

1001D DATA COUPLER

DESCRIPTION, INSTALLATION, MAINTENANCE, AND TESTS

1. GENERAL

1.001 This addendum supplements Section 590-103-109, Issue 3. The attached pages must be inserted in accordance with the following filing instructions:

- (1) Remove from the section the pages numbered the same as those attached to this pink sheet.
- (2) Insert the attached pages with the same page number in their place. Insert point-numbered pages (eg, 12.1/12.2) following the page with the same basic number.
- (3) Place this pink sheet ahead of Page 1 of the section.

1.002 This addendum is issued to add coverage on the 502BM, 2502BM, 503CM, and 2503CM modular telephone sets.

3. OPTIONS

The following changes apply to Part 3 of this section:

- (a) 3.02—revised
- (b) 3.02.1—added
- (c) 3.02.2—added
- (d) Fig. 8.1 and 9.1—added

5. MAINTENANCE AND TESTS

The following changes apply to Part 5 of this section:

- (a) 5.18—revised
- (b) Minor Heading and 5.20—added

Attached:

Pages 9 and 27 dated July 1978, revised
Pages 10 and 28 dated July 1978, reissued
Pages 10.1, 12.1/12.2, and 14.1/14.2 dated July 1978, added

NOTICE

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interface leads provide the customer with the status of the line switch on an associated telephone set when used with the data coupler. When a telephone set is provided, the exclusion key and telephone set ringer wiring options must be specified on the service order. The exclusion key options provide for either the coupler to control the line or the telephone set to control the line. Telephone set ringer options provide the desired ringing features for each of the two line control options. A description of these options is included in the following paragraphs.

- (a) **Option A—Coupler Controls Line (Automatic Operation)**
- (b) **Option B—Telephone Set Controls Line**
- (c) **Option C—With Ringer Connected on Telephone Set Side of Exclusion Key:**

- (1) When coupler controls line

When the exclusion key **is not operated**, the coupler RI interface lead can be activated but the telephone set cannot ring.

When the exclusion key **is operated**, the telephone set cannot ring and the coupler RI interface lead cannot be activated (since handset must be lifted to operate exclusion key and this causes dial tone).

- (2) When telephone set controls line

When the exclusion key **is not operated**, the telephone set can ring but the coupler RI interface lead cannot be activated.

When the exclusion key **is operated**, the coupler RI interface lead can be activated but the telephone set cannot ring.

- (d) **Option D—With Ringer Connected on Telephone Line Side of Exclusion Key:**

- (1) When the coupler controls line

When the exclusion key **is not operated**, the coupler RI interface lead can be activated and the telephone set can ring.

When the exclusion key **is operated**, the telephone set cannot ring and the coupler

RI interface lead cannot be activated (since handset must be lifted to operate exclusion key and this causes dial tone).

- (2) When telephone set controls line

When the exclusion key **is not operated**, the telephone set can ring but the coupler RI interface lead cannot be activated.

When the exclusion key **is operated**, the telephone set can ring and the coupler RI interface lead can be activated.

