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FOR SAFETY

INSTRUCTIONS FOR USING
A B C
ENGLISH READING TUBE TESTER
103-130 Volts—60 Cycle

1—PRESS "ADJUST LINE" button and move "LINE" knob until meter needle is at long line, BEFORE PLACING TUBE IN SOCKET.

2—MOVE knobs A B C to positions indicated on the tube chart.

3—PLACE tube in socket.

4—READ tube condition on meter in English.

ELEMENT TESTS. Some tubes have more than one working element, such as the 2A6, which has a triode for amplification and two small diodes for detection and automatic volume control. These elements should be tested separately. Other tubes have a combination of pentode and diodes, pentode and triode, two triodes or combined detector and oscillator. All tubes having these combinations of elements are given proper separate tests. These tests are distinguished by abbreviated markings on the Chart.

Oscillator	.....	OSC
Detector	.....	DET
Triode	.....	TRI
Diodes	.....	DIO
Pentode	.....	PEN

Remove tube from socket whenever changing the knobs for different tests. Treat the two separate tests as two different tubes. Diode tests are properly resisted.

SHORTS. Any short-circuit from plate or screen grid to any other element, will automatically light the "SHORT INDICATOR" lamp brightly. Some of the heavy current drain tubes will cause a slight glow in the indicator lamp when they are being tested. This is caused by heavy drain and is not to be confused with the bright light of a short circuited tube.

CATHODE TO HEATER SHORTS are determined by pressing the "C-H SHORT" button. If there is no short the needle will drop back to zero. A full short from cathode to heater will cause the needle to remain at full reading, dropping back toward zero as the resistance of the short increases.

GRID TO FILAMENT SHORT test may be obtained by pressing the "RECTIFIERS 2ND PLATE" button momentarily. This places the limited plate potential on the grid. If there is no short the needle will go off scale to the right. If the grid-filament is shorted, the SHORT INDICATOR will light and the meter needle will be erratic.

METER GOOD SECTION. If any tube does not come within the limits of "GOOD" section of meter dial, that tube is not within the limits of proper radio use, from basic engineering requirements of the type tube under test. These basic engineering requirements are of years standing and according to, not only normal tube characteristics, but life tests.

HIGH READING TUBES. Any tube, reading to the extreme top of the "GOOD" section has the practical limit of low plate impedance, high mutual conductance or/and presence of some gas before possible noisy or interfering ionizing. This tube has its possibilities however in oscillating or detection under certain set requirements, but is generally out as an R. F. amplifier.

LOW READING TUBES. Any tube, reading to, or very close to, the bottom (left) of the "GOOD" section has one or more of the following:

High plate impedance and/or low mutual conductance or low emission. This tube with its first fault could be used for high-mu with high external plate impedance (such as resistance coupling) or in the second case placed in a first audio in emergency, or thrown out.

GASEOUS RECTIFIERS have full protection under test by special limited currents.

NOISY TUBES. Readings that will not remain constant, creeping, dips, etc., indicates element troubles and probably a noisy action in a radio. Sometimes doubtful elements will show up by tapping the tube while testing.

G2B7S and G6B7S tubes are subject to external capacity, therefore, keep the hands away from these tubes while testing.

FUTURE TUBES. Information will be available from time to time on new tubes produced and will be furnished upon writing to the factory. Always advise the serial number which is stamped on the edge of case.

TO REMOVE INSTRUMENT from case, remove the screws in back of case. DO NOT TOUCH PANEL SCREWS. Lift the instrument carefully and push the A C cord through the rubber grommet while lifting.

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Manufactured by

APPARATUS DESIGN COMPANY, Little Rock, Ark.

