

RADIODETECTION®

# RD7100®

Precision locators – optimized precision for your utility



Since Radiodetection launched the first commercial, twin antenna, cable and pipe locators over 40 years ago, we have pioneered many technologies that are used widely in the location industry today. Behind developments such as depth measurement, StrikeAlert™ and Compass orientation, is a drive to make the excavation of buried utilities easier and safer.



RD7100, our industry-specific locator range, is built on this pedigree for performance, quality and durability. Containing our most advanced locating technologies, including optional foldaway RF Marker Ball antenna, each model is optimized for the challenges of locating a particular utility. Integrated GPS and usage logging options automatically generate data for work reports, or in-house quality and safety audits, to promote best working practices.

# Mark and protect your underground assets

**Accurately marking buried assets ensures minimum downtime during repair or maintenance activities. It also prevents damage which can be costly for both you and your customers.**

## Combined line and marker location mode

RD7100 RF marker locators offer both a combined utility and marker locating mode as well as automatic marker depth measurement, eliminating the typical 2 step manual process. This advanced capability speeds up locate tasks and minimizes missed locates.

## View your survey points on Google Maps

Create detailed KML utility maps in real time\* and share them directly from the field using the free RD Map android app. Use Google Maps technology to review and correct any errors and produce professional maps that can be e-mailed or shared using a compatible app.

\* Requires data connectivity. RD Map only works in countries where Google Maps is available.

## Ergonomics

The RD7100 is ergonomically designed to deliver a superior performing locator that provides the user with a light weight, energy efficient, exceptionally well balanced tool which is comfortable for extended periods of use.

Despite its weight and form, the RD8100 range retains the environmental durability associated with an IP65 rating, meaning you can operate it in almost any environment.

## 90V Transmitter output

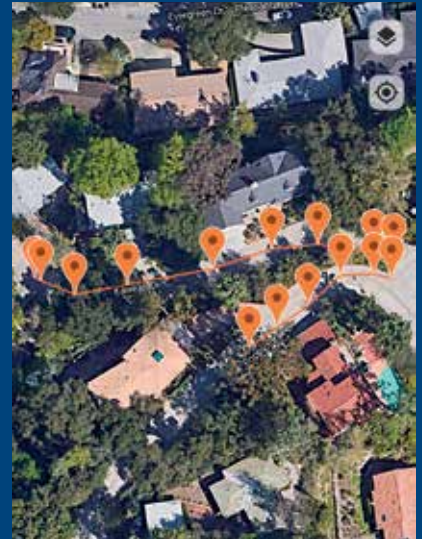
The high voltage output capability drives more locate signal onto high impedance target lines such as twisted pair telecoms cables enabling you to detect utilities deeper and further.



Simplify complex locates

## RD Map™ app

Easy-to-use map and share app for Android



## Marker locator

Marker models detect all commonly used markers with automatic depth estimation for faster and more accurate surveys.



## Ergonomics

Light weight (4.6lbs / 2.1kg including Marker Ball antenna and Li-Ion battery pack), well balanced and with high contrast LCD providing clear information in any light.

Simplify complex locates

### Simultaneous depth and current readout

Consistency of depth and current measurements gives confidence the correct line is being followed.



### Dynamic Overload Protection

Filters out interference, enabling use in electrically noisy environments such as near substations or overhead power lines.



### Power Filters™

Establish if a strong power signal comes from one source or multiple cables, exploiting the harmonic properties of mains networks.

### TruDepth™

As depth readings are given only when the RD7100 is correctly oriented, you can be confident in the result.

## Models and modes to suit your requirements

**Many factors influence how a trace is performed, and the RD7100 family of locators offer modes and models allows you to choose what's applicable to your requirements.**

RD7100 offers the power of Radiodetection's most advanced locating technologies, with each model optimized for a single industry. Users benefit from the simplicity of having menu options and capabilities matched to their requirements.

### Guidance Mode

This enables the path of a single utility to be found and traced quickly. Directional information is displayed alongside proportional distance arrows to help find the utility and then keep you on its path.

