

Invented for life



**BOSCH**

# Paging and Mass Notification Solutions

SIGNALING



UL 864 | UL 2572  
UL 1486

Life Safety



# Public address and voice alarm systems

Bosch Public Address systems offer unparalleled sound quality and reliability for diverse environments. With 90+ years of innovation, our solutions ensure clear, consistent audio for announcements and emergencies. Our user-friendly interfaces and seamless third-party integration provide a flexible, scalable solution for any size application. Trust Bosch for advanced voice evacuation technology, robust security features, and comprehensive support, enhancing safety and communication for system integrators, architects, consultants, and facility managers. Choose excellence; choose Bosch.



### Comprehensive solutions

With a wide range of products covering the entire signal chain, we offer one-stop solutions that can accommodate applications of any size.

### Exceptional sound quality

Our PA systems deliver excellent sound quality for both speech and music reproduction, ensuring clear communication and an enjoyable listening experience.

### User-friendly interfaces

Designed with the user in mind, our PA systems feature exceptionally user-friendly interfaces for seamless interaction and easy integration with third-party products.

### Reliability and security

Leading the market in public address and voice evacuation, our PA systems are built for unmatched system reliability with robust security features and fail-safe redundancy options.

### Future-proof technology

We are committed to innovation, offering PA systems that are adaptable to evolving needs, support quick integration, and leverage existing IP networks for remote maintenance and diagnostics.

## Houston Methodist Hospital

“The Bosch Public Address system ensures crystal-clear communication and rapid emergency response, which is crucial for maintaining patient safety and operational efficiency at Houston Methodist.”

Tom Hansen,  
Sales Manager at Bosch

Learn more:





# Peace of mind for every stakeholder

### Architects & consultants

We are committed to your project’s success. Rely on the expertise and support of a trusted partner. Consult with us on full or blended solutions. Our experienced team can support your specification process and ensure smooth acceptance and minimize time-consuming revisions.

### System integrators

Fast, straightforward installation of IP based components such as amplifiers and power supplies due to the PRAESENSA IP-architecture. Full integration possibilities with existing security, fire, passenger information and management systems. Training & system design consultation available to help ensure an efficient integration

### Owner/operators

Invest in a system that will ensure reliability, peace of mind, and smooth operations through everyday traffic, emergencies, and facility expansions. Compliance - PRAESENSA as a life safety system complies with more federal and state regulations, including Alyssa’s Law. Monetize your system with scheduled advertisements for positive ROI. Standards support and third-party integrations means a robust, scalable system that will continue to add new value for years to come.

### IT administrators

Our public address solutions offering robust networking and reliability. IP-based architecture ensures seamless integration and supervision, with full redundancy across devices and connections. Clarity meets security in a fail-safe, user-friendly package designed for the demanding needs of modern IT environments.

### Associates

Gate agents, floor supervisors, and other announcers keep things running smoothly with an easy UI that requires minimal training. Emergency procedures are quick, intuitive, and fail-safe.

### Associates, guests, passengers, & customers

Keep everyone safe, informed, and entertained. Informed passengers & customers means fewer disruptions. Clear, relevant announcements keep everyone updated and on their way. In emergencies, automatic and phased evacuations ensure orderly traffic flow. Easily update and schedule messages for timely announcements. Tailor music and announcements to each area for an optimal experience.

### Grant-eligible life safety system

Our PRAESENSA system can be covered by grant programs for schools, hospitals, airports, non-profits, and other facilities. The system can integrate with panic devices and other life safety systems to ensure compliance with local, state, and national regulations.

Not sure how to get started?  
Schedule your free initial consultation today.

