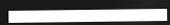


Quicklink Studio Solution Manager Guide



Rev1.9

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An introduction

Broadcasters are recognising that they need to do things differently to sustain or build a competitive advantage. The way in which content is provided to the Studio has changed over the years with the introduction of smartphones and tablets. This has altered the way in which consumers demand to watch live content and has driven the need for broadcasters to deliver more content.

Quicklink are continuing to introduce solutions to suit the ever-changing broadcast requirements. The new and exciting Studio Solution is a bi-directional calling solution, in real-time, full duplex audio that can provide instant resources that can be used in various locations.

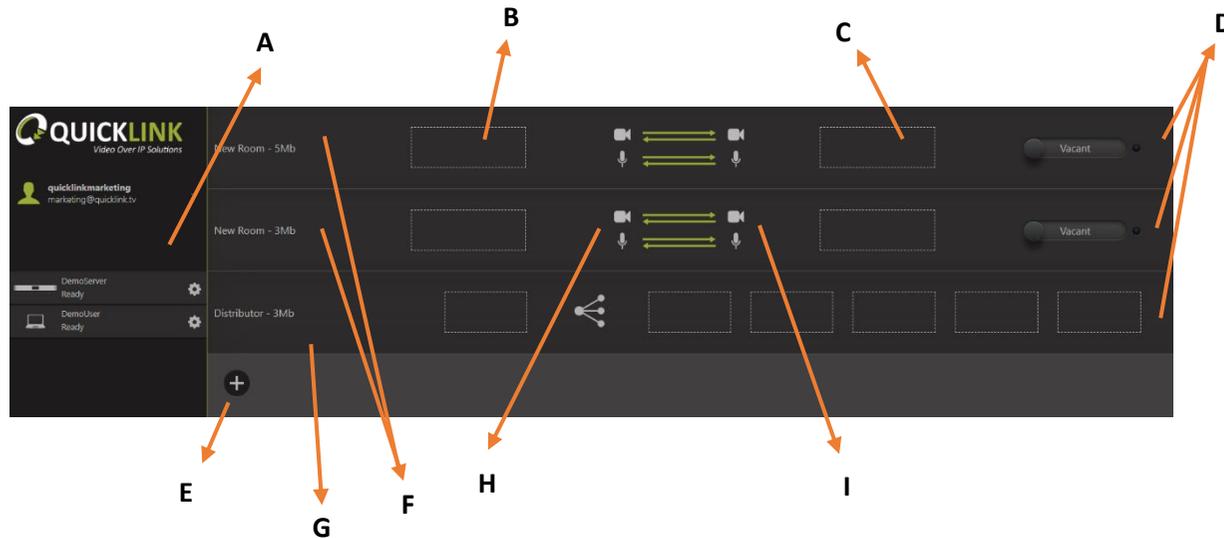
Content can be obtained using a Chrome browser, iOS or Android device allowing users to send or receive content to or from the studio remotely and easily using any device where a web browser is available.

The Quicklink Manager Portal is available to use from any web browser. This will allow complete management of all servers and remote users. It has various layers of operational security to ensure the highest levels of data security and integrity.

The Studio-in-a-box is ideal for full remote controllable HD studio productions. Connecting to Quicklink's globally optimised low latency infrastructure, the Studio-in-a-box delivers bi-directional video/audio between the contributor and broadcaster. This can be fully managed and controlled from the Quicklink Manager Portal.

Quicklink Manager

Key for Quicklink Manager



Definitions

Room: This is a channel of communication for bi-directional audio and video, video only or audio only. These can be renamed, and additional rooms added.

Servers: Quicklink Hardware Studio Servers can be used to both send or receive and can be classed as a user or server.

A – A list of all Users/Servers.

B and C – Drag your Users and Servers to make the connection.

D – These will display Vacant until Users/Servers are placed in the room. When occupied with two Users/Servers waiting will display, click the waiting button to enter into a call.

E – This will allow you to add more rooms.

F – Rooms for each bidirectional call.

G – Distributor room for one location, to a number of devices.

H and I – This allows the Quicklink Manager to enable/disable audio and video in either direction.

Create a Company and Administrator Account

Navigate to the Quicklink Manager (<https://quicklink.network>) and click **Register**.

Register

Enter your company and administrator details. Ensure that you enter the number of an SMS enabled device to receive the verification SMS message.

Click **Verify User** and an SMS message will be sent to the telephone number provided. Once received, enter the verification code and click **OK**.

A prompt will confirm that the entered number has been verified. Click **OK**.

Finally, click **Sign Up** to complete the registration.

Sign Up

Company details:	Administrator details:
Company name 	Username 
+44 Telephone number 	Full name 
Email 	Email 
Postcode 	Password 
	Confirm password 
	Show password: 

