

DATA SET 103G-TYPE INSTALLATION AND CONNECTIONS

1. GENERAL

1.01 This section describes the procedures to be followed for the installation of Data Set 103G-type (Fig. 1).

1.02 This section is reissued to provide information on the Data Sets 103G5 and 103G6 which use the Data Set 103E6. Coverage of the Data Sets 103G1 through 103G4, which use Data Set 103E5, is retained to provide information for the equipment still in service. Since this reissue covers a general revision and extensive changes have been made throughout the section, change arrows have been omitted.

1.03 Data Set 103G-type should be installed in conformance with existing practices covering the installation of station sets.

1.04 The data set must be located within range of the customer-provided interface connector cord. This cord should not exceed 50 feet in length.

1.05 The customer must furnish a standard 3-wire grounding type 117-volt, 60-Hz ac power receptacle (capable of accepting a plug with two parallel blades and a round-shaped grounding pin). The receptacle must not be under control of a switch.

1.06 Verify that the overall facilities have been tested and meet transmission requirements specified in the section entitled Data Systems on Direct Distance Dialing Network, DATA-PHONE® Services—Transmission Requirements, DATA-PHONE Subscriber Lines (314-205-501).

1.07 To minimize the possibility of data errors due to a potential difference between data set ground and business machine ground, the power receptacle for the data set should be served from the same ac distribution panel as the power outlet for the business machine. If they are not served from the same panel, a test using the 6A impulse counter should be made to detect if excessive

noise is present. The test procedure is described in the section entitled Data Set 103G-Type—Test Procedures (591-026-500). If the 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 regulations.

Note: When Data Auxiliary Set 801-type (automatic calling unit) is installed, a test between the data auxiliary set, data set, and the business machine must also be performed.

2. INSTALLATION

2.01 In addition to the standard installation tools and equipment, the following test equipment will be required:

1—901B Data Test Set

1—TTS-28 Portable Station Test Set (or equivalent. See Section 107-304-100).

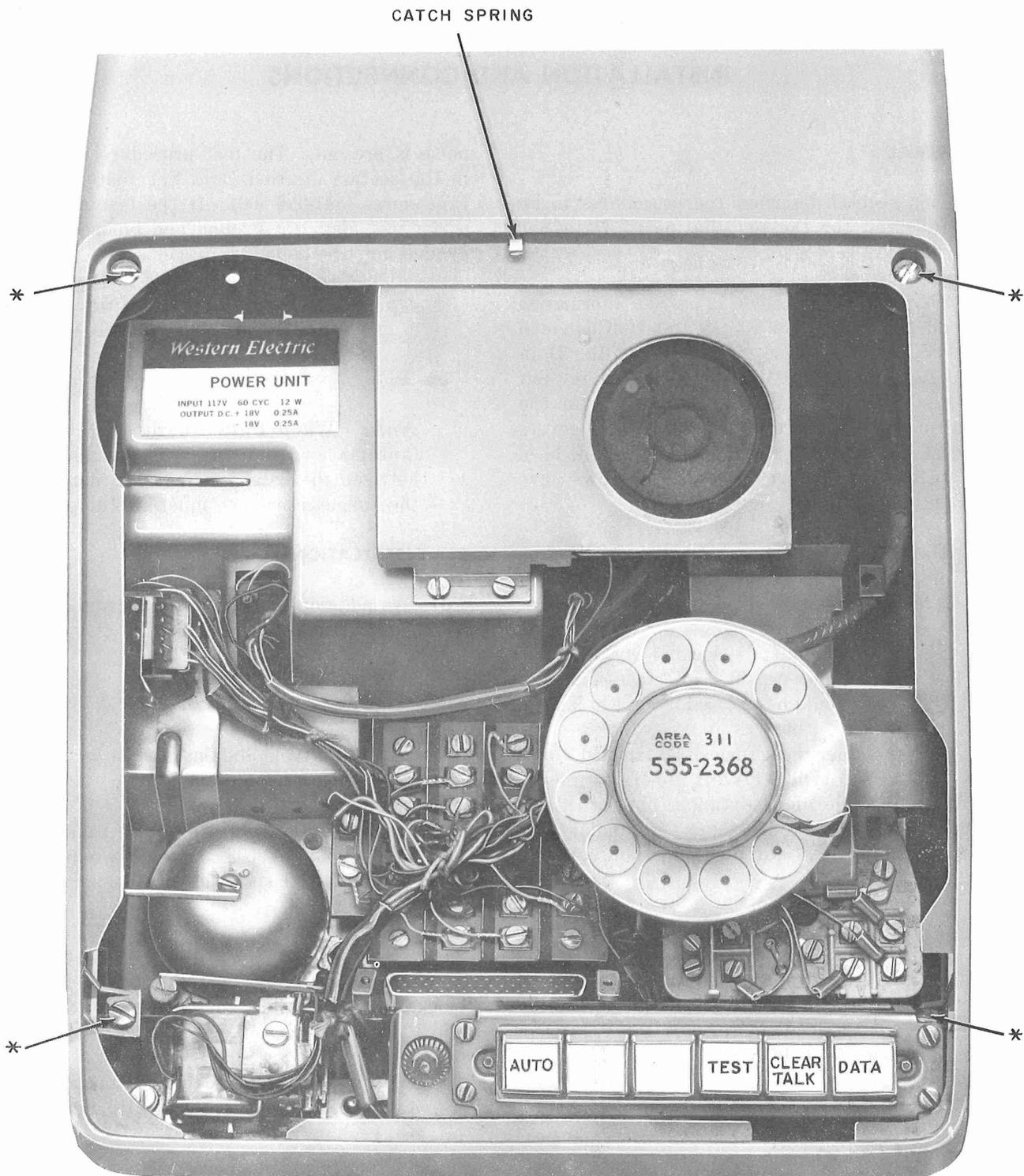
2.02 Install options on the circuit packs of Data Set 103E5 or 103E6 as shown in Table A. Options should be specified on the service order or work sheet.

