ITEC NET

SPIDERMIKE 2

MANUAL

Designed and Manufactured by
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SPIDERMIKE 2/03_EN_2019/06_REV_2020/02

Dear Customer,

The main focus of our research work is and always has been the development of practical devices that are flexible, versatile, reliable, future-proof but still easy to handle
In close cooperation with electrical consultants, system architects and operators of public address systems ITECNET has emerged and grown. In addition, all our know-how from many years of experience in the field of audio and digital technology have been integrated into this product
ITECNET allows the build-up of the largest and most complex audio systems, with relatively simple and clear operation and configuration.

SpiderMike 2 is the base station of the ITECNET system. Due to its modular design, digital IO‘s, analog inputs and a serial interface, it offers beyond its function as a base station, a large number of monitoring and control functions.

The integrated SD card reader / player allows the storage and playback of alarm texts, announcements, jingles or even whole pieces of music in CD quality.

This manual describes the hardware of the spider mike 2, showing the construction and operating of the various audio and logic I/Os and thus serves audio system designers and system architects during the conceptual respectively installation phase of audio networks.

Numerous examples illustrate the optimal use and the professional installation of operating controls and other devices.
For knowing the entire system, all its possibilities and for executing the necessary configuration tasks the software manual is required in addition. Please observe during the installation / operation of the ITEC SpiderMike 2 all listed safety instructions in this manual; furthermore data and examples provided ensuring the optimum usage of the device.

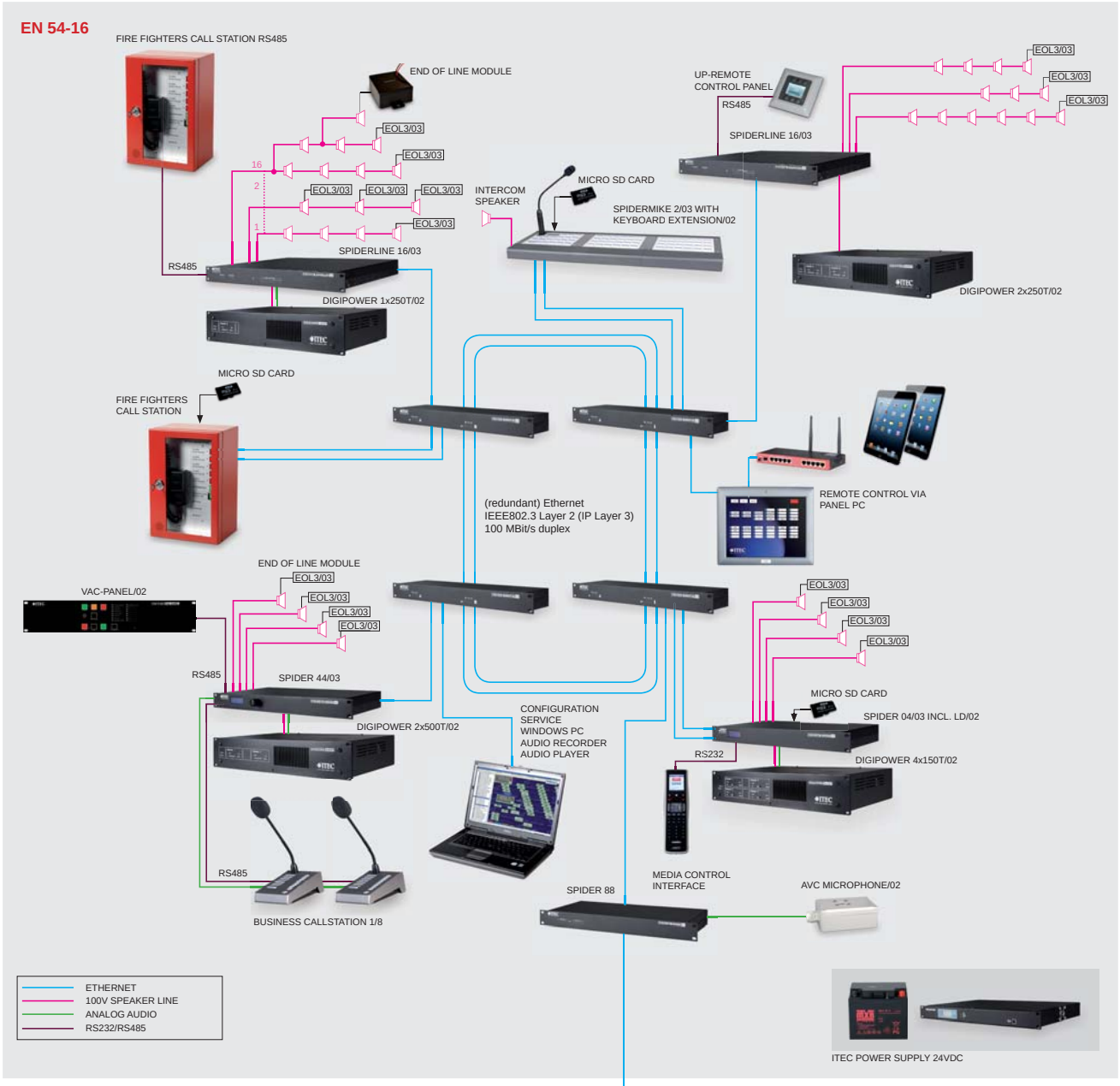
Lots of joy and success - The ITEC Acoustics Team

