MAJOR AUDIBLE ALARM CIRCUIT SD-95798-01 ARRANGED FOR CODED SIGNALING MISCELLANEOUS TESTS

1. GENERAL

1.01 This section describes a method of testing the major audible alarm circuit, SD-95798-01 arranged for coded signaling in No. 1 or 5 crossbar, crossbar tandem, panel, step-by-step, or No. 4A or 4M toll switching office using miscellaneous test equipment.

1.02 The tests covered are:

A. Code Circuit Test: This test checks that the proper coded alarm is sounded when the alarm leads for a particular system are grounded by operation of an alarm relay in that system.

B. Rotation Circuit Test: This test checks that the coded alarms are sounded in rotation when alarm leads are grounded simultaneously by more than one system and that the alarms continue to sound in rotation until ground is removed from the alarm leads by the release of alarms in each system.

C. Time Alarm Circuit Test: This test checks that continuous timing of the major audible alarm circuit is provided by the AL1 and AL2 timers which operate alternately to guard against a failure occuring during a cycle of the code circuit or during the recycle interval. The test checks that the timing circuit is operative and that a failure in the code circuit will cause the timing circuit to time out and bring in a regular major audible alarm.

D. AL1 Timer Test: This test checks the timing interval effective from grounding of the alarm leads to operation of the second pulse relay (on the first cycle of the code circuit) and the timing interval effective from the operation of the fifth pulse relay to the operation of the second pulse relay (on succeeding cycles of the code circuit).

E. AL2 Timer Test: This test checks the timing interval effective from the operation of the second pulse relay to the operation of the fifth pulse relay.

F. Interrupter Transfer Circuit — MS Relay Test — No. 1 Crossbar, Crossbar Tandem, Panel, or No. 4A or 4M Toll Office Where Interrupter Frame Circuit Is Equipped: This test checks that when the motor stop relay is operated due to a motor failure in the interrupter frame normally serving the code circuit, the connections are automatically transferred to interrupters located on a different frame.

1.03 All tests should be made during periods of light traffic to avoid interference with major audible alarms.

1.04 ***Caution: If during these tests a regular alarm should originate, the tests should immediately be discontinued so that the alarm will sound in the normal manner. Notify the proper persons that a regular alarm is sounding.***

1.05 Office records must be consulted to obtain information with respect to location and identification of the first, second, third (if equipped), and fourth (if equipped) units of the major audible alarm circuit.

1.06 If connection to an interrupter frame circuit is provided, Tests A and C require actions and verifications at the location of the first unit of the major audible alarm circuit when other units are being tested.

1.07 ***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 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.

1.08 Local instructions should be followed for recording and reporting any register operations caused by performing these tests.

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	D	E	F
Major Audible Alarm Circuit, SD-95798-01	1	1	1	1	1	1
Alarm Circuit (2.02)	1	1	1	1	1	1
Test Receiver (2.03)	1	-	-	-	-	1
Test Set (2.04)	-	-	-	1	1	-
Cord (2.05)	1	1	1	-	-	-
Cord (2.06)	-	-	-	-	-	1
Tool (2.07)	✓	✓	✓	✓	✓	✓

✓ As required.

2.02 The alarm switching key associated with a unit of the major audible alarm circuit may be provided in any one of the following circuits depending upon the office equipped.

Audible and visual alarm circuit, SD-96188-01

No. 5 crossbar alarm circuit, SD-25671-01

Aisle pilot circuit, SD-25087-01

Audible alarm circuit for floor alarm board, SD-21819-01

Audible alarm switching circuit, SD-20410-01

2.03 Test receiver, No. 716C receiver, or equivalent, attached to a W2AB cord, equipped with two No. 360A tools (No. 2W21A cord), a No. 411A tool (test pick), and a KS-6278 connecting clip (for use in checking the presence of ground and for applying ground).

2.04 Test set for timing tests, J24753A (SD-25707-01) with one P3K cord, 6 feet long, equipped with two No. 310 plugs (No. 3P15A cord); and one W3M cord, 6 feet long, equipped with one No. 310 plug, one No. 360A tool, one No. 360B tool, one No. 360C tool (No. 3WA cord), one KS-6278 connecting clip, and two No. 624A tools (connector for wire-spring-relay terminal).

2.05 Testing cord, No. 893 cord, 6 feet long, equipped with two No. 360A tools (No. 1W13B cord), one No. 419A tool (for connection to terminal strip punching), and a KS-6278 connecting clip.

2.06 Testing cord, No. 893 cord, 6 feet long, equipped with two No. 360A tools (No. 1W13B cord), one No. 639A tool (for connection to fixed contact of wire-spring relays), one No. 651D tool (relay contact cover for test connections), and a KS-6278 connecting clip.

2.07 Blocking and insulating tools, as required. Use tools and apply, as covered in Section 069-020-801.

3. PREPARATION

STEP	ACTION	VERIFICATION
All Tests		
1	At floor alarm frame associated with unit of major audible alarm circuit under test — Restore alarm switching key to normal, if operated.	
2	At floor alarm frame for preceding unit of major audible alarm circuit — Restore alarm switching key to normal, if operated.	

4. METHOD

STEP	ACTION	VERIFICATION
	A. Code Circuit Test	
3	At location of major audible alarm circuit unit — Connect ground to punching 16 of terminal strip A.	LO relay operated. P- relays of code circuit operated and released in sequence.
4	Connect ground to punching of terminal strip A as indicated in Table B to sound corresponding coded alarm.	Coded alarm corresponding to punching grounded sounded on each cycle of code circuit.

