Voice Alarm

MILO and BOX-500
– the innovative systems

BOX-500))

MILO))

Certified
according
to EN 54

nsc
Sicherheitstechnik GmbH

Voice Alarm Systems –
The solution for realizing quick and managed evacuations

What are the advantages of a voice alarm system?

In an emergency situation, a voice alarm system plays announcements using loudspeakers which, in contradiction to acoustical alarms systems using sirens, ensures a much more effective and faster evacuation of a building, and thus minimizes any potential panic.

The operational safety of such systems must always be guaranteed by supervision of the entire signal path. A requirement for such systems is defined in European application & system standards as well as in local standards of various countries. The products used in such voice alarm systems must have an EN 54 approval.

Where are voice alarm systems used?

- Hotels, Shopping Centers, Parkings
- Schools, Universities, Teaching and Training Centers
- Sports facilities, Swimming pools, Leisure facilities, Entertainment parks
- Airports, Train stations, Museums, Theaters, Hospitals
- Production facilities, Office and Industrial buildings

In principle, wherever there are people who need to be evacuated in case of an emergency.

What are the main features of our products?

- Certified according to EN 54-4 / EN 54-16 / EN 54-24

- A scalable and flexible system with up to 1024 public address and voice alarm zones

- Multi-zone operation

- High connectivity

- System configuration and remote monitoring, via software

- Network connectivity

- Freely programmable lines and zones

- Up to 40 different audio inputs and outputs can be configured

MILO))

MILO 8120 – the voice alarm controller with integra

Medium to large projects can be implemented with the EN 54-16 certified system controller & amplifier MILO 8120.

Article No. S21000-00

MILO 8120 Voice Alarm Controller & Amplifier key features:

- 5 audio inputs

- 8 Class-D amplifiers of 120 W with A/B output to connect 100 V / 70 V loudspeaker lines

- Digital 8 x 8 audio matrix (expandable up to 40 x 1024)

- 8 pre-amp outputs to connect external PA amplifiers

- Up to 8 MCS-8B multi-zone microphones or FP-AC fire panels, connected via CAT5 data cable

- Integrated DSP: Parametric 7-band input / output equalizer, loudness, sound-enhancer, independent volume control for each I / O channel and audio filters

- Triple Ethernet port: for digital audio over IP (CobraNet®), remote control & monitoring, and to extend the system with MILO Extension Matrix Amplifiers in daisy chain mode with Flexnet technology (up to 1024 zones)

- 4.3" frontal touchscreen display with access control

- 4 GB internal memory to store pre-recorded messages

- Frontal emergency microphone and integrated monitor speaker

- 10 supervised relay contact status inputs and 2 relay contact status outputs to integrate with fire alarm systems

- 14 GPIO ports (not monitored) for control of or by external components (I/O can be selected)

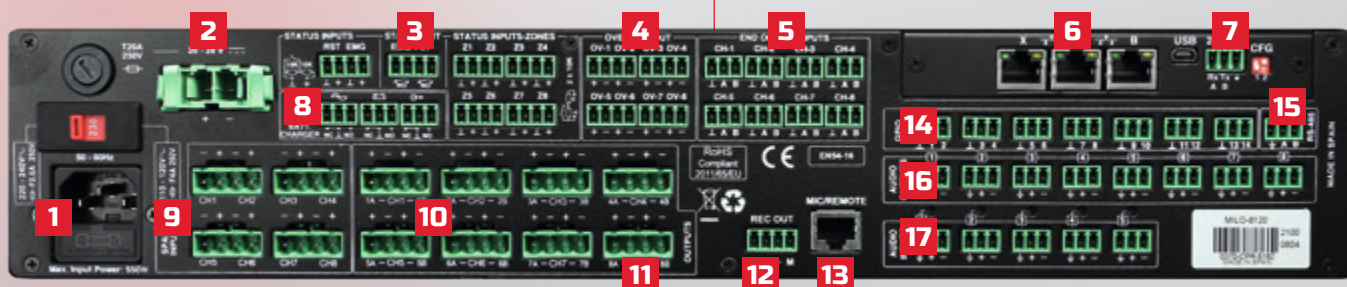**MILO 8120 voice alarm / emergency functions:**

