

Armada Technologies

Pro300 Residential Wire and Valve Locator

Operating Instructions



WARNING – Read and understand the instructions before operating this unit. Failure to do so could lead to injury or death.

Description

The Armada Technologies Pro300 wire and valve locator is designed to find lost valves and broken or severely damaged wires and trace their paths. The complete Pro300 kit consists of:

- (1) Pro300R Receiving Wand and Antenna
- (1) Pro300T Transmitter, Carrying Case, and Leads
- (1) ProGS1 Ground Stake
- (1) Operating Manual

Please be sure that all items are included before operating the Pro300.

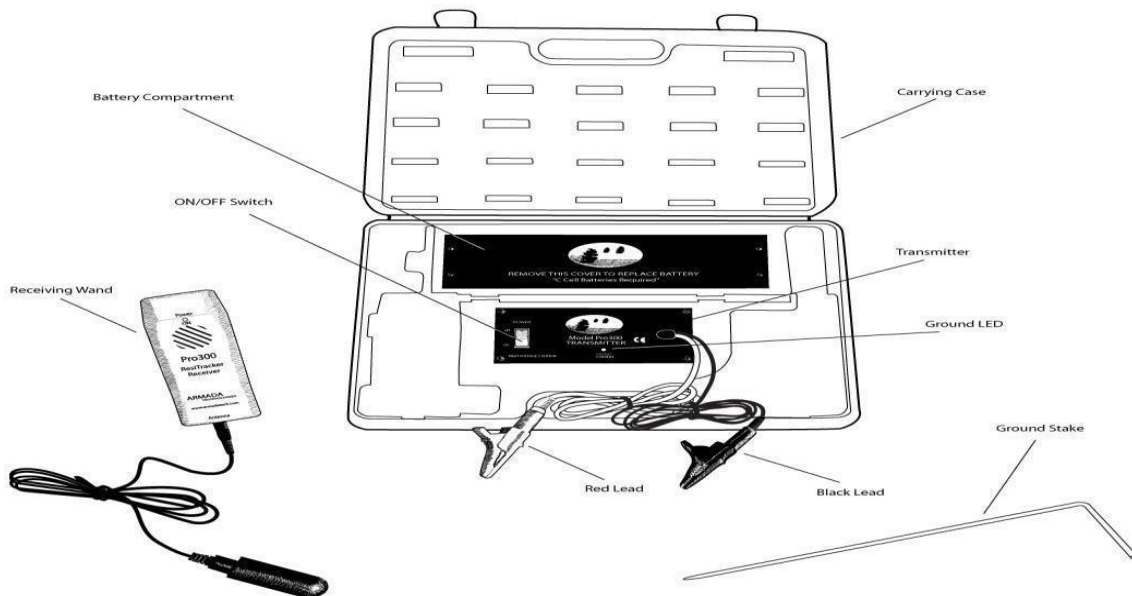


Figure 1

Battery Installation

The Pro300 transmitter requires 8 “C” cell batteries. The Pro300 receiver requires one 9V battery. To install the batteries in the Pro300 transmitter, open the transmitter case and remove the 5 holding screws on the battery compartment located at the upper center of the unit. Place the batteries in the holder and orient them in accordance with positive and negative poles. Turn on the Pro300T using the red on/off rocker switch. The red LED on the

transmitter will now blink dimly indicating the batteries and unit are ready for operation. If no response is seen, try adjusting the batteries to ensure good connection. If still no response, be sure the batteries are good and fresh.

The Pro300 receiver battery compartment is located on the backside of the Pro300R unit. Remove the battery compartment cover, install the 9V battery, and replace the cover.

Setup for Tracking Irrigation Wires

Disconnect the common wire and the station wire to the valve that you want to trace. With the transmitter off, connect the red lead to the wire you want to trace (common or station) and the black lead to the included ground stake (See Figure 2 on the next page). Do not connect to the clock as the signal may cause damage if the clock is not voltage protected. Insert the ground stake into the soil. Do not use common grounds such as pipes or electrical grounds. It is important that the ground stake be in the soil and independent for the Pro300 to work properly.

Turn the Pro300 transmitter on. The LED located on the Pro300 transmitter should now blink brightly. This LED is an indicator of how good the ground connection is. The better the ground connection, the brighter the light. It is important to note that the better the ground connection and LED, the easier it will be to track the wire. A good ground is crucial for optimum operation. Soil conditions can also affect this, and you may wish to moisten the grounding area.

