

ITEC NET itec-audio.com

ETHERNET based public address and voice alarm system

Real time audio transmission

Real time configuration

Real time recording

64 simultaneous audio channels

Studio quality (48 kHz/24 bit)

No single point of failure



audio for lif(v)e and safety

- EN 54-16 certified
- EN 54-24 certified
- EN 54-4 certified



In the future, voice evacuation systems are going to replace the classic siren alarm. The reason for this is that these days only few people react to siren alarms, evacuation signals, alarm cancellations, etc. can no longer be differentiated. In contrast, a building can be very efficiently evacuated in the event of fire or an emergency using clear voice instructions.

The larger a building is, the more people there are inside it, the more important the installation of a modern voice alarm system becomes.

During the ITECNET development, we considered these requirements as well right from the beginning. Complete system monitoring, supervision of emergency microphones, amplifiers, speech memories, speaker lines, and power supply. Thanks to the decentralised concept, ITECNET also allows for fully redundant systems at the highest safety level, and there is no single point of failure. A multitude of standards regulate planning, installation, operation and production of so-called voice alarm systems. With ITECNET, we fulfilled the requirements for the obtaining of the manufacturer certificates according to EN 54-16 and in many areas we even exceeded them.

ITEC NET - Highlights

Ethernet based multichannel audio system for public address, music, voice alarm and broadcast applications

Simultaneous transmission of up to **64 digital audio channels in studio quality** (48 kHz/24 Bit), with a constant latency of 1.33 ms (digital)

Distributed audio system, **no „single point of failure“**

Real-time configuration with ITEC  NET - **NET  DESIGN software:**
Allows system configuration changes during normal operation of the system

Real-time audio transmission: Constant latency of 4.6 ms analog-in/analog-out

Up to **4000 devices** can work simultaneously together in one network

Up to **16.000 output zones** in one audio network

Can also be used with standard Ethernet network infrastructure

Integrated 2 GB memory card for alarm texts and music files
Recording capacity 256 files, total time about 3 hours!
(Can be integrated in any network component)

Integrated real-time recorder for delayed announcements

Speaker impedance- line monitoring during program mode

ITEC  NET Application Programmable Interface (TCP/IP) for connecting to security management systems and media control systems

It has never been so easy to plan complex audio systems

All system components are **certified according to EN 54-16**



Break in / Break out Network Components



SPIDERLINE 16

- Line multiplexer, fully-fledged 4 to 16 matrix
- Contingency concept conformant to standards with switchover to redundant power amplifier
- Monitoring of up to 16 loudspeaker lines – impedance and line monitoring also during background acoustic
- Optional: integrated 2GB memory card for alarm text, music files, as text memory recording capacity 256 files (approx. 3 hours)
- Integrated real-time recorder for time-delayed announcements
- AVC: Automatic Volume Control
- Various interfaces to fire alarm systems and third party systems (IP, RS232 / 485, digital inputs and outputs)
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices
- Sound processing for each input: 2x fully parametric equalizer ± 15 dB, $Q=1-70$, 1x 1st order low/high pass
- Sound processing for each output: 4-band fully parametric equalizer ± 15 dB, delay: 0.023 ms - 24.5 s, band-pass filter: 1st-4th order, filter quality freely selectable from 0.1 to 70, compressor/limiter



SPIDER 44

- Combined break-in/break-out module (4 analogue audio inputs and outputs)
- Optional: monitoring of up to 4 loudspeaker lines – impedance and line monitoring also during background acoustic with optional line monitoring card
- Optional: integrated 2GB memory card for alarm text, music files, as text memory recording capacity 256 files (approx. 3 hours)
- Integrated real-time recorder for time-delayed announcements
- AVC: Automatic Volume Control
- Various interfaces to fire alarm systems and third party systems (IP, RS232 / 485, digital inputs and outputs, analogue measurement inputs)
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices
- Sound processing for each input: Compressor/limiter, 2x fully parametric equalizer ± 15 dB, $Q=1-70$, 1x 1st order low/high pass
- Sound processing for each output: 4-band fully parametric equalizer ± 15 dB, delay: 0.023 ms - 24.5 s, band-pass filter: 1st-4th order, $Q = 0.1$ to 70, compressor/limiter



