

Features

- Detects AC Voltage without making contact
- Sensitivity, from 30 to 600 Volts AC
- Light flashes & beeper chirps when AC voltage is present
- Economical, Non-Contact probe is safe and simple to use
- Flashes & Beeps faster as AC voltage is approached
- Beep Rate Indicates the Magnitude of Voltage (low or high voltage)
- Pocket-Sized with Pocket Clip
- Uses 2 AAA Batteries (Included)
- Built-in Flashlight
- Ruggedized Non-slip Case
- 5 year warranty

Uses for the Triplet Sniff-It:

Tests for AC voltage on:

- Outlets
 - Light Bulb Sockets
 - Extension Cords
 - Appliances
 - Power Tools
 - Circuit Breakers
 - AC Motors
 - Telephone and Cablevision
 - Light Switches
 - House Trailer Siding
 - Many, many more . . .
- Identify "hot" side of AC receptacles
 - Find and trace electrically "live" wires or objects inside walls
 - Determine if metal surfaces are "live" or "ground"
 - Detect presence of high voltage electric fields
 - Detect "ringing" telephone lines
 - Test fuses (axial type)
 - Find breaks in AC wiring

⚠ **CAUTION:** The Triplet Sniff-It does NOT detect DC Voltage

Safety Precautions and Warnings

- 1) Always test the Sniff-It using a known AC voltage source, before using it to determine if a circuit or object is "live". Failure to observe this precaution may result in user injury.
- 2) The Sniff-It may not detect the presence of AC voltage in all situations. In particular, a twisted 3 phase cable tends to cancel out its electrostatic field, which can make the cable appear to be "dead". Use caution and good work practices at all times, even when the Sniff-It indicates that AC voltage is not present. Failure to observe this precaution may result in user injury.
- 3) The Sniff-It may detect the presence of AC voltage when none appears to be present. If testing for potentially dangerous AC voltages (like 120VAC, 240VAC, 480VAC, etc), and the Sniff-It seems to be indicating that a circuit or object that should be grounded is "live", use extreme caution. Its possible that the user is "live", and coming in contact with a ground may cause user injury. This situation most often occurs in house trailers or construction site trailers.
- 4) Do not place your finger, or any other object that you are holding, near the tip when trying to use the Sniff-It. Doing so can interfere with the sensing ability of the Sniff-It, making a "live" circuit seem "dead". Failure to observe this precaution may result in user injury.
- 5) The Sniff-It may not detect voltage if it is wet, or if a surface between the Sniff-It and the voltage source is wet. Water is conductive and acts like a "shield", preventing the detection of voltage. For example, the Sniff-It will not detect live wires in walls if the wall is wet. The Sniff-It will not detect voltage in a wire that is wet. Keep in mind that the wire may not be wet on its exterior surface, but wet inside. For example, "Romex" wire that has been allowed to get wet will soak the water into the paper separator. The wet paper acts like a shield preventing the Sniff-It from detecting any voltage on the wire. . . . even though the exterior of the Romex may be dry. Failure to observe this precaution may result in user injury.
- 6) The Sniff-It does not detect DC voltages. There may be dangerous high voltage DC present that the Sniff-It will not detect. Use caution and good work practices at all times, even when the Sniff-It indicates that AC voltage is not present. Other dangerous voltages or currents, undetectable by the Sniff-It, may be present. Failure to observe this precaution may result in user injury.
- 7) Do not assume that a wire or conductor that does not have a voltage on it is harmless. The wire may be a Neutral or Ground wire, and significant current could be flowing. Opening the circuit could cause dangerous voltages to appear, and may result in user injury.
- 8) The Power Up Beep feature is provided to indicate that the Sniff-It is turned on. It DOES NOT indicate that the Sniff-It is fully operational and waiting to detect a voltage. The user must verify that the Sniff-It is operational by testing it on a known AC voltage source.

Installing Batteries

Remove the battery cover by gripping the case with one hand in front of the power button, and gripping and pressing on the pocket clip just in front of the flashlight button with the thumb and forefinger of the other hand, then moving your hands apart to slide the case open. Install 2 AAA batteries in the polarity indicated in the battery compartment. Replace battery cover by aligning the slots in the plastic and sliding it back into closed position.

General Operation

The Sniff-It is turned on by pressing and holding the black power button. When first turned on the Sniff-It should flash and beep momentarily (Power Up Beep). If this does not happen, turn the Sniff-It off, and turn on again. If the proper response is not obtained, check the batteries for proper polarity, and/or replace the batteries with a fresh ones. When the flasher or flashlight becomes dim, or stops flashing (the beeper may continue to sound), replace the batteries. The tip of the Sniff-It lights up green when it is on and waiting to detect a voltage. When AC voltage is detected, the tip flashes red.

