AC POWER AND ALARM FRAME SD-68771-01

TESTS

COMMON CHANNEL INTEROFFICE SIGNALING

1. GENERAL

1.01 This section describes a method of testing the ability of ac power and alarm frame SD-68771-01 to respond to blown fuses and system failures in a No. 1 signal transfer point (1STP) or No. 1A network control point (1ANCP) of the common channel interoffice signaling (CCIS) network. One ac power and alarm frame must be provided for each 1STP and each 1ANCP office. A single 1STP may host several 1ANCPs offices, but each will have its own ac power and alarm frame.

1.02 The information in this section was previously in Section 212-330-502.

1.03 Tests covered are:

1.04 If an alarm sounds while performing a test (not caused by circuit under test), testing should be discontinued immediately. The alarm should be taken care of in the normal manner. Also, clear any active alarm before starting a test.

1.05 Alarms from systems on other floors light appropriate lamps in the office area and are not monitored by the ac power and alarm frame. The major (MJ) and minor (MN) audible alarms are powered from a 105 Vac or a 86 Vac power source. The audible alarm cut-off (AACO), Apparatus Fig. 10 and applicable only to the 1ANCP, inhibits the audible alarms and lights guard lamps as long as the alarms are inhibited.

1.06 Power plant alarms, power major (PMJ), power minor (PMN), and battery discharge (BD) are monitored by the ac power and alarm frame which are then reported to the processor via scan points. These alarms sound the appropriate audible alarms and light the proper lamps. For 1ANCP offices, a frame off-normal connection, option X, along with the BD feature, option W, must be provided.

1.07 When testing 70-type fuses, the test battery should be applied to the alarm ring in the fuse cap by inserting the 411C tool (attached to a W1AF cord) into the aperture or slot adjacent to the hole for the colored bead. ***The 411C tool should not be inserted in the hole beside the colored bead.***

1.08 The system major (SMJ), system minor (SMN), and, in the 1ANCP only, system criti-

cal (CRI) alarms are activated by software when the call processing and/or application programs detect system troubles. The software alarms are tested by setting and releasing distribute points in response to messages input from teletypewriter (TTY) channel 0 in a 1STP or the maintenance TTY in a 1ANCP.

1.09 Most alarm conditions will also appear at a remote monitoring office. The office should be notified before testing is undertaken, and again when testing has been completed.

2. APPARATUS

All Tests, except Tests E and G

2.01 Test cord, 893 cord, 3 feet long, equipped with two 360A tools (1W13A cord), and two 419A tools (for connecting terminal strip terminals).

Test A

2.02 Test cord, W1AF resistance-type cord, 8 feet 6 inches long, equipped with two 360A tools, a KS-6278 connecting clip, and a 639A relay contact connector with a 651-type contact connector holder (for applying battery to fixed relay contact).

2.03 Test cord, W1AF resistance-type cord, 8 feet 6 inches long, equipped with two 360A tools, a KS-6278 connecting clip, and a 411C tool (for applying battery to alarm ring of 70-type fuse).

3. METHOD

STEP	ACTION	VERIFICATION
A.	**Fuse Alarms—Major**	
1	Using test cord (paragraph 2.01), connect together terminals 000 and 001 of TS(AC) on aisle alarm unit 0 (J67523AC).	EFA0 relay operated. Major alarm sounds. Red aisle pilot lamp (aisle 0) lighted. Red major pilot lamp lighted. Floor alarm pilot lamp lighted.
2	Remove test connection from terminals 000 and 001.	EFA0 relay released. Major alarm silenced. Major pilot, aisle pilot (aisle 0), and floor alarm pilot lamps extinguished.
3	Repeat Steps 1 and 2, in turn, for terminal pairs 004 and 005, 010 and 011, 014 and 015, 020 and 021, 024 and 025, 030 and 031, 034 and 035 on TS(AC) on the aisle alarm unit 0 (J67523AC).	Same as Steps 1 and 2 except EFA1 through EFA7 relays will operate and release and red aisle pilot lamps 1 through 7 will light and extinguish in turn as the terminals are connected and disconnected.
4	Using test cord (paragraph 2.01), connect together terminals 002 and 003 of TS(AC) on aisle alarm unit 0 (J67523AC).	EFA0 relay operated. Major alarm sounds. Red aisle pilot lamp (aisle 0) lighted. Red major pilot lamp lighted. Floor alarm pilot lamp lighted.
5	Remove test connection from terminals 002 and 003.	EFA0 relay released. Major alarm silenced. Major pilot, aisle pilot (aisle 0), and floor alarm pilot lamps extinguished.