Safety instructions

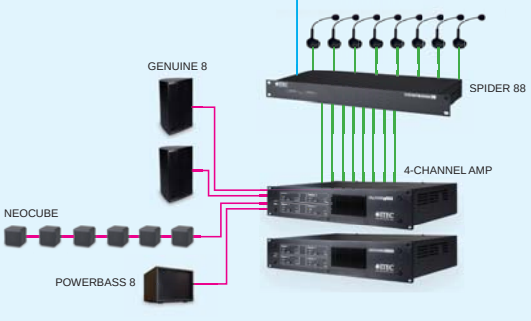
When installing the device, the local connecting conditions, the required protective measures and all relevant standards have to be observed. The installation and configuration of the ITEC SpiderMike 2 must be performed by trained personnel only. For the configuration the original software ITEC NetDesign has to be used exclusively.
The power connection is carried out via the original power supply unit or directly to any existing 24 V DC power supply (emergency current).
The power supply has on its primary side a rubber connector and is linked with an appropriate cable to the national standard AC outlet (115 - 230 volts). Please note that the ground connector of the device (audio ground and ground of all digital audio interfaces) is electrically not connected to the negative pole of the DC supply.
Please observe during the installation, that no multiple connections between the ground connector of the device and the 24 V negative pole are put in place (see also chapter „Power supply“).
The device is designed for a free putting or for an installation in a 19“ cabinet (bracket for rack assembling as optional accessory). For cabinet installations please ensure adequate air circulation. Mounting of the device in closed timber furniture is not allowed.
When connecting to other devices (e.g.: sound sources, computers), the exact pin configuration and the specifications of inputs and outputs need to be observed.
Only a connection to networks, which are compliant to IEEE 802.3 (Ethernet), is allowed. Never try to open the device by force or by unscrewing. The product does not contain parts that can be repaired by amateurs. Please contact the manufacturer or a local distributor.
Do not apply temperatures above 50 °C, humidity larger than 95% or rain to the device.
Caution: Before carrying out any modifications on the device (only by qualified personnel) the power supply has to be disconnected.
Use a dry or slightly damp cloth to clean the housing surface and the keyboard. Aggressive or abrasive cleaners should be avoided.
The positioning on the desk has to be done in a way that any impact on the system by spilling of liquids or by placing objects on the keyboard is prevented. The intercom microphone is part of the system and must be handled with special care. Strong bending of the swan neck, covers or concealing the microphone as well as any change or manipulation is not allowed.
In particular in monitored systems for voice alarms you have always to ensure that microphone and integrated speakers of the device are not concealed.
A disconnection of the microphone during operation triggers a system failure message!
The use of other microphones without consulting the manufacturer or distributor is not allowed!

