



Lifesize® Icon™ Installation Guide

October 2016

Lifesize Icon 400
Lifesize Icon 450
Lifesize Icon 600
Lifesize Icon 800

Preparing for Installation

As you prepare to install your Lifesize video system, consider the physical conditions of the room, compatibility with displays, and your network configuration.

If you are not using DHCP, a network administrator must manually set an IP address, subnet mask, and default gateway for your system.

Network Considerations

Poor audio and video quality might result from insufficient bandwidth on your network. Lifesize recommends that your network be capable of at least 1 Mb/s (incoming and outgoing) for a high definition video call. During video calls with lower bandwidths, Lifesize video systems automatically select the best resolution that can be achieved with the available bandwidth.

If you intend to use domain addresses for placing calls, either configure a DNS server or use a DHCP server that automatically sets a DNS server. The Lifesize default DNS server is 8 . 8 . 8 . 8.

Room Configuration

The size, shape, layout, and occupancy of the room dictate where you place your video conferencing components. For example, in a conference room, place a Lifesize Digital MicPod at the center of the group of participants.

You can lock the Icon 400, Icon 450 and Icon 600 codecs with a secure loop to prevent physical removal of the device. For assistance, contact your Lifesize Partner or Lifesize Technical Services.

WARNING Avoid routing cables from the codec across foot-traffic areas. Tripping on the cables can cause personal injury as well as permanent damage to the connectors in the cables and the codec itself.

The lighting in your environment affects image quality. The optimal lighting for Lifesize video systems is 350-500 LUX. If light levels are set too low, consider adding artificial light. Indirect light from shaded sources or reflected light from pale walls often produces excellent results.

Avoid the following:

- direct sunlight on the subject matter, background, or camera lens
- direct illumination of the subject matter and camera lens
- colored lighting
- harsh side lighting or strong light from above

System Components

Your package contains the following components:

Lifesize codec and power cord	<i>Icon 400, Icon 450 and Icon 600:</i> Include an external power supply unit (PSU). <i>Icon 800:</i> PSU is internal to the chassis; only a power cord is included which plugs directly into the back of the chassis.
Lifesize remote control	Includes two AAA batteries.
Cable kit	Read more at Cables .
Lifesize Phone HD or Lifesize Phone, 2nd Generation	<i>Icon 600 and Icon 800:</i> You can connect up to two Lifesize Digital MicPods with a Lifesize Link cable. <i>Icon 400:</i> Supports one Lifesize Digital MicPod or one Lifesize Phone HD or one Lifesize Phone, 2nd Generation. <i>Icon 450:</i> Supports one Lifesize Phone HD
Lifesize Camera 10x, camera power supply, and a high speed HDMI cable	Use one of the HDMI or HDMI to DVI-I cables included in the codec box to connect your camera to your codec.
Phoenix connectors	<i>Icon 800:</i> Includes three Phoenix connectors for connecting additional speakers or microphones.

Icon 800: Rack Mounting

Consider the following if you mount the Icon 800 in a rack:

Rack stability	Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor when the full weight of the rack rests on them. In a single rack installation, attach stabilizers to the rack. In multiple rack installations, couple the racks together.
Airflow and access	Leave approximately 75 centimeters (30 inches) of clearance behind the rack to allow for sufficient airflow and ease in servicing.
Ambient operating temperature	If you install the device in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment might be greater than the ambient temperature of the room. Consider installing the equipment in an environment that is compatible with the manufacturer's maximum rated ambient temperature.
Circuit overloading	Consider the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Give appropriate consideration to equipment nameplate ratings when addressing this concern.
Reliable ground	Maintain a reliable ground at all times. (It is recommended that you ground the rack itself.) Pay particular attention to any power supply connections other than the direct connections to the branch circuit, such as a power strip.

The Icon 800 system includes two rack mounting brackets that are located on each side of the front of the chassis. To mount the device in a rack unit, screw these brackets directly to the front of the rack. Two screws are required for each bracket.

Positioning the Rack Mounting Hardware

Icon 800 ships with the following rack mounting hardware:

- One rack mounting bracket with four flat head screws installed at the front of each side of the chassis.
- Four pan head screws and four washers installed in the middle of each side of the chassis.
- Four pan head screws and four washers installed at the back of each side of the chassis.

You can leave the rack mounting brackets in their default position, remove the brackets entirely, or move the brackets to the middle or back positions on each side of the chassis.

Removing the Brackets

1. Starting at the right side of the chassis (facing the front with the plastic bezel and Lifesize logo), remove the four flat head screws and the rack mounting bracket from the chassis.

NOTE If you wish to move the bracket to another position on the chassis, skip the rest of this procedure and proceed with step 2 of [Moving the Brackets](#).

