

THE
HICKOK

ELECTRICAL
INSTRUMENT
COMPANY

OPERATING INSTRUCTIONS
MICROMHO DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER
Model 750

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

OPERATING INSTRUCTIONS
FOR
MICROMHO DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER
MODEL 750
APPLICABLE TO TESTERS HAVING SERIAL NUMBERS
ABOVE 149-10,000

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THE HICKOK ELECTRICAL INSTRUMENT COMPANY
10514 Dupont Ave.
Cleveland 8, Ohio

STANDARD RETMA 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 ninety (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 (5) years after the manufacture of this equipment has been discontinued. Parts include all materials, charts, instructions, diagrams, accessories, et cetera, 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 located at 10636 Leuer Avenue, Cleveland 8, Ohio, or to a designated service station in your locality. All correspondence pertaining to repairs should be directed to Hickok Electrical Instrument Company, 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.

IMPORTANT

SEE INSTRUCTIONS FOR TESTING
FILAMENT CONTINUITY ON PAGE 4.

FUSE IN BIAS CIRCUIT

This Tube Tester is equipped with a fuse in the Grid Bias Circuit as a protection for the Bias Potentiometer in case an attempt is made to test a shorted tube.

NOTE: ALWAYS MAKE SHORT CHECK BEFORE MAKING QUALITY TEST.

The fuse is mounted in the main control panel where it is readily visible.

A burned out bias fuse lamp will result in failure of the mutual conductance meter to read when the Gm button is pressed. If the fuse lamp burns out, replace only with a No. 49 Panel Lamp.

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.

HICKOK MODEL 750 MICROMHO DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER

PACKER'S CHECK

MODEL 750 TUBE TESTER

SERIAL NUMBER _____

INSTRUCTION BOOK, MODEL 750 _____

DATE _____

SIGNED _____

PACKER

NOTE

READ INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO OPERATE THIS TUBE TESTER.

SECTION IDESCRIPTION**I. PURPOSE**

a. The Model 750 Tube Tester is used to test and measure mutual conductance values of vacuum tubes used in radio receivers and transmitting tubes delivering less than 25 watts of power.

b. The Model 750 Tube Tester is fundamentally of the Dynamic Mutual Conductance type designed to provide either REPLACE---GOOD readings or mutual conductance values in micromhos. Provision is made for locating shorts and leakages between tube elements. A sensitive noise test is also provided.

c. Mutual conductance values can be read in five ranges: 0-1500, 0-3000, 0-6,000, 0-15,000, and 0-30,000. Included in this tube tester are RED-GREEN scales. (GOOD-BAD). Also a 0-200 DC Voltmeter and 0-100 DC mils scale are included, which are used for the accurate testing of voltage regulation tubes.

d. Gas Test: Provision is made to test amplifying vacuum tubes for gas content. Gassy tubes will ruin the automatic volume control or intermediate stages of a radio receiver.

2. TUBE COMPLEMENT

The Model 750 requires one #83 mercury vapor rectifier and one 5Y3GT vacuum rectifier tube for its operation. These tubes are supplied and installed in the tube tester. The fuse lamp is a standard #81 auto lamp. The neon short test lamp, when used, is a type N.E. 51, 1/25 watt bayonet base.

SECTION IIFUNCTIONS OF THE COMPONENTS**3. LINE VOLTAGE ADJUSTMENT**

The Model 750 Tube Tester operates from A.C. power lines of 105 to 125 volts, 60 cycles. After the power is turned on, press the push switch P7 (LINE ADJ.) which will cause the indicating meter pointer to move up scale. The button P7 is held down and the knob, LINE ADJUST, is turned until the meter pointer rests exactly over the mark, LINE TEST, at center of the meter scale. This establishes standard voltages to the tube elements. This adjustment is made with the control settings properly arranged for the tube being tested and with the tube in its test socket.

4. SELECTORS

The row of selector dials 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 dials is similar to DIALING A TELEPHONE NUMBER. On the roll data 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 dial is turned to the letter "J". The second dial is turned to "R". The third dial indicates 6; the fourth, 2; the fifth, 3; the sixth, 7 and the seventh, 5. The lettered dials control the filament or heater connections. The numbered dials control the GRID, PLATE, SCREEN, CATHODE and SUPPRESSOR in that order. In the example given above the heater terminals are connected to pins

8 and 1. The GRID is connected to pin 6, PLATE, to pin 2; SCREEN, to pin 3; CATHODE, to pin 7 and SUPPRESSOR, to pin 5.

