Installation Guide

EQUIP™ Wireless Intercom

PUB-00178 Rev D
4/05/23
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INTRODUCTION AND SYSTEM OVERVIEW

Congratulations and thank you for choosing this Clear-Com product. EQUIP is a wireless intercom system operating in the ISM 5 GHz frequency band. The system supports up to forty wireless all-in-one headsets and four transceivers. The transceivers can cover a large area with seamless roaming, approximately 300-500 ft (91-152 m) indoor, and 800-1000 ft (244-305 m) outdoor. The system turns on automatically once power is connected to the base station during installation. **Note:** The Base Station User Interface uses a screen saver; if the screen goes black, just tap to wake up.

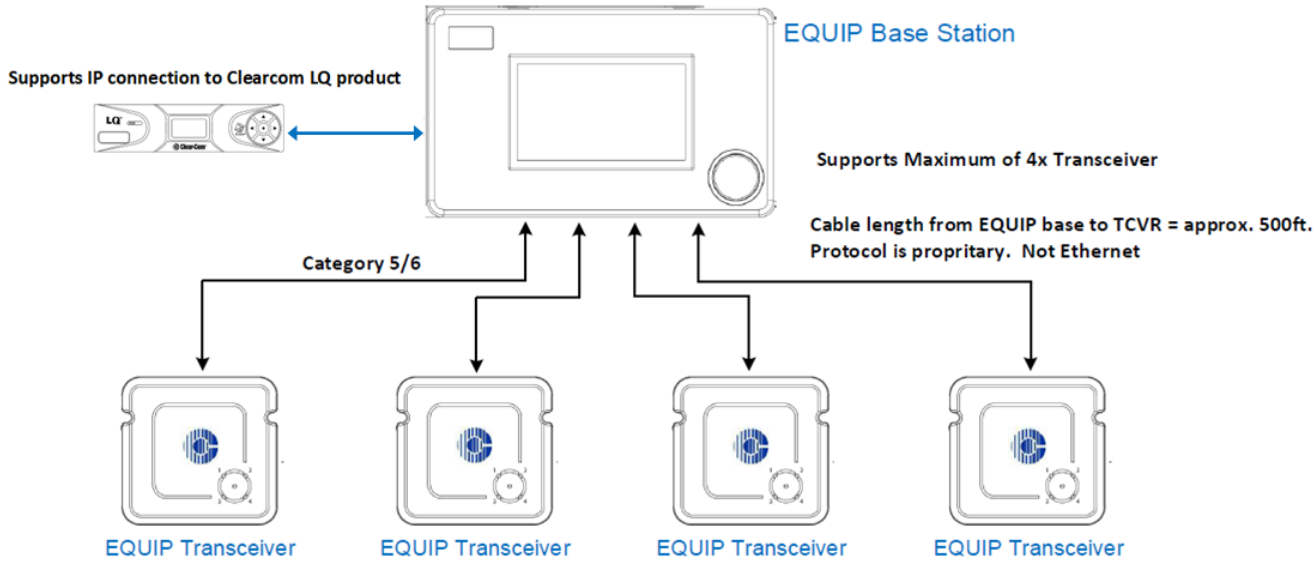

Fig. 1

Table 1 provides a list of component part numbers used with the EQUIP system

CC Sales Part #	Description
EQP-BASE-US	EQUIP US Base Station with power supply
EQP-BASE-EU	EQUIP EU Base Station with power supply
EQP-TCVR	EQUIP 5 GHz Transceiver
EQP-WH	EQUIP All-In-One Headset: 2Ch, 5 GHz w 2 BAT-70
AC70	EQUIP 4 Slot battery charger with power supply
BAT70	EQUIP Rechargeable Battery
PSU-00002	EQUIP Base Station Replacement Power Supply
115G408	EQUIP Base Station Power Supply Replacement Cable
PSU-00004	AC70 Replacement Power Supply (PS) US plug
CON-00004	International Plug set for AC70 (PS) (EU, AU, UK. KR)

Table 1

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SYSTEM LOG IN

Once EQUIP is installed, it is configured via the Base Station User Interface. A four-digit PIN is required to log in to the system to configure it or make changes. When you tap on a sidebar menu option or use the LOG IN menu option, a dialog box appears prompting you to enter a PIN (see Fig. 2). Enter: 1423, then tap the Sign In button. You can also log in to the system remotely if the system is connected to a network. See "Network Connection" on page 3.

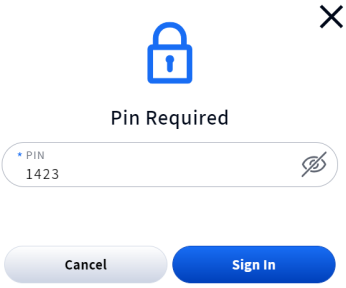
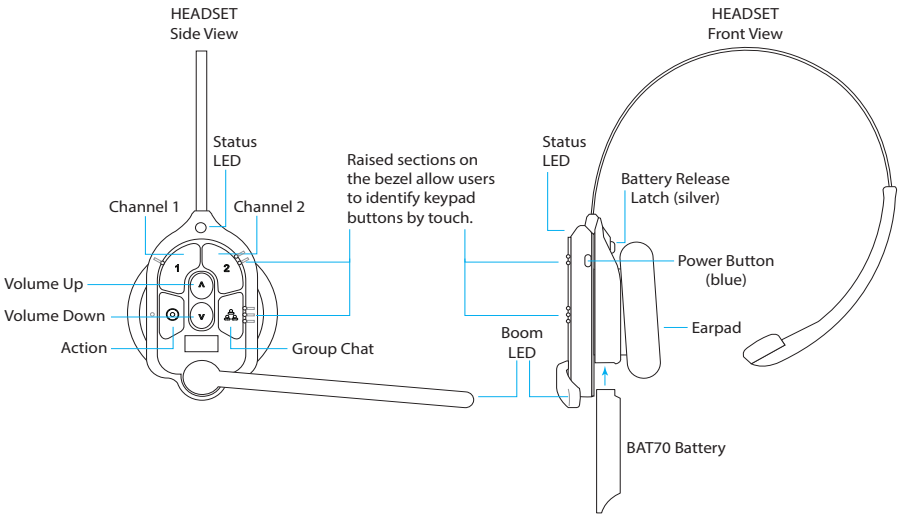


Fig. 2

HEADSET OVERVIEW



Supports a Maximum of 40 All-in-one Headsets

Fig. 3

Keypad Layout Reference Table				
Icon	**Label**	**Status LED**	**Boom LED**	**Status/Description**
1	Chan 1	Green	Green	Tap to talk to channel 1. The Status LED flashes green while the Boom LED turns on solid green. Tap again to stop. The Status LED turns solid; the Boom LED turns off.
2	Chan 2	Red	Red	Tap to talk to channel 2. The Status LED flashes red while the Boom LED turns on solid red. Tap again to stop. The Status LED turns solid; the Boom LED turns off.
∧	Volume Up			Tap to increase volume (the headset beeps become louder as confirmation). Press and hold to maximize volume to loudest.
∨	Volume Down			Tap to decrease volume (the headset beeps become quieter as confirmation). Press and hold to minimize volume to quietest.
	Group			Disconnects wired ports from talking and listening. Both Status and Boom LEDs flash quickly, alternating red & green. Tap again to stop.
	Action			No Function. Reserved for future functionality.

Notes: Both the Status and Boom LEDs flash slowly with alternating colors when the headset needs to be paired.
A yellow Status LED indicates a low battery. The low battery Status LED is also accompanied by audio prompts.
Push-to-Talk mode: Press and hold any audio button (1, 2 or Group Chat) to use in this mode (there is an audible single-tone confirmation). Release to cease communication and exit this mode (there is an audible two-tone confirmation).

Table 2

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INSTALLING THE SYSTEM

The EQUIP base station ships with a power supply and terminal strip cable connection between the power supply and base station. See Fig. 4 and Fig. 5.

