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Our IDA8 systems for Public Address and Voice-Alarm are complying with EN 54-16 and are combining full flexibility with state of the art functionality.

A true example of how modern technology combines with years of field experience.

PUBLIC ADDRESS - VOICE ALARM

IDA8

Delivering Your Message
ATEIS which boosts 30-years of experience in the research and development of Public Address and Voice Evacuation systems now introduces a new system that perfectly integrates Fire-Alarm with Voice-Alarm according to EN 54-16 (VACIE&FACIE), BS 5839-part 8 and ISO 7240-16. ATEIS has developed and will continue developing dedicated systems for Voice-Alarm applications.

### IDA8

The IDA8 is a third generation modular system that complies with current architectural demands that nowadays require IP-and/or Fiber-optics Networking to cover for any complex design possible. IDA8 responds to Public Address and Voice Alarm requirements stated in EN 54-16, ISO 7240-16 and BS 5839/8, compliance for large installations and installations with specific purpose.

**IDA8**

The IDA8 module unit houses: Audio digital signal processing (DSP), matrix control functions, digital message player. Front panel access with: fully monitored fireman micro-phone and emergency message trigger button(s).

Amplifier monitoring with hot-swap amplifiers, loudspeaker line impedance, line monitoring. It can support up to four PSSxx security microphone consoles with color touch pad and up to eight dB audio inputs and outputs into 8 different zones per unit with A/B-line detection according to the BS 5939-part 8.

Slave units can extend the system configuration with an additional 8 inputs and 8 outputs. The slave units are available with A/B-line detection (IDA8S-AB), or single zone line detection (IDA8S).

Each input and output channel is fitted with a wide range of pre-and post-processing devices such as: volume controllers, routing mixers and switches, priority and paging components, equalizers, compressors, limiters, delay-lines, etc.

Up to 4 hours of digital messages can be stored. Live-recording and external files can be uploaded (WAV) from a computer into IDA8. Up to 8 messages, in a single IDA8 unit and 64 messages in an IDA8 system, can be played simultaneously into different zones.

### IDA8 CHARACTERISTICS

- **Interfaces:** Standard Local Networking, 2 x RJ45, 328 ft.
- **Ethernet interface:** TCP/IP, MODBUS, VOXiNET and 3rd party such as LAP.
- **4 x Security microphone connection, RJ45, PC1 to PC4 supports:** MODUS, VOXiNET and 3rd party such as LAP.
- **8 balanced audio inputs.**
- **8 balanced audio outputs + 2 audio outputs for back-up amplifiers.**
- **Return 100 Volt lines input from amplifiers.**
- **Outgoing 16 (8+8) 100 Volt lines to the loudspeakers. (AB-zoning)**
- **Optional 8 mic/line audio inputs**
- **9 logic inputs and 8 logic outputs**
- **Security contacts for: Evacuation and fault reporting and fault-back inputs.**
The IDA8 Slave-audio expander is used when a system requires additional audio inputs and outputs, additional security microphone consoles or switching contacts. The unit provides 8 audio input channels, 8 audio output channels and an additional 4 links for security microphone consoles, type PSSG2.

**IDA8 Features**

- The IDA8-Master system controller has 8 analogue audio inputs and 8 analogue audio outputs. The outputs have selectable 18 or 20 kHz monitoring signal for end-off-line monitoring or, using defined monitoring windows, individual monitoring with an accuracy of up to 5% of the total line load.
- 8 alarm control inputs and 8 output relays are freely programmable for system actions and priorities can be assigned to these inputs.
- An optional 8 microphone/line input card can be added and used as call inputs.
- The Ateis-Net network allows for additional audio break in and out boxes, TCP/IP call stations, etc.
- The IDA8 networking, Ateis-Net, is designed for redundant network cabling.
- LOCAL Network: The system is designed to handle up to 256 priorities, can be configured for up to 256 zones (512 A8) in the LOCAL Network.
- GLOBAL Network: The system can connect up to 32 IDA8-Masters over the Global Network allowing a system configuration of up to 32 x 256 zones.
- The IDA8-Master can work independently without a PC connected to it. The PC can be disconnected after configuring the system.
- The front panel color touch-screen display and corresponding push buttons allows for simple navigation through the various system menus.
- Automatic messaging is included in the Master and Slave units with a capacity of up to 4 hours of WAV format audio files. The audio messages can be uploaded via Ethernet link.
- 8 audio streams can be activated at the same time.
- The message player and messages are monitored.
- Full monitoring is provided starting at the capsule of a call station microphone to the end of a loudspeaker line. The external cables connected to the control inputs are monitored for short and open circuit.
- Standard test, alarm and chime-tones are stored in the Master and Slave unit(s).
- The Master and Slave devices have an internal real time clock for automatic scheduled activities such as: playback of messages, automatic volume changes during day and night or background music settings
- All IDA-units have extensive audio pre- and post processing possibilities for audio inputs and audio outputs.