The audio network ITECNET

ITECNET is a decentralized, Ethernet-based audio network for the simultaneous transmission of up to 64 audio channels with the highest audio quality. At the same time, a huge number of system data, measurement data and IOs are controlled and transmitted.

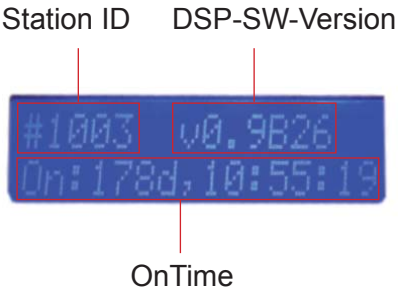


PUBLIC ADDRESS

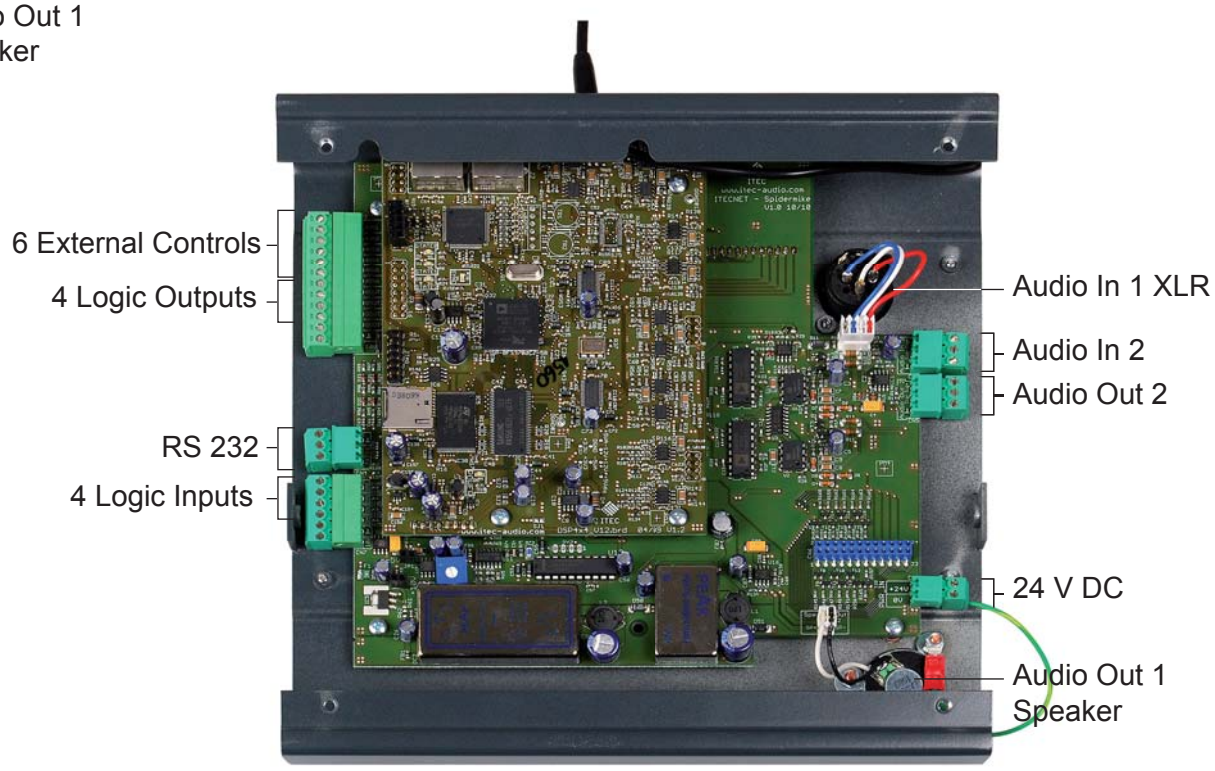


The station SpiderMike 2

SpiderMike 2, the station of ITECNET system is unique in terms of flexibility and features. Due to its modular expandability the direct selection of 20 up to 100 zones can be supported. A second audio input allows playback of external audio sources, a second output the connection of external amplifiers and speakers. Through a number of IOs alarm, set-up and control functions can be carried out at any point of the network.

