THE

HICKOK

ELECTRICAL

INSTRUMENT

COMPANY

MODEL 800

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

CHOICE OF THE EXPERTS FOR SPEED, ACCURACY and DEPENDABILITY . . .

OPERATING INSTRUCTIONS

FOR

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

MODEL 800

THE HICKOK ELECTRICAL INSTRUMENT COMPANY
10514 Dupont Avenue - Cleveland 8, Ohio

2490-335

FUSE PROTECTION

The primary of the power transformer is protected with an 81 lamp. This lamp acts as an overload indicator as it will glow when heavy current is drawn from the transformer; this lamp will glow slightly when testing certain tubes that draw high filament and plate current. However, if the 81 lamp flares up brightly stop the test at once and re-check the roll chart settings and remake the leakage test.

The Bias fuse protects the bias potentiometer. It is a 49 lamp and if it glows even slightly, recheck the settings and remake the leakage test.

STANDARD EIA GUARANTEE

The Hickok Electrical Instrument Company warrants instruments manufactured by it to be free from defective material or factory workmanship and agrees to repair such instruments which, under normal use and service, disclose the defect to be the fault of our manufacturing. Our obligation under this warranty is limited to repairing any instrument or test equipment which proves to be defective, when returned to us transportation prepaid, within 90 days from the date of original purchase, and provided the serial number has been made known to us promptly for our records.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons or service stations in any way so as, in our judgment, to injure their stability or reliability, or which have been subject to misuse, negligence, or accident, or which have had the serial number altered, effaced or removed. Neither does this warranty apply to any of our products which have been connected, installed, or adjusted otherwise than in accordance with the instructions furnished by us. Accessories, including all vacuum tubes not of our manufacture, used with this product are not covered by this warranty.

This warranty is in lieu of all other warranties expressed or implied, and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

Parts will be made available for a minimum period of five years after the manufacture of this equipment has been discontinued. Parts include all materials, charts, instructions, diagrams, accessories, etc., which have been furnished in the standard model.

RETURNING EQUIPMENT FOR REPAIR

Before returning any equipment for service, under warranty or otherwise, the factory must first be contacted giving the nature of the trouble. Instructions will then be given for either correcting the trouble or returning the equipment. Upon authorization, this equipment should be forwarded directly to the Hickok factory address, 10636 Leuer Avenue, Cleveland, Ohio, or to a designated service station in your locality. All correspondence pertaining to repairs should be directed to the Hickok office address, 10514 Dupont Avenue, Cleveland 8, Ohio, or to the authorized service station designated.

REGISTRATION CARD

The above guarantee is contingent upon the attached registration card being returned to the factory immediately upon receipt of the equipment.

THE HICKOK ELECTRICAL INSTRUMENT COMPANY
Cleveland, Ohio

NOTE

See instructions for filament continuity on page 5, paragraph 15.

To test ACORN TUBES type numbers 6F4, 6L4, 954, 955, 956, 957, 958, 959, 5731, 9004, and 9005 on the Model 800 Tube Tester requires the use of adapter code number 1050-9.

This adapter will be supplied on special order.

An adapter for subminiature tubes is available on special order.

AUTOMOBILE RADIO TUBES

It often happens that automobiles operated at night with radio, light, fans, etc., all turned on at the same time, put such a severe load on the auto battery that the battery is unable to deliver full voltage especially in slow moving traffic or when waiting for traffic light. If auto radio trouble is experienced much time can be saved by first checking the tubes at 6.3 volts, then switching the filament voltage to 5 volts. If tube reading drops markedly at 5 volts the tube should be replaced.

If the automobile has 12 volt radio system, first check the tubes at 12.6 volts, then drop to 10 volts for recheck.

OPERATING INSTRUCTIONS

FOR

DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

MODEL 800

The Instrument Packed Herewith is:_____

1. Model 800 Vacuum Tube Tester_____

Accessories included with the Model 800 tester are:

1 - Booklet Instructions for Model 800_____

1 - Grid Lead with Clip_____

Serial Number_____

Signed:_____

Instruction for operation of Model 800.

