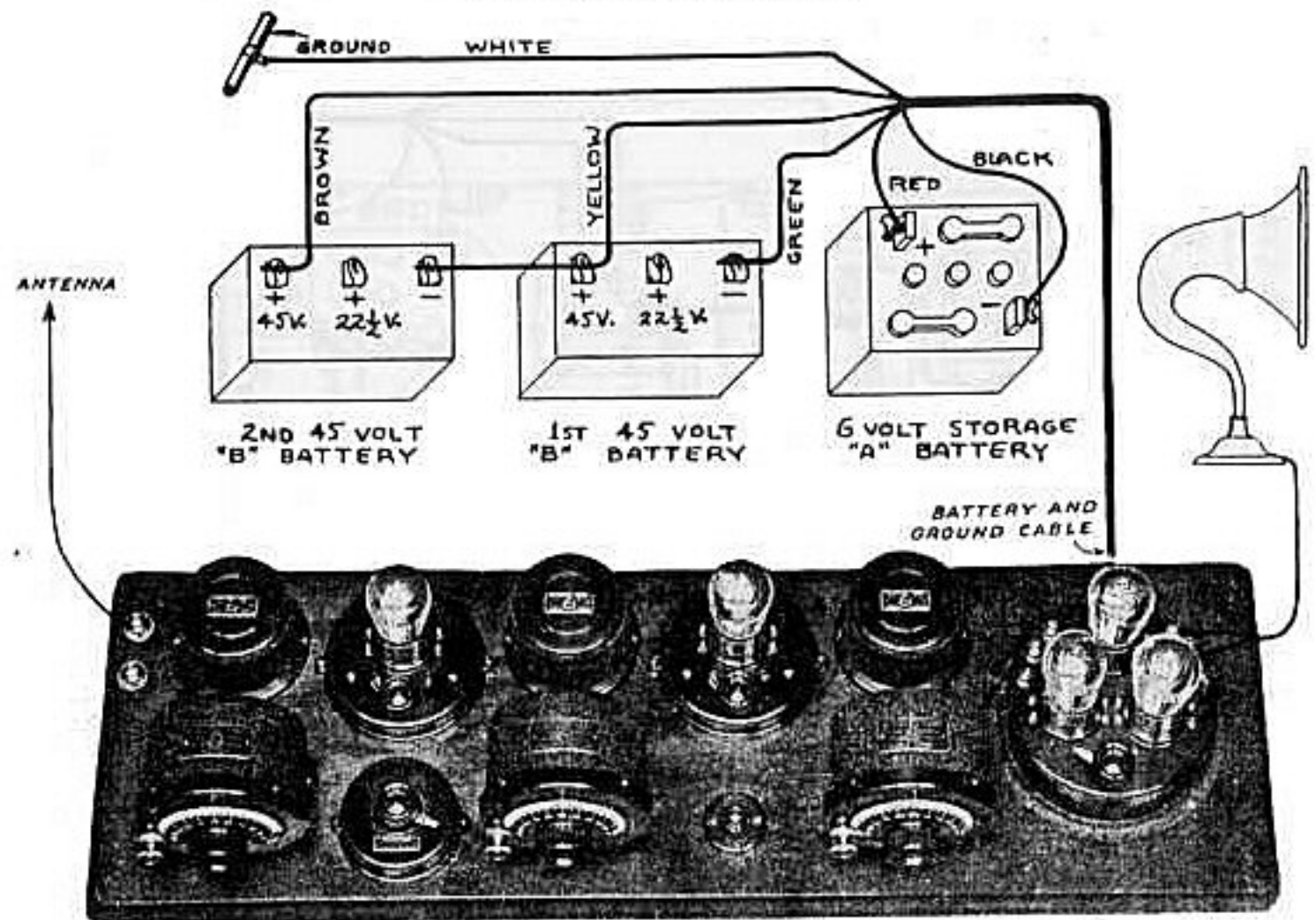
MODEL 5, No. 4333



