DATA SET 103B

REFERENCE GUIDE

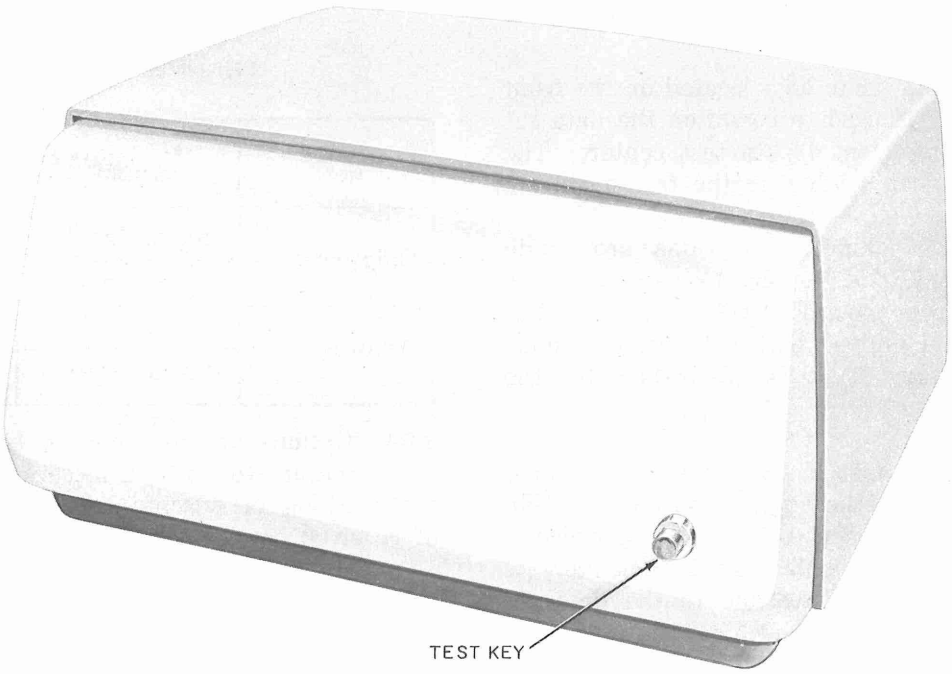

Fig. 1—Data Set 103B

1. GENERAL

1.01 Data set 103B is designed for low-speed transmission and reception of data over a point-to-point or multistation private line network.

1.02 No provision is made for alternate voice communication.

1.03 The data set may be arranged for three different business machine input-output options:

- EIA (bipolar voltage).
- UNI (unipolar negative voltage).
- CUR (contact closures from business machine, but 60-ma current signals to business machine).

1.04 Line, control, test, and data circuits permit simultaneous flow of data in both directions on the line (full-duplex operation). The set may be used for a 2-loop half-duplex operation through the business machine operation when the data set is arranged for the CUR option as in 1.03.

1.05 The data set converts signals from the business machine into voice-frequency tones. These frequencies are transmitted over the private line to the distant station. The receive data set converts frequencies received from the line into proper form for business machine use.

2. PHYSICAL AND ELECTRICAL CHARACTERISTICS

2.01 Data set 103B is composed of electronic and relay circuits and is enclosed in a 2-tone gray plastic case.

2.02 Electronic circuits are arranged on plug-in printed wiring boards.

2.03 A nonlocking lucite key, located on the front of the set, is used to condition the data set for remote testing from a data test center. The test key is illuminated when in the test mode.

2.04 Business machine connections are made through a KS-19087, List 2 connector at the rear of the set, designated CUST EQUIP. The connecting cord, equipped with a Cinch or Cannon DB-19604-432 plug, must be furnished by the customer.

2.05 A KS-19088, List 2 connector, also located at the rear of the set, is designated TEL LINE. A D25C-61 cord (5-1/2 feet long), which is equipped with a KS-19087, List 2 connector, is used to connect the private line to the data set through the TEL LINE connector.

2.06 A KS-14532, List 15 gray cord assembly (10 feet long) is used to connect the data set to a 117-volt ac 3-wire receptacle (two parallel blades and a U-shaped grounding pin).

2.07 A power cord and a D25C-61 mounting cord are furnished as part of the data set.

2.08 Channel transmitting levels are adjustable in 2-dB steps from 0 to -14 dB on the low channel and from 0 to -12 dB on the high channel. Level requirements should be specified on the service order.

3. OPERATION

3.01 All functions of the data set are controlled by the business machine.

3.02 To accomplish data transmission between any two stations in the system, one station must be in the originating mode and the other in the answering mode. Selection of the mode is controlled by the business machine. However, the data set may be modified for answering mode only.

3.03 Data transmission is accomplished over two frequency shift channels. The originating station transmits on the low channel and receives on the high channel. The answering station transmits on the high channel and receives on the low channel. Table A shows the channel frequencies.

TABLE A

CHANNEL FREQUENCIES

STATION MODE	TRANSMITTED SIGNAL	FREQUENCY HZ
Originating	mark (F_{1m})	1070
	space (F_{1s})	1270
Answering	mark (F_{2m})	2025
	space (F_{2s})	2225

3.04 Options are provided to hold the data set output to the business machine in either the marking or spacing condition during absence of received carrier.

3.05 For full-duplex operation (using current interface option) the customer connects the DX to the -20 volt lead. For half-duplex operation the customer connects the DX to the SD lead.

3.06 A test key is provided to permit remote testing of the data set from a data test center. When in the test mode, the data test center can make loop-back tests on the data set.

3.07 The LO relay, under control of the business machine, connects data set send data (SD) lead to the receive data (RD1) lead. This permits the business machine attendant to test the business machine.

3.08 During the test or local mode, as described in 3.06 and 3.07, INTERLOCK lead is off. This indicates to the business machine that the data set is not in a position to transmit data.

4. SERVICE ORDER INFORMATION

4.01 Data Set 103B is used with Private Line only. This data set is classified "A & M Only". The Uniform Service Order Code (USOC) is DYV++.

4.02 Both customer and Telephone Company options are to be determined locally.

5. COMPATIBLE DATA SETS

5.01 There are no usable substitutes for Data Set 103B. While the Data Set 103C has capabilities for this service, it is recommended that they be junked.

6. REFERENCES

6.01 The following drawings, specifications, and sections provide additional information on Data Set 103B-type and associated equipment.

(a) Schematic Diagram—SD-1DO23-01

(b) Circuit Description—CD-1DO23-01

(c) BSPs—591-015- Series