Read these instructions through before attempting to operate the Tester.

1. This instrument is designed to operate on 50 to 60 cycles 110-125 volt power source.

2. There are two rectifier tubes, an 83 and a 5Y3GT, necessary to operate this tester. They are included. The line fuse lamp is a standard #81 auto lamp. The bias fuse is a standard 49 lamp.

3. Line Voltage Adjustment:

Turn the power on by rotating the LINE ADJUST knob clockwise from its OFF position. Holding down button P7 will cause the meter pointer to move up scale. The button is held down while the LINE ADJUST knob is turned until the meter pointer rests exactly over the LINE TEST mark at the center of meter scale. This establishes standard voltages on the tube. Make final line adjustment after the tube being tested is placed in its socket.

4. SELECTORS - The row of selector knobs across the center of the control panel is for the purpose of conducting proper voltages to the tube's base pins. The operation of setting these selector knobs is similar to dialing a telephone number. On the roll chart, below the word SELECTORS appear the dialing numbers. These dialing numbers consist of two letters and five figures. Example: JR-6237-5. Starting at the left, the first knob (FIL) is turned until it points to

the letter J, the second knob (FIL) is turned to R, the third knob (GRID) to 6, the fourth (PLATE) to 2, the fifth (SCREEN) to 3, the sixth (CATHODE) to 7, and the seventh (SUPPRESSOR) to 5.

The selector system is designed to minimize selector settings. For example, the filament setting is nearly always JR. These two knobs seldom need resetting. Also in testing duo-diode-triode tubes the amount of selector setting has been reduced to a minimum.

5. LEAKAGE OR SHORTS - Before making a quality check on a tube under test, a LEAKAGE CHECK must be made. This is accomplished by rotating the leakage switch, located in the lower right hand corner of the panel, from TUBE TEST through its five positions and back to TUBE TEST position, while tapping the tube and watching the meter for leakage indications. The meter will indicate leakage in ohms up to 10 megohms on the leakage scale which is just below the REPLACE-GOOD SCALE.

An asterisk * near the 200,000 ohm mark on the leakage scale, indicates the approximate value where a lamp in a conventional neon lamp short test would glow. Tubes showing leakage to the right of this mark should be discarded without further test, unless specified otherwise, in notations column. By using the meter to indicate leakage a more accurate check is provided. This is helpful in selecting tubes, especially those with high heater to cathode leakage (Position No. 1) for special applications.

With tubes having more than one section such as the 12AV6, make a leakage check for each section.

LOCATING LEAKAGE BETWEEN ELEMENTS. In the following table (X) under any leakage switch position, indicates leakage between elements shown.

Kind of Short	1	2	3	4	5
Htr-Cath	X				
Htr-Grid		X			
Htr-Scrn		X	X		
Htr-Plt		X	X	X	
Htr-Sup		X	X	X	X
Cath-Grid	X	X			
Cath-Scrn	X	X	X		
Cath-Plt	X	X	X	X	
Grid-Scrn			X		
Grid-Plt			X	X	
Grid-Sup			X	X	X
Scrn-Plt				X	
Scrn-Sup				X	X

6. MUTUAL CONDUCTANCE - If the tube passes the preliminary leakage test it is then tested for MUTUAL CONDUCTANCE which is the best test for amplifier tubes. Turn the leakage switch to TUBE TEST position. On the roller chart, reading from left to right, opposite the tube type appear: FIL. VOLTAGE; SELECTORS, which were explained in paragraph (4) above; BIAS, which gives the setting for the BIAS dial; SHUNT, which gives the setting for the SHUNT dial; PRESS, which indicates the push button to be pressed for meter reading; MUT-

COND. which gives the AVERAGE MUTUAL CONDUCTANCE in MICROMHOS of the tube being tested. Under the heading NOTATIONS appear special notes pertaining to the testing of the tube. The SHUNT setting is used when it is desired to read the value of the tube on the RED-GREEN (GOOD & REPLACE) sector of the meter scale. When using the SHUNT scale the MICROMHO readings are disregarded.