These dial switches are electrically interlocked in such a way that it is impossible to connect two different voltage elements to the same pin. Thus accidental shorts are avoided. The sockets are numbered according to the RETMA system.

5. SHORT TEST

Turning the SHORTS switch successively through the position 1-2-3-4-5 connects the various pairs of elements in turn across the test voltage.

Tubes having shorted elements will complete the circuit and cause the meter to move up scale or the neon SHORT lamp will glow steadily in certain positions of the SHORTS switch.

A leakage resistance of 10 megohms will cause the meter to begin to indicate and a complete short will cause the meter to deflect full scale to give a zero ohms reading. A shorted tube should be discarded.

TESTERS WITH NEON INDICATOR

An improved Short Test is incorporated in the design of this tube tester. Wide experience has demonstrated that most satisfactory results are obtained when tubes are classified for short test purposes.

The toggle switch is thrown to miniature and subminiature position for all subminiature, button seven pin and button nine pin tubes. The other position is used for tubes having regular base pins, including octal base tubes.

HEATER CATHODE LEAKAGE

A particularly troublesome defect in tubes, especially those used in television, is a leakage between heater and cathode. This leakage may be quite high, sometimes running to several megohms. It may be too high to cause the neon lamp to glow in the ordinary way. However, these leaks may be detected on your Model 750.

You will note that a heater-cathode short will cause the neon lamp to glow on position 1 (one). While the short switch is resting on position 1, during short test operation a condenser will be charging through the leak. If the switch is turned from position 1 to position 2, a sharp flash of the neon lamp will be seen. This will not repeat until the switch is again turned to position 1 allowing the condenser to recharge through the leakage. Many baffling cases of trouble can be located in this way.

6. LOCATING SHORTED ELEMENTS

In the following table (X) under any SHORT switch position indicates leakage between elements shown.

KIND OF SHORT	1	2	3	4	5
HEATER - CATH	X				
HEATER - GRID		X			
HEATER - SCR N		X	X		
HEATER - PLT		X	X	X	
HEATER - SUP		X	X	X	X
CATH - GRID	X	X			
CATH - SCR N	X	X	X		
CATH - PLT	X	X	X	X	
GRID - SCR N			X		
GRID - PLT			X	X	
GRID - SUP			X	X	X
SCR N - PLT				X	
SCR N - SUP				X	X

The following table is used in conjunction with the neon lamp short test indicator.

KIND OF SHORT	1	2	3	4	5
HEATER - CATH.	X				
HEATER - GRID.	X	X			
HEATER - SCR N.	X	X	X		
HEATER - PLT.	X	X	X	X	
HEATER - SUP.	X	X	X	X	X
CATH. - GRID.		X			
CATH. - SCR N.		X	X		
CATH. - PLT.		X	X	X	
CATH. - SUP.		X	X	X	X
GRID. - SCR N.			X		
GRID. - PLT.			X	X	
GRID. - SUP.			X	X	X
SCR N. - PLT.				X	
SCR N. - SUP.				X	X
PLT. - SUP.					X

7. NOISE TEST

The short test circuit is also used in making noise tests on vacuum tubes. Connections are made from the noise test jacks to the antenna and ground posts of any radio receiver. The tube under test is tapped with the finger as the SHORTS switch is turned through positions 1-2-3-4-5.

Intermittent disturbances which are too brief to register on the meter (neon lamp) will be re-produced by the loud speaker as static.

8. GAS TEST - DOES NOT APPLY TO RECTIFIER TUBES.

The push switch P5 (Gas 1) and P6 (Gas 2) are used to test an amplifier tube for gas content.

The MICROMHO switch is set on 3000.

a. The push switch P5 is pressed and held down while the BIAS dial is turned to cause the pointer of the indicating meter to read 100 micromhos.

b. P5 is held down and P6 is pressed.

c. If the tube contains gas the meter pointer will move up the scale. If the pointer movement is not more than two

small divisions of the scale the gas content is satisfactory.