2. From the middle position on the side of the chassis, remove the top two pan head screws and washers and the lower pan head screw and washer closest to the front of the chassis.
3. At the front position on the side of the chassis, replace two pan head screws and washers in the bottom two holes and one pan head screw and washer in the top hole closest to the front of the chassis.
4. Tighten all screws with 10 in-lb. of torque.
5. Repeat these steps to remove the left rack mounting bracket.

Moving the Brackets

1. Starting at the right side of the chassis (facing the front with the plastic bezel and Lifesize logo), remove the four flat head screws and the rack mounting bracket from the chassis.
2. Remove the four pan head screws and washers from the position to which you want to move the brackets, at either the middle or the back of the chassis.
3. Attach the bracket to the chassis with the four flat head screws at the position from which you removed the screws and washers in step 2.
4. Replace the four pan head screws and the washers at the position at the front of the chassis.
5. Tighten all screws with 10 in-lb. of torque.
6. Repeat these steps to move the left rack mounting bracket to the same position on the left side of the chassis.

Installing the System Into a Rack

After you have the rack mounting brackets in the correct position, install the system into the rack.

1. Line up the system in the desired position on the rack.

NOTE Ensure that sufficient access is provided to the serial port to allow connection for setup and servicing.

2. Attach the rack mounting brackets on the system to the rack using the appropriate hardware for your rack (not included).

Installing Your System

Before you install your system, read the *Lifesize Safety and Regulatory Notices* for important safety information.

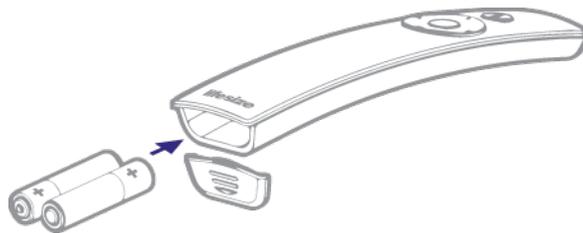
WARNING Exercise care when connecting cables to the codec. Face the back of the codec or ensure that all connectors are visible when connecting a cable to the codec.

To install your Lifesize system, remove all components from the product packaging and place them in the appropriate positions in your conference room or office.

WARNING Do not place objects that can generate heat or obstruct airflow in front of, on top of, or behind a codec. Such placement can cause the system to overheat and restart. Further, prolonged overheating can damage the codec. Make sure the room that houses the codec features a controlled temperature and is well ventilated.

Icon 400 and Icon 450 only: When using the two mounting holes on the bottom of your Lifesize system, limit the depth of the mounting screws to no more than 3.8mm past the system base. Longer mounting screws can potentially damage your system's internal circuit board. For more information, contact Technical Services.

1. Open the battery compartment on the remote control by sliding the bottom end toward the back side of the remote. Insert two AAA batteries:



To close the battery compartment, align the cover with the rails on the remote and slide in place.

2. To connect your camera to the codec, insert the HDMI cable into the HD port on the camera and plug the opposite end into the appropriate  port on the codec.

Insert the power adapter cable into the power port on the back of the camera, and plug the power adapter into a power outlet.

Optional: Install the glare visor, using the notches on the lens barrel to guide the visor into its correct position. Use the visor only if it improves the image in your environment.

CAUTION Do not attempt to pick up the camera by the glare visor, as it might pull loose and damage the camera.

Icon 800 only: You can optionally install up to three additional devices in the remaining video ports.

3. Insert the appropriate end of the display cable (HDMI or DVI-I to HDMI) into the port on the back of your display and the opposite end into the **1** port on the back of your codec. Insert the display power cord into a power outlet.

Icon 600 and Icon 800 only: To connect a second display, insert the video display cable into the HDMI connector on the back of your display and the DVI connector into the **2** port on the codec. Attach the display power cord to a power outlet. Lifesize Icon automatically configures the second display.

NOTE Connecting a second display requires a license key.

4. Insert the network cable into the network port marked with the LAN symbol  on the back of the codec. Insert the opposite end of the network cable into a network port on the wall.
5. Insert one end of the Lifesize Link cable or Lifesize Link Adapter and cable into the  port on the back of the codec and the other into the Lifesize Phone HD or Lifesize Phone, 2nd Generation or optional Lifesize Digital MicPod.

Cable status indicators for the Lifesize Link adapter include:

- Solid green at both ends when ready.
- Blinking green when awaiting further action (such as plugging in the opposite end).
- Blinking yellow when a fault occurs. Common fault conditions include plugging the cable into a POE switch instead of the audio device, or disconnecting the audio device.

Only one adapter per codec is supported. For additional audio devices, you must use the Lifesize Link cable only.

Icon 600 and Icon 800: Up to two Lifesize Digital MicPods can be used with Lifesize Phone HD or Lifesize Phone, 2nd Generation. For a dual Lifesize Digital MicPod configuration, use the second Lifesize Link cable to connect the first Lifesize Digital MicPod to the second Lifesize Digital MicPod.

