

SEARCH & RESCUE



USAR
RESPONSE EQUIPMENT



AN INTERNATIONAL PRESENCE

SUBSIDIARIES AND A STRONG NETWORK OF DISTRIBUTORS





LEADER

Since 1985, LEADER has **designed** and **manufactured** higher performing equipment used in **firefighting, fire training** and **Search & Rescue** applications and supplies them to Fire & Rescue Services, Civil Defense, Hazardous Industries, NGOs, Maritime Services, etc. on the five continents.

A major axis : INNOVATION

To meet the advancing challenges of fire hazards and search & rescue missions, equipment must continually **evolve** and **adapt** to be **more effective** while ensuring **maximum safety for workers**.

To meet these challenges, LEADER is committed to constant **innovation and new technologies** and has its own in-house **Research & Development** team which works alongside end-users to design and develop the equipment that will be available tomorrow.

To test our equipment and assess its performance, we at LEADER continually invest in our own infrastructure:

- ▶ Water and High-Expansion Foam test room (4300 ft²)
- ▶ Ventilation test room (4300 ft²)
- ▶ Victim Search Equipment test area
- ▶ Fire test area in fire container & Fire extinguishing equipment

Our commitment

When you choose LEADER equipment, you are assured of the **quality and compliance of our products**. These have been made in our workshops by our engineering and electronics **specialists**.

ISO 9001 certified since 1999, LEADER:

- ▶ Carries out **checks** at every stage of the manufacturing process as well as on the finished products before dispatch,
- ▶ Provides **continuous training** for all its staff.

Guaranteed equipment

Every LEADER product comes with a specific contractual guarantee.

Close to our customers

Through our sales force, subsidiaries in **Germany and the USA, agencies in Latin America and China and an international distribution network**, LEADER is present worldwide, keeping us as close as possible to our customers.

An organisation at your service

For optimal and long-term use of the equipment you purchase, LEADER can propose suitable training **on the handling, on the use and maintenance of the equipment**. Training can be done at our site or at your own site.



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USAR PROTECTION AND RESPONSE EQUIPMENT

LEADER's innovative equipment exceeds the technical limits hitherto established by using new technologies to improve the field effectiveness of USAR rescue teams so that more people buried under rubble can be saved.



VICTIM SEARCH

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LIFE DETECTORS

FOR DETECTING VIBRATIONS OR MOVEMENTS FROM BURIED CASUALTIES AND FOR LOCATING VICTIMS.

SEARCH CAMERAS

FOR VISUALLY LOCATING AND COMMUNICATING WITH VICTIMS IN CONFINED SPACES.

2 IN 1 CAMERA/DETECTOR

ONE APPARATUS SUFFICIENT FOR VISUALLY LOCATING AND DETECTING THE POSITION OF VICTIMS.



SECURING AN AREA

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SURROUNDING STRUCTURE STABILITY MONITOR

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AC CURRENT DETECTOR

FOR WARNING OF THE PRESENCE OF AC CURRENT IN AN INTERVENTION AREA.



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FOR PROTECTING RESCUERS IN HAZARDOUS SITUATIONS.



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USAR EQUIPMENT DESIGNED WITH AND FOR RESCUE SPECIALISTS

Dedicated to **USAR (Urban Search and Rescue) work**, the purpose of these innovative devices is to **effectively help rescue teams save victims** from natural disasters or major accidents such as collapse of structures, landslides, explosions, fires, etc.

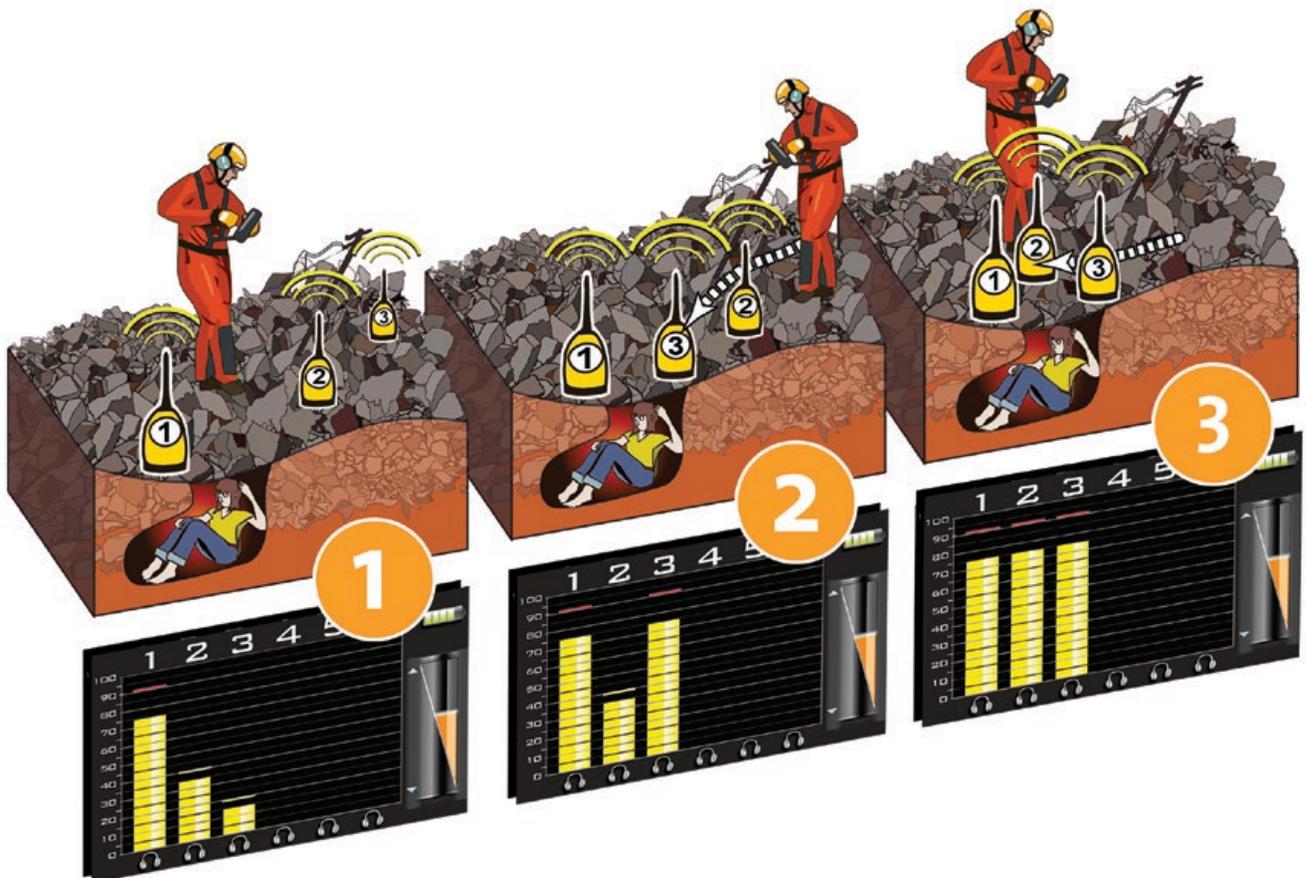
Every rescue situation is different and demands **equipment** both to **help victims** and secure a rescue area or to **protect individual rescuers**.

SEISMIC SENSOR

DETECTING VIBRATIONS FROM BURIED VICTIMS

LEADER Search equipment utilizes wireless seismic technology to allow rapid deployment of up to 3 sensors for ease of use in rubble (no cable to get in the way). Wired sensors can also be connected in order to supplement the action of wireless sensors in certain conditions.

Seismic sensors are used to detect the slightest vibration and locate victims by triangulation. By systematically moving the sensors across a virtual grid representing the disaster zone, and always leaving in position the sensor that picked up the strongest signal, the victim's location is identified when all the sensors receive a signal of equal strength.



UWB SENSOR

DETECTS MOVEMENTS FROM BURIED VICTIMS

Its high sensitivity allows it to detect either irregular movements such as the movement of a finger or regular movements such as the chest movements of a victim who is breathing even if unconscious.

LEADER Scan uses wireless UWB (Ultra Wide Band) technology to allow workers to move more easily even though a wired connection is possible. An operator moves the sensor across the surface of the rubble. The aim is to map the disaster area by identifying the locations of buried victims, while a second operator monitors progress on the control box.

UWB technology detects movements in the vertical search axis of the sensor. The shape of the signal can be simply represented by a cone which accurately detects the movements of a person, or movements characteristic of breathing.



SEARCH CAMERAS

VISUAL LOCATION AND COMMUNICATION WITH A VICTIM

LEADER Cam search cameras are normally used in their extensible telescopic pole version. They allow operators to inspect inaccessible high areas or confined spaces that are difficult to access.

Reel versions with cable are also available for inspecting **cavities, crevices** and **wells** to great depths.