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. DYNAMIC MUTUAL CONDUCTANCE

In the lower right hand corner of the control panel is the FUNCTION SWITCH which controls the various functions of the tube tester. The ranges are lettered A, B, C, D, E, F, G, H. On the roll chart under the heading RANGE for each tube type appears the letter showing the range at which the FUNCTION switch is to be set when testing that tube. The function switch ranges A and B refer to the RED-GREEN ranges A and B on the meter scale.

When using the RED-GREEN ranges A and B, good tubes will read in the green sector of the range. This is true for amplifier, diode and rectifier tubes. The micromho ranges are C, 0-3000; D, 0-6000; E, 0-15,000; F, 0-30,000; and G, 0-1500 micromhos. Range G, 0-1500 micromhos has low plate and screen volts only, which makes this range suitable for sub-miniature and some other tubes requiring low plate and screen voltage.

10. RECTIFIER TEST

The push switches P1, P2, and P3 are used to test various types of rectifier and diode elements. Good tubes will read in the GREEN segment of range A or B. The chart data will indicate which range to use.

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 meter pointer to read in the green sector. Certain pentode tubes such as the 6AJ5 are tested with reduced screen voltage. This is accomplished by holding down P1 and pressing P4. See instructions in notations column of chart for each tube requiring reduced screen voltage.

b. 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.

c. Push switch P3 is used when testing ordinary rectifier tubes such as the 5Y3. This switch 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.

11. SOCKET NUMBERING

Sockets are wired according to RETMA numbering.

12. METER REVERSE

Directly below the indicating meter is a switch marked REVERSE-NORMAL. With certain tubes such as the 117N7, the meter, when set on NORMAL, will deflect backwards (to the left) when push switch P3 is pressed for rectifier test. In such case, turn the meter switch to REVERSE which will cause the pointer to move up the scale. After this test has been made, return the switch to NORMAL.

13. 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 the GRID and P, to the PLATE jack.

NOTE

The center of the seven pin socket is used to check pilot lamps. Set filament selector to R-H and filament voltage switch to proper voltage for lamp to be tested.

14. SPECIAL NOTES

Power line voltage varies with different localities. It may also vary with the 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.

15. LIFE TEST

The Model 750 MICROMHO DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER is equipped with a special feature to enable LIFE TEST to be made on the tube. On the left side of the control panel is a switch designated NORMAL and LIFE TEST.

LIFE TEST - DOES NOT APPLY TO RECTIFIER TUBES.

a. Measure the mutual conductance in the ordinary way with switch on NORMAL.

b. Set the FUNCTION switch on RANGE B.

c. Press P4 and adjust the RANGE dial until the tube reads in the GREEN (GOOD) sector at 2000 on the scale.

d. While holding everything else constant, throw switch to LIFE TEST. This reduces cathode temperature.

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

f. After making LIFE TEST return the switch to NORMAL for all other tests.

g. Rectifier tubes have no mutual conductance. In making life test on rectifier tubes first set FILAMENT switch to normal value. After tube is thoroughly heated, make test, then reduce filament voltage by one position on the FILAMENT switch and note loss of reading on the meter. It should not drop more than 25 percent.

16. CONTINUITY TEST

The Model 750 Tube Tester can be used to test for continuity through resistance up to 200,000 ohms.

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 (neon lamp will glow) if the circuit is continuous.

17. FILAMENT AND HEATER CONTINUITY

1. Turn Tester on.

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

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

4. Set SHORT TEST switch on position 5.

5. Place tube in proper socket.

If the meter deflects (neon lamp glows), 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 SHORT TEST SWITCH several times thru all positions. If no shorts are indicated, set the switch in TUBE TEST position and proceed to test the tube as per chart.

If meter does not deflect (neon lamp does not glow), 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.

NOTE

It sometimes happens that a filament will show continuity when cold, but will open when it warms up.

