

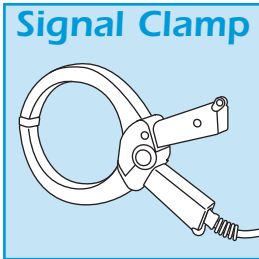
Plug the clip cable into the socket in the base of the Transmitter. Connect the crocodile clip (red lead) onto the appropriate service. Place the earth stake into the ground, at right angles to, and as far from the service as possible, connect the black lead onto the earth stake.

Make sure you do not drive the earth stake into any services below it.

Select the frequency you require and set the ON/OFF switch to signal strength required. When the transmitter is switched ON it will emit an audible high-pitched tone.

After a short time the tone will change to a lower tone indicating the state of the earth connection and the strength of the signal.

#### SIGNAL CLAMP...



**Signal Clamp** Use this to send a signal down a pipe or cable, but the signal will not be traceable if the pipe or cable is disconnected.

To avoid the risk of electric shock, the clamp **MUST** be connected to the transmitter before placing around the pipe.

The transmitter **MUST NOT** be connected to earth with the ground stake

To use the clamp, place the clamp around the pipe or cable and ensure the jaws are completely closed, you can then switch the transmitter ON.

## BASIC TECHNIQUES

Switch the locator ON and select the required setting. If the transmitter is to be used, ensure that it is already set up and switched ON.

Select the mode required and where applicable, the frequency.

Next press the peak/null button to select either peak (signal increases as you approach the object) or null (signal decreases as you approach the object).

Finally press the line/sonde button and select line detection.

Adjust the touch gain control to bring the bar graph to the halfway mark (central). The touch gain control is not a rotating dial and should only be moved slightly to the left or right to alter the setting.

You can now begin to sweep the area to find the service. Once a signal is received close in on the area.

To pinpoint the service, position the unit where the signal is strongest. Turn the locator through 90

degrees until the minimum signal is received, the locators blade will then be in line with the target. Mark the area with chalk or a suitable paint.

To check the depth of pipes and cables, make sure line mode is selected. Hold the locator vertically with the blade in contact with the ground and at 90 degrees to the service, then press the depth key, the approximate depth will be displayed for a few seconds.

The active signal current can be read by pressing the current key.

## EQUIPMENT CARE

**Never push the equipment beyond its design limits.** If it will not do what you want, assume you have the wrong type of equipment for the job. Contact your local HSS Safe and Sure Depot for advice.

**Keep the equipment clean** - you will find this less of a chore if you clean it regularly, rather than wait until the end of the hire period.

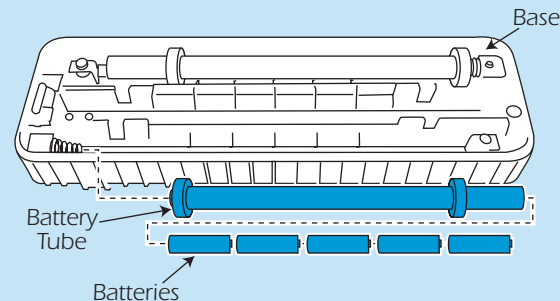
**Handle the equipment with care**, avoid dropping or knocking it..

When not in use, **store the equipment somewhere clean, dry and safe** from thieves.

## Replacing The Batteries

To replace the locators' batteries, switch the unit OFF, open the battery cover and unclip the batteries. Refit 12 new 1.5V LR6 (AA) alkaline batteries and replace the cover.

To replace the transmitter batteries switch the unit OFF, pull out the red catches on either end of the units' base. You can now lift the top clear of the base. Remove the two battery tubes, remove the batteries within and replace with 10 new 1.5V LR6 (AA) alkaline batteries, Refit the battery tubes then the base and ensure the red catches are correctly locked. Dispose of the used batteries in a responsible manner.

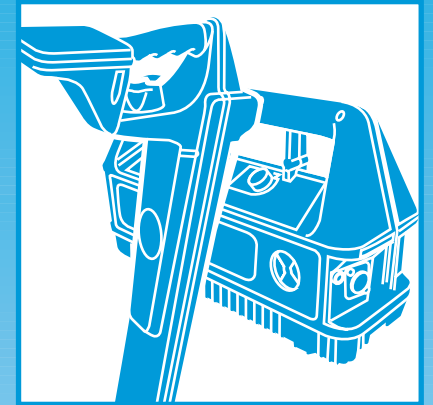


## FINISHING OFF

Switch the locator OFF and place in its carry case. Switch the transmitter OFF and disconnect any cables, stakes or clamps, ready for return to your local HSS Safe and Sure Depot.

