BOSCH

Invented for life

LBB 4401/00 Network Controller

▶ Public address and emergency control unit

▶ Fully digital

▶ 28 audio channels

▶ 8 supervised control inputs and 5 control outputs

▶ 4 audio inputs and 4 audio outputs

▶ Ethernet interface for configuration and diagnostic & logging functions

▶ Digital message storage

▶ Stores up to last 200 fault messages

▶ IEC60849 Certified

The network control unit is the heart of the Praesideo system. The unit is capable of routing up to 28 simultaneous audio channels, delivering power to the system (except for power amplifiers), fault reporting and controlling of the system. The audio inputs can be announcements from call stations, background music or local audio inputs. The network control unit can be configured for any complex public address configuration via the PC. The PC need not be connected permanently to the unit as it works independently from the PC. If a PC is connected to the network controller unit, all status changes in the system can be displayed through the configuration and diagnostic & logging software, supplied with the unit.
The unit can be free-standing on a tabletop or mounted in a 19" rack.
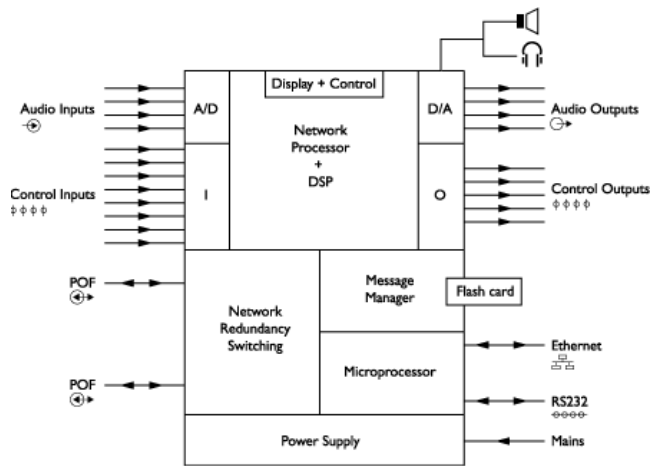
Functions

- The network controller has 4 analog audio inputs. Of these, 2 are selectable between microphone and line. The other 2 inputs are fixed as line inputs.
- The 8 control inputs are freely programmable for system actions, and priorities can be assigned to these inputs.
- The network controller has 4 analog audio line outputs.

- The audio line outputs have a selectable 20 kHz monitoring signal.
- The network controller has 5 control outputs of which three are programmable for faults or calls, and two are used to connect visual and audible fault indicators.
- The microphone/line inputs can be used as call inputs if they are programmed conditionally to any control inputs.
- The network controller can control up to 60 nodes.
- The nodes include equipment like power amplifiers, audio expander units, call stations, call station kits etc.
- The network controller is designed for redundant network cabling. The network can be wired as a branched network or redundant loop.
- To satisfy even the most complex public address and emergency requirements, the system is designed to handle 256 priorities, and can be configured for up to 244 zones.
- The unit has a switch mode power supply. The network controller is provided with a storage facility to store the last 200 fault messages in the system.

- The network controller can work independently of a PC connected to it. The PC can be disconnected after configuring the system. Address and version enquiry can be done using the front panel display and rotary control of the network control unit. The front panel has a 2 x 16-character LCD display and a rotary control to navigate through the menu and select the menu items.
- To meet the requirements for emergency sound systems automatic messaging is included in the network controller. The network controller has a connector for installing a commercially available compact flash memory card, with memory size according to the storage requirements for audio messages. Four messages can be played simultaneously.
- The status of the digital audio message storage and of the messages themselves is monitored. Audio messages (as a set of wav files) can be downloaded from a computer via the Ethernet link.
- The network controller monitors the status of all the equipment in the system and reports status changes. This monitoring extends from the capsule of a call station microphone to the end of a loudspeaker line. The external cables connected to the control inputs are monitored for short and open circuit. To monitor the audio outputs an internally generated pilot tone can be provided to the audio outputs.
- 7 attention tones, 3 test tones and 45 alarm tones are stored in the network controller unit. These tones can be accessed by any call stations or control inputs for announcement broadcast or alarm broadcast.
- The network controller has an internal real time clock for automatic playback of scheduled messages or automatic volume changes of announcements or background music, e.g. during evening hours
- The network controller has extensive audio processing possibilities for audio inputs and audio outputs. Parametric equalization, limiter and gain can be adjusted using the configuration software.
- The digital audio processing has 3 parametric and 2 shelving equalizer sections.
- The network controller is provided with a monitoring loudspeaker and a headphone socket for monitoring of audio channels.