18. VOLTAGE REGULATOR TUBES

a. Set the selectors for V.R. tube to be tested. The test data for V.R. tubes will be found at the top end of roll chart. For example, the OA3.

b. Set FIL VOLTAGE switch to OFF.

c. Set SELECTOR SWITCHES to AP-0501-0.

d. Set FUNCTION SWITCH on Range H.

e. Turn V.R. VOLTAGE ADJUST knob fully counter clockwise.

f. Turn LINE ADJUST knob fully clockwise.

g. Place tube in proper socket and turn tester on.

h. Turn V.R. VOLTAGE ADJUST knob slowly clockwise. The meter should start to read volts - top scale.

In the notations column for the OA3 is a star *115. This represents the approximate starting voltage for this tube. In the column marked MUT. COND. is the nominal operating voltage for this tube - 75V.

When the meter reaches approximately 115V, the tube should fire. This will cause the meter to hesitate and drop back to the operating voltage of the tube under test. In the case of the OA3, it is 75 volts.

Now operate the lever switch at the left of the VOLTAGE ADJUST knob, and this will convert the meter from voltmeter to ammeter and should read approximately 5 MA on the scale just below volts.

While operating the lever switch, continue to increase the voltage until the meter reads 40 MA.

Release the lever switch and read the voltage, which, for a good OA3 should not have increased more than 5 volts.

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 (letter A to K) to letter shown in column marked (first selector switch). Set all numbered selectors on zero.
5. ROTATE second selector switch (lettered P to Z) from P to Z. METER SHOULD DEFLECT (NEON LAMP SHOULD LIGHT) IN POSITIONS NOTED.

TUBE TYPE	First Selector	Meter should indicate (neon should glow) in these positions.							
1A1-1B1-1C1-1E1-1F1-1G1-1J1-1K1-1V1-1Y1-1Z1	E	R							
1L1-1N1-1P1-1Q1-1R1G-1S1G-1T1G-1U1G	H		S						
2	E	R							
2UR224	H			T					Y
2LR212	J	R	S		U				
3	E	R							
O3G	H			T					
4-5	E	R							
6-133	H			T					
6-6AA-7-8-9	E	R							
10A-10AG	H			T					
10AB	E	R							
K17B-M17C-BM17C	H			T					Y
M17HG-M17H	H	R							Y
	D		S						
K23B-K23C	H			T					Y
KX23B	E	R		T					
KX30C	E	R		T					
M30H	H	R							Y
	D		S						
30A-K30A	H			T					
K30D	H		S	T					Y
33A-33AG	H			T					
K34B	H			T					Y
36A	H			T					

TUBE TYPE	First Selector	Meter should indicate (neon should glow) in these positions.									
K36B-BK36B-L36B-L36C	H			T						Y	
KX36A	E	R									
KX36C	E	R		T							
36D-L36D	H		S	T						Y	
L36DJ	H	R	S	T	U					Y	
K36H-M36H-M36HG	H	R								Y	
	D		S								
40A1	H		S								
L40S1-L40S2	H		S	T		V					
42A	H			T							
42A1	J				U						
42A2-42B2	J	R			U						
K42B-L42B-M42B	H			T						Y	
KX42B-LX42B-L42BX	E	R		T							
K42C-L42C-M42C	H			T						Y	
BK42D-K42D-L42D	H		S	T						Y	
LX42D-L42DX	E	R	S	T							
K42E-L42E	H			T						Y	
L42F	H									Y	
	D		S								
42HA-42HJ	H	R									
	E		S	T							
M42H-M42HG	H	R								Y	
	D		S								
KX42C	E	R		T							
L42SI	H		S	T		V					
49A-49AJ-K49AJ	H			T							
KX49A	E	R		T							
49A1	J				U						
49A2-49B2	J	R			U						
K49B-L49B-M49B-BM49B-K49C	H			T						Y	
M49C-BM49C-BK49C-K49E-L49E											
K49D-BK49D-L49D	H		S	T						Y	
L49F	H									Y	
	D		S								
M49H-M49HG	H	R								Y	
	D		S								
KZ49B-KZ49C	H		S			V					
K49BJ-L49BJ	H			T	U					Y	
L49S2	H		S	T		V					
49AJ-K49AJ	H			T							
KX49B-LX49B-LX49C	E	R		T							
L49DJ	H		S	T	U					Y	
L49S3	H		S	T		V					
50A2	E	R		T							
50A2MG-50B2	H		S			V					
50X3	E	R									
K52H-M52H	H	R								Y	
	D		S								
K54B	H			T						Y	
55A-K55A	H			T							
55A1	J				U						
KX55A	E	R									
55B-K55B-M55B-BM55B-L55BG	H			T						Y	
LX55B	E	R		T							

