

DATA SETS 108A- AND C-TYPES
MULTIPLE PRIVATE LINE STATION ARRANGEMENT
USING DATA AUXILIARY SET 820E-TYPE
MAINTENANCE

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1. GENERAL

1.01 This section describes the maintenance procedures to be followed for data sets 108A- and C-types when using data auxiliary set (DAS) 820E-type in KS-20018-type cabinet or equivalent. In this section, data sets 108A- and C-types will be referred to as data sets 108A and C.

1.02 No routine maintenance is required for data sets 108A and C or DAS 820E-type.

1.03 Preoperative tests and adjustments should be made in accordance with the procedures outlined in the section entitled Data Sets 108A- and C-Types—Multiple Private Line Station Arrangement Using Data Auxiliary Set 820E-Type—Installation and Connections (591-023-202).

1.04 A TTS-28 or equivalent is needed to perform some of the troubleshooting procedures which follow.

Warning: To prevent injury to the telephone employee and/or equipment, power should be removed from the data station before the components are removed.

2. REPLACEMENT PROCEDURES

A. Data Sets 108A or C and AR17 Circuit Pack

2.01 Data sets 108A or C and AR17 circuit packs should be replaced, when required, using the following procedure.

- (1) Operate power unit switch (associated with the data set or AR17 circuit pack to be replaced) to OFF.
- (2) Remove the lock strip by loosening the two screws holding it to the apparatus mounting and sliding it first to the left to disengage it from the screws, then to the right and out to remove it from the apparatus mounting.
- (3) Grasp extracting handle of data set or AR17 circuit pack to be replaced and remove by pulling straight out.
- (4) Verify that the replacing data set or AR17 circuit pack card has the same options installed as the replaced data set or AR17 circuit pack.
- (5) Position replacement data set or AR17 circuit pack and firmly push it into locking position.

Note: Data set 108A or C and AR17 circuit pack are keyed to prevent positioning in the wrong slots.

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- (6) Replace lock strip by reversing the procedure outlined in Step 2.
- (7) Restore power switch to ON and adjust data set output level using the procedure outlined in the section entitled Data Sets 108 A- and C-Type—Multiple Private Line Station Arrangement Using Data Auxiliary Set 820E-Type—Installation and Connections (591-023-202).

B. DAS 820E-Type

- 2.02** DAS 820E-type should be replaced, when required, using the following procedures.



Prior to removing DAS 820E-type, obtain a release from the customer for all associated data circuits.

- (1) Operate the power switches on DAS 820E-type to OFF.
- (2) Disconnect power cord from the following locations, depending upon the station configuration:
 - Customer-provided receptacle—KS-20018-L1 and -L2 cabinets.
 - 590B power panel—KS-20018-L3 and -L4 cabinets.
- (3) Tag and disconnect the three customer-provided interface cords from the CUST TERM. connectors.
- (4) Tag and remove the telephone and keyset control lines from terminal board (TB) 1 or connecting block, as required.
- (5) Remove strap to other DASs or frame ground, if provided.
- (6) Using a KS-19053-L1 screwdriver, or equivalent, remove the eight 12-24 BHM screws holding the DAS to the cabinet frame.
- (7) Remove DAS.
- (8) Install the replacing DAS by reversing the above procedure.

C. 590B Power Panel

- 2.03** The 590B power panel in the KS-20018-L3 and -L4 cabinets should be replaced, when required, using the following procedure.



Obtain a release from the customer since removal of the power panel will remove the entire data station from operation.

- (1) Operate the power switches on all DASs 820E-type to OFF.
- (2) Disconnect 590B power cord from customer-provided receptacle.
- (3) Disconnect 590B power cord from inlet receptacle of the 590B power panel.
- (4) Disconnect DAS power cords from 590B power panel.
- (5) Using a KS-19053-L1 screwdriver, or equivalent, remove the four 12-24 BHM screws holding the power panel to the cabinet frame.
- (6) Remove the power panel.
- (7) Install the replacing power panel by reversing the above procedure [Steps (1) through (6)].
- (8) Notify customer that service has been restored.

D. 6041G Keyset

- 2.04** The 6041G keyset(s) in the KS-20018-type cabinets should be replaced, when required, using the following procedure.

- (1) Remove 6041G keyset cover by loosening the two screws located on top of the cover and lifting the cover straight up.
- (2) Remove plastic key strip by lifting it straight up.
- (3) Tag and remove inside wiring cable, or equivalent, from keyset terminal strip.



Use caution when removing leads from terminal strip. Grounding a lead could cause the associated data set to go into the test mode.

(4) Modify the replacing keyset according to the procedures outlined in the section entitled Data Set 108A- and C-Types—Multiple Private Line Station Arrangement Using Data Auxiliary Set 820E-Type—Installation and Connections (591-023-202).

(5) Install the replacing keyset by reversing the above procedure [Steps (1) through (4)].

