



IMPROVED  
**RD4000**

Best in class advanced pipe  
and cable location



**Radiodetection**

## Highest performance

High sensitivity and selectivity delivers precision locate even in congested areas

## Powerful functions

Multiple frequencies, 3 antenna modes, depth and current direction give precision location of underground utilities

## Ease of use

Ergonomic design, large clear display, positive keypad and gain control paddle

## Extended capabilities

Large range of support accessories to grow with users' needs

# RD4000

## Best in class high-end pipe and cable location

The Radiodetection RD4000 cable and pipe locator is widely seen as the industry standard, with the highest locate performance, multiple locate modes and simplicity of use. Whether locating utilities and marking for construction, mapping or fault finding. The RD4000 series is the product against which all others are measured.

### RD4000 delivers best in class location:

- Highest performance digital Receiver even in the presence of interference
- Fast, clear, positive response even in congested areas
- Multiple active frequencies and modes provides sophisticated location tools
- Peak, null and single antenna modes
- Location and depth measurement
- Current measurement to identify individual networks
- Real Sound; helps distinguish the signal from random background noise
- High output Transmitters to locate deep utilities, long lengths and handle complex locates
- Fault finding and cable and pipe integrity measurement
- Current direction – RD patented
- MRx option for simultaneous locate of utility marker balls
- Extended warranty

Properly locating buried utilities can avoid costly outages and avoid major hazards associated with inadvertent contact during excavation. While it is important to utilize the best products available, it is equally as important to adhere to the best and safest practices to assure a safe and productive job site. Radiodetection, the world leader in the design and manufacture of underground locating equipment, provides equipment and practices needed to assure optimum accuracy and safety for every locate scenario.

### Highest performance

The RD4000 utilizes a powerful, advanced digital measurement and processing system that is far ahead of any others. The patented signal-processing algorithm provides improved performance and accurate results, even in the most congested of areas. Users will quickly discover that the RD4000 always delivers repeatable accurate locates, even in the most difficult of circumstances.

### Multiple modes

RD4000 models are available to address the specific needs of various sectors. Increasingly, companies are outsourcing mark before dig and utility mapping. Recognizing that there is no single location mode or frequency guaranteed to locate a given pipe or cable, RD4000 has options to optimize the location task. Whatever the location requirement there is an RD4000 solution.

### Ease of use

Repeatability and ease of use is delivered through the ergonomic design and features of the RD4000. A large, clear, automatically back-lit LCD display and a highly responsive gain paddle give users of all levels an unmatched confidence in their RD4000 locator. It is through attention to detail that Radiodetection have delivered a powerful and sophisticated tool that is simple to use.

### Extended capabilities

The RD4000 family of locators is supported by a wide range of plug-and-play accessories, such as fault locating A-Frames for locating cable sheath faults or pipe coating defects, receiver clamps and stethoscopes for cable identification. RD4000 receivers provide seamless integration with most GPS receivers and data recording devices, making the RD4000 perfect for both novice and advanced users.



