

RD2000 SuperC.A.T.TM



Next Generation Cable Avoidance Tools

RD2000: SuperC.A.T.⁺ | SuperC.A.T.^{TL} | SuperC.A.T.^S | SuperC.A.T.^{CPS}



Radiodetection
AN SPX COMPANY

Precision locate

Advanced DSP technology enables fast, accurate and reliable pinpointing of buried assets with real sound and quick meter response

Optimized locate

High sensitivity and selectivity delivers accurate locate even in electrically noisy environments

Multiple active frequencies

Allows efficient location of specific underground utilities in a wide range of applications

StrikeAlert™

Alerts the user to shallow cables and utility lines in both Power and Active Line signal frequencies

Introducing the RD2000 SuperC.A.T™

– a high performance range of utility locating tools...

Within the worldwide construction industry buried utilities represent a major hazard. Excavations that are not properly planned can cause damage to pipes or cables – often resulting in costly repairs, delays and in some instances, personal injury.

To address all applications and budgets, the SuperC.A.T range is available in a number of receiver and transmitter combinations. The SuperC.A.T+ has been developed for high performance location of multiple utilities. To support the telecoms market, the High Frequency SuperC.A.T^{TL} detects 131kHz or 65kHz as high frequency active locates are known to be more effective when buried assets are well insulated (e.g. twisted-pair telecom cables or insulated pipe joints). Using the SuperC.A.T^S with a sonde enables location of pipes such as cast iron, clay, concrete and plastic and finally for metallic pipes with a Cathodic Protection System, the SuperC.A.T^{CPS} is the receiver of choice.

With the new models is a set of standard features:

- **Improved locate quality** – Improved precision pinpointing of buried services and exceptionally fast sound and meter response.
- **Increased usability in electrically noisy environments.**
- **Multiple active frequencies** – The ability to locate the widest range of cables and pipes with the addition of two higher frequencies of 65kHz and 131kHz.
- **StrikeAlert™** – Alerts the user to shallow power cables by flashing an alert icon and making a distinctive sound. We have made it switchable in accordance to customer wishes.
- **User backup** – User settings are stored each time the unit is switched off whether deliberately or accidentally.
- **Calibration date ID** – To allow the user to know when the SuperC.A.T should be serviced, the last calibration date can be displayed.
- **Passive location** – Provides a sweep for buried cables and pipes, detecting Radio and Power frequencies.

- **Automatic depth** – Whenever the SuperC.A.T can ascertain a depth reading, it is automatically displayed.
- **Real sound** – The sound you hear is derived from the signal radiating from the cable or pipe, helping the user distinguish the signal from random background noise.
- **Backlit display as standard** – Auto switching backlight minimizes the effect of poor lighting conditions.
- **Battery pack** – Two D cells gives maximum use at minimum cost.
- **Expanded range of T1 transmitters** to support additional frequencies.

The SuperC.A.T and the T1 are backward compatible; i.e. they will work with older versions of Radiodetection C.A.T and Genny products.

All these developments have been achieved using the very latest in digital technology.



LOCATE QUALITY - fast sound and meter response

DYNAMIC RANGE: 120dB (@ 10Hz bandwidth)

SELECTIVITY: 141dB_{rms}/√Hz

SENSITIVITY: 5x10⁻¹⁵ Tesla (32,768Hz, 1Hz bandwidth)

SuperC.A.T+

Multi-utility. The broadest capability addressing location across utilities and the needs of a broad contractor base.

SuperC.A.T^{TL}

High frequency locate. For highly insulated cable pairs e.g. Telecom.

SuperC.A.T^S

For accurately locating, mapping and finding blockages in the widest variety of types of pipe including cast iron, clay, concrete and plastic using sondes.

SuperC.A.T^{CPS}

For optimum location of metal pipes of any size or topology, and for locating of pipes with a Cathodic Protection System.



In the P mode the SuperC.AT detects 'power' signals that are being radiated by loaded cables.



Power



In the R mode the SuperC.AT detects VLF radio signals re-radiated by buried metallic pipes and cables.