⚠ **WARNING!!!** ⚠

The Power Up Beep can operate even though the batteries are low and the LED has stopped flashing. The Sniff-It may appear to work OK (except for the LED), but it may fail to detect dangerous AC voltages or it may falsely indicate the presence of AC voltage.

Replace the batteries when the LED stops flashing or the flashlight becomes dim!

The ability of the Sniff-It to detect AC voltage is affected by both distance and the magnitude of the voltage. That is, to detect a low voltage, it is generally necessary for the tip of the Sniff-It to be close to the voltage. A high voltage can be detected at a distance. The Sniff-It beeps slowly when close to low voltages, and quickly when close to high voltages. At a distance, a high voltage will cause the Sniff-It to beep slowly, and to gradually beep faster as the source of voltage is approached. This allows the user to "home in" on the source of the voltage. . . . and once found, make a judgment about the voltage's magnitude (i.e. low voltage or high voltage).

The gain some experience with using the Sniff-It, try it on several sources of known voltage. A common 120V AC household outlet will cause the Sniff-It to beep at a medium speed. A low voltage circuit, like a typical doorbell or thermostat circuit, will cause the Sniff-It A to beep slowly. A 220VAC circuit will cause a medium fast beep. At 600VAC, the Sniff-It A beeps so rapidly that it seems to be beeping continuously.

Note: Due to the high sensitivity of the Sniff-It's circuitry, it may appear to detect voltage when the tip is rubbed or bumped, or when the tip is moved around against a surface or in the air. Carpeted floors are notorious for generating static charges. When walking on carpeted floors, the Sniff-It may beep erratically, or may fail to beep in the presence of voltage, until the static charge dissipates (usually takes only a few seconds).

⚠ **WARNING!!!** ⚠

If using the Sniff-It without testing on a known voltage source, the Sniff-It may fail to beep or flash when a "live" circuit or object is tested. Take precautions to prevent user injury in the event that the tested circuit or object is unexpectedly "live".

⚠ **WARNING!!!** ⚠

The Sniff-It, like all similar products, may not detect AC voltage under all circumstances. This is rare, but possible. To reduce the possibility of this occurring, move the tip of the Sniff-It back and forth, or up and down, between any suspect circuits or objects when no voltage is detected. This may move the tip outside of the "null field" and may allow detection of the voltage.

⚠ **WARNING!!!** ⚠

The Sniff-It, like all similar products, may detect a GROUND instead of AC voltage. This is rare, but possible. If the Sniff-It appears to be detecting a ground instead of a "live" circuit or object, use extreme caution. The user may be "live", and touching a grounded circuit or object may result in user injury.

Checking 120VAC Outlets for proper polarity

The following test is not conclusive. If Sniff-It detects a problem, test the outlet using conventional means (a meter, test plug, etc.). This test can only be performed on a "live" outlet.

Test the Sniff-It on a known 120VAC source before performing the polarity test.

Turn on the Sniff-It and insert the tip into the slots of a "live" 120VAC receptacle. The small slot (this is supposed to be the Hot side) should cause the Sniff-It A to beep more quickly than the large slot. If the Sniff-It A beeps more rapidly in the large slot, the outlet may be wired incorrectly (Hot and Neutral may be reversed). Remove the tip from the slots and insert it (as far as possible) into the Ground opening. The Sniff-It A should beep more slowly than when inserted in the small slot. If it does not, the outlet may be wired incorrectly (the Ground may be incorrectly wired or not connected).

Checking light bulb sockets for unexpected voltage

Light bulb sockets are sometimes wired incorrectly. While the light may turn on and off when the wall switch is operated, there may be dangerous voltage at the socket even when the switch is off. This can happen when the light bulb circuit is incorrectly wired, or when the circuit is an old "3 way" type (new 3 way wiring should not allow a "live" bulb when the light is off). This can pose a danger to someone changing a light bulb, who may be accidentally shocked and injured by this unexpected voltage.

Test the Sniff-It on a 120VAC source (like an outlet) prior to performing this test.

Turn off the light switch. Remove the light bulb from its socket. Turn on the Sniff-It and place its tip into the socket. If it begins beeping and flashing, AC voltage is present. Use caution. A shock hazard is present.

Checking Appliances for Ground

The metal housings of appliances like washing machines and dryers are supposed to be grounded. When they are properly grounded, any dangerous voltage that might appear on the metal housing is diverted to ground. An ungrounded appliance may work correctly, but a shock hazard may be present. The Sniff-It may be used to detect any dangerous AC voltage that might appear on the housing of the appliance. Tap water conducts electricity. It may be found that voltage is only present when the appliance is wet.

