Critical Communication

IP Intercom solutions for school security

Ensuring safety in schools with IP intercom

Agenda

PLAN OF THE PRESENTATION

- **Why use a SIP intercom system?**
  - *Why do we need a modern communication system like SIP intercoms?*
  - *What key features should we look for in a SIP intercom system?*
- **How can SIP Intercom system improve safety in school premises?**
  - Defining the major risks
  - Defining key requirements
- **SIP intercom system in school**
  - How do we determine if our building needs a SIP intercom system?
  - 4 scenarios redefining school safety with IP intercoms
  - What's the recommendations?

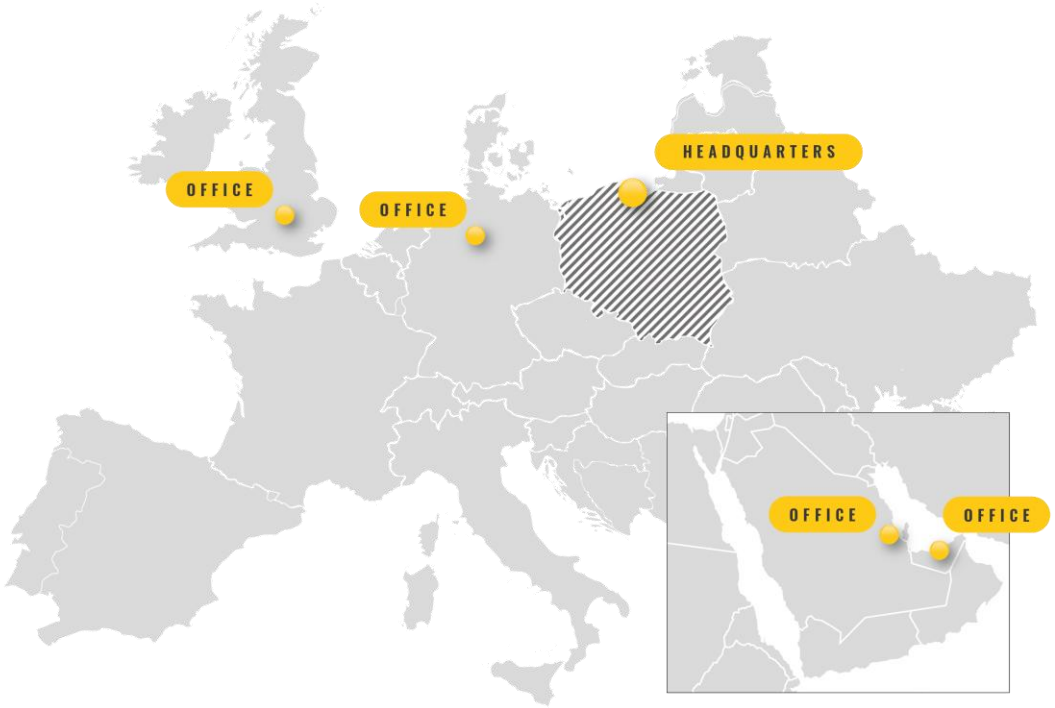
Experience and versatility

30 years on the market

Who we are?

- *Founded in **1989***
- ***30 years experience** in Sound, Fire and Security Systems*
  - *Manufacturer of Voice Alarm Systems*
  - *More than 10.000 commissioned projects in Poland, Europe, South Asia and the Middle-East*
  - *Innovation, high-quality products and professional support.*

- *Focus on the **development of Critical Communication Systems**, flexible solutions for demanding public, commercial and industrial projects*
  - *Public Address / Voice Alarm (EN54-16, EN54-24)*
  - *Intercom, Integrated Solutions (SIP)*



Where and why use IP intercom?

Why use IP intercom?