Contact us:

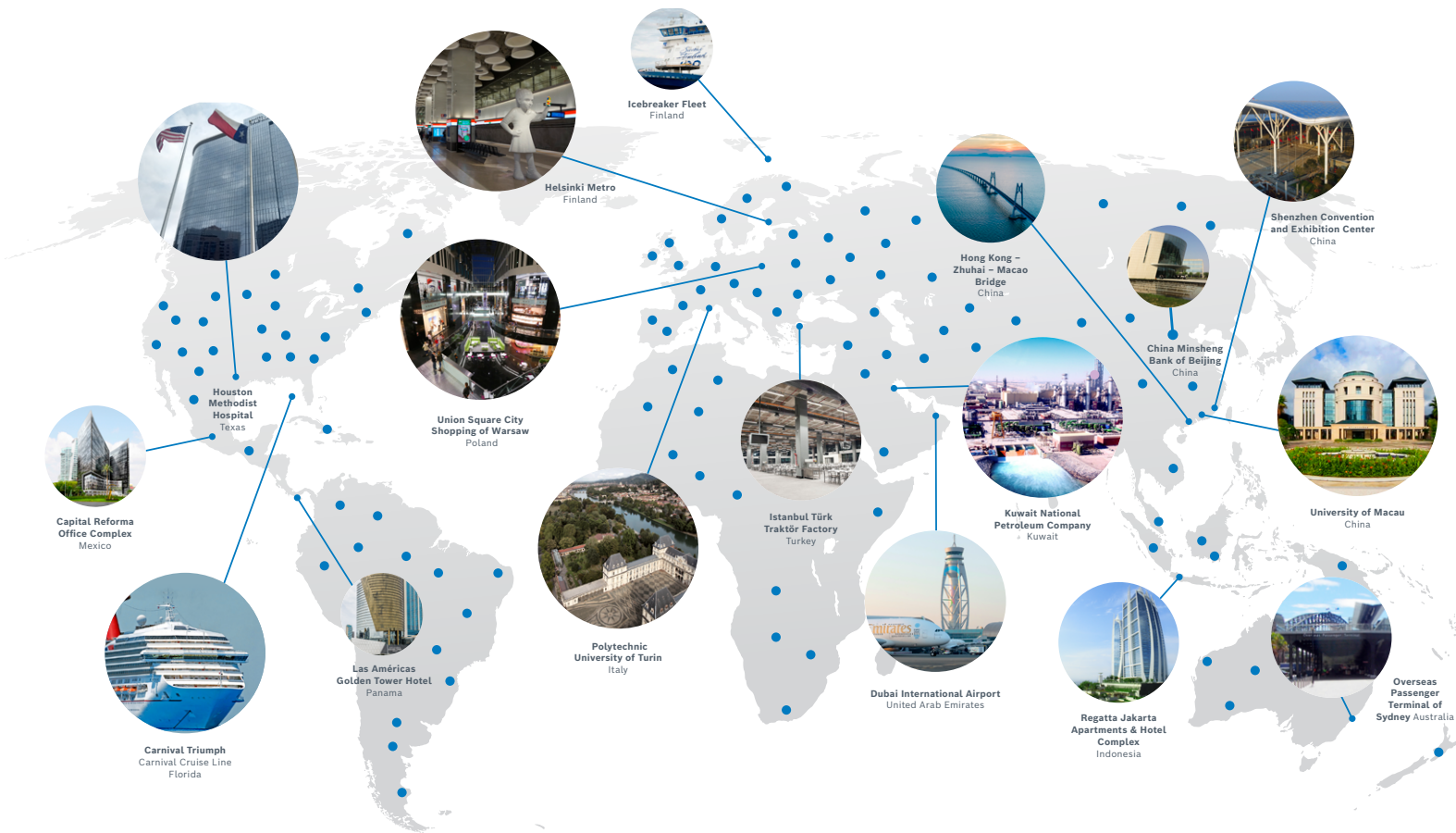


# Global presence in every major application area



We have built an international footprint of successful references. These combined with our unrivalled library of experience and expertise, giving us the unique ability to cater for applications of all sizes.

Huge, large, medium or small projects all benefit from the same high level of Bosch product quality and partnership. Our solutions are built to last, some of them still in service 20 years after installation, thanks to outstanding build quality and a well-defined fit for purpose.



