# DATA SET 403A-TYPE

# RECEIVER

# INSTALLATION AND CONNECTIONS

## 1. GENERAL

**1.001** This addendum supplements Section 594-023-200, Issue 2.

**1.002** This addendum is reissued to add information on data signal level requirements.

## 2. INSTALLATION

The following additions apply to Part 2:

**2.001** (Add to 2.01 before Note) ▶All in-service data sets must meet new signal level requirements which allow the data signal level to be no greater than –12 dBm as measured at the serving central office.◀

**2.001.1** (Add between 2.01 and 2.02) ▶Table M shows the padding required to insure that Data Set 403A conforms to the new level requirement for different values of local loop loss.◀

## 3. CONNECTIONS

The following changes apply to Part 3:

**3.001** Change the nomenclature A25D mounting cord to A25D connector cable in the following:

(a) Paragraph 3.08

(b) Fig. 4 through 8

(c) Tables C, D, E, F, G, H, and J

**3.001.1** ▶In Table A of the section, change the reference of 10 dB loss in the diagram to 9 dB loss. Change the note under the diagram to read as follows:

***Note:*** Data receiving loop plus the ATTENUATOR should be 9 dB ±3 dB.◀

**3.002** In Table G, sheet 1 includes changes and expanded information in the following columns:

(a) Under A25D CONNECTOR CABLE SET 1, delete Y-S designation located 28 spaces from top of column, and then place Y-S designation, under A25D CONNECTOR CABLE SET 2, 28 spaces from top of column. The Y-S designation is on the same line as G-W designation, located under column A100D (O-W).

(b) Under 101G POWER SUPPLY, delete Bat Gnd, located two spaces from top of column, and place Bat Gnd three spaces from top of column.

(c) Under 101G POWER SUPPLY, place ± sign before Gnd, located six spaces from top of column.

**3.002.1** ▶In Table G, sheet 2 (13 spaces down) under the column heading 100D (G-W), change the BW designation to read BL-W.◀

**3.003** In Table G, sheet 4, include additional information as follows:

(a) Under 101G POWER SUPPLY place ± Gnd in the first space from top of column.

**3.004** The following modifications must be made with the 599H key as referenced in Table D, sheet 3, and Table G, sheet 3. For proper connections and installation of the 599H key, refer to Section 502-630-401.

1—Connect the fixed contact (of space pile up) of the supplementary hold (green) button to terminal 34 of the 50 pin connector on the key.

2—Connect the break contact of same pile up to terminal 10 of the 50 pin connector.

3—Connect the make contact of same pile up to terminal 35 of the 50 pin connector.

**3.005** Modifications to the CALL DIRECTOR® 630 and 631 (referenced in Table D and G, sheet 3, respectively) must be made as follows when used with the 599H key.

1—Remove the brown-black lead from TB1 terminal A-H, and connect it to TB6 terminal RI.

2—Connect yellow-blue (presently unconnected and insulated) lead (spade tipped) to TB6 terminal RI. Other end of this lead is already connected to terminal 41 of the outgoing connector 1.

**3.006** Include the following changes in the appropriate columns in Table D of this section.

(a) Under CONNECTOR CABLE A25D SET 1, change the BL-O designation located seven spaces from top of column to BK-O.

(b) Under CONNECTOR CABLE A25D SET 2, change the BL-O designation located 13 spaces from top of column to BK-O.

(c) Under CONNECTOR CABLE A25D SET 3, change the BL-O designation located 16 spaces from bottom of column to BK-O.

(d) Under A75A (GW), change the Y-G designation located 12 spaces from top of column to W-G.

**3.006.1** (Add between 3.06 and 3.07) ▶Figure 10 shows connections and provides instructions for the local assembly and installation of the line pad, as required. These pads may also be ordered from Western Electric as follows:

| TYPE | LOSS |
|---|---|
| F58101 | 1 dB |
| F58102 | 2 dB |
| F58103 | 3 dB |
| F58104 | 4 dB |
| F58105 | 5 dB |
| F58106 | 6 dB◀ |

## 4. MODIFICATION

**4.01** If interim Data Set 403A does not have external answer-back feature, the following information will provide the connection points for J (external) or K (internal) option.

***Note:*** Power should be off before work is performed on the data set.

**4.02** To provide internal or external answer-back connections for both receivers in Data Set 403A, the following must be accomplished (see Fig. 9):

**Receiver No. 1**

(a) Unsolder wire from terminal 17 on CP AR48 and solder to terminal 8 of terminal board TB1.

(b) Solder wire between terminal 17 of CP AR48 and 9 of TB1.

**Receiver No. 2**

(a) Unsolder wire from terminal 17 on CP AR48 and solder to terminal 33 of TB1.

(b) Solder wire between terminals 17 of CP AR48 and 34 of TB1.

**4.03** The option to be installed for internal (K) or external (J) answer-back is provided for each receiver as shown in Table K.