- Certified according to EN 54-16 and for use in systems according EN-50849

- Detection and indication of failures of all emergency functions

- Integration with fire alarm control panels

- Integrated text memory to store pre-recorded messages

- High quality sound

- Phased evacuation

- Emergency and fault log

- Loudspeaker line supervision

- 8 A/B loudspeaker lines (16 individual lines)

- Backup amplifier connection: 7 + 1 up to 4 + 4 (120 W channels)

■ **Diverse inputs and outputs**

All relevant connection options for the
MILO 8120 voice alarm controller & amplifier

1	Main power connection (220 V-240 V)
2	24 VDC Emergency power supply input
3	10 supervised Fire Alarm system inputs and 2 system status outputs
4	8 x 24 VDC override outputs for 100V attenuators
5	16 (8 A/B) EOL module inputs
6	Triple Ethernet interface
7	RS-485 interface for 3rd party integration
8	Status inputs for supervision of the emergency power supply
9	Backup amplifier channel inputs (for emergency operation)
10	8 Class-D amplifiers of 120 watts each

11	Supervised A/B loudspeaker lines and backup amplifier; multiple channels can be selected as backup
12	Audio Recording Output
13	Microphone bus (ACSI) to connect multizone call stations and supervised fire panels
14	14 GPIO ports (not monitored) for control of or by external components (I/O can be selected)
15	RS-485 interface with fire alarm control panel
16	8 preamp outputs to connect external PA amplifiers
17	5 balanced audio inputs for audio sources (4 inputs in case the ACSI bus is used

MILO)))

Class D amplifiers to expand the MILO system

Article no: S21825-00

MILO 8250E Extension Controller & Amplifier key features

- Class-D amplifiers with A/B output to connect 100 V / 70 V loudspeaker lines with 8 x 250 W

- 8 pre-amp outputs to connect external PA amplifiers

- Integrated DSP: Parametric 7-band input / output equalizer, loudness, sound-enhancer, independent volume control for each I / O channel and audio

- Triple Ethernet port: for digital audio over IP (CobraNet®), remote control & monitoring and to extend the system with MILO Extension Matrix Amplifiers in daisy chain mode with Flexnet technology (up to 1024 zones)

- 8 x 24 VDC override outputs for 100V attenuators

- 10 supervised relay contact status inputs and 2 relay contact status outputs to integrate with fire alarm systems

Article no: S21425-00

Article no: S21450-00

MILO 4250E Extension Controller & Amplifier key features

- Class-D amplifiers with A/B output to connect 100 V / 70 V loudspeaker lines with 4 x 250 W up to 2 x 500 W in powershare mode

- 4-pre-amp outputs to connect external PA amplifiers

- Integrated DSP: Parametric 7-band input / output equalizer, loudness, sound-enhancer, independent volume control for each I / O channel and audio filters

- Triple Ethernet port: for digital audio over IP (CobraNet®), remote control & monitoring and to extend the system with MILO Extension Matrix Amplifiers in daisy chain mode with Flexnet technology (up to 1024 zones)

- 4 x 24 VDC override outputs for 100V attenuators

- 6 supervised relay contact status inputs and 2 relay contact status outputs to integrate with fire alarm system

MILO 4500E Extension Controller & Amplifier 4500E key features

- Class-D amplifiers with A/B output to connect 100 V / 70 V loudspeaker lines with 4 x 500 W up to 2 x 1000 W in powershare mode

- 4-pre-amp outputs to connect external PA amplifiers

- Integrated DSP: Parametric 7-band input / output equalizer, loudness, sound-enhancer, independent volume control for each I / O channel and audio filters

- Triple Ethernet port: for digital audio over IP (CobraNet®), remote control & monitoring and to extend the system with MILO Extension Matrix Amplifiers in daisy chain mode with Flexnet technology (up to 1024 zones)

- 4 x 24 VDC override outputs for 100V attenuators

- 6 supervised relay contact status inputs and 2 relay contact status outputs to integrate with fire alarm systems

Article no: S21454-00

MILO 4500LE Extension Controller & Amplifier key features

- ■ Class-D amplifier of 4 x 500 W at 4 ohms or 4 x 250 W at 8 ohms, with A/B connection per output

- ■ 4-pre-amp outputs to connect external PA amplifiers

- ■ 4 balanced audio inputs (1 per channel) to connect local sources

- ■ Integrated DSP: Parametric 7-band input / output equalizer, loudness, sound-enhancer, independent volume control for each I / O channel and audio filters