AIRPORTS



RAILWAY / METRO



MARINE  
CRUISE SHIPS /  
FERRIES



GOVERNMENTS/  
PUBLIC BUILDINGS



EDUCATION



INDUSTRIES  
FACTORIES / OIL AND GAS /  
POWER PLANTS



COMMERCIAL  
BUILDINGS  
MALLS / DEPARTMENT  
STORES / FASHION  
STORES



CONVENTION  
CENTERS/  
MIXED-USE  
BUILDINGS



OFFICE  
BUILDINGS



HOTELS



HOUSES OF  
WORSHIP



ENTERTAINMENT  
CASINOS / STADIA /  
THEATERS / SPORTS AND  
LEISURE FACILITIES



HOSPITALS






Learn more:







### Commercial building system

-  PRAESENSA system
-  PRAESENSA call station
-  Ambient Noise Sensor (ANS)
-  Advanced Public Address Server (APAS)
-  Public address loudspeakers

**PRAESENSA**  
Capable, robust, easy to use

## Commercial solutions

Solutions for the factory, warehouse, and storefront.

- Increase Safety & Security
- Boost Productivity
- Cost-Effective Solution
- Enhance Communication



Learn more:







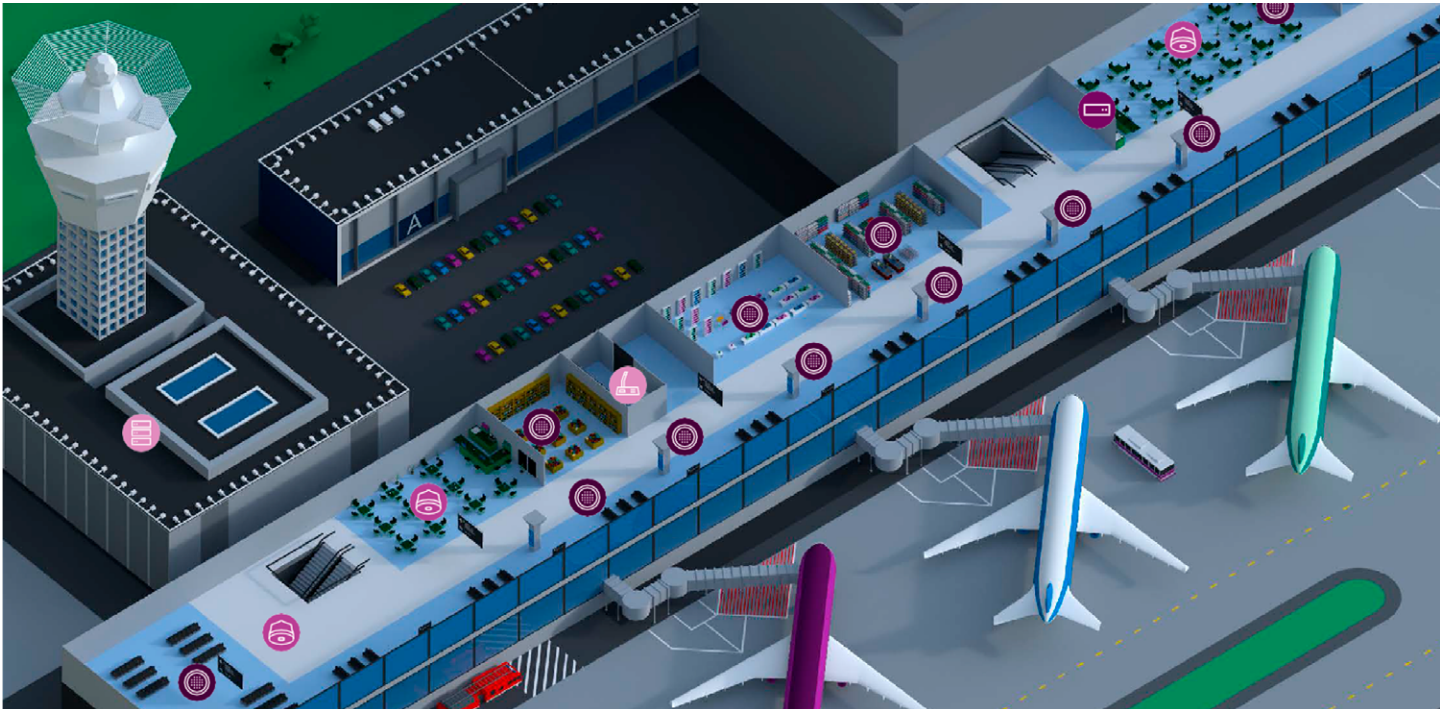
# Transportation solutions

Informing passengers and improving the ambience in a smart, intuitive way at airports, rail stations, and other transportation terminals

