ambient SYSTEM

We make everyday life safer

PRODUCT CATALOG

Public Address & Voice Evacuation Systems

Compliance with EN 54-16 / EN 54-4 / EN 54-24

Contents

SIP Family Equipment 46

YELLOW 68

Security System
Management Software

NETIO 72

Compact Plug & Play
Multi Purpose Power Amplifier

Safety for Tunnel 76

Voice Evacuation System with
Specialized Tunnel Loudspeakers

Loudspeakers 80

A wide range of certified fire alarm
and special application loudspeakers

About us

Ambient System is leading Polish provider of modern PA/VA systems to clients worldwide.

Our projects range from complex installations such as refineries, airports, stadiums, tunnels and shopping centres to medium and small structures like hospitals, train stations, hotels, office buildings, supermarkets or schools.

proven and reliable technology – we've been delivering PA/VA systems for over 10 years

digital, scalable & cost-effective solutions compliant with Fire Safety industry standard EN-54

more than 2000 objects in our portfolio

innovative solutions tailored to client needs

full ownership of our product cycle – design, solution development, quality testing and implementation support – all in ONE place

technical expertise and specialist engineering skills

CONTACT

HEADQUARTERS

AMBIENT SYSTEM Sp. z o. o.
ul. Bysewska 27 | 80-298 Gdańsk | Poland
T: +48 58 345 51 95
ambient@ambientsystem.pl

SALES

sales@ambientsystem.pl

Portfolio

Ambient System has **more than 2000 objects** in portfolio:

Hotel Hilton Gdańsk
Poland

LOTOS S.A Rafinery Gdańsk
Poland

Olivia Star Office Gdańsk
Poland

Museum of the Second World War
Gdańsk / Poland

Gdańsk Airport
Poland

Sopot Centrum Railway Station
& Shopping Mall / Poland

Wrocław Railway Station
Poland

Hotel Raffies Europejski Warsaw
Poland

Warsaw Spire Office
Poland

Bielsko-Biała Stadium
Poland

Galeria Wroclavia Wrocław
Poland

Watford Stadium
UK

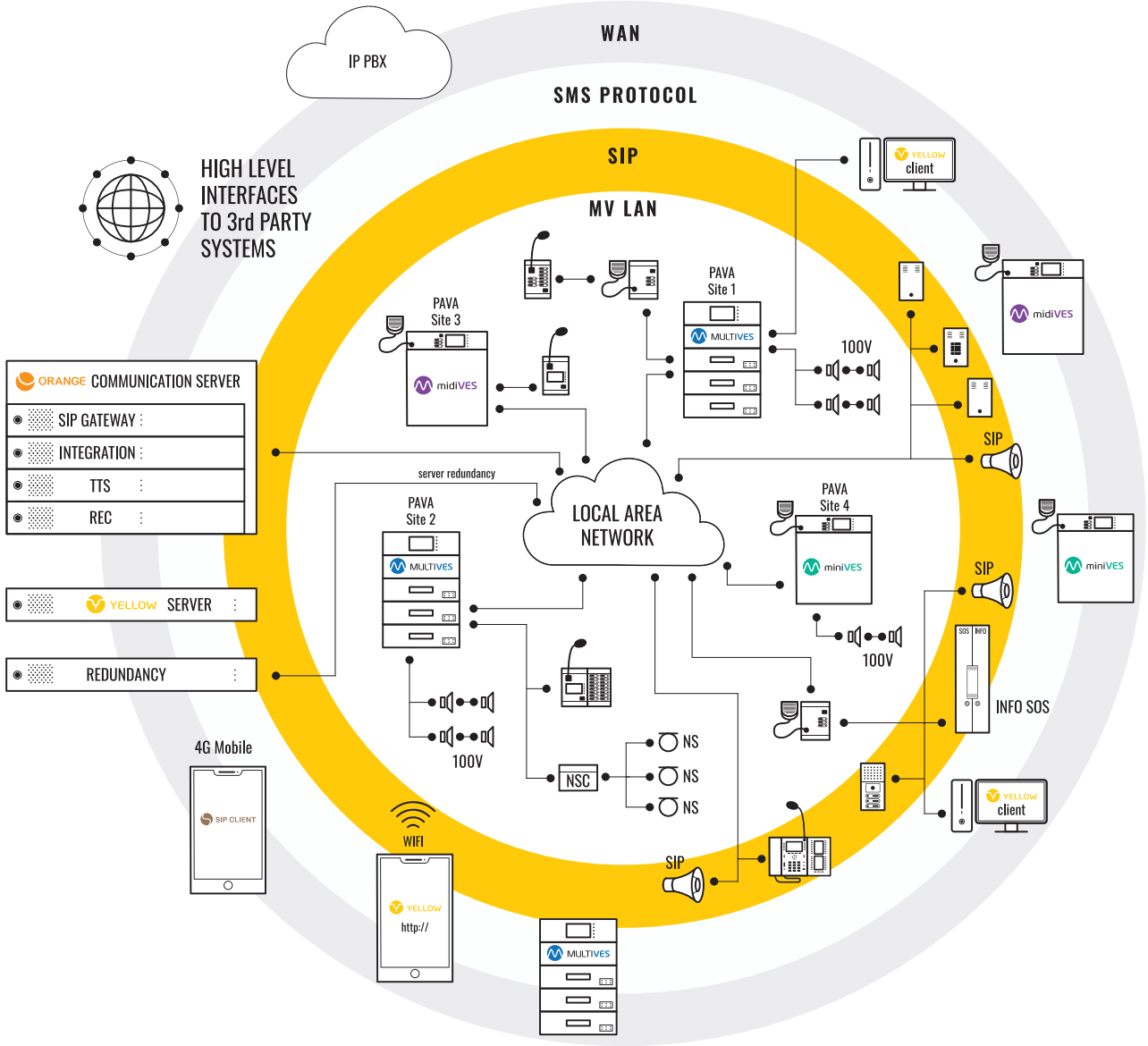
Office Center of Pankrac Prague
Czech

Galéria Lučenec Bratislava
Slovakia

Merkury Markets
Slovakia

Basra Times Square Mall
Iraq

Security Communication Platform



Modern facilities require an integrated approach into their security and communication systems. Ambient System presents an integrated solution that combines functionality of an **EN 54 certified Voice Alarm System**, **fully digital SIP Intercom system**, as well as a **visualization and management platform**, which shall allow to control over the above – and other systems – in one unified fully configurable Graphic User Interface (GUI).

The Ambient System Integrated Security Platform is **a perfect solution for various types of applications**, where the key requirement is to provide rapid response to any events. It allows the systems operators not only to quickly address the recipients, but also provides a means of two way communication. **The solution is dedicated primarily to public utility buildings, office complexes, medical facilities, industrial facilities and public transport facilities** – such as ship terminals, railway stations, metro and airports.

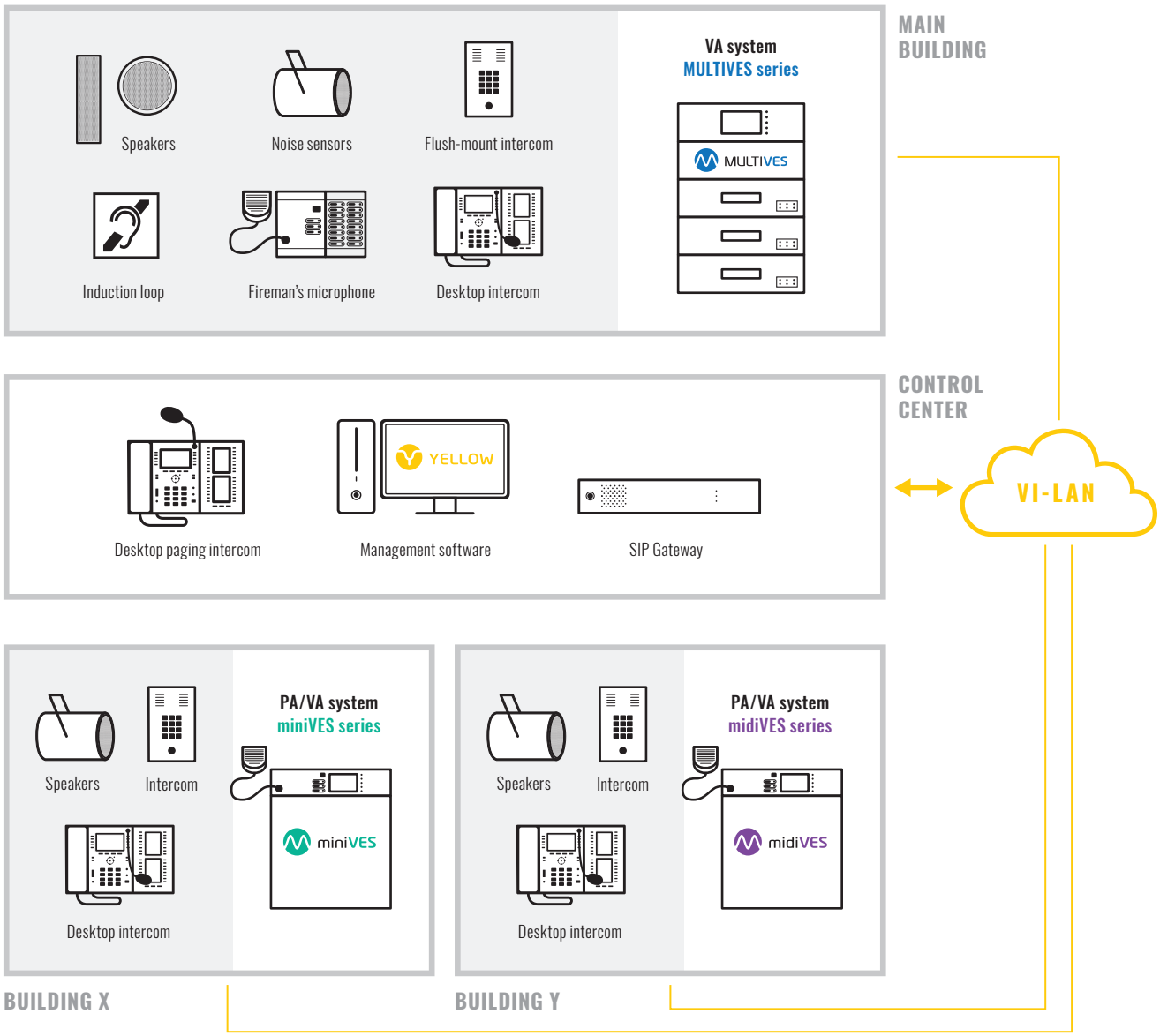
This comprehensive approach allows the user to more **easily manage the processes in the facility** and to take more **efficient and faster actions to eliminate possible threats**.

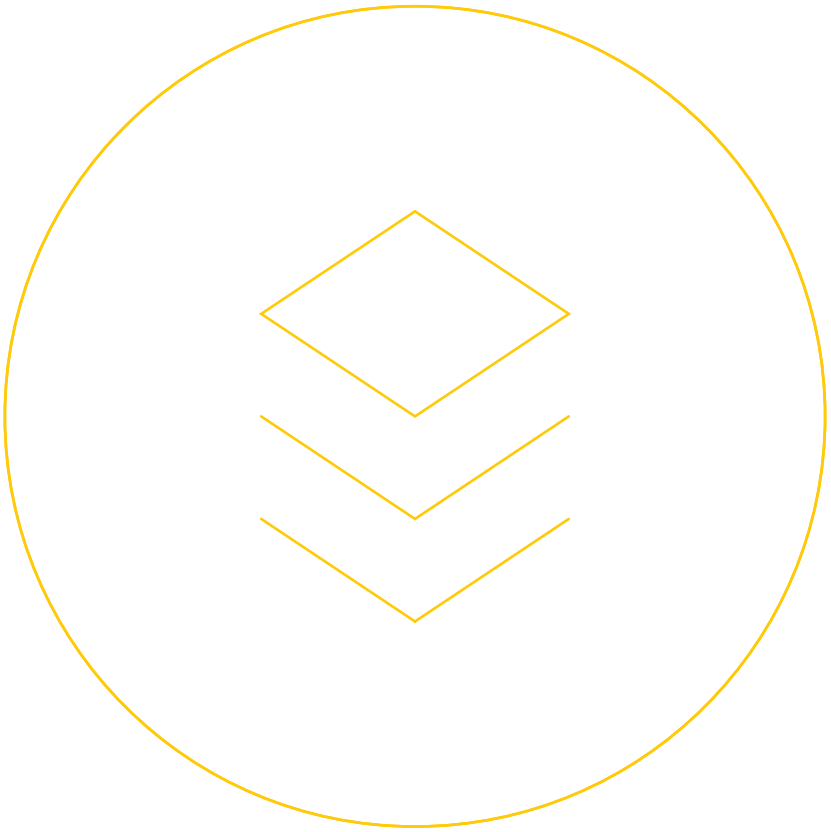
Example application

a. The system covers a **networked building complex**. Each building is equipped with a VA or sound system. Each of the buildings can be equipped with a local broadcasting station and / or Firefighter's microphone.

b. There is a **Control Center** within the facility. The operator is equipped with a **desktop paging station** in the form of a SIP Intercom and an operating console in the form of a touchscreen PC running the **YELLOW SI STANDARD application**.

c. In selected parts of the facility there are **intercom stations enabling two-way communication with the Operator** in the control center or selected employees positions.





MULTIVES

EN 54-16 | EN 54-4

1488-CPR-0500/W

Public Address & Voice Evacuation System

- ✓ Flexible and scalable configuration
- ✓ Fully digitalised audio transmission
- ✓ Redundant communication between control units and fireman microphones
- ✓ Modular structure of control units
- ✓ Full integration with Fire Alarm Systems
- ✓ Remote management via Ethernet and WAN connectivity
- ✓ Intercom function between all fireman and zone microphones
- ✓ Unique dynamic allocation of spare amplifiers
- ✓ Advanced DSP functions

Flexible Fully Digital PA & VES

The MULTIVES system has been designed to offer exceptional versatility and it is therefore equally suitable for medium-range buildings as well as complex commercial structures such as train stations, airports, refineries, sport stadiums, shopping malls etc. The system's architecture is based on proven fibre-optic Ethernet connectivity between control units and other elements of the system thus enabling digital transmission of voice messages, including public address functions and music.

Its modular structure allows tailoring the design to meet clients' specific requirements with regard to design and development.

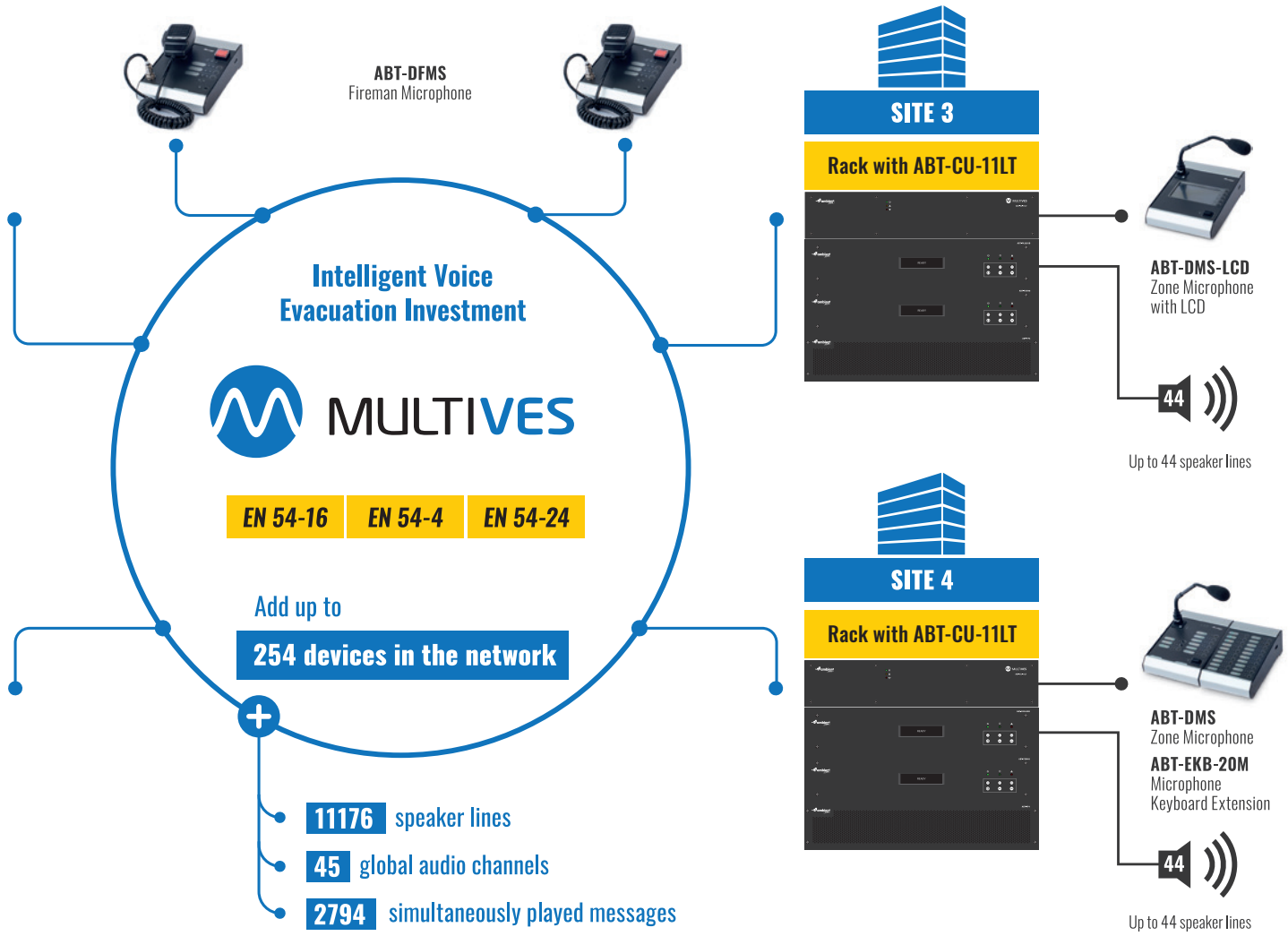
The main role of MULTIVES is to effectively warn the public of eminent danger thus allowing efficient evacuation. As the system works seamlessly with the Fire Alarm systems; its warning and informative functions can be either triggered automatically via the fire alarm system or manually using fireman microphones. The audible alarm system is designed to cover all areas of a building to reach its occupants in the event of an emergency.

The system fully complies with a European mandatory standard EN-54-16 (Fire detection and fire alarm systems; Components for fire alarm voice alarm systems; Voice alarm control and indicating equipment), which is also recognised in numerous countries outside of the European Union (e.g. Latin America, several of African and Asian countries).

The MULTIVES system comprises control devices, multi-channel amplifiers, fireman and zone microphones and 20-key extension keyboards. The system enables digital scaling of communications between all elements of the system and other integrated safety systems.

Main Parameters of the MULTIVES System:

- *Compliance with EN 54-16, EN 60849*
- *45 global audio channels*
- *Up to 254 units in the network*
- *Up to 32 GB SD flash memory card designated for playback and recording messages (48 kHz, 16 bit)*
- *Number of simultaneously played messages dependent on the number of xCtrLine-4 & xCtrLine -2 cards in the system*
- *Intercom function between all microphones*
- *External audio inputs in all control units and zone microphones*
- *Up to 12 secured amplifiers fully supported*
- *Cost-efficient solution allows for up to 4 messages to be played simultaneously thanks to 4 common 100 V audio buses in each control unit*
- *DSP with implemented 3 band parametric EQ on all inputs on control units, 8 band parametric EQ , delay lines, audio limiter and feedback eliminator on each of the audio outputs*
- *Complex control inputs/outputs, RS485 interface for integration with Fire Alarm systems and Building Management Systems (BMS)*
- *Wide choice of bridgeable Class D amplifiers (8×80 W, 8×160 W, 4×160 W, 2×650 W, 1×650 W)*



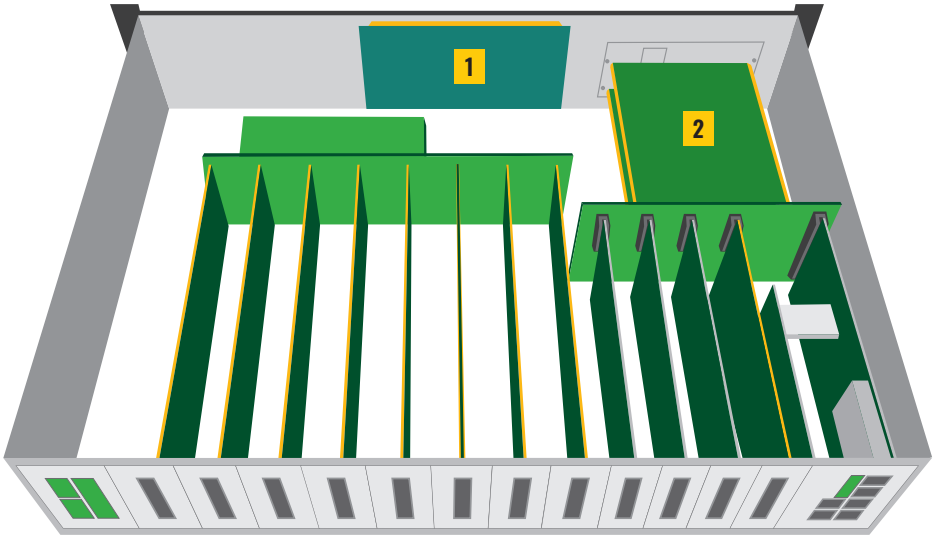
Elements of the Integrated MULTIVES System

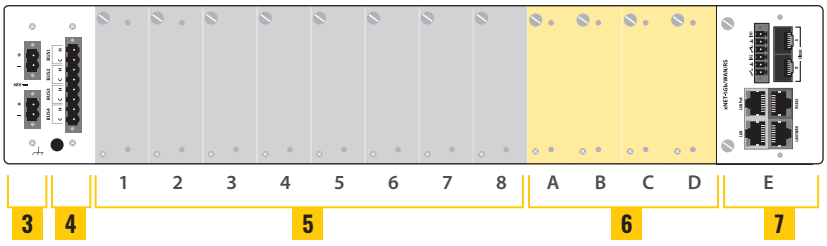
MULTIVES Devices	
ABT-CU-8LCD	stand-alone control unit with 8 control slots, 3 Audio-DSP extension (function) slots and touch screen GUI
ABT-CU-11LT	control unit with 11 control slots
ABT-CU-11LCD	control unit with 11 control slots and touch screen GUI
ABT-DFMS	desktop fireman microphone station
ABT-DMS-LCD	desktop zone microphone with touch screen
ABT-DMS	desktop zone microphone station
ABT-EKB-20M	20-key extension keyboard
ABT-ISLE	interface communication moduleand audio signal splitter with RS485 for external systems

MULTIVES Exchangeable modules	
ABT-xNET-1Gb/WAN/RS	communication card
ABT-xLogIN-8f	logical input card for function slot
ABT-xLogIN-8c	logical input card for control slot
ABT-xLogOUT-8f	logical output card for function slot
ABT-xLogOUT-8c	logical output card for control slot
ABT-xAudIO-4/8-RS	audio card 4 IN / 8 OUT AUDIO / RS485
ABT-xAudI-8	audio card 8 IN AUDIO
ABT-xCtrLine-2	2 loudspeaker line control card
ABT-xCtrLine-4	4 loudspeaker line control card

Control Units

EN 54-16 | EN 54-4 | 1488-CPR-0500/W





MULTIVES CONTROL UNIT ELEMENTS:

1. ***GUI Card*** *for ABT-CU-8LCD*
2. ***ABT-xCPU card***
3. ***Power Supply***
4. ***100 V audio global BUS***
5. ***1 – 8 control slots*** *for loudspeaker line control cards and logical input / output cards*
6. ***A –D functional slots*** *intended for expansion the number of audio inputs and outputs as well as additional xLogIN-8f / xLogOUT-8f cards*
7. ***E slot*** *for communication card with SFP modules and copper RJ45 connectors*

Flexible, multi-functional and modular Control Units (CU) are the key elements of the MULTIVES system. They are central units managing all other elements of the system to enable flexible configuration of routes for audio signals received from various sources to any outlet. Global switching of audio routes is achieved via a programmable logic system as well as Ethernet 1G network (UDP / IP, TCP / IP). A CU is controlled by an ABT-xCPU processor card which reproduces audio communications from SD cards to make them available locally and globally. The ABT-xCPU card integrates Control Units with other elements of the MULTIVES system and enables remote access to the configuration parameters of each element of the system. It also controls the whole network traffic and manages audio routing, digital matrix (8×8) as well as all DSP functions.

The main characteristics of the MULTIVES system are its versatility and interchangeability of three types of the CUs that function in a redundant communication ring i.e. ABT-CU-8LCD, ABT-CU-11LT and ABT-CU-11LCD. Each CU is equipped with unique features, which allow the MULTIVES system to effectively warn the public of eminent danger thus fulfilling its Voice Evacuation purpose; as well as provide non-emergency and Public Address functions. The modular design of the CU and its flexibility enable optimisation of equipment and cost efficiencies regardless of size, number of structures and buildings, their location and connectivity. The CUs can be used to perform either major functions of the system controls or form a minor element of a local character.

Furthermore, fireman microphone panels can be used to manage the functions of the system normally controlled by central units. The system's flexibility and scalability help achieve the cost efficiency and functional optimisation of the projects notwithstanding the complexity of the design.

ABT-CU-11LT / **ABT-CU-11LCD** Control Units

ABT-CU-11LT Control Unit (CU) is a matrix mixer of input signals which it routes to 4 100 V internal audio buses, a 45-channel digital system buses or directly to audio outputs in a unit. ABT-CU-11LT is designed to work for small PA & VE systems or as an extension unit in more complex systems. It means that the CU can function independently as the central unit of a small system or be part of a large complex system for which it represents another level of either territorial extension (operation in a remote structure) or functional extension (operation of further fire zones and loudspeaker lines in such a structure). The modular design of the CU and its flexibility enables optimisation of equipment and cost efficiency regardless of size / number of structures, their location and connectivity.

In the event of losing connectivity with a networked master unit, ABT-CU-11LT is able to perform fire alarm scenarios independently thanks to the configuration recorded locally. While attached to the main communication ring of the system, ABTCU-11LT can control amplifiers and power supply managers as well as receive alarm and digital signals; and send them to other system devices.

ABT-CU-11LT Control Unit distributes audio signals to individual zones and ensures that individual zones function properly. It also controls the condition of loudspeaker lines and amplifiers. If a fault is detected, it sends the signal to the system and automatically switches to a backup amplifier. The CU is equipped with an ABT-cAudIO-4/12 card offering 4 symmetrical line audio inputs and 12 symmetrical outputs to lead audio signals out to external devices or amplifiers of the MULTIVES system.

Furthermore, ABT-CU-11LT can be equipped with an LCD touch screen with a control module, which allows easy access to management functions and monitoring of the whole system – such extended configuration is included in ABT-CU-11LCD Control Unit.

CHARACTERISTICS

- ***Compliance with EN 54-16***
- ***Network-based system allowing configuration, diagnostics and management via Ethernet***
- ***Managing up to 254 devices on the network***
- ***11 slots available for any configuration of loudspeaker control cards and control input / output cards***
- ***Built-in audio card with 4 inputs and 12 audio outputs***
- ***Up to 12 messages played simultaneously in different zones***
- ***Up to 32 GB SD flash memory designated for playback and recording messages (48 kHz, 16 bit)***
- ***1 × POE port***
- ***Support of up to 12 secured amplifiers***
- ***Built-in 2 control inputs and outputs***
- ***2 × 1 GB ports available for system extension***
- ***Integrated DSP with implemented 3 band parametric EQ on all inputs on control units, 8 band parametric EQ , delay lines, audio limiter and feedback eliminator on each of the audio outputs***
- ***Comprehensive solution based on RS485 functionality enabling seamless integration of the MULTIVES system with 3rd party systems thanks to implementation of standard and proprietary communication interfaces***

ABT-CU-8LCD Control Unit

ABT-CU-8LCD Control Unit (CU) is a matrix mixer of input signals which it routes to 4 100 V internal audio buses, a 45-channel digital system buses or directly to audio outputs in a unit.

In basic factory configuration ABT-CU-8LCD is a stand-alone system which enables only connections with DFMS and zone microphones. For networking with other CU optional xNET card is needed.

The CU is equipped with 1x ABT-xCtrLine-4 card in slot 1, 1x AudIO-4/8-RS card in slot A and 1x LogIN-8f card in slot B. Slot C and D can extend control unit audio dsp abilities up to 24 audio outputs / 12 audio inputs. Slots from 2 to 7 are free for any cards assignment (ABT-xCtrLine-2/4 and xLogIN/OUT).

Furthermore, ABT-CU-8LCD is equipped with an LCD touch screen with a control module, which allows easy access to management functions and monitoring of the whole system.

CHARACTERISTICS

- ***Network-based system allowing configuration, diagnostics and management via Ethernet***
- ***Managing up to 254 devices on the network***
- ***7 slots available for any configuration of loudspeaker control cards, control input and output cards***
- ***Additional 2 slots designated for audio input/output cards and control input / output cards***
- ***Up to 8 messages played simultaneously in different zones***
- ***Up to 32GB SD flash memory designated for playback and recording messages (48 kHz, 16 bit)***
- ***Support of up to 12 secured amplifiers***
- ***Optional equipment: ABT-xNET-1Gb/WAN/RS for optical fiber redundant connection***
- ***Integrated DSP with implemented 3 band parametric EQ on all inputs on control units, 8 band parametric EQ , delay lines, audio limiter and feedback eliminator on each of the audio outputs***
- ***Comprehensive solution based on RS485 functionality enabling seamless integration of the MULTIVES system with 3rd party systems thanks to implementation of standard and proprietary communication interfaces***

Microphones

EN 54-16

ABT-DFMS
Fireman Microphone

A MULTIVES fireman microphone is a monitored external device working with Control Units in a redundant communication ring. It can thereby perform a superior function of a system control unit, too. A fireman microphone can be used to activate alarm messages as well as general public announcements, to choose individual zones and to broadcast live voice messages. It is equipped with programmable function keys which can be used to assign functions as required. Up to 5 ABT-EKB-20M keyboard extensions with additional function keys can be attached to a fireman microphone.
A CPU switch enables immediate and direct broadcasting of announcements to all zones without any involvement of the control system even during a failure of the central processor. The microphone is able to automatically detect a key failure and an audio path from the microphone capsule (inclusive) to the Control Unit.
A fireman microphone is also equipped with an intercom function and is able to communicate with other microphones in the system.

CHARACTERISTICS

- ***Monitored microphone and connection of the microphone module to the system***
- ***A dedicated evacuation key***
- ***3 fully-programmable keys with a possibility of connecting up to five 20-key extensions***
- ***Built-in 2 contact inputs and 2 relay outputs***
- ***POE or external feeder based power supply***
- ***Black-box function – recording all announcements played during an alarm***
- ***Built-in SFP modules and CAT5e for simplicity of implementation of the loop topology***
- ***RS485 for communication with external systems***
- ***Intercom function between all fireman and zone microphones***

ABT-DMS-LCD
Zone Microphone with LCD

This microphone performs the same role as an ABT-DMS zone microphone. In order to facilitate its operation and to make it more intuitive, the microphone is equipped with an LCD touch screen.

CHARACTERISTICS

- ***4.5" LCD touch screen for fast and clear matricing and system management***
- ***Ability to select zones and messages to be played (pre-recorded or 'live') and other audio input***
- ***Monitored connection of the unit to the system***
- ***5 fully-programmable keys with a possibility of connecting up to five 20-key extensions***
- ***4 non-symmetrical audio inputs, (1/8") stereo jack connector***
- ***Built-in speaker***
- ***Stereo jack sockets for a headset***
- ***Implemented intercom function***
- ***Power supply via POE***

ABT-EKB-20M
Microphone Keyboard Extension

Each extension attached to a fireman microphone or a zone microphone offers additional 20 function keys which can be programmed as required.

ABT-DMS
Zone Microphone

This zone microphone is used to activate general public announcements, to choose individual zones and to broadcast live voice messages. It can be connected directly to a selected Control Unit or via an additional Ethernet switch. A zone microphone can be powered locally (48 V) or from a Control Unit via POE.
It is equipped with programmable function keys which can be used to assign functions as required. All operational parameters can be programmed e.g. assignment of zones to various keys, naming of zones and zone groups, determining priorities, setting up access rights to announcements, volume controls, 'push to talk' key, music on/off and music routing. Furthermore, LEDs on the ABT-DMS provide information about existing fault on the system, any faults in a specific speaker zone, evacuation mode on and type of announcement in the zone (BGM, PA, EVAC, Warning, fireman microphone).
Up to 5 ABT-EKB-20M keyboard extensions with additional function keys can be attached to a zone microphone.
Similarly to a fireman microphone, it is also equipped with an intercom function and is able to communicate with other microphones in the system.

CHARACTERISTICS

- ***Monitored connection of the unit to the system***
- ***9 fully-programmable keys with a possibility of connecting up to five 20-key extensions***
- ***4 non-symmetrical audio inputs, (1/8") stereo jack connector***
- ***Built-in speaker***
- ***Stereo jack sockets for a headset***
- ***Implemented intercom function***
- ***Power supply via POE***

Power Amplifiers / E series

EN 54-16

ABT-PA8080B/BE / ABT-PA4160B/BE / ABT-PA8160B/BE / ABT-PA1650B/BE / ABT-PA2650B/BE

The Amplifiers are designed for perfect integration into the Ambient System solutions. Thanks to their flexibility, they can also be used for any other Public Address and Voice Evacuation applications. These amplifiers have been developed to meet the specific requirements of the EN 54-16 standard for safety installations.

The ABT-PAXXXXB/BE is a family of 2U, rack mountable, 8-channel (ABT-PA8080B/BE, ABT-PA8160B/BE), 4-channel (ABT-PA4160B/BE), 2 channel (high power ABT-PA2650B/BE) and 1 channel (ABT-PA1650B/BE) class-D transformer isolated power amplifiers for 50 V and 100 V distributed loudspeaker systems. Amplifier ABT-PA8080B/BE can deliver up to 8× 80 W, for ABT-PA8160B/BE and ABT-2650B/BE delivering power increases respectively to the 8× 160 W and 2× 650 W. In a bridged mode amplifier channels are combined and can deliver 4× 160 W for ABT-PA8080B/BE, 4×320 W for ABT-PA8160B/BE and 1× 1300 W for ABT-PA2650B/BE. These amplifiers have 48 VDC input which allows to connect with battery backup system for maximum availability and durability in an voice evacuation system.

The ABT-PAXXXXB/BE amplifiers are powered from external power supply module ABT-PS48800 working in a block. The current from block is distributed to individual amplifiers through the "power manager" ABT-PSM48 (device includes a battery charger and is in compliance with EN 54-4).

The ABT-PAXXXXBE amplifiers are prepared to connect an external audio source by using up to the eight BGM inputs (1 per channel) with the sensitivity level regulation. In the alarm mode the BGM inputs have to be muted by shorting the lines from BGM CTRL to the ground.

CHARACTERISTICS

- ***Front panel indicators include:***
  - ***Supply / Active / Fault***
- ***100 / 50 Volt available via terminal blocks at the rear***
- ***Output channels can be linked into:***
  - ***ABT-PA8080B/BE, ABT-PA4160B/BE, ABT-PA8160B/BE:*** *4× 160 W, 2× 320 W or 4× 320 W by daisy-chaining 50 V tapping (input on parallel)*
  - ***ABT-PA2650B/BE:*** *1× 1300 W by daisy-chaining 50 V tapping (input on parallel)*
- ***ABT-PAXXXXB/BE series combines with the ABT-PSM48/E Power Supply Manager (charger and back-up supply)***
- ***At the rear of the ABT-PAXXXXBE you will find: Individual level adjusters / General fault contact (Dry contact) / BGM inputs***

ABT-PA8080B/BE / 8× 80 Watt class-D power amplifier
Can be bridge into: 1× 160 W + 6× 80 W; 2× 160 W + 4× 80 W; 3× 160 W + 2× 80 W or 4× 160 W

ABT-PA4160B/BE / 4× 160 Watt class-D power amplifier
Can be bridge into: 1× 320 W + 2× 160 W or 2× 320 W

ABT-PAXXXXB/BE casings: are 2U high, 19-inch rack mountable.