STABILITY MONITOR

MONITORS UNSTABLE STRUCTURES FOR MOVEMENT

The laser is pointed at a potentially hazardous structure and continuously monitors it for the slightest movement. The LEADER Sentry can secure one or two areas simultaneously. If the movement of the structure exceeds the threshold set by the operator, a powerful alarm is triggered to alert operators to an imminent danger of collapse, thus allowing evacuation of people working in the danger zone.

The apparatus can be used to monitor the movements of any object or mass likely to put people in danger, such as beam, all walls made unsafe by fire, mudflows, avalanches, vehicles in unstable situations, etc.



CURRENT DETECTOR

DETECTING AC ELECTRIC CURRENT IN A RESPONSE AREA

LEADER Volt alerts operators of the presence of alternating current without even having contact with the power source.

Can be used in many ways:

- For urban search and rescue following natural disasters to detect unprotected electricity sources,
- In a fire before using water and afterwards during clearance inspections,
- Or before entering a structure containing machinery that could be started up accidentally.



MULTI-RISK HELMETS

RESCUER PROTECTION

The 11 approvals gained for the LEADER Sar multi-risk helmet and its numerous accessories prove it is a true multi-purpose item with a very wide range of uses, including:

- Search & Rescue / Confined Spaces / NRBC Environments
- Marine / White water / Rescue at sea / Inflatable boats / Hovercraft
- Work at height
- Forest firefighting
- Ambulance / Medical emergencies / Road accident assistance
- Quads / Snowmobiles / Horse Riding





Wireless and / or wired life detectors

LEADER has developed life detectors using two technologies to detect buried victims :



A SEISMIC DETECTOR LEADER Search

in which the technology detects the slightest **vibration produced** by the victim by using the collapsed structure as a sort of giant microphone.

With **3 wireless sensors** for use at up to approximately 100 ft in the field and **a range of 330 ft** in open field, it also offers exceptionally good audio quality and good sound transmission for effective detection.

Designed to be rapidly deployed and easily used (no cable).

Three wired sensors can also be connected in addition to the wireless sensors.



A UWB SENSOR LEADER Scan

uses highly sensitive stabilised Ultra-Wide Band technology for detecting either **irregular movements** such as the **movement of a finger**, or **regular movements** such as the **chest movements** of a victim who is breathing even if unconscious.

It sends a signal to pick up movements in the vertical search axis of the sensor. The shape of the signal can be simply represented as a cone that **detects movements at a depth of few meters through more than 7.8 inch thick concrete wall and allows a 100 ft search in free space.**



LEADER Search

Wireless equipment: Unique worldwide!
Detection technology: Seismic

WIRELESS AND / OR WIRED SEISMIC SENSOR

+ KEY POINTS

- ▶ WIRELESS technology for fast set up and ease of movement: no more cables getting caught in the debris!
- ▶ 1 to 6 connectable seismic sensors
- ▶ Up to 3 wireless sensors, each with a range of 330 ft
- ▶ Up to 3 wired sensors, each with 26 ft of cable
- ▶ Compact and lightweight
- ▶ Ergonomic control box
- ▶ Intuitive navigation interface and menu

INCLUDED ACCESSORIES :



Sunshade
Ideal for search in bright sunlight



Hand strap
Provides a practical and ergonomic grip. Shoulder strap also supplied.



Magnets and spikes
To allow use on metal debris, loose soil etc., by fixing them to the base of the sensors.



Responder's backpack
To easily carry the sensors and control box on a rescue mission



Transport case
Rugged, waterproof and shockproof

THE ADVANTAGES THAT MAKE THE DIFFERENCE

AN ERGONOMIC CONTROL BOX :

- ▶ Lightweight
- ▶ Compact
- ▶ Extra-wide color screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Menu and intuitive navigation.
- ▶ Run time: 5 hours
- ▶ Easily replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Hasty, LEADER Cam and LEADER Scan control boxes.
- ▶ Backup pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.



A MULTIFUNCTION DEVICE :

FUNCTION*	IN SEISMIC SEARCH MODE
Audio headphones volume adjustment*	Yes
Microphone volume adjustment*	Yes
Push to Talk*	Yes
Screen brightness adjustment*	Yes
Left- and right-handed use*	Yes
Noise reduction filter adjustment* (low and high)	Yes
Listen to each seismic sensor individually*	Yes
Mono or Stereo listening mode* (selected sensors heard in one or both ears)	Yes
Display trackers* to identify the strongest movement peak	Yes
Wireless sensors' charge indicated	Yes

*Usable simultaneously



HIGH SENSITIVITY LISTENING MODE :

WIRED AND /OR WIRELESS SEISMIC SENSORS :

- ▶ 1 to 6 seismic sensors can be connected to detect sounds from victims such as scratching, knocking, cries, etc.
 - Up to 3 wireless sensors with a range of about 100 ft in the field (no cable management because equipment is wireless)
 - Range in excess of 330 ft in open field
 - Sensor battery life: approx. 8 hrs
 - Up to 3 wired sensors, each with 26 ft cable
- ▶ Adjustable noise reduction filters to eliminate unwanted low/high noises from pneumatic drills, vehicles, the wind, electric power cables, etc.
- ▶ Mono or Stereo mode for listening to the selected sensors in one or both ears

WATERPROOF COMMUNICATION PROBE :

- ▶ Included in the complete version (3 wired + 3 wireless sensors) (optional in other versions).
- ▶ Waterproof to IP67
- ▶ With 26 ft cable
- ▶ Push to Talk function using the probe's microphone and speaker to communicate with buried victims

HIGH-PERFORMANCE NOISE-REDUCING AUDIO HEADPHONES :

- ▶ Noise-reducing design to provide great listening quality without disruptions.
- ▶ Microphone with integrated noise reducer for clear communication with victims
- ▶ 1 or 2 sets of headphones can be connected simultaneously for :
 - either listening to the sensors in seismic listening mode
 - or communicating with victims through the communication probe.

TECHNICAL DATA
PAGES 38 & 39



Wireless connection or wired USB connection via 16.4 ft cable (FEMA requirement)

LEADER Scan

Detects the slightest respiratory movement of a conscious or unconscious buried victim under rubble!
 Detection technology : UWB (Ultra Wide Band)

ULTRA-SENSITIVE UWB MOVEMENT SENSOR



KEY POINTS

- ▶ Compact and lightweight
- ▶ Detects movement from up to 100 ft away in open field
- ▶ Detects breathing from up to 33 ft away
- ▶ Real-time movement detection
- ▶ Wireless or wired connection
- ▶ Intuitive navigation interface
- ▶ Ability to save data during search
- ▶ Battery indicator visible outside of sensor
- ▶ Easily interchangeable battery

INCLUDED ACCESSORIES :



Sunshade

Ideal for search in bright sunlight



Handstrap

Provides a practical and ergonomic grip.



Shoulder strap

For convenient hands-free transport



Responder's backpack

To easily carry the sensor and control box on a rescue mission



Transport case

Rugged, waterproof and shockproof

THE ADVANTAGES THAT MAKE THE DIFFERENCE

AN ERGONOMIC CONTROL BOX :

- ▶ Compact and lightweight
- ▶ Extra-wide color screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Menu and intuitive navigation
- ▶ Run time: 2.5 hours
- ▶ Quickly replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Search, LEADER Cam and LEADER Hasty control boxes.
- ▶ Back up pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.

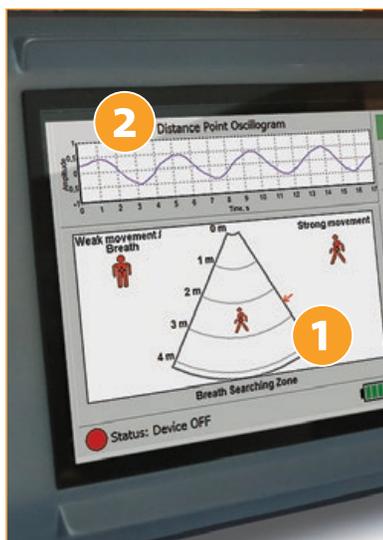
HIGH-SENSITIVITY UWB SENSOR :

- ▶ High-sensitivity sensor using **UWB (Ultra-Wide Band) technology**
- ▶ Lightweight and compact
- ▶ Placed in a small waterproof and shockproof transport case
- ▶ Search distance : Up to 100 ft in open field
- ▶ Accuracy : approx. 3 ft
- ▶ Real-time movement detection
- ▶ 2 search modes : Manual and Automatic
- ▶ 2 batteries (each lasting 4 hours) supplied
- ▶ 2 types of connection to the control box :
 - Wi-Fi with 100 ft range (no cable management problems)
 - Waterproof wired USB (16.4 ft of cable) : Alternative in case of nearby interference preventing use of Wi-Fi

A MULTIFUNCTION DEVICE :

The control box screen indicates the depth at which the victim is located and gives visual indications on his or her movements :

- ▶ Displays small or large movements (respiratory movements or movements of a finger, for example)
- ▶ Displays frequency of movement (suggesting whether human life or not)