- ■ Triple Ethernet port: for digital audio over IP (CobraNet®), remote control & monitoring and to extend the system with MILO Extension Matrix Amplifiers in daisy chain mode with Flexnet technology (up to 1024 zones)

- ■ 4x 24 VDC override outputs for 100V attenuators

- ■ 6 supervised relay contact status inputs and 2 relay contact status outputs to integrate with fire alarm systems

MILO))

BOX-500 – the compact all-rounder

ALL IN ONE system according to EN 54-16 and EN 54-4 for the implementation of small to medium sized projects

Article no: S20000-00

BOX-500 is a compact, EN 54-16 certified public address and voice alarm system that ensures a fast, safe and controlled emergency evacuation.

Thanks to its state-of-the-art functions, excellent audio quality and flexibility, all combined in a small cabinet, BOX-500 is one of the most versatile and cost-effective voice alarm / public address system in the world. It features 2 class D amplifiers, 6 zones, 3 audio inputs, a 6x6 audio matrix, DSP and a LCD display. Thanks to the plug & play mode for voice alarm / public address systems, the system can be configured without software or a PC. Audio inputs and automatic mixing allow great versatility for use in small to medium-sized projects.

EN 54-4 certified emergency power supply is integrated in the BOX 500. This makes the BOX 500 highly efficient, while saving space and reducing maintenance costs to a minimum. Thanks to the innovative enclosure design, the BOX500 is suitable for wall mounting and integration in a 19" rack.

BOX-500 key features

- 2 Class-D amplifiers up to 500 W total for 100 V / 70 V loudspeaker lines
- integrated backup amplifier functionality
- up to 6 single or 3 A/B loudspeaker circuits
- EN 54-4 certified emergency power supply
- 3 audio source inputs
- Up to 8 multizone call stations of fire panels can be connected
- Internal memory to store pre-recorded messages
- LCD display with backlight
- Wall- / rackmount design
- 8 + 2 supervised GPIO ports to connect to a Fire Alarm system
- 24 VDC control outputs to override 100V attenuators
- 4-pre-amp outputs to connect external PA amplifiers
- DSP: 3/7-band input/output parametric EQ, loudness, sound enhancer, independent volume control for each input and master output
- Loudspeaker line supervision
- Auto setup function
- expandable up to 60 zones using loop cards

BOX-500))

Accessories for MILO and BOX-500

Expand your audio possibilities in a MILO system with the Digital Audio Matrix1

Article no: S21900-00

AEM-22 is a digital audio matrix that offers expansion functions for existing or new MILO installations.

AEM-22 key features

- Audio matrix with 2 × 2 I / O (1 x 3, 3 x 1, 0 x 4 or 4 x 0 I / O configurable)
- High performance DSP
- 12 V phantom power supply for microphones
- Audio over IP using CobraNet® protocol – 48 kHz / 24 bits
- Analog gain control for each channel
- Remote and local configuration
- Remote and local supervision
- Graphical user interface for configuration, easy to operate

Expand your AEM-22 with the ACSI BUS ADAPTER

AEM-22-ACSI
Adapter module for the AEM-22 digital audio matrix. The ACSI bus adapter is directly fitted to the AEM-22 and enables connection of up to 8 MCS-8B multizone call stations. Requires CIRRUS software to manage the announcements.

Article no: S21900-10

Enhance the supervision of your loudspeaker lines with the End of Line modules from NSC!

Article no: S33500-10

MILO-TFL1
EN 54-16 certified EOL module required to improve loudspeaker line supervision (requires return line).
NOTE : cannot be used for BOX 500!

Article no: S33500-00

TFL2
EN 54-16 certified EOL module to improve the loudspeaker line impedance supervision (no return line required).

For correct volume level and source selection in the room, NSC has the solution.

VCC-64
Wall controller with LCD display and 4 push buttons to select audio sources and to set volume level in up to 8 zones.

Article no: S34000-00

VCC-64PSK
Power supply unit and communication adapter to connect up to 10 VCC-64 wall controllers

Article no: S34000-10

Evacuation with live-spoken and pre-recorded announcements. Better safe than sorry!