ABT-PA8160B/BE / 8× 160 Watt class-D power amplifier
Can be bridge into: 1× 320 W + 6× 160 W; 2× 320 W + 4× 160 W; 3× 320 W + 2× 160 W or 4×320 W

ABT-PA1650B/BE / 1× 650 Watt class-D power amplifier

ABT-PA2650B/BE / 2× 650 Watt class-D power amplifier
Can be bridge into: 1× 1300 W

	ABT-PA8080B/BE	ABT-PA4160B/BE	ABT-PA8160B/BE	ABT-PA1650B/BE	ABT-PA2650B/BE
Power supply					
Nominal DC input voltage			48 V		
DC input voltage range			42 – 57 V		
DC fuse rating (internal)	6× 7,5 AF-H	2× 15 AF- H 2× 7,5 AF-H	4× 15 AF-H 2× 7,5 AF-H	1× 15 AF- H 2× 7,5 AF-H	2× 15 AF- H 2× 7,5 AF-H
Overall power efficiency nominal DC input max. output power at 1 kHz			80%		
Power consumption (48 V DC)					
Standby	0,2 A	0,18 A	0,2 A	0,15 A	0,15 A
Active	0,7 A	0,43 A	0,7 A	0,23 A	0,33 A
Max. nominal current	20 A	19 A	38 A	19 A	38 A
Amplifier					
Continuous nominal output power per channel, all channels driven into nominal load at 1 kHz 30°C ambient	80 W 125 Ω / 100 nF	160 W 62 Ω / 200 nF	160 W 62 Ω / 200 nF	650 W 15,4 Ω / 200 nF	650 W 15,4 Ω / 200 nF
Nominal balanced input level for 100 V output at 1 kHz and nominal load			1 V		
Balanced input level trim range for 100 V output at 1 kHz and nominal load*			0,95 – 3 V		
Max. balanced input level			3 V		
Input impedance at 1 kHz			22 kΩ		
Input common mode rejection at <1 kHz			>61 dB		
Frequency response (-6 dB)	75 Hz – 20 kHz 125 Ω / 100 nF	75 Hz – 20 kHz 62 Ω / 200 nF	75 Hz – 20 kHz 62 Ω / 200 nF	75 Hz – 22 kHz 15,4 Ω / 200 nF	75 Hz – 22 kHz 15,4 Ω / 200 nF
S/N ref nominal power at 1 kHz 22 Hz – 22 kHz	>85 dB 125 Ω / 100 nF	>85 dB 62 Ω / 200 nF	>85 dB 62 Ω / 200 nF	>85 dB 15,4 Ω / 200 nF	>85 dB 15,4 Ω / 200 nF
THD power 1 kHz (42 V – 57 V)			<10%		
Crosstalk between channel 50 Hz – 20 kHz nominal load	< -70 dB 125 Ω / 100 nF	< -70 dB 62 Ω / 200 nF	< -70 dB 62 Ω / 200 nF	< -70 dB 15,4 Ω / 200 nF	< -70 dB 15,4 Ω / 200 nF
Connectivity					
DC input socket			DG58C-A-2P13		
Audio output socket			3 pin PHOENIX 5.08 mm		
Nominal output voltage taps			50 / 100 V		
Mechanical					
Front panel width			482 mm		
Back panel width			445 mm		
Height			88.5 mm		
Net Weight	15 kg	13 kg	18,6 kg	10,8 kg	15 kg
Gross weight (including packaging)	16,2 kg	14,2 kg	19,8 kg	12 kg	16,2 kg
Packaging dimensions			150 × 530 × 610 mm		

* Available only for ABT-PA E series

Power Supply Equipment / E series

ABT-PSM48/E Power Supply Manager / **ABT-PS48800** Power Supply Unit / **PF4** Power Frame

ABT-PSM48/E Power Supply Manager is designed for distribution of DC Power Supply from Power Supply Units (PSU) and a back-up battery. The unit controls battery charging and distributes power supply to all Voice Evacuation System (VES) equipment at max. 60 A. When the system uses battery back-up, the power supplied is 3.2 kW (48 V). The unit complies with the EN 54-4 VES standards and also EN 12101-10 Smoke and Heat Control System standards. As a main source of energy distribution, the manager uses external modules 800 W (ABT-PS48800) for 48 V.

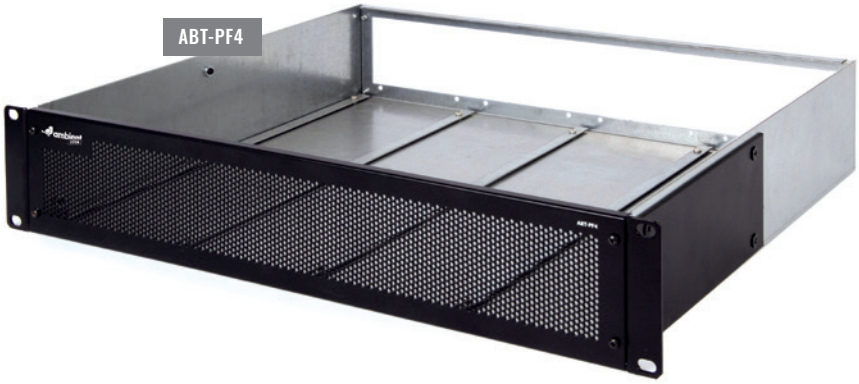
ABT-PSM48E power supply manager uses internal power converter for 24 V equipment. As a source of stand-by power supply it uses the battery bank of the capacity of up to 200 Ah.

ABT-PSM48/E cooperates with the 4 × 12 V VRLA battery bank. It maintains the bank in charged condition, ensures temperature compensation of charging parameters and monitors serial resistance of the battery and its wiring as specified in Exhibit No. A2 to the EN 54-4 Standard.

ABT-PSM48/E cooperates with up to 4 modules of ABT-PS48800 Power Supply Units. The manager ensures safe connection for the purpose of parallel operations and monitors the output parameters of each power supply unit.

ABT-PS48800 is designed for assembling in a dedicated ABT-PF4 Power Supply Unit Frame. The elements of the system are designed for assembling in a Rack 19" IP30-type.

EN 54-4 **EN 12101-10**



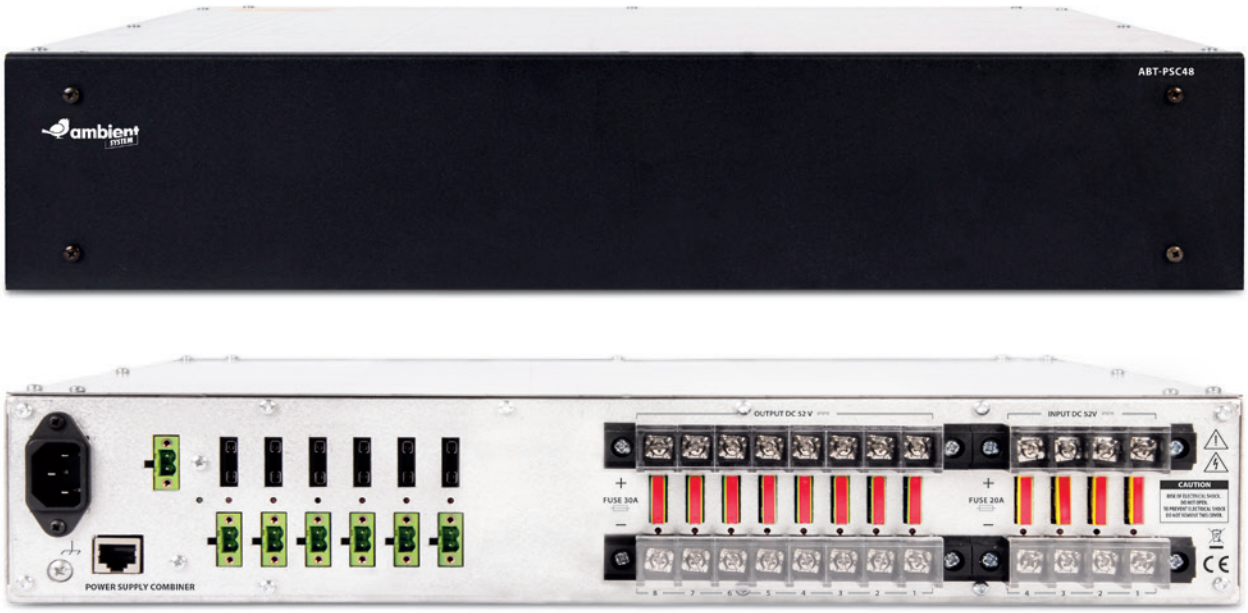
	ABT-PSM48	ABT-PSM48E
Electrical		
Maximum configuration	1 × ABT-PSM48 – Power Supply Manager 4 × ABT-PS48800 – Power Supply Unit 1 × ABT-PF4 – Power Supply Units Frame	1 × ABT-PSM48E – Power Supply Manager 4 × ABT-PS48800 – Power Supply Unit 1 × ABT-PF4 – Power Supply Units Frame
AC power supply	230 VAC + 10%-15%; 50/60 Hz	
Max. nominal power consumption	885 W / 3.85 A	
Efficiency at rated power	> 90%	
DC input	4; bolted terminals; dedicated power supply unit ABT-PS48800	
DC input protection	4 × 20 A 58 V DC	
DC outputs	8 × 48 V, each output max. 30 A (total for all 8 outs max. 63 A)	8 × 48 V, each output max. 30 A (total for all 8 outs max. 63 A) 6 × 24 V, each output max. 5 A (total for all 6 outs max. 6,25 A)
Summary maximum DC output load (24 V and 52 V)	3200 W	
Battery (type)	4 pieces, VRLA 12 V 15 – 200 Ah	
Charging current	max. 14 A	
Charging voltage	54,6 V ± 0,6 V (at 25°C)	
Maximum resistance of wiring and fuses	10 mΩ	
Maximum total serial resistance of wiring, fuses, and batteries	28 – 100 mΩ	
Environmental		
Operating temperature	-5°C up +40°C	
Mechanical		
Dimensions	482 (W) × 85 (H) × 443 (D) mm	
Weight	7,2 kg	

	ABT-PS48800
Electrical	
AC power supply	230 VAC +10% -15%, 50/60Hz, 3.85 A Wire with IEC 60320 C13 3 × 0,75 mm² coupling (supplied with the unit)
Maximum power consumption	885 W / 3.85 A
Efficiency at rated power	> 90%
AC input protection	T6.3 A/250 V 5 × 20 mm slow-blow fuse (accessed when the casing is open)
Protection from electric shock	Class I (EN 60065)
DC output	52 VDC; max. 15.4 A
Mechanical	
Dimensions	85 (W) × 95 (H) × 395 (D)
Weight	2,6 kg
Accessories	
Power supply cord	IEC 60320 C13 1,5 m

Power Supply Combiner

EN 54-4

ABT-PSC48



The ABT-PSC48 power supply combiner is used to supply electronic equipment with 52 VDC rated voltage, with a total maximum power of 3,2 kW.

It uses external 800 W ABT-PS48800 switching power supplies.

The ABT-PSC48 can work with up to four of ABT-PS48800 power supplies, ensuring their safe work connection.

The power supply combiner is to be used in cases where emergency battery power is not needed.

The ABT-PSC48 power supply combiner is designed to power amplifers, which are not equipped with their own PSU, it is also possible to power amplifiers equipped with an auxillary DC input.

The maximum configuration of the power delivery system is as follows:

- 1 × ABT-PSC48 – power supply combiner
- 4 × ABT-PS48800 – power supply unit
- 1 × ABT-PF4 – power supply units frame

	ABT-PSC48
Electrical	
Maximum configuration	1 × ABT-PSC48 – power supply combiner 4 × ABT-PS4880 – power supply unit 1 × ABT-PF4 – power supply units frame
Efficiency at rated power	> 98%
DC inputs	4; M4 DEGSON terminals, 13 mm raster, dedicated PSU (ABT-PS48800)
DC input protection	4 × 20 A 58 VDC blade fuse
DC outputs	8 × 52 V, M4 DEGSON terminals, 13 mm raster, each 52 VDC output 30 A max.
DC output protection	8 × 30 A 58 VDC blade fuse
Maximum total DC load	The maximum total DC load should not exceed 60 A
Environmental	
Operating temperature	-5°C up +40°C
Mechanical	
Enclosure	Steel front panel, powder coated, flat black, white inscriptions
Dimensions	482 (W) × 85 (H) × 443 (D) mm
Weight	6 kg

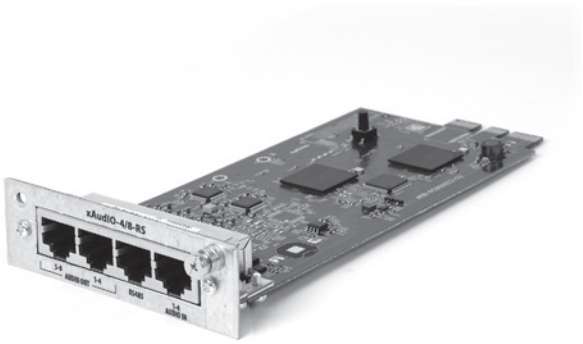
Exchangeable Modules

EN 54-16

CPU CARD
ABT-xCPU

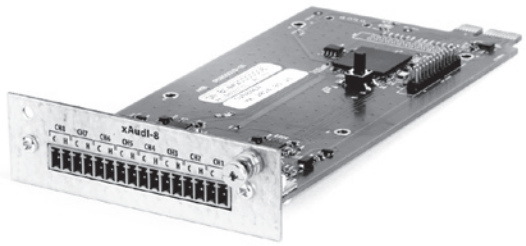
The card integrates ABT-CU8 and ABT-CU8LCD Control Units with other elements of the MULTIVES system. CPU controls the whole network traffic and manages audio routing, digital matrix (8×8) as well as all DSP functions. ABT-xCPU enables remote access to the configuration parameters of each element of the system.

4 AUDIO INPUT / 8 AUDIO OUTPUT CARD
ABT-xAudIO-4/8-RS



This audio input/output card is designed for a function slot of ABT-CU-8/LCD Control Unit. It offers 4 line audio inputs (via an RJ45 connector) and 8 symmetrical outputs to lead audio signals out via RJ45 connectors to external devices or amplifiers of the MULTIVES system. The card is also equipped with an RS485 interface through which the MULTIVES system can be controlled or integrated with devices offered by other producers.

8-AUDIO INPUT EXTENSION CARD
ABT-xAudI-8

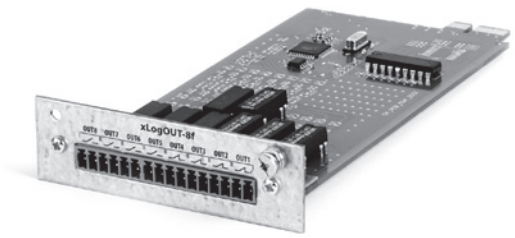


This audio input extension card is designed for a function slot in ABT-CU-8/LCD Control Unit. It offers 8 symmetrical line audio inputs via a Phoenix-type connector.

COMUNICATION CARD
ABT-xNET-1Gb/WAN/RS

ABT-xNET is a communication card, which offers two independent 1 GB network switches; switch no 1 is designed solely for data transmission in connection with the base functionality of the MULTIVES system i.e. operations of the emergency sound system and AVB whereas switch no 2 is used for remote connections. This card operates under TCP / UDP / PTP / DHCP protocols and assures CPU-OFF based audio data exchange by means of a protocol developed by Ambient System. Furthermore, the card has an RS485 port enabling seamless integration of the MULTIVES system with any other systems (e.g. FAS) by means of exchangeable libraries with protocol descriptions. The card also includes POE splitter functionality to provide power to fireman microphones among others.

LOGICAL OUTPUT CARD FOR FUNCTION / CONTROL SLOTS
ABT-xLogOUT-8f / ABT-xLogOUT-8c

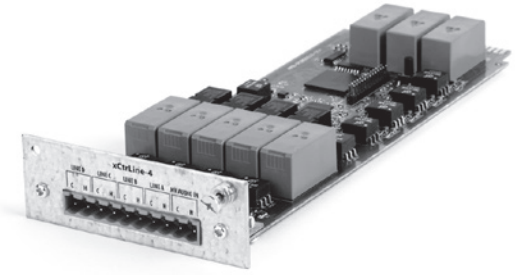


The logical output card has 8 relays i.e. 4 × normally-closed (NC) and 4× normally-open (NO). All of them are fully programmable in terms of NC / NO functioning as well as function correlation.

LOGICAL INPUT CARD FOR FUNCTION / CONTROL SLOTS
ABT-xLogIN-8f / ABT-xLogIN-8c

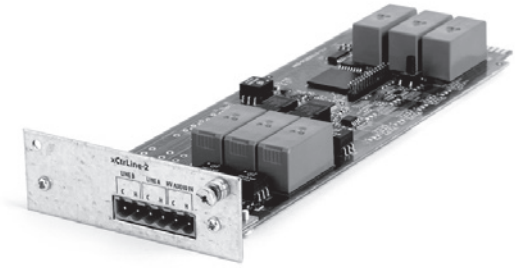
The logical input card has 8 independently-programmable control inputs which may receive signals from other systems in order to trigger a desired reaction of the MULTIVES system. Inputs of an ABT-xLogIN-8f card offer two modes of work i.e. a non-potential mode (short-circuited / open-circuited) and a voltage mode where the card enables monitoring of short-circuiting and open-circuiting of cables connected to inputs.

4 LOUDSPEAKER LINE CONTROL CARD
ABT-xCtrLine-4



This card is designed for a control slot in every Control Unit; it offers 4 independent loudspeaker line outlets. Lines can be measured either by the impedance or loop methods. The card detects failure of the amplifier and switches the 100 V signal between internal buses and individual amplifier input on the card. Thanks to a built-in measuring component, ABT-xCtrLine-4 card monitors the status of the internal rail.

2 LOUDSPEAKER LINE CONTROL CARD
ABT-xCtrLine-2



This card is designed for a control slot in every Control Unit; it offers 2 independent loudspeaker line outlets (A and B). Lines can be measured either by the impedance or loop methods. The card detects failure of the amplifier and switches the 100 V signal between internal buses and individual amplifier input on the card.

ABT-ISLE

The ABT-ISLE is both a communication module enabling integration with external systems via RS485 protocol, and an audio signal splitter.

Address settings – Number of addresses in the range of 0-F (16 addresses).

Local AUDIOIN – 4 input channels on the 8 pin connector. For easier and faster connection of audio sources, Phoenix-type connectors can be used. LOCAL AUDIO IN jack (8 pin connector Phoenix) is bridged with LOCAL AUDIO OUT (RJ-45).

Output amplifiers – RJ-45 connector for the 4-channel amplifier. // Local AUDIOOUT – RJ-45 connector for input signals to the system // PSM – RJ-45 connector for the link with power manager.

MULTIVES System Configuration

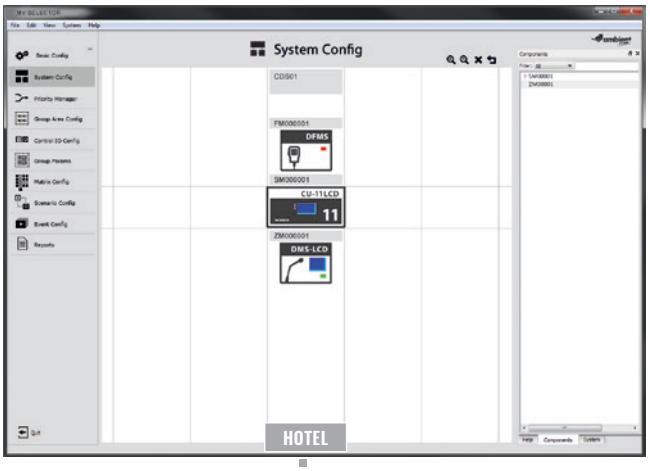
software / system examples

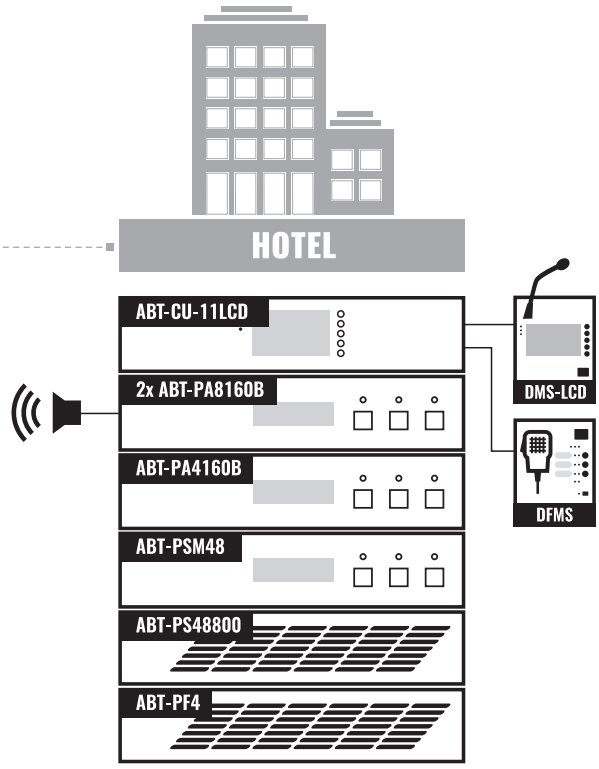
MULTIVES SELECTOR

MULTIVES SELECTOR is an essential tool for the MULTIVES system configuration via PC (Windows). MV SELECTOR allows to select and match Public Address & Voice Evacuation MULTIVES Systems with a large number of similar or different devices to be configured and managed centrally from a single user interface.

MV SELECTOR supports all IP-based MULTIVES devices offering control and configuration of control units (ABT-CU-8LCD, ABT-CU-11LT, ABT-CU-11LCD) and microphones (ABT-DFMS Fireman Microphone, ABT-DMS-LCD Zone Microphone with LCD, ABT-DMS Zone Microphone).

EXAMPLE 1 / HOTEL





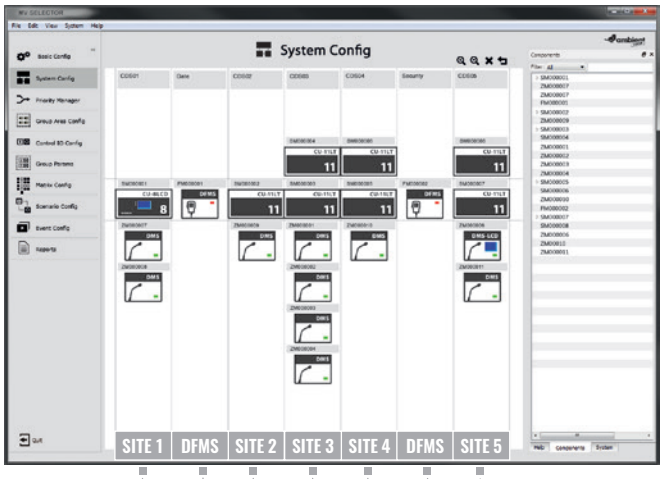
Example of a small MULTIVES system configuration:

- *1 building / Hotel*
- *32 × loudspeaker lines (16 AB)*
- *8 × audio channels*

with dedicated devices:

- *ABT-CU-11LCD (8 × ABT-xCtrLine-4)*
- *2 × 4 channels 320 W (2 × ABT-PA8160B amplifier)*
- *1 × 2 channels 320 W (1 × ABT-PA4160B backup amplifier)*
- *Power Supply Equipment*
- *1 × ABT-DFMS fireman microphone*
- *1 × ABT-DMS-LCD zone microphone with LCD*

EXAMPLE 2 / OIL REFINERY

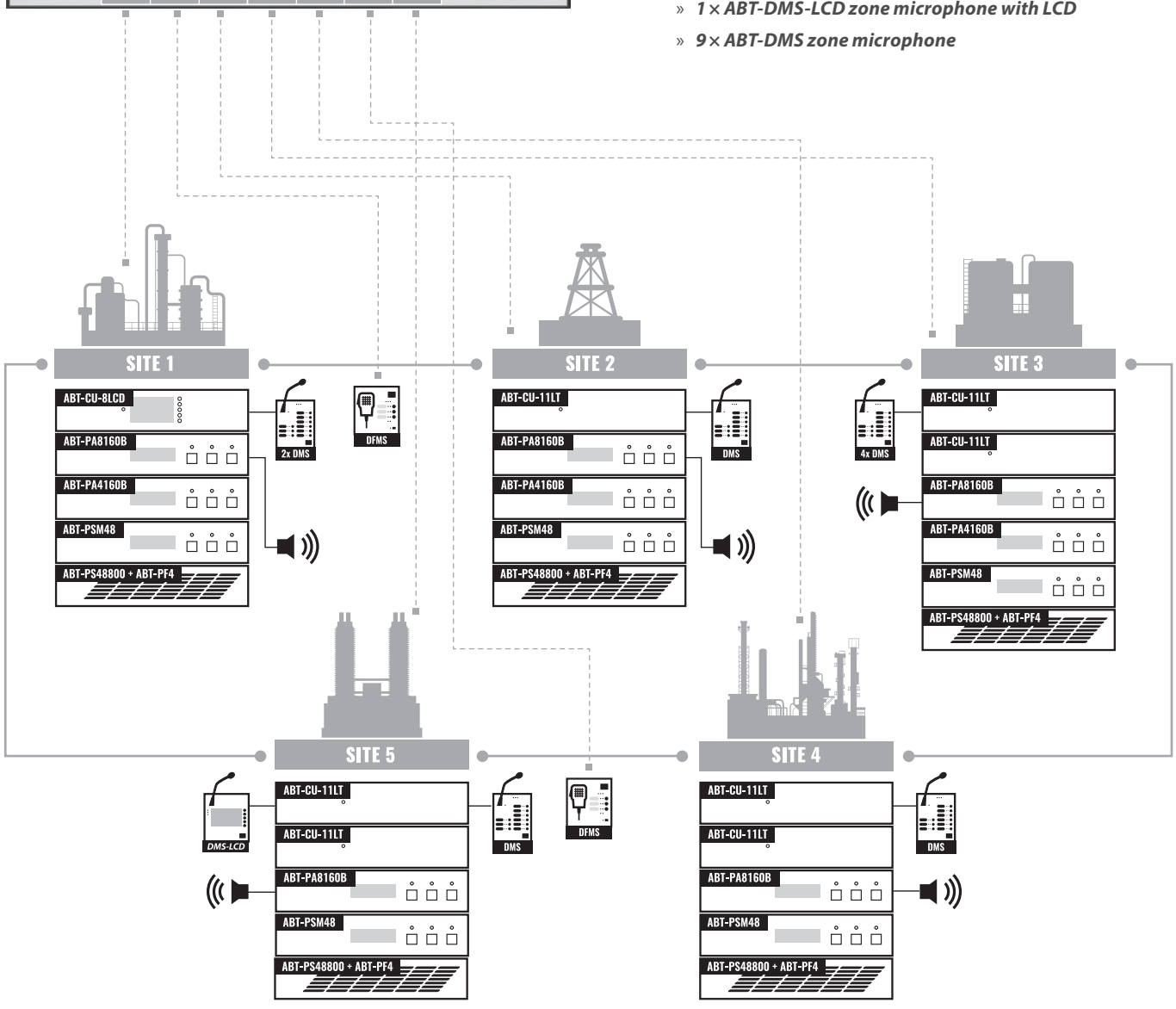


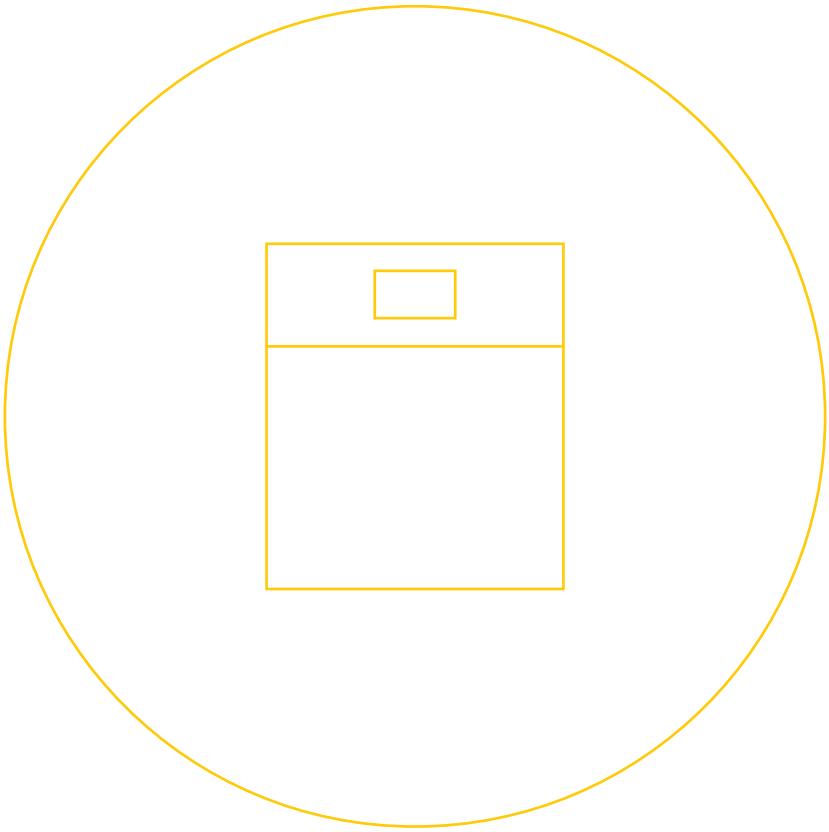
Example of a large MULTIVES system configuration:

- *5 buildings (Oil Refinery)*
- *292× loudspeaker lines (146 AB)*
- *28× audio channels*

with dedicated devices:

- *1× ABT-CU-8LCD Control Unit (8× ABT-xCtrLine-4)*
- *7× ABT-CU-11LT Control Unit (8× ABT-xCtrLine-4)*
- *5× 4 channels 320 W (5× ABT-PA8160B amplifiers)*
- *4× 2 channels 320 W (4× ABT-PA4160B backup amplifiers)*
- *Power Supply Equipment*
- *2× ABT-DFMS fireman microphone*
- *1× ABT-DMS-LCD zone microphone with LCD*
- *9× ABT-DMS zone microphone*





miniVES | midiVES

Compact plug-and-play PA/VA system

EN 54-16 | **EN 54-4**

1438-CPR-0527

- ✓ Standalone or TCP/IP network architecture
- ✓ Scalable and quick to install All-in-One type system
- ✓ Wall or rack mounted versions available
- ✓ Impedance, end of line module or short-circuit isolators for speaker line monitoring
- ✓ Ability to connect standalone miniVES and midiVES devices for large distributed systems
- ✓ Ease of networking: using copper, single and multimode fibre in any combination
- ✓ Built-in fire microphone and touch screen with easy-to-use interface to control background music sources, volumes, timers and all voice evacuation related functions

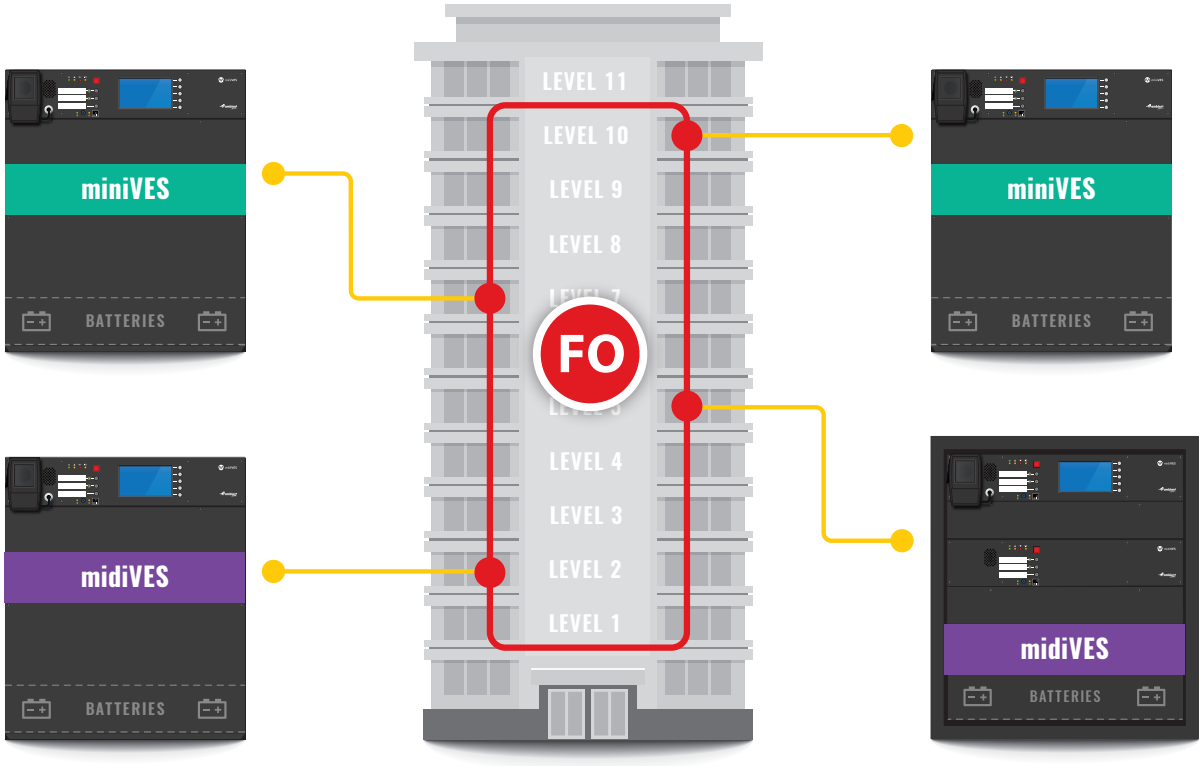
Compact plug-and-play PA/VA system

EN 54-16 **EN 54-4**

miniVES / midiVES main features

- *All in one – independent wall mount EN 54-4/16 PA/VA unit*
- *Stand alone or TCP/IP network architecture*
- *DSP audio processing on board*
- *Compatibility with RACK mounted modular MULTIVES*
- *Professional Sound Quality (48 kHz, 16 bit, uncompressed audio)*
- *Evacuation, paging message and background music features*
- *Impedance, end of line module or short-circuit isolators for speaker line monitoring*
- *Simple installation and simple to design*
- *User friendly and intuitive programming software*
- *EN 54-4 charger for up to 65 Ah batteries and 24/48 VDC outputs for powering external devices*
- *VoIP / SIP integration*

miniVES / midiVES system example



miniVES and midiVES are scalable Public Address & Voice Alarm units suitable for multi-purpose architectures. Devices from miniVES and midiVES series are voice alarm compact control units containing all components within one compact housing, which meet all the requirements of EN 54-16 and EN 54-4 (certificate of constancy of performance 1438-CPR-0527).

Whole concept of the system is based on the high quality audio network distribution nodes equipped either with two independent 160 W, 320 W or three independent transformerless 500 W class D amplifiers, which distribute 100 V signals to 4, 8 or 16 speaker lines depending on the type. The system also ensures operation of a backup amplifier for the Emergency priority type of signals.

All type of centrals are equipped with integrated backup power supply and EN 54-4 compliant charging unit.

miniVES and midiVES are designed to be a Plug & Play device with all elements expected from Voice Evacuation Systems; including a built-in fire microphone, touchscreen for global control, DSP, programmable contact inputs and buttons, time scheduler, charger with battery mounting space and expandable memory size for messages – all fitted into IP30 chassis or dedicated 15u rack for midiVES 8003LNR with 8003R.

miniVES and midiVES belongs to the family of independent EVAC systems which can be networked together and extended by desktop zone microphones or fireman microphones via TCP/IP network to provide live announcements and background music inputs. The system has been designed to be wired using CAT5 cables for paging microphones and fibre-optic redundant interlink connections between the systems.