**Industry's  
most sensitive  
locator**

**5E<sup>-15</sup> Tesla**

**Large dynamic  
range and  
exceptional  
selectivity**

**140dB**

**Delivers best  
in class  
performance**

**Powerful DSP  
platform and  
advanced  
algorithms**

## RD4000 TECHNICAL SPECIFICATION

LOCATING DEPTH  
GUIDE 10mA active  
locate signal  
- typical locate depths

SENSITIVITY AT SPOT FREQUENCIES	FREQUENCY	SENSITIVITY @ 1m	GOOD CONDITIONS
ACTIVE frequencies at 8Hz b/w  Refer to configuration for available frequencies	50Hz or 60Hz	2 mA	3 m (10ft)
	15 - 30kHz	25 µA	3 m (10ft)
	512Hz or 640Hz	50 µA	5 m (16ft)
	8kHz	5 µA	5 m (16ft)
	33kHz	5 µA	5 m (16ft)
	65kHz	6 µA	5 m (16ft)
	131kHz	6 µA	5 m (16ft)
	200kHz	8 µA	5 m (16ft)
	CD pairs	50 µA	5 m (16ft)
CURRENT READING	± 5% Active signal bw limited		
FAULT FINDING	Diagnose faults from s/c to 2M ohm		
LOCATE QUALITY	<b>Dynamic Range</b> 140dB@10Hz bandwidth <b>Selectivity</b> 120dB/Hz up to 200kHz <b>Sensitivity</b> 5E <sup>-15</sup> Tesla (32,768Hz, 1Hz b/w)		
LOCATE ACCURACY	<b>±5% of depth, good condition</b> Depth achievable dependent upon signal current on line Note greater depth means broader peak response		
DEPTH ACCURACY on undistorted signal	<b>Line ± 2.5% 0.1 m to 3 m (4in to 10 ft)</b> <b>Sonde ± 2.5% 0.1 m to 7 m (4in to 16 ft)</b>		
BATTERIES	4 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 as standard	Further 12 months at no extra charge on return of warranty card Additional 12 months warranty - chargeable option		
EMS Tranceiver MRx option	Range to standard marker balls to 2m (6ft); 5m (16ft) on deep marker disks Dual mode line locate and marker locate		
External data logging	For report generation and support		
<b>ANTENNA MODES</b>			
PEAK	Standard locate mode - all purpose locate		
NULL	L and R arrows for simple locate		
SINGLE	Highest sensitivity - for location of deep targets		
<b>FAULT FINDING ON PDL</b>			
	With the A frame accessory and three fault finding methods, RD4000PDL accurately locates cable sheath and pipe coating faults typically up to 2M ohm impedance		
8kFF	Ideal for cable sheath faults. High voltage to locate high impedance. 8kHz locate signal		
LFFF	4Hz/8Hz good for finding coating faults on pipelines		
CDFE	640Hz/320Hz (512Hz/256Hz) good distance locate of pipeline coating faults 640Hz (512Hz) simultaneous locate signal		

### SIMPLE

4 key interface for minimum training and ease of use

### SIMULTANEOUS

1 button depth and current measurement

**AUTO BACKLIGHT**  
For low light operation

**MULTI-SIGNAL RESPONSE**  
Single and dual peak, null left and right arrows

**HIGH RESOLUTION**  
Signal strength meter for pin-point precision

**INSTANTANEOUS**  
1 touch gain control

**WEATHER SEALED**  
RS232 earphone and accessory ports for data logging and software upgrades

### 'REAL'

Non synthesized sound, giving more information about the utility being located

### CHOICE OF BATTERIES

Dry cells or rechargeable options

### ENGINEERED PLASTICS

Ergonomic, robust and all weather housing



MRx Option

### RECEIVERS

#### RD4000SL - Standard Locate

- Power, Radio & 1 active frequency

#### RD4000DL - Drain Locator

- Power, Radio & active locate of sondes

#### RD4000PXL - Multi f locator

- Multi-utility location
- Additional frequencies including CPS and high f
- Enhanced location accessories
- Current display

#### RD4000PDL - Multi-frequency, Fault find & CD

- Highest locate performance with multi-frequency incl. CPS
- Advanced fault find
- Enhanced location accessories
- Additional frequencies available
- Current display
- Current direction

### TRANSMITTERS

#### RD4000 T1

- 1 watt entry-level transmitter
- 3 locate and 2 induction frequencies

#### RD4000 T3

- Cost effective 3 watt transmitter
- 3 locate frequencies
- 1 induction frequency

#### RD4000 T3F

- All features of T3 (above)
- 8kHz fault find codes

#### RD T10

- 10 watts output power
- Multi-meter functions for checking cable/pipe integrity
- Up to 16 locate frequencies
- 2 induction frequencies
- Fault find signals
- Current direction signals
- Pipeline integrity signals

- Rechargeable option and external 12v dc supply available for T3/T10 transmitters
- Various clamp and connectors available as accessories

**AUTO BACKLIGHT**  
FOR LOW LIGHT OPERATION

**ERGONOMIC**  
**ROBUST CASE**

**T10 shown**

**EFFICIENT**  
**INDUCTION**

**EXTERNAL 12V D.C. SUPPLY**



Direct connection output protected against inadvertent connection to AC voltages up to 250v

