



**CASE STUDY**



**PN-EN 54-16**

**PN-EN 54-4**

1438-CPR-0527

# **midiVES Series PA/VA System for Office Building Applications**



**We make everyday life safer**

# MidiVES PA/VA Series

Modern office centers are often large complexes of buildings, usually consisting of at least one high story building. Due to its size and number of people working inside going up to thousands, such facilities should be equipped with Voice Alarm Systems compliant with the EN54 standard.

The use of the Voice Alarm System significantly increases the safety of people in the building in the event of an accident, or the occurrence of a threat. The VA System makes it possible to broadcast automated voice messages, allowing to convey information and operating instructions to people in areas immediately at risk (and adjacent areas). The system also enables manual broadcasting, which allows the facility staff and competent services to react in a manner optimal for the development of events.

CONSCIOUS INVESTORS WILL LOOK FOR INTEGRATED SOLUTIONS, WHICH WILL ALLOW THEM TO GET ADDITIONAL BENEFITS FROM THE INSTALLED SOUNDS AND SECURITY SYSTEMS

Unified operation

Limited number of contractors necessary for maintenance

Broadcasting from any part of the facility

Possibility to use the system for general (non-alarm) purposes

The PAVA system can be successfully used as a general sound system, which will provide information messages for visitors and employees of the complex. In selected areas it will also enable broadcasting background music (BGM).



**The ideal solution for this type of facilities will be the PAVA network system implemented on the basis of integrated midiVES system amplifiers:**

- » Full compliance with the EN54-16 and EN54-4
- » Advanced digital sound processing and audio routing capability
- » Speaker line surveillance via impedance method, end-of-line modules and/or loop isolators
- » Ease of configuration and assembly; built-in service interfaces (LCD)
- » Available in both rack and stand-alone (wall mounted) versions

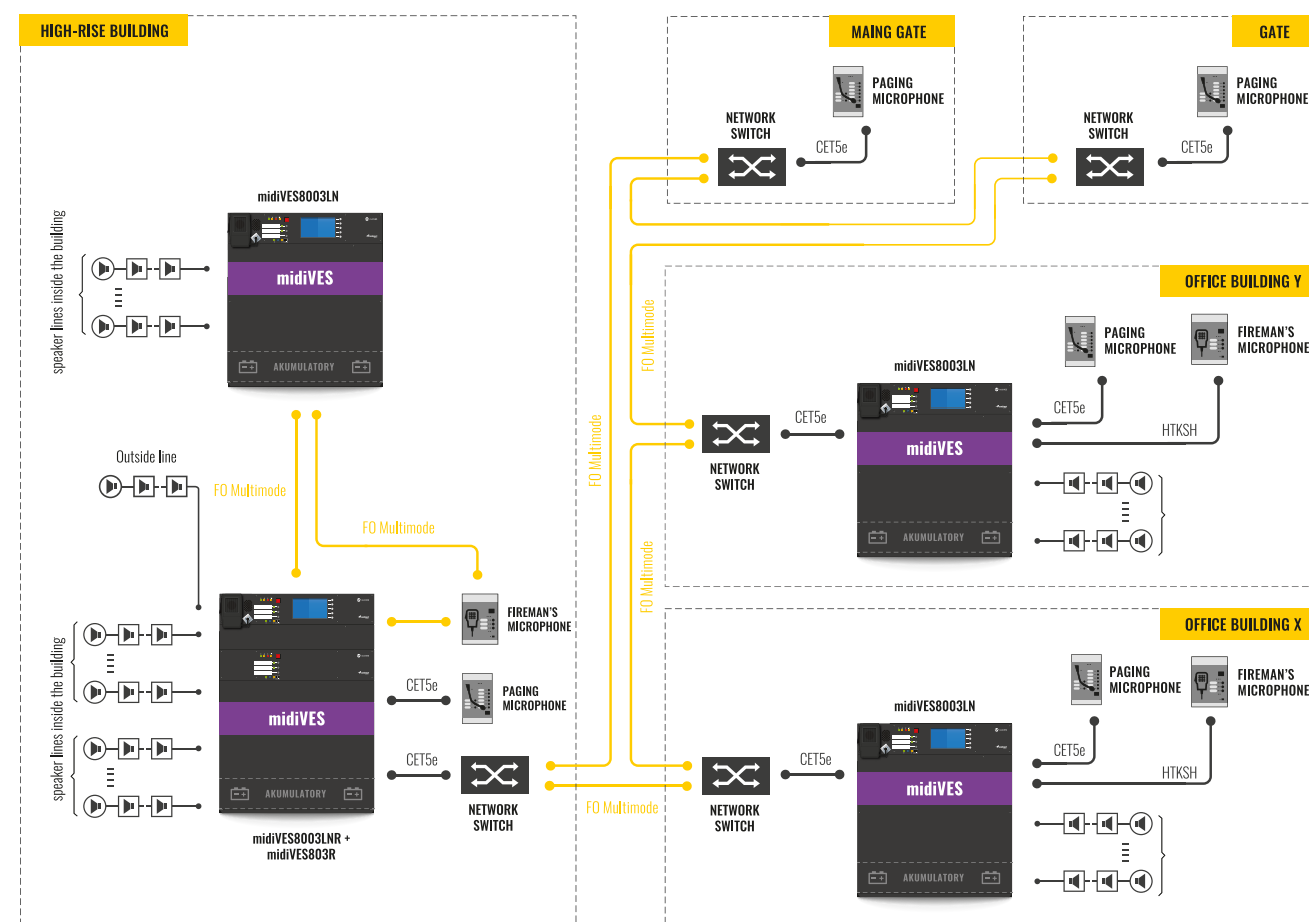
MidiVES is a series of compact PAVA devices, designed for medium-sized buildings and network applications. MidiVES devices work in Plug & Play technology - they are ready to work after hanging on wall or placing in a rack cabinet, connecting wires and installing batteries in the housing. The factory configuration can be edited and freely modified to meet the needs of a given building and alarm patterns.