2.03 Options are installed by tightening or loosening screws on the circuit pack terminal blocks located at the rear of the Data Sets 103E5 and 103E6.

Note: Reference to Fig. 2 may be helpful to locate the option screws to be tightened for each option.



Exercise care when tightening option screws to prevent stripping the terminal blocks. When screws are to be loosened, loosen screw less than three complete turns but more than two complete



* COVER RETAINING SCREWS

Fig. 1—Data Set 103G-Type—Top View With Cover Removed

TABLE A
FEATURE OR OPTIONS

FEATURE OR OPTION		DESIG	CP NO.	SCREW SETTING	
				LOOSEN	TIGHTEN
Answer mode indication	CE ON	X*	CJ9 or CJ14	1	2
	CE OFF	W†		2	1
Space disconnect	LONG	V*†	CJ10	3	8
	SHORT	H			3 and 8
	NONE	W/O V, H		3 and 8	
Send disconnect	YES	T*	CJ10		1
	NO	W/O T		1	
Loss of carrier disconnect	YES	S	CJ10		4
	NO	W/O S*†		4	
Common grounds	YES	Q*†	CJ9 or CJ14		10
	NO	W/O Q		10	
Originate only test	YES	G	CJ10		12
	NO	W/O G*		12	
ANS/ORG transfer	WITHOUT	N*†	CJ10		10
	WITH	W/O N		10	
Answer Control	COMBINED	M*†	CJ9		9
	SEPARATE	W/O M		9	
CB and CF indications	COMMON	A†	CJ9 or CJ14	5 and 7	4 and 6
	SEPARATE	B*		4 and 6	5 and 7
CC Indication Early	YES	ZD	CJ14		12
	NO	W/O ZD*		12	

Notes:

1. Options marked thus (*) are factory furnished options.
2. Installation of options marked thus (†) will provide service equivalent to 103A.

turns. Three or more turns will cause screw to bind on data set cover.

Data Auxiliary Set 801-Type

2.04 Only three types of Data Auxiliary Set 801-type are compatible for use with Data Set 103G-type. The types are listed as follows:

- Data Auxiliary Set 801A5 (dial pulse)
- Data Auxiliary Set 801C3 (TOUCH-TONE® calling)
- Data Auxiliary Set 801C4 (TOUCH-TONE calling).