- Designed for ease of use
- Cost-efficient operation
- Call stacking for busy announcement queues
- Distributed architecture
- Standards support

## Airport terminal system

- PRAESENSA system
- PRAESENSA call station
- Ambient Noise Sensor (ANS)
- Advanced Public Address Server (APAS)
- Public address loudspeakers



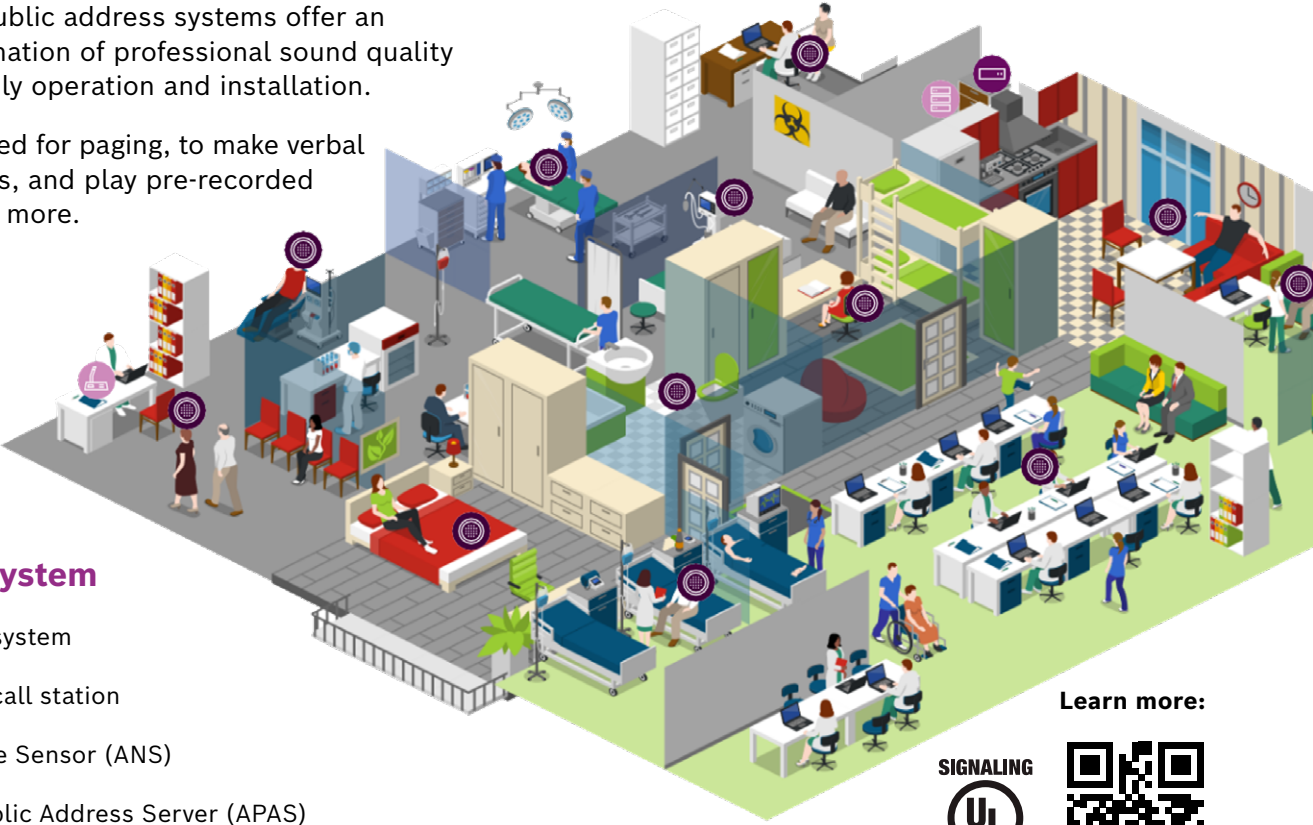
# Healthcare solutions

Clear, reliable announcements. Easy, efficient operation.

