RADIODETECTION®

RD8100®

Precision cable, pipe and RF marker locators – optimum precision for damage prevention



SPX®

Radiodetection launched the first commercial, twin antenna, cable and pipe locators over 40 years ago, and since then we have pioneered many innovative technologies that are used across the location industry today. Behind developments such as depth measurement, Strike*Alert*™ and Current Direction™ is a drive to protect utilities from damage, making excavation easier and you safer.





RD8100, our most advanced precision locator range, builds on this pedigree for performance, quality and durability. The unique arrangement of aerials, plus optional foldaway RF Marker Ball antenna, allows you to choose the optimum level of precision and speed for the job in hand. Integrated GPS and usage-logging options automatically generate data for customer reports, or in-house quality and safety audits to promote best working practices.

Locate, Track and Map buried assets

RD8100 locators are designed for use – identification and tracing of utilities in the congested subsurface, well balanced to reduce operator strain and an app offering an easy to use real time map and share tool.

Combined line and marker location mode

All the 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.

View your survey points on Google Maps

Use RD Map™ to create, in real time*, detailed maps of buried utilities. Survey measurement data is added to location coordinates information to map the route of the tracked utility. Map files (CSV or KML) can then be shared with customers and colleagues.

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



Ergonomics

The RD8100 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.



Choose the optimum mode for your locate

Our unique arrangement of 7 antennas allows you to optimize your RD8100 for different tasks. Each mode uses a different combination of antennas. At the heart of each of our locating antennas is a custom-manufactured, precision-ground ferrite to ensure the accuracy and precision of our measurements.

Optimum precision for damage prevention

Responsive by design

Sophisticated circuitry enables operators to detect and react to the weak signals associated with difficult to locate utilities.



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.

Simultaneous depth and current readout

Consistency of depth and current measurements gives you 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.



SideStep™ interference evasion

Adjusts frequency slightly enabling locates in areas prone to interference or where more than one operator is working.

High sensitivity

Sophisticated circuitry enables operators to detect and react to the weak signals associated with difficult to locate utilities.

Making complex locates simpler

Utility infrastructures are becoming more complex, meaning that locate professionals require more capable tools to simplify the task of distinguishing between and tracing different utilities.

CD (Current Direction)

Identify your target amongst a number of parallel utilities by applying a specialized CD signal from the Tx-10 transmitter. CD arrows displayed on the locator confirm you are tracing your target.

Trace high-impedance utilities with 4 kHz

The 4 kHz locate frequency enables lines such as twisted pair telecoms or street lighting to be traced over longer distances. Since such utilities are often found in areas of dense infrastructure, you can combine 4 kHz with CD to improve trace accuracy.

Use Power Filters™ to pinpoint and discriminate between power cables

When a signal transmitter can't be connected, tracing individual power lines through dense networks can be a real challenge. Conflicting or powerful signals confuse or combine to create a wash of signal.

A single key press uses the harmonic properties of power signals to establish if a signal comes from one source, or from multiple cables which you can then trace and mark.

Speed combined with accuracy – Peak+ Mode

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

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





Achieving more with your RD8100 system

Simultaneous marker and line locating

For rapid utility detection RD8100 marker locators enable operators to scan for pipes, cables and RF markers at the same time, speeding up locate tasks and minimizing missed locates.

Customize the locator to your network frequencies

Up to 5 additional frequencies can be programmed into all RD8100 locators to match it to the signals found on your target telecoms networks.

RD Map for Android

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.

Fault Find

Combine the RD8100 locator with an accessory A-frame to identify and pinpoint insulation sheath faults to within 4” (10cm).

RD Manager PC software

Set-up, calibrate and update your locator from a PC. Download usage logging and survey measurement data for analysis.

Passive Avoidance

Rapidly check an area before excavation using simultaneous detection of the Passive Power and Radio signals carried on underground cables or pipes.

90V Transmitter output

More locate signal on high impedance target lines – detect deeper and further.

iLOC™

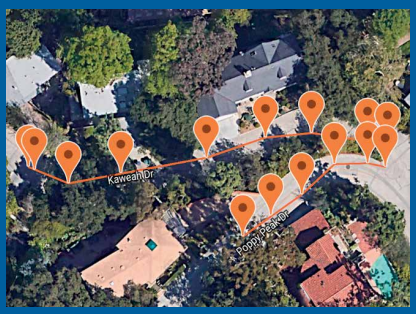
iLOC is an advanced Bluetooth link between the RD8100 locator and Bluetooth enabled transmitter, which allows you to control the locate signal’s power and frequency from up to 1400’ / 450m away. Spend less time walking and more time locating.