STEP	ACTION	VERIFICATION
6	Repeat Steps 4 and 5, in turn, for terminal pairs 006 and 007, 012 and 013, 016 and 017, 022 and 023, 026 and 027, 032 and 033, 036 and 037 on the aisle alarm unit 0 (J67523AC).	Same as Steps 4 and 5 except EFA1 through EFA7 relays operate and release and red aisle pilot lamps 1 through 7 will light and extinguish in turn as the terminals are connected and disconnected.
7a	At 1STP only, repeat Steps 1 through 6 in turn using similar terminals on aisle alarm unit 1 (J67523AC).	Same as Steps 1 through 6 except EFA8 through EFA15 relays will operate and release and red aisle pilot lamps 8 through 15 will light and extinguish in turn as the terminal are connected and disconnected.
8	At ac power distribution unit SD-68641-01— Using test cord (paragraph 2.02), connect −48V battery to 4M of FA relay.	FA relay in SD-68771-01 locks operated. Major alarm sounds. FA lamp in ac power distribution unit SD-68641-01 lighted. Output message MCC04 printed. Floor alarm pilot lamp lighted. Red major pilot lamp lighted. Red aisle pilot lamp lighted.
9	At ac power distribution unit SD-68641-01— Remove test battery from 4M of FA relay.	Major alarm silenced. FA lamp in SD-68641-01 extinguished. Red major, floor alarm, and red aisle pilot lamps extinguished. AR lamp in SD 68641-01 lighted. At ac power and alarm frame— GUARD lamp lighted.
10	At ac power and alarm frame— Momentarily operate AR key.	GUARD lamp extinguished. At ac power distribution unit SD-68641-01— FA relay released. AR lamp extinguished.
11	At ac power and alarm frame— Using test cord (paragraph 2.03), apply −48V battery to alarm ring of any 1-1/3 ampere fuse.	Major alarm sounds. FA LED lighted. Floor alarm pilot lamp lighted. Red major pilot lamp lighted. Red aisle pilot lamp lighted.
12	Remove test battery.	Major alarm silenced. FA LED extinguished. Red major, floor alarm, and red aisle pilot lamps extinguished.

STEP	ACTION	VERIFICATION
B. Fuse Alarms—Minor		MN2(0) relay operated. Minor alarm sounds.
1	Using test cord (paragraph 2.01), connect together terminals 040 and 041 of TS(AC) on aisle alarm unit 0 (J67523AC).	Floor alarm pilot lamp lighted. Red aisle pilot lamp (aisle 0) lighted. Red major pilot lamp lighted.
2	Remove test connection from terminals 040 and 041.	MN2(0) relay released. Minor alarm silenced. Floor alarm, red aisle, (aisle 0) and red major pilot lamp extinguished.
3	Repeat Steps 1 and 2, in turn, for terminal pairs 042 and 043, 044 and 045, 046 and 047, 050 and 051, 052 and 053, 054 and 055, 056 and 057 on TS(AC) on the aisle alarm unit 0 (J67523AC).	Same as Steps 1 and 2 except MN2(1) through MN2(7) relays operate and release and red aisle pilot lamps 1 through 7 will light and extinguish in turn as the terminals are connected and disconnected.
4a	At 1STP only, repeat Steps 1 through 3 in turn for similar terminals on aisle alarm unit 1 (J67523AC).	Same as Steps 1 through 3 except MN2(8) through MN2(15) relays will operate and release and red aisle pilot lamps 1 through 7 will light and extinguish in turn as the terminals are connected and disconnected.
C. System Alarms—Alarm and Display Frame		
1	At ac power and alarm frame— Using test cord (paragraph 2.01), connect together terminals 004 and 005 of TS(AB) on office alarm unit (J67523AB).	EMJ relay operated. Major alarm sounds. Green aisle pilot lamp lighted. Green major pilot lamp lighted. Floor alarm pilot lamp lighted.
2	Remove test connection from terminals 004 and 005.	EMJ relay released. Major alarm silenced. Green aisle, green major, and floor alarm pilot lamps extinguished.
3	Using test cord (paragraph 2.01,) connect together terminals 006 and 007 of TS(AB) on office alarm unit (J67523AB).	EMN relay operated. Minor alarm sounds. Green aisle pilot lamp lighted. Green major pilot lamp lighted. Floor alarm pilot lamp lighted.
4	Remove test connection from terminals 006 and 007.	EMN relay released. Minor alarm silenced. Green aisle, green major, and floor alarm pilot lamps extinguished.

