

DATA SET 202R
TRANSMITTER-RECEIVER
SUMMARIZING SPECIFICATION
DATA SYSTEMS

1. GENERAL

Scope

1.01 This specification, together with the supplementary information listed herein, summarizes, for ordering purposes, the product design requirements for the circuit packs, framework, assembly, and circuits covering the Data Set 202R type, primarily for use in private line data service for point-to-point or multipoint applications.

Features, Use

1.02 Data Set 202R type is a medium-speed, nonsynchronous, FM serial voiceband transmitter and/or receiver for binary, serial data which operates at speeds up to 1800 BPS on private lines or 1200 BPS on the switched network. The 202R operates 2-wire half-duplex or 4-wire full duplex with other 202R types, Data Sets 202C, 202D, or 202E type without reverse channel operation. The set includes provision for remote test from a test center, but has no provision for a reverse channel. The output level of the data set is continually adjustable over the range from 0 to -13 dBm. The receiver sensitivity is at least -42 dBm.

1.03 This set may be used in completely manual type DATA-PHONE® service through the use of a separate telephone with an exclusion switch such as desk types 511F (rotary) or 2511F (TOUCH-TONE®) and wall types 558F (rotary) or 2558D (TOUCH-TONE). Any of these telephones may also be used for 2-wire private line service with DDD backup. Such an arrangement does not permit voice communication over the private line facilities. The telephone set can be used for voice communication on the DDD network even while the data set is in use on the private line facilities.

Power

1.04 Low voltage ac power is supplied by a KS-20426,L1 Transformer. It is shipped loose with each 202R List 1/2; however, it must be ordered separately for use with 202R, List 1. The transformer must be plugged into a commercial source of power, 105 to 130 volts RMS at a frequency of 60 ± 3 Hz, and surface wired to the connecting block or to the TB1 terminal board on the data set when only list 1 is used. A 3-wire, U-shaped ground pin, ac receptacle is required. Underwriters' Laboratories, Inc., require that the clip supplied with each transformer always be used to mount it. The power drain per set is less than 15 watts. In the event the KS-20426,L1 is not available, a KS-16886,L2 Transformer may be used. If KS-16886, L2 Transformers are substituted, the connection to terminal 7 on TB1 in the 202R set must be run separately to building ground since this connection is not available on this transformer.

Description

1.05 Data Set 202R, List 1 is the basic data set which is physically contained on three AR-type circuit packs which are plugged into a 61-type Apparatus Mounting. These are coded Circuit Pack AR591, AR592, and AR593. A terminal board, TB1, with screw terminals, is attached to the rear of the mounting for the connection of the telephone lines and low voltage ac power. The customer interface connection is made to the faceplate of the AR593 Circuit Pack. The list 1 sets are designed for mounting in multiple arrangements as described in Part 5 of this specification.

1.06 Data Set 202R, List 1/2 adds to list 1 a 2-tone gray plastic housing similar to the one used on Data Set 202D type and includes an attached D10P-61 Cord 5 feet 6 inches long for the telephone and low voltage ac power connections, and a separate KS-20426,L1 Transformer. The

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customer connector is exposed at the rear of the housing along with the test switch, which must be manually operated and released when remote testing is required.

1.07 Installer options located on the circuit packs activated by slide-type and screw-type switches include the following operational variations:

- (a) 2-Wire or 4-wire.
- (b) 30-, 60-, or 200-ms clear-to-send timer.
- (c) 20- or 40-ms carrier acquisition timer.
- (d) Fast or soft turnoff of carrier.
- (e) Squelch or no squelch of carrier detector.
- (f) No clamp of received data lead, or carrier detector off clamps received data lead.
- (g) No carrier (receive only), continuous carrier (transmit only), or data set carrier under control of customer request-to-send lead.
- (h) The power level is adjustable by screwdriver through the faceplate of Circuit Pack AR593 to meet transmit level requirements.

1.08 The customer interface signals are Electronic Industries Association (EIA) bipolar voltages, per RS-232-C, except in 2-wire operation the received signal detector responds to signals from either the local or remote transmitter, and the data set always provides local copy. The interface connector on the set is the standard 25 pin, KS-19087 type that is designed to mate with the customer supplied Cinch or Cannon DB-19604-432 Plug equipped with a DB-51226-1 Hood or its equivalent KS-19088, L2 Plug with a KS-19196, L2 Hood also available from Cinch.