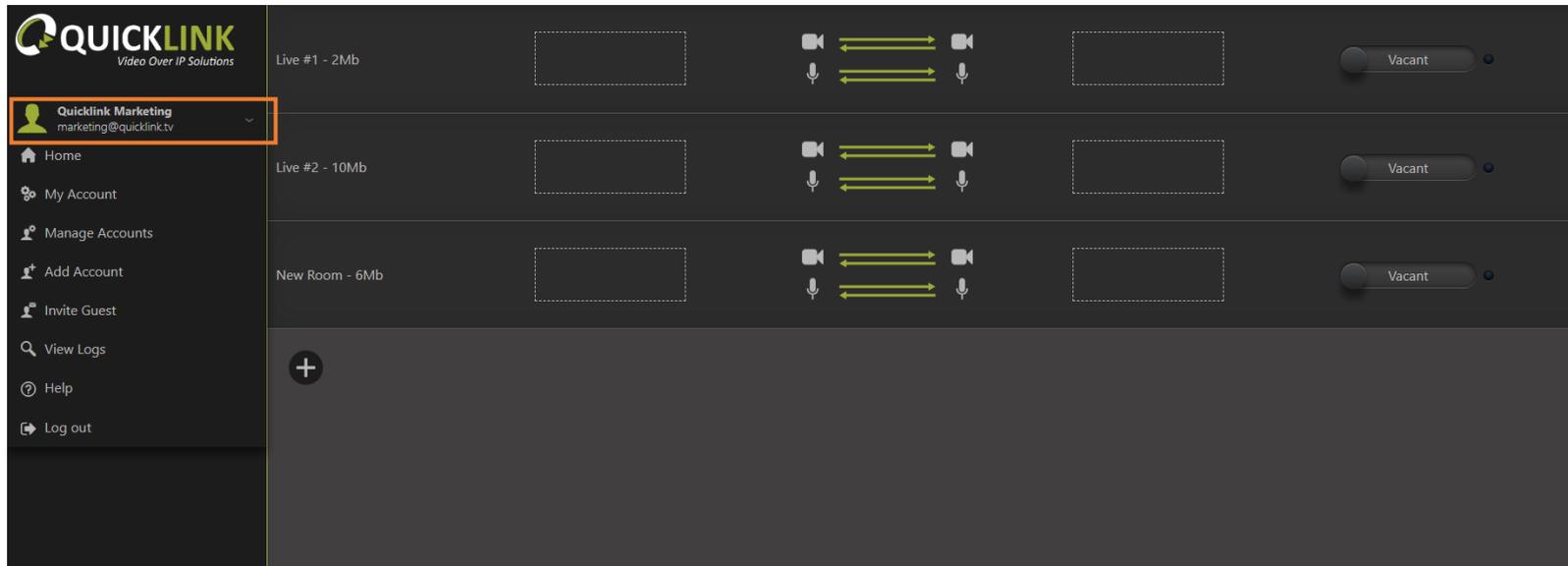
Verification

Please enter your verification code:

OK

Quicklink Manager functions

From the Manager Portal, click on your created administrator account on the left to show the menu bar.



My Account

This popup will allow you to update any details of your administrator account. From this popup you can enable or disable two-factor authentication or change your password.

Manage Accounts

This page will display a list of all accounts registered to your company. Clicking on an account will allow you to update the name, email, username and privileges. From here you can also deactivate or delete an account.

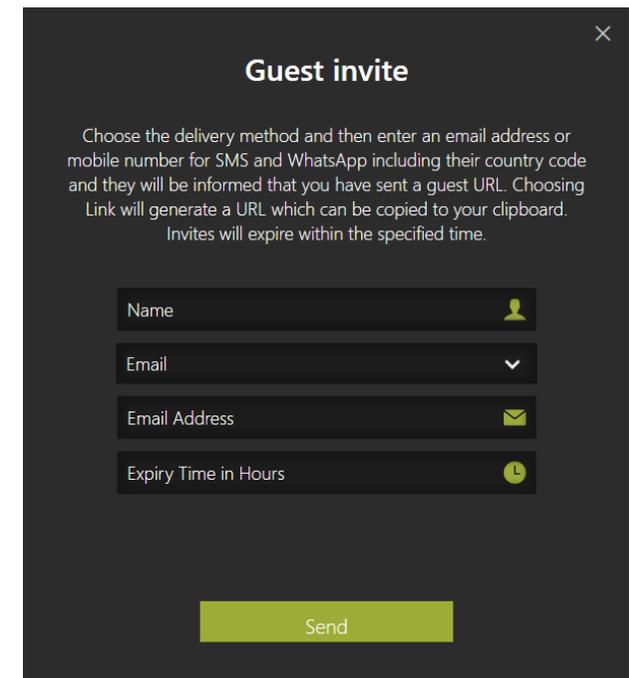
Add Account

From this popup you are able to create accounts. Please see below for layers of operational titles and controls. When you have created an account, an email will be sent to the provided email address with the account username, password and a link to complete registration.

- Administrator is created when a new company account is created – This account cannot be deleted unless you contact Quicklink Support.
- *Administrators*: Can add 'Managers, Operators and users' and connect calls and see logs.
- *Manager*: Has the same privileges as the Administrator but these accounts can be deleted and amended to operators or users.
- *Operator*: Operators can only make room connections.
- *User*: Can be put into calls for contributions and register studio server software.

Invite Guest

The Invite Guest popup will allow you send an instant temporary account link via email, WhatsApp, SMS or generate a link for sharing. Enter a name, select the method of inviting your guest and choose the time validity for the link to expire. If you have selected Email, WhatsApp or SMS, a link to contribute will be send. If you selected 'Link', copy the link and share.



Guest invite

Choose the delivery method and then enter an email address or mobile number for SMS and WhatsApp including their country code and they will be informed that you have sent a guest URL. Choosing Link will generate a URL which can be copied to your clipboard. Invites will expire within the specified time.