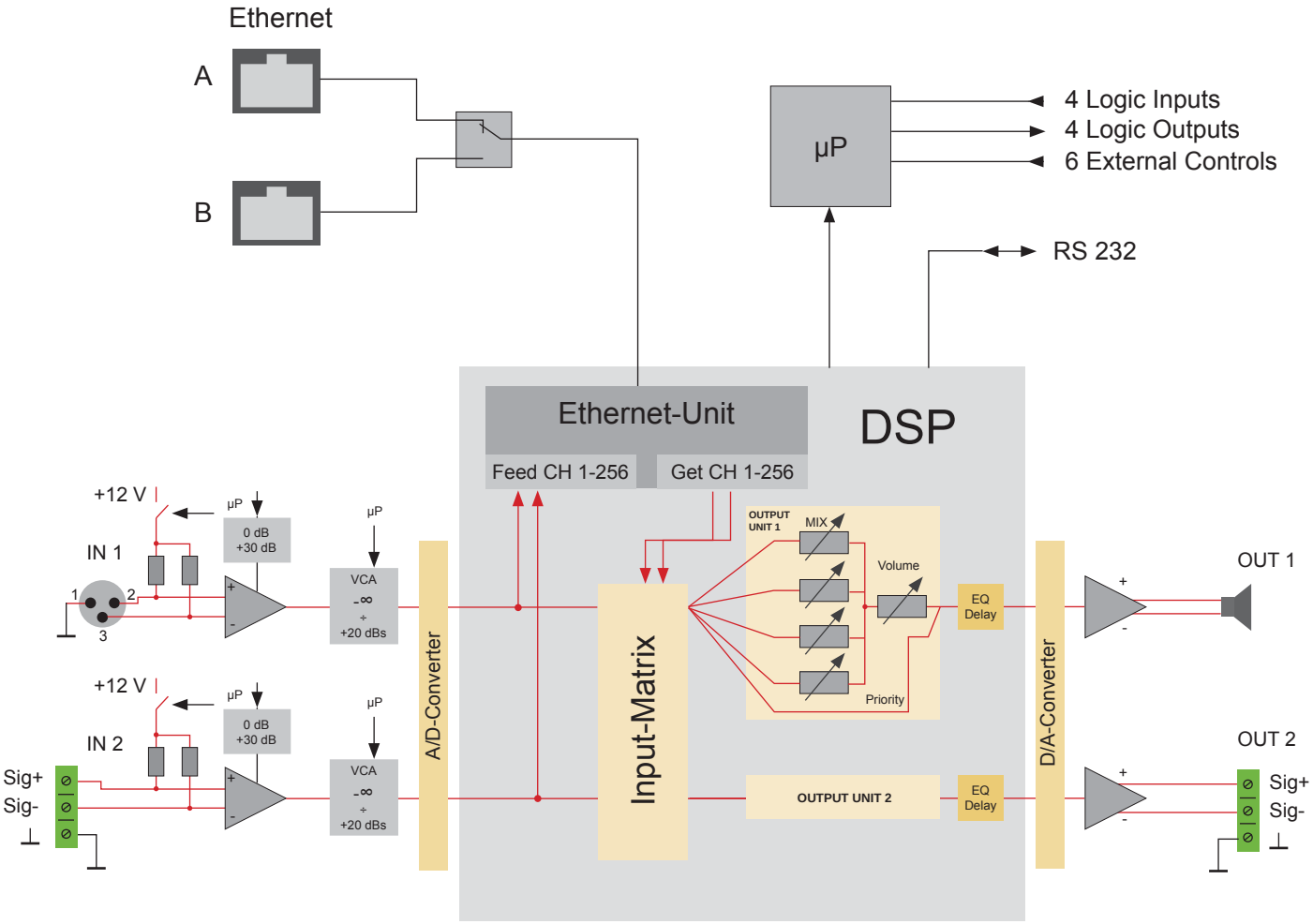


Station-ID: Identification number of the device
DSP-SW-Version: DSP version of the software
OnTime: Total running time of the device