## Operating & Safety Guide SS016

SS016/01



# Digital Locator & Transmitter

A professional unit for locating pipes and cables, this unit can also display depth of service, current direction and measurement.



## ...any comments?

If you have any suggestions to enable us to improve the information within this guide please fax your comments or write to the Product Manager at the address below

Fax: 020 8687 5001

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Code 49730

## GENERAL SAFETY


For advice on the safety and suitability of this equipment contact your local HSS Safe and Sure Depot.

The hirer has a responsibility to ensure that all necessary risk assessments have been completed prior to the use of this equipment.

This equipment should only be used by an operator who has been deemed competent to do so by his/her employer.

This equipment should be used by an able bodied, competent adult who has read and understood these instructions. Anyone with either a temporary or permanent disability, should seek expert advice before using it.

Keep children, animals and bystanders away from the work area. Cordon off a NO GO area using cones and either barriers or tape, available for hire from your local HSS Safe and Sure Depot.

 Never use this equipment if you are ill, feeling tired, or under the influence of alcohol or drugs.

Wear sensible, suitably protective clothing and footwear plus any safety wear appropriate to the work in progress.

Make sure you know how to operate this equipment safely and are aware of its limitations before you use it.

### Caution

The Digital Locator and Transmitter will identify most underground services BUT the absence of a positive indication does not guarantee the non-existence of a pipe, cable or service.

**ALWAYS EXCAVATE WITH CARE.**

Check the condition of the equipment before use. If it shows signs of damage or excessive wear, return it to your local HSS Safe and Sure Depot.

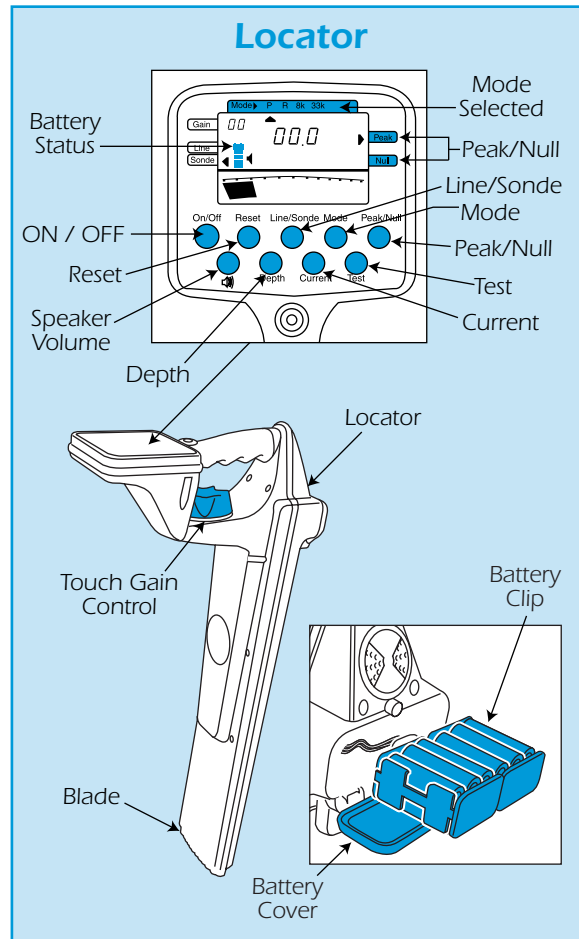
## GETTING STARTED

This guide has been produced to help you set up the Digital Locator and Transmitter and inform you of its various functions.

It is not, however, intended as a guide for the task you have to perform. It is presumed that the hirer/operator has the necessary knowledge, experience and/or qualifications to perform such tasks.

### LOCATOR...

Switch the locator ON by pressing the ON/OFF button, pressing the button again will switch the



