

DATA AUXILIARY SET 828A
DATA SERVICE UNITS FOR 4-WIRE PRIVATE LINE
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 framework, assembly, and circuits covering Data Auxiliary Set 828A primarily for use on 4-wire (4W) private line (PL) voiceband data service.

Features

1.02 The Data Auxiliary Set 828A-L1 or 828A-L1A (data service unit) is capable of providing amplification or attenuation in the transmit and receive pairs, slope equalization (receive only), line loopback, and equal level loopback for one voiceband 4W PL data channel. The List 2 offering adds alternate voice capabilities.

Power Requirements

1.03 A -24 volt dc talk battery is required when plug-in amplifiers are used with Data Auxiliary Set 828A-L1 or 828A-L1A. For these applications, the maximum current drain for two amplifiers is 50 mA.

1.04 Whenever the loopback feature is activated over a local key circuit, signaling battery must be provided. The maximum current drain for the loopback relay is 50 mA of -24 volt dc signal battery.

1.05 There are several Western Electric coded power supplies that will provide both the -24 Vdc talk and -24 Vdc signaling battery, ie, a 19B2, 19C2, 20B2, or 20C2 power unit.

1.06 For Data Auxiliary Set 828-L1/2 and L1A/2 applications, both -24 volt dc signal and a

-24 volt dc talk battery are required. These sets also need a 20-Hz 105-volt ac ringing supply for signaling purposes. The maximum current requirements for two plug-in amplifiers is 140 mA of -24 volt dc talk battery and 210 mA of -24 volt dc signal battery. A typical power supply capable of supplying all of these voltages (dc and ac) is the 101G Power Plant J86731A (modified with J86248, L3).

1.07 No power supplies have been furnished with these sets. They must be ordered separately when they are required.

Description

1.08 The Data Auxiliary Set 828A-L1 consists of a 24V4B Repeater Shelf and 35A1 Data Unit assembled on hanger bars to form a single integral unit which has been prewired and tested for 4W PL voiceband data service. It is suitable for mounting on relay racks or on a 16C or 31B apparatus mounting. Two 66-type connecting blocks have been provided for making strapping options and for terminating the 4W transmit and receive pairs. Connections to a Bell System or customer provided modem can be made on a plug-in or quick-connect basis. A List 2 offering is also available which adds an alternate voice capability and 20-Hz manual ringdown signaling. It may be ordered and installed with the List 1 (or List 1A) or added at a later date. When added at a later date a 37A1 Data Unit wired per SD-1D225-01, App Fig. 2 and a 568 HAA-() Telephone Set (key) must be ordered and connected to the List 1 package to complete the alternate voice feature.

1.09 The Data Auxiliary Set 828A is not a complete unit. The telephone company engineer must select and specify suitable plug-in units: amplifiers (227D or F-58122), 849-type networks, 89-type resistors, and 359-type equalizers to meet his circuit requirements. (See 852 division of the BSPs for transmission design considerations.)

SECTION 598-080-180

1.10 For 2W modems a 1B terminating set may be ordered and plugged into the 24V4B Repeater Shelf to provide 4W to 2W conversion.

1.11 Data Auxiliary Set 828A may be used with either Bell System or customer provided modems. However, customer provided modems may require a limiting type amplifier such as the F-58122 which shall be inserted into the T AMPL jack of the 24V4B Repeater Shelf in place of the 849-type network or the 227D amplifier.

1.12 A M6AK-61, D50AA-3, or M8J-61 cord must be ordered to interconnect this set with Data Sets 201, 202, or 203, respectively. The D50AA-3 cord may also be used with customer provided modems.

1.13 Data Auxiliary Set 828A-L1 measures 6-15/16 inches high by 9-1/4 inches wide by 9-7/16 inches deep and weighs approximately 9-1/4 pounds. Data Auxiliary Set 828A-L1A, with the cover in place, measures 16-5/8 inches high by 13-9/32 inches wide by 10-1/16 inches deep and weighs approximately 17 pounds. The 37A1 Data Unit measures 6-15/16 inches high by 7-3/4 inches wide by 8-1/4 inches deep and weighs approximately 7-3/4 pounds.