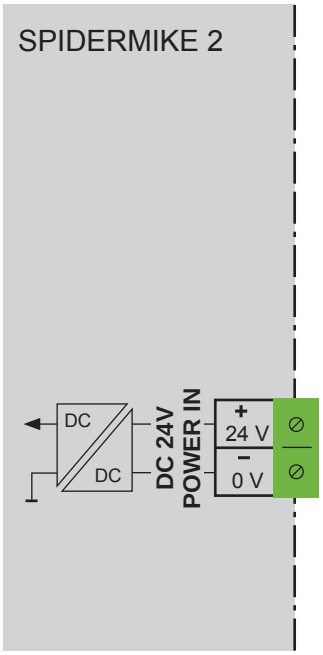


Bottom view

Block diagram



Power supply 24 VDC

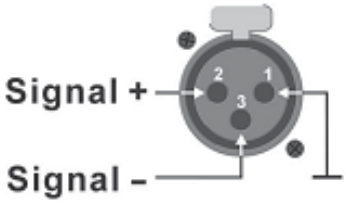


Connection is made to the included power adapter or an existing 24 V DC emergency power supply. The ground connection of the device (audio ground and ground of all digital audio interfaces) is electrically **not** connected to the negative pole of the DC supply. This is especially of importance, when a connection to peripheral 24 V emergency supplies is made, as the audio grounds, linked to power amplifiers or playback devices on site, are connected to the ground wire of the according sub-station. Due to the galvanic separation, loops and shunts can effectively be prevented. A floating guidance of the 24 V supply voltage or to ground at one spot, usually at the emergency power supply, is recommended.

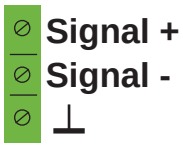
Audio inputs

The device is equipped with two balanced inputs, one as a balanced XLR connectors at the topside the other as a plug-in terminal block. The maximum input gain is in line operation from -20 to +30 dB, in microphone operation from +10 to +60 dB for each channel selectable.
Thus, all conventional microphones and media players can properly be adjusted.
Phantom power is switchable per channel (12V).

Input 1



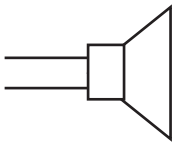
Input 2



Audio outputs

The first audio output device drives the built-in speaker with an output of 1 watt. A second, balanced line output is designed as plug terminal block in the housing. The maximum output level is +15 dB.