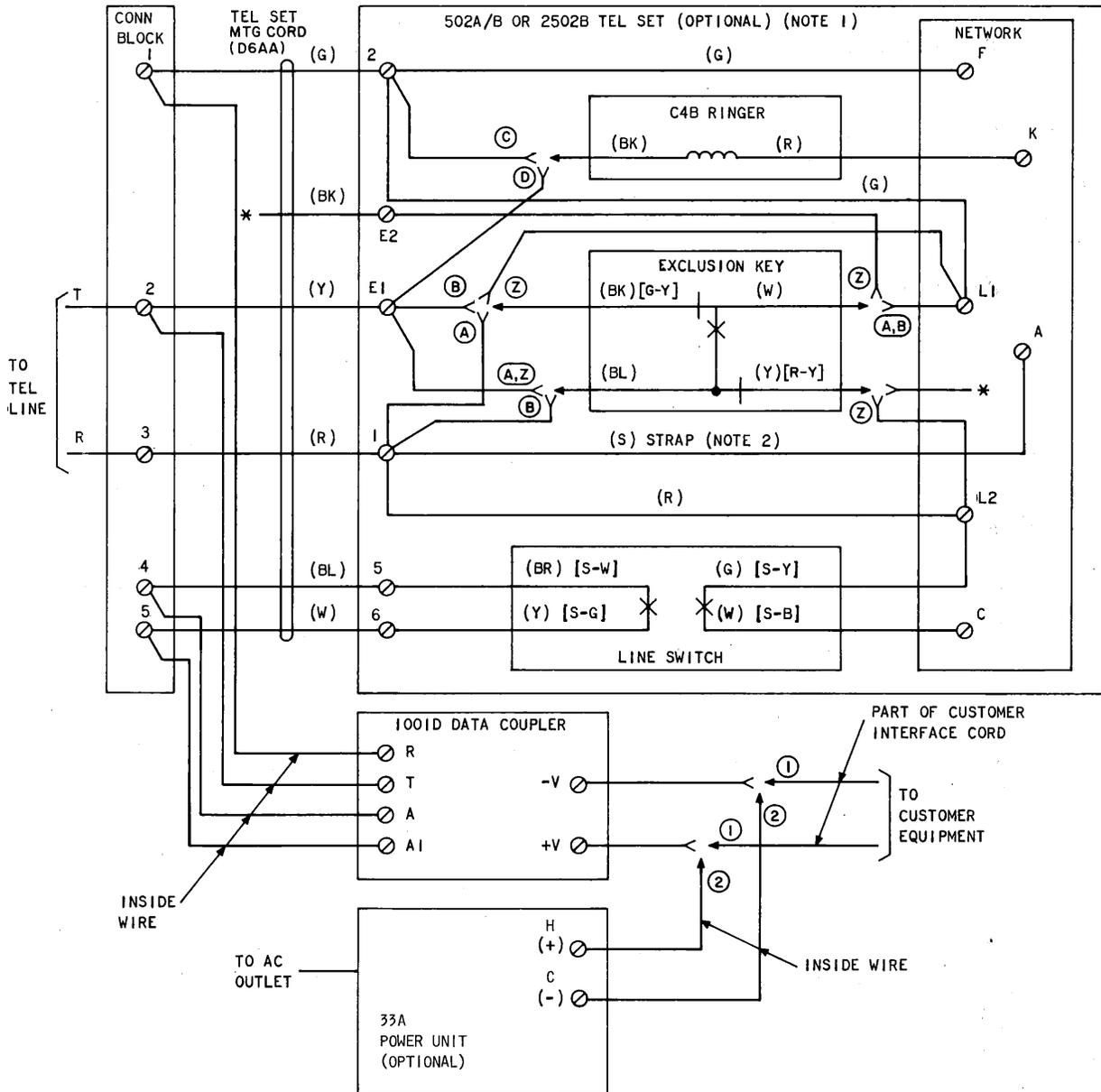
3.02 Options specified in 3.01 apply to the standard [502A/B or 2502B (Section 502-501-102 or 502-503-102)] as well as the multifunction telephone (MFT) [503C or 2503C (Section 502-501-120 or 502-503-120)] when used with the 1001D data coupler. Connections for these options using the 502- and 2502-types are shown in Fig. 7. Additional options are available using the MFT, and are discussed in 3.03, and shown in Fig. 8 and 9. ♦A 558FM or 2558DM wall telephone set with exclusion feature may be used; this will require local engineering.♦

3.02.1 ♦The 502B and 2502B telephone sets shown in this section have been superseded by the 502BM and 2502BM, which are modular versions of these sets. The modular sets are available with an eight conductor cord which allows the sets to be plugged into the same series jack as shown in this addendum for 503CM and 2503CM telephone sets. When using the 502BM and 2502BM sets with data access arrangements in this way, it is necessary to order separately a D-180810 kit of parts and a D8AA-87 cord. Connection details are shown in supplements for Sections 502-501-102, Issue 3 (502BM) and 502-503-102, Issue 3 (2502BM).♦

3.02.2 ♦The 503CM and 2503CM telephone sets (Fig. 8.1 and 9.1) are the modular equivalent of the 503C and 2503C, respectively. MI connects to A and MIC connects to A1 in the data coupler arrangement.♦

3.03 The 503C (rotary dial) and the 2503C (TOUCH-TONE dial) telephone sets furnish the customer the following additional options.

- Allows monitoring of data transmission and voice answer-back signals through the telephone handset as used in digital inquiry voice answer-back (DIVA) applications.