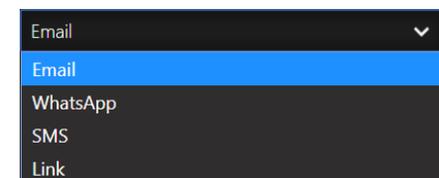
Name 

Email 

Email Address 

Expiry Time in Hours 

Send



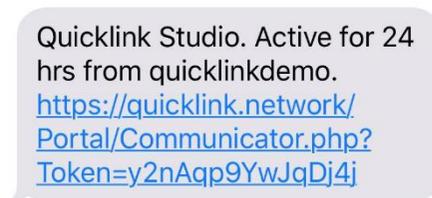
Email 

Email

WhatsApp

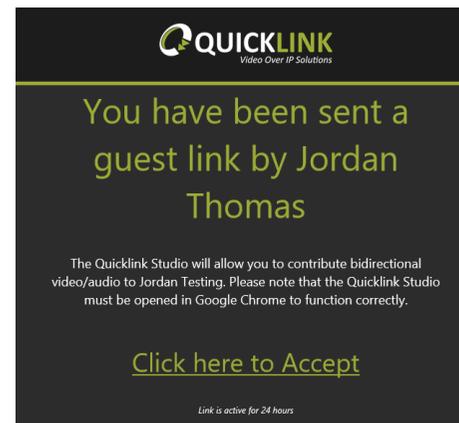
SMS

Link



Quicklink Studio. Active for 24 hrs from quicklinkdemo.
<https://quicklink.network/Portal/Communicator.php?Token=y2nAqp9YwJqDj4j>

Guest invite via SMS



QUICKLINK
Video Over IP Solutions

You have been sent a guest link by Jordan Thomas

The Quicklink Studio will allow you to contribute bidirectional video/audio to Jordan Testing. Please note that the Quicklink Studio must be opened in Google Chrome to function correctly.

[Click here to Accept](#)

Link is active for 24 hours

Guest invite via email

View Logs

View logs will allow you to see a log of all calls carried out within your company. Each call log entity will display the server, user, call length, start time and end time. You can sort the logs by clicking on the column name. Clicking the column name once for results to be sorted in ascending order, clicking twice will sort results in descending order. This information can be exported to a CSV file by clicking the **Export** button.

Help

Clicking Help will initiate a step-by-step tutorial of the Quicklink Manager. The tutorial will show you how to use the Quicklink Manager by explaining the layout, how to configure audio/video, how to start/stop calls, how to put contributors into calls and the control of the Studio-in-a-box. This tutorial will also automatically start the first time the administrator account is used.

Quicklink Studio Server Software



To start the Studio Software, open QL Control Panel located on the desktop.

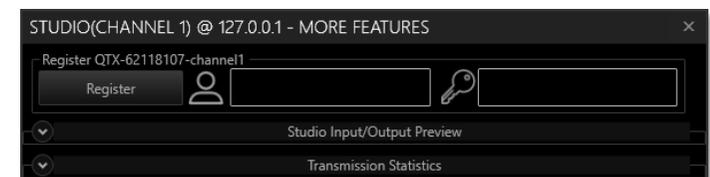


Registering your Studio Server software

To register your Studio Server, click **More Features** from the main interface.

Enter your previously created user credentials into the username and password fields. Click **Register**.

Once the Studio Server has been registered, the server will appear in the server list of the Quicklink Manager.



Always on top

A useful feature of the Studio Server Software is the option to always display the Control panel on top of other open windows. This can be activated or deactivated by clicking the orange padlock icon on the top right of the screen.



Channel selection

Click on the left of the Control Panel to select the individual channel which you wish to manage the settings. The number of channels available to you is dependent on the unit purchased (i.e. Quicklink SDI/4k will show 1 channel, Quicklink Duo will show 2 channels and a Quicklink Quad will show 4 channels).



Starting/stopping channels

You can start/stop channels independently from directly within the Quicklink Control Panel This allows you to free up CPU for higher resolution calls. A channel can be started by clicking the **START** button. When a channel is running, click **STOP** to terminate the channel. An indicator light is visible to next to the channel name and IP address showing the status of the channel.



STATUS	DESCRIPTION
	Channel is stopped
	Channel is ready
	Channel is in use

Input device

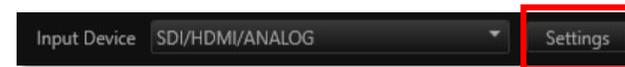
Select the **Input Device** dropdown box to view the available inputs on the Quicklink TX.

- **SDI/HDMI/ANALOG** – Decklink A/V inputs e.g. HDMI, SDI, XLR, AES (hardware dependent).
- **NDI Receiver** – Use an available NDI stream as A/V input.
- **Screen Capture** – Capture the Quicklink desktop.
- **Audio Only** – Return audio only to the caller.



Input settings

Click on the **Settings** button to view a list of available setting options.



SETTING	DESCRIPTION
Set Name	This setting allows for the renaming of inputs to allow personalisation of workflows.
Input Format	Select desired input format. By default, this is Auto Detect and will automatically detect the connected video format.
Max Return Resolution	Select the maximum return resolution to return to the caller (hardware dependent).
Internal A/V Source	Select A/V source when input device is set to the Decklink e.g. SDI for embedded SDI or SDI_XLR for SDI with analogue audio.

SD Aspect Ratio Scaling	Select SD input as 16:9 Squeezed, 16:9 Letter Box or 4:3 Center Cut
Audio Input	Select audio input device.

Output device

Choose an available output device.

- **None** – No video output, audio device selectable.
- **SDI/HDMI/ANALOG** – Decklink output.
- **NDI Renderer** – Render output to NDI.



Output settings

Select the Output Device **Settings** button to view list of available setting options.