Article no: S22055-00

FP-AC Fire Panel All Call key features

- Allows expansion of up to 64 buttons to select single or groups of zones

- Pre-announcement tone

- Volume adjustment & Event triggering

- Indicators for: Power supply status, emergency status, fault status, system connection, power supply fault, microphone fault and active messages

- Activation of pre-recorded Evacuation and Alert messages

- Emergency controls; reset, acknowledge, indicator test, evacuation message and alert message

- Side connection for up to 8 FP-8BE 8 button expansion keyboards

- Priority configuration and operating parameters

- Power supply via the central system bus, or via local power supply connection

- Wall mount or 19" rack installation

- EN 54-16 certified

■ FP-8BE 8 button expansion keyboard

FP-8BE is an 8-button expansion keyboard to connect to the FP-AC Fire Panel. Each of the 8 buttons can be programmed to select 1 up to 8 zones.

Up to 8 expansion keyboards can be connected to each FP-AC Fire Panel. By adding up to 8 additional FP-8BE units, announcements can be made in up to 512 zones.

Article no: S22055-08

MCS-8B Multizone call station key features

- includes 8 programmable buttons to select up to 64 zones; expandable with up to 7 MCS-8BE 8-buttons expansion keyboards which enables to select up to 512 zones.

- Programmable system functions like source selection, volume control and event triggering

- Recall of recorded last live-spoken message

- Auto lock function

- Status indicators for Voice Alarm condition, General Fault and System Link

- Indicators for Live-spoken messages and Busy line

- Power supply via the central system bus, or via local power supply connection

- Long-lasting, high-performance microphone capsule

- For use with MILO and BOX-500

The MCS-8B is a powerful multizone call station for use with the voice alarm systems MILO & BOX 500. Up to 8 MCS-8B multizone call stations can be connected to the ACSI-BUS of the MILO system / BOX 500 in a daisy chain configuration using a CAT5 cable.

The ACSI-BUS allows distances of up to 1000 m and handles priority control between the MCS-8B multizone call stations and FP-AC fire panels connected to the bus.

Article no: S22008-00

Always the right announcement with NSC

MCS-8BE 8-button keyboard expansion key features

- Up to 7 keyboard expansions can be connected to a MCS-8B multizone call station

- 8 buttons – with writeable labels each – which can be programmed to select 1 up to 8 zones

- Stable steel housing

- Buttons are designed for long-lasting continuous use

Keyboard expansion unit for the MCS-8B multizone call station. Expansion by 8 additional programmable buttons of which each can be assigned to up to 8 different zones using the MILO configurator software.

Up to 7 MCS-8BE units can be connected to each MCS-8B multizone call station.

Article no: S22008-08

A1 1-button PTT call station for BOX 500 / MILO key features

- High performance dynamic microphone capsule
- Local power supply
- Microphone gain setting
- Control output 0/5 V (TTL) or RS-485 interface
- Indicator for „busy line" via a led at the microphone base
- Indicator for „ready to announce" via an illuminated ring on microphone capsule
- Pre-announcement chime signal (ON/OFF selectable)
- Suitable for NSC MILO and BOX-500 systems

The A1 is a powerful desktop microphone station for professional PAVA systems including a push to talk button, control output, pre-announcement chime and status indicators.

Article no: S32000-00

Wall mount housings

Wall mount housing 4U 19"

Article no: S32056-04

19 " 4U wall mount housing with front glass door and security lock to mount the FP-AC Fire Panel and up to 2 x FP-8BE keyboard expansion units or 2 x FP-BB blanc blocks
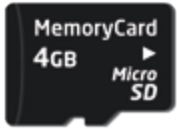
Wall mount housing 6U 19"

Article no: S32056-06

19 " 6U wall mount housing with front glass door and security lock to mount the FP-AC Fire Panel and of up to 7 x FP-8BE keyboard expansion units or 7 x FP-BB blanc blocks

Red Fire Panel housing

Red (RAL 3020) wall mount housing to mount the FP-AC Fire Panel

Article no: S32056-00

BOX 500 accessories

BC-AC Battery Charger Activation Card

License card to activate the internal EN 54-4 certified emergency power supply for battery backup

Article no: S30000-10

Article no: S30000-21

19" 3U sliding tray

Sliding tray to mount the BOX-500 into a 19" rack

Wall mount bracket

Bracket to mount the BOX-500 against a wall

Article no: S30000-22

Article no: S30000-01

19" 2U rack mount brackets

Brackets to mount the BOX-500 into a 19" rack

Article no: S30000-20

EGM Extern Gong Module

Audio player (1 Ch.) with 4 different chime signals for use in PA systems. Playback of a chime signal via potential free contact closures (e.g., timer).

