VADDIO®

A brand of **legrand**

Certified for
Microsoft Teams

Complete Manual for

RoboSHOT 30E-M

PTZ Cameras

Document 411-0064-30 Rev A
April 2023

Contents

Overview

This guide covers the RoboSHOT® 30E-M PTZ camera:

- North America – 999-21132-000 (black), 999-21132-000W (white)
- Europe and UK – 999-21132-001 (black), 999-21132-001W (white)
- Australia and New Zealand – 999-21132-009 (black), 999-21132-009W (white)

What's in this guide

This guide covers

- Physical features
- Installation
- Initial set-up and system administration
- Performance/behavior configuration
- System maintenance
- Operation
- Command reference
- Troubleshooting

For your convenience, the information you need to install this product is also available in the smaller, stand-alone **Installation Guide for the RoboSHOT 30E-M PTZ Camera**.

Features

- 30x zoom – ideal for larger conference rooms, boardrooms, and training rooms
- Certified for Microsoft Teams®
- 1/2.5 type Exmor R™ high-speed, low-noise image sensor
- Smooth, silent direct-drive motors for precise pan and tilt movements at up to 120° per second
- Tri-Synchronous Motion™ simultaneous-arrival pan/tilt/zoom movement between presets
- Universal Video Class (UVC) drivers supported in Windows®, macOS®, and Linux operating systems, compatible with most UC conferencing applications
- Command Line Interface SHell (CLISH) and VISCA control for ease of integration
- Enterprise-class IT administrative capabilities with full web controls for remote management
- Presenter-friendly IR remote control

A quick look at the camera

This section covers the physical features of the camera.

Front of the camera

The camera is available in black or white.

Camera and zoom lens – 30x zoom; ideal for larger rooms.

IR sensor – Receives signals from the IR remote. Make sure there's nothing directly in front of the camera base, and point the remote at the camera.

Status light – The multi-colored LED indicates the camera's current state. This light can be turned off in the administrative web interface.

Note
By default, the camera's status light is active during normal operation; however, it can be configured to remain off when the camera is powered up. The camera may be sending video even if the light is off.

Back of the camera

- **Network PoE+** – RJ-45 connector. Connect to the network and to power via a PoE+ switch or the Power and Data Out port of the mid-span PoE+ power injector. Provides power and network access for camera control.
- **USB 3.0** – USB type B connector. Connect to a computer for use with soft conferencing applications. Provides uncompressed USB 3.0 stream.
- **IP button** – Momentary pushbutton; for displaying IP address and restoring factory defaults.

Connections

This section covers:
- Selecting the location for the camera
- Cabling notes
- Connection diagrams

Don't void your warranty!

Caution
Always support the camera's body when lifting or moving it. Lifting the camera by its head or mounting arm will damage it.

Caution
This product is for indoor use. Do not install it outdoors or in a humid environment without the appropriate protective enclosure. Do not allow it to come into contact with any liquid.

Caution
Do not install or operate this product if it has been dropped, damaged, or exposed to liquids. If any of these things happen, return it to Vaddio for safety and functional testing.

Before you install the camera

Keep these things in mind when deciding where to place the camera.
- Consider camera viewing angles, lighting conditions, line-of-sight obstructions, and in-wall obstructions where the camera is to be mounted.

Prepare for a successful installation:
- Be sure you can identify all cables correctly.
- If you make cables for this installation, check them for continuity.
- Talk to the network administrator. If installing the camera in a non-DHCP network (one that does not automatically assign IP addresses), you will need to configure the camera with a static IP address as directed by the network administrator.

Cabling notes

Caution
Do not use pass-through RJ-45 connectors when making cables for this product. Poorly crimped connectors of this type can cause intermittent connections and degraded signal quality. They can also damage the connectors on the product, which will void your warranty.

Intact – will make reliable contact with cable connector

Damaged – Bent contact fingers will NOT make reliable contact with cable connector

When making cables for this product, use Cat-5e or better cable. We recommend using high-quality connectors and a high-quality crimping tool.

We recommend shielded cabling if the cables will be coiled, run tightly with other cables, or routed near sources of electromagnetic interference such as power lines or fluorescent light fixtures.

Caution
Check your cables. Connecting a cable to the wrong port or using the wrong pin-out can result in equipment damage and will void the warranty.

Pro Tip
Label all cables at both ends.

Basic connections for conferencing

This diagram shows a basic conferencing configuration.

PoE+ Switch

The PoE+ switch is not required. You can connect the camera to the network and to power using the mid-span power injector included with the camera.
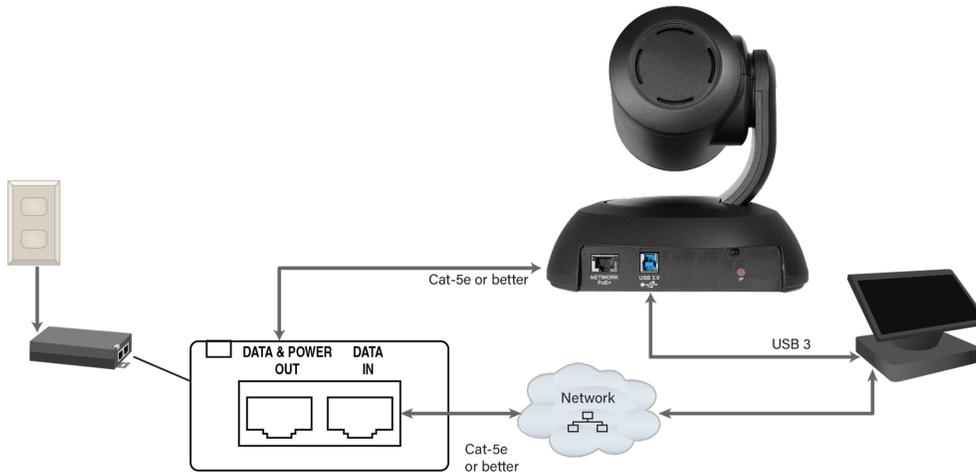
Pre-installation functional check

If you're installing the camera where it's hard to reach, you may want to verify functionality before you install it.

1. Connect the camera.
2. Start a call.
3. Verify that you can select the camera, and that it sends video.

If the camera turns on and sends video, continue with the installation. If it does not, follow the applicable Troubleshooting steps.

Installing the wall mount

The camera is shipped with a wall mount. Other mounting options are available as well. Contact us if you don't have the camera mount you need.

You can install the camera wall mount to a 2-gang wall box or directly to the drywall.
- If you mount it to drywall, use the wall anchors provided with the wall mount.
- If you mount it to a wall box, use the cover plate screws supplied with the wall box.

Wall anchors – Use if mounting to drywall
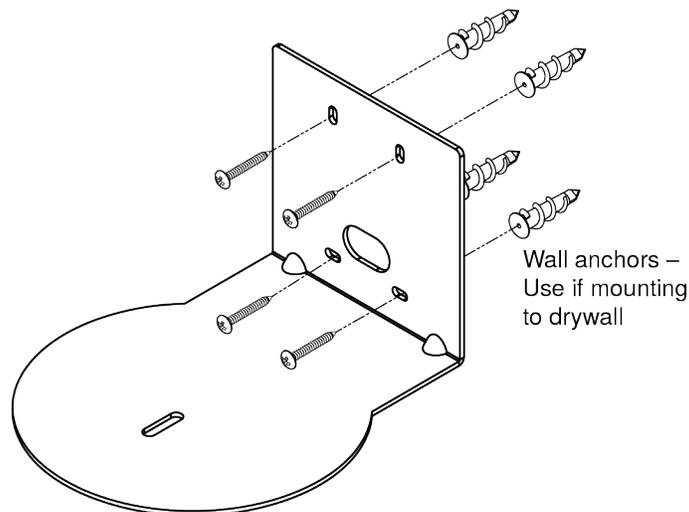
Installing the camera

1. Route the cables through the opening in the mounting shelf and connect them to the camera.
2. Place the camera on the mount.
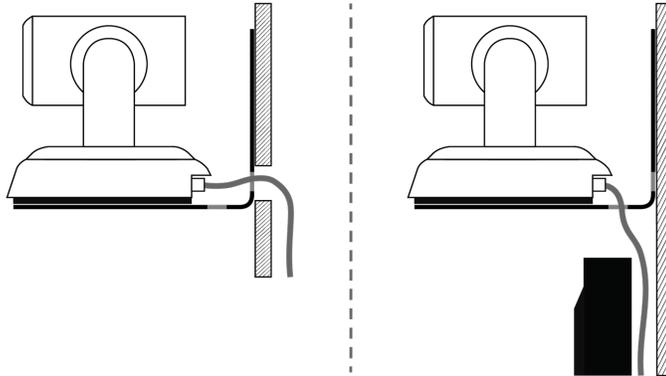
3. Attach the camera to the mount using the mounting screw supplied with the camera.

Camera mounting screw
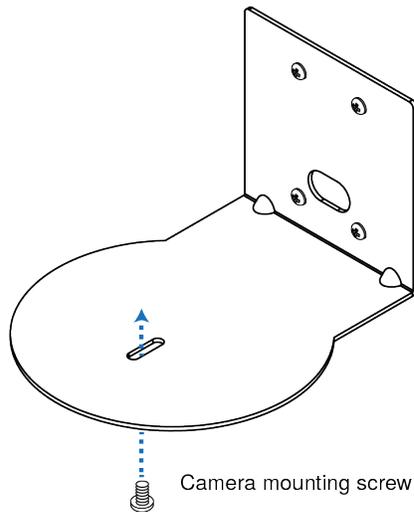
Image for illustration only; not to scale. Camera and mount details may differ.

About ceiling-mounted cameras

If you use an inverted mount, set the camera's Image Flip mode ON for inverted operation. This orients the video image correctly and sets the tilt motors to respond appropriately to tilt up and down commands from the remote, web interface, and connected control devices. This control is available to the administrator on the web interface's System page.

Powering up the camera

Connect camera power. The camera will initialize and move. This will take a few seconds. When an image is available, the camera is ready to accept control information.

Status light

The light in the camera's base indicates its current state.
- Purple – Standby mode or booting
- Yellow – Firmware update is in progress
- White – Camera is active

Caution
Do not remove power or reset the camera while the status light is yellow, showing a firmware update in progress. Interrupting a firmware update can make the camera unusable.

Note
By default, the camera's status light is active during normal operation; however, it can be configured to remain off when the camera is powered up. The camera may be sending video even if the light is off.

IP button

Use the button on the back of the camera to do these things:
- **Display the camera's IP and MAC addresses in the video output:** Press the button momentarily. Press it again to dismiss the information display.
- **Restore factory default settings:** Disconnect the network cable. Then press and hold the IP button while reconnecting the cable. Continue to hold the button for about 10 seconds.

Initial device set-up

Vaddio cameras have a web interface for initial device set-up, administrative control, and operation.

When any Vaddio product is shipped from the factory, the administration and operation areas of the web interface are not available. You will need to set the admin password to access the full web interface.

Initial device set-up using the Vaddio Device Controller

The Vaddio Device Controller is a stand-alone tablet device for working with Vaddio products' web interfaces.

