PRS-NCO-B Network Controller

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BOSCH
Invented for life

- ▶ Public address and emergency sound system control unit
- ▶ Fully digital with four audio inputs and four audio outputs
- ▶ Control and routing of 28 audio channels
- ▶ Eight supervised control inputs and five control outputs
- ▶ Ethernet interface for configuration, control, diagnostics, and logging

The network control unit is the heart of the Praesideo system. The unit routes up to 28 simultaneous audio channels, delivers power to the system, reports faults, and controls the system. Audio inputs can be announcements from call stations, background music, or local audio. The network control unit can be configured for the most complex public address systems. The configuration can be done comfortably and efficiently via a PC. The PC is only needed for configuration. The controller can operate independently of the PC. However, the controller can use a PC to display information on the system status using the software, supplied with the unit. The unit can be freestanding on a tabletop or mounted in a 19" rack.

Functions

Connectivity
The network controller has four analog audio inputs. Of these, two are selectable between microphone and line. The other two inputs are fixed as line inputs. The microphone/line inputs can be used as call inputs, if they are programmed conditionally to any of the eight control inputs, which are freely programmable for system actions, with freely programmable priorities.

The controller has four analog audio line outputs each with a selectable 20 kHz monitoring signal. Three control outputs are programmable for faults or calls, and two others are used to connect visual and audible fault indicators.

Operation and performance
The network controller is completely configurable from a PC using the supplied software, which can also provide the current status of the running system, as well as comfortable and efficient configuration. The controller can also run without a connected PC, once it has been configured. 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. Address, version, fault events, and monitor enquiries can be done using the display and control knob. The network controller can control up to 60 nodes. Nodes include equipment such as power amplifiers, audio expander units, call stations, call station kits, etc.

To meet the requirements for emergency sound systems, automatic messaging is included in the network controller. The controller has a built-in, replaceable compact flash memory card, to match the storage requirements for audio messages. Four messages can be played simultaneously. Message

storage and of the messages themselves are monitored. Audio messages (as a set of wav files) can be downloaded from a computer via the Ethernet link. The controller also stores wide range of attention tones, test tones, and alarm tones, all accessible by any call stations or control inputs for announcement or alarm broadcast. An internal real time clock lets the network controller automatically do things, such as playing scheduled announcements or changing the volume of background music during evening hours. It has extensive audio processing possibilities for the audio inputs and the audio outputs. Parametric equalization, limiter and gain can be easily adjusted using the configuration software. There is a headset jack for monitoring the audio channels.

Security
The network controller supports redundant network cabling. It can be wired as a branched network or redundant loop. The system can handle 256 priorities, for calls to hundreds of zones, satisfying even the most complex public address and emergency requirements.

The controller monitors the status of all the equipment in the system, reports status changes, and stores the last 200 fault messages in the system. 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. An internally generated pilot tone is available for monitoring the audio outputs. The controller operates both on mains power and on a 48 V battery power supply for emergency back up, with automatic switchover. It can supervise both of the power supplies.

Controls and indicators
Front
- 2 x 16-character LCD display
- Rotary/push button

Back
- Mains switch
- Voltage selector

Interconnections
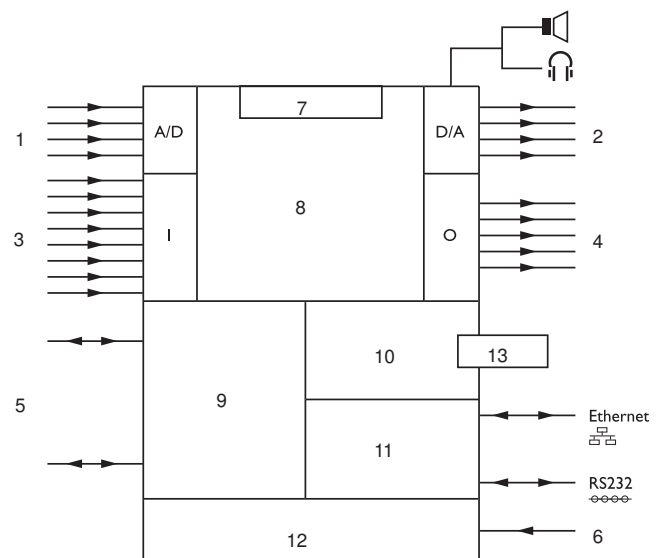Front
- Headphone output

