

**RADIODETECTION®** 

# RD5100™ H<sub>2</sub>O+

Multifunction precision  
cable and pipe locator

User Guide

PART NO. 90/UG113INT/01



**SPX®** 

# Preface

## About this guide

**CAUTION:** This guide provides basic operating instructions for the RD5100H<sub>2</sub>O+ locator and transmitter. It also contains important safety information and guidelines and as such should be read in its entirety before attempting to operate the RD5100H<sub>2</sub>O+ locator and transmitter.

This guide is intended as a quick reference guide only. For detailed instructions, including the use of accessories, please refer to the RD5100H<sub>2</sub>O+ locator operation manual, which is available for download from [www.radiodetection.com](http://www.radiodetection.com).

Certificates of conformity for the RD5100H<sub>2</sub>O+ locator and transmitter can be found at [www.radiodetection.com](http://www.radiodetection.com).

 **WARNING:** Direct connection to live conductors is POTENTIALLY LETHAL. Direct connections to live conductors should be attempted by fully qualified personnel only using the relevant products that allow connections to energized lines.

 **WARNING:** The transmitter is capable of outputting potentially lethal voltages. Take care when applying signals to any pipe or cable and be sure to notify other technicians who may be working on the line.

 **WARNING:** Reduce audio level before using headphones to avoid damaging your hearing.

 **WARNING:** This equipment is NOT approved for use in areas where hazardous gases may be present.

 **WARNING:** When using the transmitter, switch off the unit and disconnect cables before removing the battery pack.

 **WARNING:** The RD5100H<sub>2</sub>O+ locator will detect most buried conductors but there are some objects that do not radiate any detectable signal. The RD5100H<sub>2</sub>O+, or any other electromagnetic locator, cannot detect these objects so proceed with caution. There are also some live cables which the RD5100H<sub>2</sub>O+ will not be able to detect in Power mode. The RD5100H<sub>2</sub>O+ does not indicate whether a signal is from a single cable or from several in close proximity.

 **WARNING:** Batteries can get hot after prolonged use at full output power. Take care while replacing or handling batteries.

## 3 Year Extended Warranty

The RD5100H<sub>2</sub>O+ locator and transmitter are covered by a 1 year warranty as standard. Customers can extend their warranty period to a total of 3 years by registering their products within 3 months of purchase.

Visit <https://portal.radiodetection.com/> to create your company portal account, and use the Product page to register your locator or transmitter.

Information on how to create a company account can be obtained from: <https://support.radiodetection.com>

From time to time Radiodetection may release new software to improve the performance or add new functionality to its products. By registering, users will benefit from email alerts advising about new software and special offers related to its product range.

Users can opt-out at any time from receiving software and technical notifications, or just from receiving marketing material by contacting Radiodetection.

## eCert and Self-Test

The RD5100H<sub>2</sub>O+ locator is safety equipment which should be regularly checked to ensure its correct operation.

eCert<sup>1</sup> provides a thorough test of the RD5100H<sub>2</sub>O+'s locating circuitry, and supplies a Radiodetection Calibration Certificate when a positive test result is obtained.

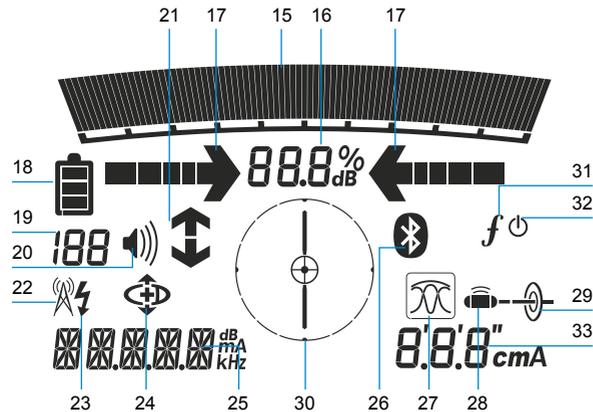
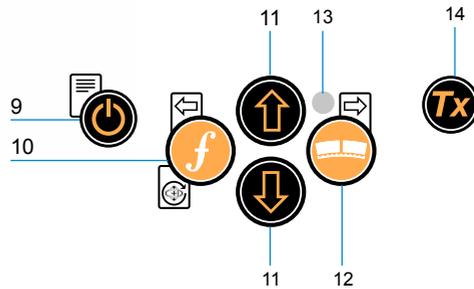
Refer to the RD5100 Manager<sup>1</sup> operation manual for further details. Additional purchase may be required.