The simultaneous display of depth and current information gives confidence the correct utility is being traced even in congested networks. For rough or uneven terrain differentiated audio tones can free the user to concentrate on potential hazards.

### Peak+ Mode – speed combined with accuracy

Peak+ mode allows you to add either Guidance or Null arrows to the accuracy of Peak mode

- Adding Guidance gets you to the Peak position faster.
- Adding Null to Peak lets you check for the distortion caused by other utilities, spurs or interference.

### Powerful locating at your fingertips

We've kept our user interface consistent with our previous precision locators to reduce retraining costs.



# Ensuring best practice

**In the field of damage prevention, where the human and financial cost of a strike can be substantial, ensuring adherence to best working practices is essential. Observing behaviors and preventing poor habits developing is difficult. The RD7100 comes with a number of features designed to facilitate the observance of best practice and to ensure product integrity before use.**

## Automatic usage-logging with GPS positioning

When equipped with GPS, RD7100 locators automatically capture key locate parameters, every second, providing a comprehensive picture of individual locates and allowing you to assess usage patterns over extended periods.

The data generated can be used to ensure adherence to best practice, or to identify training needs before poor work habits develop. Additionally, the information can be used for internal audits or shared with stakeholders to enable process improvements, and to evidence task completion.

Usage can be exported in multiple file formats – for example, KML Maps to confirm where and when the work was performed.

## eCert™ – remote calibration without downtime

Verify and certify the calibration of your locator over the internet using the RD Manager™ PC software package without returning the unit to a service center. You can be confident that the RD7100 is ready for action whenever you are.

## CALSafe™

Choose to automatically enforce maintenance or lease schedules by providing a 30 day countdown before the calibration certificate expires.

## Support when you need it

The RD7100 is backed with an industry leading 3 year warranty on registration. Our global sales and service network delivers comprehensive technical support and training tailored to your needs.



Operator confidence on-site

## Enhanced self-test

The integrity of the measurement system can be confirmed on-site. Self-test applies signals to the locating circuitry as well as checking display and power functions.



## StrikeAlert™ in active and passive locating modes

Visual and audio warnings of shallow cables reduces the risk of accidents.



## Ingress protection for tough environments (IP65)

A rugged design and sealed case protect the RD7100, ensuring reliable performance in tough conditions.

## Key Locator features<sup>▲</sup>

- Detect all commonly used RF utilities markers with automatic depth estimation for faster, accurate surveys
- RD Map cell-phone app for the real time\* creation of detailed buried utility maps
- Combined mode to scan simultaneously for cables, pipes and RF markers reducing surveying time
- Simultaneous depth and current readings, enabling faster surveys
- Bluetooth connectivity as standard for RF marker models to interface to external devices and GIS systems
- Integrated GPS option provides an easy interface to mapping databases and survey validation
- Power Filters can pinpoint and discriminate between multiple power cables by exploiting their harmonic properties
- High contrast screen and weatherproof (IP67) construction for operation in almost any environment
- Light weight and ergonomic design allows prolonged usage
- Integral logging system records significant locate parameters every second (including positional data for GPS models) storing up to 1 year of typical usage data
- USB connectivity to quickly retrieve internal logs or to perform setup, validate or upgrade operations using the RD Manager™ PC software
- Built-in Li-Ion rechargeable batteries for extended battery life and cost effective operation

<sup>▲</sup> Some features are model dependent, check specifications for details

\* Requires Android 5.1 or higher and data connectivity. Not available in countries where Google Maps is blocked. Maps can be exported as CSV or KML files

## Key Transmitter features

- Three power versions: 1 Watt, 5 Watt and 10 Watt
- 8kHz Fault Find – locates faults from short circuit up to 2MΩ
- Current delivered at 30V, or 90V for more locate signal on high impedance lines
- 256Hz to 200kHz active frequency range
- Selectable modes support specific model locator frequency ranges
- 8 induction frequencies
- SideStep<sup>auto</sup>
- Multimeter function
- Optional Lithium-Ion battery pack
- Accessory tray (for ground stake, direct connect leads and earth reel)

Light weight and ergonomic design for comfortable use

Bluetooth

High visibility reflective design helps protect operators and equipment

### Foldaway RF Marker Antenna

Allows line location, marker location or both together



### EXTENDED WARRANTY

Warranty can be extended to a total of 3 years by registering the equipment. Registration is free and provides access to software upgrades and other online features.

