

## GAI-Tronics has a sixty year history of manufacturing paging and alarm systems designed to meet customer requirements.

In addition, we offer engineering services to our customers to design the optimum system to meet your functional requirements, as well as comply with regulatory requirements.

In today's ever changing global market, interpreting and implementing regulations can be a difficult challenge. GAI-Tronics will help to interpret the requirements of regulatory bodies that impact the design of paging and alarm systems. Many times, multiple solutions are available to meet the various agency obligations. GAI-Tronics has successfully provided paging and alarm systems that meet the following regulatory demands. Below is a partial listing of agencies which have approved our systems:

- Code of Federal Regulations (CFR46) for Shipping
- Code of Federal Regulations (CFR29) for Occupational Safety and Health Administration (OSHA)
- American Bureau of Shipping (ABS)
- Det Norske Veritas (DNV)
- American Petroleum Institute (API)
- International Maritime Organization (IMO)
- Safety of Life at Sea (SOLAS)
- United Kingdom Offshore Operators Association (UKOOA)



GAI-Tronics public address and general alarm systems have gained additional functionality over the years. As facilities continue to grow in size and capacity, the logistics of hardwiring a system become confusing. Our engineering survey will answer all of the following issues during the design process: How far may the system cable traverse before additional power supplies are required? With central amplifier systems, what gauge wire is needed to support the loudspeakers at remote locations without losing valuable decibel output? Will the regulations require backup power supplies and redundant cable loops? How do we interface from our Fire and Gas detection systems to trigger alarm outputs at the GAI-Tronics emergency notification system? How do we add visual signaling devices to augment the audio on extremely high noise areas?

Whether visiting the site to provide installation training, product training or perform an engineering survey to gather data on existing equipment, **GAI-Tronics is the leader in paging and emergency notification systems.** Training may take place at any of the offices in the United States, Great Britain, Italy, Australia or Malaysia.

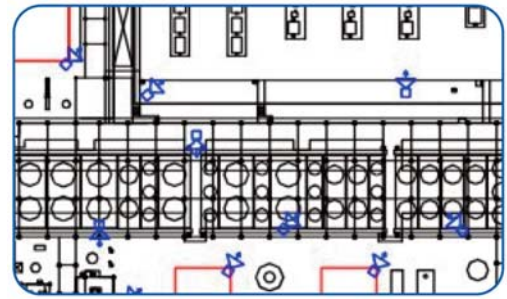
GAI-Tronics is also able to support the needs of our customers through specification writing and specification review and to meet functional or regulatory requirements. We bring more than 200 years of combined engineering experience to assist in developing a solution to meet your expectations. For more information, please contact your local sales representative.

1-800-492-1212  
[www.gai-tronics.com](http://www.gai-tronics.com)



**GAI-Tronics' engineers will visit the customer's site to obtain the detailed information necessary to provide a system compliant with the site's desired functionality and regulatory body requirements.**

The coordination of the survey begins with discussions involving key facility personnel (safety and emergency response team, plant manager, and plant operators). A walkthrough of the facility occurs where ambient noise level readings are taken and documented on scaled drawings. If existing paging equipment exists, the effectiveness of this equipment is also measured and documented. Recommended loudspeaker types and locations will be shown on the returned AutoCAD files as depicted in **Figure 1**.