Back
- Mains input
- Battery backup input
- Eight control inputs
- Two analog audio mic/line inputs
- Two analog line audio inputs
- Five control outputs (two dedicated fault)
- Four analog audio line outputs
- Ethernet
- RS232
- Two system network connections

Certifications and approvals

Safety	acc. to IEC 60065 / EN 60065
Immunity	acc. to EN 55103-2 / EN 50130-4 / EN 50121-4
Emissions	acc. to EN 55103-1 / FCC-47 part 15B
Emergency	acc. to EN 60849 / EN 54-16 / ISO 7240-16
Maritime	acc. to IEC 60945

Region	Certification
Europe	CPD

Installation/configuration notes

1	Audio inputs
2	Audio outputs
3	Control inputs
4	Control outputs
5	Plastic optical fiber network
6	Mains
7	Display and control
8	Network processor and DSP
9	Network redundancy switching
10	Message manager
11	Micro processor
12	Power supply
13	Compact flash (CF) memory card

Rear view

Parts included

Quantity	Component
1	PRS-NCO-B Network Controller
1	Power cord
1	Set of mounting brackets for 19" rack
1	Set of feet
1	Set of connectors
1	PRS-SW Configuration, Diagnostic and Logging Software

Technical specifications

Electrical

Mains power supply	
Voltage	115/230 VAC ±10%, 50/60 Hz
Power consumption	14 W with no load 170 W with maximum load
Battery power supply	
Voltage	48 VDC -10% to +20%
Performance	
Frequency response	20 Hz to 20 kHz (-3 dB)
Line inputs	2 x
Connectors	3-pin XLR and stereo cinch (for each line)
S/N	>87 dBA at maximum level
CMRR	>40 dB
Input range	+6 dBV to +18 dBV (XLR) -6 dBV to +6 dBV (cinch)
Control inputs	8 x
Connectors	Removable screw terminals
Operation	Closing contact (with supervision)
Control outputs	5 x
Connectors	Removable screw terminals
Mic / line inputs	2 x
Connector	3-pin XLR
Nominal Input Level	-57 dBV

S/N	>62 dBA with 25 dB headroom
CMRR	>55 dB at 100 Hz
Input Impedance	1360 ohm
Phantom supply	12 V ±1 V @ 15 mA
Input range	-7 dB to 8 dB ref nominal input level
Line outputs	4 x
Connectors	XLR and stereo cinch (for each line)
Output Impedance	<100 ohm
S/N	>89 dBA at maximum level
Crosstalk	<-85 dB
Signal range	-12 dBV to +18 dBV (XLR) -24 dBV to +6 dBV (cinch)
Distortion at 1 kHz	<0.05%

Mechanical

Dimensions (H x W x D)	
tabletop, with feet	92 x 440 x 400 mm (3.6 x 17.3 x 15.7 in)
in rack, with brackets	88 x 483 x 400 mm (3.5 x 19 x 15.7 in)
in front of brackets	40 mm (1.6 in)
behind brackets	360 mm (14.2 in)
Weight	7 kg (15.4 lb)
Mounting	Standalone; 19" rack
Color	Charcoal with silver

Environmental

Operating temperature	-5 to +55 ºC (+23 ºF to +131 ºF)
Storage temperature	-40 to +70 ºC (-40 ºF to +158 ºF)
Humidity	15% to 90%
Air pressure	600 to 1100 hPa

Ordering information

PRS-NCO-B Network Controller
routes up to 28 simultaneous audio channels, delivers power to the system, reports faults, and controls the system
Order number **PRS-NCO-B**

PRS-NCO-B-US Network Controller (US)
US version
Order number **PRS-NCO-B-US**

Software Options

PRS-SW Praesideo Software
Configuration software, Diagnostic & logging software,
File transfer software.
Order number **PRS-SW**