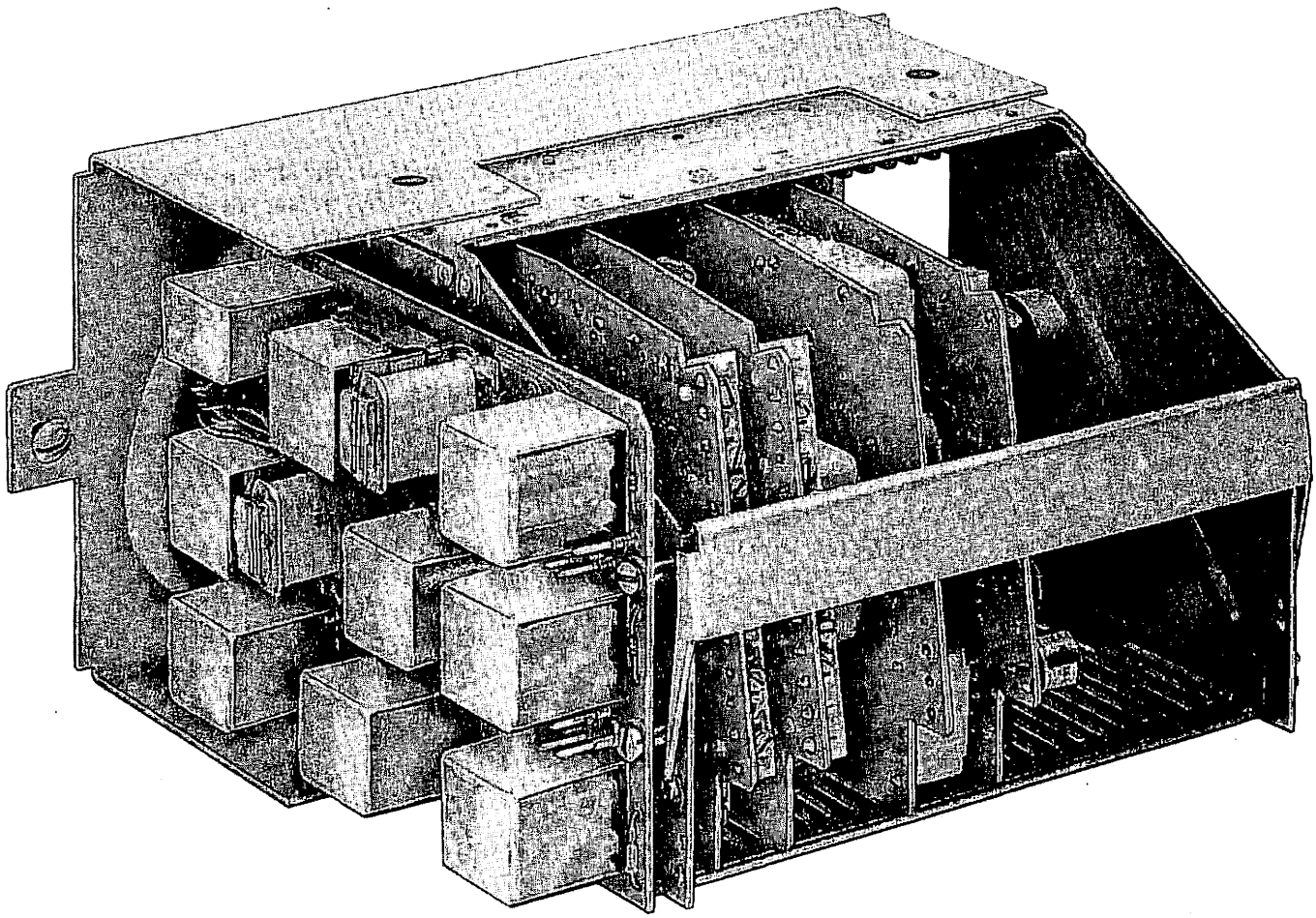
DATA SET 103E-TYPE

REFERENCE GUIDE



Data Set 103E5

1. GENERAL

1.01 Data Set 103E-type is a low-speed asynchronous serial frequency-shift voiceband transmitter-receiver operating at speeds up to 300 bauds. It is for general use as a full-duplex system in 2-wire DATA-PHONE® or TWX-CE service.

