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
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 xCtrLn-4 and xCtrLn-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 100V 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 bridgable Class D amplifiers (8x 80 W, 8x 160 W, 4x 160 W, 2x 650 W, 1x 650 W)

**Elements of the Integrated MULTIVES System**

<table>
<thead>
<tr>
<th>MULTIVES Devices</th>
<th>MULTIVES Exchangeable modules</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT-CU-8LCD</td>
<td>stand-alone control unit with 8 control slots, 3 Audio-DSP extension (function) slots and touch screen GUI</td>
</tr>
<tr>
<td>ABT-CU-11LT</td>
<td>control unit with 11 control slots</td>
</tr>
<tr>
<td>ABT-CU-11LCD</td>
<td>control unit with 11 control slots and touch screen GUI</td>
</tr>
<tr>
<td>ABT-DMS</td>
<td>desktop zone microphone station</td>
</tr>
<tr>
<td>ABT-DMS-LCD</td>
<td>desktop zone microphone station with touch screen</td>
</tr>
<tr>
<td>ABT-xCapt</td>
<td>20-key extension keyboard</td>
</tr>
<tr>
<td>ABT-ISLE</td>
<td>interface communication module and audio signal splitter with RS485 for external systems</td>
</tr>
</tbody>
</table>

**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 xCtrLn-4 and xCtrLn-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 100V 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 bridgable Class D amplifiers (8x 80 W, 8x 160 W, 4x 160 W, 2x 650 W, 1x 650 W)
Control Units

ABT-CU-11LT Control Unit (CU) is a matrix mixer of input signals which it routes to 4 100V 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, 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 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-CuAudio-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.
ABT–CU–8LCD Control Unit (CU) is a matrix mixer of input signals which it routes to 4-100V 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 1xABT-DCLine-4 card in slot 1, 1xAUDIO-4/8-RS card in slot A and 1xLogIN-8F card in slot B. Slot C and D can extend control unit audio dist 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-16G/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**

<table>
<thead>
<tr>
<th>Microphone</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABT-DFMS</td>
<td>This microphone performs the same role as an ABT-DMZ zone microphone. In order to facilitate its operation and to make it more intuitive, the microphone is equipped with an LCD touch screen.</td>
</tr>
<tr>
<td>ABT-DMZ</td>
<td>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.</td>
</tr>
<tr>
<td>ABT-EKB-20M</td>
<td>Each extension attached to a fireman microphone or a zone microphone offers additional 20 function keys which can be programmed as required.</td>
</tr>
</tbody>
</table>

**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

**A MULTIVES zone microphone is a monitored microphone with pre-recorded messages which can be edited by the system administrator. It can be programmed to play (pre-recorded or ‘live’) and other audio input.**

**CHARACTERISTICS**

- 4.5” LCD touch screen for fast and clear matrixing 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**

**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

**Microphones**

Microphones

- ABT-DFMS
- ABT-DMZ
- ABT-EKB-20M

**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

**A MULTIVES zone microphone is a monitored microphone with pre-recorded messages which can be edited by the system administrator. It can be programmed to play (pre-recorded or ‘live’) and other audio input.**

**CHARACTERISTICS**

- 4.5” LCD touch screen for fast and clear matrixing 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**

**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
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-PAXXXXBE is a family of 2U, rack mountable, 8-channel (ABT-PA8080B/BE), 4-channel (ABT-PA4160B/BE), 2-channel (high power ABT-PA8160B/BE) and 1-channel (ABT-PA1650B/BE) class-D transformers isolated power amplifiers for 50 V and 100 V distributed loudspeaker systems. Amplifier ABT-PA8080B/BE can deliver up to 8 x 80 W, for ABT-PA1650B/BE and ABT-2650B/BE delivering power increases respectively to the 8 x 160 W and 2 x 650 W. In a bridged mode amplifier channels are combined and can deliver 4 x 160 W for ABT-PA8080B/BE, 4 x 320 W for ABT-PA8160B/BE and 1 x 1300 W for ABT-PA2650B/BE.