NOTE

Tubes having less than 500 Micromhos cannot be made to read in the GREEN sector of the meter scale. Such tubes list micromho reading only and are good if the reading is above a specified minimum.

Micromhos are indicated in three ranges 0-3000, 0-6000, 0-15,000.

a. On the SHUNT dial are three dots stamped into the metal and filled with red lacquer. These dots are the points used in setting the micromho ranges.

b. The dot near 73 on the dial is the setting point for the 3000 micromho scale.

c. The dot near 86 is the point for the 6000 micromho scale.

d. The dot near 92 is the point for the 15,000 micromho scale.

e. When reading micromhos the RED and GREEN sectors of the meter scale are disregarded.

f. When testing for mutual conductance the push switch P4--Gm is pressed. Gm is the symbol for mutual conductance.

CAUTION: Do not press P4 when testing rectifier tubes.

g. Tubes having more than one section, such as the 6J6, require different dial settings for each section.

7. RECTIFIER TUBE TEST - Rectifier tubes, including diode tubes and diode sections of multiple element tubes, having no mutual conductance are tested for emission only.

a. The push switch P1 is used when testing detector diodes. It applies a low voltage which will not injure the delicate cathode. Good diodes will cause the pointer of the meter to move above the point marked DIODES OK.

b. The push switch P2 is used when testing cold cathode rectifiers such as the OZ4. This applies a voltage sufficiently high to ionize the tube and start conduction. Good tubes will read in the green (GOOD) sector of the meter scale.

c. The push switch P3 is used when testing ordinary rectifier tubes, such as the 5Y3. This applies a medium voltage which is best adapted to reveal defects in this type of tube. Good tubes will read in the green (GOOD) sector of the meter scale.

NOTE

On the data chart a star (*) following P1, P2, P3, and P5 indicates that the SHUNT setting only is used.

8. GAS TEST - The push switches P5 and P6 are used to test an amplifier tube for gas content.

a. Set the SHUNT dial at 73.

b. The push switch P5 is pressed and held down while the BIAS dial is turned to cause the pointer of the meter to indicate 100 micromhos on the 0-3000 scale.

c. Hold down P5 and press P6.

d. If the tube contains gas the pointer of the meter will move UP the scale. If the pointer movement is not more than one division of the scale the gas content is satisfactory.

NOTE

With some tubes, such as the type 45, the micromhos reading cannot be brought down to 100 by turning the BIAS dial. In such case turn the BIAS dial to 100 and test for gas.

e. Some tubes develop gas after being heated for a period of time. If a tube is suspected, allow it to heat for a few minutes.

9. METER REVERSE - With certain tubes, such as the 117N7, the meter will deflect backwards (to the left) when push switch P3 is pressed for rectifier test. In such a case push P6 also. This will cause the pointer of the meter to move up the scale.

