ITEC™ NET
...sounds more than safe...
Basic data

- Ethernet based multichannel audio system for public address, music, emergency and broadcast applications
- Simultaneous transmission of up to 64 digital audio channels in studio quality (48 kHz / 24 bit) with a constant latency period of 1.33 ms
- Peripheral audio system, no “single point of failure.”
- Real-time configuration with ITEC®NET – NET®DESIGN software: Adjustment of system configuration parameters during normal operation!
- Real-time audio transmission
  Constant latency period of 4.6 ms (analog-in/analog-out).
- Up to 4000 devices can work together in one network simultaneously
- Up to 16 000 output zones in one ITEC®NET network
- Can also be used with standard Ethernet network components
- Integrated 2Gb memory card for alarm texts, music files. Recording capacity of 256 files, 3 hours in total time!
- Integrated real-time recorder for delayed announcements
- Speaker impedance and line monitoring even during program mode operations.
- ITEC®NET applications Interface (TCP/IP) for the connection to security management systems
- It has never been so easy to design complex audio systems
- System components under certification according to EN 54-16

Software NET®DESIGN configuration software
Security sound systems
For system designs according to EN 833-4, EN 60849, S158 TRVB, Certifications according to EN54-16, EN54-24*)

Real-time sound distribution systems
F1 racing circuits, stadiums, theme parks ...

Professional Speaker Systems
High power PA speakers, active and passive controlled column loudspeaker systems, PA systems

Church Sound Systems
digitally controlled sound columns (line arrays) for highest speech intelligibility in acoustically reverberant halls. Fully automated signal processing.

*) ITEC NET components and speakers are under certification. The certification process is expected to be finished by early summer 2011.
Security sound systems

Security sound systems will replace the classic siren alarm in near future. The reason for that is simple: Only a few people know the siren tone sequences and can interpret the differences between alarm, evacuation, all clear, etc. On the contrary an evacuation can be very efficient with spoken instructions using a plain language in case a building burns.

The larger a building, the more people are present, the more important it is to install a modern security sound system.

In the ITEC\ NET development all these requirements have been taken into account from the beginning on: Full system monitoring - Monitoring of emergency microphones, amplifiers, voice memories, the speaker lines and power supply devices. The decentralized concept used within ITEC\ NET also allows to design a fully redundant system for the highest level of possible security.

A variety of standards are governing the design, the construction, the production and the operation of so-called security sound systems. We made with ITEC\ NET our contribution for obtaining manufacturers certificates and were in many cases even able to exceed the requirements.*

*) The ITEC\ NET components for voice alarm control and indicating equipment (according to EN 54-16) and some ITEC high-performance sound reinforcement speakers (according to EN 54-24) are currently in the certification process - we plan to publish the certificates early summer 2011.
## Power supply according to EN 54-4

Certified power supply device according to EN 54-4. 4 rechargeable batteries, each 12V/100Ah, can be connected to the unit (total capacity 200Ah/24V), 2 x 24V power outlets á 100A.

### System components according to EN 54-16

- **ITEC NET SpiderMike2**, the call station: Standardized microphone monitoring, 19 free configurable keys, up to 4 add-on modules with 24 keys, alarm text memory for 3 hours of recording time!
- **ITEC NET Spider44**, the 4x4 Break-in/out module including standardized line and impedance monitoring for 4 speaker lines, even during program playbacks
- **ITEC NET SpiderSwitch4/1**, 4 + 1 Ethernet switch with fibre-optic uplink for transmission distances of up to 5 km (multimode fibre)
- **ITEC NET DigiPower 2x250W/100V**, digital 2-channel amplifier for 230VAC and 24VDC supply voltage
- **ITEC NET Fire-fighters call station** (ÖNORM F3033 and TRVB S158)

### PA speakers according to EN 54-24

High power PA speaker systems for full range applications. Authentic music reproduction through high-end -100V audio toroidal core transformers. All drivers are equipped with neodymium magnets.

#### Models:
- **ITEC PowerTop12/2, SPLmax.**: 128dB/100V
- **ITEC Monitor12, SPLmax.**: 122dB/100V
- **ITEC NeodymLine Series**: high-performance sound columns in welded aluminium housing, 100% weatherproof!
Real-time sound distribution systems

Wherever thousands of people gather, safety is of utmost importance. However people come together to entertain themselves in first instance and to experience an exciting event. Good quality entertainment includes high-quality music playback and live commentary. Therefore the requirements for an entertainment sound system can be expressed as follows:

- **Full-range PA speaker system** with at least evacuation sound pressure levels that adequately penetrates tribunes, stands, vending and VIP areas.
- **Real-time audio signal distribution** and processing. A maximum latency period of 5ms (analog in-to-analog out) must not be exceeded.
- **Real-time configuration** of the entire system from any node of the network.
- **TCP/IP interface** to the sound system for the simple realization of control tasks using a PC or media control panel.

The solution for all these tasks is: ITEC NET, an Ethernet-based multi-channel audio system for PA, emergency, music and broadcast applications. Simultaneous transmission of up to 64 digital audio channels in studio quality (48 kHz/24 bit), with a constant latency period of 1.33 ms (digital).

And needless to say in compliance with all standards and safety requirements.
ITEC●NET, the audio and data network.

Featuring:
- 64 audio channels simultaneously
- Studio quality, 48 kHz, 24 Bit
- Default constant latency period of 1.33 ms (digital)
- Constant latency period of 4.6 ms (analog in/analog out)
- Layer 2-based network protocol for audio, video and data
- TCP / IP based API (application interface) for control tasks.
- Standard-compliant security, monitoring and logging functionality

Signal Processing

Digitally controlled mixer and studio-quality controller for input signal processing, automatic microphone mixing, equalization, speaker management etc.,............