2. SUPPLEMENTARY INFORMATION

- 852-307-101
and
- 852-307-102—V4 Telephone Repeaters—Engineering AB27.350—Voice Bandwidth Circuits for PL Data Systems—General Information
- 314-410-500—Voice Bandwidth Circuits for Miscellaneous Data—Overall Tests and Requirements
- 332-104-100—V4 Telephone Repeater
- 332-104-102—24V4B Telephone Repeater
- 332-104-103—V4 Telephone Repeater—F58122 AGC Amplifier
- 332-104-500—Initial Lineup
- 332-104-501—227-Type Amplifier—Tests and Adjustments
- 332-104-503—V4 Telephone Repeater—F58122 AGC Amplifier—Tests and Adjustments
- 332-115-101
through 107—849A to G Networks—Description
- 332-116-101
through 113—359A to N Equalizers—Description
- 332-800-101
through 107—1A to 1K Terminating Sets

- 463-140-100—Equipment Cabinets and Apparatus Mountings—Identification
- 502-541-425—568 HAA Telephone Set (Key)
- 590-010-200—Data Sets—General Installation and Connection Information
- 590-100-126—35A1 Data Unit—Identification
- 590-100-127—36A1 Data Unit—Identification
- 590-100-128—37A1 Data Unit—Identification
- 598-080-100—Data Auxiliary Set 828A—Description and Operation
- 598-080-200—Data Auxiliary Set 828 Type—Installation and Connections
- 598-080-500—Data Auxiliary Set 828 Type—Maintenance and Test Procedures
- 743-001-002—Uniformity of Nomenclature for Listing Ordering and Billing Materials
- 800-610-158—Packaged Electronic Products
- 859-501-101—Compatibility with V4 Equipment

3. DRAWINGS

- SD-1D225-01—Data Auxiliary Set 828A
- SD-1D227-01—35A1 Data Unit
- SD-1D228-01—36A1 Data Unit
- SD-1D225-01—37A1 Data Unit

4. PRODUCT

Data Auxiliary Set 828A

List 1—Provides a station termination for one 4W PL voiceband data channel. It consists of J98615BA-1, L1 Repeater Shelf and 35A1 Data Unit assembled on hanger bars and wired per SD-1D225-01, App Fig. 1. It is suitable for mounting on relay racks or on a 16C or 31B apparatus mounting.

List 1A—Provides a station termination for one 4W PL voiceband data channel. It consists of J98615BA-1, L1 Repeater Shelf and 35A1 Data Unit assembled, wired (per SD-1D225-01, App Fig. 1), and mounted on a 31B apparatus mounting. The mounting is hinged to a 177A Backboard for access to the rear of the units. A light olive gray dust cover (116A) completes the package.

List 2—Provides alternate voice capabilities. It consists of 37A1 Data Unit per SD-1D225-01, App Fig. 2 (suitable for mounting in L1A enclosure or relay racks) and a 568 HAA-3 Telephone Set (key).

**TABLE OF AUTHORIZED
ORDERABLE CODE NUMBERS**

APPARATUS	RATING
Data Auxiliary Set 828A-L1	AT&TCo Std
Data Auxiliary Set 828A-L1A	AT&TCo Std
Data Auxiliary Set 828A-L1/2	AT&TCo Std
Data Auxiliary Set 828A-L1A/2	AT&TCo Std
Data Unit 37A1	AT&TCo Std

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

Set, Auxiliary Data 828A-L1

Alternate voice capabilities may be added to an existing List 1 or List 1A set by ordering the following items and plugging them together per SD-1D225-01, App Fig. 2.

Unit, Data 37A1

Set, Telephone (Key) 568 HAA-()

The 568 HAA Telephone Set is available in various colors from the manufacturing location and must be modified (see SD-1D225-01) by converting the fourth line key to nonlocking. However, only black (-3) telephone sets will be shipped with a Data Auxiliary Set 828A-L1/2 or 828-L1A/2 order.

5. GENERAL NOTES

5.01 A data auxiliary set code consists of the basic code (List 1, List 1A, etc) which may be followed by additional list numbers (2 or higher) separated by slashes. Each number represents an additional feature or group of features whenever they are inseparable. For example: Data Auxiliary Set 828A-L1/2 incorporates all the features of List 1 in addition to those found in List 2 (see 1.02).