Mass notification
Supporting military operations worldwide
ALERiTY
Integrated mass notification solutions by Eaton; designed to protect, alert and inform your most critical asset—your people

ALERiTY
/a•ler•i•tee/
n.
1. the quality of alerting with clarity—clear, intelligible and reliable emergency communications
2. unified interoperability platform that seamlessly manages in-building and wide-area mass notification
3. situational awareness, integration with life safety, security and notification systems
4. the state of meeting stringent life safety requirements
Eaton is successfully providing Anti-terrorism/Force Protection (AT/FP) for hundreds of military sites worldwide and is the premier choice for many Department of Defense (DoD) facilities. Every day, WAVES High Power Speaker Arrays (HPSA), part of our ALERITY solutions, are helping protect our armed forces in some of the world's most demanding environments and circumstances.

**Industry-leading intelligibility**

Using an advanced amplification system design, the HPSA features industry-leading intelligibility. It broadcasts live and pre-recorded intelligible voice messages and tones, covering large geographic areas. Eaton's Giant Voice speaker arrays ensure that you get the right message to the right personnel at the right time.

ALERITY features a suite of critical communication solutions, including RF, IP and direct hard-wired networks, to leverage your existing infrastructure and expand coverage to outdoor areas.

- Designed to meet Life Safety requirements, TÜV certification, the HPSA-7100-R series integrates directly to your existing audio source, including voice-capable Fire Alarm Control Panels (FACP), providing a simple upgrade path to expand coverage to outdoor areas. It can be also be integrated with Eaton’s SAFEPATH Voice Evacuation Systems (SP40S) and Mass Notification Systems (SPMNS).

- Approved by TÜV to meet Life Safety requirements, the WAVES HPSA-8100-R series distributes messages via a secure, robust and reliable Ethernet communications network. Both wired and wireless solutions are available. Supervision and monitoring of the HPSAs assures that commands are completed as attended with one click status of each HPSA. Through a Web-client server solution, remote activation and monitoring of HPSAs are available via multiple command and control stations. The HPSA-8100-R Series can be added to expand outdoor coverage in an existing 2.4 GHz WAVES system.

- Mobile Speaker Arrays (MSA), mobile mass notification systems, are idea for disaster management, temporary events, construction sites, tactical operation, and forward unit deployments.
Advanced Amplification Design

vs. traditional speaker-siren design

Advanced amplification design

- **Higher intelligibility**: HPSA's vertical line arrays provide a narrow vertical output pattern for focusing sound at audiences, without wasting output energy on the floor and up in the air; the more narrow the beam, the less distortion due to reflections, resulting in higher intelligibility.

- **Equalized intelligibility**: HPSA's vertical line arrays approximate a line source of sound, creating a nearly cylindrical sound propagation pattern, resulting in balanced sound power output; messages are clearly heard at 100 feet as well as 1,500 feet.

- **Directing sound where you need it**: HPSA speakers can be mounted for omni-directional and directional speaker coverage.

- **Intelligibility ratings**: 0.8 Common Intelligibility Scale (CIS) rating; Phonetically Balanced Word Score Test—better than 95%*

- **Energy Efficient**
  - HPSAs only need one 100-watt driver per horn; two drivers needed for 360° coverage, equalling a fraction of the number of drivers required for traditional speaker system designs.
  - Utilizing Class D amplification technology and better power management, the HPSA amplifier is better than 90% efficient, enables lower current draw and increased battery life, requiring fewer speakers and significantly less power for a substantially larger range.

Traditional speaker-siren

- **Broadcasts miss the majority of the target audience**—by directing sound energy to the ground and up into the air, sound energy is wasted on areas that provide no benefit to the audience.

- **Distorted messages**—ground reflections cause sound waves to bounce off the ground and arrive at different times to a person's ear, resulting in incomprehensible announcements.

- **Typical systems require more than one driver per horn (up to 4 drivers—400 watts)**, creating turbulence at the mouth of the horn and reducing the overall acoustic efficiency of the horn/driver system.

* Test was conducted under ideal conditions at 700 meters (2,300 ft) in a semi-circle around the HPSA.
Eaton’s HPSA advanced amplification system design penetrates the atmosphere at a narrow band, focusing the beam directly at the audience, which results in better sound pressure and higher intelligibility at significantly less power for a broader coverage range.