To complete the initial device set-up with the Vaddio Device Controller:

1. Connect the touch-panel to the network on the same subnet as the products you need to work with – for example, connect both to the same PoE+ switch.
2. Go to the touch-panel's Configuration page (gear icon) and select Scan.
3. Locate the device you need to work with, and select Use.
4. Select Exit to leave the Configuration page and open the device's web interface.
5. Set the admin password.

If the Vaddio Device Controller does not find the camera, verify that the Vaddio Device Controller and camera are connected to the same subnet.

Initial device set-up using the Vaddio Deployment Tool

The Vaddio Deployment Tool provides an option to do the initial device set-up for all connected devices, and provides a shortcut to each device's web interface for system administration. This tool is available as a free download at https://info.legrandav.com/VaddioDeploymentTool.

Note
Be sure you have the current version of the Vaddio Deployment Tool. If it notifies you that an update is available, install the update. This ensures that you have access to the full capabilities of the tool.

To complete the initial device set-up with the Vaddio Deployment Tool:

1. Power up the camera and other devices if you have not done so already.
2. On the Find Devices page, select Scan. If the scan does not locate the devices you need to set up, your computer may be on a different subnet. Return to the Find Devices page and set up an advanced scan to search the appropriate portion of the network.
3. In the list of equipment that the scan discovers, locate the devices marked Not Set Up.
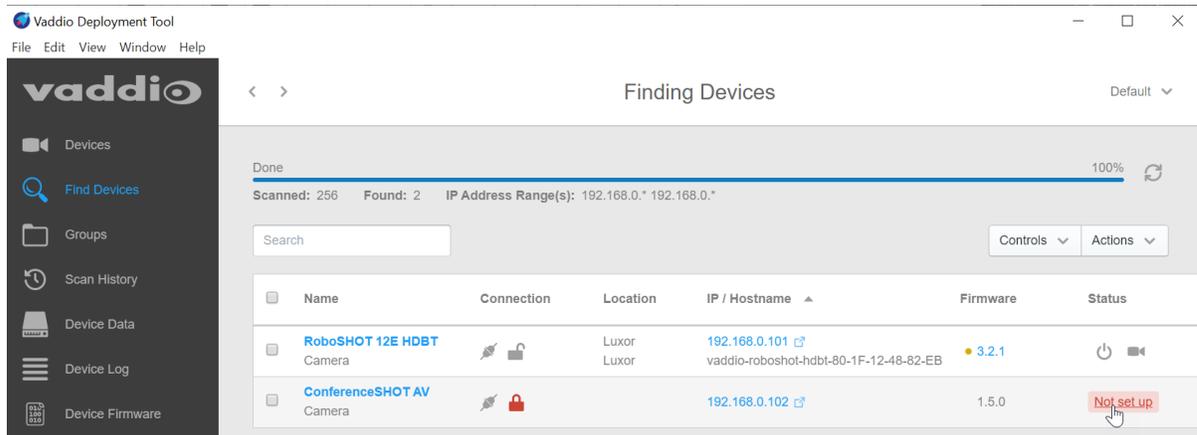
4. For each device that you need to work with, click the Not Set Up button and set the admin password.

You can now access the administrative web interface for system administration and other configuration tasks.

Manual access and initial device set-up

If you do not use a Vaddio Device Controller or the Vaddio Deployment Tool, you will need to complete the initial device set-up manually, which requires you to discover the device's IP address and browse to the device's web interface.

About the web interface

The camera's web interface provides:
- **Admin access** for system administration, maintenance, and performance/behavior configuration.
- **User access** for operation, including camera controls similar to those available from the IR remote. Set the user password or enable guest access for this portion of the web interface.

We have tested this product with these web browsers:
- Microsoft® Edge
- Chrome®
- Firefox®
- Safari®

We test using the browser version available from the vendor at that time. Other browsers are likely to work also.

Getting the camera's IP address for manual access

If you know that your network does not automatically assign IP addresses, skip this section: The camera's address is 169.254.1.1. You will need to connect your computer's network port to the camera's network port to do the initial device configuration and network configuration.

If you are not sure, or you know that your network automatically assigns IP addresses, you will need to be able to view the camera's USB stream to get the IP address.

To get the camera's IP address:

1. Connect the camera to the network, and connect the camera's USB cable to your computer. Then power up the camera.
2. Open a media player such as VLC Media Player and view the USB stream (If you use VLC Media Player, this is the "Open Capture Device" option under Media.). The camera is available as a video capture device; the device name is the camera model name.
3. Point the remote at the camera and press the Data Screen button, or press the IP button on the back of the camera.
4. Press the button again to dismiss the information display.

If the camera is at 169.254.1.1

This is the camera's default IP address. This means one of these things:
- The camera is not connected to the network.
- The network does not automatically assign IP addresses, and you need to configure the camera for the network.

To communicate directly with the camera, connect a cable from your computer's network port to the camera's network port.

After you have done the initial device set-up, you will need to configure the camera for the network.

Initial access to the web interface

Enter the camera's IP address in your browser's address bar. You may need to enter `https://` as a prefix to keep the browser from treating it as a search query. (Example: `https://10.30.200.125`)

HTTP access is disabled initially. **This is also true after restoring factory defaults.** When you access the web interface without using the `https://` prefix, you may encounter a message saying that HTTP has been disabled on this device. Use the button in the message box to switch to HTTPS.

Expect a security warning from your browser the first time you access the device's web interface.

Different browsers will respond with different messages and options. Your browser will probably present a message indicating one of these things:
- The connection is not private
- The site is not secure
- The site is not trusted
- The site poses a security threat

This is because the certificate (the product's website security credential) is self-signed rather than being issued by an external certificate authority. *The HTTPS connection is secure and traffic is encrypted, however.*

You will need to make the selections that your browser's security message discourages.
Depending on the browser, the warning presents an option to learn more, view details, or go to the "Advanced" page. When you select this, your browser provides an explanation and a button or link to continue to the IP address you entered, with a reminder that it may be unsafe. Select the option to continue. *Your HTTPS connection is safe.*

After you have accessed the product's web interface once, your browser may remember its IP address and not present the security message again.

Completing the initial device set-up

Set the admin password and complete any other required tasks, such as accepting agreements.

The full administrative interface opens when you finish.

Note
Be sure you have a way to remember the admin password. If the password is lost, you will need to restore factory defaults.

Note
This page includes a link to the company's standard privacy policy. This product does not record or save audio or video files, and it does not store any identifying information other than what you may choose to enter on the Room Labels page of the web interface. However, the device's IP address is considered "personally identifiable information" for the purposes of the privacy policy.

System administration

This chapter covers settings for managing the camera as an element of your network.
- Security – Passwords, guest access, other IT security-related settings
- Network configuration
- Time settings

See Configuring Camera Behavior for information on image adjustments, streaming configuration, and other items related to camera behavior.

Configuring access and other security settings

SECURITY PAGE

The Account Passwords and Web Server areas of the Security page provide basic security for the web interface:
- **Admin password** – Required. The web interface is unavailable if no admin password is set.
- **User password** – Password-protected access to the operator's page of the web interface.
- **Automatically Expire Idle Sessions** – Automatically logs you out after 30 minutes of inactivity. Enabled by default.
- **Allow Guest Access** – Allow access the operator's page without a password. Disabled by default.
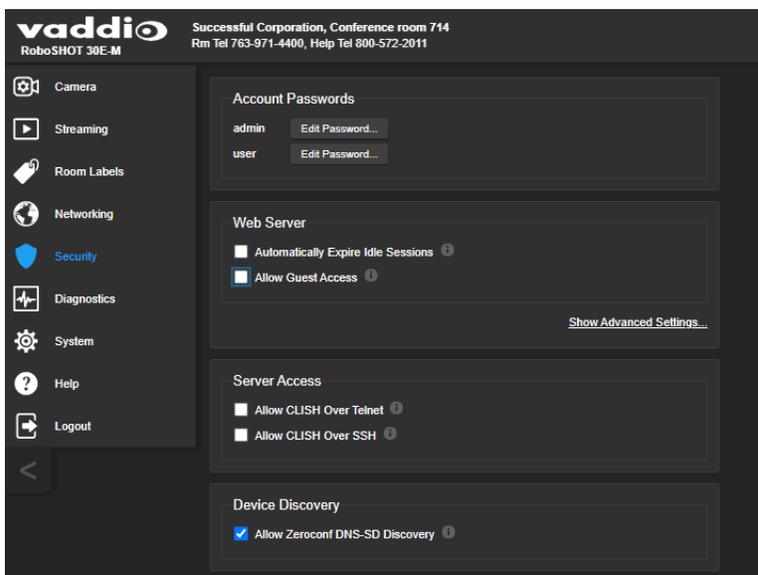
Other security settings include:
- **Allow CLISH over Telnet** – disabled by default.
- **Allow CLISH over SSH** – disabled by default.
- **Allow Zeroconf DNS-SD discovery** – allows other Vaddio devices and tools to detect the camera. Enabled by default.
- Advanced Settings – **Enable HTTP access** (disabled by default) and **Manage SSL Certificate**.

Note
Consult your network security specialist before changing any of these settings. Seek explicit guidance concerning the SSL certificate.

Configuring the camera for your network

By default, the camera is set to DHCP, and will receive an IP address automatically if your network assigns IP addresses. Work with your network specialist to ensure that the camera is configured to comply with the organization's network policies.

Caution
Consult your IT department before changing network settings. Errors in network configuration can make the camera inaccessible from the network.

## Configuring the device with a static IP address

NETWORKING PAGE

If no DHCP server is available to automatically assign an IP address, the camera uses its default IP address (169.254.1.1).

If you install more than one camera or other device on a non-DHCP network, you must follow this procedure to prevent IP address conflicts.

If the camera is currently at 169.254.1.1:

1. Work with your IT department's network specialist to determine the correct network settings.
2. Connect your computer's network port to the camera's network port.
3. Set IP Address to Static. Then enter the IP address, subnet mask, and gateway. DNS Server is optional; ask the network specialist.
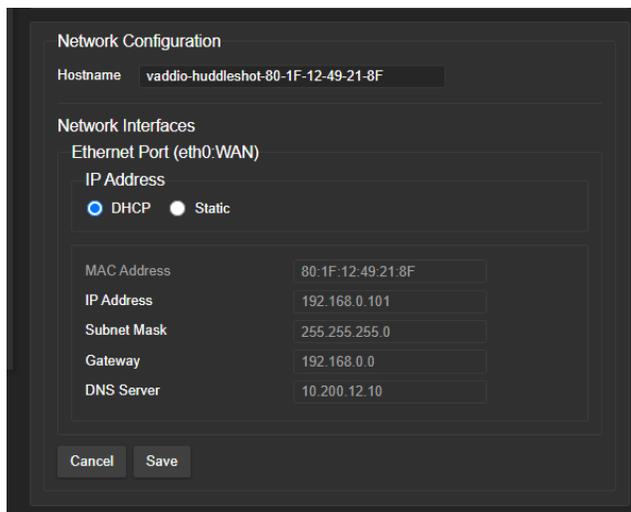
Your camera will show different information than what's in this screen shot. You knew that, but I had to say it anyway.