SETTING	DESCRIPTION
Set Name	This setting allows for the renaming of inputs to allow personalisation of workflows.
Output Video Format	Select desired output format. By default, this is set to Same as Input .
SD Aspect Ratio Scaling	Select SD output as 16:9 Squeezed, 16:9 Letter Box or 4:3 Center Cut
Output Audio Device	Select the output audio device. By default, this will be set to the selected output device .

More features

Click More Features to access additional features within the Studio Server Software.

Click **Studio Input/Output Preview** button to view previews of the incoming Studio call and the return feed in 180p.

Studio Server Software configuration

From the Quicklink Manager, click the  icon next to the newly available server.

The Server Name can be changed to a friendly name by clicking the  icon. Enter the preferred server name and click **Save**.



- Input Device: Select the input device for return video (video sent to remote callers). Options such as Decklink, NDI Receiver, Webcam and Transport Stream are available (hardware dependent).
- Internal A/V Source: Decklink A/V inputs e.g. HDMI, SDI, XLR, AES (hardware dependent).
- Input Format: Select the format of the return video feed. Auto Detect (1080i59) is default.
- Max. Return Resolution: Select the maximum return resolution to return to the caller (hardware dependent).
- Input SD Aspect Ratio: Select SD input as 16:9 Squeezed, 16:9 Letter Box or 4:3 Center Cut.
- Audio Input: Selection to choose audio from video, or from external device.
- Output Device: Select the output device. Options such as DeckLink, NDI Renderer and RTMP are available.
- Output Video Format: Select the required output format.
- Output Audio Device: Select the output audio device. By default, this will be set to the **selected output device**.
- Output to NDI: Renders output to NDI over a local network
- Output SD Aspect Ratio: Select SD output as 16:9 Squeezed, 16:9 Letter Box or 4:3 Center Cut
- Adaptive Resizing: Enable this to allow the video to resize to a smaller width & height if the available network bandwidth drops (configurable for both Studio server and Studio-in-a-box).

Click **Close** to save your changes.

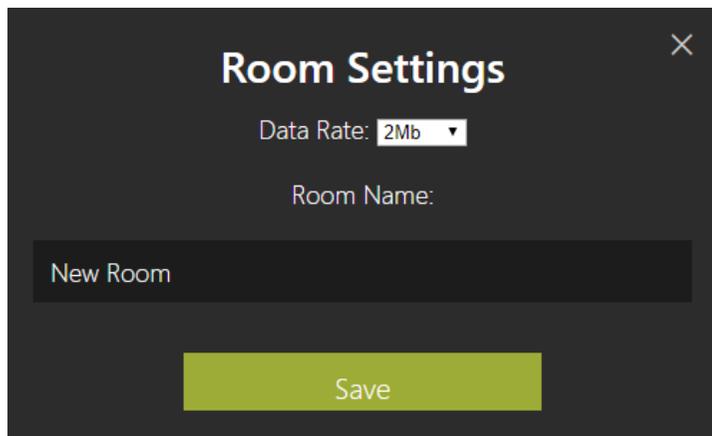
Room management

The room system is the method used to connect two devices together to start an audio/video bidirectional call. Generally, a Studio Server will always be present in a room.

Create a room by pressing the plus  icon.

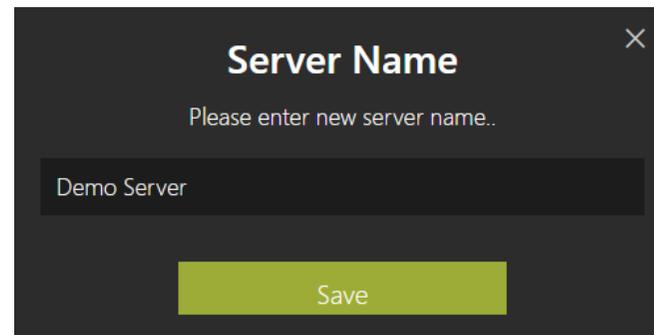
A room can be deleted by hovering over the room with your mouse pointer and clicking the  icon.

To edit the name and data rate of a room, click the  icon, enter the desired name and data rate then click **Save**.



The 'Room Settings' dialog box has a dark background and a close button (X) in the top right corner. It contains a 'Data Rate' dropdown menu set to '2Mb', a 'Room Name' label, and a text input field containing 'New Room'. A green 'Save' button is at the bottom.

The maximum data rate is defaulted to 2 Mbps to ensure stability of streams. The maximum data rate for each individual room can be adjusted from 128Kbps up to 10Mbps depending on your knowledge of available internet bandwidth and your requirement for bandwidth allocation to each user.

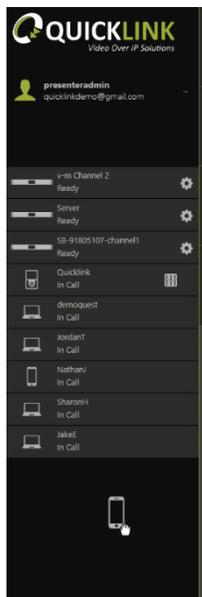


The 'Server Name' dialog box has a dark background and a close button (X) in the top right corner. It contains the text 'Please enter new server name..', a text input field containing 'Demo Server', and a green 'Save' button at the bottom.

The icons in the centre of the room allow the manager to disable/enable audio and video in either direction. For example, this would be useful if you wish to send only audio to the Studio server from a guest. Click the Camera and Microphone icons to enable and disable as required.