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of Horns</th>
<th>Watts</th>
<th>dB (C) @ 100’ (30 m)** 180°</th>
<th>Effective Range** – 180° Radius @ 70dB(C)</th>
<th>dB (C) @ 100’ (30 m)** 360°</th>
<th>Effective Range** – 360° Radius @ 70dB(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPSA-x1x2</td>
<td>2</td>
<td>200</td>
<td>110</td>
<td>1600’ (480 m)</td>
<td>105</td>
<td>1200’ (366 m)</td>
</tr>
<tr>
<td>HPSA-x1x4</td>
<td>4</td>
<td>400</td>
<td>115</td>
<td>2400’ (732 m)</td>
<td>110</td>
<td>1600’ (480 m)</td>
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<tr>
<td>HPSA-x1x6</td>
<td>6</td>
<td>600</td>
<td>119</td>
<td>3040’ (927 m)</td>
<td>114</td>
<td>2240’ (683 m)</td>
</tr>
<tr>
<td>HPSA-x1x8</td>
<td>8</td>
<td>800</td>
<td>123</td>
<td>4160’ (1268 m)</td>
<td>118</td>
<td>2880’ (878 m)</td>
</tr>
</tbody>
</table>

**Field testing was performed in accordance with ANSI/ASA S12.14-1992, reaffirmed September 11, 2007. Actual SPL.

Efficient speaker design provides uniform sound coverage.
HPSA components
- 2–8 horns, varies by model number
- Assembly horn driver with cover (number varies by model number)
- Electronics cabinet includes either IP Communicator (IPC2) or Audio and Monitoring Bridge, and four 65AH batteries
- Optional microphone for set-up and testing—HPSA-MIC

Emergency operation
- Proven operational in emergencies
- Continuous emergency operation regardless of primary power outage
- Intelligent battery charger maintains batteries at optimal charge state and supervises the batteries for multiple fault conditions

Energy & cost efficient
- Advanced amplification system enables lower current draw and increased battery life, requiring fewer speakers and significantly less power for a substantially larger range

HPSA features
- Highly intelligible live and pre-recorded voice and tone announcements
- Broadcast emergency messages with clarity up to 2,000 feet
- Omni-directional and directional speaker coverage options to direct sound where you need it
- Variety of mounting options
  - Deployed on a static pole
  - Affixed to a building
  - Mounted on a rooftop
- Trouble Signals—six discrete trouble signals (HPSA-7100-R) include No AC, No Battery, Low Battery, Door Open (tampered), Amplifier Fault, and Driver Fault
- Remote operation from the IBS or locally from the HPSA-8100-R models
- Supervision and monitoring with auto-diagnostics; online network diagnostics and configuration (HPSA-8100-R models)
Eaton understands the unique missions and operational imperative of our military customers and is fully committed to furthering your mission through:

- Personnel Safety
- Anti-Terrorism & Force Protection
- Homeland Security Defenses
- Training and Exercises

Eaton’s MNS solutions can also be used for everyday operations including playing service music and broadcasting general and scheduled announcements.

- Sole MNS supplier to the U.S. Marine Corps
- Leading MNS provider for U.S. Army and U.S. Navy
- Exclusive warn system utilized by PM C-RAM defense program
- U.S. Military programs: JPM Guardian, NAVFAC, and PM ADAM
- Field-tested, Battle Proven – Iraq, Afghanistan

Experience

A pioneer in the field of MNS, Eaton has worked closely with the DoD over the past two decades to design and customize mass notification solutions for U.S. military operations.

Service & Support

Eaton’s highly skilled service and support teams fully embrace the significance of ALERITY as a life safety system, understanding that any downtime is too long. To help reduce stress in a crisis, Eaton’s experienced professionals are available to offer technology solutions, help troubleshoot issues, and assist with maintenance activities to enable your Mass Notification System to operate at optimal performance levels.

Proven reputation

As a premier provider to the federal government, Eaton’s advanced MNS solutions are helping save lives each and every day in the world’s most troubled regions. The HPSA is available in a variety of models and options to instantly inform personnel and the public of exactly what to do and where to go with clear, intelligible and timely communications.

When personnel and public safety are at risk, why would you rely on anything less?