AMPROBE®

ATGC-1
Ground Coil

Users Manual

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English

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ATGC1_Rev001
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Repair

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

In-Warranty Repairs and Replacement – All Countries

Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see below for address).

Non-Warranty Repairs and Replacement – US and Canada

Non-warranty repairs in the United States and Canada should be sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test Tools or inquire at your point of purchase for current repair and replacement rates.

In USA	In Canada
Amprobe Test Tools Everett, WA 98203 Tel: 877-993-5853 Fax: 425-446-6390	Amprobe Test Tools Mississauga, ON L4Z 1X9 Tel: 905-890-7600 Fax: 905-890-6866

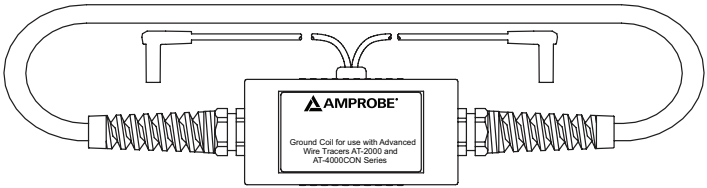
Non-Warranty Repairs and Replacement – Europe

European non-warranty units can be replaced by your Amprobe® Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you.

European Correspondence Address*

Amprobe® Test Tools Europe
Beha-Amprobe GmbH
In den Engematten 14
79286 Glottertal, Germany
Tel.: +49 (0) 7684 8009 – 0

*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)


AMPROBE
Ground Coil for use with Advanced
Wire Tracers AT-2000 and
AT-4000CON Series

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SYMBOLS

	Battery		Refer to the manual
	Double insulated		Dangerous Voltage
	Direct Current		Earth Ground
	Alternating Current		Audible tone
	Conforms to relevant Australian standards.	CE	Complies with EU directives
	Do not dispose of this product as unsorted municipal waste.	c UL us	Underwriters Laboratories.
	Application around and removal from hazardous live conductors is permitted		

UNPACKING AND INSPECTION

1x ATGC-1 Ground Coil

1X User's Manual

DESCRIPTION

The ATGC-1 Ground Coil (Fig. 1) allows the signal from the Transmitter in the Advanced Tracer AT2000 and AT-4005CON series to be induced onto buried conductors, water pipes, and gas pipes up to 6 feet deep. This allows tracing of conductors up to 300 feet in length.

SETUP AND INDUCTIVELY COUPLED SIGNALS

The initial setup of the ATGC-1 to achieve maximum signal induction is accomplished easier if two people participate. One person to hold the receiver and one person to adjust the coil position.

Since the ATGC-1 creates a large field, it is possible that the field may be induced onto other known or unknown conductors in the area. By rewinding or recoiling the ATGC-1 so the overall diameter of the coil is smaller, the field will become smaller and may eliminate coupling to adjacent conductors in the area.

The conductor with the lowest resistance, has the most current flowing through it or has the largest mass, will carry the greatest signal. Underground conductors must be grounded on both ends or have current flowing through them in order for a signal current to flow. The Receiver must be set to the "Short" mode in order to sense this signal.

The Receiver should only be set to the "OPEN" MODE if the conductor is not grounded on both ends and no earth shield is present between the conductor and receiver.

⚠ **WARNING**

If the Receiver does not pick up a signal it does not necessarily mean that the area is safe for excavating. It is possible that live conductors that do not have current flowing through them or are not grounded at both ends, do not effectively couple the signal. Extra measures should be taken to insure that a safety hazard does not exist before any excavating begins.

It is advisable to use the Rechargeable Battery Pack Model B2024 when using the Ground Coil as it allows a deeper and three times more signal to be induced for longer tracing distances. Placing the coil directly over the conductor is not recommended, as minimal signal induction will occur.

TRACING UNDERGROUND CONDUCTORS, WATER PIPES AND GAS PIPES

Setup

1. Look around and observe your surroundings. Setup the coil in the area that the conductor most likely would be buried, approximately 30' away from where you want to start identifying the location of the conductor.
2. Arrange the ATGC-1 Ground Coil in a circle on the ground approximately 3' from the top center of the conductor or pipe (Fig. 2). **Note: Placing the coil directly over the conductor will not induce any signal.**
3. Plug the ATGC-1 Ground Coil (A) and B2024 Battery Pack (D) into the Transmitter (E).
4. Set the Transmitter to the "HIGH" MODE and turn the unit "ON".
5. At a distance of 25–30 ft from the coil, point the Receiver (C) perpendicular to the ground with the front label and Signal Strength Indicator facing the coil. If you do not get far enough away from the coil, the receiver will only pick up the signal radiating through the air off the coil itself.
6. Set the Receiver to the "SHORT" MODE and set the Range selector switch to X100 (AT-2000 series only).
7. Turn the Receiver on by rotating the thumbwheel and set it to 5 (AT-2000 series only).