Radio



In the active Line mode SuperC.AT detects a tone radiated by a transmitter e.g the T1 to a buried conductor.



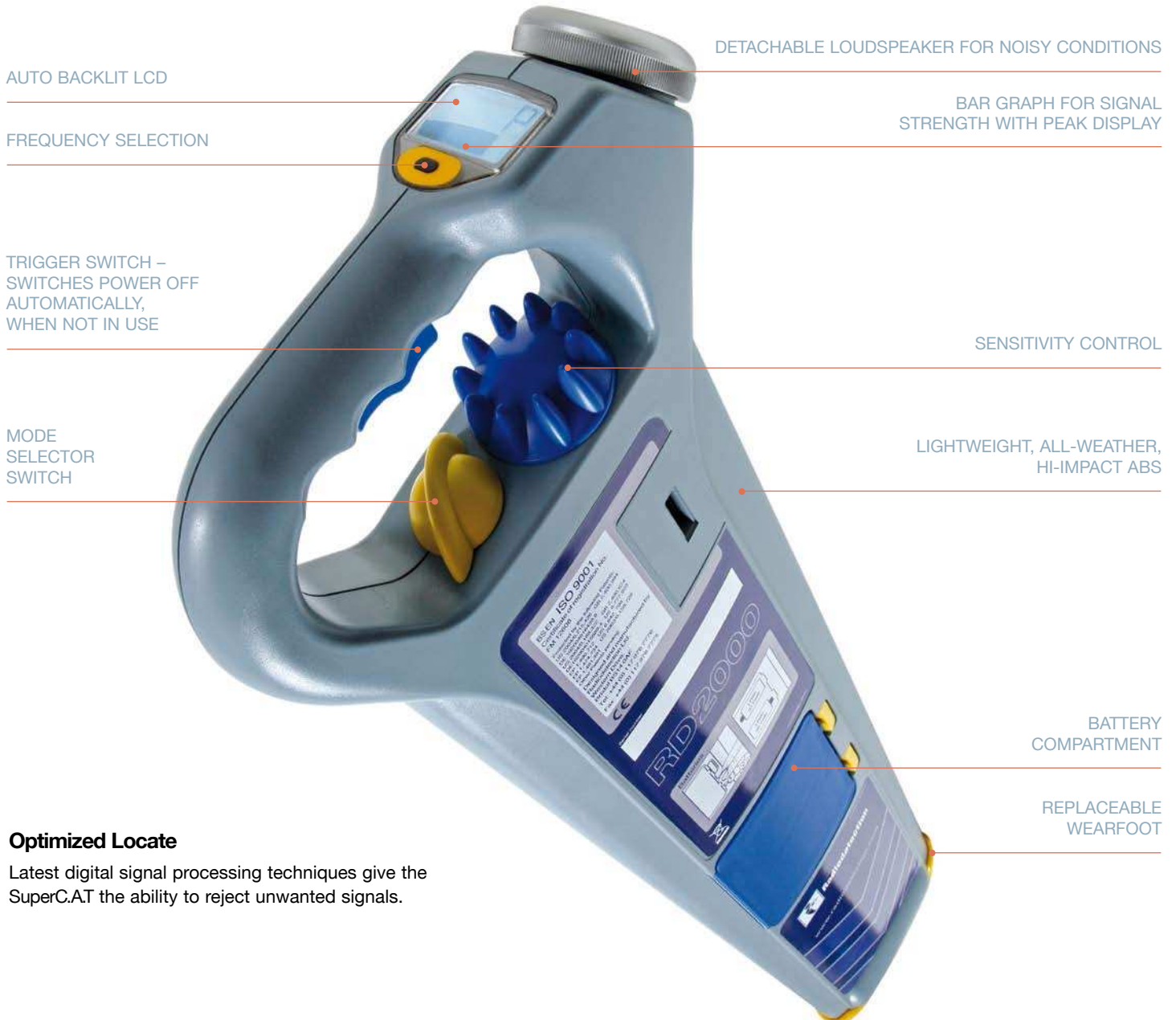
Line



In Sonde/CPS Mode deployed sonde frequencies or Cathodic Protection Systems (CPS) are detected.