3. MAINTENANCE PROCEDURES

3.01 Maintenance of data sets 108A and C should be in accordance with the flowchart shown in Fig. 1. The flowchart is a recommended procedure to follow when investigating a customer trouble report. The information blocks in the flowchart are numbered to provide easy reference. The diamond represents a decision to be made, while the circles provide a means of referring to another numbered information block in the flowchart. For information on the typical testing arrangements and a general guideline for maintaining and determining if trouble exists at near or far stations, refer to the section entitled Data Set 108-Type, Private Line System Station Application, Maintenance (591-023-300).

3.02 The maintenance procedure is subdivided into two parts as follows:

A. Serving Test Center Not Available

B. Serving Test Center Available

The applicable part is used when investigating trouble at a 108A or C multiple private line station arrangement.

A. Serving Test Center Not Available

3.03 The maintenance philosophy for station-to-station circuits without a STC is based on the data circuit not being option-wired for Carrier Squelch on Carrier Fail. When the distant station is option-wired for Carrier Squelch on Carrier Fail, it may be necessary to dispatch a telephone employee to the distant station and remove the option prior

to performing the maintenance procedure, unless the trouble is obviously at the other station.

Note: The number in parentheses () refers to the **numbered block** in the flowcharts.

3.04 When a Telco employee is dispatched to the station (5), a local loop-back (6) should be performed to determine if the trouble exists in the station equipment or terminal equipment.

Terminal Equipment

3.05 If the station meets the local loop-back test requirements, the trouble should be in the terminal equipment. (Go to 3.07 if station does **not** meet the local loop-back test requirements.) When the terminal is customer-provided, request the customer to verify the operation of the terminal equipment (8). If the CPT is **not** operational, request the customer to repair or replace the terminal (9). Verify that the station is operational (18). When the CPT is operational and trouble still exists with a valid loop-back test, request aid for additional testing from the immediate supervisor (11).

3.06 If the terminal is Bell System equipment, check operation of the equipment. If the terminal is not operational, repair or replace the terminal (10) and verify its operation. In the event the trouble has cleared, restore the station to normal service (18). If the trouble has **not** cleared, request aid for additional testing from immediate supervisor (11).

Station Equipment

3.07 In the event the station does **not** meet the local loop-back test requirements, perform loop loss measurements (7) to verify loop requirements. If the loop meets loop requirements, attempt data exchange (13). If the loop does **not** meet loop requirements, repair or replace the transmission loop (12) and attempt data exchange (13). Verify that trouble has cleared and restore the station to normal service (18).

3.08 Should trouble still exist in the station, systematically measure the power supply voltages to verify that the power supplies are operational (14). If a power supply checks bad, repair or replace it (15). Verify the operation of the power supply (18).

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3.09 If trouble still exists in the station, systematically replace the data sets (16). Verify the operation of the station and restore to normal service (18).

3.10 Should trouble still exist in the station, systematically replace the AR17 CPs (17). Confirm that the station is in operation and restore to normal service (18). In the event station trouble still exists, request aid for additional testing from immediate supervisor (11).

B. Serving Test Center Available

3.11 A remote loop-back test should be performed (2) to determine if the trouble exists in the station or terminal equipment.

Terminal Equipment

3.12 When the station meets the remote loop-back test requirements, the trouble should be in the terminal equipment. If the terminal is CPT, request the customer to verify the operation of the terminal equipment (8). If the CPT is *not* operational, request the customer to repair or replace the terminal (9).

3.13 When the terminal equipment is Bell System equipment, a Telco employee is dispatched to the station (3) and performs the investigation procedure as outlined in 3.06.

Station Equipment

3.14 In the event the station does *not* meet the remote loop-back test requirements, a Telco employee is dispatched to the station (4) and performs the investigation procedures as outlined in 3.07 through 3.10.

4. REFERENCES

4.01 For additional information relating to data sets 108A and C multiple private line station, refer to the following documents:

SD- & CD-3D024-01 Data Set 108A

SD- & CD-3D032-01 Data Set 108C

SD- & CD-3D031-01 Data Auxiliary Set 820E-Type

SECTION	TITLE
591-023-100	Data Set 108-Type Private Line System Station Application—Description
591-023-300	Data Set 108-Type Private Line System Station Application—Maintenance
598-059-100	Data Auxiliary Set 820E-Type—Identification
512-210-103	6041G Keypad—Identification, Installation, and Connections
590-010-201	Data Sets—Multiple Installation Information
591-023-102	Data Set 108A- and C-Types Multiple Private Line Station Arrangement Using Data Auxiliary Set 820E-Type—Description
591-023-202	Data Set 108A- and C-Types Multiple Private Line Station Arrangement Using Data Auxiliary Set 820E-Type—Installation and Connections
591-023-502	Data Set 108A- and C-Types Multiple Private Line Station Arrangement Using Data Auxiliary Set 820E-Type— Test Procedures