Icon 400: Only one Lifesize Digital MicPod or one Lifesize Phone HD or one Lifesize Phone, 2nd Generation can be used with Icon 400.

Icon 450: Only one Lifesize Phone HD can be used with Icon 450.

Icon 800 only: You can alternatively connect additional speakers or microphones using the Phoenix connectors included with your system.

WARNING Lifesize recommends that you use a cable tie to secure the cable to the back of the codec (on Icon 600 at the location marked ).

6. *Icon 400, Icon 450 and Icon 600:* Insert the cord from the power adapter into the power outlet marked **DC 19V** on the back of the codec. Insert one end of the power cord into the power adapter and the opposite end into a power outlet on the wall.

Icon 800: Insert the power cord into the back of the system. Insert the opposite end of the power cord into a grounded power outlet. Apply power using the power switch on the back of the system. Refer to [Power and Reboot for Icon 800](#).

NOTE Verify that the cable inserted into the back of the codec is the larger power adapter and not the smaller camera cable.

The Lifesize system starts and illuminates an LED on the front of the codec. When the video system completes the startup process, an initial configuration wizard directs you to configure the language, network settings, and time zone. You can also connect your Icon to the Lifesize Cloud service.

If no IP address is assigned to your system, configure the IP address using a directly connected Ethernet cable between your computer and the system. Read more at [Using a Directly Connected Ethernet Cable](#).

WARNING To avoid damaging the system, do not disturb or disconnect any of the connected devices while the system is starting.

7. Perform additional configuration tasks from a web browser: enter the video system's IP address and log in with administrator credentials. The default username and password are *admin*.

Lifesize recommends changing your password at this time.

For problems with installation, refer to [Troubleshooting](#).

8. Icon 450 only: Smart-framing calibration can be performed during the Lifesize Cloud pairing process or via Lifesize Phone HD. Refer to [Lifesize Icon Help](#) for more information.

Configuring Your System

Refer to the browser-based online help (available from the web administration interface or from lifesize.com/support) for additional configuration steps and if your environment uses any of the following:

- Network Address Translation (NAT)
- Firewall
- Automatic configuration of Lifesize devices
- H.323 gatekeepers
- SIP registrars
- Other network security systems

Supported Resolutions

Lifesize video systems connect to HD displays (720p minimum) with the following supported display resolutions:

- 1280 x 720p60
- 1920 x 1080p30
- 1920 x 1080p60 (*Icon 600 and Icon 800 only*)

NOTE To achieve a higher resolution, your display must support that resolution. Otherwise, primary output defaults to the highest supported display resolution.

To change the display resolution, access your video system from a browser and navigate to **Preferences > Video > HD Display Resolution**.

Optional Peripherals

You can connect the following optional peripherals to enhance your Lifesize video system:

Peripheral	Usage
Audio In (Line In) <i>(Icon 600 and Icon 800 only)</i>	<p>For use with an external line level audio input. The following audio input devices are supported:</p> <ul style="list-style-type: none"> • Headphone microphones • Mic level microphones • Line level microphones <p><i>Icon 800 only:</i> Includes an additional line in (through Phoenix connectors) to support a second audio input.</p> <p><i>Icon 600 only:</i> To set the appropriate analog gain for your input device, access your video system from a browser and navigate to Preferences > Audio > Analog Mic Gain.</p>
Audio Out (Line Out)	<p>For use with external line level output speakers that are not built into the HD display or with a headset (left plus right).</p> <p>WARNING Excessive sound pressure from earphones and headphones can cause hearing loss.</p>
DVI In <i>(Icon 600 and Icon 800 only)</i>	<p>For use with a second Lifesize camera. On Icon 600, if you connect a second camera, you cannot initiate a presentation.</p> <p>For use with devices and laptops for presentations or to share PC data; accepts both digital video and VGA analog signals with the proper adapter cable. For devices and PCs with VGA output, a VGA to DVI-A cable is included. An HD source can be used with an adapter.</p> <p>NOTE: On Icon 800, you can connect up to four video inputs.</p>
USB	<p>For use with serial shells and VISCA controlled cameras. To specify shell type, speed and flow control settings, access your video system from a web browser and navigate to Preferences > USB.</p>

Power and Reboot for Icon 800

The power switch on the back of the Icon 800 system controls the main system power. Standby power is available to the system when the AC power cord is plugged in and when the power switch is turned on. Turning off the power switch also turns off standby power.

