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ITEC® NET

EN 54-16 certified voice alarm system

System component: SPIDER44/03

- **Ethernet-based multi-channel PA system for alarming, evacuation, music and broadcasting**
- **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)**
- **Distributed audio system no „single point of failure“**
- **Real-time configuration with ITEC-NET - NET-DESIGN: 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 a network**
- **Up to 16.000 output zones in one audio network**
- **Optional 2 GB memory card for alarm texts and music files. Recording Capacity 256 files, total time about 3 hours!**
- **Integrated real-time recorder for delayed announcements**
- **Speaker impedance and line monitoring during program mode**
- **AVC: automatic volume control**
- **ITEC-NET application interface (TCP / IP) for connecting to security management systems**
- **Remote maintenance, remote control, various interfaces for fire alarm systems**
- **24 VDC power for supply using EN54-4-certified energy supply equipment.**
- **System certified according to EN 54-16: EC conformity certificate no. 1293-CPR-0700**

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

Our ITEC-NET Development team has considered these requirements from the very beginning. Complete system monitoring, surveillance of emergency microphones, amplifiers, speech memories, speaker lines, and of the energy supply. Thanks to the decentralised concept, ITEC-NET 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 safety PA systems. With ITEC-NET we did our part to meet the manufacturer requirements for EN 54-16 certification, and in many areas we even exceeded them.

SPIDER44/03

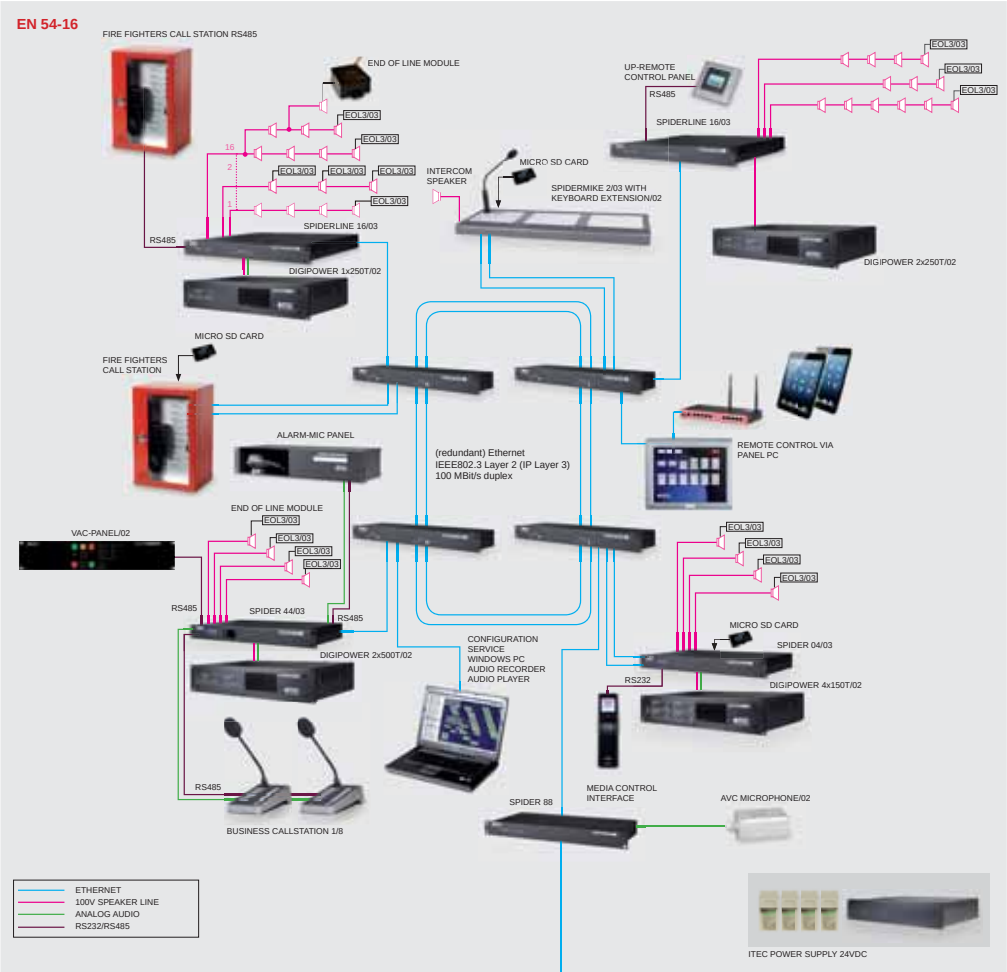
The combined Break-in/Break-out module in 19“ design, equipped with 4 analog audio inputs and outputs, 2 network ports and 24 VDC power supply. Other connection options: 2 serial ports (RS232 and RS485) for control tasks, 8 analog inputs, 8 digital inputs, 8 digital outputs, optional plug-in card for speaker monitoring (4 channels), optional 2 GB Micro SD Card Flash memory card as a voice mail. Front-page display for the output of messages. Online/real-time system-configuration with free ITEC PC-software NET DESIGN from every network accesspoint. Multiple access, realtime configuration of all system parameters including audion-functionalities!

