DATA SET 201D TYPE 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 design requirements for circuit packs, framework, assembly, and circuits covering data set (DS) 201D, which is for use in central offices (COs) in 4-wire private-line data service.

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

FEATURES, USE

1.03 DS 201D, shown in Fig. 1, is a synchronous, phase-modulated, voiceband transmitter and receiver for binary serial data, which operates at 2400 bits per second (b/s) on a 3002-type, 4-wire private line channel with or without C2 conditioning.

1.04 DS 201D is intended for internal Bell System use in a CO environment in such systems as the Traffic Service Position System (TSPS) and the Common Channel Interoffice Signaling (CCIS) system. In these applications, the DS is operated under control of a stored program processor or an automatic terminal controller.

1.05 The significant features of DS 201D are its high reliability, its operation by a stored program processor, its special non-EIA interface (TTL open collector), and its CO compatibility. DS 201D is designed to be powered from a 24-volt CO battery, and meets the environmental requirements for CO equipment in terms of ambient temperature, ambient humidity, shock, and vibration.

DESCRIPTION

1.06 DS 201D consists of six AR-type plug-in circuit packs (CPs) (AR663 through AR668), a 102A power unit which is packaged on an AR-type CP, a modified 58B apparatus mounting, a mounting bracket, and four mounting screws. The DS, as shown in Fig. 2, weighs approximately 13 pounds and the overall dimensions are 6 inches high, 7.48 inches wide, and 8.5 inches deep.

1.07 A male 50-pin interface connector (KS-16671, L1) is located at the rear of the DS, and provides all connections including power leads, two 4-wire telephone lines, and leads to the controller. Plug KS-16671, L1 mates with the recommended connectors, KS-16786, L51 and KS-16672, L17, for use in TSPS and CCIS applications, respectively. Other equivalent connectors may be used, as permitted in the KS specification for the plug.

1.08 The DS is self-contained and may be mounted by four screws into a CO frame. Fig. 3 shows the proper layout of holes for mounting the DS. The four mounting screws allow easy removal and replacement of the DS from the frame for maintenance.

1.09 ***Options:*** The transmitter output power and the compromise equalizer are manually switched options, as described in Table A. The switch is designated and accessed through the front panel of the AR668 CP, as shown in Fig. 1. The middle screw of the option switch is not used. There are no other manual controls and no visual indicators.