The intercom *system allows* ***voice communication*** *to be taken to the next level by utilizing* ***unique features*** *such as:*

- **FAST AND RELIABLE COMMUNICATION**
- **REMOVES THE NEED TO KNOW WHO TO CALL**
- **ALLOW USERS TO CONTACT THE SAFETY & SECURITY STAFF**
- **ALLOW TO IMPLEMENT ADVANCED SAFETY PROCEDURES**
- **ALLOW THE OPERATOR TO CONFIRM THE NATURE OF THREAT**
- **ALLOW TO DECREASE THE RISK OF FALSE ALARM**

IP intercom in applications

Education	*Schools, University, Campus*
Healthcare	*Hospitals, Retirement homes*
Transport	*Airports, Train Stations, Tunnels*
Industry	*Factories, Laboratories, Plants, Power plants*

Does your building need an IP intercom?

Emergency communication
Voice communication during emergency events

Seamless integration
With BMS, PSIM, IP-PBX and others

Access control
Open doors and pathways using dial code or remote control

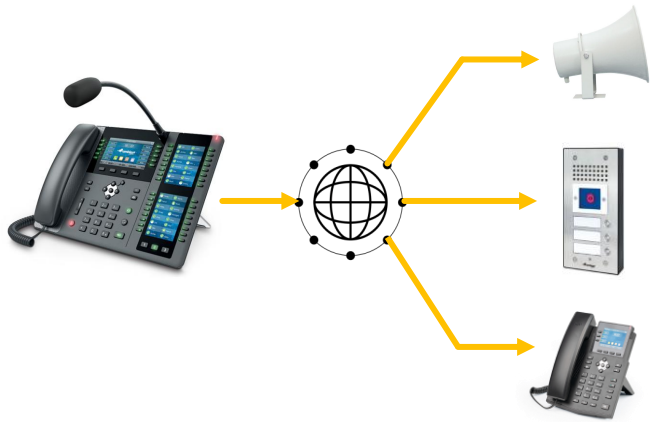
Scalability
Across different size buildings and applications

Reliability
Continous monitoring and status requisition

Safety without compromises

» *Modern schools require the use of **life safety and security systems of increased synergy**.*

» ***Reliable**, **two-way voice communication** needs to facilitate not only daily operations, **but foremost** provide an efficient tool to react in critical situations.*



Using Intercoms in a school application

EMERGENCY SITUATION

- AUTOMATED PAGING (on trigger from BMS)
- LIVE INSTRUCTIONS FOR STAFF AND PUPILS
- IMMEDIATE REPORTING OF THREAT
- COMMUNICATION VIA PHONE LINE
  (police, security)

EVERYDAY COMMUNICATION

- LIVE PAGING
- VOICE CALLS
- SCHEDULED EVENTS
  (bells, pre-recorded message)

Event scenarios

EMERGENCY

An unauthorized individual attempts to enter the school.

A student suddenly experiences a seizure in the middle of class.