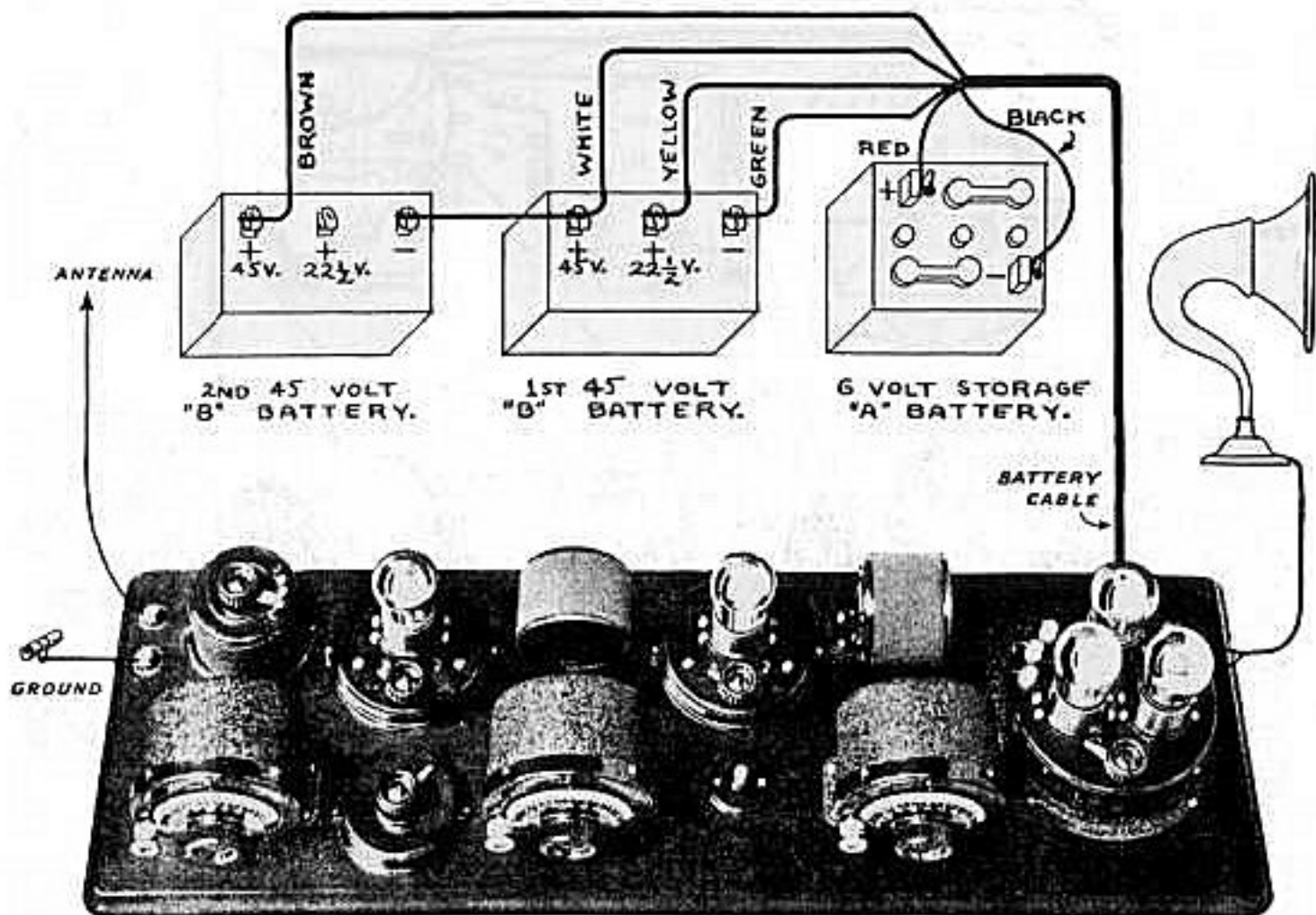
MODEL 10, No. 4340



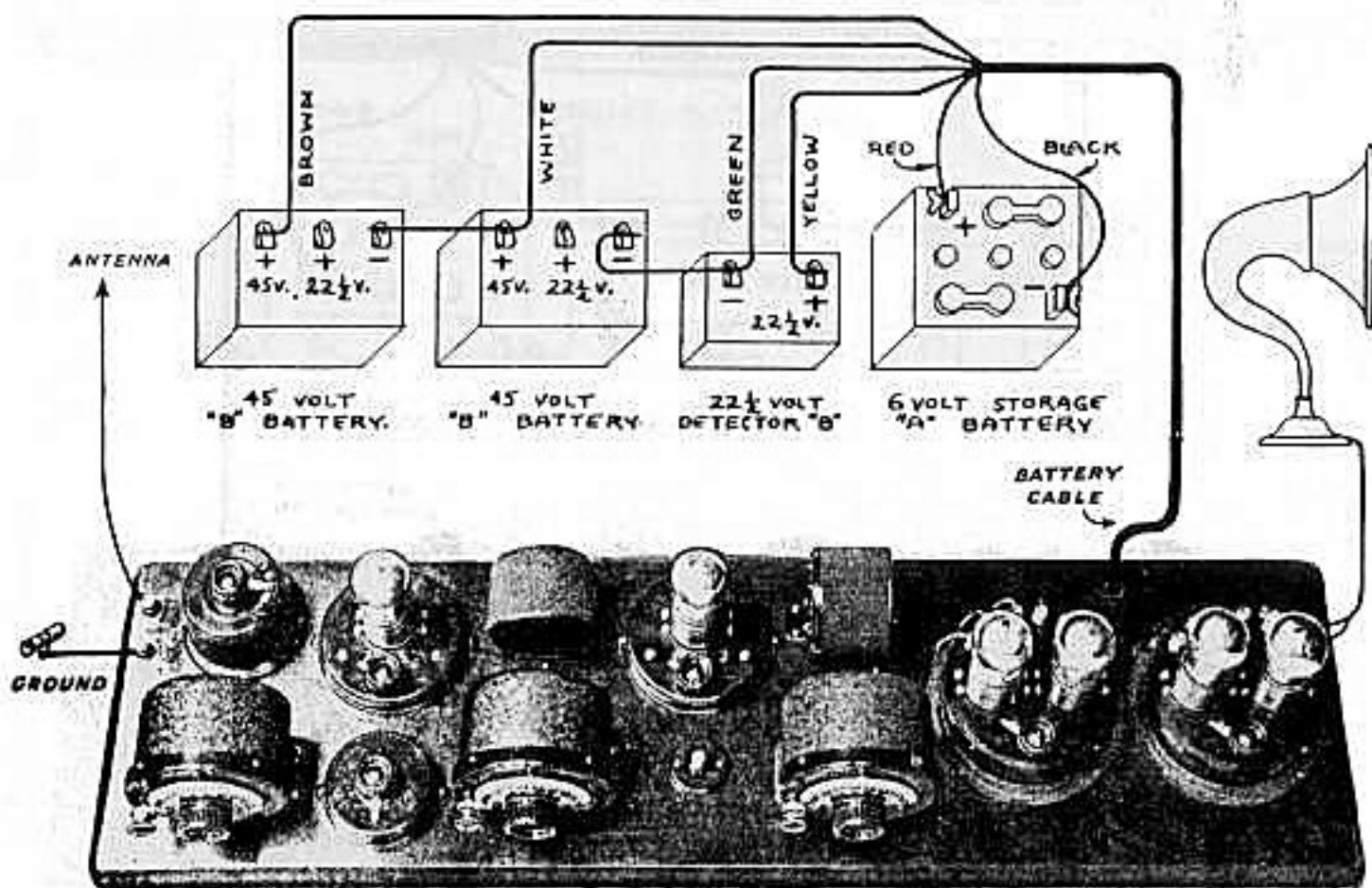
