



## RAIL INFRASTRUCTURE: INTEGRATED AUDIO COMMUNICATION SOLUTIONS

# PROTECT YOUR PASSENGERS, STAFF AND INFRASTRUCTURE

**Zenitel offers Vingtor-Stentofon integrated audio communication solutions across all rail segments such as Rolling Stock, Main Hall, Platform, Tracks & Control Center.**

We have over 70 years of experience in delivering commercial-off-the-shelf (COTS) end devices for Public Address and Intercom Solutions.

Full compliance with open standard protocols such as SIP and SNMP enables effortless integration of our audio solutions with other subsystems such as PIS, Intercom, CCTV, GSM-R, etc.

With our communication solutions, you have the technology that lets your staff respond quickly and efficiently to incidents in real-time, thereby helping to elevate the security of staff and infrastructure at all times.



EXIGO PUBLIC ADDRESS SYSTEM

**BECAUSE**

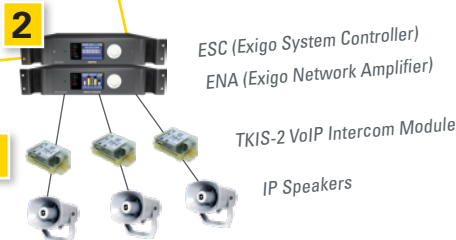
when communication is critical

# ELIMINATE ONE ENTIRE SUBSYSTEM WITH OUR INTEGRATED AUDIO SOLUTION

**SIP adressable PA loudspeaker loops enables the same software (e.g. IPBX) to handle all communication systems (Public Address (PA), Operational Telephony, Help Points, etc)**

## 2. DISTRIBUTED AUDIO RACK

In distributed topology, Exigo Network Amplifiers (ENA) can be placed in a remote location and can be connected together via SIP trunk and with a SIP server like AlphaCom.



## AUTOMATIC VOLUME CONTROL

Vingtor-Stentofon intelligent noise sensors and Automatic Volume Control (AVC) lets your system work around the noise, to be heard and understood - all the time.



## STATION B

## STATION A

## IP Speakers

## Emergency Stanchion

## 3. INTEGRATION

TKIS/TKIE integration modules are used to interface to legacy analogue audio systems or as OEM to develop your own IP stations. The unit can also be used to connect to conventional loudspeakers, making these SIP enabled.



## 4. OUTDOOR IP PANEL

Our outdoor panels are developed for use in harsh environments such as platforms or depots. The access panel features programmable buttons, which can be used to manually initiate fire alarms, or other actions in the Exigo PA/GA system.



## 5. AUDIO DISPATCHER TERMINAL

Dispatcher terminal supports communication with call points, PA, Radio users, etc. It features PTT button integrated into handset, high-quality gooseneck microphone, built-in loudspeaker for open listening and intuitive touchscreen with user-friendly interface.





## 1. CENTRALISED AUDIO RACK

Due to Native IP support, our audio communication solution can be deployed in centralized and/or distributed architecture.



AlphaCom XE1 server  
ESC (Exigo System Controller)  
ENA (Exigo Network Amplifier)

## CONTROL ROOM



## EQUIPMENT ROOM

PIS (Passenger Information System)  
AlphaCom (or 3rd party system)  
Voice Recording System  
Integrated Radio Solution



## MAIN HALL

Guard w/ Radio

Digital Portable Radio

IP Speakers

TCIS-1 IP and SIP Intercom

Speaker Tower

Door Intercom

8

7

## 6. BACKUP OPERATORS PANEL

To dispatch various messages to passengers. In addition to our CRM, we also offer IP PA Panels used for dispatch of various types of announcements. The buttons can be configured for zone selection, message playback, alarm control and many other functions.



## 7. EMERGENCY CALL POINT

Noise cancelling intercoms with crystal clear two-way audio. Robust and vandal resistant with IP 66 rating. EN50155 certified for rail industry usage. With optional built-in camera, live video can be streamed to the OCC.



## 8. ACCESS CONTROL

Our IP station can be used to control access to restricted areas such as interlocking rooms, and many others, using video and audio communication.



# EXIGO

## PUBLIC ADDRESS SYSTEM

**IP based PA systems are a key driver in elevating security awareness of rail passengers and also rail infrastructure.**

Our Exigo PA system is well positioned with state-of-the-art technology, which provides a multitude of benefits such as excellent audio quality, scalability, durability, remote monitoring and maintenance.

We focus on delivering superior quality modular products that best fit into the user's environment. The system is scalable and offers a set of standard and optional features making it ideal for all kinds of railway installations.