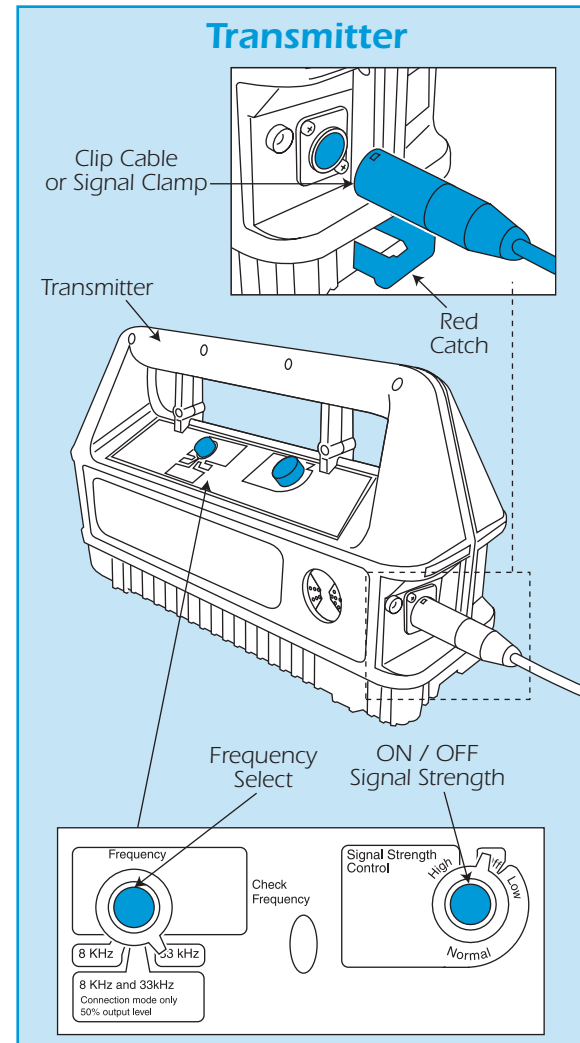
unit OFF. If the unit is not used for five minutes, you will hear an audible warning and the unit will switch OFF automatically to conserve power.

On the left hand side of the display is a battery status icon, when the batteries require changing the icon will flash and the words 'lo bat' will appear, followed by auto shutdown. To change the batteries see 'EQUIPMENT CARE'.

You are advised to carry out a self-test on the unit each time you switch it ON. When performing a self-test, make sure the transmitter is switched OFF and that you are in an 'electrically quiet' area.

Press the test button and observe the results on the display, 'PAS' means the unit has passed the test, 'FAL' means the unit has a fault and should be returned to HSS for exchange. NOTE that the test is NOT a confirmation that the locator is correctly calibrated.

If the light is failing or you are working in the dark use the back light to illuminate the display. Simply press the reset button and speaker button together.



The speaker button is used to control speaker volume, press to increase or decrease.

The locator has four modes, each for detecting services in a different way. Press the mode button to cycle through and select the mode you require. **POWER MODE 'P':**

Detects power cables and metallic water and gas pipes.

**RADIO MODE 'R':**

Detects re-radiated signals from pipes and cables. The re-radiated signal range is approximately 14-26kHz.

**TRANSMITTER ACTIVE MODE 8K AND 33K:**

Detects signals produced by the transmitter. Either 8.192kHz at 8k or 32.768kHz at 33k.

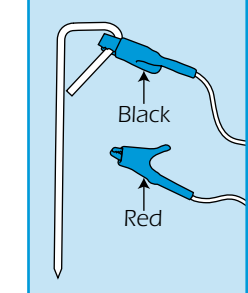
To use the locator without the transmitter switch the unit ON and select the 'P' mode if you need to detect buried power cables. Select the 'R' mode if you need to detect pipes or cables re-radiating a radio signal.

### TRANSMITTER...

The Transmitter can be used to apply a distinct signal by induction or connection. To locate metal services that either do not carry live electric current or do not re-radiate radio signals.

The depth of the service can be obtained using this method see 'BASIC TECHNIQUES'.

### Earth Stake



The Transmitter is supplied with an earth stake and crocodile clip ended connection lead set. It also comes supplied with a signal clamp, which is placed around a pipe.

The transmitter is used to apply a direct signal to a specific service, however, it has a limited depth of 2 metres when used in induction mode.

Set the frequency select switch to either 8 kHz or 33 kHz and ensure that the locator is set to the same frequency. You can set the unit to emit both frequencies but only at 50% strength and it is not suitable for induction.

The ON/OFF switch allows selection of the signal strength to low, normal or high. The strength setting should be increased when the service is deep or at a great distance.

### Induction Mode...

Place the Transmitter over the service in line with the conductor/s. That is to say with the handle of the transmitter in line with the conductor. If you set the transmitter at 90 degrees to the conductor, no signal will be induced.

Select the frequency you require and set the ON/OFF switch to signal strength required. When the transmitter is switched ON it will emit an audible high-pitched tone.

A signal will be sent down all services positioned below and will be picked up by the locator.

### CONNECTION MODE...

**THIS METHOD SHOULD NEVER BE USED TO APPLY A SIGNAL TO LIVE ELECTRIC CABLES.**

Allows you to put a direct signal onto a buried service when in connection mode.

You may apply a signal to a service in this mode by connecting the crocodile clip connectors.