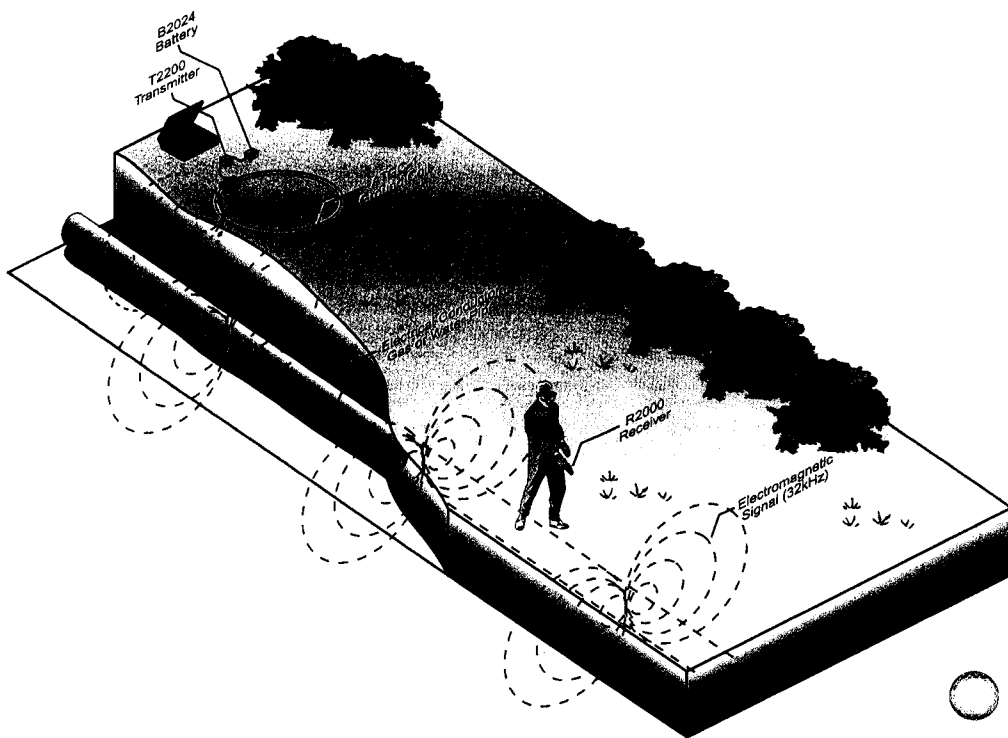


APPLICATION DIAGRAM



Typical underground conductor location set-up using the ATGC-1 Ground Coil™, R2000 Receiver, T2200 Transmitter, and B2024 Battery Booster

FEATURES

The ATGC-1 Ground Coil expands the capability of the Advanced Tracer (AT Series) by providing the means for the AT Transmitter's signal to be induced onto electrical conductors, water mains, and gas pipes that are buried up to 6 feet deep. The ATGC-1 plugs into the T2200 transmitter and is placed on the ground above and to the side of the conductor to be traced and allows tracing of runs up to distances of 300 feet with the R2000 Receiver. The Ground Coil is effective in identifying and tracing buried conductors or pipes that are not easily accessible by direct hook-up of the transmitter since no direct hook up of the transmitter to the conductor is necessary. Applications include tracing and locating highway lighting conductors, main electrical feeds, water mains, gas mains, and telephone lines. Amprobe recommends the use of the model B2024 battery booster in conjunction with the T2200 Transmitter for maximum signal transfer. These items, and more, are included in the Advanced Tracer, Model AT-2005.

- Trace and locate buried conductors like Highway Lighting Conductors, Main Electrical Feeds, Water Mains, Gas Mains, and Telephone Lines
- Low Cost
- Eliminates Direct Connection of Transmitter
- No access to the conductor required
- Just lay the coil on the ground and trace.

To address buried lines, ground faults, short circuits, open or de-energized circuits, as well as breaker/fuse, wire, or load identification, order the ATGC-1 with the AT-2005 for the most complete kit.

SPECIFICATIONS

Coil Diameter:	3.28' (1M)
Operating Frequency:	32,758Hz
Field Radius (air):	25-30 ft. (T2200 with B2024)
Termination:	Shrouded Male Banana Plugs (integrated)
Operating Temperature:	32°F - 120°F
Weight:	1.5 lbs.

P/N 937791
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OPERATING INSTRUCTION
for
AMPROBE

Ground Coil™



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Model ATGC-1



Printed in USA

LIMITED WARRANTY

Congratulations! You are now the owner of an AMPROBE product. It has been crafted according to the highest standards of quality and workmanship. This instrument has been inspected for proper operation of all of its functions and tested by qualified factory technicians according to the long established standards of AMPROBE.

Your AMPROBE product has a limited warranty against defective materials and/or workmanship for two years from the date of purchase provided the seal is unbroken or, in the opinion of the factory, the instrument has not been opened, tampered with, or taken apart.

Should your instrument fall due to defective materials and/or workmanship during the one-year warranty period, return it along with a copy of your dated bill-of-sale which must identify the instrument by model number and manufacturer number.