### EFFORTLESS SCALABILITY

Due to Exigo's programmable nature and network-centric design, SCALABILITY is effortless. Exigo enables owners to grow their system from small standalone systems, through robust and redundant systems all the way up to enterprise-class cross-integrated systems.



### EXTREME ROBUSTNESS

Exigo is designed to meet requirements for operational PA for critical industries such as Maritime, O&G and Railway. This requires native support of hot-standby system controllers, hot-standby amplifiers and full native AB system support. The system provides protection against single point of failures.

### ADVANCED FEATURES & MONITORING

Advanced logic allows for automating tasks and performs complex operations such as call priority escalation, muting or damping of local speakers, remote microphone testing, Automatic gain control, etc.

### EASY INSTALLATION

Exigo PA System is designed for easy installation and configuration. Exigo Management Tool (EMT) provides easy drag-and-drop configuration options with most common features easily accessible.

## SYSTEM DESCRIPTION

- Excellent Audio Quality: Supports both Wide-band PCM encoding (G.722)
- Unlimited Networking Possibilities: A true IP based PA System which supports SIP, RTP/RTCP, DHCP, SNMP, RSTP, 802.1X, 802.3af, NTP.
- Certification: EN 54.
- Supports 100/70 V Speaker lines.
- Addressable IP speakers supporting PoE (10 Watts).
- RFC3261 compliant SIP amplifier that can be directly connected to any 3rd party iPBX or our own AlphaCom server
- Fully programmable control I/O.
- Supports Digital/Analog audio I/O.
- AC/DC operation with automatic switch over functionality.
- Support integrated PA, VA and intercom solution.



# ELIMINATE ONE ENTIRE SUBSYSTEM

## Vingtor-Stentofon enables effortless integration with SIP enabled amplifiers for System Integrators.

With our SIP enabled amplifiers, you can use any IPBX to run the PA amplifiers and therefore eliminating an entire subsystem. We can also provide SIP based IPBX system which provides advanced features such as live and pre-recorded announcements, including a text-to-speech engine as well as a prioritized scheduler for time and event-controlled announcement scenarios

We focus on the end devices and core OEM components, which are easily integrated into any 3rd party top system.

## EXIGO - INTELLIGENT NOISE SENSOR

**Zenitel offers a unique hardware and software solution that dynamically adjusts the output volume levels of output devices - even during broadcast.**

The solution works accross different hardware platforms and therefore you have the flexibility to choose a broad range of hardware as the noise sensors.



## LESS API'S

Native support for SIP means that our end devices can be directly addressed from a 3rd party SIP server and therefore eliminating the need for any cumbersome API integration. We also provide a vast range of API's that can be still used for integrating with a top system such as Security Management System (SMS). Additionally, the API's can be used for integration with other subsystems which don't support open standards like SIP.

## LESS COMPLEXITY

We fully support the integration of Intercom and PA into a single subsystem, by eliminating one entire subsystem and separate PA controller. Reducing the amount of communication subsystems makes it easier to accommodate various complex call cases. As an example, if the OCC staff need to address both passengers and the train driver simultaneously during an emergency condition, integrated subsystems can be used for both PA announcement to passengers and intercom calls to the driver.

## LESS MAINTENANCE

Due to Native IP support of our Intercom & PA solution, we support centralised and distributed deployments. Each and every end device will exchange performance data to the central equipment via SNMP (both traps and polling) or API's in real-time. This means that these end devices can be monitored from a single location such as a Central Control Center, thereby eliminating the need for regional/station level monitoring terminals.

HD  
VOICE

# HEAR THE DIFFERENCE WITH HD VOICE COMMUNICATION



ALPHACOM XE1



ALPHACOM XE7



ALPHACOM XE20



ALPHACOM XE26

# AlphaCom®

## INTERCOM SOLUTION

**The Vingtor-Stentofon critical communication portfolio offers state of the art software and hardware. AlphaCom delivers high quality audio while ensuring the voice and data packet is delivered on-time. AlphaCom protects resources in an IP intercom environment by using an embedded IP security mechanism.**

### SYSTEM DESCRIPTION

- Made to provide critical communication in any environment.
- Supports 552 IP stations.
- Global networking and integration.
- Unsurpassed Audio Quality: G711 and G722.
- Security voice function for public safety and building security.
- Auto-attendant functionality (Automatic voice supported switchboard).
- Voice supported call function.
- Open duplex acoustic echo cancellation.
- Adaptive jitter buffers and time synchronization.
- Remote software upgrade.
- Call queuing, priority and time of arrival.
- Mass notification - global group calls.
- Radio conferencing - global conference calls.