**Tx range meets exacting operational demands**

**Up to 10w output for locating deep and long pipes**

**Powerful locate and fault finding functions**

**Maintains optimum locate signal via matching output to load**

#### TRANSMITTER TECHNICAL SPECIFICATIONS

DESCRIPTION	T1	T3	T3F	T10
ACTIVE FREQUENCIES - direct connect & clamp	3	3	3	16
INDUCTION FREQUENCIES	2	1	1	2
POWER OUTPUT	1 watt	3 watts	3 watts	10 watts
CURRENT DIRECTION OUTPUT				✓
FAULT FIND MODE			✓	✓
BATTERIES 12 hours nominal life standard operation at 20°C (68°F). Continuous Hi power output will reduce battery life below this.	4 x LR20 (D) alkaline	12 x LR20 (D) 1.5V alkaline		
RECHARGEABLE OPTION		✓	✓	✓
EXTERNAL 12V SUPPLY		✓	✓	✓
DISPLAY	LED	LED	LED	LCD auto backlit
MULTI-METER FUNCTION (V, I, Mega to gnd)				✓
WARRANTY 12 Months as standard	Further 12 months at no extra charge on return of warranty card Additional 12 months warranty - chargeable option			
O/p VOLTAGE MAX (rms)	+/- 24v	+/- 80v	+/- 80v	+/- 80v
CHARGER CIRCUIT, GALVANICALLY ISOLATED		✓	✓	✓
DIRECT CONNECT TO 240V; LIVE TRANSFORMER AVAILABLE AS ACCESSORY		✓	✓	✓
S/C PROTECTED	✓	✓	✓	✓
SELF TEST - BUILT IN ERROR REPORTING				✓
APPROVALS	EN 300 330-2-V1.1.1, EN 301 489-3-V1.2.1, BS EN 61010-1 1993/A2:1995			

#### Rx CONFIGURATION OPTIONS

	POWER	RADIO	CPS	LF	8kHz	33kHz	65kHz	83kHz	130kHz	200kHz	CD	8kFF	LFFF	CDFF	Peak	Null	Single	Current Display	EMS	Simple acc	Stereo acc		
SL8	✓	✓			✓										✓						✓		
SL33	✓	✓				✓									✓							✓	
SL65	✓	✓					✓								✓							✓	
DL	✓	✓		✓ <sub>S</sub>	✓ <sub>S</sub>	✓ <sub>S</sub>									✓							✓	
PXL	✓	✓	✓	✓	✓	✓	✓	✓	✓	USA					✓	✓	✓	✓	OPTION		✓	✓	
PDL	✓	✓	✓	✓	✓	✓	✓	✓	✓	USA	✓	✓	✓	✓	✓	✓	✓	✓	OPTION		✓	✓	

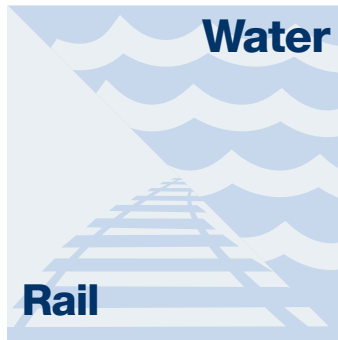
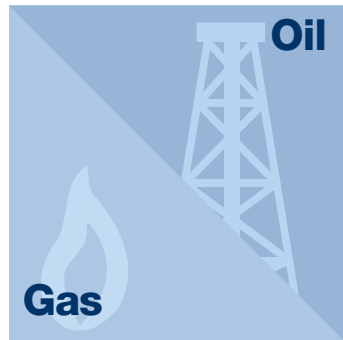
PXL and PDL additional frequencies available on request

MRx - EMS option, for locating utility marker balls

WARRANTY - 12 Month standard. Additional year by registration (FOC). Option to purchase extended warranty

New options in blue  
S = Sondes

**An RD4000  
to address  
any utility...**



## Faster, more accurate, more repeatable location for mark and map.

By using the Transmitter and Receiver together or with Radiodetection sondes (as the chart shows), the widest range of pipes and cables can be located and mapped. By following best practice and using Radiodetection location tools, you can dramatically reduce the risks of hitting buried utilities. Expert fault find and mapping service companies can increase efficiency and service levels.

