AT-3000 User guide

The R-3000 and G-3000 combine to make the perfect general purpose tools for cable avoidance. Their rugged construction ensures long life and reliability whilst the simple controls promote effective use with minimal training.

For those who require pinpoint accuracy and depth information, the AT-3000 add visual indication of signal strength together and depth information, the AT-3000 add.

**Operation of Power and Radio modes**

Regularly check your R-3000 and G-3000 in all modes, over a cable which gives a response you are familiar with.

**Power mode**

For detection of ‘Power’ signals radiated by loaded cables. These are often found ‘re-radiated’ by other nearby conductors. Select Power using the Function switch. Press and hold the On/Off switch. Replace batteries if no initial ‘bleep’ is heard to confirm good battery condition.

Rotate the Sensitivity Control fully clockwise for maximum sensitivity but reduce if there is a blanket area, marking the power, radio, G-3000 Transmitter features

The G-3000 is used to apply a tone to a buried conductor. This tone can be traced using the R-3000 locator switched to the G-3000 mode.

Direct connection

Direct connection is the most effective form of signal application and is suitable for connection to a valve, meter, junction box or other access point.

**WARNING**

Connection to a power cable sheath should only be undertaken by qualified personnel.

Method

Plug the Connection lead into the G-3000 connection socket and attach the red lead to the target line. If necessary clean the connection point to ensure a good electrical contact.

Locating with the R-3000 and G-3000

The G-3000 is used to apply a tone to a buried conductor. This signal can be traced using the R-3000 locator switched to the G-3000 mode.

For detection of radio signals originating from distant radio transmitters. These penetrate the ground and are re-radiated by buried conductors. However, they are not always present.

After completion of Power mode sweep, repeat the procedure with Radio mode selected.

**WARNING**

The G-3000 will detect almost all buried conductors but there are some which do not radiate any signal which the R-3000 will not detect.

There are also some live power cables which the R-3000 is not able to detect in the Power mode.

The R-3000 does not indicate whether a signal is from a single cable or from several in close proximity.

**Note**

The R-3000 will not provide depth information in either the Power or Radio modes.

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Induction
Induction is a convenient and quick way of applying the G-3000 signal to a pipe or cable where limited access does not permit direct connection or use of the Signal Clamp.

Place the G-3000 over the assumed position of the conductor in the orientation shown.

Start tracing the cable or pipe at least five paces from the G-3000 with the R-3000 in G-3000 mode. Working too close to the G-3000 may give false readings as the R-3000 will detect more signal directly from the G-3000 than from the conductor.

Do not attempt to take depth readings unless the distance between the R-3000 and G-3000 is greater than 30 paces (see “Taking line depth measurement using the R-3000”).

Active search using Induction
Placing the G-3000 on its side swamps an area with G-3000 signal.

Alternatively, use a two man technique to search an area for buried utilities.

Taking line depth measurement using the R-3000
Depth measurement is only possible when using the R-3000 in the G-3000 mode.

Method
Locate the utility as described previously.

Ensure that the depth measurement position is at least 30 paces from the G-3000, especially if signal application is by Induction method.

Hold the R-3000 still, vertical and at right angles to the buried line. Momentarily depress the depth button. The display will show a moving clock face followed by the depth measurement.

Taking Mouse depth measurements using the R-3000
Depth measurement is only possible when using the R-3000 in the G-3000 mode with a Mouse transmitter.

Method
Locate the main Mouse signal as previously described. Hold the R-3000 vertically and in line with the Mouse. Press and hold the depth button until ‘M’ appears on the display. A stock face will appear in the top right hand corner of the display while the depth calculation is made. The approximate depth to the Mouse will then be displayed on the meter.

R-3000 error codes

000 Indicates very shallow conductor
007 Indicates conductor out of range
077 Indicates depth measurement attempted in R or P mode which is not available.

WARNING
Do not use the R-3000 depth measurement to decide if mechanical digging over buried conductor is appropriate.

Optional Accessories
Using the optional* Signal Clamp SC-3000
The Signal Clamp applies a G-3000 signal safely to a pipe or live cable of up to 76mm (3 inches) diameter, without interrupting the supply.

Method
Plug the Clamp into the G-3000 Connection socket. Place the Clamp around the pipe or cable ensuring the jaws are closed. Switch the G-3000 on. Open and close the Clamp. If the jaws are closing correctly a drop in speaker tone will be heard.

An earth connection is not necessary but efficient signal transfer is only achieved if the target conductor is grounded at both ends. This is usually the case with power cables.

Induction
Induction is a convenient and quick way of applying the G-3000 signal to a pipe or cable where limited access does not permit direct connection or use of the Signal Clamp.

Start tracing the cable or pipe at least five paces from the G-3000 with the R-3000 in G-3000 mode. Working too close to the G-3000 may give false readings as the R-3000 will detect more signal directly from the G-3000 than from the conductor.

Do not attempt to take depth readings unless the distance between the R-3000 and G-3000 is greater than 30 paces (see “Taking line depth measurement using the R-3000”).

Using the optional* Mouse Signal Transmitter M-3000
The mouse is a small self-contained watertight transmitter which can be detected by the R-3000 when switched to the G-3000 mode.

Method
Replace the battery in the Mouse. Attach the Mouse to a drain rod using an appropriate connector. Place the Mouse on the ground, set the R-3000 to G-3000 mode and, whilst holding the R-3000 in line with the Mouse, check that a signal is being received. Insert the Mouse approximately 1m/yard into the duct/strain and adjust the R-3000 sensitivity to receive the signal.

A ghost signal appears before and behind the main signal position. Reduce the R-3000 sensitivity to receive only the main signal.

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Replacements
Connection Kit CK-3000
(Includes connection cable and ground stake)

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