If the camera is currently at an IP address other than 169.254.1.1:

Work with your IT department to determine whether the device's current IP address is suitable.

If it is, set IP Address to Static. If not, follow the steps for a device at 169.254.1.1.

Changing the camera's hostname

NETWORKING PAGE

If your network supports hostname resolution, you can change the camera's hostname. Work with your IT department to ensure that the new hostname conforms to the organization's naming conventions.

Note
You may need to log in to the web interface again after changing the hostname.

Specifying time zone and NTP server

NETWORKING PAGE

Using automatic NTP updating ensures that the timestamps in the camera's diagnostic log are accurate. Specifying your time zone may make it easier to match logged events with other actions and external events.

1. To make the time zone and NTP server editable, enable Automatic NTP Updating.
2. If you are not sure what to use for NTP Server, use the default.
3. Select the desired time zone from the list.
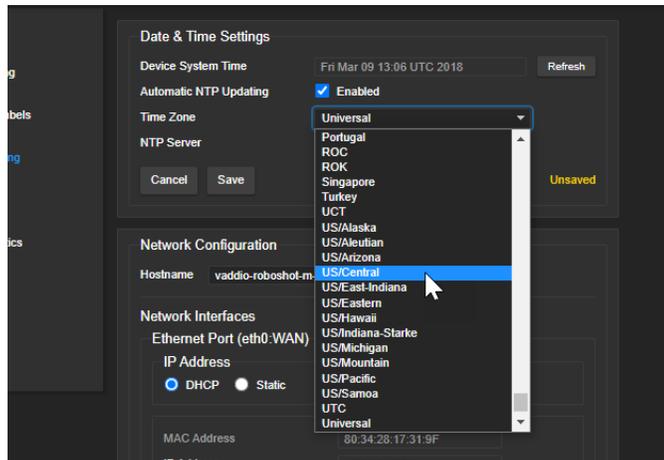
You may need to refresh the system time display.

Adding room information to the camera's web interface

ROOM LABELS PAGE

The information you enter on this page is displayed on every page of the web interface. You may also wish to specify what appears on the browser tab.
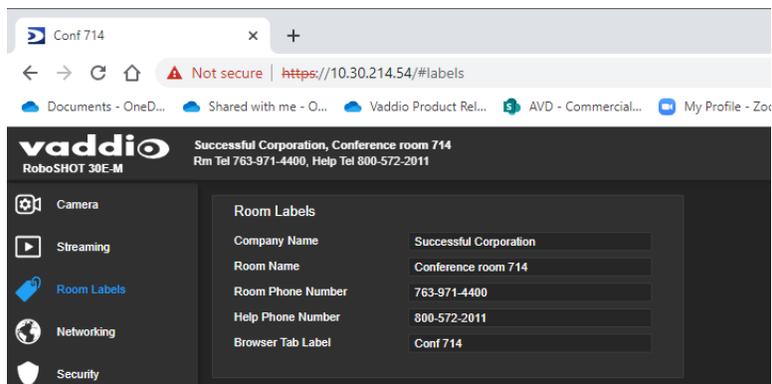
Configuring camera behavior

This chapter covers settings for defining how the camera performs in your environment:
- Camera presets and preset chains
- Zoom, focus, and color settings
- Streaming settings
- Other camera behaviors

Setting the Home position and other preset shots

CAMERA PAGE

Presets are saved shots. Each preset includes pan, tilt, zoom, and (optionally) color settings.

To store a preset:

1. Set up the shot.
2. In the Presets area, select Store to open the Store Preset dialog.

3. Select the preset to store. The preset button changes color.

   Note
   The Store Preset dialog box does not indicate whether presets have already been defined, but the main display dims the preset buttons if they have no preset information stored.

4. To save the current CCU settings along with the camera position, check Store with Current Color Settings.

   Check Save with Tri-Sync to allow the pan, tilt, and zoom motors to move simultaneously from other presets to this position.

   Note
   Tri-Synchronous Motion works best for on-air shots requiring significant movement. It is not useful when moving the camera less than 10°.

5. Store the preset.
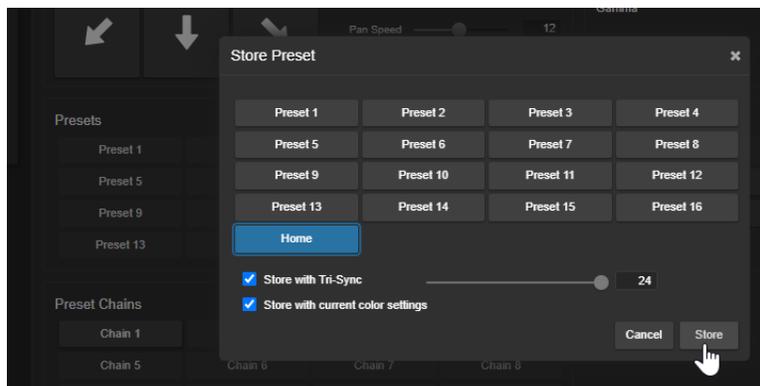
Renaming buttons

You can rename presets, custom scenes, and other user-defined settings to identify them. This also helps you identify and avoid overwriting them when you store new ones.

Right-click the button for your setting, and edit the label.

Working with preset chains

Preset chains automate the process of moving through a series of shots. If you know people will want to move the camera through the same set of shots routinely, program a preset chain.

Things to know about preset chains:
- Each chain can have up to 12 *waypoints*; each of these can be an existing preset or a shot that you set up as you create the chain.
- You can set the chain to run once, or to run as a continuous loop.
- Individual waypoints can be reordered or deleted.
- Custom waypoints can be recalled to view the shot, and changed as needed.
- Each waypoint allows you to specify a delay after movement.
- Preset chains may be set to run in a continuous loop, or just once.
- Preset chains can be stopped while running.

To define a preset chain:

1. In the Preset Chains area, select Edit. The Preset Chains window opens.
2. Select the chain to edit, if it is not already selected.
3. Select Add Waypoint. A waypoint definition box opens in the Waypoints area.
4. Do one of these things:
   - Open the preset list and select from the available presets.
   - Leave the definition as Custom Waypoint and use the camera controls to set up the shot you want, then store it as you would store a preset.
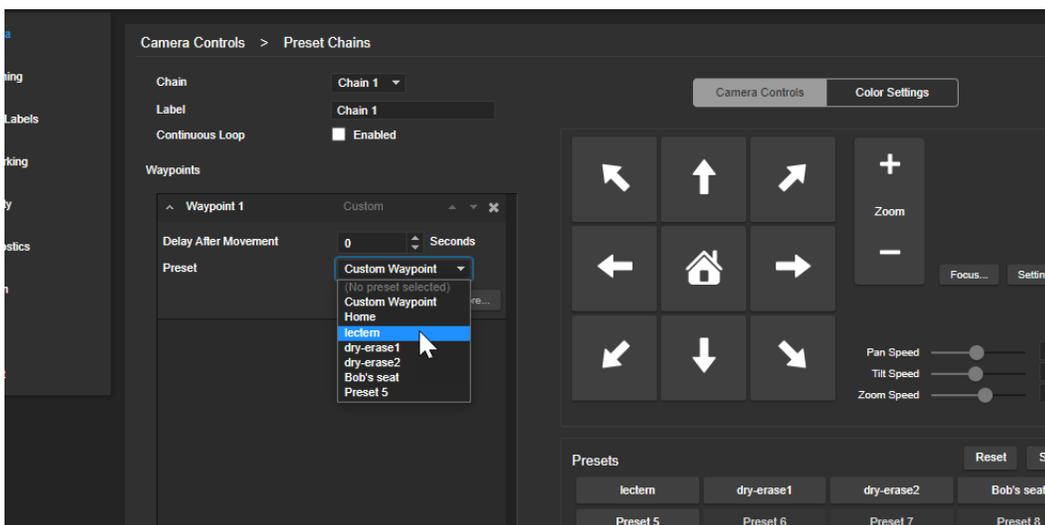
5. Repeat steps 3 and 4 until you have added all the desired waypoints.

To run a preset chain:

From the main Camera page or the operator's page, select a preset chain.

To stop running a preset chain:

From the main Camera page or with the remote, select any preset or other camera movement.

Initial lighting and color settings

CAMERA PAGE AND SYSTEM PAGE, GENERAL TAB

Adjust the camera for the lighting in use by selecting the CCU scene that best fits your environment. The camera provides presets for common lighting scenarios – Incandescent Hi, Incandescent Lo, Fluorescent Hi, Fluorescent Lo and Outdoor. The Auto setting allows the camera to determine the appropriate adjustments.
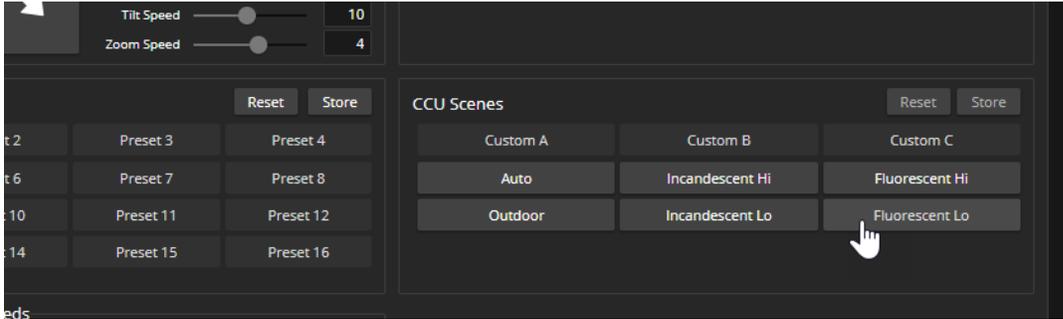
Some adjustments to lighting and color may be necessary.

Adjusting color, lighting, and image quality settings

When adjusting for the room lighting, start with a factory-defined CCU scene and adjust as needed. After you customize the camera's color and lighting settings, you can save the adjustments as a custom CCU scene.

Fine-tune the color and lighting as needed using the Color Settings controls.

- **Auto Iris** allows the camera to compensate automatically for the light level. Clear this box to adjust iris and gain manually.
- **Backlight Compensation** (available when Auto Iris is selected) reduces contrast to adjust for bright light behind the main subject of the shot. This setting can't be used with Wide Dynamic Range.
- **Wide Dynamic Range** (available when Auto Iris is selected) increases the contrast between the brightest and darkest areas. This setting can't be used with Backlight Compensation.
- **Auto White Balance** adjusts color automatically. Clear this box to adjust red gain and blue gain manually.
- **Red Gain** and **Blue Gain** (available when Auto White Balance is not selected) provide manual color adjustment.
- **Detail** adjusts the image sharpness. If the video looks grainy or "noisy", try a lower Detail setting.
- **Chroma** adjusts the color intensity.
- **Gamma** adjusts the range (gray density) between bright areas and shadows.

The Lighting and Image Quality Quick Reference and Color Adjustment Quick Reference may be helpful.