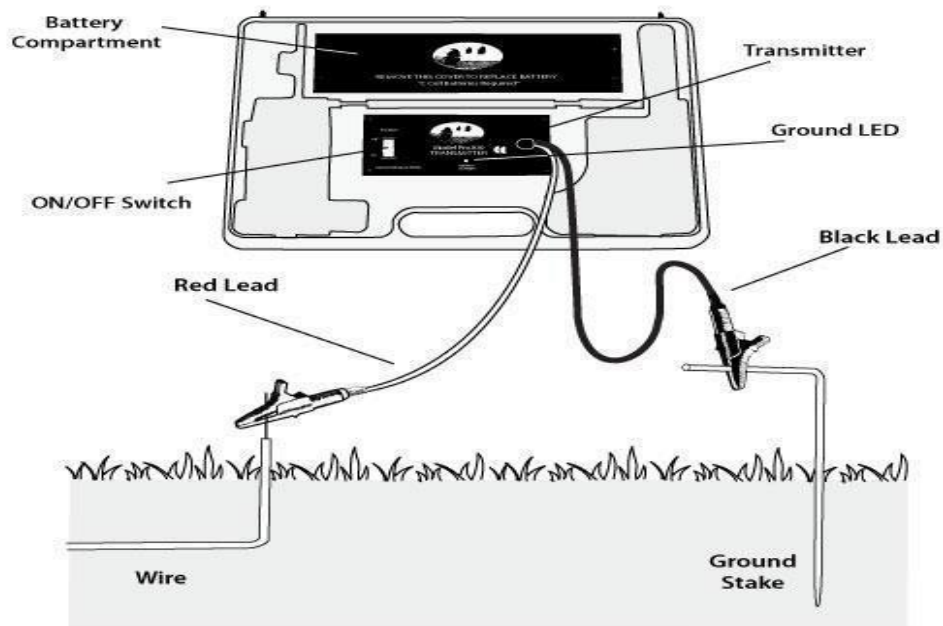


Figure 2

Tracing the Wire

After the Pro300 transmitter has been properly connected and verified to have a good ground and power, turn on the yellow Pro300 receiver by turning the volume knob on the side. Then plug the black antenna into the port on the bottom of the Pro300 receiver. Hold the yellow receiver in one hand and use your other hand to hover the antenna about a foot above the transmitter. A beeping sound should be heard indicating that the receiver is working properly. A high pitched or squelching tone could indicate that you are too close to the receiver or that your batteries are low. A faint or fading signal indicates low battery.

The volume control on the side of the receiver regulates the loudness of the receiver. After setup is complete, dangle the antenna close to the ground and sweep the area around the transmitter, listening for a beeping signal. The closer you are to the wire, the louder the signal should be, except for directly over the wire. Directly over the wire, the Pro300 works on the NULL

principle. This means that the signal nulls or stops when the receiver is DIRECTLY over the cable. If you are a little to the left or right, the signal will be loud, but DIRECTLY pointing the receiver at the wire produces virtually no signal. See Figure 3 below for an illustration of the Null principle. In this way, the user will know the exact location of the wire or cable being traced. Once the null signal is acquired, continue to follow the path of the wire by waving the receiver back and forth across the wire path.

Note: If the volume control is too high, this will overpower the null signal. If you are not getting a null directly over the wire, try turning the volume control down.

