# DELSAR® LIFE DETECTOR®

Detect and Locate Live Victims

# Detect and Locate Live Victims

The Delsar® LifeDetector® systems are used by FEMA, USAR, SUSAR and rescue teams from around the world, the Delsar® LifeDetector® is a seismic/acoustic listening device used to detect and locate live victims trapped in:

- Structural Collapse
- Earthquake
- Landslides
- Mine Disasters
- Explosions
- Cave-ins

Delsar® LD3 - up to 6 Sensors

1. Display panel shows relative signal strength of all sensors simultaneously to allow positive identification of the strongest signal. Peaking meter on each bar indicates highest amplitude reached by each sensor.
2. Audio loop record function records last five minutes of audio for playback and comparison.
3. Filters can be selected to reduce interfering noises.
4. Stereo function allows any two channels to be selected for stereo comparison in headphones.
5. Twin headphone jacks.
6. Dual inputs for increased sensor deployment flexibility. Allows two acoustic search probes to be used simultaneously for stereo comparison.
7. The Zoom key changes the resolution of the bar graph to better differentiate the signals in high signal level conditions.
8. The up and down arrow keys control the gain level of the system.

Delsar® Mini - 2 Sensors

## Delsar® LifeDetector® LD3

The Delsar® LifeDetector® Model LD3 provides seismic and acoustic sensors designed to detect and locate signs of a victim's presence in the voids of a collapsed building or similar entrapment situation.

The LD3 is equipped with two separate sensor systems to detect and locate victims. The seismic sensor system detects sound vibrations traveling through the structure, generated by trapped victims - such as tapping or knocking. The acoustic sensor detects sound vibrations traveling through the surrounding airspace - such as shouting.

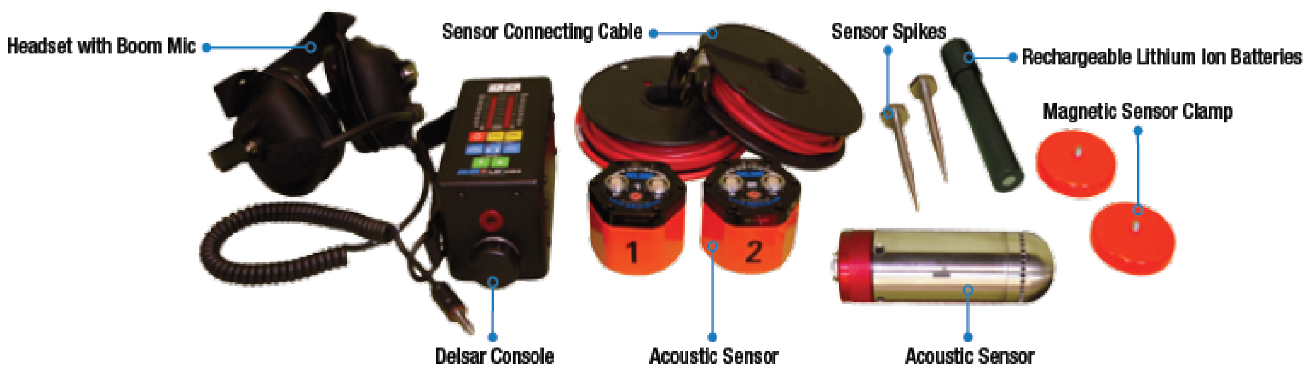
The LD3 Display Interface (DI) allows an operator to listen to and review the relative response of up to six seismic sensors or two acoustic sensors (acoustic sensor #2 is optional). The LD3 displays each sensor's response on the display graph simultaneously for easy comparison and to provide continuous feedback of the victim's response. The operator of the system can listen to any combination of the six seismic sensors.The acoustic sensors allow two-way communication with the victim using an integrated intercom system.


## Delsar® LifeDetector® LD3 Mini

The Delsar® LifeDetector® Model LD3 Mini is designed to detect and locate signs of a victim's presence in the voids of a collapsed building or similar entrapment situation using seismic and/or acoustic sensors.

The LD3 is equipped with two separate sensor systems to detect and locate victims. The seismic sensor system detects sound vibrations traveling through the structure, generated by trapped victims. The acoustic sensor detects sound vibrations traveling through the surrounding airspace.

The LD3 Mini Display Interface (DI) allows an operator to listen to and review the relative response of up to two seismic sensors or two acoustic sensors (acoustic sensor #2 is optional). The LD3 Mini displays each sensor's response on the display graph simultaneously for easy comparison and to provide continuous feedback of the victim's response. The acoustic sensors allow two-way communication with the victim using an integrated intercom system.



