

# Tsunami Warning System



*ELPAM Electronics Ltd. provided a system to warn residents of tsunamis, earthquakes, floods and other natural disasters.*



## ABOUT ELPAM ELECTRONICS LTD.:

The Company's range of operation expended to cover both the domestic and international markets, introducing major electronics technological developments to meet the homeland security challenges, search & rescue, detection and other situations both in Israel and worldwide.

The Company's engineering capabilities range include designing, maintenance, installation, consulting and manufacturing specialized sophisticated electronic devices and systems covering the fields of Public Warning, Alarm and Control Systems.



## Facts About Tsunamis

- ✓ Not every earthquake will generate a tsunami.
- ✓ A small tsunami at one beach may be a giant tsunami a few miles away.
- ✓ A tsunami can strike anywhere and at any time along the U.S. coastline, Western Australia, Pacific region (Japan, Korea, China), Indian Ocean and any Coastal Areas.
- ✓ The only warning you may have is earthquake.
- ✓ Tsunamis can reach the coast within minutes of an earthquake.



**Elpam's warning and information systems use Tsunamis early warning and announcing outdoor systems.**

**The EL3000 high power electronic sirens offered by ELPAM Electronics Ltd.**

**The EL3000 are acoustic warning systems used to provide warnings in emergency states.**

## TSUNAMI WARNING SYSTEM ENVIRONMENT

### **Tsunami detection:**

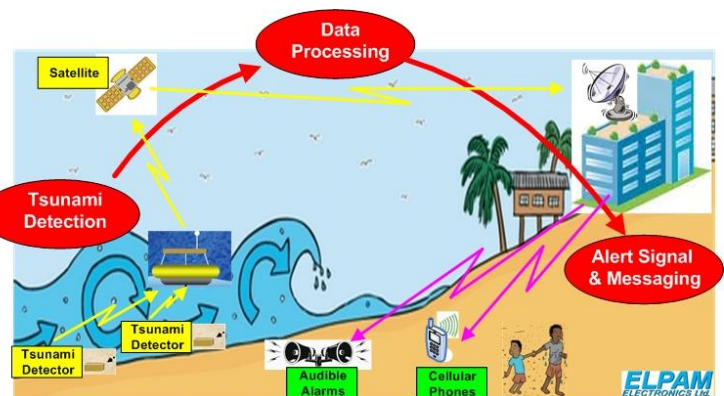
- Sensor system for the detection of the earthquake and the tsunami wave.
- Data transfer from surface to the processing centers

### **Data processing and data management:**

- Data collection and processing at the processing centers.
- Derivation of alert messages including maps with evacuation routes

### **Alert Signal & Messaging:**

- Through the internet (LAN/WAN, VPN), digital or analog VHF/UHF radio, digital radio TDMA, GSM, GPRS, WiMax, and conventional PSTN lines or leased lines.
- To Electronic Sirens and Cellular phones, including evacuation routes.



## TSUNAMIS: Monitoring, Detection, and Early Warning Systems - SOLUTION DESCRIPTION

### A Sensors-Monitoring System:

Sensors for detection.

The sensors can be directly connected to Satellite, Elpam Electronic Sirens or can be transferred to Control center.

### B Satellite System:

For data transfer from Monitoring System to Control or Activation of individual sirens.

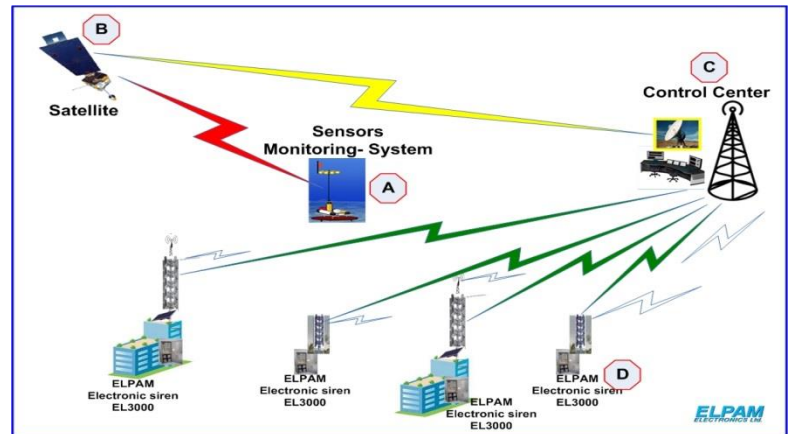
### C Control Center:

Activate the sirens

### D ELPAM Electronic Siren:

The EL3000 high power electronic sirens offered by ELPAM Electronics Ltd.

The siren equipped with alternate batteries for the case of outage and solar cells that do not require any external power supply.



### EL3000 high power electronic sirens

- Ability to connect local audio signal inputs, including a local microphone or other local signal sources.
- 300 to 3000 Watts of continuous audio power – 103dB(A) to 124dB (A) at 30m.
- Separate class “D” 300W true RMS amplifiers with up to 90% power efficiency.
- Local activation capability.
- Power supply from maintenance-free batteries.
- An RS232 port.
- Enhanced automatic testing routines, including so-called “silent” siren tests, complete functionality tests.
- Different local activation options.
- Different remote activation options.
- Intelligent battery recharging, charging current optimizing based on modern algorithms recommended by manufactures to prolong battery life.
- A stainless steel cabinet.
- Solar operation to keep the batteries charged in applications where AC is not available.
- Microphone for on-site announcements.
- 2 batteries.
- Very low standby power requirements.
- System function surveillance via microprocessor.
- Very High MTBF (Mean Time Between Failures)
- Activation of up to 7 individual alert signals and live PA.
- Built-in tone generator providing for six standard, pre-configured tones
- Weather-proof Siren Horns.
- Modular Siren Head Construction.
- 360° Omnidirectional Sound Propagation.
- Extremely high dB/W sound pressure level.
- Operating Types: Local activation, Remote activation, Activation via remote control panel and Voice announcements.
- Integrated batteries allow operation independent of mains power.
- Local operating unit, including LCD display and keypad.



*Features and Specifications are subject to change without prior notice*