Pro871C Cable Locator
Operating Instructions

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

The Armada Technologies Pro871C wire and cable locator is designed to locate underground cables and their paths. The complete Pro871C locator consists of;

- (1) Pro871R Receiving Wand
- (1) Pro871T Transmitter and Carrying Case
- (1) ProH1 Mono Headset
- (1) ProGS1 Ground Stake
- (1) Set of Black/Red Connecting Leads
- (1) Operating Manual
- (1) IC3 Inductive Clamp

Please be sure that all items are included before operating the Pro871C.

Battery Installation - The Pro871C transmitter requires 8 “D” cell batteries. The Pro871C receiver requires one 9v battery. To install the batteries in the Pro871C transmitter, open the case and remove the 2 holding screws on the battery compartment cover located on the right side of the unit and remove the cover. Place the 8 “D” cell batteries in the holders, orienting them in accordance with positive and negative poles. Turn on the Pro871C and make sure the green ‘ON’ LED comes on. If no response is seen, try adjusting the batteries to insure good connection. If still no response, be sure the batteries are good and fresh. This can be noted by the red ‘LO Batt’ LED located to the left of the ‘ON’ LED.

The Pro871C receiver battery compartment is located on the backside of the Pro871R wand unit. Open the battery compartment cover. Install the 9 volt battery and replace the cover. Turn the unit on and observe the ON LED to confirm good battery install.

The Pro871C receiver also has a LO BATT LED and it acts as a warning that the 9 volt battery is weak. When this LED comes on, monitor the performance of the receiver or just replace the battery.

Setting up the Transmitter: Direct Connection with Alligator Leads - With the transmitter off, connect the red alligator lead into the red port on the Pro871C transmitter and to the wire you want to trace. Attach the black alligator lead to the black port and the included ground stake. Insert the ground stake into the soil or earth ground. 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 Pro871C to work properly. Jumper cable can be used if the distance to the earth ground is too far to reach.

Turn the Pro871C transmitter on. Adjust the frequency setting for either HI or LO. The LO setting requires a good ground coupling between the target cable and the earth. If it has this, LO usually provides a longer distance locate with less bleed over into other cables. Without this ground, your locate will not be effective and HI should be used. Either setting, HI or LO, can work to trace

cable and it is up to the operator to select the frequency best suited to his/her particular conditions.

The red Transmit LED will blink when the unit is in HI or LO mode and a good tracking signal circuit has been formed. The brighter the LED blinks, the better the circuit conduction and therefore the better the tracking signal is working. A dim blinking LED indicates a poor circuit and consequently, then the locate will be difficult.

In Induction Mode, the Transmit LED will not come on. The Induction LED will, indicating that you are transmitting an induction frequency for use as described below.
Experiment with which setting works best for the job you are doing. NOTE - THE TRANSMITTER AND RECEIVER MUST BOTH BE ON THE SAME FREQUENCY SETTING (Hi or Lo) TO WORK PROPERLY.

Setting up the Transmitter: Inductive Antenna – The Pro871C transmitter has an antenna used for transmitting a tracing signal without connecting to the cable. This is called induction. This feature is handy when the user has no access to the physical metal of the cable or does not wish to disconnect the cable from service. To use the Pro871C inductive antenna (built into the case), the user merely needs to select “induction” on the transmitter control panel after turning it on. The Pro871C wand also needs to be put in the “induction” mode. After the wand has been put into “induction” mode, track the wire as normal, following the transmitted beeping signal. As a note, the transmitted signal will interfere with your locate up to 20 feet from the transmitter as the signal emits in all directions. Start the locate at least 20 feet from the transmitter.

Setting up the Transmitter: Inductive Clamp - To use the IC3 clamp, plug the clamp into the clamp receptacle on the Pro871T transmitter and turn the unit on, using the “Induction” setting on both the transmitter and receiver. Clamp the IC3 around the cable to be traced. For best performance, orient the clamp so that the side with the wired handle is closest to the cable. You can also increase the effectiveness of the clamp by wrapping the target

wire around the clamp if possible. Like a transformer, the more wraps, the more power.

Please note, the clamp must be placed between grounding points on each end of the cable and the cable must be grounded on both ends for the clamp to work. The clamp induces current onto the cable and the current will not flow if the cable isn't grounded on both ends.

Tracing Wire - After the Pro871C transmitter has been properly connected and verified to have a good ground and power, turn on the Pro871C receiver by turning the volume knob on the front of the receiver clockwise. Place the receiver near the operating Pro871C transmitter. A beeping sound should be heard indicating that the receiver is working properly. A high pitched tone could indicate that you are too close to the receiver or your batteries are low. A fading signal indicates low battery. If you suspect low battery, consult the Lo Battery LED on the receiver and transmitter.

The black control knob on the front of the receiver regulates the volume of the receiver, both headphones and external speaker. Additionally, the analog meter on the front of the receiver will indicate the reception power level visually. After connecting and turning on the transmitter and turning on the receiver, point the receiver toward the ground and listen for the beeping signal. The closer you are to the cable, the louder the signal should be except for directly over the cable in the NULL mode (discussed next).

The Pro871C also has the option of NULL or PEAK tracing. Simply put, NULL means that the signal nulls or stops when the receiver is directly over the cable. PEAK means the signal is loudest directly over the cable. The user should become familiar with this difference and select the response that best suits their preference.

Tracing Live Electrical Lines using Passive Mode - The Pro871C receiver has the capability of detecting live electrical AC lines in the ground without connecting to them. This is known as passive mode. In passive mode, no transmitter is used. **DO NOT**

ATTEMPT TO CONNECT THE ALLIGATOR LEADS OR ANY OTHER PRO871C COMPONENT TO LIVE ELECTRICAL LINES. DEATH OR INJURY COULD OCCUR.

To use the passive mode, turn on the Pro871C wand and select the passive mode using the switch marked “60Hz”. This switches the receiver into an unfiltered mode that detects the electrical field generated by 50Hz or 60Hz electrical current. Once the Pro871R wand is on, simply search an area until you hear a buzzing sound. There is no beeping signal as the transmitter is not used. Follow the buzzing sound in either null or peak mode, both will work, to track the cable. You will not be able to use passive mode if there is no live electrical current present on the cable.

How to determine depth - Find the null over the wire path and mark it. Then place the tip of the receiver on the ground at the mark. Without lifting the receiver tip from the ground, lower the top of the receiver to approximately a 45 degree angle and slowly walk the receiver away from the wire path until you reacquire the null. The distance between the wire path and the newly established null is the approximate depth of the target.

Helpful Hints – Batteries are the number one reason users call for technical support. Before assuming that there is something wrong with the unit, replace the batteries. It will save you time, money, and embarrassment.

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 that you want to track.

In addition, the more conductive the soil, the better. As moisture is a good conductor, the wetter 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 Pro871C 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 warranties 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 a proof of purchase in order to determine date and validity of purchase.