***Note:*** Either J or K option can be used, but not both at the same time. The nonoperative option must not be connected.

**4.04** When connecting Data Set 202D or 402C to the telephone line through Data Set 403A, terminal connections are shown in Table L. ▶The output level of Data Set 202D or 402C must be set along with the level of Data Set 403A in accordance with 2.01.◀

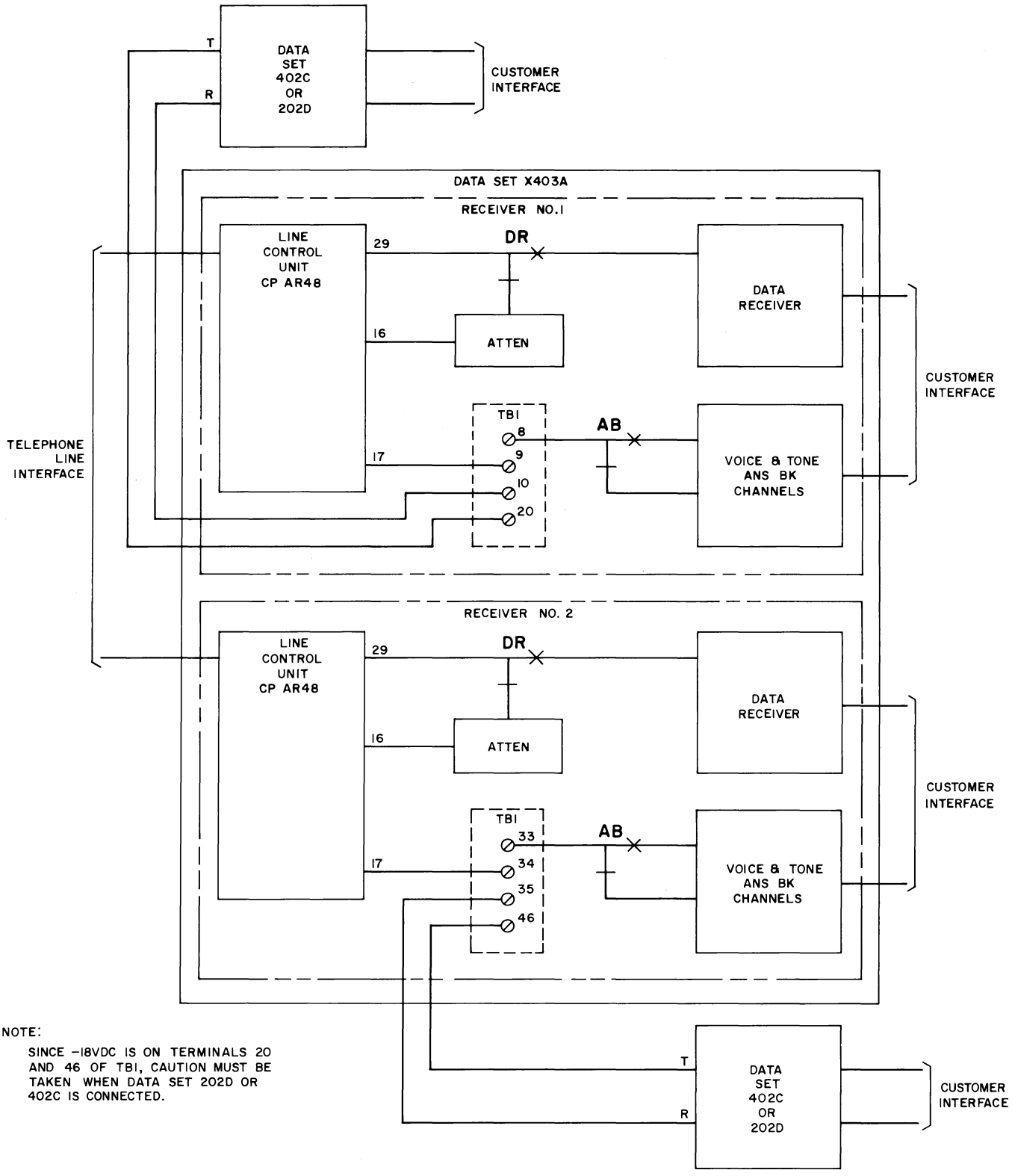
***Note:*** To place the data detection circuitry of Data Set 403A on the telephone line, the DATA RECEIVE LEAD in Data Set 403A

must be in an on condition which is controlled by the customer.

**4.05** Data Set 202D or 402C, used as illustrated in Fig. 9, should be conditioned for 2-wire private line service as follows:

(a) Data Set 202-type conditions for private line service are given in section entitled Data Set 202D Type Transmitter-Receiver, Connections (592-016-400). Strap options X and Z along with work order sheet options.

