

System component: SPIDERLINE16



- 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
- Integrated 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
- 24VDC power for supply using EN54-4-certified energy supply equipment.
- Backup concept conforming to standard, with option to switch to redundant amplifier output stage
- System certified according to EN 54-16: EC conformity certificate no. 1293-CDR-0403

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.

SPIDERLINE16

The SPIDERLINE16 is an all-in-one voice alarm centre, and it also serves as a network component in large systems: Line multiplexer, 4 on 16 relay matrix, backup amplifier switch, text memory, line and speaker monitor. Using a SPIDERLINE16, 2 to 4 amplifier output stages and an energy supply conforming to standard, you have a system that meets DIN VDE 0833-4, or TRVB S158 requirements, with up to 8A/B lines with end-of-line modules.

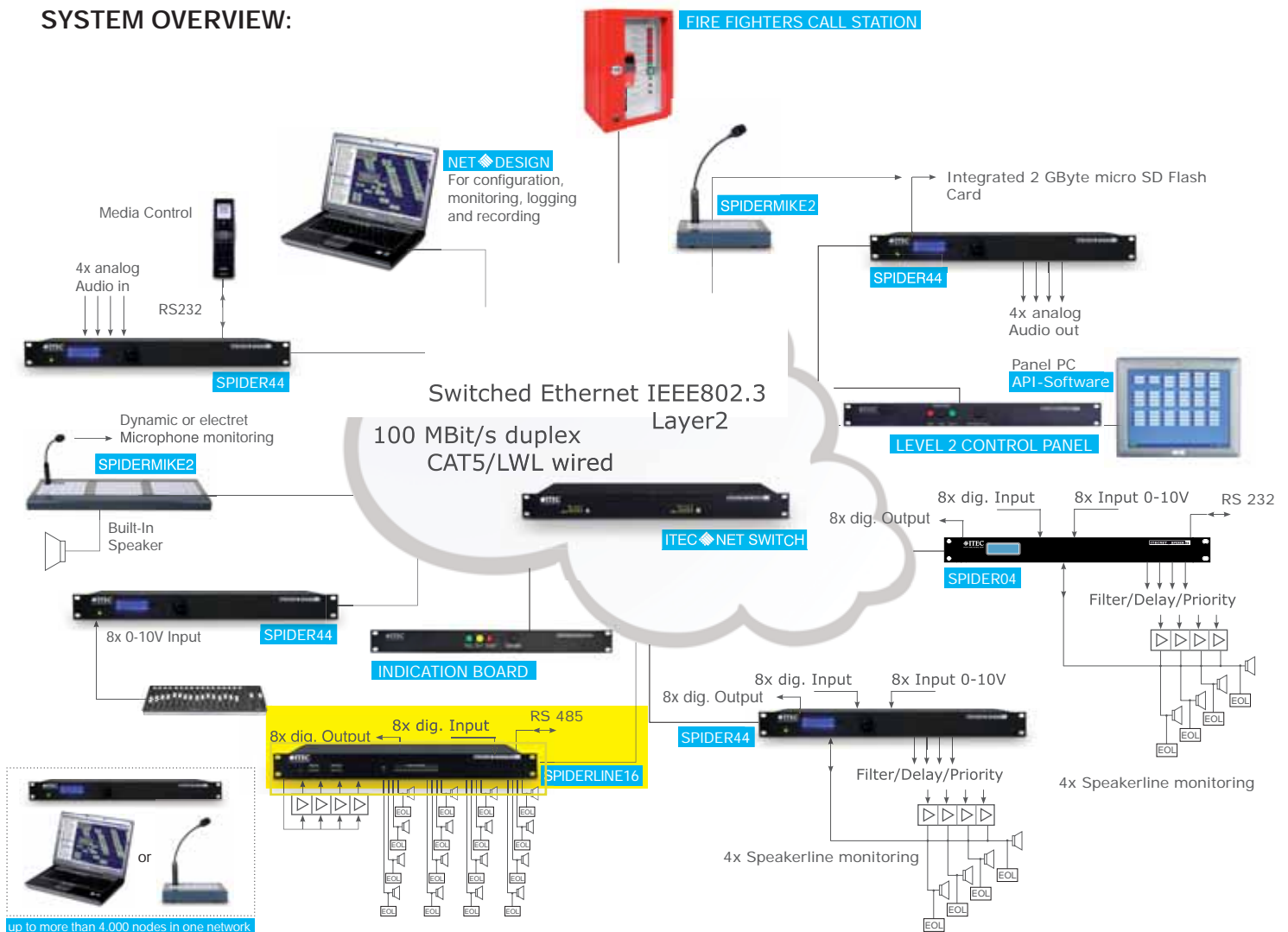
For each SPIDERLINE16 you can connect amplifier output stages with up to 2000 watts total output and flexibly route them on 16 speaker lines. The speaker lines are permanently monitored for short circuits, grounding, impedance and interruptions, and any errors are reported within 100 seconds. The standard-compliant switch to redundant amplifiers is triggered immediately and automatically as soon as one of the monitored alarm output stages fails.