Fire outbreak in the chemistry class

DAY-TO-DAY

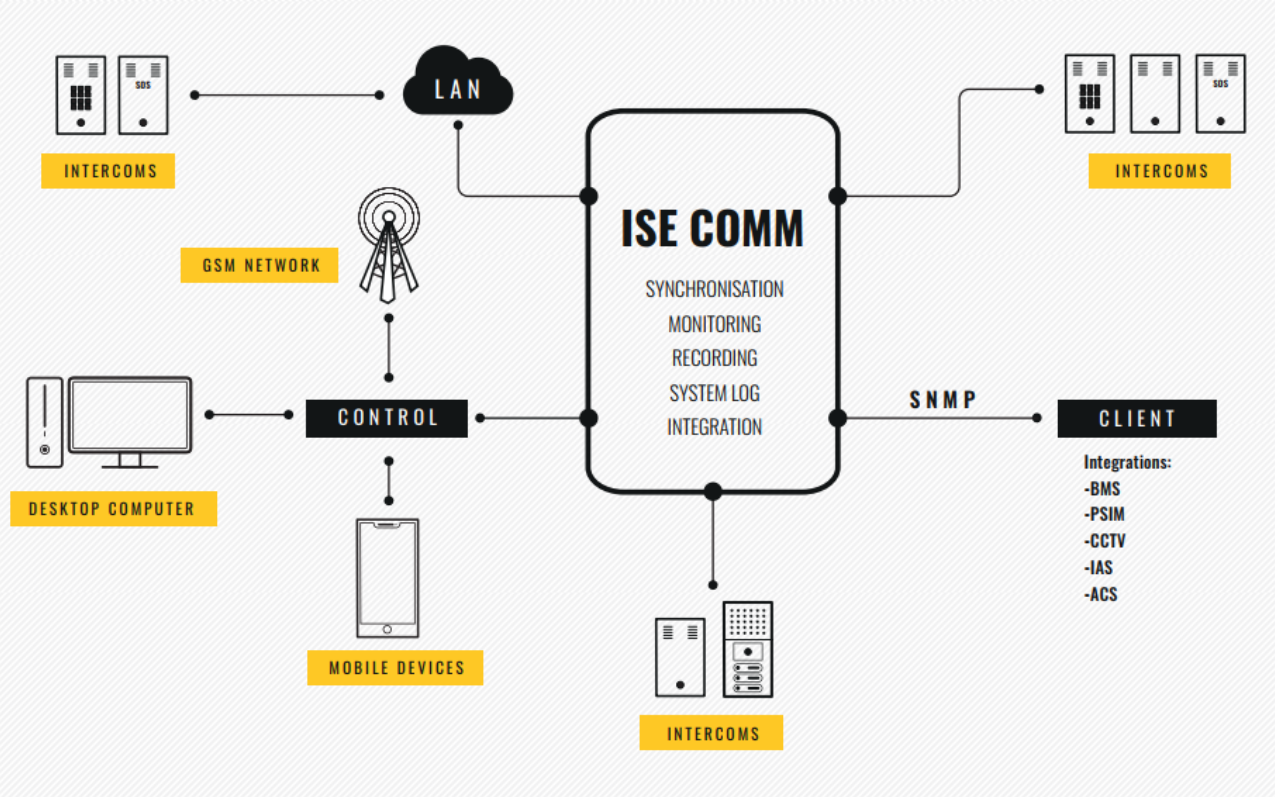
The traditional school bell system is replaced with IP intercoms.

The principal needs to make an announcement to the entire school.

Janitor is called for assistance

Ambient System solution for schools

Ambient System IP Intercom portfolio



» *Our solution consists of a **server**, range of **IP intercoms** and powered **IP loudspeakers***

» *The system is **digital**, **SIP** based*

» *The system is **designed to interface with Ambient System PAVA** portfolio on protocol level*

Ambient System IP Intercom features

KEY AMBIENT SYSTEM IP INTERCOM SHARED TRAITS

ADVANCED DSP PROCESSING FEATURES:
- noise reduction
- automatic gain adjustment
- automatic volume control
- acoustic echo cancellation

