

DATA SET 604A-TYPE REFERENCE GUIDE



Data Set 604A2

1. GENERAL

1.01 Data Set 604A-type is an integrated frequency-multiplexed FM analog transmitter used for sending data over the switched network or private line facilities. The transmitter will accept three simultaneous analog voltage signals from the business machine having voltage limits of ± 2.5 volts peak and frequencies ranging from dc to 105 Hz.

1.02 This section is reissued to add new coding information and incorporate changes in Tables A, B, and C. The rating of this section

is changed from AT&TCo Special to AT&TCo Standard with limited distribution; however, the data set retains a special rating. Since this reissue constitutes a general revision, arrows normally used to show changes have been omitted.

1.03 Data Sets 604A1 and 604A2 Series 2 identify the later models of this data set. The Series 2 sets are identical to the Series 1 data sets, with the exception that the later models contain the newer 48B power unit and the 3A2 data unit.

1.04 The 48B power unit replaces the 17B power unit to reduce power input frequency sensitivity

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and cost. The 3A2 data unit is used for line control and is similar to the 3A1 data unit; it provides compatibility for the Data Set 604A-type with ESS offices and Unigauge lines.

1.05 The data sets have a reverse-channel receiver which permits signaling from the data receiver during data transmission. Both an audible and a visual indication are provided when the receiver signals. A ground signal is sent to the business machine upon receiving reverse-channel signals from the data receiver.

1.06 Two test keys, TEST 1 and TEST 2, provide a means for the customer to produce low, center, and high frequencies on each band to aid the data test center in locating trouble.

2. PHYSICAL AND ELECTRICAL CHARACTERISTICS

2.01 Data Set 604A-type is 11 inches wide, 5-5/8 inches high, and 14-1/2 inches deep. It weighs approximately 16-1/2 pounds, and has a 2-tone gray finish.

2.02 The data set requires customer-provided 117-volt 60-Hz commercial power supplied through a 3-wire grounded receptacle.

2.03 Connections from the business machine are made through a customer-supplied interface connector cord to the interface connector J1 on the back of the data set.

3. OPERATION

3.01 Operation of Data Set 604A-type is by means of pushbutton keys designated as follows:

- RCR—Provides visual reverse-channel indication (Non-operable key; only lamp functions)
- TEST 1—Provides test connections for remote testing
- TEST 2—Provides test connections for remote testing
- TALK—Places data set in talk mode
- DATA—Places data set in data mode.

3.02 To send data, depress the TALK key and establish a connection with the receiving station in the normal telephone manner.

3.03 When agreement to send data has been reached, the receiving station attendant places the receiving data set in the data mode by depressing the DATA key. This causes a 2025-Hz answer-back tone to be sent to the transmitter. After cessation of the 2025-Hz tone, the transmitting station attendant places the transmitting data set in data mode by depressing the DATA key and placing the handset on the cradle.

3.04 After completion of data transmission, the transmitting and receiving station attendants should lift the respective handsets off the cradle, depress the TALK key, then return the handsets to their cradles.

Note: The transmitter will automatically return to idle condition and DATA lamp will extinguish if central office battery on the line is lost (not to be relied upon to disconnect), or if the business machine opens the grounded contact closure to the transmitter via data terminal ready (DTR) interface lead (the normal method for automatic termination).

4. SERVICE ORDER INFORMATION

4.01 Service orders for data services should describe the desired service by USOC. The encoding procedure to determine the appropriate USOC is described in Section 590-000-100. Customer option decisions which must be made to determine the USOC are listed in 4.04. An explanation of features and options common to most data sets is given in Section 590-000-101. A rapid cross-reference between USOC, data sets, and reference guides is presented in Section 590-000-102. Intercity Service Manual (ISM) Section 87 gives customer billing nomenclature, shows tariff listings for data services, and provides general reference information.

4.02 Service orders should not specify data set codes. USOC decoding procedures are described in Section 590-000-100. Engineering or Plant Department personnel responsible for selecting data sets are not compelled to use any particular data set code specified or suggested on the service order. To achieve maximum reuse of data set apparatus, the oldest apparatus that will perform the service as described by the USOC should be

utilized first. When the current data set model is not available from telephone company stocks (field or class C), the use of an available substitute is preferred over the purchase of a new current model.

4.03 Service offerings and substitute data sets are outlined in Table A. Customer options are given in Table B.

4.04 The following provides additional information on customer options:

- (a) **Decision A—Signal and Frame Grounds Connected or Not Connected Together:**
 - (1) **1. Signal Ground Connected to Frame Ground:** This is the recommended mode of operation.
 - (2) **2. Signal Ground Not Connected to Frame Ground:** This option is used with

a single-ended input arrangement if the individual signal grounds differ from each other and frame ground.

4.05 Telephone company engineering options are listed in Table C.

5. REFERENCES

5.01 The following references provide additional information on Data Sets 604A1 and 604A2:

- (a) BSPs 596-017-100, -200, -300, -500
- (b) EL 188
- (c) SD- and CD-1D105-01
- (d) Data Sets 604A and B—Special—Interface Specification.

TABLE A
SERVICE OFFERINGS — CURRENT AND SUBSTITUTE MODELS
(AT&TC_o SPECIAL)

USOC	FEATURE	MODEL	REMARKS
D5C	Rotary dial 3-channel analog transmitter	604A1 (Standard)	
D5R	TOUCH-TONE dial 3-channel analog transmitter	604A2 (Standard) 604A1 (Substitute)	Substitute only if necessary to meet service date or to restore service.

TABLE B
CUSTOMER OPTION DECISION TABLE

DECISION	OPTION	USOC SUFFIX
A	1. Signal ground connected to frame ground	01
	2. Signal ground not connected to frame ground	02

TABLE C
TELCO ENGINEERING OPTIONS

FEATURE	OPTION	DESIG
Grounding	FG to SG	M*
Termination	600 ohms	N
	900 ohms	Q*
Output Level	-9 dBm -12 dBm†	W
	-6 dBm - 9 dBm†	X*
	-3 dBm - 6 dBm†	Y
	-0 dBm - 3 dBm†	Z

* Factory-supplied.

† Identifies options installed in Data Sets 604A1 and 604A2, series 2 and above, and 604A3 and 604A4.