IMPORTANT: For your protection, please use the instrument as soon as possible. If damaged, or should the need arise to return your instrument, place it in a shipping carton packed with sufficient packing material. It must be securely wrapped. Amprobe is not responsible for damage in transit. Be sure to include a packing slip (indicating model and manufacturer number) along with a brief description of the problem. Make certain your name and address appears on the box as well as packing slip.

Ship prepaid via Air Parcel Post insured or U.P.S. (where available) to:

Service Division
AMPROBE
630 Merrick Road (use for U.P.S.)
P.O.BOX 329 (use for Parcel Post)
Lynbrook, NY 11563-0329

Outside the U.S.A the local Amprobe representative will assist you. Above limited warranty covers repair and replacement only and no other obligation is stated or implied.

TABLE OF CONTENTS

LIMITED WARRANTY	2
ATGC-1: Ground Coil	4
Setup and Inductively Coupled Signals	4
Tracing Underground Conductors,	5
Water Pipes, and Gas Pipes using The Ground Coil	5
Finding the Conductor(s)	6
Positioning Coil for best signal induction	7

ATGC-1: Ground Coil

Description

The ATGC-1 Ground Coil (Fig. 1) allows the signal from the T2200 Transmitter in the Advanced Tracer AT2000 series to be induced onto buried conductors, water pipes, and gas pipes up to 6 feet deep. The coil is placed on the ground, above and to the side of the conductor to be traced. This allows tracing of conductors up to 300 feet in length.

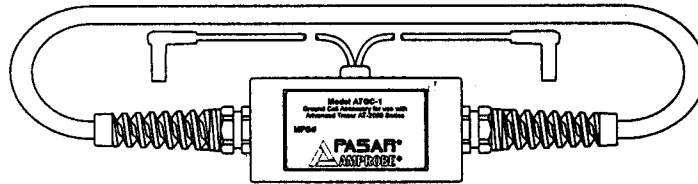


Fig. 1 - ATGC-1

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 R2000 Receiver must be set to the "Short" mode in order to sense this signal.

The R2000 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 R2000 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.

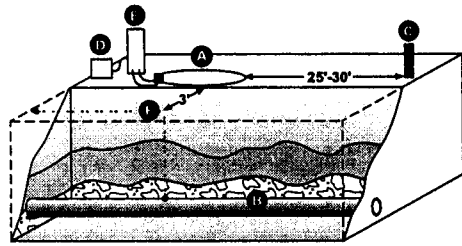
It is advisable to use the "Battery Booster" Model B2024 when using the Ground Coil as it allows deeper and three times more signal to be induced for longer tracing distances. Placing the coil directly over the conductor is not recommended, as minimal signal induction will occur.

Tracing Underground Conductors, Water Pipes, and Gas Pipes using The Ground Coil

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 T2200 Transmitter (E).
4. Set the T2200 Transmitter to the "HIGH" MODE and turn the unit "ON".
5. At a distance of 25-30ft from the coil, point the R2000 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 R2000 Receiver to the "SHORT" MODE and set the Range selector switch to X100.

7. Turn the R2000 Receiver on by rotating the thumbwheel and set it to 5.

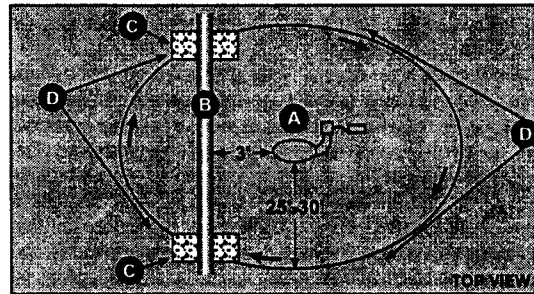


- A) ATGC-1 Ground Coil
 B) Conductor or Pipe
 C) R2000 Receiver
 D) B2024 Battery Pack
 E) T2200 Transmitter
 F) Top Center of conductor or pipe.

Fig. 2 - Proper distance for initial set up.

Finding the Conductor(s)

8. While maintaining a 25-30ft radius from the coil trace the area in a circular pattern, remembering to keep the R2000 perpendicular to the ground with the front label and Signal Strength Indicator facing the coil 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.

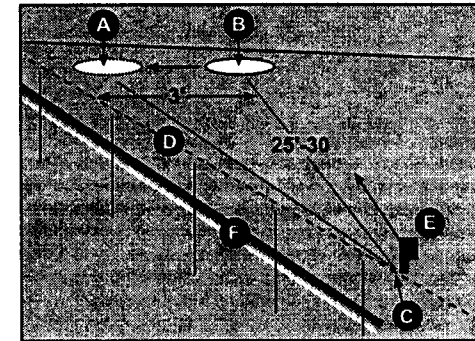


- A) ATGC-1 Ground Coil
 B) Conductor or Pipe
 C) Maximum signal strength
 D) Little or no signal strength

Fig. 3 - Locating the area of maximum signal strength

Positioning Coil for best signal induction

9. When the area of the maximum signal is located, place the R2000 (E) probe tip against the ground on the centerline (D) of the conductor (F). With the R2000 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 R2000. Adjust the sensitivity down if the R2000 receiver full scale deflects.



- A) Maximum Induction
 B) Less Induction
 C) Calibration Point
 D) Conductor Centerline
 E) Face R2000 Receiver towards coil
 F) Conductor

Fig. 4 - Conductor centerline and Coil position adjustment

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 indicator 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.