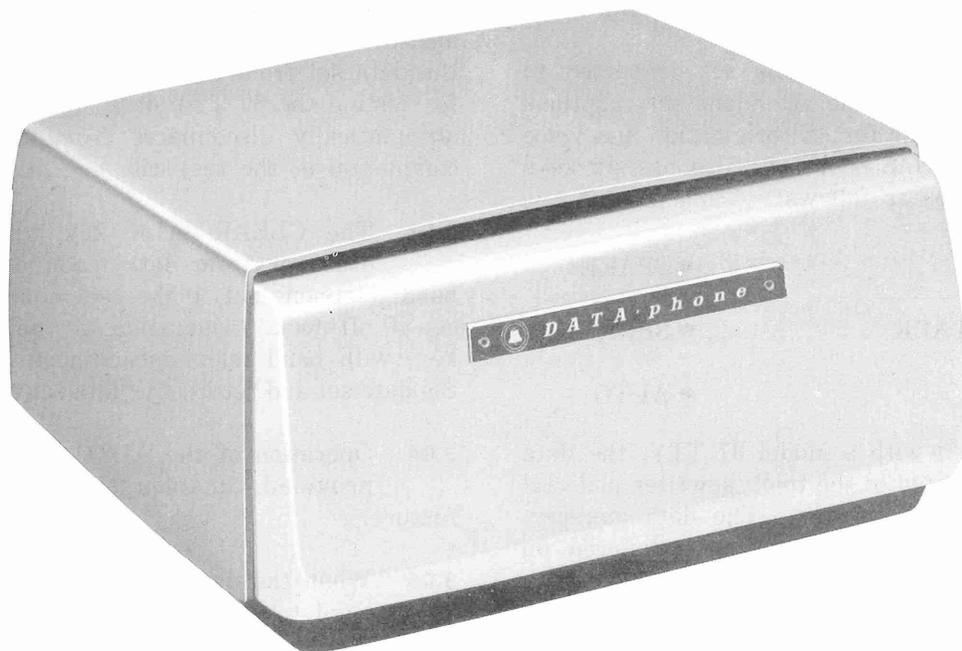


DATA SET 103H1 REFERENCE GUIDE



Data Set 103H1

1. GENERAL

1.01 Data Set (DS) 103H1 is a low-speed asynchronous serial frequency-shift voiceband transmitter-receiver operating at speeds up to 300 bauds. It is for single installation general use as a full-duplex system in 2-wire DATA-PHONE® service for Model 37 Teletypewriters (TTY) or customer-provided terminals (CPT) over the switched network.

1.02 This data set uses EIA bipolar voltage interface signals which are converted to voice-frequency tones for transmission.

1.03 Data Set 103H1 requires Data Auxiliary Set (DAS) 804P5, 6, 7, or 8 (attendant set), which in turn requires connection to a hand telephone set 223C-52 for voice transmission. Facilities are also provided for connecting an optional DAS 801A5, 801C3, or 801C4 automatic calling unit (ACU).

1.04 Data Set 103H1 incorporates a Data Set 103E5 (an electronic package) and a 17A or 48A power unit.

1.05 When testing at a Model 37 TTY station is required, it must be done with a Telco employee at the customer location, working in conjunction with the data test center.

1.06 *Inasmuch as Data Set 103H1 is completely dependent upon the associated DAS 804P-type and its associated telephone set, and the service offering (USOC) codes are assigned on the basis of the data auxiliary sets rather than on Data Set 103H1, this reference guide is based upon the DS/DAS combination.*

1.07 Data Auxiliary Set 804P-type is available with four types of dialing features as follows.

- (a) DAS 804P5 has a rotary dial without a card dialer.

SECTION 590-001-106

- (b) DAS 804P6 has a TOUCH-TONE® dial without a card dialer.
- (c) DAS 804P7 has a TOUCH-TONE dial with a card dialer.
- (d) DAS 804P8 has a rotary dial with a card dialer.

1.08 With the hand telephone set connected to DAS 804P-type, the attendant set functions as a normal telephone for call origination and voice communications. DAS 804P-type also has six keys with built-in lamps as follows:

- | | |
|--------------|---------|
| • DATA | • SPARE |
| • CLEAR-TALK | • SPARE |
| • TEST | • AUTO |

1.09 When used with a Model 37 TTY, the data set is mounted in the teletypewriter pedestal by means of a 98A bracket. The data auxiliary set and the hand telephone set are mounted on the teletypewriter pedestal door. When used with CPT, the data set, attendant set, and telephone set are mounted in accordance with local engineering practices.

2. PHYSICAL AND ELECTRICAL CHARACTERISTICS

2.01 Data Set 103H1 requires 117-volt 60-Hz power supplied by the customer through a 3-wire grounded receptacle. Data Auxiliary Set 804P-type is powered from the data set.

2.02 Data Set 103H1 measures 11 inches wide, 10-1/4 inches deep, and 5-1/2 inches high, and weighs approximately 13-1/2 pounds. Data Auxiliary Sets 804P-type measure approximately 8-5/8 inches wide and 6-1/4 inches high, and vary in depth from 5-3/4 to 7-1/2 inches. Their weights range from 4-1/4 to 6 pounds.

2.03 Data Set 103H1 has a 2-tone gray finish on the housing.

3. OPERATION

3.01 The DS 103H1 is controlled by the DAS 804P, the data terminal, the transmission facility, and (if used) the ACU. The data set utilizes two frequency bands. The data set *originating* a call

transmits in the band designated f₁, and receives in the band designated f₂. The *called* data station receives in the f₁ band and replies in the f₂ band.