Sonde CPS



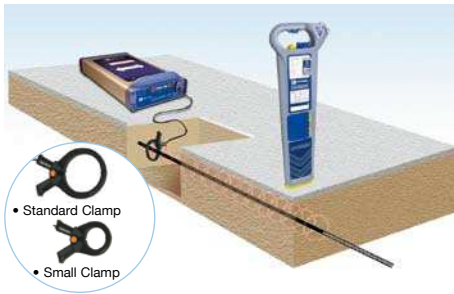
Optimized Locate

Latest digital signal processing techniques give the SuperC.AT the ability to reject unwanted signals.



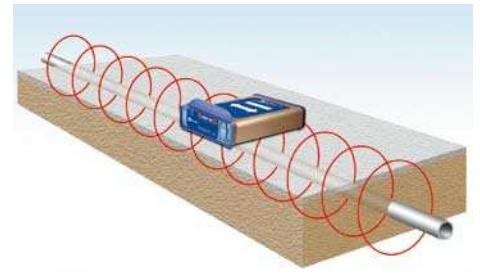
DIRECT CONNECTION

The most effective method for connecting to a valve, meter, junction box or other access point, as long as access is possible.



SIGNAL CLAMPING (Optional)

Applies a transmitter signal safely to a pipe or live cable up to 76mm diameter without interrupting the supply.



INDUCTION

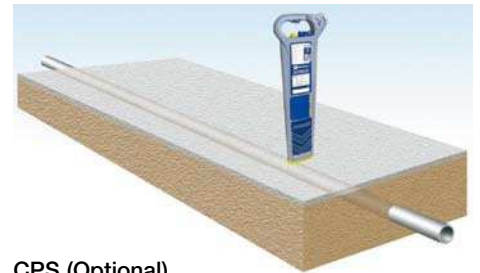
A convenient and quick way of applying the transmitter signal to pipe or cable, where direct connection or signal clamping is not possible.

BATTERY COMPARTMENT

LOUD SPEAKER

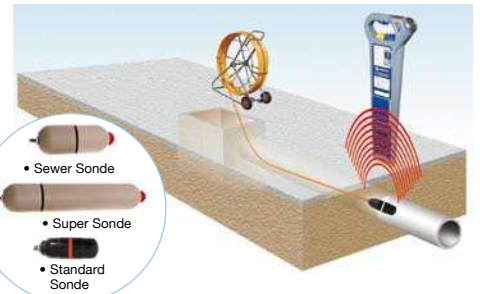
ON/OFF SWITCH

DIRECT CONNECTION SOCKET



CPS (Optional)

Cathodic Protection Systems are used to deter metallic pipes from corroding. In CPS mode such pipes can be accurately located.



SONDE (Optional)

A Sonde is a self-contained transmitter which is connected to a push rod and inserted into a non-metallic pipe or duct structure. This enables non metallic pipes to be accurately traced, depth determined and the position of blockages accurately identified.

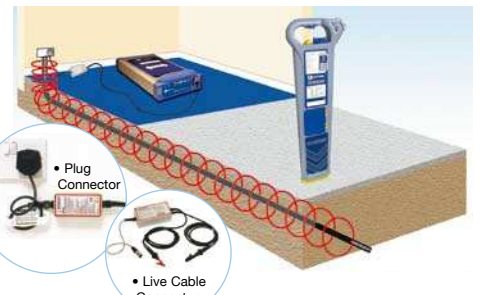
Precision Locate

Cutting edge technology within the SuperC.A.T ensures the fastest possible processing of data. This has resulted in exceptionally fast sound and bargraph response, improving precision pinpointing, by providing sharp cut off either side of the locate position. This puts the user in complete control.