Press and hold the reset button on the front of the system to perform actions such as rebooting the system. The LED indicators indicate the following conditions:

LED	Indicator
System Status/Reset	<p>When the reset button is not pressed:</p> <ul style="list-style-type: none">• Solid blue — The system is idle (no current or scheduled calls).• Rapidly blinking blue — The system is in use (call in progress).• Slowly blinking blue — Scheduled calls are pending.• Solid purple — A system upgrade is in progress.• Solid red — A major error occurred.
Network Activity/Speed	<p>Solid yellow on a network port indicates a valid link. Flashing yellow indicates both a valid link and network activity on the port.</p> <p>On an active port, speed is indicated by a second indicator as follows:</p> <ul style="list-style-type: none">• None/Off — 10 Mb/s• Green — 100 Mb/s• Orange — 1000 Mb/s

Cables

The Lifesize video system is shipped with the following cables:

- Power cable – Your Lifesize video system ships with a 2-meter power cable. Use an extension cord for longer runs.
- Ethernet or LAN cable – The video system ships with a 3-meter RJ45 Ethernet/LAN cable. You can substitute a longer Ethernet cable up to 300 feet (cat5e or cat6).
- Lifesize Digital MicPod cable – The Lifesize Digital MicPod ships with a 4-meter Lifesize Link cable.
- Lifesize Phone HD or Lifesize Phone, 2nd Generation cable – The phone ships with a 9-meter Lifesize Link cable. Lifesize Link Adapter, an RJ45 cable extender, is available for environments requiring longer connections. Follow these guidelines: shielded category 5e (24 AWG) supports 46 meters (150 feet); shielded category 6 (23 AWG) supports 61 meters (200 feet). This adapter is included with Icon 800 and is available for purchase with Icon 400, Icon 450 and Icon 600.

NOTE To use standard shielded cables to connect your Icon to Lifesize Phone HD or Lifesize Phone, 2nd Generation or Lifesize Digital MicPod to the Lifesize Link Adapter, you must purchase the Lifesize Link Adapter Kit that includes two adapters, each with a 2 meter Lifesize Link cable, and an RJ45 plug. Attach one adapter to the Lifesize Link port on your Icon system and one adapter to the Lifesize Link port on the audio device. You can then connect the two adapters together using up to 150 feet of shielded 24AWG cat5e or up to 200 feet of shielded 23AWG cat6 cable.

- High-speed display cables – The video system ships with HDMI to HDMI cables that support resolutions up to 1080p60 (*Icon 600 and Icon 800*) or 1080p30 (*Icon 400 and Icon 450*).
- HDMI/DVI-I cables (*Icon 800*) – The video system ships with three 3-meter HDMI to DVI-I video input cables with blue connectors to connect the codec to PCs, Macs, and other video input devices.
- Use a high-speed HDMI cable to support 1080p60 resolutions (Icon 600 and Icon 800 only) on the camera.

NOTE Contact your Lifesize Partner or Lifesize Technical Services for assistance in extending an HDMI cable.

Avoid routing cables through areas that experience heavy foot traffic. If possible, use a cable management system to encase the cables and make them difficult to move when someone comes into contact with them. These measures can mitigate the damage that might be caused by people tripping on cables and straining the connectors on the codec.

Lifesize cables are not plenum rated. Do not route them through a plenum.

Troubleshooting

Installation issues that you might encounter with your Lifesize video system typically involve network bandwidth or connectivity, improperly configured IP addresses, or improperly connected cables. For more information about troubleshooting issues that you might encounter with Lifesize video systems, refer to the browser-based online help (available from the web administration interface or from lifesize.com/support).

IP Address Shows an Invalid Value

If the IP address that appears in  on the main screen shows an invalid value after you complete the initial configuration, one of the following conditions might exist:

Condition	Resolution
The unit is configured to obtain an address using DHCP, but no DHCP server is available. NOTE: The DHCP client self-assigns an address in the 169.254 class B network.	Verify that the unit is plugged into a network that has a DHCP server present.
Faulty Ethernet cable connection.	Replace the Ethernet cable with a high quality cable.
The unit is configured to use a static IP address, but no IP address has been entered.	Identify and enter the necessary IP information. If you are unable to access a video system by entering its IP address in a web browser, press and hold the red button for between 10 and 15 seconds to reset the video system to its default settings.
Network connection is unavailable. NOTE: Status appears in  >  .	Inspect your network connection.

NOTE If you change the default gateway, ensure that you reboot the system.

Using a Directly Connected Ethernet Cable

If no IP address is assigned to your system, configure the IP address using a directly connected Ethernet cable between your computer and the system.

1. Ensure there is no other Ethernet cable plugged into the system.
2. Attach an Ethernet cable between your computer and the system.
3. Allow the DHCP address acquisition to time out, approximately 30 seconds.
Your system is then configured with the IP address of 169.254.x.x.
4. From a web browser, enter 169.254.1.1 and log in with administrator credentials. The default username and password are *admin*.

Refer to the browser-based online help to complete the configuration.

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