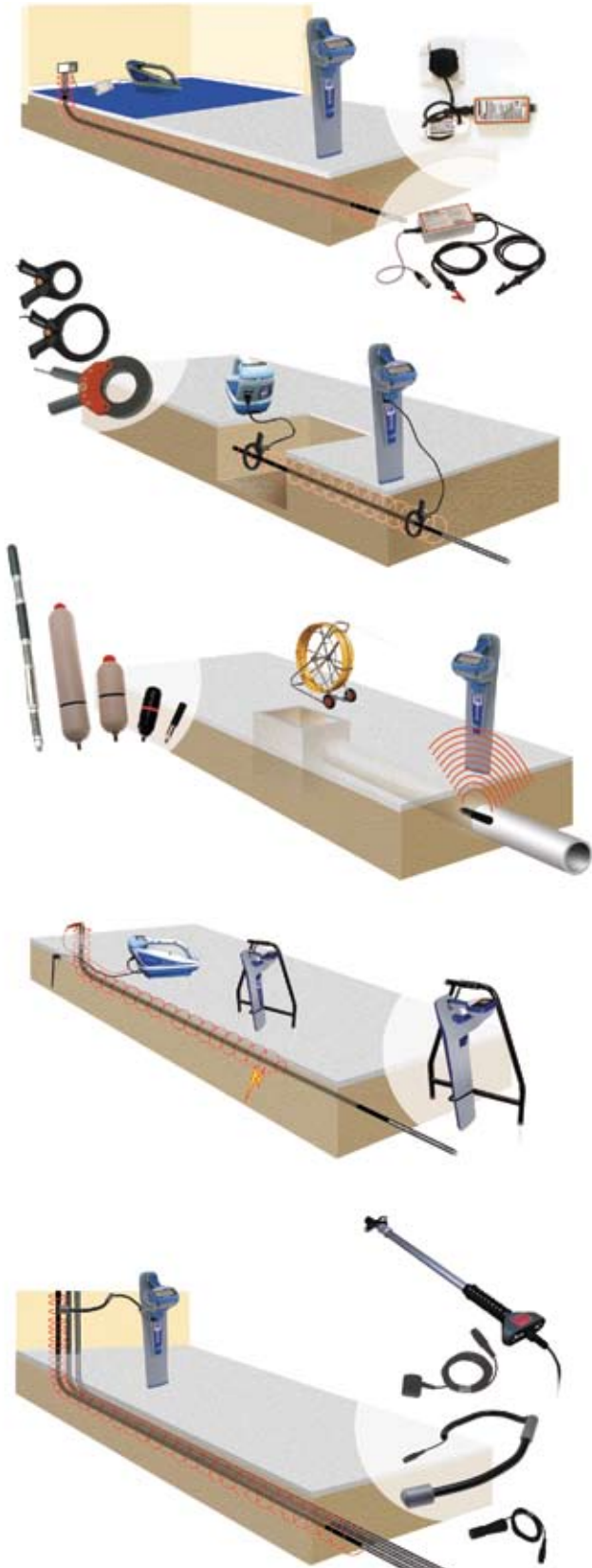
SIGNAL Best practice	INDUSTRY/APPLICATION						
	GAS	OIL	WATER SUPPLY	WATER WASTE	POWER	TELECOMS/ CATV	RAIL
	Metal, plastic pipes	Metal pipes	Metal, clay, plastic pipes	Clay, concrete & plastic pipes. Some metal pipes	Cables	Coax, twisted or wires	Power & signal wires
<b>PASSIVE sweep</b>							
DETECTION OF UTILITIES IN GENERAL AREA (POWER OR METALLIC PIPES.) SWEEP BEFORE PRECISION LOCATE.							
POWER: 50Hz/60Hz (USA). All mains conductors & pick up from these.					✓		✓
RF: 15kHz to 30kHz Pick up/return signals from High Power transmitters. Long conductors.	✓	✓	✓	✓	unpowered ✓	✓	✓
<b>ACTIVE recommended best practice</b>							
PRECISION LOCATE. RECOMMENDED BEST PRACTICE FOR OPTIMIZED LOCATION.							
CPS (Cathodic Protection System) - 100Hz/120Hz (USA). Protection signal on metallic pipes.	✓	✓	✓				
SONDES (GENERATES SIGNAL IN PIPE/CONDUIT) Non-metallic and some cast iron							
LF: 512Hz For cast iron pipes				✓			
MID F: 8kHz Non-metallic pipes. Doesn't jump to other conductors				✓	✓	✓ DUCTS	✓ DUCTS
HIGH F: 33kHz Non-metallic pipes, cleaner signal, transmits further, jumps conductors.				✓	✓	✓ DUCTS	✓ DUCTS
ACTIVE LINE. METALLIC PIPE AND CONDUCTORS, CONNECT VIA DIRECT, SIGNAL CLAMP OR INDUCED.							
LF: 640Hz/512Hz (USA) Steel pipes, not mechanically jointed, provides good distance. No coupling to other conductors. DIRECT ONLY	✓	✓	✓	✓		✓	
MID F: 8kHz General purpose, reasonable distance, doesn't couple much to other conductors. DIRECT/CLAMP/ INDUCE	✓	✓	✓	✓		✓	
Hi F: 33kHz Jumps joints in cast iron. Does couple to other conductors, Good inductive coupling, DIRECT/CLAMP/ INDUCE	✓	✓	✓	✓	✓ CLAMP OR INDUCE	✓	O/P pwr <0.1W
SH F: 65/86/131kHz Great inductive coupling, DIRECT/CLAMP/ INDUCE	✓	✓	✓	✓	✓	✓	

