

1A TELEPHONE WARNING SYSTEM

TESTS

1. GENERAL

1.01 This section describes methods of making out-of-service tests on the 1A telephone warning system.

1.02 The tests covered are:

A. Defective Remote Line: This test checks for the correct operation of all circuits involved in the indication and removal of a defective remote line. Tests for grounded and open lines are included.

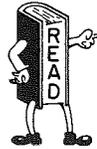
B. Remote Station Call-In: This test checks for the correct operation of all signal and voice circuits involved in a call from a remote station to a control station. A test is included for the holding circuits involved when the remote station returns to on-hook before the control station answers.

C. Remote Station Called: This test checks for the correct operation of the remote line and signal circuits involved in a call from a control station to a remote station.

D. Control-Station To Control-Station Call:
This test checks for the correct operation of all signal and voice circuits involved in a call between control stations.

E. Emergency Power Supply: This test checks for the correct operation of the emergency power supply and the associated visual alarm signal circuit.

1.03 The 1A telephone warning system is a self-contained circuit that does not connect to any other telephone system; therefore, the tests described in this section can be performed at any convenient time.



Since the 1A telephone warning system is a security-type system, it is extremely important that the system provide reliable and uninterrupted service at all times. The circuit should never be taken out of service without the expressed permission of the customer.

1.04 For convenience in describing tests, the control station that houses the line cutoff keys will be numbered 1, and the other control station will be numbered 2. In addition, the remote station will be designated RS; the control station, CS; remote telephone line alarm lamps, ALARM; remote telephone signal lamps, SIGNAL; remote telephone line cutoff keys, TEL CO; common control line cutoff lamp, LINE CO; and common control signal lamp, SIG.

1.05 Tests A, B, and C are applicable to all remote stations and may be used to test as many of these stations as required by local conditions. Parentheses () are used to represent the actual number or letter designation of the remote station being tested and the corresponding remote telephone line alarm lamps, signal lamps, and cutoff keys.

2. APPARATUS

Test A

2.01 Testing cord, No. 893 cord, 6 feet long, equipped with two No. 360A tools (No. 1W13B cord); two No. 365 tools; and one screwdriver, KS-2631, or equivalent.

Test E

2.02 KS-14510, List 5 Volt-Ohm-Milliammeter (VOM), or equivalent.

SECTION 480-315-500

3. PREPARATION

STEP	ACTION	VERIFICATION
	All Tests	
1	At all CS and RS — Place all telephone handsets on-hook.	
2	At CS-1 — Set all TEL CO keys to normal position.	
3	Energize system by operating AC power switch to ON position.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Defective Remote Line	
4	At RS-() — Connect test cord No. 1W13B from tip lead to ground.	At CS-1 and CS-2 — ALARM-() lamp lights steadily and buzzer sounds.
5	At CS-1 — Operate TEL CO-() key.	Buzzer is silenced and LINE CO lamp lights steadily.
6	At RS-() — Remove test cord from tip lead and ground.	ALARM-() lamp is extinguished.
7	At CS-1 — Restore TEL CO-() key.	LINE CO lamp is extinguished.
8	Repeat Steps 4 through 7, substituting ring lead for tip lead.	Same as Steps 4 through 7.
9	Repeat Steps 4 through 7, disconnecting one end of R18 from L1 (or L2) at RS-() in Step 4 and replacing it in Step 6, instead of grounding and ungrounding the tip (or ring) lead.	Same as Steps 4 through 7.
	B. Remote Station Call-In	
4	At RS-() — Go off-hook.	At CS-1 and CS-2 — SIGNAL-() lamp flashes and bell rings.
5	At CS-1 — Go off-hook.	At CS-1 — SIGNAL-() lamp changes to steady and bell is silenced. At CS-2 — SIGNAL-() lamp changes to steady, bell is silenced, and SIG lamp lights steadily.

STEP	ACTION	VERIFICATION
6	At CS-1 and RS-() — Engage in conversation, using telephone handset at each location.	At CS-1 and RS-() — Speech reception is clear and of adequate level.
7	At RS-() — Go on-hook.	
8	At CS-1 — Go on-hook.	At CS-1 — SIGNAL-() lamp is extinguished. At CS-2 — SIGNAL-() lamp and SIG lamp are extinguished.
9	At RS-() — Go off-hook.	At CS-1 and CS-2 — SIGNAL-() lamp flashes and bell rings.
10	Go on-hook.	Same as Step 9.
11	At CS-1 — Go off-hook.	At CS-1 — SIGNAL-() lamp changes to steady and bell is silenced. At CS-2 — SIGNAL-() lamp changes to steady, bell is silenced, and SIG lamp lights steadily.
12	Go on-hook.	At CS-1 — SIGNAL-() lamp is extinguished. At CS-2 — SIGNAL-() lamp and SIG lamp are extinguished.

C. Remote Station Called

4	At CS-1 — Operate all TEL CO keys except the TEL CO key associated with remote station to be called.	At CS-1 and CS-2 — LINE CO lamp lights steadily.
5	At CS-1 — Go off-hook.	At RS-() — Interrupted 20-cycle ringing is heard. At CS-2 — SIG lamp lights steadily.
6	At RS-() — Go off-hook.	At RS-() — Interrupted 20-cycle ringing is silenced. At CS-1 and CS-2 — SIGNAL-() lamp lights steadily.
7	At RS-() — Go on-hook.	

SECTION 480-315-500

STEP	ACTION	VERIFICATION
8	At CS-1 — Go on-hook.	At CS-1 — SIGNAL-() lamp is extinguished. At CS-2 — SIGNAL-() lamp and SIG lamp are extinguished.
9	Restore all operated TEL CO keys.	At CS-1 and CS-2 — LINE CO lamp is extinguished.

D. Control-Station To Control-Station Call

4	At CS-1 — Operate and hold telephone set pushbutton.	
5	Go off-hook.	At CS-2 — SIG lamp flashes and bell rings.
6	Release pushbutton.	
7	At CS-2 — Go off-hook.	At CS-1 — SIG lamp lights steadily. At CS-2 — SIG lamp changes to steady and bell is silenced.
8	At CS-1 and CS-2 — Engage in conversation, using telephone handset at each location.	At CS-1 and CS-2 — Speech reception is clear and of adequate level.
9	At CS-2 — Go on-hook.	At CS-1 — SIG lamp is extinguished.
10	At CS-1 — Go on-hook.	At CS-2 — SIG lamp is extinguished.
11	Repeat Steps 4 through 10, interchanging CS-1 and CS-2 actions.	Same as Steps 4 through 10, interchanging CS-1 and CS-2 verifications.

E. Emergency Power Supply

4	At CS-1 — Set VOM to measure —48 volts by setting selector to appropriate position.	
5	Connect VOM to measure —48 volt battery at REG VOLTS jack on —48 volt rectifier.	
6	Set AC power switch on —48 volt rectifier to OFF.	At CS-1 — Meter indicates between —45 and —50 volts, and the alarm lamp lights steadily.
7	Set AC power switch on —48 volt rectifier to ON.	The alarm lamp is extinguished.
8	Remove VOM.	