

**AUTOMATIC NUMBER ANNOUNCER**

**PED-1A002-10**

**FOR USE WITH SECURITY CIRCUITS**

**PSD-1A003-01 OR PSD-1A003-05**

**NO. 1 AND NO. 1A ELECTRONIC SWITCHING SYSTEMS**

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System using a TSPS UT or MUT type trunk circuit in a No. 1 or No. 1A Electronic Switching System (ESS) office.

1.02 It is reissued to include reference to hand test sets 1013BX, 1014AX and 1014BX in Parts 2 and 6.

1.03 The tests covered are:

A. *Access Verification:* Checks that the proper access code is in translation.

B. *Seizure:* Checks seizure of the circuit via TSPS trunk, security circuit, and verbal transmission of the calling telephone number.

C. *Timed Release:* Verifies that the circuit releases 60 seconds after start of verbal transmission.

**2. APPARATUS**

**Test A**

2.01 Master Control Center

**Tests B and C**

2.02 Line location suitable for testing at MDF.

2.03 Hand test set (handset 1013AX, 1013BX, 1014AX, or 1014BX equipped with a shorting button.

2.04 KS-3008 stop watch.

**SPECIAL NOTICE**



*Unauthorized use of this circuit by Pacific Company employees or non-employees could result in disclosure of nonpublished numbers. Do not allow nonemployees access to this practice. Only those persons having a "Need-To-Know" should be given any information about this test circuit.*

*A change of the dial code number periodically or when circumstances indicate, is a good idea, as a security measure.*

**1. GENERAL**

1.01 This section describes methods for testing an Automatic Number Announcer (ANA)

**NOTICE**

Not for use or disclosure outside the Bell System except under written agreement

## 3. PREPARATION

STEP	ACTION	VERIFICATION
1	<b>Test A</b> Clear TTY to receive new information.	
2	<b>Tests B and C</b> From office records, find a suitable line location for testing.	
3	Connect hand test set to tip (T) and ring (R) of selected line location.	

## 4. METHOD

STEP	ACTION	VERIFICATION
4	<b>A. Access Verification</b> At the TTY, type a request to verify access code and associated route index code.	Request verified.
4	<b>B. Seizure</b> Operate handset switch to TALK position.	Dial tone is heard.
5	Dial 3-digit code associated with this circuit.	Audible ringing is heard.
6	Short T to R for approximately 1/2-second.	Verbal transmission of number associated to the test line followed by dial tone is heard.
7	Operate handset switch to MONITOR position.	Dial tone releases.
4	<b>C. Timed Release</b> Operate handset switch to TALK position.	Dial tone is heard.
5	Dial 3-digit code associated with this circuit.	Audible ringing is heard.
6	Short T to R for approximately 1/2-second.	Number assigned to test line followed by dial tone is heard.
7	Start timing when announcement begins.	
8	After 60 seconds --	Dial tone is heard.
9	Operate handset switch to MONITOR position.	Dial tone releases.

5. AUDIO PLAYBACK UNIT – TROUBLE-SHOOTING/VOLTAGE TESTS



5.01 *Do not attempt to repair any circuit packs. Defective circuit packs should be returned for repair. Disconnect power before removing circuit packs.*

5.02 Required apparatus for Voltage Tests:

- 1 – Extender Board, 158A
- 1 – Voltmeter
- 2 – Clips/419A Tool

5.03 Voltage Tests:

1. Extend circuit pack J1 using extender board.

2. Using a 419A tool on each lead of the voltmeter, clip positive (+) lead to pin 25 and negative (-) lead to pin 20.

*Note:* Be extremely careful not to short adjacent pins. Voltmeter reading should be between +16.15 Vdc and +17.85 Vdc. If not, adjust potentiometer on J1 to +17 Vdc.

3. Relocate negative (-) clip to pin 22 or 23. Voltmeter should read between +4.75 Vdc and +5.25 Vdc.
4. Relocate positive (+) clip to pin 18. Voltmeter should read between +11.75 Vdc and +13.85 Vdc.
5. Remove both clips, attach positive (+) clip to pin 22, attach negative (-) clip to pin 20. Voltmeter should read between -11.75 Vdc and -12.25 Vdc.

*Note:* If any voltages are out of limits and will not adjust, replace circuit pack J1.

CHART A

APU TROUBLESHOOTING

CONDITION	CORRECTION
STATIC, NOISE, OR NO AUDIO, UNINTELLIGIBLE, GARBLED.	1. CHECK VOLTAGES +17; +5; ±12 Vdc. 2. REPLACE CIRCUIT PACK J6B; J4 & J5; J1 OR J3B.
NO SEIZURE, INCOMPLETE SEIZURE, SEIZURE WON'T HOLD.	REPLACE CIRCUIT PACK J3B; J4; J7B; J6B.
IN READOUT – NO NUMBERS, MISSING NUMBERS, WRONG NUMBERS OR ZERO DIGIT ONLY.	REPLACE CIRCUIT PACK J2; J3B; J2; J4 & J5.
MISSING "0" THRU "4" DIGITS IN READOUT.	REPLACE CIRCUIT PACK J4.
MISSING "5" THRU "9" DIGITS IN READOUT.	REPLACE CIRCUIT PACK J5.

*Notes:*

1. Change circuit packs one at a time.
2. After replacing circuit pack J1, check voltages (5.03).

6. ANA CONCENTRATOR CIRCUIT (PCD-90079-01)

6.01 The ANA Concentrator Circuit provides a means for up to 15 ANA circuits in the same wire center to be served by one security circuit arrangement (Part 7).

6.02 Each time any one of the 15 ANA circuits is requested to verbally identify a line, it bids for and is connected to an attendant for a security check.

