2600-CYCLE E1F SINGLE-FREQUENCY SIGNALING CIRCUIT (SD-98089-01 OR SD-98089-02) IN-SERVICE TESTS USING TESTING AND MONITORING CIRCUIT (SD-96519-01 OR SD-96519-02)

1. GENERAL

1.01 This section describes a method of testing a 2600-cycle single-frequency signaling circuit while in service using testing and monitoring circuit per SD-96519-01 or SD-96519-02 (J98613Y or J98613AY).

1.02 This section is reissued to include signaling unit SD-98089-02 and the testing and monitoring circuit SD-96519-02. Since this reissue covers a general revision, the arrows ordinarily used to indicate changes have been omitted.

1.03 The tests covered are:

A. ***Transmitted Tone Level:*** This test checks the level of the single-frequency tone as sent on the line.

B. ***Received Tone Level:*** This test checks the level of the 2600-cycle tone received from the distant office.

C. ***Monitoring:*** This test gives an indication of the condition of the circuits, whether idle (tone on), seized (tone off), revertive pulsing (pulses of high-level tone), or supervisory signals (low-level tone).

1.04 If the requirements of this section are not met, refer to Section 179-326-501.

Caution: If this section is used as a preliminary check test, observe the following precautions. The signaling unit should be in normal operating position for several minutes to allow mercury in 291- or 303-type relay to assume operating conditions.

1.05 ***Lettered Steps:*** A letter a, b, c, etc, added to a step number in Part 3 of this section, indicates an action which may or may not be required depending on local conditions. The condition under which a lettered step or a series of lettered steps should be made is given in the ACTION column, and all steps governed by the same condition are designated by the same letter within a test. Where a condition does not apply, all steps designated by that letter should be omitted.

2. APPARATUS

2.01 The apparatus required for each test is shown in Table A. The details of each item are covered in the paragraph indicated by the number in parentheses.

TABLE A

APPARATUS	TESTS A	B	C
Monitoring Circuit (2.02)	1	1	1
13A Transmission Measuring Set (TMS) or Equivalent	1	1	1
Head Telephone Set	1	1	1
Cord (2.03)	1	1	1
Cord (2.04)	1	1	1
Cord (2.05)	1	1	1
Tool (2.06)	√	√	√
Tool (2.07)	√	√	√

√ As required.

2.02 Monitoring circuit, J98613Y or J98613AY (SD-96519-01 or SD-96519-02).

2.03 Testing cord, W2DL cord, 5-1/2 feet long, equipped with one 310 plug and 35 cord tips (2W42A).

2.04 Patching cord, P3E cord, 3 feet long, equipped with two 310 plugs (3P7B cord).

2.05 Patching cord, P8E cord, 12 feet long, equipped with one KS-8585 L10 plug and one KS-8586 L7 socket.

2.06 Disengaging tool, P-43C851 (for removing unit from working position).

2.07 725A tool used to gain mechanical advantage in prying the signaling units loose from connectors.

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	TMS must be known to be correctly calibrated.	
2	Attach testing cord to TMS.	
3a	If monitoring circuit is on J98613Y or J98613AY panel — Using testing and monitoring circuit SD-96519-01 which has CAL MEAS and CAL OUT jacks — Connect TMS to CAL MEAS jack.	Record TMS reading.
4a	Remove connection from TMS to CAL MEAS jack.	
5a	Patch CAL OUT jack to MON IN jack.	
6a	Connect TMS to AMP OUT jack.	
7a	Adjust GAIN potentiometer of MON AMPL to obtain reading recorded in Step 3a.	
8a	Remove patch cord from CAL OUT jack to MON IN jack.	
9b	If monitoring circuit is on J98613AY panel — Using testing and monitoring circuit SD-96519-01 or SD-96519-02 which do ***not*** have CAL MEAS and CAL OUT jacks — Connect 1 MW SUP jack to IN terminals of the TMS.	TMS reading should be 0 ±0.2 db.
10b	Disconnect TMS from 1 MW SUP jack, connect TMS to AMP OUT jack.	
11b	Turn S2 RECEIVER switch to position 2 M OPR.	TMS reading should be exactly 0 db.
12c	If requirement of Step 11b is not met — Readjust MON AMP to get 0 db reading.	
13b	If monitoring circuit is on J98613AY panel — Turn S2 RECEIVER switch to position 1 MEAS INPUT.	
14	Patch monitoring cord between S socket of E1F unit to be monitored and S1 socket.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Transmitted Tone Level	
15	Patch LINE XMT jack to MON IN jack.	When circuit is idle (tone on) — Steady reading on TMS between −32 and −30 db.
16	Remove patch from LINE XMT jack to MON IN jack.	
17	Disconnect E1F unit from monitoring circuit.	
	B. Received Tone Level	
15	Patch LINE RCV jack to MON IN jack.	When circuit is idle (tone on) — Steady reading on TMS between −19 and −7 db.
16	Remove patch from LINE RCV jack to MON IN jack.	
17	Disconnect E1F unit from monitoring circuit.	
	C. Monitoring	
15	Remove connection from AMP OUT jack to IN terminals of TMS.	
16	Plug head telephone set into MON OUT TEL SET jack.	
17	Patch LINE XMT jack to MON IN jack.	When circuit is idle — Tone is heard. When circuit is seized — At least five groups of louder tone pulses preceding lower steady tone are heard. Called party answers. Tone is not heard. *Note:* If operator answers, tone is heard. If there is busyback, tone pulses of 60 ipm are heard. If there is reorder or overflow, tone pulses of 120 ipm are heard.
18	Remove patch from LINE XMT jack to MON IN jack.	

STEP	ACTION	VERIFICATION
19	Patch LINE RCV jack to MON IN jack.	When circuit is idle — Tone is heard. When circuit is seized — Tone is not heard. After circuit is seized — At least five louder tone pulses followed by low-level tone and then tone are not heard.
20	Remove patch from LINE RCV jack to MON IN jack.	
21	Remove head telephone set from MON OUT TEL SET jack.	
22	Disconnect E1F unit from monitoring circuit.	