



Technologies that enhance homeland, border and critical infrastructure security are top priorities in today's escalated threat environment. In any operational scenario, the products and systems that homeland and border security agencies use must be versatile, rugged, easy to operate and cost effective.

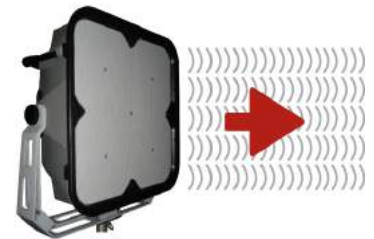
*Proven and in use in more than 70 countries around the world, LRAD® systems provide unparalleled long-range communication and a scalable first response capability for homeland, border and critical infrastructure security applications.*

LRAD Acoustic Hailing Devices (AHDs) broadcast audible, highly intelligible voice messages and deterrent tones from close range up to 3 kilometers. Unlike conventional loudspeakers, bullhorns and vehicle P.A. systems that disperse sound in all directions, LRAD's proprietary audio technology focuses sound in a 15° – 30° beam while substantially reducing audio levels behind the devices and in surrounding areas.

Traditional Speaker



LRAD System



## LRAD – ONE VOICE® MASS NOTIFICATION

Omnidirectional LRAD ONE VOICE® systems combine warning sirens and crystal clear, 360° voice broadcasts to provide advanced mass notification solutions. Most mass notification systems sound emergency warning sirens, but are incapable of broadcasting clear voice messages containing critical information about the severity of the situation and instructions to protect and save lives. LRAD ONE VOICE systems communicate throughout emergency situations and are self-contained or easily integrated with existing communications infrastructure.

*LRAD systems deliver live or recorded voice messages with exceptional clarity for any operational scenario.*

*Optimized to the primary human hearing range of 1 – 5 kHz, LRAD's advanced driver and waveguide technology ensures every broadcast is clearly heard and understood above crowd, engine, and background noise.*



## HOMELAND SECURITY

LRAD Homeland Security solutions add critical first response capabilities to passive integrated surveillance systems by broadcasting powerful warning tones and instructions to potential threats over large distances.

### LRAD SYSTEMS

- › Communicate warnings and instructions to potential threats and intruders
- › Determine threat intent and change threat behavior
- › Establish larger security areas for increased asset protection
- › Provide greater coverage with fewer personnel
- › Increase standoff zones to protect security personnel
- › Extend perimeter security and enforce exclusion zones
- › Reduce false alarms



## LRAD-RX® – REMOTELY OPERATED FIRST RESPONSE SECURITY SYSTEM

Throughout the world, LRAD-RX systems are providing advanced security at airports, seaports, power plants, dams, embassies, government facilities, water treatment plants, industrial complexes and other critical facilities. Most integrated security networks can only monitor with cameras, thermal imaging, motion detectors and other sensors.

Remotely operated LRAD-RX systems provide the critical ‘first response’ capability missing from observe-only integrated security networks. Operating across an IP network, the LRAD-RX turns passive surveillance systems into remote first responders by creating a fully operational unmanned security solution that identifies, warns and deters potential security threats from the safety of command and control centers.

## EMERGENCY INCIDENT COMMUNICATION

Portable, fully self-contained LRAD systems provide Homeland Security agencies an essential communications capability during disasters, civil unrest and other emergencies including:

- › Severe weather, earthquakes, tsunamis, fires & floods
- › Incident communication & management
- › Riot control
- › Curfew and area restriction notification
- › HAZMAT / CBRN incidents
- › Evacuation and search & rescue operations
- › Humanitarian assistance / Disaster relief

### LRAD EMERGENCY RESPONSE

*Thailand’s Department of Disaster Response ordered LRAD systems to support their 2011 and 2012 flood relief efforts.*

*Japanese disaster relief authorities used LRAD 100X and LRAD 500X systems for mass communication after a devastating earthquake and tsunami in 2011.*

*The U.S. Military employed several LRAD systems in Haiti to assist with emergency communications in the aftermath of the deadly 2010 earthquake. Portable LRAD 100X systems were used to broadcast critical information in multiple languages to survivors gathered around aid stations. LRAD 500X systems were mounted on helicopters and utilized to broadcast the locations of aid stations and supplies across heavily damaged areas.*

*The Colorado National Guard deployed several LRAD systems in their successful ground and airborne search and rescue operation of over 3,400 civilians during the historic 2013 floods.*

## BORDER SECURITY

The growing refugee crisis and increasing illegal immigration have placed heavy demands on border security agencies to protect citizens, secure borders and respond appropriately to situations ranging from preventing unlawful acts to providing humanitarian assistance.

*Border security agencies around the world are deploying LRAD systems to:*

- › Safely secure borders and coastal water areas
- › Communicate to refugee groups
- › Direct refugees to aid & assistance centers
- › Conduct special operations
- › Facilitate search & rescue missions
- › Interdict human trafficking and drug smuggling



Integrating remotely operated LRAD-RX tower mounted systems with radar, cameras and other sensors strengthens security for fenced and unfenced border areas. LRAD-RX systems empower border security agencies with a remotely monitored and activated first responder solution not available through passive, sensor-only networks.

*LRAD-RX systems provide security personnel more time and distance to scale the use of force during unauthorized incursions.*



## LRAD-RX SYSTEMS

- › Warn and deter
- › Turn passive surveillance systems into remotely monitored and activated first responders
- › Cover more area with less manpower
- › Facilitate communication
- › Feature military tested construction and all-weather use
- › Seamlessly integrate with existing cameras & other sensors
- › Cost effective alternative to fencing isolated border areas
- › Safe, Proven and Effective

## UNMANNED AERIAL SYSTEMS

Evolving Unmanned Aerial Systems (UAS) are transforming the way border security agencies monitor and protect borders and conduct their operations. Current unmanned systems can't communicate to, warn or engage security threats with a scalable response. Additionally, power requirements limit extended UAS missions making low power, integrated system enhancements imperative.

LRAD Corporation understands these challenges and has developed solutions that complement and expand UAS capabilities by integrating existing sensor networks with LRAD systems to remotely respond to incursions and potential threats from the air.



## HELICOPTER MOUNTED SYSTEMS

Helicopter-mounted LRAD systems provide vital air to ground communication to support a variety of missions including search and rescue, intelligence gathering, command and control, humanitarian assistance, and emergency response.

LRAD Corporation works with defense corporations and government organizations to provide customized UAS and helicopter mounted border security solutions.

*LRAD's unmatched long-range communication and scalable first response capabilities significantly enhance passive integrated surveillance systems and provide advanced homeland, border and critical infrastructure security.*



*From the portable LRAD 100X to larger systems temporarily or permanently mounted on towers, structures, vehicles, trailers, vessels or helicopters, LRAD systems go anywhere communication and security are needed.*