If you make a change that you don't like, start over by selecting and then deselecting Auto White Balance.
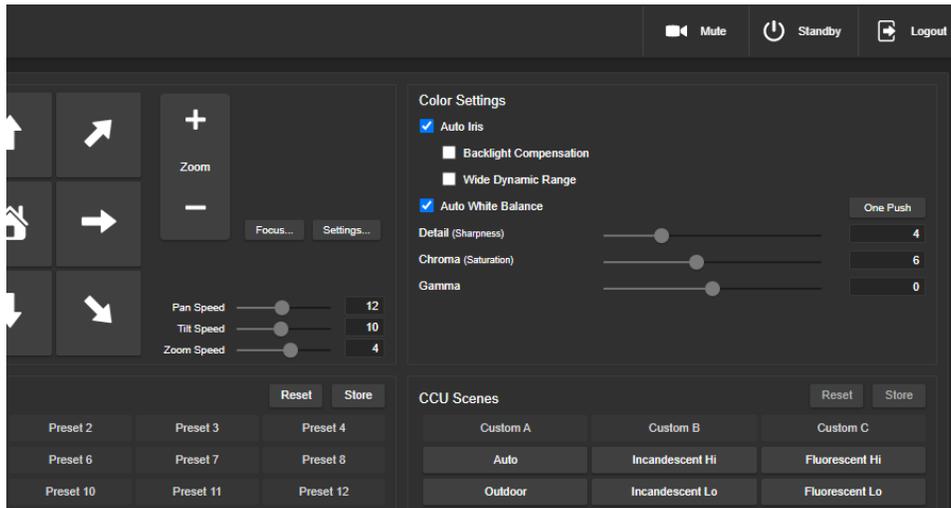
Lighting and image quality quick reference

Here are some tips for using the CCU settings for lighting and image quality.

What do you need to correct?	Make this adjustment:
The image is too dark	Increase Iris (lower F-stop value)
	Increase Iris Gain
The image looks washed out or faded	Decrease Iris (higher F-stop value)
	Decrease Iris Gain
	Increase Chroma
	Decrease Gamma
The subject is silhouetted against a bright background	Enable Backlight Compensation
Small sources of bright light (point sources) make it hard to see details in areas with less intense lighting.	Enable Point Light Compensation (RoboSHOT 12E USB and RoboSHOT 30E USB)
Highlights and shadows look right, but mid-tones are too dark.	Increase Gamma
Shadows are too dark	Enable Wide Dynamic Range (WDR)
	Decrease Gamma
The image looks grainy	Decrease Detail
	Decrease Iris Gain
"Soft focus" effect; the image looks unrealistically smooth	Increase Detail

Color adjustment quick reference

Here are some tips for using the color-related CCU settings.

What do you need to correct?	Make this adjustment:
Colors look less vivid than they should	Increase Chroma
Colors look too vivid	Decrease Chroma
Colors look wrong; white objects do not appear white	Enable Auto White Balance
	One Push White Balance
	Disable Auto White Balance and... ■ adjust Red Gain (decrease for less red, increase for less green) ■ adjust Blue Gain (decrease for less blue, increase for less yellow)
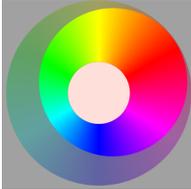
Too much red	Not enough red	Too much blue	Not enough blue	Balanced

Saving color and lighting settings

CAMERA PAGE

If you are adjusting for lighting conditions that are likely to recur, you can save your adjustments as a custom scene.

1. Select Store CCU Scene.
2. In the Store CCU Scene dialog box, select the custom scene to store (Custom A, B, or C) and select Store. The button for this scene becomes available in the web interface.
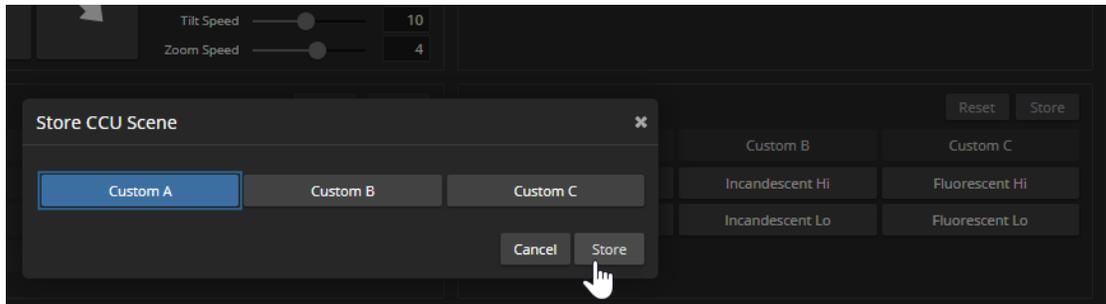

3. Optional: Right-click the button for your custom CCU scene, and enter a short name for it in the text box that opens. Save the name.

Adjusting the focus

CAMERA PAGE

Open the Focus control to select Auto-focus, or set manual focus with the + (near) and – (far) buttons. The + and – buttons only work when Auto Focus is not selected.
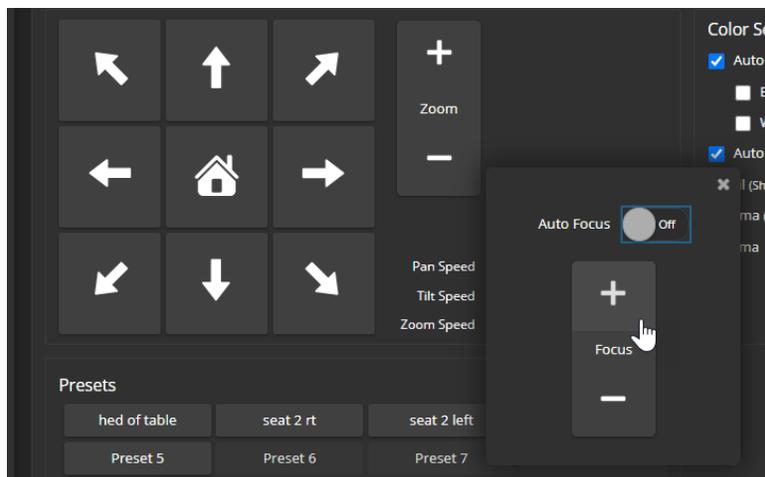
Focus control is available to non-administrative users via the IR Remote Commander.

Speed adjustments

CAMERA PAGE

The following speed adjustments are available:
- Manual pan, tilt, and zoom speeds – Used when you control camera movements with the IR Remote Commander or the arrow buttons in the web interface
- Global Preset Speeds – Separate pan, tilt, and zoom speeds used for movements between presets.
- Global Preset Non-Tri-Sync Speeds – Separate pan, tilt, and zoom speeds used for movements between presets that do not use Tri-Synchronous Motion.
- Tri-Synchronous Motion speed – Only available when storing a preset with the Store with Tri-Sync option selected.

Setting the speeds for manual movements

CAMERA PAGE

The Pan Speed, Tilt Speed, and Zoom Speed sliders control how fast the camera moves in response to the direction and zoom controls on the IR remote and in the web interface.

To set speeds for movements using the arrow buttons:

Use the speed sliders to adjust the speed of movements that you control with the buttons for pan, tilt, and zoom. For tight shots, slower is usually better.
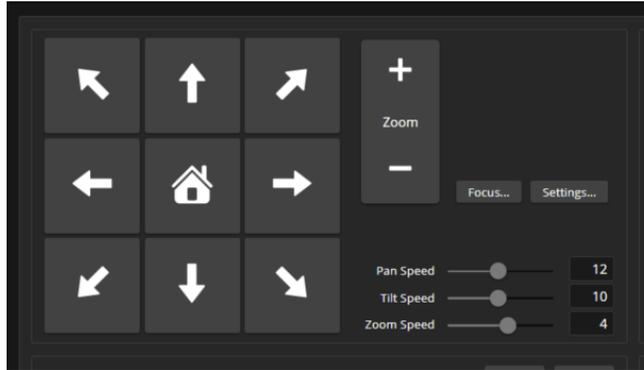
Setting the speeds of movements to presets

CAMERA PAGE

The Pan Speed, Tilt Speed, and Zoom Speed sliders in the Global Preset Non-Tri-Sync Speeds control how fast the camera moves to presets saved without Tri-Synchronous Motion information.

These settings also determine the speed of movements when the camera is controlled by people at the far end of a conference. The default speeds are high; far-end participants may be more comfortable with lower speeds.

To set speeds for movements to presets:

In the Global Preset Non-Tri-Sync Speeds section, set the speeds for movements to presets that do not use Tri-Synchronous Motion.
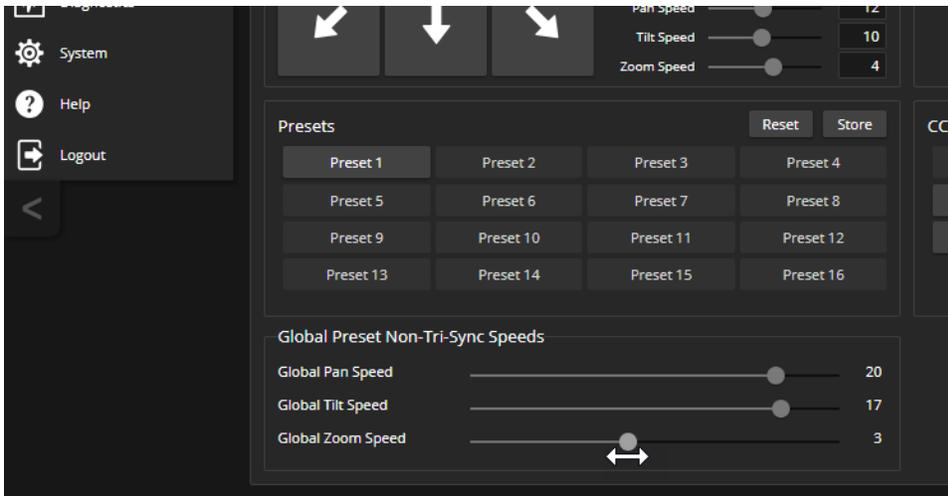
About Tri-Synchronous Motion

The Tri-Synchronous Motion algorithm calculates the pan, tilt and zoom speeds needed for the camera to move to a preset position, so that all three movements begin together and arrive at the same time. It ensures smooth on-air movements when making large changes in position, particularly when the zoom also changes. Tri-Synchronous Motion is only available as an option for moving to specific preset position.

Tri-Synchronous Motion is not helpful in movements of less than 10°, and is typically used only for on-air operation.

Adjusting Tri-Synchronous Motion speed

CAMERA page

The Tri-Synchronous Motion algorithm calculates the pan, tilt and zoom speeds needed for the camera to move from one preset to the next so that all three movements begin together and arrive at the same time.

You may need to experiment to find the best Tri-Sync speed setting. Here is a simple method:

1. Store a preset, checking Save with Tri-Sync and setting the speed slider about a third of the way along the scale.
2. Move the camera to a different pan, tilt, and zoom position, and save this position as another preset. Again, check Save with Tri-Sync; but set the speed slider to about the halfway point.
3. Move the camera from one preset to the other to evaluate which movement is closer to the speed you want. Use the Tri-Sync speed associated with that preset, or adjust it as needed.
4. Store all the presets you will need.
5. Switch among the presets to determine whether any of them should use a different Tri-Sync speed.
6. Adjust the speeds as needed.

