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Leica Digisystem

Safe and fast location
of underground services



- when it has to be **right**

Leica
Geosystems

Leica Digisystem

Making Cable Avoidance Easier and Safer

Every year site workers are injured due to inadvertently striking buried utilities such as electricity cables or gas pipelines. Obtaining accurate information about the location of buried utilities has never been more essential to protect employees and equipment during any excavation project.

Local legislation normally prescribes the use of a locating device before any kind of excavation takes place. It makes perfect sense to search for, trace and mark all services before digging commences.

With the Leica Digisystem users can detect buried utilities with ease. Digisystem has been specifically designed to reduce human error and to increase site safety with its wealth of intelligent and unique features.

Typical users of the Digisystem

- Excavation contractors
- Utility installation & repair contractors
- General Contractors
- Builders
- Gas & Electricity companies
- Cable TV companies
- Pipe laying Contractors

The Leica Digisystem is comprised of:

- Digicat 500i/550i Service Locator
- Digitex 8/33 Signal Transmitter
- Digitrace Service Tracer and additional accessories

Digisystem makes locating underground cables and pipes a simple and speedy task, increasing your onsite safety and ultimately saving time and money.

How does Digisystem locate?

The Digicat 500i & 550i locate buried conductive services by receiving electro-magnetic signals which radiate from them.

The Digicat's intelligent software interprets the signal data and provides the operator with an audible and visual response to the location and direction of buried utilities. The operator can mark the ground or use a GIS mapping device* to note the location, providing the excavation team with clear indications of utility positions.

* on Digicat models with Bluetooth® functionality





Digicat Benefits

- State-of-the-art digital signal processing technology (DSP) for precision service locating.
- Automatic controls – making the Digicat easy to use, requiring minimal user training.
- Starts in Power Mode – ensuring the most potentially dangerous current carrying services are detected first for maximum operator safety.
- Hazard Zone – the new feature which indicates the presence of a shallow buried service in power, 8kHz, 33kHz and Auto mode, (within approximately 1 ft/30 cm) alerting users to the increased risk.
- Built-in test function – allowing operators to test the hardware and software functionality of the Digicat before use.
- Added benefit of utility depth estimation to 10 ft/3 m for additional survey information (Digicat 550i model only)
- Highly visible digital LCD display with built-in light sensor, automatically enabling the backlight in dark conditions.
- Robust, light weight design, specifically engineered for tough site conditions.
- Auto Mode – Convenient for initial site occupation, simultaneously scanning in Power and Radio.





Leica Digicat Service Locator

Maximum freedom & flexibility

The Digicat service locators have multiple modes of operation, providing flexibility to suit the most demanding site.

Auto

Auto Mode

Auto Mode combines the benefit of simultaneous detection in Power and Radio modes and helps to confirm the presence of services upon initial site occupation making cable detection easier and safer!



Radio Mode

Traces signals originating from distant radio transmitters. These signals penetrate the ground and are reradiated by buried conductive cables and pipes.



Power Mode (Default Mode)

Locates power signals radiated by energised cables which pose the most significant risk to excavation teams.

8
kHz

Generator Modes (8 and 33 kHz)

Locates a specific signal from the Digitex 8/33 or the Digimouse, enabling the most difficult of services to be located or identified.

33
kHz



Digicat Intelligent Features

Depth Indication

The Digicat 550i features utility depth indication, when used in conjunction with the Digitex 8/33 signal generator or Digimouse in 8 or 33 kHz modes. With a single press of the button operators are provided with the approximate depth of the buried utility.

Hazard Zone

Buried utilities close to the surface pose a significant safety risk to site works. The new Hazard Zone function provides an additional warning to the close proximity of buried services, alerting users to the immediate danger.

Bluetooth Connectivity

Both the Digicat 500i & 550i can be purchased with the added benefit of Bluetooth wireless connectivity. It will allow the Digicat to integrate seamlessly with mobile mapping technology to log survey data.

Enhanced Sonde Detection

Both the Digicat 500i & 550i feature a numeric signal strength readout, specifically designed for easy sonde location. The highest number displayed indicates the exact position of the Digimouse beneath the ground.

Service Due Indicator

Supporting customer planned maintenance schedules or quality systems, by displaying a wrench icon after 12 months.

Pinpoint assist

Maintains the highest peak reading obtained on the signal strength indicator for a period of time, allowing the operator to swiftly and accurately pinpoint the service position.

Features	Digicat 500i	Digicat 500i with Bluetooth	Digicat 550i	Digicat 550i with Bluetooth
High contrast LCD display	■	■	■	■
Automatic sensitivity adjustment	■	■	■	■
5 operating modes – including Auto Mode	■	■	■	■
Hazard Zone – shallow service warning	■	■	■	■
Built-in user activated self test	■	■	■	■
Peak Assist Function	■	■	■	■
Bluetooth wireless data transfer		■		■
Service depth indication			■	■

Leica Digisystem

Excellent customer support, service and training

Technical Support

Users of the Digisystem have easy access to technical support, should it be required. Front line technical support for all tools is provided from experienced professionals at your local dealer or your nearest Leica Geosystems representative.

Service & Repair

Leica Geosystems strongly recommend that the tools are regularly serviced and calibrated every 12 months in an authorised Leica dealer workshop or a Leica Geosystems service centre. The repair costs and turnaround times for Digisystem products are highly competitive.

Training

Operator training for the Digisystem is available from our own qualified trainers, or via our approved dealers.