All systems support up to 45 high quality audio signals distributed over 254 devices in the network.

miniVES	2001/N/L/LN*	4001/N/L/LN*	4002/N/L/LN*	4002LNR
No of AB zones	2	4	4	4
No of speaker lines	4	8	8	8
No of control inputs	7	7	7	7
No of relay outputs	3	3	3	3
Relay switching current (max.)	3 A peak**			
Relay switching voltage (max.)	50 V AC / DC peak**			
Relay switching power (max.)	90 W**			
Total audio load of the system	320 W rms	640 W rms	640 W rms	640 W rms
No of amplifiers / power	2 / 160 W	2 / 320 W	2 / 320 W	2 / 320 W
Redundant amplifier	Yes	Yes	Yes	Yes
No of messages played at the same time	1	1	2	2
Protection	Over-temperature, short circuit, overload, ground leakage			
Battery working time	30 hours + 30 minutes evacuation			
Ingress protection	IP 30			
Operating condition	-5 to + 45°C / 5% to 95% humidity with no condensation			
Gross weight	26 kg	31 kg	31,5 kg	19 kg
Dimensions (W×H×D)	440 mm × 525 mm × 350 mm			439 mm × 176 mm × 354 mm
Finish	Black			
Optional functions				
No of audio inputs	1 – Stereo to mono			
No of audio outputs	1 – mono line output			
Network card	2× SFP module 1 Gb/s; 1 × POE 1 Gb/s, 100 Mb/s; 1 × LAN 1 Gb/s, 100 Mb/s connection; RS485 port; 1x LAN/WAN 100 Mb/s connection			
Basic network card	2× LAN 1 Gb/s, 100 Mb/s, 1 × LAN/WAN 100 Mb/s connection			–
GUI	4,3" color touch screen			
DSP	Input EQ, outputs EQ, feedback eliminator and audio limiter, delay up to 30000 ms – routing, mixing, prioritizing included			

* All devices available with optional touch screen LCD (L) and network card with 2× SFP modules and POE (N)

** IMPORTANT: any DC combination of V & A not to exceed switching power max. value. Not allowed capacitive nor inductive load, because of large inrush current / voltage spike, that can significantly exceed the maximum allowed switching current or voltage.

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*			
Total audio load of the system	1500 W rms			3000 W rms
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			
Battery working time	30 hours + 30 minutes evacuation / 4 × 12 V VRLA batteries			
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 (W × H × D)	440 × 525 × 350 mm	440 × 176 × 354 mm		600 × 765 × 600 mm
Finish	Black			
Optional functions				
No of audio inputs	1 – stereo to mono			2 – stereo to mono
Power sources – EN 54-4	1 × 24 V DC (150 mA maximum) and 1 × 48 V DC (350 mA maximum)			2 × 24 VDC (150 mA max.) & 2 × 48 VDC (350 mA max.)
Optional network card	2 × SFP module 1 Gb/s; 1 × POE 1 Gb/s, 100 Mb/s; 1 × LAN 1 Gb/s, 100 Mb/s connection; RS485 port; 1 × WAN 100 Mb/s connection		2 × LAN 1 Gb/s, 100 Mb/s, 1 × WAN 100 Mb/s connection	2 × SFP module 1 Gb/s; 1 × POE 1 Gb/s, 100 Mb/s; 3 × LAN 1 Gb/s, 100 Mb/s connection; RS485 port; 2 × WAN 100 Mb/s connection
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

* IMPORTANT: any DC combination of V & A not to exceed switching power max. value. Not allowed capacitive nor inductive load, because of large inrush current / voltage spike, that can significantly exceed the maximum allowed switching current or voltage.

Microphones

EN 54-16

ABT-M01 Microphone

The ABT-M01 microphone is an affordable fully analog device. It is equipped with a built in gong generated onboard the device, accessible through the switch on the back panel. The gong as well as the microphone itself has an individual volume control knob also placed on the back panel of the device.

To operate the device press the MIC ON button, the status LED will switch to steady green light. In the event of an active built in gong, the status LED will turn green once the gong has ended. When finished transmitting the message release the MIC ON button to deactivate the gooseneck mic.

ABT-M04 Microphone

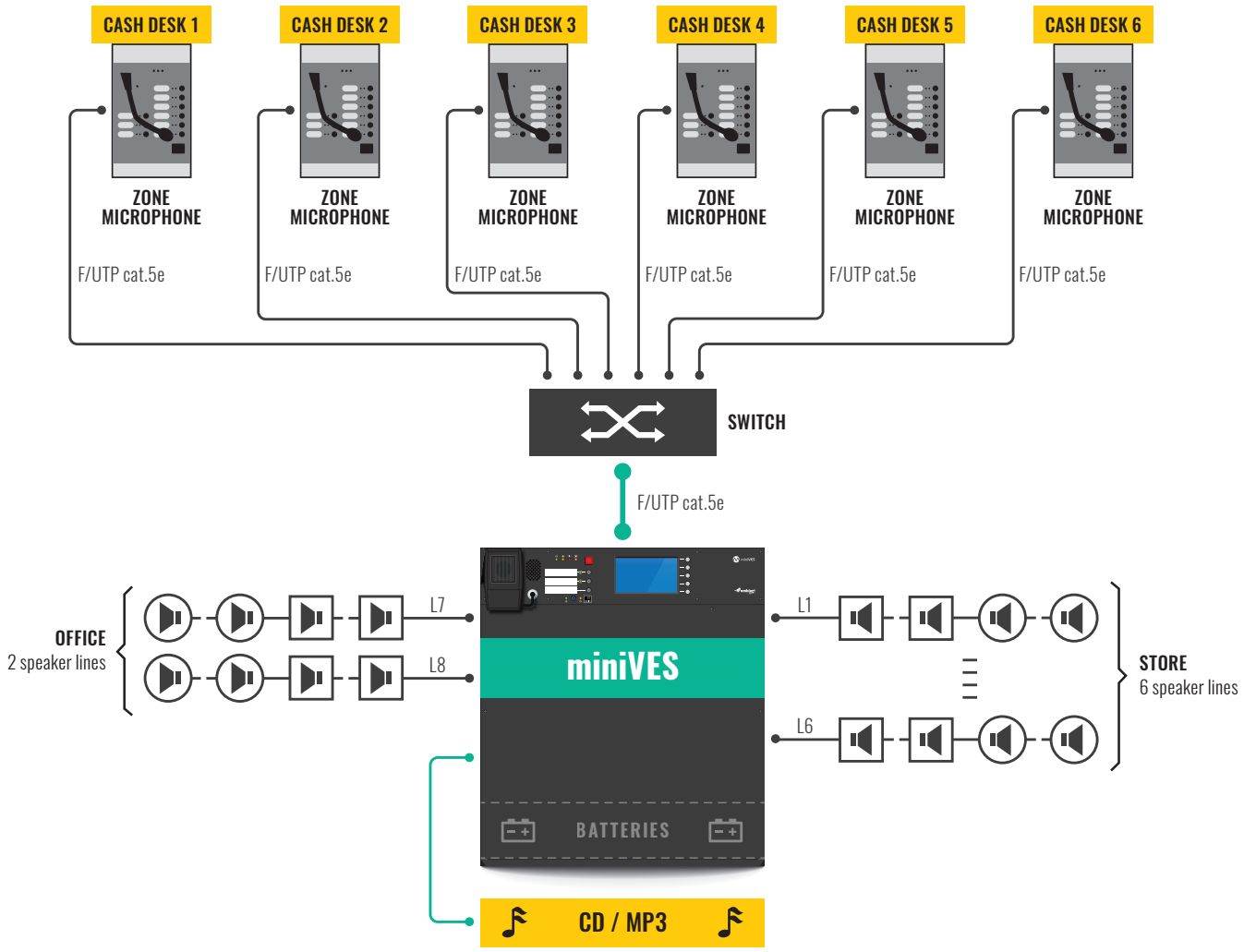
The ABT-M04 is a 4 button analog microphone with built in gong, push to talk and bi-color LED indicating the ready-to-speak status.

To operate the device first select the Zones by pressing designated buttons and then press MIC ON button, the status LED will switch from red (not ready for broadcast) to steady green light. In the event of an active built in gong, the status LED will turn green once the gong has ended. When finished transmitting the message release the MIC ON button to deactivate the gooseneck mic.

	ABT-M01	ABT-M04
Operating voltage	20–57 VDC	
Efficiency	10 mV/a	
Output level	775 mV	
Maximum distance from amplifier	250 m	
Recommended cable type	UTP	
Connector Type	8P8C (RJ45)	
Dimensions without packaging (not more than)	150 × 60 × 165 mm	
Net weight (not more than)	1,2 kg	

Examples of Implementations

STORE / PA system



PA SYSTEM WITHIN THE STORE

» **Zone microphone at the till:**

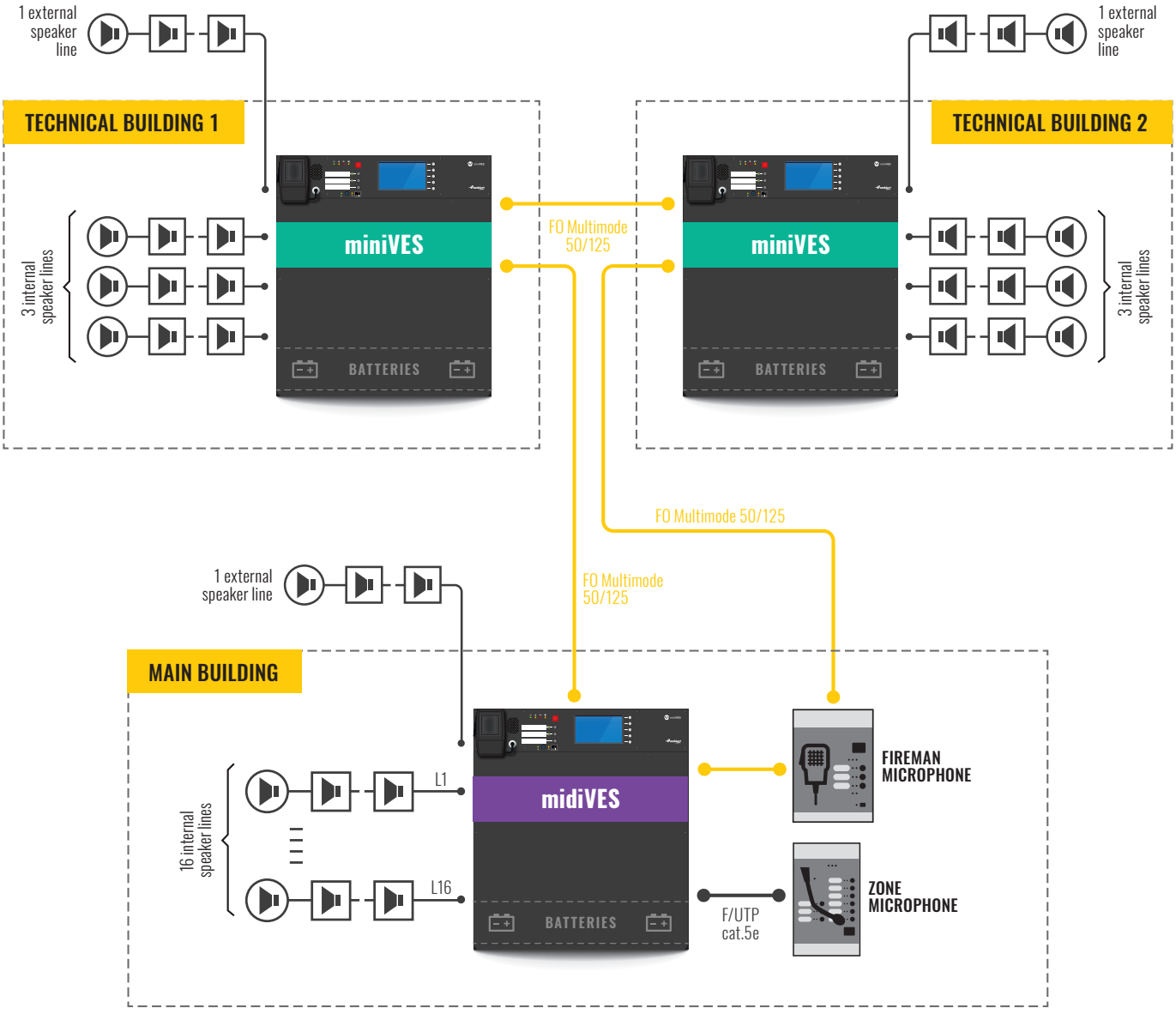
- › Public announcements;
- › Fully programmable buttons can be easily activated to broadcast specific announcements e.g. previously recorded public information regarding opening of tills or staff announcements.

» **Zone microphone in the office:**

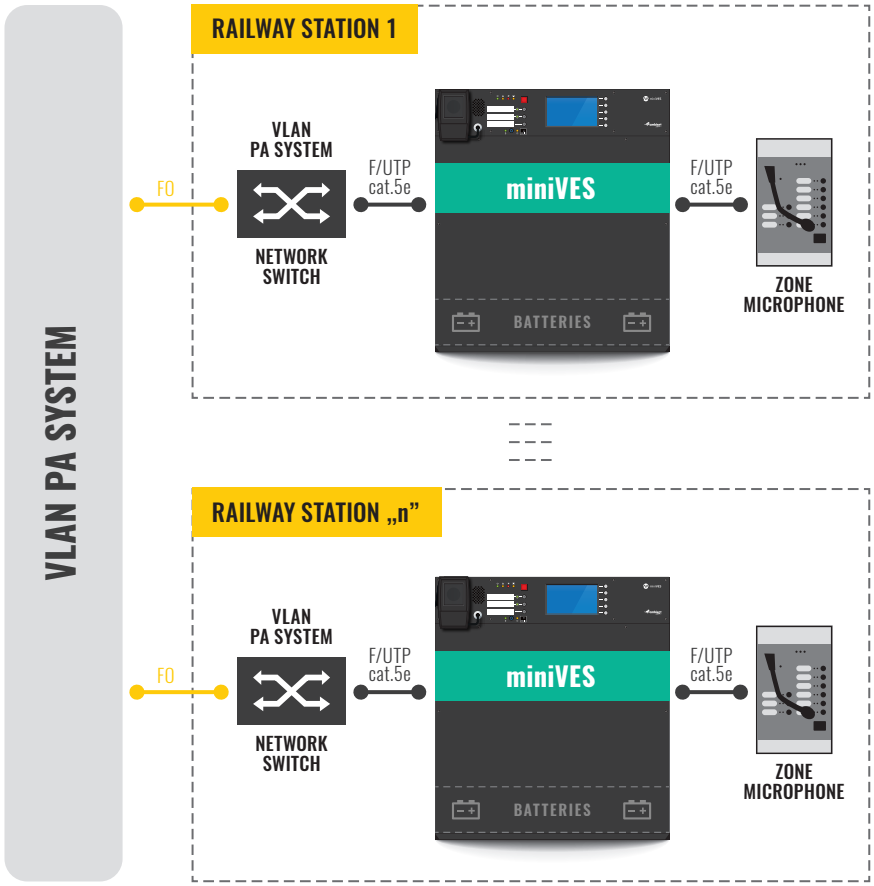
- › It acts as the PA control panel allowing to select zones, switch on/off specific sound sources and regulate the sound volume;
- › Ethernet protocols enable seamless communication between zone/fireman microphones and the control units via standard switches connecting mic cables to miniVES control unit;
- › In-built audio setup can be used to connect external sound sources to broadcast marketing announcements or to provide background music in the venue.

INDUSTRIAL FACILITY – networked Voice Evacuation System

- miniVES and midiVES control unit's network cards allow to join several industrial buildings into one integrated system.
- Use of fibre-optic loops between miniVES and midiVES central units guarantees that in the event of a single fault/damage, the system will continue to function properly.
- Microphones located in the main building enable broadcasting of live announcements and/or pre-recorded automatic messages to selected zones in all buildings.
- Fireman microphone can perform all key functions of a miniVES and midiVES control unit e.g. activate alarm messages or public announcements in selected or all zones and to broadcast live voice messages.
- Once the fire warning is triggered (automatically via the fire alarm system or manually using fireman microphones), the system starts broadcasting alarm messages recorded on each control unit. Loss of connectivity in one part of the networked system (including damage to messaging memory of one control unit) does not impact on the system's ability to broadcast warning messages – the devices work independently thus ensuring continuous alarm warning functions.
- Loudspeakers lines in open spaces are connected to central units via certified power surge protectors thus ensuring safety of devices during electric storms or lightning.



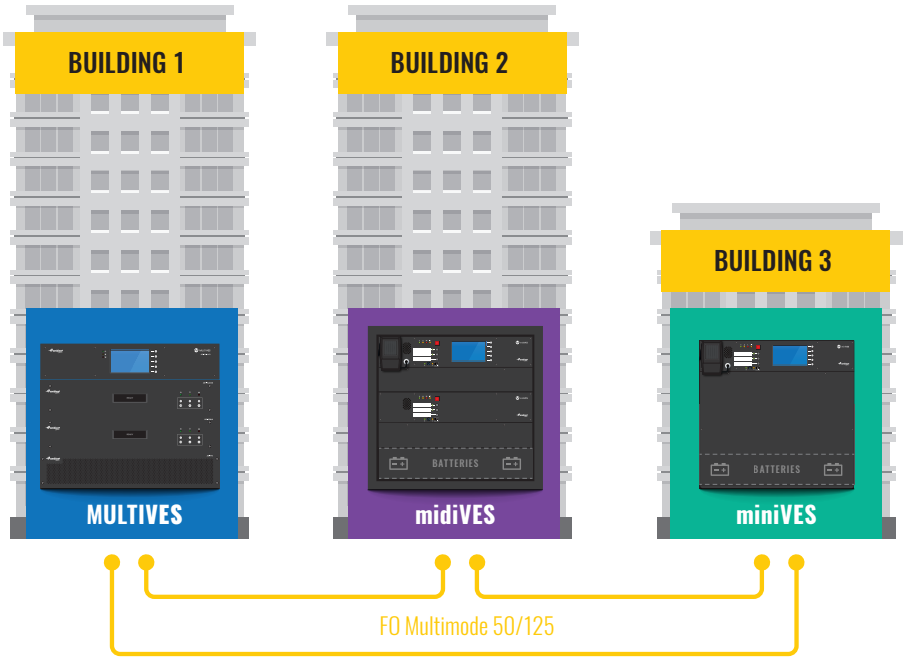
TRAIN / TUBE / BUS STATIONS – using Voice Evacuation System

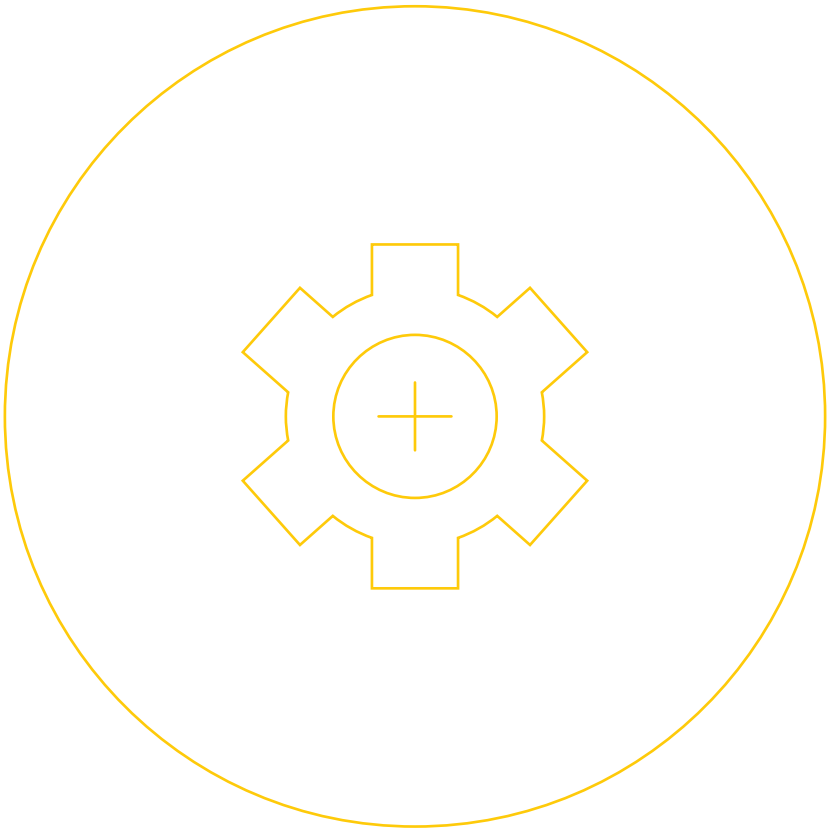


- miniVES control unit's network cards allow to join several stations into one integrated system via Ethernet and VLAN protocols.
- Zone microphones located at each station enable broadcasting of live announcements and/or pre-recorded automatic messages to selected zone(s) at the station as well as to all zones in the whole system. Information can be broadcasted by staff to all or selected platforms to advise passengers of changes in the timetable or to warn them of an emergency.
- In-built audio inputs in each central unit and microphones allow to connect external sound sources and to transmit information controlled by the external authority.
- In-built buffering function enables recording of lower priority information to be transmitted once the priority zones are freed up.

Expansion of existing miniVES system – connection with MULTIVES

- Connecting miniVES and midiVES system to MULTIVES system, designed to work with medium and large structures, can provide full networking capabilities. A networked solution of MULTIVES, midiVES and miniVES can be then installed at large train stations, airports and other complex structures while providing tangible cost efficiencies.





Additional Devices

- ✓ ABT-NSM / Noise Sensing Microphone
- ✓ ABT-NSC6 / Noise Sensing Controller
- ✓ ABT-EOL / End of Line Supervision Module
- ✓ ABT-REG1 / Volume Controller
- ✓ RedBox 300 / Enclosure for Fire Microphone Station

ABT-NSM

NOISE SENSING MICROPHONE

- ✓ *Operate under extreme temperatures*
- ✓ *IP 66 rated housing*
- ✓ *2 wire analog connection up to 300 meters from ABT-NSC6*

ABT-NSM is measurement microphone which is designed to operate under extreme temperatures. Up to 6 microphones can be connected to ABT-NSC6 via 2-wire cable. The ABT-NSM is available in two housings. Lightweight for indoor applications (A) and enclosures for severe climatic conditions (B).

	NSM (A)	NSM (B)
Environmental		
Temperature (storage / operating)	-10°C / +55°C	-40°C / +70°C
Operating Humidity	5% to 95% non-condensing	
Ingress Protection	IP 32	IP 66
General		
Output impedance	1000 Ω	500 Ω
Frequency response	150 Hz – 20 000 kHz	
Connector for microphones	3 pin ceramic block (+, – , screen)	
Output level (min. / max.)	250 μV_{RMS} / 200 mV_{RMS}	
Measurement Range	57 – 115 dBA	
Mechanical Dimensions	Height 110 mm, ø 200 mm	Length 200 mm, ø 146 mm
Colour	White (RAL 9003)	Light Grey (RAL 7035)
Material	Steel	Aluminium
Mounting	Spring clamp, cut-out ø 170 mm	Screw, U type bracket
Net Weight	1,5 kg	2,5 kg

ABT-NSC6

NOISE SENSING CONTROLLER

- ✓ *Operate under extreme temperatures*
- ✓ *IP 66 rated chassis*
- ✓ *Powered over external PS or POE*
- ✓ *TCP /IP connection supporting MULTIVES and miniVES*
- ✓ *Up to 24 controllers in the network*
- ✓ *Up to 6 Noise sensing mics per controller*

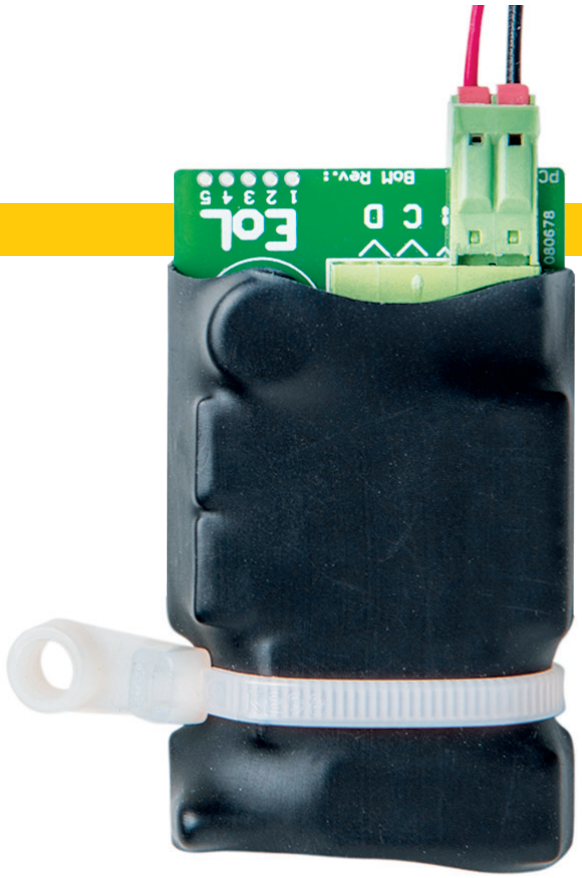
ABT-NSC6 is a TCP/IP controller specially designed for the use with MULTIVES and miniVES systems. The main roll of the device is collecting audio data from 6 measurement microphones and automatic volume control of background music and announcements in assigned speaker zones.

	ABT-NSC6
Power source	PoE (RJ45), or by the connector 2-pin Phoenix MSTBVA – 5,08 mm
Number of audio inputs	6 differential channels, connector type 3-pin 15EDGVC-3.5
Power Consumption (typical / maximum)	3,5 W / 6 W
Input voltage range	36 V – 57V
Sampling frequency	24 kHz
Frequency measurement band	200 Hz – 9 kHz @ 3 dB
Differential input impedance	6500 Ω @ 1 kHz
Range of measured values (for input voltages)	57 dB_{SPL} (250 μV_{RMS}) – 115 dB_{SPL} (200 mV_{RMS})
Phantom power	30 VDC
Temperature (operating)	-5°C to + 60°C
Ingress protection	54 // 66 – with additional packing glands
Enclosure	Aluminium
Weight	1,2 kg
Purpose of use	Ambient noise microphone controller

Types of LAN cables used: category 5e F / UTP twisted pair, up to 100 m between control unit / switch and ABT-NSC6;
Microphone inputs: YnTKSYekw 1 × 2 × 0,8, up to 300m

ABT-EOL

END OF LINE SUPERVISION MODULE



- ✓ *EN 54-16 certified*
- ✓ *Four power settings (A,B,C,D)**
- ✓ *Fits on built-in mounts on selected Ambient System loudspeakers*
- ✓ *Powering of the module from the amplifier*
- ✓ *Loudspeaker line monitoring without additional cabling*
- ✓ *Open-circuit , short and ground leakeage detection*

ABT-EOL monitors the integrity of a loudspeaker line and all of its branches. Supervision of branched lines requires EOL module for each branch. ABT-EOL provides a filtered load exclusively at the pilot tone frequency and increases reliability of loudspeaker surveillance method based on impedance measurement. Module connects in parallel to the last loudspeaker on a line. It has a 4 different modes which has to be selected according to the results calculated by the EOL calculator.

INTERCONNECTIONS

- » ***Pair of 20cm leads***
- » ***Phoenix contact type 3,5 mm, 2 pins connector***

The following speakers work correctly with the ABT-EOL module:

ABT-S106** / ABT-S136** / ABT-S186** / ABT-S2010

ABT-S206 / ABT-S206B

ABT-W6 / ABT-W6W / ABT-W6/AB

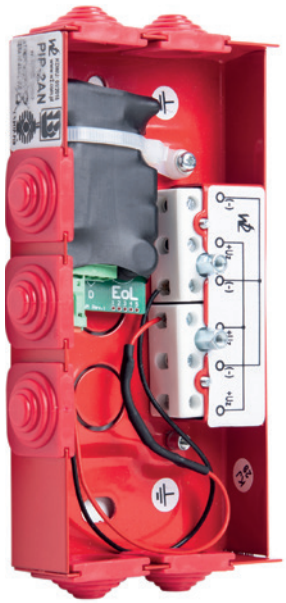
ABT-LA30/60 / MCR-SMSP20 / ABT-P10 / ABT-P20

The EOL calculator can be found on the following website:
https://ambientsystem.eu/en/customer-area

	ABT-EOL
Technical specifications	
Type	End of line module for speaker lines
Connector	Phoenix contact type 3,5 mm; 5 pins
Voltage	100 V loudspeaker line
Load	10 W – 480 W *
Operating temperature	-10°C to 55°C
Storage temperature	-40°C to 70°C
Relative humidity	< 95%
Dimensions	65 (W) × 16 (H) × 37 (D) mm
Mounting	Internally in the loudspeaker / Optional installation box is available
Weight	Approx. 46 g / Set of 10 modules – 500 g

* Use EOL calculator to choose optimal load settings
** Installation box required

OPTIONAL INSTALLATION BOX



ABT-REG1

VOLUME CONTROLLER

Volume controller is designed to control 100 V signal. Maximum speaker / speaker group load is 40 W RMS.

SPECIFICATIONS

Input voltage	100 V
Maximum nominal load	40 W
The frequency range	30 – 20000 Hz
Number of control levels	6
Output power level for each position	-∞, -20, -15, -10, -5, 0 dB
Voltage drive the alarm priority relay	18 – 26,5 V
Current consumption	10 mA
Operating temperature	0°C – 40°C
Overall dimensions	80 mm × 150 mm × 65 mm
The size of the recess in the wall	75 mm × 150 mm × 50 mm

RedBox 300

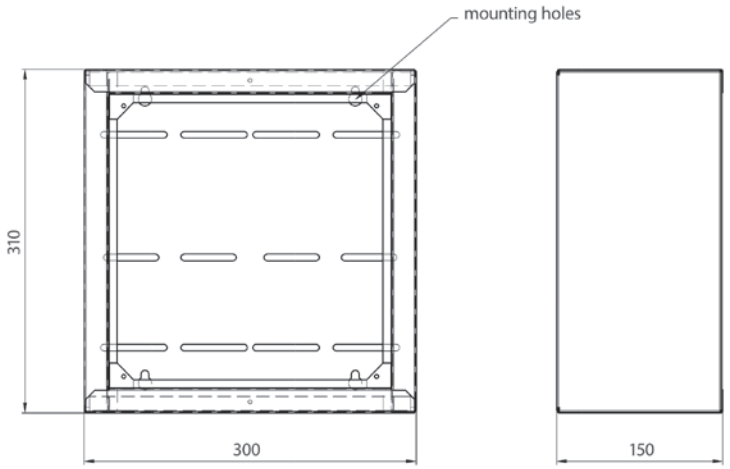
ENCLOSURE FOR FIRE MICROPHONE STATION

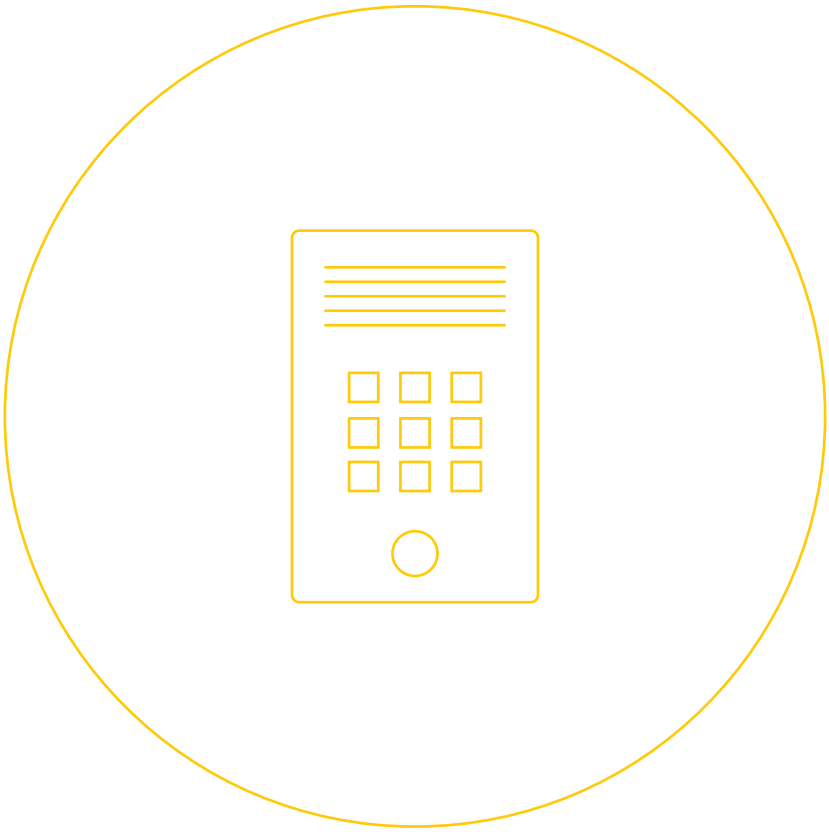
- ✓ *Front door with a viewing window 210 × 150 mm with acrylic glass cover*
- ✓ *Powder coated in red – RAL 3000*
- ✓ *5 cable entries ø19 mm in the upper and lower part of the housing*
- ✓ *Internal mounting holes for installation ABT-DFMS and ABT-EKB-20M*
- ✓ *ø22 mm hole for cylindrical lock for universal cabinets*

Wall enclosure manufactured out of sheet steel made for a desktop fire microphone station – ABT-DFMS and one of the key-board extension ABT-EKB-20M.

Housing including a pack with 4 screws for installation of the ABT-DFMS and ABT-EKB-20M to RedBox – 4× M5×8, 4× ZWY-6K 10×50 for installation of RedBox to the wall and 4 cable glands. ABT-DFMS, ABT-EKB-20M and door lock is not included in the scope of the delivered package.

TECHNICAL DATA	
Color	RAL 3000
Weight	3 kg
Dimensions (W × H × D)	300 × 310 × 150 mm





SIP Family Equipment

ORANGE Communication Platform

- ✓ VES SIP Gateway
- ✓ ISE Communication Module

SIP Edge Intercoms

- ✓ ICO EMERGENCY / SIP Audio Intercom
- ✓ ICO CUBE / SIP Intercom Module
- ✓ ICO HARDLINE / SIP Intercom Stations

SIP Core Intercoms

- ✓ ICO DESKTOP / Paging Phone Station

SIP Loudspeakers

- ✓ ABT-W6S / SIP Wall-Mounted Loudspeaker
- ✓ ABT-S206S / SIP Ceiling Loudspeaker
- ✓ ABT-T2515S / SIP Horn Loudspeaker

NEW!

