TRIPLETT

INSTRUCTIONS FOR OPERATING POWER OUTPUT TUBE TESTER MODELS 1502-1503

GENERAL INSTRUCTIONS

The 1502 and 1503 Tube Testers are the Power Output Type, wherein all the elements, except heater, have D. C. voltages applied to them. The D. C. voltages are supplied by a self contained power supply using a 25Z5 type tube. One rectifying element of the 25Z5 supplies the plate, screen and other positive voltages. The other rectifying element supplies the negative grid voltage. Regardless of how much plate current the tube under test is drawing the grid voltage remains stable. The 25Z5 tube is accessible by opening the left hand metal cover on which is printed a part of the tube chart. This is accomplished by grasping the knob at the top of the metal cover and pulling upward.

In addition to the D. C. voltages applied to the tube there is superimposed on the grid a definite pulsating voltage. This is adjusted by a control marked LOAD 1. The tube being in an operative condition the pulsation is amplified within the tube and the output measured on the meter. This definitely classifies the tube as either Good or Bad, according to its amplification characteristics.

Duo diode-triode types of tubes are tested for their amplification with the toggle switches in the AMPLIFIER POSITION. The diode plates are tested for rectifying action when the toggle switches are placed in the RECTIFIER position. The first plate reading will show immediately on the meter without pressing value button. To obtain the reading for the second diode plate press the DIODE button.

In a similar manner rectifier tubes are not tested for their amplification but are tested for their emission same as the diode test.

All output tubes should be checked for emission as well as amplification. This type of tube can become hard and cause distortion which would not be detected by the amplification test but would be indicated by the emission test. Amplifier tubes need only be tested for their amplification since they do not handle power. With these tubes the primary function is the gain for the tube in certain stages. However, emission tests may be made on any tube at the discretion of the user. Readings for this test are given in the chart along with the readings for the regular power output amplification type test.

Only one Rectifier and Diode Test is given since these tests are in each case emission tests.

The Power Output Tester has a sensitive short test incorporated. A tube should be thoroughly heated before the TUBE SELECTOR switch is rotated through the S-H-O-R-T-S position. The tubes should be tapped in each position to make certain possible shorts will not develop. When the Neon tube glows a short is indicated. A flash when moving between positions indicates a condenser discharge within the checker and not a short. The Neon tube will either flash rapidly or the glow will be steady on a shorted tube. The degree of the short will be determined by the brilliancy of the glow.

Due to the arrangement of the elements of the 5X4, 5Y4, and 12A5 tubes the Neon lamp will glow when the switch is in either S position. Similarly 2B6 will show a short on position R and the 6G7S on position O. These short indications should be disregarded.

To replace the 6.3 v. type 46 lamp for line voltmeter remove the four screws on bottom of case; also the four screws only on right and left sides of panel and lift tester from case.

OPERATION

1. Plug A. C. line supply cord into a suitable A. C. outlet. This cord is found in the compartment under the right hand metal cover on which is one part of the tube chart. Cover is opened by grasping knob and pulling upward.
2. Rotate the selector switch marked LINE CONTROL in a clock-wise direction from the OFF position until the needle of the shadow meter marked—ADJUST A. C. VOLTS TO LINE—reaches the red line on scale.
3. Note the number of the tube to be tested and the settings given for this tube as shown on chart.
4. Set the toggle switches in the RECTIFIER or AMPLIFIER position as determined by the type of tube. When making a power output test on an Amplifier tube the toggle switches should both be in the AMPLIFIER position. When making an Emission test, or when testing rectifier tubes the two toggle switches should be in the RECTIFIER position. On the 1502 tester the left hand toggle switch is a dummy placed in the circuit to insure against obsolescence.
5. Place FILAMENT VOLTS switch at position noted on tube chart.
6. Set the LOAD 1 and LOAD 2 controls at position shown on tube chart. Please note that two load positions are given on the chart for each control, one for the Emission test and one for the Amplification test. Choose the particular setting according to the type of test placed on the tube.
7. Place tube in proper socket shown on tube chart marked by letter for that tube.
8. After tube is thoroughly heated, rotate the RANGE SELECTOR switch through the S-H-O-R-T-S position. Pause at each position, tap tube, and note if Neon tube glows. This will give a test for a shorted tube as explained under the GENERAL INSTRUCTION heading.
9. Turn the TUBE SELECTOR to the position as indicated on the chart. As before choose the setting for either AMPLIFICATION or EMISSION test to be performed.
10. In making an Amplification Test, press VALUE button and the condition of the tube will be indicated on the meter. The VALUE button should not be pressed for emission test or rectifier test with toggle switches in the rectifier position. In these cases the value of the tube will be indicated without pressing the button.
11. To obtain a reading for second plate on certain tubes press the DIODE button. These tubes are indicated by an asterisk * on the chart.

The 25Z5 tube should be replaced only when tests show it has depreciated approximately 30%, or when the tube no longer tests good in the tube tester portion of the instrument.

TO REMOVE TESTER FROM CASE

1. Remove tube in left compartment located under tube chart.
2. Remove the 4 screws only on the vertical left side and the 4 screws only on the right side of the panel.
3. Remove the 4 screws on bottom of wood case.
4. Raise tester about 1″ by lifting on panel in a vertical direction.
5. Hold tester in this position while removing the 4 corner brackets in the cabinet.
6. Push line cord through hole in compartment partition.
7. To lift the tester out of the case, take hold of panel and roll to the left to allow the rectifier tube socket to pass through the opening in the partition.