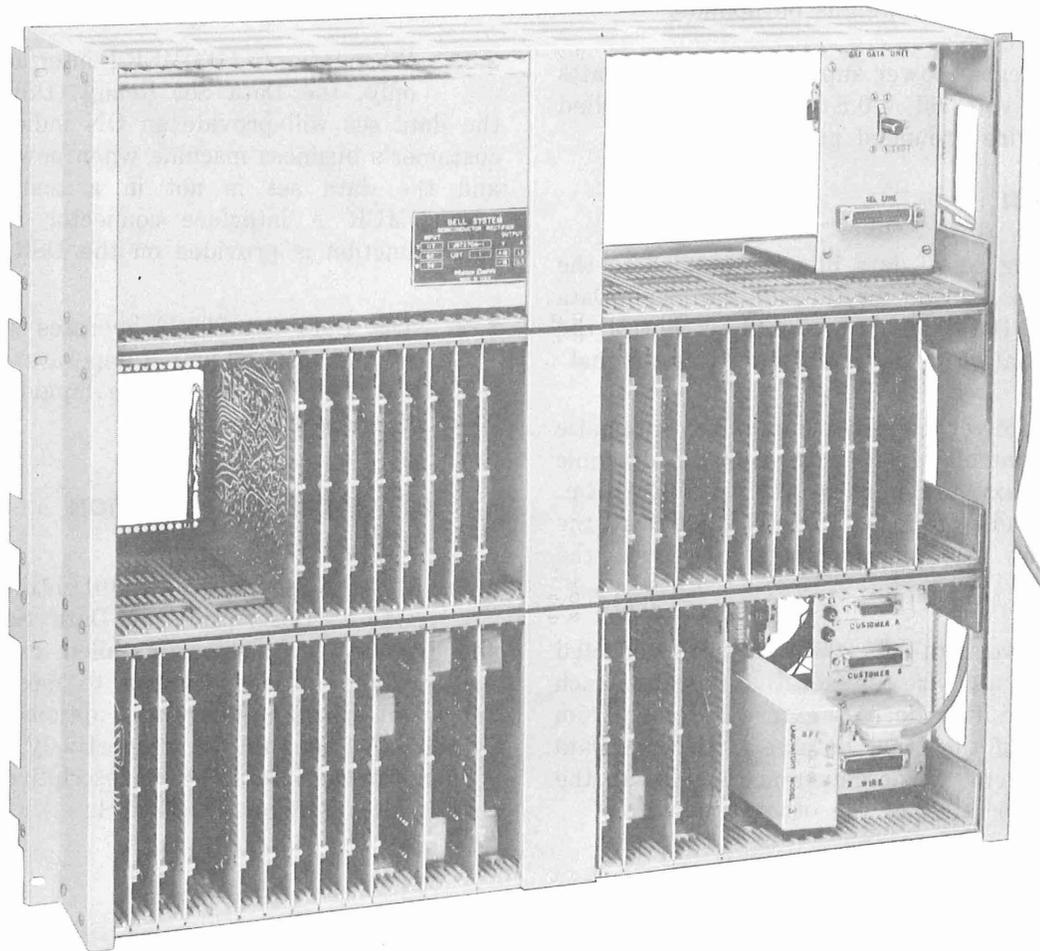


DATA SET 205C2 REFERENCE GUIDE



Data Set 205C2

1. GENERAL

1.01 Data Set 205C2 is a medium-speed synchronous phase-modulated voiceband transmitter-receiver operating at 1200 or 2400 bits per second. It is designed for use on conditioned 4-wire private line facilities, but includes provisions for 2-wire use. No telephone set is provided with this data set.

1.02 All interface signals, except clock and data, are bipolar voltages in accordance with EIA Standard RS-232-B. The clock and data signals

conform to Military Standard 188B and operate with waveforms having longer rise and fall times, which reduce crosstalk significantly between signal leads.

1.03 Accurate timing signals allow the receiver to maintain synchronization with the transmitter for a minimum of 6 seconds in the absence of data transitions or in case of circuit interruptions. Timing signals may be either internal or external.

1.04 Two Data Sets 205C2 can be used back-to-back at some intermediate point as a regenerative repeater when operating over long-haul facilities.

SECTION 590-002-106

1.05 Data Set 205C2 is primarily used by agencies of the Federal Government.

2. PHYSICAL AND ELECTRICAL CHARACTERISTICS

2.01 Data Set 205C2 is designed for rack mounting. The set is 23 inches wide, 18 inches high, and 9 inches deep; it weighs 56 pounds.