Size And Environment

1.09 The 202R, List 1 set measures approximately 9 inches deep, 6 inches high, and 4 inches wide and weighs approximately 6 pounds.

1.10 The 202R, List 1/2 set measures approximately 10-1/2 inches deep, 11 inches wide, and 5-1/2 inches high and weighs approximately 8 pounds.

1.11 The data set operates in an environment of 40 to 120°F ambient temperature and 20 to 95 percent relative humidity.

Substitution

1.12 The Data Set 202R type must be substituted for the Data Set 202D1 and 202D3 types in private line applications where no supervisory channel (reverse channel) is required. It may also be substituted in switched network applications except where automatic features provided in Data Auxiliary Sets 801 and 804 type are required.

2. SUPPLEMENTARY INFORMATION

X-17814—Manufacturing Testing Requirements for Data Set 202R Type
A-157100—Common Features Drawing for Printed Wiring Boards
800-610-158—Packaged Electronic Products
800-610-159—Printed Wire Board Assemblies Requirements
590-010-200—General Installation and Connection Information
592-025-100—Description and Operation
592-025-200—Installation and Connections
592-025-300—Maintenance
592-025-500—Test Procedures
KS-20426—Transformer
Technical Reference—Data Set 202R Interface Specification

3. DRAWINGS

SD-1D224-01—Data Set 202R—Schematic (Also covers AR591, AR592, and AR593 Circuit Packs)

4. PRODUCT

Data Set 202R Type

List 1—Assembly, wiring, and common apparatus for one 202R transmitter and receiver with provision for remote test per SD-1D224-01, Fig. 1.

List 2—A 2-tone gray plastic housing assembly which includes a front and back cover, a base pan, and hardware for attaching the list 1 assembly. Also included is a mounting cord and a power transformer per SD-1D224-01, Fig. 2 and 3.

**TABLE OF AUTHORIZED
ORDERABLE CODE NUMBERS**

DATA SET	RATING	REPLACED BY
202R-L1	AT&TCo Standard	—
202R-L1/2	AT&TCo Standard	—

5. GENERAL NOTES (MULTIPLE ARRANGEMENTS)

5.01 Data Sets 202R, List 1, when used with 107A Brackets, are intended for mounting in multiple arrangements. Two 107A Brackets are to be screwed to the sides of the 61-type Apparatus Mounting of each 202R. This permits the sets to be mounted on 67A, 67B, or similar brackets used in 200-type Key Telephone mounting arrangements.

5.02 Five Data Sets 202R, List 1 may be mounted in a 7-inch mounting plate space on a 23-inch mounting frame. Four sets will fit on a 19-inch mounting frame. This assumes the sets are mounted on 67-type Brackets on 4-3/8 inch centers.

5.03 A 6017-type Key may be mounted by two 6-32, 3/16 inch long screws to the side of the 107A Bracket if required for line and local loop-around tests at each station. This will reduce the number of sets that will fit in the 7-inch mounting space available since the required mounting center distance increases to 5-11/16 inches between sets.

5.04 A 78A Apparatus Mounting is available to mount a 66E3 Connecting Block in the space of one Data Set 202R on the 67-type Brackets. Each connecting block may be used to distribute up to 25 telephone lines to the data sets.

5.05 A 590B Panel is available to distribute the 110V ac power. It consists of four duplex outlets into which the KS-20426 Transformers can be plugged. Only one transformer will fit on each duplex outlet. The clip furnished with each transformer must be used.

5.06 Hardware required for each 7-inch mounting plate space in a 23-inch frame includes:

2—67B Brackets

2—P37A901 Mounting Bar Assemblies

5.07 Hardware in a 19-inch frame includes:

2—67A Brackets

2—P37A901 Mounting Bar Assemblies

5.08 P-44L168 screws are recommended as required to mount apparatus to the 67-type Brackets.

5.09 Typical cabinets that may be used are KS-20018, KS-20093, and KS-20757 types. The KS-20093 and KS-20757 cabinets must include 25- to 23-inch mounting adapters such as KS-20093, List 15.