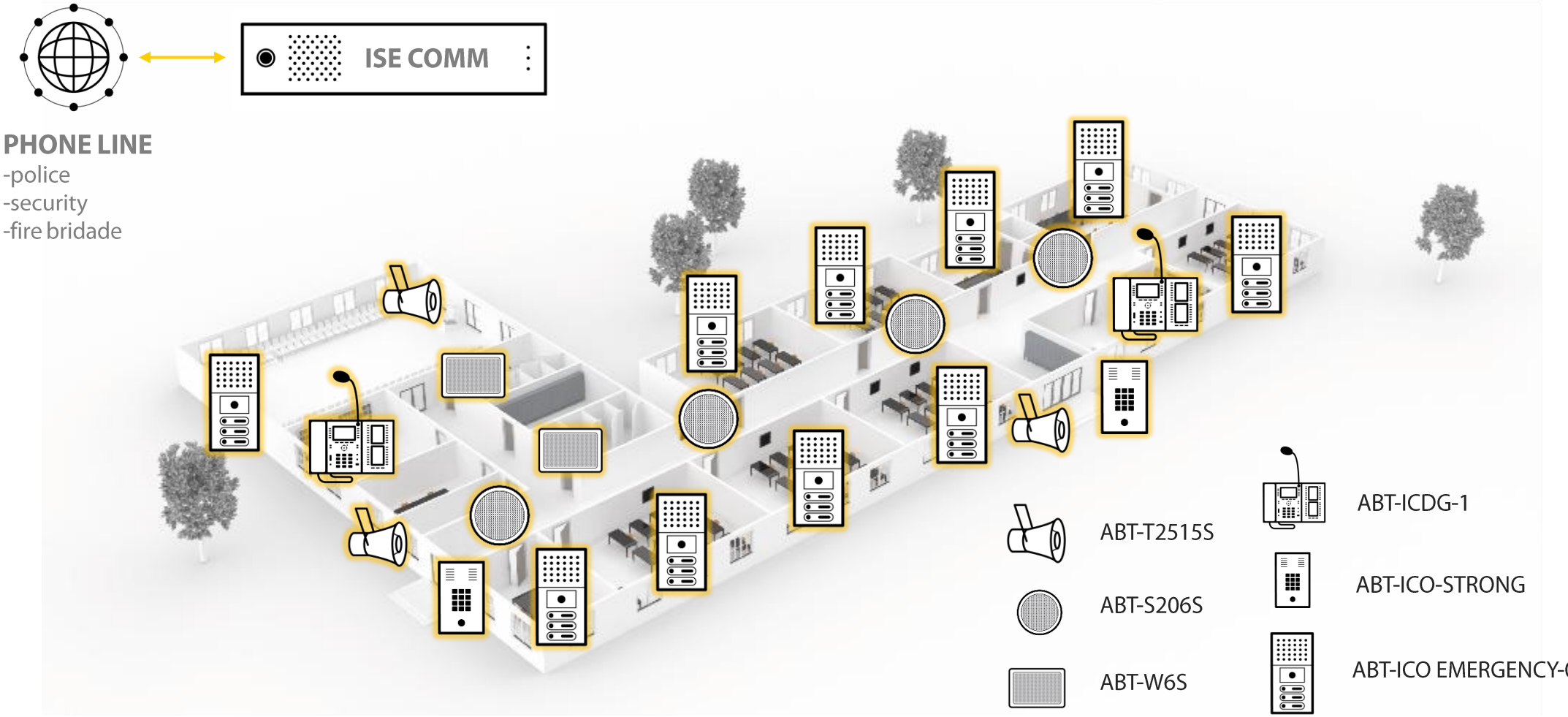
INTERFACES:
- dual Ethernet ports
- 2x built-in relay
- 6x GPIO
- MEMS type microphone
- LINE IN / LINE OUT

WIDE RANGE OF CODECS INCL. SPEEX & OPUS

THIRD PARTY INTEGRATION via SNMP & REST API

BROWSER BASED CONFIGURATION AND MAINTENANCE

Ambient System IP intercom for school



SIP Devices - ICO EMERGENCY emergency unit

ICO EMERGENCY

- ***IP intercom*** *compliant with the* ***DIN VDE V 0827*** *and* ***EN 50726-1*** *standards for emergency and danger response systems*
- ***Vandalproof*** *housing – stainless steel enclosure rated at* ***IK08*** *and* ***IP54***
- *Dedicated* ***emergency call button*** *placed behind breakable glass cover*
- *Up to* ***3 programmable buttons***
- ***2x built-in relay*** *outputs and* ***6x general-use*** *programmable I/Os*
- ***Audio output*** *(for local powered loudspeakers and/or induction loop system)*
- ***Supports broadband*** *audio* ***codecs*** *such as G.722*
- ***Equipped with DSP algorithms*** *to enhance the quality of voice communication:*
  - *Active Noise Reduction*
  - *Automatic Echo Cancellation*
  - *Automatic Volume Control*