Setting the direction for camera movements

CAMERA PAGE

The camera's default references for left, right, up, and down may not suit your situation.

By default,the arrow buttons on the remote and in the web interface show the direction you would see the camera move if you were looking the same direction as the camera.

If the presenter will control the camera with the remote:

1. Select Settings to open the direction control box.
2. Set Pan Direction to Inverted to make the camera move to the presenter's left when they press the left arrow button.

If controlling the camera with a joystick:

1. Select Settings to open the direction control box.
2. Set Tilt Direction to Inverted to make the camera tilt down when you push the joystick forward.

Note
Inverting tilt direction is only for joystick control. For ceiling-mounted cameras, use the Image Flip setting to invert the video and make the arrow controls on the remote and in the web interface match the actual tilt direction.
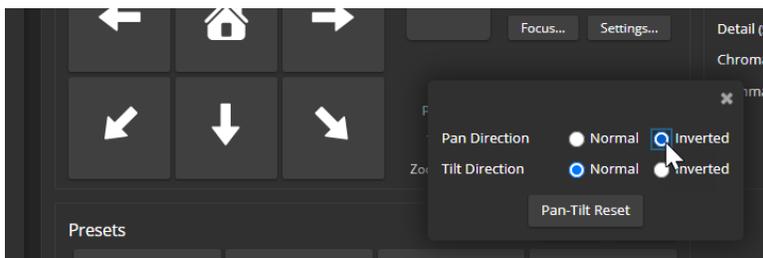
Configuring streaming behavior

Conferencing applications use *USB streaming*. After initial device set-up is complete, the camera's USB stream is always enabled.

***Note***
The screen shots in this section are representative, but may differ from what you see.

Viewing the USB stream

Do one of these things:
- Start or join a conference.
- Open a stream viewer and select the camera as the video capture device.

The image below shows how to view a camera's USB stream using VLC Media Player. The media player will correctly identify your camera by model.
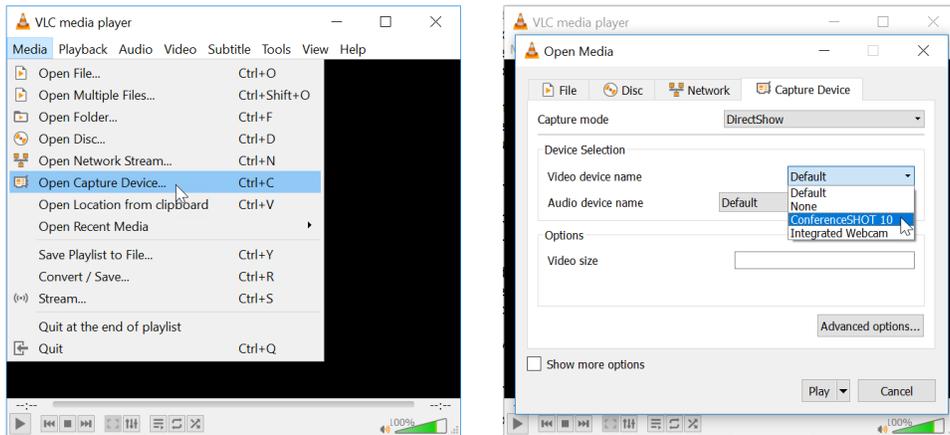
Configuring USB streaming

These settings affect how the camera works with soft conferencing applications.

Device Name – Specify how the camera shows up in your soft client's camera selection list.

Enable UVC Extensions – Allow conferencing applications to control the camera.

Depending on the conferencing application that you use, you may also need to change the USB stream format setting. See Setting other camera behaviors.
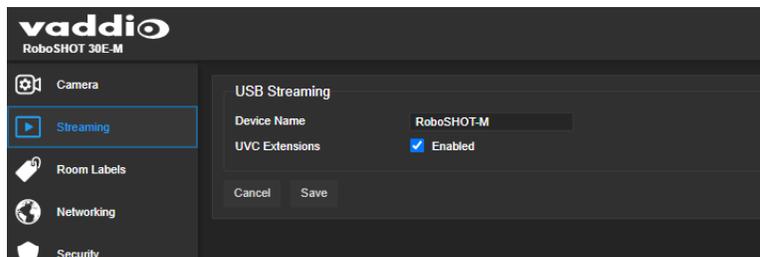
Setting other system behaviors

The following settings are available on the System page:

- **Auto Standby** – Enable to automatically set the camera in standby (low-power) mode when not connected to a computer.
- **LED On** – Enabled by default. If desired, the status light can be turned off.
- **LED On in Standby** – Enabled by default. Disable to turn off the status light when the camera is in standby mode.
- **Point Light Compensation** – Disabled by default. Reduces the intensity of small, extremely bright areas (point light sources) that would otherwise swamp the camera with light and make it difficult to see details in areas with less intense lighting.
- **Anti-flicker Filter** – Enabled by default; reduces flicker. Most noticeable if AC mains power is 50 Hz.
- **Image Flip** – If mounting the camera upside-down, set Image Flip ON. This orients the video image correctly and sets the tilt motors to respond appropriately to tilt commands from the remote, web interface, and connected control devices.
- **UVC Mode** – USB stream format. Client Custom enables far-end camera control when used with the Zoom soft client. Use the default UVC Compliant setting with most other conferencing applications.

Note
By default, the camera's status light is active during normal operation; however, it can be configured to remain off when the camera is powered up. The camera may be sending video even if the light is off.
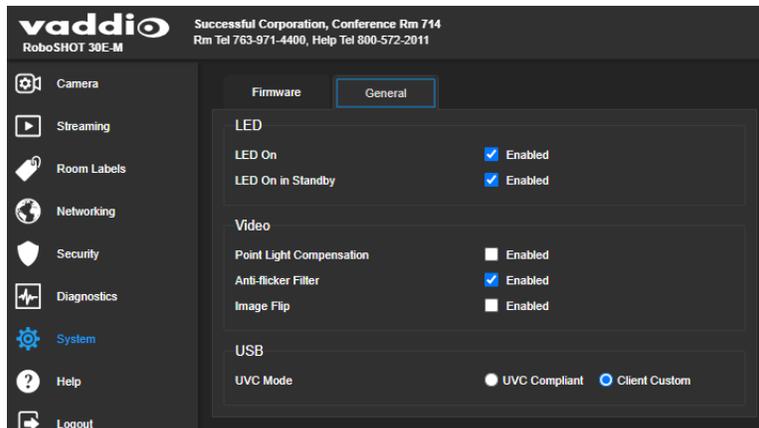
System maintenance

This chapter covers tasks for keeping your system up-to-date and operating properly:
- Rebooting
- Backing up and restoring the camera configuration
- Installing firmware updates
- Getting help

Rebooting the camera

SYSTEM PAGE, FIRMWARE TAB

This can help if the camera stops responding as you expect. In the System Utilities section, select Reboot.

Saving (exporting) or restoring (importing) a configuration

SYSTEM PAGE, FIRMWARE TAB

If you need to restore a camera's factory default settings, you can export the configuration beforehand to restore customized information instead of re-entering it manually.

You can import a configuration to several cameras if you need to configure them the same way. Cameras must be of the same model, and must have a compatible firmware version installed.

The data export includes home and other presets, NTP and time zone information, and room labels.

It does not include any information that is unique to the device, such as passwords, hostname, or color and lighting settings.

To export a configuration:

Select Export Data. The export downloads to your computer as a .dat file. The filename is the camera's hostname.

To import a configuration file:

Select Import Data. The web interface prompts you to select the file to import.

Installing a firmware update
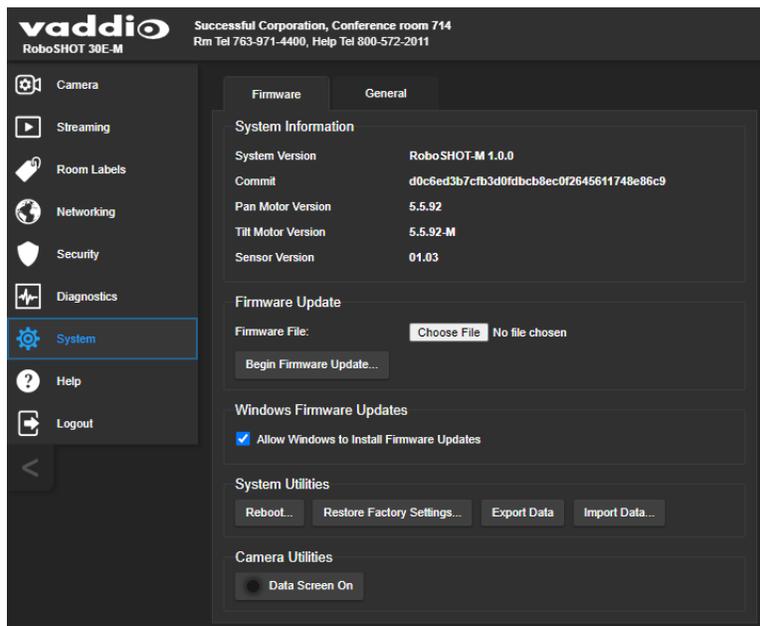
By default, the camera is set to update automatically via Windows. For this to happen, the camera must remain connected to the Microsoft Teams Rooms collaboration computer.

You also have the option of updating manually.

The latest firmware and release notes are available on the product's web page at www.legrandav.com. The release notes provided with each update can help you to decide whether to install the update.

Caution
Be sure the camera stays connected to power and to the network during the update. Interrupting the update could make it unusable.

To update the firmware manually:

1. Read the release notes and download the firmware update file.
2. Select the firmware update file that you downloaded. The filename ends with `.p7m`.
3. Select Begin Firmware Update.
4. Read and understand the information in the Confirm dialog box, then select Continue. A progress message box opens and the status light on the front of the camera turns yellow. If the update process presents warnings or error messages, read them carefully.

The camera reboots to complete the update, and the web interface prompts you to log in again.

Contacting Vaddio technical support and viewing diagnostic logs

HELP PAGE, DIAGNOSTICS PAGE

You'll find information for contacting Vaddio Technical Support on the Help screen.
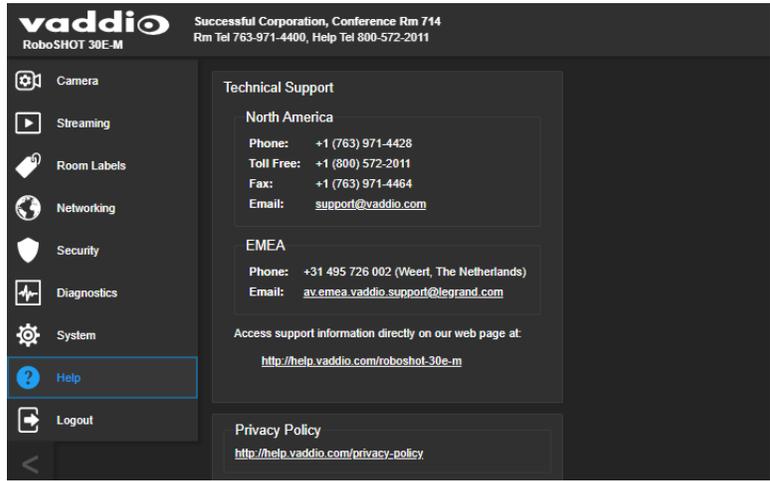

Note

The Help page provides a link to our standard privacy notice. This product does not record or save video files, and it does not store any identifying information other than what you may choose to enter on the Room Labels page of the web interface. However, the camera's IP address is considered "personally identifiable information" for the purposes of the privacy notice. This information is stored for display to the user, but not otherwise shared or transmitted

Your Vaddio technical support representative may ask you to download and email the log file from the Diagnostics page.