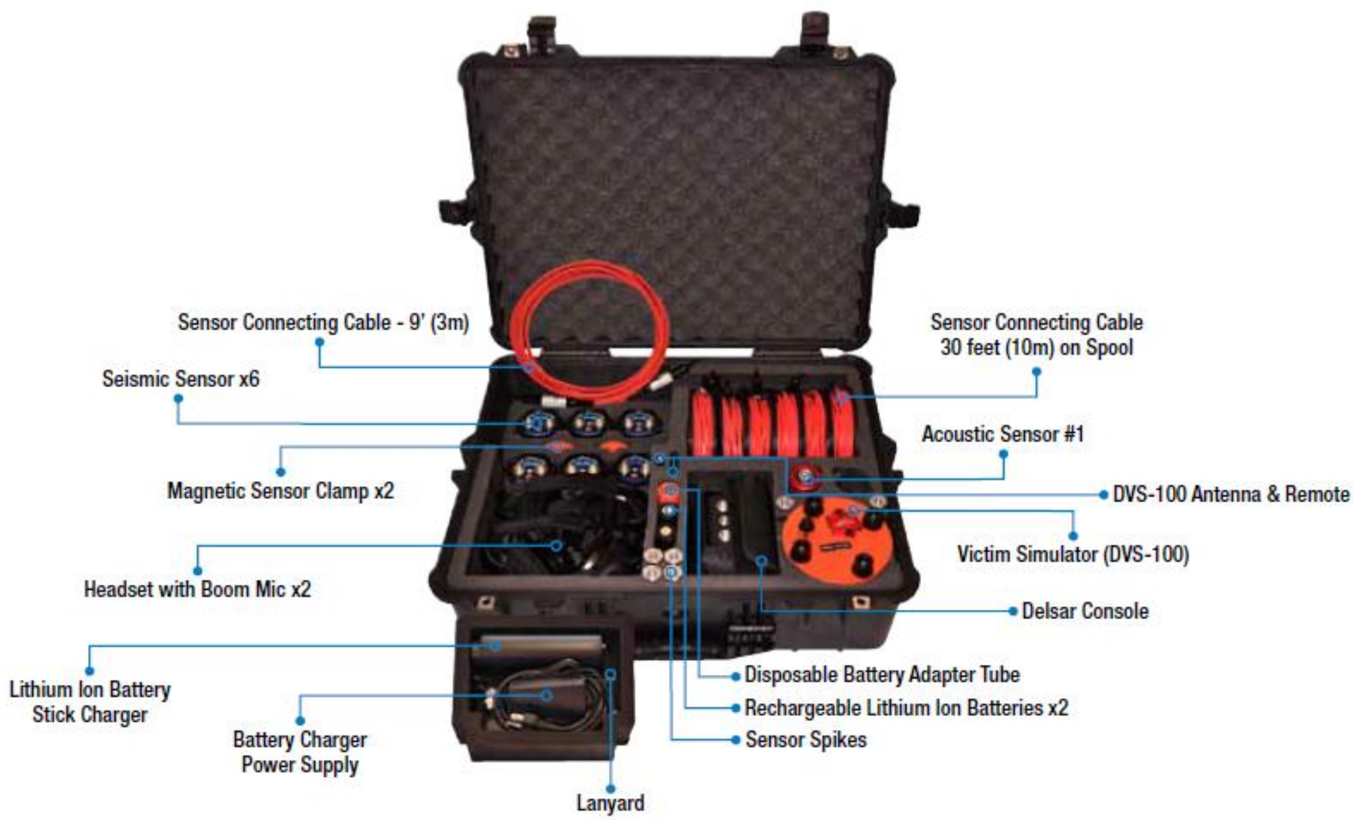
DELSAR®

# Detect and Locate Live Victims

## The New Delsar USAR Kit

The New Delsar USAR Kit combines the Delsar Life Detector Six Sensor System and the Delsar Victim Simulator, together in one ready to deploy case.

The DVS-100 (Delsar Victim Simulator) is an excellent training tool for victim search and rescue, but also doubles as a valubale calibration unit for the Delsar's Seisimc Sensors for use on different surface materials.




Used by FEMA, UKSAR, USAR, SUSAR and rescue teams from around the world, the Delsar USAR Kit is a seismic/acoustic listening device used to detect and locate live victims trapped in:

- Collapsed structures caused by earthquakes
- Explosions
- Landslides
- Mine disasters or cave-ins

The Delsar USAR Kit converts the entire collapsed structure into a large sensitive microphone that transmits noises from entombed victims. The seismic and acoustic sensors convert vibrations created by the live victim into audible and visual signals. The Delsar is rugged, reliable and able to withstand days of continuous use at the disaster site.

