

# RD2000 SuperC.A.T.™



## Next Generation Cable Avoidance Tools

**RD2000:** SuperC.A.T.<sup>+</sup> | SuperC.A.T.<sup>TL</sup> | SuperC.A.T.<sup>S</sup> | SuperC.A.T.<sup>CPS</sup>



**Radiodetection**

## 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<sup>TL</sup> 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<sup>S</sup> 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<sup>CPS</sup> 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<sub>rms</sub>/√Hz

SENSITIVITY: 5x10<sup>-15</sup> 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<sup>TL</sup>

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

### SuperC.A.T<sup>S</sup>

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<sup>CPS</sup>

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.A.T detects 'power' signals that are being radiated by loaded cables.



**Power**



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



**Radio**



In the active Line mode SuperC.A.T 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**



AUTO BACKLIT LCD

FREQUENCY SELECTION

TRIGGER SWITCH – SWITCHES POWER OFF AUTOMATICALLY, WHEN NOT IN USE

MODE SELECTOR SWITCH

DETACHABLE LOUDSPEAKER FOR NOISY CONDITIONS

BAR GRAPH FOR SIGNAL STRENGTH WITH PEAK DISPLAY

SENSITIVITY CONTROL

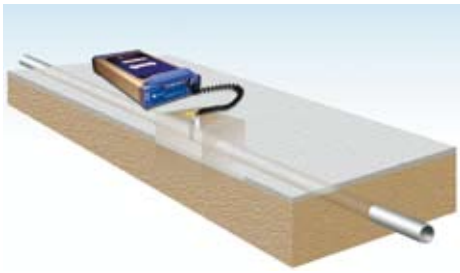
LIGHTWEIGHT, ALL-WEATHER, HI-IMPACT ABS

BATTERY COMPARTMENT

REPLACEABLE WEARFOOT

### Optimized Locate

Latest, patented digital signal processing techniques give the SuperC.A.T the ability to reject unwanted signals.



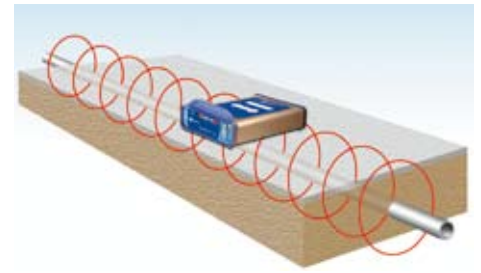
### DIRECT CONNECTION

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

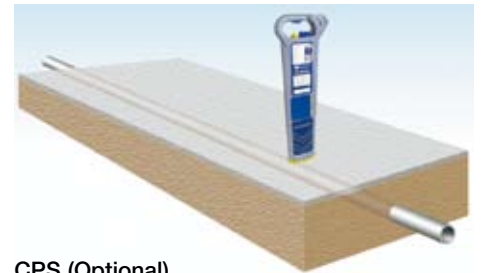
A convenient and quick way of applying the transmitter signal to pipe or cable, where direct connection or signal clamping is not possible.

### BATTERY COMPARTMENT

### LOUD SPEAKER

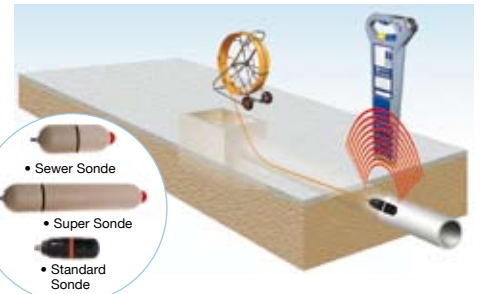
### ON/OFF SWITCH

### 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.

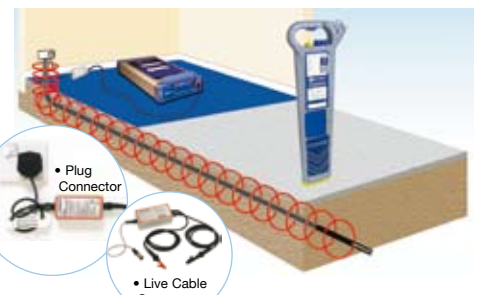
### Precision Locate

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<sup>+</sup>

Construction and multi-utility locator using multiple active frequencies

## SuperC.A.T<sup>TL</sup>

Telecoms signal cable locator with high frequency signal

## SuperC.A.T<sup>S</sup>

Water and drains pipe locator using Sondes

## SuperC.A.T<sup>CPS</sup>

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:** 141dB<sub>rms</sub>/√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



## World leaders



Radiodetection is a proud member of the SPX group of companies, which provide technical products and service solutions worldwide.