RD5100H<sub>2</sub>O+ locators incorporate an Enhanced Self-Test feature. In addition to the typical checks for display and power functions, the RD5100H<sub>2</sub>O+ applies test signals to its locating circuitry during a Self-Test to check accuracy and performance.

We recommend that a self-test is run at least weekly, or before each use.

<sup>1</sup> Contact Radiodetection for eCert and RD5100 Manager availability.

# RD5100H<sub>2</sub>O+ locator



## Locator features

1. Keypad.
2. LCD with auto backlight.
3. Speaker.
4. Battery compartment. (Optional Lithium-Ion battery pack).
5. Accessory connector.
6. Headphone connector.
7. Bluetooth® module antenna.
8. Mini USB-B port (inside battery compartment).
9. Power key.
10. Frequency key.
11. Up and down arrows.
12. Target Position Indicator key.
13. Backlight sensor.
14. Transmitter key.
15. Signal strength bargraph with peak marker.
16. Signal strength readout.
17. Null / Proportional Guidance arrows.
18. Battery level.
19. Sensitivity readout.
20. Volume level.
21. Current Direction arrows.
22. Radio Mode icon.
23. Power Mode icon.
24. CD Mode icon.
25. Frequency / current / menu readout.
26. Bluetooth status icon: Flashing icon means pairing is in progress. Solid icon indicates a connection is active.
27. Antenna mode icon: Indicates antenna mode selection: Peak / Guidance.
28. Sonde icon: Indicates that a sonde signal source is selected.
29. Line icon: Indicates that a line signal source is selected.
30. Compass: Shows the orientation of the located cable or sonde relative to the locator.
31. Transmitter communication status – confirms successful iLOC™ communication.
32. Transmitter standby indicator.
33. Depth readout.

## Locator keypad

9. Power key.
10. Frequency key.
11. Up and down arrows.
12. Target Position Indicator key.
13. Backlight sensor.
14. Transmitter key.

## Locator screen icons

15. Signal strength bargraph with peak marker.
16. Signal strength readout.
17. Null / Proportional Guidance arrows.
18. Battery level.
19. Sensitivity readout.
20. Volume level.
21. Current Direction arrows.

# RD5100H<sub>2</sub>O+Tx transmitter



## Transmitter features

1. Keypad.
2. LCD.
3. Bluetooth module.
4. Removable accessory tray.
5. Accessories.
6. Side support tab.
7. D-cell battery tray.
8. Optional Lithium-Ion battery pack.
17. Clamp icon: Indicates when a signal clamp or other accessory is connected.
18. DC Power connected indicator.
19. Induction mode indicator.
20. A-Frame: Indicates when the transmitter is in Fault-Find mode.
21. CD Mode: Indicates that the transmitter is in Current Direction Mode.

## Transmitter keypad

9. Power key.
10. Frequency key.
11. Up and down arrows.
12. Measure key.

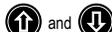
## Transmitter screen icons

13. Battery level indicator.
14. Operation mode readout.
15. Standby icon.
16. Output level indicator.
22. Voltage WARNING: indicator: Indicates that the transmitter is outputting potentially hazardous voltage levels.
23. Volume level indicator.
24. Pairing icon: Appears when the transmitter and locator are connected via iLOC.
25. Bluetooth icon: Indicates status of Bluetooth connection. Flashing icon means pairing is in progress.

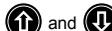
# Keypad actions and shortcuts

Switch the locator or transmitter on by pressing the  key. Once powered up, the keys function as follows:

## Locator keys

KEY	● SHORT PRESS	▬ LONG PRESS
	Enter the menu	Switch power off
	Scroll through locate frequencies from low to high	-
	Increase and decrease gain in power and radio modes. RD5100H <sub>2</sub> O+ automatically sets gain to mid-point when pressed	Rapidly increase and decrease gain steps in 1dB increments
	Turn Target Position Indicator mode ON/OFF	-
	Send an iLOC command to a paired transmitter	Enter the Transmitter power setting menu for use over iLOC

## Transmitter keys

KEY	● SHORT PRESS	▬ LONG PRESS
	Enter the menu	Switch Power off
	Scroll through locate frequencies from low to high	-
	Take voltage and impedance measurements using the currently selected frequency	Take voltage and impedance measurements at a standardized frequency
	Adjusts the output signal	Select standby  / maximum standard power 

Tip: to scroll through frequencies from high to low, hold  while pressing the  button (applies to both locators and transmitters).