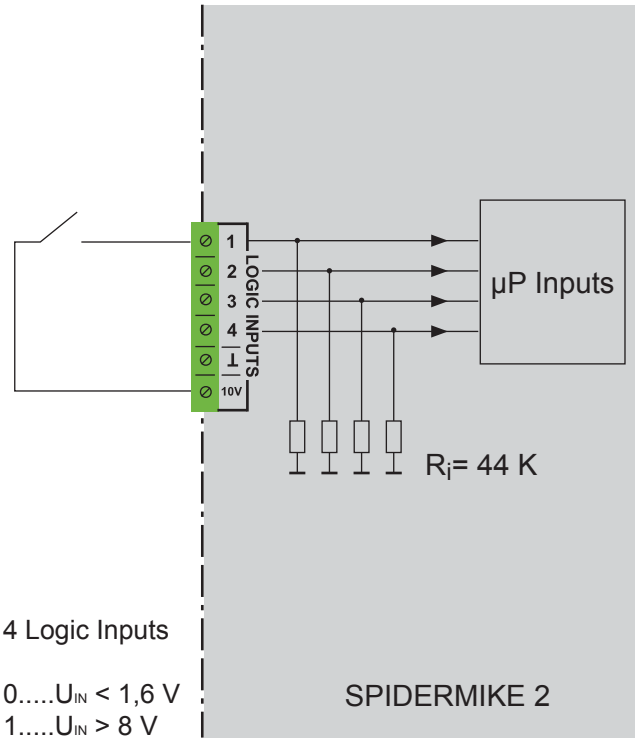
Out 1



Out 2

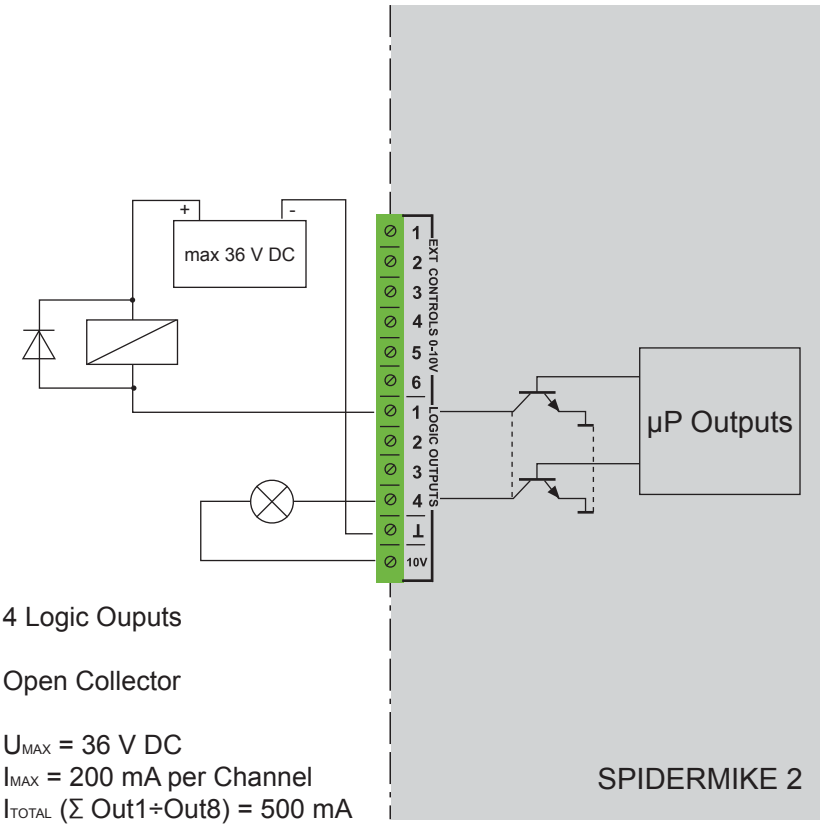
Digital inputs

The device has 4 digital inputs, which are designed primarily for the detection of low-level operating and fault conditions, or for external buttons. A remote control, which means that an output at any point of the system follows the input is also possible.
Each input state can be inverted for further processing by the software.



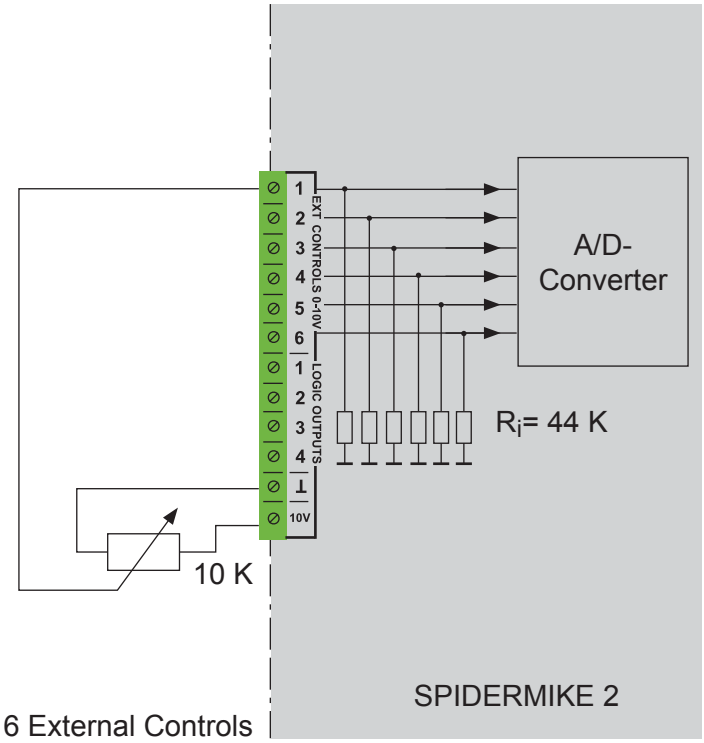
Digital outputs

The device has 4 digital open collector transistor outputs: They are used for switching relays and lamps with low power consumption etc.
Typical applications include the display of faults, switching off other audio devices during an announcement etc.