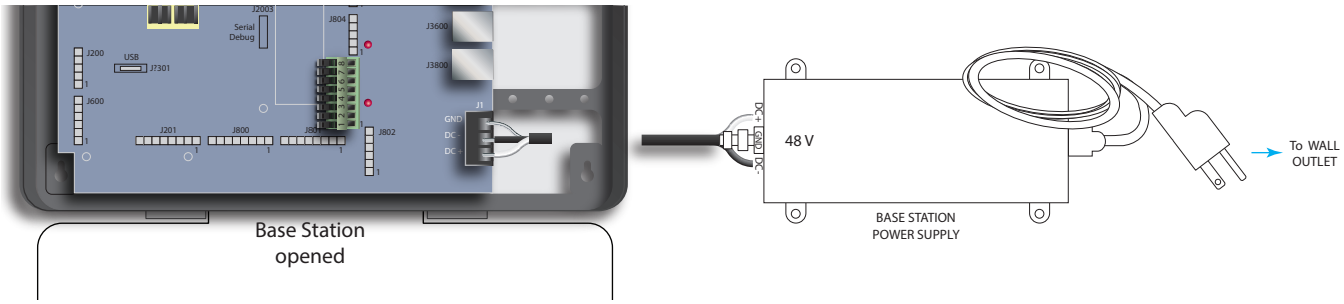

Fig. 4

Connecting power supply to the base station

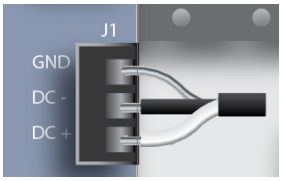

Fig. 5

Base Station Power Supply:

1. Terminate the positive wire of the power supply to J1 DC + terminal (pin 1). (White Wire)
2. Terminate the negative wire of the power supply to J1 DC - terminal (pin 2). (Black Wire)
3. Terminate the shield to J1 GND (pin 3). (Clear Wire)

NETWORK CONNECTION

A network connection is required for system updates or to configure your system remotely using a PC. Use an Ethernet cable to connect the Base Station (at J1400) to a Network Router.

Note: - You MUST connect to a router to have access to network settings.

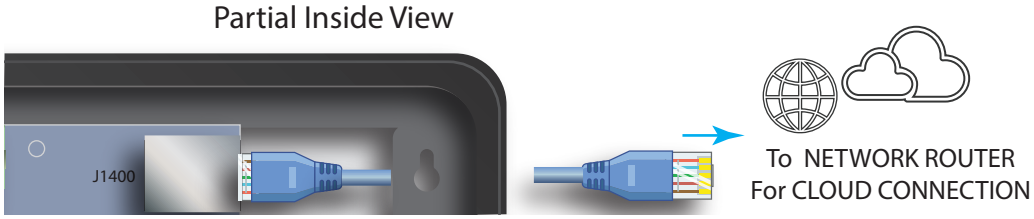

Fig. 6

The IP Address can be found by tapping the Network tile on the home page (see Fig. 7). To access the User Interface from a PC, use a web browser and type in https:// (IP address of EQUIP base station). Also see "IP Address" on page 4.

Note: "https://" needs to be added before the IP address for a remote base station connection. If your web browser prompts that the connection is not secure or not private, click the "Advanced" button and "proceed to.." to continue.

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Fig. 7

IP ADDRESS

To change Network settings, go to SYSTEM>SETTINGS, select "Network" from the drop-down list.

Note: In order to access and change IP settings, the EQUIP base station must be connected to a network. Also see "Network Connection" on page 3.

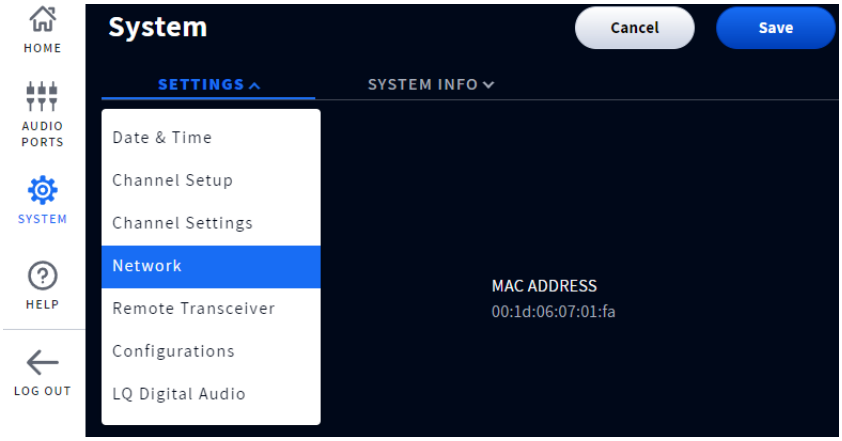

Fig. 8

DHCP ON is the default. To manually set an IP address, toggle DHCP OFF to change network settings and populate the necessary fields. See Fig. 9.

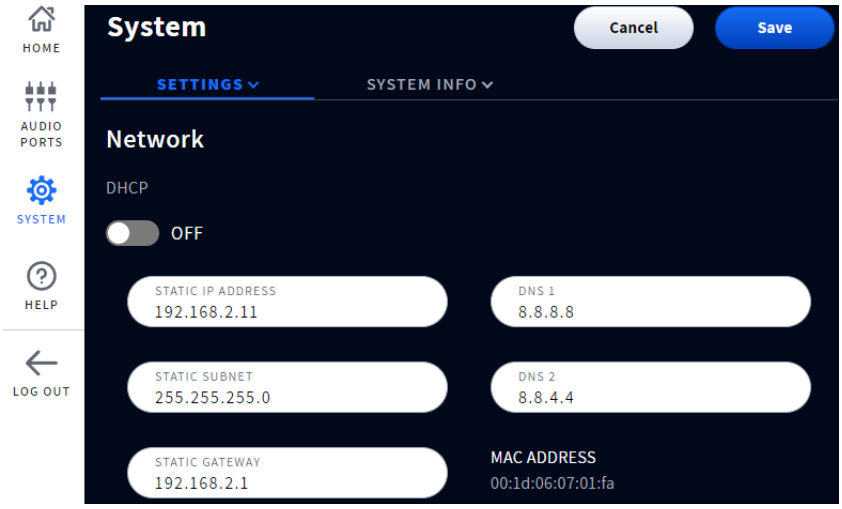

Fig. 9

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TRANSCEIVERS AND CONNECTING A TRANSCEIVER TO THE BASE STATION

The EQUIP wireless intercom supports up to four remote transceivers.

EQUIP transceivers connect directly to the EQUIP base station via an Ethernet cable (CAT5/6 cable with RJ45 connectors). Transceivers are powered from the base station and can be placed up to 500 feet (152 m) from the base station.

Note: Do not connect the transceiver to a network port/IP switch. This can result in a system failure or component damage.