Digicat 500i	Art. No. 780225/780226/780228/780230
Frequency/Mode	Power mode 50 Hz or 60 Hz, Radio mode 15 kHz to 60 kHz Generator mode 8 kHz and 33 kHz, Auto mode = Power + Radio mode
Depth	Power to 10 ft/3 m, Radio to 6.7 ft/2 m, Generator Mode to 10 ft/3 m
Protection	Conforms to IP54
Bluetooth	available
Batteries	6 x AA alkaline (IEC LR6) (supplied)
Battery Life	40 hours intermittent use (at 20°C)
Weight	5.9 lbs/2.7 kg including batteries
Digicat 550i	Art. No. 780231/780232/780234/780235
Frequency/Mode	Power mode 50 Hz or 60 Hz, Radio mode 15 kHz to 60 kHz Generator mode 8 kHz and 33 kHz, Auto mode = Power + Radio mode
Depth	Power to 10 ft/3 m, Radio to 6.7 ft/2 m, Generator Mode to 10 ft/3 m
Depth Estimation (8 kHz & 33 kHz)	10% of depth in line or sonde (1 ft/30 cm to 10 ft/3 m depth range)
Protection	Conforms to IP54
Bluetooth	available
Batteries	6 x AA alkaline (IEC LR6) (supplied)
Battery Life	40 hours intermittent use (at 68°F/20°C)
Weight	5.9 lbs/2.7 kg including batteries

Digisystem Accessories



Signal Clamp

For use with the Digitex 8/33 signal generator, enabling connection to cylindrical metallic services (e.g. pipes, insulated electricity cables).



Property Connection Set

For use with the Digitex 8/33 signal generator

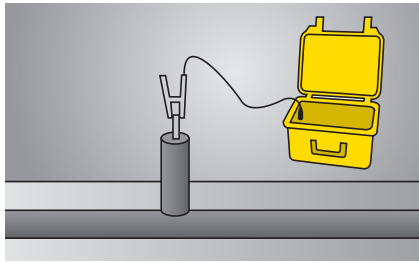
Connection of a tracing signal to any internal power distribution system outlet



Digimouse (8 kHz & 33 kHz)

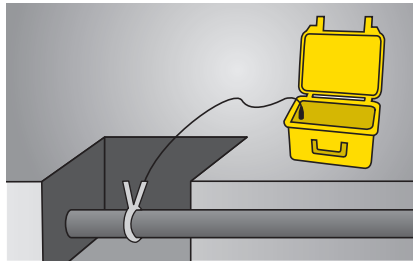
Compact dual frequency signal transmitter used to trace drains, sewers and other non conductive services. Digimouse can be attached to a range of equipment including drain rods, boring tools and inspection cameras.

Leica Digitex Signalgenerator



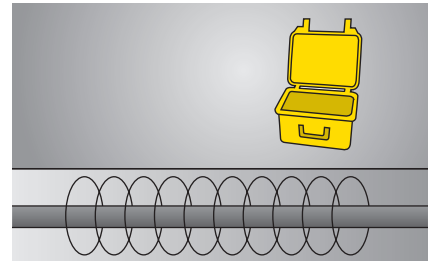
Direct Connection

Connect the Digitex 8/33 to a conductive service such as a valve, Stop tap or other access point.



Signal Clamp Connection

A Signal Clamp is used to apply the Digitex 8/33 signal to a pipe or live electricity cable. Supply is not interrupted by the signal and the operator is not exposed to any live services.



Induction

The Digitex 8/33 induces a tracing signal into the buried pipe or cable. This is a quick and convenient method when direct connection or signal clamping is not possible.



Quick Reference Guide

Accessory Storage Compartment

Battery Compartment

Digitex 8/33	Art. No. 731049
Frequency/Mode	8 kHz or 33 kHz, constant dual frequency available in connection mode
Tracing Range	Induction typically 500 ft/150 m, connection typically 820 ft/250 m
Protection	Conforms to IP67 (with the lid shut)
Included Accessories	Crocodile equipped connection cable set with earth spike
Batteries	4 x C alkaline (IEC LR14) (supplied)
Battery Life	40 hours continuous use
Weight	6.5 lbs/2.95 kg including standard accessories and batteries

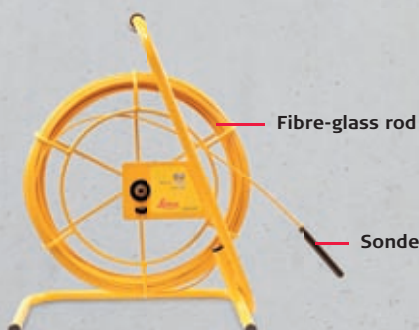
Connection Socket
User Controls

Leica Digitrace Service Tracer

The Digitrace enables a complete length of non-metallic drains, duct or pipes to be traced when used in conjunction with the Digicat and the Digitex 8/33 or other signal generator.

The Digitrace coiled fibre-glass rod, which protects the central copper tracing conductor, is available in lengths of 100 ft/30 m, 165 ft/50 m, or 260 ft/80 m.

The fibre-glass rod is inserted and pushed along in the service under investigation. The Digitex 8/33 is connected, and the tracing signal is located on the surface by the Digicat.



Fibre-glass rod

Sonde

Digitrace 30/50/80	Art. No. 731050/731051/731052
	100/165/260 ft (30/50/80 m) coil of copper conductor sheathed by fibre glass
Protection	Conforms to IP57
Included Accessories	Connections to Digitex 8/33 cable set
Weight	6.6/7.2/7.7 lbs (3.0/3.25/3.5 kg)



Whenever you need to locate underground services, the Leica Digisystem is the right solution. The system ensures fast and accurate location of buried cables and pipes and it increases your onsite safety. The Digisystem is designed on a safety-first philosophy, so we remove the ability for the user to «tune out» signals or to accidentally search in the wrong mode. The Digisystem tools are rugged and efficient, meeting all the needs of your tracing operations.

When it has to be right.

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dealer for more information
about our TQM program.

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270SG, 280SG**
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