(a) When the originator is outside of the central office (CO), the circuit is enabled by the operation of a key at the security attendant location. Operation of the security key causes this circuit to momentarily enable all ANA circuits in the wire center.

(b) When the originator is in the CO, the readout is enabled by placing a momentary short across the T and R. In this case, only the ANA serving this call will be enabled.

6.03 For detailed operation, refer to PCD-69023-02.

7. SECURITY CIRCUIT TEST – UNIVERSAL TRUNK (UT)/MINIATURIZED UNIVERSAL TRUNK (MUT)

7.01 The system is programmed for security (SECA jumper to RINH). The RINH inhibits the audio readout until the security requirements are met.

7.02 Where proper test results are not obtained, correction should be made and the test repeated.

7.03 Required Apparatus:

- 1 – Hand test set (hand set 1013AX, 1013BX, 1014AX or 1014BX equipped with a shorting button)
- 1 – VOM KS-14510, L1
- 1 – Trunk extender
- 2 – Single conductor cords with clips
- 1 – Resistor 5 ohm 1/2 W
- 1 – Resistor 20 ohm 1/2 W
- 1 – Resistor 47 ohm 1/2 W
- 1 – Resistor 68 ohm 1/2 W
- 1 – Battery, 45V KS-6948

STEP	ACTION	VERIFICATION
<b>Offices Using Universal Trunk PSD-1A003-01</b>		
<i>Preparation</i>		
1	From plant service records, select an available subscriber line served by the ANA. The line cable pair appearance on the protector frame is used to establish a test call to the ANA.	
2	Advise the security attendant to note ANA lamp, but not to answer ANA call during test.	
3	Install trunk extender in UTF appearance of ANA security trunk and security trunk unit in extender.	
4	At the ANA security trunk circuit under test, adjust potentiometer R1 maximum counter-clockwise.	
5	At the ANA security trunk circuit, connect VOM (volt scale) from terminal 16 (-48V) to terminal 17 (GRD) of plug A.	

## 7. SECURITY CIRCUIT TEST (Contd)

STEP	ACTION	VERIFICATION
	<i>Method</i>	
6	From selected cable pair at protector frame, make call to ANA. Leave call up through Step 9.	When connection is established, audible ringing will be heard.  <i>Note:</i> Audible ringing is provided by the ANA security attendant key telephone circuit. If the attendant circuit has not been connected, audible ringing will not be heard. In this case, installation tests can be performed by waiting 10 seconds after dialing before connecting the shorting resistor.
7	Connect 5 ohm resistor across cable pair in parallel with handset.	
8	At security circuit under test, slowly adjust potentiometer R1 clockwise until relays on circuit pack operate.	Relay RV operates and locks. Relay GD operates momentarily, VOM indicates momentary 0 volts on terminal 16.
9	Remove VOM from trunk circuit terminals. Remove 5 ohm resistor from cable pair protector frame.	
10	At protector frame location, reestablish call to ANA.	Audible ringing. (See Step 6, Note.)
11	Connect 20 ohm resistor across cable pair in parallel with handset for approximately 1/2-second.	Audible ringing. (See Step 6, Note.)
12	Put short circuit across cable pair for approximately 1/2-second.	ANA readout.
13	Connect 45V battery in series with T lead and handset. Positive to handset, negative to T lead. Make call to ANA.	Call attempts to complete. Relay RV operates and locks. Relay GD operates momentarily. Security trunk releases call.
14	Remove test equipment and trunk extender.  Offices Using Equipment per PSD-1A003-05 (MUT)	Test complete.
1	<i>Preparation</i>  From plant service record, select an available subscriber line served by the ANA. The line cable pair appearance on the protector frame is used to establish a test call to the ANA.	

## 7. SECURITY CIRCUIT (Contd)

STEP	ACTION	VERIFICATION
2	Advise the security attendant to note ANA lamp, but not to answer ANA call during test.	
3	<p>Install trunk extender in MUTF appearance of ANA security trunk and security trunk unit in extender.</p> <p><i>Note:</i> If the new MUT trunk extender is not available, access to the security trunk unit potentiometers can be provided by removing the left adjacent MUT unit. Follow normal procedures to MB the trunk(s) in-service if necessary.</p>	
4	<p>At the ANA security trunk circuit under test, adjust potentiometers PLS and MIN maximum counterclockwise.</p> <p><i>Method</i></p>	
5	From selected cable pair at protector frame, make call to ANA. Leave call up through Step 8.	<p>When connection is established, audible ringing will be heard.</p> <p><i>Note:</i> Audible ringing is provided by the ANA security attendant key telephone circuit. If the attendant circuit has not been connected, audible ringing will not be heard. In this case, installation tests can be performed by waiting 10 seconds after dialing before connecting the shorting resistor.</p>
6	Connect 47 ohm resistor across cable pair in parallel with handset.	
7	At security circuit under test, <i>slowly</i> adjust potentiometer PLS clockwise until lamp Plus lights. Similarly adjust potentiometer MIN until MIN lamp lights.	ANA readout.
8	Remove 47 ohm resistor from cable pair protector.	
9	At protector frame location, reestablish call to ANA.	Audible ringing. (See Step 5, Note.)
10	Connect 68 ohm resistor across cable pair in parallel with headset for approximately 1/2-second.	Audible ringing. No ANA readout.

## 7. SECURITY CIRCUIT (Contd)

STEP	ACTION	VERIFICATION
11	Put short circuit across cable pair for approximately 1/2-second.	ANA readout.
12	Connect 45V battery in series with T lead and handset. Positive to handset; negative to T lead. Reestablish call to ANA.	Audible ringing. (See Step 5, Note.)
13	Remove test equipment and trunk extender.  <i>Note:</i> If the adjacent MUT unit was removed, install the unit and return trunk(s) to service following normal procedures.	