High contrast screen provides clarity even in bright sunlight

Simultaneous display of depth and current gives more confidence you are following your target line

**Utility Optimized Frequencies**

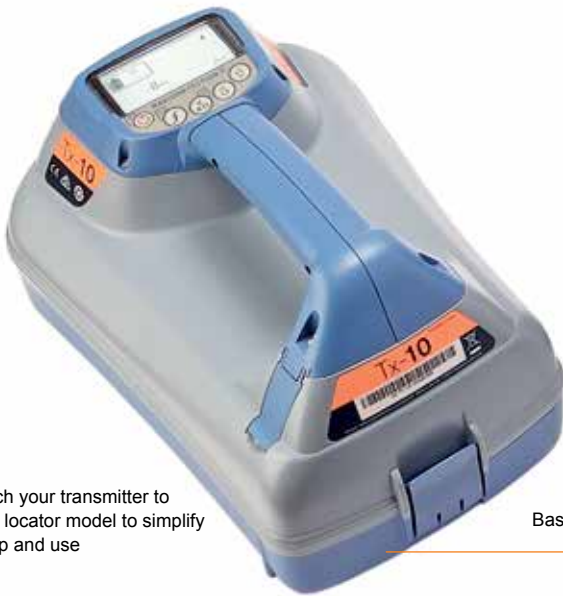
Each model comes programmed with a set of locating frequencies selected for specific utilities

**Guidance Mode**

Rapidly trace the path of a target utility using proportional arrows and a directional indicator

**Locate over longer distances**

90V signal output and automatic impedance matching



Match your transmitter to your locator model to simplify setup and use

Base tray for accessories



**Built for on-site use – IP65**

Shock resistant, ingress protected casing protects against knocks, drops, water and dust



**Precision by design**

A unique arrangement of five custom manufactured, precision ground antennas deliver locate accuracy and repeatability



**RD Map app**

Create detailed maps of buried utilities in real time\*

**Upgrade to get more from your locator system:**



**Li-Ion Battery Pack**

Lithium-Ion rechargeable battery options for both locator and transmitter provide extended runtime with reduced running costs.

**GPS and Usage-Logging**

Integrated GPS and automatic usage-logging allow managers to review locate history to ensure compliance with best practice.

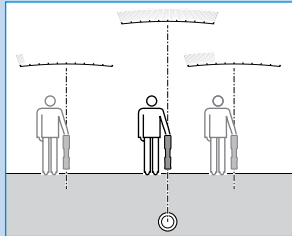
**Sondes**

Locate non-conductive pipes or cable ducts and conduits at depths of up to 50' (15m).

The RD7100 offers a choice of locate modes, each of which is optimized for specific tasks

**Peak**

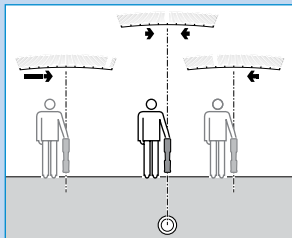
Displays the strongest response when directly above a cable. Depth and current measurements are also shown.



**Use for:** Precise locating prior to and during excavation. Many professionals have trained in this mode and appreciate the simplicity of the display.

**Guidance**

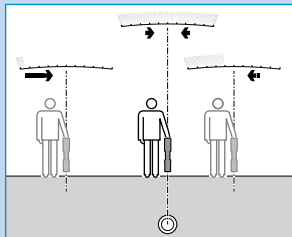
Proportional guidance arrows and differentiated audio tones indicate if utility is to the left or the right of the user.



**Use for:** Checking general direction of utilities as part of a pre-locating sweep. Better for congested areas than null mode alone.

**Peak+**

Add Guidance or Null modes to Peak and alternate between them.

