Mass notification
Providing industry-leading intelligibility
ALERiTY

Integrated mass notification solutions by Eaton; designed to protect, alert and inform your most critical asset—your people

Wide-area mass notification applications for the Oil & Gas Market

- Communications
- Shoreline warning
- Perimeter protection
- Temporary communications for construction sites
- Community warning
Today’s threats require clear, concise and intrusive voice messages that communicate how people should respond in an emergency. That’s why WAVES High Power Speaker Arrays (HPSA), part of our ALERiTY solutions, are the perfect Mass Notification Systems (MNS) for notifying your personnel and community.

Industry-leading intelligibility
Using an advanced amplification system design, WAVES HPSAs feature industry-leading intelligibility. It broadcasts live and pre-recorded intelligible voice messages and tones, covering large geographic areas. Whether it’s notifying employees of a plant evacuation or warning your community of a HAZMAT accident, Eaton’s Giant Voice speaker arrays ensure that you get the right message to the right people 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 2</td>
<td>2</td>
<td>200</td>
<td>110</td>
<td>1600’ (480 m)</td>
<td>105</td>
<td>1200’ (366 m)</td>
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<tr>
<td>HPSA-x1x4 4</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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<td>HPSA-x1x6 6</td>
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<td>600</td>
<td>119</td>
<td>3040’ (927 m)</td>
<td>114</td>
<td>2240’ (683 m)</td>
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<tr>
<td>HPSA-x1x8 8</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)
Providing decades of experience and innovation, Eaton is the industry’s foremost developer in advanced technological solutions for the rapidly growing mass notification market, where intelligible, reliable and redundant communications are paramount for responding to threats.

**Multi-use applications**

Eaton is helping emergency managers and security professionals in more than 500 MNS installations worldwide deliver critical alerts when it matters most. Eaton’s Wide-Area Mass Notification Systems are successfully providing emergency communications for all types of threats and disasters in various types of occupancies. HPSAs can also be used for general announcements, crowd control and special events.

- Refineries
- Petroleum Plants
- LNG Facilities
- Ethanol & Biodiesel Plants
- Chemical Processing Plants
- Industrial Facilities
- Critical Infrastructure

**Service & Support**

Eaton’s highly skilled service and support teams fully embrace the significance of ALERTiTY 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 battle-tested and battle-proven every day by protecting our armed forces in the most demanding environments and circumstances. The HPSA is available today in a variety of models and options to instantly inform people 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?**