FUNCTION	IN UWB SEARCH MODE
GENERAL FUNCTIONS	
Screen brightness adjustment	Yes
Left- and right-handed use	Yes
Indication of charge of control box battery	Yes
Choice of connection to the control box (USB or Wi-Fi)	Yes
Indication of status of connection of control box to sensor (starting, ready to be connected, connected, not connected, error)	Yes
Data recorded (useful for examining search history, re-examining data or during training)	Yes
2 SEARCH MODES :	
AUTOMATIC search mode for rapid deployment. The apparatus automatically analyses several predefined areas (0-13 ft, 13-26 ft, 26-39 ft)	Yes
MANUAL search mode defined by user with selection of search area (Choice of minimum and maximum depth of search area)	Yes
FUNCTIONS AVAILABLE IN SEARCH MODE	
Set minimum search depth (start)	Yes
Set maximum search depth (end)	Yes
Large or small movement indicator	Yes
OSCILLOGRAM FUNCTION	
An arrow is placed at the depth where movement is detected. This enables the operator to : <ul style="list-style-type: none"> ▶ Confirm the presence of movements in the selected search area. 1 (If it detects several movements it will concentrate on the strongest movement) ▶ Display the frequency of the detected movement. 2 	Yes

TECHNICAL DATA
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Search cameras with communication system

LEADER Cam cameras are used during rescue operations to see and communicate with **buried victims**. The **compact and lightweight** control box mounted on an **ultra lightweight carbon-fiber telescopic pole** is specially designed for **precise visual location of victims** in confined spaces.



THE EXTENSIBLE TELESCOPIC POLE

allows the operator to inspect **inaccessible** high areas or confined spaces that are difficult to access. The version connected to a reel allows inspection of cavities, crevices, wells, etc.

SEARCH CAMERAS

also enable communication with the victim when found in order to assess what help is required.



LEADER Cam

Compact, lightweight and ergonomic

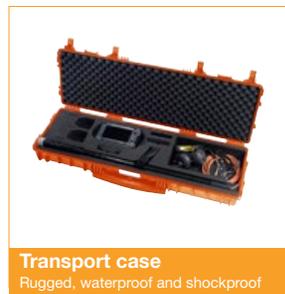
SEARCH CAMERA WITH BUILT-IN COMMUNICATION SYSTEM



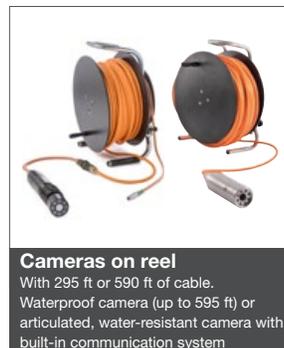
KEY POINTS

- ▶ Position of camera shown on screen
- ▶ Compact and lightweight
- ▶ Ergonomic control box
- ▶ Intuitive navigation interface and menu
- ▶ Extra-wide color screen
- ▶ Ultra lightweight telescopic pole

INCLUDED ACCESSORIES :



OPTIONAL ACCESSORY :



THE ADVANTAGES THAT MAKE THE DIFFERENCE

AN ERGONOMIC CONTROL BOX :

- ▶ Lightweight and compact
- ▶ Extra-wide color screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Menu and intuitive navigation
- ▶ Run time: 2.5 hours
- ▶ Easily replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Search, LEADER Hasty and LEADER Scan control boxes.
- ▶ Backup pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.

A MULTIFUNCTION DEVICE :



FUNCTIONS	IN SEARCH CAMERA MODE
Digital zoom x 2*	Yes
Headphone(s) volume adjustment*	Yes
Microphone volume adjustment*	Yes
Push to Talk*	Yes
Screen brightness adjustment*	Yes
Left- and right-handed use*	Yes
Image rotation* up (0°), down (180°)	Yes
Display of camera head position*	Yes
Display of illumination level of LEDs located on camera head*	Yes
Battery charge indication	Yes
Picture capture*	Yes
Video recording* with sound	Yes
Photo and video gallery to display recordings	Yes
Audio recording (recording of sounds from the communication pole: communication between victim and rescuer)	Yes

*Usable simultaneously



SEARCH CAMERA MODE :

ROBUST AND WATERPROOF CAMERA HEAD :

- ▶ 170° movement of camera head and 260° total field of view
- ▶ Camera protected by scratch-resistant sapphire lens
- ▶ Flexible camera joint head to absorb shocks
- ▶ Water-resistant to 6.5 ft when camera fitted with plug
- ▶ Adjustable LED lighting with 8 intensity levels



ULTRA LIGHTWEIGHT TELESCOPIC POLE :

- ▶ Telescopic from 3.6 ft to 7.9 ft – Up to 13.1 ft available
- ▶ Ultra lightweight carbon-fiber construction
- ▶ "Articulated arm" supplied for mounting the control box on the pole

HIGH-PERFORMANCE NOISE-REDUCING AUDIO HEADPHONES :

- ▶ Noise-reducing design to provide great listening quality without disruptions.
- ▶ Microphone with integrated noise reducer for clear communication with victims
- ▶ 1 or 2 sets of headphones can be connected simultaneously

TECHNICAL DATA
PAGES 42 & 43



SAR
Search & Rescue

LEADER Ha
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2-in-1 Camera/Detector

LEADER Hasty, the **WORLD'S only** multi-functional HASTY tool*, combining several several modes :



A "SEARCH CAMERA" MODE

via a camera integrated into an ultra lightweight telescopic pole for visually and precisely locating victims,

A "SEISMIC DETECTION" MODE

using 3 wireless sensors for detecting signs of life.

The combination of these modes allows the operator to **detect, locate** and **communicate** using a single tool, making deployment times shorter and increasing the survival chances of victims.





LEADER Hasty

The only search device that combines victim detection with a search camera!
 Detection technology : Seismic

WIRELESS SEISMIC DETECTOR & SEARCH CAMERA



+ KEY POINTS

- ▶ 2-in-1 search device
- ▶ Fast deployment
- ▶ Compact and lightweight
- ▶ Ergonomic control box
- ▶ Intuitive navigation interface and menu
- ▶ Extra-wide color screen
- ▶ Ultra lightweight telescopic pole
- ▶ Up to 3 wireless seismic sensors, each with a range of 330 ft
- ▶ Position of camera shown on screen

INCLUDED ACCESSORIES :



THE ADVANTAGES THAT MAKE THE DIFFERENCE

AN ERGONOMIC CONTROL BOX :

- ▶ Compact and lightweight
- ▶ Extra-wide color screen
- ▶ High brightness screen for viewing in full daylight
- ▶ Intuitive navigation interface and menu
- ▶ Run time: 2.5 hours
- ▶ Easily replaceable lightweight compact rechargeable battery.
- ▶ Battery compatible with LEADER Search, LEADER Cam and LEADER Scan control boxes.
- ▶ Backup pack for 10 AAA batteries (not supplied). Makes the device functional even if the battery cannot be charged during rescue operation.

A MULTIFUNCTION DEVICE :

		 IN SEARCH CAMERA MODE	 IN SEISMIC SEARCH MODE
 Digital zoom x 2*		Yes	
 Headphone(s) volume adjustment*		Yes	Yes
 Microphone volume adjustment*		Yes	Yes
 Push to Talk*		Yes	
 Screen brightness adjustment*		Yes	Yes
 Left- and right-handed operation*		Yes	Yes
 Image rotation* up (0°), down (180°)		Yes	Yes
 Display of camera head position*		Yes	
 Display of illumination level of LEDs positioned on camera head*		Yes	
 Noise reduction filter adjustment (low and high)			Yes
 Mono or Stereo listening mode (selected sensors heard in one or both ears)			Yes
 Listen to each seismic sensor individually			Yes
 Display trackers to identify the strongest movement peak			Yes
 Wireless sensors' charge indicated			Yes
 Battery charge indication		Yes	Yes
 Picture capture*		Yes	
 Video recording* with sound		Yes	
 Photo and video gallery to display recordings		Yes	
 Audio recording (recording of sounds from the communication pole: communication between victim and rescuer)		Yes	

*Usable simultaneously

SEARCH CAMERA MODE :

ROBUST WATERPROOF CAMERA HEAD :

- ▶ 170° movement of camera unit and 260° total field of view
- ▶ Camera protected by scratch-resistant sapphire lens
- ▶ Flexible articulation of camera unit to absorb shocks
- ▶ Water-resistant to 6.5 ft when camera fitted with plug
- ▶ Adjustable LED lighting with 8 intensity levels



ULTRA LIGHTWEIGHT TELESCOPIC POLE :

- ▶ Telescopic from 3.6 to 7.9 ft – Up to 13.1 ft available
- ▶ Ultra lightweight carbon-fiber construction
- ▶ "Articulated arm" supplied for mounting the control box on the pole



HIGH SENSITIVITY LISTENING MODE :

1, 2 OR 3 WIRELESS SEISMIC SENSORS CAN BE CONNECTED TO DETECT SOUNDS FROM VICTIM

- ▶ Range of about 100 ft in the field (no cable management because equipment is wireless)
- ▶ Range in excess of 330 ft in open field
- ▶ Sensor battery life: approx. 8 hrs

ADJUSTABLE NOISE REDUCTION FILTERS TO ELIMINATE UNWANTED LOW/HIGH NOISES FROM PNEUMATIC DRILLS, VEHICLES, THE WIND, ELECTRIC POWER CABLES, ETC.