SPIDER 04

- Break-out module (4 analogue audio outputs)
- Optional: monitoring of up to 4 loudspeaker lines – impedance and line monitoring also during background acoustic with optional line monitoring card
- Optional: integrated 2GB memory card for alarm text, music files, as text memory recording capacity 256 files (approx. 3 hours)
- Integrated real-time recorder for time-delayed announcements
- AVC: Automatic Volume Control
- Various interfaces to fire alarm systems and third party systems (IP, RS232 / 485, digital inputs and outputs, analogue measurement inputs)
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices
- Sound processing for each output: 4-band fully parametric equalizer ± 15 dB, delay: 0.023 ms - 24.5 s, band-pass filter: 1st-4th order, $Q = 0.1$ to 70, compressor/limiter



SPIDERMIKE 2

- Alarming and business call station with 19 freely configurable buttons with 3-colour LED for each button
- Gooseneck microphone with dynamic or electret capsule
- Microphone and line monitoring
- Redundant line connector for highly secure links
- Optional: integrated 2GB memory card for alarm text, music files, as text memory recording capacity 256 files (approx. 3 hours)
- Integrated real-time recorder for time-delayed announcements
- Various interfaces to fire alarm systems and third party systems (IP, RS232 / 485, digital inputs and outputs, analogue measurement inputs)
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices
- Sound processing for each input: Compressor/limiter, 2x fully parametric equalizer ± 15 dB, $Q=1-70$, 1x 1st order low/high pass
- Sound processing for each output: 4-band fully parametric equalizer ± 15 dB, delay: 0.023 ms - 24.5 s, band-pass filter: 1st-4th order, $Q = 0.1$ to 70, compressor/limiter
- Integrated speaker



SPM-DM DYNAMIC GOOSENECK MICROPHONE

- Optional for SPIDERMIKE 2
- For use in acoustically difficult rooms
- Super-cardioid characteristic
- High level of ambient noise suppression
- High dynamics, broad frequency response at low distortion levels
- Length: 360 mm



SPIDERMIKE 2 - KEYBOARD EXTENSION

- For SPIDERMIKE 2 call station
- Addition of 24 configurable buttons with 3-colour LED for each button



FIRE FIGHTER CALL STATION AND OPERATOR PANEL (ÖNORM F 3033)

- Alarm call station with housing and operator panel design conformant to standards
- Dynamic hand-held microphone
- Microphone and line monitoring
- Redundant line connector for highly secure links
- Integrated 2GB memory card for alarm text, music files, as text memory recording capacity 256 files (approx. 3 hours)
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices
- Sound processing for each input: Compressor/limiter, 2x fully parametric equalizer ± 15 dB, $Q=1-70$, 1x 1st order low/high pass
- Integrated speaker



BUSINESS-CALLSTATION

- Business intercom with 8 zone buttons and 1 call button
- Electret condenser microphone with gooseneck
- Remote call station for SPIDERLINE 16 and SPIDER 44



SWITCH 4/1

- 19" 1HE ethernet switch with 2 x 4-port copper (RJ45) and 2 x fibre optic ports (duplex SC connector)
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices



CAT5 REPEATER

- Ethernet switch in wall-mounted enclosure with 1 x 4-port copper (RJ45) and 1x fibre optic port (duplex SC connector)
- For increasing ranges of installations
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices



INDUSTRIAL SWITCH

- DIN rail ethernet switch (8-port copper, 2-port fibre optic)
- 10/100 Mbps auto MDI/MDI-X RJ-45, Gigabit TP/SFP combo interface
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices



INDUSTRIAL MEDIA CONVERTER

- DIN rail ethernet converter (1-port copper, 1-port fibre optic)
- 10/100 Mbps auto MDI/MDI-X RJ-45, Gigabit TP/SFP combo interface
- 24 VDC power supply for supply conformant to standards with EN 54-4 certified power supply devices



MINI-GBIC MODULE FOR INDUSTRIAL SWITCHES / MEDIA CONVERTERS

- Fibre optic single and multimode for ranges 550m to 40km



DIGIPOWER 1x250T

- Digital 100V amplifier, durable and secure for professional public address systems
- 1 x 250 W / 100 V
- Supply voltage: 230 VAC / 24 VDC
- Maintenance-free cooling system without fans
- Monitoring contacts
- Only 260 mm installation depth
- Only 10 W in standby mode



DIGIPOWER 2x250T

- Digital 100V amplifier, durable and secure for professional public address systems
- 2x 250 W / 100 V or 1x 500 W / 100 V
- Supply voltage: 230 VAC / 24 VDC
- Maintenance-free cooling system without fans
- Monitoring contacts
- Only 260 mm installation depth
- Only 10 W in standby mode



DIGIPOWER 4x150T

- Digital 100V amplifier, durable and secure for professional public address systems
- 4 x 150W / 100V or 2 x 300 W / 100 V
- Supply voltage: 230 VAC / 24 VDC
- Maintenance-free cooling system without fans
- Monitoring contacts
- Only 280 mm installation depth
- Only 4 W in standby mode



EN 54-4
certified

DSV54-4 POWER SUPPLY

- Certified to EN 54-4:1997+A2:2006
- Permissible battery capacities: 65 – 225 Ah
- Supply of module components and for charging/monitoring of the standby current batteries
- Monitoring of the mains voltage (230 VAC), batteries (24 VDC) and pre-fusing of low-voltage outgoing lines
- Fault display on front with LEDs and potential-free contacts
- Regular measurement of the internal resistance of the batteries



EN 54-4
certified

ZDSO400-DR2 POWER SUPPLY

- Certified to EN 54-4:1997+A2:2006
- Permissible battery capacities: 40 – 320 Ah, max. 2 cables
- Supply of module components and for charging/monitoring of the standby current batteries
- Monitoring of the mains voltage (230 VAC), batteries (24 VDC) and pre-fusing of low-voltage outgoing lines
- Fault display on front with LEDs and potential-free contacts
- Regular measurement of the internal resistance of the batteries



EN 54-4
certified

ZDSO400-DR4 POWER SUPPLY

- Certified to EN 54-4:1997+A2:2006
- Permissible battery capacities: 40 – 640 Ah, max. 4 cables
- Supply of module components and for charging/monitoring of the standby current batteries
- Monitoring of the mains voltage (230 VAC), batteries (24 VDC) and pre-fusing of low-voltage outgoing lines
- Fault display on front with LEDs and potential-free contacts
- Regular measurement of the internal resistance of the batteries



INDICATION BOARD

- Display panel conformant to EN 54-16 for visual and acoustic status alerts
- Colour-coded visual display of operation and faults, and voice alarms
- Fault alert with acoustic warning sound
- Button for acknowledging the acoustic warning
- Potential-free fault contact
- Design: 19", 1HE or "open frame"



LEVEL 2 CONTROL PANEL

- Control panel conformant to EN 54-16
- Manual triggering and display of voice alarm
- Manual resetting of a voice alarm
- Manual muting of a voice alarm and display of muting
- Acknowledgement of a fault alert

Speech Memory



INDUSTRIAL MICRO SD CARD

- Memory card as speech memory
- 2 GByte Micro SD Flash Card

Components for Speaker Line Supervision



PASSIVE LINE MONITORING MODULE – EOL 2

- For line monitoring to EN 54-16
- Suitable for 100V systems
- Standard 2-wire loudspeaker line