NOTES:

1. EXCLUSION KEY AND RINGER MUST BE REWIRED FOR DESIRED OPTION.
2. IF C4A RINGER IS USED, WIRE AS FOLLOWS:
 (BK) TO 2 OR E1, DEPENDING ON OPTION USED
 (S) TO K OF NETWORK
 (S-R) TO A OF NETWORK
 (R) TO 1 OF TERMINAL STRIP

- Ⓢ ORIGINAL FACTORY WIRING OF TEL SET
- ① POWER FURNISHED BY CUSTOMER
- ② OPTIONAL TELCO FURNISHED UNIT
- * INSULATE AND STORE
- () CURRENT COLOR CODE
- [] MD COLOR CODE

EXCLUSION KEY OPTION	WIRING OPTION
COUPLER CONTROLS LINE	A
TEL SET CONTROLS LINE	B

RINGER OPTIONS	WIRING OPTION
RINGER ON TEL SET SIDE OF EXCLUSION KEY	C
RINGER ON TEL LINE SIDE OF EXCLUSION KEY	D

Fig. 7—Typical Connections for 1001D Data Coupler With 502A/B or 2502B Telephone Set

- Provides an indication of whether telephone line is connected to telephone set or data coupler, or it may be used to provide an indication of SH (ie, on-hook or off-hook).

These additional features provided by the 503C (or 2503C) telephone set necessitate the use of a triple transfer exclusion key and a high-impedance

bridging transformer in the telephone set. One set of the exclusion key contacts switches the line between the telephone and the coupler. The second set switches the monitoring circuit, and the third set provides the mode indication. The high-impedance transformer allows the attendant to monitor data transmission with the telephone handset. Both sets are in a light gray housing; however, they