3.02 Operation of the DATA key connects the data set to the line and lights the DATA lamp. Operation of the TEST key places the data set in test mode to allow remote testing. Simultaneous operation of the TEST and DATA keys changes the data set from ORIGINATE to ANSWER mode for testing the 37 TTY data station. The data set automatically disconnects from test mode upon completion of the test call.

3.03 The CLEAR-TALK key will transfer the data set from data mode and connect the hand telephone set to the telephone line when the set is off-hook. Operation of the CLEAR-TALK key, with hand telephone on-hook, will disconnect the data set and return the data set to idle condition.

3.04 Operation of the AUTO key, if option M is provided, enables the automatic answer feature.

3.05 When the data set is in the data mode, the hand telephone set and dial are disabled.

4. SERVICE ORDER INFORMATION

4.01 Refer to Section 590-000-101 entitled Reference Guide, Description of Data Set Features and Options for a more detailed explanation of features and options common to most data sets. Service offerings and customer options are outlined in Table A and Table B, respectively. Options in Table B apply to the Data Set 103E5 (electronic package).

(a) *Decision A—Answer Mode Indication OFF or ON:*

(1) **1. Answer Mode Indication OFF:** With this option, the CE lead (which is an indication to the business machine that ringing current is being received) is ON only while ringing current is present.

(2) **2. Answer Mode Indication ON:** With this option, the CE lead is turned ON when ringing is initially received and remains on until after the call is completed.

TABLE A
SERVICE OFFERINGS — CURRENT STANDARD MODELS

MODEL	FEATURE	USOC
103H1	Rotary dial w/o card dialer (DAS 804P5)	DCC
103H1	TOUCH-TONE dial w/o card dialer (DAS 804P6)	DAO
103H1	TOUCH-TONE dial w/ card dialer (DAS 804P7)	DDO
103H1	Rotary dial w/ card dialer (DAS 804P8)	DEO

TABLE B
CUSTOMER OPTION DECISION TABLE

DECISION	OPTION	DESIGNATION
A	1. Answer mode indication off	W
	2. Answer mode indication on	X *
B	3. Answer control separate	w/o M
	4. Answer control combined	M *
C	5. No send disconnect	w/o T
	6. Send disconnect (3-second spacing)	T *
D	7. Loss of CXR disconnect	S
	8. No loss of CXR disconnect	w/o S *
E (See Note)	9. Space disconnect	
	10. No space disconnect	w/o V, H
F	11. Long space disconnect	V *
	12. Short space disconnect	H

* Factory-supplied option

Note: If decision E is 9, make decision F. If decision E is 10, make no further decision.

(b) **Decision B—Answer Control Separate or Combined:**

(1) **3. Answer Control Separate:** Without option M, the business machine can override Auto ANS key and inhibit automatic answer feature of data set.

(2) **4. Answer Control Combined:** With option M, the business machine cannot override the AUTO ANS key and inhibit automatic answering.

(c) **Decision C—No Send Disconnect or Send Disconnect:**

(1) **5. No Send Disconnect:** If the Data Terminal Ready (CD) lead is turned off, the data set disconnects immediately.

(2) **6. Send Disconnect:** If the Data Terminal Ready lead is turned off, the data set transmits 3 seconds of spacing signal prior to disconnecting. The CLEAR lamp will light when CD is turned off.

(d) **Decision D—Loss of Carrier Disconnect or No Loss of Carrier Disconnect:**

(1) **7. Loss of Carrier Disconnect:** With this option, the data set will disconnect if carrier is removed for 160 msec. When disconnected due to loss of carrier, the data set will send 3 seconds of spacing signal. Therefore, a one-way loss of carrier would cause one station to disconnect on loss of carrier and the other to space disconnect if option V or H is provided.

(2) **8. No Loss of Carrier Disconnect:** With this option, data set will not disconnect with loss of carrier.

(e) **Decision E—Space Disconnect or No Space Disconnect:**

(1) **9. Space Disconnect:** With space disconnect, the data set will disconnect upon receipt of space disconnect signal (See Decision F).

(2) **10. No Space Disconnect:** When this option is provided, the data set will not disconnect on any length of spacing signal.

(f) **Decision F—Long or Short Space Disconnect:**

(1) **11. Long Space Disconnect:** With this option, the data set will disconnect and return to idle condition after receiving spacing signal for 1.5 seconds.

(2) **12. Short Space Disconnect:** With this option, the data set will disconnect and return to idle condition after receiving spacing signal for 400 msec.

4.02 Telephone company engineering options listed in Table C apply to the 103E5 Electronic Package. The ITEM column provides a reference to descriptive information contained in Section 590-000-101.

TABLE C
TELCO ENGINEERING OPTIONS

OPTION	DESIGNATION	ITEM
Originate-only test	G	
Common grounds	Q *	
Transmit level		C2
Combined Clear to Send and Carrier Detect leads (Note)	A	

* Factory-supplied option

Note: This option must be used with IBM terminal equipment.

4.03 Additional information on Telco options follows:

(a) **Originate-only Test:** This option allows entrance to the test mode from the talk mode for use at originate-only stations.

(b) **Common Grounds:** This option is used to interconnect frame and circuit ground to minimize noise.

5. SUBSTITUTE DATA SETS

5.01 There are no substitutes for Data Set 103H1.

6. REFERENCES

6.01 The following references provide additional information on Data Set 103H1.

(a) BSPs 591-027-100, -200, -300, -500, and 598-061-100

(b) CD- and SD-1D121-01