BOX-500 can also be operated in a network (master-slave function)

With BOX-500 2 network variants can be realized:

BOX-500 LOOP 04 Card

Plugin card which allows connection of 1 master with up to 3 slave BOX-500 units

Article no: S30000-40

BOX-500 LOOP 10 Card

Plugin card which allows connection of 1 master with up to 9 slave BOX-500 units

Article no: S30000-80

BOX-500))

Example of medium to large-sized projects

The MILO voice alarm system connected to the Solution F1 fire alarm system, represents the ultimate combined solution for public address, voice alarm and fire alarm, with high flexibility and significant scalability of both.

VAS MILO (EN 54-16) consisting of:

- 1 x MILO 8120 Voice Alarm Controller & Amplifier
- 2 x MILO 8250E Extension Controller & Amplifier
- 1 x MILO 4250E Extension Controller & Amplifier

The VAS provides **28 A/B loudspeaker lines** **4** with a total system output of 5.960 watts and 28 zones. Furthermore, the fire panel, multizone call station **3** and source/volume wall controller **1** can be connected to the con-troller. In addition, it is also possible to connect external audio sources (4 balanced audio inputs) and to connect external PA amplifiers via the pre-amplifier outputs.

The system can be operated with multiple software applications, including remote maintenance functionality.

With the web-based software application Cirrus Control **2** , multiple decentral installed MILO systems can be controlled
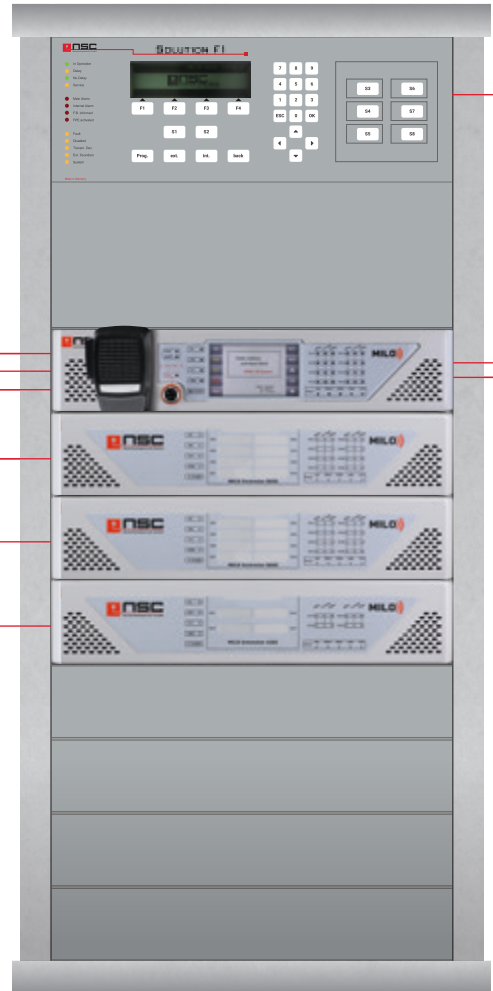
Pegelsteller

A fire alarm system combined with a voice alarm system into one solution, either **assembled together in a rack or connected to each other via interface**, is the perfect suited security solution as these systems perfectly complement each other.

Manual call point   Smoke detector   Flashlights

Example of small to medium-sized projects

The BOX-500 voice alarm system and the Solution F2 fire alarm system are designed for smaller applications and they perfectly complement each other accordingly.

1

2

3

4

Master/slave functionality

BOX-500 (EN 54-16 & EN 54-4) with **integrated emergency power supply** **1** (optional battery + activation card). The BOX-500 provides 6 loudspeaker lines (3 A/B) **2** with a total system output of 500 watts. A fire panel and multizone call station **3** can be connected to the BOX-500. In addition, external audio sources (3 balanced audio with high to low priority). By adding an external gong module **4**, BOX-500 is for example ideal for use in schools. With the „Autosetup" function, BOX-500 can easily be programmed to suit the projects' needs.

The **Solution F2** offers a standard loop module to connect up to 127 detectors, strobes and other modules. In connection with BOX-500 an effective and cost efficient all-round solution for simple, small to medium-sized installations such as schools.

Sirens

Linear heat detectors

Linear optical detectors

◀ **Typical items in a FAS**