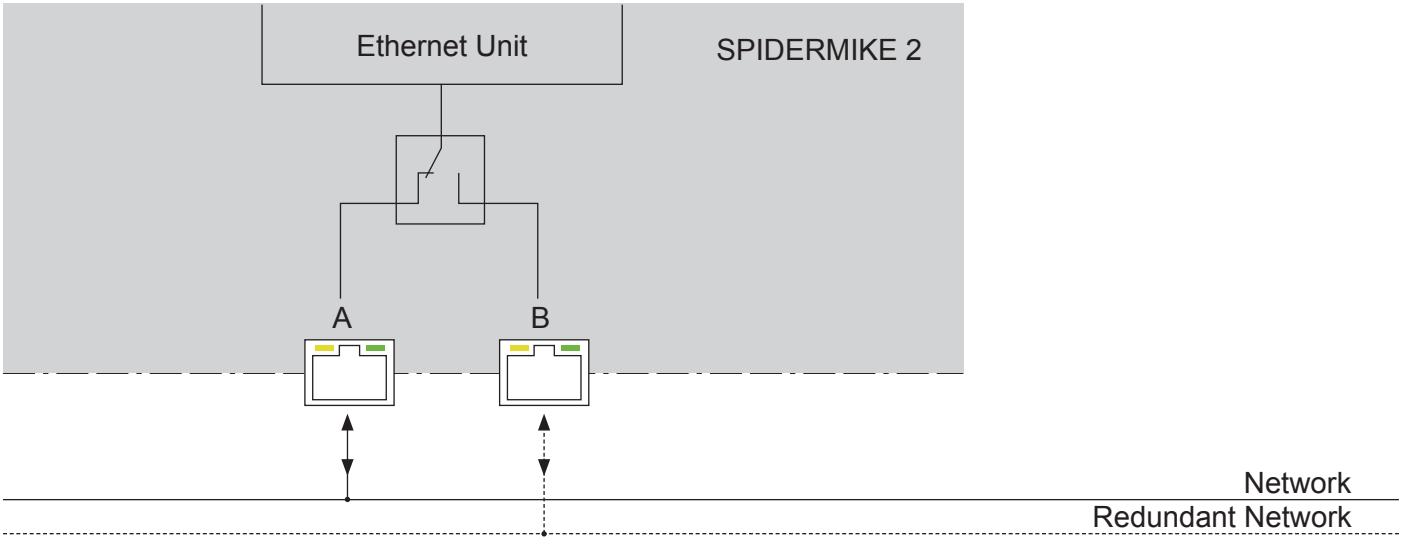


External control inputs

At the external control inputs a voltage of 0 – 10 V is measured. These values can be used as a local gain control for the audio inputs of the according device or as a control variable for the output volume of any device in the network.



Ethernet interfaces



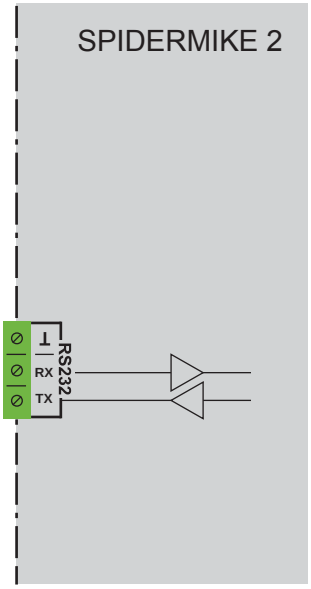
The network connection is carried out via socket A by default.
If a link to second redundant network is planned, socket B is used.
The LEDs on the RJ45 connector show the operating status of the network connection:

Green LED on: Connected
Green LED flashing: Connected and network activity
Yellow LED on: valid connection (100Mbps full duplex)

The Serial interface - RS232

Used
- For connecting to control units
- As an interface for control stations or fault reporting systems
- For logging and output of data via serial data cable for short distances

The RS 232 interface is also used for the communication with the inter-com-expansion modules. In this case a further usage of the RS 232 interface is no longer possible.