After entering alarm mode (after receiving control signals from the Fire Alarm System, or after being manually triggered with Fireman's Microphone) the system will start to broadcast automated announcements stored within each midiVES units internal memory. Even in case of total network failure individual units will continue to operate as autonomous systems, ensuring the broadcasting of emergency messages.



midIVES allows to connect multiple units and Fireman's Microphones into a fiber optic ring. The devices shall operate as an audio network, which for larger facilities can provide an attractive cost alternative solution compared to large-format modular PAVA systems.

## System Architecture



## Technical Specification

A single device of the midIVES series has three independent transformerless class D power amplifiers with 500W output each. The device allows to power up to 16 fully addressable loudspeaker high impedance 100V speaker lines (8 AB zones). The system also provides the functionality of backup amplifier.

Built-in DSP provides the midIVES user with a range of digital audio processing tools, including: parametric EQ, audio limiter, acoustic feedback suppressor and an audio matrix with priority support.

The midIVES is a network system based on TCP / IP. It allows the distribution of background music between devices and maintaining the functionality of intercom between the main units and system microphones. Ease of operation was obtained thanks to the use of Ambient System proprietary communication protocol - the additional advantage of which is full compatibility with devices of the MULTIVES series.



midIVES	8003LN	8003LNR	8003R	8003LNR + 8003R
No of AB zones	8			16
No of speaker lines	16			32
No of control inputs	7 + 2		7	14 + 2
No of relay outputs	3 + 2		3	6 + 2
Relay switching current (max.)	3 A peak*			
Relay switching voltage (max.)	50 V AC / DC peak *			
Relay switching power (max.)	90 W*			
No of amplifiers / power	3 / 500 W			6 / 500 W
Redundant amplifier	Yes			Yes
No of messages played at the same time	3			6
Protection	Over-temperature, short circuit, overload, ground leakage			
Ingress protection	IP30	Mounted in IP30 Rack		
Operating condition	5 to + 45°C / 5% to 95% humidity with no condensation			
Weight	23 kg	16,5 kg	16 kg	N / A
Dimensions (WxHxD)	440 × 525 × 350 mm	440 × 176 × 354 mm		600 × 765 × 600 mm
Optional functions				
No of audio inputs	1 – stereo to mono			2 – stereo to mono
GUI 4,3" color touch screen	Yes	Yes	No	Yes
DSP	Input EQ, outputs EQ, feedback eliminator and audio limiter, delay up to 30000 ms - routing, mixing, prioritizing included			
Fire Microphone	Yes	Yes	No	Yes

## System Microphones

The midiVES system works with remote microphone units: the ABT-DMS paging microphones and the ABT-DMFS Fireman's Microphones. Both types of device can be extended with additional programmable buttons by the use of the ABT-EKB-20M expansion keypads.

Each of the units is a TCP / IP network device which can be powered locally (using a DC power adapter) or via PoE provided by the LAN cable.

The microphones in each building enable broadcasting verbal announcements and / or activation of automatic announcements to selected speaker zones, not only in a given building, but in all facilities.

In case of a higher priority broadcast taking place, the message buffering feature allows to record announcements to be automatically played back when selected zone is released.

### ABT-DMS

Paging Microphone



Paging microphones at the disposal of the facility staff will enable the broadcasting of general messages . The units shall also allow to control the playback of music signals in selected zones (BGM function).

- » Operator console with gooseneck microphone and programmable buttons.
- » 4 built-in audio inputs for connecting BGM sources.
- » Can be powered via PoE.
- » Connects to the PAVA system via Cat5 cabling.
- » Can use existing network infrastructure (cabling and switches).

### ABT-DFMS

Fireman's Microphone



The Fireman's Microphone is a device with the highest priority of operation, ensuring the transmission of emergency messages to people present in selected or all facilities.

- » Hand-held microphone easy to use while wearing protective gloves.
- » Built-in redundant network interface (enables connection in the ring architecture).
- » Can connect to the main system via copper cable or optic fiber.
- » 2 built in control inputs and outputs.
- » Both electrical and acoustic surveillance.

The midiVES system utilizes high class digital power amplifiers with more than 85% efficiency. The system is characterized by low power consumption, which will be important in the context of obtaining a green certificate for the building.



## Loudspeakers

The Ambient System portfolio includes numerous loudspeakers. Usually in the case of office buildings the following devices shall be used:

- » ABT-W6 wall speakers and ABT-T1510 horn speakers shall be used in technical areas.
- » ABT-P20 sound projectors shall be used for underground parking and outdoor area.
- » ABT-S206B ceiling speakers and ABT-W6 wall speakers shall be used in general areas.
- » The ABT-LA30/LA-60 line-array columns can be used successfully in representative areas and/or large venues such as entrance lobbies.

### ABT-T1510

Horn speaker



Model	ABT-T1510
Rated Power	10W
Sensitivity [1W/1m]	103 dB SPL
Frequency Response	340 Hz - 9 kHz
Tappings	5 / 2,5 / 1,25 / 0,62 W
Dimensions	236, Ø156

### ABT-W6

Wall-mounted speaker



Model	ABT-W6
Rated Power	6W
Sensitivity [1W/1m]	94 dB SPL
Pasmo przenoszenia	120 Hz -20 kHz
Tappings	6 / 3 / 1,5 / 0,75 W
Dimensions	260 x 180 x 80

## ABT-LA30/ABT-LA60

Slim line array columns



Model	ABT-LA30	ABT-LA60
Rated Power	30W	60W
Sensitivity [1W/1m]	93 dB SPL	95 dB SPL
Frequency Response	141 Hz -20 kHz	136 Hz -20 kHz
Tappings	30 / 15 / 7,5 / 3,8 W	60 / 30 / 15 / 7,5 W
Dimensions	510 x 80 x 110	870 x 80 x 110