ITEC Multimix 8/4 digital
ITEC Multisplit 4/8 digital
ITEC PA-Control

Power amplifiers

Dual and multi-channel amplifiers for low impedance and 100V installations. Digital amplifiers for dual power supplies in VACIE.

The Multipower Series
The Digipower Series

ITEC Microphone Series

Gooseneck condenser microphones, handheld condenser microphones, UHF and VHF PLL-synthesized wireless microphone systems, multi-diversity WM-microphone systems for wide areas of over 200,000 m².

ITEC Professional Speaker Systems

An extensive portfolio of speaker systems for professional sound reinforcement systems, low impedance or 100V (for security sound applications). Active controlled and passive speaker systems for high-quality sound reinforcement applications in acoustically difficult rooms

NeodymLine-Serie
FocusLine-Serie

Active controlled Line Arrays and passive PA high power speakers

ITEC Monitor12
ITEC PowerTop12/2
ITEC FocusLine PA-Array
Professional PA Speaker

The final element in the chain of a sound system is the speaker. Quite often people think that speakers with similar power ratings are comparable. But there are a number of parameters, which define a good speaker. And the requirements for professional sound reinforcement speakers are even more challenging.

It is essential and necessary to apply only drivers with the highest production quality and precision respectively equipped with the latest material technology. Other key characteristics are the crossover design with speaker protection circuits, the design of the low vibration speaker housings and mechanical housing extras. One could consider the successful design of one speaker model would fit for all applications - what is actually not the case: there is another parameter with even larger influence on the PA results: the room acoustics.

For applications such as airport departure lounges, train stations and churches we have developed specific active and passive controlled line array systems, which due to the high degree of vertical beam focusing, acoustically only minor stimulate the room. With these sophisticated systems weighted sound pressure levels and speech intelligibility levels can be achieved previously only known from acoustically dry rooms!

In addition we offer: Weatherproof versions, impact-proof speaker covers, full-range systems suitable for 100V, certified speakers (EN 54-24 *).

Our portfolio of professional speaker systems covers a large number of requirements. Nevertheless we still have the flexibility to implement customized solutions in the shortest possible time.

EASE, Ulysses and CLF2 data are available to the PA planner for an extended range of our models.

*) ITEC-Net components and speakers are under certification. The certification process is expected to be finished by early summer 2011.
ITEC High Power Full Range Speakers

Speaker systems for PA purposes and music reproduction, for mobile applications or for fixed installation, low impedance or 100V, optional weather-proof configuration, impact-proof speaker covers, flyware. And a range of high-power bass speaker systems for authentic LF-reproduction.

ITEC High-performance Passive Column Loudspeaker Systems

Design sound columns for media system applications and for reverberant acoustic environments. Wooden enclosures for indoor applications and welded aluminum cases for outdoor and security reinforcement applications. All RAL color coatings optional available.

ITEC High-performance Active Controlled Column Loudspeaker Systems

Digitally controlled column speakers and PA systems for acoustically difficult arenas, and churches. The ITEC Focus Line Technology: All parameters such as beam shaping, opening angle and radiation angle are easily and in real-time adjustable by applying our intuitive controller software “SplitDesign”.

Certified PA Speakers

Some of our PA speakers, which are used in full range sound reinforcement applications or in security sound systems are currently under certification. By end of 2011 the following models certified according to EN 54-24 will become available:

Die ITEC NeodymLine Series, die ITEC FocusLine Series, the ITEC Monitor12 und the ITEC PowerTop12/2
PA systems within churches

Religious buildings are among the biggest challenges for the electro acoustic professional. Therefore it is obvious that ITEC worked on this subject with great devotion for decades and dedicated a large number of product developments for the specific use in rooms with long delay times.

Specific criteria for sound reinforcements in churches are:
Unique as the grandeur of ecclesiastical architecture the resulting acoustics is extremely difficult to control. Even though multiple reflections and long delay times are positive for vocal and musical performances, they are quite disadvantageous for the speech intelligibility of the spoken word. If one tries to cope with these challenges by applying appropriate technical measures, you will encounter the next problem:
In no other environment the gentle and unobtrusively integration of technical components into the existing architecture is that important. The experience gained from the installation of more than 1,000 church sound systems lead to the development of numerous ITEC products:
Low-noise amplifiers, slim column speakers for focused sound radiation, stylish microphones with excellent directional effect and sound processors for optimal sound processing have proven themselves of value even under difficult acoustic conditions and are characterized by high reliability and easy operation.
Our innovative digital technology offers new possibilities for acoustically reverberant areas. The future-proof ITEC Focus-Line technology makes it possible, by using just one speaker array to achieve excellent speech intelligibility without stimulating the reverberation of the room unnecessarily. The Focus line speaker array consists of a variety of speakers, which can be controlled individually. The mathematical algorithm of the system is designed in such a way that the whole sound column is „virtually bent“ and the sound is bundled like within a parabolic mirror and directed to the audience.

Sound reinforcement systems for large indoor or outdoor areas require the arrangement of many speakers as it is essential to avoid echo and comb filter effects. Next to the appropriate selection of suitable speakers - also in weather-proof design - ITEC provides multi-channel amplifiers and a zone mixer with eight independent outputs for this purpose. Through DSP-powered sound processing and adjustable delay times of up to 500ms, even difficult sound distribution tasks can perfectly be solved.

ITEC has been a specialist in designing and manufacturing of battery operated, portable speaker systems for decades. The probably easiest and most versatile product in our portfolio is the "ITEC-Twin-Box". As basis for presentations in halls or in processions, parades and tours - with the ITEC-Twin-Box you have the complete sound system with you. The lightweight Twinbox offers the remarkable acoustic performance for an audience up to 500 people and a battery operating time of maximum 8 hours (rechargeable batteries in place).