Note

The log may include large numbers of internal events even when no errors have occurred. Rebooting generates over 100 log entries.
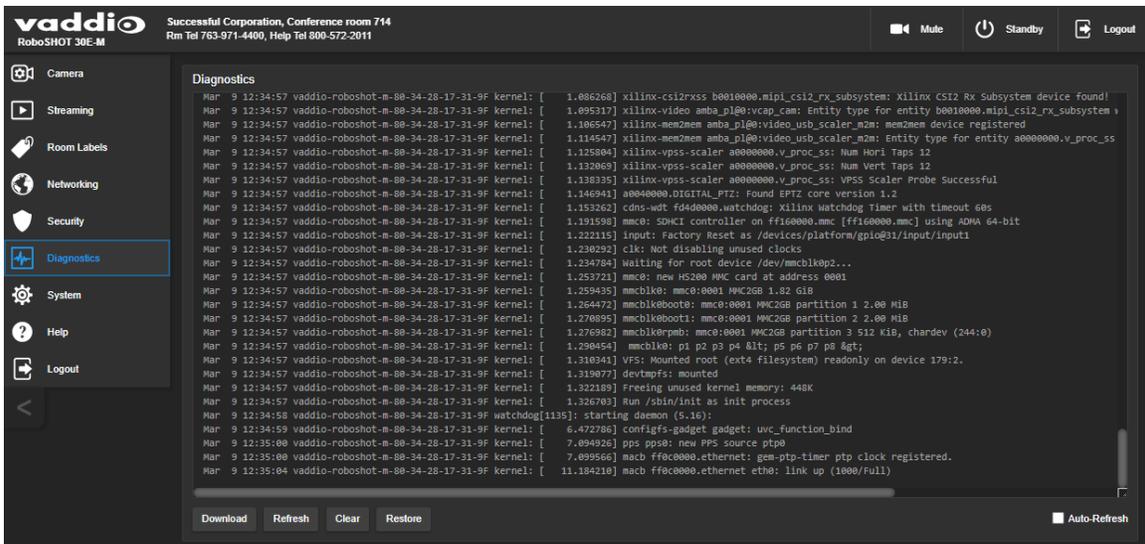
Operating the camera

In most cases, the remote provides all the controls you need to operate the camera. Refer to the user guide for the remote, which is available on the same page of the website as this manual.

By default, the operator's page of the web interface is not available. The administrator must set a password for the `user` account, or enable guest access; this provides access to the operator's page only. The web interface is available on the Vaddio Device Controller touch panel (if your installation uses one) or from a web browser.

The operator's Camera page provides most of the same controls as the remote:
- Pan, tilt, zoom, or return to home position
- Stop or resume transmitting live camera video (video mute)
- Put the camera in standby or bring it back to the ready state
- Move to camera presets, if any have been stored
- Select a custom lighting adjustment, if any have been stored

Stopping or resuming video

Use the mute button to temporarily stop video from the camera without placing it in standby. Remember that the video mute button does not mute the room's microphones, conference phone, or your computer's microphone. In video mute mode, the camera transmits blue or black video, with a message that the video is muted.
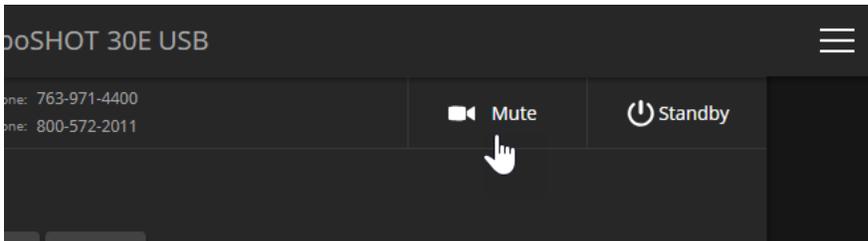

Managing the camera ready state

Use the Standby button to switch between low-power (standby) and ready states.

In standby mode, the screen presents the message "Device is in standby." On entering standby mode, the camera pans 90° from center and 30° downward.
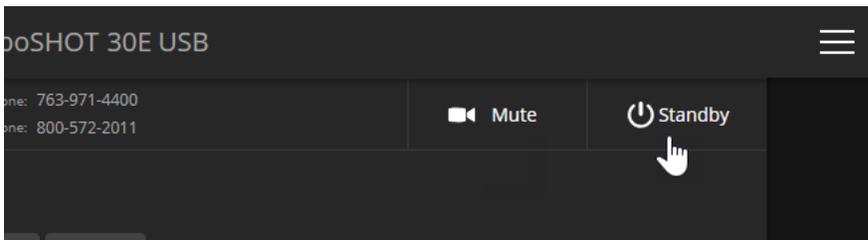
Moving the camera to a preset position

Use the Preset buttons (if available) to move the camera to any of its programmed positions. Presets are only available if they have been set in the administrative interface.
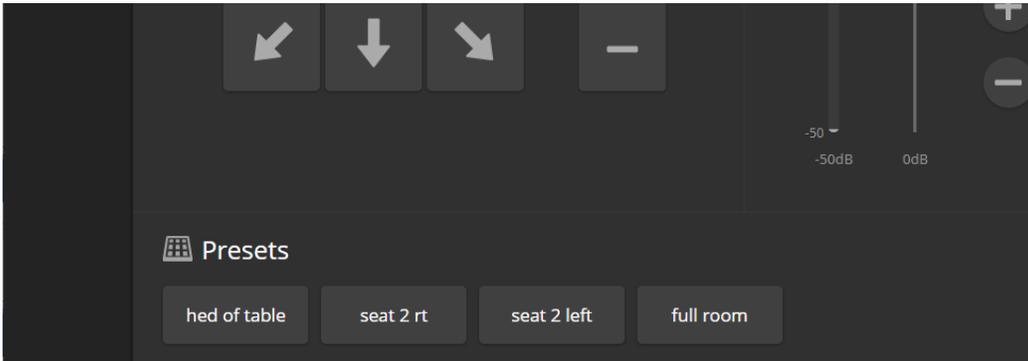
Moving the camera

Use the arrow buttons for camera pan and tilt. The center button moves the camera to the home position.

Zooming in or out

Use the Zoom + button to zoom in and the Zoom – button to zoom out.
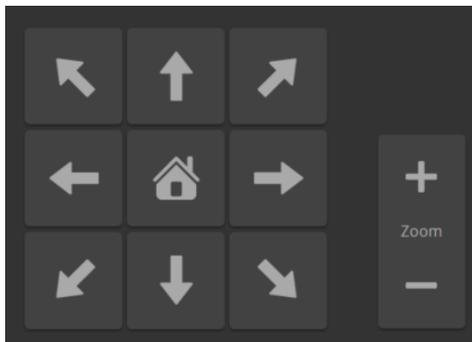
Command Line Interface SHell (CLISH) reference

The Vaddio Command Line Interface SHell (CLISH) allows an external device such as an AMX or Crestron presentation system to control the camera. It is also used for writing macros.

Requirements

- SSH (recommended) or Telnet must be enabled on the Security page of the device's web interface.
- Your computer must have a suitable SSH or Telnet client. If using Telnet, port 23 is used.
- Your computer must be able to connect to the device over the network.
- When you start a CLISH session, you must log in using the admin account.

Usage notes

- The > character is the command prompt.
- In addition to the camera control commands, session management commands are available – help, history, and exit.
- CTRL-5 clears the current serial buffer on the device.

Getting more information

Use a question mark as a command or command parameter to display a list of available commands, subcommands, or command parameters. For example, `?` returns all top-level commands; `network ?` returns the valid subcommands for the `network` command; and `network ping ?` returns the parameters available for the `network ping` command.

Firmware updates sometimes implement new commands or command parameters. We do not update the manuals for every firmware update, and occasionally the author makes a mistake. Querying returns the command parameters that are currently available, along with guidance on command syntax.

Typographical conventions

- { x | y | z } – Choose x, y, or z.
- <variable> – Substitute the desired value here.
- < x - y > – Valid range of values is x through y.
- [parameter] – Parameter is not required.

Camera and video management commands

The following camera and video management commands are available:
- camera home
- camera pan
- camera tilt
- camera zoom
- camera ptz-position
- camera preset
- camera chained-preset
- camera focus
- camera ccu get
- camera ccu set
- camera led
- camera standby
- video mute

camera home

Moves the camera to its home position and zoom level. Color settings may also be part of the home preset.

Synopsis	camera home
Example	>**camera home** OK >

camera pan

Moves the camera horizontally.

Synopsis	camera pan { left [<speed>]	right [<speed>]	stop	get	set <position> [<speed>] [no_wait] }	
Options	`left`	Moves the camera left.
	`right`	Moves the camera right.
	`speed` <1 - 24>	Optional: Specifies the pan speed as an integer (1 to 24). Default speed is 12.
	`stop`	Stops the camera's horizontal movement.
	`set` <position>	Sets the camera's absolute pan position in degrees, as a floating point value between approximately -150.00 (left) and 150.00 (right). This is the minimum range. Individual cameras may have slightly more travel before they reach their physical limits. The `camera pan set` command blocks execution of subsequent commands until the camera reaches the specified position.
	`no_wait`	Optional – allows the `camera pan set` command to return the command prompt immediately, while the requested camera movement is still in progress.
	`get`	Returns the camera's absolute pan position in degrees, as a floating point value between approximately -150.00 (left) and 150.00 (right).
Examples	>**camera pan left** OK > Pans the camera left at the default speed. >**camera pan right 20** OK > Pans the camera right using a speed of 20. >**camera pan stop** OK > Stops the camera's horizontal motion. >**camera pan set –15** OK > Pans the camera to 15° left of its centerline at the default speed.	

camera tilt

Moves the camera vertically.

Synopsis	camera tilt{ up [<speed>] | down [<speed>] | stop | get | set <position> [<speed>] [no_wait] }	
Options	`up`	Moves the camera up.
	`down`	Moves the camera down.
	`speed` <1 - 20>	Optional: Specifies the tilt speed as an integer (1 to 20). Default speed is 10.
	`stop`	Stops the camera's vertical movement.
	`set` <position>	Sets the camera's absolute tilt position in degrees, as a floating point value between approximately -30.00 and 90.00. This is the minimum range; individual cameras may have an additional degree or two of travel before they reach their physical limits.
		The `camera tilt set` command blocks execution of subsequent commands until the camera reaches the specified position.
	`no_wait`	Optional – allows the `camera tilt set` command to return the command prompt immediately, while the requested camera movement is still in progress.
	`get`	Returns the camera's absolute tilt position in degrees, as a floating point value between approximately -30.00 (down) and 90.00 (up). Note that the range is roughly 30.00 to -90.00 if Image Flip is selected.