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The Network cards that come with the audio and data connection, Ateis-Net, between one Master and a maximum of 32 IDA8-slave units in one rack system. Alternatively, if a bigger installation distance between devices is required, the existing RJ45 redundant connection can be exchanged for the optional Fibre-optic IDA-Net -cards increasing distance up to 1.24 mi between master and slave or between slave and slave.

**IDA8S**

- **IDA8S-AB** 8 balanced 0 dB audio inputs and 8 balanced 0 dB audio outputs, 4-security microphone access points, control inputs and outputs. Comes standards with IDA Net-card 1. BS 5839 compliant with A/B zoning.

- **IDA8S-S** 8 balanced 0 dB audio inputs & 8 balanced 0 dB audio outputs, 4-security microphone access points, control inputs and outputs. Comes standards with IDA Net-card 1.
The IDA8 series is made for medium to large-sized installations, such as shopping malls, retail stores, train stations, airports, etc. The IDA8 has an open design architecture and interfaces with remote devices such as paging consoles, audio break-in and break-out convertors and room-controllers. ATEIS has developed its own audio networking system “ATEIS-Net”.

The systems architecture is based on two redundant ‘daisychain’ methods. A so called Local Network and a so called Global Network.

- The LOCAL Network daisy-chains up to 32 Master IDA8’s, creating a true audio matrix of 256 x 256 over a full redundant network (RJ45).

- The GLOBAL Network daisy-chains up to 32 Master IDA8’s over a GIGA-bit open network. This GLOBAL Network is used to create a redundant link between IDA8 systems. The size of such a system can reach up to a multiple of 256 x 256 inputs and outputs.

For interfacing between Masters and Masters, Master and Slaves, ATEIS has developed a dedicated audio and data hardware application, ATEIS-Net, with proprietary low-latency protocol.

ATEIS-Net cards are available for copper (RJ45) and fiber optic, creating dedicated network distances of up to 12.43 miles. Further interfacing are included using TCP/IP for third party interfacing with PC-based remote controller, Terracom IP-media streamers and TCP/IP paging and operating consoles. Serial RS485 and RS232 connections supporting Modbus, Vox@Net and third-party protocols like LAP are available on the units.

ATEIS Network devices:

**IDA8C & IDA8S**

This Ethernet based network is able to simultaneously transport 64 audio channels (32 bits, 48 kHz sampling rate) with a latency < 1 msec together with the necessary control data over a CAT5 or Fiber-optic dedicated network.

For the LOCAL and GLOBAL system networking, optional ATEIS-Net networking cards can be added inside the IDA8C and IDA8S.

Thanks to its loop architecture, the ATEIS-Net audio network is fully redundant. If a problem (line open or shorted) occurs on a loop segment, it will be automatically isolated without affecting the system functionalities.

Up to 32 IDA8’s can be connected together onto the same LOCAL or GLOBAL network. As the Network addresses are auto-negotiated, the network set up is very easy. Once programmed the system will be able to work independently (off-line) without the PC.

Ida8 comes standard with IDA NET-1 cards, RJ45 to RJ45, with a standard installation distance of 100 m between Master and Slave and/or Slave and Slave. For bigger installation distances, optional IDA Net -2-3 and 4 can be used to extend distance for up to 1.24 mi between units.

**IDN1**

Dedicated ethernet networking card with 2 x RJ45 (comes standard with IDA8C and IDA8S).

**IDN2**

Optional dedicated ethernet networking card with 1 x fiber (port A) + 1 x RJ45 (port B).

**IDN3**

Optional dedicated ethernet networking card with 2 x fiber (port A + port B).

**IDN4**

Optional dedicated ethernet networking card with 1 x RJ45 (port A) +1 x fiber (port B).

Port A = IN, Port B = OUT
The combination of ATEIS TERRACOM@NET TCP/IP intercom with our VOX@NET all-in-one software will provide a whole new control and security environment. Users will have access to both intercom and paging features from the same call stations. Those call stations being either the PMIP-D or any PC in association with the PNIP-N station.

