Railway station PA systems not only emit low-volume background music in station foyers, common areas and stores, but also play an essential role in broadcasting announcements of train arrivals and departures. Adverse acoustics on platforms, where noise levels are high and variable, require PA systems based on studies and simulations in order to determine the right type, number, location and power of speakers, and the audio processing necessary for proper intelligibility.

**CENTRALISED SYSTEMS**

*Autonomous* systems for stations operating in isolation, with their own sources of music, pre-recorded messages, selection of zones, remote control from one or several microphone desks...

**DISTRIBUTED SYSTEMS**

*Scalable and modular* systems for transport infrastructures of any size, ranging from local metro lines to nationwide railway networks, interlinked through the corporate data network.

**OPTIMUS SYSTEMS not only fulfil these requirements, but also integrate with other systems in the station, using the infrastructure of the data network if necessary, and forming part of the global safety, evacuation and voice alarm system.**
ZONING

In a railway station it is important to control in which zone announcements are broadcast in order to inform passengers about the next train at a specific platform or, for example, about the opening and closure of access to a platform. The PA system manages the sending of music programmes and of either pre-recorded or live messages to the required speaker zones, according to a pre-defined schedule or by manual control.

PRIORITIES

When a PA system’s sound comes from different sources, a clear, automatic system of priorities must be established in order to optimise the sending of messages and, in situations of alarm, to save lives.

COMPLETE RANGE OF SPEAKERS

A station foyer is not equipped with the same types of speakers as the platforms. Each zone requires sound points with the most suitable sound quality, power, aesthetic appearance or toughness.

DOCUMENTATION

Plans showing location of speakers

Block diagrams showing connection among units

Study of the acoustics of the most complex areas

*Example of installation in which OPTIMUS equipment has been used
TELEPHONE ACCESS

The PA system of a transport infrastructure is integrated with the telephony system, which may be either a conventional analogue or SIP system, so that telephones can operate as announcement broadcasting points.

SIP telephony
IP/SIP audio interfaces for access to the PA system from any of the facility's SIP telephones.

conventional telephony
DMTS interfaces to connect an analog line and send announcements to the public address system.

VOLUME CONTROL

Environmental noise in stations and on platforms varies a great deal and depends on the influx of people and on the arrival and departure of trains. The volume of PA announcements adapts automatically on account of the use of noise detectors and sensors that activate remote contacts. The PA system communicates with the noise detectors and adjusts the volume according to predefined values, or to the status of the remote contacts.

65 dB + 10 dB 75 dB
Typical noise level values and how they vary in a railway station foyer.

70 dB + 20 dB 90 dB
Typical noise level values and how they vary on a railway or metro station platform.

INTEGRATION

As a specialist in PA and voice alarm systems, OPTIMUS offers a service oriented at providing specific, tailored solutions for transport.

The OPTIMAX2 platform uses its own hardware and software, as well as standard features of the COMPACT system (including cards, microphone desks and power amplifiers).

Its flexibility, scalability and capacity for integration allows for the adaptation or creation of new hardware and/or the development of tailored software.

*Example of installation in which OPTIMUS equipment has been used

Lithuanian railways *

Tram, Alicante metro *
CALL, TALK, CONTROL & OPEN

Railway, metro, tram stations, etc. require **intercom systems** at information points, ticket vending machines, car parks, or accesses for the exclusive use of personnel. **IP/SIP** access control allows for solutions ranging from simple single-point to complex multiple-point systems and advanced server-based functions.

**CUSTOMER SERVICE**

Many stations with ticket or information offices for dealing with passengers require systems that allow for **hands-free communication** even if there is a glass panel between speakers.

**Induction loops** are connected to the audio system to ensure that people with hearing impairments also receive the message.