- Public address systems are a critical part of any hospital communication system, as they can be used to disseminate notifications, improve patient care, and enhance hospital security.
- These systems can be integrated with other systems, making them a versatile and valuable tool for hospital operators.
- Our hospital public address systems offer an optimal combination of professional sound quality and user-friendly operation and installation.
- They can be used for paging, to make verbal announcements, and play pre-recorded messages, and more.
- Our systems scale to meet the needs of the facility, ranging from speakers and microphones installed in buildings to more sophisticated systems with advanced technologies that can be integrated with other systems. They can also be integrated with emergency evacuation and warning alarms for mass notification.

## Hospital PA system

- PRAESENSA system
- PRAESENSA call station
- Ambient Noise Sensor (ANS)
- Advanced Public Address Server (APAS)
- Public address loudspeakers



Learn more:





Solutions covering large multi-site to small application areas.



PRAESENSA

PAVIRO

### Flexibility and power sharing

There is always a compromise between flexibility and cost. The degree of flexibility in audio routing is determined by the choice of system topology.

Flexibility (System topology)	High Direct (1:1)	Medium Relay switching (2-n)
Power sharing	Yes	Yes

### Application size

The number of zones is an indicator for the size of the application handled by a single controller or a multiple-controller solution.

LSP zones / controller	500	496
Controllers (active)	Up to 20	4 (up to 984 zones)

### IP

Integrated IP connectivity increases scalability, flexibility, ease of installation and cost-efficient maintenance.

IP Networked system connections	Yes	Yes
All system components on IP	Yes	No

### Announcements and/or music

Application requirements can range from a single call to a mix of announcement and music across multiple zones.

Background music program	> 100	Up to 4
Simultaneous messages	8	2
Simultaneous calls	> 100	2

### Digital signal processing (DSP) per zone

Built-in digital audio processing features for adjusting sound volume, enhancing music quality or refining speech intelligibility for every zone.

Volume	Yes	No
Delay	Yes	No
EQ	Yes	No
Automatic volume control	Yes	No

## We offer more

We address changing customer needs with outstanding systems and different types of speakers that cater for applications of every size. We can also integrate with most existing speaker systems for added flexibility.

#### Highest performance

In different environments and settings such as large airports or shopping malls, it is crucial to have excellent speech intelligibility and perfect professional sound.

#### Local support & partnership

Your success is our success. From system design & specification to training and post-installation support, our network of experienced system experts are committed to ensuring your system runs smoothly for years to come.

#### Product reliability & customer service

As a life safety system, quality and reliability are an absolute must. With multiple layers of redundancy built into every system and a competitive warranty, we deliver peace of mind.

Learn more:





# IP-connected and fully-featured

Ideal for mid-to-large (multi-site) application areas where complete flexibility and scalability is required




## PRAESENSA

- All components of the system are IP-networked for highest flexibility and scalability
- Innovative amplifier architecture allocates power intelligently, increasing efficiency and lowering cost of ownership
- No single point of failure and built-in redundancy are at the core of the system concept
- User-centric design delivers an intuitive interface with feedback on progress and status
- Comprehensive system adapts to changing needs

When you add or define new areas for use, this advanced and extremely cost-efficient IP-based system updates the changes effortlessly. PRAESENSA uses a smart-power concept with integrated redundancies, and is perfect for both centralized and decentralized topologies. The user interface is incredibly easy to use, intuitive and accessible. The system’s use of digital audio contributes to better performance, faster installation and easier positioning of equipment. PRAESENSA’s key hardware devices are controlled by custom software solutions, resulting in a system that is feature-rich and future-ready with the potential for further capabilities to be added over time.