**VOX@NET with IDA8**

Additional TCP/IP audio and data break-in and break-out Network devices:

**VNB, ATEIS Media-streamer**

VNB, media-streamer has been designed to suit simple point to point or point to multi-point audio and data gateways with no direct need for a PC. If it is for radio broadcasting, paging or a 2-way communication, the VNB can do it. Each VNB provides 2 audio input and 2 audio output channels using fast SPEEX-encoding or high quality MP3 - encoding.

Switching and indication contacts for system interfacing and a webserver for direct configuration access. The ATEIS VNB Media-streamer enables low cost and low power audio distribution and communication using LAN or WAN (VPN).

*(Future SIP compatibility will provide internet connectivity for VOIP applications)*

**VOX@NET will add the following features to the integration**

- Audio server with MP3 message/Music files library. It can contain thousands of MP3 files for either background music or pre-recorded messages to be broadcasted into the TCP/IP network.
- Remote station status reporting global.
- Optional server and network redundancy.
- Visualization and recording (Log file) of events and Sinaps Remote systems faults.
- TCP/IP network address administration on VOX@NET server software.
- Microphone calls in any zone or group of zones of any IDA system.
- Broadcasting of pre-recorded messages in any zone or group of zones.
- Background music pre-recorded on server or played on external music source.
- Live recording of microphone calls to be broadcasted later on.
- Pre-recorded messages stacking. Up to 100 messages can be stacked.
- Message scheduler (time, day of the week, number of times).
- User management with up to 10 configurable and password protected profiles.
- IDA system administration with PCI-D4XM software.
- Recording on log file of calls, messages, and VOX@NET and IDA system faults.
- MODBUS protocol for third party control.
PAGING STATIONS

COMPACT AUDIO SYSTEM - EN 54-16 compliant

The security audio systems have either a dedicated and secured audio and communication link or a TCP/IP communication link.

**PSS-G2**

The PSS-G2 Touch paging microphone console is an interface which allows paging call, messages broadcasting and DSP matrix parameter control. IDA8 can handle up to 4 PSS-G2 units connected to a secured bus. Its back-lit touch screen is designed for simple and user-friendly operating. The 3 hardware-keys can be freely assigned within the IDA8 control software. Various operating levels with password protection make the PSS-G2 a versatile device that fits well in a commercial shopping center as well as an industrial high security environment.

All paging parameters needed for site operating can be programmed: zones assigned to the different buttons, name of zones, group of zones, messages triggering, levels adjustments and pre-call chime but also for fader control, button control or event control.

The message and the chime are stored into the PSS-G2. A total of 30 keys on 3 pages allow zone or group of zones selections. Each key contains a green color changing field indicating that the zone is occupied by a different process.

Example with PSS-G2

Example with PSS-ITS

**PSMxx:**

Unidirectional Condenser Addressable Microphone, compatible with IDA8C and IDA8S devices via RS485 protocol over a single CAT5 cable connection to transport both Audio and Power to the PSMxx from the IDAxx system. The unit comprise of 8 zones / 8 button with sleek Condenser Goose Neck Microphone, and spring metal protection, providing durability and excellent aesthetic to 256 zones expansion via the additional Key-pad easy extension station. The buttons can be represent a single zone or group of zones and easily defined via the GUI of the IDAxx system via a simple Matrix selection.

The unit comprises as well “Hold” and “Busy” LED signals apart from the zone LED’s, these shall allow the identification of selection/ Busy signals for the user notification.

All buttons can be programmed with Drag & Drop features from the LAP GUI software and each button can be programmed for Push to Talk or Latch functionality. The Unidirectional Condenser Microphone means high quality directive pick up from the user and hence less interference from the surroundings thanks to the Cardio Polar Reception Patten.

The IDAxx system can accommodate up to 32 PSM microphone on one IDAxx and up to 256 zones in total, the RS485 communication protocol means daisy chain of up to 3,281 ft on a simple CAT5 cable, and yet making outlets easy to connect via a standard RJ45 connectors.

Main Features: 8 paging programmable keys with status and 1 All call button.