TUBE TYPE	First Selector	Meter should indicate (neon should glow) in these positions.									
55A2-55B2	J	R			U						
K55C-L55C	H			T							Y
KX55C	E	R		T							
K55CP	H			T		V					Y
K55D-L55D	H		S	T							Y
L55E-M55E	H			T							Y
L55F-M55F-BL55F	H										Y
K55H-M55H-M55HG	D		S								
	H	R									Y
L55S1-L55S2	H		S	T		V					
60R30G	E	R		T							
64.23	H			T							
67A	H			T							
K67B-L67B	H			T							Y
L73B-K74B-L74B	H			T							Y
KX74C	E	R		T							
80A	H			T							
K79B-K80B-K80C-L80B	H			T							Y
KX80B	E	R		T							
K80F	H										Y
	D		S								
KX87B-LX87B	E	R		T							
L90B	H			T							Y
K90F-M90F-K92F-M92F	H										Y
	D		S								
92A	H			T							
L92B-95K2	H			T							Y
L99D	H		S	T							Y
100R8	E	R		T							
120R	E	R									
120R8	E	R		T							
135K1	H			T							Y
135K1A	H			T	U						Y
140L4-140L8-140R4-140R8	E	R		T							
140R	E	R									
140L44	E	R		T							
140R44	E	R	S	T							
165L4-165R4-165R8	E	R		T							
165R	E	R									
165L44-165R44	E	R	S	T							
185L4-185L8-185R4-185R8	E	R		T							
185R	E	R									
185L44-185R44	E	R	S	T							
200R-250R	E	R									
250R8	E	R		T							
290L4	E	R		T							
300R4-320R4	E	R		T							
340	E	R									
808-1	H			T	U						Y
E14980-W43357-W45788-3613	H			T							Y
3334-3334A	H		S	T							Y
3613	H			T							Y
8593-8598-8601-8664	H			T							Y
3CR241	H		S	T							Y

TUBE TYPE	First Selector	Meter should indicate (neon should glow) in these positions.							
			S	T	U	V	W	X	Y
3ER248	H		S	T	U				Y
B9M15822	C E G			T		V		X	Y
B9M16067	H		S	T		V	W		Y
B9M16275	C			T	U	V	W	X	Y
B9M16534	H		S	T		V	W		Y
B9M17571	J H		S	T	U	V			Y
B9M18941	C E G	R		T		V		X	Y
17A470303	H J E	R	S			V	W		
17A485459	H E	R	S				W		
TBR102D-TBR104D	C G	R		T	U	V		X	Y
TBR103D	C G	R			U	V		X	Y
397021	C	R		T					
397022	E					V	W		
397023	H								Y
397036	B					V			
407100	H	R	S			V			
408100	H D	R	S		U	V			
SW507300	H		S	T		V	W		Y
571606	C E H	R		T		V	W		Y

PARTS LIST FOR MODEL 750

NOTE: There is a minimum billing charge of \$1.50 for any one parts order.
Prices will be furnished upon request.

