

SAGE DATA TRANSMISSION SYSTEMS — PRIVATE SERVICE SYSTEMS
AIR-GROUND VOICE COMMUNICATION SYSTEM
COMMON USER GROUP EQUIPMENT
OVER-ALL TESTS

1. GENERAL

1.01 This section describes methods of making over-all tests of common user group equipment of the air-ground voice communication system from the direction center using automatic test circuit SD-1G030-01. These tests check the common user group equipment from the drop side of the channel equipment at the direction center to either the drop side of the channel equipment at the radio site or to the air-ground testboard.

1.02 The tests covered are:

A. **Trunk Operational Test:** This test checks the transmission of push-to-talk and codan signals after originating a call from test channel 00 at the direction center over any particular trunk. The call is terminated on test channel 00 at the radio site. At radio sites not equipped with tandem trunks, no assistant is required. At radio sites equipped with tandem trunks, an assistant is required at the radio site test circuit.

B. **Channel Operational Test — Direction Center to Radio Site Automatic Test Circuit:** This test checks the transmission of push-to-talk and codan signals after originating a test call from any regular channel circuit at the direction center over any particular trunk. The call is terminated at the radio site through the regular channel to the automatic test circuit. An assistant is required at the radio site test circuit.

C. **Channel Operational Test — Direction Center to Radio Site Air-Ground Testboard:** This test checks the same features as Test B above, and in addition checks the signal

leads between the drop side of the channel equipment at the radio site and the air-ground testboard. An assistant is required at the air-ground testboard.

1.03 It will be necessary to use the order wire to the radio site test circuit or the air-ground testboard. In Tests A and B, voice communication is possible over the common user group equipment from the automatic test circuit at the direction center to the automatic test circuit at the radio site. After the connection is established, the TK key should be operated. It is now possible with the headsets plugged into the TEL C jacks at both test circuits to communicate between the direction center and radio site. The PT key must be operated at the direction center test circuit for direction center to radio site communication and must be released for communication in the opposite direction.

1.04 Lettered Steps: A letter a, b, c, etc, added to a step number in Part 3 or 4 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 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 No. 375A short-circuiting plug.

2.02 Automatic test circuit, SD-1G030-01, at direction center and at radio site.

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	Restore all keys to normal at direction center and radio site automatic test circuits.	All lamps extinguished.
2a	If GROUPS switch is provided — Set to select desired group.	

4. METHOD

STEP	ACTION	VERIFICATION
A. Trunk Operational Test		
3b	If testing to radio site equipped with tandem trunks — At radio site automatic test circuit — Set channel tens and units switches to 00.	
4b	At radio site — Operate OAT, ON, ST keys.	CH lamp lights.
5	At direction center — Set channel tens and units switches to 00.	
6	At direction center — Set trunk tens and units switches to select trunk to be tested.	
7	At direction center — Operate OAT, ON keys.	
8	At direction center — Select controller by operating CTA or CTB key. These keys should be used alternately.	
9	At direction center — Operate ST key.	At direction center — Test cycle progresses until TCT lamp lights.
10b	At direction center — If testing to radio site equipped with tandem trunks — Operate PT key.	At radio site — PT lamp lights.
11b	At radio site — Operate C key.	At direction center — C lamp lights.
12b	At direction center — Restore PT key.	At radio site — PT lamp extinguished. At direction center — C lamp remains lighted.
13b	At radio site — Restore C key.	At direction center — C lamp extinguished.

STEP	ACTION	VERIFICATION
14c	If testing to radio site not equipped with tandem trunks — At direction center — Operate PT key.	At direction center — C lamp lights.
15c	At direction center — Restore PT key.	At direction center — C lamp extinguished.
16	At direction center — Operate RL key momentarily.	
17	Restore all keys to normal at direction center and radio site.	All lamps extinguished.

**B. Channel Operation Test — Direction Center
to Radio Site Automatic Test Circuit**

3	Obtain release of channel to be tested.	
4	At radio site — Select channel to be tested by setting channel tens and units switches.	
5	At radio site — Operate OAT, ON, ST keys.	CH lamp lights.
6	At direction center — Select channel to be tested by setting channel tens and units switches.	
7	At direction center — Select trunk to be used by setting trunk tens and units switches.	
8	At direction center — Select controller by operating CTA or CTB key. These keys should be used alternately.	
9	At direction center — Operate OAT, ON, ST keys.	Test cycle progresses until TCT lamp lights.
10	At direction center — Operate PT key.	At radio site — PT lamp lights.
11	At radio site — Operate C key.	At direction center — C lamp lights.
12	At direction center — Restore PT key.	PT lamp extinguished. At direction center — C lamp remains lighted.
13	At radio site — Restore C key.	At direction center — C lamp extinguished.
14	At direction center — Operate RL key momentarily. Restore all keys to normal.	All lamps extinguished.
15	At radio site — Restore all keys to normal.	All lamps extinguished.

STEP	ACTION	VERIFICATION
C. Channel Operational Test — Direction Center to Radio Site Air-Ground Testboard		
3	Obtain release of channel to be tested.	
4	At radio site air-ground testboard — Insert short-circuiting plug in PT C TRK jack associated with channel to be tested.	
5	At direction center automatic test circuit — Select channel to be tested by setting channel tens and units switches.	
6	At direction center — Select trunk to be used by setting trunk tens and units switches.	
7	At direction center — Select controller by operating CTA or CTB key. These keys should be used alternately.	
8	At direction center — Operate OAT, ON, ST keys.	At direction center — Test cycle progresses until TCT lamp lights.
9	At direction center — Operate PT key.	C lamp lights.
10	At direction center — Restore PT key.	C lamp extinguishes.
11	At direction center — Operate RL key momentarily.	
12	At direction center — Restore all keys to normal.	All lamps extinguished.
13	At radio site air-ground testboard — Remove plug from PT C TRK jack.	