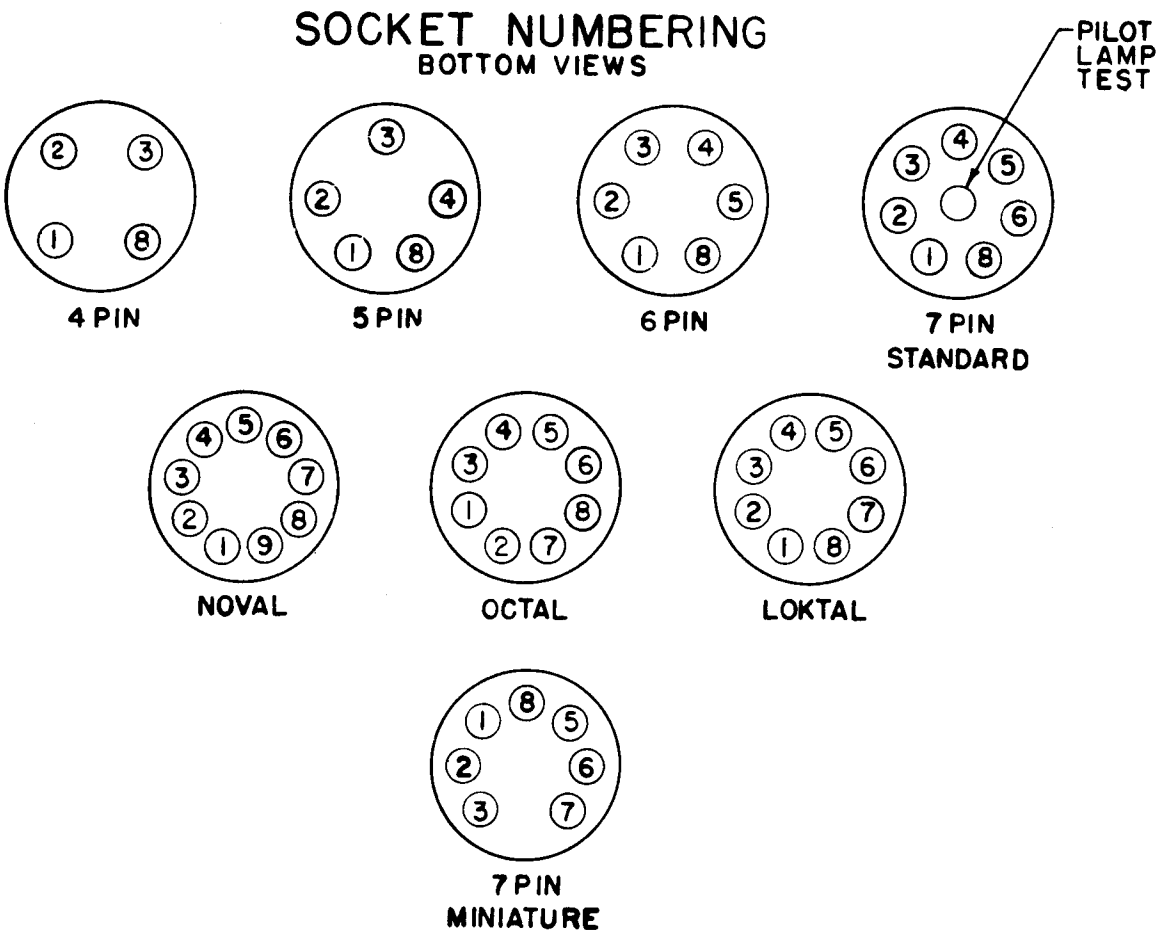
10. TOP CAPS - There are two jacks in the upper center of the control panel marked GRID and PLATE. These are used when making connection to the top cap of the tube being tested. On the data chart in the NOTATIONS column opposite tube types having top caps is the notation CAP=G or CAP=P. G means that the top cap is connected to GRID jack and P that it is connected to the PLATE jack.

11. SOCKET NUMBERING - In order to reduce selector set-up to a minimum, the socket contacts are numbered as shown on Plate 1 which shows the bottom

views. The numerical values of the lettered dials is as follows:

0	----	A	----	P
1	----	B	----	R
2	----	C	----	S
3	----	D	----	T
4	----	E	----	U
5	----	F	----	V
6	----	G	----	W
7	----	H	----	X
8	----	J	----	Y
9	----	K	----	Z
10	----	L	----	N
11	----	M	----	O

The letter I was omitted because of its resemblance to the figure 1. The letter Q was omitted because of its resemblance to the figure 0.



NOTE

The center of the large 7-pin socket is used to check pilot lamps. Set the filament selector switches on JR. Set the filament voltage switch to the proper voltage for the lamp being tested.