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 x 160 W, 2 x 320 W or 4 x 320 W by daisy-chaining 50 V tapping (input on parallel)
  - ABT-PA2650B/BE: 1 x 1300 W by daisy-chaining 50 V tapping (input on parallel)
- ABT-PAXXXXBE series combines with the ABT-PSM48/EB 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

Power supply
- Nominal DC input voltage: 48 V
- DC input voltage range: 42 - 57 V
- DC fuse rating (internal): 6x 7.5 AF-H
- Overall power efficiency: 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, 19 A, 38 A, 38 A

Amplifier
- Continuous nominal output power per channel, all channels driven into nominal load at 1 kHz 30°C ambient: 80 W
- Continuous nominal output power per channel, all channels driven into nominal load at 1 kHz 55°C ambient: 75 W
- 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 – 20kHz
- S/N ref nominal power at 1 kHz: 22 kHz: > 85 dB
- THD power 1 kHz (42 V – 57 V): < 10%
- Crosstalk between channels: 50 Hz – 20 kHz nominal load db: > -70 dB
- Connectivity:
  - DC input socket: DG8BC-A-2P13
  - Audio output socket: 3 pin PHOENIX 5.08 mm
  - Nominal output voltage taps V: 50 / 100

Mechanical
- Front panel width: 482 mm
- Back panel width: 445 mm
- Height: 150 x 530 x 610 mm
- Nominal output voltage taps V: 50 / 100

Back panel width: 150 x 530 x 610 mm
- Nominal output voltage taps V: 50 / 100

- Power supply
- Nominal DC input voltage: 48 V
- DC input voltage range: 42 - 57 V
- DC fuse rating (internal): 6x 7.5 AF-H
- Overall power efficiency: 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, 19 A, 38 A, 38 A

Amplifier
- Continuous nominal output power per channel, all channels driven into nominal load at 1 kHz 30°C ambient: 80 W
- Continuous nominal output power per channel, all channels driven into nominal load at 1 kHz 55°C ambient: 75 W
- 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 – 20kHz
- S/N ref nominal power at 1 kHz: 22 kHz: > 85 dB
- THD power 1 kHz (42 V – 57 V): < 10%
- Crosstalk between channels: 50 Hz – 20 kHz nominal load db: > -70 dB
- Connectivity:
  - DC input socket: DG8BC-A-2P13
  - Audio output socket: 3 pin PHOENIX 5.08 mm
  - Nominal output voltage taps V: 50 / 100

Mechanical
- Front panel width: 482 mm
- Back panel width: 445 mm
- Height: 150 x 530 x 610 mm
- Nominal output voltage taps V: 50 / 100

Back panel width: 150 x 530 x 610 mm
- Nominal output voltage taps V: 50 / 100
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).

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.

