



Information Security Associates, LLC.

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***TD-2 TapZap™***

TELEPHONE SECURITY DEVICE

# **OPERATOR'S MANUAL**

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# USER INSTRUCTIONS

## DESCRIPTION:

The TapZap has been designed to allow the user to check a telephone and line to determine if there are eavesdropping or tapping devices on the line or in the telephone.

Among the attacks that can be detected with the TapZap are:

1. "HOT MIKING" - A method of connecting the microphone in the phone to extra wires in the telephone cable to listen to the room conversation. If this occurs, all room conversation and phone conversation will be on these extra wires. The extra wires will be connected to a listening post, transmitter, tape or digital recorder outside of the room or outside of the building.
2. "HOOK-SWITCH DEFEAT" - The hook-switch is the mechanism inside the telephone that disconnects the mouthpiece microphone from the telephone line when the phone is hung up. A hookswitch defeat can be a capacitor, diode, resistor or a number of other electronic devices. It's designed to keep the phone active even when the phone is no longer being used and has been hung up. This way, all room conversation can be heard by the caller.
3. "INFINITY TRANSMITTER" - The infinity transmitter, sometimes called a harmonica bug, is a device connected to the telephone line or installed inside the telephone that allows someone to call the telephone from a remote location and listen to the room conversation without the telephone ever ringing.
4. "SERIES TRANSMITTER" - This is a radio transmitter which is connected in one of the two wires, in the telephone line and will transmit your telephone conversations to the telephone eavesdropper's radio receiver.
5. "TELEPHONE TAPE RECORDER" - A tape recorder connected to the telephone line to record the, conversations on the line. The TapZap will detect all tape recorders that are series connected and all of the tape recorders actuated with a drop-out relay.

The TapZap will provide continued telephone line security when used as described in this manual.

## CONNECTION INSTRUCTIONS:

1. Remove the TapZap from its package. Unpack the modular cord, then plug-in power supply, and the headset.
2. Disconnect the modular telephone cord going to the telephone. Connect this cord to the modular connector marked "LINE" on the rear panel of the TapZap.
3. Using the modular telephone cord supplied with the TapZap, connect the telephone to the connector marked "PHONE" on the rear panel of the TapZap.
4. Plug the headset into the jack on the rear panel of the TapZap marked "AUDIO".
5. Plug the power module into a 110 volt AC outlet.
6. Plug the cord coming from the plug-in power module into the connector on the rear panel marked "9VDC".
7. The meter should now display 3 numerals, either 000 or any number lower than 060.

The TapZap is now ready to operate.

## OPERATING INSTRUCTIONS:

### *Voltage Tests*

1. For the voltage tests, the LED at Position 1 must be illuminated. If another position is illuminated, push the "SEARCH" button. The TapZap will automatically stop at Position 1. Only Position 1 should have any voltage showing on the meter. This voltage is the ON-HOOK voltage and should be between 48 and 52 volts. Record the voltage reading and in the future if the voltage drops more than 6 volts below the previously recorded voltage when the phone is on hook, it is an indication of a **TELEPHONE TAPE RECORDER SWITCH, INFINITY TRANSMITTER** or a **HOOK-SWITCH-DEFEAT** device.

If the phone should ring while the LED for position 1 is illuminated, the reading on the meter will rapidly change up and down; this is normal. The meter is reading the ringing voltage coming from the telephone company.

2. Take the phone off-hook. The voltage in Position 1 will drop to between 5 and 9 volts. This is called the off-hook voltage.

Now move the telephone handset from side to side or up and down. If the voltage changes, the phone has a carbon microphone. This is not an eavesdropping device; it is a type of microphone frequently used in telephones. The voltage changes caused by the orientation of the carbon microphone may hide any difference in the off-hook reading caused by a series transmitter on the line.

The best method of checking the off-hook voltage if the phone has a carbon microphone is to remove it temporarily. This can be done by disconnecting the handset cable or by unscrewing the microphone cover. Be sure to reconnect or replace the microphone. Record the off-hook

voltage. This is the off-hook voltage reading. In order to check the phone in the future, you will have to remove the microphone each time you do the off-hook voltage test.

Some telephones do not use carbon microphones. If your phone shows no voltage change when the handset is waved around, it uses a non-carbon microphone and you do not need to remove the microphone from the handset or unplug the handset to get an accurate off hook reading.

Any subsequent off-hook voltage reading that is more than one volt lower or several volts higher indicates either an extension phone is listening in or a **SERIES TRANSMITTER** is being used. If a series radio transmitter or any other series eavesdropping device has been installed, it operates every time the phone is off hook. Thus, the off-hook voltage will remain consistently low.