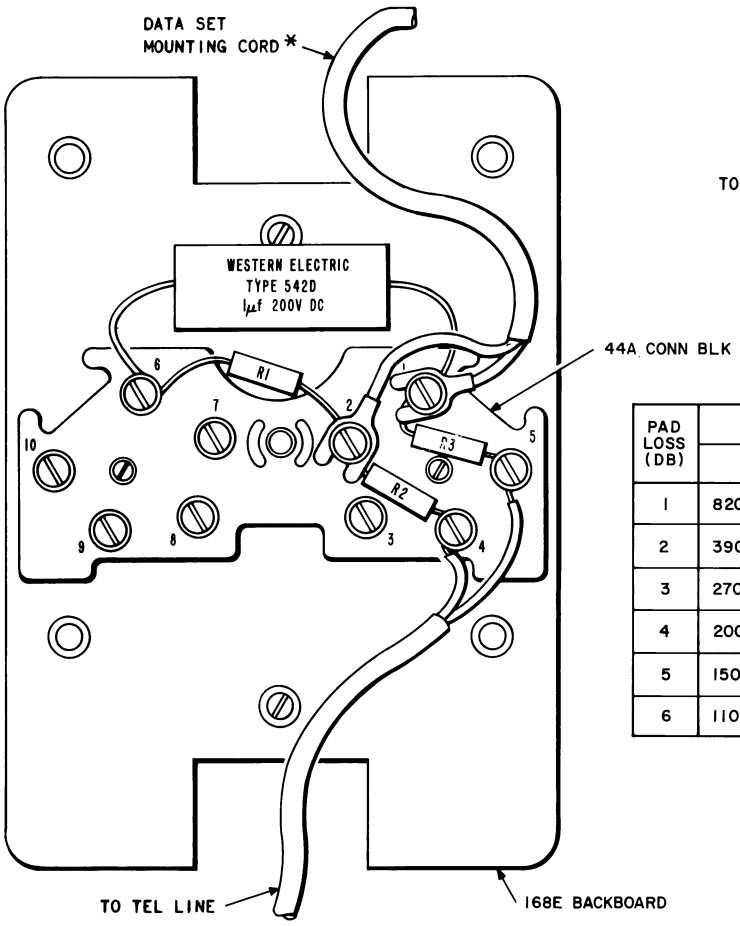
(b) Data Set 402C, terminals 34 and 37 on TB1 should be strapped together. Option W is removed and V option is strapped along with the required work order sheet.

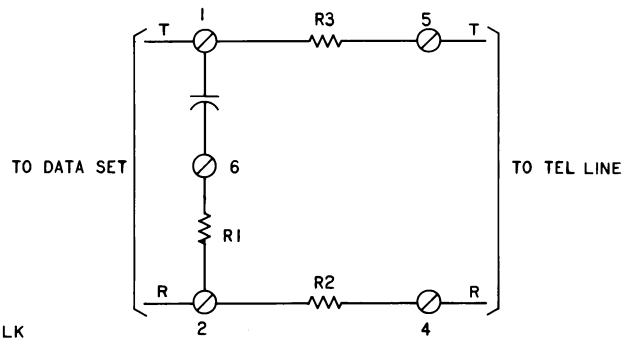



NOTE:

SINCE −18VDC IS ON TERMINALS 20 AND 46 OF TBI, CAUTION MUST BE TAKEN WHEN DATA SET 202D OR 402C IS CONNECTED.

**Fig. 9—Connections Providing Supervisory Control in Data Set 403A When Data Set 202D or 402C is Used**




| 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, 1UF, 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. 10—Pad Construction and Connections**

**TABLE K**

| FEATURE | OPTION DESIGN | CONNECTION ON TB1 | |
|---|---|---|---|
| | | RECEIVER 1 | RECEIVER 2 |
| Answer-back | Internal K* | 8-9 | 33-34 |
| | External J* | 9-10 | 34-35 |

* Only internal answer-back feature was provided with interim data set.

## TABLE L

| TERMINAL OF DATA SETS 202D OR 402C | CONNECT TO TERMINALS ON TB1 OF DATA SET 403A | | OPTION STRAPPED IN DATA SET 403A |
|---|---|---|---|
| | RECEIVER 1 | RECEIVER 2 | |
| T (tip) | 20 | 46 | J |
| R (ring) | 10 | 35 | |

## ♦TABLE M♦

### PAD LOSS REQUIRED FOR GIVEN LOOP LOSS

| LOOP LOSS AT 1 kHz (dB) | PAD LOSS REQUIRED (dB) |
|---|---|
| 0 - 1 | 6 |
| 1 - 2 | 5 |
| 2 - 3 | 4 |
| 3 - 4 | 3 |
| 4 - 5 | 2 |
| 5 - 6 | 1 |
| 6 - 7 | None Required |
| 7 - 8 | |
| 8 - 9 | |
| 9 - 10 | |
| 10 - 11 | |
| 11 - 12 | |