TESTING WITH THE NO. 215 TUBE CHECKER

For Either D. C. or A. C. Testing From Set Socket

AS A TUBE TESTER—

Remove tube from set and place in the corresponding socket of the tester. Connect plug in the socket of the set from which the tube was removed. Turn rheostat, if any, on set until the proper A voltage is shown on the tester voltmeter. Then note reading on the milliammeter. Move the grid switch lever and note the second reading. The amplifying value of the tube is determined by the flow of current through the tube to the plate under the different grid conditions and is read in milliamperes. Use adapter on plug when tester is to be connected to a four terminal socket.

AS A SET TESTER—

The use of a B voltmeter such as the No. 346 is recommended to measure the plate voltage. This is attached to the two binding posts, the red cord from the voltmeter being the positive connection. The plug of the tester is connected to each of the set sockets and the current taken therefrom is measured on the tester instruments. The tubes removed from the sockets are tested as per instructions under that heading.

PLATE VOLTMETER READINGS—

This is the actual voltage delivered to the plate of the tube. The B voltage readings from the audio sockets will be less than those from the radio sockets. The meter will not indicate if the primary of the transformer is open.

FILAMENT VOLTMETER READINGS—

The voltmeter on the tester indicates the voltage supplied to the filament. It is important to have only one tube inserted at a time and not attempt testing with tubes in both sockets of the tester.

GRID CONDITIONS—

The grid is checked by use of the switch which connects the grid to one terminal of the filament when in the ON (+) position. With the switch in the neutral or OFF (—) position the milliampere plate reading is not increased. In the OFF (—) position the switch lever is to the right or in the direction of the voltmeter on tester. When in the OFF (—) position with the tube in the tester socket the signal should be audible through the set connections except when plug is inserted in the detector socket. By removing the grid [illegible] inserting instead a short circuiting wire the circuit complete the secondary of the transformer [illegible].

PLATE MILLIAMPERE READINGS—

Set switch opposite the milliammeter to the HIGH or LOW range as required.

The plate readings below are for good tubes. Poor tubes have about one-half these readings.

Tube No.	Plate Volts	Filament Volts	Grid Volts	Plate Milliamperes Switch OFF (—)	Plate Milliamperes ON (+)
201-A	45	5	0	1.7	4.3
	90	5	0	6.8	10.5
	90	5	–4.5	2.	8.1
	135	5	–9	2.8	5.8
199	45	3	0	1.5	3.3
	67.5	3	0	2.5	4.2
	90	3	0	3.5	5
	90	3	–4.5	2.5	
112	90	5	0	13.5	24.
	90	5	–6	3.	15.5
	135	5	–9	6.4	11.25
171	90	5	0	15	30
	135	5	–27	12	
	180	5	–40	18	
210	180	7.5	–12	6	11
	250	7.5	–18	10	24
	350	7.5	–27	17	60
	425	7.5	–35	22	
220	90	3	0	9	11
12	90	1.1	0	5	6.5
226	90	1.5	–6	4	10
	135	1.5	–12	4.6	6.6
	180	1.5	–13.5	10	15
227	45	2.5	0	3.1	4.8
	45	2.5	–4.5	.5	4.5
	90	2.5	–9	.9	8.8
	135	2.5	–9	5.3	8.9
	180	2.5	–13.5	6	13
250	250	7.5	–45	28	57
	300	7.5	–54	35	85
	350	7.5	–63	45	90
	400	7.5	–70	55	
	450	7.5	–84	55	
Kellogg	90	3.1	0	8	12
	135	3.1	–4.5	3.5