## The Delsar Victim Simulator (DVS)

The DVS is a very overlooked accessory to the Delsar Life Detector Family of products. Not only does it provide an excellent tool for training on victim search it also can be used to help calibrate the seismic sensors for different surfaces.

For training purposes the simulator can be hidden in a fake ruble pile or parking garage providing a constant tapping noise for trainees to locate. The remote control give the trainers the flexibility of changing the rhythm to teach patience when conducting searches. Victims get tired and cannot always make a constant, consistent sound.

The DVS has another very critical role to play in the proper use of the Delsar Victim Simulator. Each material whether it be grass, carpet, wood, gravel, concrete or steel has different seismic properties which will affect how far the sensors can be placed apart from each other. The soft materials will absorb vibration which can limit the distances between sensors well below the supplied 10 meter cables. A simple test using the DVS will help the search team determine the safe, allowable distance between sensors by using its constant, consistent vibration signature. Place the DVS on the material you wish to use the seismic sensors on; then move a seismic sensor way from the DVS until it can no longer be heard through the headset. Bring the sensor back to the last point it was heard and measure that distance from the DVS and times it by 2. That will give you the maximum distance between sensors. If you move to a new material, calibrate again.

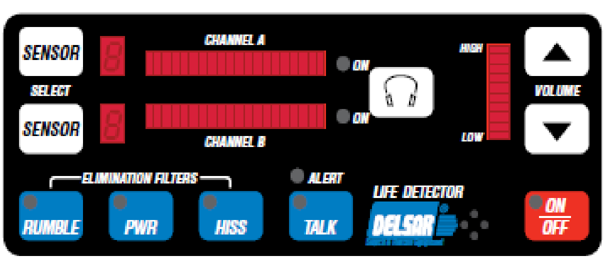
# Why Upgrade From the Old LDC Delsar Model?

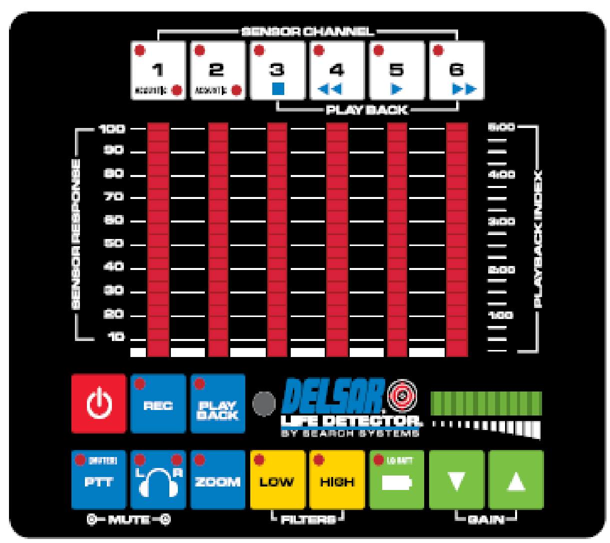
## Migration From the LDC to the LD3

LDC operators may be presented with a scenario where they have to use the newer LD3 system. Migrating from one system to the other is relatively simple. The general principles are the same. This section highlights special considerations that an operator must know when using each system. It is not designed as an Operator's Guide. For more detail on each system, refer to the appropriate section in this guide.

## LDC Display vs. the LD3 Display

The major difference between the LDC and LD3 display interface is the LD3's inclusion of display panels showing relative signal strength of all 6 sensors simultaneously, allowing positive identification of the strongest signal. The LDC only uses 2 display panels for all 6 sensors, which requires the user to manually navigate through in order to identify the strongest signal.