## ABT-P20

Sound projector



Model	ABT-P20
Moc znamieniowa	20W
Sensitivity [1W/1m]	91 dB SPL
Frequency Response	130 Hz - 20 kHz
Frequency Response	20 / 5 / 10 / 2,5 W
Dimensions	210, Ø143

## ABT-S206B

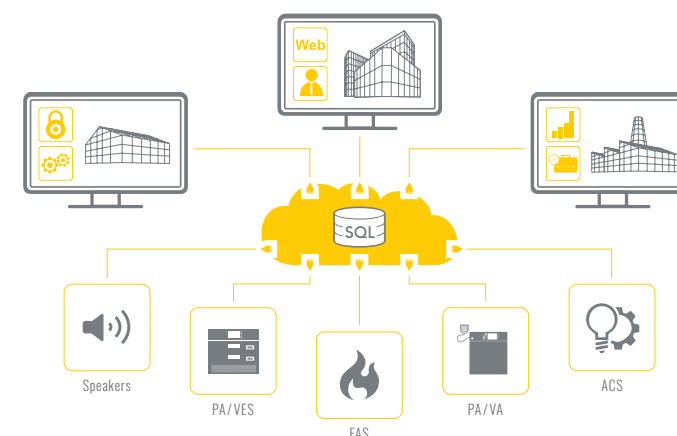
Ceiling speakers



Model	ABT-W6
Rated Power	6W
Sensitivity [1W/1m]	93 dB SPL
Frequency Response	120 Hz -20 kHz
Tappings	6 / 3 / 1,5 / 0,75 W
Dimensions	115, Ø143

## Surveillance Features

midIVES provides a complete set of monitoring and self-diagnosis functions required in the context of PAVA systems. It can report its status via control outputs, Ambient System proprietary SMS communication protocol (to be implemented on the Integrator's side, made available free of charge after signing an agreement), or via the YELLOW platform.



- » YELLOW is an integration software, for management and visualization of audio and security systems.
- » YELLOW offers an efficient way of management.
- » YELLOW enables continuous monitoring of the midIVES system and its components.
- » YELLOW enables easy integration with third party systems via protocols such as: SNMP, Modbus and OPC.

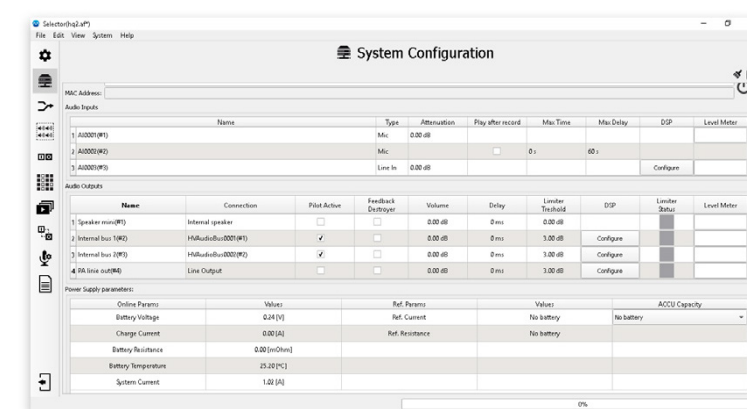
### The system monitors using advanced self-control mechanisms:

- » Internal functions (temperature, memory, DSP power, etc.)
- » Connectivity between network components of the system, including remote zone and fireman microphones.
- » Loudspeaker lines for short-circuit, open circuit and earth fault (in a way imperceptible to users, using impedance, tone, loop isolators or end-of-line modules).



**SELECTOR - dedicated management application that allows for remote diagnosis of faults, without the need to call the maintenance team to the site.**

- » Global access to midIVES devices from any point in the network.
- » Access to the system log and event log.
- » View of connected speaker line impedance.
- » Battery charging parameter management.
- » Zone status: normal, blocked, in fault, in progress broadcasting.
- » Access to many other parameters.