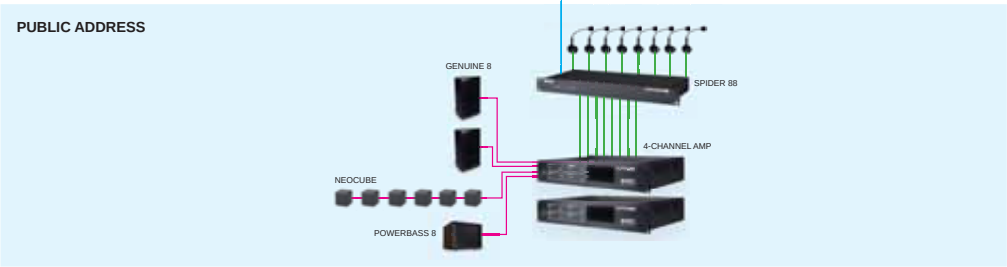
The SPIDER44 has an integrated and monitored voice alarm text memory with a recording capacity of up to 3 hours. Alarm announcements are automatically controlled by the fire alarm system or can also be triggered manually.

Other features: Automatic volume control (AVC), DSP functionality for all outputs and inputs, compressor limiter, delay of up to 24.5 seconds (acoustically corresponds to 8 km delay time), TCP/IP interface, serial interface for control systems, status display to indicate the key system statuses on the front.

The ITEC-NET components are networked via our standardised and certified network switch in accordance with Ethernet standard IEEE802.3u. Up to 4000 devices can be linked in a LAN.

SYSTEM OVERVIEW:





INPUTS AND OUTPUTS

General:
up to 64 digital audio channels (default)
IEEE802.3 ethernet - based network with
100 mbit/s duplex
4 analog audio inputs and 4 analog outputs (XLR / M / F)
lowest latency times due to high-performance DSPs
power supply: 24 VDC
power consumption: 15 VA

Interfaces / IOs:
8 analog inputs
8 digital control inputs, 8 digital control outputs
1x RS232, 1x RS485
2x Ethernet RJ45 connector
Infrared Remote Control

Audio Features:
16/24 or 32-bit Digital Audio
Sample rate: 48 or 96 kHz
Adjustable latency: 0.6 / 1.3 / 2.6 ms
Dynamic range: 103 dB
Total harmonic distortion (THD) <0.005 %
Frequency response: 20 Hz - 20 kHz (± 0.5 dB)

NET-DESIGN CONFIGURATION, MAINTENANCE, CONTROL, AND INTERFACE SOFTWARE

ITEC NET-DESIGN is a Windows-based application for configuring and monitoring the entire ITEC-NET network. Included is a TCP/IP interface (ITEC-NET API) allowing a direct link to other control systems, such as media control or security management systems. In addition NET-DESIGN 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.