The SPIDERLINE16 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 elements 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

Inputs:

Power supply: 24 VDC
 redundant LAN-ports: 2 x RJ 45
 4x100Volt amplifier inputs to connect certified power
 amps, integrated pilot tone amp.
 8 digital control inputs
 8 analog inputs (0-10V)
 RS 485
 4 audio-inputs (Mic/Line)
 Micro SD-card-slot

Outputs:

4 x NF-Out
 16 x LS-Out (2 x 8 for A/B or 1 x 16)
 8 digital outputs
 Fault relays contacts

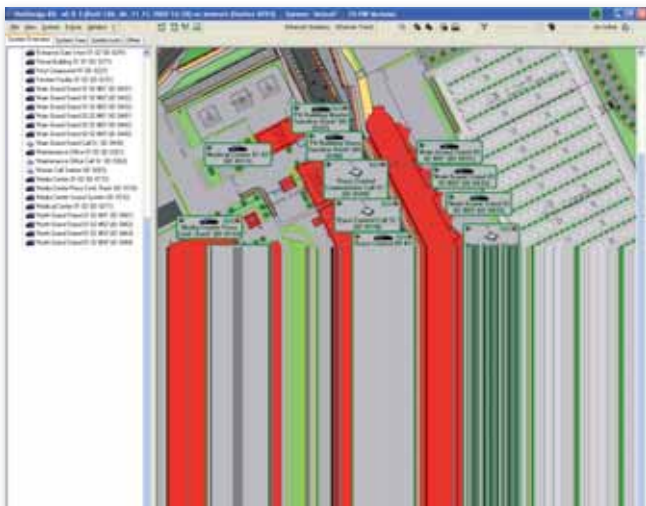
Audio Features:

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 (\pm 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:

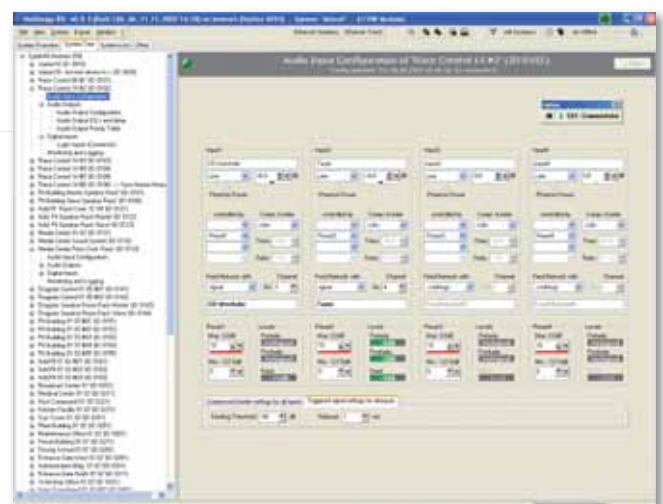


System Overview

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



SPIDERLINE 16 - SPECIFICATIONS



GENERAL	
EXTERNAL POWER SUPPLY	24 V DC (18 V < U < 32 V)
Current	ca. 500 mA without pilot tone and without applied load on the 10 V DC Voltage . With internal pilot-tone amplifier in operation, depending on impedance (power) of the connected speakers, up to 5A.
DIMENSIONS	482 x 44 x 357 mm (W x H x D), 19" / 1 rack unit
WEIGHT	8,5 kg
AUDIO	
AUDIO FREQUENCY RESPONSE	40 Hz-20 kHz/-1 dB
HARMONIC DISTORTION (of LINE-Outputs)	<0,005 %
GENERAL DYNAMICS	103 dB
BALANCED INPUTS	max. free selectable gain -20 dB to +60 dB
Phantom power	+12 V
Input impedance	6,6 kOhm
BALANCED OUTPUTS	max. output level +15 dB, output impedance 300 Ohm
SOUND PROCESSING	
PER OUTPUT	4-band fully parametric equalizer ± 15 dB, delay: 0,023 ms-24,5 s/bandpassfilter: 1st – 4th ORDER
Filter quality	selectable from 0.1 to 70
SERIAL INTERFACES	
RS 232/RS 485	9200/19200 baud
DIGITAL INPUTS	8 schmitt-trigger inputs on plug in-terminal strip
INPUT VOLTAGE	Low < 1,6 V / High > 8 V
MAX. ALLOWABLE VOLTAGE	36 V
INPUT CURRENT (@10 V)	ca. 0,5 mA @ 12 V, ca. 1 mA @ 24 V
DIGITAL OUTPUTS	8 open-collector outputs on plug in-terminal strip
MAXIMUM VOLTAGE	36 V
MAXIMUM 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 V DC
RESOLUTION	8 Bit
INPUT CURRENT (@10 V)	about 0,2 mA
DRY CONTACT ALARM RELAY	
MAX. VOLTAGE / MAX. SWITCHING POWER	48 V AC/DC / 500 mA
NETWORK	Ethernet 100 Base-TX, IEEE 802.3u

No responsibility is taken for the correctness of this information - Specifications subject to change