MONO OR STEREO MODE FOR LISTENING TO THE SELECTED SENSORS IN ONE OR BOTH EARS

HIGH-PERFORMANCE NOISE-REDUCING HEADPHONES :

- ▶ Noise-reducing design to provide great listening quality without disruptions.
- ▶ Microphone with integrated noise reducer for clear communication with victims
- ▶ 1 or 2 sets of headphones can be connected simultaneously

TECHNICAL DATA
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OPTIONAL ACCESSORIES FOR TECHNICAL SEARCH EQUIPMENT

FOR LEADER CAM / LEADER SEARCH / LEADER HASTY / LEADER SCAN CONTROL BOXES

BATTERY ALONE (each)

Ref	D11.04.341
Type	Lithium ion. 37 Wh
Weight	0.66 lbs



CHARGER + TRANSFORMER FOR CONTROL BOX

Charger dimensions	H 4.13 x D 1.77 x L 1.38 inch
Charger weight	0.44 lbs
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	UK, EU, AUS, USA



SPARE BATTERY PACK

Ref	200 61 55
Weight with 10 batteries (not supplied)	0.66 lbs



NOISE-REDUCING HEADPHONES

Ref 1 pair headphones only	200 63 82
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OPTIONAL 2ND SET NOISE-REDUCING HEADPHONES

1 pair of headphones supplied with Y connector for connecting 2 pairs of headphones to control box simultaneously	D11.04.340
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SUNSHADE

Ref	For Scan, Hasty and Cam: D11.04.339 For Search : D11.04.338
Material	Thermoformed foam with elastic straps for attaching to control box



NECK STRAP

Ref	200 63 03
Material	Braided fabric supplied with fixing clasps
Length	6 ft



HAND STRAP

Ref	200 61 97
Material	Braided fabric
Adjustment system	Velcro



ACCESSORIES SPECIFICALLY FOR SEISMIC SENSOR

SENSOR (each)	
Wireless sensor (with 1 spike and 1 magnet)	D11.04.335
Wired sensor (with 1 spike and 1 magnet)	D11.04.336



SPIKES (each)	
Ref	200 31 13
Function	Allows sensor to be used on soft ground
Material	Steel



MAGNETS (each)	
Ref	200 35 14
Function	Allows sensor to be used on metal debris
Material	Steel



COMMUNICATION PROBE	
Ref	D11.04.337
Microphone/loudspeaker	Yes
Material	stainless steel
Diameter	1.5 inch
Ingress protection	IP67
Response frequency	300 Hz to 3500 Hz
Cable length	26.2 ft
Cable type	Orange anti-abrasion cable



ACCESSORIES SPECIFICALLY FOR SEARCH CAMERA

DISCONNECTABLE ARTICULATED ARM	
Ref	200 66 21
Function	Pole/control box mounting system
Material	Articulated rigid metal spring
Weight	0.55 lbs



CAMERA ON REEL (each)	
Disconnectable articulated camera with built-in communication system with 295 ft of cable on reel	D11.04.346



WATER-RESISTANT PLUGS	
Ref	200 38 45
Function	Makes camera unit watertight up to 6.5 ft deep
Material	Plastic + rubber seal



WATER-RESISTANT CAMERA ON REEL (each)	
Water-resistant camera (non-articulating) to 295 ft depth with 295 ft of cable on reel	D11.04.347
Reel of additional 295 ft of cable	D11.04.348



EXTENSIONS	
82 ft cable	D11.04.356
295 ft cable on reel	D11.04.348
Connectors	Metal
Cable type	Orange anti-abrasion cable







Stability monitor for monitoring at-risk structures

LEADER Sentry is a movement detector that uses a laser to continuously monitor and detect the slightest movement of an unstable building or potentially unstable structure.



If the structure moves more than the threshold amount set by the operator, a **powerful alarm** is triggered to warn of the risk of **debris falling** from buildings damaged by **earthquake, bomb, gas explosion, fire or any other disaster**.



FOR FIREFIGHTING RESPONSE



FOR USAR RESPONSE



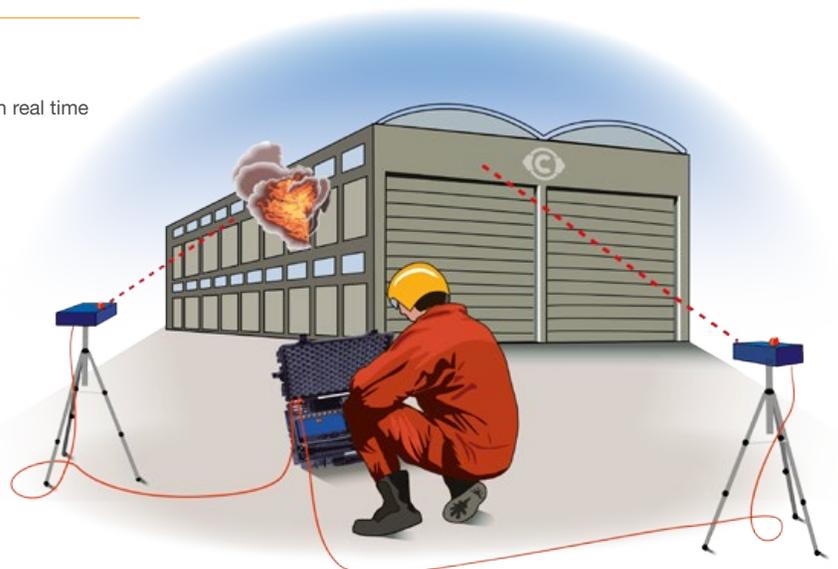
LEADER Sentry

Monitors movements of unstable structures to alert firefighters or USAR teams to an imminent risk of collapse

MOVEMENT SENSOR FOR MONITORING STABILITY

+ KEY POINTS

- ▶ Easy to transport
- ▶ 2 laser beams can operate simultaneously
- ▶ Displays movement status on the screen in real time
- ▶ Audio and visual alarm
- ▶ Units: imperial (inches) and metric (mm)
- ▶ Rain-resistant
- ▶ OLED screen: excellent brightness even in sunlight



THE ADVANTAGES THAT MAKE THE DIFFERENCE

- ▶ Detects a 0.2 inch movement at a distance of 100 ft.
- ▶ A telescopic sight allows the operator to point the laser accurately at the targeted unstable structure.
- ▶ Multiple maximum movement thresholds (from 0.2 to 3.94 inch) can be selected. When a movement is sensed that exceeds the selected threshold, the sound alarm is triggered.
- ▶ Continuously monitors detected movements and displays changes on its screen for real-time awareness.
- ▶ 2 lasers can be connected to the device to simultaneously monitor 2 sides of an unstable building for the safety of rescue teams working around or inside the structure.
- ▶ Various modes available for distinguishing between alarms, faults, etc.
- ▶ Filters out brief interruptions of beam (birds flying through beam, people briefly crossing beam etc.)

CHARACTERISTICS

Model	Dim. L x H x D	Weight	Continuous operation power supply	Backup power run time	T°F of use and storage
LEADER Sentry B1 - Ref D11.06.010					
Shockproof and waterproof case (when closed) containing console control monitor	25.6 x 20.1 x 9.53 inch	approx. 34.2 lbs	12V vehicle supply	15 hrs 30 min with 8 x AA lithium batteries (not supplied) 7 hrs with 8 x AA alkaline supplied batteries	T°F of use : -13°F to +122°F
1 x class 2* laser with 13.1ft of anti-scuff high-viz orange cable					
1 x robust tripod, height-adjustable to avoid interference with site activity (5.9 ft max) with 1 integral hook for attaching ballast at its centre + 1 ball joint for mounting the laser on the tripod.					
8 x AA alkaline batteries + 1 x 110/220V 50/60 Hz mains power pack with adaptors + 1 x 12V cable with vehicle AC adaptor.					
LEADER Sentry B2 - Ref D11.06.011					
Shockproof and waterproof case (when closed) containing console control monitor	26.4 x 20.1 x 14.65 inch	approx. 58.4 lbs	or 110/220V 50/60 Hz mains.	2 connected lasers: 9 hrs with 8x AA lithium batteries (not supplied) 1 connected laser: 14 hrs with 8x AA lithium batteries (not supplied) 2 connected lasers: 3 hrs with 8x AA alkaline supplied batteries 1 connected laser: 7 hrs with 8x AA alkaline supplied batteries or 6 hrs (2 lasers) and 14 hrs (1 laser) by using the 2 nd set of batteries (thanks to the 16 alkaline supplied batteries)	T°F of storage : -40°F to +158°F
1 x class 2* laser with 13.1 ft of anti-scuff high-viz orange cable					
1 x class 2* laser with 65 ft of anti-scuff high-viz orange cable 2 x robust tripods, height-adjustable to avoid interference with site activity (5.9 ft max) with 1 integral hook for attaching ballast at its centre + 2 ball joints for mounting the laser on the tripod.					
16 x AA alkaline batteries + 1 x 110/220V 50/60 Hz mains power pack with adaptors + 1 x 12V cable with vehicle AC adaptor.					