MODEL 9A, No. 4445A



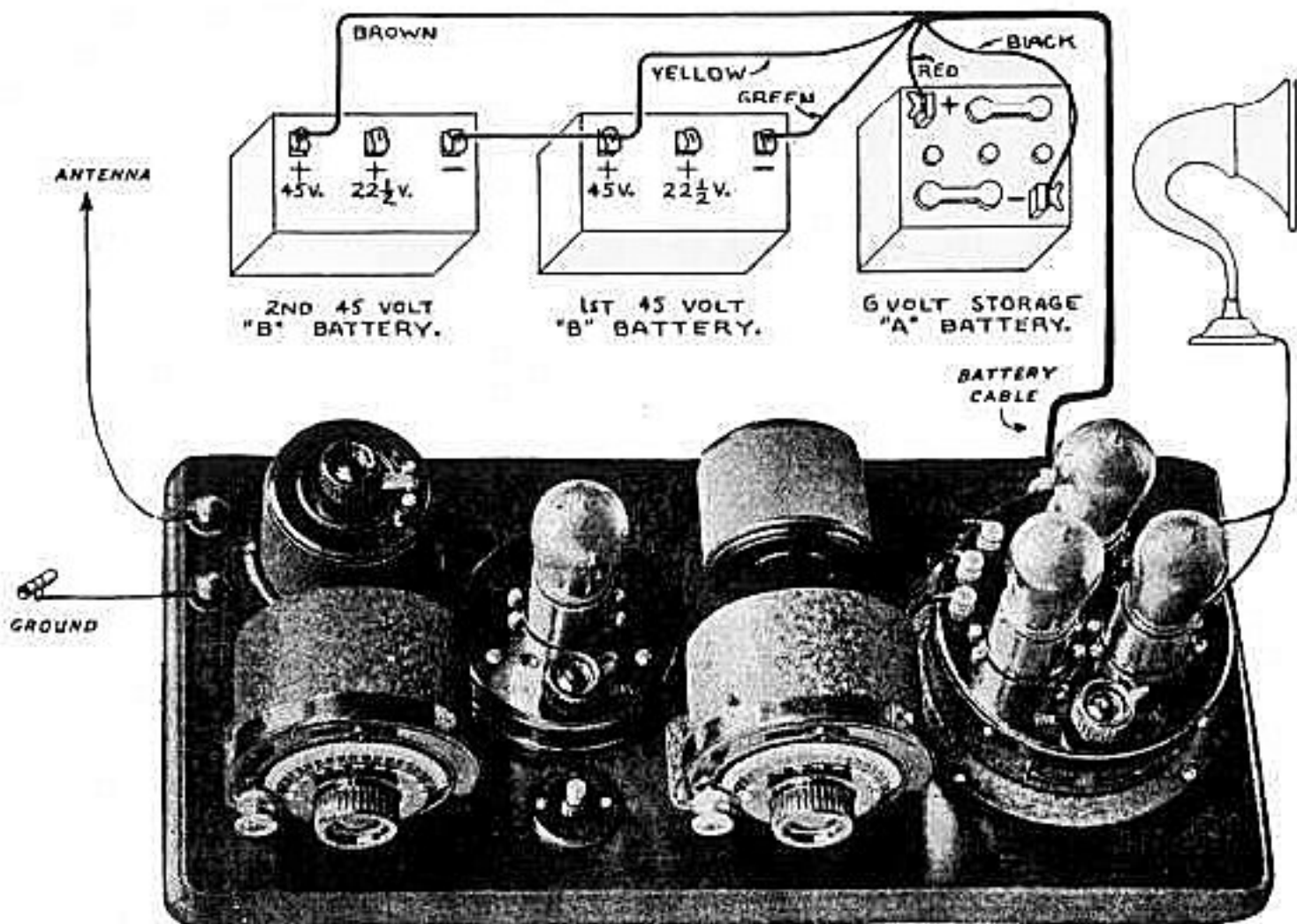
MODEL 10A, No. 4550 and No. 4560
 (See page 3, "Connecting Antenna and Ground")