**PSS CHARACTERISTICS**

- 5” TFT full colour touch-screen
- 3 LED indicators: Power/General Fault/Evacuation active
- 3 key-buttons: User definable using Ateis Studio GUI
- Console size: (L x W x D) 9.84 x 5.5 x 3.15 in
- Microphone flex length: 11 in
- Weight: 2.42 lb
- Color: RAL 7016
- Front tilted at 30°
- Material: metal back, PVC top and sides

**PSMxx CHARACTERISTICS**

- Base dimensions (HxWxD): 7.9 x 4.2 x 13.5 mm
- Weight: Approx. 1.21 lb
- Colour: French Grey
- Goose-neck length with mic.: 11.8 in
- Cable length: 2,952.75 ft
- Comes standard with Junctionbox (JB) and CAT5 cable (4.92 ft).
AMPLIFIERS - CHARGER

COMPACT AUDIO SYSTEM, EN 54-16 compliant

Security Amplifiers, EN 54-16
The DPAXx is a 2U high 19” rack mountable, 4-channel class-D power amplifier, transformer isolated for 100V, 70V and 50V distributed loudspeaker systems. Each channel can deliver up to 250 Watt when used as separate channel or can be combined with other channels to deliver a multiple of 125 or 250 Watt.

- DPAX four 125: 4 x 125 Watt class-D power amplifier
- DPAX four 250: 4 x 250 Watt class-D power amplifier
- DPAX single 1000: 1 x 1000 Watt class-D power amplifier
- DPAX series are 2U high, 19-inch rack mountable.

This amplifier has a dual voltage mains 110/230 VAC and a 24 VDC battery back-up input which allows it to be used in combination with a battery backup system for maximum availability and durability in an emergency evacuation system. There are 3 types of power amplifiers available in the ATEIS IDA8 family range of products.

Security Battery back-up supply and charger, EN 54-16
The BECS-240-1000 is a combined security battery charger and backup supply for the DPAXx family of products. The BECS provides power backup during mains failure to a maximum of 6 DPAXx power amplifiers and 1 backup power amplifier. The BECS is equipped with heavy duty power connectors and an isolated main battery entry for extra safety during installation.

- Beside a charger for a 240 AH 24 VDC battery, the BECS is also equipped with a separate 1000 Watt 24 VDC power supply that acts as redundant backup for the individual DPAXx power amplifiers in case of an internal power supply failure. This way the batteries are secured for emergency applications only with a maximum availability on the amplifiers.

BECS-240-1000
Combined backup powersupply for up to 6 DPAXx and battery surveillance and charger unit.

- 2U high, 19-inch rack mountable.
- Battery capacity: 240 AH.
- 6 x 24VDC secured outputs for DPAXx power amplifiers.
- 1x 24 VDC secured output for DPAXx back-up power amplifier.
- 3 x 24 VDC output for IDA8xx.
- Redundant 1000 W / 24 VDC power supply.
- Separate Charger for 240 AH battery.
ATEIS STUDIO™ user friendly Graphical User Interface (GUI)

ATEIS Studio™ allows complete audio systems with a multitude of similar or different devices to be configured, supervised and controlled centrally from a single user interface. ATEIS Studio™ supports all IP-based products with the Ateis product family such as IDA™, LAP™, Messenger™ and Terracom™. ATEIS Studio™ is open for further implementations in the future. ATEIS Studio™ also integrates power-amplifiers, microphone consoles and IP-remote controllers such as PSS-touch, URC 200 and 300. It supervises, controls, logs and reports.

The whole system configuration can be stored and reloaded at the push of a button (Preset), depending upon the application. Customers can design their own graphic user interface or control panel(s) program automatic sequences (Events) and create different levels of user groups (Security).

ATEIS Studio™ provides a complete set of tools and building blocks for real-time control, monitoring and design of an audio system or Voice Evacuation system from paging desk to loudspeaker. Detailed information such as signal levels, Loudspeaker impedance, pre-recorded messages, amplifier conditions and other parameters can be monitored in real-time.

A library of control and monitoring elements, (GUI) graphical user interface, are provided and includes items such as volume control faders, various metering, high level EQ, Compression, Limiting, Auto-Gain, Noise-sensing, Mixing, quick-buttons and display elements. The behavior of these elements are completely configurable for customer control design.

The combination of these GUI tools allows a user to create a control surface that is effective, easy to operate regardless of the user’s technical knowledge. Additional security is available through the use of password protected layers according to the EN 54-16.

Multiple users can be created within ATEIS Studio™, each with a unique password and access to specific layers of the GUI. This creates a control surface that is specific to the needs of any system designer and/or operators.

In addition you will find a comprehensive selection of tools for system design and programming using our ATEIS Studio™ integrated software platform for all remote-controllable devices and systems.
This example describes a PAVA system, VACIE, that is used for voice evacuation with an automatic link with a fire-panel system, FACIE. The system is split into 3 rack systems, for each building one. Each building has the facility to do local and global paging. General calls and service calls have been delegated from the gate houses.