*Output power is less than 1 mW. In case of exposure, the natural reflex to blink and turn the head away is sufficient to protect from risk of injury.

OPTIONAL ACCESSORIES

Model	Ref	Use temperature	Storage temperature
1 laser with tripod for LEADER Sentry B1	D11.06.012	-13°F to +122°F	-40°F to +158°F
Sucker attachment Alternative to tripod for mounting laser on smooth surfaces (glass, vehicles etc.)	D11.06.014		





LEADER Volt

Warns of presence of the alternating current at a distance

AC ELECTRIC CURRENT DETECTOR



KEY POINTS

- ▶ Detects alternating current
- ▶ Safe and easy to use
- ▶ High sensitivity
- ▶ 3 sensitivity modes
- ▶ Water resistant



THE ADVANTAGES THAT MAKE THE DIFFERENCE

SECURING THE AREA

Audio and visual warning of the presence of alternating current (AC) without even having contact with the power source.

3 SENSITIVITY MODES :

- ▶ **High sensitivity** : For remote inspection
- ▶ **Low sensitivity** : Helps find the source of the current
- ▶ **Focus mode** : Precisely detects the current in the axial direction of the device and reduces the influence of other nearby cables



MAIN APPLICATIONS :

- ▶ **Urban Search and Rescue** : Detects unknown sources of AC that are unprotected and dangerous.
- ▶ **Fire** : During and after fires, construction work and inspections.
- ▶ **Vehicle extractions** : Rapid check of intervention site and vehicles in order to identify any AC-related risk. Enables operator to check that electrical circuits are disconnected.
- ▶ **Rescue in Confined Spaces** : Allows operator to check that electrical power is off at the entrance of a site containing machinery or equipment that could be accidentally started up.
- ▶ **Natural disasters** : Rapid check of the extent of a power cut following an earthquake, storm, flood or snow storm. LEADER Volt enables operator to identify live wiring on roads or in spaces inside collapsed buildings or on flooded sites.
- ▶ **Trench rescue** : For locating potential sources of electrical hazards during rescue operations.

MAIN CHARACTERISTICS

- ▶ Weight: 1.26 lbs
- ▶ Dimensions: Diameter: 1.77 inch / Length: 20.51 inch
- ▶ Duration: One set of alkaline batteries (4 x AA alkaline supplied) gives one year of service (if permanently on = 300 hours)
- ▶ Can be used for frequencies from 20 to 100 Hz
- ▶ Températures :
 - use: from -22 to +122°F
 - storage and transport: from -40 to +158°F
- ▶ Typical detection distance :

Voltage	Frequency	Settings	Detection distance adjustment		
			High sensitivity	Low sensitivity	Focus mode
120 VAC 220 VAC	60 Hz 50 Hz	Single conductor (5.9 ft above ground)	15.1 ft	2.95 ft	5.9 inch
120 VAC 220 VAC		Conductor on wet ground	2.95 ft	5.9 inch	1 inch
7.2 kV 16 kV		Overhead distribution line (single insulator)	213 ft	69 ft	19.7 ft
46 kV	60 Hz	Overhead transmission line (several insulators)	>492 ft	>197 ft	>65 ft

CAUTION

LEADER Volt detects only AC (Alternating Current) on damaged/stripped cables. Does not detect DC (Direct Current) such as underground railway train cables, tram cables, very high voltage cables and solar panels.





Multi-risk helmet



Lightweight and comfortable, the LEADER Sar multi-risk helmet provides optimal protection in its basic configuration. It meets the requirements of responders in dangerous or hazardous situations during rescue missions.



Its great **shock-absorbing** capacity enables it to withstand **violent blows from above or from the front, sides or rear**, thus providing very effective head protection.



Its **11 type approvals** and its numerous accessories make the LEADER Sar multi-risk helmet a true **multi-function** item with a **very wide range of applications**.





LEADER Sar

This multi-risk helmet meets the requirements of responders in dangerous or hazardous situations during rescue missions.

MULTI-RISK HELMET

11 TYPE APPROVALS MAKE THIS A TRUE MULTI-FUNCTION ITEM WITH A WIDE RANGE OF APPLICATIONS :

- ▶ Search & Rescue / Confined Spaces / CBRN Environments
- ▶ Marine / Swiftwater / Water Rescue / Ribs / Hovercraft
- ▶ Working at height
- ▶ Forest firefighting
- ▶ Ambulance / Medical emergencies / Road accident assistance
- ▶ Quads / Snowmobiles / Horse Riding



KEY POINTS

- ▶ Light and comfortable
- ▶ Gives optimal protection
- ▶ Meets the requirements of responders in dangerous situations during rescue missions
- ▶ Many accessories

THE ADVANTAGES THAT MAKE THE DIFFERENCE

TYPE APPROVALS & CONFORMITIES

TYPE APPROVALS :

- ▶ EN14052 - 2005: High-performance safety helmet
- ▶ EN397: Flame resistance
- ▶ EN12492: Work at height / Mountaineering
- ▶ PAS 028 - 2002: Marine safety helmet
- ▶ FS/1: Quad bikes and ATVs
- ▶ EN1384: Protective horse-riding helmet
- ▶ EN166 - 2002: Eye protection in industrial environments
- ▶ EN352-3 - 1997: Hearing protection

MEETS THE FOLLOWING STANDARDS * :

- ▶ NFPA1951 - 2007: Protective Ensembles Technical Rescue Incidents (USAR)
- ▶ NFPA 1952:2010: Surface Water Operations Protective Clothing and Equipment 2010 Edition
- ▶ ANSI Z89.1 Type 2 Class C: American National Standard for Industrial Head Protection
- ▶ EN 16471 (in progress) : Wildland firefighting

*European third party tests confirm the LEADER Sar All Risks helmet meets or exceeds the standards listed.

CHARACTERISTICS

THICKNESS & WEIGHT :

- ▶ Shell = 0.12 - 0.24 inch
- ▶ Inner cradle and liner = 0.71 - 0.87 inch
- ▶ Helmet = 1.21 lbs

STRENGTH :

- ▶ Top part = 100 joules
- ▶ Sides/Front/Rear = 90 joules

OPTIONAL ACCESSORIES

Options are supplied not fitted to the helmet. They are additional to the standard equipment (clear visor and photoluminescent vent covers).



Full face transparent polycarbonate visor

Ref: H20.60.010

Requires visor mount **H20.60.012** and visor mount adaptor **H20.60.013** in order to be fitted.



Protective mesh visor

Ref: H20.60.011

For forestry work. Requires visor mount H20.60.012 and visor mount adaptor H20.60.013 in order to be fitted.



Side mount for attaching a torch

Ref: H20.60.027

Adaptable mount for attaching a torch (torch not supplied).



Smoked integral visor

Ref: H20.60.015

Reduces brightness of sun while maintaining optimal colour vision.



Visor mount

Ref: H20.60.012



Neck protection

Ref: H20.60.017



Full face transparent marine visor 6.9 inch

Ref: H20.60.008

Made of LEXAN polycarbonate, is designed to provide additional protection against risks on board fast boats. Meets requirements of standard EN166.



Ambered integral visor

Ref: H20.60.016

Reduces the blue light from the sun's spectrum. The image is sharper, though some slight distortion of colours may occur.



Helmet mount adaptor for visor mount

Ref: H20.60.013

If the helmet is fitted with ear defenders, this adaptor is not required because the visor mount can be secured directly to the ear defenders.



Ear defenders

Ref: H20.60.018

26dB attenuation. The pair are supplied with an adaptor piece to accept the visor mount.



Semi-face transparent marine visor 5.1 inch

Ref: H20.60.009

Made of LEXAN polycarbonate, is designed to provide additional protection against risks on board fast boats. Meets requirements of standard EN166.