VES SIP Gateway

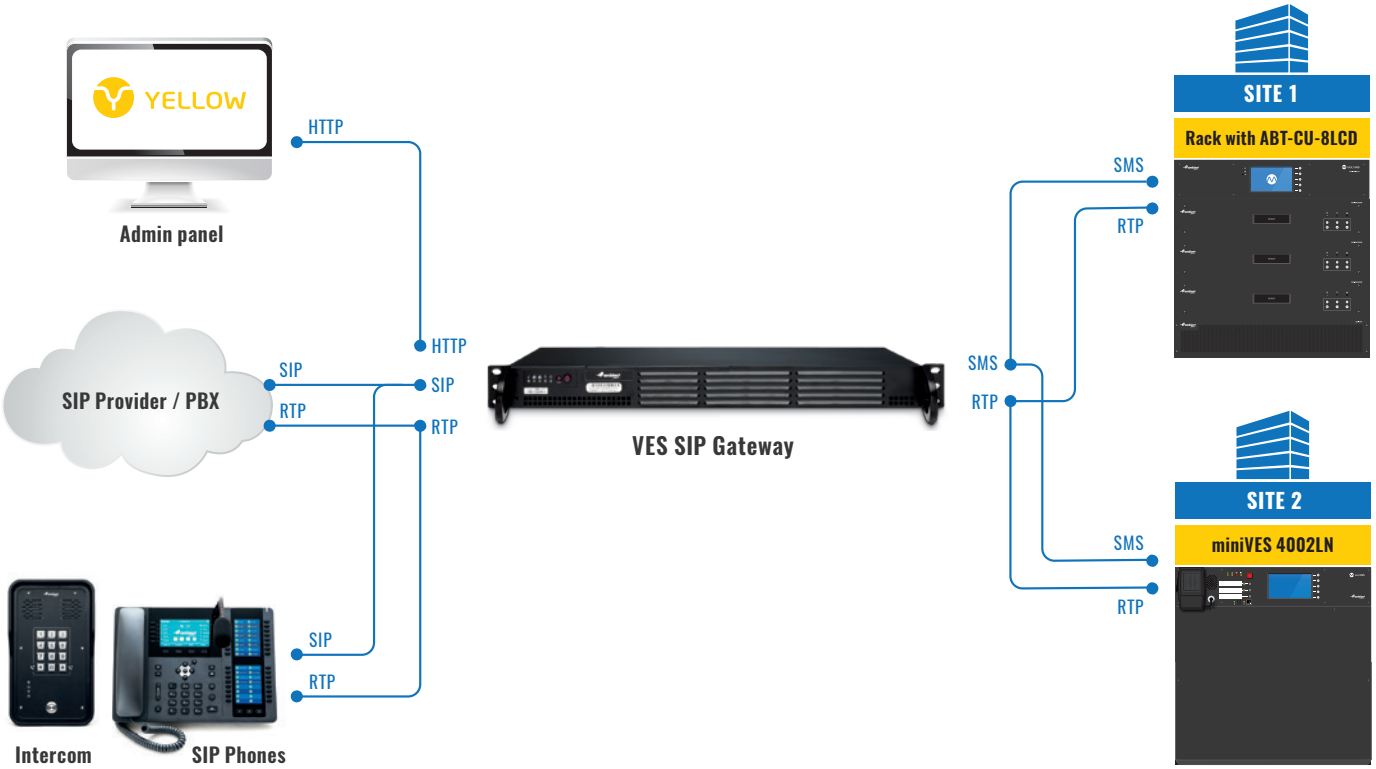
ORANGE COMMUNICATION PLATFORM

SPECIFICATION

Processor	Intel Xeon
Chipset	Intel
Operating memory	1 × 8 GB
Hard drive	1 × 240 GB SSD
Network	2 × Intel i210 AT Gigabit LAN
Ports	2 × USB 2.0 / 2 × USB 3.0 / 2 × 1 Gbit/s
Dimensions	43 mm (1U) × 437 mm × 290 mm
Operating system	Linux
Power supply	230 V AC

CHARACTERISTICS

- Providing a graphical interface to the initial configuration
- Assigning the “Hunting group” in the VES SIP Gateway of the loudspeaker zones programmed in the Selector MULTIVES / miniVES software
- Assigning a telephone number / DTMF code to the “Hunting group” – functionality by simple Graphical interface
- Assign an access code to the “Hunting group”. The code will be provided via the DTMF code
- Ability to register to a SIP operator and 3rd party IP PBX systems
- Ability to call via SIP registration or directly after the IP address (in the same network)
- Connection setup with VES systems via SMS protocol
- Voice transmission with VES systems via the RTP protocol
- 16 simultaneous connections to the VES SIP Gateway
- The basic supported codecs are G.711u and G.711A
- Manage network settings via the GUI interface
- Recording communication with VES



LICENSE	Description
Z5	up to 5 audio zones
Z25	up to 25 audio zones
Z100	up to 100 audio zones
Z250	up to 250 audio zones
Z500	up to 500 audio zones
Z500+	more than 500 audio zones
SF	Store & forward – record a message when the line is busy and play when the line is released
T	Timers – Create an event list and play recorded messages based on calendar
AM	Answering machine – Answer call and play a welcome message
P	PBX – Ability to register in SIP Proxy
R	Record – Recording communication to VES

COMPATIBILITY

ORANGE COMMUNICATION PLATFORM

ISE COMMUNICATION MODULE

ISE Communication Module

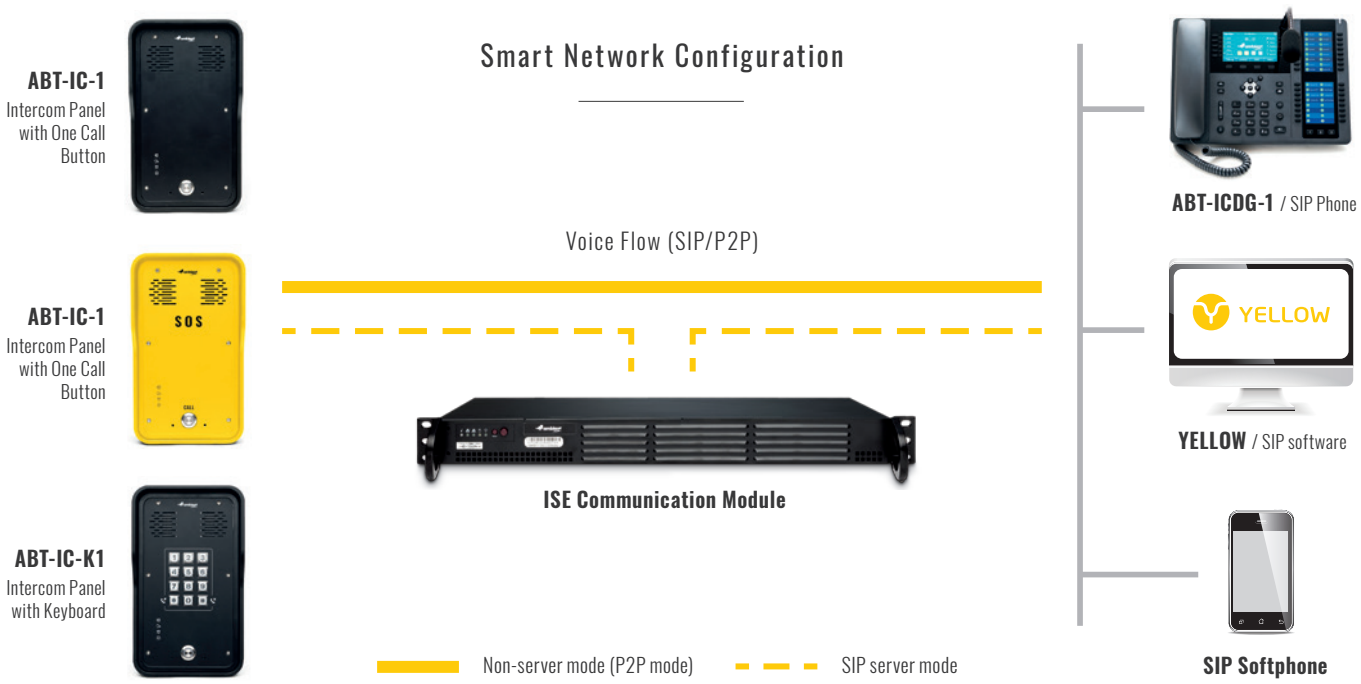
ORANGE COMMUNICATION PLATFORM

SPECIFICATION

Processor	Intel Xeon
Chipset	Intel
Operating memory	1 × 8 GB
Hard drive	1 × 240 GB SSD
Network	2 × Intel i210 AT Gigabit LAN
Ports	2 × USB 2.0 / 2 × USB 3.0 / 2 × 1 Gbit/s
Dimensions	43 mm (1U) × 437 mm × 290 mm
Operating system	Linux
Power supply	230 V AC

CHARACTERISTICS

- Providing a graphical interface to the initial configuration
- Support communication protocol SIP 2.0 (RFC3261)
- Assigning the “Hunting group” in the intercom system
- Interactive Voice Response (IVR)
- Support HD-Voice
- Calls queue for managing calls at busy moments
- Prioritization of calls and custom gongs
- Conference rooms for maintaining communication simultaneously with many parties
- Call forwarding, dial plans, advanced call dealing logic
- Monitoring of intercom devices
- Advance CDR, logging and reporting
- Call and activity Recording



End users can use VoIP phone, PC or SIP softphone to realize talking with visitors and monitoring remotely.

LICENSE	Description
EndP	End Point – License for connecting one device
ExtL	External Line – License for an external connection channel
ReC	Record Channel – License to record messages for one channel

COMPATIBILITY

ORANGE COMMUNICATION PLATFORM	VES SIP GATEWAY

SIP Audio Intercom

ICO EMERGENCY 01

- ✓ *Dedicated emergency button*
- ✓ *Frangible glass plate*
- ✓ *Echo cancellation*
- ✓ *HD audio quality*
- ✓ *Up to 3 fully programmable standard buttons*
- ✓ *Two relay outputs and one input*
- ✓ *Audio output for hearing loop driver*
- ✓ *Hight vandal resistance IK08*
- ✓ *High environmental resistance IP54*

ICO EMERGENCY is an intercom designed to ensure high-quality communication with the highest priority in emergency situations, a special button located behind the breakable glass reduces the number of accidental connections, The intercom can establish a conversation between the reporting person and the facility security room or directly with the security services, thus shortening reaction time to an event to a minimum. In addition to the alarm button, it also has from 1 to 3 standard buttons, used for normal object communication. Intercom has 3 versions of mounting: plasterboard, flush and wall mount.

INTERCOM

- » SIP 2.0
- » Double SIP lines support
- » IP address voice distribution
- » Direct volume adjustments
- » WEB server configuration
- » Auto Provisioning
- » Audio output for e.g. hearing loop driver
- » Hands-free communication
- » Auto answer
- » Multicast capabilities
- » Power by PoE or DC
- » Input for programmable button
- » NTP synchronization
- » Remote control by Active URI / Action URL

NETWORK

- » PoE support
- » DNS support
- » VLAN support
- » VPN support
- » SNTP client support
- » RTP/SRTP support
- » HTTP/HTTPS webserver
- » QoS v.802.1p/q
- » Message-Digest algorithm 5 support
- » WEB filter
- » Static / DHCP
- » STUN support

AUDIO

- » Support G.711a/u, G723.1, G.726, G729AB
- » HD voice by G.722 codec
- » AEC
- » DTMF support (RFC2833 / SIP info)
- » Packet Loss Concealment
- » Comfort noise generator
- » Adaptive jitter Buffer up to 300 ms

SPECIFICATION	
Relays	2 × max DC 30 V / 1 A, AC 125 V / 0.5 A
Microphone	-38 dB
Speaker	4 Ω / 3 W
WAN port	RJ-45, 10 / 100M
Power Supply	12 V ± 15% / 1 A DC or POE
Cabling	minimum CAT5
Assembly	flush (plasterboard / concrete) wall mount
Storage temperature	-40 – 70°C
Storage humidity	10 – 90%
Resistance	IP54 / IK08
Dimensions	273 × 133 × 50 mm (W × H × L)

MODELS	Description
ABT-ICO-EME01-00L1B1E	1 emergency, glass protected button, 1 standard button
ABT-ICO-EME01-00L1B2E	1 emergency, glass protected button, 2 standard buttons
ABT-ICO-EME01-00L1B3E	1 emergency, glass protected button, 3 standard buttons

ACCESSORIES	Description
ABT-IAC-BOX01-PB	plasterboard flush mounting box
ABT-IAC-BOX01-F	concrete flush mounting box
ABT-IAC-BOX01-W	on-wall mounting box

COMPATIBILITY

ORANGE COMMUNICATION PLATFORM

VES SIP GATEWAY	ISE COMMUNICATION MODULE

SIP Intercom Module

ICO CUBE 01

- ✓ *Full Duplex Echo Cancellation*
- ✓ *High quality HD Audio*
- ✓ *Relays enable control functions*
- ✓ *Supports IP and network standards*
- ✓ *Wide operating temperature range from -30 to +70°C*
- ✓ *Emergency call button interface, active call*
- ✓ *IP camera video call available*
- ✓ *3.5 mm standard audio interface for recording purposes*
- ✓ *Build in amplifier 10 W – 30 W with adaptive output power*
- ✓ *Web server for managing and upgrading*

ICO CUBE is the solution designed to complement other systems with the voice communication to the control center, perfectly fit to be built in unmanned systems such as parking systems, lifts, charging EV stations, and ticket offices. Extensive interfaces provide services and interaction with the user.

INTERCOM

- » SIP 2.0
- » Double SIP lines support
- » IP address voice distribution
- » Direct volume adjustments
- » WEB server configuration
- » Auto Provisioning
- » Audio output for e.g. hearing loop driver
- » Hands-free communication
- » Auto answer
- » Multicast capabilities
- » Power by PoE or DC
- » Input for programmable button
- » NTP synchronization
- » Remote control by Active URL / Action URL

NETWORK / PROTOCOLS

- » PoE support
- » DNS support
- » VLAN support
- » VPN support
- » SNTP client support
- » RTP / SRTP support
- » HTTP / HTTPS webserver
- » QoS v.802.1p/q
- » Message-Digest algorithm 5 support
- » WEB filter
- » Static / DHCP
- » STUN support

AUDIO

- » Support G.711a/u, G723.1, G.726, G729AB
- » HD voice by G.722 codec
- » AEC
- » DTMF support (RFC2833 / SIP info)

PHYSICAL SPECIFICATION	
Headset speaker	×1 » Output: 32 Ω 1.2 V » Interface: pluggable terminal block
DSS key interface (4 lines)	×1 » Indicator: output 5.0 V 5 mA » Interface: pluggable terminal block
Microphone input interface for electret condenser microphone	×1 » Sensitivity: -38 dB, Impedance 2.2 kΩ, Bias voltage 2.2 V » Interface: pluggable terminal block
Speaker interface	×1 » Output power: 4 Ω, POE / 10 W, 12 V / 10 W, 18 V / 20 W, 24 V / 30 W; related to supply voltage » Interface: pluggable terminal block
RJ45 interface	×2 » Yellow: WAN port 10 / 100M adaptive, support POE » PoE: 802.3af (Class 3: 6.49 ~ 12.95 W) » Black: LAN port » Cable: Cat.5e or better
Indicators	×1 Diode indication of the intercom status
Volume keys	×2 Buttons for volume control
Reset button	×1 Reset button for factory restore
Output interface	×1 3.5 mm standard audio interface 15 Ω impedance, for recording
Short circuit input and output interface (built-in relay)	×1 » Relay: max DC 30 V / 1 A, AC 125 V / 0.5A » Interface: pluggable terminal block
Power	Power up from 12 – 24 VDC / 2A via terminal blocks or 5.5 mm standard plugin or PoE
Standby power consumption	DC 12 V 1.32 W / POE 1.8 W
Housing material	Aluminium alloy shell
Installation	Indoor installation
Operating temperature	-30 ~ 70°C
Storage temperature	-40 ~ 70°C
Equipment size	113 × 83 × 28 mm
Equipment weight	250 g

MODELS	Description
ABT-ICO-CUB01-00L1B1	Intercom for self-build

COMPATIBILITY

ORANGE COMMUNICATION PLATFORM

VES SIP GATEWAY

ISE COMMUNICATION MODULE

SIP Intercom Station

ICO HARDLINE 01

- ✓ *Full duplex echo cancellation*
- ✓ *High quality HD Audio*
- ✓ *Supports wide set of IP and networking standards*
- ✓ *Relays enable control functions*
- ✓ *Wide operating temperature range from -40 to +65°C*
- ✓ *High environmental protection level – IP65*
- ✓ *Robust vandal resistant die-cast aluminium housing – rating IK10*

MODELS

ABT-IC-1
SIP Intercom, 1 button,
IP65, POE or 24 V, 1 × relay

ABT-IC-K1
SIP Intercom, keyboard + 1 button,
IP65, POE or 24 V, 1 × relay

FUNCTION

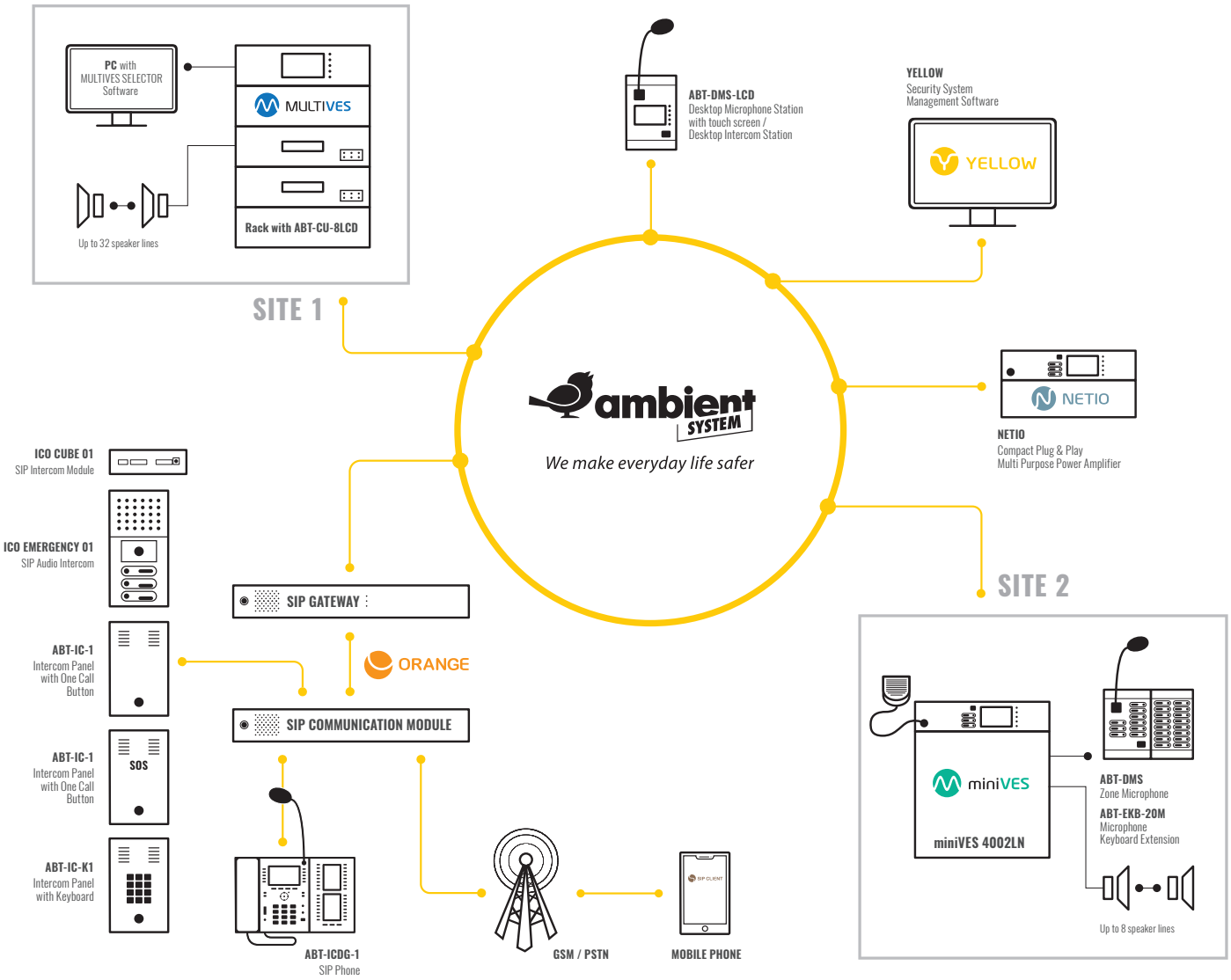
- » Two SIP lines, support SIP 2.0 (RFC3261) and related RFC
- » POE enabled
- » Full-duplex hands-free (HF)
- » Default auto answer
- » Open the door operation: DMTF, password
- » Support customized DSS key
- » Network time synchronization
- » Action URL / Active URI remote control

NETWORKING / PROTOCOLS

- » Support: PoE / RTSP / SNTP client / VPN L2TP/open VPN / SRTP / HTTP/HTTPS web pages / Qos:802.1p / q, DSCP / MD5 authentication / Web filter / STUN
- » Primary and secondary DNS servers are supported
- » VLAN
- » DHCP / static / PPPoE
- » Auto-Provisioning via: FTP / TFTP / HTTP / HTTPS / DHCP / TR069 / SIP PNP
- » Web management portal

AUDIO

- » Narrowband speech codec: G.711a / u, G.723.1, G.726-32K, G.729AB
- » Broadband speech codec: G.722
- » Full duplex echo cancellation (AEC)



PHYSICAL SPECIFICATION	
Relay	1 relay: max DC 30 V / 1 A, AC 125 V / 0.5 A
Active switching output	12 V / 650 mA DC
Microphone	-38 dB
Speaker	4 Ω / 3 W
WAN port	RJ-45, 10 / 100M adaptive
Power Supply	12 V ± 15% / 1 A DC or POE
Network cable	CAT5 or better
Mounting	wall-mounting or flush-mounting
Storage temperature	-40 – 70°C
Working humidity	10 – 90%
Protection level	IP65 / IK10
Overall dimension	223 × 130 × 74 mm (W×H×L)

ABT Paging Phone Station

ICO DESKTOP 01

- ✓ *20 SIP lines, 3-way conference, hotspot*
- ✓ *HD audio on speakerphone and handset*
- ✓ *Movable type Directional External Gooseneck Microphone*
- ✓ *4.3" main color display, 2 × 3.5" side color displays for DSS keys*
- ✓ *Built-in Bluetooth*
- ✓ *Wi-Fi connectivity(Via Wi-Fi dongle)*
- ✓ *Up to 106 DSS keys (42 tri-colored physical keys)*
- ✓ *Video Codec H.264 support for receiving video calls*
- ✓ *Dual Gigabit ports, integrated PoE*
- ✓ *Stand with 2 adjustable angles of 40 and 50 degrees*
- ✓ *Compatible with major platforms: Asterisk, Broadsoft, 3CX, Metaswitch, Elastix, Avaya etc.*

MODEL	Screen	Network	PoE	Power adapter
ABT-ICDG-1	4.3" color-screen	10 / 100 / 1000 Mbps	✓	—

ABT-ICDG-1 is a phone paging station with visualization for business clients. It is equipped with a gooseneck microphone for easy voice messaging and high-quality hands-free connections. Programmable buttons allow to perform various actions with one click, from voice call, broadcasting to door opening and many more. Communication is based on the SIP protocol and can serve as a monitoring center or host for an office manager. ABT-ICDG-1 also gives the possibility of quick response in crisis situations.

FEATURES

GENERIC

- 20 SIP Lines
- HD Voice
- Support receiving Video call
- POE Enabled
- 3 LCDs (Main + DSS)
- Handset / Hands-free / Headset mode
- Intelligent DSS Keys
- Optional External Power Supply

PHONE FEATURES

- Local Phonebook (2000 entries)
- Remote Phonebook (XML/LDAP, 2000 entries)
- Call logs (In/out/missed, 1000 entries)
- Black/White List Call Filtering
- Screen saver
- Voice Message Waiting Indication (VMWI)
- Programmable DSS/Soft keys
- Network Time Synchronization
- Built-in Bluetooth 2.1: Support Bluetooth headset
- Support Wi-Fi Dongle
- Support Plantronics wireless headset (Through Plantronics APD-80 EHS Cable)
- Support Jabra wireless headset (Through EHS20 EHS Cable)
- Support Recording (Through Flash Drive or Server Recording)
- Action URL / Active URI
- uaCSTA

CALL FEATURES

- Narrowband speech codec: G.711a / u, G.723.1, G.726-32K, G.729AB
- Broadband speech codec: G.722
- Full Duplex Echo Cancellation (AEC)

VIDEO

- Video codec: H.264
- Video call resolution: QCIF / CIF / VGA

AUDIO

- HD Voice Microphone / Speaker (Handset / Hands-free, 0 ~ 7 kHz Frequency Response)
- HAC handset
- Wideband ADC/DAC 16 kHz Sampling
- Narrowband Codec: G.711a/u, G.723.1, G.726-32K, G.729AB, AMR, iLBC
- Wideband Codec: G.722, AMR-WB, Opus
- Full-duplex Acoustic Echo Canceller (AEC)
- Voice Activity Detection (VAD) / Comfort Noise Generation (CNG) / Background Noise Estimation (BNE) / Noise Reduction (NR)
- Packet Loss Concealment (PLC)
- Dynamic Adaptive Jitter Buffer up to 300 ms
- DTMF: In-band, Out-of-Band – DTMF-Relay (RFC2833) / SIP INFO

NETWORKING

- Physical: 10/100/1000 Mbps Ethernet, dual bridged port for PC bypass
- IP Mode: IPv4 / IPv6 / IPv4 & IPv6
- IP Configuration: Static / DHCP / PPPoE
- Network Access Control: 802.1x
- VPN: L2TP / OpenVPN
- VLAN
- LLDP
- QoS
- RTCP-XR (RFC3611), VQ-RTCPXR (RFC6035)

PROTOCOLS

- SIP2.0 over UDP / TCP / TLS
- RTP / RTCP / SRTP
- STUN
- DHCP
- IPv6
- LLDP
- PPPoE
- 802.1x
- L2TP
- OpenVPN
- SNTP
- FTP / TFTP
- HTTP / HTTPS
- TR-069

DEPLOYMENT & MAINTENANCE

- Auto-Provisioning via FTP / TFTP / HTTP / HTTPS / DHCP OPT66 / SIP PNP / TR-069
- Web Management Portal
- Web-based Packet Dump
- Configuration Export / Import
- Phonebook Import / Export
- Firmware Upgrade
- Syslog

PHYSICAL SPECIFICATION	
Main LCD × 1	4.3" (480 × 272) color-screen LCD
DSS Key-mapping LCD × 2	3.5" (320 × 480) color-screen LCD
Keypad	77 keys, including: » 4 Soft-keys » 6 Function keys (Hold, Call forward, Phonebook, MWI, Headset, Redial) » 4 Navigation keys » 1 OK key » 1 Return key » 12 Standard Phone Digits keys » 3 Volume Control keys, Up/Down/Mute(Microphone) » 1 Hands-free key » 42 DSS Keys with tri-color LED » 3 Page-Switch (PS) key
HD Handset (RJ9)	× 1
Standard RJ9 Handset Wire	× 1
1.5M CAT5 Ethernet Cable	× 1
Gooseneck Microphone	× 1 » Directional microphone » Frequency response: 20 Hz ~ 20 kHz » SNR: ≥ 60 dB. 1 kHz at 1 Pa
Back Rack	× 1
Gooseneck MIC Port × 1	Gooseneck Microphone × 1
RJ9 Port × 2	Handset × 1, Headset × 1
RJ45 Port × 2	Network × 1, PC × 1 (Bridged to Network)
USB2.0 Port × 1	Standard A, Connect with Wi-Fi USB dongle or Flash Driver
DC Power Input	5 V / 2 A
Power Consumption (PoE)	2.6 – 9 W
Power Consumption (Adapter)	2.4 – 8W
Working Temperature	0 – 45°C
Working Humidity	10 – 95%
Installation	Desktop Stand
Color	Dark gray
Device Dimensions	Desktop Stand (Angles 1): 309 × 214 × 187 mm Desktop Stand (Angles 2): 309 × 226 × 167 mm
Gift Box Dimensions	323 × 301 × 71 mm
Outer CTN Dimensions	624 × 383 × 348 mm (10 PCS)

COMPATIBILITY

ORANGE
COMMUNICATION PLATFORM

VES SIP GATEWAY	ISE COMMUNICATION MODULE

ABT-W6S

SIP WALL-MOUNTED LOUDSPEAKER

- ✓ *Easy and quick to mount*
- ✓ *Modern and elegant design*
- ✓ *High quality sound of both speech and music*
- ✓ *Ideal for on-wall or in-wall mounting*

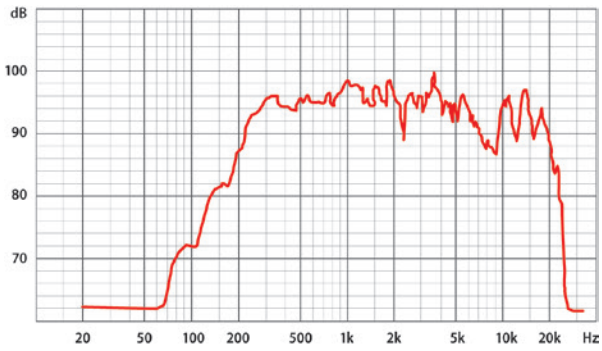
NEW!

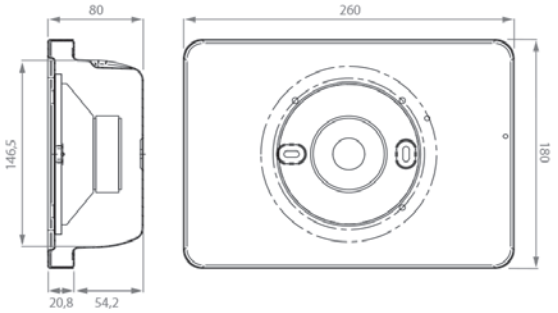
The ABT-W6S is an elegant multi-function SIP loudspeaker with built-in amplifier. It has been designed to guarantee the highest acoustic parameters. Its solid casing offers an effective protection against acts of vandalism. The loudspeaker can be mounted either on a wall or on a ceiling.

Additionally, the ABT-W6S loudspeaker can be fixed as an recessed speaker and therefore it is an ideal solution for rooms where aesthetic factors play a significant role.

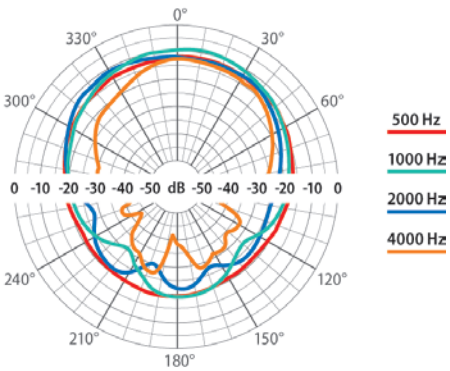
	ABT-W6S
Electrical	
Rated power	6 W
Network interface	10/100BASE-TX, RJ45
Power supply	DC 12 – 24 V or POE
Decoding mode	Max. 48 kHz, 320 kbps audio stream, support MP3, G.711 a/u, G.722. min. delay: 50 ms
Effective frequency range	120 Hz – 20 000 Hz
Dispersion at 1 kHz	180°
SPL (6 W @ 1 m)	101 dB
Environmental	
IP rating	IP32
Min. / max. ambient temperature	-20°C / 55°C
Mechanical	
Dimensions	260 × 180 × 80 mm
Net weight	1,5 kg
Colour	White (RAL 9003)
Material	Steel
Mounting	Screw
Accessories	
Power Supply	12 VDC / 2 A / 24 W

Frequency band:

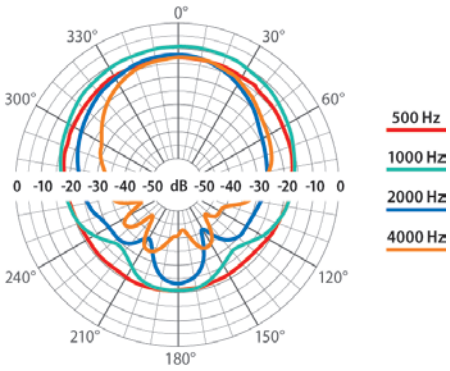




Circular chart of directional characteristic – horizontal:



Circular chart of directional characteristic – vertical:



ABT-S206S

SIP CEILING LOUDSPEAKER

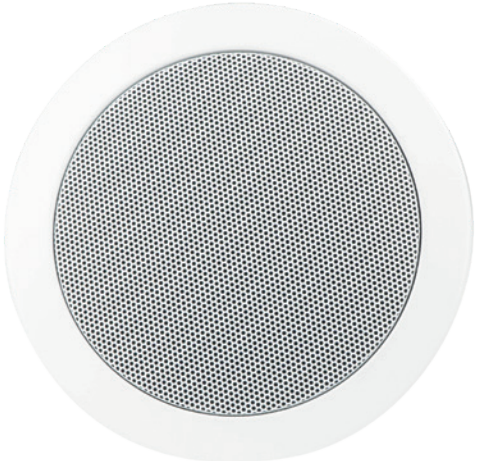
- ✓ *Easy and quick to mount*
- ✓ *Modern and elegant design*
- ✓ *High quality sound of both speech and music*

NEW!

The ABT-S206S is SIP ceiling loudspeaker with built-in amplifier. It has been designed to guarantee the highest acoustic parameters. The loudspeaker is an ideal solution for rooms where aesthetic factors play a significant role.

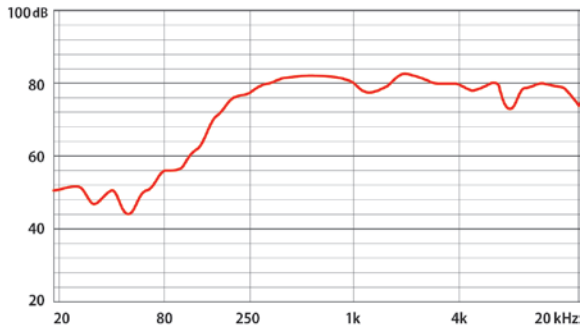
It can be powered by PoE that allows to easily connect it to existing local area networks using one CAT5 / CAT6 cable connection.

It is an ideal choice for applications in security systems, industrial and commercial systems.

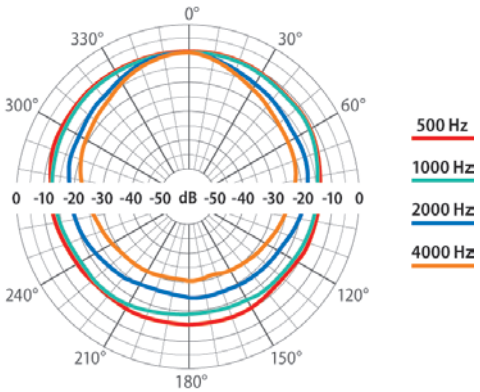


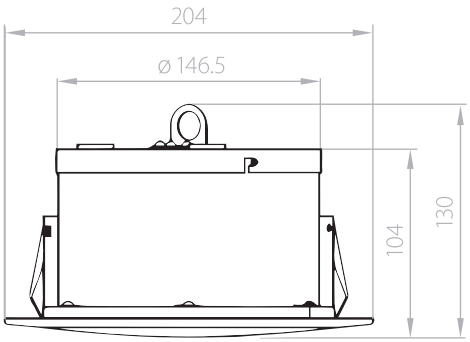
	ABT-S206S
Electrical	
Rated power	6 W
Network interface	10/100BASE-TX, RJ45
Power supply	DC 12 – 24 V or POE
Decoding mode	Max. 48 kHz, 320 kbps audio stream, support MP3, G.711 a/u, G.722. min. delay: 50 ms
Effective frequency range	120 Hz – 20 000 Hz
Dispersion at 1 kHz	180°
SPL (6 W @ 1 m)	99 dB
Environmental	
IP rating	IP32
Min. / max. ambient temperature	-20°C / 55°C
Mechanical	
Dimensions	Height 130 mm, ø 204 mm
Net Weight	1,1 kg
Colour	White (RAL 9003)
Material	Steel
Mounting	Spring clamp
Accessories	
Power supply	12 VDC / 2 A / 24 W

Frequency band:



Circular chart of directional characteristic:





ABT-T2515S

SIP HORN LOUDSPEAKER with built-in 15 W amplifier

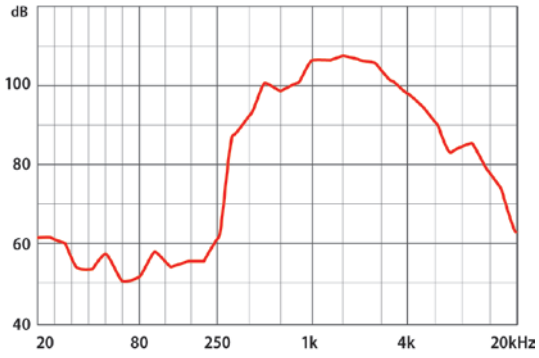
- ✓ *High sound pressure level*
- ✓ *Aluminium housing*
- ✓ *Protection from dust and humidity: IP65 rating*

NEW!

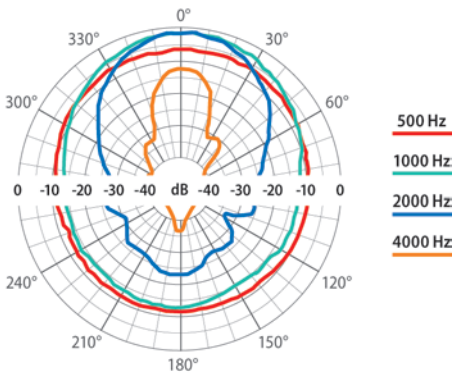
ABT-T2515S is a SIP horn loudspeaker with a built-in 15 W amplifier. It can be powered by PoE that allows to easily connect it to existing local area networks using one CAT5 / CAT6 cable connection.
It is an ideal choice for applications in security systems, industrial and commercial systems in both outdoor and indoor areas such as train stations, airports, parking lots, parks, gardens, corridors and much more.
The high efficiency and directionality of the loudspeaker allow broadcasting voice messages directly to even distant places, while ensuring a high sound pressure level. The aluminium housing guarantees increased resistance to adverse weather conditions provided by the IP65 rating.