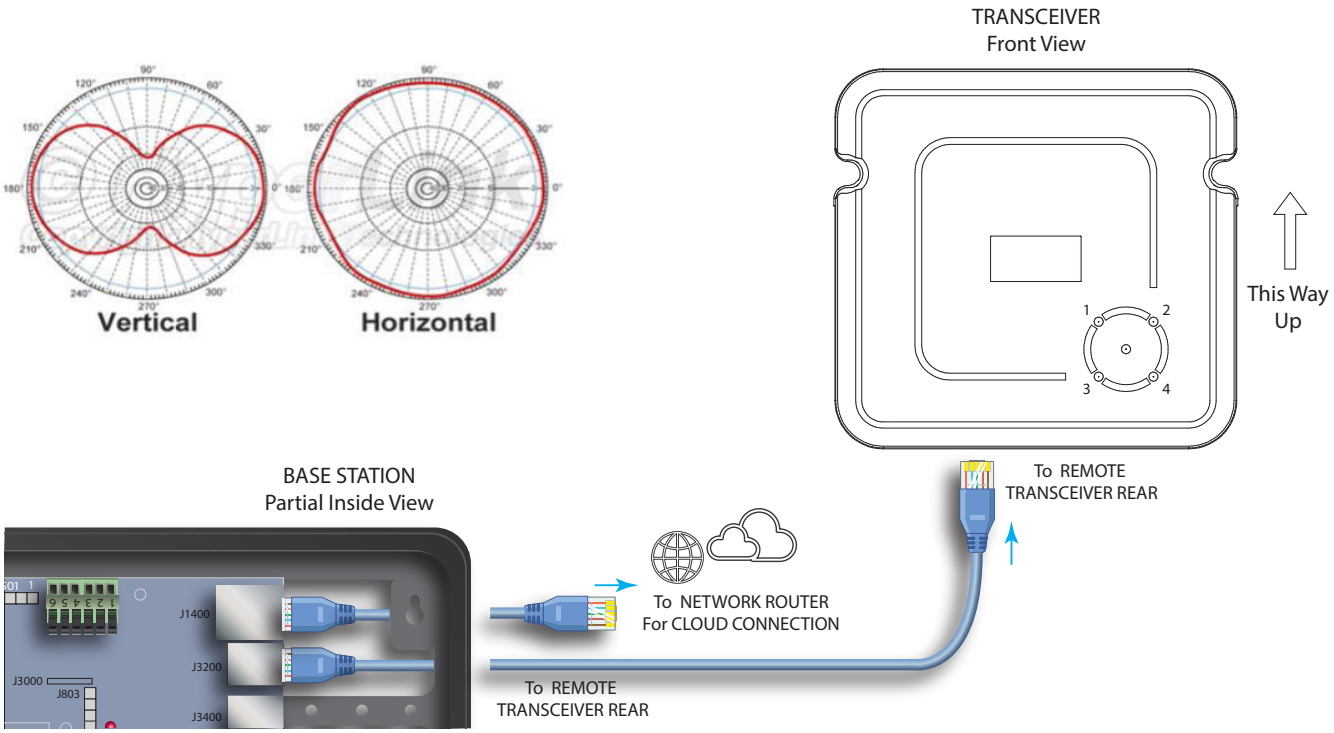

Fig. 10

The EQUIP LEDs on the front of the transceiver shows which port the transceiver is connected to on the base station (1 in this example).

The Radio State LED (green center LED) indicates the transceiver is powered on and functional. When initially powered on or reset, the center LED will cycle through several colors before turning green as it scans for an available channel. See the Radio State LED table below for a description of what each color indicates.

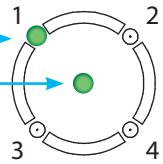

Fig. 11

Color	State Description
	Green Solid Ready for use.
	Magenta Blinking Channel Scan
	Yellow Solid Test Mode
	Blue Blinking Main Radio is updating channel
	Cyan blinking Radio 2 is updating channel
	Yellow Blinking Radar Scan

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TRANSCEIVER PLACEMENT

To determine transceiver placement: survey desired coverage area and to determine how many transceivers are required to cover usage areas. Because EQUIP allows you to deploy up to four transceivers for seamless coverage, place your transceivers in locations that will allow for roaming. Transceiver Placement: Height 8-40 feet (2.4–12 meters). Position (Vertical). Angle 15% down when mounting > 15 feet (4.5 meters).

Before running a site survey, first connect all the transceivers and run auto scan or set channels manually (see "Transceiver 5 GHz Radio Channels" on page 9 and "Manually Setting 5 GHz Channels" on page 10).

SITE SURVEY

To put the EQUIP base station in site survey mode, go to SYSTEM>SETTINGS and select Remote Transceiver from the drop-down list (see Fig. 12).

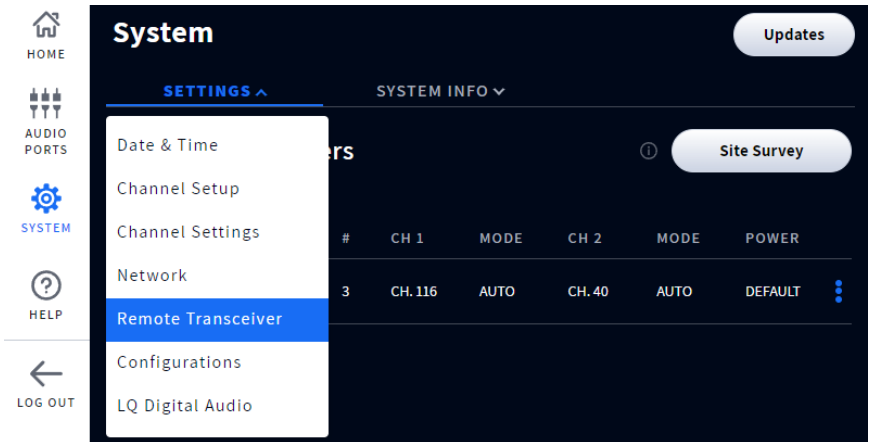

Fig. 12

Tap the Site Survey button (see Fig. 12) and follow the onscreen prompts (Fig. 13 and Fig. 14).

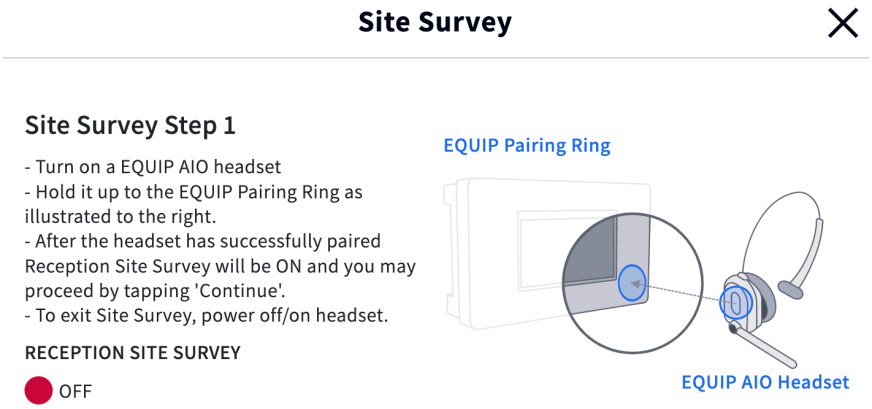

Fig. 13

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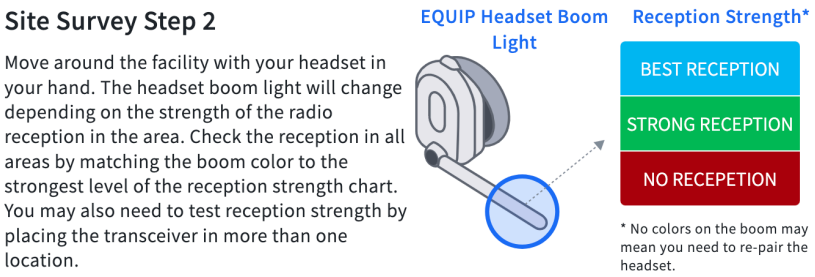

Fig. 14

Place one transceiver in the desired location and determine the distance/location where the LED flashes RED this is the coverage limit of that transceiver. If you need additional coverage area, add additional transceivers to extend the coverage area.

OVERLAPPING TRANSCEIVERS

From the point where you got a Red LED, place the new transceiver back 15 ft (4.6 m) from the Edge of transmission where you got the Red LED to create an overlapping coverage zone.

To achieve desired reliability and signal diversity, each transceiver requires two channels to operate. For example, a system with four transceivers would need eight channels to operate. In a smaller system with four transceivers or less, there are generally enough available channels in the spectrum such that there is no need to worry about channel overlapping.

It's possible to re-use the channel of the transceiver, given that the devices are far apart enough so one does not interfere with the other's RF space. It is important to assure that a beltpack sees no more than one transceiver with the same pair of channels in any coverage area location.