# Before you begin

## IMPORTANT

This guide is intended to be a quick reference guide. We recommend you read the full operation manual before you attempt to operate the RD5100H<sub>2</sub>O+ locator.

## First use

The RD5100H<sub>2</sub>O+ locator and transmitter can be powered by D-cell alkaline batteries, D-cell NiMH batteries, or by an accessory Lithium-Ion (Li-Ion) battery pack.

To fit the D cell batteries in the locator, open the battery compartment and insert two D-Cell Alkaline or NiMH batteries, taking care to align the positive (+) and negative (-) terminals as indicated.

To fit the D cell batteries in the transmitter, unlatch the accessory tray. The battery compartment is located underneath the transmitter body. Use the turnkey to unlatch the battery compartment. Insert eight D-Cell Alkaline or NiMH batteries, taking care to align the positive (+) and negative (-) terminals as indicated.

Alternatively, you can power the transmitter from a mains or vehicle power source using a Radiodetection supplied optional accessory adapter.

## Rechargeable battery packs

Lithium-Ion battery packs are available for both locators and transmitters, providing superior performance over traditional alkaline batteries. To fit these rechargeable packs, follow the instructions provided with each pack.

## Checking your system software version

If you wish to check which version of software is running on your locator, press and hold the  key when switching the locator on. This information may be asked for when contacting Radiodetection or your local representative for technical support.

Transmitters automatically show their software version on startup.

## System setup

It is important that you set up the system according to regional / operational requirements and your personal preferences before you conduct your first survey. You can set the system up using the menus as described below.

# Setting up your system

The RD5100H<sub>2</sub>O+ locator and transmitter menus allow you to select or change system options. Once entered, the menu is navigated using the arrow keys. Navigation is consistent on both the transmitter and the locator. When in the menu, most on-screen icons will temporarily disappear and the menu options will appear in the bottom left-hand corner of the display. The right arrow enters a submenu and the left arrow returns to the previous menu.

Note that when browsing the locator menu, the  and  keys act as left and right arrows. When browsing the transmitter menu, the  and  keys act as left and right arrows.

### To navigate menus:

1. Press the  key to enter the menu.
2. Use the  or  keys to scroll through the menu options.
3. Press the  key to enter the option's submenu.
4. Use the  or  keys to scroll through the submenu options.
5. Press the  key to confirm a selection and return to the previous menu.
6. Press the  key to return to the main operation screen.

**NOTE:** When you select an option and press the  key, the option will be enabled automatically.

### Locator menu options

- VOL: Adjust the speaker volume from 0 (mute) to 3 (loudest)
- BT: Enable, disable, reset or pair Bluetooth connections.
- CDR: Performs a Current Direction (CD) Reset. (Alternatively press and hold the  key when in CD mode)
- INFO: Run a Self-Test, display the date of the most recent service recalibration (CAL) or the most recent eCert calibration
- LANG: Select menu language
- FREQ: Enable or disable individual frequencies
- ALERT: Enable or disable StrikeAlert™
- COMPA: Enable or disable display of the Compass feature.

### Transmitter menu options

- VOL: Adjust the speaker volume from 0 (mute) to 3 (loudest)
- FREQ: Enable or disable individual frequencies
- BOOST: Boost transmitter output for a specified period of time (in minutes)
- LANG: Select menu language
- OPT F: Run SideStepauto™ to auto-select a locate frequency for the connected utility
- BATT: Set battery type: ALK, NiMH or Li-ION and enable / disable Eco mode
- MAX P: Set the transmitter maximum power (W) limit
- MODEL: Match the transmitter setting to the model of your locator
- MAX V: Set the output voltage to maximum (90V)
- BT: Enable, disable or pair Bluetooth connections.

## Examples of using the menu, selecting options and making changes:

### Locator compass enable or disable

The locator compass can be enable or disabled.

