


# LQ and LQ-R Devices

## LQ Series IP Interfaces



Linking  
People  
Together



### Key Features and Benefits

- Available as a compact box or a 1RU panel
- 2-, 4- and 8-port IP interface devices
- Supports up to 8 SIP client connections per LQ device (license required)
- Supports up to 8 Agent-IC and Station-IC clients per LQ device (license required)
- Connects to HelixNet via HLI-ET2 over LAN and WAN
- Connect LQ to LQ over LAN, WAN or Internet
- Adjustable bandwidth on a per port basis
- Uses low-latency OPUS codec
- Save configuration settings on an external file
- Clear-Com and RTS 2-wire connectivity
- Eclipse HX connection via IVC-32-HX card over LAN, WAN, and Internet IP connections
- Can remotely connect to up to 8 IVC-32-HX ports per LQ device
- 2-wire powering, termination and auto-nulling
- 4-wire ports support data and audio for Clear-Com Eclipse and Drake 4000 panels
- Up to 6 devices can be connected together
- Browser-based configuration software (PC, Mac, Tablet)
- 2-port devices powered via local 12V
- DC power supply or PoE
- 4- and 8-port devices powered via redundant 12V DC power supplies
- Rugged and lightweight
- Yellow OLED front panel menu display

LQ<sup>®</sup> Series devices provide intercom connectivity for linking multiple systems together over IP networks, extending intercom channels to remote locations, adding mobile and virtual clients through Agent-IC<sup>®</sup> and Station-IC<sup>™</sup> respectively, SIP/VoIP telephony to existing intercom systems, and enabling extra audio I/O for both HelixNet<sup>®</sup> and Eclipse<sup>®</sup> HX systems.

### Description

LQ IP interfaces enable connection of 2-wire partyline, 4-wire or 4-wire with GPIO audio over LAN, WAN or Internet IP infrastructures. The LQ Series consists of compact LQ boxes and rack-mounted LQ-R panels, available in 2-, 4- or 8-port versions. The partyline ports are Clear-Com and RTS compatible. Two standalone partyline intercom circuits can easily be constructed by connecting two partyline ports. The 4-wire ports can interconnect with devices, such as analog ports of any matrix intercom system, analog telephone circuits, two-way radio gateways and audio consoles. A maximum of six LQ Series IP devices can be linked together in any 2-, 4-wire or 4-wire with GPIO combination.

### IP Connection to Eclipse HX and HelixNet

LQ Series devices can connect to Eclipse HX frames via the IVC-32-HX Interface Card over LAN, WAN and Internet IP networks using the G.722 codec. Each LQ Series device can connect to up to eight IVC-32-HX ports from different IVC-32-HX cards or Eclipse HX frames. This allows the user to remotely connect any LQ Series device directly into an Eclipse HX frame across any distance.

LQ Series devices can link with HelixNet main stations using the HLI-ET2 module over LAN and WAN IP networks. This allows the main station to use the LQ ports as extra audio input and output to the HelixNet system. Linking to an LQ device also allows HelixNet users add Agent-IC clients and SIP or VoIP telephony connections to the HelixNet channels.

### Station-IC and Agent-IC

LQ Series IP Interfaces allow free assignment of all (24) system Channels to Station-IC Virtual Desktop Clients and Agent-IC Mobile App Clients which can connect back to the host LQ device over any common network infrastructure, including Wired Ethernet, WiFi or 3G/4G/LTE networks. Station-IC and Agent-IC clients give the user a simple, flexible and remote connection to the intercom system.

### SIP or VoIP Telephony

LQ devices can connect to SIP or VoIP telephone networks using a 3rd party SIP server/provider. Each LQ device can support up to eight bi-directional lines that can be added to LQ channels. Alternatively, LQ devices support both IP and 4-wire intelligent connections back to an Eclipse-HX matrix providing panel or speed dialing to VoIP numbers or URLs.

### LQ Device Capacity & Audio Assignments

At least two ports must be associated to a channel. When the two or more ports are added to a channel, it becomes a Virtual Partyline (VPL). Each LQ device can support configuration of up to eight physical ports (2W, 4W or 4WG) and eight SIP ports and eight IP ports (Agent-IC, Station-IC or IVC). If the eight SIP ports are not in use, LQ can support up to eight Station-IC and eight Agent-IC clients in addition to the physical ports. Other capacity combinations and stacked LQ device configurations are available and can be validated with use of the LQ Resource Estimator.

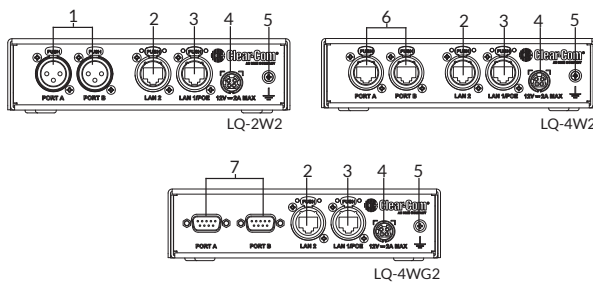
### Network Technology

The LQ devices use the low latency OPUS codec, supporting both 12kHz and 20kHz frequency response audio. The OPUS adjustable audio codec meets various data rate, bandwidth and quality requirements.