Examples	`>`**`camera tilt up`**
	`OK`
	`>`
	
	Tilts the camera up at the default speed.
	
	`>`**`camera tilt down 20`**
	`OK`
	`>`
	
	Tilts the camera down at a speed of 20.
	
	`>`**`camera tilt set –5`**
	`OK`
	`>`
	
	Tilts the camera 5° down from level at the default speed.	

camera zoom

Moves the camera in toward the subject or out away from the subject.

Synopsis	camera zoom { in [<speed>] | out [<speed>] | stop | get | set <position> [<speed>] [no_wait] }	
Options	`in`	Zooms the camera in.
	`out`	Zooms the camera out.
	`stop`	Stops the camera's zoom movement.
	`speed` [1 - 7]	Optional: Specifies the zoom speed as an integer (1 to 7). Default speed is 3.
	`set` <zoom>	Sets the camera's zoom level as a floating point value between 1.00 and 30.00. The `camera zoom set` command blocks execution of subsequent commands until the camera reaches the specified position.
	`no_wait`	Optional – allows the `camera zoom set` command to return the command prompt immediately, while the requested camera movement is still in progress.
	`get` <zoom>	Returns the camera's zoom setting as a floating point value.
Examples	`>`**`camera zoom in`** OK `>` Zooms the camera in at the default speed. `>`**`camera zoom out 7`** OK `>` Zooms the camera out using a speed of 7. `>`**`camera zoom stop`** OK `>` Stops the camera's zoom motion.	

camera ptz-position

Specifies multiple-axis movements to absolute positions.

Pan, tilt, and zoom may be specified in any order. All movements start simultaneously.

Synopsis	camera ptz-position pan <position> tilt <position> zoom <position> [no_wait]	
Options	pan <position>	<position> is a floating-point value approximately -150.00 to 150.00. Individual cameras may have slightly more travel.
	tilt <position>	<position> is a floating-point value approximately -30.0 to 93.0. Individual cameras may have slightly more travel.
	zoom <position>	<position> is a floating-point value 1.0 to 30.0.
	no_wait	Optional – allows the command to return the command prompt immediately, while the requested camera movement is still in progress.
Examples	>**camera ptz-position pan -15 tilt 5 zoom 1.5 no_wait** OK > Moves the camera 15° left from its centerline and 5° up from horizontal, and zooms to 1.5. The command prompt appears while the camera is still in motion.	

camera preset

Moves the camera to the specified preset, or stores the current camera position and optionally CCU information, either with or without specifying that Tri-Synchronous Motion is to be used when moving to this position.

Synopsis	camera preset { recall	store} [1 - 16] [tri-sync <1 - 24>] [save-ccu]	
Options	`recall` [1 - 16]	Moves the camera to the specified preset, using Tri-Synchronous Motion. if this was saved with the preset. If CCU information was saved with the preset, the camera switches to the CCU setting associated with the preset.
	`store` [1 - 16]	Stores the current camera position as the specified preset.
	`tri-sync` [1 - 24]	Optional: Specifies that the camera uses Tri-Synchronous Motion to move to this position, using the specified speed.
	`save-ccu`	Optional: Saves the current CCU (color and lighting) settings as part of the preset. If not specified, the last color settings are used when recalled.
Examples	`>`**`camera preset recall 3`** OK `>` Moves the camera to preset 3. `>`**`camera preset store 1`** OK `>` Saves the camera's current position as preset 1. `>`**`camera preset store 4 tri-sync 15`** OK `>` Stores the camera's current position as preset 4. The camera will use Tri-Synchronous Motion at speed 15 when it is recalled to this preset. **`>camera preset store 2 tri-sync 10 save-ccu`** OK `>` Stores the camera's current position as preset 2. The camera apply the current CCU settings and use Tri-Synchronous Motion at speed 15 when it is recalled to this preset.	

camera chained-preset

Starts or stops a preset chain that has been defined in the web interface.

Synopsis	camera chained-preset { recall <chain>	stop }	
Options	`recall` <1 – 16>	Runs the specified preset chain. If the chain is not defined, the command returns an error.
	`stop`	Stops the camera's movement.
Examples	>**camera chained-preset recall 3** OK > Starts preset chain 3. >**camera chained-preset stop** OK > Stops the preset chain currently in progress.	

camera focus

Changes the camera focus.

Synopsis	camera focus { near [<speed>]	far [<speed>	stop	mode {get	auto	manual} }	
Options	`near`	Brings the focus nearer to the camera. Can only be used when camera is in manual mode.
	`far`	Moves the focus farther from the camera. Can only be used when camera is in manual mode.
	speed <1 - 8>	Optional: integer (1 to 8) specifies the focus speed.
	`mode [get	auto	manual]`	Returns the current focus mode, or specifies automatic or manual focus.
	`stop`	Stops the camera's focus movement.
Examples	**camera focus near** OK > Brings the focus near at the default speed. **camera focus far 7** OK > Moves the focus farther from the camera at a speed of 7. **camera focus mode get** auto_focus: on OK > Returns the current focus mode.	

camera ccu get

Returns CCU (lighting and color) information. Entering the command without specifying a parameter returns all current CCU settings.

Synopsis	camera ccu get <param>	
Options	`auto_white_balance`	Returns the current state of the auto white balance setting (on or off).
	`red_gain`	Returns the red gain value as an integer (0 to 255).
	`blue_gain`	Returns the blue gain value as an integer (0 to 255).
	`backlight_compensation`	Returns the current state of the backlight compensation setting (on or off).
	`iris`	Returns the iris value as an integer (0 to 21).
	`auto_iris`	Returns the current auto-iris state (on or off).
	`gain`	Returns the gain value as an integer (1 to 12).
	`detail`	Returns the detail value as an integer (0 to 15).
	`chroma`	Returns the chroma value as an integer (0 to 14).
	`gamma`	Returns gamma as an integer (-64 to 64)
	`wide_dynamic_range`	Returns the current setting for Wide Dynamic Range (on or off).
	`all`	Returns all current CCU settings.

Examples	```>camera ccu get iris```
	```iris 6```
	```OK```
	```>```
	
	Returns the current iris value.
	
	```>camera ccu get```
	```auto_iris on```
	```auto_white_balance on```
	```backlight_compensation off```
	```blue_gain 193```
	```chroma 2```
	```detail 8```
	```gain 3```
	```iris 11```
	```red_gain 201```
	```wide_dynamic_range off```
	```OK```
	```>```
	
	Returns all current CCU settings.	

camera ccu set

Sets the specified CCU (lighting) information.

Synopsis	camera ccu set <param> <value>	
Options	`auto_white_balance` {on | off}	Sets the current state of the auto white balance setting (on or off). Auto white balance overrides red gain and blue gain manual settings.
	`red_gain` <0 - 255>	Sets the red gain value as an integer (0 to 255). Can only be used when auto white balance is off.
	`blue_gain` <0 - 255>	Sets the blue gain value as an integer (0 to 255). Can only be used when auto white balance is off.
	`backlight_compensation` {on | off}	Sets the current state of the backlight compensation setting (on or off). Can only be used when wide dynamic range mode is off.
	`iris` <0 - 21>	Sets the iris value as an integer (0 to 21). Can only be used when auto-iris is off.
	`auto_iris` {on | off}	Sets the auto-iris state (on or off). Auto-iris disables manual iris and gain when it is on.
	`gain` <1 - 12>	Sets gain value as an integer (1 to 12). Can only be used when auto-iris is off.
	`detail` <0 - 15>	Sets the detail value as an integer (0 to 15).
	`chroma` <0 - 14>	Sets the chroma value as an integer (0 to 14).
	`gamma` <-64 - 64>	Sets the gamma value as an integer (-64 to 64)
	`wide_dynamic_range` {on | off}	Sets Wide Dynamic Range mode on or off. Can only be used when backlight compensation is off.
Examples	`>`**`camera ccu set auto_iris off`** OK `>` Turns off auto-iris mode, returning the camera to manual iris control. `>`**`camera ccu set red_gain 10`** OK `>` Sets the red gain value to 10.	

camera ccu scene

Stores the current CCU scene or recalls the specified ccu scene.

Synopsis	camera ccu scene {recall {factory <1 - 6>	custom <1 - 3>}	store custom <1 - 3>}	
Options	`recall factory` <1 - 6> `recall custom` <1 - 3>	Recalls the camera to the specified scene (factory 1 - 6 or custom 1 - 3) .
	`store custom` <1 - 3>	Saves the current scene as the specified custom scene.
Examples	>**camera ccu scene recall factory 2** OK > Sets the camera to use factory CCU scene 2. >**camera ccu scene store custom 1** OK > Saves the current CCU scene as custom CCU scene 1.	

camera led

Set or change the behavior of the status light.

Synopsis	camera led { get	off	on }	
Options	`get`	Returns the status light's current state (on or off).
	`off`	Disables the status light.
	`on`	Enables the status light.
Examples	>**camera led off** OK > Disables the status light. When the LED is off, you cannot tell by looking at the camera whether it is sending video. >**camera led get** led: on OK > Returns the current state of the status light.	

camera standby

Set or change camera standby status.

Synopsis	camera standby { get | off | on | toggle }	
Options	`get`	Returns the camera's current standby state.
	`off`	Brings the camera out of standby (sleep) mode.
	`on`	Stops video and puts the camera in standby mode.
	`toggle`	Changes the camera's standby state - if it was not in standby mode, it enters standby; if it was in standby mode, it "wakes up."

Examples	`>`**`camera standby off`**
	`OK`
	`>`
	
	Brings the camera out of standby mode.
	
	`>`**`camera standby get`**
	`standby:        on`
	`OK`
	`>`
	
	Returns the current standby state.	

video mute

Gets or sets the camera's video mute status. When video is muted, the camera sends blue or black video with an on-screen message stating that video mute is on.

Synopsis	video mute { get | off | on | toggle}	
Options	`get`	Returns the current video mute status.
	`off`	Unmutes the video. (Normal video resumes.)
	`on`	Mutes the video. (Blue or black screen with message)
	`toggle`	Changes the camera's video mute status.

Examples	`>video mute get`
	`mute:  off`
	`OK`
	`>`
	
	Returns video mute status.
	
	`>video mute on`
	`OK`
	`>`
	
	Transmits blue or black video.	

Maintenance and troubleshooting commands

The following commands are available for maintenance and troubleshooting:

- streaming settings get
- network settings get
- network ping
- system reboot
- system factory-reset
- version

streaming settings get

Returns current IP and USB streaming settings.

Synopsis	streaming settings get	
Parameters	USB Active	True if a USB stream is present; false if not.
	USB Device	The USB Device Name currently assigned.
	USB Frame_Rate	Frame rate for the USB stream (negotiated with conferencing client). 0 when no USB stream is present.
	USB Resolution	Resolution of the USB stream (negotiated with conferencing client). 0x0 when no USB stream is present.
	USB Version	2 or 3, as negotiated with the conferencing client. 0 if no USB stream is present.
	UVC Extensions_Enabled	Allow or disable far-end control of the camera.

