200A DATA CONTROL UNIT

DESCRIPTION, INSTALLATION, MAINTENANCE, AND TESTS

1. GENERAL

1.01 The 200A data control unit (DCU) is an "antistreaming" device intended for use with data sets 201C, 202T, and 208A at remote locations on 4-wire multipoint private line circuits. "Streaming" is the term applied to a terminal malfunction wherein the request-to-send interface lead (CA) turns ***on*** and remains ***on***. This causes continuous transmission of a modulated line signal and disrupts the entire multipoint network because messages from other terminals cannot be received in the presence of the streaming terminal's signal. The 200A DCU removes a streaming terminal from the network by clamping the CA lead ***off***, if the CA lead is ***on*** longer than a preselected timed interval of 3 or 27 seconds (a customer option). Transmission from the streaming terminal is thereby terminated. When the CA lead turns ***off***, the DUC is reset and subsequent signals on the CA lead are passed to the data set. The DCU is thus said to be self restoring. The DCU accepts and delivers signals that meet Electronic Industries Association (EIA) RS-232-C specifications.

1.02 When this section is reissued, the reason for reissue will be presented in this paragraph.

2. PHYSICAL DESCRIPTION

2.01 The 200A DCU consists of a circuit board to which is attached a 2-foot cord equipped with a 25-pin male connector, enclosed in a base pan with a black plastic cover. The package is fastened together by four screws. Approximate dimensions of the DCU are as follows:

Length 4.6 in. (4.9 in. w/connector)

Width 2.7 in. (3 in. w/switch handle)

Height 1.1 in.

The DCU weighs about 8 oz.

2.02 A 25-pin female EIA connector is provided on one end of the DCU (Fig. 1) for connecting to the customer terminal. A 2-foot cord with 25-pin male connector is provided on the opposite end of the DCU to connect to the data set. On the side of the DCU are located a neutral-center, bat-handle toggle switch with positions labeled TST (test) and RST (reset); a light-emitting diode (LED) indicator labeled STR to show when streaming is occurring or has occurred; and a screw switch labeled S--L (short-long).

2.03 The 200A DCU will operate in an environment of -18° to 49° Celsius (0° to 120°F) and a relative humidity of up to 95 percent.

2.04 Power for the DCU is derived from the data set to which it is connected. Power drain from each of the data set power supplies are as follows:

201C 6 mA

202T 8 mA

208A 58 mA

Note: Voltages required are +6.2V on pin 9 and -6.2V on pin 10.

Pin 7 provides circuit ground. Lead CA is on pin 4, and is the lead which the DCU monitors and controls. All other leads are wired straight through the DCU.

3. CONNECTIONS

3.01 Remove the cord connected to the data set customer interface connector.

3.02 Plug the customer interface connector cord into the connector marked TERMINAL on the 200A DCU (Fig. 2). The customer interface