### Core Configuration Manager (CCM)

CCM™ is a free browser-based software tool with intuitive menus for quick setup and configuration editing that supports the latest versions of all major browsers on MAC, PC and tablet platforms. LQ devices can be added and removed from the system by editing the configurations via the CCM software. The CCM is used to configure both LQ devices and HelixNet systems, allowing the linked systems to appear as a single, large system.

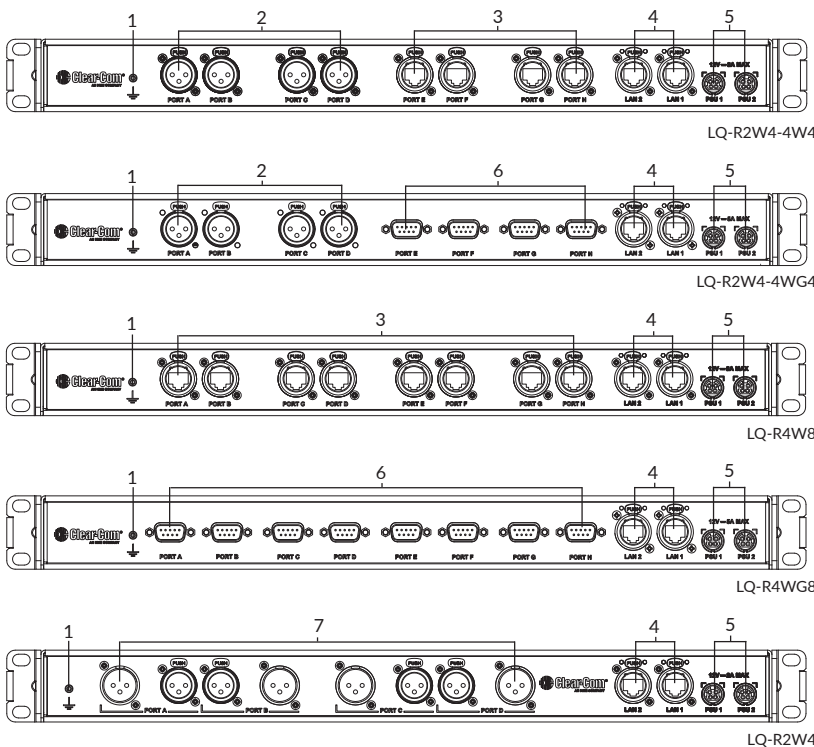
### LQ Back Panels



#### Legend

1. 2-wire connectors
2. Ethernet connector
3. Ethernet /PoE connector
4. Power connector
5. Ground screw
6. 4-wire connectors
7. 4-wire audio w/ GPIO connectors

### LQ-R Back Panels



#### Legend

1. Ground Screw
2. 2-wire connectors
3. 4-wire connectors
4. Ethernet connectors
5. Power connectors
6. 4-wire audio w/ GPIO connectors
7. 2-wire connectors

### Technical Specifications

#### Audio

Resolution: 12, 24 bit  
 Sample Rate: 24, 48kHz  
 Frequency Response: 100 - 12kHz  
 or 100 - 20kHz  
 CODEC: OPUS

#### Partyline Audio

Input Gain: -3dB to +3dB  
 Output Gain: -3dB to +3dB

#### 4-Wire Audio

Input Gain: -12dB to +12dB  
 Output Gain: -12dB to +12dB

#### 4-Wire with GPIO Audio

Line Level: (0 dB)  
 Input Gain: -12dB to +12dB  
 Output Gain: -12dB to +12dB  
 Mic Level: (-50 dB)  
 Input Gain: -12dB to +12dB  
 Output Gain: -12dB to +12dB

#### Network Setting

Bit Rates: 16, 32, 48, 64, 128kbps  
 Packet Size: 5, 10, 20, 40, 60ms  
 Jitter Buffers: 0 - 1000ms

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#### SIP or VoIP Setting

CODEC: G711 (3.5kHz); G722 (7kHz)  
 Connection Type: UDP/TCP  
 Number of simulation lines supported: 8 bi-directional

#### Connectors

Network/LAN: EtherCON/RJ45 (female)  
 Partyline Audio I/O: 3 Pin XLR (female)  
 4-wire Audio I/O: EtherCON/RJ45 (female)  
 4-wire with GPIO Audio I/O: 9-way D-type (male)

#### Partyline Output Current

Type: Clear-Com & RTS TW

#### LQ

Local DC Powered: 150mA  
 POE Powered: 70mA

#### LQ-R4W8/LQ-R4WG8

Local DC Powered: 250mA

#### LQ-R2W4/LQ-R4W4-2W4/LQ-R2W4-4WG4

Local DC Powered: 250mA per pair of partyline ports (500mA total)