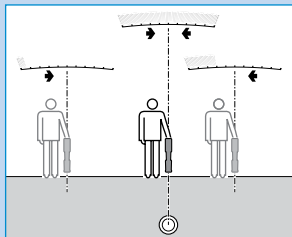


**Peak+Guidance:**

**Use for:** Finding and following the Peak response quickly. Peak graph with simultaneous depth and current information can be used for precise locating of utilities.

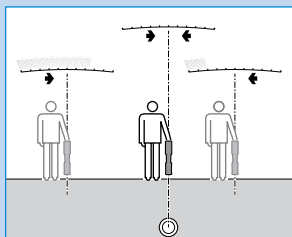
**Peak+Null:**

**Use for:** Checking for distortion, which can indicate the presence of multiple lines, or other features which may require extra vigilance.



**Null**

Arrows and audio signals indicate where the cable is relative to the operator. A null response is displayed above the cable.



**Use for:** Long distance marking of single utilities in non-congested areas. Audio response allows users to rely on sound rather than the screen.

## Optimized precision for your industry

All our RD7100 locators come with Radiodetection's pioneering features, such as StrikeAlert, Compass Orientation and depth measurement as standard. Each model of RD7100 also benefits from being optimized for a specific industry:

### Construction: RD7100SL

Accurate and simple to use, the RD7100SL comes with four active and two passive frequencies that cover the majority of site locating tasks. A rugged, IP65 rated casing along with a high contrast screen make it suitable for use in all weather conditions.

### Water and Pipeline: RD7100DL(M)(G)

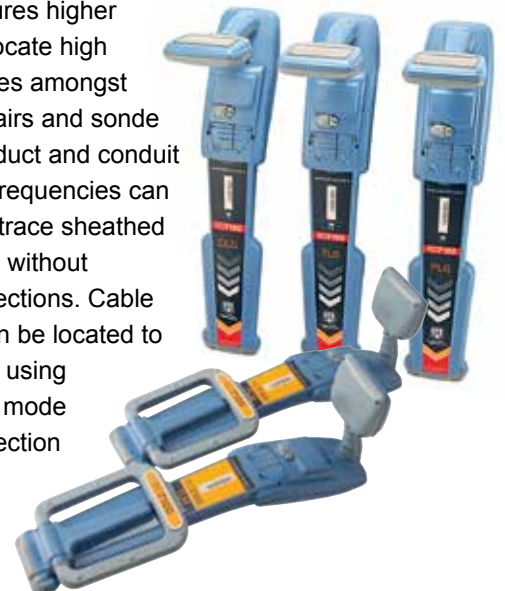
With four sonde frequencies, the RD7100DL can be used to trace deep pipes made from a variety of materials including: cast iron, clay, fiber, concrete and brick. Additionally, it can be used to locate Cathodic Protection System (CPS) signals applied to pipelines.

### Power: RD7100PL(M)(G)

Designed for use in dense infrastructures where signals from high voltage equipment and cables can be confusing or overwhelming. Dynamic Overload Protection reduces the effect of interference, while Power Filters can be used to establish if a single large power signal comes from one source or from the presence of multiple cables.

### Telecom: RD7100TL(M)(G)

RD7100TL features higher frequencies to locate high impedance cables amongst large bundled pairs and sonde frequencies for duct and conduit tracing. Higher frequencies can also be used to trace sheathed domestic cables without grounding connections. Cable sheath faults can be located to within 4" (10cm) using 8kHz Fault Find mode with a Radiodetection A-Frame.