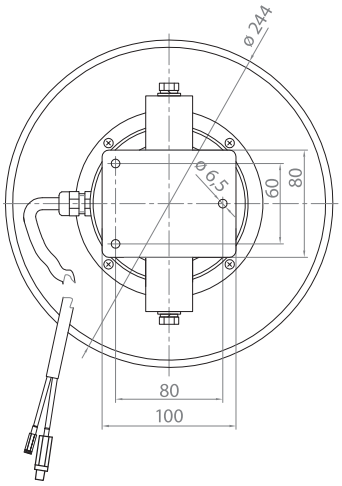
	ABT-T2515S
Electrical	
Rated power of amplifier	15 W
Network interface	10/100BASE-TX, RJ45
Power supply	DC 12 – 24 V or POE
Decoding mode	Stereo playing, max. 48 kHz, 320 kbps audio stream, support MP3, WAV (PCM +IMA ADPCM), G.711 a/u, G.722., min. delay: 50 ms
Encoding mode	G.711a/u, G.722 and RTP mode, min. delay: 30 ms
Effective frequency range	350 Hz – 7 kHz
Dispersion at 1 kHz	110°
SPL (15 W @ 1 m)	111 dB
Environmental	
IP rating	IP65
Min./max. ambient temperature	-20°C / 55°C
Mechanical	
Dimensions	250 × 320 mm
Net weight	2,3 kg
Colour	Light grey (RAL 7035)
Material	Aluminium
Mounting	U type bracket
Accessories	
Power Supply	12 VDC / 2 A / 24 W

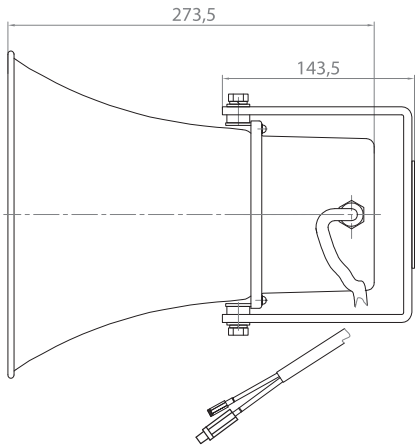
Frequency band:

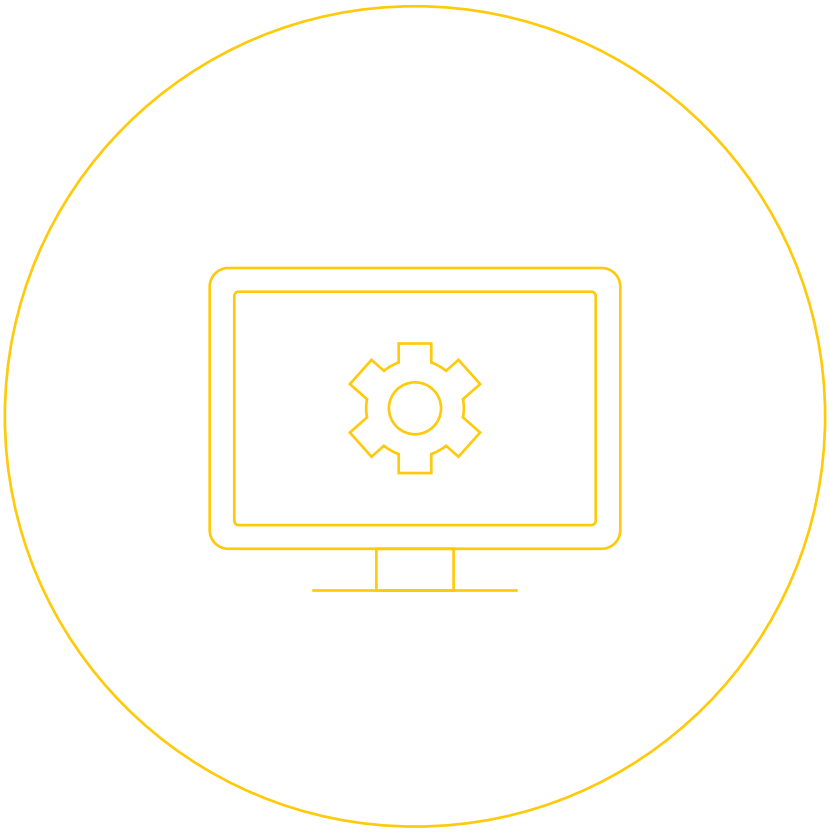


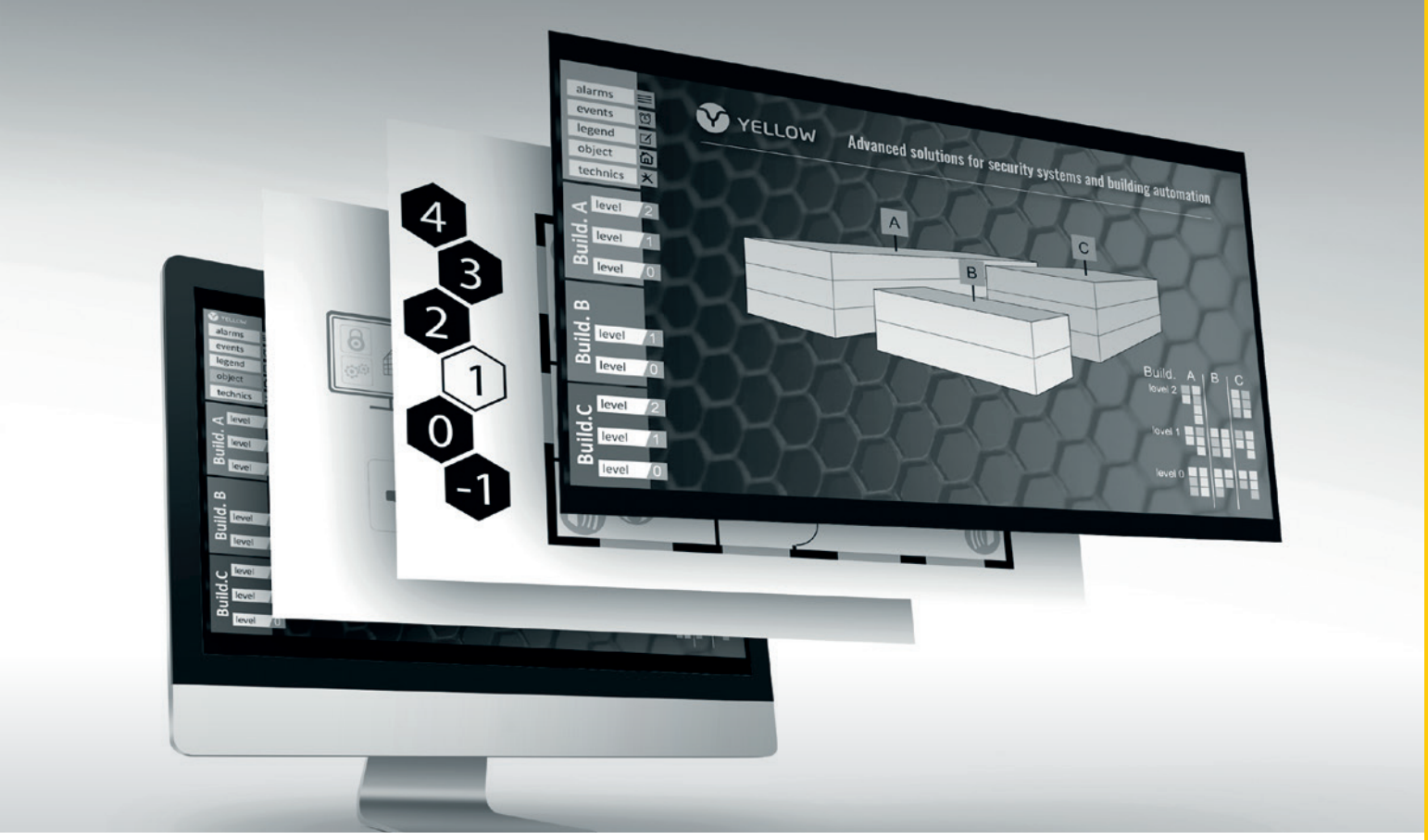
Circular chart of directional characteristic:











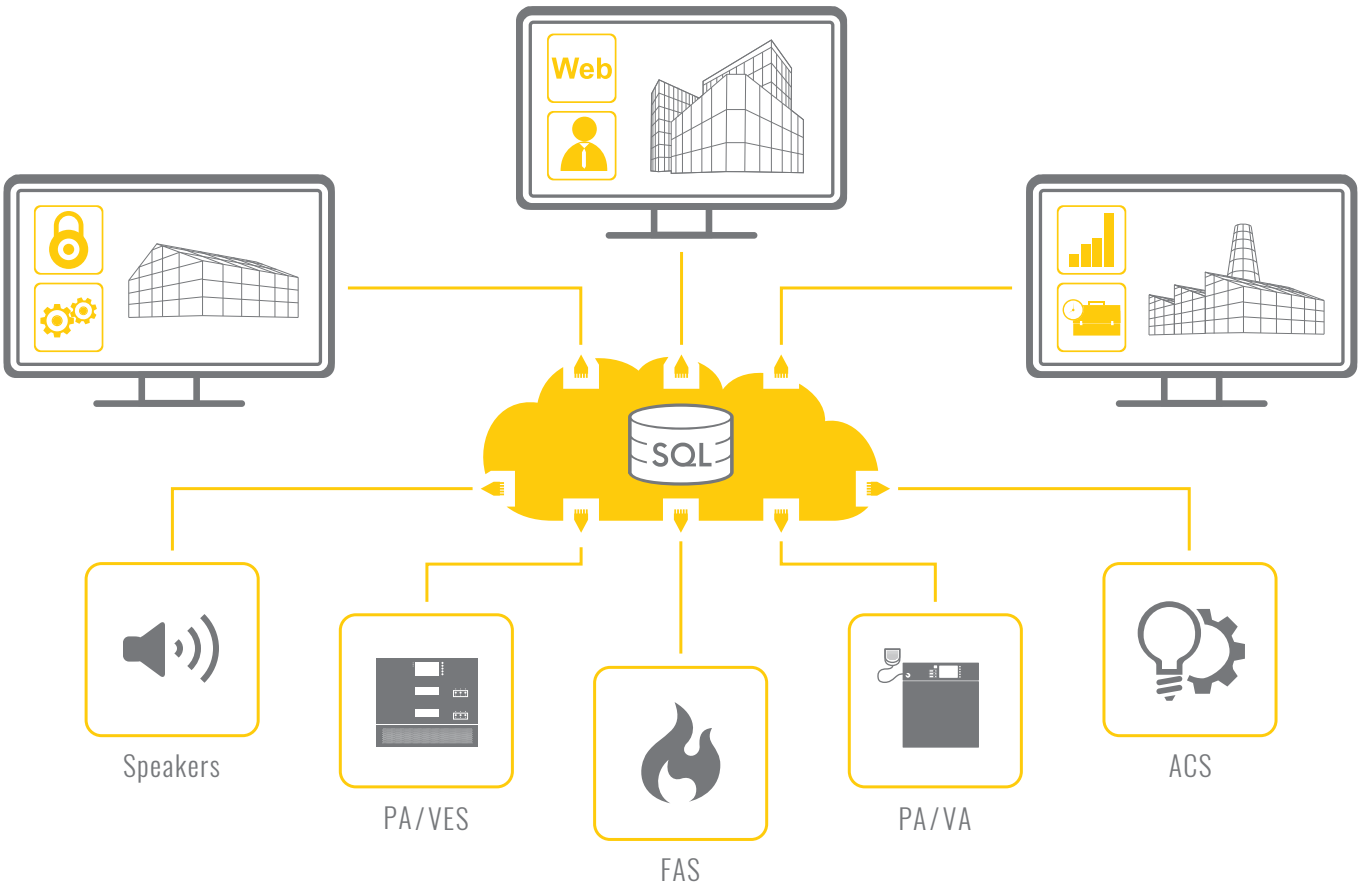
YELLOW

Security System Management Software

- ✓ Activation of virtual and local control inputs in MULTIVES / miniVES
- ✓ Visualisation of statuses Virtual outputs, Zones, Group zones, System statuses
- ✓ Identification of playing sources in all visualized zones
- ✓ Activation of evacuation mode on the MULTIVES / miniVES
- ✓ The use of TCP/IP, UDP and RS232 and RS485 interfaces
- ✓ Object-oriented visualization, vector and in web browsers
- ✓ Visualization of many independent systems
- ✓ Automatic presentation of the alarm location
- ✓ Support for up to 8 monitors for 4 operators at the same time
- ✓ Detection of faults and irregularities in integrated systems
- ✓ Logging events such as alarm, operators, system
- ✓ Activation of static matrixes

YELLOW

Security System Management Software



FEATURES

- *Activation of virtual and local control inputs in MULTIVES / miniVES*
- *Visualisation of statuses Virtual outputs, Zones, Group zones, System statuses*
- *Activation matrixes – dynamically by selecting which source should be played in the selected zone or group of zones*
- *Activation of static matrixes*
- *Activation of evacuation mode on the MULTIVES / miniVES*
- *Identification of playing sources in all visualized zones*
- *Volume control*
- *Visualization of many independent systems and objects*
- *The use of TCP/IP, UDP and RS232 and RS485 interfaces*
- *Automatic presentation of the alarm location*
- *Object-oriented visualization, vector and in web browsers*
- *Support for up to 8 monitors for 4 operators at the same time*
- *Detection of faults and irregularities in integrated systems*
- *Logging events such as alarm, operators, system*
- *SNMP and OPC protocol available*
- *Oracle type databases*

Visualization offered by YELLOW is both user-friendly and very rich in functional features. With a comprehensive visualization, you are provided with a dynamic presentation of your devices – both graphic and textual. Visualization is easily adapted to your needs so it keeps its functionality regardless of the nature of the facility. An aesthetic design will help you to create your perfect system for shopping malls, offices, military sites, industrial objects and other.
Visualization can be provided in a form of the classic object technology, vector technology, as well as a WEB browser. For the simplest and most basic form of presentation of your integrated devices put your icons on your pre-defined views (graphic panels) with a simple click. All your icons represent the actual status of the corresponding devices.
YELLOW also offers a feature called functional block: for example, you can build whole tables with events, a dynamic list of current events, reception modules, etc. You can also enrich your visualization with special effects, such as semi-transparency and 3D effects.

YELLOW does not require any special set of skills for day-to-day operations. It's a very user-friendly solution designed to guide you through every process.

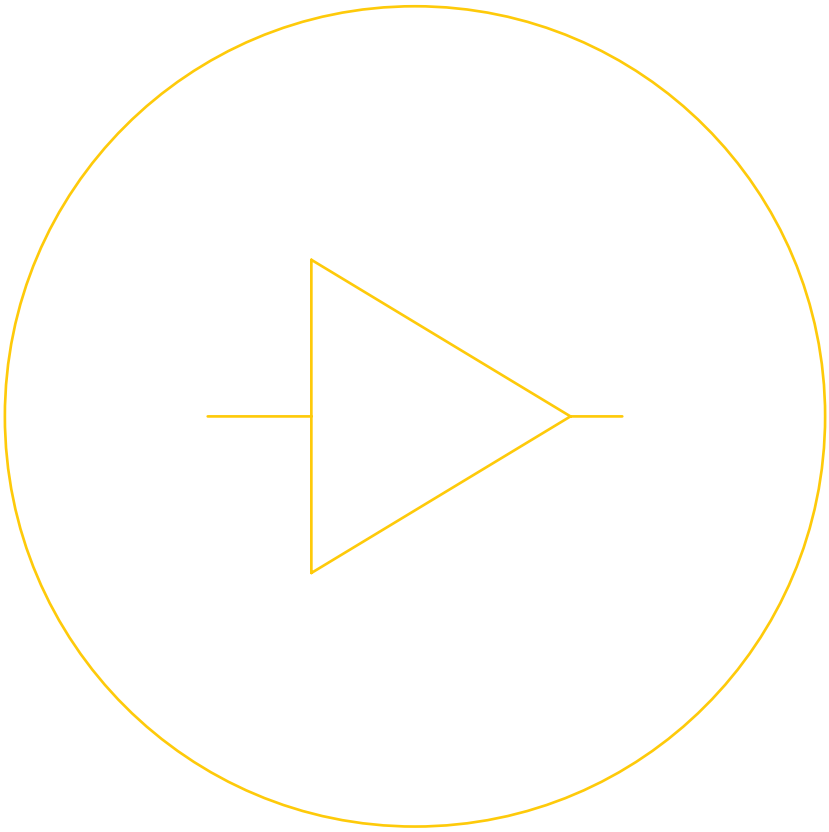
YELLOW is designed for computer networks with client server structure. This way you can manage the system from multiple locations simultaneously.
You can manage multiple buildings either from one place or from many different places at the same time. In case you have to handle a big number of facilities, cluster technology might be your best bet. This way you can set up a local monitoring center on site, as well as the main monitoring center for global control of all your buildings.

Regardless of the location of your devices, the visualisation of events and status is realized on all of the workstations within your network. Likewise, you can conduct all configuration and steering procedures using any computer connected to your network. This way you are more flexible in your work organization.

SYSTEM REQUIREMENTS

Systems that do not display video	
Processor	min. Intel Core i3
Memory	RAM 8 GB
Hard drive	HDD 200 GB
Network card	100 Mbit/s
Recommended operating system	Windows 10 64bit Professional

Database stores all your configuration and events. Any changes are automatically saved and implemented on all other workstations included in your system. Such a solution allows you to work online.



NETIO

Compact Plug & Play Multi Purpose Power Amplifier

- ✓ All in one – networkable power amplifier with digital signal processing
- ✓ Up to 254 devices can be connected on the network sharing up to 45 global high definition audio signals (48 kHz, 32 bit)
- ✓ Interkom functionality between NETIO and IP microphones
- ✓ User friendly and intuitive programming software
- ✓ Designed for high energy efficiency
- ✓ Redundant power source with battery charger
- ✓ Fully integrated with management software

NETIO

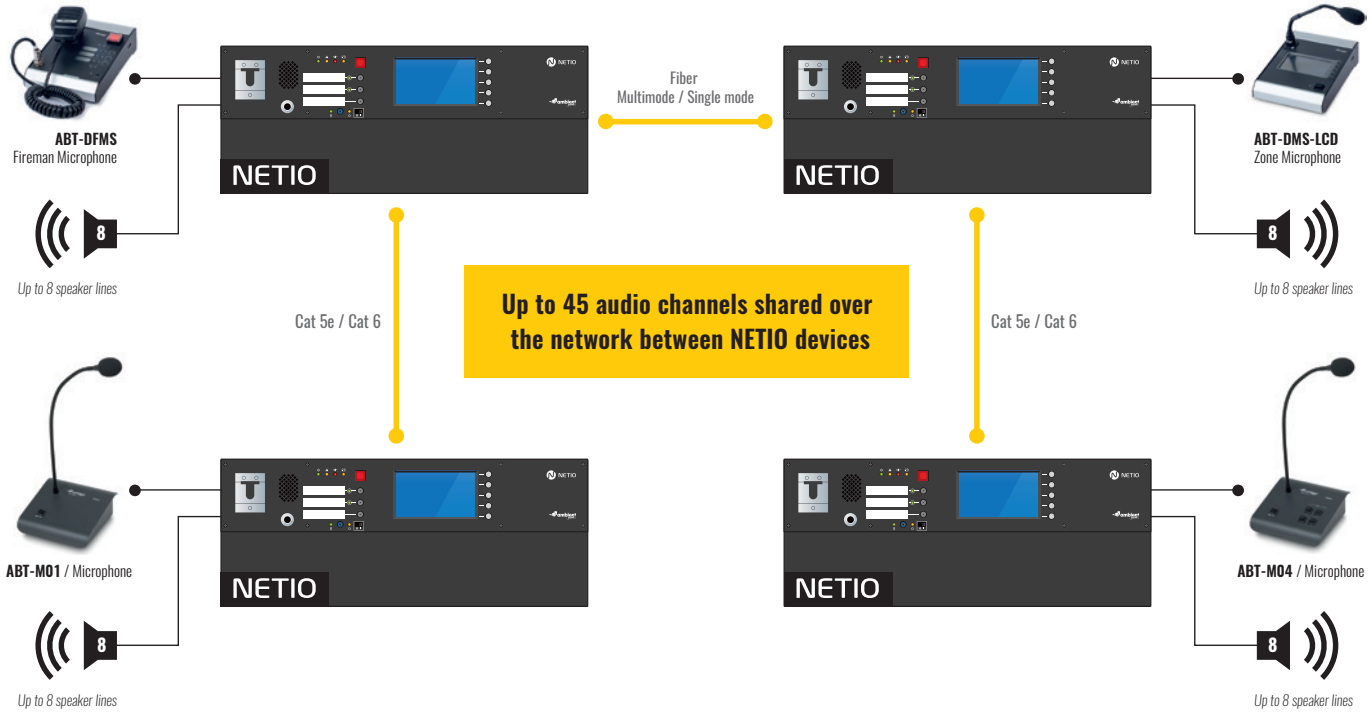
Compact Plug & Play Multi Purpose Power Amplifier

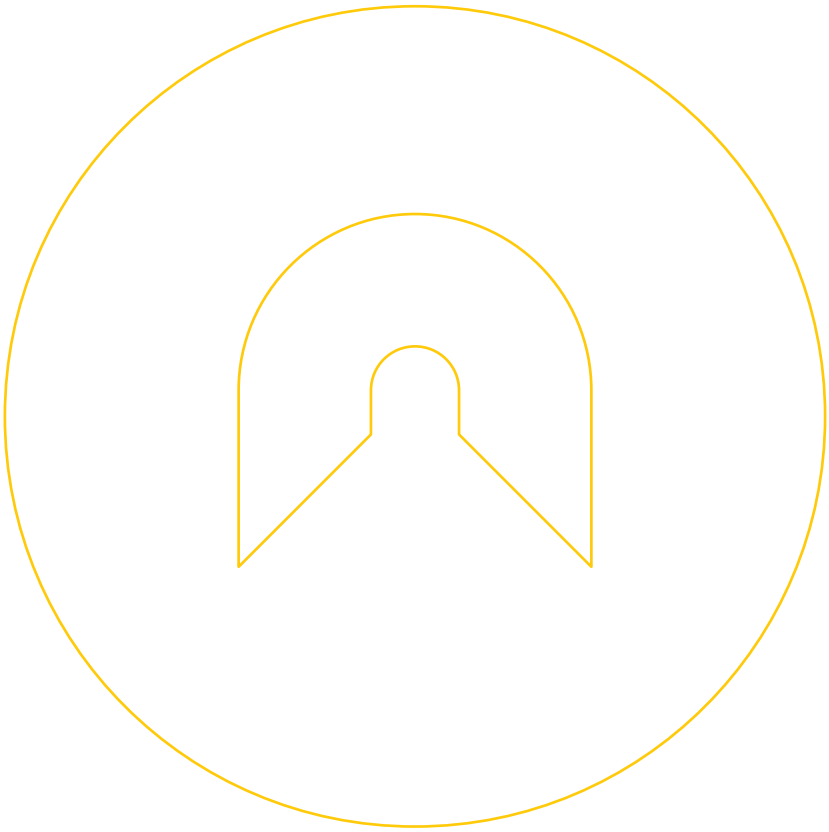
NETIO (Network Power Amplifier) is a high performance 100 V power amplifier that features digital audio networking. NETIO can receive audio from remote other NETIO devices over a standard Local Area Network or locally through analog audio inputs. NETIO includes an advanced, energy efficient Class D 100 V amplifiers design, and offer several professional features like Feedback Eliminator, Audio Limiter, Delay line up to 30000 ms, input and output EQ. User friendly and intuitive TCP/IP software for PC makes configuration of the stand- alone NETIO or networked system simple and quick.

GUI direct access to:

- » ***Zones statuses: fault, blocked or playing including type of the source***
- » ***Simple matrix activation by selecting zones / groups and audio inputs / messages***
- » ***Fault register in details***
- » ***Speaker line impedance preview local and global***
- » ***Global audio signal management over the network***

Technical Specification	NETIO
No of speaker lines	8
No of control inputs	7
No of relay outputs	3
No of amplifiers / Power	2 / 320 W
Redundant amplifier	Yes – 320 W
No of messages played at the same time	2
Total audio load of the system	400 W
Protection	over-temperature, short circuit, overload, ground leakage
No of LAN ports	1 × LAN/WAN for PC configuration 2 × LAN 100/1000 Mb Auto-negotiation
Control by	programmable 4 buttons and color touch screen
Additional features	
No of audio inputs	1 – Stereo to mono
No of audio outputs	1 – mono line output
Power sources	24 V DC (150 mA maximum) and 48 V DC (350 mA maximum)
DSP	input EQ, outputs EQ, feedback eliminator and audio limiter, delay up to 30000 ms
Ingress protection	IP 30
Weight	19 kg
Dimensions (W × H × D)	439 mm × 176 mm × 354 mm
Finish	Black
Mounting method	19" rack or desktop





S4T

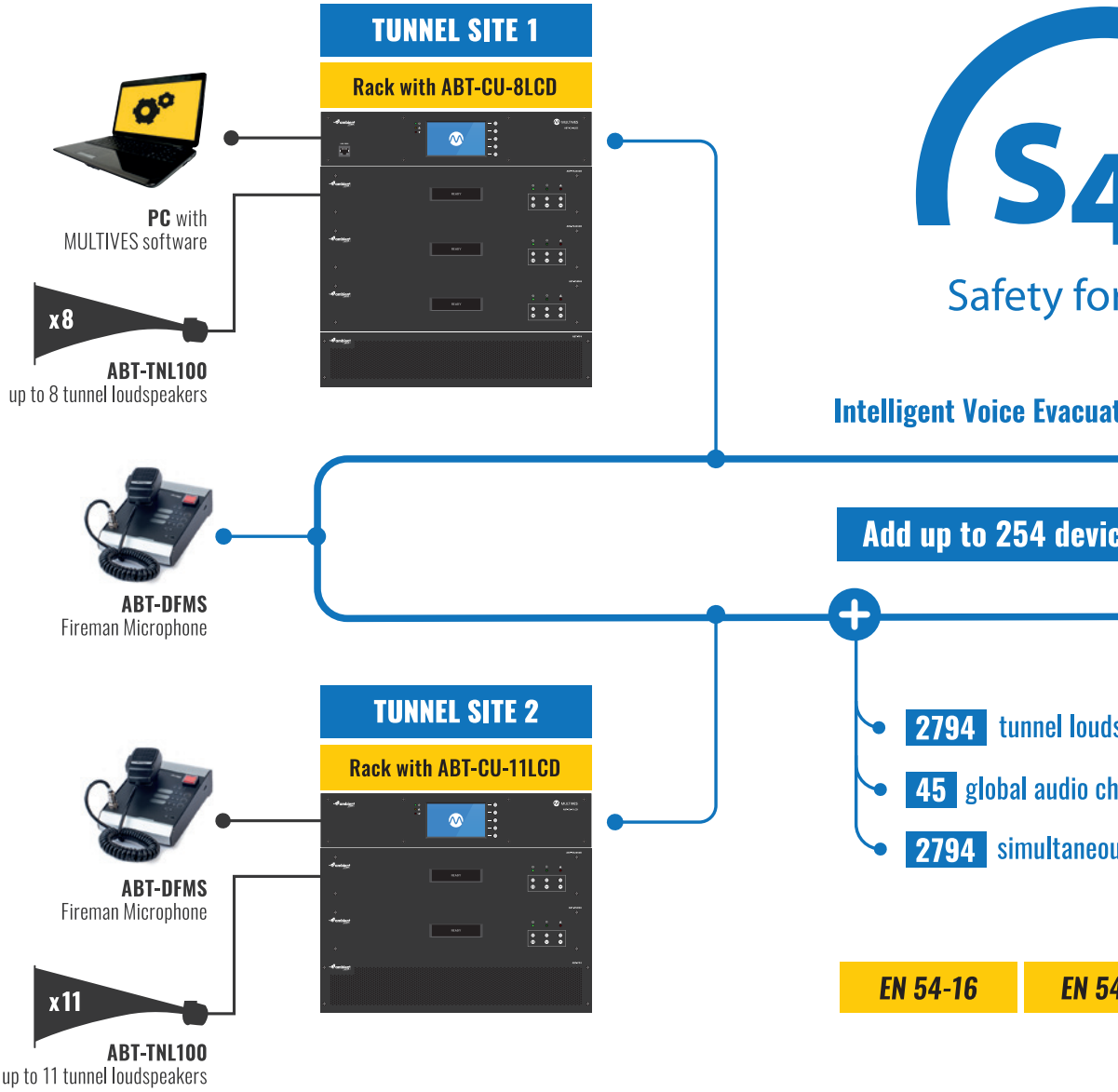
Safety for Tunnel

EN 54-16

EN 54-4

ADVANCED Voice Evacuation System with Specialized Tunnel Loudspeakers

- ✓ Advanced DSP for best audio transmission in harsh acoustic conditions
- ✓ Communication redundancy between control units and fireman microphone
- ✓ Distributed intelligence of the system
- ✓ Flexible and scalable configuration
- ✓ Specially designed for tunnel applications
- ✓ Highly directional asymmetric horn
- ✓ Excellent speech intelligibility
- ✓ Stainless steel construction

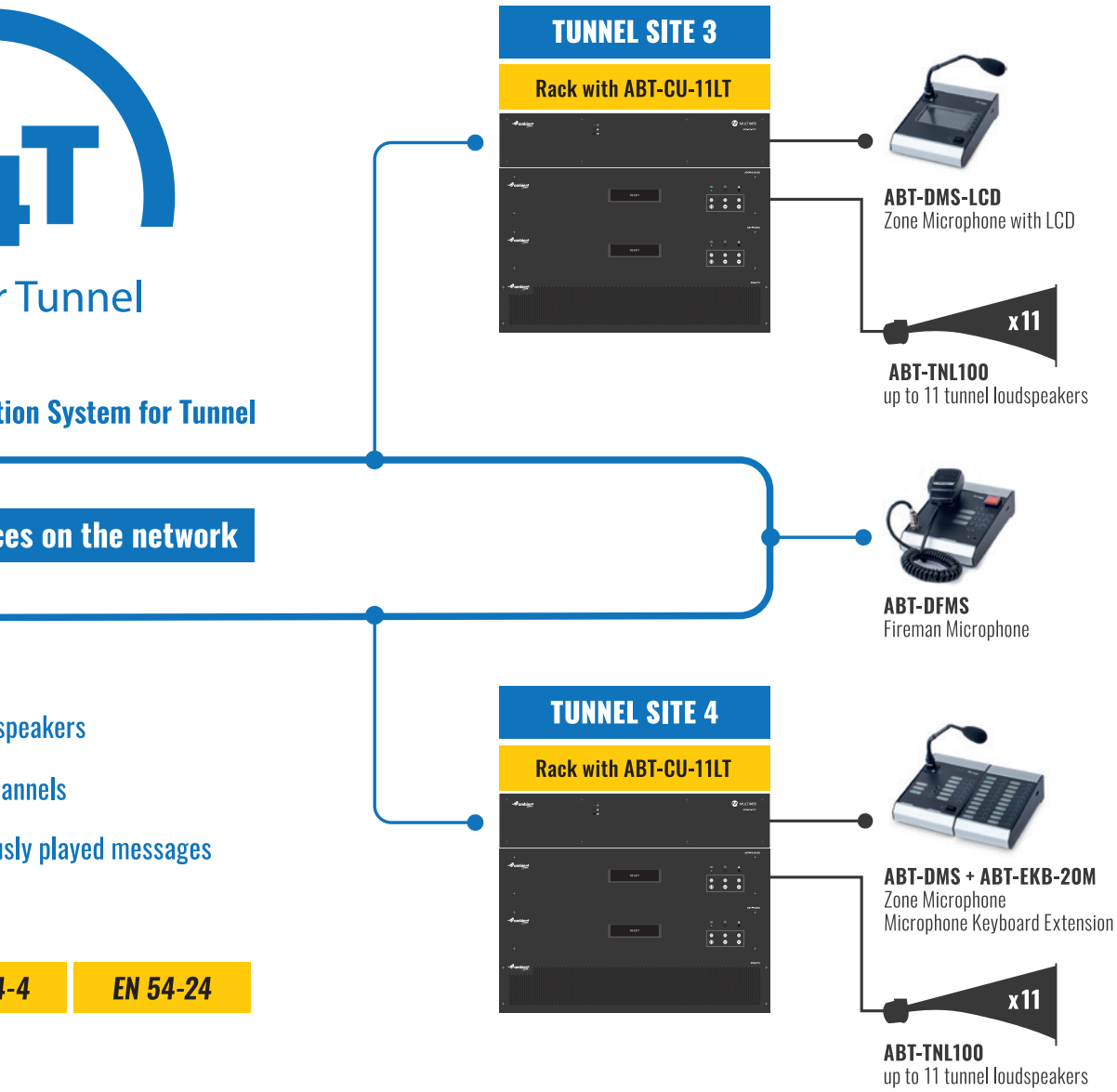


Safety for Tunnel

Advanced Voice Evacuation System with Specialized Tunnel Loudspeakers

Main Parameters of the MULTIVES System:

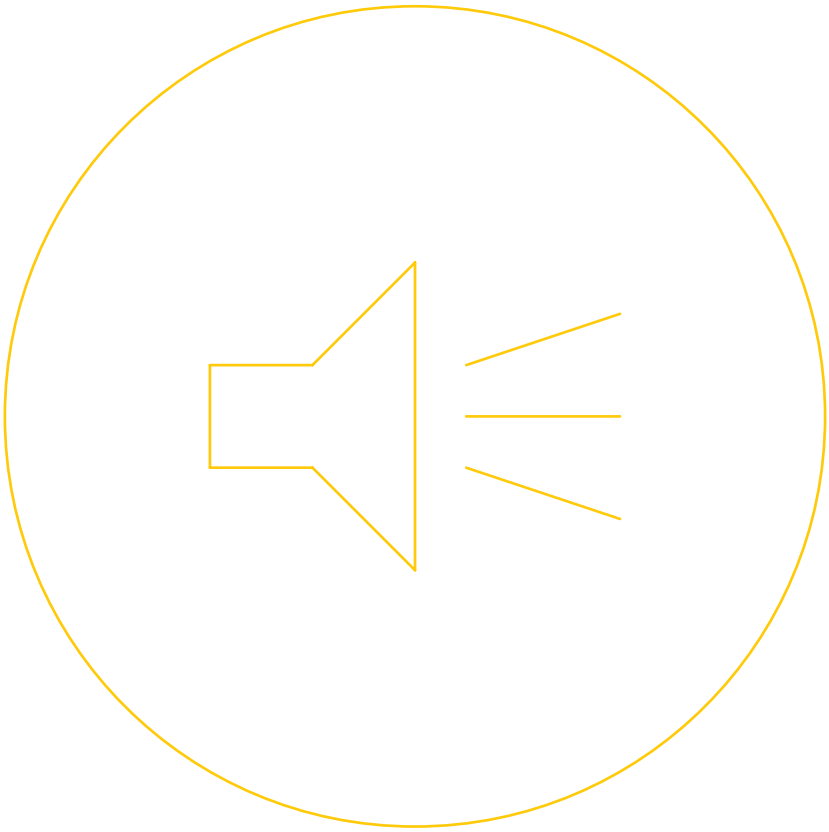
- *Compliance with EN 54-16, EN 60849*
- *45 global audio channels*
- *Up to 254 units in the network*
- *Up to 32 GB SD flash memory card designated for playback and recording messages (48 kHz, 16 bit)*
- *Number of simultaneously played messages dependent on the number of xCtrLine-4 and xCtrLine-2 cards*
- *Intercom function between all microphones*
- *Cost-efficient solution allows for up to 4 messages to be played simultaneously thanks to 4 common 100 V audio buses in each control unit*
- *External audio inputs in all control units and zone microphones*
- *Up to 12 secured amplifiers fully supported*
- *DSP with implemented 3-band parametric EQ on all inputs on control units, 8-band parametric EQ, delay lines, audio limiter and feedback eliminator on each of the audio outputs*
- *Complex control inputs/outputs, RS485 interface for integration with Fire Alarm systems and Building Management Systems (BMS)*
- *Wide choice of bridgeable Class D amplifiers (8×80 W, 8× 160 W, 4× 160W, 2×650 W, 1×650 W)*



Elements of S4T System

MULTIVES Devices	
ABT-CU-11LT	control unit with 11 control slots
ABT-CU-11LCD	control unit with 11 control slots and touch screen GUI
ABT-DFMS	desktop fireman microphone station
ABT-DFMS BOX	desktop fireman microphone station
ABT-DMS-LCD	desktop zone microphone with touch screen
ABT-DMS	desktop zone microphone station
ABT-EKB-20M	20-key extension keyboard
ABT-ISLE	interface communication module and audio signal splitter with RS485 for external systems

Fire Alarm Loudspeakers	
ABT-TNL100	highly directional tunnel loudspeaker
MCR-SMSP20	sound projectors
Power Amplifiers	
ABT-PA4160B	8× 80 Watt class-D power amplifier
ABT-PA8160B	8× 160 Watt class-D power amplifier
Power Supply Equipment	
ABT-PSM48	sower supply manager
ABT-PS48800	power supply unit 48 V / 800 W



Loudspeakers

Fire Alarm Loudspeakers EN 54-24

- ✓ ABT-LA30 / ABT-LA60
- ✓ ABT-W6 / ABT-W6/AB
- ✓ ABT-W6W
- ✓ ABT-SW176
- ✓ ABT-S206B
- ✓ ABT-S186
- ✓ ABT-S106 / ABT-S136
- ✓ ABT-S2010 / ABT-S2710
- ✓ ABT-P10 / ABT-P10P
- ✓ ABT-P20 / ABT-P20P
- ✓ ABT-T1510 / ABT-T2215 / ABT-T2430 / ABT-T2435
- ✓ ABT-HP240EN / ABT-HP120EN

EN 54-24

Special Application Loudspeakers

- ✓ ABT-TNL100 / ABT-TNL100-1
- ✓ ABT-T2520A
- ✓ ETH20MD Loud
- ✓ ETHY20MD Loud
- ✓ ETH20MD Loud 24/48 VDC
- ✓ ETH20MD Loud 24/48 VDC Special

ABT-LA30 / ABT-LA60

EN 54-24

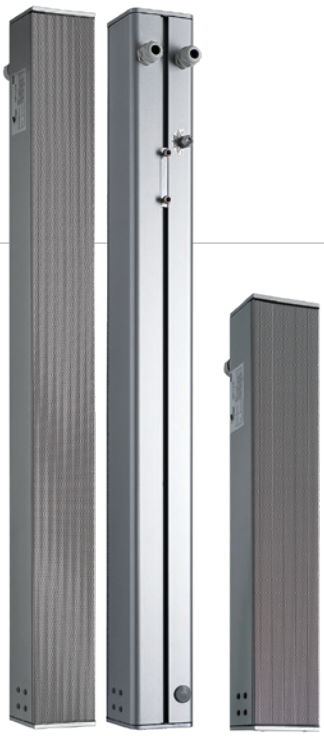
LINE ARRAY LOUDSPEAKERS COLUMNS

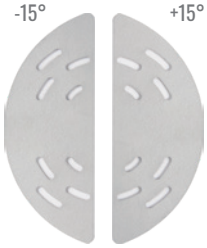
- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity issued by CNBOP: 1438-CPR-0574*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

ABT-LA fire-alarm loudspeakers mean a new quality among the facilities of the kind. ABT-LA30 and ABT-LA60 units are line-array loudspeaker columns, which means they ensure considerably farther reach than conventional units at simultaneous maintenance of high uniformity of sound level in the area of broadcasting. Being line-array acoustic sources, ABT-LA columns feature a unique high directionality in vertical plane so that the sound they generate will rather go exactly towards the controlled audio-space instead of unwanted areas, such as e.g. ceiling or floor. ABT-LA columns are mostly designed for the rooms with high reverberation time as well as for other places where the quality of speech is reduced due to unfavourable conditions.