12. SPECIAL NOTES - Power line voltage varies with different localities. It may also vary with different hours of the day.

While a national survey indicates that the average voltage for the USA is about 117 volts, it does not mean that every locality maintains a constant voltage at that level.

Occasionally we have had the complaint that a used tube will test GOOD, but will not work in the radio receiver; but when a NEW tube is substituted, the receiver will operate correctly. The answer is this: Tubes are built to specifications. Our tube testers are designed to test tubes in conformity with these specifications.

The used tube that would not perform in a certain receiver was not receiving its specified filament voltage. The new tube performed because of its initial reserve capacity. The used tube would have performed if it had received its specified filament voltage.

Tube failure frequently occurs in A. C.--D. C. sets where several tubes are connected with their heaters or filaments in series. Sometimes, even though the power line voltage is normal, a series tube with abnormally high filament resistance will rob its companion tube of its normal filament voltage. The robbed tube apparently fails; but when tested under specified conditions, the tube will test GOOD.

13. The versatility of the Hickok Dynamic Mutual Conductance Tube Tester makes possible a special test that will reveal a tube's ability to perform under adverse conditions as mentioned above. This is possible because the tester measures mutual conductance instead of emission.

THE TEST

a. Measure the mutual conductance in the ordinary way.

b. Press P4 and adjust the SHUNT dial until the tube reads in the GREEN (GOOD) sector at 2000 on the 0-3000 scale.

c. While holding everything else constant, reduce the FILAMENT voltage and note the new reading.

d. If the meter still reads in the GREEN (GOOD) sector, the tube has a large life reserve and will perform satisfactorily.

e. The filament voltage reductions to be made are shown in the following table:

NORMAL FIL.VOLTS	REDUCE TO
1.5	1.1
2.0	1.5
2.5	2.0
3.0	2.5
5.0	4.3
6.3	5.0
7.5	6.3
10.0	7.5
12.6	10.0
35.0	25.0
50.0	35.0

14. CONTINUITY TEST - The Model 800 Tube Tester can be used to test for continuity through resistances up to more than 10 megs.

a. Set SHORTS switch on position 4.

b. Connect two leads having prods and pin tips to the jacks marked PLATE and GRID.

c. Touch the prods to the terminals through which continuity is to be determined.

d. The meter will indicate continuity.

15. FILAMENT AND HEATER CONTINUITY

1. Turn tester on.

2. Set selectors as per chart for tube to be tested.

3. Set LEAKAGE switch on position 5.

4. Set FILAMENT switch on BLST instead of voltage indicated on chart.

5. Place tube in proper socket.

If the meter reads, the filament is good and a complete test should then be made on the tube, by setting FILAMENT switch on the proper tap, and while the tube heats, rotate the LEAKAGE switch several times thru all positions. If leakage is satisfactory, set the switch in TUBE TEST position and proceed to test the tube as per chart.

If the meter does not read, filament is open and further test is unnecessary. Certain tubes such as the 35Z5-50Z7, etc. with tapped filaments have special continuity test settings, see roll chart:

SERIES STRING HEATER CONTINUITY

On the 800 it is possible to make a fast check of filament continuity on a complete set of tubes from a radio or T.V. set without resetting the selector switches.

For tubes with filament or heaters on 7 & 8, 4 & 5, 3 & 4, 2 & 7, 1 & 8*, 1 & 7, set the SELECTORS on BS 34578; set the FILAMENT switch on BLST; and the LEAKAGE switch on Position 4. Turn tester on and adjust to line test.
(These switch positions are marked in red).
Lightly insert each tube in tester socket just far enough for pins to make contact with socket contacts--it is not necessary to push tubes completely into socket.
If the filament is not open the meter will move up scale indicating filament continuity.

* For battery type tubes with filament on 1 & 7 set LEAKAGE switch on position 2.

TO TEST BALLAST TUBES

1. Turn Tester on.

2. Set filament switch to BLST.

3. Set SHORT TEST switch on 5.

4. Set first selector switch (lettered A to K) to letter shown in column marked (first selector) -- Set all numbered selectors on zero.