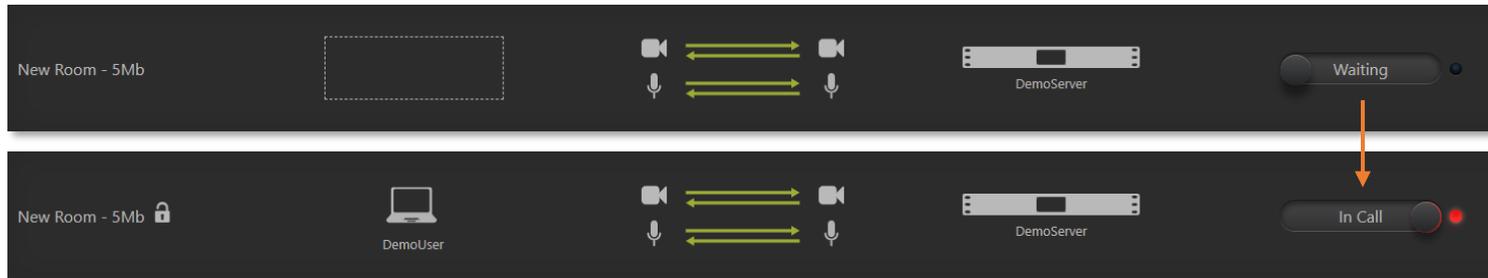


Drag an available client or server from the available device list into the dashed area of a room.



To remove a device from a room, drag it onto the left side of the interface where the users and servers are listed.

To initiate a call, drag a user/server from the left side of the interface, into a call. Once both spaces have been populated, the connection will automatically start and the status will change to 'In Call'.



When two devices are placed into a room, a padlock icon will appear next to the room name allowing you to lock the room. To lock the room click the  icon. When locked, the link automatically re-connects if the network connection is lost. The link will automatically be established as the room location is remembered.

To end the call, simply drag a device out of the room, or click the 'In Call' slider.



Warnings



A yellow warning icon will appear if there is a poor network connection with more than 2% packet loss over a 20 second period. This warning appears on devices running Chrome browser or iOS.



A red error icon will appear if the contributor is disconnected. This will only show for the contributor. If a contributor loses connection, the device will disappear from the Quicklink Manager.

Distributor

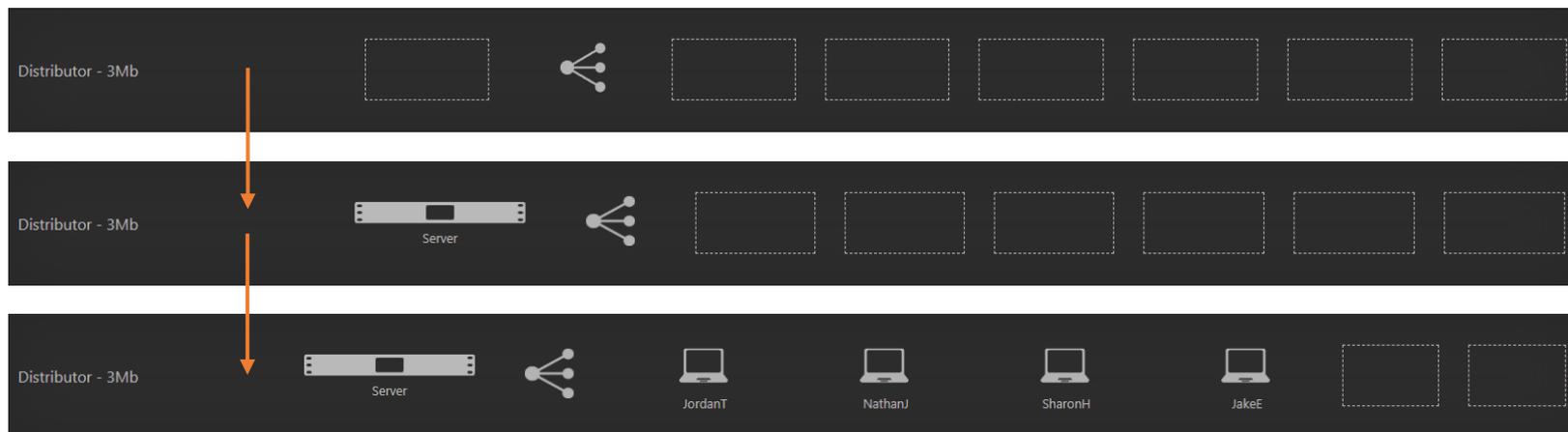
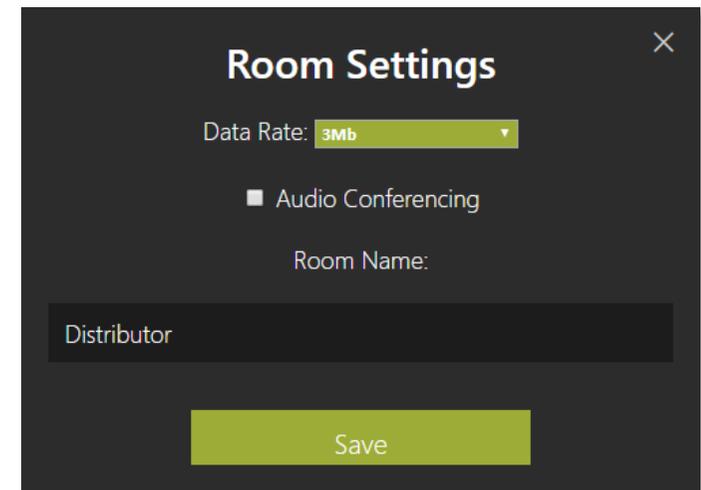
The Distributor is a room where you can connect a number of users. Users can watch video from the presenter or watch the video whilst audio conferencing between the other users in the room. This room is ideal for a virtual waiting room, green room in a talk show/chat show, a webinar/web conference, remote production proofing or the broadcast of productions over an extranet.