ACTIVE LINE MONITORING MODULE – EOL 3

- For line monitoring to EN 54-16
- Suitable for 100V systems
- Standard 2-wire loudspeaker line
- Individually addressable monitoring component
- Various cabling structures possible (such as stitch, star and tree)
- Patented monitoring process



LINE MONITORING CARD

- Plug-in card for SPIDER 44 and SPIDER 04
- Monitoring of up to 4 loudspeaker lines for earth faults, short circuits and breaks, and impedance measuring also during program play

Components for the Connection to Fire Alarm Systems and 3rd Party Systems

EN 54-16
certified



I/O EXPANDER

- Interface expansion of 16 digital inputs, 16 digital outputs, 8 analogue measurement inputs and 4 PWM outputs respectively
- Connection to the system with 2-wire RS485
- For use with SPIDERLINE 16, SPIDER 44 and SPIDER 04



RELAY EXTENSION/8

- 8-way relay card with changeover contacts
- Module for extending the number of digital outputs by 8 potential-free outputs
- Connection to the system with 2-wire RS485
- For use with SPIDERLINE 16, SPIDER 44 and SPIDER 04

Components for Automatic Volume Control



AVC-MICROPHONE

- Microphone for automatic volume control of background music and announcements taking into account the ambient noise level
- Electret capacitor microphone in IP65 protective housing
- Supply with phantom voltage (no separate supply required)
- Symmetric output: Adjustable microphone/line level
- For use with SPIDERLINE 16, SPIDER 44 and SPIDER 04
- Certified to EN 54-16



AVC-MONITORING

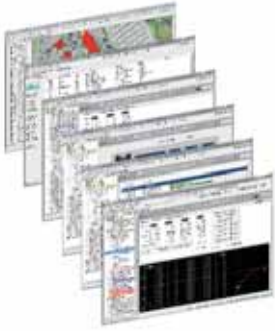
- Module for monitoring up to four microphone lines (specially designed for use with the ITEC AVC-MIC)
- Monitoring of up to 4 microphone lines
- Possible summing of up to 4 microphone signals
- Supply of connected microphones with 12V phantom voltage
- Collective fault alert to relay switchover contact
- Certified to EN 54-16

Ground Fault Monitoring



EARTH FAULT MONITORING

- Module for monitoring 24 Volt supply lines for remote system components (such as intercom systems)
- Collective fault alert to relay switchover contact
- Certified to EN 54-16



SOFTWARE NETDESIGN

ITEC NETDESIGN is a Windows-based application for configuring and monitoring the entire ITECNET network. Included is a TCP/IP interface (ITECNET API) allowing a direct link to other control systems, such as media control or security management systems. In addition NETDESIGN offers the possibility to update the DSP- and control software from any point of the network. The huge number of monitoring and logging capabilities ensures a safe operation within this large audio and data distribution system.

TCP/IP API INTERFACE PANEL PC

This TCP/IP based software interface for ITECNET offers all necessary functions to operate and monitor a system. Using the free available software "ITEC tablet designer" an application has been implemented. This program allows you easily to manage complex PA systems via an amateur safe and self-explanatory graphical user interface. The user interface can be arranged freely and is highly flexible due to its modular design. Another request to the interface, that had been implemented, was the connection of "ITECNET" to higher-level security management systems to combine all security relevant disciplines in a large building (fire alarm systems, access systems, video surveillance, etc.).

UP-REMOTE CONTROL PANEL

- Program selection and volume control for up to 4 output zones
- For use with SPIDERLINE 16, SPIDER 44 und SPIDER 04
- Connection to the system with RS485
- Up to 16 panels can be connected per Spider44/04.
- Configuration to be done via software NETDESIGN.