Radiodetection and its associated companies specialize in the design and manufacture of products for the location and maintenance of underground pipes and cables. Our aim is to be viewed as the supplier of choice of 'high performance' quality equipment using advanced product technologies. We are also committed to both design innovation and customer support.

## Technical support



Radiodetection equipment users have easy access to technical support. A call to your regional representative, or the Radiodetection head office, will put you in contact with our team of field-experienced technical experts.

## Servicing and repair



Radiodetection has a team of factory-trained service technicians and dedicated service facilities accredited to ISO 9000. Turnaround is fast, and costs are very competitive. All repairs carry a six month warranty.

## Training



Product training for your operators and training personnel is available on your site, or at Radiodetection's headquarters. Training is with qualified instructors and each trainee receives a certificate to confirm they have received the training.

### America

#### Radiodetection

154 Portland Road  
Bridgton, ME 04009, USA  
Tel: +1 (207) 647 9495  
Toll Free: +1 (877) 247 3797  
Fax: +1 (207) 647 9496  
Email: [bridgton@radiodetection.spx.com](mailto:bridgton@radiodetection.spx.com)

#### Pearpoint

72055 Corporate Way  
Thousand Palms CA 92276, USA  
Tel: +1 800 688 8094  
Tel: +1 760 343 7350  
Fax: +1 760 343 7351  
Email: [pearpoint@radiodetection.spx.com](mailto:pearpoint@radiodetection.spx.com)

#### Radiodetection (Canada)

Unit 34, 344 Edgeley Blvd.  
Concord, Ontario, Canada L4K 4B7  
Tel: +1 (905) 660 9995  
Toll Free: +1 (800) 665 7953  
Fax: +1 (905) 660 9579  
Email: [support@radiodetection.ca](mailto:support@radiodetection.ca)

### Europe

#### Radiodetection (UK)

Western Drive  
Bristol BS14 0AF, UK  
Tel: +44 (0) 117 976 7776  
Fax: +44 (0) 117 976 7775  
Email: [sales.uk@radiodetection.spx.com](mailto:sales.uk@radiodetection.spx.com)

#### Radiodetection (France)

13 Grande Rue, 76220  
Neuf Marché, France  
Tel: +33 (0) 232 8993 60  
Fax: +33 (0) 235 9095 58  
Email: [infos@radiodetection.com](mailto:infos@radiodetection.com)

#### Radiodetection (Benelux)

Industriestraat 11, NL 7041  
GD's-Heerenberg, Netherlands  
Tel: +31 (0) 314 66 47 00  
Fax: +31 (0) 314 66 41 30  
Email: [info@radiodetection.nl](mailto:info@radiodetection.nl)

#### Radiodetection (Germany)

Groendahlscher Weg 118  
D-46446 Emmerich am Rhein, Germany  
Tel: +49 (0) 28 51 92 37 20  
Fax: +49 (0) 28 51 92 37 520  
E-Mail: [info@radiodetection.de](mailto:info@radiodetection.de)

### Asia-Pacific

#### Radiodetection (Asia-Pacific)

Room 708, CC Wu Building  
302-308 Hennessy Road, Wan Chai  
Hong Kong SAR, China  
Tel: +852 2110 8160  
Fax: +852 2110 9681  
Email: [chinasales@radiodetection.spx.com](mailto:chinasales@radiodetection.spx.com)

#### Radiodetection (China)

Hong Fu Group Office Building Room 322-326  
Bei Qi Jia Township, Changping District  
Beijing 102209, China  
Tel: +86 (0) 10 8975 5540  
Fax: +86 (0) 10 8975 5640  
Email: [china.service@radiodetection.spx.com](mailto:china.service@radiodetection.spx.com)

#### Radiodetection (Australia)

**Mactek Pty. Ltd**  
Unit 14, 5-7 Prosperity Parade  
Warriewood NSW 2102, Australia  
Tel: +61 (0) 2 9979 8555  
Fax: +61 (0) 2 9979 7733  
Email: [mactek@mactek.com.au](mailto:mactek@mactek.com.au)

To see the full range of products and services provided by Radiodetection visit:

[www.radiodetection.com](http://www.radiodetection.com)

Radiodetection products are under continuous development and are subject to change, we reserve the right to alter or amend any published specification without notice.

SuperCAT and StrikeAlert are Trademarks of Radiodetection Ltd.

Copyright 2007 Radiodetection Limited. All rights reserved. Radiodetection Ltd. is a subsidiary of SPX Corporation.



# Radiodetection