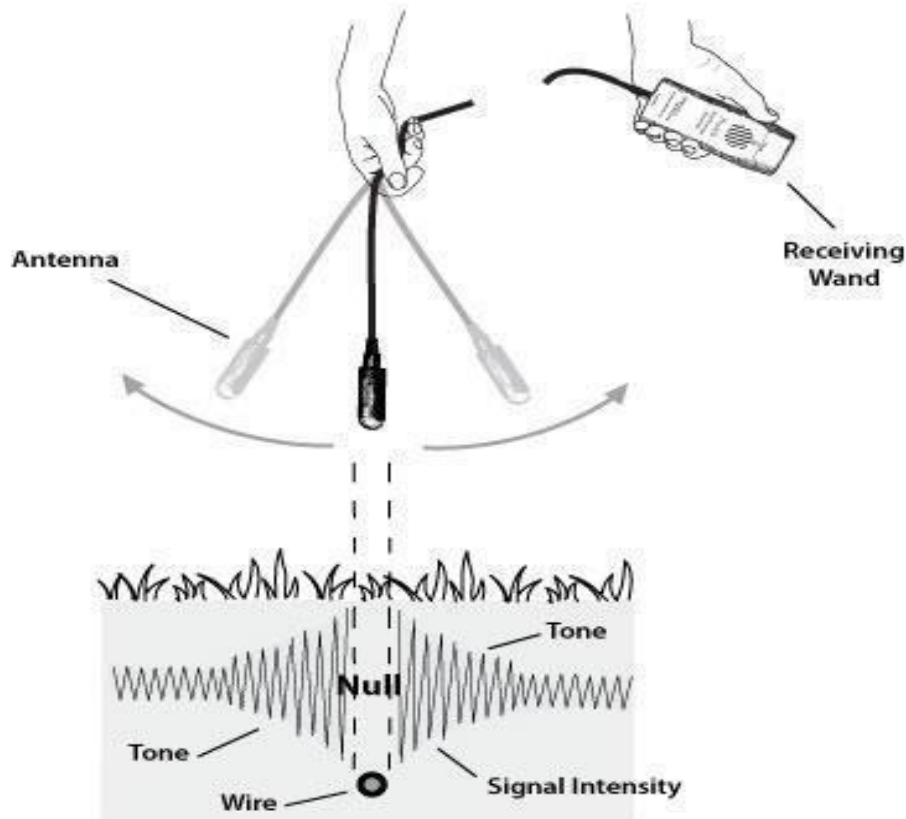


Figure 3

Finding Faults

Breaks or severe wire damage can be found with the Pro300. The setup of the unit is the same as when tracing wire. The difference comes in the reception. Whereas the traced wire continues to emit a signal along the path of the cable, a break will cause the signal to stop at the point of break. Severe damage will cause the signal to drop to a lower level, but not necessarily end. Minor damage cannot be located with the Pro300 as not enough signal is dropped to notice a difference in response. This is an art and small faults are sometimes difficult to locate. Practice and experience will help immensely in this task.

Be sure the cable or wire you are tracking is grounded. THIS IS A MUST. The signal needs a path to return to the ground stake and without it, you will not get a good locate. Bad ground is indicated on the transmitter by observing a weak or no light on the LED. In many cases, a directly buried cable fault will provide this grounding and allow a locate.

Finding Solenoids and Valves

Finding solenoids and the attached valves is easy to do. There are two methods for locating valves. For the first method, you would set up your locator just like you did for tracing the wire path. For example, if you want to find the valve associated with zone 2 of your irrigation system, you will connect the red lead to the zone 2 wire, and the black lead to the ground stake. Then track the wire by listening for the null signal. When you reach the point where a solenoid/valve is located, the signal will get louder and expand into a large diameter (Approximately 2-4 feet). This is your indication that you are over a valve or solenoid. Additionally, the signal should not continue past this point unless the station wire leads to further valves. You may wish to continue past the first valve located to determine if other valves are also located on this wire.

The second way to locate a valve is to use the loop method. The loop method will only give a signal over a valve/solenoid. It will not track the wire path. So, for this method to work, it is best if you have already tracked the wire and marked where it goes. To set up the loop method, you will connect the red lead to the station wire associated with the valve you want to locate. But you will connect the black lead to the common wire instead of the ground stake. Then you will walk along the path you have already marked. There will be no sound until you get to where the valve is located. At the valve, you will hear loud beeping in a 2–4-foot diameter.

Helpful Hints

Increases in signal strength and/or the size of the area it is occurring from usually indicate some type of anomaly in the cabling. Things that could cause this are valves (as described above), nicks, cuts, bad splices, or cut wires. A good condition cable does not normally change the tone or strength, other than a very gradual loss of reception over distance. Slack loops (extra wire coiled and buried) left in the ground at installation are an example of a condition that would cause an increase of signal and yet have no problem.

Also, ground condition makes a huge difference in the performance of cable locators. Basically, a path is being created from the transmitter, through the cable, out through the ground and back to the ground stake. Any mistake in any of these links will cause the locator to not work properly. Be sure your ground stake is secure and, in the dirt, and that the transmitter is connected to the cable you want to track.

In addition, the more conductive the soil, the better. Dry sandy desert soil is not a good transmitter of signal, and you will experience better results in moist soil. If you are in the desert, a little water at the ground stake may help.

The best way to really learn the Pro300 is to use it. Set up a test site at your home or office and get used to how it works. There is no substitute for experience in the art of locating. Good luck!

Warranty

Armada Technologies warrants all products for 12 months from manufacturing defects from the date of retail purchase. Armada Technologies will repair or replace any component that is returned to Armada Technologies within 12 months of purchase and does not exhibit signs of abuse or misuse. It is Armada Technologies sole discretion to determine this condition. Armada Technologies also reserves the right to require proof of purchase in order to determine the date and validity of purchase.