Future ready IP audio solution to Indian Railways

Zenitel delivers a future ready IP audio solution that elevates passenger experience in Mumbai

Market Segment:
Rolling stock

Country of installation:
India

Year of Installation:
2020

End Customer:
Indian Railway

System Integrator:
Zenitel

Solution:
Public Address System

Key Products:
**Cabinet Speaker ELSII-10W
PA Panel ECPIR
Exigo controller ESC**

Key Technology:
**End-to-end IP PA Solutions
HD Voice
Automatic Volume Control**

The End Customer

Indian Railways (IR) is a statutory body under the jurisdiction of the Ministry of Railways, Government of India that operates India's national railway system. Ridership within the Mumbai suburban network is particularly high, averaging 7.5 million passengers a day.

The Requirement

The Indian railway's aim was to cut out noise pollution and improve clarity of voice messages across the rail platforms. The audio solution needs to be future ready that embraces the use of IP.

Ambient noise levels in each station differ markedly during and outside rush hours. Indian Railways' aim was to cut out noise pollution and improve clarity. Indian Railways also wanted the ability of cascading announcements to zones within a platform (cater to different train lengths). In addition to audio quality, our customer's focus was on improved reliability via POE and our IP speakers. Further, the customer wanted a future ready audio solution that reduces the installation time and is cost effective and therefore was clear on going away from conventional 100V PA solutions.

The Solution

Zenitel delivered an end-to-end IP solution using IP speakers that eliminates complicated wiring as well as cut down the installation time significantly. Zenitel's IP speakers with built-in microphone offered a unique hardware and software solution that dynamically adjusts the output volume levels of PA, even during an ongoing announcement. This Automatic Volume Control (AVC) feature lets the system work around the noise, to be heard and understood - all the time. With comprehensive configuration parameters in hand, end customers have the possibly to configure exactly as they need.

Built-in microphones in the IP speakers allows remote ambient listening from our Exigo PA microphone installed in the control rooms. Thanks to full IP compatibility, our Exigo PA microphones allows monitoring of each zone and address each speaker individually.

The Result

IP speakers throughout the station platforms not only make the installation process quicker and cost e ective but allowed the solution to be future ready. This is particularly important for the customer as there is a growing demand on rail assets due to heavy investment into rail infrastructure in India.

The built-in microphone in the IP speakers enable intelligent features such as Self-checking, and Automatic Volume Control. The customer was particularly pleased with the ability to set attack rates, since ambient noise levels rose and declined very quickly, particularly with trains arriving or departing during rush hour.

IP speakers also enhance what is traditionally a broadcast-only medium, adding Half Duplex speech, and Ambient Listen functions. Self-checking will detect whether there are any faults in the network or speaker electronics. The status of the speaker is reported to the central unit as well as to 3rd-party management systems using SNMP or Syslog.

The speakers can also be discovered, receive messages, and use Talkback direct to a VMS over ONVIF.

High SPL levels, wideband frequency response, wider flat frequency response, and features such as AVC have helped to improve audio clarity and thereby intelligibility throughout the railway station network.

Cabinet Speaker ELSII-10W

- Zenitel Audio Presence - crystal clear audio
- Weatherproof hosing - IP66
- 10W Class D, built-in amplifie
- 95 dBSPL (1m)
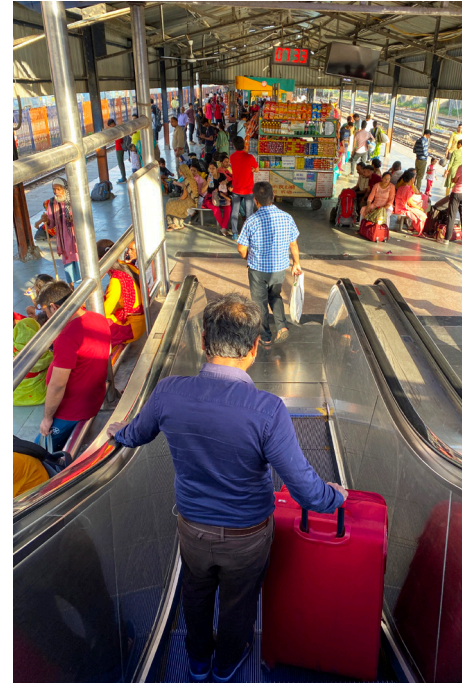- Each speaker is individually addressable and monitored
- ONVIF Conformant

PA Panel ECPIR

- Network access panel for consol mounting
- DSP for acoustic signal processing
- Communication and power over Ethernet
- Seperate PTT button
- LED Indicators for power, call, and fault
- Support handheld and gooseneck microphones
- Support up to four EMBDR-8 expansion modules

Why **Zenitel?**

Zenitel is well positioned to drive the future of intelligent critical-communication solutions. Through our portfolio of IP products & solutions, with built-in intelligence and a focus on cybersecurity, we provide organizations with superior, scalable security and fl xibility. Zenitel is the proven, preferred choice for environments requiring crystal-clear audio to ensure the protection of human life, property, assets and the management of critical activities. With interoperability at all levels, we seamlessly integrate with access control, video management and security platforms.