The overall connection between the buildings is based on a redundant fiber-optic core that carries up to 64-audio channels. The paging consoles are connected via a secured dedicated link with the central equipment racks.

A TCP/IP link from the main system to the Gate House establish the communication link with the Gate House paging desk. This paging desk can do all calls and zone calls and has a feedback loudspeaker in the unit for system monitoring. The PC is for maintenance use.
High-rise buildings with distributed sound

EXAMPLE #2

This example describes a PAVA system, VACIE, that is used for voice evacuation with an automatic link with a fire-panel system, FACIE, for high-rise building applications. The system contains a central rack that is based in the basement of the building and covers the first floor, central paging facilities and maintenance PC. This part of the system is also linked to the FACIE.

Since high-rise buildings suffer from power loss in cables due to long cable lengths, IDA8 Slave with amplifiers are positioned, decentralized and evenly divided between floors. This ensures the shortest routes between amplifiers and speakers. To connect the IDA Slaves with the IDA Master a combination of IDA-NET cards are used.

From the IDA-Master to the first slave Fiber to RJ45, from the first IDA Slave to the second and following. IDA NET RJ45 to RJ45 and the last IDA8 Slave will have IDA NET RJ45 to Fiber.

The overall connection between the floors is based on a redundant IDA-Network that carries up to 64 audio channels. The paging consoles are connected via a secured dedicated link with the central equipment racks.

A TCP/IP link from the main system to the SERVICE area is meant for maintenance use and remote access. The paging desk can do all calls and zone-calls and has a feedback loudspeaker in the unit for system monitoring.

Equipment rack Basement:
- 1x IDA8S for 8 zone paging
- 1x IDA-NET1, RJ45 – RJ45 (Local Network)
- 2x DPAfour250, 8 zones
- 1x IDA8S for 8 zone paging
- 1x IDA-NET1, RJ45 – RJ45 (Local Network)
- 2x DPAfour250, 8 zones
- 1x BECS-240-1000, Power & Battery back-up device
- 1x PSS-G2 Touch paging console

Equipment rack 11th to 20th floor:
- 1x IDA8S for 8 zone paging
- 1x IDA-NET1, RJ45 – RJ45 (Local Network)
- 1x DPAfour125, 8 zones
- 1x BECS-240-1000, Power & Battery back-up device
- 1x IP-PSS-G2 Touch paging console

Equipment rack 21th to 30th floor:
- 1x IDA8S for 8 zone paging
- 1x IDA-NET1, RJ45 – RJ45 (Local Network)
- 1x DPAfour125, 8 zones
- 1x BECS-240-1000, Power & Battery back-up device

Equipment rack 31th to 40th floor:
- 1x IDA8S for 8 zone paging
- 1x IDA-NET1, RJ45 – RJ45 (Local Network)
- 1x DPAfour125, 8 zones
- 1x BECS-240-1000, Power & Battery back-up device

Equipment rack 41th to 50th floor:
- 1x IDA8S for 8 zone paging
- 1x IDA-NET1, RJ45 – RJ45 (Local Network)
- 1x DPAfour125, 8 zones
- 1x BECS-240-1000, Power & Battery back-up device
This example describes a PAVA system, VACIE, that is used for voice evacuation with an automatic link with LOCAL fire-panel system, FACIE, for a Railway applications or systems where security needs to be combined with multiple remotely positioned stand-alone PA-facilities over IP.

In the contrary to the examples 1, 2 and 3, this system does not contain a central equipment rack. The whole setup is based on multiple standalone and self-supporting PAVA systems that are linked over a dedicated IP-Network.

Each system has a link to the local FACIE and contains a secured paging facility with power back-up. From other remote positions, general and selective calls can be made or automated messages can be played simultaneous over the IP-Network using VOX@NET multi-point control software that runs on a redundant PC with a back-up location elsewhere on the network.

The system also contains multiple non-secured PSS-G2-E IP-paging desks at various locations such as ticket locations or supervisor offices. It also provides VNB-mediastreamers used as break-out boxes for paging only in the train maintenance area along the track.

A remotely positioned PC with a redundant message-player provides services and automated messages.

Decentralized Equipment rack 1 and 3 (typical):
1x IDABC for 8 zone paging
2x DP4Four250, 8 zones
1x BECS-240-1000, Power & Battery back-up device
1x PSS-G2 Touch paging console

Remote paging consoles:
1x PSS-G2 E Touch paging console

Remote paging locations:
1x VNB-24-1, TCP/IP 2 audio in and 2 audio out mediastreamer.
1x DP4Four250, 4 zones