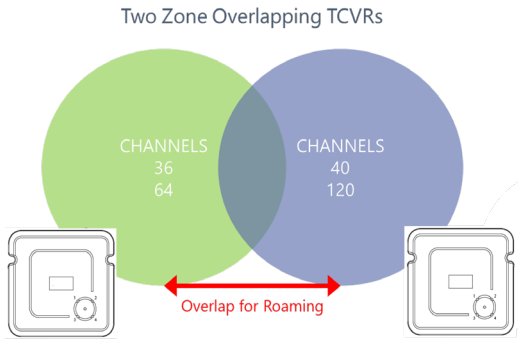

Fig. 15

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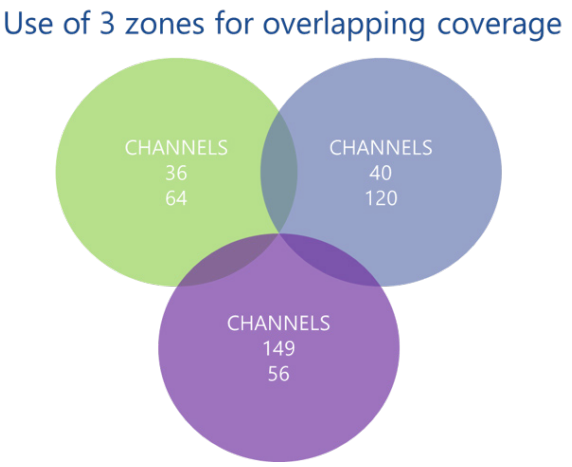

Fig. 16

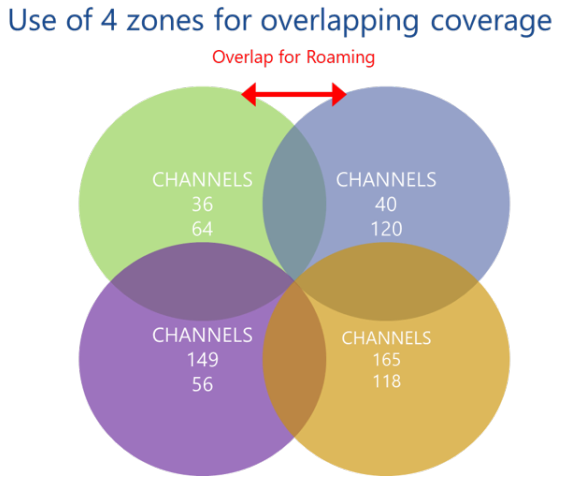

Fig. 17

Note: When setting up overlapping Roaming Zones the RF channels on each overlapping transceiver must be unique. Transceivers that see each other cannot use the same RF Channels.

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TRANSCEIVER 5 GHZ RADIO CHANNELS

EQUIP transceivers have two 5 GHz radios that can be set automatically or manually. The default setting is Auto.

Go to SYSTEM>SETTINGS and select Remote Transceiver from the drop-down list.

Tap on the More icon (the three vertical blue dots) at the end of the transceiver row, see Fig. 18.

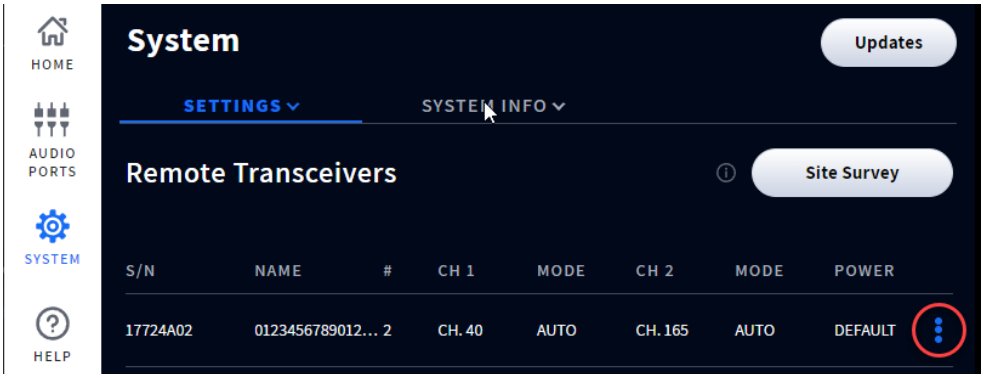

Fig. 18

Select "Scan" from the drop-down list to have EQUIP select the optimum 5 GHz channels.

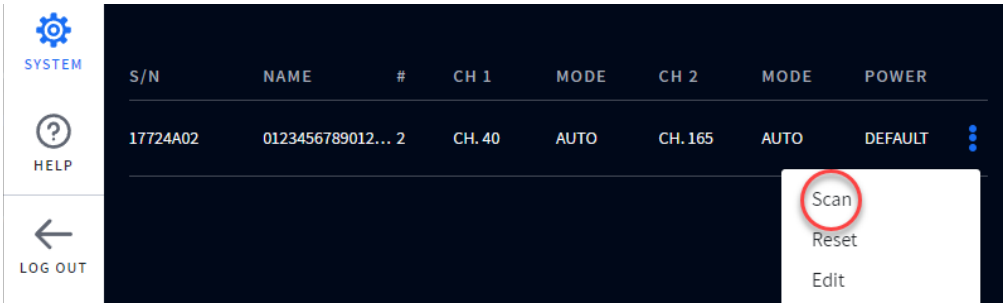

Fig. 19

Tap the "Start Scanning Now" button to begin scanning.

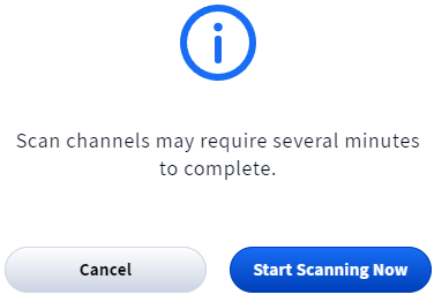

Fig. 20

The outer port LED on the transceiver front will initially flash a different color as the EQP-TCVR scans for available channels before turning solid green once a channel is found (on the base station HOME screen, the “Transceivers” indicator is yellow while scanning before turning green).

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MANUALLY SETTING 5 GHZ CHANNELS

To select transceiver 5 GHz channels manually. Tap the More icon (the three vertical blue dots) and choose “Edit” from drop-down list (Fig. 21) to access the channel selection screen.

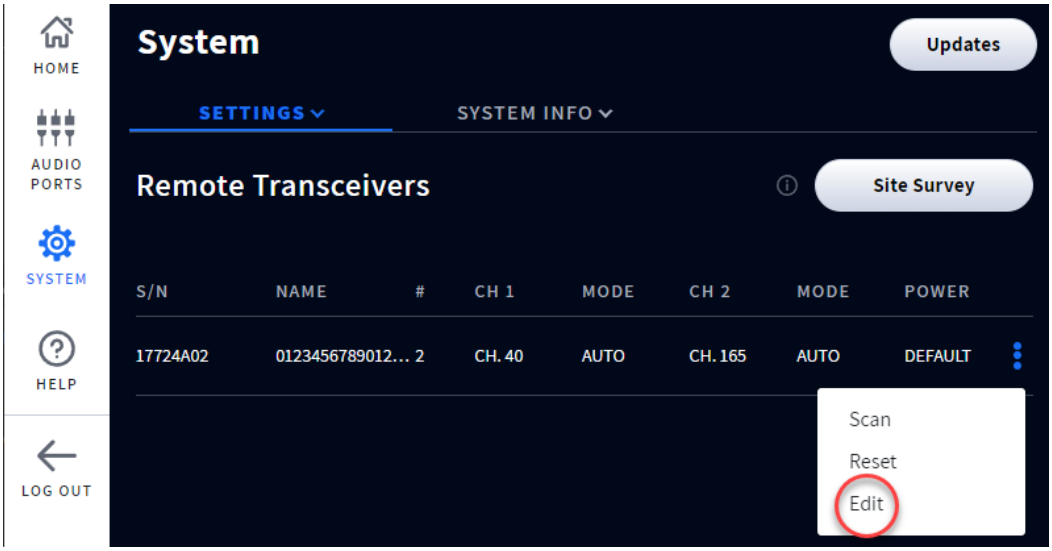

Fig. 21

CHANNEL SELECTION SCREEN

To select a channel, click the arrow on the channel field.