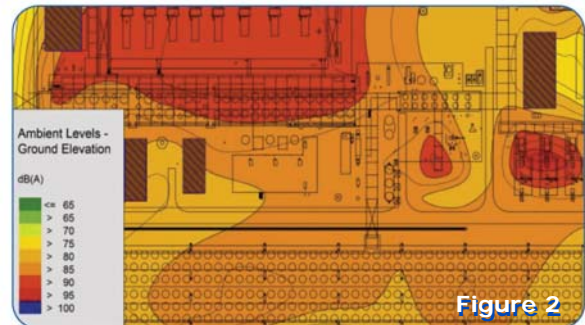


**Figure 1**

## Audio Mapping & Assessments for Outdoor Locations

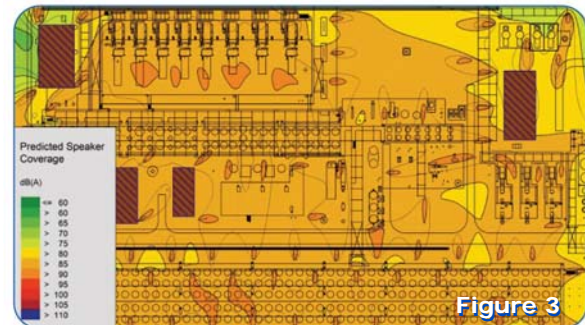
GAI-Tronics is pleased to offer audio mapping and assessments for outdoor locations. Ambient noise levels & loudspeaker audio levels may be provided on separate drawings. Drawings shall display the ambient noise levels, recommended loudspeaker audio levels and predicted loudspeaker levels above ambient noise, provided by the GAI-Tronics system solution.

The image in **Figure 2** depicts the ambient noise levels as measured during a site walkthrough. Readings are taken frequently with the data recorded on scaled drawings. This data is transferred to acoustic mapping software which plots the ambient noise levels.



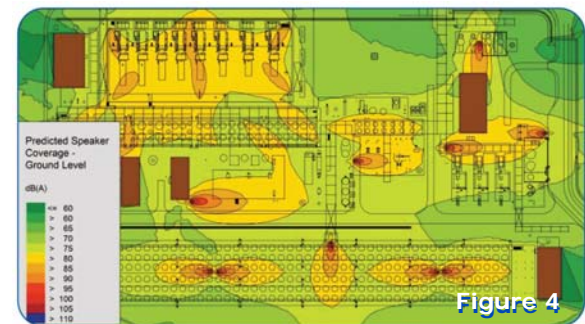
**Figure 2**

**Figure 3** details the locations (dark orange) of recommended loudspeakers and their expected output levels. This allows a customer to view the impact of loudspeaker locations and possible reflectivity caused by obstructions (buildings, tanks, etc.).



**Figure 3**

The acoustic data rendered in **Figure 4** represents the predicted audio levels of the loudspeaker's output above the ambient noise levels. In most situations, the audio output should be six to ten decibels above the ambient noise (light green to yellow).



**Figure 4**

**Sometimes more loudspeakers are not always the best solution. GAI-Tronics will work with your facility personnel to determine the functional solution to meet your requirements. The addition of visual beacons, acoustic hoods, and loudspeaker placement all contribute to a public address, paging, and emergency notification system that is heard and comprehended by all personnel.**

Requirements: Scaled AutoCAD formatted drawings of facility. **Contact your local representative to schedule any of our engineering services.**

Pub. 070901



GAI-Tronics® USA (Corporate) Toll Free: 1 (800) 492-1212 Tel: (610) 777-1374 Fax: (610) 796-5954 [www.gai-tronics.com](http://www.gai-tronics.com)  
GAI-Tronics® UK Tel: +44 (0)1283 500500 Fax: +44 (0)1283 500400 [www.gai-tronics.co.uk](http://www.gai-tronics.co.uk)  
GAI-Tronics® S.r.l - Italy Tel: +39 02 4588801 Fax: +39 02 93663110 [www.gai-tronics.it](http://www.gai-tronics.it)  
GAI-Tronics® Malaysia Tel: +60-3-8945-4035 / 8945-7348 Fax: +60-3-8945-4675 [www.gai-tronics.com](http://www.gai-tronics.com)  
GAI-Tronics® Austdac - Australia Tel: 011-61-28-851-5000 Fax: 011-61-29-899-2490 [www.austdac.com.au](http://www.austdac.com.au)

Quality Management System Certified by DNV – ISO 9001:2008  
The policy of GAI-Tronics is one of continuous improvement; therefore the company reserves the right to change specifications without notice.