

DATA SET 401B

RECEIVER

INSTALLATION AND CONNECTIONS

1. GENERAL

1.01 This section describes the procedures required to install and connect Data Set 401B.

1.02 This section is reissued to add information on new signal level requirements for Data Set 401B and to remove references to Data Set 401D. The title of this section has been changed accordingly. Due to extensive revision, arrows ordinarily used to indicate changes have been omitted.

1.03 Verify with the local test center that loop facilities have been tested and meet transmission requirements specified in the section entitled Data Systems—DATA-PHONE® Service, Direct Distance Dialing Network, Test Requirements for Subscriber, Foreign Exchange, and Remote Exchange Lines (314-205-501).

1.04 At time of installation, a complete test of the data set should be made as described in the section entitled Data Set 401B, Receiver, Test Procedures (594-011-500).

2. INSTALLATION

2.01 The sets must be located within range of the interface connector cord supplied by the customer. This cord should not exceed 50 feet in length.

2.02 The customer must provide a 3-wire ac outlet that is not under control of a switch. The outlet must accept a plug having two parallel blades and a U-shaped grounding pin.

2.03 To avoid the possibility of data errors due to a ground potential difference, the data set and business machine should be powered from the same ac distribution panel. If not, an impulse noise test should be made as described in the

section entitled Data Set 401B—Receiver—Test Procedures (594-011-500). If test requirement is not met, data set ground and business machine ground must be bonded together.



The method of providing this bond should be in accordance with local instructions.

2.04 To avoid interference during data transmission, the following restrictions apply where practicable.

- Use only on individual lines.
- Do not connect extension telephones.

2.05 No provision is made for A lead control.

3. CONNECTIONS

3.01 Plug the D6AC-61 cord from the telephone set into its jack on the back of the data set and tighten the locking ring.

3.02 Plug the D3BT-61 cord into its jack on the back of the receiver and tighten the locking ring. Connect the spade tips at the free end of the cord as shown.

| CORD CONDUCTOR | CONNECT TO | |
|----------------|------------|----------------|
| R | Ring | Telephone Line |
| G | Tip | |
| Y | | |

SECTION 594-011-200

3.03 Plug the power cord into its jack on the back of the receiver. Plug the other end into a 117-volt ac 3-wire receptacle. Secure the plug to the receptacle with an approved-type clamp.

3.04 The telephone set is factory-wired for unattended operation. If attended operation is specified, move the yellow cord lead from punching E1 to punching 4 on the telephone set terminal strip.

3.05 When used on lines not arranged to trip ringing during ring cycle, set must be modified as shown in Table A to provide automatic answer. This permits H relay to operate at end of ring cycle.

**TABLE A
MODIFICATION FOR OPERATION OF
H RELAY AT END OF RING CYCLE**

| MOVE STRAP | | OTHER END CONNECTED TO |
|------------------|------------------|---------------------------|
| FROM | TO | |
| 3M of S Relay | 9B of R Relay | 2L of H Relay |
| 9M of R Relay | Tape and Store | 4M of H Relay |

3.06 When connecting data set to a local battery private line, block relays as shown in Table B.

**TABLE B
MODIFICATION FOR PRIVATE LINE USE**

| RELAY | CONDITION | TOOL |
|-------|-----------|------|
| H | Operated | 627A |
| A | Operated | 679A |
| S | Operated | 679A |

3.07 Data Set 401B must meet new signal level requirements which require the signal output of the data sets to reach the serving central office at a level no greater than -12 dBm.

