RADIODETECTION®

MRX

Locate & Map buried utilities, with Integrated RF Marker Detection

Family Brochure

esri™ Partner Network Member

SPX TECHNOLOGIES

811 Know what's below. Call before you dig.

The Role of RF Markers in Accurate Utility Locating

What are RF Markers?

RF (Radio Frequency) markers locate underground utilities like plastic pipes, fiber optic cables and critical points. Types include marker balls, near-surface, mid-range, and full-range markers. Buried near assets, they are essential for hard-to-find assets. Radiodetection's RF marker locators are engineered to locate the most widely used RF marker types effectively.

How They Work

Each RF marker is embedded with a unique radio frequency that identifies the utility it marks, such as telecoms, gas, or water. When buried during installation or maintenance, the marker ball stays in place, serving as a signal for future detection.

RF markers echo signals when activated by the Radiodetection MRX locator. Since they require no power source, they are durable and maintenance-free, making them a reliable solution for identifying critical infrastructure in dense utility networks.

With these tools, utility locating becomes easier and safer, providing confidence when locating utilities and 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

***Local regulations may limit the use of specific radio frequencies. Please verify compliance with local licensing rules.**

Marker Types

Maximum depth

Near Surface: 60cm / 2'

Ball Marker: 1.5m / 4.9'

Mid-Range: 1.8m / 5.9'

Full-Range: 2.4m / 7.9'

The MRX Advantage: Utility and Marker Ball Locating in One Powerful Device

- **Simultaneous Locate Mode:** Detect RF markers and buried utilities in a single sweep; reducing time, cost, and effort.
- **Pinpoint Precision:** Advanced signal processing ensures fast and accurate locating of even difficult-to-detect utilities.
- **Designed for Professionals:** Three different models to suit every locate professional's needs, including GNSS connectivity and survey-grade mapping.
- **Built for the field:** Manufactured in the UK, the MRX series incorporates decades of Radiodetection's expertise and feedback from the field, ensuring quality and reliability.

Which MRX model is for me?

MRX

Utility Marker Locator

An Ergonomic Locator with combined functionality

- **Boost confidence** with continuous depth estimation and current measurement.
- **Accurately identify** target power cable in the presence of many other utilities.
- **Easily trace sondes** for water and wastewater pipes.
- **Extend functionality** by using accessories such as clamps, A-frame or stethoscope.
- **Effortless data management** using RD Manager™ Online PC software for setup, calibration, and data analysis.

MRX G

Utility Marker Locator

An Ergonomic Locator with combined functionality and advanced features for challenging environments

- **Verify GPS location** with 2-3 m/7-10' accuracy.
- **Navigate congested areas** with confidence using Current Direction™ (CD) technology.
- **Automatically stores all locate parameters** providing a comprehensive picture of field operations – very useful for supervisors or health & safety personnel.
- **Custom frequencies:** Up to 5 additional frequencies can be programmed into your locator to match it to the signals found on your target networks.

MRX SG

Utility Marker Survey-Grade Locator

An Ergonomic Locator with triple functionality, advanced features and survey grade accuracy for mapping

- **Build accurate maps:** 1-2cm/sub-inch* accurate mapping.
- **Locate and Map:** Simultaneously detect and map RF markers and utilities with survey-grade accuracy.
- **Esri® ArcGIS® Field Maps Integration:** Capture and share utility data within your ArcGIS workflow.
- **MAP IT YOUR WAY™:** Integrated GNSS, flexible correction services, preferred mobile app and iOS®/Android™ compatibility ensure easy integration into your mapping workflows.

*Subject to RTK correction service provider and local conditions.

Key Differentiators between MRX Models

	MRX	MRX G	MRX SG
Combined Marker Ball and Utility Locating	✓	✓	✓
Active Locate Frequencies	8	21	21
Antenna Modes	5	7	7
Sonde Frequencies	4	4	4
Passive Modes	3	5	5
Advanced Noise Filtering (Power Filters™)	✓	✓	✓
Fault Find	✓	✓	✓
iLOC™	✓	✓	✓
Usage Logging		✓	✓
Current Direction		✓	✓
4kHz		✓	✓
Custom Frequencies		✓	✓
Mapping Accuracy		2-3m/7-10'	1-2cm/ sub-inch*
Combined Marker Ball and Survey Grade Locating			✓
Esri ArcGIS Field Maps Integration			✓

*Subject to RTK correction service provider and local conditions.

Transmitters

Using a transmitter is recommended to identify and trace buried utilities, as it puts the operator in control.

Key Transmitter Benefits

- **Adaptable Power Options:** Choose between 5W, 10W, or 10W with Bluetooth® Wireless Technology.
- **Finding Faults:** Combine the MRX with an A-frame accessory to identify and pinpoint insulation sheath faults to within 4" (10cm).
- **Deeper, Long-Distance Detection:** The 90V output allows you to trace deeper and further, even on high-impedance lines.
- **Wide Frequency Range:** 256Hz to 200kHz* means more flexibility across various locating scenarios.
- **Quick Diagnostics On-the-Go:** Multimeter function lets you instantly measure line voltage, current, and impedance.
- **Greater Flexibility with Induction:** Use 8 induction frequencies to match different job conditions and improve signal coupling.

*Use of the 200kHz frequency is restricted in the EU and possibly other countries. Please check local regulations.

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