## RD7100 range options:

RD7100 locators	SL	DL	DLG	DLM	PL	PLG	PLM	TL	TLG	TLM
Locate Frequencies	4	5	5	5	5	5	5	7	7	7
Active Locate Modes	3	3	3	3	4	4	4	4	4	4
RF Utility Marker Frequencies				9			9			9
Combined locate mode <sup>†</sup>				✓			✓			✓
Sonde Frequencies		4	4	4	1	1	1	3	3	3
Passive Modes	2	3	3	3	2	2	2	2	2	2
On-board GPS			✓			✓			✓	
Power Filters					✓	✓	✓			
Usage-Logging			●			●	✓		●	✓
CALSafe			■			■			■	■
Fault Find					✓	✓	✓	✓	✓	✓
Depth in Power					✓	✓	✓			
Lithium-Ion Battery	●	●	●	✓	●	●	✓	●	●	✓
Bluetooth				✓			✓			✓
3 year warranty on registration*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

<sup>†</sup> Locates marker balls and cables & pipes simultaneously

Transmitters	Tx-1	Tx-5	Tx-10
Max. Output Power	1W	5W	10W
Active Frequencies	16	16	16
Induction frequencies	8	8	8
Fault Find		✓	✓
Relative Induction field strength	0.7	0.85	1
Eco Mode		■	■
Lithium-Ion Battery	●	●	●
3 year warranty on registration*	✓	✓	✓

\*Locators and transmitters only. Does not include battery packs and accessories.

Other features described are standard on the RD7100 Locators and Tx transmitters unless otherwise noted.

✓ Available, enabled by default. ● Option. ■ Available, disabled by default.

Download the full Product Specifications at [www.radiodetection.com/RD7100](http://www.radiodetection.com/RD7100)

## RF Markers

Utility type	Color	Frequency
French Power	Natural	40.0kHz
General Non-drinkable water	Purple	66.35kHz
Cable TV	Black/Orange	77.0kHz
Gas	Yellow	83.0kHz
Telephone/Telecoms	Orange	101.4kHz
Sanitary	Green	121.6kHz
German Power	Blue/Red	134.0kHz
Water	Blue	145.7kHz
Electrical Power	Red	169.8kHz



# Accessories to optimize the system to your needs

Whether you are locating telephone cables in a bundle or tracing non-conductive pipework, extend the precision locate capabilities of the RD8100 and transmitters to your application.

A selection of spares and accessories is shown here, visit [www.radiodetection.com/accessories](http://www.radiodetection.com/accessories) for more information.

## Locator Accessories

### Locator Clamp

Used with a locator, often in congested areas, to identify individual utilities. Available in 2" (50mm), 4" (100mm), 5" (130mm).



### Locator CD/CM Clamp

The Current Direction / Current Measurement clamp is used to positively identify one target line amongst a number of parallel utilities and to measure the Transmitter signal current flowing along the utility.



### High Gain Stethoscope

Used to locate individual utilities when either bundled together or in close proximity and where it is not possible to use a locator. Its small size and flat surface make it ideal for locating utilities within walls.



### Small Stethoscope

This helps to locate individual utilities which are bundled together. It can be used for identifying inaccessible small cables as well as other utilities.



### Large Stethoscope

Flexible, 20" (50cm), accessory used to locate and identify accessible utilities and particularly useful in congested areas or when cables are in close proximity to each other.



### Current Direction (CD) Telescopic Stethoscope

This is utilized with a locator having CD to find and identify individual cables, using the CD signal from a Tx-10(B) transmitter. LEDs and direction arrows provide current direction. Other locators without CD can be used to detect and identify cables but without the current direction information.



### A-Frame

This is used for locating sheath faults on cables and coating defects on pipelines. It provides direction and magnitude of fault information on the display of the locator. The A-Frame requires both the locator and transmitter to have the Fault Find feature.



## Transmitter Accessories

### Live Plug Connector (LPC)

This accessory is used to easily apply a transmitter signal to a street distribution cable using a standard mains socket. It is available with a UK, US or EU style mains plug. Qualified for use to CAT III 600V, CAT IV 300V.



### Live Cable Connector (LCC)

The Live Cable Connector, which may only be used by suitably qualified personnel, is used to apply a transmitter signal to live cables. Qualified for use to CAT III 600V, CAT IV 300V.



### Transmitter Clamp

This clamp is used to apply a transmitter signal to a specific cable or pipe. This is particularly useful where direct connection is not possible, or on live cables that cannot be de-energized. It can be used with the extension rod.

Available in 2" (50mm), 4" (100mm), 5" (130mm) and 8.5" (215mm) diameters.