HICKOK CODE NO.	NAME AND DESCRIPTION	REF. SYMBOL OR FUNCTION
2490-268	BOOKLET: instruction	
2920-7	BUTTON: push, black	
2920-8	BUTTON: push, red	
3085-45	CAPACITOR: 50 mfd, 6 Volt, Sprague 18D3	C4
3085-68	CAPACITOR: 8 mfd, 350 Volt	C6
3095-8	CAPACITOR: 470 mmf, 500 V., 10%, mica	C2
3095-41	CAPACITOR: .0027 mfd, 500 V., 10%, mica	C3, C5
3105-206	CAPACITOR: 0.5 μ fd, 200 V., paper	C1
3200-53	CHART: data roll	
4160-66	DIAL ASS'Y: with knob	RANGE
4160-67	DIAL ASS'Y: with knob	BIAS
10300-1	JACK: red, Eby #52	
10300-2	JACK: black, Eby #52	
12270-2	LAMP: auto, Tung-Sol #81, bayonet type	
12270-12	LAMP: #47 G.E., 6-8 V., .15 Amp, min. bayonet base	
12270-17	LAMP: #49 pilot, .06 Amp, 2 V.	FUSE LAMP
12450-145	LEAD ASSEMBLY: 48" long	
12450-180	LEAD ASSEMBLY: grid cap pinned at one end	
660-066	METER: Model 66, 280 ua, 645 ohms, square flush internal pivot	
16925-255	POTENTIOMETER: 50K ohms, screw driver slot	R32
16926-4	POTENTIOMETER: 150-150 ohms, dual, linear, wire wound, Mallory #MM150P, calibrated	R4, R5
16926-5	POTENTIOMETER ASSEMBLY: 3000 ohms	BIAS, R7
18410-472	RESISTOR: 47 ohms, 10%, 1/2 W, fixed, comp.	R21, R22, R23
18412-101	RESISTOR: 1000 ohms, 5%, 1/2 W, fixed, comp.	R34, R35
18414-472	RESISTOR: 470K ohms, 10%, 1/2 W., fixed, comp.	R8
18415-102	RESISTOR: 1 megohm, 10%, 1/2 W., fixed, comp.	R27
18422-101	RESISTOR: 1000 ohms, 5%, 1 W., fixed, comp.	R39, R40
18422-122	RESISTOR: 1200 ohms, 10%, 1 W., fixed, comp.	R2
18423-151	RESISTOR: 15,000 ohms, 5%, 1 watt, fixed, comp.	R3
18525-328	RESISTOR: 215K ohms, 1%, 1/2 W	R33
18525-544	RESISTOR: 12 ohms, 1%, 1/2 W	R9
18525-681	RESISTOR: 500 ohms, 1%, 1/2 W.	R28
18525-682	RESISTOR: 41 ohms, 1%, 1/2 W	R15, R17
18525-683	RESISTOR: 119 ohms, 1%, 1/2 W.	R16, R18
18525-684	RESISTOR: 250 ohms, 1%, 1/2 W.	R25
18525-685	RESISTOR: 150 ohms, 1%, 1/2 W.	R24
18525-686	RESISTOR: 50 ohms, 1%, 1/2 W.	R19, R20
18525-687	RESISTOR: 470K ohms, 1%, 1/2 W.	R30
18525-688	RESISTOR: 2920 ohms, 1%, 1/2 W.	R38
18575-12	RESISTOR: 1800 ohms, 10%, 10 Watt	R1
18575-19	RESISTOR: 100 ohms, 10%, center tapped	R12, R13
18575-126	RESISTOR: 150 ohms, 1%, 2 watt	R14
18575-139	RESISTOR: 8500 ohms, 10%, 10 watt	R6
18670-105	RESISTOR: spool, 10 ohms	R37
18670-129	RESISTOR: spool, 1275 ohms	R29

PARTS LIST FOR MODEL 750

NOTE There is a minimum billing charge of \$1.50 for any one parts order.
Prices will be furnished upon request.