**CHARACTERISTICS**

<table>
<thead>
<tr>
<th>ABT-PSM48</th>
<th>ABT-PSM48E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum configuration</td>
<td>1x ABT-PSM48 – Power Supply Manager</td>
</tr>
<tr>
<td></td>
<td>4x ABT-PS4880 – Power Supply Unit</td>
</tr>
<tr>
<td></td>
<td>1x ABT-PF4 – Power Supply Units Frame</td>
</tr>
<tr>
<td></td>
<td>1x ABT-PSM48E – Power Supply Manager</td>
</tr>
<tr>
<td></td>
<td>4x ABT-PS4880 – Power Supply Unit</td>
</tr>
<tr>
<td></td>
<td>1x ABT-PF4 – Power Supply Units Frame</td>
</tr>
<tr>
<td>AC power supply</td>
<td>230 VAC ±10% -15%, 50/60 Hz</td>
</tr>
<tr>
<td>Max nominal power consumption</td>
<td>885 W / 3.85 A</td>
</tr>
<tr>
<td>Efficiency at rated power</td>
<td>&gt; 90%</td>
</tr>
<tr>
<td>DC input</td>
<td>4; bolted terminals; dedicated power supply unit ABT-PS48800</td>
</tr>
<tr>
<td>DC input protection</td>
<td>4x20 A 58 V DC</td>
</tr>
<tr>
<td>DC outputs</td>
<td>8 x 48 V, each output max. 30 A (total for all 8 outs max. 63 A)</td>
</tr>
<tr>
<td></td>
<td>6 x 24 V, each output max. 5 A (total for all 6 outs max. 6.25 A)</td>
</tr>
<tr>
<td>Summary maximum DC output load (24 V and 52 V)</td>
<td>3200 W</td>
</tr>
<tr>
<td>Battery (type)</td>
<td>4 pieces, VRLA 12 V 15-200 Ah</td>
</tr>
<tr>
<td>Charging current</td>
<td>max. 14 A</td>
</tr>
<tr>
<td>Charging voltage</td>
<td>54.6 V ± 0.6 V (at 25°C)</td>
</tr>
<tr>
<td>Maximum resistance of wiring and fuses</td>
<td>10 mΩ</td>
</tr>
<tr>
<td>Maximum total serial resistance of wiring, fuses, and batteries</td>
<td>28 – 100 mΩ</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-5°C up +40°C</td>
</tr>
<tr>
<td>Dimensions</td>
<td>482 (W) x 85 (H) x 443 (D)</td>
</tr>
<tr>
<td>Weight</td>
<td>7.2 kg</td>
</tr>
</tbody>
</table>

**ABT-PS48800**

AC power supply | 230 VAC ±10% -15%, 50/60Hz, 3.85 A |
| Wire with IEC 60320 C13 3x0.75 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 5x20 mm slow-blow fuse (accessed when the casing is open) |
| Protection from electric shock | Class I (EN 60605) |
| DC output | 52 VDC, max. 15.4 A |
| Dimensions | 85 (W) x 95 (H) x 395 (D) |
| Weight | 2.6 kg |

---

**EN 54-4**

**EN 12101-10**
Exchangeable modules

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 (8x8) as well as all DSP functions. ABT-xCPU enables remote access to the configuration parameters of each element of the system.

8 AUDIO INPUT EXTENSION CARD
ABT-xAudI-8

This audio input extension card is designed for a function slot in ABT-CU8/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. Switch no 2 is used for remote connections. This card operates under TCP/UDP/FTP/SHCP 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.

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-CU8/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.

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

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

4 LOUDSPEAKER LINE CONTROL CARD
ABT-xCtrLn-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-xCtrLn-4 card monitors the status of the internal rail.

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.

2 LOUDSPEAKER LINE CONTROL CARD
ABT-xCtrLn-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 0-16 addresses. Local AUDION – 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 AUDIO OUT – 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 x loudspeaker lines (16 AB)
- 8 x audio channels
with dedicated devices:
- 1x ABT-CU-11LCD (8x ABT-xCtrLn-4)
- 2x 4 channels x 320 W (2x ABT-PA8160B) amplifier
- 1x 2 channels x 320 W (1x ABT-PA4160B) backup amplifier
- Power Supply Equipment
- 1x ABT-DFMS fireman microphone
- 1x ABT-DMS-LCD zone microphone with LCD

EXAMPLE 2 / OIL REFINERY

Example of a large MULTIVES system configuration:
- 5 buildings (Oil Refinery)
- 292 x loudspeaker lines (146 AB)
- 28 x audio channels
with dedicated devices:
- 1x ABT-CU-8LCD Control Unit (8x ABT-xCtrLn-4)
- 7x ABT-CU-11LT Control Unit (8x ABT-xCtrLn-4)
- 5x 4 channels x 320 W (5x ABT-PA8160B amplifiers)
- 4x 2 channels x 320 W (4x ABT-PA4160B backup amplifiers)
- Power Supply Equipment
- 2x ABT-DFMS fireman microphone
- 1x ABT-DMS-LCD zone microphone with LCD
- 9x ABT-DMS zone microphone