To disable the compass:

1. Press the  key to enter the menu.
2. Scroll to the COMPA (compass) menu using the  or  arrows.
3. Press the  key to enter the COMPA menu.
4. Scroll up or down to select the compass status to OFF or ON.
5. Press the  key twice to accept your selection and return to the main operation screen.

### Transmitter batteries

It is important to set the system to match the currently installed battery type to ensure optimal performance and correct battery level indication.

To set your battery type:

1. Press the  key to enter the menu.
2. Scroll to the BATT menu using the  or  arrows.
3. Press the  key to enter the BATT menu.
4. Scroll up or down to select the correct battery type (Alk: Alkaline, NIMH: Nickel-metal Hydride or LIION: Lithium-Ion). Lithium-Ion is automatically selected when a Li-Ion pack is connected to a Locator.
5. Press the  key twice to accept your selection and return to the main operation screen.

### Transmitter Eco mode

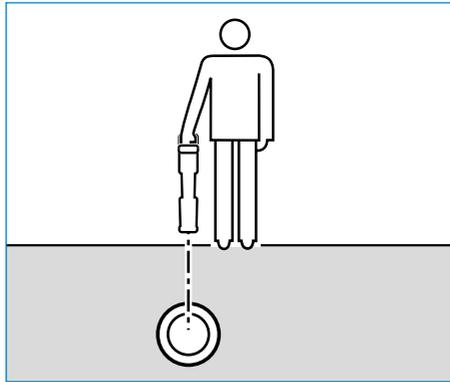
When using alkaline batteries, Eco mode can be selected to maximize run time. When Eco mode is selected the transmitter automatically reduces its maximum power output as battery levels run low. Eco mode is switched off by default. To Enable Eco Mode:

1. Press the  key to enter the menu.
2. Scroll to the BATT menu using the  or  arrows.
3. Press the  key to enter the BATT menu.
4. Select the ALK Battery type using the  or  arrows.
5. Press the  key to enter the ECO sub menu
6. Select ECO using the  or  arrows.
7. Press the  key three times to accept your selection and return to the main operation screen.

# Locating pipes and cables

For more detailed descriptions of using the locator and transmitter, and for detailed locate techniques, refer to the Operation Manual.

The RD5100H<sub>2</sub>O+ locator is designed to operate with the 'blade' of the locator perpendicular to the path of the cable or pipe being located.



## Running a Self-Test

We recommend that a Self-Test is run at least weekly, or before each use. As the Self-Test tests the integrity of the locate circuitry, it is important that it is carried out away from larger metallic object such as vehicles, or strong electrical signals. To run a Self-Test:

1. Press the  key to enter the menu.
2. Scroll to the INFO menu using the  or  arrows.
3. Press the  key to enter the INFO menu.
4. Select TEST using the  or  arrows.
5. Press the  key to select YES.
6. Press the  key to begin the Self-Test.
7. Once the Self-Test is completed, the result (PASS or FAIL) will be displayed.
8. Restart the locator using the  key.

## Locating with Active Frequencies

Active frequencies are applied to the target pipe or cable using the transmitter, and provide the most effective way of tracing buried pipes or cables.

Generally speaking, it is better to use a low frequency on larger, low impedance utilities, and move to a higher frequency on smaller, high impedance utilities.

The lowest power setting required to trace the target utility should always be used to minimize the risk of false trails.

The transmitter can apply a signal using three different methods:

### Direct connection

In direct connection, you connect the transmitter directly to the pipe or cable you wish to survey using the red Direct Connect lead supplied. The black lead is generally connected to earth using the supplied ground stake.

The transmitter will then apply a discrete signal to the line, which you can trace using

the locator. This method provides the best signal on an individual line and enables the use of lower frequencies, which can be traced for longer distances.

**⚠ WARNING: Direct connection to live conductors is POTENTIALLY LETHAL. Direct connections to live conductors should be attempted by fully qualified personnel only using the relevant products that allow connections to energized lines.**

### Induction

The transmitter is placed on the ground over or near the survey area. You select the appropriate frequency. The transmitter will then induce the signal indiscriminately to any nearby metallic conductor. In induction mode, using higher frequencies is generally recommended as they are induced more easily onto nearby conductors.

### Transmitter Clamp

An optional signal clamp can be placed around an insulated live wire or pipe up to 215mm (8.5") in diameter to transfer the transmitter signal to the utility. This method of applying the transmitter signal is particularly useful on insulated live wires and removes the need to disconnect the supply to the cable.