Fig. 22

From the pop-up list, choose a DFS or Non-DFS channel.

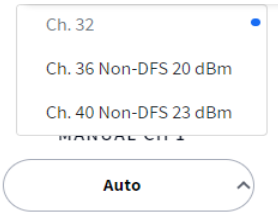

Fig. 23

Click the Save button to apply, this will take a few minutes to reset the transceiver and apply/display changes.

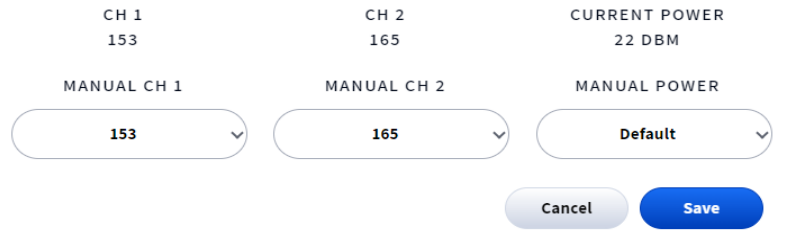

Fig. 24

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Fig. 25

Channel default output transmit power is set to the maximum power allowable for the channel.

If you would like to decrease transceiver output power, click the arrow on the Manual Power field labeled "Default" and from the pop-up list, scroll and select power output desired. Tap "Save," it will take a few minutes to reset the transceiver and apply changes, and display changes.

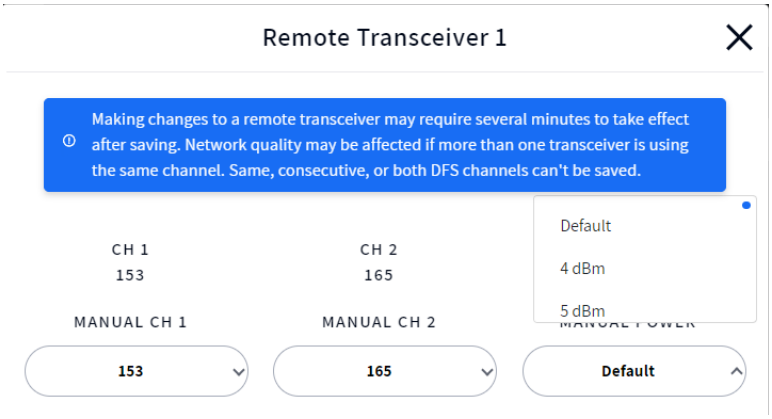

Fig. 26

CHANNEL SETUP - INTERCOM CHANNELS

EQUIP can be set up as a single or dual-channel wireless intercom. The Default is Dual Channel. Please note that an Equip wireless intercom does not support a dual-listen functionality, i.e., a user cannot listen to both intercom channels simultaneously. The user is only capable of talking and listening to a selected channel.

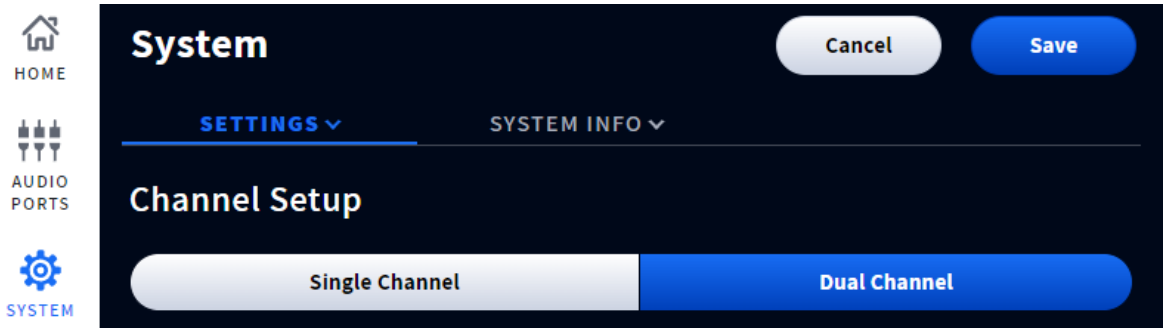

Fig. 27

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For Single Channel operation, go to SYSTEM>SETTINGS, and from the drop-down list select Channel Setup, tap on the Single Channel button under Channel Setup (the selected button is blue, see Fig. 28). Tap the "Save" button to update setting.

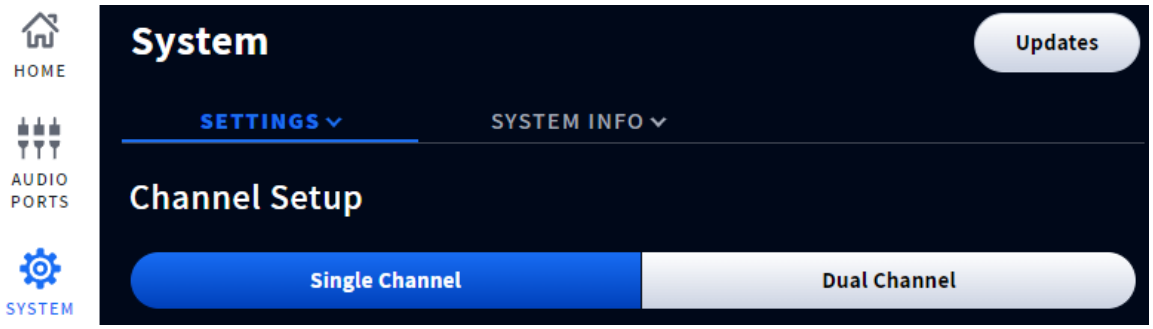

Fig. 28

CHANNEL SETTINGS

Auto Volume Support (AVC) default: OFF, not recommended unless the headsets are being used in high-noise environments. When ON, AVC monitors the ambient sound level and adjusts the speaker's volume level accordingly.

Inbound/Outbound Noise Cancellation default: ON, reduces background noise. This feature eliminates all unwanted noise that may normally be picked up by a microphone. It distinguishes human voice from ambient noise and filters the audio, making the user's voice much more audible.

AUDIO PORTS

EQUIP supports digital linking to Clear-Com LQ for connection to external audio sources and intercom systems.

DIGITAL CONNECTION TO CLEAR-COM LQ

Digital Audio Connection

The EQUIP base station can connect to a Clear-Com LQ to add virtual clients and additional audio connections. However, it does not support linking with HelixNet Main station. If you require HelixNet main station linking in LQ, you will have to connect to LQ via analog ports on EQUIP connected to LQ four wire ports.

EQUIP can connect to Clear-Com LQ via IP connection using the Ethernet connection (J1400). To connect to the LQ, you will need the IP address and name of the LQ you want to connect to.

The IP address of the LQ device can be found on the front panel or in the CCM, see Fig. 29 & 30.

Fig. 29

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Fig. 30

How to Access the Core Configuration Manager (CCM)

Make sure the LQ device is connected to a network (either LAN connector on back of device).

Open a browser (PC, tablet, mobile) on the same network as the LQ device and input the IP address of your LQ in the address field. Find the IP address in the front menu screens of your device. See Fig. 31.

