407C-TYPE MULTIPLE DATA STATION MODULATOR/DEMODULATOR SUMMARIZING SPECIFICATION DATA SYSTEMS

1. GENERAL

SCOPE

1.01 This specification, together with the supplementary information listed herein, summarizes for ordering purposes all the items that are required to equip a 407C-type multiple data station.

1.02 The designation 407C-type multiple data station serves only as a means of identifying an arrangement of several apparatus coded products.

1.03 Whenever this section is reissued, the reasons for reissue will be listed in this paragraph.

DESCRIPTION

1.04 The 407C-type multiple data station has been designed to respond to low-speed, 2-out-of-8 multifrequency tones from a TOUCH-TONE® telephone, Transaction telephone, or equivalent multifrequency source over private or switched network lines. It consists of a 57-type data mounting equipped with up to four data sets 407C-L1. The following features and options are provided with the data set 407C-L1.

(a) TOUCH-TONE detection.

(b) Serial or parallel customer interface. The parallel interface is identical to that of data sets 407A and 407B. The serial interface conforms to Electronic Industries Association (EIA) Standard RS-232C with the addition of a voice port. The features available with either interface are:

(1) Referral to an attendant via a CALL DIRECTOR® telephone or automatic call distributor (ACD).

(2) Optional terminal-initiated referral upon receipt of **.

(3) Automatic disconnect upon receipt of *#* .

(4) Computer down operation.

(5) Three methods of controlling the out-of-service function.

(6) Local and remote testing.

Additional features available with the parallel interface are:

(7) Choice of EIA voltage or contact-equivalent interface.

(8) Option to disable or enable customer selected options.

(9) Optional binary code matrix (BCM) interface.

Additional features available with the serial interface are:

(10) TOUCH-TONE to American Standard Code for Information Interchange (ASCII) conversion toward the computer.

(11) ASCII to frequency-shift keying (FSK) conversion toward the line.

(12) Optional bit rates 110, 150, and 300 b/s.

(13) Optional error control package including:

a. Automatic check of incoming Transaction telephone messages.

b. Automatic timing of Transaction telephone responses.

(14) Optional protocol package including:

a. Control of half-duplex operation by the data set 407C.

b. Buffering of incoming TOUCH-TONE tones.

(15) Ability to operate with computer systems requiring LOGON or multiple message segments.

1.05 Data set 407C-L1 consists of two circuit packs, coded CP1 and CP2, that are fastened together in piggyback fashion by four slide fasteners and interconnected electrically by two plug-in ribbon cables. CP1 consists of a central processor unit board and an RM1 line board and its associated option board. CP2 consists of a TOUCH-TONE detector board and an RM1 line board and its associated option board. In CP1 and CP2, the boards are joined together by a faceplate, standoffs, and three flexible plug-in cables. The input and output signals from the two RM1 line boards and the TOUCH-TONE detector board are multiplexed to a common central processor unit. Each line board has a 25-pin EIA connector, a test button, ten option switches (only nine are used), an out-of-service switch and seven light-emitting diodes (LEDs) that show the state of the various control functions and customer signals. Both line boards plug into their respective 908J1 connectors mounted on the rear of the 57-type data mounting.

1.06 The 57A1 data mounting accommodates up to four data sets 407C-L1 and is equipped with a 229A power unit (shipped loose), 47A1 data unit, and 51A1 data unit. These data units provide the local and remote test facilities for checking out the data sets 407C-L1. The 57B1 data mounting is identical to the 57A1 in all respects except that no test facilities are supplied with the data mounting; however, test facilities can be provided by interconnecting the appropriate wires from the terminal strip on the rear of the 57A1 data mounting to the terminal strip on the rear of the 57B1.

1.07 The 57A1 and 57B1 data mountings are approximately 21 inches wide (less mounting brackets), 10.6 inches high, 16.6 inches deep, and weigh 37 pounds and 33 pounds, respectively, without their 229A power units. The 229A power unit weighs approximately 30 pounds and is shipped loose to prevent in-transit damage to the data mounting.

1.08 The data set 407C-L1 is approximately 10 inches high, 13.2 inches deep, 3.7 inches wide, and weighs 5.5 pounds.

1.09 All 407C-type multiple data station arrangements require a KS-20018, L20 cabinet, which has a 150-cubic feet per minute blower mounted in the base. The blower unit is mandatory to provide sufficient forced ventilation so that the data sets and their associated power supplies do not fail prematurely due to the heat generated by these units. In addition to the cabinet, an 81A detector (thermal) is required to shut down all 60 Hz 117 Vac power to the 407C-type multiple data station and the blower unit when the temperature in the cabinet exceeds 135°F. All ac power will be restored when the temperature in the cabinet falls to 118°F.