Test the Sniff-It on a 120VAC source (like an outlet) prior to performing this test.

Turn on the Sniff-It and hold its tip against the metal housing of the appliance. If it begins to beep and flash, it may be that your body is charged with AC voltage. Using your other hand, touch a grounded object (a metal water pipe, the concrete floor, the screw on an outlet cover, etc) while holding the Sniff-It up to the appliance housing (do not touch the appliance until it is certain that no dangerous voltage exists). If the Sniff-It still begins to beep and flash, dangerous voltage may be present. Check the appliance's ground connections, or, if ungrounded, add a ground wire to the appliance to eliminate a possible shock hazard.

Notes: Fluorescent lights emit a lot of electrostatic fields that the Sniff-It will detect. This is because the bulb is often operating at hundreds or thousands of volts (generated by the light's ballast transformer). Do not confuse the pickup from a fluorescent light with the voltage you are testing for. It may help to turn the fluorescent light off while performing tests.

Checking Telephone and Cablesation Wires for Unexpected Voltage

Telephone and cablesation wires normally do not have dangerous voltages on them. However, under certain circumstances, hazardous voltages may appear on the wires, even though the telephone or cablesation works correctly. The voltages are sometimes called "strays", "leakage", or "power influence". At other times, an actual short, or "line cross" can occur between a telephone or cablesation wire, and an AC power wire.

When telephone and cablesation wires are connected to equipment, the stray voltages are generally not a problem. But when handling the connectors while connecting or disconnecting the wires, an unexpected voltage may cause an electrical shock.

Test the Sniff-It on a known AC voltage source (like a fluorescent light or an outlet), to make sure it detects the voltage. Now place the tip of the Sniff-It against the telephone or cablesation wire or connector. If it begins beeping and flashing, AC voltage is present. Use caution. A shock hazard may be present.

Notes: Many stray voltages "collapse" when they are connected to a load, rendering them harmless. The Sniff-It does not load the voltage, so it cannot determine if an actual shock hazard is present. However, if the Sniff-It detects AC voltage, use caution until the degree of the hazard is determined.

Mobile Home Safety

Mobile homes are sometimes built with metal frames and aluminum siding. This sometimes leads to an electrical shock hazard. If the frame is not properly grounded, a surprisingly common occurrence, it can become "live" with hazardous voltage. The occupants of the mobile home may be shocked when entering or leaving the home, but are relatively safe from shock hazard once inside.

An accidental short in the home's electrical system can make the frame "live". One known cause is a defective or improperly installed electric baseboard heater. If the heater is shorted to the frame, the heater may work OK, but the frame of the home will become "live" whenever the thermostat calls for heat. Hence the shock hazard comes, and goes, and it only seen in colder months.

Test the Sniff-It on a known AC voltage source (like a fluorescent light or an outlet), to make sure it detects the voltage.

To test the mobile home for hazardous voltage, while outside the home standing on the earth, bring the tip close to the siding. If the Sniff-It begins beeping and flashing, the siding may be "live". Do not touch the siding! It could be that the Sniff-It is detecting a "live" circuit inside of the wall instead of "live" siding. Move the Sniff-It around and try different locations to try to verify if the siding is "live", or a circuit in the wall is "live".

Tracing Hidden Power Wires

Unshielded energized AC power wires can often be traced in wood frame walls. Steel frame, concrete, and cinder block walls tend to block the electrostatic field emanating from the wire, leading to reduced tracing sensitivity, often resulting in unsatisfactory results.

Test the Sniff-It on a known AC voltage source (like a fluorescent light or an outlet), to make sure it detects the voltage.

Put the tip of the Sniff-It against the surface of the wall. Experiment with the positioning of the tip against the wall surface. It will usually be found that placing the side of the tip against the wall will produce the greatest sensitivity. The Sniff-It must beep and flash when positioned over the hidden wire. If this result cannot be obtained, the hidden wire cannot be traced. If the wire can be located, trace it through the wall by moving the Sniff-It in the direction that causes it to continue to beep.

If the wire turns away from the tip, perhaps into an adjoining wall or ceiling, it may not be traceable. Try continuing the trace in the adjoining wall or ceiling, if possible.

Keep in mind that the Sniff-It A can't discern one power wire from another. If several power wires cross in the wall, the Sniff-It A may "jump" from one wire to another when attempting a trace.

Additionally, any metal or electrically conductive objects or surfaces in the wall can interfere with the trace, by either acting as a shield, or by radiating a false signal.

If the Sniff-It does not have enough sensitivity to trace the hidden wire through the wall, the Triplett Sniff-It 2 may provide a solution. It has almost 10 times the sensitivity of the Sniff-It.