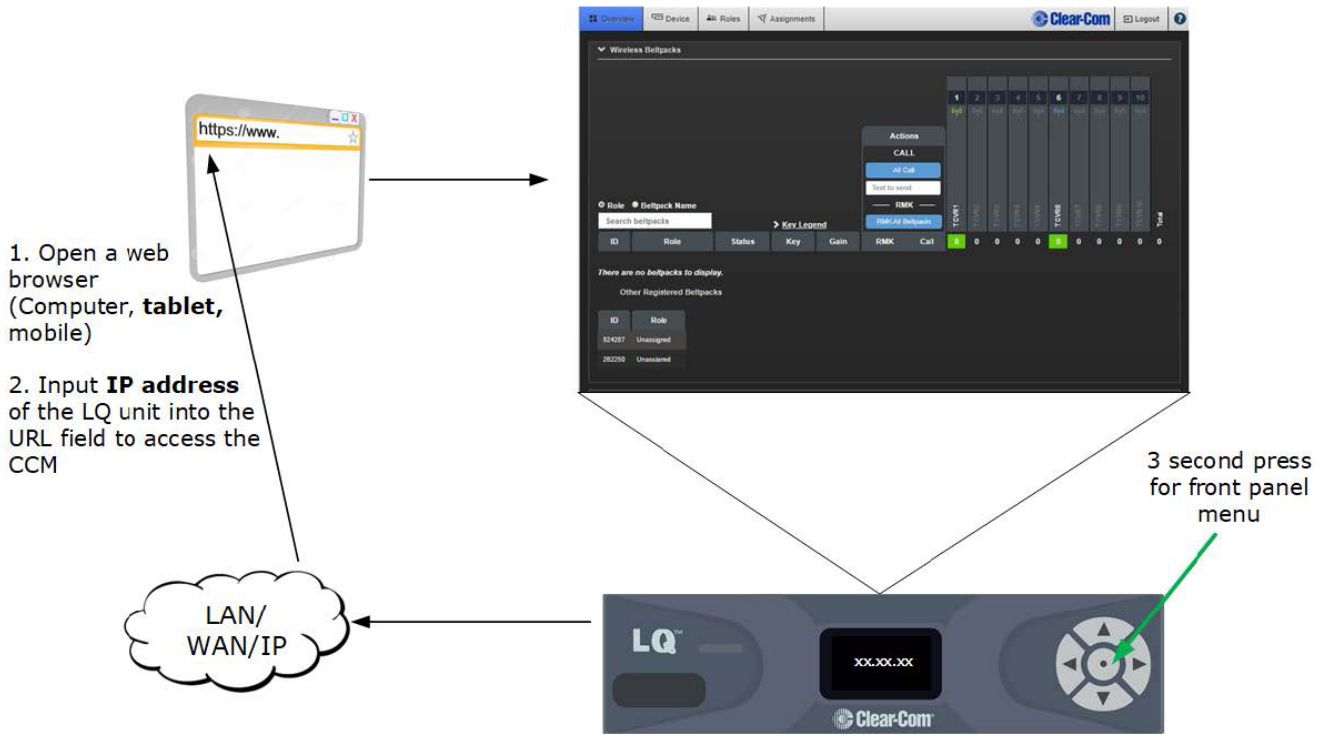

Fig. 31

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EQUIP base station channels connect to LQ as Virtual clients (VC). To set up VC channels in LQ, create accounts for each channel that you want to be connected to the EQUIP base station, select the Accounts tab in LQ, and create a client user, see Fig. 32.

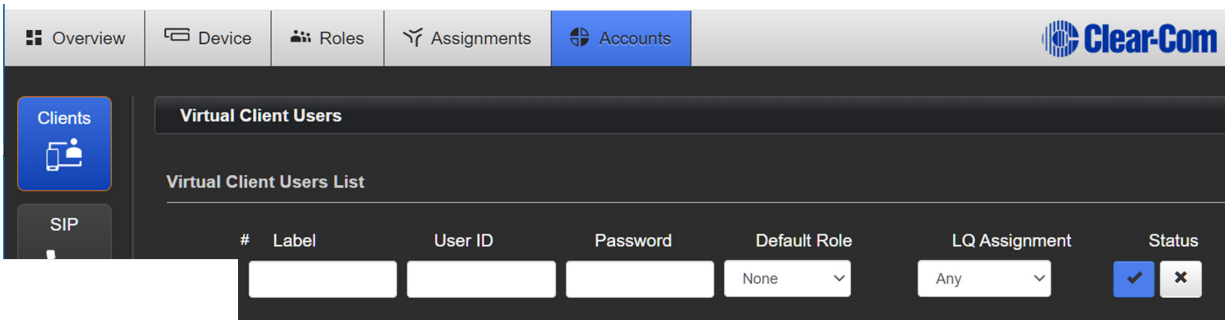

Fig. 32

Populate the Label, User ID, Password, Default Role, and LQ Assignment fields, see example in Fig. 33.

Fig. 33

Click on the Blue Status button to create new Virtual Client User (Fig. 34).

Fig. 34

To make the LQ connection in the EQUIP base station, log in using PIN: 1423, go to AUDIO PORTS and verify LQ is selected. The Audio Ports LQ toggle is blue when selected (see Fig. 35). Input and Output volumes can be adjusted here.

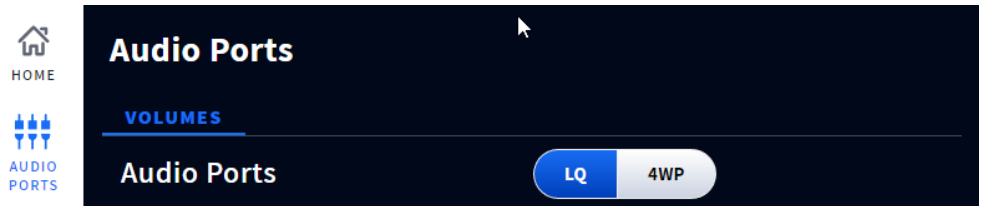

Fig. 35

You will be prompted to restart the base station (Fig. 36). Select the "Restart Now" button.

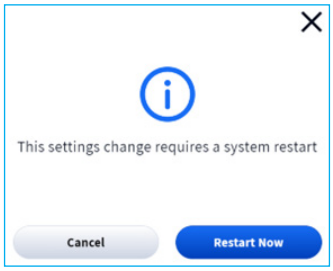

Fig. 36

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The system restart can take a few minutes.

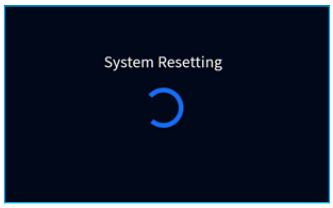

Fig. 37

On the EQUIP base station HOME screen, go to SYSTEM>SETTINGS, and from the drop-down list, select LQ Digital Audio (see Fig. 38).

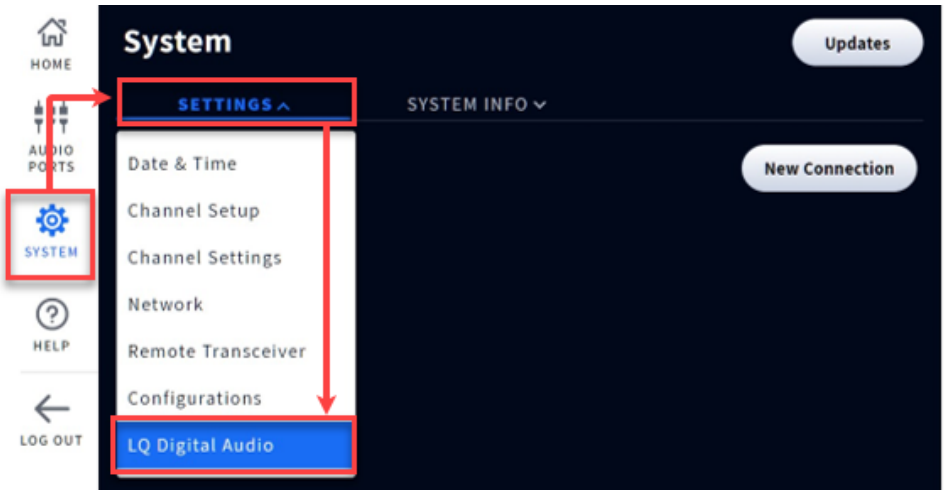

Fig. 38

Select the New Connection button.

