52A1 DATA UNIT
IDENTIFICATION

1. GENERAL

1.01 This section provides an identification and a general description of the 52A1 data unit (Fig. 1).

1.02 Whenever this section is reissued, the reason for reissue will be contained in this paragraph.

1.03 The 52A1 data unit can be supplied with the data set (DS) 108F or 108G to provide a remotely activated digital loopback capability.

2. PHYSICAL DESCRIPTION

2.01 The 52A1 data unit consists of a printed circuit board which is mounted directly to the circuit pack of DS 108F or 108G.

2.02 The 52A1 data unit is approximately 4 inches long and 2.2 inches wide. The data unit requires approximately 180 milliwatts of power which is derived from the +16 volts power supply of the interconnected DS 108F or 108G.

2.03 The 52A1 data unit power and signal leads are derived from the DS 108F or 108G via

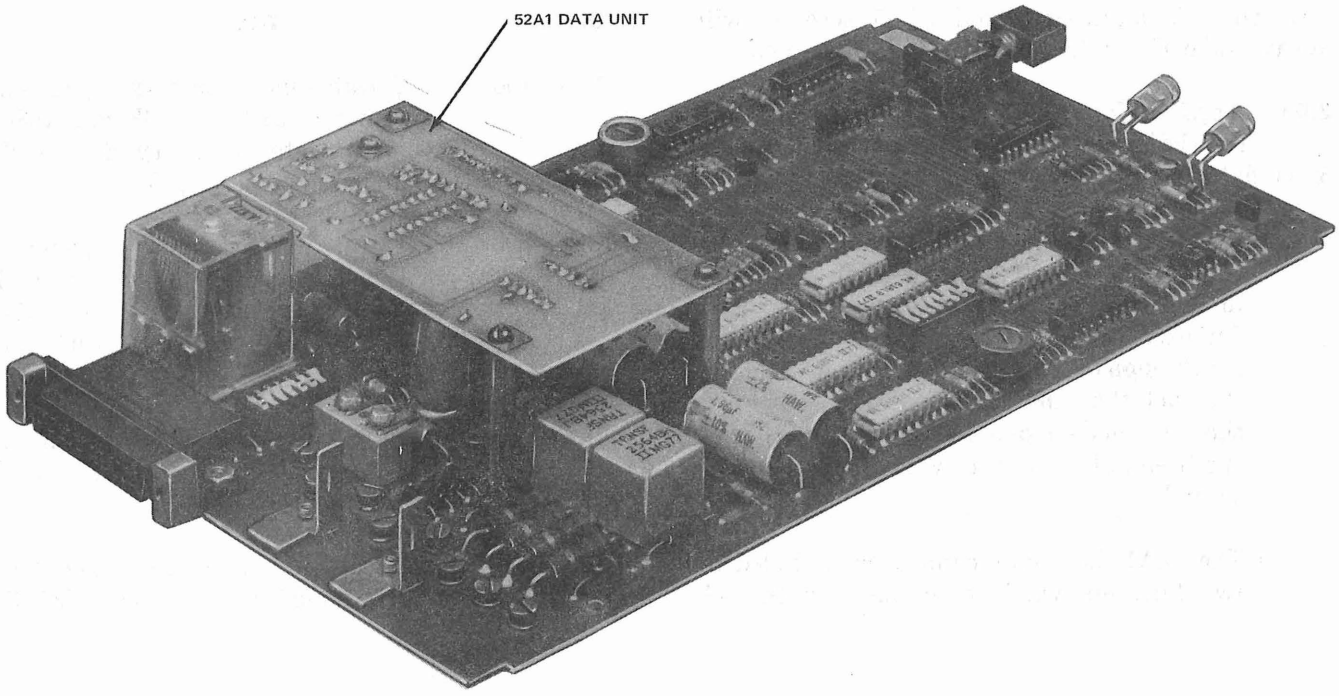

Fig. 1—52A1 Data Unit Mounted on Data Set 108F

the metal standoffs used to mount the printed circuit board to the data set.

2.04 The 52A1 data unit will operate over a temperature range of 40°F to 120°F with relative humidity of 20 to 95 percent (noncondensing).

3. FUNCTIONAL DESCRIPTION

3.01 The 52A1 data unit connects to the test (TST) and received data (BB) leads of DS 108F or 108G. The data unit activates the digital loopback test mode of DS 108F or 108G by detecting a steady spacing signal of at least one second on data set lead BB. This steady spacing signal causes lead TST to be grounded resulting in the data set entering the test mode and the TM lamp lighting.

> ***Note:*** A spacing signal as short as .6 seconds may activate the test mode.

3.02 The 52A1 data unit will keep the data set in the digital loopback test mode until a steady marking signal longer than .2 seconds is received. A marking signal of .5 seconds will always take the data set out of the test mode.

3.03 ***Application Restrictions:*** The following restrictions apply to the applications of the 52A1 data unit.

- If the customer's data signals normally contain spacing signals exceeding .6 seconds in duration, the data unit cannot be used. An exception may be the transmission of break signals, if the system can tolerate the fact that the receiving data set enters the test mode momentarily and loops back the break after an interval of less than one second.

- The 52A1 data unit cannot be installed at two data sets which communicate with each other. Thus, on point-to-point service, only one data set can be equipped with the data unit. On data sets connected to the same telegraph hub, a single data set only can be equipped with a data unit. On polling lines, either the master set or one of the slave sets can be equipped with a data unit.

- Data Set 108G equipped with the 52A1 data unit may not use the space hold option (V), if the distant data set provides the carrier squelch on carrier fail option.

- Data Set 108F equipped with a 52A1 data unit may not use the space hold option (V), if the distant data set provides both the carrier squelch on carrier fail option and the space hold option.

4. REFERENCES

4.01 The following Bell System Practices provide additional information on the 52A1 data unit.

SECTION	TITLE
591-818-100	Private Line Station Arrangements Using Data Sets 108F and 108G With Data Auxiliary Sets 830B and 830C—Description
591-818-200	Private Line Station Arrangements Using Data Sets 108F and 108G With Data Auxiliary Sets 830B and 830C—Installation and Connections
591-818-500	Private Line Station Arrangements Using Data Sets 108F and 108G—Procedures

4.02 Detailed information pertaining to the 52A1 data unit is contained in SD-& CD-1D286-01.