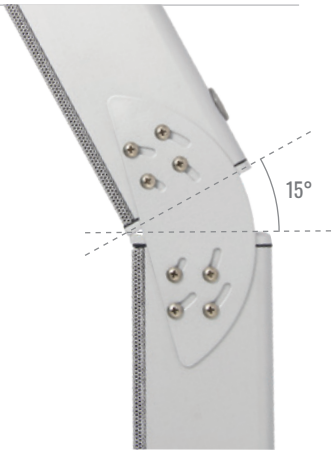
The ABT-LA design allows easy mechanical and electrical integration of the two columns into a single consistent unit which becomes a loudspeaker with higher power output and farther reach. It makes a better use of the benefits offered by the line-array source. Variable geometry of the column allows generating two sound beams to be randomly sent at various angles to the two different areas. Sound transfer band of the ABT-LA columns has been designed to achieve the highest possible fidelity of speech signal reproduction and to ensure unchallenged parameters of the quality of speech, all as required by the standards applicable to the Voice Evacuation Systems.

Solid aluminium enclosure, steel assembly jigs, and IP 65 guarantee long-term failure-free operations under any conditions, both in outdoor and indoor environments. The columns are entirely dustproof and resistant to the impact of direct water jet.





Connect angle:
-15° ÷ +15°



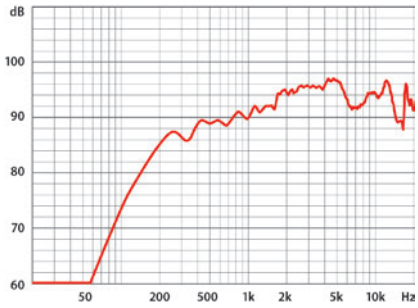
	ABT-LA30	ABT-LA60
Electrical		
Maximum power, W	48	96
Rated power, W	30	60
Tappings 100 V line according to EN 54-24, W	30 / 15 / 7,5 / 3,8	60 / 30 / 15 / 7,5
Tappings 70 V line	15 / 7,5 / 3,8 / 1,9	30 / 15 / 7,5 / 3,8
Transformer impedance @ 100 V, Ω	333,3 / 666,6 / 1333,3 / 2631,5	166,6 / 333,3 / 666,6 / 1333,3
Driver impedance, Ω	12	6
Effective frequency range, Hz	141 – 20 000	136 – 20 000
Sensitivity @ 4 m, 1 W, dB	77	79
SPL @ 4m, rated power, dB	90	94
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz – 6 kHz*	93	95
SPL @ 1 m, rated power, db, test signal bandwidth 300 Hz – 6 kHz*	105	109
Horizontal dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	360 / 220 / 185 / 120	360 / 215 / 185 / 115
Vertical dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	250 / 75 / 35 / 15	95 / 35 / 15 / 5
Environmental		
Environmental type / IP rating according to EN 54-24	B / IP33C	B / IP33C
IP rating**	65	65
Min./max. ambient temperature	-25°C / 70°C	-25°C / 70°C
Mechanical		
Dimensions H×W×D, mm	510 × 80 × 110	870 × 80 × 110
Net weight, kg	3,1	4,9
Colour	Silver (RAL 9006)	Silver (RAL 9006)
Enclosure material	Aluminium	Aluminium
Option		
For DC line monitoring	Capacitor	Capacitor
Colour optional	RAL palette	RAL palette
Ease Model	✓	✓

* calculated from line-array far field measurement at 8 m

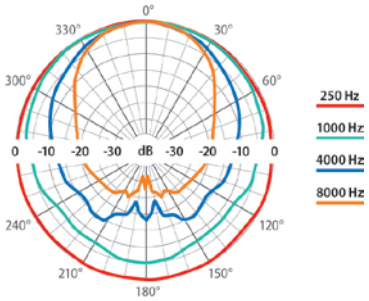
** parameters not confirmed by CNBOP-PIB

ABT-LA 30

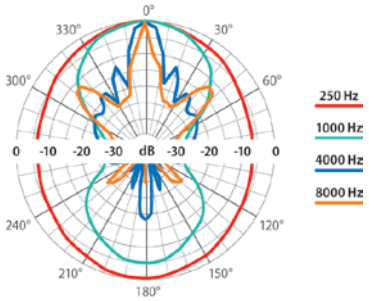
Frequency band:



Circular chart of directional characteristic – horizontal:

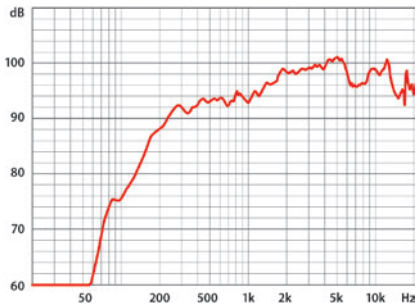


Circular chart of directional characteristic – vertical:

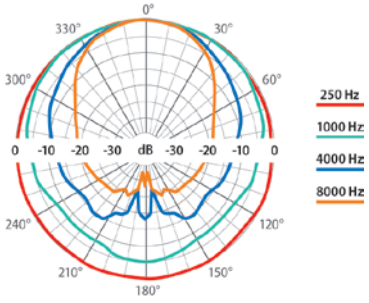


ABT-LA 60

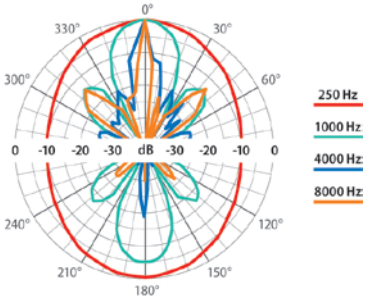
Frequency band:



Circular chart of directional characteristic – horizontal:



Circular chart of directional characteristic – vertical:



ABT-W6 / ABT-W6/AB

EN 54-24

WALL-MOUNTED LOUDSPEAKER (SINGLE/AB)

- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity issued by CNBOP: 1438-CPR-0654 and 1438-CPR-0413*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

The ABT-W6 is an elegant multi-function loudspeaker designed to guarantee the highest acoustic parameters. Its solid casing offers an effective protection against acts of vandalism. The loudspeaker can be mounted either on a wall or on a ceiling.

Additionally, the ABT-W6 loudspeaker can be fixed as an recessed speaker and therefore it is an ideal solution for rooms where aesthetic factors play a significant role.

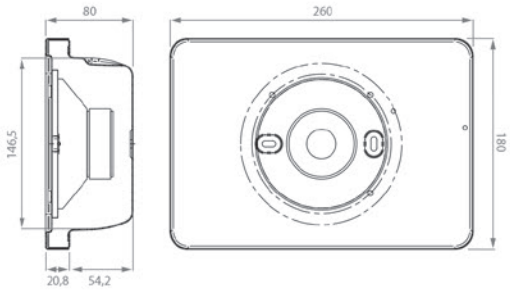
The loudspeaker offers adjustable power regulation through connectivity to applicable transformer tappings thus allowing suitable acoustic pressure (the level of sound) within areas of sound emission adequately to the acoustic conditions existing in those areas.

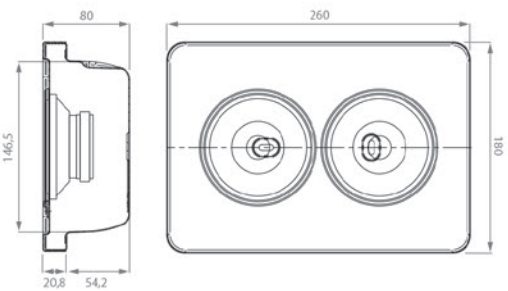
Unlike the standard wall-mounted fire alarm loudspeakers; the ABT-W6/AB is equipped with two in-built electro-acoustic transducers, two transformers and two separate sets of ceramic clamps and fuses, which allow connectivity of two independent A/B loudspeaker lines.

ABT-W6/AB has been designed for application in rooms of such size and acoustic conditions that the design proposes one wall-mounted loudspeaker of VES standard. However, in case of a single fault on the loudspeaker line, there is no loss of the sound coverage area in rooms with installed wall-mounted ABT-W6/AB loudspeakers.

CHARACTERISTICS

- » ***Easy and quick to mount***
- » ***Modern and elegant design***
- » ***High quality sound of both speech and music***
- » ***Ideal for on-wall or in-wall mounting***

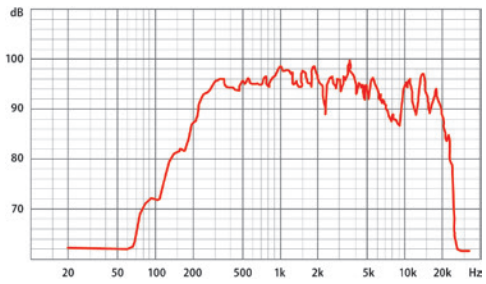




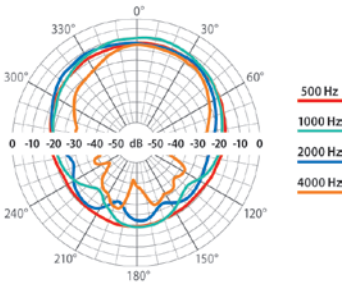
	ABT-W6	ABT-W6/AB
Electrical		
Rated power, W	6	2×6
Tappings 100 V line according to EN 54-24, W	6 / 3 / 1,5 / 0,75	2× 6 / 3 / 1,5 / 0,75
Tappings 70 V line, W	3 / 1,5 / 0,75 / 0,37	2× 3 / 1,5 / 0,75 / 0,37
Transformer impedance @ 100 V, Ω	1667 / 3333 / 6667 / 13333	2× 1667 / 3333 / 6667 / 13333
Driver impedance, Ω	8	2×8
Effective frequency range, Hz	120 – 20 000	150 – 20 000
Sensitivity @ 4 m, 1 W, dB	79	84
SPL @ 4 m, rated power, dB	85	91
SPL @ 1 m, 1 W, dB, test signal bandwith 300 Hz – 6 kHz	94	97
SPL @ 1 m, rated power, dB, test signal bandwith 300 Hz – 6 kHz	101	104
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	180 / 180 / 163 / 80	180 / 165 / 53 / 30
Environmental		
Environmental type / IP rating according to EN 54-24	A / IP21C	A / IP21C
IP rating	32	32
Min. / max. ambient temperature	-10°C / 55°C	-10°C / 55°C
Mechanical		
Dimensions, mm	260 × 180 × 80	260 × 180 × 80
Net weight, kg	1,75	2,25
Colour	White (RAL 9003) / Black (RAL 9011)	White (RAL 9003)
Material	Steel	Steel
Mounting	Screw	Screw
Option		
For DC line monitoring	Capacitor (ABT-W6C)	Capacitor
Colour optional	RAL palette	RAL palette
Ease Model	✓	✓

ABT-W6

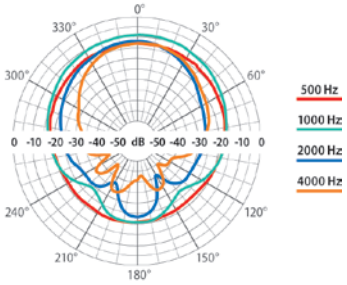
Frequency band:



Circular chart of directional characteristic – horizontal:

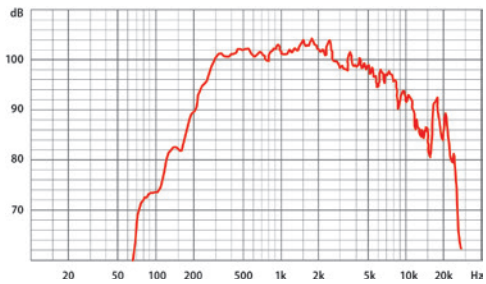


Circular chart of directional characteristic – vertical:

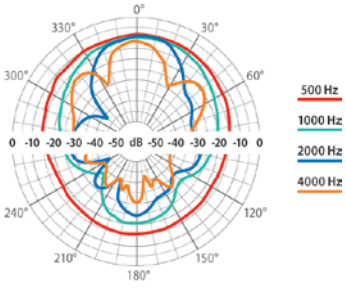


ABT-W6/AB

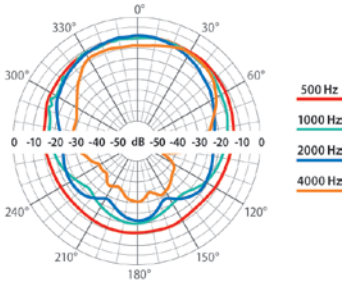
Frequency band:



Circular chart of directional characteristic – horizontal:



Circular chart of directional characteristic – vertical:



ABT-W6W

EN 54-24

WALL-MOUNTED LOUDSPEAKER

- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity: 1438-CPR-0699*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

NEW!

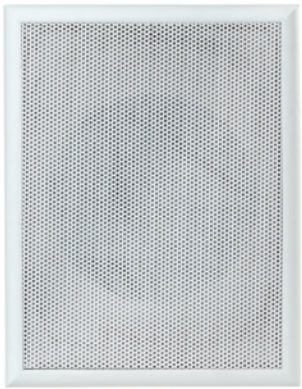
The ABT-W6W is an elegant multi-function loudspeaker designed to guarantee the highest acoustic parameters. The loudspeaker can be mounted either on a wall or on a ceiling.

Our loudspeakers are perfect on any circulation routes and in staircases located in shopping centres, offices, schools, hotels, hospitals, and industrial buildings. The loudspeaker mingles well with any interior and is virtually invisible thanks to its small dimensions and neat white finish.
The loudspeaker offers adjustable power regulation through connectivity to applicable transformer tappings thus allowing suitable acoustic pressure (the level of sound) within areas of sound emission adequately to the acoustic conditions existing in those areas.

To be quite sure our loudspeakers comply with the highest quality standards we test them thoroughly following the most meticulous procedures that warrant excellent parameters of sound emission, safety, and reliability. They are also recommended for use in any and all public address systems.

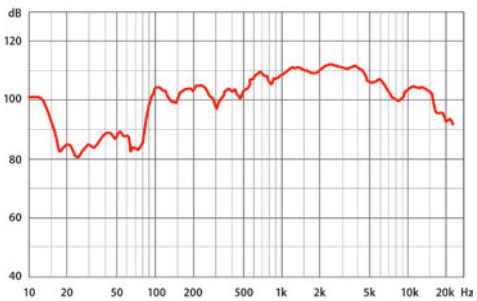
CHARACTERISTICS

- » ***Easy and quick to mount***
- » ***Modern and elegant design***
- » ***High quality sound of both speech and music***
- » ***Ideal for wall installation***
- » ***6 W transformer with multiple branches ensuring accurate selection of output power***

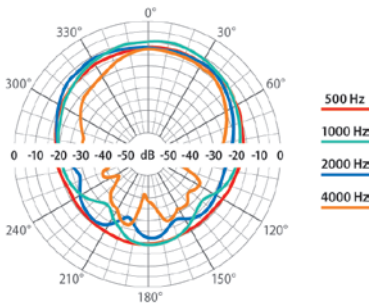


	ABT-W6W
Electrical	
Rated power, W	6
Tappings 100 V line according to EN 54-24, W	6 / 3 / 1,5 / 0,75
Tappings 70 V line, W	3 / 1,5 / 0,75 / 0,37
Transformer impedance @ 100 V, Ω	1667 / 3333 / 6667 / 13333
Driver impedance, Ω	8
Effective frequency range, Hz	130 – 20 000
Sensitivity @ 4 m, 1 W, dB	78
SPL @ 4 m, rated power, dB	84
SPL @ 1 m, 1 W, dB, test signal bandwith 300 Hz – 6 kHz	90
SPL @ 1 m, rated power, dB, test signal bandwith 300 Hz – 6 kHz	96
Horizontal dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	320 / 160 / 95 / 70
Vertical dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	290 / 140 / 100 / 70
Environmental	
Environmental type / IP rating according to EN 54-24	A / IP21C
IP rating	32
Min. / max. ambient temperature	-10°C / 55°C
Mechanical	
Dimensions, mm	254 × 196 × 78
Net weight, kg	1,8
Colour	White (RAL 9003)
Material	MDF
Mounting	Screw
Option	
For DC line monitoring	Capacitor (ABT-W6WC)
Colour optional	RAL palette
Ease Model	✓

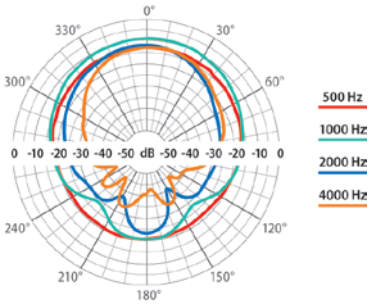
Frequency band:

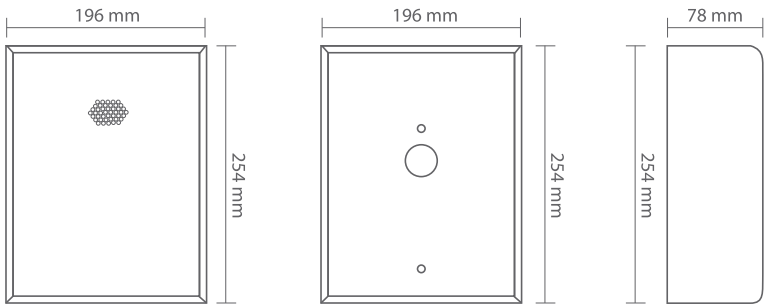


Circular chart of directional characteristic – horizontal:



Circular chart of directional characteristic – vertical:





ABT-SW176

EN 54-24

SURFACE MOUNTED LOUDSPEAKER

- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity: 1438-CPR-0738*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

NEW!

The ABT-SW176 is an elegant multi-function loudspeaker designed to guarantee the highest acoustic parameters. The loudspeaker can be mounted either on a wall or on a ceiling.

Our loudspeakers are perfect on any circulation routes and in staircases located in shopping centres, offices, schools, hotels, hospitals, and industrial buildings.

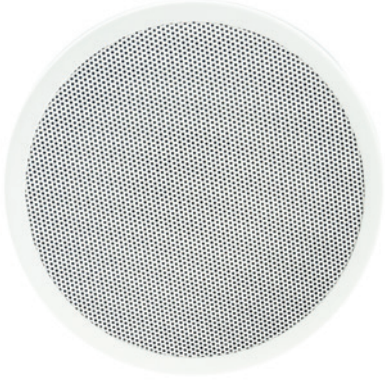
The loudspeaker mingles well with any interior and is virtually invisible thanks to its small dimensions and neat white finish.

The loudspeaker offers adjustable power regulation through connectivity to applicable transformer tappings thus allowing suitable acoustic pressure (the level of sound) within areas of sound emission adequately to the acoustic conditions existing in those areas.

To be quite sure our loudspeakers comply with the highest quality standards we test them thoroughly following the most meticulous procedures that warrant excellent parameters of sound emission, safety, and reliability. They are also recommended for use in any and all public address systems.

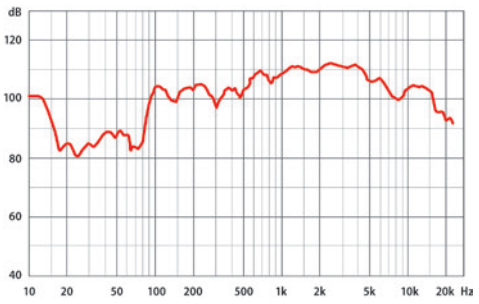
CHARACTERISTICS

- » ***Easy and quick to mount***
- » ***Modern and elegant design***
- » ***High quality sound of both speech and music***
- » ***Ideal for on-wall or on-ceiling mounting***
- » ***6 W transformer with multiple branches ensuring accurate selection of output power***

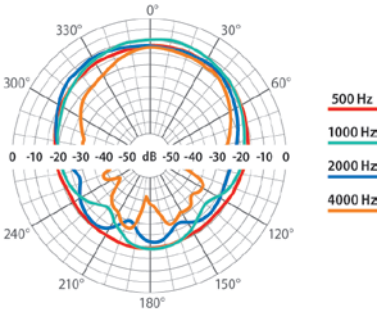


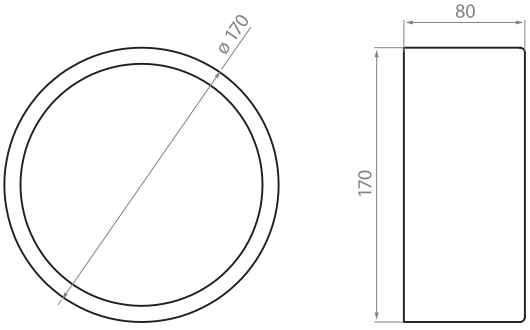
	ABT-SW176
Electrical	
Rated power, W	6
Tappings 100 V line according to EN 54-24, W	6 / 3 / 1,5 / 0,75
Tappings 70 V line, W	3 / 1,5 / 0,75 / 0,37
Transformer impedance @ 100 V, Ω	1667 / 3333 / 6667 / 13333
Driver impedance, Ω	8
Effective frequency range, Hz	130 – 20 000
Sensitivity @ 4 m, 1 W, dB	79
SPL @ 4 m, rated power, dB	85
SPL @ 1 m, 1 W, dB, test signal bandwith 300 Hz – 6 kHz	91
SPL @ 1 m, rated power, dB, test signal bandwith 300 Hz – 6 kHz	97
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	180 / 180 / 90 / 65
Environmental	
Environmental type / IP Rating according to EN 54-24	A / IP21C
IP Rating	32
Min. / max. ambient temperature	-10°C / 55°C
Mechanical	
Dimensions, mm	Height 80, ø 170
Net weight, kg	1,2
Colour	White (RAL 9003)
Material	Steel
Mounting	Screw
Option	
For DC line monitoring	Capacitor (ABT-SW176C)
Colour optional	RAL palette
Ease Model	✓

Frequency band:



Circular chart of directional characteristic:





ABT-S206B

CEILING-MOUNTED LOUDSPEAKERS

EN 54-24

- ✓ *Full compliance with EN 54-24 Standard*
- ✓ *Certificate of Conformity: 1438-CPR-0605*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

Ceiling mounted fire alarm ABT-S206B loudspeaker is designed for operations at high acoustic levels and the highest reduction in power supply. Actual wide band high efficiency ensures the best understanding of verbal messages. Its parameters have been carefully selected to comply with suspended ceiling applications, both at standard and considerably elevated ceiling-to-floor distance.

Thanks to the most advanced technologies ABT-S206B loudspeaker combines excellent acoustic parameters and high aesthetics with resistance to mechanical damages. It is distinguished by easy and quick installation.

Quality standards and audio characteristics have been confirmed through tests and trials in an anechoic chamber, resistance and integrity testing equipment, as well as chambers for resistance to weather and air humidity testing.

The ABT-S206B loudspeaker ensure a balanced sound which is extremely important in emission of highly understandable speech.

The ABT-S206B loudspeaker is noticeable thanks to its elegant looks. The loudspeaker part which becomes visible after the installation is covered by a common and aesthetic white paint coat (RAL 9003) – optionally available other colours (RAL palette).

ABT-S206B is equipped with a standardized fire dome made of soft steel and supplied with two cable penetrations with rubber glands. Special jig for sling assembling facilitates quick installation. Ceramic blocks and fireproof wiring coupled with temperature limit fuse are located inside fire dome.
The individual power rating is selected by means of connection with applicable transformer branch.

ABT-S series loudspeakers equipped with fire dome and thermal protections entirely comply with EN 54-24 Standards. In order to ensure 100% consistency with the highest quality standards we test our loudspeakers following the most meticulous procedures that warrant high parameters of sound emission, safety, and reliability.

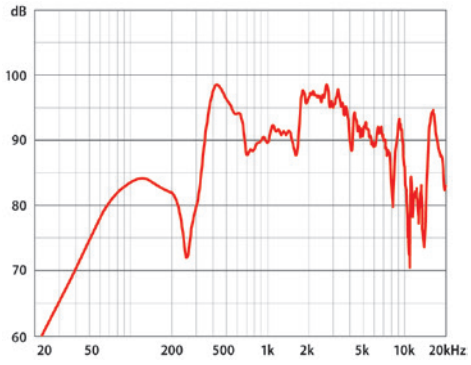
In spite of the fact our loudspeaker is designed for the highest reliability under fire conditions, their acoustic parameters and attractive low prices make them successful in any and all public address systems.

CHARACTERISTICS

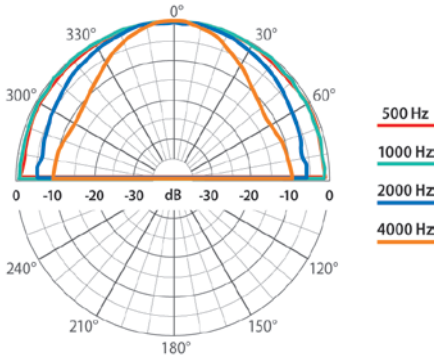
- » ***The highest level of speech intelligibility***
- » ***Elegant looks***
- » ***6 W transformer allowing a precise selection of loudspeaker output power***
- » ***100% protection of line from breaks and short-circuits***

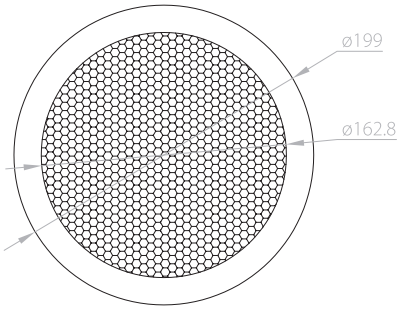
	ABT-S206B
Electrical	
Rated power, W	6
Tappings 100 V line according to EN 54-24, W	6 / 3 / 1,5 / 0,75
Tappings 70 V line, W	3 / 1,5 / 0,75 / 0,37
Transformer impedance @ 100 V, Ω	1667 / 3333 / 6667 / 13333
Driver impedance, Ω	8
Effective frequency range, Hz	120 – 20 000
Sensitivity @ 4 m, 1 W, dB	81
SPL @ 4 m, rated power, dB	88
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz – 6 kHz	93
SPL @ 1 m, rated power, dB, test signal bandwidth 300 Hz – 6 kHz	101
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	180 / 180 / 95 / 70
Environmental	
Environmental type / IP rating according to EN 54-24	A / IP21C
IP rating	32C
Min. / max. ambient temperature	-10°C / 55°C
Mechanical	
Dimensions, mm	Height 115, ø 199
Net weight, kg	1,13
Colour	White (RAL 9003) / Black (RAL 9011)
Material	Steel
Mounting	Spring clamp
Cut-out, mm	ø 175
Option	
For DC line monitoring	Capacitor (ABT-S206BC)
Colour optional	RAL palette
Ease Model	✓

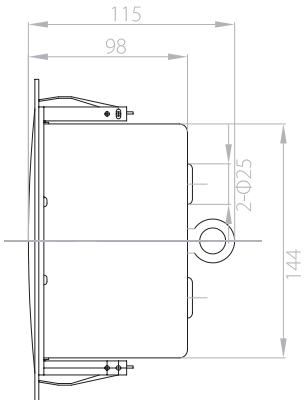
Frequency band:



Circular chart of directional characteristic:



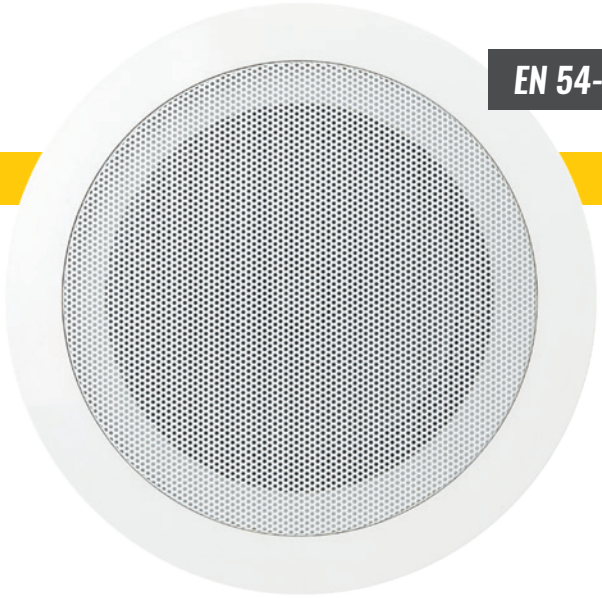




ABT-S186

EN 54-24

CEILING-MOUNTED LOUDSPEAKERS



- ✓ *Full compliance with EN 54-24 Standard*
- ✓ *Certificate of Conformity: 1438-CPR-0648*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

Ceiling mounted fire alarm ABT-S186 loudspeaker is designed for operations at high acoustic levels. Actual wide band high efficiency ensures the best understanding of verbal messages. Its parameters have been carefully selected to comply with suspended ceiling applications.

Thanks to the most advanced technologies ABT-S186 loudspeaker combines excellent acoustic parameters and high aesthetics. It is distinguished by easy and quick installation.

Quality standards and audio characteristics have been confirmed through tests and trials in an anechoic chamber, resistance and integrity testing equipment, as well as chambers for resistance to weather and air humidity testing.

The ABT-S186 loudspeaker ensure a balanced sound which is extremely important in emission of highly understandable speech.

ABT-S186 is equipped with a standardized fire dome made of ABS and supplied with two cable penetrations with rubber glands.

The individual power rating is selected by means of connection with applicable transformer branch.

ABT-S186 loudspeaker equipped with fire dome, ceramic block and thermal protections entirely comply with EN 54-24 Standard. In order to ensure 100% consistency with the highest quality standards we test our loudspeakers following the most meticulous procedures that warrant high parameters of sound emission, safety, and reliability.

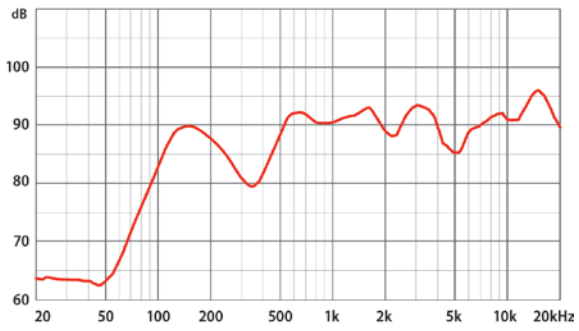
In spite of the fact our loudspeaker is designed for the highest reliability under fire conditions, their acoustic parameters and attractive low prices make them successful in any and all public address systems.

CHARACTERISTICS

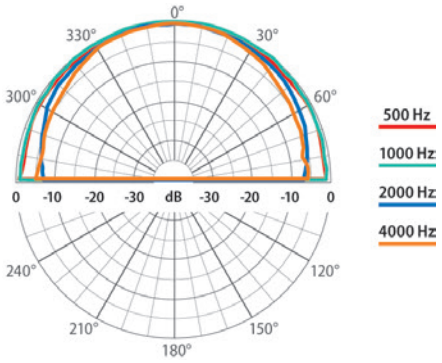
- » ***The highest level of speech intelligibility***
- » ***Elegant looks***
- » ***6 W transformer allowing a precise selection of loudspeaker output power***
- » ***100% protection of line from breaks and short-circuits***

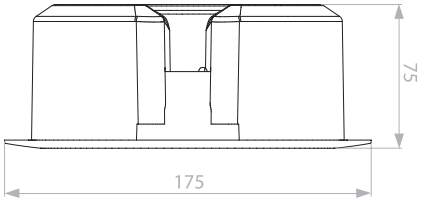
	ABT-S186
Electrical	
Rated power, W	6
Tappings 100 V line according to EN 54-24, W	6 / 3 / 1,5 / 0,75
Tappings 70 V line, W	3 / 1,5 / 0,75 / 0,37
Transformer impedance, Ω	1667 / 3333 / 6667 / 13333
Driver impedance, Ω	8
Effective frequency range, Hz	120 – 20 000
Sensitivity @ 4 m, 1 W, dB	79
SPL @ 4 m, rated power, dB	86
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz – 6 kHz	91
SPL @ 1 m, rated power, dB, test signal bandwidth 300 Hz – 6 kHz	99
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	180 / 180 / 150 / 90
Environmental	
Environmental type / IP rating according to EN 54-24	A / IP21C
IP rating	32C
Min. / max. ambient temperature	-10°C / 55°C
Mechanical	
Dimensions, mm	Height 75, ø 175
Net weight, kg	0,66
Colour	White (RAL 9003)
Material	ABS
Mounting	Spring clamp
Cut-out, mm	ø 150
Option	
For DC line monitoring	Capacitor (ABT-S186C)

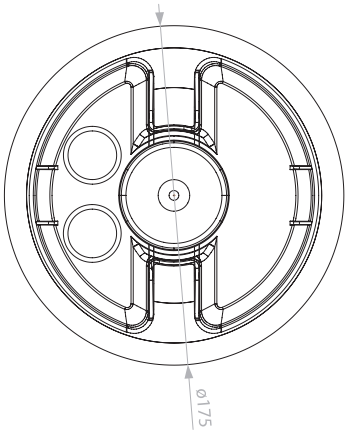
Frequency band:



Circular chart of directional characteristic:





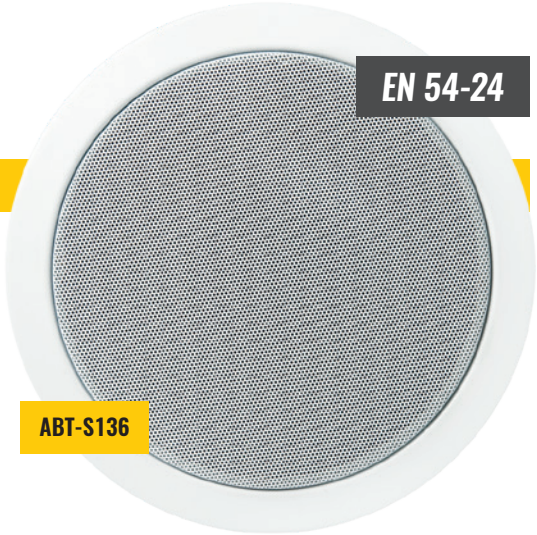


ABT-S106 / ABT-S136

EN 54-24

CEILING-MOUNTED LOUDSPEAKERS

- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity: 1438-CPR-0635*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*



Ceiling-mounted fire alarm loudspeakers ABT-S106 and ABT-S136 are designed for applications which require the minimum size at the maximum sound quality. Their parameters have been carefully selected to match the operating requirements in the rooms exposed to after-sound and high-humidity.