Example	`>`**`streaming settings get`**
	`USB Active            true`
	`USB Device            RoboSHOT 30E-M`
	`USB Frame_Rate        30`
	`USB Resolution        720p`
	`USB Version           3`
	`UVC Extensions_Enabled false`
	`OK`
	`>`	

network settings get

Returns the camera's current network settings and MAC address.

Synopsis	network settings get
| Example | ```
network settings get
Name            eth0:WAN
MAC Address     00:1E:C0:F6:CA:7B
IP Address      192.168.1.67
Netmask         255.255.255.0
VLAN            Disabled
Gateway         192.168.1.254
Hostname         vaddio-roboshot-m-00-1e-c0-f6-ca-7b
OK
>
``` |

network ping

Sends an ICMP ECHO_REQUEST to the specified hostname or IP address.

Synopsis	network ping [count <count>] [size <size>] <string>	
Options	<count>	The number of ECHO_REQUEST packets to send. Default is five packets.
	<size>	The size of each ECHO_REQUEST packet. Default is 56 bytes.
	<string>	The hostname or IP address where the ECHO_REQUEST packets will be sent.
| Examples | ```
>network ping 192.168.1.66
PING 192.168.1.66 (192.168.1.66): 56 data bytes
64 bytes from 192.168.1.66: seq=0 ttl=64 time=0.476 ms
64 bytes from 192.168.1.66: seq=1 ttl=64 time=0.416 ms
64 bytes from 192.168.1.66: seq=2 ttl=64 time=0.410 ms
64 bytes from 192.168.1.66: seq=3 ttl=64 time=0.410 ms
64 bytes from 192.168.1.66: seq=4 ttl=64 time=3.112 ms
--- 192.168.1.66 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 0.410/0.964/3.112 ms
>
```<br><br>Sends five ECHO_REQUEST packets of 56 bytes each to the host at 192.168.1.66. | |
| | `>network ping count 10 size 100 192.168.1.1`

Sends 10 ECHO_REQUEST packets of 100 bytes each to the host at 192.168.1.1. The command returns data in the same form as above. | |

system reboot

Reboots the system either immediately or after the specified delay. Note that a reboot is required when resetting the system to factory defaults (system factory-reset).

Synopsis	system reboot [<seconds>]	
Options	<seconds>	The number of seconds to delay the reboot.
Examples	>**system reboot** OK > The system is going down for reboot NOW!roboshot-30e-m-D8-80-39-62-A7-C5 Reboots the camera immediately. >**system reboot 30** Reboots the camera in 30 seconds. The response is in the same form; the system message appears at the end of the delay.	

system factory-reset

Gets or sets the factory reset status. When the factory reset status is on, the system resets to factory defaults on reboot.

Synopsis	system factory-reset { get | on | off}	
Options	get	Returns the camera's current factory reset status.
	on	Enables factory reset on reboot and returns he camera's current factory reset status.
	off	Disables factory reset on reboot and returns he camera's current factory reset status.
Examples	>**system factory-reset get** factory-reset (software): off factory-reset (hardware): off OK > Returns the factory reset status. This evaluates the most recent `system factory-reset` on or off command, if one has been received. >**system factory-reset on** factory-reset (software): on factory-reset (hardware): off OK > Enables factory reset upon reboot. ***Note*** *This command does not initiate a factory reset. The factory reset takes place on the next reboot.*	

version

Returns the current firmware version.

Synopsis	version
Example	

Session information and management commands

The following commands are available for help and session management:

- history
- help
- exit

history

Returns the most recently issued commands from the current session. Since many of the programs read user input a line at a time, the command history is used to keep track of these lines and recall historic information.

Synopsis	history <limit>	
Options	<limit>	Integer value specifying the maximum number of commands to return.

Examples	`history`
	
	Displays the current command buffer.
	
	`history 5`
	
	Sets the history command buffer to remember the last 5 unique entries.	

Additional information	You can navigate the command history using the up and down arrow keys. This command supports the expansion functionality from which previous commands can be recalled from within a single session. History expansion is performed immediately after a complete line is read. Examples of history expansion: * `!!` Substitute the last command line. * `!4` Substitute the 4th command line (absolute as per 'history' command) * `!-3` Substitute the command line entered 3 lines before (relative)	

help

Displays an overview of the CLI syntax.

Synopsis	help
Example	`help`

exit

Ends the command session and closes the socket.

Synopsis	exit
Example	`exit`

Troubleshooting and care

When the camera doesn't behave as you expect, check the status light on the front before you do anything else. Then use this table to determine whether it's time to call Vaddio Technical Support.

What is it doing?	Possible causes	Check and correct
Nothing. The light on the front is off and no video is available.	The cable to the Network/PoE port is disconnected.	Make sure everything is plugged in.
	At least one of the cables is bad.	Check using known good cables.
	The wall outlet is not active. (Check by finding out if it powers something else, such as a laptop or phone charger.)	Use a different outlet.
	The camera or its mid-span power injector (if one is used) is bad.	Contact your reseller or Vaddio Technical Support.
The light on the front of the camera is off but the web interface and video are available.	The status light is turned off.	You can turn it on again using the LED On setting on the General tab of the System page, or using the CLISH command `camera led on`.
The camera is not responding to the remote and the light is yellow.	A firmware update is in progress.	Wait a few minutes, and try again when the light turns blue.
The camera does not respond to the remote, but the web interface is available.	The remote is not using the same IR channel as the camera.	Change the IR channel with the Camera Select buttons on the remote.
	The batteries in the remote are dead.	Put new batteries in the remote.
	The batteries were installed incorrectly in the remote.	Install the batteries as shown in the diagram inside the remote.
The camera responds to the remote but the web interface is not available.	The camera is not using the IP address you browsed to.	Press the Data Screen button on the remote to see camera information.

Need help? Call Vaddio Technical Support at (+1) 763-971-4400 or 800-572-2011.

Restoring factory default settings

This returns the camera to its original state. If you export the camera's configuration before restoring factory defaults, you will be able to restore the room label, time zone information, and home information by importing the configuration afterward.

Using the IP button on the back of the camera: Disconnect the network cable. Then press and hold the IP button while reconnecting the cable. Continue to hold the button for about 10 seconds.

From the web interface: On the System page's Firmware tab, select Restore Factory Settings.

Operation, storage, and care

For smears or smudges on the product, wipe with a clean, soft cloth. Use a lens cleaner on the lens. Do not use any abrasive chemicals.

Keep this device away from food and liquids.

Do not operate or store the device under any of the following conditions:
- Temperatures above 40° C (104° F) or below 0° C (32° F)
- High humidity, condensing or wet environments
- Inclement weather
- Severe vibration
- Dry environments with an excess of static discharge

Do not attempt to take this product apart. There are no user-serviceable components inside.

Glossary

auto white balance

A setting that allows the camera to manage color adjustments automatically.

backlight compensation

A setting that reduces contrast to adjust for bright light behind the main subject of the shot.

CCU scene

A stored set of color and lighting adjustments. (CCU = Camera Control Unit)

chroma

A setting that adjusts color intensity.

detail

A setting that adjusts image sharpness. If detail is set too low, the image may appear unrealistically smooth.

DHCP

Dynamic Host Configuration Protocol. A network management protocol that assigns an IP address to a device automatically when it is connected to the network.

dynamic range

The amount of difference between extremes - for example, the darkest and lightest areas in a shot, or the softest and loudest sounds that a microphone picks up.

far end

(conferencing) A location in the conference other than the one where you are. Far-end video is what you typically see in a conference – the people at the other end of the call.

Field of View (FOV)

How wide the video image is. Vaddio measures horizontal field of view. Some manufacturers use diagonal field of view, which yields a bigger number for the same actual image area. Tilt your head to one side and diagonal FOV will make sense.

full-duplex

Simultaneous two-way (or multi-way) audio; conference participants at the near end can talk and still hear the participants at the far end(s), as in a face-to-face meeting.

gamma

A setting that adjusts the range (gray density) between bright areas and shadows.

gateway

Network information automatically assigned in a DHCP network. If installing equipment on a non-DHCP network, get this information from the network administrator.

HTTP

HyperText Transfer Protocol. The magic that makes websites work.

HTTPS

HyperText Transfer Protocol Secure. The magic that uses encryption to make websites work securely. See SSL certificate for more information.

IP address

Where a given device is on the IP network, logically. The IP address enables the network to route data to the right device – and that's the reason IP address conflicts are bad.

IP address conflict

Two or more devices attempting to use the same IP address on a network. Results are unpredictable but never good.

LED

Light-Emitting Diode. An indicator light.

near end

(conferencing) Your location in a conference. When you mute the video, your camera stops sending near-end video.

NTP

Network Time Protocol. Ensures that NTP-enabled devices on the network all show the same system time, so timestamps are accurate.

PoE, PoE+, PoE++

Power over Ethernet; a means of powering a device using its network connection. Requires an external power source such as a mid-span power injector or PoE switch. PoE+ and PoE++ deliver more power than PoE.

preset

A stored camera position. Contains pan, tilt, and zoom position; may also include color and Tri-Synchronous Motion speed settings.

resolution

1. The image size. Expressed in terms of digital TV standards, with 1080p being the default in most cases.
2. The thing that usually flies out the window by January 10th.

soft conferencing client

A conferencing application (such as Microsoft Teams, Zoom, or Skype for Business) that uses a computer rather than requiring a conferencing codec.

SSL certificate

A file used with HTTPS proving that a web page really originates from its purported source. If you use HTTPS on a camera or other device without installing an SSL certificate, your browser will pop up security warnings when you try to browse to the device's web interface. The connection is secure, warnings notwithstanding.

subnet mask

Network information automatically assigned in a DHCP network. If installing equipment on a non-DHCP network, get this information from the network administrator.

UCC, UC conferencing

Unified Communications Conferencing; refers to soft-client conferencing (such as Microsoft Teams, Zoom, or Skype for Business) using a computer with USB-connected peripherals.

USB 2

An older, lower-speed USB protocol; good for audio but offers lower maximum resolutions for video conferencing. USB 2 products can be connected to USB 2 or USB 3 ports on your computer.

USB 3

A high-speed USB protocol, capable of handling high-quality video and audio as in conferencing applications. USB 3 products should be connected to USB 3 ports; performance may be degraded otherwise. Vaddio cameras use USB 3.

UVC drivers

(Universal Video Class) Standard USB video drivers used by Vaddio cameras, so your computer doesn't have to stop and download a driver when you connect your new Vaddio USB camera to it.

UVC extensions

Controls in UVC drivers to allow you or participants at the far end of a call to control your camera via the USB port, if both process UVC commands. The administrator may choose to disable these.

Photo credits

This guide may include some or all of these photos.

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Expedition 42 on orbit crew portrait, International Space Station, Mar. 7, 2015 – Barry Wilmore (Commander) Top, Upside down, to the right cosmonaut Elena Serova, & ESA European Space Agency Samantha Cristoforetti. Bottom center US astronaut Terry Virts, top left cosmonauts Alexander Samokutyaev and Anton Shkaplerov.
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Author's own cats, photos by author. You're welcome.

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