#### Power Supply

**LQ**  
 Plug-in adapter with sleeve locking connector (US, UK, Europe, AUS & China sockets included)  
 Input: 100-240V, 47-63Hz, 0.58A max  
 Output: DC 12V, 2A, 24W max

#### LQ-R

In-line supply with sleeve locking connector  
 Input: 100-240V, 50-60Hz, 1.4A max  
 Output: DC 12V, 5A, 60W max

#### Environmental

Operating Temperature: +32° - +104°F (0° - +40°C)  
 Storage Temperature: -67° - +158°F (-55° - +70°C)  
 Humidity: 90%, non-condensing

#### Dimensions

**LQ**  
 6.8 x 1.79 x 8.45in (WxHxD)  
 (173 x 46 x 215mm)

#### LQ-R

19 x 1.79 x 8.8in (WxHxD)  
 (483 x 46 x 224mm)

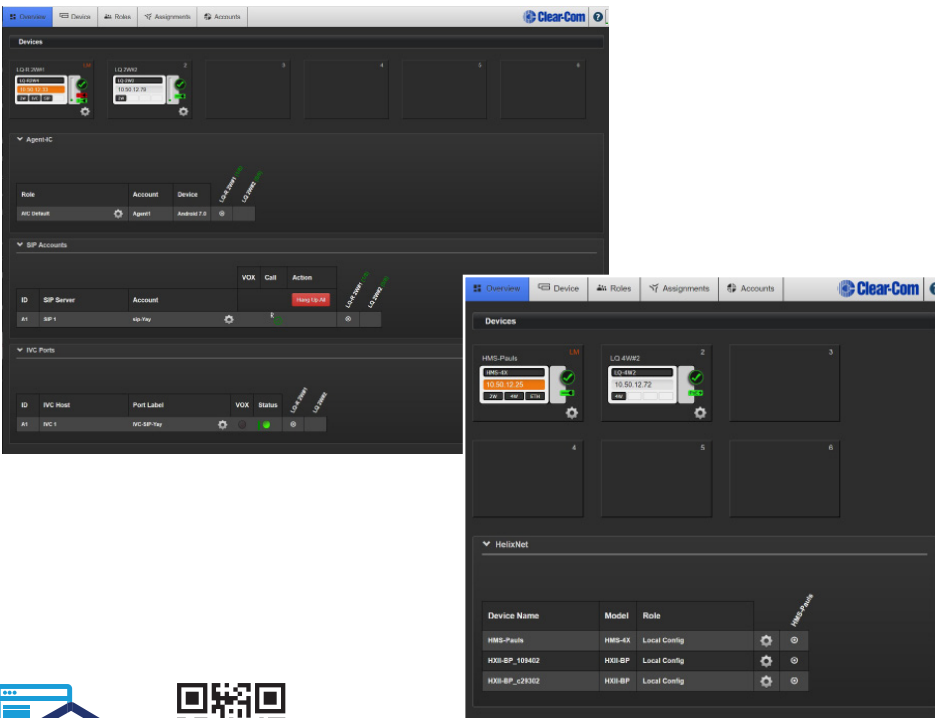
#### Weight

**LQ**  
 1.83lbs (0.83kg)

#### LQ-R

4.29lbs (1.95kg)

### Core Configuration Manager (CCM)



[www.clearcom.com/lq-series-knowledge-center/](http://www.clearcom.com/lq-series-knowledge-center/)

### Order Codes

- LQ-2W2: Compact 2-port partyline IP interface
- LQ-4W2: Compact 2-port 4-wire IP interface
- LQ-4WG2: Compact 2-port 4-wire with GPIO IP interface
- LQ-R2W4: 1RU 4-port partyline with loop thru connectors IP interface
- LQ-R4W8: 1RU 8-port 4-wire IP interface
- LQ-R4WG8: 1RU 8-port 4-wire with GPIO IP interface
- LQ-R2W4-4W4: 1RU 8-port (4 port partyline and (4 port) 4-wire IP interface
- LQ-R2W4-4WG4: 1RU 8-port (4 port) partyline and (4 port) 4-wire with GPIO IP interface

#### SIP

SIP8-LQ: (8 lines of SIP Telephony or SIP connectivity)

#### Agent-IC

- A-IC-LQ-1Y: 1 user for 1 year
- A-IC-LQ8-1Y: 8 users for 1 year
- A-IC-LQ-ADD1Y: 1 user for +1 year
- A-IC-LQ8-ADD1Y: 8 users for +1 year

#### Station-IC

- ST-IC-1W: 1 user, 1 week
- ST-IC-1M: 1 user, 1 month
- ST-IC-1Y: 1 user, 1 year
- ST-IC-ADD1Y: 1 user, +1 year
- ST-IC-8-1Y: 8 users, 1 year
- ST-IC-8-ADD1Y: 8 users, +1 year

**Notice About Specifications** | While Clear-Com makes every attempt to maintain the accuracy of the information contained in its documentation, that information is subject to change without notice. Performance specifications included in this document are design-center specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary.

**WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.CA.Gov](http://www.P65Warnings.CA.Gov)