HICKOK CODE NO.	NAME AND DESCRIPTION	REF. SYMBOL OR FUNCTION
18750-2	RHEOSTAT: 200 ohms, 25 W., Ohmite	R41
18750-26	RHEOSTAT: 10,000 ohms, 50 W., Ohmite	R36
19350-1	SOCKET: bayonet, small, Drake #B-614-L-CH	
19350-43	SOCKET: acorn, 7 contact, Alden #457V1M	
19350-62	SOCKET: 9 pin, black, Cinch	
19350-93	SOCKET: 4 pin, Amphenol #78-S4M	
19350-94	SOCKET: 5 pin, Amphenol #78-S5M	
19350-95	SOCKET: 6 pin, Amphenol #78-S6M	
19350-96	SOCKET: 7 pin, Amphenol #78-7CDM	
19350-97	SOCKET: loctal, 8 pin, Amphenol #78-8LM	
19350-99	SOCKET: 8 pin, octal, Amphenol #78-S8M	
19350-101	SOCKET: sub-miniature, Cinch #54A14513	
19350-112	SOCKET ASS'Y: panel light, Drake #40	PILOT
19350-119	SOCKET: sub-min, 7 contact	IN-LINE
19350-136	SOCKET: 7 pin, black, Amphenol #147-504	
19350-156	SOCKET: wafer, octal, Cinch #11961	
19350-157	SOCKET: 4 pin, Cinch #X154	
19910-105	SWITCH: 7 gang, push button, Oak type 130	P1 to P7
19911-7	SWITCH: snap, D.P.D.T., Oak #16743-78	METER REVERSING
19911-9	SWITCH: toggle, S.P.S.T., bat handle, A.H. & H. #20994-DA	OFF-ON
19911-19	SWITCH: toggle, S.P.D.T., bat handle, A.H. and H. #21350	LIFE TEST
19912-198	SWITCH: rotary, 2 sect., 3 pole, 20 positions, Oak #43831-MF-2	FILAMENT
19912-203	SWITCH: rotary, 5 sect., 6 positions, Oak type G	SHORT TEST
19912-276	SWITCH: rotary, 5 sect., 10 positions, Oak type G	SELECTORS
19912-277	SWITCH: rotary, 1 sect., 10 positions, Oak type G	CATHODE-
		SUPPRESSOR
19912-303	SWITCH: rotary, 5 sect., 8 positions, Oak type H	FUNCTION
19912-304	SWITCH: rotary, 3 pole, double throw, 60° index Oak type N	
20800-166	TRANSFORMER: power	
20875-6	TUBE: #5Y3GT/G	RECTIFIER
20875-28	TUBE: #83	RECTIFIER

NOTE: In ordering parts or materials for this instrument, the serial number must be given in order to identify properly the material required.

PARTS LIST FOR MODEL 750

NOTE There is a minimum billing charge of \$1.50 for any one parts order.
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19350-96	SOCKET: 7 pin, Amphenol #78-7CDM	
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19350-112	SOCKET ASS'Y: panel light, Drake #40	PILOT IN-LINE
19350-119	SOCKET: sub-min, 7 contact	
19350-136	SOCKET: 7 pin, black, Amphenol #147-504	
19350-156	SOCKET: wafer, octal, Cinch #11961	
19350-157	SOCKET: 4 pin, Cinch #X154	
19910-105	SWITCH: 7 gang, push button, Oak type 130	P1 to P7 METER REVERSING OFF-ON
19911-7	SWITCH: snap, D.P.D.T., Oak #16743-78	
19911-9	SWITCH: toggle, S.P.S.T., bat handle, A.H. & H. #20994-DA	
19911-19	SWITCH: toggle, S.P.D.T., bat handle, A.H. and H. #21350	LIFE TEST
19912-198	SWITCH: rotary, 2 sect., 3 pole, 20 positions, Oak #43831-MF-2	FILAMENT
19912-203	SWITCH: rotary, 5 sect., 6 positions, Oak type G	SHORT TEST
19912-276	SWITCH: rotary, 5 sect., 10 positions, Oak type G	SELECTORS
19912-277	SWITCH: rotary, 1 sect., 10 positions, Oak type G	CATHODE- SUPPRESSOR FUNCTION
19912-303	SWITCH: rotary, 5 sect., 8 positions, Oak type H	
19912-304	SWITCH: rotary, 3 pole, double throw, 60° index Oak type N	
20800-166	TRANSFORMER: power	
20875-6	TUBE: #5Y3GT/G	RECTIFIER
20875-28	TUBE: #83	RECTIFIER

NOTE: In ordering parts or materials for this instrument, the serial number must be given in order to identify properly the material required.

CRT ADAPTERModel 750:

	<u>SELECTORS</u>	<u>FIL</u>	<u>BIAS</u>	<u>RANGE</u>	<u>PRESS</u>
Emission	HS-3508-4	6.3	0	B-75	P1
Grid Control and Gas Test	HS-5308-4	6.3	*	B-0	P5

* Hold down P5 and rotate Bias dial. Meter pointer should move up and down scale if grid is operating.

GAS TEST: Adjust Bias until meter reads one small division. Hold down P5 and Press P6. If meter pointer moves up scale more than one division, tube is gassy.