Multimeter function

Assess the target utility using your transmitter – quickly measure line voltage, current and impedance.

Operator confidence on-site

RD Map™



Enhanced self-test

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



TruDepth™

As depth readings are only given when the RD8100 is correctly oriented, you can be confident in the result.



Strike*Alert*™ in active and passive locating modes

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

Key Locator features▲

- Detect all commonly used RF utilities markers with automatic depth estimation
- 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
- Current Direction to help identify the target amongst a number of parallel utilities by applying a specialized CD signal
- Simultaneous depth and current readings, enabling faster surveys
- Bluetooth connectivity as standard 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
- 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

▲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 Direction Fault Find – for long distance fault finding
- Multiple CD paired frequencies (number is model dependent)
- 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 (Tx-10B required for PTLM models)
- 8 induction frequencies
- iLOC (Tx-5B and Tx-10B)
- SideStep*auto*
- Multimeter function
- Accessory tray (for ground stake, direct connect leads and earth reel)



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 the target line



Custom Frequencies

Program up to 5 extra frequencies to customize the RD8100 to signals found on your network

Survey Measurements with Bluetooth® Connectivity

Store up to 1000 records and send wirelessly to a mobile device or PC using Bluetooth

Optional integrated GPS adds positional data without requiring an external device

Locate over longer distances

90V signal output and automatic impedance matching



iLOC

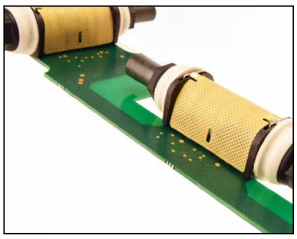
4 kHz frequency with Current Direction for locating and tracing higher impedance cables over longer distances

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.

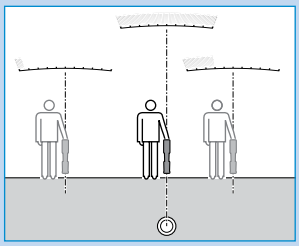


iLOC

Save time on site by controlling your transmitter from distances of up to 1400 feet / 450 meters.

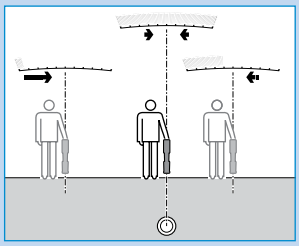
The RD8100 offers a choice of cable and pipe dedicated modes, each of which is optimized for specific tasks

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



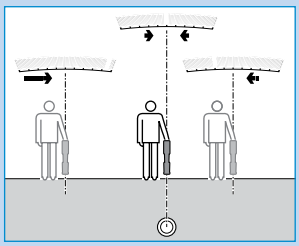
Use for: Precise locating prior to and during excavation. Many professionals have trained in this mode and appreciate the simplicity of the display.

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



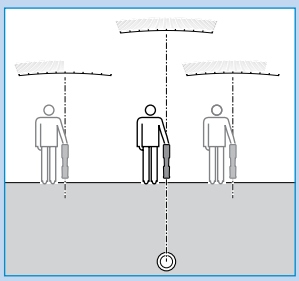
Use for: Finding Peak response quickly while checking for the presence of multiple lines or other features which may require extra vigilance.

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



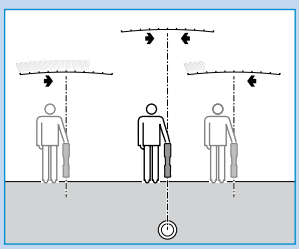
Use for: Checking general direction of utilities as part of a pre-locating sweep. Better for congested areas than null mode alone.

Broad Peak
Operating similarly to Peak mode but more suited to locating weaker signals.



Use for: Locating deep lines, or when weak signal levels or interference makes conventional peak locating difficult.

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.

Supporting your business

Every locating operation needs to meet the continuing challenges of delivering on-time, high quality work and increasing value to customers.

Automatic usage-logging with GPS positioning

When equipped with GPS, RD8100 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 partners or clients to evidence task completion, or compliance to service requirements.

Usage data can be exported in multiple file formats – for example KML for Google Maps to confirm where and when 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. Have confidence that the RD8100 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 RD8100 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.