5. ROTATE second selector switch (lettered P to Z) from P to Z. METER SHOULD INDICATE CONTINUITY IN POSITIONS NOTED.

TUBE TYPE	First Selector	Neon lamp should light in these positions.						
1A1-1B1-1C1-1E1-1F1-1G1-1J1-1K1-1L1-1N1-1P1-1Q1-1R1G-1S1G-1T1G-1U1G-1V1-1Y1-1Z1-2	J	R						
2UR224	J			T				X
2LR212	H	R	S		U			
3	J	R						
03G	J			T				
4-5	J	R						
6-133	J			T				
6-6AA	J	R						

TUBE TYPE	First Selector	Neon lamp should light in these positions							
7-8-9	J	R							
10A-10AG	J			T					
10AB	J			T					X
K17B-M17C-BM17C	J			T					X
M17HG-M17H	J		S						X
	D	R							
K23B-K23C-KX23B-KX30C	J			T					X
M30H	J		S						X
	D	R							
30A-K30A	J			T					
K30D	J	R		T					X
33A-33AG	J			T					
K34B	J			T					X
36A	J			T					
K36B-BK36B-L36B-BM-L36C-KX36C	J			T					X
KX36A	J	R							
36D-L36D	J	R		T					X
L36DJ	J	R	S	T	U				X
K36H-M36H-M36HG	J		S						X
	D	R							
L40S1-L40S2	J	R		T		V			
42A	J			T					
42A1	H				U				
42A2-42B2	H		S		U				
K42B-L42B-M42B-KX42B-LX42B-L42BX-K42C L42C-M42C	J			T					X
KB42D-K42D-L42D	J	R		T					X

TUBE TYPE	First Selector	Neon lamp should light in these positions						
LX42D-L42DX	J	R	S	T				
K42E-L42E	J			T				X
L42F	J							X
	D	R						
42HA-K42HJ-M42H-M42HG	J		S					X
	E	R		T				
KX42C	J			T				X
L42S1	J	R		T		V		
49A-49AJ-K49AJ	J			T				
KX49A	J			T				X
49A1	H				U			
49A2-49B2	H		S		U			
K49B-L49B-M49B-BM49B-K49C-M49C-BM49C-BK49C-K49E-L49E	J			T				X
K49D-BK49D-L49D	J			T				X
L49F	J							X
	D	R						
M49H-M49HG	J		S					X
	D	R						
KZ49B-KZ49C	J	R				V		
K49BJ-L49BJ	J			T	U			X
L49S2	J	R		T		V		
49AJ-K49AJ	J			T				
KX49B-LX49B-LX49C	J			T				X
L49DJ	J	R		T	U			X
L49S3	J	R		T		V		
50A2	J	R		T				
50A2MG-50B2	J	R				V		

TUBE TYPE	First Selector	Neon lamp should light in these positions						
50X3	J	R						
K52H-M52H	J		S					X
	D	R						
K54B	J			T				X
55A-K55A	J			T				
55A1	H				U			
KX55A	J	R						
55B-K55B-M55B-BM55B-L55BG-LX55B	J			T				X
55A2-55B2	H		S		U			
K55C-L55C-KX55C	J			T				X
K55CP	J			T		V		X
K55D-L55D	J	R		T				X
L55E-M55E	J			T				X
L55F-M55F-BL55F	J							X
	D	R						
K55H-M55H-M55HG	J		S					X
	D	R						
L55S1-L55S2	J	R		T		V		X
60R30G	J	R		T				
64. 23	J			T				
67A	J			T				
K67B-L67B	J			T				X
L73B-K74B-L74B-CX74C	J			T				X
80A	J			T				
K79B-K80B-M80B-K80C-KX80B-L80B	J			T				X
K80F	J							X
	D	R						