Specific options which must be installed in the data auxiliary sets are shown in Table B. Options which must not be used are shown in Table C. Refer to the appropriate sections covering the type of data auxiliary set being installed for option connections. In addition, a change of the Data Set 103G-type handset will be required when ground-start lines are used. The new handset provides a means for obtaining a dial tone should an ac power failure occur and inhibit this function of the ACU. This change is covered in Table D.

2.05 When Data Auxiliary Set 801A5 or 801C3 is installed, verify that the telephone line is arranged for ground-start operation. Data Auxiliary Set 801C4 may be option-strapped for either loop-start or ground-start operation.

2.06 If Data Auxiliary Set 801C-type is installed, verify that the telephone line is arranged for TOUCH-TONE service.

2.07 If Data Auxiliary Set 801-type is equipped with an M14C-61 (N option) mounting cord, this cord must be removed and a D10P-61 (M option) mounting cord installed. When changing cords or if a data auxiliary set is equipped with a D10P-61 cord, ensure that the S-W mounting cord conductor is connected to terminal TB2-3 as shown in Fig. 4.

2.08 In addition to the specific options shown in Table B, Data Auxiliary Set 801-type must

be option-strapped for compatibility with the business machine. Table C shows the options that should not be used with Data Set 103G-type.

3. CONNECTIONS

Note: If Data Set 103G3 is to be installed, a 2075A Transformer must be ordered to supply power for the 41A and 41B card dialer. The transformer is not furnished as part of the data set.

3.01 The telephone line connections for Data Set 103G-type without Data Auxiliary Set 801-type are shown in Fig. 3.

3.02 The connections for Data Set 103G-type and Data Auxiliary Set 801-type are shown in Fig. 4.

3.03 If the service order does not specify the transmitter power level to be used, adjust the level as follows:

- (a) Place a call to the 1000-Hz, 1-mW terminal in the serving central office.
- (b) Using the transmission measuring set, measure and record the level of the received tone (measured loss).



For this measurement the telephone line shall be terminated with a 900-ohm impedance and the received signal filtered to provide at least 25 dB attenuation at 60 Hz. The TTS-28 test provides the termination and filter required when the FUNCTION switch is set to the DBM 900Ω TERM position. The data set should not be connected to the telephone line during this test.

- (c) Disconnect the transmission measuring set.
- (d) Using the 901B Data Test Set cover, connect test adapter connector cord (W25A) to Data Set 103G-type. Connect spade-tipped flexible strap between the EQ terminals of 9 and 20.

Note: This provides a voltage of between +5 and +25 volts dc to the CD lead of Data Set 103G which is required during level adjustment of the transmitter.

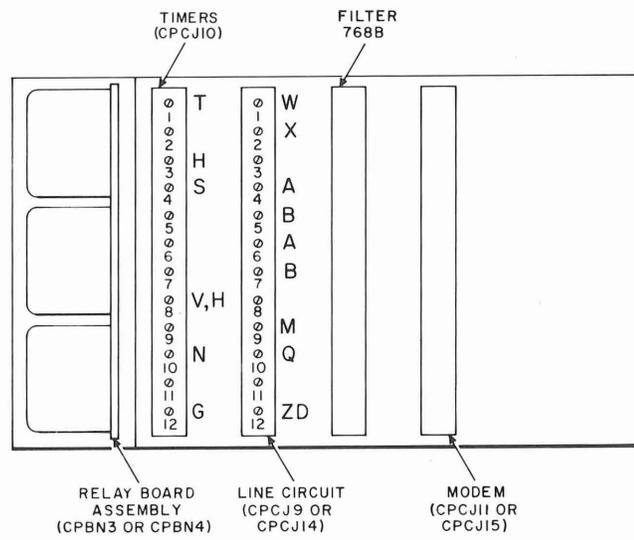


Fig. 2—Data Set 103G-Type—Circuit Pack Locations and Option Screw Settings on Data Sets 103E5 and 103E6

TABLE B

DATA AUXILIARY SET 801-TYPE

REQUIRED OPTIONS FOR USE WITH DATA SET 103G-TYPE

FEATURE OR OPTION	DESIGNATION OPTION
Data set to data mode by grounded contact	ZG
Grounded TK and CL contacts	ZB
Data set answer detection without end of number	E
2-wire	ZH*
DLO controlled by ACU	ZM*