Certifications and Approvals

Safety	According to IEC60065-98 CE / FCC IEC60849
Immunity	According to EN55103-2

Installation/Configuration Notes

Rear view

Interfaces
- Ethernet interface for connection to a PC or any external devices/systems
- 2 x system network connection

Indications and Controls
- 2 x 16-character LCD display for status display.
- Rotary/push control for selection of system enquiry mode and volume of the headphone or internal speaker.
- Power supply ON/OFF switch at rear.

Inputs
8 x control inputs
2 x analog audio inputs selectable between line or microphone
2 x analog line audio inputs

Outputs
- 5 x control outputs (of which two dedicated fault contacts)
- 4 x analog audio line outputs
- 1 x internal speaker
- 1 x headphone output

Rear Connections

- 1 x Ethernet interface
- 1 x RS232 interface
- 2 x system network connection
- 8 x programmable control inputs
- 2 x line audio inputs
- 2 x mic./line audio inputs
- 4 x line audio outputs
- 3 x programmable control outputs
- 2 x control output for faults
- 1 x mains connection

Technical Specifications

Audio Inputs

Analog Line Inputs

Socket Type	• One female XLR and one stereo female Cinch for each input
Frequency Response	• -3 dB at 20 Hz and 20 kHz (tolerance ±1 dB) • 0 dB at 100 Hz, 1 kHz and 10 kHz (tolerance ±1 dB)
Signal to Noise Ratio	> 87 dBA at maximum level
CMRR	> 40 dB
XLR max. Input Range	+18 dBV to +6 dBV
Cinch max. Output Range	+6 dBV to -6 dBV

Analog Microphone Inputs (only inputs 1 and 2)

Socket Type	One female XLR
Frequency Response	• -3 dB at 20 Hz and 20 kHz (tolerance ±1 dB) • 0 dB at 100 Hz, 1 kHz and 10 kHz (tolerance ±1 dB)
Nominal Input Level	-57 dBV
Signal to Noise Ratio	> 62 dBA for dynamic range < 25 dB
CMRR	> 55 dB at 100 Hz
Input Impedance	1360 ohm
Phantom Supply	12 V ±1 V @ 15 mA
Input Range	-7 to 18 dB ref nominal input level

Audio Outputs

Socket Type	One male XLR and one stereo female Cinch for each output
Frequency Response	• -3 dB at 20 Hz and 20 kHz (tolerance ±1 dB) • 0 dB at 100 Hz, 1 kHz and 10 kHz (tolerance ±1 dB)
Output Impedance	< 100 ohm
Signal to Noise Ratio	> 89 dBA at maximum level
Output Crosstalk	< -85 dB
XLR Output Signal Range	+18 dBV to −12 dBV
Cinch Output Range	+6 dBV to −24 dBV
Distortion at 1 kHz	< 0.05%

Power Consumption

LBB 4401/00 only	14 W (ac)
LBB 4401/00 max. loaded	150 W (ac)

Mechanical

Mounting	Free-standing on a tabletop or mounted in a 19" rack
Dimensions (H x W x D)	• 88 x 483 x 400 mm (19"-mounting, with brackets, without feet) • 92 x 440 x 400 mm (table top, without brackets, with feet)
Weight	7 kg
Color	Charcoal grey with silver

Environmental

Emissions	According to EN55103-1 / FCC-47 part 15B
Immunity	According to EN55103-2
Safety	According to IEC60065-98
Approvals	• CE / FCC • IEC60849
Temperature	-5℃ to +55℃
Humidity	15% to 90%

Ordering Information

Model | Description

LBB 4401/00 Network Controller