Loudspeaker Systems

**EN 54-24
certified**



NEODYMLINE 100V/WP/54-24

- High power 2 or 3-way systems with passive crossover network unit
- Highest sound pressures even at very small dimensions
- 3 different sizes and performance models
- Perfect sound in acoustically challenging areas
- Welded aluminium housings for weather-proof outdoor installations (IP33)
- Integrated power switch
- Optional: Ceramic connection terminal with thermal fuse

NEODYMLINE A/B-WP/54-24

- Perfect sound in acoustically challenging areas
- 2 Passive 2 channel fullrange system
- 2-, 4-, 6- or 8-channel controllable
- Highest sound pressures even at very small dimensions
- 2x4 3" neodymium transducers
- Optional: Ceramic connection terminal with thermal fuse

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ETHERNET based public address and voice alarm system

Real time audio transmission

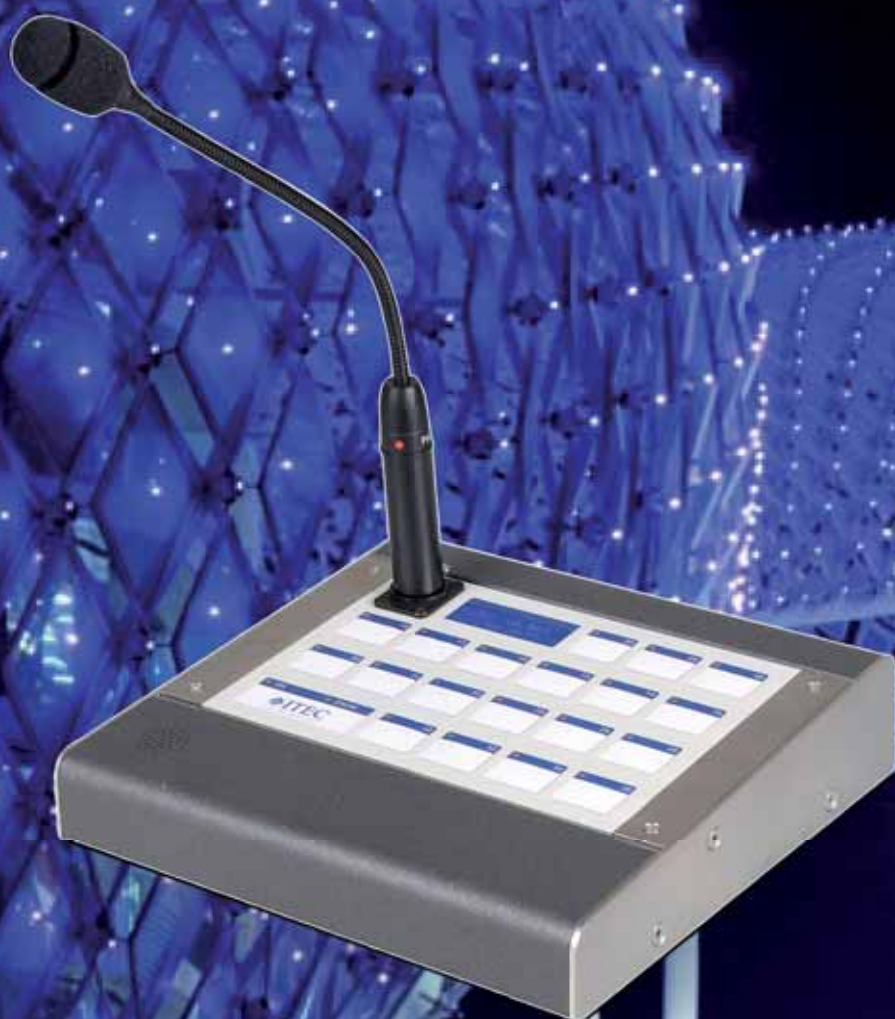
Real time configuration

Real time recording

64 simultaneous audio channels

Studio quality (48 kHz/24 bit)

No single point of failure



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 **ITEC**
itec-audio.com

ITEC- Tontechnik und Industrieelektronik GesmbH
A-8200 Lassnitzthal 300 / Austria / Europe
Tel.: +43 (0)3133 / 3780-0, office@itec-audio.com