2.02 The integral power supply requires 53 watts of 117-volt 60 ±0.8 Hz power supplied through a 3-wire grounded plug.

3. OPERATION

3.01 Incoming serial data bits are applied to the data set transmitter through the Send Data circuit. Send Data signals are used to control the 4-phase modulation of the transmitted line signal.

3.02 The receiver circuits contain an automatic gain control circuit with a 30-dB dynamic range and a maximum input sensitivity of -39 dBm. Attenuation pads of 0, 5, 10, and 15 dB at the receiver input may be strapped to reduce the sensitivity.

3.03 When two Data Sets 205C2 are interconnected to make a 4-wire regenerative repeater, each data set transmitter derives external timing from the receiver of the other data set. Receive Data (RD) signals from each receiver are applied to the Send Data (SD) input of the other transmitter.

3.04 The data set may be remotely tested over 4-wire facilities with a 904E Data Test Center. The customer must apply an ON signal to the Remote Test (RMT) interface lead to place the data set in the remote testing mode. To return the data set to normal operation, the customer must change the RMT signal to OFF.

3.05 When using CUSTOMER B interface connector only, the Data Set Ready (DSR) circuit in the data set will provide an ON indication to the customer's business machine when power is applied and the data set is not in a test mode. If CUSTOMER A interface connector is used, the same function is provided on the DSRX2 lead.

3.06 The Data Set 205C2 operates satisfactorily within an ambient temperature range of +50 to +120°F and a relative humidity range of 20 to 95 percent.

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. The ITEM column provides a reference to descriptive information contained in Section 590-000-101.

TABLE A

SERVICE OFFERINGS — CURRENT STANDARD MODELS

MODEL	FEATURE	USOC
205C2	Send and receive 1200 or 2400 bps with manual speed transfer; 4-wire private line; for use by agencies of the Federal Government.	DMW

TABLE B
CUSTOMER OPTION DECISION TABLE

DECISION	OPTION	DESIGNATION	ITEM
A	1. Internal timing*		A1
	2. External timing		A2
B	3. Continuous carrier		
	4. Carrier controlled by Request-to-Send*		
C	5. Used as regenerator		
	6. Not used as regenerator		

* Factory wired

4.02 The following paragraphs provide detailed information on customer options.

(a) **Decision A—Internal or External Timing:**

(1) **1. Internal Timing:** With this option, the data set provides its own timing signal generator that is accurate to ± 0.0005 percent. This timing stability ensures an outage holdover capability in excess of 6 seconds. The Serial Clock Timing External (SCTE) lead is grounded to prevent false timing crossings due to noise.

(2) **2. External Timing:** With this option, the customer provides a timing signal to the data set on the SCTE interface lead. Receiver timing holdover will be reduced if the accuracy of external timing signal is reduced.

(b) **Decision B—Continuous Carrier or Carrier Controlled by Request-to-Send:**

(1) **3. Continuous Carrier:** With this option, the transmitter is always ON and a continuous Clear-to-Send ON signal is provided to the customer from the data set.

(2) **4. Carrier Controlled by Request-to-Send:** With this option, the transmitter is turned ON and OFF by the Request-to-Send signal from the customer within limits controlled by Confirm circuits. The Confirm signal to the data set from the control equipment determines the time interval between the Request-to-Send indication from the customer and the Clear-to-Send indication from the data set.

(c) **Decision C—Used or not Used as Regenerator:**

(1) **5. Used as Regenerator:** With this option, two Data Sets 205C2 are interconnected to make a 4-wire regenerative repeater. Each data set transmitter is externally timed from the receiver of the other data set. Receive Data signals from each receiver are applied to the Send Data input of the other transmitter. This arrangement is used only at some intermediate point(s) in long-haul facilities.

(2) **6. Not used as Regenerator:** This option is the normal application of Data Set 205C2. The data set is connected to a business machine through the interface connector.

4.03 Telephone Company engineering options are listed in Table C.

5. SUBSTITUTE DATA SETS

5.01 There are no substitutes for Data Set 205C2.

6. REFERENCES

6.01 The following references provide additional information on Data Set 205C2 and associated equipment:

(a) BSPs 592-017-102, -202, -302, -502

(b) SD- and CD-1D087

(c) PEL 7559

(d) Data Set 205C2 Interface Specification.

TABLE C
TELCO ENGINEERING OPTIONS

OPTION	DESIGNATION	ITEM
4-wire Operation		B5
2-wire Operation		B5
Transmit level 0 dBm* -3 dBm -6 dBm -9 dBm		C2
Receiver input level -38 dBm * -33 dBm -28 dBm -23 dBm		C5

* Factory wired