Thanks to the most advanced technologies the ABT-S series loudspeakers combine excellent acoustic parameters and high aesthetics with resistance to mechanical damages and varying weather conditions. They are distinguished by easy and quick installation.

Quality standards and audio characteristics have been confirmed through tests and trials in an anechoic chamber, resistance and integrity testing equipment, as well as chambers for resistance to weather and air humidity testing.

The need to maintain the best acoustic parameters, even with easily installed fire-protecting screens, was the idea underlying the design process. The ABT-S series loudspeakers ensure a balanced sound which is extremely important in emission of highly understandable speech and reliable music reproduction.

The series of ceiling-mounted ABT-S loudspeakers is noticeable thanks to its elegant looks. The loudspeaker part which becomes visible after the installation is protected by means of electroplating and covered by a common and aesthetic white paint coat (RAL 9003) – optionally available other colours (RAL palette).

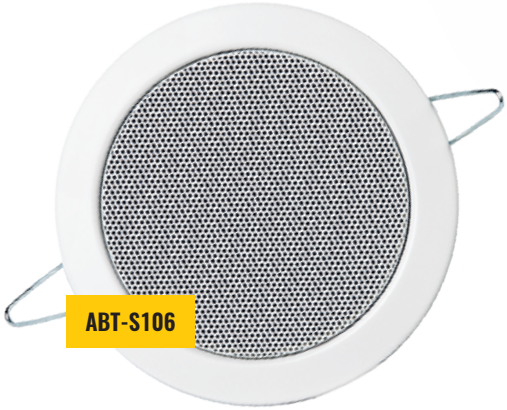
The entire ABT-S series is equipped with a standardized fire dome made of soft steel and supplied with two cable penetrations with rubber glands. Special jig for sling assembling facilitates quick installation. The delivery comprises the 1-metre long sling. Two ceramic blocks and fireproof wiring coupled with temperature limit fuse are located under the screen. This solution ensures 100% protection of the sound-transmitting line from any break or short-circuits which may be produced as a result of loudspeaker burn. The individual power rating is selected by means of connection with applicable transformer branch.

ABT-S series loudspeakers equipped with fire dome and thermal protections entirely comply with EN 54-24 Standards. In order to ensure 100% consistency with the highest quality standards we test our loudspeakers following the most meticulous procedures that warrant high parameters of sound emission, safety, and reliability.

In spite of the fact our loudspeakers are designed for the highest reliability under fire conditions, their acoustic parameters and attractive low prices make them successful in any and all public address systems.

CHARACTERISTICS

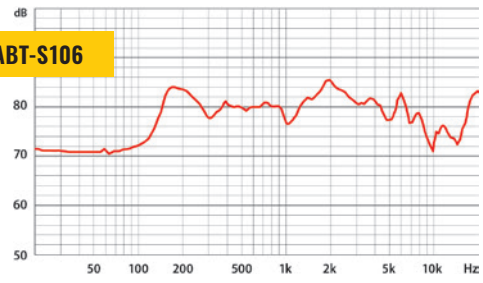
- » ***Minimum dimensions***
- » ***A and C working environment, ideal for bathrooms***
- » ***Exceptionally reliable reproduction of full band music***
- » ***The highest level of speech intelligibility***
- » ***Elegant looks***
- » ***6 W transformer allowing a precise selection of loudspeaker output power***
- » ***100% protection of line from breaks and short-circuits***



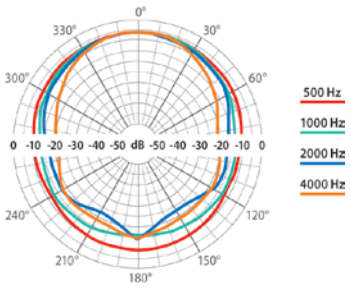
	ABT-S106	ABT-S136
Electrical		
Rated power, W	6	6
Tappings 100 V line according to EN 54-24, W	6 / 3 / 1,5 / 0,75	6 / 3 / 1,5 / 0,75
Tappings 70 V line, W	3 / 1,5 / 0,75 / 0,38	3 / 1,5 / 0,75 / 0,38
Transformer impedance @ 100 V, Ω	1667 / 3333 / 6667 / 13333	1667 / 3333 / 6667 / 13333
Driver impedance, Ω	8	8
Effective frequency range, Hz	100 – 20000	60 – 20000
Sensitivity @ 4 m, 1 W, dB	65	68
SPL @ 4 m, rated power, dB	76	78
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz – 6 kHz	80	82
SPL @ 1 m, rated power, dB, test signal bandwidth 300 Hz – 6 kHz	88	90
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	180 / 180 / 170 / 150	180 / 180 / 170 / 90
Environmental		
Environmental type / IP rating according to EN 54-24	A, C / IP21C	A, C / IP21C
IP rating	32	32
Min. / max. ambient temperature	-10°C / 55°C	-10°C / 55°C
Mechanical		
Dimensions, mm	Height 111, ø 104	Height 113, ø 134
Net weight, kg	0,72	0,82
Colour	White (RAL 9003)	
Material	Steel	
Mounting	Spring clamp	
Cut-out, mm	ø 85	ø 106
Option		
For DC line monitoring	Capacitor	
Colour optional	RAL palette	
Ease Model	✓	

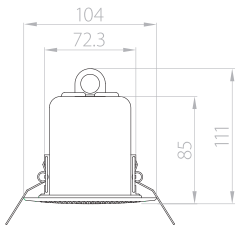
Frequency band:

ABT-S106



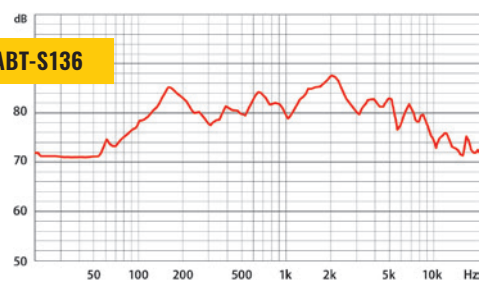
Circular chart of directional characteristic:



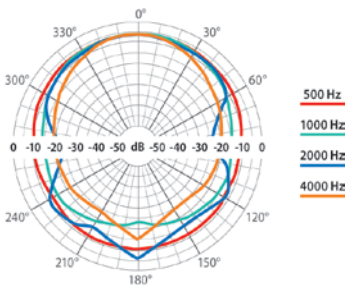


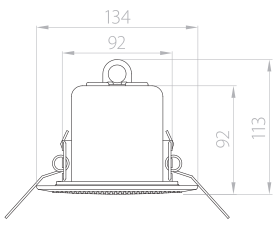
Frequency band:

ABT-S136



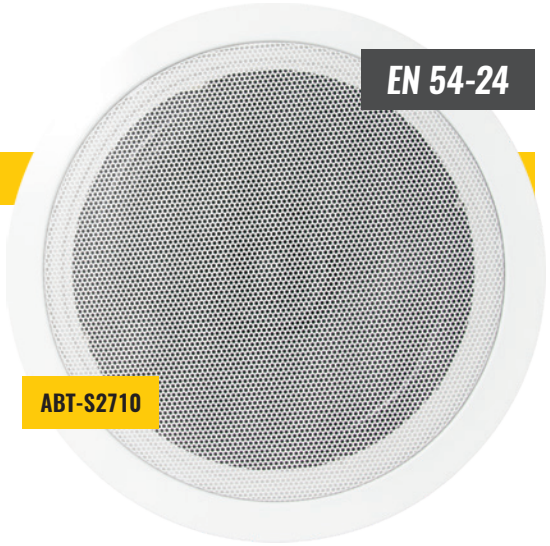
Circular chart of directional characteristic:





ABT-S2010 / ABT-S2710

CEILING-MOUNTED LOUDSPEAKERS



- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity: 1488-CPR-0170/W*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

Ceiling mounted fire alarm ABT-S2010 and ABT-S2710 loudspeakers are designed for operations at high acoustic levels and the highest reduction in power supply. Actual wide band high efficiency ensures the best understanding of verbal messages. Their parameters have been carefully selected to comply with false ceiling applications, both at standard and considerably elevated ceiling-to-floor distance.

Thanks to the most advanced technologies the ABT-S series loudspeakers combine excellent acoustic parameters and high aesthetics with resistance to mechanical damages and varying weather conditions. They are distinguished by easy and quick installation.

Quality standards and audio characteristics have been confirmed through tests and trials in an anechoic chamber, resistance and integrity testing equipment, as well as chambers for resistance to weather and air humidity testing.

The need to maintain the best acoustic parameters, even with easily installed fire-protecting screens, was the idea underlying the design process. The ABT-S series loudspeakers ensure a balanced sound which is extremely important in emission of highly understandable speech and reliable music reproduction.

The series of ceiling-mounted ABT-S loudspeakers is noticeable thanks to its elegant looks. The loudspeaker part which becomes visible after the installation is protected by means of electroplating and covered by a common and aesthetic white paint coat (RAL 9003) – optionally available other colours (RAL palette).

The entire ABT-S series is equipped with a standardized fire dome made of soft steel and supplied with two cable penetrations with rubber glands. Special jig for sling assembling facilitates quick installation. The delivery comprises the 1-metre long sling. Two ceramic blocks and fireproof wiring coupled with temperature limit fuse are located under the screen. This solution ensures 100% protection of the sound-transmitting line from any break or short-circuits which may be produced as a result of loudspeaker burn. The individual power rating is selected by means of connection with applicable transformer branch.

ABT-S series loudspeakers equipped with fire dome and thermal protections entirely comply with EN 54-24 Standards. In order to ensure 100% consistency with the highest quality standards we test our loudspeakers following the most meticulous procedures that warrant high parameters of sound emission, safety, and reliability.

In spite of the fact our loudspeakers are designed for the highest reliability under fire conditions, their acoustic parameters and attractive low prices make them successful in any and all public address systems.

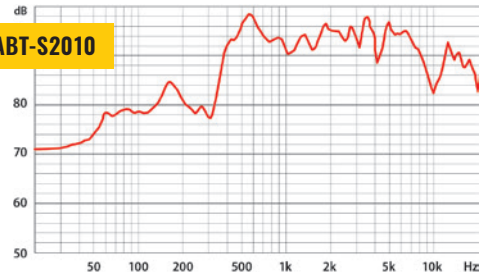
CHARACTERISTICS

- » ***High efficiency***
- » ***High acoustic pressure level***
- » ***Exceptionally reliable full band music reproduction***
- » ***The highest level of speech intelligibility***
- » ***Elegant looks***
- » ***10 W transformer allowing precise selection of loudspeaker output power***
- » ***100% protection of line from breaks and short-circuits***

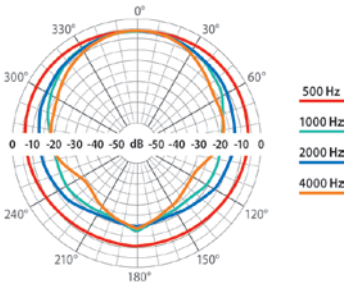
	ABT-S2010	ABT-S2710
Electrical		
Rated power, W	10	10
Tappings 100 V line according to EN 54-24, W	10 / 5 / 2,5 / 1,25	10 / 5 / 2,5 / 1,25
Tappings 70 V line, W	5 / 2,5 / 1,25 / 0,625	5 / 2,5 / 1,25 / 0,625
Transformer impedance @ 100 V, Ω	1000 / 2000 / 4000 / 8000	1000 / 2000 / 4000 / 8000
Driver impedance, Ω	8	8
Effective frequency range, Hz	150–20000	100–20000
Sensitivity @ 4 m, 1 W, dB	77	78
SPL @ 4 m, rated power, dB	90	92
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz–6 kHz	94	95
SPL @ 1 m, rated power, dB, test signal bandwidth 300 Hz–6 kHz	104	105
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	180 / 170 / 115 / 55	180 / 170 / 90 / 60
Environmental		
Environmental type / IP rating according to EN 54-24	A / IP21C	A / IP21C
IP rating	32	32
Min. / max. ambient temperature	-10°C / 55°C	-10°C / 55°C
Mechanical		
Dimensions, mm	Height 110, ø 200	Height 120, ø 267
Net weight, kg	1,4	1,75
Colour	White (RAL 9003)	
Material	Steel	
Mounting	Spring clamp	
Cut-out, mm	ø 172	ø 222
Option		
For DC line monitoring	Capacitor	
Colour optional	RAL Palette	
Ease Model	✓	

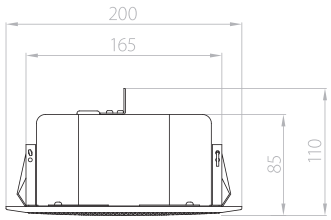
Frequency band:

ABT-S2010



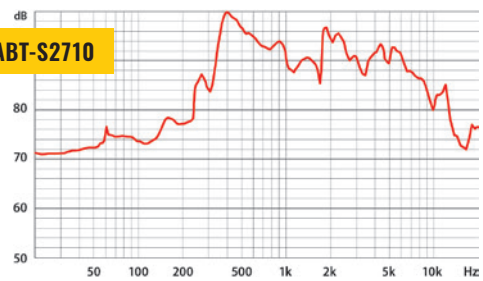
Circular chart of directional characteristic:



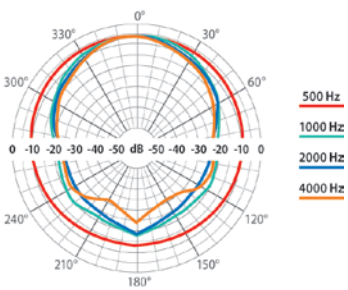


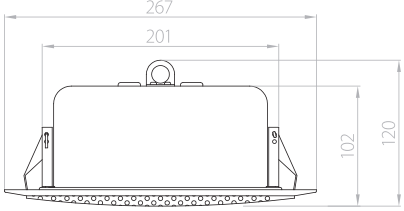
Frequency band:

ABT-S2710



Circular chart of directional characteristic:





ABT-P10 / ABT-P10P

EN 54-24

SOUND PROJECTORS

- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity: 1438-CPR-0701*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

NEW!

Fire alarm ABT-P10, ABT-P10P loudspeakers have been designed and manufactured for the most demanding customers as well as to meet the requirements of the most complex and sophisticated sound transmitting applications. Thanks to the contribution of advanced technologies they combine excellent acoustic parameters and high aesthetics with resistance to mechanical damages and varying weather conditions as well as low prices. Their additional quality is an exceptionally quick and simple installation.

Quality standards and audio characteristics have been confirmed through tests and trials in an anechoic chamber, resistance and integrity testing equipment, as well as chambers for resistance to weather and air humidity testing. The need to maintain the best acoustic parameters was the idea underlying the design process.

ABT-P loudspeaker models emitting the sound which features directional characteristic and high efficiency. 5-inch 2-cone wide band loudspeakers used in these series are excellent alternative solution for horn-type units due to wide frequency band. They prove excellent in both musical and verbal applications. ABT-P10 and ABT-P10P loudspeakers are enclosed in round casings made of resistant and durable ABS; they feature a high class of protection from humidity. Thanks to directional characteristic of sound propagation our loudspeakers are mostly applied on circulation routes and in wide area sound emission. Due to resistance to weather conditions the loudspeakers prove excellent in industrial halls, warehouses, as well as partly open spaces exposed to outdoor weather conditions.

Apart from high mechanical and functional resistance ABT-P loudspeakers entirely comply with global requirements for systems, including also the British Standard No. BS5839 Part 8 and EN 54-24.

All ABT-P loudspeakers have built-in a ceramic connection block and a thermal fuse. Two sound-transmission cable penetrations in the casing are insulated by means of two cable glands. Inside the fire zone the loudspeaker is isolated from the entire line, which ensures line continuity and uninterrupted broadcasting of emergency messages. The individual power rating is selected by means of connection with applicable transformer branch.

ABT-P loudspeakers are designed for continuous operations at rated parameters for at least 100 hours in compliance with the IEC-268-5 Standard.

ABT-P10P loudspeakers are designed for pendant mounting. They are equipped with an additional junction box enabling simple and quick speaker installation. They are used wherever the distance from ceiling mounted speaker is too large.

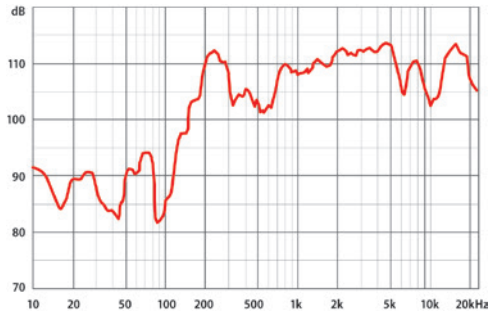
CHARACTERISTICS

- » ***Designed to achieve directional characteristic of sound emission***
- » ***10 W transformer with multiple branches ensuring accurate selection of output power***
- » ***Enclosed in an advance and functional cylindrical casing made of resistant and durable ABS***
- » ***Ideal for either ceiling or wall installation***
- » ***Durable casing with ceramic block and thermal fuse***
- » ***High sound quality in music and speech emission***

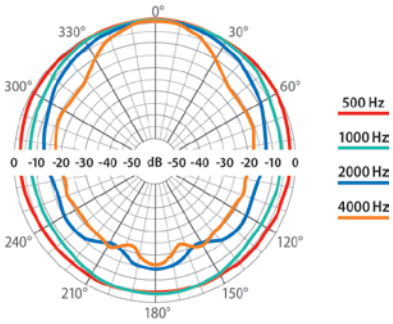
	ABT-P10 / ABT-P10P
Electrical	
Rated power, W	10
Tappings 100 V line according to EN 54-24, W	10 / 5 / 2,5 / 1,25
Tappings 70 V line, W	5 / 2,5 / 1,25 / 0,625
Transformer impedance @ 100 V, Ω	1000 / 2000 / 4000 / 8000
Driver impedance, Ω	8
Effective frequency range, Hz	130 – 20000
Sensitivity @ 4 m, 1 W, dB	80
SPL @ 4 m, rated power, dB	88
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz – 6 kHz	92
SPL @ 1 m, rated power, dB, test signal bandwidth 300 Hz – 6 kHz	100
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	360 / 210 / 120 / 65
Environmental	
Environmental type / IP rating according to EN 54-24	B / IP33C
IP rating*	66
Min. / max. ambient temperature	-25°C / 70°C
Mechanical	
Dimensions, mm	Length 205, ø 135
Net weight, kg	1,6
Colour	White (RAL 9003)
Material	ABS
Mounting	Screw, U type bracket
Option	
For DC line monitoring	Capacitor (ABT-P10C / ABT-P10PC)
Colour optional	RAL palette
Ease Model	✓

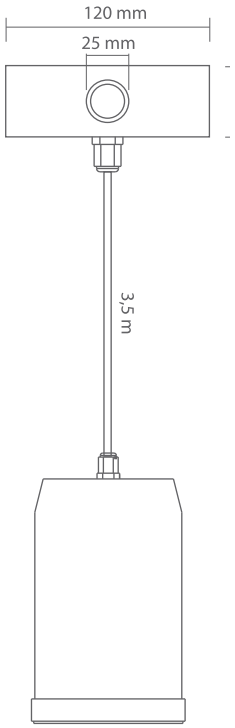
* not confirmed by CNBOP-PIB

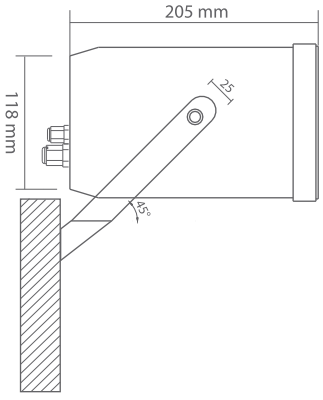
Frequency band:

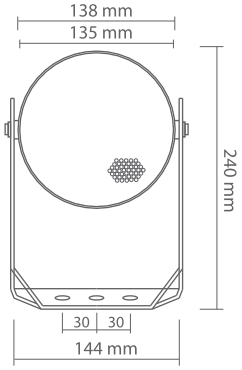


Circular chart of directional characteristic:









ABT-P20 / ABT-P20P

EN 54-24

SOUND PROJECTORS

- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity: 1438-CPR-0702*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

NEW!

Fire alarm ABT-P20, ABT-P20P loudspeakers have been designed and manufactured for the most demanding customers as well as to meet the requirements of the most complex and sophisticated sound transmitting applications. Thanks to the contribution of advanced technologies they combine excellent acoustic parameters and high aesthetics with resistance to mechanical damages and varying weather conditions as well as low prices. Their additional quality is an exceptionally quick and simple installation.

Quality standards and audio characteristics have been confirmed through tests and trials in an anechoic chamber, resistance and integrity testing equipment, as well as chambers for resistance to weather and air humidity testing. The need to maintain the best acoustic parameters was the idea underlying the design process.

ABT-P loudspeaker models emitting the sound which features directional characteristic and high efficiency. 5-inch 2-cone wide band loudspeakers used in these series are excellent alternative solution for horn-type units due to wide frequency band. They prove excellent in both musical and verbal applications. ABT-P20 and ABT-P20P loudspeakers are enclosed in round casings made of extruded aluminium; they feature a high class of protection from humidity. Thanks to directional characteristic of sound propagation our loudspeakers are mostly applied on circulation routes and in wide area sound emission. Due to resistance to weather conditions the loudspeakers prove excellent in industrial halls, warehouses, as well as partly open spaces exposed to outdoor weather conditions.

Apart from high mechanical and functional resistance ABT-P loudspeakers entirely comply with global requirements for systems, including also the British Standard No. BS5839 Part 8 and EN 54-24.

Technical solutions applied in the design ensure continuous operations of sound-transmitting line connected with the loudspeaker even in the case the latter is damaged or burnt as a result of fire. The said protection is composed of ceramic blocks installed inside the loudspeaker, internal fireproof wiring, and temperature limit fuse. Two sound-transmission cable penetrations in the casing are insulated by means of two cable glands. Inside the fire zone the loudspeaker is isolated from the entire line, which ensures line continuity and uninterrupted broadcasting of emergency messages. The individual power rating is selected by means of connection with applicable transformer branch.

ABT-P loudspeakers are designed for continuous operations at rated parameters for at least 100 hours in compliance with the IEC-268-5 Standard.

ABT-P20P loudspeakers are designed for pendant mounting. They are equipped with an additional junction box enabling simple and quick speaker installation. They are used wherever the distance from ceiling mounted speaker is too large.

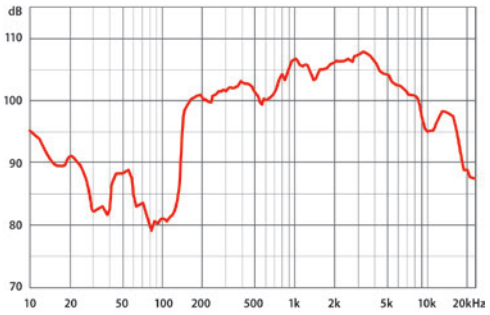
CHARACTERISTICS

- » ***Designed to achieve directional characteristic of sound emission***
- » ***20 W transformer with multiple branches ensuring accurate selection of output power***
- » ***Enclosed in an advance and functional cylindrical casing made of extruded aluminium***
- » ***Ideal for either ceiling or wall installation***
- » ***Fireproof casing with ceramic block and thermal fuse***
- » ***High sound quality in music and speech emission***

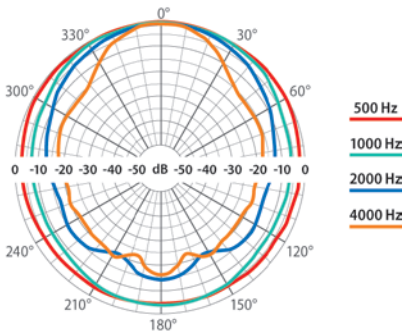
	ABT-P20 / ABT-P20P
Electrical	
Rated power, W	20
Tappings 100 V line according to EN 54-24, W	20 / 10 / 5 / 2,5
Tappings 70 V line, W	10 / 5 / 2,5 / 1,25
Transformer impedance @ 100 V, Ω	500 / 1000 / 2000 / 4000
Driver impedance, Ω	8
Effective frequency range, Hz	130 – 20000
Sensitivity @ 4 m, 1 W, dB	79
SPL @ 4 m, rated power, dB	90
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz – 6 kHz	91
SPL @ 1 m, rated power, dB, test signal bandwidth 300 Hz – 6 kHz	102
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	360 / 230 / 110 / 65
Environmental	
Environmental type / IP rating according to EN 54-24	B / IP33C
IP rating*	66
Min. / max. ambient temperature	-25°C / 70°C
Mechanical	
Dimensions, mm	Length 210, ø 143
Net weight, kg	2,4
Colour	White (RAL 9003)
Material	Aluminium
Mounting	Screw, U type bracket
Option	
For DC line monitoring	Capacitor (ABT-P20C / ABT-P20PC)
Colour optional	RAL palette
Model Ease	✓

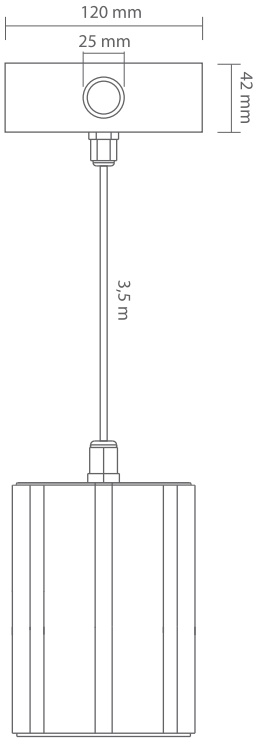
* not confirmed by CNBOP-PIB

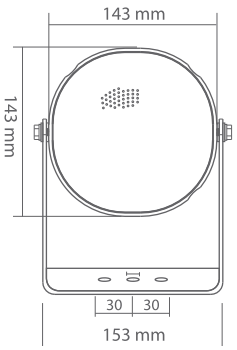
Frequency band:

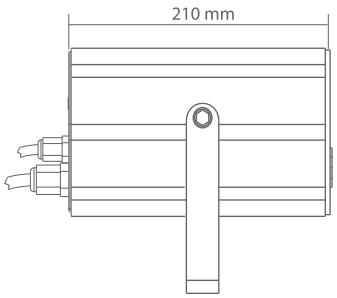


Circular chart of directional characteristic:









ABT-T1510/T2215/T2430/T2435

EN 54-24

HORN-TYPE LOUDSPEAKERS

- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity issued by CNBOP: 1438-CPR-0640*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

Horn-type fire alarm ABT-T loudspeakers are designed for either simple or most complex and sophisticated sound-transmitting applications. They combine excellent acoustic parameters and high aesthetics with resistance to mechanical damages and varying weather conditions as well as simple assembling and low price. Quality standards and audio characteristics have been confirmed through tests and trials in an anechoic chamber, resistance and integrity testing equipment, as well as chambers for resistance to weather and air humidity testing.
The ABT-T series comprises highly efficient loudspeakers which produce sounds featuring directional characteristics and operate in any atmospheric conditions (A, B, C environmental type). Thanks to their balanced frequency band they guarantee high understanding of verbal communication. Their casings are made of ABS UL94V0, a synthetic material featuring high resistance to mechanical damages and self-extinguishing properties. Loudspeakers are perfectly protected from dust and humidity (IP66). The assembling jig ensures adjusting the inclination for the optimum coverage of the area of communications.

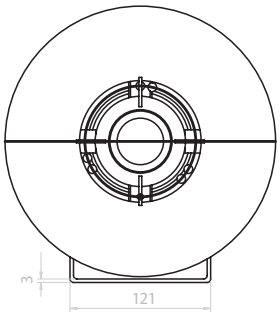
ABT-T loudspeakers are applied on circulation routes and inside the rooms with high reverberation time as well as in widespread outdoor area broadcasting. They are perfect for sport sites, at swimming pools, in expo and industrial halls, warehouses, open and underground car parks, and in open areas such as stadiums, parks, etc.
ABT-T loudspeakers entirely comply with global requirements concerning evacuation systems, including the standards such as BS5839 Part 8 and EN 54-24. They have been certified for product compliance and acceptance by CNBOP. Ceramic blocks, internal flame-resistant wiring, and temperature limit fuses protect the broadcasting line from short-circuits or breaks and ensure continuous operations even in case of fire-produced damages or burns. The loudspeaker located in the zone of fire is isolated from the sound-transmitting line. A special design eliminates the risk of fall of any of its burnt components, which ensures safe fire escape process.

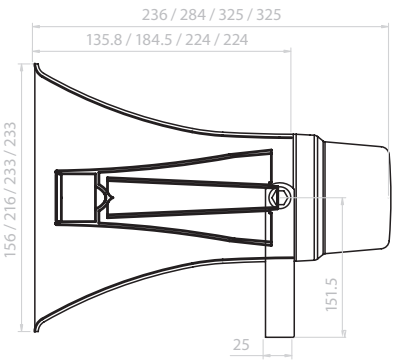
Our ABT-T loudspeaker offer comprises four power rating models, i.e. 10 W, 15 W, 30 W and 35 W. The individual rated power is selected by means of connection with applicable transformer branch. All the ABT-T loudspeakers are designed so as to ensure continuous operations at rated parameters for at least 100 hours (consistent with IEC-268-5 Standard).

In spite of the fact our loudspeakers are designed for the highest reliability under fire conditions, they can be also used in any and all public address systems.

CHARACTERISTICS

- » ***Directional characteristic of sound emission and the highest verbal communication understanding***
- » ***All the working environments – A, B and C***
- » ***Wall and ceiling installation***
- » ***Protection from dust and humidity: IP66 rating***
- » ***Casing made of self-extinguishing ABS UL94V0 plastic, with steel assembling jig***
- » ***100% line protection from short-circuit and break in fire conditions***

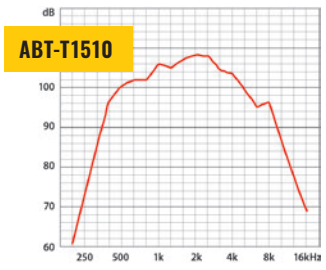




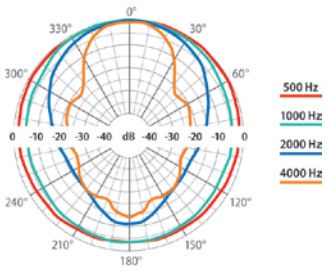
	ABT-T1510	ABT-T2215	ABT-T2430	ABT-T2435
Electrical				
Rated power, W	10	15	30	35
Tappings 100 V line according to EN 54-24, W	10 / 5 / 2,5 / 1,25	15 / 7,5 / 3,75 / 1,87	30 / 15 / 7,5 / 3,75	35 / 17,5 / 8,75 / 4,38
Tappings 70 V line, W	5 / 2,5 / 1,25 / 0,62	7,5 / 3,75 / 1,87 / 0,94	15 / 7,5 / 3,75 / 1,87	17,5 / 8,75 / 4,38 / 2,19
Transformer impedance @ 100 V, Ω	1000 / 2000 / 4000 / 8000	667 / 1330 / 2770 / 5330	333 / 666 / 1330 / 2660	285 / 571 / 1142 / 2284
Driver impedance, Ω	8	8	8	8
Effective frequency range, Hz	340 – 9000	460 – 9000	400 – 7500	400 – 7500
Sensitivity @ 4 m, 1 W, dB	86	87	88	88
SPL @ 4 m, rated power, dB	96	100	103	103
SPL @ 1 m, 1 W, dB, test signal bandwidth 300 Hz – 6 kHz	103	104	105	105
SPL @ 1 m, rated power, dB, test signal bandwidth 300 Hz – 6 kHz	113	116	120	120
Dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	240 / 200 / 88 / 45	180 / 121 / 68 / 36	180 / 120 / 75 / 41	180 / 120 / 75 / 41
Environmental				
Environmental type / IP rating according to EN 54-24	B / IP33C			
IP rating	66			
Min. / max. ambient temperature	-25 °C / 70 °C			
Mechanical				
Dimensions, mm	Length 236, ø 156	Length 284, ø 216	Length 325, ø 233	Length 325, ø 233
Net weight, kg	1,75	1,95	2,20	2,20
Colour	Light grey (RAL 7035)			
Material	ABS UL94V0			
Mounting	Screw, U type bracket			
Option				
For DC line monitoring	Capacitor			
Colour optional	RAL palette			
Ease Model	✓			

Frequency band:

ABT-T1510

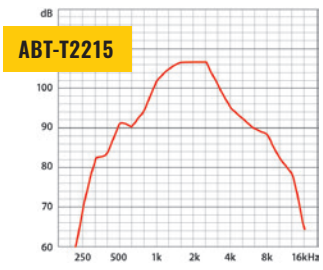


Circular chart of directional characteristic:

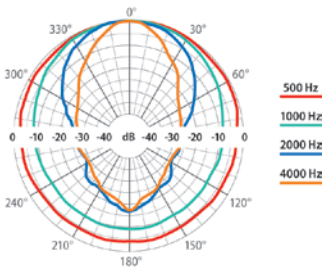


Frequency band:

ABT-T2215

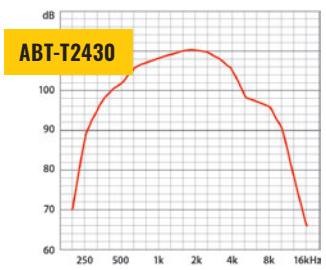


Circular chart of directional characteristic:

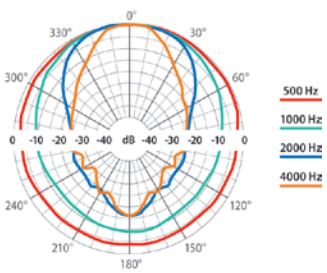


Frequency band:

ABT-T2430

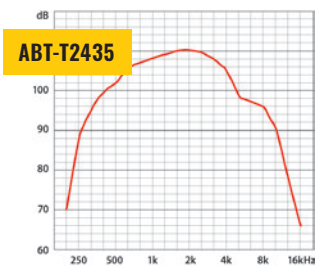


Circular chart of directional characteristic:

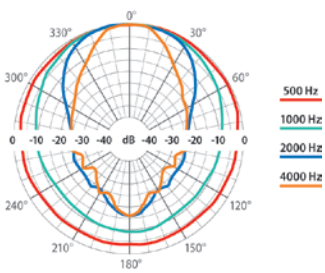


Frequency band:

ABT-T2435



Circular chart of directional characteristic:



ABT-HP240EN
ABT-HP120EN

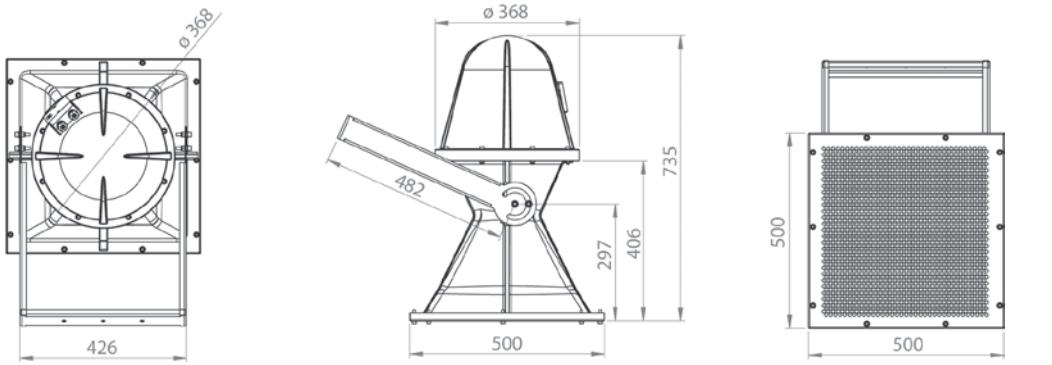
EN 54-24

HIGH POWER LOUDSPEAKER

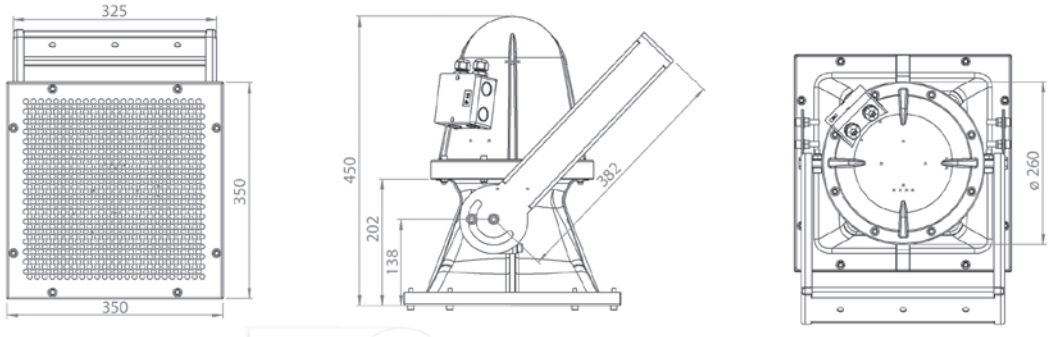
- ✓ *Compliance with EN 54-24*
- ✓ *Certificate of Conformity issued by CNBOP: 1438-CPR-0482*
- ✓ *240 W and 120 W transformers 100 V*
- ✓ *Highest level of speech intelligibility*
- ✓ *Waterproof housing IP65*
- ✓ *Wide frequency range suitable for music*
- ✓ *Compliance with BS5839-8 standard (thermal protection)*

ABT-HP240EN and ABT-HP120HP are powerful loudspeakers designed for sport venues. They are two-way loudspeaker equipped with electroacoustic transducers 12" + 1,75" and 8" + 1,3".
These speakers sets have a wide effective frequency band, which is perfect for the transmission of verbal and musical communication.
Universal mounting method allows to mount the speakers in a simple manner. Waterproof housing makes that it can be successfully used outdoors (stadiums, halls, etc.).
ABT-HP240EN and ABT-HP120EN are equipped with the necessary instrumentation required to connect them to the voice evacuation system. Between the ceramic block and speaker transformer there is installed thermal fuse isolating transformer from a loudspeaker line.