SIP Devices - ICO STRONG vandalproof wall unit

ICO STRONG

- Durable and vandal-resistant, IK10
- **Ready to work in any weather and conditions, IP67**
- **Build in display**
- Varius optional components:
  - Keypad
  - Fixed buttons
  - RFID
- 2 **built-in relay** outputs and 6 **general-use**, programmable I/Os
- ***Supports broadband*** *audio* ***codecs*** *such as G.722*
- ***Equipped with DSP algorithms*** *to enhance the quality of voice communication:*
  - *Active Noise Reduction*
  - *Automatic Echo Cancellation*
  - *Automatic Volume Control*

SIP Devices - ABT-ICDG-1 desktop unit

- ***The ABT ICDG-1 is a desktop SIP Paging Station*** *equipped with multiple programmable buttons, display, headset and a gooseneck microphone.*

- *The device is prepared to serve, at the same time, as a* ***SIP telephone and Paging Microphone****.*
  - ***4,3" LCD*** *display with support for incoming video transmission*
  - *2x DSS display with physical 32 buttons (in total 96 programmable buttons on 3 layers). Can be programmed to:*
    - ***Call*** *SIP users*
    - ***Make paging*** *to the PAVA and SIP speakers*
    - ***Trigger*** *system* ***events*** *via dialcode (password protected)*
  - ***Traditional headset*** *and* ***gooseneck*** *microphone*

SIP Devices – Powered SIP Speakers

ABT-T2515S

Dimensions:
ø216 x 284 mm

SPL / Coverage angle:
116 dB / 121°(1kHz)

ABT-W6S

Dimensions :
260 x 180 x 80mm

SPL / Coverage angle :
101 dB / 180° (1kHz)

