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14 TRANSMITTER - DISTRIBUTOR CONTROL CIRCUIT DESCRIPTION, OPERATION, AND TEST PROCEDURE

CONTENTS

1. GENERAL

1.01 This section gives a description, the operating principles, and test procedure for the 14 Transmitter-Distributor Control Circuit per EA-10963SD.

2. DESCRIPTION

2.01 The Circuit was designed for use at an outlying station or a control station on a SCATS system.

2.02 The purpose of the Circuit is to start a 14 Transmitter-Distributor (14T-D) on receipt of a two letter Transmitter Start Code (TSC) through the selective mechanism of a 28 TTY and the sixth pin feature of the T-D.

2.03 The sixth pin feature also provides a means of stopping the T-D when tape runs out.

2.04 An auxiliary feature is a key which will effect a manual start of the T-D during any idle circuit period if it is desired to transmit out of sequence.

2.05 The Control circuit equipment consists essentially of two Y, one U, and one 255A type relays.

2.06 When used at an outlying station, the Control circuit requires a J86256B rectifier.

2.07 The rectifier and relay mounting plate can be mounted in an ED91472-01 Cabinet or can be housed in a 28 A or B table when there is sufficient space.

3. THEORY OF OPERATION

3.01 Assuming the 28 TTY in the select non-print condition and tape-available in the T-D gate, receipt of a valid TSC momentarily operates a contact.

3.02 This momentary contact operation puts a short on the AA, BB leads operating the (TS1) relay, which locks via its 3-4 contacts and the sixth pin closed.

3.03 Operation of (TS1) relay removes the ground from the (TS2) relay lead. (TS2) relay releases slowly and closes the start magnet of the T-D via the L1, L2 leads. The T-D will now start.

3.04 When the tape runs out, the tape-out contacts will open, opening the lock path of (TS1) relay, causing (TS1) relay to release. Upper 1-2 contacts of (TS1) relay will connect ground to the winding of (TS2) relay which will operate and open the start magnet via its lower 2-3 contacts. The T-D will stop.

3.05 Holding the non-locking 6017P Key to its operated position places a short on the KA, KB leads. This feeds a ground to top 2 of (SR) relay. While holding the key operated, and line transmission is taking place, the first spacing character will cause relay (LD) to move to its #5 contact causing (SR) relay to operate.

3.06 Operation of (SR) relay opens the ground path of the key and the attempt to seize the circuit will be unsuccessful.

3.07 When the circuit becomes idle, the (LD) relay will remain on its #4 contact. (SR) relay will release and the ground from the key will operate (TS1) relay. (TS1) relay operated, locks through the tape-out pin and the T-D will start.

4. TESTS

4.01 To test the Control circuit operation, coordination is required with the Serving Toll Test Center (STTC) due to the automatic features of the equipment.

4.02 The station tester should first obtain a release of equipment if tests are to be made during service hours, then have the STTC terminate the station in a dummy or test circuit.

4.03 At the station under test, with the equipment in operating condition, place a test tape in the T-D gate. For test purposes, any test sentence such as "The quick brown fox" will suffice.

4.04 Request the STTC to transmit a valid TSC. This can be done manually from a keyboard. The TSC for any station should be FIGS H LTRS FIGS * S LTRS. *Insert here the individual code of the station under test.

4.05 Receipt of the TSC by the 28 TTY and its selective functioning should cause the T-D to operate and transmit the test sentence.

4.06 Assuming the test sentence is on a torn tape, complete passage of the tape through the T-D gate will operate the sixth pin deactivating the T-D.

4.07 With tape-available, request the STTC to transmit an invalid TSC. The T-D should not operate.

4.08 Request the STTC to send continuous test from a transmitter. Place test tape in gate of the T-D under test and hold the 6017P key operated.

4.09 The T-D under test should not operate while the STTC is transmitting.

4.10 With the 6017P key still operated request the STTC to stop transmission. The T-D should operate as soon as transmission stops from the STTC. The 6017P key may be released as soon as the T-D starts.

5. CONNECTING CIRCUITS

5.01 EA12348SD Count Circuit Outlying Station Message Count Circuit (SCATS)

6. REFERENCE

EA10669CD	Sequentially Controlled Automatic Transmitter Start System (SCATS).
EA10720CD	MXD Timing and Control Circuit.
EA12149	Connect 28 TTY From Transmitter Start Circuit.
P70.034	28 Teletypewriter
P70.035	28 Stuntbox
P35.102	14 Type Transmitter Distributor.