1.10 The optional output level at tip and ring (T1-R1) of the transmitter, when connected

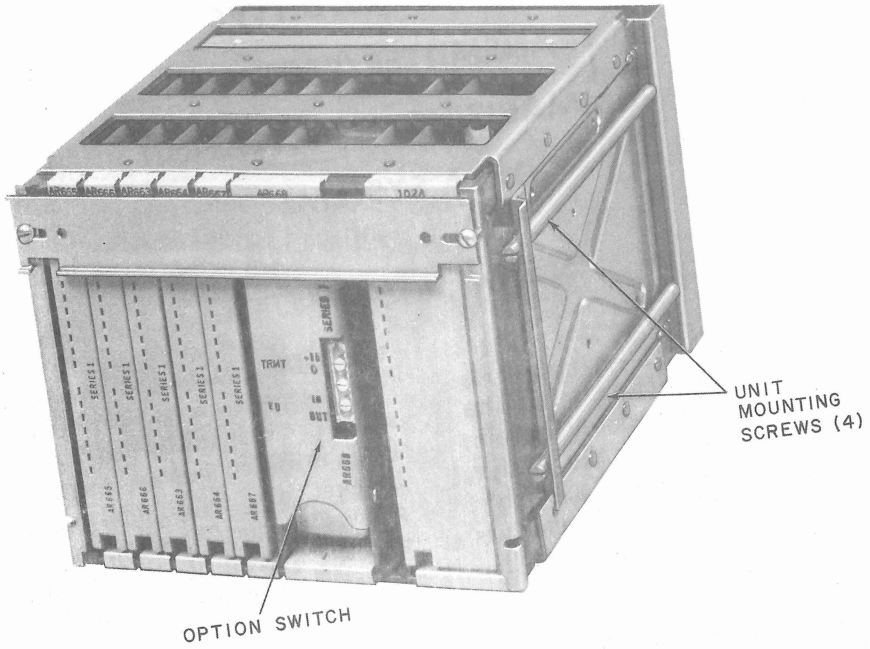

Fig. 1—Data Set 201D

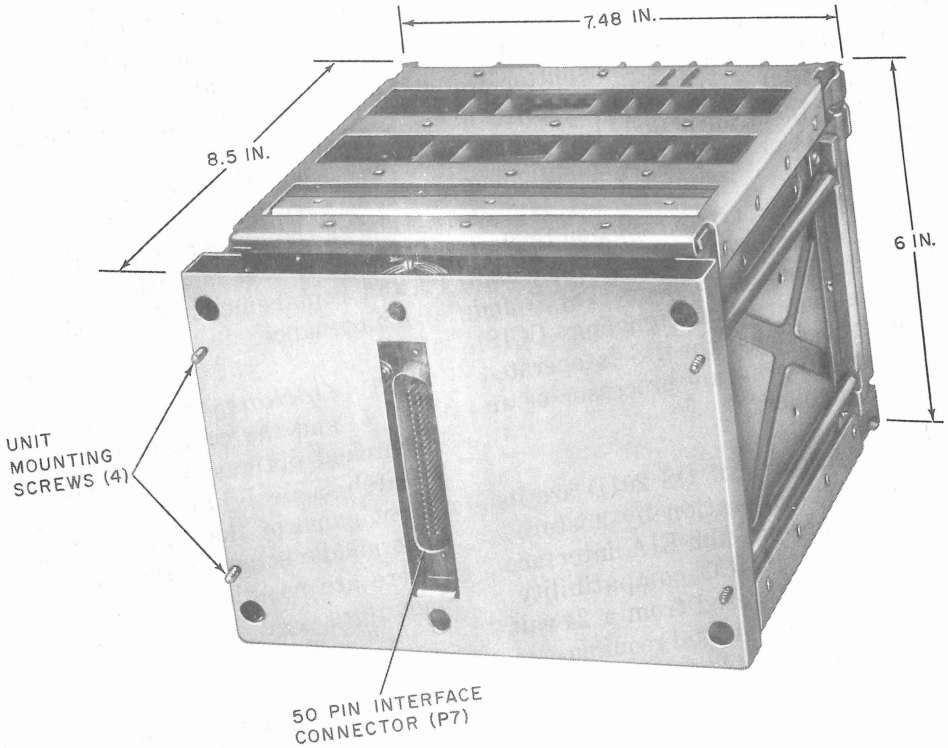

Fig. 2—Data Set 201D—Rear View

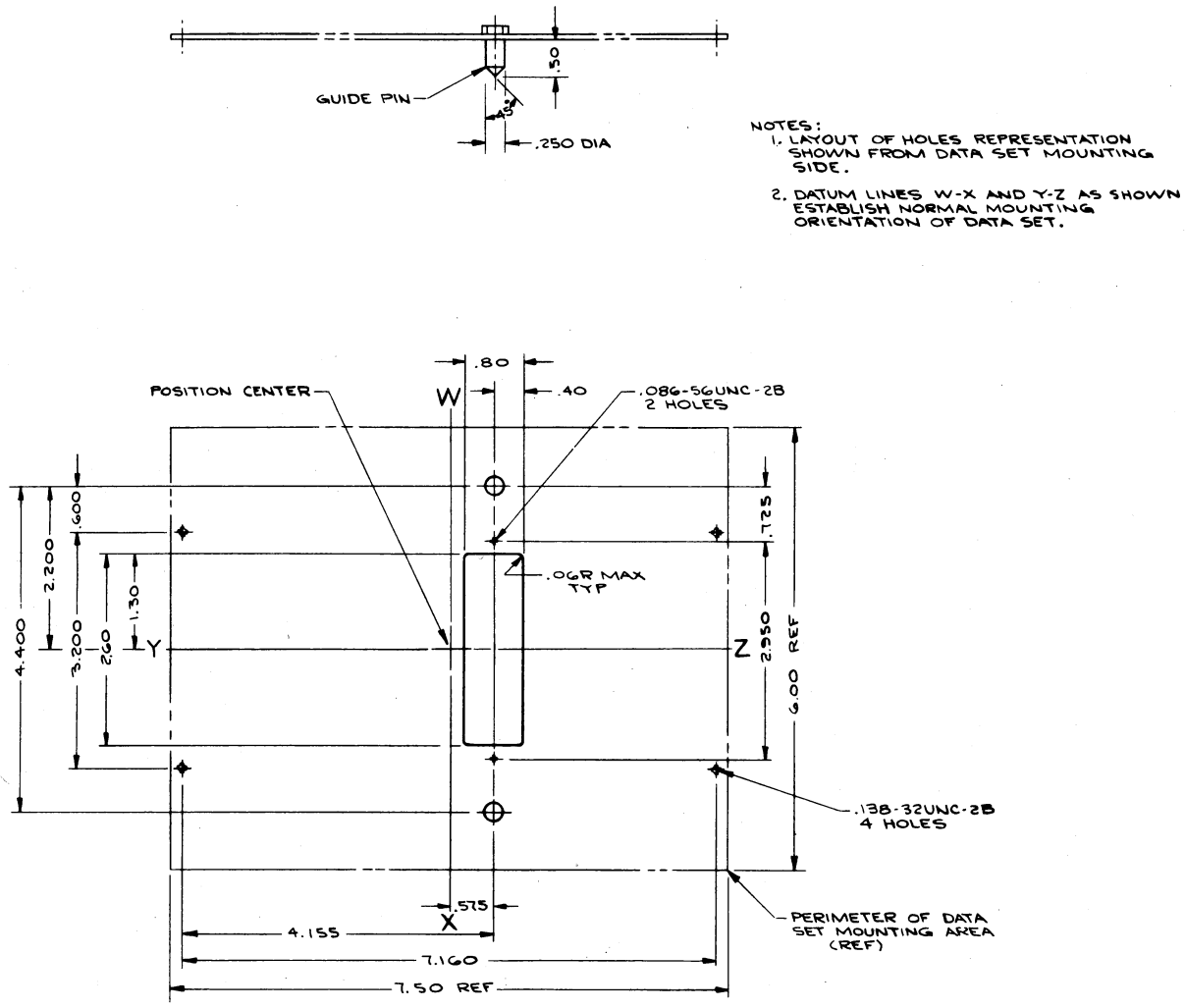

Fig. 3—Layout of Holes for DS 201D

to a 600-ohm load, is 0 dBm $\pm$1 dB for TSPS use, and $-$15 dBm $\pm$1 dB for CCIS use.

1.11 The compromise equalizer (IN) option is used to compensate for nominal telephone line distortion. The equalizer (OUT) option is available if C2-conditioned lines, or better, are used.

TABLE A

DS OPTIONS

SWITCH (ON AR668)	SWITCH POSITION	FEATURE
S1A	UP	−15 dB Output For CCIS Use
	DOWN	0 dB Output For TSPS Use
S1B	—	Not Used
S1C	UP	Compromise Equalizer In
	DOWN	Compromise Equalizer Out

1.12 ***Environment:*** DS 201D will operate in an ambient temperature range of 0 through 58°C with an ambient relative humidity of 20 through 95 percent, which meets or exceeds the CO temperature and humidity requirements of X-74500. The DS also meets the CO shock and vibration requirements of X-74500.

POWER REQUIREMENTS