**⚠ WARNING: Do not clamp around uninsulated live conductors.**

**⚠ WARNING: Before applying or removing the clamp around a power cable ensure that the clamp is connected to the transmitter at all times.**

## Locating with Passive Frequencies

Passive frequency detection takes advantage of signals that are already present on buried metallic conductors. The RD5100H<sub>2</sub>O+ supports two types of passive frequencies: Power and Radio signals. You can detect these frequencies without the aid of the transmitter.

## Locate Modes

The RD5100H<sub>2</sub>O+ simplifies the locate mode choice by automatic selection. The required locate mode has been designed and optimized to meet the specific use balanced against the required task. Locate modes are selected by the system dependent on the frequency in use.

The locate mode is shown by symbols as follows:



**PEAK:** For accurate locating, the peak bargraph provides a visual readout of the signal strength. The peak signal is found directly over the buried utility. Peak mode is automatically selected in power or radio modes.



**GUIDANCE:** Proportional arrows and a ballistic 'needle' combine with audio left/right indication for rapidly tracing the general path of a buried utility. Switch the Target Position Indicator ON/OFF by holding the  key. Guidance mode is automatically selected with active frequencies (512Hz/640Hz, 4096Hz, 8kHz, 9.8kHz, 33kHz, 65kHz, 83kHz and 131kHz).

## Depth, current and compass readouts

 **WARNING:** Never use the depth measurement readout as a guide for mechanical or other digging activity. Always follow safe digging guidelines.

The RD5100H<sub>2</sub>O+ locator can measure and display the utility depth, locate signal current and the relative orientation of the cable or pipe to the locator. This helps you to make sure that you are following the right cable or pipe, especially when other utilities are present.

The RD5100H<sub>2</sub>O+ locator features TruDepth™, a feature that helps you to ensure the accuracy of your locates or Survey Measurements. The depth and current are automatically removed from the display when the locator is at an angle of more than 7.5° from the path of the cable or pipe being located, or when the locator determines that signal conditions are too poor for reliable measurements.

## Current Direction (CD)

The RD5100H<sub>2</sub>O+Tx transmitter can apply a unique CD signal onto a pipe or cable. This signal can be used to identify an individual pipe or cable amongst a number of parallel utilities, ensuring operators follow the right line. A CD signal clamp or direct connection leads can be used to apply the unique signal to the pipe or cable and a CD locator clamp or CD stethoscope can be used to identify individual pipes or cables.

## Using accessories

The transmitter is compatible with a range of accessories. For detailed information on using any of the accessories below please refer to the RD5100H<sub>2</sub>O+ locator operation manual.

## Transmitter signal clamps

When it is not possible to connect directly onto a pipe or cable, or induction mode is unsuitable, a transmitter signal clamp may be used. The clamp is plugged into the output of the transmitter and provides a means of applying a locate signal to an insulated live wire. This is particularly useful with live insulated cables as it removes the need to disable the power and break the line.

 **WARNING:** Do not clamp around uninsulated live conductors.

 **WARNING:** Before applying or removing the clamp around a power cable ensure that the clamp is connected to the transmitter at all times.

## Sondes, Flexrods and FlexiTrace

Sondes are battery powered transmitters that are useful for tracing non-metallic pipes. They can be fixed to Flexrods to allow them to be pushed through pipes or conduits, and some are suitable for blowing through ductwork. The RD5100H<sub>2</sub>O+ can detect a range of sonde frequencies, including those transmitted by flexiprobe™ pushrod systems and flexitrax™ crawlers.

For a detailed guide on locating sondes, please refer to the operation manual.

A FlexiTrace is a traceable fiberglass rod incorporating wire conductors with a sonde at the end. It is connected to the output of the transmitter and is typically used in small diameter, non-metallic pipes. The user has the option of locating the entire length of the cable or choosing to locate only the tip of the cable.

The FlexiTrace has a maximum power rating of 1W. When using the FlexiTrace with a Radiodetection RD5100H<sub>2</sub>O+Tx transmitter, the output limit must be set to 1W in the MAX P menu and the output voltage limit set to LOW in the MAX V menu.

## Plug / Live cable connector

The plug connector is connected to the output of the transmitter and is used to put a signal onto a line and trace it from a domestic mains plug to the service cable in the street.