Transparent integral visor

Ref: H20.60.031



Inside foam padding

Ref: H20.60.053



Interchangeable sweat band

Ref: H20.60.025



Protective goggles

Ref: H20.60.026

AIR VENT COVERS (PER PAIR) :



Photoluminescent

Ref : H20.60.019



Red

Ref : H20.60.020



Green

Ref : H20.60.021



Black

Ref : H20.60.022



Yellow

Ref : H20.60.023



Royal blue

Ref : H20.60.024



Technical data for search equipment

LEADER Search
LEADER Scan
LEADER Cam
LEADER Hasty

POSSIBLE COMBINATIONS DEPENDING ON SELECTED OPTIONS



	Ref	D11.04.335	D11.04.340	D11.04.346	D11.04.347	D11.04.362	D11.04.348	D11.04.356	2006158	2006557
LEADER Cam 7.9 ft	D11.04.342	0	1	1	1	1	0 (or 1 if used in combination with a D11.04.347)	1	0	1
LEADER Cam 13.1 ft	D11.04.343	0	1	1	1	1		1	1	0
LEADER Hasty 7.9 ft + 1 sensor	D11.04.349	2	1	1	1	1		1	0	1
LEADER Hasty 13.1 ft + 1 sensor	D11.04.350	2	1	1	1	1		1	1	0
LEADER Hasty 7.9 ft + 2 sensors	D11.04.351	1	1	1	1	1		1	0	1
LEADER Hasty 13.1 ft + 2 sensors	D11.04.352	1	1	1	1	1		1	1	0
LEADER Hasty 7.9 ft + 3 sensors	D11.04.359	0	1	1	1	1		1	0	1
LEADER Hasty 13.1 ft + 3 sensors	D11.04.360	0	1	1	1	1		1	1	0
LEADER Cam R90 including 295 ft reel and disconnectable articulated camera	D11.04.344	0	1	0	1	1	1	0	1 (in place of reel but not at the end)	1 (in place of reel but not at the end)
LEADER Cam RD90 including 295 ft reel and camera waterproof up to 295 ft deep	D11.04.345	0	2	1	0	1	1 (camera waterproof only to 295 ft)	0	1 (in place of reel but not at the end)	1 (in place of reel but not at the end)



TECHNICAL DATA LEADER Search

WIRELESS AND/OR WIRED SEISMIC DETECTOR

AVAILABLE VERSIONS

Contents of case	1 control box + 2 wired sensors	1 control box + 3 wired sensors	1 control box + 2 wireless sensors	1 control box + 3 wireless sensors	1 control box + 3 wired sensors + 3 wireless sensors
Ref	D11.04.330	D11.04.331	D11.04.332	D11.04.333	D11.04.334
Control box	1	1	1	1	1
Antenna	-	-	1	1	1
Pair of noise-reducing headphones	1	1	1	1	1
Sunshade	1	1	1	1	1
Shoulder strap	1	1	1	1	1
Hand strap	1	1	1	1	1
Wired seismic sensors	2	3	-	-	3
Wireless seismic sensors	-	-	2	3	3
Communication probe	option	option	option	option	1
Spikes for sensors	2	3	2	3	6
Magnets for sensors	2	3	2	3	6
Battery	1	1	1	1	1
Charger	1	1	1	1	1
International connection adaptor kits	1	1	1	1	1
Spare battery pack (without batteries)	1	1	1	1	1
Orange transport case	1	1	1	1	1
User manual	1	1	1	1	1

CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 9.5 x W 6 x H 2 inch
Control box weight without battery	2.1 lbs
Control box weight with battery	2.7 lbs
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 6.5 ft
Control box water and dust resistance	IP54
Run time	5 hours
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	3 metal ports for connecting headphones, antenna, communication probe or wired sensors
Antenna for interconnection of seismic sensors	Removable and orientable for a range of up to 330 ft in unobstructed space
Connector water and dust resistance	IP68
Operating temperatures	From +14° to +140°F
Storage temperature	From -40° to +158°F

SCREEN	
Type	TFT LCD
Resolution	5" - 800 x 480 px WVGA
Brightness	93 candela / ft ²
Backlighting	LED
Colors	16-bit RGB
Protection	Transparent thermoplastic: 0.12 inch colorless scratch-resistant PMMA

SEISMIC SEARCH EQUIPMENT CHARACTERISTICS

	SEISMIC SENSORS	
	Wireless connection to control unit	Wired connection to control unit
Dimensions with antenna	Height 8.35 inch x Diameter 3.54 inch	Height 3.35 inch x Diameter 3.54 inch
Weight (with standard cell batteries)	1.85 lbs	3.1 lbs
Specificity	Up to 3 sensors with 330 ft range each in unobstructed space	Up to 3 sensors, each with 26.2 ft of anti-abrasion high-viz orange cable
Sensor/control box communication frequency	2.4 GHz	-
Water and dust resistance	IP67	
Shock resistance	Yes	
Audio response frequency	1 Hz to 3000 Hz	
Run time	Approximately 8 hrs depending on battery make	-
Individual control of each sensor from control box	Each sensor can be listened to alone or simultaneously with the second sensor.	
Noise-reducing filters adjustable from control box	Low-pass filter: Removes high sounds. Adjustable from 600 to 3000 Hz High-pass filter: Removes deep sounds. Adjustable from 20 to 300 Hz	
Mono or Stereo listening mode	For listening to the selected sensors in both ears, right ear only or left ear only	
On-screen display trackers	Yellow trackers above each bar graph for clear reading of peaks. Red tracker identifies the highest seismic peak, staying on screen for an additional brief period.	

COMMUNICATION PROBE	
Option, except in the 3 wired sensors + 3 wireless sensors version Ref D11.04.334	
Ref	D11.04.337
Material	stainless steel
Diameter	1.5 inch
Ingress protection	IP67
Microphone/loudspeaker	Yes
Response frequency	300 Hz to 3500 Hz
Cable length	26.2 ft
Cable type	Orange anti-abrasion cable

NOISE-REDUCING HEADPHONES	
Weight	Approx. 0.95 lbs
Mono or Stereo	Stereo
Built-in microphone	Yes, to communicate with victims in search camera mode
NRR (Noise Reduction Rating) hearing protection	23 dB
Number of simultaneously connectable pairs of headphones	2 pairs simultaneously connectable, one being optional (supplied with a Y connector for connecting 2 pairs of headphones to the same control box)

POWER SUPPLY

CHARGER + TRANSFORMER	
Charger dimensions	H 0.4 x W 0.2 x L 0.15 inch
Charger weight	0.44 lbs
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

CONTROL BOX BATTERY	
Dimensions	L 2.5 x W 5.1 x H 1.2 inch
Weight	0.62 lbs
Type	4 Lithium Ion Polymer cells. 37 Wh
Capacity	2500 mA/hour
Run time	5 hours
Charging time	3 hours 30 min
Recharging cycles	500
Charging temperature	+32° to +113°F
Water and dust resistance	IP54
Battery compatible and interchangeable	Yes with LEADER Hasty, LEADER Cam and LEADER Scan
Charge level indication	Continuously displayed on control box screen

SPARE BATTERY PACK	
Dimensions	L 2.5 x W 5.1 x H 1.2 inch
Weight with 10 batteries (not supplied)	0.66 lbs
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Run time	Approx. 1 h 30 min depending on battery make

WIRELESS SENSORS POWER SUPPLY	
Type and number of batteries required	3 x AAA - LR03 alkaline batteries
Run time	Approx. 8 hrs depending of the standard cell batteries brand

TRANSPORT CASE

TRANSPORT CASE	
Material	Rigid impact-resistant polypropylene shell
Suitable for air transport	Integral pressure equalising valve
Dimensions	L 25.6 x W 20.1 x H 9.5 inch
Empty weight	15.4 lbs
Loaded case weight (maximum configuration)	56.4 lbs
Water and dust resistance	IP67

RESPONDER'S BACKPACK	
Material	Polyester 1200
Dimensions	L 22.4 x W 18.5 x D 7.9 inch
Empty weight	5.5 lbs
Color	Red



TECHNICAL DATA LEADER Scan

UWB MOVEMENT DETECTOR

COMPOSITION OF EACH PRODUCT

CONTENTS OF CASE	1 control box + 1 UWB sensor
	Ref D11.07.018
Control box	1
Antenna for control box	1
Battery for control box	1
Charger for control box	1
Spare battery pack (without batteries) for control box	1
Sunshade	1
Shoulder strap	1
Hand strap	1
UWB sensors	1
Antenna for UWB sensor	1
16.4ft USB cable for connecting control box to sensor	1
Battery for UWB sensor	2
Charger for UWB sensor	1
International connection adaptor kits	1
Transport backpack	1
Waterproof and shockproof transport case	1
User manual	1

CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 9.5 x W 6 x H 2 inch
Control box weight without battery	2.43 lbs
Control box weight with battery	3.04 lbs
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 6.5 ft
Water and dust resistance	IP54
Run time	2.5 hours
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	2 metal ports for connecting UWB sensor and antenna
Operating temperatures	From +14° to +140°F
Storage temperature	From -40° to +158°F
Antenna for UWB sensor connection	Removable and articulated for a range of up to 100 ft in open field

SCREEN	
Type	TFT LCD
Resolution	7" - 800 x 480 px WVGA
Brightness	93 candela / ft ²
Backlighting	LED
Colors	16-bit RGB
Protection	Transparent thermoplastic: 0.12 inch colorless scratch-resistant PMMA

