

# CRT-1 TYPE



## ADAPTER

### INSTRUCTIONS

1. Remove socket from C. R. Tube. 2. Affix adapter to picture tube. 3. Attach red lead to No. 2 Anode. 4. Insert 8 prong plug on cable into octal socket on tube tester. 5. Set tube tester as indicated below. **NOTE:** Tubes checking in GREEN section comparable to average new tubes — some tubes may test in RED section and still be serviceable.

### ALL MAGNETIC OR ELECTROSTATIC TYPES HAVING SMALL SHELL DUO-DECAL BASE:

	<u>Selectors</u>	<u>Fil.</u>	<u>Bias</u>	<u>Eng.</u>	<u>Press</u>	<u>NOTES</u>
Emission:	JR-3507-0	6.3	0*	90*	P5	If tester has Micromho Range switch, set switch on English or Shunt position. Good tube should read in Green, or above line marked Rectifiers O. K. *For Model 539A use Zero Bias Volts, 55 on Shunt, and F Range.
Grid Control:	JR-5307-0	6.3	* 0*	P5		*Hold down P5 and rotate Bias Dial. Meter pointer should move up and down scale if grid is operating. For Model 539A use C Range.
Gas Test:	JR-5307-0	6.3	* 0	P5		Adjust Bias until meter reads one small division. Hold P5 down and press P6. If meter pointer moves up scale more than one division, tube is gassy. For Model 539A use C Range.

### NOVAL BASE TYPES

<u>Selectors</u>	<u>Fil.</u>	<u>Bias</u>	<u>Eng.</u>	<u>Press</u>	<u>NOTES</u>
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Emission:	JR-0507-0	6.3	0	43*	P1	Good tubes should read in GREEN or above line marked Rectifiers O. K. *For Model 539A use E Range.	
Emission:	<b>A</b>	<b>B</b>	<b>Fil.</b>	<b>L</b>	<b>R</b>	<b>Press</b>	<b>NOTES</b>
	11	2	6.3	35	0	Diode	Good tubes should read in GREEN

See other side for old model testers.

## OLD MODEL TESTERS HAVING GAS No. 1 BUTTON

### A B Fil. L R Press NOTES

Emission: 11 2 6.3 74 0 GAS NO. 1 Good tube reads in GREEN. If tester has Micromho Range switch, set switch on 3000.

Grid Control: 8 5 6.3 0 \* GAS NO. 1 Hold down GAS NO. 1 and rotate R pot. Meter pointer should move up and down scale if grid is operating.

Gas Test: 8 5 6.3 0 0 GAS NO. 1 and rotate Bias Dial until meter reads one small division. Hold GAS NO. 1 down and press GAS NO. 2. If meter pointer moves up scale more than one division, tube is gassy.

In old model testers, plug adapter into "E" or black octal socket.

The Model CRT cathode ray tube adapter, when properly used with any model Hickok tube tester, will indicate emission quality on all picture tubes having a standard small duodecal or noval base (large shell duodecal based tubes excluded). It is well to consider, however, several variations in cathode structure or composition in some tube types that will produce a reading in the "RED" or "DOUBTFUL" section of the meter scale on the tube tester although the tube itself may not be defective.

Brilliance, being the result of applied second anode voltage necessary to propel electrons to the tube face, does not become an emission problem until the cathode has been considerably exhausted of electrons. Through continued use of the adapter the technician or serviceman will become acquainted with an approximate meter reading for certain tube types when new, whereby a better evaluation can be determined for successively bad tubes of the same type.

An indication of life expectancy can be determined by the elapsed time required for a tube to sufficiently warm up and show at least 50% emission. Should such elapsed time extend for a period of from 3 to 5 minutes, the cathode ray tube could be considered defective.

"SHORT" tests on cathode ray tubes are made in the same manner as used for conventional tubes. RED lead must be connected to No. 2 Anode for complete SHORT test.

September, 1954

CRT ADAPTOR

It has been called to our attention by certain television tube manufacturers that in the process of improving the design of their tubes it has now become undesirable to apply very much voltage between the grid and cathode when making emission checks. They feel that with the present tube tester settings -- which when making an emission check, P5 is depressed -- a voltage difference between the grid and cathode in excess of their recommended limit is applied.

We, therefore, recommend that instead of pressing P5 for the emission check that P1 is used. This will apply an appreciably reduced voltage.

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## PICTURE TUBE TESTER AND REJUVINATOR ADAPTER - TYPE CRT

It has been found the following procedures may be used in many cases when the CRT is used with a Hickok tube tester to rejuvenate picture tubes. The process in general is to make the same settings as given in the instruction card for checking for emission of a tube tested in a normal manner.

The English potentiometer is then rotated until a reading of approximately 1/3 scale is obtained by holding down P1.

P1 is then released and P4 pressed for approximately one or two-tenths second. P1 is again depressed and the reading on the meter noted. If the tube is being rejuvenated, the reading under this condition will be somewhat higher than it was originally.

If several applications of test are repeated and the meter shows no major increase in emission, further tests can be made by advancing the filament voltage to approximately 12.6, leaving it there for about ten or fifteen seconds, and then repeating the test procedure as previously outlined. If, (After this point no more text was readable)

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