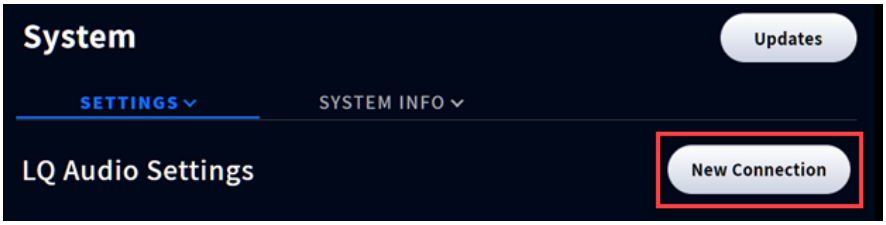

Fig. 39

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Enter NAME (as used in the LQ Label field, see Fig. 33), IP ADDRESS, USER NAME, PASSWORD of the LQ (Fig. 40).

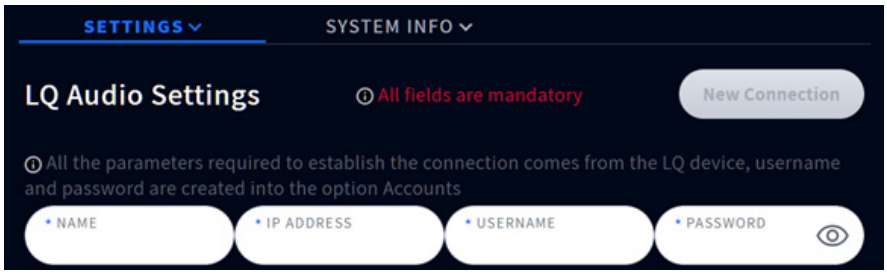

Fig. 40

Once all the fields are populated, the Create Connection button becomes active. Select the Create Connection button to connect.

The Status will change to CONNECTED (see Fig. 41).

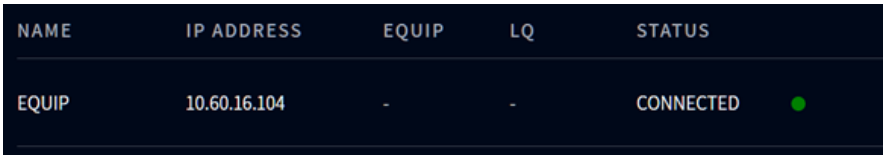

Fig. 41

To assign audio channels in EQUIP and LQ, click on the More icon (blue dots) at the end of the Device row and select Edit from the pop-up list. (Fig. 42).

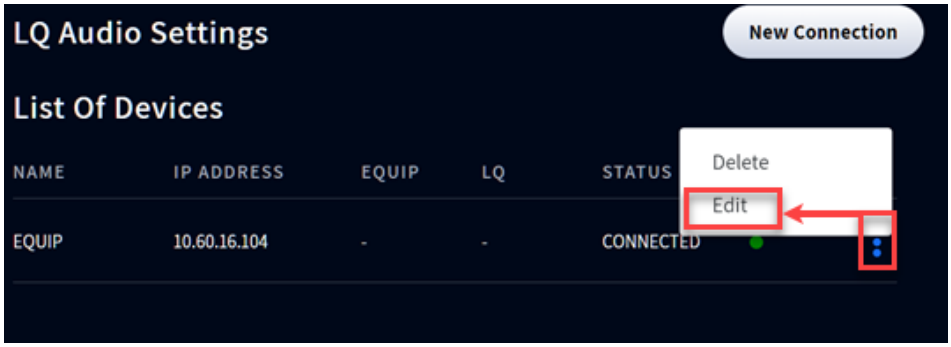

Fig. 42

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Select EQUIP and LQ channels you want to assign to this connection.

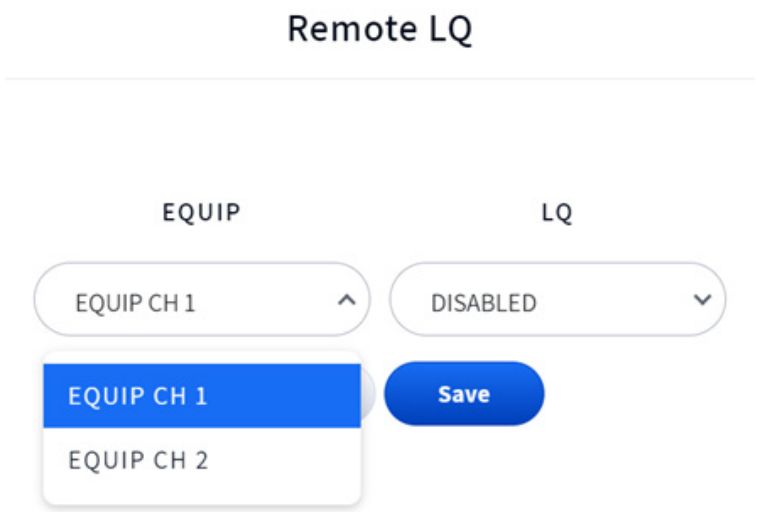

Fig. 43

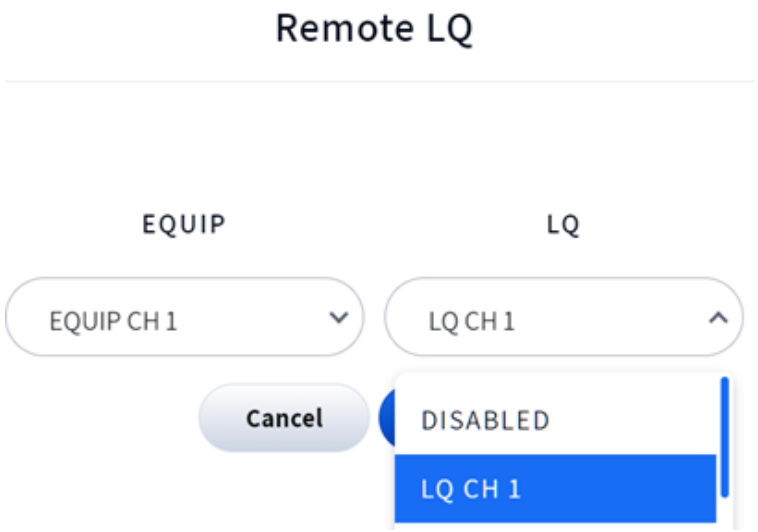

Fig. 44

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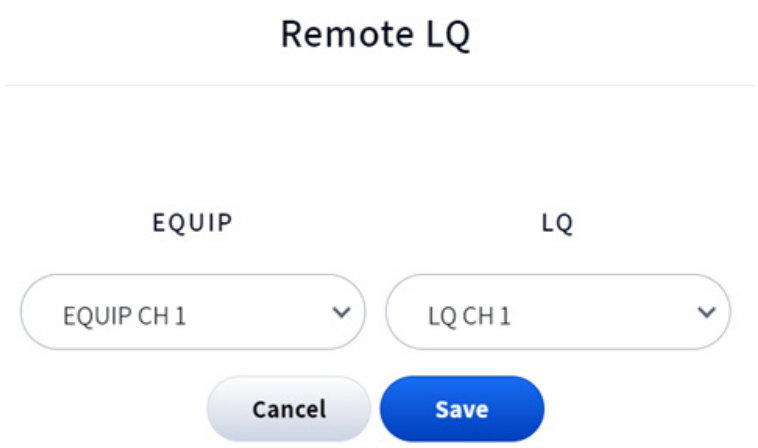

Fig. 45

The green dot to the right of CONNECTED (STATUS) confirms that the connection between the EQUIP base station and LQ is completed.

