

NO. 525-A PANEL

TESTING AND ADJUSTING SET

1. GENERAL

1.01 This section describes the testing and adjusting set known as the No. 525-A Panel, designed for making routine tests and adjustments of the 1000-cycle ringers.

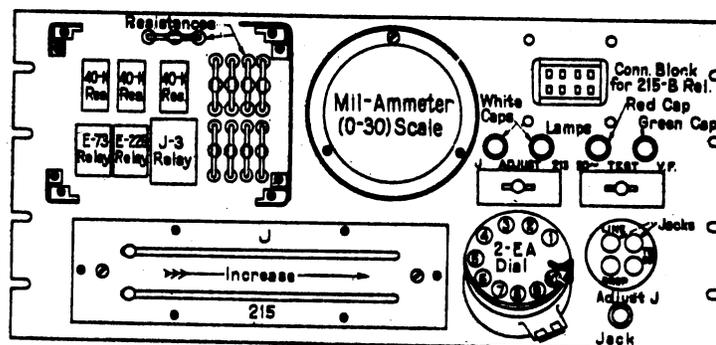
1.02 This section is issued to include adjusting procedures involving a meter in place of a lamp circuit, and replaces Section A720.005, Issue 1.

2. DESCRIPTION OF SET

2.01 The testing and adjusting set is assembled on a panel as shown on Fig. 1. The circuit arrangement of the set is shown on Fig. 2. The set consists of jacks, keys, a milammeter, a dial, connecting block for No. 215-B relay, potentiometer, signal lamps and relays all of which are provided for making overall tests of the ringers and for applying adjusting current values to the J-type and No. 215-B relays in the ringers. The panel is arranged for relay rack mountings.

2.02 Two jacks designated "Line" and "Drop" are provided, to which the "LCXX" and "DCXX" jacks of the ringer to be tested are respectively patched. The key designated "Test" is arranged so that, when operated

to the side designated "VF", 1000-cycle ringing current is sent into the line side of the ringer and when operated to the left 20-cycle ringing current is sent into the drop side of the ringer. A network is provided in the 1000-cycle circuit and resistances are provided in the 20-cycle circuit of the testing circuit to reduce the currents to the ringer under test to the proper value. Proper response of the ringer connected to the test set is indicate by two lamps, one green and one red. The green lamp lights when the ringer has functioned in such a manner as to operate the cut-off relay associated with the ringer. This lamp is lighted from ground supplied over the sleeve of the "Drop" jack through the operation of the E-6035 relay in the ringer when 1000-cycle ringing current is sent into the line side of the ringer, or from ground supplied by the E-225 relay in the test set which is operated by ground over the sleeve of the "Line" jack when 20-cycle ringing current is sent into the drop side of the ringer. The red lamp lights when the J-2 relay, bridged across the drop jack of the test, is operated by 20-cycle ringing current being sent from the ringer into the drop jack, or when 20-cycle ringing current is being sent out of the drop jack in the test set into the drop side of the ringer.



Front of Panel

Fig. 1 Testing and Adjusting Set Assembly, No. 525-A Panel

2.03 Two jacks designated "Tel. Set" are provided in connection with the test of the 20-cycle receiving circuit of the ringer. Proper operation of this side of the ringer is determined by listening, with an operators set plugged into the jacks, for the 1000-cycle ringing current sent out from the line side of the ringer into the test set.

2.04 In order to make tests of the length of time required to operate the ringer, a dial such as is used on machine switching subscribers' telephone sets is provided on the test set. When this dial is operated, the E-73 relay in the test set operates connecting 1000-cycle ringing current to the line side of the ringer through the artificial line for as

many tenths of a second as the number dialed. That is, if "4" is dialed, 1000-cycle ringing current is sent into the line side of the ringer for four tenths of a second.

2.05 The jack designated "Adjust J" is provided as a means for applying 20-cycle ringing current to the J-type relay in the 20-cycle side of the ringer for adjusting purposes. The "DCXX" jack of the ringer is patched to this jack and when the key designated "Adjust" is operated to the side designated "20", 20-cycle ringing current is connected to the J-relay through the potentiometer and millammeter. The potentiometer slider designated "J" serves to adjust the current through the relay to the desired value.

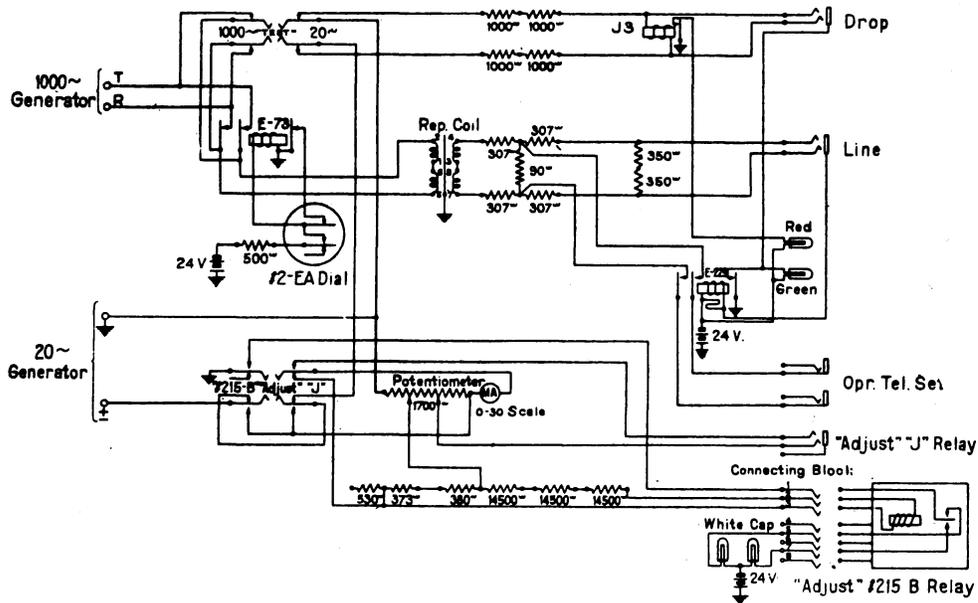


Fig. 2 Testing and Adjusting Set-Wiring, No. 525-A Panel

2:06 The connecting block is provided on the test set for adjusting the No. 215-B relay. The relay to be adjusted is plugged into this connecting block and the key designated "Adjust" is operated to the side designated "215". The operation of this key connects 20-cycle ringing current to the No. 215-B relay through the potentiometer and millammeter. The potentiometer slider designated "215" serves to adjust the amount of current through the relay to the desired value. Two white lamps are provided, each of which completes its circuit through one contact of the No. 215-B relay being adjusted. When the relay is vibrating about bias, both lamps will light with equal brilliancy.

2.07 When the 525-A panel associated with auxiliary testing panel J68602F is modified to include J-68630B, List 1 equipment replacing the lamp circuit method of adjusting relays with an arrangement involving a meter, the meter pointer position is mid-scale or zero and the arrangement is such that the pointer will deflect left or right depending on which relay contact is switched to the meter, and the amount of deflection when the relay is operated is a measure of the contact adjustment. Operation of the relay with equal adjustment of opposite contacts and both contacts switched to the meter causes the pointer to stand at mid-scale or zero.