POWER REQUIREMENTS

1.10 Each 57-type data mounting (57A1 or 57B1) when equipped with four data sets 407C-L1 requires approximately 240 watts of 60 Hz 117 Vac power. The blower unit mounted in the base of the KS-20018, L20 cabinet consumes another 80 watts of 60 Hz 117 Vac power.

1.11 Data set 407C-L1 dissipates 33 watts and requires four dc voltages (+5, -5, +12, and -12), which are provided by a 229A power unit. The 229A power unit can supply four sets of these dc voltages, independent of each other, for a maxium of four data sets per data mounting.

1.12 A 407C-type multiple data station installed in a KS-20018, L20 cabinet equipped with an 81A detector will operate in an ambient temperature range of 40 to 120°F with a relative humidity of less than 95 percent.

2. SUPPLEMENTARY INFORMATION

590-004-110—407C-Type Multiple Data Station—Reference Guide
590-100-133—47A1 Data Unit—Identification
590-100-137—51A1 Data Unit—Description
590-102-143—57A- and 57B-Type Data Mountings—Description
594-030-101—Data Set 407C Type —Identification
594-800-102—407C-Type Multiple Data Station—Description
594-800-152—407C-Type Multiple Data Station—Supplementary Information
594-800-202—407C-Type Multiple Data Station—Installation and Connection

594-800-302—407C-Type Multiple Data Station—Maintenance
594-800-502—407C-Type Multiple Data Station—Test Procedures
668-104-540—Data Test Center—Operation
X-18297—Manufacturing Testing Requirements for Data Set 407C-L1, 57A1 and 57B1 Data Mountings
X-18302—Manufacturing Testing Requirements for 229A Power Unit
KS-20018—Cabinet

3. DRAWINGS

SD-1D279-01—Data Set 407C-L1, 57A1 and 57B1 Data Mountings
SD-82414-01—229A Power Unit

4. PRODUCT

Summary of orderable products needed to provide a 407C-type multiple data station:

Data Set 407C-L1—Provides a station termination for two 25-pin EIA connectors, which can be connected to customer-provided terminal equipment, and two 2-wire data lines. It consists of four printed wiring boards and two mini-boards that are interconnected mechanically and electrically. The data set mounts in a 57-type data mounting.

57A1 Data Mounting—Consists of a nest wired per SD-1D279-01, App Fig. 1 and equipped with a 229A power unit (shipped loose), a 47A1 data unit, and a 51A1 data unit. It can accommodate up to four data sets 407C-L1 ***and must be mounted in a KS-20018, L20 cabinet equipped with an 81A detector.*** A 6-foot power cord is provided for interconnecting the 229A power unit to the 117-Vac outlet receptacle on the 81A detector.

57B1 Data Mounting—Identical to the 57A1 in all respects except that it does not have testing facilities for the data set 407C-L1 and is wired per SD-1D279-01, App Fig. 2. The test facilities in the 57A1 data mounting can be utilized by providing the appropriate wiring between the two data mountings. A 6-foot power cord is provided for interconnecting the 117-Vac outlet receptacle on the 229A power unit mounted in the 57A1 data mounting with the male plug on the 229A power unit mounted in the 57B1 data mounting.

81A Detector—Consists of an audible alarm, visual alarm, thermal detector, and two 117-Vac outlet receptacles. A 10-foot power cord is provided for connecting the 81A detector to the customer's 60-Hz 117-Vac outlet receptacle.

KS-20018, L20 Cabinet—Comes equipped with a blower unit that plugs into the 117-Vac outlet receptacle on the 81A detector. The KS-20018, L20 cabinet is 18 inches deep (including doors) by 24 inches wide by 32 inches high and has a usable inside vertical mounting space of 26 inches suitable for mounting 23-inch rack mounted apparatus or equipment. This cabinet will accommodate a maximum of two 57-type data mountings.

CODE	RATING	NO. REQD
Data Set 407C-L1	AT&TCo Std	Up to 4
57A1 Data Mounting	AT&TCo Std	As Reqd
57B1 Data Mounting	AT&TCo Std	As Reqd
81A Detector	AT&TCo Std	1
KS-20018, L20 Cabinet	AT&TCo Std	1

Note: Ordering information for the above products should be listed in this form:

Set, Data, 407C-L1
Mounting, Data, 57A1
Mounting, Data, 57B1
Detector, 81A
Cabinet, KS-20018, L20