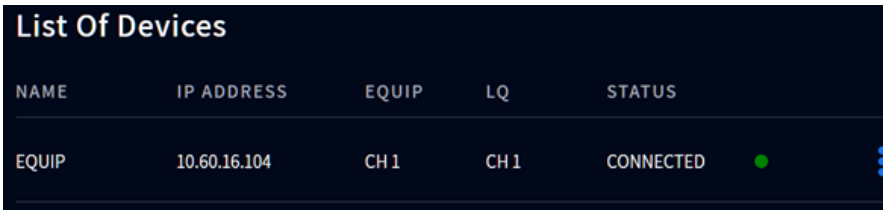

Fig. 46

To confirm the connection in LQ, go to the Assignments Tab > Channels > Hostnames. See Fig. 47.

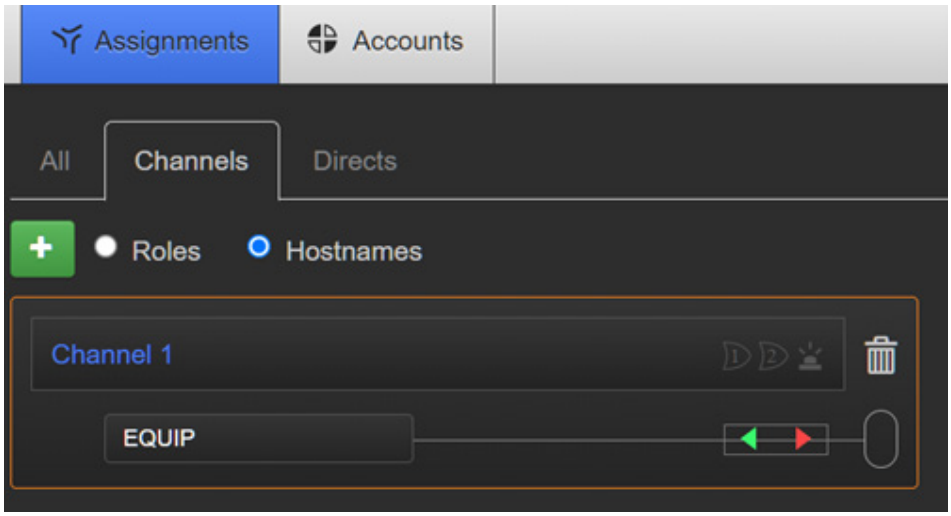

Fig. 47

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WIRELESS HEADSETS

The headset is a rugged, water-resistant dual-channel all-in-one headset that operates in the ISM license-free 5 GHz frequency range. The all-in-one headset has an ergonomic design with tactile touch keys, level controls, and end of the boom talk indication LED.

The all-in-one headset connects to Equip Base via the transceivers, (Region specific). all-in-one headset users can roam seamlessly between transceivers over wide areas. The all-in-one headset uses one rechargeable lithium-ion battery. With moderate use in a typical environment. The headset will operate for approximately eight hours on a single battery charge. It will alert you when the battery charge is low. The EQUIP wireless intercom supports 40 all-in-one headsets. See "Headset Overview" on page 2 for more information.

HEADSET PARING

Pair the headset by holding the headset's keypad side against the Headset Pairing Ring (solid blue circle) on the base station. Pairing begins automatically as soon as the headset is sensed.

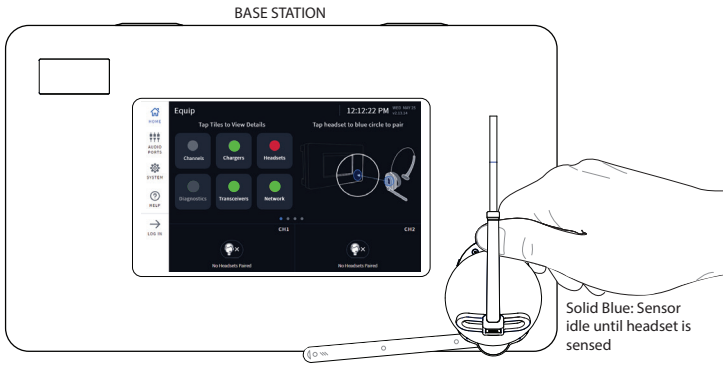

Fig. 48

When the Headset Pairing Ring turns solid green, pairing is successful See Fig. 49. The Headset status LED and indicator on the base station HOME screen also turns solid green. Also see "Quick Start Guide" for more details on using the EQUIP system. See "**Note:**" if pairing fails.

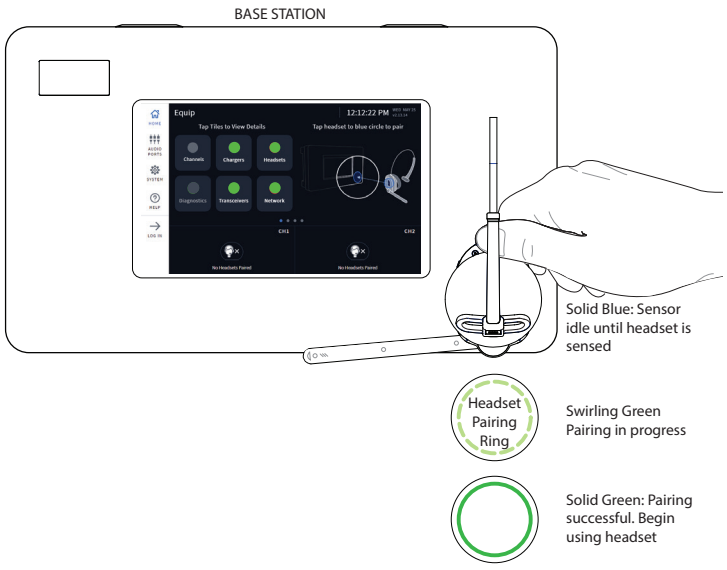

Fig. 49

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Note: If pairing fails (indicated by a red swirling ring), try again. Hold the headset steadily centered and flush against the headset pairing ring (movement and distance from the pairing ring can cause pairing errors). Also verified your headset has a fully charged battery.

ADDITIONAL INFORMATION

Use the contact information listed on the HELP screen or scan the QR code for additional EQUIP help and resources.

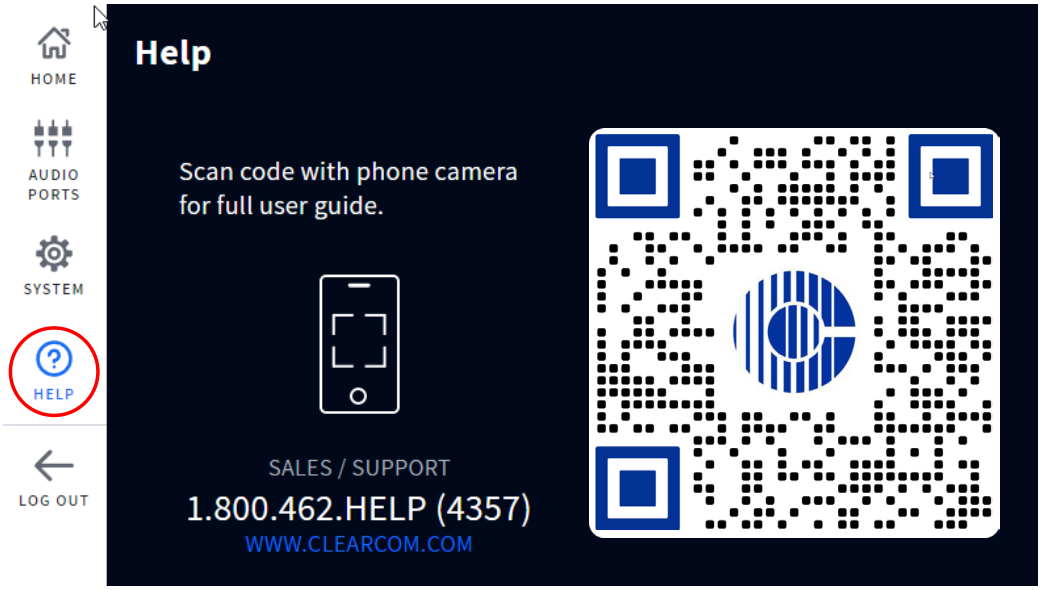

Fig. 50

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