### Transmitter CD Clamp

This clamp is used to apply a CD or low frequency signal from a transmitter to a cable or pipe. The CD signal is useful for identifying individual utilities in congested areas. This clamp can be used with frequencies below 1kHz.



### Direct Connection Lead

Used to apply the transmitter signal directly to utilities.



### Direct Connection Lead with Insulated Plug/Socket

Direct Connection leads, with removable/replaceable crocodile clips, with 4mm banana plugs for applying the transmitter signal directly to utilities.



### Transmitter Connection Kit

Contains the most common connection accessories, including Direct Connection lead, Earth Reel, Earth Stake and High-strength neodymium magnet.



## Accessories for tracing or locating non-conductive utilities

### S6 Microsonde Kit 33kHz

Locatable to 6.5' (2m) and measuring 0.25 x 3.5" (6.4 x 88mm). Supplied as a kit that includes sonde, flexible adaptor, 2 batteries and case.



### S9 Minisonde 33kHz

Locatable to 13' (4m) and measuring 0.35 x 5.4" (9 x 138mm). Supplied as a kit that includes sonde, 2 batteries and case.



### S13 Sonde Kit 33kHz

Locatable to 8.2' (2.5m) and measuring 0.5 x 2.7" (12.7 x 68mm) with plain end cap. Supplied as a kit that includes two end caps, two batteries and case.



### S18 Sonde 33kHz

Locatable to 13' (4m) and measuring 0.70" (18 mm) wide. S18 Sonde is 3.2" (82mm) long.



### Bendi Sonde 512Hz

A 3-section sonde, locatable to 19' (6m) and measuring 0.9 x 18.8" (23 x 478mm), for improved flexibility around pipe and duct corners. Supplied with M10 male end cap.



### Standard Sonde

Locatable to 16' (5m) and measuring 1.53 x 4.13" (39 x 105mm). Available in 3 frequencies: 512Hz, 8kHz and 33kHz.



### Sewer Sonde 33kHz

Locatable to 26' (8m) and measuring 2.51 x 6.61" (64 x 168mm).



### Super Sonde 33kHz

Locatable to 49' (15m) and measuring 2.51 x 12.51" (64 x 318mm).



### Range of Sonde Accessories

Radiodetection has a wide range of accessories including connectors with various size fittings. Please see the Sonde User Guide for more information.

### Flexitrace, Tx-Energized Pushrod

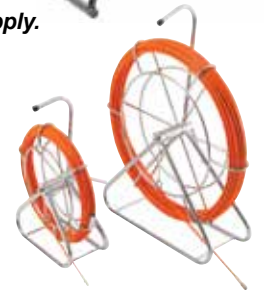
164' (50m) or 260' (80m) small diameter rods that can be inserted into small plastic pipes to trace the route or locate blockages. Energized by a Radiodetection transmitter\*, the user can choose to have either the complete rod length locatable or just the end tip.

*\*When using a Tx-5(B) or Tx-10(B) transmitter, some power restrictions apply. Please enquire for details.*



### Flexrod

A flexible fiberglass rod used for propelling Radiodetection sondes through pipes to trace the path and locate blockages. Available in various diameters and lengths.



### RF Marker Balls

A selection of Marker Balls for Marker Locators (box of 30).



## Power Options

### Power Accessories

#### Rechargeable Battery Packs

Cost effective alternatives to alkaline batteries, offering superior battery life, particularly in colder climates.



#### Li-Ion Rechargeable Battery Pack

#### Transmitter Rechargeable Battery Pack



## Global locations

### Radiodetection (USA)

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### Pearpoint (USA)

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Tel: +1 800 688 8094 Tel: +1 760 343 7350 [pearpoint.sales.us@spx.com](mailto:pearpoint.sales.us@spx.com) [www.pearpoint.com](http://www.pearpoint.com)

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### Radiodetection Ltd. (UK)

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### Radiodetection (Benelux)

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Radiodetection is a leading global developer and supplier of test equipment used by utility companies to help install, protect and maintain their infrastructure networks.

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