1.13 Power for the DS is provided by the 102A power unit, a dc-to-dc converter. The power unit provides +12, −12, and +5 volts dc. The power unit requires approximately 0.6 ampere from a 24-volt CO battery.

2. SUPPLEMENTARY INFORMATION

592-000-000—Numerical Index—Data Systems
X-18007—Manufacturing Testing Requirements for Data Set 201D Type
X-74500—Equipment Design Standards
312-811-100—Data Set 201D Type—Description
592-029-ZZZ—Data Set 201C Type—Transmitter/Receiver
592-033-100—Data Set 201D Type—Identification
800-610-158—Packaged Electronic Products
800-610-159—Printed Wiring Products, Rigid Etched—Foil Type
KS-16671,L1—Plug
KS-16672,L17—Connector
KS-16786,L51—Connector

3. DRAWINGS

SD-73090-01—Data Systems, Central Office—Data Set 201D
SD-82181-01—102A Power Unit

4. PRODUCT

Data Set 201D—Transmitter/Receiver

List 1—Assembly and wiring for one data set 201D, List 1 per SD-73090-01, Fig. 1.

TABLE B

AUTHORIZED ORDERABLE CODES

DATA SET	RATING	REPLACED BY
201D-L1	AT&TCo Std	—

5. GENERAL NOTES

5.01 If DS 201Ds are mounted in a multiple arrangement, or above other power dissipating equipment, care must be taken to ensure that the temperature of the air flowing in at the bottom of the apparatus mounting is not greater than 58°C.