Finding the Conductor(s)

8. While maintaining a 25–30 ft radius from the coil, trace the area in a circular pattern, remembering to keep the Receiver perpendicular to the ground with the front label and Signal Strength Indicator facing the coils as you are circling the coil (Fig. 3). Individual short "ghost" signals may be received while moving in this circular direction. This is normal and due to stray signal current. If you stop moving you will realize that there is no real signal present. The real signal radiating off the conductor will continually pulse. Multiple signals may indicate multiple conductors. Locate the area in which the maximum signal strength is displayed on the conductor you wish to trace

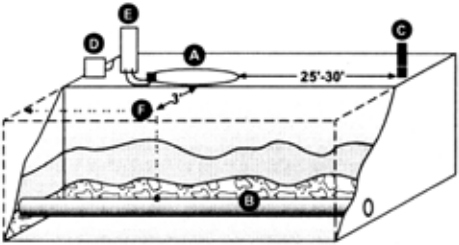
Positioning Coil for best signal Induction

9. When the area of the maximum signal is located, place the Receiver (E) probe tip against the ground on the centerline (D) of the conductor (F). With the Receiver held in place, have your partner incrementally adjust the position of the ground coil to the left or right of its original position to further increase the signal strength displayed on the Receiver. Adjust the sensitivity down if the Receiver full scale deflects.
10. Once the coil is positioned to induce the absolute maximum signal. You may turn from the coil and begin tracing the conductor away from the calibration point, by moving the receiver back and forth in a pendulum motion, adjusting the sensitivity as necessary. Mark the ground with paint or chalk where the maximum signal is received.

Remember to keep the receiver tip straight down, perpendicular to the ground with the front label and signal strength indictor facing the direction of the conductor run. To trace pipes or conductors over long distances, move the coil to the place where the signal dropped off and repeat the procedure.

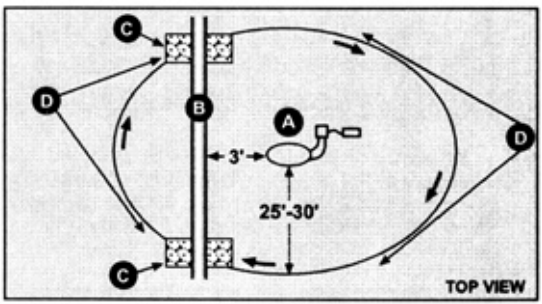
TECHNICAL SPECIFICATIONS

Coil Diameter	1m (3.28 ft)
Operating Frequency	32.758 kHz
Field Radius (air)	7.62–9.14m (25–30 ft) With B2024
Termination	Shrouded Male Banana Plugs (Integrated)
Operating Temperature	32˚–120˚F (0˚–48.8˚C)
Weight	0.68 kg (1.5 lbs)



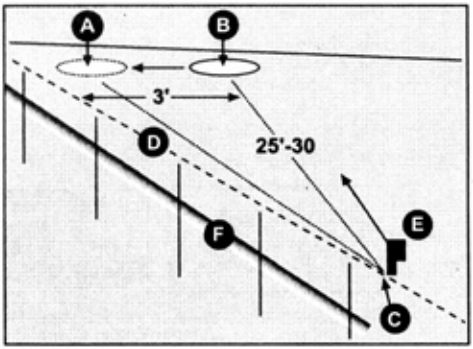
A ATGC-1 Ground Coil
B Conductor or Pipe
C Receiver
D B2024 Battery Pack
E Transmitter
F Top Center of conductor or pipe

Fig. 2 – Proper distance for initial setup.



A ATGC-1 Ground Coil
B Conductor or Pipe
C Maximum Signal Strength
D Little or no signal strength

Fig. 3 – Locating the area of maximum signal strength



A Maximum induction

B Less induction

C Calibration Point

D Conductor Centerline

E Face Receiver towards coil

F Conductor

Fig. 4 – Conductor centerline and Coil position adjustment

Visit www.Amprobe.com for

- Catalog
- Application notes
- Product specifications
- User manuals