MODEL 10B, No. 4550 and No. 4560

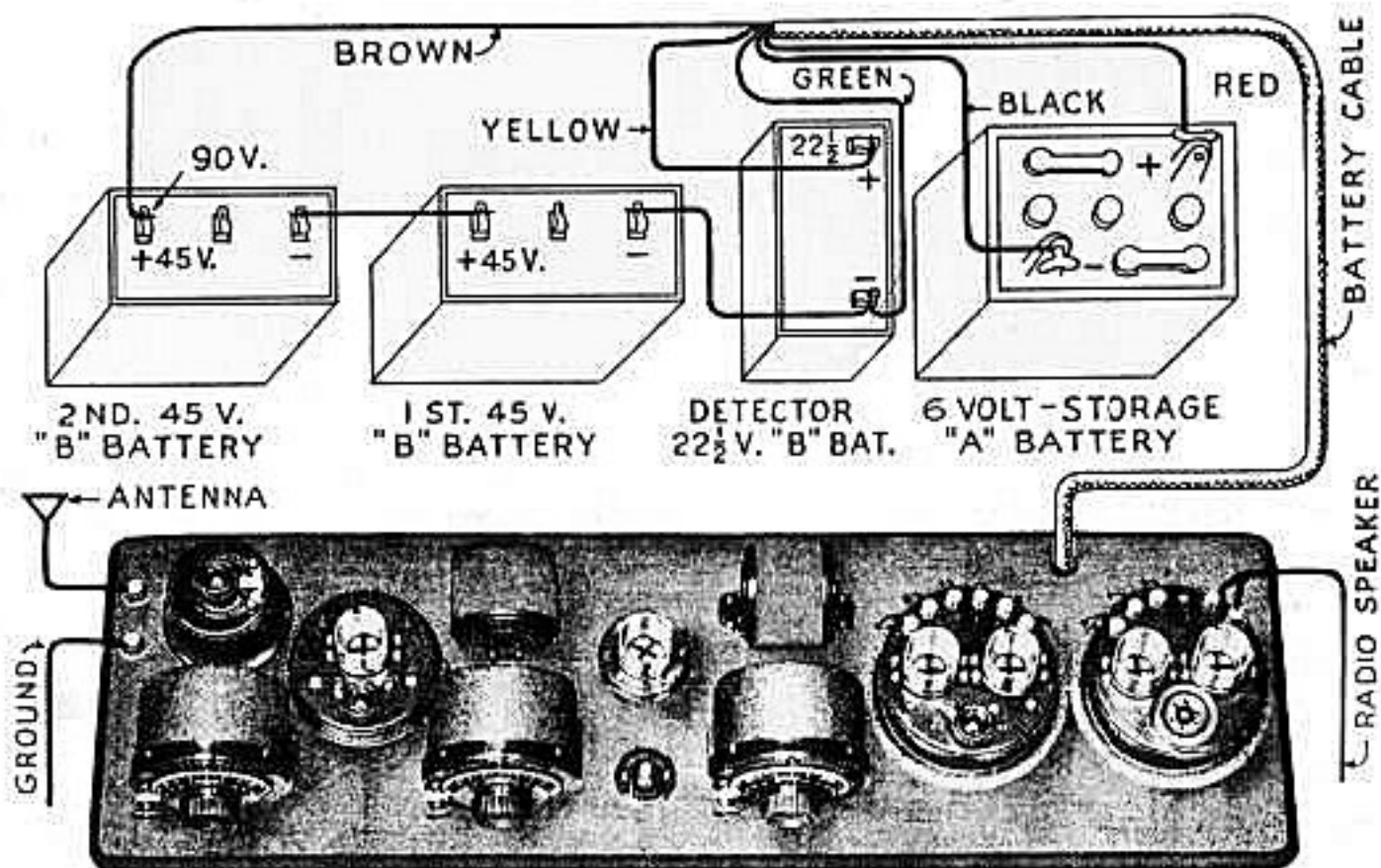


MODEL 12, No. 4620



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

Additional copies of this booklet, 10 cents each

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