UWB SEARCH EQUIPMENT CHARACTERISTICS

UWB SENSOR	
Material	Sensor contained in a waterproof and shockproof orange ABS case
Technology	UWB: Ultra Wide Band
Search distance	Up to 100 ft in open air
Accuracy	Approx. 3.28 ft
Type of connection to control unit	- Wi-Fi connection to control unit with more than 100 ft range. Eliminates cable management problems - Waterproof USB connection with 16.4 ft of cable: Alternative in case of nearby interference preventing Wi-Fi use
Dimensions with antenna	L 17 x W 9.6 x H 13.4 inch
Weight (including battery)	14.7 lbs

POWER SUPPLY

CONTROL BOX BATTERY	
Dimensions	L 2.5 x W 5.1 x H 1.2 inch
Weight	0.62 lbs
Type	4 Lithium Ion Polymer cells (Wh)
Capacity	2500 mA.h
Run time	2.5 hours
Charging time	3.5 hours
Recharging cycles	500
Charging temperature	+32° to +113°F
Water and dust resistance	IP54
Battery compatible and interchangeable	Yes with LEADER Search, LEADER Cam and LEADER Hasty
Charge level indication	Displayed on control box screen

CHARGER + TRANSFORMER FOR CONTROL BOX	
Charger dimensions	H 0.4 x W 0.2 x L 0.15 inch
Charger weight	0.44 lbs
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

SPARE BATTERY PACK FOR CONTROL BOX	
Dimensions	L 2.5 x W 5.1 x H 1.2 inch
Weight with 10 batteries (not supplied)	0.66 lbs
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Run time	Approx. 1 h 30 min depending on the standard cell batteries brand

TRANSPORT CASE AND BACKPACK

TRANSPORT CASE	
Material	Rigid impact-resistant polypropylene shell
Suitable for air transport	Integral pressure equalizing valve
Dimensions	H 14.6 x W 20.1 x L 26.4 inch
Empty weight	Approx. 28.7 lbs
Loaded case weight	66 lbs
Water and dust protection	IP67
Number of wheels	2

UWB SENSOR BATTERY	
Dimensions	L 3.82 x W 5.75 x H 1.51 inch
Weight	1.37 lbs
Type	Li-Ion Endura CUE - D75
Capacity	4.9A / 59Wh
Run time	4 hours
Charging time	4 hours
Recharging cycles	500
Charging temperature	+32 to +104°F
Charge level indication	Visible on outside of sensor

CHARGER + TRANSFORMER FOR UWB SENSOR	
Charger dimensions	H 3.3 x D 5.6 x L 1.1 inch
Charger weight	0.8 lbs
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

RESPONDER'S BACKPACK	
Material	Polyester 1200
Dimensions	L 22.4 x W 18.5 x D 7.9 inch
Empty weight	5.5 lbs
Color	Red



TECHNICAL DATA LEADER Cam

SEARCH CAMERA

AVAILABLE VERSIONS

Contents of case	1 control box + 1 pole (7.9 ft)	1 control box + 1 pole (13.1 ft)	1 control box + 1 articulated camera on 295 ft reel	1 control box + 1 articulated camera on 590 ft reel	1 control box + 1 water-resistant camera on 295 ft reel
Ref	D11.04.342	D11.04.343	D11.04.344	D11.04.366	D11.04.345
Control box	1	1	1	1	1
Pair of noise-reducing headphones	1	1	1	1	0
Sunshade	1	1	1	1	1
Articulated camera on 7.9 ft telescopic pole	1	0	0	0	0
Articulated camera on 13.1 ft telescopic pole	0	1	0	0	0
Articulated camera on 295 ft reel	0	0	1	0	0
Articulated camera on 295 ft reel + 295 ft extension on a second reel	0	0	0	1	0
Non-articulated camera (water-resistant to 295 ft) on 295 ft reel	0	0	0	0	1
Removable articulated arm (pole/control box mounting)	1	1	1	1	1
Shoulder strap	1	1	1	1	1
Hand strap	1	1	1	1	1
Water-resisting plugs (camera water-resistance accessory)	3	3	3	3	0
Battery	1	1	1	1	1
Charger	1	1	1	1	1
International connection adaptor kits	1	1	1	1	1
Spare battery pack (without batteries)	1	1	1	1	1
Photo/video SD memory card	1	1	1	1	1
Waterproof transport case	1	1	1	2	1
User manual	1	1	1	1	1

CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 9.5 x W 6 x H 2 inch
Control box weight without battery	2.43 lbs
Control box weight with battery	3.04 lbs
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 6.5 ft
Control box water and dust resistance	IP54
Run time	2 hours 30 min
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	3 metal ports for connecting headphones and camera
Connections water and dust resistance	IP68
Memory card	Slot for micro SD card for recording photos and videos
Software updating	By specific LEADER USB stick
Operating temperatures	From +14° to +140°F
Storage temperature	From -40° to +158°F
Control unit/pole mounting system	Yes, intended position on back of control box for attaching the supplied articulated arm to connect control unit to pole

SCREEN	
Type	TFT LCD
Resolution	7" - 800 x 480 px WVGA
Brightness	93 candela / ft ²
Backlighting	LED
Colors	16-bit RGB
Protection	Transparent thermoplastic: 0.12 inch colorless scratch-resistant PMMA
Digital zoom	x2

SEARCH CAMERA CHARACTERISTICS

CAMERA HEAD	
Diameter	1.85 inch for entering standard 2.01 inch core holes
Camera articulation	170° (85° to right and 85° to left)
Field of view	260° in total
Type of articulation	Rotation by electric motor
Camera articulation control	From control box
Water resistance	Yes, to 6.5 ft when plug fitted to camera unit (waterproof mode)
Lighting type	8 LEDs with 8 levels of illumination.
Microphone/loudspeaker	Integrated into camera head for half-duplex communication with victim
Response frequency	300 Hz to 3500 Hz

CAMERA	
Type of optics	Lens
Lens	Scratch-proof sapphire
Focal length	F = 0.12 inch fixed
Opening	90°

POLE		
	7.9 ft version	13.1 ft version
Material	Carbon fiber	
Dimensions	Retracted: 3.6 ft Extended: 7.9 ft	Retracted: 3.6 ft Extended: 13.1 ft
Weight	3.1 lbs	4.4 lbs
Removable pistol grip	Yes	
Pole/control box mounting system	Yes, intended location at the back of the control box to fix an "articulated arm" which will allow the user to link the control box at the pole.	

NOISE-REDUCING HEADPHONES	
Weight	Approx. 0.95 lbs
Mono or Stereo	Stereo
Built-in microphone	Yes, to communicate with victims in search camera mode
NRR (Noise Reduction Rating) hearing protection	23 dB
Number of simultaneously connectable pairs of headphones	2 pairs simultaneously connectable, one being optional (supplied with a Y connector for connecting 2 pairs of headphones to the same control box)

POWER SUPPLY

CONTROL BOX BATTERY	
Dimensions	L 2.5 x W 5.1 x H 1.2 inch
Weight	0.62 lbs
Type	4 Lithium Ion Polymer cells. 37 Wh
Capacity	2500 mA/hour
Run time	2 hours 30 min
Charging time	3 hours 30 min
Recharging cycles	500
Charging temperature	+32° to +113°F
Water and dust resistance	IP54
Battery compatible and interchangeable	Yes with LEADER Search, LEADER Scan and LEADER Hasty
Charge level indication	Continuously displayed on control box screen

CHARGER + TRANSFORMER	
Charger dimensions	H 0.4 x W 0.2 x L 0.15 inch
Charger weight	0.44 lbs
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

SPARE BATTERY PACK	
Dimensions	L 2.5 x W 5.1 x H 1.2 inch
Weight with 10 batteries (not supplied)	0.66 lbs
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Run time	Approx. 1 h 30 m depending on the standard cell batteries brand

TRANSPORT CASES / 4 models

	LEADER Cam	LEADER Cam with articulated camera on 295 ft reel	LEADER Cam with waterproof camera on 295 ft reel	LEADER Cam with articulated camera on 2 reels of 295 ft (590 ft total length)
Ref	D11.04.342	D11.04.344	D11.04.345	D11.04.366
Material	Rigid impact-resistant polypropylene shell			
Suitable for air transport	Integral pressure equalizing valve			
Dimensions	H 7.1 x W 16.9 x L 47.6 inch	H 20.1 x W 9.8 x L 25.2 inch		2 cases of H 20.1 x W 9.8 x L 25.2 inch
Empty weight	17.2 lbs	17.5 lbs		35 lbs (17.5 lbs x2 cases)
Loaded case weight	30.9 lbs	50.7 lbs	51.8 lbs	101.4 lbs (50.7 lbs x2 cases)
Water and dust resistance	IP67			
Number of wheels	2	On request		