STEP	ACTION	VERIFICATION
D. 1STP System Alarms—Control and Display Frame		
1	At ac power and alarm frame— Using test cord (paragraph 2.01), connect together terminals 000 and 001 of TS(AB) on office alarm unit (J67523AB).	MJ2 relay operated. Major alarm sounds. Floor alarm pilot lamp lighted. Green aisle pilot lamp lighted. Green major pilot lamp lighted.
2	Remove test connection from terminals 000 and 001.	MJ2 relay released. Major alarm silenced. Floor alarm, green aisle, and green major pilot lamps extinguished.
3	Using test cord (paragraph 2.01), connect together terminals 002 and 003 of TS(AB) on office alarm unit (J67523AB).	MNI relay operated. Minor alarm sounds. Floor alarm pilot lamp lighted. Green aisle pilot lamp lighted. Green major pilot lamp lighted.
4	Remove test connections from terminals 002 and 003.	MNI relay released. Minor alarm silenced. Floor alarm, green aisle, and green major pilot lamps extinguished.
E. 1STP Software Activated Alarms		
1	At TTY channel 0— Type in: OPR-06-b-R-14-1-7 (b can be 0 or 1)	Major alarm sounds. At TTY channel 0— OPR06 PT OPR b-R-14-1-7 Output message printed. (b will be same as input message)
2	Type in: OPR-06-b-S-14-1-7 (b must be same as Step 1)	Major alarm silenced. OPR06 PT OPR b-S-14-1-7 Output message printed. (b will be same as input message)
3	Type in: OPR-06-b-R-14-2-7 (b can be 0 or 1)	Minor alarm sounds. OPR06 PT OPR b-R-14-2-7 Output message printed. (b will be same as input message)
4	Type in: OPR-06-b-S-14-2-7 (b must be same as Step 3))	Minor alarm silenced. OPR06 PT OPR b-S-14-2-7 Output message printed. (b will be same as input message)

STEP	ACTION	VERIFICATION
F. 1ANCP System Alarms		
1	At ac power and alarm frame— Using test cord (paragraph 2.01), connect together terminals 010 and 011 of TS(AA) on office alarm unit (J67523AB).	MJ2 relay operated. Major alarm sounds. Floor alarm pilot lamp lighted Green aisle pilot lamp lighted. Green major pilot lamp lighted.
2	Remove test connection from terminals 010 and 011.	MJ2 relay release. Major alarm silenced. Floor alarm, green aisle, and green major pilot lamps extinguished.
3	Using test cord (paragraph 2.01), connect together terminals 004 and 005 of TS(AA) on office alarm unit (J67523AB).	MNI relay operated. Minor alarm sounds. Floor alarm pilot lamp lighted. Green aisle pilot lamp lighted. Green major pilot lamp lighted.
4	Remove test connection from terminals 004 and 005.	MNI relay released. Minor alarm silenced. Floor alarm, green aisle, and green major pilot lamps extinguished.
5	Using test cord (paragraph 2.01), connect together terminals 006 and 007 of TS(AA) on office alarm unit (J67523AB).	CRI relay operated. Major alarm sounds. Floor alarm pilot lamp lighted. Green aisle pilot lamp lighted. Green major pilot lamp lighted
6	Remove test connection from terminals 006 and 007.	CRI relay released. Major alarm silenced. Floor alarm, green aisle, and green major pilot lamps extinguished.
G. 1ANCP Software Activated Alarms		
CRITICAL ALARM		
1	At maintenance TTY— Type in ORD:SCSD (0,12); OPERATE!	Major audible alarm sounds. M ORD:SCSD (0,12); OPERATE: COMPLETE Output message printed.
2	Type in: ORD:SCSD (0,12); RELEASE!	Major audible alarm silenced. M ORD:SCSD (0,12); RELEASE! COMPLETE Output message printed.

STEP	ACTION	VERIFICATION
MAJOR ALARM		
3	At maintenance TTY— Type in: ORD:SCSD (0,13); OPERATE!	Major audible alarm sounds. M ORD:SCSD (0,13); OPERATE! COMPLETE Output message printed.
4	Type in:ORD:SCSD (0.13); RELEASE!	Major audible alarm silenced. M ORD:SCSD (0,13); RELEASE! COMPLETE Output message printed.
MINOR ALARM		
5	At maintenance TTY— Type in: ORD:SCSD (0,20); OPERATE!	Minor audible alarm sounds. M ORD:SCSD (0,20); OPERATE! COMPLETE Output message printed.
6	Type in: ORD:SCSD (0,20); RELEASE!	Minor audible alarm silenced. M ORD:SCSD (0,20); RELEASE! COMPLETE Output message printed.
ALARM CUTOFF		
7	At maintenance TTY— Type in: ORD:SCSD (0,13); OPERATE	Major audible alarm sounds. M ORD:SCSD (0,13); OPERATE! COMPLETE Output message printed.
8	Type in: ORD:SCSD (0,28); OPERATE!	Major audible alarm silenced. M ORD:SCSD (0,28); OPERATE! COMPLETE Output message printed.
9	Type in ORD:SCSD (0,28); RELEASE!	Major audible alarm sounds. M ORD:SCSD (0,28); RELEASE! COMPLETE Output message printed.
10	Type in: ORD:SCSD (0,13); RELEASE!	Major audible alarm silenced. M ORD:SCSD (0,13); RELEASE! COMPLETE Output message printed.