## IP CALL STATIONS

turbine



Turbine Intercom Stations



Turbine Video Intercom Station



Turbine Mini Intercom Station



Industrial Intercom



Ex Intercom



Control Room Master Station

See the full collection of IP call stations at [www.zenitel.com](http://www.zenitel.com).





**Critical Communication Over IP (CCoIP)** employs VoIP, but takes it a step further by adding new IP services and applications which integrate security and audio quality necessary for critical applications.



**NOISE REDUCTION**  
A powerful DSP inside the station measures the microphone signal and calculates the noise components in that signal.



**INDUCTION LOOP** is supported and makes your premises accessible for the hearing impaired.

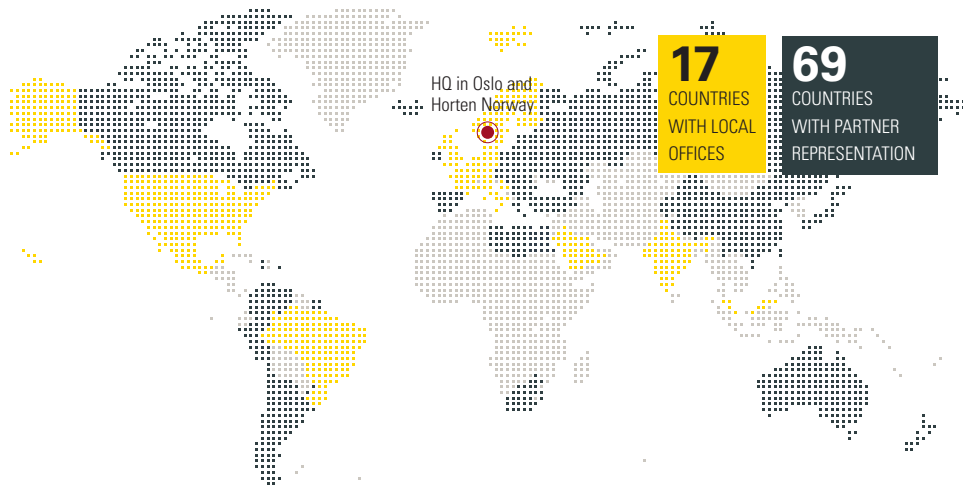
## INTEGRATORS CHOICE IN MAKING TURN-KEY SOLUTIONS

In addition to our proprietary Alphanet protocol, Vingtor-Stentofon intercoms fully embrace the use of SIP protocol and therefore opens up a multitude of possibilities with integration. Our end devices can be directly connected to any 3rd party SIP server and offer various operational telephony services.

Please note that Alphanet protocol provides advanced call features that may not be available with SIP.



## OUR WORLDWIDE PRESENCE:



## SELECTED REFERENCES:

Visit us online at [zenitel.com](http://zenitel.com) for more information about our products and solutions.



**BRUSSELS METRO**  
BRUSSELS, BELGIUM



**YARRA TRAMS**  
MELBOURNE, AUSTRALIA



**GUANGZHOU RAILWAY ST.**  
GUANGZHOU, CHINA

## SELECTED INTEGRATION EXAMPLES:

### ■ INTEGRATION WITH TETRA/GSM-R RADIO

Our audio communication solution can be integrated with TETRA/GSM-R radio via Analog interfacing with Radio Gateway or SIP Trunking. This will allow the operator to make PA announcements and 2-way calls using portable hand-held devices.

### ■ INTEGRATION WITH CCTV SYSTEMS

Our solution can be integrated with any 3rd party CCTV system using open protocol such as OPC Server, or SDK, for closer integration

### ■ INTEGRATION WITH VOICE RECORDING SYSTEM

Our Vingtor-Stentofon recorder software is SIP-based active recording for AlphaCom XE. This will enable the operator to record all types of calls, such as PA announcements. The recorder also includes features such as audio playback client and search on call metadata.

### ■ EMERGENCY CALL POINT WITH INTEGRATED INDUCTION LOOP



## WHY VINGTOR-STENTOFON?

The Vingtor-Stentofon critical communication portfolio offers state of the art quality audio software and hardware. Just press a button and you can call for immediate assistance, help and support. The voice on the end can be heard loud and clear, thus eliminating misunderstandings or misinterpretations. Even in very noisy environments we offer crystal clear audio - driven by our Turbine stations with 10 Watt amplifiers and active noise cancellation software included. Our quality products are built to last with backwards compatibility; this reduces the cost of ownership.



WE HAVE 24/7  
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## CONTACT US TODAY



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