Frequency response:
120-20000 Hz

ABT-S206S

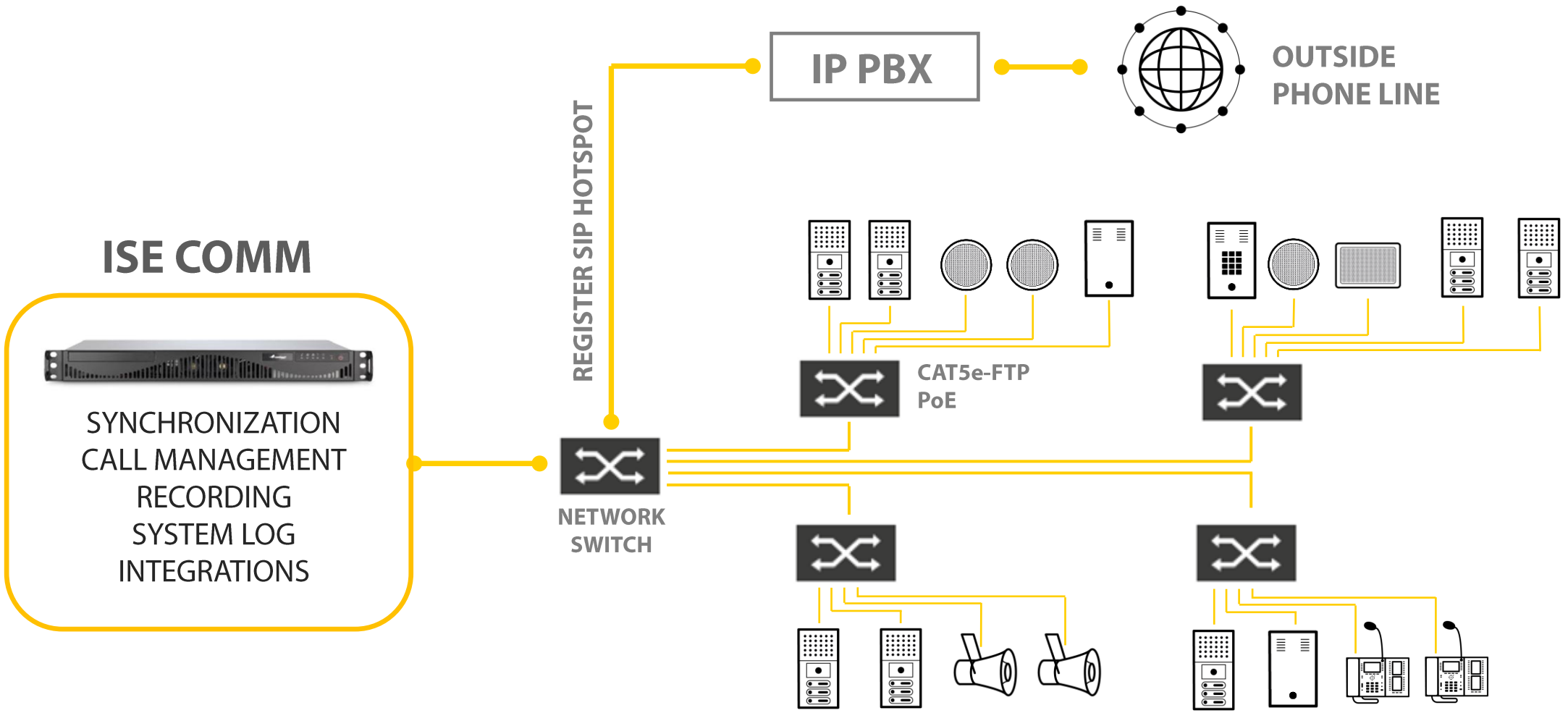
Dimensions :
ø206 x 130 mm

SPL / Coverage angle :
97 dB / 180° (1kHz)