TABLE B

TEST	PUNCHING OF TERM STRIP A	CODED ALARM STROKE ON TONE BAR	CODED ALARM STROKES ON CODE BELL
1	26	1	1
2	36	1	2
3	46*	1	3
4	56**	1	4

*If only two code circuits are equipped, omit test.
**If three or less code circuits are equipped, omit test.

5	Remove ground from punching of Step 4.	Code bell silenced. Tone bar sounded on each cycle of code circuit.
6	Repeat Steps 4, 5 for other tests listed in Table B.	
7a	If connection to interrupter frame circuit is provided — At location of first unit of major audible alarm circuit — Block operated MS relay.	
8a	At location of unit under test — Repeat Steps 4, 5 for one test of Table B.	Coded alarm corresponding to punching grounded sounded on each cycle of code circuit.
9a	At location of first unit — Remove blocking tool from MS relay.	MS relay released.
10	Remove ground from punching 16, terminal strip A.	LO, P- relays released. Tone bar silenced.
	B. Rotation Circuit Test	
3	Strap punchings 16, 26, 36 of terminal strip A.	
4a	If three code circuits are equipped — Strap punchings 36, 46 of terminal strip A.	
5b	If four code circuits are equipped — Strap punchings 36, 46, 56 of terminal strip A.	

STEP	ACTION	VERIFICATION
6	Connect ground to punching 16 of terminal strip A.	LO relay operated. P- relays operated and released in sequence. Coded alarms sounded in sequence and recycled.
7b	If four code circuits are equipped — Remove strap from punching 56, terminal strip A.	Coded alarm corresponding to punching 56 (see Table B) silenced.
8b	Remove strap from punching 46, terminal strip A.	Coded alarm corresponding to punching 46 (see Table B) silenced.
9a	If three code circuits are equipped — Remove strap from punching 46, terminal strip A.	Coded alarm corresponding to punching 46 (see Table B) silenced.
10	Remove strap from punching 36, terminal strip A.	Coded alarm corresponding to punching 36 (see Table B) silenced.
11	Remove ground from punching 26, terminal strip A.	Coded alarm corresponding to punching 26 (see Table B) silenced.
12	Remove ground from punching 16, terminal strip A.	LO, P- relays released.

C. Time Alarm Circuit Test

3	Block operated LO relay.	
4	Operate manually P2 relay momentarily.	TMG relay operated.
5	Operate manually P5 relay momentarily.	TMG relay released.
6	Remove blocking tool from LO relay.	LO relay released.
7	Block nonoperated P1 relay.	
8	Connect ground to punching 16, terminal strip A.	LO relay operated. After 3 to 7 seconds, regular major alarm sounded.
9a	If connection to interrupter frame circuit is provided — At location of first unit of major audible alarm circuit — Operate manually MS relay momentarily.	Alarm continues to sound while MS relay is operated.
10	At location of unit under test — Remove ground from punching 16, terminal strip A.	LO relay released. Major alarm silenced.
11	Remove blocking tool from P1 relay.	
12	Block nonoperated P3 relay.	
13	Connect ground to punching 16, terminal strip A.	LO, P1, P2, TMG relays operated. After 3 to 7 seconds, regular major alarm sounded.
14	Remove ground from punching 16, terminal strip A.	LO, P1, P2, TMG relays released. Major alarm silenced.
15	Remove blocking tool from P3 relay.	

STEP	ACTION	VERIFICATION
	D. AL1 Timer Test	
3	Make timing test of AL1 timer, using test set and timing requirements table.	Timing requirements are met.
	E. AL2 Timer Test	
3	Make timing test of AL2 timer, using test set and timing requirements table.	Timing requirements are met.
	F. Interrupter Transfer Circuit—MS Relay Test—No. 1 Crossbar, Crossbar Tandem, Panel, or No. 4A or 4M Toll Office Where Interrupter Frame Circuit Is Equipped	
3	At location of major audible alarm circuit unit — Block nonoperated LO, P1 relays.	
4	At location of first unit of major audible alarm circuit — Connect ground to fixed spring of MS relay contact associated with unit under test as shown in Table C.	Ground present at punching corresponding to FA lead. Ground absent from punching corresponding to FB lead.

TABLE C

UNIT	MS RELAY CONTACT	PUNCHING TERM. STRIP B FA LEAD	PUNCHING TERM. STRIP B FB LEAD
1st	4	25	26
2nd	6	27	28
3rd*	8	35	36
4th**	10	37	38

*If only two code circuits are equipped, omit test.
**If three or less code circuits are equipped, omit test.

5	Block operated MS relay.	Ground absent from punching corresponding to FA lead (see Table C). Ground present at punching corresponding to FB lead (see Table C).
6	Remove ground from MS relay contact.	
7	Connect ground to fixed spring of MS relay contact associated with unit under test as shown in Table D.	Ground absent from punching corresponding to BA lead (see Table D). Ground present at punching corresponding to BB lead (see Table D).

TABLE D

UNIT	MS RELAY CONTACT	PUNCHING TERM. STRIP B BA LEAD	PUNCHING TERM. STRIP B BB LEAD
1st	3	21	22
2nd	5	23	24
3rd*	7	31	32
4th**	9	33	34

*If only two code circuits are equipped, omit test.
**If three or less code circuits are equipped, omit test.

STEP	ACTION	VERIFICATION
8	Remove blocking tool from MS relay.	MS relay released. Ground present at punching corresponding to BA lead (see Table D). Ground absent from punching corresponding to BB lead (see Table D).
9	Remove ground from MS relay contact.	
10	At location of unit under test — Remove blocking tools from LO, P1 relays.	
11	At floor alarm frame for same floor — Reoperate alarm switching key if it was restored to normal in Step 1.	
12	At floor alarm frame for preceding floor — Reoperate alarm switching key if it was restored to normal in Step 2.	