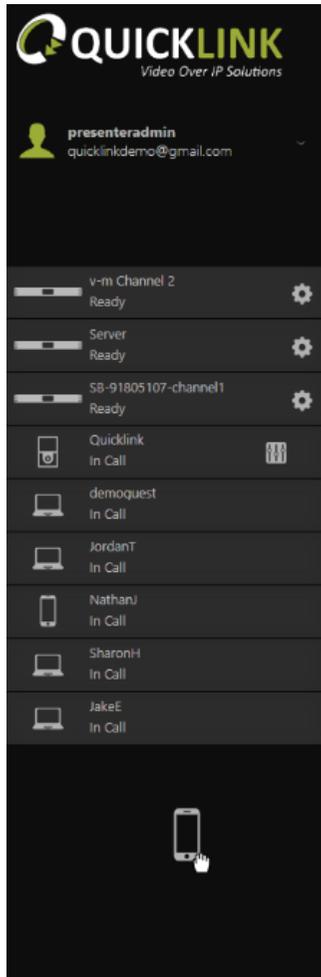
If you do not have a Distributor room showing on your Quicklink Manager portal, please contact the [Sales team](#) for pricing and setup.



To edit the name, data rate of a room and enable audio conferencing, hover over the room and click the  icon. Enabling audio conferencing will allow all users in the room to hear audio from the other devices. Once finished, click **Save**.

To initiate a Distributor call, simply drag the sending device in the left-hand box. When a device is present in the room, the icon will start to flash, indicating that the connection to the cloud is made is in progress. *Please note: with this type of room, no slider will appear to start a call, the call starts once the first device has been placed into the room.*





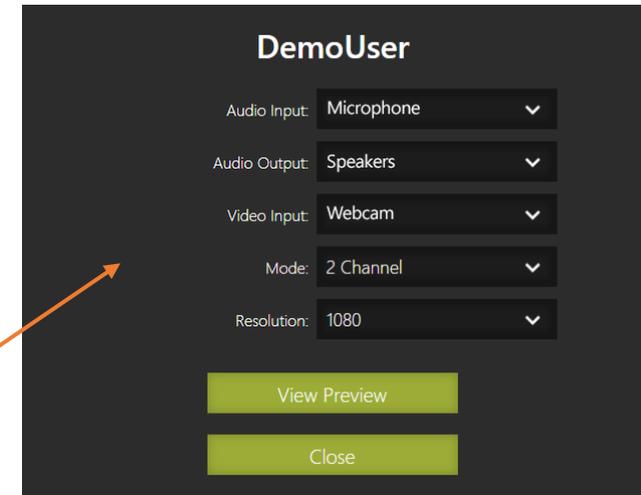
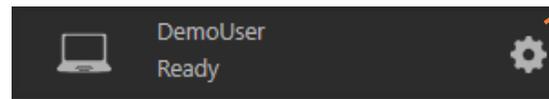
To remove a device from a room, simply drag it to the left side of the interface where the users and servers are listed.

Contributor/user settings

Desktop and laptop settings (Chrome browser)

From the Quicklink Manager Portal, you can adjust various settings of the available users.

Click the  icon on a desktop/laptop user to adjust their input audio/video device, output audio device, audio mode i.e. stereo or mono and select their video input resolution.

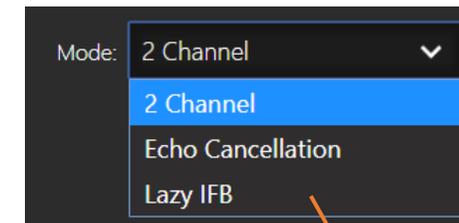


When using Google Chrome browser on a laptop, there are 3 audio modes available

- 2 Channel: uses both channels 1 and 2
- Echo Cancellation: uses 1 channel with echo cancellation
- Lazy IFB: uses channel 1 or uses channel 2 when IFB is activated

Under **Video Input** "AudioOnly" is available for contributors without a Webcam/Video source.

If Lazy IFB is selected, a green button will appear on the contributor's screen. When this button is held or the space bar is pressed, the contributor is able to communicate with the operator of the Quicklink Manager using channel 2.



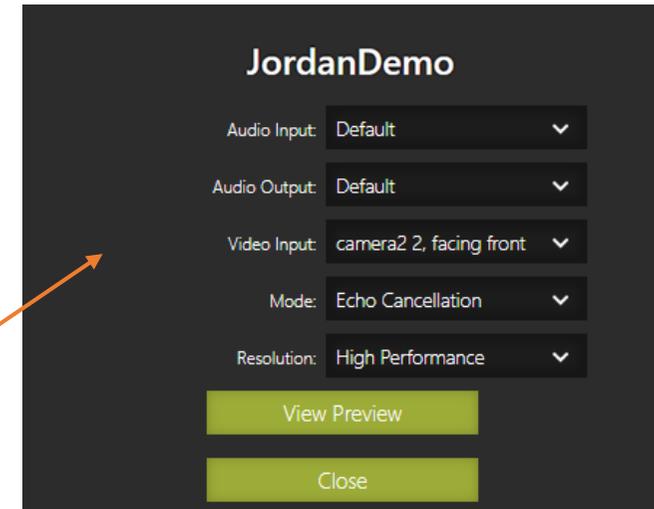
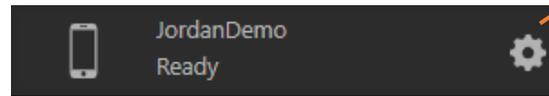
The **View Preview** button will allow you to preview the incoming video and audio from the contributor.