* DAS 801C only

TABLE C

DATA AUXILIARY SET 801-TYPE

OPTIONS NOT USED WITH DATA SET 103G-TYPE

FEATURE OR OPTION	OPTION DESIGNATION
Data set to data mode by contact to D1	Q
Data set to data mode by isolated contact	F
ACU answer detection or end of number	B
Isolated TK contact	ZA
Isolated CL contact	ZC
Ground start (4-wire)	ZK*
4-wire	ZJ*
Terminate call via data set after DSS goes on (line transfer) in test	G
Terminate call via CRQ after DSS goes on (line transfer)	Z
DLO controlled by ACU and data set	ZL*

* DAS 801C only

(e) Connect T and R (See Fig. 3 or 4) to the TTS-28 test set and set the function switch to the DBM 900Ω TERM position. If a Data Auxiliary Set 801-type is used, remove ac power from the DAS 801 before making this measurement.

(f) Release the AUTO key.

(g) Operate DATA key and release when DATA lamp lights.

(h) Simultaneously operate the DATA and TEST keys, then release both.

(i) Using Table E, locate under the 1000-Hz MEASURED LOSS column the measured loss value recorded in (b) and adjust potentiometer R34 on CP CJ11 or CP CJ15 until the TTS-28 indicates the corresponding dBm reading listed in the OUTPUT LEVEL DBM column.

(j) Disconnect the VOM and the 901B Data Test Set cover.

3.04 If the transmitted power to be used is specified on the service order, adjust the level as outlined in 3.03(d) through 3.03(j), ignoring the measured loss column in Table E.

TABLE D
DATA SET 103G-TYPE
CONNECTIONS FOR USE WITH DATA AUXILIARY SET
(GROUND-START OPERATION)

HANDSET	REMOVE		CONNECT	
	LEAD	TERM. NO.	LEAD	TERM. NO.
G3AR-61	BK	L1 (NETWORK)		
	R	10 (TB1)		
	W	11 (TB1)		
	W	2 (TB1)		
G5KR-61			R	L1 (NETWORK)
			R	10 (TB1)
			W	11 (TB1)
			W	2 (TB1)
			BK	B (NETWORK)
			BK	21 (TB1)

TABLE E**F₂ TRANSMIT LEVEL**

1000-Hz MEASURED LOSS	F ₂ OUTPUT LEVEL dBm
Above 12 dB	0
10 to 12 dB	-2
8 to 10 dB	-4
6 to 8 dB	-6
4 to 6 dB	-8
2 to 4 dB	-10
0 to 2 dB	-12

4. INSTALLATION TESTS

4.01 At the completion of the installation for Data Set 103G-type, refer to the section entitled Data Set 103G-Type—Test Procedures (591-026-500) for the test procedures and requirements.

Note: Test procedures and test requirements for Data Auxiliary Set 801-type can be found in the appropriate sections covering the type of data auxiliary set being installed (598-010-501 or 598-012-501).