**Powerful accessories enable advanced test & locate**

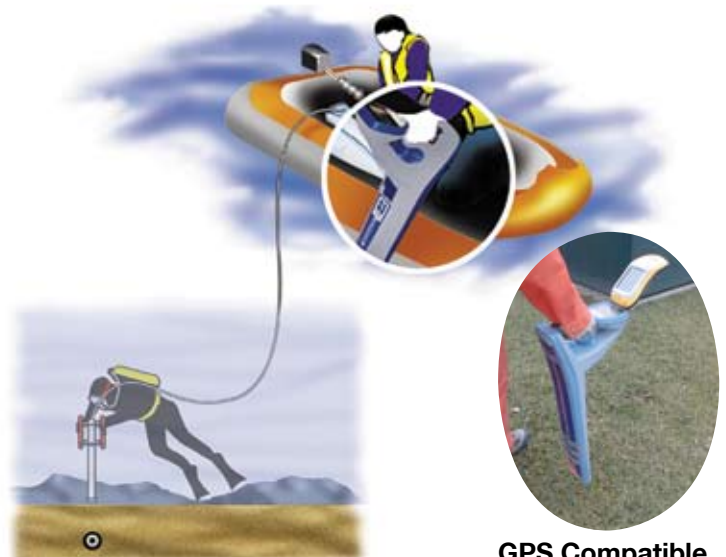
**Pinpoint individual cables**

**Identify sheath & coating defects**

**Wide range of signal clamps for non-intrusive connection**



- Plug connectors - for signal application to house wiring via a conventional wall socket
- Live cable connectors - for applying the transmitter signal to a live cable, the most certain method of locating a power distribution system in the street
- Transmitter clamps - for safe signal application to live cables
- Receiver clamps - for cable identification in ducts, etc
- Flexrods - for pushing sondes down non-metallic and cast iron pipes
- A range of Sonde transmitters for locating non-conductive pipe and cast iron duct structures
- Accessory A-Frame - for sheath to ground type faults - improved sensitivity
- Stethoscopes for identifying individual cables within cable bundles
- Submersible antennas - for pin-pointing submerged cables, submersible to 100 metres
- Hard Case - Rugged hard case to protect the equipment from damage and the elements



**GPS Compatible**

## 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 a dedicated service facility 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.

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

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

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