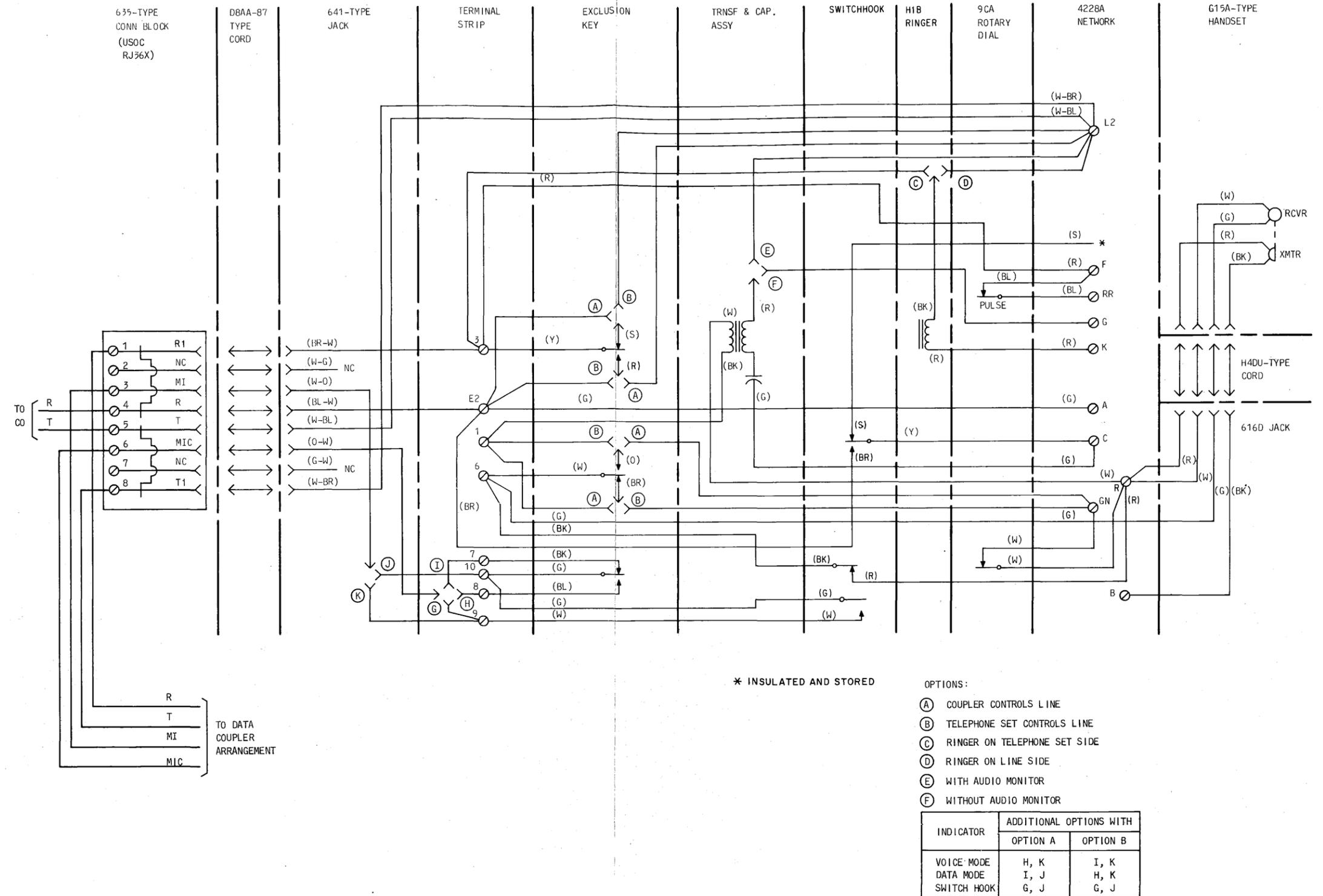


Fig. 8.1—Typical Connections for 1001D Data Coupler With 503CM Telephone Set

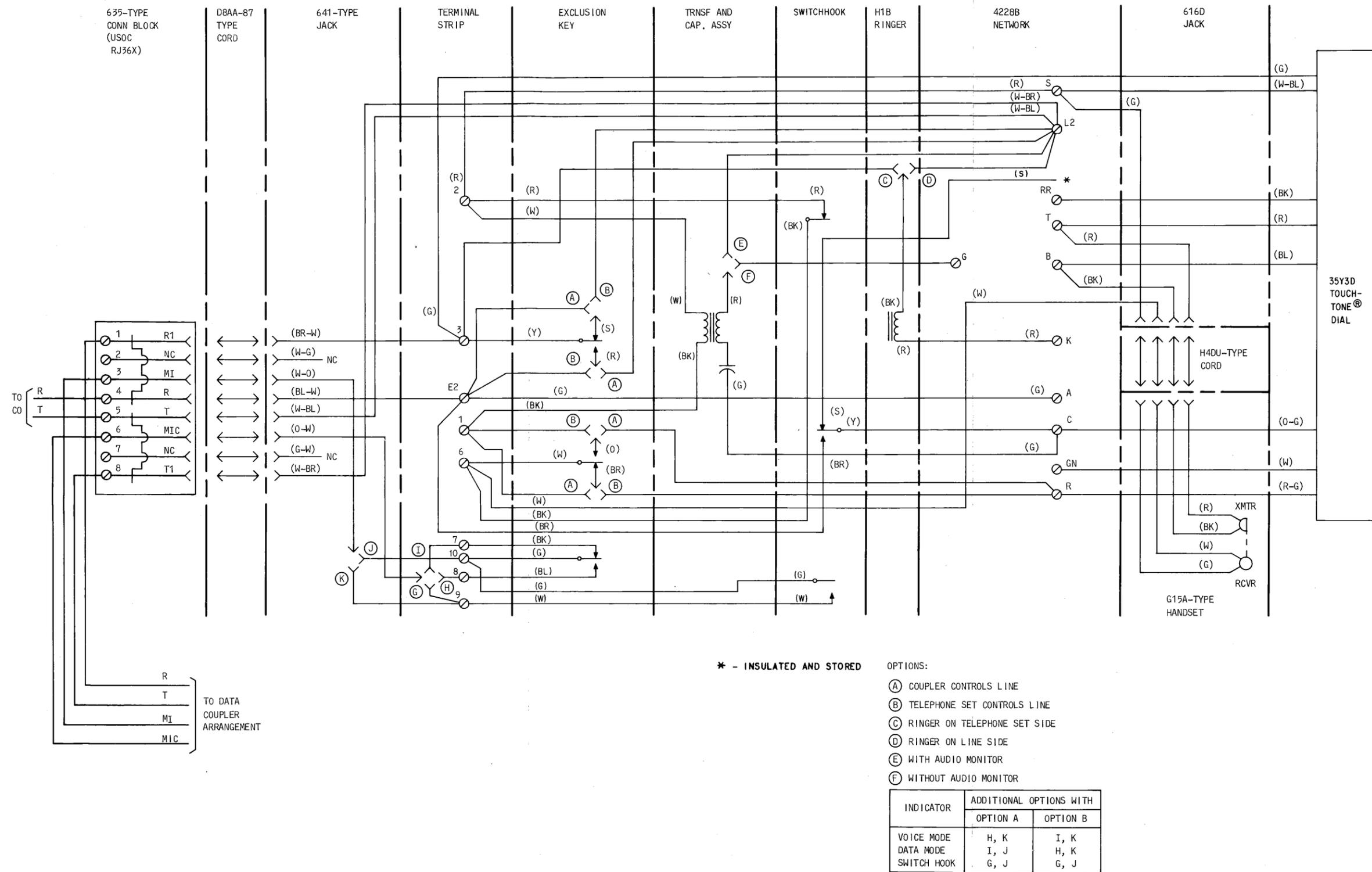


Fig. 9.1—Typical Connections for 1001D Data Coupler With 2503CM Telephone Set

(6) Remove handset on telephone and connect meter between terminals SH (or MI) and SH1. The meter indicates continuity between the terminals to check the switch contact status circuit.