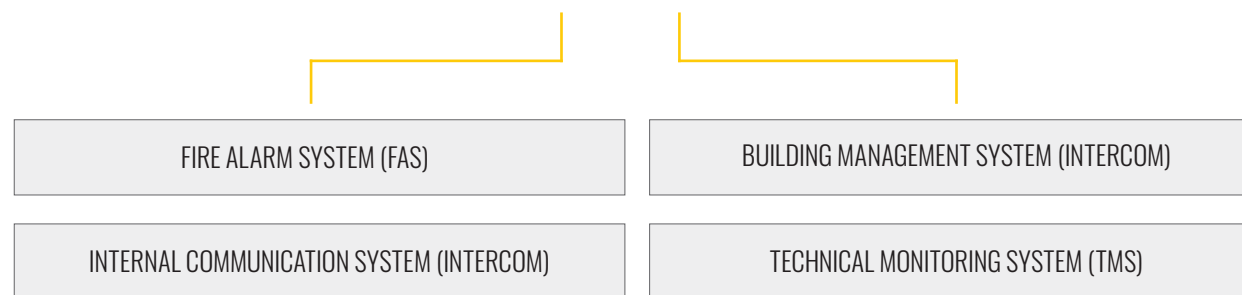


## Integration with Other Systems

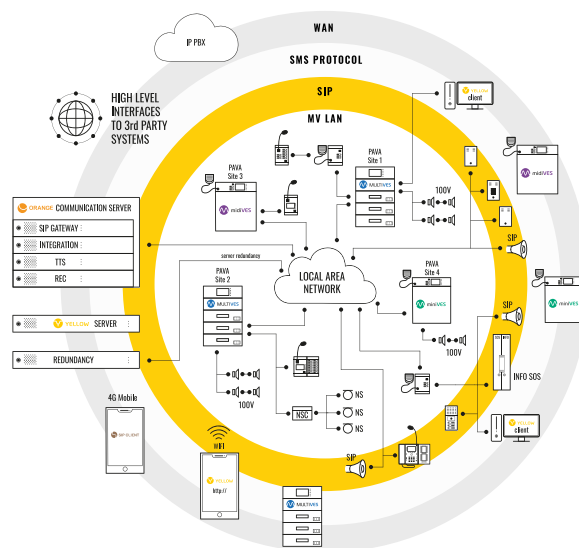
The midiVES can be integrated with other systems via analogue interfaces in the form of audio and control inputs/outputs, or completely digitally:

- » By the use of the Ambient System proprietary SMS protocol.
- » Through SNMP, Modbus, or OPC (using the YELLOW SI Server).

midivES OFFERS THE POSSIBILITY OF INTEGRATION WITH OTHER SYSTEMS IN BOTH THE DIGITAL AND ANALOGUE DOMAIN



## Integrated Security Platform



**Ambient System presents the concept of an Integrated Security Platform, consisting of:**

- » EN54 certified VA System based on MULTIVES and midiVES product line-ups.
- » SIP based intercom with powered SIP loudspeakers.
- » YELLOW as a visualization and management system.

The platform extends the standard functionality of the Voice Alarm System with additional features such as two-way communication between system users and operators, as well as the ability to present data coming from various systems in the form of one, consistent and easy-to-use Graphical User Interface (GUI).

## References



## Contact

## HEADQUARTERS

**AMBIENT SYSTEM Sp. z o.o.**  
ul. Bysewska 2  
80-298 Gdansk | Poland

T: +48 58 345 51 95  
ambient@ambientsystem.pl



Those interested in obtaining more information are encouraged to visit the website [www.ambientsystem.eu](http://www.ambientsystem.eu) and to register in the customer zone at: <https://ambientsystem.eu/en/customer-area/customer-area-log-in/customer-area-registration/>



*We make everyday life safer*

*Ambient System products are continually improved. All specifications are therefore subject to change without prior notice.*

ENG / 07.2021