Testing Fuses

Fuses connected in AC circuits can be tested. The fuse must be the "cartridge" or "axial leaded" type. Cartridge fuses are cylindrical with metal caps on the ends, and range in size from small 5 x 20mm fuses used in electronics, to 6" or longer fuses used in electrical distribution systems. Axial leaded fuses are generally small cylindrical fuses with wires attached to the ends. To test, apply AC power to the circuit with the fuse and touch the Sniff-It's probe, alternately, close to the ends of the fuse. If the fuse is good, the Sniff-It should have the same response when positioned over either end of the fuse. If the fuse is bad, the Sniff-It will flash and beep much more quickly when positioned over one end of the fuse.

Notes: Because of the Sniff-It's high sensitivity, it may be able to pick up a signal on both ends of a fuse, even though the fuse is blown. This is particularly a concern when testing small fuses. To reduce the possibility of a false reading, position the probe of the Sniff-It as close as possible to the ends of the fuse when testing. If wires or circuitry are in close proximity to the fuse being tested, the Sniff-It may pick up a signal from them instead of the fuse, resulting in a false reading.

Some circuits may have AC power on both sides of a fuse, even though the fuse is blown. For example, a 220VAC circuit without a neutral (such as used on electric baseboard heaters) may have a fuse on both lines to the heater. One of the fuses can be blown, but both ends of both fuses will cause a Sniff-It to flash and beep. Also, 3 phase Delta wired power circuitry will have voltage on both sides of a blown fuse installed in one leg of the Delta. However, the voltage will be different on the ends of the fuse, so depending on the circumstances, it still may be possible to identify the blown fuse

Finding breaks in AC power wiring

In some cases, the Sniff-It can be used to find breaks in AC power wiring. Breaks in the "Hot" wire are usually detectable. Breaks in the "Neutral" wire may or may not be detectable.

Break in the Hot wire (Romex), 120VAC:

Put a load on the wire that has the break. Practically anything intended to operate from 120VAC power will work. Make sure the load is turned on (even though it won't work because of the break in the Hot wire). A 100 watt light or clock radio will work. Starting at the power distribution panel, trace along the length of the subject wire with the Sniff-It. When the signal level drops off significantly, and the Sniff-It's beeping and flashing slows, a break in the wire may be the cause. If the wire is hidden from view (i.e. in a wall or ceiling), an unseen intermediate object may be causing the loss of signal, or the wire may be turning away from the Sniff-It to an adjacent wall or ceiling.

Break in a Neutral wire:

Hidden breaks in neutral wires can seldom be traced. Access to the neutral is usually required to locate the break. Put a load on the wire that has the break. Make sure the load is turned on (even though it won't work because of the break). Starting at the load, test along the length of the subject wire with the Sniff-It, checking the neutral wire for voltage at any accessible points of connection. At the location of the break, the signal will drop significantly. For example, the subject neutral leads to a wire nut with 4 other neutral wires. The subject neutral measures as "live", but the other neutrals measure as dead. The break (open) is in the wire nut junction.

Common causes of breaks:

A wire has come loose from a terminal screw or wire nut. A loose or corroded terminal screw on a duplex receptacle may cause loss of downstream power in "daisy chained" circuits. One of the wires joined by a wire nut loses electrical connection to the other wires. A drywall nail or screw has pierced the wire.

Notes: The preceding scenarios assume the power wire is connected to a grounded power distribution panel on one end, with 120VAC applied, and with a load connected to the other end.

Checking polarity of extension cords and "Cut-Offs"

"Homemade" extension cords can be wired in the wrong polarity. To test, plug the extension cord into a properly wired outlet and test the female end of the cord as previously described in **Checking 120VAC Outlets for proper polarity**. Experienced electricians can also determine the Hot and Neutral wires in unmarked 2 wire "cut-offs". Cut-offs are partial extension cords with just the molded on male plug intact. Sometimes, cut-offs are more accurately described as leftovers..... often leftover from lighting installations. These cut-offs are often not marked for polarity, or, if marked, it isn't clear what the marking means.



Only perform the following test if you are an experienced electrician. An unconnected "live" wire is dangerous, and can result in user injury.

Separate the ends of the cut-off so the wires do not short out, and position the end away from any surface that it might contact. It is not necessary to strip the insulation off of the wires. Plug the cut-off into a live properly wired AC outlet. Identify the Hot wire by noting which wire causes the Sniff-It to beep and flashes when the tip is held against the side of the wire.

Specifications

Range: 30 to 600 volts AC, 60Hz
Indicators: Audible beeper and flashing red LED
Battery: 2 AAA
Body Size: 6.25" (L) x 5" (W) x 1" (H)
Weight: Approx. 1.6 oz.

SNIFF-It™
PN: 9602

Made in China