



Possible Applications

Collapsed Structure Search

In a collapsed structure, it is often times very difficult to communicate with the victim. Usage of a standard megaphone allows the victim to hear the rescuer. However, the rescuer may not be able to hear the faint voice of the victim. The MegaSearchPhone amplifies the weakest of sound, while dampening (reducing) very loud sounds.

Using a simple audio law of physics, sound travels through solid objects such as doors, windows, walls, floor, and ceilings. This phenomena has characteristics better than in air. Sound will travel farther in a solid object than in air.

In addition, the MegaSearchPhone can be used in direct contact with the structure. Sound from the rescuer is transmitted into the structure walls and supports. In return, the sound from the victim is transmitted through the structure back to the rescuer under certain conditions. The MegaSearchPhone contains an air vent which allows for the full audio output of the device to be applied directly to the outer surface of the structure.

Some hazards such as flowing water or gas can also be detected in ideal situations providing an extra level of protection for the rescue team members.

Often structures that are damaged will create structural sounds of weakening or further deterioration. These sounds can be readily identified to determine structure integrity. This allows the rescue team to add additional information in the size-up of the internal hazards before entry.

Confined Space Search

Similar in application and characteristics to a collapsed structure, confined spaces may not be easily accusable to the rescuer. The victim can be located in such a manner as a face to face dialogue is not possible. Most megaphones have adjustable audio outputs.

Thus, by adjusting both the listen and talk audio levels, the MegaSearchPhone can be adjusted to the rescue environment.

Taking into consideration all of the physical characteristics of sound in both open air and in a solid object, the rescue team will have a better chance of a direct dialogue with the victim initially.

Open Water Search and Rescue

Another principle of sound is that sound waves travel less restricted over water with fewer restrictions at night. The Megaphone and MegaSearchPhone are directional devices. Sound is projected primarily in the direction it is pointed and received in the MegaSearchPhone in the same manner. This provides the MegaSearchPhone with the ability to locate the direction of the source of the sound at great distances.

During beach rescue operations, the rescue team on shore can communicate with the victim and the rescue swimmers or craft if direct radio communications is not available.

This principle can also be applied to most vessel mounted hailers. If the vessel's hailer has directional capabilities, a wide area search can be undertaken from one location.

Lifeguard Beach, Open Water, and Pool Operations

Lifeguard's can communicate with swimmers and victims from fixed locations in towers or at the waters edge. This communication pathway may include witness dialogue over long distances for the purpose of rescue coordination.

Open Field, Mountain, and Forest Search and Rescue

In a mountainous setting which may include a dense forest, the MegaSearchPhone can locate the source of voice or other sounds to aid in a directional ground search pattern over a wide area. This may include night operations similar in method to open water searches.

In addition when radio communications may be limited, teams can communicate with one another over very large areas and terrain. Some Megaphones can broadcast the voice one to two thousand yards in favorable conditions. Two MegaSearchPhones teams could effectively double this distance in some situations and improve team to team communications in very harsh conditions.

Closed Structure Search and Rescue

A closed structure would have no immediate access to the interior. The MegaSearchPhone can be used in a similar manner as in a collapsed structure or confined space.

Law Enforcement Search and Communications

Law enforcement staff can communicate at safe distances in unsafe conditions. In addition, the MegaSearchPhone can be physically placed on a structure from the outside, In most conditions, the MegaSearchPhone can talk and listen through double pane glass windows. The full audio output capabilities produce remarkable interior audio effects.

Deep Ravine Search

Rapidly searching for victims that are located in a deep ravine is very difficult. Audio sound waves can be deflected from many directions and usually the victim can not speak loud enough to reach a possible rescue point above. Moving the MegaSearchPhone short distances help to determine the origin of the victims' voice. The directional capabilities coupled with perceived audio level make rapid location possible.

Underground Mine Search and Rescue

Audio communications underground in a collapsed mine may be aided with the MegaSearchPhone capabilities. Any solid object, such as a rail or pipe can conduct sound for great distances if left intact after a collapse. A directly coupled MegaSearchPhone can transmit full audio power and sense returning sound if applied to any solid object common to both sides of an underground collapse.

Cliff Rescue

Applications of the MegaSearchPhone in cliff rescue situations may require techniques similar to ravine and open field conditions.

Large Facility Indoor Search

Large facility searches may require application techniques used in any search or rescue condition. The adaptability of the MegaSearchPhone makes this device ideal for these conditions.

Multiple Team Communications Over a Wide Area

Sound waves can travel further than the human ear can detect. Using two standard megaphones, the distance is limited to the hearing ability of the user. The MegaSearchPhone extends the human hearing capability, thus the distance between two locations. When radio communications is not possible, or less than ideal, the method of using two MegaSearchPhones may help a coordinated search effort.

Note:

1. Most standard megaphones can be upgraded to a MegaSearchPhone.
2. Modification of a megaphone does not alter the basic talk function.
3. All conditions described herein, are theoretical. Some concepts have been tested.