SD-Card

Each SpiderMike 2 station is equipped with a SD Card slot by default. Micro SD cards with a storage capacity up to 2 GB can be used. On the SD card up to 256 sound files can be stored: Possible are alarm texts, safety instructions, signal tones as well as advertising messages or jingles.

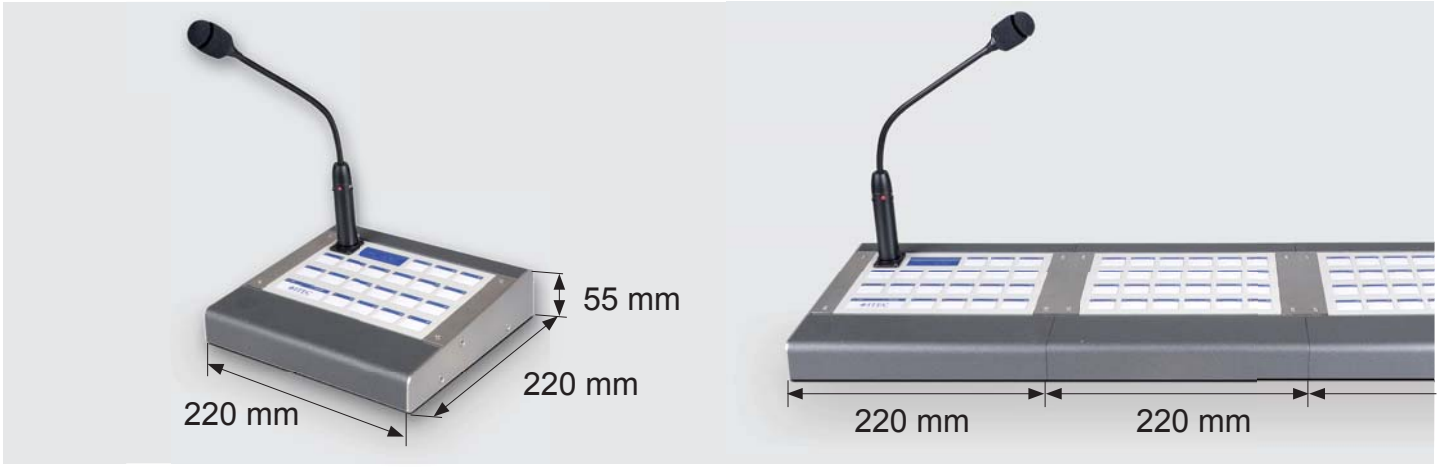
SpiderMike 2 expansion modules

The modular concept of the SpiderMike 2 allows the construction of large stations through expansion modules each with 24 keys. In total up to four expansion modules each with 24 keys can be combined to the 19 key base station, resulting in a maximum number of 115 keys.

SpiderMike 2 as a 19“ unit

The station SpiderMike 2 can be supplied with 19“ brackets for rack assembling. A base station with an expansion module respectively with a dummy unit results in a 19” mountable component with 5 rack units in height.

SPIDERMIKE 2 - TECHNICAL SPECIFICATIONS



General	
External power supply	switching power supply or 24 VDC (18 V < V < 32 V)
Current	260 mA, measured without applied load on the 10 VDC voltage (+ 30 mA per module)
Operating temperature	-5° C - +40° C
Dimensions	220 mm x 55 mm x 220 mm (W x H x D), W + 220 mm of each module
Weight	2.2 kg (+ 1.9 kg for extension module, + 1 kg for key-switch extension)
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
Phantom power	+12 V
Input impedance	6,6 kOhm
Balanced outputs	OUT1: speaker 1 W; OUT2: balanced; 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 inferfaces	
RS232	9600, 19200, 57600, 115.200 baud
Digital inputs	4 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)	about 0.2 mA
Digital outputs	4 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	6 analog inputs on plug in-terminal strip
Range	0-10 VDC
Resolution	8 Bit
Input current (@10 V)	ca. 0.2 mA
Micro SD-card slot	
Storage capacity	for Micro SD cards up to 2 GB
Network	Ethernet 100 Base-TX, IEEE 802.3u

All informations without garantee. Subject to technical changes.

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