### Audio interface module

The PRA-IM2A2 module adds two balanced audio inputs and outputs to the PRAESENSA system, with configurable control inputs and outputs. It supports calls, background music, and DIN rail mounting, needing only a PoE-enabled OMNEO gigabit IP connection




### Control interface module

Flexible interfacing options for third-party integration via classic parallel contact inputs and outputs. The GPIO module is equipped with 16 control inputs, eight relay outputs, and two supervised outputs for Notification Appliance Circuit (NAC) extenders



### Desktop call station

With built-in two-port Gigabit Ethernet switch and graphical user interface offering clear user guidance and feedback




### Highest flexibility and scalability

All devices across the system are IP-connected, facilitating easy interconnectivity with other systems. PRAESENSA devices are managed via OMNEO media networking technology, enabling better audio quality with greater flexibility and scalability than any other public address and voice alarm system. The possibilities are virtually unlimited.

### Effective power utilization

The system comprises innovative multi-channel amplifier architecture, with intelligent power allocation across the amplifier outputs and an integrated spare channel. This significantly improves the effective utilization of available power, regardless of the loudspeaker load in each zone. As a result, fewer amplifiers are needed, saving up to 50 percent on space, energy and backup battery power, leading to a very competitive cost of ownership.



### Ambient Noise Sensor

Monitors changing ambient noise levels for automatic adjustment of announcement or background music levels (AVC - Automatic Volume Control)

### Controllers

Full control of PRAESENSA devices and audio routing with built-in five-port Gigabit Ethernet switch



### First responder panel




### Advanced public address server and software

Advanced functionality for announcements, messages, text-to-speech, internet radio and music. The user interface software runs on PCs or tablets and Amazon Polly and Microsoft Azure Neural Text-to-Speech (Neural TTS) services are supported

### Wall control panel

Wall control panel, available in white or black, features a 4.5 cm (1.77”) color TFT display and a single-knob rotary/push encoder for volume adjustments and source selection



### Multi-channel amplifiers

600 W four-channel and eight-channel amplifiers with flexible power partitioning across four or eight output channels, built-in two-port Gigabit Ethernet switch and built-in redundancy

### Multifunctional power supply

Fully supervised DC-power supply with integrated fail-safe redundancy, built-in six-port Gigabit Ethernet switch

Learn more:





# Flexibility right from the start

Ideal for small-to-mid-sized application areas where flexibility and professional sound quality is required



## PAVIRO

- The system can accept architecture changes at any stage during installation and provide a wide range of announcement/music combinations
- Lowest power consumption of any system in this class
- Fast, easy and complete set-up with both “Basic” and “Expert” configurations
- Zone monitoring on the call station

From a single system to an IP-networked solution, PAVIRO allows decentralized application set-ups and more system-wide audio channels. Thanks to its powerful range of features, PAVIRO not only answers an extremely wide variety of application requirements, it also delivers best-in-class performance in power efficiency, ease of installation and configuration convenience.

Thanks to its premium 24-bit digital processor, superior digital-to-analog converters, and outstanding signal-to-noise ratio, PAVIRO delivers truly professional quality sound.

**System flexibility**  
PAVIRO can handle last-minute changes to the system design without issue. That’s because intelligent input switching, dynamic channel assignments and power load sharing makes the system extremely flexible, allowing design changes to be made at any stage of the project without risk.

**Your own announcement/music combinations**  
PAVIRO offers highly flexible announcement/music distribution combinations – thanks to its four-channel matrix architecture. For example, you can send classical music to one set of six zones and pop music to another. You can also send one or more individual announcements to any zone without disrupting the music.

**Power consumption and cost-efficiency**  
The use of high-efficiency class-D amplifiers and intelligent power-management hardware and software dramatically minimize power consumption. Thanks to the combination of dynamic source routing and intelligent amplifier input switching, the system also uses fewer amplifiers than other systems. With fewer amplifiers in use, fewer batteries need to be replaced on a regular basis, lowering operational costs even more.