TUBE TYPE	First Selector	Neon lamp should light in these positions						
KX87B-LX87B-L90B	J			T				X
K90F-M90F-K92F-M92F	J							X
	D	R						
92A	J			T				
L92B-95K2	J			T				X
L99D	J	R		T				X
100R8	J			T				X
120R	J	R						
120RS-135K1	J			T				X
135K1A	J			T	U			X
140L4-140L8-140R4-140R8	J	R		T				
140R	J	R						
140L44-140R44	J	R	S	T				
165L4-165R4-165R8	J	R		T				
165R	J	R						
165L44-165R44	J	R	S	T				
185L4-185L8-185R4-185R8	J	R		T				
185R	J	R						
185L44-185R44	J	R	S	T				
200R-250R	J	R						
250R8-290L4	J			T				X
300R4-320R4	J			T				X
340	J	R						
808-1	J			T	U			X
E14980-W43357-W4588-3613	J			T				X

TUBE TYPE	First Selector	Neon lamp should light in these positions						
3334-3334A	J	R		T				X
8593-8598-8601-8664	J			T				X
3ER248	J	R		T	U			X
3CR241	J	R		T				X

CHECKING TRANSISTORS AND DIODES ON THE MODEL 800

Transistors - PNP - NPN

Testing Junction and Point Contact transistors:

Rotate LEAKAGE SWITCH (lower right corner of panel) clockwise from TUBE TEST to TRANSISTOR TEST.

1. Insert the transistor to be checked in the proper socket, PNP or NPN. Consult manufacturer's data to determine the type. Transistors can be damaged if inserted in wrong socket.

2. SHUNT dial is adjusted until meter reads full scale (or to the maximum reading possible if transistor will not cause meter to read full scale). If meter fails to read, transistor is open or defective.

3. Push slide switch from GAIN to LEAKAGE position. Meter will now read leakage current. If reading is in the POOR area, the transistor should be discarded.

Rectifiers - Copper Oxide, Selenium, and Silicon

The red (+) and black (-) jacks, located near the transistor test sockets are used to check the forward to reverse conduction ratio of rectifiers. Rectifiers must be disconnected from its circuit when testing.

1. The positive terminal of the rectifier is connected to the black (-) jack. The negative terminal of the rectifier is connected to the red (+) jack. When connected this way the rectifier is biased in the forward direction.

2. Rotate leakage switch (lower right corner) clockwise from TUBE TEST to TRANSISTOR TEST.

3. Adjust shunt dial for full scale deflection of meter (100%).

4. Connections to rectifier are then reversed, rectifier is then biased in reverse direction. Rectifiers that read 10% or more in reversed direction are probably defective and should be replaced.

Diodes - Silicon and Germanium

1. Diodes are checked by the same procedure as testing rectifiers, because they rectify but do not handle large currents like power rectifiers.

Some knowledge of the characteristics of the diode being tested will help because some high conduction diodes used in video detectors, can be rated good if they produce a 10:1 (10%) forward to reverse conduction ratio.

