

## DATA SET 402A TRANSMITTER INSTALLATION AND CONNECTIONS

### 1. GENERAL

**1.01** This section contains installation and connection information for Data Set 402A. Information covering the business machine associated with the data set is not included.

**1.02** This section is reissued to add information on data signal level requirements. Due to extensive changes, arrows normally used to indicate changes are omitted.

### 2. INSTALLATION

**2.01** The data set shall be installed in conformance with existing practices covering installation of station sets.

**2.02** The set must be located within range of the interface cord provided for connection to the business machine or the business machine interface cord.

- The length of the data set cord (P-43P570 cord assembly 5-1/2 feet) is determined by circuit requirements and must not be altered.



*To avoid possible interruption during data transmission, it is preferable that no extension stations or key telephone systems be connected on the data line and that party lines be avoided.*

**2.03** A 105- to 120-volt ac receptacle is required for the 2012-type transformer. The receptacle should be on a circuit not controlled by a switch.

- The length of wire between the transformer and the data set connecting block must not exceed 150 feet of paired station wire.

**2.04** All in-service data sets must meet signal level requirements which allow the data signal level to be no greater than -12 dBm as

measured at the serving central office. If output of data set cannot be adjusted, external padding is required.

**2.05** Table A shows the padding required to insure that the 402A conforms to the level requirement for different values of local loop loss.

**TABLE A**

**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	

**2.06** Verify that telephone loop facilities assigned have been tested to insure that they meet transmission requirements before proceeding with the installation. These transmission requirements are given 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).

2.07 To minimize inductive interference to the data signal on the telephone (data) line, the line should not be carried in the same run with the cable between the data set and the customer business machine or lines carrying teletypewriter services. If this requirement cannot be met, it will be necessary to run the telephone (data) line in SK (shielded) wire between the data set and cable distribution terminal or building entrance.

3. CONNECTIONS

3.01 Figure 1 shows the telephone set schematic and connections for Data Set 402A.

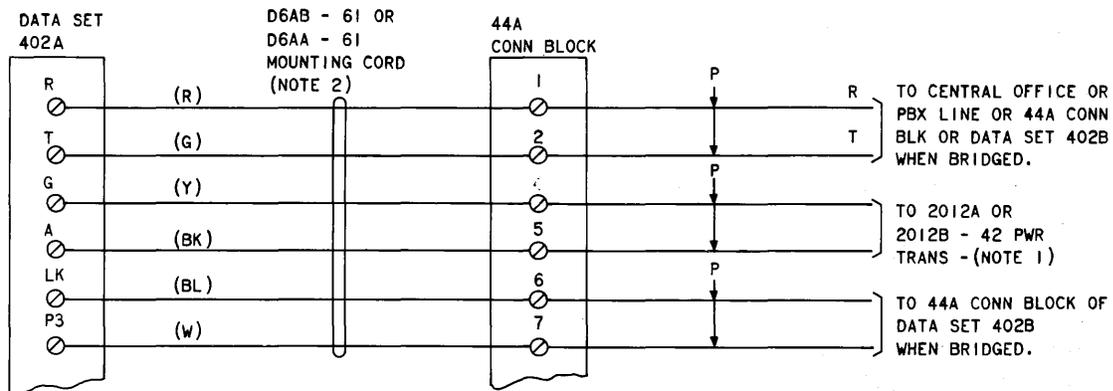
3.02 For connecting Data Sets 402A and 402B bridged on the line, use Fig. 1 in conjunction with the section entitled Data Set 402B—Receiver—Installation and Connections (594-017-200), which is the connection practice for the 402B.

3.03 Figure 2 shows connections and provides instructions for the local assembly and installation of the line loss pad, as required.

The loss pads may also be ordered from Western Electric as follows:

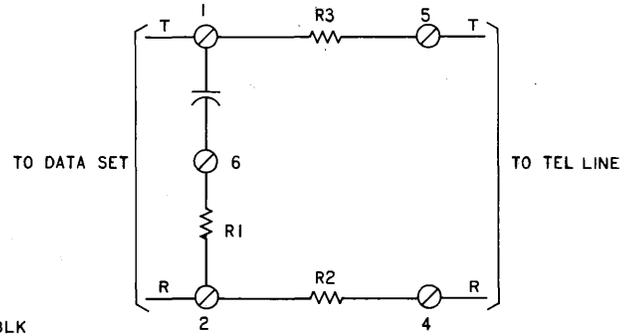
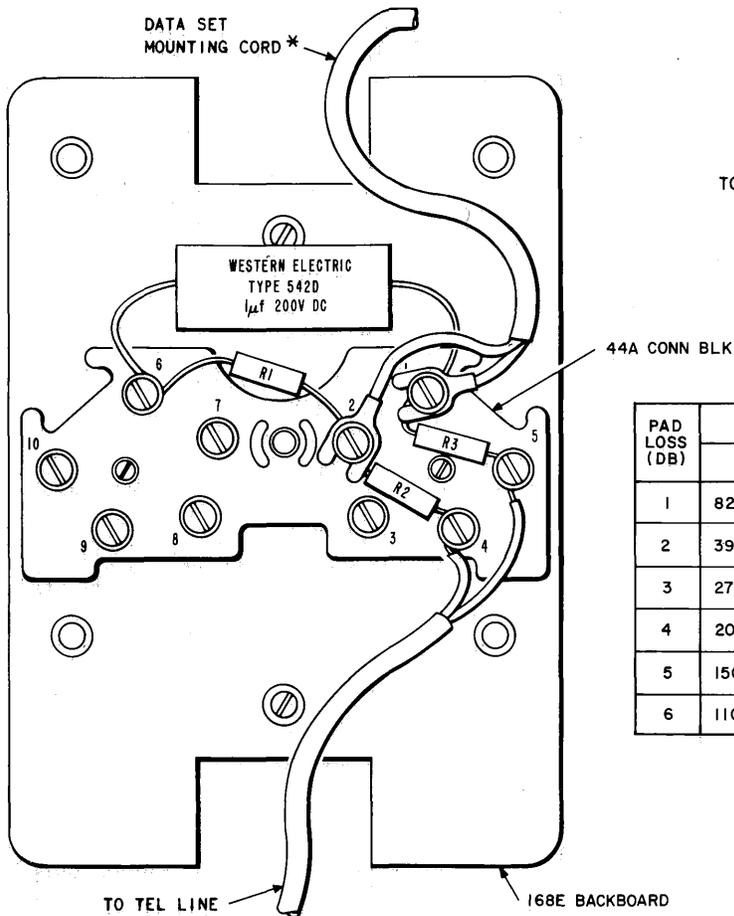
TYPE	LOSS
F58101	1 dB
F58102	2 dB
F58103	3 dB
F58104	4 dB
F58105	5 dB
F58106	6 dB

3.04 Perform tests on the data set using procedures given in the section entitled Data Set 402A—Transmitter—Test Procedures (594-016-500).



- NOTES:
1. NOT OVER 150 FEET OF PAIRED STATION WIRE BETWEEN 44A CONNECTING BLOCK AND THE 2012A OR 2012B - 42 TRANSFORMER.
  2. D64B - 6I MOUNTING CORD USED ON SETS EQUIPPED WITH 13A-TYPE APPARATUS UNIT.  
D6AA - 6I MOUNTING CORD USED ON SETS EQUIPPED WITH 13B-TYPE APPARATUS UNIT.

Fig. 1—Data Set 402A Connections



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. 2—Insertion Loss Pad Connections