LHN-UC15L-SIP Horn loudspeaker 15W, long throw, SIP

- Full IP for power (PoE), communication (SIP) and control
- Excellent speech reproduction
- Integrated class D amplifier, DSP and microphone
- Remotely configurable via Web-GUI

The LHN-UC15L-SIP is a long throw SIP based IP horn loudspeaker designed for excellent speech reproduction.
It is ideal for outdoor and severe indoor applications. The housing is rugged, and it is water and dust protected. The IP horn is standard supplied with a stainless steel mounting bracket.
The LHN-UC15L-SIP features a build-in class D amplifier and Digital Signal Processing (DSP) to optimize the speech intelligibility in the environment where it is necessary.
It features an integrated microphone used for two-way SIP communication (talk back function), ambient noise level trigger and automatic volume control. The microphone can be switched off via a hardware button.

Functions

- Power over Ethernet (PoE), allowing easy and cost effective single cable operation.
- Native 2-way VoIP SIP communication.
- Direct Bosch camera integration via Alarm Task Script Language (ATSL).
- Internal storage for pre-recorded messages.
- Third party integration by easy to use HTTPS REST API
- GPIO for generic third party integration.
- Audio line-in for supporting live speech from other devices e.g., audio line-out of a camera.
- Device discoverable via ONVIF.
- Remote health/self-test.
- Digital Signal Processing (DSP) on board.

Architects' and engineers' specifications

- The IP horn speaker shall be used to deter unwanted events by live speech using a SIP telephone or by triggering a pre-recorded message based on an event.
- For integration with VoIP systems it shall support SIP with the following audio codes G.711 (u-law and a-law), G.722 and Opus.
- The IP horn loudspeaker shall support PoE IEEE 802.3af Class 3 and PoE+ IEEE 802.3at Class 4.
- The built-in amplifier shall be a class D delivering up to 15 watt.
- The effective frequency range (-10 dB) shall be between 380 Hz — 11 kHz.
- A maximum Sound Pressure Level (SPL) measured at one meter of 119 dB across the 500 Hz - 8 kHz frequency range when powered by POE.
- A maximum Sound Pressure Level (SPL) measured at one meter of 122 dB across the 500 Hz — 8 kHz frequency range when powered by PoE+.
- The IP horn speaker shall have a line-level audio input and output.
- The IP horn speaker shall have one GPI and one GPO for generic interfacing to other devices.
- The IP horn speaker shall have an integrated Electret Condenser microphone.
- The working condition of the SIP speaker can be tested remotely via audio closed loop being speaker out and microphone in.
- It shall offer a web-GUI interface for configuration, uploading messages and customization of the speaker settings.
- It shall have built-in Digital Signal Processor (DSP) for adjusting volume level, equalization.

- User shall be able to create their own recorded message and store them in the speaker. It shall support the following formats: WAV, MP3, Ogg Vorbis and OPUS. The storage capacity for recorded messages should be 300 MB.
- Pre-recorded message can be virtually triggered based on alarm condition, ambient noise above threshold level, via contact input or internal schedule.
- The speaker shall be able to automatically adjust the output volume level based on the ambient noise level to ensure highest speech intelligibility.
- The IP horn loudspeaker shall be made from Acrylonitrile Styrene Acrylate (ASA) material with a Stainless steel (grade 316) bracket.
- The operating temperature of the IP horn speaker shall between -40 °C to +55 °C (-40 °F to +131 °F).

Regulatory information

All Bosch powered loudspeakers are designed to withstand operation at their rated power for 100 continuous hours in accordance with IEC 60268-21 Power Handling Capacity (PHC) standards.

Regulatory standards	
Safety	CAN/CSA 62368-1 ANSI/UL 62368-1
Immunity	EN 50130-4 EN 55035 EN 50121-4
Emissions	EN 55032 FCC Part 15 Class B
Environment	EN/IEC 63000

Region	Regulatory compliance/quality marks	
Australia	RCM	
China	RoHS	
Europe	CE	
Great Britain	UKCA	
USA	FCC	

Parts included

Quantity	Component
1	Horn loudspeaker with one mounted gland and bracket
1	M20 gland (for optional cabling)
1	Quick installation guide
1	Safety information
1	China RoHS information