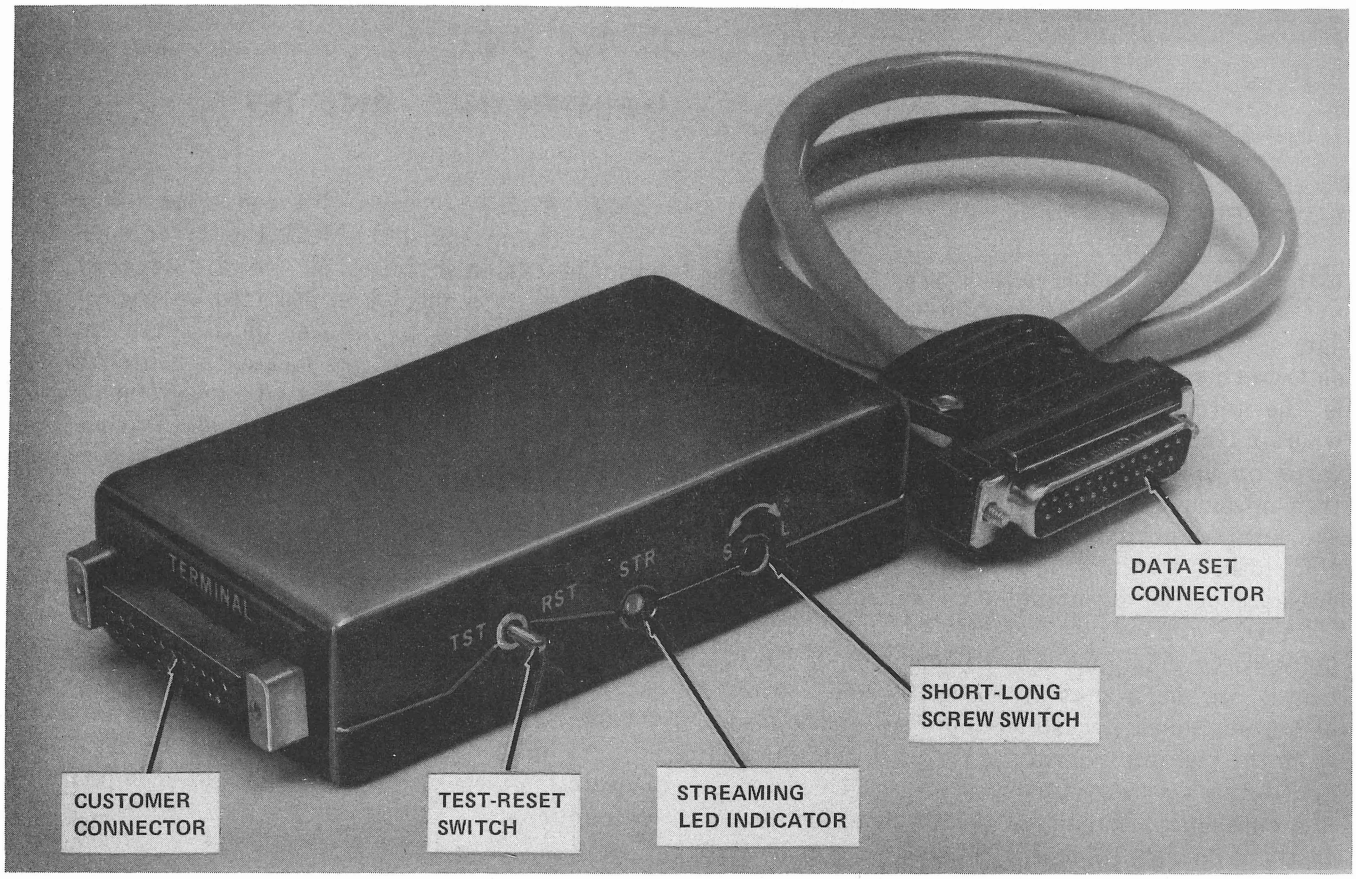

Fig. 1—200A Data Control Unit

cable should not exceed 50 feet in length. Plug the connector on the 2-foot cord of the 200A DCU into the data set customer interface connector.

3.03 Turn the S-L screw switch fully clockwise (CW) to provide the long (27-second) interval; turn the S-L screw switch two turns counterclockwise (CCW) to provide the short (3-second) interval, as specified by the customer.

4. FUNCTION

4.01 The 200A DCU continuously monitors the state of the CA lead (pin 4). In normal

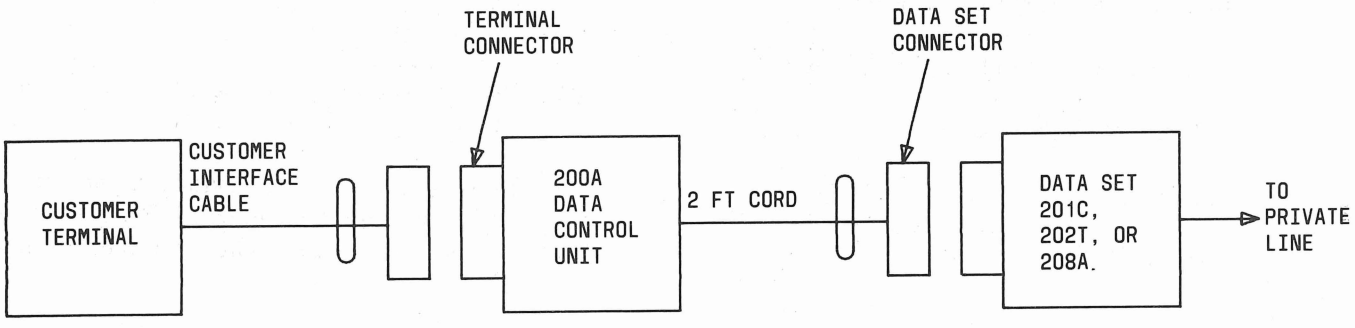

Fig. 2—200A Data Control Unit

operation, request to send will turn ***on*** and then ***off*** in less than 3 seconds or 27 seconds. The DCU ignores this. When a streaming condition occurs in the terminal, (CA ***on*** longer than 3 or 27 seconds) the DCU turns ***off*** the CA lead, thereby removing the terminal from operation. When streaming occurs, the STR LED illuminates and stays illuminated until ***manually*** reset by operating the toggle switch to RST (reset) position. The STR LED is also used in test mode to indicate proper operation of the DCU.

4.02 If the terminal should stop streaming, the DCU circuitry will automatically return control of the data set to the terminal and restore itself, although the STR LED will remain illuminated until reset manually.

5. MAINTENANCE

5.01 No periodic maintenance of the DCU is required. If a DCU is found defective, it should be discarded in accordance with local instructions.

6. TESTS

DCU Self Test

6.01 Hold toggle switch in TST position. After 3 or 27 seconds, depending on the option selected, the STR LED should illuminate if the DCU is operating properly.

6.02 To extinguish the STR LED, momentarily operate toggle switch to RST position.

System Tests

6.03 When performing system tests with a "polling" type test set (eg, the 921-type), the DCU may be left in the circuit, provided the RS interval from the test set is shorter than the time-out interval of the DCU. Connect the test set into the terminal side of the DCU.

6.04 When performing system tests with a "steady-state" type test set (914-type) remove the DCU from the circuit. Connect the test set directly to the data set customer interface connector.

6.05 Operation of the DCU may be tested using a 914 or 921 DTS. Connect the DTS in place of the terminal and arrange the DTS to place a permanent ***on*** voltage to the CA lead (pin 4). The DCU should allow the CA voltage to get through to the data set CA circuit (check via data set RS lamp) until the DCU preset time has expired. The DCU should then cause the data set CA lead to go ***off*** (RS lamp goes ***off***) and cause the DCU STR lamp to turn ***on.*** Once this happens, turn ***off*** CA at the DTS, then turn it back ***on.*** The DCU should allow the new CA ***on*** to get through to the data set until the DCU timer again times out.