

FIRST CLASS MAIL

COMPANY PRIVATE

Installation Engineering Handbook 59  
Western Electric Company, Incorporated  
Columbus Works

TM 4.119  
10-07-82  
Replacing: TM 4.119  
Dated: 08-25-82  
Expiration Date: 12-31-82

MINIMAL APPLICATION  
TEMPORARY MEMORANDUM  
SXS ANI-B SYSTEMS  
295A DRY REED RELAYS

1. GENERAL

- 1.1 Step-by-Step ANI-B offices retrofitted for use with Automatic Message Accounting and Recording Center (AMARC) in the Bell of Pennsylvania area have experienced an abnormal failure rate of 295A relays in the Secondary Number Networks.

These offices ordered new identifier frames equipped with new Secondary Number Network Units.

- 1.2 Bell Telephone Laboratories analysis of failing relays indicate silicon contamination in bottles resulting in contact failure after repeated operation of relays. Relays are assembled at Columbus Works using contacts manufactured at Kansas City.

- 1.3 This TM has definite minimal application limited to the following Bell of Pennsylvania orders.

<u>LOCATION</u>	<u>ORDER</u>	<u>LOCATION</u>	<u>ORDER</u>
North Wales, Pa.	47590	Perkasie, Pa.	47607
Indiana, Pa.	60005	Middletown, Pa.	68231
Enola, Pa.	68229	Hummelstown, Pa.	68232
Jeanette, Pa.	60006	Laureldale, Pa.	47605
Plymouth, Pa.	68208	Pittston, Pa.	68210
Olyphant, Pa.	68202	Lewistown, Pa.	68286
Charleroi, Pa.	60012	Pennsburg, Pa.	47603
Schwenksville, Pa.	47601	Milton, Pa.	68304
Hollidaysburg, Pa.	68241	Shamokin, Pa.	68327
Palmyra, Pa.	68272	Clearfield, Pa.	68319
Moosic, Pa.	68203	Ligohier, Pa.	60022
		Berwick, Pa.	68303 ←

\*NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM  
EXCEPT UNDER WRITTEN AGREEMENT

➔ 2. INSTALLING EQUIPMENT

- 2.1 5632 Digital Voltmeter  
5221A Storage Oscilloscope

3. ADDITIONAL MATERIAL

- ➔ 3.1 295A Relays (Manufacture Date 9/82 or later)  
32/Secondary NN unit equipped (J95105G).  
32/2 ID Test Connector units (J1C081E).  
8/OITT Test Unit (J93402AS).  
4/2 TP Test & MB Units (J1C081D)

➔ 4. CORRECTIVE ACTION

- 4.1 All 295A relays shall be replaced on OITT test Unit (J93402AS); ID 0 & 1 Test Connector Unit (J1C081E); Tip party Test and MB Units (J1C081D) and each equipped Secondary NN Unit (J95105G). Prior to starting the modification; verify that trunk frame; OITT & LVT oscillators are not equipped with D39 series 5.6 circuit packs. Any series 5.6 D39 packs shall be replaced per CN 127CCB.
- 4.2 Make-busy ID-0 and verify digit identification using OITT per HB 59, Section 115C. Bad relays in the test connectors can cause digit failures using the OITT. Record any digit failures for reference in subsequent tests. Return ID-0 to service and repeat for ID-1.
- 4.21 Remove power from the J93402AS unit by removal of -48V (J) fuse on FP at top of OITT Frame. Tag wires and replace 295A relays on this unit.
- 4.22 Restore power and repeat Paragraph 4.2.
- 4.3 Make-busy, isolate and remove power from ID-0. Verify that ID-1 is handling traffic satisfactorily. Relays on Test Connector Unit (J1C081E) shall be replaced individually in a digit group; thousands; hundreds; tens and units.
- 4.31 Tag wires and remove relays in thousands group one at a time in ID-0 Test Connector.
- 4.32 Restore power and return isolation key to normal. Do not un-busy ID. Verify identification of all digits in group replaced per HB 59, Section 115C.
- 4.33 Repeat Paragraphs 4.3 - 4.32 for hundreds, tens and units digit groups individually.
- 4.34 Isolate and remove power from ID-0. Block the (MBI) relay operated. Remove -48V(A) fuse to remove power from 295A relays on Tip Party Test and MB Unit (J1C081D). Tag wires and replace (TBL) and (ON3) relays on this unit.

- 4.35 Restore power, remove (MBI) relay block and return isolate key to normal. Verify digit identification per HB 59, Section 115C. Identification of all digits per this section shall pass before proceeding.
- 4.36 Restore ID-0 to service and verify normal traffic capabilities.
- 4.4 Repeat Paragraphs 4.3 - 4.36 for ID-1.
- 4.5 CAUTION - This step which replaces relays in the Secondary NN units can be service affecting. Insulate disconnected leads on contacts 3, 4, 7, 8, 11 & 12 of digit group relays to avoid contact with ground and/or potential. Monitor the ANI-B test set in the active ID for service problems during modification. It is recommended that each ID be made-busy one at a time for a 10-15 minute interval and monitor the active ID for failures. The ID with the highest failure rate should be modified first.
- 4.51 Make-busy, isolate and power-off the selected ID. Relays in each equipped Secondary NN unit shall be replaced individually in a digit group on the selected connector (ID 0 or 1).
- 4.52 Tag wires and replace relays in thousands digit group of selected ID in each equipped Secondary NN unit.
- 4.53 Restore power and return isolation key to normal. Verify identification of all digits in group replaced using the Line Verification Test Unit per HB 59, Section 115D.
- 4.54 Repeat Paragraphs 4.5 - 4.53 for hundreds, tens and units digit groups individually.
- 4.55 Restore ID to service and complete tests on digit combinations per HB 59, Section 115D in each equipped office.
- 4.6 Repeat Paragraphs 4.5 - 4.55 for other ID.

**5. DISPOSITION OF EXPENSE**

- 5.1 If the labor involved in the performance of the above operation is sufficient to meet the requirements of C.I. 47.242, it shall be reported on the SD-1007 JIM, for issuance of a type "X" supplementary estimate in the X95 category.

Manager, Product Engineering  
Control Center

Printed in U.S.A.

➔ Indicates new or  
Changed information.

**Reason for Reissue of TM:**

To provide for replacement  
of all 295A Relays on ID 0 & 1  
and OITT Unit added for AMARS.

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