Low voltages seen while the phone is on-hook indicate that an extension phone is in use or an infinity transmitter has been activated. Listen briefly with the TapZap's headset. If you hear normal telephone conversation, an extension phone is in use. If you hear no telephone conversation, just room audio, an infinity transmitter is in use. An infinity transmitter can be installed anywhere where there is access to the phone line. It might not be in the room where the TapZap is. To find the infinity transmitter, disconnect each phone on the line, one at a time. When you disconnect the phone that has the infinity transmitter in it, the voltage will return to an on-hook reading within a few seconds. An infinity transmitter does not have to be in a phone. It can be installed anywhere on the line within the building and use its own microphone. To find it, inspect the phone line and search for the microphone.

You will hear the room sounds in the headset when the telephone is off-hook with the microphone back in place and the LED at Position 1 is illuminated. This is normal and the sounds will cease when the telephone is hung up.

### *Special Phones*

If the phone you are testing is a two line phone, you will get on-hook and off-hook voltages in Position 4 as well as In Position 1. Position 4 is Tip and Ring for the second line. You may get voltage readings for other positions, too. Do not worry about these. Make a record of the voltages on Position 4 just as you did for Position 1.

If your phone is lighted, you may get voltage readings on wire combinations other than Position 1. This is the power to run the light.

### **AUDIO TESTS**

It is possible that a telephone can be modified to surreptitiously bring the room conversation down any of the combinations of wires in the telephone cable to a listening post outside of the room or out of the building. This is called "Hot Miking". In the Audio Test mode, the TapZap

tests the telephone for modifications that let it act as a room microphone. If the phone has been modified or if it passes audio as a result of a manufacturing fault, you will be able to detect it.

1. Make sure that the microphone is back in the telephone handset if it was removed during the voltage tests. Put the phone back on hook. Put on the headset.
2. Push the switch labeled "SEARCH". Hold the switch in until the LED for Position 2 lights, up, then release it. The TapZap will then switch slowly through Positions 2-6 and stop at Position 1. This tests all of the possible combinations of the wires in the cable to the telephone.

Listen for room sounds in the headset. If you hear room audio in the headset, press the "STOP" button. This will let you listen indefinitely to determine the source of the audio.

3. To continue the audio test, press the "STOP" button again. The TapZap will check the remaining positions and stop at Position 1.

Hints:

- Put a radio or or ISA's SS-1 near the phone, playing at low volume.
  - Do not tap or bang on the phone during this test. It is likely that you will hear the banging in the headset. This will be a false alarm.
  - If this test is done with the phone off hook, you will hear room audio in the headset coming from the telephone's microphone.
4. The LEDs on the front panel indicate the combination of wires being tested. For instance, Position1 tests wires 1 & 2 together. Wires 1 and 2 are the wires leading from the telephone back to the telephone company's central office.

The other wires combinations are:

LED 1	Wires 1&2	LED 4	Wires 2 &3
LED 2	Wires 1 &3	LED 5	Wires 2 &4
LED 3	Wires 1 &4	LED 6	Wires 3 & 4

The corresponding wire colors in a typical installation are generally:

Wire 1	Green	Wire 3	Yellow
Wire 2	Red	Wire 4	Black

## **ROUTINE CHECKS**

You can monitor the phone line voltages as often as you want. If the voltage drops to the low teens or below 10 volts and you are certain the phone is not in use, you may have detected an infinity transmitter or hookswitch defeat device. Do not take the phone off hook. Use the "SEARCH" test to listen to the line. If there is room audio on the line, one of these attacks is in use.

Use the AUDIO test any time you have reason to believe there may be modifications to your telephone.

NOTE: . The TapZap is not for use on multiline business telephones, even if their cords are compatible with the TapZap 's connectors.

### **Accessories:**

- Headset
- Plug-In Power Module
- Modular Telephone Cord
- Operating Instructions

## **FCC REGISTRATION INFORMATION**

The TapZap complies with FCC Rules, Part 68. On the rear panel of the TapZap is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact your local telephone company to determine the maximum REN for your calling area.

If the TapZap causes harm to the telephone network, the telephone company may discontinue your service temporarily. If possible they will notify you in advance. But if advance notice is not practical, you will be notified as soon as possible. You will be advised of your right to file a complaint with the FCC.

The telephone company may make changes in its facilities, equipment operations or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is caused to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

There are no user repairable components in the TapZap .

The TapZap may not be' used on public coin service provided by the telephone company. Connection to Party Line Service is subject to state tariffs. (Contact the state Public utility commission, public service commission or corporation commission for information.)

USOC RJ11C modular jack is required to connect the TapZap to the telephone system. Adaptors are available from telephone supply stores if your phone line does not have modular jacks.

**This equipment is hearing-aid compatible.**

## **Warranty**

**Information Security Associates, LLC, warrants to the original user that its products are free from defect in workmanship and material for a period of one year from the date of purchase. Information Security Associates, LLC, under this warranty, is limited to correcting or replacing without charge, at its factory, any part or parts thereof which shall be returned to its factory, transportation prepaid, and upon examination by Information Security Associates, LLC, shall be found to have been originally defective.**

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