Technical specifications

Electrical

Power transfer		
Power over Ethernet	PoE IEEE 802.3af Class 3 PoE+ IEEE 802.3at Class 4	
Power consumption	PoE	<5 W in Idle <7 W at 1/8th of rated power <13 W at rated power
	PoE+	<6 W in Idle <9 W at 1/8th of rated power <26 W at rated power

Speaker	
Rated power	8 W with PoE 15 W with PoE+
Maximum sound pressure level (500 Hz—8 kHz, 1 m)	119 dB with PoE 122 dB with PoE+
Effective frequency range (-10 dB)	380 Hz—11 kHz
Coverage angle HxV (-6 dB, 1 kHz)	101°x134°
Coverage angle HxV (-6 dB, 4 kHz)	30°x31°

Amplifier	
Type	15 W class D amplifier

Microphone	
Type	Integrated Electret Condenser Microphone (can be disabled via hardware switch)

Network	
Ethernet	100BASE-TX, 1000BASE-T
Protocols	IPv4, SIP, NTP, TCP, UDP, HTTP, HTTPS, ONVIF (Discovery)
SIP audio codecs	G.711 (u-law and a-law), G.722, Opus

Network	
Ports	1x RJ45

Analog audio input/output	
Type	1 line-level input, 1 line-level output; unbalanced
Connector	3-pin screw terminals
Wire gauge	AWG 28—AWG 14
Maximum level line input	1 V
Maximum level line output	1 V
Input impedance	>10 kΩ
Output impedance	<100 Ω

GPIO	
Type	Terminal block with screw terminals
Connector	3-pin screw terminals
Wire gauge	AWG 28—AWG 14
Ports and operating modes	1x supervised GPI, 1x GPO
Digital inputs	Open: >2 V Off: 1.25 V—2 V On: 0.75 V—1.25 V Short: < 0.75 V Maximum: 48 V
Digital outputs	On: Output switched to GND, max. 48 V/500 mA Off: Open collector (>10 MΩ to GND)

Stored messages	
Uploadable	Via web-GUI
Capacity	300 MB
Supported file formats	WAV, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz MP3, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz Ogg Vorbis, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz Opus, channels: mono, stereo; sampling rates: 44.1 kHz, 48 kHz

Mechanical

Horn	
Material	Acrylonitrile Styrene Acrylate (ASA)
Dimension (HxWxD) (mm)	200 mm x 274 mm x 348 mm
Dimension (HxWXD) (in)	7.87 in x 10.79 in x 13.70 in
Weight (kg)	2 kg
Weight (lb)	4.41 lb
Ingress Protection (IP)	IP66
Color in RAL	RAL 7035 Light gray
Cable gland (standard supplied)	M20 Polyamide (Nylon)
Cable diameter (mm)	5 mm—12 mm
Cable diameter (in)	0.20 in—0.47 in

Bracket	
Material	Stainless steel (grade 316)

Environmental

Climatic conditions	
Operating temperature (°C)	-40 °C—55 °C
Operating temperature (°F)	-40 °F—131 °F
Storage temperature (°C)	-40 °C—70 °C
Storage temperature (°F)	-40 °F—158 °F
Operating relative humidity, non-condensing (%)	5%—95%

Ordering information

LHN-UC15L-SIP Horn loudspeaker 15W, long throw, SIP
IP Horn loudspeaker 15 W, long throw, Integrated class D amplifier, DSP and microphone.
Order number **LHN-UC15L-SIP | F.01U.389.835**

Represented by:

Europe, Middle East, Africa:
Bosch Security Systems B.V.
P.O. Box 80002
5600 JB Eindhoven, The Netherlands
Phone: + 31 40 2577 284
www.boschsecurity.com/xc/en/contact/
www.boschsecurity.com

Germany:
Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
Tel.: +49 (0)89 6290 0
Fax:+49 (0)89 6290 1020
de.securitysystems@bosch.com
www.boschsecurity.com

North America:
Bosch Security Systems, LLC
130 Perinton Parkway
Fairport, New York, 14450, USA
Phone: +1 800 289 0096
Fax: +1 585 223 9180
onlinehelp@us.bosch.com
www.boschsecurity.com

Asia-Pacific:
Robert Bosch (SEA) Pte Ltd, Security Systems
11 Bishan Street 21
Singapore 573943
Phone: +65 6571 2808
Fax: +65 6571 2699
www.boschsecurity.com/xc/en/contact/
www.boschsecurity.com