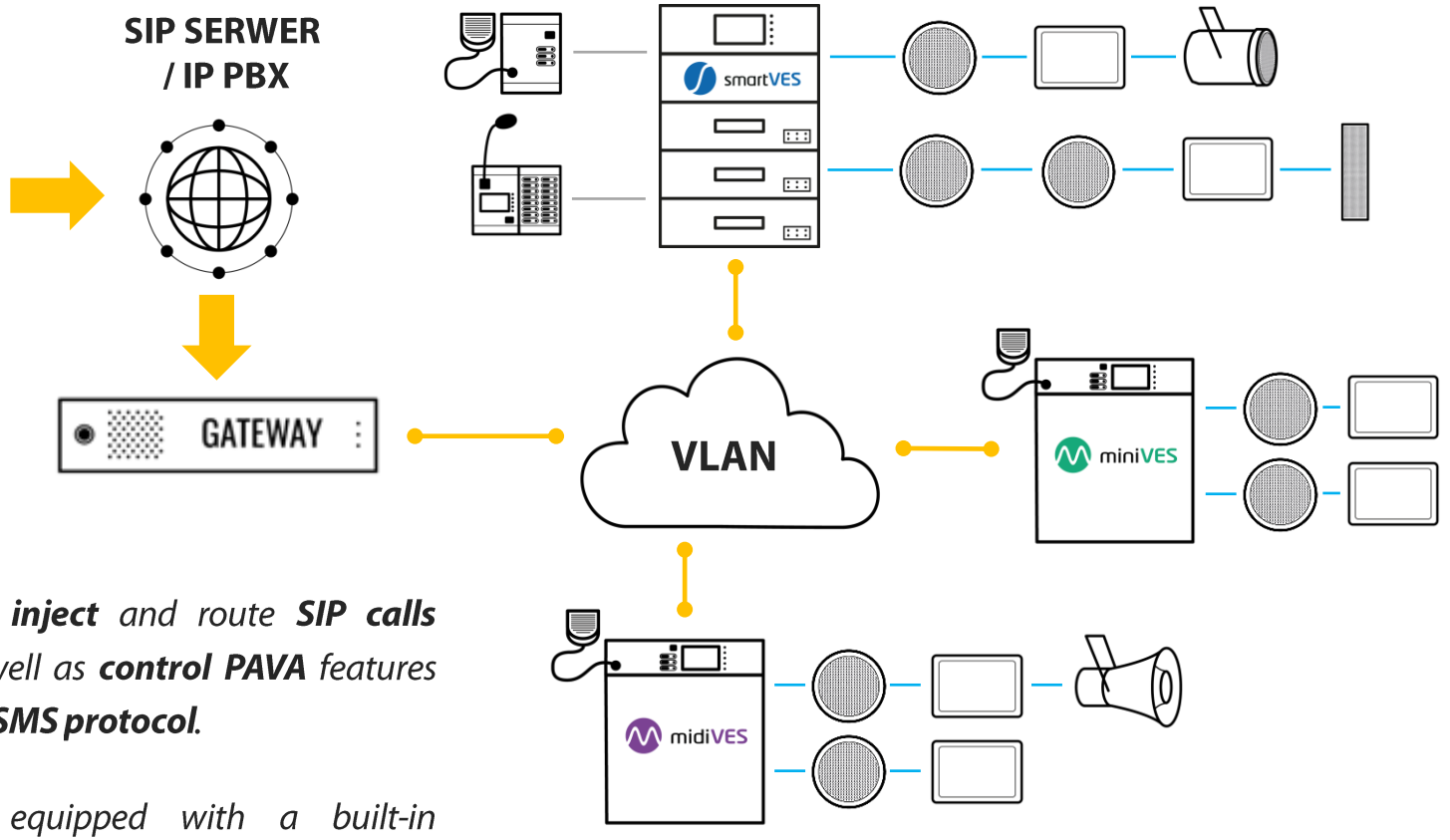
Frequency response :
100-20000 Hz

- / ***SIP 2.0*** *(RFC3261)*
- / *Power supply:*
  - › ***Power over Ethernet+***
  - › *Local adapter 12-24VDC*
- / *Built-in* ***15W amplifier***
- / *Codecs:*
  - › *Narrowband codec: G.711a/u,*
  - › *Wideband codec:* ***G.722***
- / *DHCP / PPPoE*
- / *Autoprovisioning*