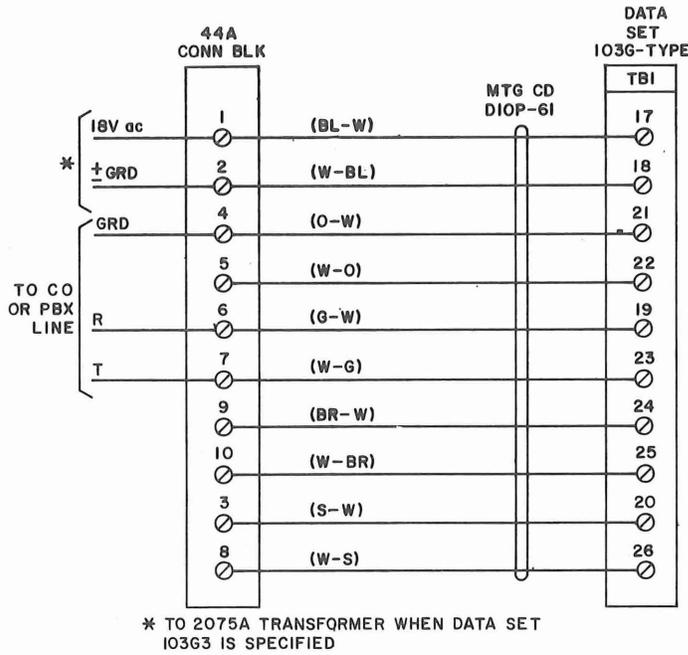


Fig. 3—Data Set 103G-Type—Connections Without Data Auxiliary Set 801-Type

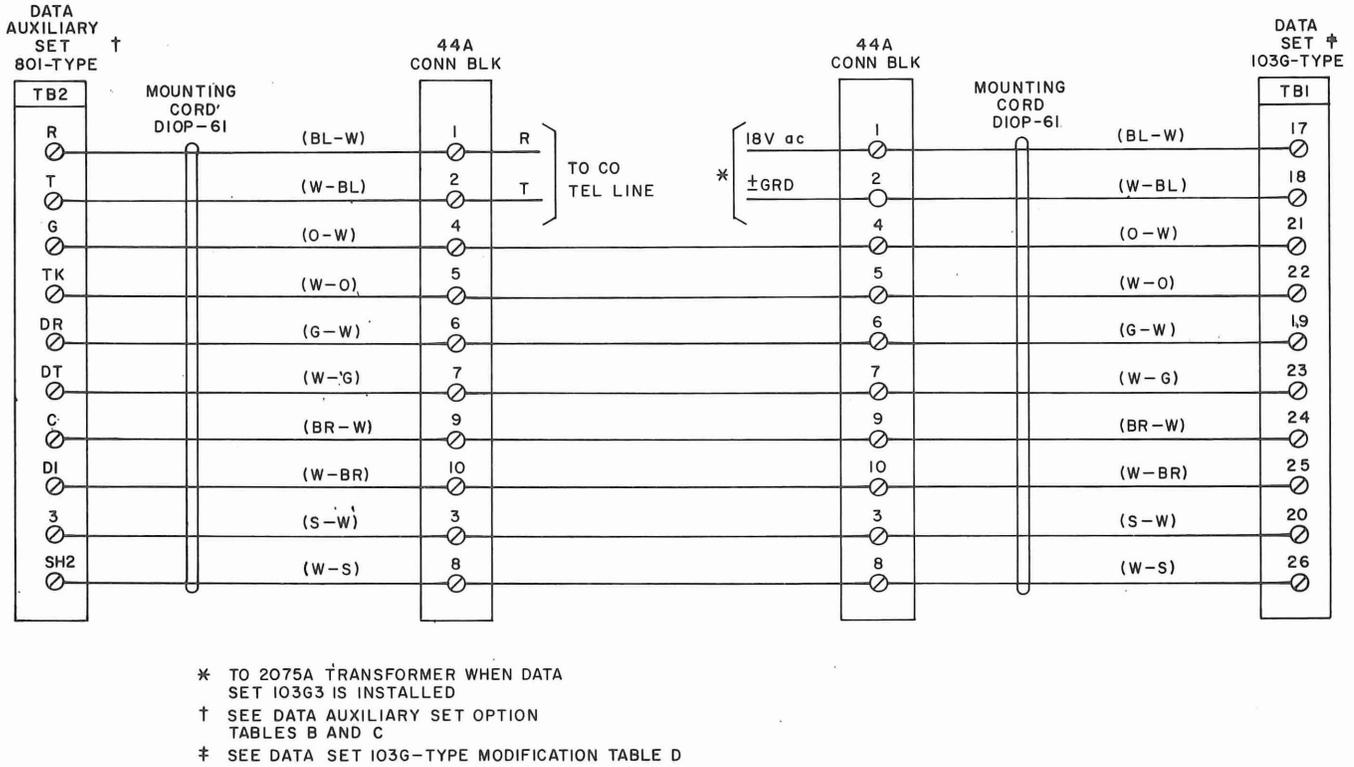


Fig. 4—Data Set 103-Type—Connections With Data Auxiliary Set 801-Type