**Controller with DSP for single and networked applications**  
Control and routing of four simultaneous audio channels

**24-zone router with four channels**  
Zone extension for the PAVIRO system. One router can handle up to 4,000 W speaker load. The maximum load of one zone is 500 W

**Call station and call station extension**  
Soft touch selection buttons and 35 free programmable function keys (15 on the call station and 20 on the call station extension)

**Two-channel amplifier**  
2 x 500 W class-D power amplifier (70/100 V output)

Learn more:





# Immediate audio intervention

Protecting people & property with IP Horn loudspeakers for easy integration with video security systems

## IP Horn loudspeaker specifications

Power over Ethernet		PoE IEEE 802.3af Class 3 PoE+ IEEE 802.3at Class 4	
Maximum Sound pressure level (500 Hz – 8 kHz)	119 dB with PoE		115 dB with PoE
	122 dB with PoE+		118 dB with PoE+
Effective frequency range (-10 dB)	380 Hz – 11 kHz		370 Hz – 11 kHz
Coverage angle HxV (-6 dB, 1 kHz) Coverage angle HxV (-6 dB, 4 kHz)	100°x130° 30°x30°		140°x180° 40°x40°
Messages capacity	300MB		
Messages supported file formats	WAV, MP3, Ogg Vorbis and Opus		
Material	Acrylonitrile Styrene Acrylate (ASA)		
Color	RAL 7035 Light gray		
Ingress Protection (IP)	IP66		



IP Horn loudspeaker  
15 W long throw SIP

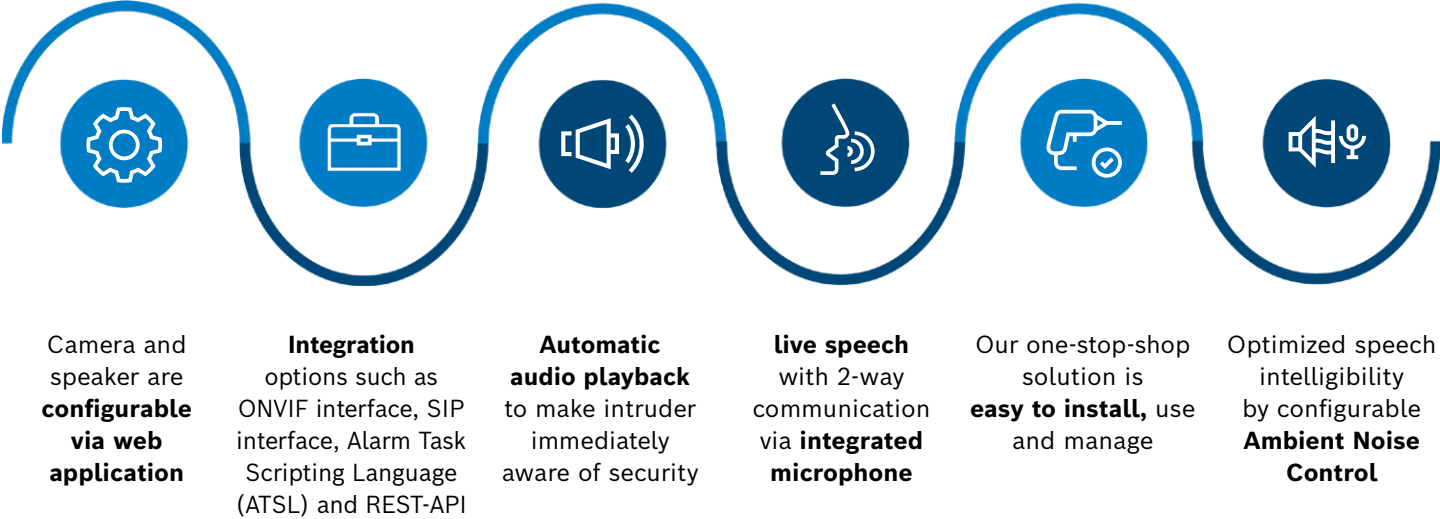


IP Horn loudspeaker  
15 W wide angle SIP

Long throw (LHN-UC15L-SIP)

Wide angle (LHN-UC15W-SIP)

## Features and benefits



## Applications



**Perimeter security**  
Immediately make trespassers aware of your security. Automatic, prerecorded audio messages are triggered by intelligent camera detection, preventing further trespassing, theft or vandalization. Being warned, they will not risk getting caught on your property.