PARTS LIST FOR MODEL 800 TUBE TESTER

NOTE: There is a minimum charge of $1.50 for any parts order

Hickok Code No.	Name and Description	Ref. Symbol or Function
2490-335	BOOKLET, Instruction	
2920-7	BUTTON, Push, black	
2920-8	BUTTON, Push, red	
3110-7	CAPACITOR, .005, Ceramic	
3105-206	CAPACITOR, .5 - 200 volt	
3085-45	CAPACITOR, 50 mf, 6 volt DC	
3200-47	CHART, Roll, tube data	
4160-67	DIAL, Bias	
4160-73	DIAL, Shunt	
10300-1	JACK, Pin, red	
10300-2	JACK, Pin, black	
11500-11	KNOB, Pointer	
11505-46	KNOB, No pointer	
12270-2	LAMP, Fuse, #81	
12270-17	LAMP, Fuse, #49	
12450-145	LEAD, CAP	
660-114	METER	
16926-4	POTENTIOMETER, Shunt, dual, 150 Ohms	
16926-5	POTENTIOMETER, Bias, 3000 ohms, tapered	
18410-472	RESISTOR, 47 ohms	
18422-122	RESISTOR, 1200 ohms, 1 watt, 10%	
18423-151	RESISTOR, 15,000 ohms, 1 watt, 5%	
18525-544	RESISTOR, 12 ohms, 1/2 watt, 1%	
18525-89	RESISTOR, 215,000 ohms, 1 watt, 1%	
18575-12	RESISTOR, 1800 ohms, 10 watt, 10%	
18575-19	RESISTOR, 100 ohms, 10 watt, 10%, center tapped	
18575-139	RESISTOR, 8500 ohms, 10 watt, 10%, adjustable	
18540-5	RESISTOR, 200 ohms, 2 watt, 1%	
18750-27	RHEOSTAT, 150 ohms, 25 watt	
19350-93	SOCKET - 4 pin	
19350-94	SOCKET - 5 pin	
19350-95	SOCKET - 6 pin	
19350-96	SOCKET - 7 pin	
19350-76	SOCKET - 7 pin miniature	
19350-97	SOCKET - loctal	
19350-99	SOCKET - octal	
19350-62	SOCKET - noval	
19910-95	SWITCH - Push button	
19912-202	SWITCH - Filament volts	
19912-203	SWITCH - Leakage	
19912-336	SWITCH - Selectors - Filament - Grid	
19912-337	SWITCH - Selectors - Plate - Screen - Cathode - Suppressor	
20800-219	TRANSFORMER	
20875-6	TUBE - 5Y3 GT/G	
20875-28	TUBE - 83	

926W

PANEL LAMP TEST SOCKET — OCTAL — LOCTAL — NOVAL — MIN.

FUSE

R1 150Ω

OFF

117 · 75 · 50 · 35 · 25 · 20 · 12.6 · 10 · 7.5 · 6.3 · 5.0 · 4.3 · 3.0 · 2.5 · 2.0 · 1.5 · 1.1 · .6 · BLST. · OFF

R20 200Ω

R2 50Ω

R3 50Ω

METER 500μA 233Ω

C1 50μF-6V

R4 12Ω

R5 1.2K

R6 1.8K

R7 215K

R8 133Ω

R9 150Ω

R10 150Ω

C3 .0027

P7 P6 P5 P4 P3 P2 P1

5Y3GT

R12 47Ω

BIAS FUSE

R13 220K

R14 220K

R18 15K

R15 8.5K

R16 3K

R17 180K

C2 .5μF-200V

R11 112K

R18 47Ω

R19 680Ω

SELECTOR NO. 1 (FILAMENT POS.)

SELECTOR NO. 2 (FILAMENT NEG.)

SELECTOR NO. 3 (GRID)

SELECTOR NO. 4 (PLATE)

SELECTOR NO. 5 (SCREEN)

SELECTOR NO. 6 (CATHODE)

SELECTOR NO. 7 (SUPPRESSOR)

GRID CAP

PLATE CAP

SHORT TEST SWITCH

LEFT END OF ALL SWITCHES IS THE KNOB END.

*FRONT AND REAR SECTIONS ELECTRICALLY CONNECTED.

←FRONT OF SECTIONS

←REAR OF SECTIONS

NOTES:
1. RESISTANCES SHOWN IN OHMS (Ω). K=1000 OHMS.
2. ┼ = NO CONNECTION
   ┼ = CONNECTION.
3. SWITCHES VIEWED IN EXTREME COUNTER-CLOCKWISE POSITION.

DRAWING NUM 926 W

SCHEMATIC WIRING DIAGRAM

MODEL 800 TUBE TESTER

DRAWN & TRACED	CHECKED	APP'D	DAT
LDD	11-6-M	8-5	8-11-

THE HICKOK ELECTRICAL INSTRUMENT C

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