Mobile settings (Chrome and Safari browser)

Click the  icon on a mobile user to adjust their input audio/video device, audio mode i.e. stereo or mono and select their video input resolution.

For a detailed description of the 3 audio modes available and how to configure lazy IFB, please refer to the Desktop and laptop settings (Chrome browser) section above.

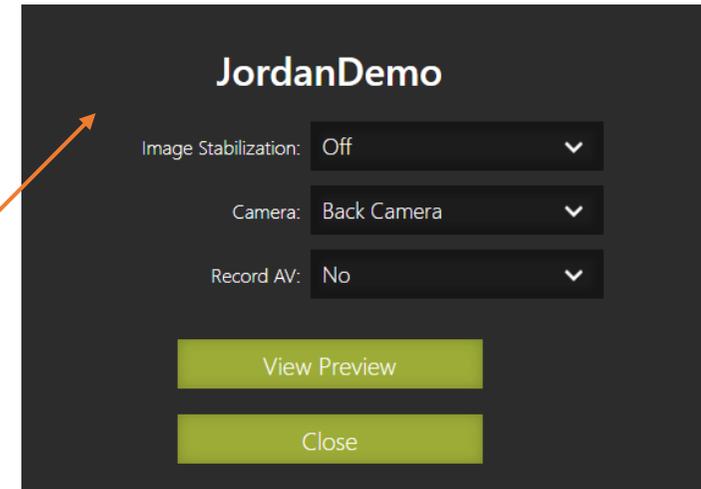
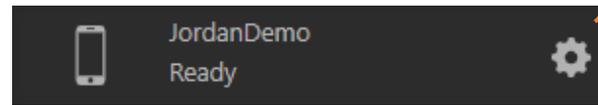
The **View Preview** button will allow you to preview the incoming video and audio from the contributor.



iOS app settings

Click the  icon on a mobile user to enable/disable image stabilisation, switch between front or back camera and enable recording.

By enabling record, the iOS device will switch to Store & Forward mode and notify the user that recording has begun. This is detailed in the Studio Contributors Guide found on the [Quicklink Customer Portal](#).

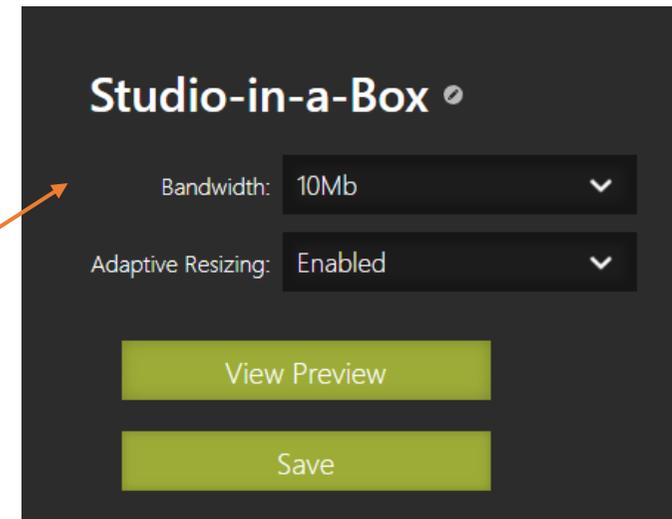


The **View Preview** button will allow you to preview the incoming video and audio from the contributor.

Studio-in-a-box settings

The settings cog on a Studio-in-a-box within the Quicklink Manager will allow you to enable or disable adaptive resizing options.

The **View Preview** button will allow you to preview the incoming video and audio from the contributor.



Studio-in-a-box control using the Quicklink Manager

Press the  icon next to the available Studio-in-a-box device within the Quicklink Manager Portal. This will open the Studio Control Panel which contains a large array of available controls which can be controlled during a call in real-time. These controls are detailed below:

Camera orientation: The camera orientation slider will allow you to adjust the camera install position. Useful if using a Studio-in-a-box 1U with external camera.



Camera orientation

Bars and Tone: Enable Camera's built in bars and tone feature for testing.

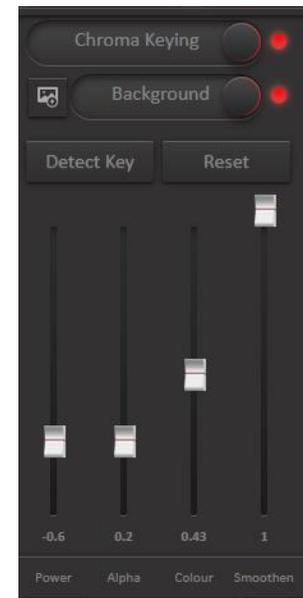


Bars and tone

Chroma Key: The Chroma Keying button will open the GUI. Use the Chroma Keying toggle to enable or disable Chroma Keying. Click the  icon to upload an image or video to be used as the Chroma Key background. The background can be enabled or disabled using the toggle switch to the right. The Detect Key button will apply default Chroma settings which can then be adjusted using the available sliders. Press the Reset button to return everything to default settings.

Int. light control: Clicking the internal light button will display a slider allowing you to control the inbuilt Studio-in-a-box lights.

Camera movement sensitivity: Toggle the speed of the PTZ camera controls (slow/fast).



