

**DATA SET 208A 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 208A type, which is for use in private line data service for point-to-point or multipoint applications.

**CAPACITY**

**1.02** Data set 208A type is a synchronous, phase-modulated, voiceband transmitter and receiver for binary serial data, which operates at 4800 bits per second (b/s) on a basic 3002-type, 4-wire private line telephone channel. This data set is compatible for use only with another data set 208A type. The set includes provision for local tests and for remote tests from a test center. The output level of the data set is 0 dBm  $\pm$ 1 dB. The receiver provides adequate dynamic range for operation on a basic 3002 channel.

**DESCRIPTION**

**1.03** Data set 208A type consists of 17 plug-in circuit boards, an 83A power unit, and a backplane assembly mounted in an extruded anodized aluminum housing. Front and rear molded black plastic covers are mounted on the housing. The overall dimensions of the data set are approximately 16 inches wide, 4-1/4 inches high, and 11-1/2 inches deep. The weight is approximately 20 pounds. The circuit packs in data set 208A-L1 are HG1 through HG9, HG11, two HG12, and HG13 through HG17. In data set 208A-L1A, circuit pack HG1 has been replaced with HG21 and they are electrically and mechanically interchangeable. Also, circuit pack HG9 has been replaced with HG23 which adds features and requires a different front cover. A

data set 208A-L1 can be converted to a data set 208A-L1A by replacing the HG9 circuit pack with an HG23 circuit pack and replacing the cover with the new cover (840807655).

**1.04** The data set 208A-L1 status lamps and test switch are mounted on a circuit board immediately behind the front cover. The status lamps monitor the power unit, certain interface leads, and the test switch position. Each lamp illuminates a 2-letter symbol on the front cover, which indicates the control lead or condition being monitored. The test switch, which is accessed through a hole in the front cover, is a 3-position switch which puts the set in local (analog loop-back) test, remote (digital loop-back) test, or run mode. Data set 208A-L1A also has status lamps and test switches mounted immediately behind the front cover. The six light-emitting diode (LED) status lamps (data set 208A-L1 has seven LED status lamps) indicate a power on or overvoltage condition; the status of four interface control circuits; and the mode of the equalizer when the data set is in the data mode, or an error indication when the data set is in a self-test mode. The data set 208A-L1A has six pushbutton switches accessible through a hole in the front cover. Four of the switches are operational and permit comprehensive local and remote testing of the data set and facilities. The test functions provided are lamp test, analog loop-back, self-test, and digital loop-back. The two nonoperational switches are included for visual compatibility with the data set 208B type.

**1.05** The back cover of the data set has openings which allow access to the channel (telephone) and customer interface connectors and to the power cord receptacle. The 25-pin customer interface connector is a KS-19087,L2. The customer data equipment must be equipped with a cable terminated in a Cinch or Cannon DB-19604-432 plug equipped with a hood, such as a DB-51226-1 hood. The 25-pin channel (telephone) interface connector

## SECTION 592-027-180

is a KS-19088,L2. Connection between the data set and data auxiliary set (DAS) 828A, if used, and to the line is made with an M8K-61 cord which is included with the data set.

**Note:** Data auxiliary set 828A must be ordered separately.

### POWER REQUIREMENTS

**1.06** Power for the data set is provided by the 83A power unit mounted in the data set. This power unit provides +12, -12, +5, and -6 volts. The power unit requires 105- to 130-volt ac power at 60 Hz. A KS-14532, L24 power cord, 6 feet in length (previously a P3BJ power cord which is also acceptable), is provided with the data set. The cord is terminated with a twist-lock connector body at the data set end to prevent inadvertent removal of the cord. If a different power cord is desired, it must be ordered separately and must be terminated at the data set end with a connector body compatible with the Hubbell BL-12583 twist-lock receptacle mounted at the back of the 83A power unit, such as a Hubbell No. 7593 connector body. The power unit contains a self-resetting thermal overload switch which shuts off the power unit if the transformer temperature rises excessively. An overvoltage circuit is also included, which shuts off the power unit when the output voltage becomes excessive.

### OPTIONS

**1.07** Data set 208A type is provided with a number of options which must be installed prior to placing the data set in service. The option settings are controlled by switches mounted on a circuit pack, which are accessible when the front cover is removed. The options to be installed in the data set should be specified on the service order. Refer to Sections 592-027-100 and 592-027-200 for description and location of options.

### ENVIRONMENT

**1.08** The data set operates in an environment of 40 to 120°F (5 to 50°C) ambient temperature and 20 to 95 percent relative humidity.

### 2. SUPPLEMENTARY INFORMATION

592-000-000—200 Series Data Sets and Associated Services

800-610-158—Packaged Electronic Products  
800-610-159—Printed Wire Board Assemblies—Requirements  
590-002-110—Data Set 208A Type—Reference Guide  
590-010-200—General Installation and Connection Information  
592-027-100—Data Set 208A Type—Transmitter-Receiver—Description and Operation  
592-027-200—Data Set 208A Type—Transmitter-Receiver—Installation and Connections  
592-027-300—Data Set 208A Type—Transmitter-Receiver—Maintenance  
592-027-400—Data Set 208A Type—Transmitter-Receiver—Wiring Information  
592-027-500—Data Set 208A Type—Transmitter-Receiver—Test Procedures  
999-100-105—Data Set 208A Type—How-To-Operate Manual  
TI-360—Test of Services Provided by Data Set 208 From a Private Line Data Test Room  
X-17879—Manufacturing Testing Requirements for Data Set 208A Type  
CD-1D232-01—Data Set 208A Type—Circuit Description