TUBE				CHART			
TUBE	KNOBS	TEST		TUBE	KNOBS	TEST	
	A	B	C		A	B	C
00A	-57-	6-	1	58	-57-	4-	6
01A	-57-	6-	1	G58A	-57-	8-	6
01AA	-57-	6-	1	59	-49-	4-	1
KR1	-5-	8-	12	G59B	-53-	4-	1
1V	-9-	8-	12	64	-73-	8-	10
1A6	-73-	3-	8	65	-65-	8-	10
1A6	-53-	3-	2	67	-49-	8-	1
G2	-73-	4-	7	68	-49-	8-	10
2A3	-21-	4-	1	69	-65-	8-	5
2A5	-49-	4-	1	70	-81-	8-	5
2A6	-85-	4-	17	71A	-29-	6-	1
2A6	-73-	4-	16	75	-81-	8-	17
2A7	-73-	4-	15	75	-73-	8-	16
2A7	-53-	4-	18	G75	-73-	8-	17
G2A7	-69-	4-	15	G75	-77-	8-	16
G2A7	-49-	4-	18	76	-49-	8-	1
2B7	-69-	4-	15	77	-69-	8-	6
2B7	-73-	4-	16	78	-57-	8-	6
G4	-73-	4-	7	79	-61-	8-	3
5Z3	-13-	7-	1	79	-77-	8-	4
6A4	-61-	8-	8	80	-17-	7-	1
6Z4	-9-	8-	1	80M	-1-	7-	1
6Y5	-1-	8-	9	81	-17-	9-	1
6Z5	-9-	8-	9	81M	-1-	9-	1
6C6	-65-	8-	6	82	-1-	5-	1
6D6	-61-	8-	6	83	-1-	7-	1
6A7	-73-	8-	15	84	-9-	8-	1
6A7	-45-	8-	18	G84	-21-	4-	1
G6A7	-69-	8-	15	85	-49-	8-	17
G6A7	-45-	8-	18	85	-73-	8-	16
6B7	-65-	8-	15	G85A	-61-	8-	17
6B7	-73-	8-	16	G85A	-77-	8-	16
6C7	-61-	8-	15	89	-41-	8-	6
6C7	-73-	8-	16	G89B	-41-	8-	6
6D7	-65-	8-	15	90	-57-	4-	5
6E7	-61-	8-	15	92	-45-	8-	5
6F7	-61-	8-	15	95	-45-	4-	1
6F7	-73-	8-	14	96	-1-	10-	12
10	-53-	9-	1	98	-1-	8-	1
12A	-41-	6-	1	NU99	-73-	5-	1
12Z3	-5-	12-	12	99	-85-	5-	1
12A5	-37-	11-	19	182A	-37-	6-	1
12Z5	-5-	11-	13	182B	-33-	6-	1
14	-65-	12-	10	183	-29-	6-	1
15	-81-	3-	10	205D	-53-	6-	1
17	-53-	12-	1	257	-37-	6-	8
18	-45-	12-	1	401	-61-	5-	1
19	-73-	3-	2	403	-37-	5-	1
19	-65-	3-	3	445	-29-	4-	1
20	-65-	5-	1	481	-9-	9-	1
NX20	-49-	5-	1	482A	-37-	6-	1
KR20	-57-	4-	5	482B	-37-	6-	1
KR22	-45-	8-	5	483	-33-	6-	1
22	-73-	5-	10	484A	-49-	5-	1
24A	-65-	4-	10	485	-53-	5-	1
KR25	-45-	4-	1	486	-81-	5-	1
25Z5	-5-	13-	11	686	-81-	5-	1
26	-53-	2-	1	841	-85-	9-	1
27	-53-	4-	1	842	-41-	9-	1
KR28	-1-	8-	1	864	-69-	1-	1
29	-69-	4-	5	866	-1-	5-	1
30	-57-	3-	1	871	-1-	5-	1
31	-41-	3-	1	985	-5-	7-	1
32	-69-	3-	10	986	-1-	7-	1
33	-45-	3-	8	AD	-5-	8-	12
34	-69-	3-	10	AF	-1-	5-	1
35	-61-	4-	10	AG	-1-	7-	1
36	-65-	8-	10	GA	-53-	6-	8
36X	-61-	8-	10	LA	-49-	8-	8
37	-49-	8-	1	PZ	-49-	4-	8
38	-53-	8-	10	PZH	-41-	4-	1
39	-65-	8-	10	WUND			
41	-49-	8-	1	2.5-	-57-	4-	5
42	-45-	8-	1	WUND			
43	-29-	13-	1	6.3	-57-	8-	5
44	-61-	8-	10				
45	-33-	4-	1				
46	-45-	4-	8				
47	-49-	4-	8				
48	-21-	14-	1				
49	-49-	3-	8				
50	-33-	9-	1				
51	-65-	4-	10				
G51	-65-	4-	10				
52	-37-	8-	8				
G53	-65-	4-	3				
G53	-73-	4-	4				
53	-65-	4-	3				
53	-77-	4-	4				
55	-49-	4-	17				
55	-73-	4-	16				
56	-49-	4-	1				
57	-65-	4-	6				
G57A	-61-	8-	6				

Wonderlich Test

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ADDITIONAL
TUBES

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CLIP FROM TOP
CAP TO PLATE
HOLE IN ANY
SOCKET



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