Chrome Key



Camera movement sensitivity



Int. light control

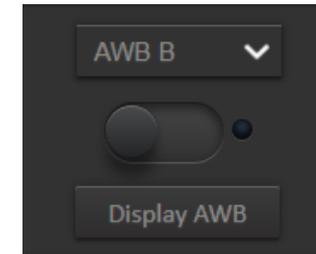
Camera control: This is the PTZ camera pan and zoom controls. The  icon will return the camera back to the standard camera and zoom position



Camera control

Scene: The Scene selection dropdown will allow you to select a preconfigured Scene saved to the PTZ camera. Alterations made to the camera will be saved to a scene if one is selected.

Auto White Balancing settings: Click the AWB settings button to open the White Balancing GUI. Here the white balance profile can be selected, and the Display AWB button can be used to automatically configure this if AWB A or B options are selected. If the display mode slider is enabled, the White Balance status will display on the camera output when a white balancing adjustment is made.



Auto White Balancing settings

Camera gain: Click the camera gain button to display the GUI for this. Using the slider, the gain can be increased or decreased and turned on or off using the switch.



Camera gain

Audio settings: The audio settings GUI allows the microphone to be muted, audio switched between Line-In or powered Mic, ALC enabled/disabled, equalizer adjustments, input volume level selection and switch between one or two channel audio input. The audio input levels can also be adjusted using the slider bars.

DMX-512 light control: At the bottom of the controls are the DMX light controls. Here the DMX channels can be configured for control over light brightness and temperature. Click the  icon to input the required DMX channel.

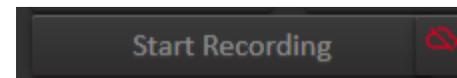
Recording: Click the start recording button to begin saving the Studio-in-a-box input to the unit. When recording has finished, select either Save or Delete on the prompt as required. Use the toggle switch to enable or disable recorded clip upload.



Audio settings



DMX-512 light control



Recording

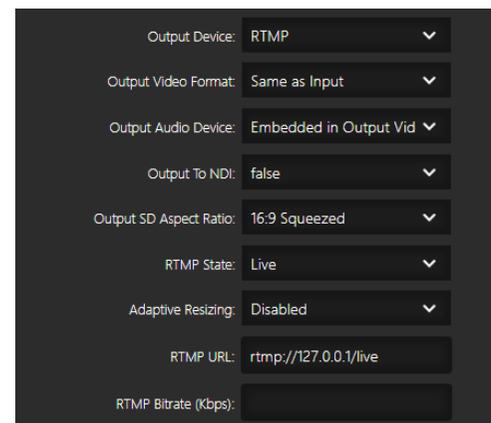
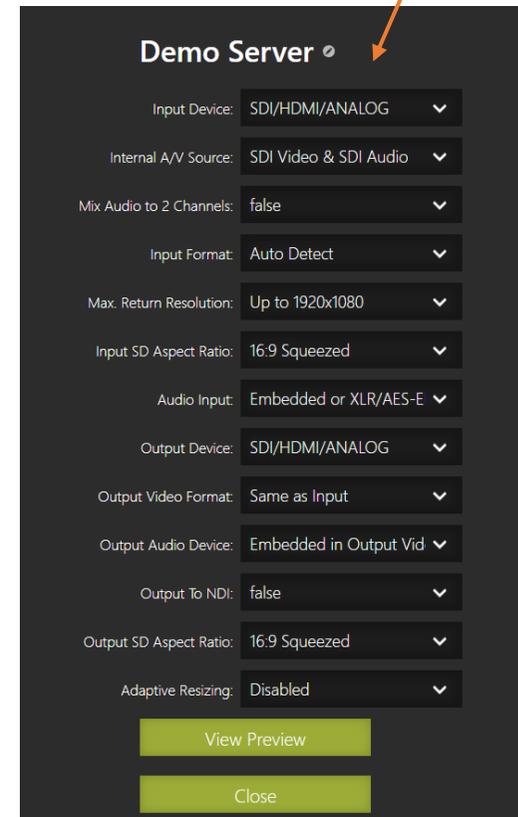
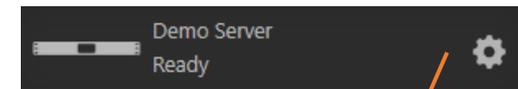
Server settings

Click the  icon on a server to configure the input/output devices, return resolution, input/output aspect ratio, output video/audio devices, output to NDI and adaptive resizing.

The **View Preview** button will allow you to preview the incoming video and audio from the contributor.

Output to RTMP

To output to RTMP, click the  icon next to the server and set the Output Device to **RTMP**. Enter the RTMP URL (eg. `rtmp://127.0.0.1/live`), configure the RTMP Bitrate, finally change the RTMP State to **Live**.

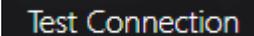


Configuring output to RTMP

Troubleshooting

Test a network

Using Google Chrome, navigate to the Quicklink Manager (<https://quicklink.network>). On the Login screen, click **Test Connection**.



In this instance, will be connecting with the Manager Portal, so we are only concerned that a connection with Quicklink's Communication server is possible at this point. If the network test fails, refer to the Quicklink Network Information PDF available by clicking **More information** on the Network Test page or by visiting the [Quicklink Customer Portal](#).

Quicklink Communication Server test results:

```
Pinged Quicklink Communication Server with latency 12ms
Pinged Quicklink Communication Server with latency 12ms
Pinged Quicklink Communication Server with latency 10ms
Pinged Quicklink Communication Server with latency 11ms
Pinged Quicklink Communication Server with latency 10ms
Pass: Connected to Quicklink Communication Server
```