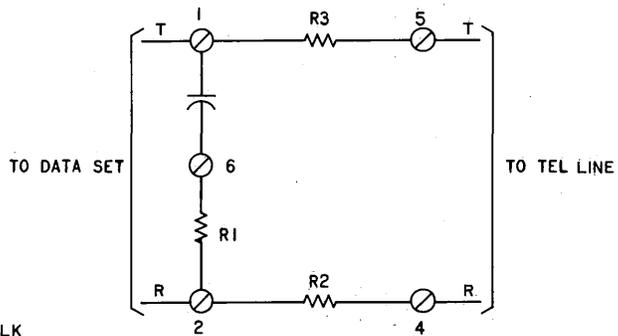
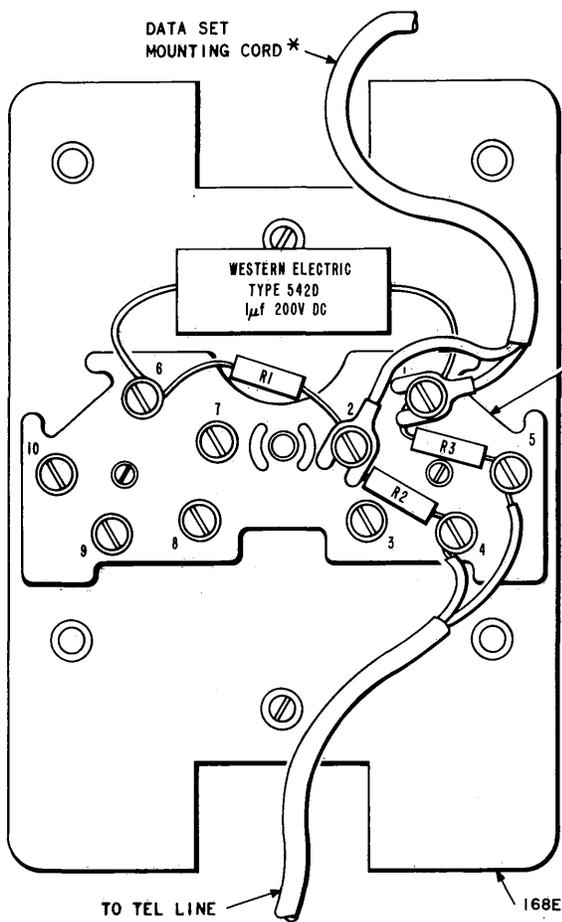
3.08 Table C lists the padding required to meet the new signal level requirements for different values of local loop losses. The local loop losses should be determined from the circuit layout record card.

3.09 Figure 1 provides information needed to locally install the various pads.

**TABLE C
INSERTION PAD VALUES FOR VALUES OF LOOP LOSSES**

| LOOP LOSS IN dB AT 1 kHz | 0-1 * | 1-2 | 2-3 | 3-4 | 4-5 | 5-6 | 6-7 | 7-8 | 8-9 | 9-10 | 10-11 | 11-12 |
|-----------------------------|-------------|-----|-----|-----|-----|-----|-----|---------------|-----|------|-------|-------|
| PAD VALUE (dB) | Use 401J | 6 | 5 | 4 | 3 | 2 | 1 | None Required | | | | |

* Use of Data Set 401B is not recommended



| PAD LOSS (DB) | RESISTOR VALUE (OHMS) | | | |
|---------------|-----------------------|------------------|-----------|---------------------|
| | R1 | | R2 AND R3 | |
| 1 | 8200 | GRAY RED RED | 47 | YELLOW VIOLET BLACK |
| 2 | 3900 | ORANGE WHITE RED | 110 | BROWN BROWN BROWN |
| 3 | 2700 | RED VIOLET RED | 160 | BROWN BLUE BROWN |
| 4 | 2000 | RED BLACK RED | 220 | RED RED BROWN |
| 5 | 1500 | BROWN GREEN RED | 240 | RED YELLOW BROWN |
| 6 | 1100 | BROWN BROWN RED | 270 | RED VIOLET BROWN |

- NOTES:
1. RESISTORS ARE ALLEN BRADLEY, 1 WATT, 5% TOLERANCE (KS-19151 L1). CAPACITOR IS WESTERN ELECTRIC CO. 542D TYPE, 1µF, 200VDC.
 2. A 101C TYPE COVER SHOULD BE USED TO PROTECT THE PAD.
 3. THE PAD VALUE SHOULD BE STENCILED ON COVER FOR FUTURE REFERENCE.

* STORE UNUSED CONDUCTORS ON VACANT TERMINALS

Fig. 1—Insertion Loss Pad Installation and Connection Diagram