RD8100 range options:

RD8100 locators:	PXL	PXLG	PXLM	PDL	PDLG	PDLM	PDLMG	PTL	PTLG	PTLMG
Locate Frequencies	16	16	17	21	21	18	18	24	24	25
Active Locate Modes	5	5	5	5	5	5	5	5	5	5
RF Utility Marker Frequencies			9			9	9			9
Combined locate mode‡			✔			✔	✔			✔
Sonde Frequencies	4	4	4	4	4	4	4	4	4	4
Passive Modes	2	2	3	5	5	5	5	5	5	5
On-board GPS		✔			✔		✔		✔	✔
Power Filters	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Usage-Logging		✔	✔		✔		✔		✔	✔
CALSafe™		■	■		■	■	■		■	■
4 kHz	✔	✔	✔	4k+CD	4k+CD	4k+CD	4k+CD	4k+CD	4k+CD	4k+CD
Current Direction				✔	✔	✔	✔	✔	✔	✔
Fault Find				✔	✔	✔	✔	✔	✔	✔
Depth in Power				✔	✔	✔	✔	✔	✔	✔
Passive Avoidance				✔	✔	✔	✔	✔	✔	✔
iLOC / RD Map	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Lithium-Ion Battery	●	●	✔	●	●	✔	✔	●	●	✔
3 year warranty on registration*	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

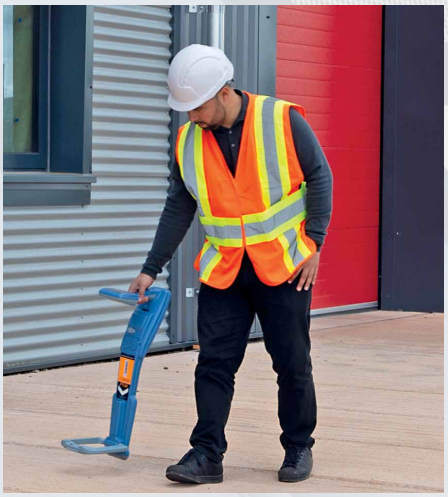
‡ Locates marker balls and cables & pipes simultaneously

Transmitters	Tx-1	Tx-5	Tx-5B	Tx-10	Tx-10B
Max. Output Power	1W	5W	5W	10W	10W
Active Frequencies	16	16	16	16	36
Induction frequencies	8	8	8	8	8
Current Direction Frequencies				6	14
iLOC remote control			✔		✔
Fault Find		✔	✔	✔	✔
Relative induction field strength	0.7	0.85	0.85	1	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 RD8100 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/RD8100**

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
Euro 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** 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.



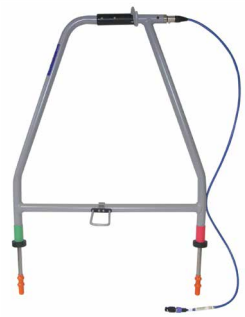
Current Direction (CD) Telescopic Stethoscope

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

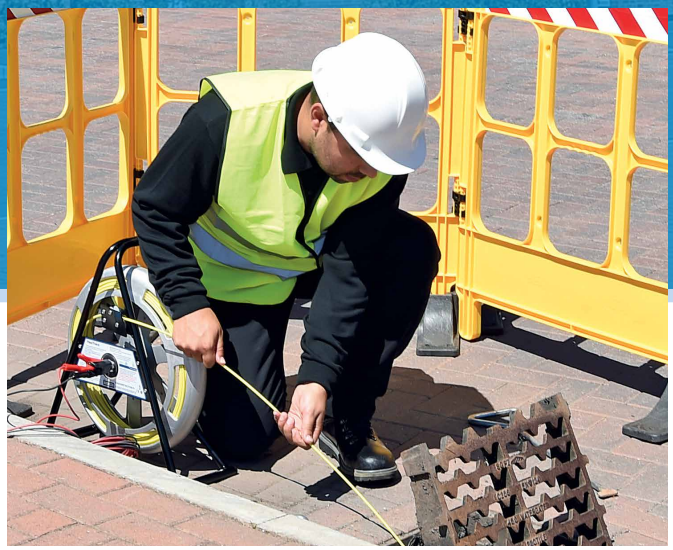
Direct Connection leads, with removable/ replaceable crocodile clips, with 4mm banana plugs for applying the transmitter signal directly to utilities.



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

RADIODETECTION

SPX

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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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Cable Locators & Survey