SIP system diagram for school



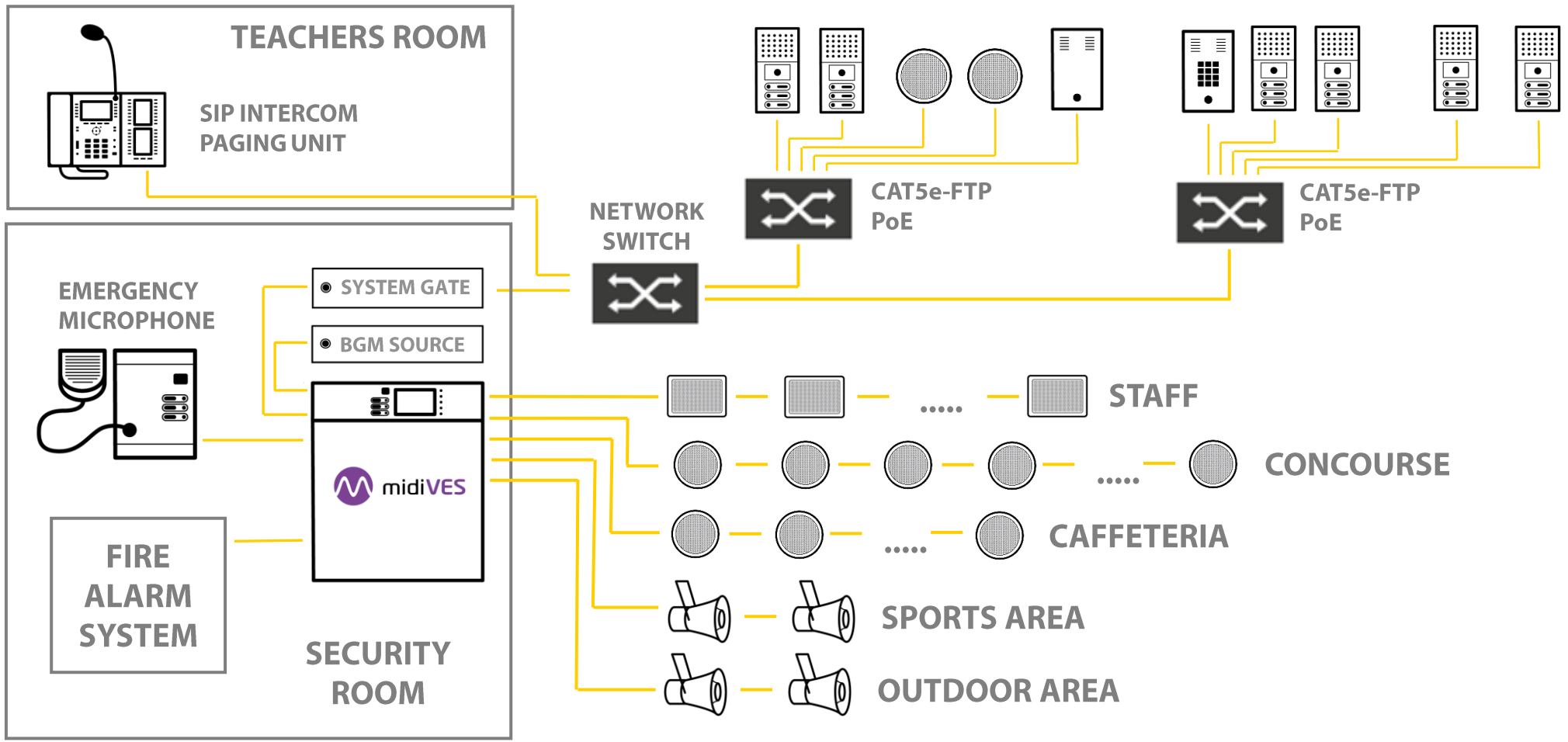
ISE-VES SYSTEM GATEWAY



/ ***The SYSTEM GATEWAY*** *allows to* ***inject*** *and route* ***SIP calls into the PAVA audio network****, as well as* ***control PAVA*** *features using the Ambient System proprietary* ***SMS protocol****.*

/ *The* ***ABT VES-SIP Gateway*** *is equipped with a built-in* ***message player*** *(DVA) and* ***scheduler****.*

Integrated IP Intercom and PAVA system



Integrated IP Intercom and PAVA system

SUMMARY OF KEY FEATURES AND BENEFITS OF USING AN INTEGRATED COMMUNICATION SYSTEM

USERS PERSPECTIVE

- Quickened flow of information in a crisis situation
- Possibility to implement advanced safety procedures
- Reduced likelihood of false alarm
- Ease of maintenance

INTEGRATORS PERSPECTIVE

- Scalable system price by use of different products
- One integrated communication system delivered by single Manufacturer
- Ease of third party integrations

Webinar series by Ambient System

- *Ambient System's webinar series presenting advanced IP Intercom solutions for key sectors.*

Upcoming webinar information:

- *Next Webinar:* ***"Ensuring Safety in schools with IP intercom system"***
- *Date: May 7, 2025*
- *Time: 10:00 - 10:45 AM*

Additional webinars will regard implementation of IP Intercom systems in transport and healthcare sector.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Q&A


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Thanks for your attention!