### 3. DRAWINGS

SD-1D232-01—Data Set 208A Type (Also covers circuit packs HG1 through HG9, HG11 through HG17, HG21, and HG23.)  
SD-82134-01—83A Power Unit

### 4. PRODUCT

#### *Data Set 208A—Transmitter-Receiver*

**List 1**—Assembly and wiring for one data set 208A-L1 per SD-1D232-01.

**List 1A**—Assembly and wiring for one data set 208A-L1A per SD-1D232-01.

TABLE A

AUTHORIZED ORDERABLE CODES		
DATA SET	RATING	REPLACED BY
208A-L1	Mfr Disc.	208A-L1A
208A-L1A	AT&TCo Std	—

**5. GENERAL NOTES**

**5.01** Data set 208A type can be installed for multiple arrangements on 19- or 23-inch rack mountings or in a cabinet with 19- or 23-inch rack mountings, which allows front and rear access to the data sets. The following brackets are required for each data set and must be ordered separately as indicated below:

One D-180556—Mounting Brackets for Data Set 208 type or 209 Type

**5.02** When the data sets are mounted in a cabinet, the maximum cabinet ambient temperature should be limited as indicated in Fig. 1.

**5.03** The data sets can be stacked on top of each other as follows:

MAX. ROOM TEMP	NO. OF DATA SETS
85° F	3
110° F	2
120° F	1

**5.04** A D-180497 spare parts and tool kit is available which contains: one each of circuit packs HG2 through HG8; HG11 through HG23; two sets of test pins for use with data test set 914B; and four circuit pack shipping cartons.

### AMBIENT TEMPERATURE VS NUMBER OF DATA SETS AND INLET AREA

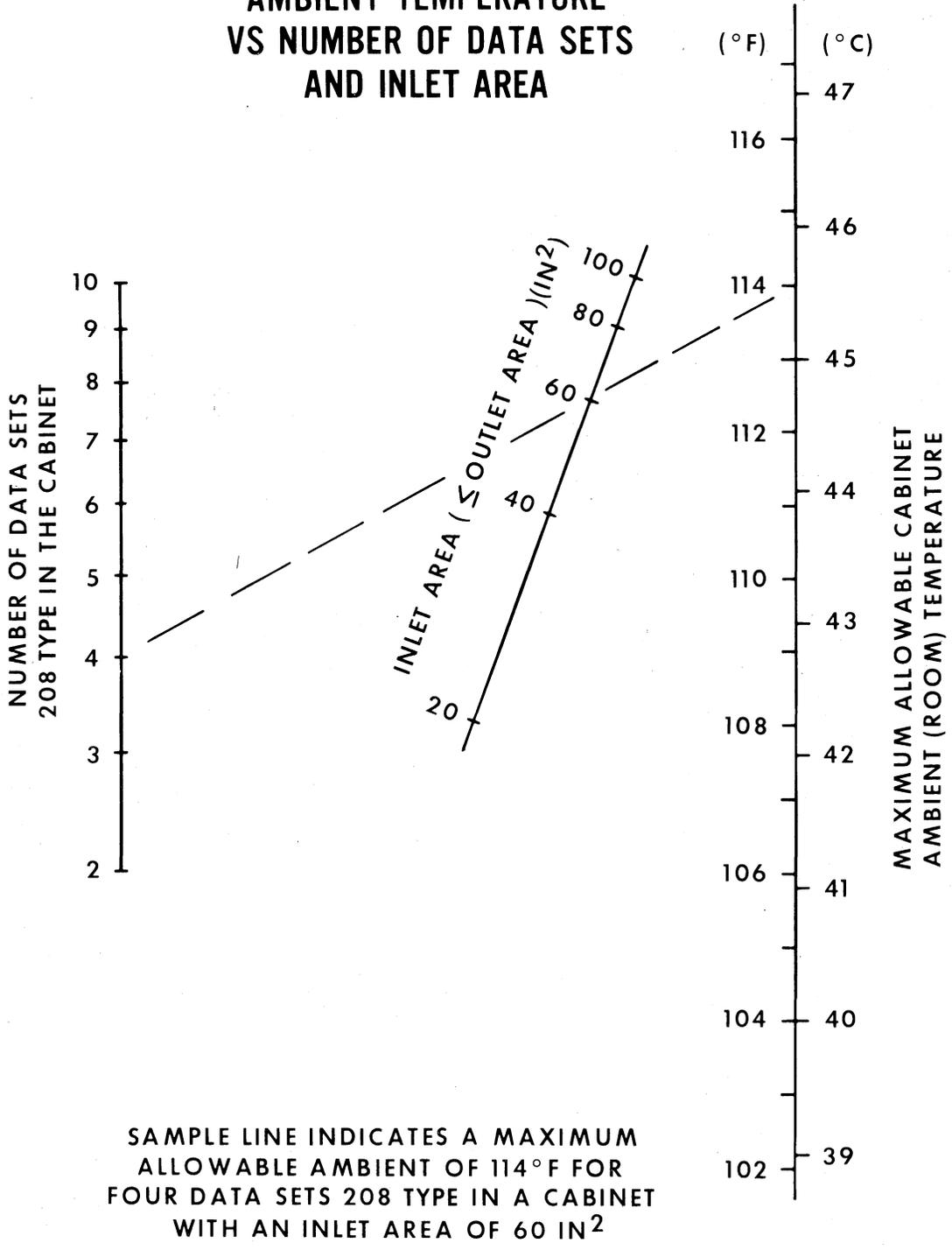


Fig. 1