StrikeAlert™ (Selectable)

Although work practices and guidelines insist power cables are buried below a certain depth, a common cause of cable strikes, damage and possible injuries are unexpectedly shallow cables. Most power utility plans do not provide depth and highway alterations and moving property boundaries mean that cable positions change both vertically and horizontally relative to former but now absent fixed points.

The Strike Alert feature alerts the user to shallow cables and utility lines in both Power and Active Line.



LIVE CABLE CONNECTORS (Optional)

For applying the transmitter signal to a live cable, the most certain method of locating a power distribution system in a street.

SuperC.A.T⁺

Construction and multi-utility locator using multiple active frequencies

SuperC.A.T^{TL}

Telecoms signal cable locator with high frequency signal

SuperC.A.T^S

Water and drains pipe locator using Sondes

SuperC.A.T^{CPS}

Oil and gas pipe locator using rectified CPS signals

Application based locating

RD2000 SuperC.A.T TECHNICAL SPECIFICATION

| + | | TL | | S | | CPS | | Sensitivity @1m | Locating Depth Guide (m) | |
|---|---|----|---|---|---|-----|--------|-----------------|--------------------------|-----------------|
| | | | | | | | | | Good conditions | Poor conditions |
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| | ✓ | | | ✓ | | | | | | |
| | | | | ✓ | | | | | | |
| ✓ | | ✓ | ✓ | ✓ | | | | | | |
| ✓ | ✓ | ✓ | | | ✓ | | 500 µA | 3 | 2 | |
| ✓ | ✓ | ✓ | ✓ | | ✓ | | 100 µA | 3 | 2 | |
| ✓ | ✓ | | ✓ | | ✓ | | 5 µA | 3 | 2 | |
| | | ✓ | | | | | 5 µA | 3 | 2 | |
| | | | ✓ | | | | 5 µA | 3 | 2 | |
| | | | | | ✓ | | | | | |
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 25 µA | 2 | 1 | |
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | 5 mA | 3 | 2 | |

- **Locate Accuracy:** ±10% of depth
- **Depth and Accuracy:** on undistorted signal and with no adjacent signals. Line ± 5% 0.1 m to 3 m (4in to 10 ft), Sonde ± 5% 0.1 m to 5 m (4in to 16 ft)
- **Dynamic Range:** 120dB (@ 10Hz bandwidth)
- **Selectivity:** 141dBrms/√Hz
- **Batteries:** 2 x LR20 (D) 1.5 V alkaline. 40 hours life, nominal @ 20°C (68°F) intermittent use. Compatible with D type NiMH rechargeable batteries
- **Warranty:** 12 Months
- **Approvals:** CE

*Set by Power Frequency; 50Hz selects 640Hz, 60Hz selects 512Hz.

**Set by Power Frequency; 50Hz selects 100Hz CPS, 60Hz selects 120Hz CPS.

All models can be selected with either metric or imperial units.

T1 Transmitter TECHNICAL SPECIFICATION

| T1-131 | T1-65/512 | T1-640/65 | T1-512 | T1-640 | |
|--------|-----------|-----------|--------|--------|-----------------------|
| ✓ | ✓ | ✓ | ✓ | ✓ | Induction 8kHz |
| ✓ | | | ✓ | ✓ | Induction 33kHz |
| | ✓ | ✓ | | | Induction 65kHz |
| | ✓ | | ✓ | | Direct Connect 512Hz |
| | | ✓ | | ✓ | Direct Connect 640Hz |
| ✓ | ✓ | ✓ | ✓ | ✓ | Direct Connect 8kHz |
| ✓ | | | ✓ | ✓ | Direct Connect 33kHz |
| | ✓ | ✓ | | | Direct Connect 65kHz |
| ✓ | | | | | Direct Connect 131kHz |

- **Approvals:** EN 300 330-2-V1.1.1, EN 301 489-3-V1.2.1, BS EN 61010-1 1993/A2:1995
- **Power output:** Switchable 1/4W or 1W
- **Batteries:** 4 x LR20 (D) 1.5V Alkaline, 12 hours nominal life at 20°C (68°F)
- **Warranty:** 12 Months



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