Example:

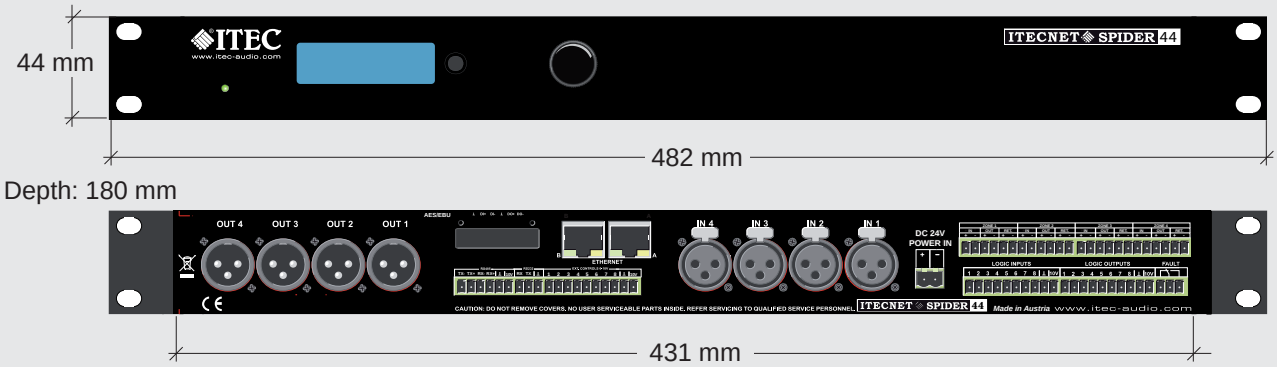
System Overview

In this window you will find all ITEC-NET components plus the connected configuration PCs. Photos or sketches of the system floor plan can be used as background information with a free arrangement of all components. The „jump to“ function quickly finds all devices with direct access to the configuration pages.

System Tree Audio
Input Config

Each audio input has the following settings:
Mic / Line
Gain in dB steps
Compressor / Limiter
Various level controls
Network channel assignment

SPIDER44/03 - SPECIFICATIONS



General	
External power supply	switching power supply or 24 VDC (18 V < V < 32 V)
Current	300 mA (370 mA including line monitoring), measures without applied load on the 10 VDC Voltage
Operating temperature	-5°C - +40°C
Dimensions (W x H x D)	482 mm x 44 mm x 180 mm, 19“ / 1 RU
Weight	3.1 kg
Audio	
Audio frequency response	40 Hz-20 kHz/-1 dB
Harmonic distortion	<0,005 %
General dynamics	103 dB
Balanced inputs	max. free selectable gain -20 dB to +60 dB (only SPIDER 44)
Phantom power	+12 V, optional +24 V alternatively +48 V
Input impedance	6,6 kOhm
Balanced outputs	max. output level +15 dB, output impedance 300 Ohm
Sound Processing	
Per input	2-band fully parametric equalizer ± 15 dB, Q=0,1-70 1 low/high pass 1st order
Per output	4-band fully parametric equalizer ± 15 dB, delay: 0.023 ms-24.5 s bandpassfilter: 1st – 4th order
	compressor/limiter
Filter quality	selectable from 0.1 to 70
Serial interfaces	
RS232/RS485	9600, 19200, 57600, 115.200 baud
Digital inputs	8 schmitt-trigger inputs on plug in-terminal strip
Input voltage	low < 1,6 V / high > 8 V
Max. allowable voltage	18 V
Input current (@10 V)	approx. 0.2 mA
Digital outputs	8 open-collector outputs on plug in-terminal strip
Max. voltage	36 V
Max. output current	200 mA per output / total 500 mA (sum of all outputs switched)
Analog inputs	8 analog inputs on plug in-terminal strip
Range	0-10 VDC
Resolution	8 bit
Input current (@10 V)	approx. 0.2 mA
Dry contact alarm relay	
Max. voltage / max. switching power	48 VAC/DC / 500 mA
Network	Ethernet 100 Base-TX, IEEE 802.3u

All informations without garantee. Subject to technical changes.

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