TECHNICAL DATA LEADER Hasty

WIRELESS SEISMIC DETECTOR & SEARCH CAMERA

AVAILABLE VERSIONS

Contents of case	1 control box + 1 sensor + 1 pole (7.9 ft)	1 control box + 2 sensors + 1 pole (7.9 ft)	1 control box + 3 sensors + 1 pole (7.9 ft)	1 control box + 1 sensor + 1 pole (13.1 ft)	1 control box + 2 sensors + 1 pole (13.1 ft)	1 control box + 3 sensors + 1 pole (13.1 ft)
Ref	D11.04.349	D11.04.351	D11.04.359	D11.04.350	D11.04.352	D11.04.360
Control box	1	1	1	1	1	1
Antenna	1	1	1	1	1	1
Pair of noise-reducing headphones	1	1	1	1	1	1
Sunshade	1	1	1	1	1	1
Camera on 7.9 ft telescopic pole	1	1	1	-	-	-
Camera on 13.1 ft telescopic pole	-	-	-	1	1	1
Removable articulated arm (pole/control box mounting)	1	1	1	1	1	1
Shoulder strap	1	1	1	1	1	1
Hand strap	1	1	1	1	1	1
Water-resisting plugs (camera water-resistance accessory)	3	3	3	3	3	3
Wireless seismic sensors	1	2	3	1	2	3
Spikes for sensors	1	2	3	1	2	3
Magnets for sensors	1	2	3	1	2	3
Battery	1	1	1	1	1	1
Charger	1	1	1	1	1	1
International connection adaptor kits	1	1	1	1	1	1
Spare battery pack (without batteries)	1	1	1	1	1	1
Photo/video SD memory card	1	1	1	1	1	1
Waterproof transport case	1	1	1	1	1	1
User manual	1	1	1	1	1	1

CONTROL BOX CHARACTERISTICS

CONTROL BOX	
Dimensions	L 9.5 x W 6 x H 2 inch
Control box weight without battery	2.43 lbs
Control box weight with battery	3.04 lbs
Control box material	Polypropylene
Anti-shock bumper	Rubber belt around the thickness
Shock resistance	Drop test performed up to 6.5 ft
Water and dust resistance	IP54
Run time	2.5 hours
Startup time	< 1 minute
Keyboard	Phosphorescent
Connections	3 metal ports for connecting headphones, camera and antenna
Memory card	Slot for micro SD card for recording photos and videos
Software updating	By specific LEADER USB stick
Operating temperatures	From +14° to +140°F
Storage temperature	From -40° to +158°F
Antenna for interconnection of seismic sensors	Removable and articulated for a range of up to 330 ft in with seismic sensors in unobstructed space
Control unit/pole mounting system	Yes, intended position on back of control box for attaching the supplied articulated arm to connect control unit to pole

SCREEN	
Type	TFT LCD
Resolution	7" - 800 x 480 px WVGA
Brightness	93 candela / ft ²
Backlighting	LED
Colors	16-bit RGB
Protection	Transparent thermoplastic: 0.12 inch colorless scratch-resistant PMMA
Digital zoom	x2

TRANSPORT CASE

TRANSPORT CASE	
Material	Rigid impact-resistant polypropylene shell
Suitable for air transport	Integral pressure equalizing valve
Dimensions	H 7.1 x W 16.9 x L 47.6 inch
Empty weight	17.2 lbs
Loaded case weight	35.3 lbs
Water and dust resistance	IP67
Number of wheels	2

SEARCH CAMERA CHARACTERISTICS

POLE		
	7.9 ft version	13.1 ft version
Material	Carbon fiber	
Dimensions	Retracted: 3.6 ft Extended: 7.9 ft	Retracted: 3.6 ft Extended: 13.1 ft
Weight	3.1 lbs	4.4 lbs
Detachable grip	Yes	
Pole/control box mounting system	Yes, intended position on top of pole for attaching the supplied articulated arm to connect the control unit and pole together	

CAMERA	
Type of optics	Lens
Lens	Scratch-proof sapphire
Focal length	F = 0.12 inch fixed
Opening	90°

CAMERA UNIT	
Diameter	1.85 inch for entering standard 2.01 inch core holes
Camera articulation	170° (85° to right and 85° to left)
Field of view	260° in total
Type of articulation	Rotation by electric motor
Camera articulation control	From control box
Water resistance	Yes, to 6.5 ft when plug fitted to camera unit (Waterproof mode)
Lighting type	8 LEDs with 8 levels of illumination.
Microphone/loudspeaker	Integrated into camera for half-duplex communication with victim
Response frequency	300 Hz to 3500 Hz

SEISMIC SEARCH EQUIPMENT CHARACTERISTICS

WIRELESS SEISMIC SENSORS	
Type of connection to control unit	Wireless
Wireless seismic sensors	Up to 3 sensors with 330 ft range each in open field
Dimensions with antenna	Height 8.3 inch x Diameter 3.5 inch
Weight (with standard cell batteries)	1.52 lbs
Sensor/control box communication frequency	2.4 GHz
Water and dust resistance	IP67
Shock resistance	Yes
Audio response frequency	1 Hz to 3000 Hz
Individual control of each sensor from control box	Each sensor can be listened to alone or simultaneously with the second sensor.
Noise-reducing filters adjustable from control box	Low-pass filter: Removes high sounds. Adjustable from 600 to 3000 Hz High-pass filter: Removes deep sounds. Adjustable from 20 to 300 Hz
Mono or Stereo listening mode	For listening to the selected sensors in both ears, right ear only or left ear only
On-screen display trackers	Yellow trackers above each bar graph for clear reading of peaks. Red tracker identifies the highest seismic peak, staying on screen for an additional brief period.

NOISE-REDUCING HEADPHONES	
Weight	Approx. 0.95 lbs
Mono or Stereo	Stereo
Built-in microphone	Yes, to communicate with victims in search camera mode
NRR (Noise Reduction Rating) hearing protection	23 dB
Number of simultaneously connectable pairs of headphones	2 pairs simultaneously connectable, one being optional (supplied with a Y connector for connecting 2 pairs of headphones to the same control box)

POWER SUPPLY

CONTROL BOX BATTERY	
Dimensions	L 9.5 x W 6 x H 2 inch
Weight	0.62 lbs
Type	4 Lithium Ion Polymer cells. 37 Wh
Capacity	2500 mA/hour
Run time	2 hours 30 min
Charging time	3 hours 30 min
Recharging cycles	500
Charging temperature	+32° to +113°F
Water and dust resistance	IP54
Battery compatible and interchangeable	Yes with LEADER Search, LEADER Cam and LEADER Scan
Charge level indication	Displayed on control box screen

CHARGER + TRANSFORMER	
Charger dimensions	H 0.4 x W 0.2 x L 0.15 inch
Charger weight	0.44 lbs
Charger input voltage	100 - 240 VAC / 50-60 Hz
International connection adaptors	Yes: UK, EU, AUS, USA

SPARE BATTERY PACK	
Dimensions	L 2.5 x W 5.1 x H 1.2 inch
Weight with 10 batteries (not supplied)	0.66 lbs
Type and number of batteries required	10 x AAA-LR03 alkaline batteries
Run time	Approx. 1 h 30 min depending on standard cell batteries brand



WARRANTY

LEADER guarantees its products from the date of acceptance by the customer.

The respective warranty periods are as follows :

- ▶ LEADER Search : 2 years
- ▶ LEADER Cam : 2 years
- ▶ LEADER Hasty : 2 years
- ▶ LEADER Scan : 2 years
- ▶ LEADER Sentry : 2 years
- ▶ LEADER Sar : 1 year
- ▶ LEADER Volt : 1 year
- ▶ Battery : 1 year or 500 cycles
- ▶ Charger : 1 year

This warranty does not apply where it has been found by our services that the equipment was damaged by :

- ▶ Normal wear due to operation
- ▶ Improper use of the equipment
- ▶ Accidents arising from carelessness
- ▶ Defective maintenance
- ▶ Failure to follow the standards and instructions of the manufacturers
- ▶ Improper storage

Consumables, such as the screen protection window, cases, feet, cables, paint and labels, transport bag, etc. are excluded from the warranty if the defects are discovered after using the product.





ALWAYS IN TOUCH WITH OUR CLIENTS
TO DESIGN THE PRODUCTS YOU WILL
NEED **IN THE FUTURE**



Fire extinction



Mobile ventilation



Thermal imaging



Fire training equipment



Search and Rescue equipment



Foam concentrates & foam proportioning

LEADER NORTH AMERICA Inc.

109-A Summerville Drive, Mooresville, NC 28115 - U.S.A

Tel: 704-662-3377 – Fax: 704-662-3397

info@LeaderNorthAmerica.com

LEADER GmbH

Zur Fabrik 10 - 66271 Kleinblittersdorf - Germany

Tel. : +49 (0) 6805/60067-0 - Fax : +49 (0) 6805/60067-10

info@leader-gmbh.de

GROUPE LEADER S.A.S.

ZI des Hautes-Vallées - Chemin n° 34 - CS20014 - 76930 Octeville sur Mer - France

Tel +33 (0)2.35.53.05.75 - Fax +33 (0)2.35.53.16.32

info@leader-group.eu

SPAIN / PORTUGAL / LATIN AMERICA

spain.portugal.latinamerica@leader-group.eu

CHINA / HONG KONG / MACAU

china@leader-group.eu

www.LeaderNorthAmerica.com