1.02 Data Set 103E-type is an electronic package that is dependent on additional components for power and control functions. The supplementary equipment must provide a power supply, control keys, indicator lamps, and a telephone.

1.03 The data sets use EIA bipolar voltage interface signals which are converted to voice-frequency tones for transmission over the switched telephone network. Remote test capability permits testing the data sets from a data test center.

1.04 Data Sets 103E1 and 103E3 are rated Manufacture Discontinued (MD). Data Sets 103E2 and 103E4 are rated Additions and Maintenance (A&M). Data Set 103E5 is the current standard.

2. PHYSICAL AND ELECTRICAL CHARACTERISTICS

2.01 Each Data Set 103E-type requires 15 watts of customer-supplied 117-volt 60-Hz power to the power supply.

2.02 The data sets are not supplied in a housing, since they must always be integrated with other components. They measure 8-1/4 inches wide, 6-3/8 inches deep, and 4-3/4 inches high, and weigh 7 pounds.

2.03 Up to 40 Data Sets 103E-type are mounted in a KS-20093 cabinet with a power supply and a Data Auxiliary Set 804J-type to become a 103E Data Station. This type of arrangement is usually located at a large computer center where many input/output data circuits are required, such as at time-shared computers. When the customer equipment is a computer, the data sets are usually arranged for automatic answering. They may also be equipped with Data Auxiliary Set (DAS) 801-type for automatic origination of calls by the terminal equipment.

3. OPERATION

3.01 The 103E Data Station normally does not require any operating procedures by an attendant. The sets are usually arranged for automatic answering of incoming calls and may be arranged for automatic origination of outgoing calls by using DAS 801-type.

3.02 Answering or originating a telephone call is accomplished by means of DAS 804J-type. Remote testing is also accomplished by means of DAS 804J-type, in conjunction with a data test center.

3.03 For detailed information on operation of the 103E Data Station, refer to Section 591-025-101.

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.

TABLE A

SERVICE OFFERINGS — CURRENT STANDARD MODEL

MODEL	FEATURE	USOC
103E5	Basic electronic unit for multiple installation such as in the 103E Data Station, or for use in Data Sets 103G and 103H. For customer-owned and customer-maintained terminals in DATA-PHONE service.	DTC

TABLE B

CUSTOMER OPTION DECISION TABLE

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

* Factory-supplied option

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

4.02 The following information pertains to customer options listed in Table B.

(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.

(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 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 11 or 12 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.

4.03 Telephone company engineering options are listed in Table C. The item column provides a reference to descriptive information provided in Section 590-000-101.

4.04 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 Data sets listed in Table D may be substituted to supply the services previously described in this section. Customer and Telco options described in this section do not necessarily apply to the substituted data sets.

6. REFERENCES

6.01 The following references provide additional information on Data Set 103E-type and associated equipment:

(a) BSPs 591-025-100, -101, -201, -301, -501

(b) BSRS 480.066

(c) CD- and SD-1D147-01 (103E5)
CD- and SD-1D075-01 (103E1, 2, 3, & 4)

(d) EL 155.

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 some IBM terminal equipment.

TABLE D

SUBSTITUTE DATA SETS

USOC	SUBSTITUTE	REMARKS
DTC	103E1 (MD) 103E3 (MD) 103E4 (A&M) 103E2 (A&M)	Note 1 Note 1 Note 2 Note 3

Note 1: Should be converted to 103E4.

Note 2: With addition of mounting brackets, can be converted to 103E2.

Note 3: Usable as basic unit for multiple installations.