

Long Range Acoustic Device

LRAD

SUMMARY:

The Long Range Acoustic Device (LRAD) 500X currently in inventory was purchased with Homeland Security Grant funds under LETPP 2007. It is maintained by the Emergency Planning Detail and primarily used by the Search and Rescue (SAR) Unit.

CONCEPT:

The LRAD was purchased as a means to issue safety advisories, warnings, and other emergency-related notifications. It was seen as a valuable tool to make announcements to specifically identified areas without excessive “bleed-over” to unaffected areas. Additionally, the LRAD is a practical way for SAR to identify and locate lost/missing persons in the many canyons and hills of rural San Diego County.



LRAD 500X (front)



LRAD 500X (rear)

PROCUREMENT:

The LRAD 500X was ordered and delivered in July 2008. The final cost as delivered was \$31,000. This included on-site training, as well as a user’s manual.

APPLICATION:

After the LRAD was received, it was assigned it to SAR as the primary user. In July, SAR deployed to the annual Sand Castles event in Imperial Beach. The LRAD was used to make public safety announcements in both English and Spanish across the length of the event. It was used to notify the large crowd when the event was over and to leave the area. The LRAD was positively received by the event staff and it generated no complaints.

SAFETY CONCERNS:

In conversations with the technical services representative from the LRAD vendor and review of the operator’s manual from the manufacturer, the following facts about the LRAD 500X are as follow:

- The device only emits sound waves within the audible spectrum of humans hearing;
- The LRAD can cause temporary or permanent hearing damage if operated at the maximum volume and if persons are within 75 meters of the front of the device;

- The LRAD 500X in the Sheriff's inventory does *not* emit low-frequency waves, inaudible to humans, that can have a disruptive effect on human physiology; and,
- The LRAD 500X does *not* project microwaves and poses no hazard to humans in that respect.

The greatest hazard posed by the device, as represented by the manufacturer, is to the operator. Care must be used to ensure it is properly installed, proper power connections are made, and hearing protection is used. These precautionary notes, along with the recommended safety area for those around the device, are posted with the device and are reviewed with the operators.