MULTI-THREAT LOCATOR DS

Dual Sensor Detection

Using our "frequency-agile" ground penetrating radar (GPR) and a breakthrough multi frequency continuous wave metal detector (MF-CWMD), the USA-manufactured Multi-Threat Locator - Dual Sensor (DS) provides high-level target detection and target identification with very low false alarm rates.

The MF-CWMD includes a unique set of three induction coils creating a central nested cavity that can sense the secondary field (target signal) with a far-reaching dynamic range. Individual detected threat object signatures can be recorded and then used to identify (ID) similar buried threat targets. Multiple objects can be stored in the system's on-board library and shared with additional MTL-DS detectors.

The GPR is a unique stepped frequency design that measures radar phase data—a capability not available in competing pulsed radar systems. No surrogate test targets are required to calibrate the GPR, ensuring rapid deployment and safe operating conditions.

Both the GPR and CWMD utilize multiple frequencies to maximize depth detection. The CWMD uses 6–10 frequencies and the GPR up to 140 frequencies for optimum performance. Multiple algorithms are used to provide the improved targets vs. clutter discrimination with a high probability of detection (Pd) and low false alarm rate (FAR) regardless of object depth or orientation. Both metal and non-metal objects can be detected with the MTL-DS.

The MTL-DS provides ground penetrating radar combined with a new multi-frequency continuous wave metal detector to outperform conventional dual sensor and standard mine detectors.

Bone conduction headphones and microphone for labeling learned targets

New design 3.3 kg collapsible and foldable for backpack carrying

SPECIFICATIONS

CWMD Unique Features

> In-the-field target learning (mines, UXO, IEDs clutter, etc.)

> Real-time target identification (ID); insensitive to object depth

> Targets identified independent of orientation with on-the-fly clutter recognition

> Typical 6x to 16x better clutter rejection over single frequency systems

> Accurate "hot" soil rejection

> Carbon rods, C wire, IED component detection

> Deeper detection of low conductive targets

> Operator "vocal" input for target ID library

Stepped-Frequency GPR Capabilities

> Automatic terrain learning without the need for operator input or calibration aids

> Accurate shallow and flush surface target detection

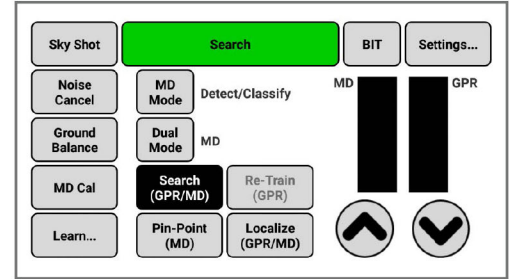> Superior EMI rejection and "close-in" multiple detector operations

Combined CWMD and GPR Features

> Scan swath of 15cm GPR / 25cm CWMD, even for deeper targets

> Frequency-agile to maximize detection and target ID

> "Localize" mode to integrate signals for optimum discrimination performance

> Removable Hand Control modules (push button control / LCD display controls)

> RFI environment compatible

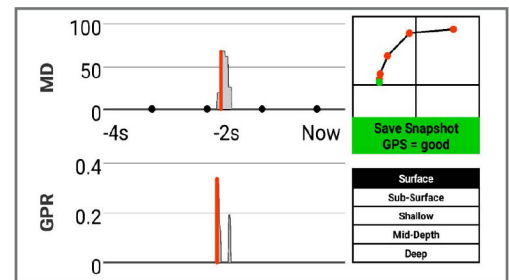|		
> Total Operating Weight:	3.3+/-0.5 kg	Single operator use
> Operating time using commercial rechargeable batteries:	Indefinite; batteries are hot-swappable	
> MIL STD 810F/G and IP68	-20°C to +55°C operating temp	

Design Policy

Specifications are provided for reference only and actual equipment may differ slightly from the description given.

TOUCH-SCREEN DISPLAY INTERFACE

Provides initial startup screen (shown above) and multiple additional screens for target or detector details. It is also customizable based on specific operator needs, including LEDs and graphics.

TOUCH-SCREEN DISPLAY INTERFACE

Easier to use, provides more accurate sensors data, real-time I&Q data for visual ID of objects and GPS tagging.

Extant®
AEROSPACE ▶▶▶

1615 W NASA Boulevard
Melbourne, FL 32901
t +1 321 254 1500
customerservice@extantaerospace.com

Multi-Threat Locator DS

MTL-DS (MD PLUS GPR)

TECHNICAL SPECIFICATIONS		
Product Profile		**MTL-DS**
> Stepped-frequency, Continuous Wave Ground-Penetrating Radar (GPR); > Dual Sensor detector, includes multi-frequency (6–10 frequencies) > Continuous wave metal detection technology > GPR utilizes up to 140 frequencies		**Compliant**
The Metal Detector shall have the capability to distinguish individual target signatures (metallic content) , record the target data, and use the data to "identify" each target type as it is detected. Multiple numbers of targets may be recorded and classified as threats, clutter, or magnetic stones (hot rocks). Wiring carries signals from sensors to control unit.		**Compliant**
The GPR system shall have several operating modes. Target detection in each GPR mode shall indicate by display, the approximate depth of the object. **MODES** > MD only (switchable frequency controls) > GPR/C (GPR coupled, no MD audio) > GPR/D (GPR only) > MD/GPR/C (MD/GPR coupled, with MD audio) > MD/GPR/D (MD/GPR decoupled) > MD/GPR/C/D (MD/GPR all targets mode)		**Compliant**
Detection of buried Metallic and Plastic AP and AT Mines, IEDs and IED Trigger Switches (including carbon rods), non-metallic explosive threats, buried command wires; at functional depths. Detection of minimal metal mines at depths of at least 5cm.		**Compliant** (With metal and non-metal content)
Operational in high RFI environments—including power lines and RFI Jamming instruments.		**Compliant**
Portable Size		**Compliant**
Maximum length:	147cm +/- 2 cm	
Minimum length:	84cm +/- 2 cm	
Weight (total with batteries):	3.3 kg +/- 0.5 kg	**Compliant**
Power source (rechargeable lithium ion batteries):	> 8 x 18650 type > Up to 8 hours of operation with 8 batteries > Hot-swappable / indefinite operation	**Compliant**
Headset:	> Dual-speaker bone conductive (does not cover ears) > Includes microphone for operator vocal inputs for target naming and listening to detection signals	**Compliant**
Removable Hand Control Unit (designed for optional Hand Control models):	1. Standard push-button controller	**Compliant**
	2. LCD display controller with touch-screen control, additional windows with target graphs (Argand display, detection signals, GPS waypoints)	1. Compliant 2. Compliant
Waterproof, shock, temperature to MIL STD 810 F/G		**Compliant**
Daylight-visible LED bar graphs and LCD display, multiple language with capacity to add any language: > MD; Target signal strength > GPR; Indication of target depth		**Compliant** MD and GPR
Audio Operational Guidance:	English, Thai, and multiple-language with the capacity to add any language	**Compliant**
Simple GPR startup; no calibration targets required		**Compliant**
MTL-DS comes complete with carrying case		**Compliant**