(7) Replace handset on telephone. An open is indicated on the meter between terminals SH (or MI) and SH1.

(8) Remove the power unit, meter, and straps from the coupler.

(9) Reconnect customer interface leads to the coupler. Request customer to verify connections.

LCSI Test

5.16 This test should be used to verify proper operation of the LCSI. This test is performed by disconnecting the customer LCSI interface only.

LCSI With Option Z

(1) Measure the resistance between terminals SH (or MI) and SH1. The meter should indicate an open circuit.

(2) Operate TST key.

(3) Initiate a call to the coupler.

(4) Measure the resistance between terminals SH (or MI) and SH1. The meter indicates a short circuit.

(5) Restore TST key to normal.

LCSI With Option Y

(1) Measure the resistance between the two terminals on the separate connecting block

at the customer interface. The meter indicates an open circuit.

(2) Operate TST key.

(3) Initiate a call to the coupler.

(4) Measure the resistance between the two terminals on the separate connecting block. The meter indicates a short circuit.

(5) Restore TST key to normal.

503C or 2503C Telephone Set Test

5.17 This test verifies that the telephone set mode indication and audible monitor features are operating properly. The requirements of this test are based on the logic sense which gives a contact closure when the telephone set is connected to the line. In all other cases, the mode indication will be an open. The customer MI interface must be open for this test.

5.18 Lift telephone handset. Using the VOM, make resistance measurements between terminals MI (or SH) and SH1 on the data coupler, in accordance with the options installed and Table D. Return handset to cradle.

Note: It is only necessary to make the one pair of readings corresponding to the options installed.

5.19 Initiate a call to the coupler. Lift handset to answer call. After a 3-second delay, a 2800-Hz tone is heard in handset.

503CM or 2503CM Telephone Set Test

5.20 This test is the same as that described in 5.17 through 5.19.

TABLE D

MFT SET TEST WITH 1001D DATA COUPLER

INDICATOR	OPTIONS INSTALLED	OHMMETER READING	
		EXCLUSION KEY	
		UP	DOWN
Voice Mode	A, H, K	0	∞
Data Mode	A, I, J	∞	0
Switchhook	A, G, J	0	0
Voice Mode	B, I, K	∞	0
Data Mode	B, H, K	0	∞
Switchhook	B, G, J	0	0

Note: Switchhook operated for all readings.

6. REFERENCES

6.01 The following BSPs provide additional information that may be helpful in installing the data coupler:

SECTION	TITLE	SECTION	TITLE
010-250-001	Crediting Charges on Test Calls	502-501-102	Arrangements on Direct Distance Dialing Network—Test Requirements for Subscriber, Foreign Exchange, and Remote Exchange Lines
010-521-100	Data Technical (DATEC) Support		Reference—502-, 510-, 511-, 515-, 555-, and 558-Type Telephone Sets
010-521-101	Data Technical (DATEC) Support—Designee Directory	502-501-120	Reference—503B, 503BM, 503C, 503CM, 513B, and 513BM Telephone Sets
167-440-201	19- and 20-Type Power Units—Identification, Installation, Connections, and Maintenance	502-503-102	Reference—2502-, 2510-, 2511-, 2515-, 2555-, and 2558-Type Telephone Sets
167-445-101	28A1-Type Power Units—Identification, Installation, and Connections	502-503-120	Reference—2503-Type Telephone Sets
167-452-101	33A Power Unit—Identification, Installation, and Connections	590-010-200	Data Sets and Data Access Arrangements—General Installation and Connection Information
314-205-500	Data Systems—DATAPHONE® Service and Data Access Arrangements on Direct Distance Dialing Network—Overall Data Transmission Test Requirements	660-101-312	Maintenance Service Charge on Services With Customer-Provided Equipment (CPE)
314-205-501	Data Systems—DATAPHONE® Service and Data Access	SD-&CD-1D206-01	1001-Type Data Couplers