ABT-HP240EN



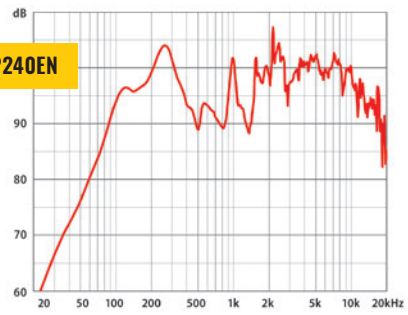
ABT-HP120EN



	ABT-HP240EN66	ABT-HP240EN94	ABT-HP120EN66	ABT-HP120EN94
Electrical				
Number of transducers	2	2	2	2
Rated power, W	240	240	120	120
Tappings 100 V line according to EN 54-24, W	240 / 120 / 60	240 / 120 / 60	120 / 60 / 30	120 / 60 / 30
Tappings 70 V line, W	120 / 60 / 30	120 / 60 / 30	60 / 30 / 15	60 / 30 / 15
Transformer impedance @ 100 V, Ω	42 / 84 / 167	42 / 84 / 167	84 / 167 / 333	84 / 167 / 333
Driver impedance, Ω	8	8	8	8
Effective frequency range, Hz	65 – 20 000	65 – 20 000	85 – 20 000	85 – 20 000
Sensitivity @ 4 m, 1 W, dB	84	84	81	81
SPL @ 4 m, rated power, dB	108	108	105	105
SPL @ 1 m, 1 W, dB	96	96	93	93
SPL @ 1 m, rated power, dB	120	120	117	117
Horizontal dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	110 / 60 / 65 / 55	110 / 60 / 85 / 55	160 / 90 / 45 / 35	165 / 120 / 80 / 60
Vertical dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	105 / 60 / 65 / 55	105 / 65 / 80 / 65	160 / 90 / 45 / 35	160 / 100 / 65 / 45
Environmental				
Environmental type / IP rating according to EN 54-24	B / IP33C			
IP rating	IP65			
Min./max. ambient temperature	-25°C / 70°C			
Mechanical				
Dimensions, mm	500 × 500 × 735	500 × 500 × 735	350 × 350 × 450	350 × 350 × 450
Net weight, kg	29	29	16	16
Colour	Black (RAL 9005)			
Material	Glass fiber			
Mounting	U type bracket			
Option				
Colour optional	RAL palette			
Ease Model	✓			

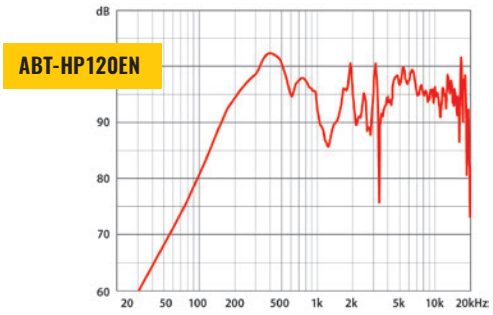
Frequency band:

ABT-HP240EN



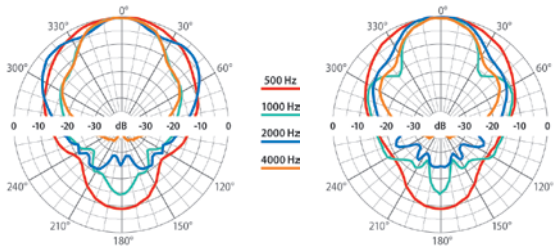
Frequency band:

ABT-HP120EN

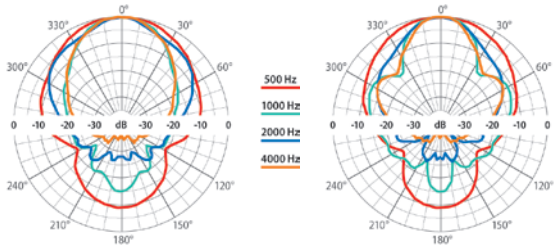


horizontal << circular chart of directional characteristic >> vertical

ABT-HP240EN66

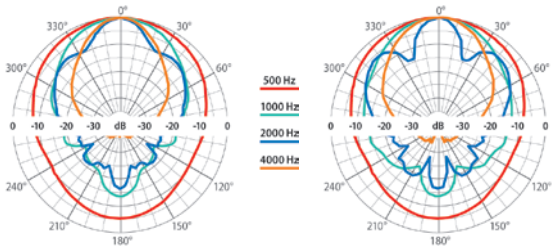


ABT-HP240EN94

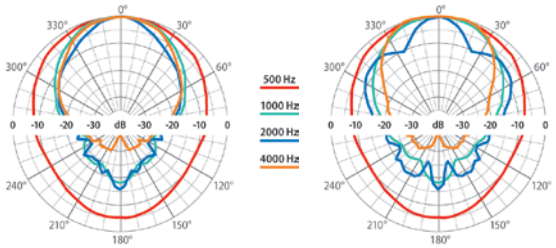


horizontal << circular chart of directional characteristic >> vertical

ABT-HP120EN66



ABT-HP120EN94



ABT-TNL100 / ABT-TNL100-1

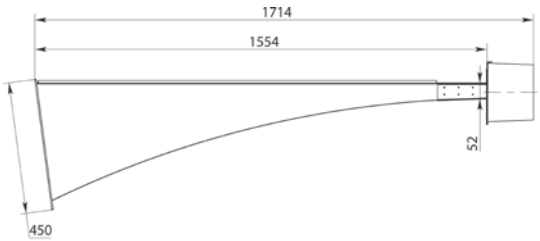
HIGHLY DIRECTIONAL TUNNEL LOUDSPEAKERS

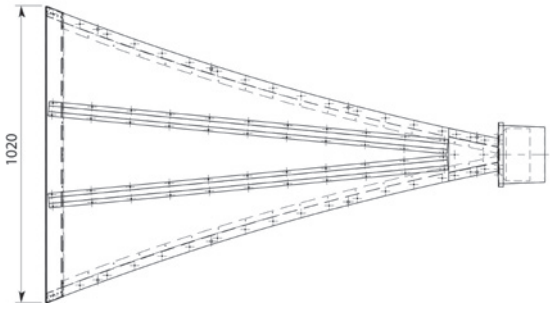
- ✓ *Specially designed for tunnel applications*
- ✓ *Highly directional asymmetric horn*
- ✓ *Excellent speech intelligibility*
- ✓ *Stainless steel construction*
- ✓ *Waterproof housing IP66*
- ✓ *High power output 100/50 W*
- ✓ *Thermal protection*

In case of an emergency, the Voice Evacuation System needs to guide people in the tunnel to safety so the audio transmission should be as clear as possible. In general, due to high levels of reverberation and noise, a tunnel is not an ideal environment for Voice Evacuation System and therefore speech intelligibility becomes a critical parameter for any voice alarm application. To establish a sufficient level of speech intelligibility, a highly directional speakers system is required. By reducing the energy emitted to other surfaces, reflective sound energy can be minimized which results in a better direct to reverberant ratio. This will improve the maximum feasible speech intelligibility. To minimize disturbing echo effects, resulting in a loss of speech intelligibility, each horn speaker is driven by an individual signal channel in a 100 V installation, which is equipped with audio DSP including EQ and delay. Our product S4T (Safety For Tunnel) offers the most effective solution which seamlessly combines a dedicated Voice Evacuation System with tailored Tunnel Loudspeakers.

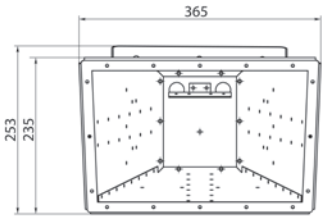
ABT-TNL100-1

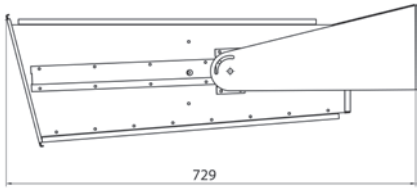
ABT-TNL100

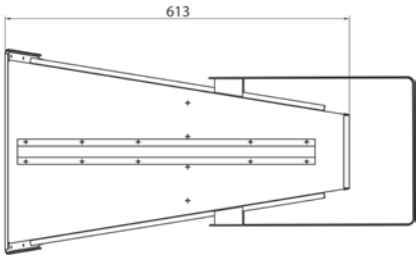




ABT-TNL100-1



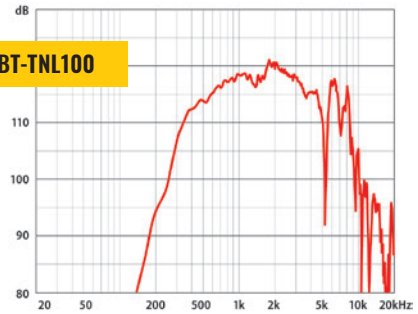




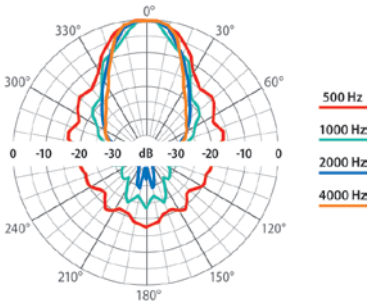
	ABT-TNL100	ABT-TNL100-1
Electrical		
Rated power, W	100	
Tappings 100 V line, W	100 / 50	
Tappings 70 V line, W	50 / 25	
Transformer impedance @ 100 V, Ω	100 / 200	
Driver impedance, Ω	6	8
Effective frequency range, Hz	250 – 8000	
Sensitivity @ 4 m, 1 W, dB	99	96
SPL @ 4 m, rated power, dB	119	116
SPL @ 1 m, 1 W, dB	111	108
SPL @ 1 m, rated power, dB	131	128
Horizontal dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	39 / 24 / 29 / 32	141 / 66 / 29 / 49
Vertical dispersion at 500 Hz / 1 kHz / 2 kHz / 4 kHz, [°]	77 / 42 / 26 / 19	192 / 117 / 59 / 47
Environmental		
Environmental type	B	
IP Rating	IP66	
Min. / max. ambient temperature	-25°C / 70°C	
Mechanical		
Dimensions, mm	1714 × 1020 × 450	729 × 365 × 253
Net weight, kg	32	14,5
Colour	Grey (RAL 7035)	Grey (RAL 7035)
Material	Stainless steel	
Mounting	Anchor for concrete	U type bracket
Option		
For DC line monitoring	Capacitor	
Colour optional	RAL palette	
Ease Model	✓	

Frequency band:

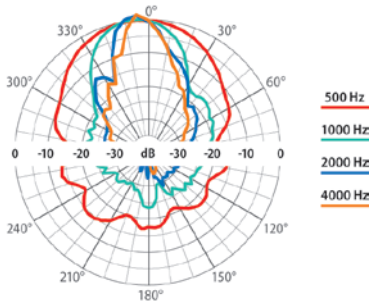
ABT-TNL100



Circular chart of directional characteristic – horizontal:

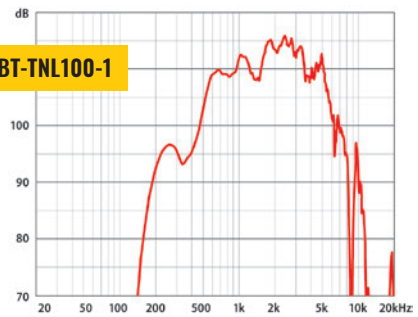


Circular chart of directional characteristic – vertical:

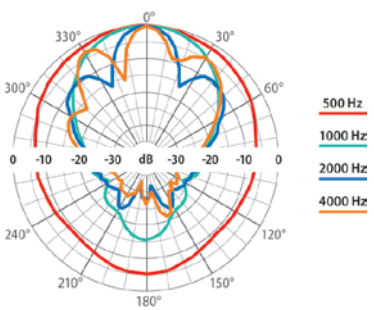


Frequency band:

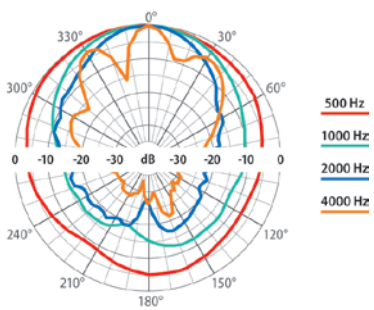
ABT-TNL100-1



Circular chart of directional characteristic – horizontal:



Circular chart of directional characteristic – vertical:



ABT-T2520A

ACTIVE HORN LOUDSPEAKER with built-in 20 W amplifier

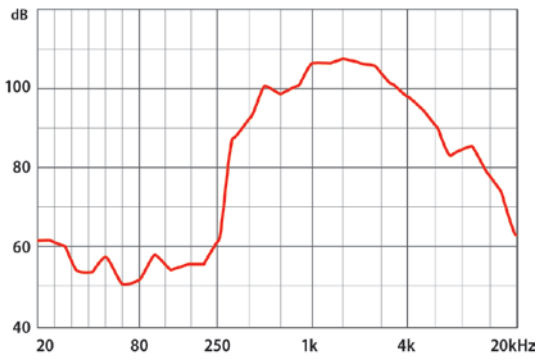
- ✓ *High sound pressure level*
- ✓ *Aluminum housing*
- ✓ *Protection from dust and humidity: IP65 rating*
- ✓ *Internal volume control*

NEW!

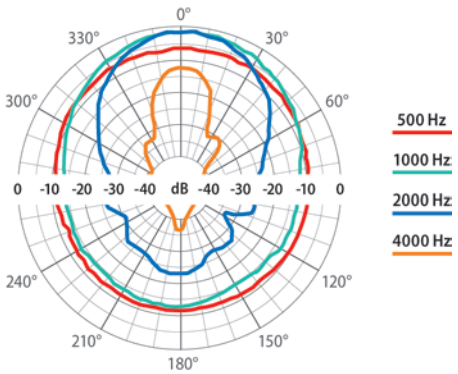
ABT-T2520A is an active horn loudspeaker with a built-in 20 W amplifier designed to work with security systems.
It is an ideal choice for applications in security systems, industrial and commercial systems in both outdoor and indoor areas such as train stations, airports, parking lots, parks, gardens, corridors and much more.
Built-in 20 W amplifier powered with 12 V voltage has an audio line-in input. It allows to connect the speaker directly to CCTV camera. Built-in internal volume control of gain allows you to choose the appropriate volume level of the broadcast message.
The high efficiency and directionality of the loudspeaker allow broadcasting voice messages directly to even distant places, while ensuring a high sound pressure level. The aluminum housing guarantees increased resistance to adverse weather conditions provided by the IP65 rating.

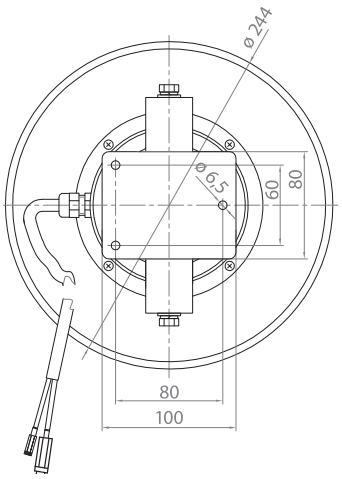
	ABT-T2520A
Electrical	
Rated power of amplifier	20 W
Input impedance	10 kΩ
Power supply	DC 12 V / 2 A
Signal gain	8 dB, 16 dB, 24 dB, 32 dB
Volume adjustment	Internal volume control
Effective frequency range	350 Hz – 9 kHz
Dispersion at 1 kHz	110°
SPL (20 W @ 1 m)	112 dB
Environmental	
IP rating	IP65
Min. / max. ambient temperature	-20°C / 55°C
Mechanical	
Dimensions	250 × 320 mm
Net weight	2,3 kg
Colour	Light grey (RAL 7035)
Material	Aluminium
Mounting	U type bracket
Accessories	
Power Supply	12 VDC / 2 A / 24 W

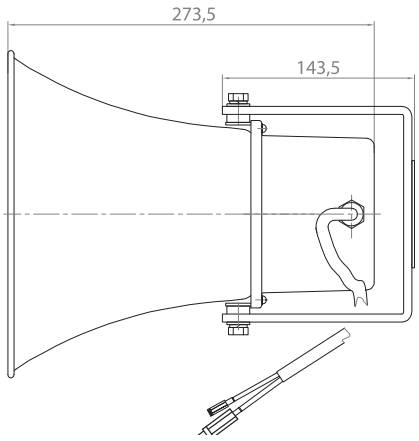
Frequency band:



Circular chart of directional characteristic:







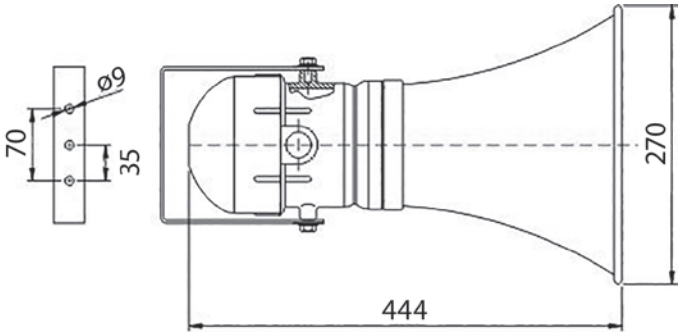
ETH20MD Loud

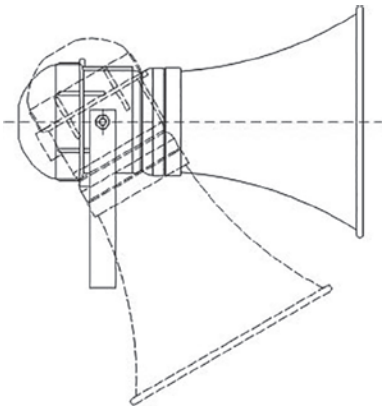
EXPLOSION PROOF LOUDSPEAKER

- ✓ *Full compliance with directive 2014/34/UE*
- ✓ *Full compliance with:*
  EN 60079-0:2012/A11:2013,
  EN 60079-1:2014, EN 60079-31:2014
- ✓ *Ex db IIB+H2 Gb Ex tb IIIC Db II2GD T6 T5*
- ✓ *Ex db IIC Gb Ex tb IIIC Db II2GD T6 T5*
- ✓ *Zone 1, zone 2, zone 21, zone 22*

The explosion-proof loudspeakers ETH20MD LOUD series have been designed for use in potentially explosive atmospheres in presence of explosive gases and dusts. They have a high degree of protection (IP66) to withstand the harsh off-shore and on-shore plants environmental conditions. They are suitable for connection to standard amplification system with output 100 V, to alarm systems and for public address. The chamber of acoustic compression is separated from the outer atmosphere through a special filter of sintering. They are equipped with a transformer offering the possibility to adapt and select the sound level according to the real needs of the installation point.

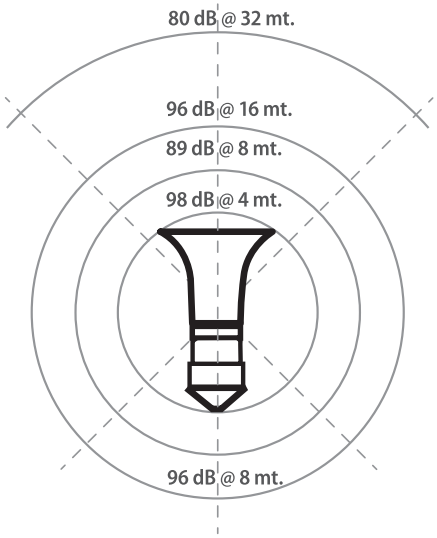
Materials:
Body, cover and horn cone in aluminium alloy. Adjustable galvanized steel bracket. Bolts and screws in stainless steel. Epoxy coating RAL 7000. Selectable power.





	ETH20MD LOUD
Electrical features	
Selectable power	6 W – 12 W – 20 W – 25 W
Rated voltage	100 V
Audio line	16 Ω
Output	100 ÷ 102 dB @ 6 W 104 ÷ 106 dB @ 12 W 107 ÷ 108 dB @ 20 W 109 ÷ 112 dB @ 25 W
Frequency range	650 ÷ 10 000 Hz @ 6 W 450 ÷ 9000 Hz @ 12 W 400 ÷ 9000 Hz @ 20 W 350 ÷ 10 000 Hz @ 25 W
Environmental	
IP rating	IP66
Min./max. ambient temperature	-20°C / 60°C
Mechanical	
Material	Light alloy body, cover and horn cone
Installation	Adjustable galvanized steel lugs
Hardware	Stainless steel
Gaskets	EPDM
Cable entry	N° 1 Ø 3/4"
Weight	3,5 kg

Outdoor loudness distribution polar diagram:



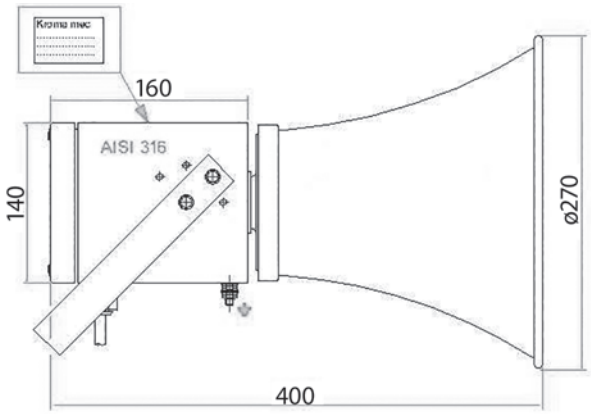
ETHY20MD Loud

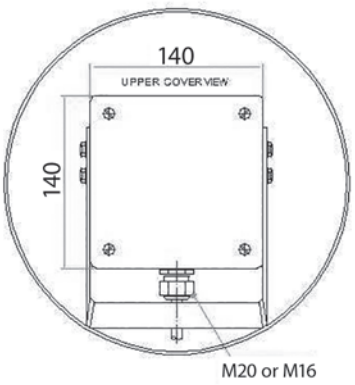
EXPLOSION PROOF LOUDSPEAKER STAINLESS STEEL 316

- ✓ *Full compliance with directive 2014/34/UE*
- ✓ *Full compliance with:*
  EN 60079-0:2012/A11:2013,
  EN 60079-1:2014, EN 60079-31:2014
- ✓ *Ex de mb IIB+H2 Gb Ex mb tb IIIC Db II2GD T6 T5*
- ✓ *Ex de mb IIC Gb Ex mb tb IIIC Db II2GD T6 T5*
- ✓ *Zone 1, zone 2, zone 21, zone 22*

The explosion-proof loudspeakers ETHY20MD LOUD series have been designed for use in potentially explosive atmospheres in presence of explosive gases and dusts. They have a high degree of protection (IP66) to withstand the harsh off-shore and on-shore plants environmental conditions. They are suitable for connection to standard amplification system with output 100 V, to alarm systems and for public address. The chamber of acoustic compression is separated from the outer atmosphere through a special filter of sintering. They are equipped with a transformer offering the possibility to adapt and select the sound level according to the real needs of the installation point.

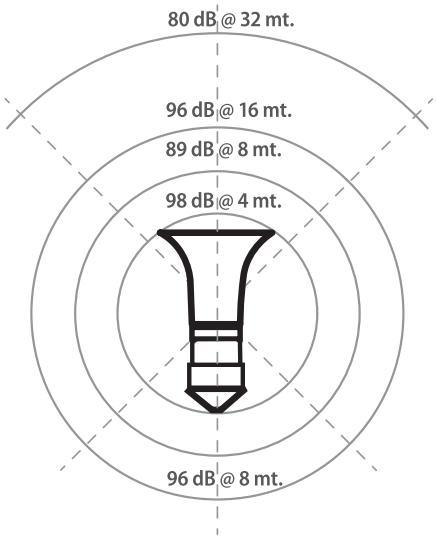
Materials:
Body, cover and horn cone in stainless steel 316. Adjustable stainless steel 316 bracket. Bolts and screws in stainless steel 316. Epoxy coating RAL 7000. Selectable power.





	ETHY20MD LOUD
Electrical features	
Selectable power	6 W – 12 W – 20 W – 25 W
Rated voltage	100 V
Audio line	16 Ω
Output	100 ÷ 102 dB @ 6 W 104 ÷ 106 dB @ 12 W 107 ÷ 108 dB @ 20 W 109 ÷ 112 dB @ 25 W
Frequency range	650 ÷ 10 000 Hz @ 6 W 450 ÷ 9000 Hz @ 12 W 400 ÷ 9000 Hz @ 20 W 350 ÷ 10 000 Hz @ 25 W
Environmental	
IP rating	IP66
Min./max. ambient temperature	-20°C / 60°C
Mechanical	
Material	Body, cover and horn cone in stainless steel 316
Installation	Adjustable stainless steel 316 bracket
Hardware	Stainless steel
Gaskets	Silicone
Cable entry	N° 2 Ø M20
Weight	7 kg

Outdoor loudness distribution polar diagram:



ETH20MD Loud 24/48 VDC

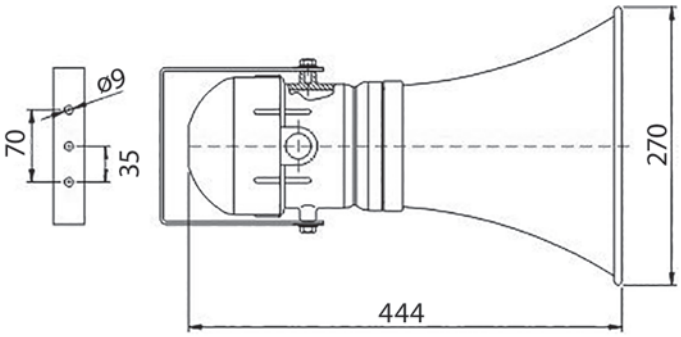
EXPLOSION PROOF LOUDSPEAKER with 24/48 VDC AMPLIFIER

- ✓ *Full compliance with directive 2014/34/UE*
- ✓ *Full compliance with:*
  EN 60079-0:2012/A11:2013,
  EN 60079-1:2014, EN 60079-31:2014
- ✓ *Incorporate amplifier 24/48 VDC*
- ✓ *Acoustic pressure a 1 m*
  maximum power 112 dB
- ✓ *Ex db IIB+H2 Gb Ex tb IIIC Db II2GD T6 T5*
- ✓ *Ex db IIC Gb Ex tb IIIC Db II2GD T6 T5*
- ✓ *Zone 1, zone 2, zone 21, zone 22*

NEW!

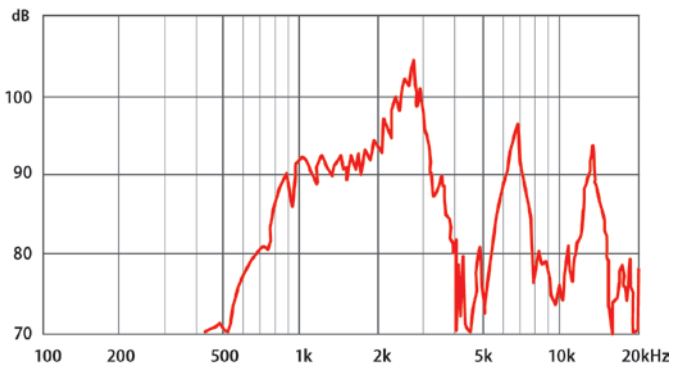
The explosion-proof loudspeakers ETH20MD LOUD 24/48 VDC series have been designed for use in potentially explosive atmospheres in presence of explosive gases and dusts. They have a high degree of protection (IP66) to withstand the harsh off-shore and on-shore plants environmental conditions. They are equipped with a class D audio amplifier powered at 24/48 VDC, to alarm systems and for public address. The chamber of acoustic compression is separated from the outer atmosphere through a special filter of sintering.
Possibility to select the sound level according to the real needs of the installation site. (4 power steps are available).

Materials:
Body, cover and horn cone in aluminium alloy. Adjustable galvanized steel bracket. Bolts and screws in stainless steel. Epoxy coating RAL 7000. Selectable power.



	ETH20MD LOUD 24/48 VDC
Features transducer	
Work power	25 W
Maximum power	40 W
Impedance 1 kHz	8 Ω
Environmental	
IP rating	IP66
Min./max. ambient temperature	-20°C / 60°C
Class D audio amplifier	
Input signal	0 dB at 600 8 Ω
Input sensitivity	40 mV / 150 kΩ
Power supply	from 24 VDC to 48 VDC
Absorption at maximum power	0.8 A @ 48 V - 1.2 A @ 24 VDC
Piloting	8 Ω loudspeakers
Output power	30 W
Total harmonic distortion + noise	(f = 1 kHz, PO = 20 W) 0.2%
Signal report / noise	(f = 1 kHz, Gain = 20 dB) 102 dB
Power regulation	adjustable with trimmer from zero to maximum power of the set step
Power step	4 power steps are available, selectable by SW1 dip-switch Step 1 (gain 20 db) = 1.57 W Step 2 (gain 26 db) = 5.4 W Step 3 (gain 32 db) = 21.5 W Step 4 (gain 36 db) = 30.4 W
Frequency response	from 20 Hz to 20 kHz

Frequency band:



ETH20MD Loud 24/48 VDC Special

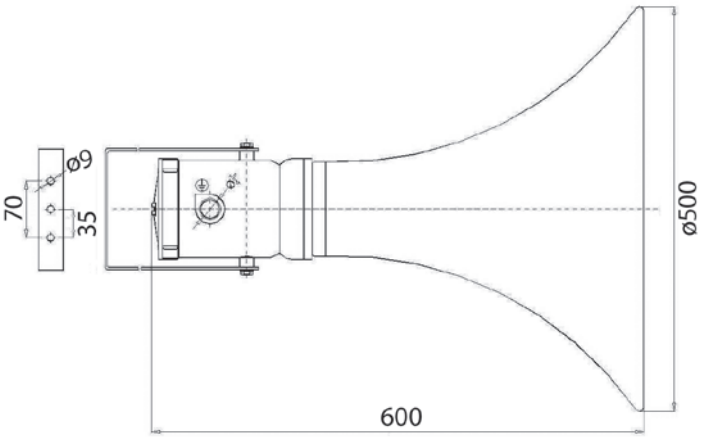
EXPLOSION PROOF LOUDSPEAKER with 24/48 VDC AMPLIFIER

- ✓ *Full compliance with directive 2014/34/UE*
- ✓ *Full compliance with:*
  EN 60079-0:2012/A11:2013,
  EN 60079-1:2014, EN 60079-31:2014
- ✓ *Incorporate amplifier 24 / 48 VDC*
- ✓ *Acoustic pressure a 1 m*
  maximum power 112 dB
- ✓ *Ex db IIB+H2Gb Ex tb IIIC Db II2GD T6 T5*
- ✓ *Ex db IIC Gb Ex tb IIIC Db II2GD T6 T5*
- ✓ *Zone 1, zone 2, zone 21, zone 22*

NEW!

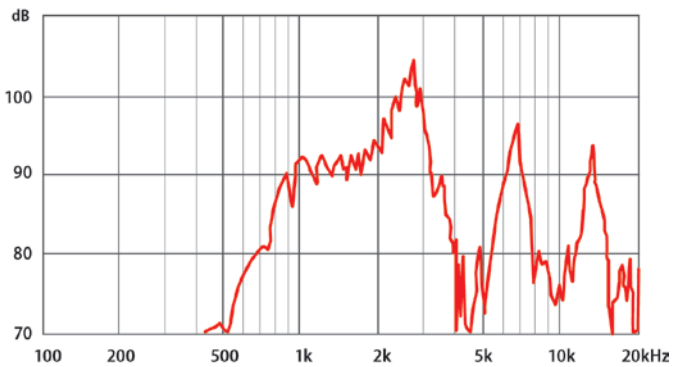
The explosion-proof loudspeakers ETH20MD LOUD 24/48 VDC series have been designed for use in potentially explosive atmospheres in presence of explosive gases and dusts. They have a high degree of protection (IP66) to withstand the harsh off-shore and on-shore plants environmental conditions. They are equipped with a class D audio amplifier powered at 24/48 VDC, to alarm systems and for public address. The chamber of acoustic compression is separated from the outer atmosphere through a special filter of sintering.
Possibility to select the sound level according to the real needs of the installation site. (4 power steps are available).

Materials:
Body, cover and horn cone in aluminium alloy. Adjustable galvanized steel bracket. Bolts and screws in stainless steel. Epoxy coating RAL 9005. Selectable power.



	ETH20MD LOUD 24/48 VDC
Features transducer	
Work power	25 W
Maximum power	40 W
Impedance 1 kHz	8 Ω
Environmental	
IP rating	IP66
Min./max. ambient temperature	-20°C / 60°C
Class D audio amplifier	
Input signal	0 dB at 600 8 Ω
Input sensitivity	40 mV / 150 kΩ
Power supply	from 24 VDC to 48 VDC
Absorption at maximum power	0.8 A @ 48 V - 1.2 A @ 24 VDC
Piloting	8 Ω loudspeakers
Output power	30 W
Total harmonic distortion + noise	(f = 1 kHz, PO = 20 W) 0.2%
Signal report / noise	(f = 1 kHz, Gain = 20 dB) 102 dB
Power regulation	adjustable with trimmer from zero to maximum power of the set step
Power step	4 power steps are available, selectable by SW1 dip-switch Step 1 (gain 20 db) = 1.57 W Step 2 (gain 26 db) = 5.4 W Step 3 (gain 32 db) = 21.5 W Step 4 (gain 36 db) = 30.4 W
Frequency response	from 20 Hz to 20 kHz

Frequency band:




SOUND
AV
PA
AMBIENT
EVACUATION
VOICE
SYSTEM
PUBLIC
ADDRESS
AUDIO
VIDEO
ACOUSTIC
TREATMENT
LOUDSPEAKERS
EN 54-16
EN 54-24
SMART
INTELLIGENT
PROFESSIONAL
INTEGRATION
SECURITY
CONVENIENT
FLEXIBILITY
RELIABILITY
QUALITY
ABT
WORLDWIDE

We make everyday life safer

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

EN / 08.2021

AMBIENT SYSTEM Sp. z o.o. | ul. Bysewska 27, 80-298 Gdańsk, Poland | T: +48 58 345 51 95 | ambient@ambientsystem.pl | www.ambientsystem.eu