**Street security**  
Maintain public order in areas that are typically sensitive to misbehavior like entertainment or nightlife areas. Simply use live speech to address a crowd or person and make a significantly faster impact.



**Smart city solution**  
Address the public. Make live public announcements or automatically play prerecorded audio messages as a part of smart city solution.



**Burglary security**  
Deter burglars during their first attempt with embedded automated audio playback. Either as part of an intrusion system or simply just by adding a single PIR sensor. Knowing they are detected, intruders will leave as fast as possible.



# We are built on standards



A networking technology that enables multiple channels of high-resolution digital audio to be distributed in real-time across standard Ethernet networks.



**Scalability**  
OMNEO is a professional media networking solution that provides high-quality multi-channel media transmission and powerful, reliable system control via standard Ethernet IP networks.



**Flexibility**  
DANTE provides a common language for devices to communicate with each other. This makes it easier to add new components to an existing public address system.



**Ease-of-Use**  
DANTE provides a standardized interface for communication between devices, which can simplify the installation and configuration process.



**Interoperability**  
DANTE allows different devices from different manufacturers to work together seamlessly. Components from different manufacturers can be easily integrated into the public address system.

## OMNEO

A media networking solution for multi-channel media transmission and system control.



**Media networking**  
OMNEO is a professional media networking solution that provides **high-quality multi-channel** media transmission and powerful, reliable system control via standard Ethernet IP networks.



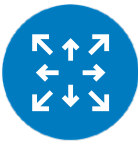
**Compatibility**  
OMNEO is fully compatible with **Audinate’s Dante™, AES67 and SMPTE ST 2120-30** for media transport. In addition, OMNEO has been designed to support emerging and future standards as they come to the market.



**Built on standards**  
OMNEO is built upon multiple technologies, including IP and **open public standards**, to support the technologies of today and tomorrow.



**Professional performance**  
OMNEO seeks to provide a professional media networking solution that includes **low latency, high channel count** program transport, full-function **remote device control** and monitoring, and the ability to **interconnect systems** such as public address, intercom, conferencing, and pro audio/video.



**Program + control**  
OMNEO architecture is based on two main components: an IP media transport solution that offers **low-latency, high-quality**, fully-synchronized multi-channel audio exchange; and a robust control protocol that provides **reliable, secure and highly scalable** system control and monitoring for professional applications of all sizes.

## SIP & VoIP

A signaling protocol for real-time communications over the Internet.



**Affordability**  
SIP allows users to leverage existing IP network infrastructure to make calls over the internet, which can be much cheaper than using traditional phone lines.



**Flexibility**  
IP provides a common language for devices to communicate with each other over the internet, which can make it easier to add new components to an existing public address system.



**Scalability**  
SIP can support a large number of users and devices, making it suitable for use in large public address systems.



**Ease-of-Use**  
SIP provides a standardized interface for communication between devices, which can simplify the installation and configuration process.



### North-American technology partners





# What makes us different

## Application design engineering & support services



### Leading expertise, unparalleled value

As part of our commitment to your project's success, our experienced application engineering and support teams offer unmatched value-added services. Services are available remotely and on-site.



#### Training

Maximize your investment by giving your team the skills necessary for smooth and efficient system design and deployment. Training benefits everyone involved in designing, integrating, using, and maintaining the system.



#### System design

Maximize performance and efficiency and minimize costly revisions by consulting with industry-leading experts on the optimal design to fit your project's scope and budget.



#### Post-installation support

We are committed to ensuring your system remains running smoothly. Together with our integrator partners, our expert support team is available to help with upgrades, maintenance, and advanced troubleshooting.



#### Bosch Security and Safety Systems

Visit [boschsecurity.us](https://www.boschsecurity.us) for more information.

For specifications and design tools visit

[boschsecurity.com/us/en/partners/architects-consultants-and-engineers/pa-and-voice-alarm-systems-design](https://www.boschsecurity.com/us/en/partners/architects-consultants-and-engineers/pa-and-voice-alarm-systems-design)