

100A TELETYPEWRITER TEST DISTRIBUTOR

DESCRIPTION

1. GENERAL

1.01 This section describes the 100A teletypewriter test distributor, a motor-driven portable device designed to provide a local source of 5-unit (7.42 elements with the start and stop) open and close recurring test signals for testing teletypewriter circuits and checking the efficiency of start-stop selectors in teletypewriter apparatus. Undistorted teletypewriter characters and telegraph reversals are provided, and in addition the teletypewriter characters may be arranged to have bias or end-distortion of 20 per cent, either marking or spacing. In this section the term reversals means alternate open and close signals (marks and spaces) of equal length.

1.02 This section is reissued to delete the information pertaining to the test methods, requirements and adjustments, and the wiring diagram. This information is included in the individual sections dealing with these aspects of the 100A teletypewriter test distributor. Due to the extent of the changes involved, the use of marginal arrows has been omitted.

1.03 The 100A teletypewriter test distributor may be used at outlying stations in connection with transmission testing between the station and the central office or assigned test center. It will also be found of use at a test center not having a permanently installed source of teletypewriter test signals. This set will also be required when orientation tests are to be made locally at a station disconnected from the loop. The signals produced by the 100A set will be useful with the 164C- and 118-type, or equivalent, telegraph transmission measuring sets. The open and close signals supplied by this set should not be used directly in line and loop circuits which normally employ polar or effective polar transmission. In most cases the signals from this distributor will be used in local circuits of repeaters where the open and close signals are satisfactory.

by 7-inch by 8-3/4 inch wrinkle-finished metal carrying case which has a leather handle, rubber feet, and a removable lid. The complete set weighs about 12 pounds and is therefore easily carried. It is equipped with control switches for setting up signal or unit combinations or undistorted telegraph reversals, and for introducing fixed amounts of distortion to be transmitted. An output jack is located to the right of the switches to accommodate a patch cord. A power cord with a switch for starting and stopping the motor is supplied with the set. The commutator face and brush arm are protected by a hinged cover having a transparent nonbreakable top. To the left of the hinged cover is a compartment in which the power cord and plug adapters for connection to the usual types of power outlets may be packed.

2.02 The distributor completes the electrical connections between the control switches and the signal line in the correct sequence and at the required speed. This is accomplished by three brushes which are mounted on a brush arm attached to the distributor shaft. The brushes rotate over three concentric segmented rings of a commutator face. The outer ring and the middle ring each have seven segments which are strapped together for the transmission of the test characters. The segments of these two rings are offset 20 per cent of a unit element with respect to each other in order to transmit 20 per cent bias or end-distortion. The inner ring has eight segments of equal length for the transmission of undistorted telegraph reversals.

2.03 Test signals and reversals may be obtained at the speed given below with the gears indicated.

| WPM | Speed of Teletypewriter Test Signals | Speed of Reversals | Gears |
|-----|--|-----------------------|-------|
| | Dots Per Second | Dots Per Second | |
| 60 | 22.8 | 24.5 | 100A |
| 75 | 28.4 | 30.6 | 100B |
| 100 | 37.1 | 40.0 | 100C |

2. DESCRIPTION

2.01 The 100A teletypewriter test distributor, shown in Figure 1, is contained in a 5-inch

Note: The reversals from the 100A set will be found generally satisfactory for use in measuring bias. They should not, however, be used in calibrating bias-producing circuits such as in the 119-type sets unless correction is made for the speed difference.

2.04 When the 100A teletypewriter test distributor is in proper adjustment, the undistorted signals produced by it have no more than about 1 per cent distortion. The bias and end-distortion are within the range of 19 to 21 per cent (the specified value is 20 per cent).



Figure 1