The live cable connector can be used to apply a signal to a live cable. Only suitably qualified personnel should use this equipment.

# Bluetooth wireless connection

RD5100H<sub>2</sub>O+ locators feature a Bluetooth wireless module, as standard, providing the ability to connect to the RD5100H<sub>2</sub>O+Tx model transmitter with iLOC.

**NOTE: RD5100H<sub>2</sub>O+ locator wireless features may be subject to national and or local regulations. Please consult your local authorities for more information.**

**⚠ WARNING: Do not attempt any wireless connection in areas where such technology is considered hazardous. This may include: petrochemical facilities, medical facilities or around navigation equipment.**

## Switching Bluetooth on

By default RD5100H<sub>2</sub>O+ locators and Bluetooth enabled transmitters are shipped with the Bluetooth wireless connection module disabled.

1. Press the  key to enter the menu.
2. Scroll to the BT menu using the  or  keys.
3. Press the  key (locator) or the  key (transmitter) to enter the BT menu.
4. Scroll up or down to the ON option.
5. Press the  key to switch Bluetooth ON and return to the previous menu.

You can switch Bluetooth off to conserve battery life, or to comply with regulations in areas where wireless communications are considered hazardous. To do this, follow the above process, selecting 'OFF' in the BT menus.

## iLOC

iLOC lets you control the transmitter remotely using your RD5100H<sub>2</sub>O+ locator. With iLOC you can adjust the output frequency, power settings and use SideStep. iLOC commands are sent over a Bluetooth module that can operate at distances of up to 450m (1400ft) in direct line of sight.

iLOC is a standard feature of RD5100H<sub>2</sub>O+ locators, and requires a Bluetooth equipped transmitter (RD5100H<sub>2</sub>O+Tx).

**NOTE: Operating in built up areas and in areas with high electromagnetic interference may reduce iLOC's performance.**

## Pairing to a transmitter

To pair to a transmitter you require an RD5100H<sub>2</sub>O+Tx transmitter.

Before you begin, you should switch off all nearby Bluetooth equipment as they may interfere with the locator and transmitter's pairing process.

### Preparing the locator:

1. Press the  key to enter the menu.
2. Scroll to the BT menu using the  or  keys.
3. Press the  key to enter the BT menu.
4. Scroll to the PAIR menu and press the  key to enter it.
5. Scroll to the BT-TX option.

**NOTE: You must complete the pairing process within 90 seconds to prevent the locator's Bluetooth connection from timing out.**

### Preparing the transmitter:

6. Press the  key to enter the menu.
7. Scroll to the BT menu using the  or  keys.
8. Press the  key to enter the BT menu.
9. Scroll to the PAIR option.

### Starting the pairing process:

10. Press the  key on the transmitter followed by the  key on the locator.
11. The transmitter and the locator will now attempt to pair.

When pairing is in progress, the transmitter and locator will display a flashing Bluetooth icon. Pairing can take up to a minute. If the pairing process is successful, the transmitter will display the  icon and the locator will display a persistent Bluetooth icon for the duration of the connection.

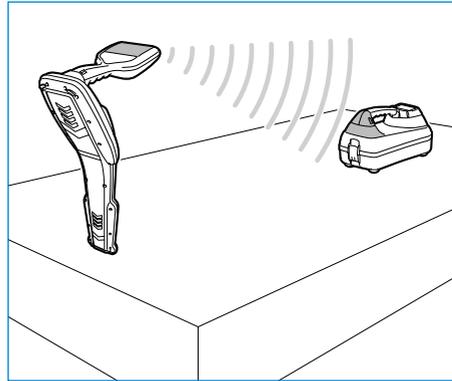
If pairing fails, ensure that any nearby Bluetooth devices are switched off or invisible then repeat the process.

Once the locator and transmitter have successfully paired you can use iLOC to change the transmitter's output frequency and power levels remotely from the locator.

## Using iLOC

The locator and transmitter need to be paired to use iLOC. For optimum performance:

- Try to minimize obstructions in line of sight
- If possible, raise the transmitter off the ground by 30-60cm (1-2ft)
- Face the rear end of the transmitter towards the locator
- Point the screen of the locator towards the transmitter.