## Delsar LD3 Specifications

| | |
|---|---|
| CONTROL CONSOLE | |
| Sensor Inputs | 2 Strings |
| Seismic Sensor | 6 |
| Acoustic Sensor | 2 |
| Audio Output | 2 Headphone Output |
| Freq. Range | 1 Hz-3000 Hz |
| FILTER RANGE | |
| Low | High Pass, 100 Hz> |
| Acoustic Sensor | Notch 50/60 Hz |
| High | Low Pass, 600 Hz< |
| Record Capacity | 300 Second Loop, Indexed to 15 Second blocks |
| Auxiliary Output | Provides Audio, Chart Recorder & Remote Control Function Capability |
| SEISMIC SENSOR | |
| Position Sensitivity | Both at Vertical or Horizontal |
| Sealing | IP67 (Water & Dust Tight) |
| Shock Resistant | >1000g |
| Freq. Response | 1 Hz to 3000 Hz |
| ACOUSTIC SENSOR | |
| Sealing | IP67 (water & dust tight) microphone must be dry for operation. |
| Freq. Response | 200 Hz to 3000 HZ |
| Options | Telescoping Probe |
| BATTERY | |
| Type | Lithium Ion Sticks |
| Endurance | 6-10 Hrs Depending on Model of Battery & number of Sensors |
| Recharge Time | 3 Hours |
| Charger Power | 110-220- VAC |
| Battery Options | Disposable Lithium cells (CR123) |
| DIMENSIONS | |
| Control Console | 6" W x 5" H x 3.25" D (152 mm x 127 mm x 83 mm) |
| CC Weight | 2.2 lbs (1 Kg) with rechargeable battery |
| Seismic Sensor | 3.5" Diameter x 2.6" H (89mm x 66mm) |
| SS Weight | 16.5 oz. (.465 kgs) |
| Acoustic Sensor | 1.625" D x 6" L (41mm x 152mm) |
| Sensor Cable | 30.2 feet (10 m) |
| Case | 25" L x 20" W x 9" D (81cm x 53cm x 31 cm) |
| Weight Loaded | 45 Lbs. (20.4 Kg) |

## Delsar LD3 Mini Specifications

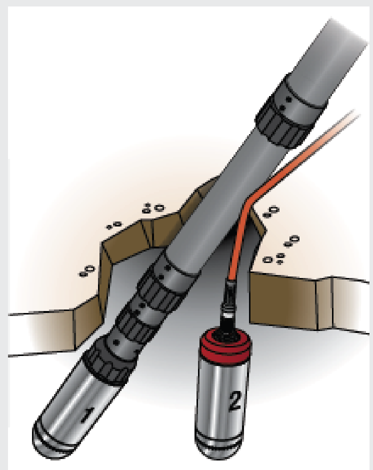
| | |
|---|---|
| CONTROL CONSOLE | |
| Sensor Inputs | 2 Strings |
| Seismic Sensor | 2 |
| Acoustic Sensor | 1 |
| Audio Output | 1 Headphone Output |
| Freq. Range | 1 Hz-3000 Hz |
| FILTER RANGE | |
| Low | High Pass, 100 Hz> |
| Acoustic Sensor | Notch 50/60 Hz |
| High | Low Pass, 600 Hz< |
| | |
| | |
| SEISMIC SENSOR | |
| Position Sensitivity | Vertical or Horizontal |
| Sealing | IP67 (Water & Dust Tight) |
| Shock Resistant | >1000g |
| Freq. Response | 1 Hz to 3000 Hz |
| ACOUSTIC SENSOR | |
| Sealing | IP67 (water & dust tight) microphone must be dry for operation. |
| Freq. Response | 200 Hz to 3000 HZ |
| Options | Telescoping Probe |
| BATTERY | |
| Type | Lithium Ion Sticks |
| Endurance | 12-16 Hrs Depending on Model of Battery & number of Sensors |
| Recharge Time | 3 Hours |
| Charger Power | 110-220- VAC |
| Battery Options | Disposable Lithium cells (CR123) |
| DIMENSIONS | |
| Control Console | 3" W x 3.5" H x 6" D (76.2mm x 88.9mm x 152.4mm) |
| CC Weight | 1 lbs (<1 Kg) with rechargeable battery |
| Seismic Sensor | 3.5" Diameter x 2.6" H (89mm x 66mm) |
| SS Weight | 16.5 oz. (.465 kgs) |
| Acoustic Sensor | 1.625" D x 6" L (41mm x 152mm) |
| Sensor Cable | 30.2 feet (10 m) |
| Case | 21" L x 18" W x 9" D (53.5cm x 45.75cm x 31cm) |
| Weight Loaded | 26 Lbs. (11.8 Kg) |

## Lithium Ion Battery

Uses the new Lithium Ion rechargeable battery tube pack as well as disposable cells making the Delsar® LifeDetector® power compatible with hundreds of rescue teams around the world.

## Acoustic Sensors

Research has shown that airborne sound travels within the under layers of debris, but does not often escape through the outer layers of debris to the surface. It is therefore necessary to penetrate into the structure to effectively use the acoustic sensor. The acoustic sensor was designed with this in mind and can be placed under the surface layers of building debris.




Up to two acoustic sensors can be used simultaneously. The sensors can be lowered into the void space by cable or attached to optional rigid probes that can be pushed into the void. *Acoustic sensor #2 is optional.*

For more Info & Price Quote, Please Contact: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