**NOTE: If any iLOC commands fail, move closer to the transmitter and repeat the process.**

## Changing frequencies

Once the transmitter and the locator are paired, you can change the transmitter's output frequency remotely using the locator:

1. On the locator, select the frequency you want by pressing the **F** key until the frequency is displayed on screen.
2. Press the **TX** key to send the new frequency to the transmitter.
3. The locator will display SEND momentarily and then OK if the transfer is successful.
4. If the transfer is unsuccessful, the locator will display a bluetooth error code error code (see operation manual for details).

If the process fails, you may be out of range or there may be an error in the connection. Move closer to the transmitter and retry the procedure. If the connection continues to fail, return to the transmitter and reset the connection.

## Adjusting power

iLOC lets you adjust the transmitter's power output remotely; you can also put the transmitter into standby mode and then wake it remotely.

1. Transmitter power options are located in the TXOUT menu on the locator. Press and hold the **TX** key to display the TXOUT menu.
2. Press the **⏪** key to enter the power level menu.
3. Scroll up or down through the power output options using the **⬆** or **⬇** keys:
  - **STDBY:** Transmitter standby mode, the connection is still active but the output is disabled – use to prolong battery life.

- **LOW:** Low power output
  - **MED:** Medium power output
  - **HIGH:** High power output
  - **BOOST:** Temporarily boosts transmitter power output to its maximum level.
4. Once you have selected the mode you want, press the **⏩** key to confirm.
  5. Press and hold the **TX** key to select the new setting and exit the menu.
  6. Press the **TX** key once to send the settings to the transmitter.

**NOTE: When changing the transmitter frequency using iLOC, the chosen transmitter power setting will be retained.**

## Training

Radiodetection provides training services for most Radiodetection products. Our qualified instructors will train equipment operators or other personnel at your preferred location or at Radiodetection headquarters. For more information go to [www.radiodetection.com](http://www.radiodetection.com) or contact your local Radiodetection representative.

## Care and maintenance

The RD5100H<sub>2</sub>O+ locator and transmitter are robust, durable and weatherproof. However you can extend your equipment's life by following these care and maintenance guidelines.

### General

Store the equipment in a clean and dry environment.

Ensure all terminals and connection sockets are clean, free of debris and corrosion and are undamaged.

Do not use this equipment when damaged or faulty.

### Batteries and power supply

Only use the rechargeable battery packs, chargers and power supplies approved by Radiodetection.

If not using rechargeable packs, use good quality Alkaline or NiMH batteries only.

Batteries should be disposed of in accordance with your company's work practice, and/or any relevant laws or guidelines in your country.

## Cleaning

 **WARNING:** Do not attempt to clean this equipment when it is powered or connected to any power source, including batteries, adapters and live cables.

Ensure the equipment is clean and dry whenever possible.

Clean with a soft, moistened cloth. Do not use abrasive materials or chemicals as they may damage the casing, including the reflective labels. Do not use high pressure jets of water to clean the equipment.

If using this equipment in foul water systems or other areas where biological hazards may be present, use an appropriate disinfectant.

## Software upgrades

From time to time, Radiodetection may release software upgrades to enhance features and improve performance of the RD5100H<sub>2</sub>O+ locator or transmitter. Software upgrades are free of charge and provided through a software manager Personal Computer (PC) application.

E-mail alerts and notification of new software releases are sent to all registered users.

## Disassembly

Do not attempt to disassemble this equipment under any circumstances. The locator and transmitter contain no user serviceable parts.

Unauthorized disassembly will void the manufacturer's warranty, and may damage the equipment or reduce its performance.

## Service and maintenance

Regularly check your equipment for correct operation by using the Self-Test function and eCert.

The locator and transmitter are designed so that they do not require regular recalibration. However, as with all safety equipment, it is recommended that they are serviced and calibrated at least once a year either at Radiodetection or an approved repair center.

**NOTE: Service by non-approved service centers may void the manufacturer's warranty.**

Details of Radiodetection offices and distribution partners can be found at [www.radiodetection.com](http://www.radiodetection.com).

Radiodetection products, including this guide, are under continuous development and are subject to change without notice. Go to [www.radiodetection.com](http://www.radiodetection.com) or contact your local Radiodetection representative for the latest information regarding the RD5100H<sub>2</sub>O+ locator or any Radiodetection product.

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

## Global locations

### Radiodetection (USA)

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