



# VADDIO™ ZOOMSHOT™ 20 QUSB SYSTEM

**ZoomSHOT 20 HD Camera System featuring the Quick-Connect USB Interface**

Model Number 999-6920-100 (North America)

Model Number 999-6920-101 (International)





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## OVERVIEW:

The Vaddio ZoomSHOT 20 QUSB camera system produces amazing results for small, medium and large room applications. Anywhere that a Point-of-View or stationary camera can be used alone or in conjunction with a Vaddio PTZ camera, to simplify camera coverage and preset positioning, the ZoomSHOT 20 is the answer.

Essentially, the ZoomSHOT 20 camera is a low cost pan/tilt/zoom camera, where the pan and tilt are adjusted manually. However, unlike fixed-lens stationary cameras, the ZoomSHOT 20 is equipped with a 20X optical power zoom lens that produces a horizontal field of view ranging from 63° on the wide end to 3.47° on the tele end in a HD 16:9 format.

ZoomSHOT 20 was designed from the ground up and uses the Vaddio EZCamera™ Cat-5 wiring standard for video, power and control. The ZoomSHOT 20 supports a wide range of HD video resolutions that are selectable on the rear panel up to the native 1080p/60 resolution. This camera can deliver HD video signals, power and control up to 150' (45.72m) on Cat-5 cable.

This system features the totally robust Quick-Connect USB Interface, which was designed to have multi-format digital and analog video outputs, be compatible with all existing Cat-5/5e/6 Vaddio cameras and includes USB 2.0 and IP streaming outputs with a built-in web server for IP control. The QC-USB Interface provides outputs for the ZoomSHOT 20 camera including; HDMI, YPbPr, USB Video (UVC standards-MJPEG) and H.264 IP Video (RTSP & HLS).

The QC-USB's embedded webserver provides for browser-based access to camera controls, camera presets and basic CCU functions (color and shading controls) as well as the video configuration web pages. Analog and HDMI video outputs are included and output the same video resolution that is sent from the camera simultaneously.

Choose between three (3) IR frequencies for the Vaddio IR SHOT Commander to allow multiple cameras to be locally IR controlled with a single remote control. And like all Vaddio camera packages, the thin profile wall mount is included.



Image: ZoomSHOT HD Camera



Image: ZoomSHOT Rear Panel



Image: Quick-Connect USB Interface

## Intended Use:

Before operating the device, please read the entire manual thoroughly. The system was designed, built and tested for use indoors with the power supply provided. Outdoor operation or use of a different power supply has not been tested and could damage the device and/or create a potentially unsafe operating condition.

## Important Safeguards:

Read and understand all instructions before using. Do not operate any device if it has been dropped or damaged. In this case, a Vaddio technician must examine the product before operating. To reduce the risk of electric shock, do not immerse in water or other liquids and avoid extremely humid conditions.



**Use only the power supply provided with the system. Use of any unauthorized power supply will void any and all warranties.**



Please do not use "pass-thru" type RJ-45 connectors. These pass-thru type connectors do not work well for professional installations and can be the cause of intermittent connections which can result in the RS-232 control line failing and locking up, and/or compromising the HSDS (high speed differential) signals. For best results please use standard RJ-45 connectors and test all cables for proper pin-outs prior to connection to Vaddio product.

### Save These Instructions:

The information contained in this manual will help you install and operate your product. If these instructions are misplaced, Vaddio keeps copies of Specifications, Installation and User Guides and most pertinent product drawings for the Vaddio product line on the Vaddio website. These documents can be downloaded from [www.vaddio.com](http://www.vaddio.com) free of charge.

### UNPACKING:

Carefully remove the product and all of the included parts from the packaging.

#### ZoomSHOT 20 QUSB Camera System (North America):

##### Part Number: 999-6920-100

- One (1) ZoomSHOT 20, HD Camera (998-6920-000)
- One (1) Vaddio IR Shot Commander Remote
- One (1) Quick-Connect USB Interface (998-1105-038)
- One (1) 24 VDC, 2.0 A Power Supply with Power Cord for North America
- One (1) 6' (1.83m) USB 2.0 Type-A to Type-B Cable (Black)
- One (1) Thin Profile Wall Mount with Mounting Hardware
- One (1) EZCamera Cat-5 Control Adapter (RJ-45-F to DB-9-F)
- Quick-Start Guide

**NOTE: Full manuals are downloaded from [support.vaddio.com](http://support.vaddio.com)**

#### ZoomSHOT 20 QUSB Camera System (International):

##### Part Number: 999-6920-101

- One (1) ZoomSHOT 20, HD Camera (998-6920-000)
- One (1) Vaddio IR Shot Commander Remote
- One (1) Quick-Connect USB Interface
- One (1) 24 VDC, 2.0 A Power Supply
- One (1) 6' (1.83m) USB 2.0 Type-A to Type-B Cable (Black)
- One (1) Euro Power Cable
- One (1) UK Power Cable
- One (1) Thin Profile Wall Mount with Mounting Hardware
- One (1) EZCamera Control Adapter (RJ-45-F to DB-9-F)
- Quick Start Guide

**NOTE: Full manuals are downloaded from [support.vaddio.com](http://support.vaddio.com)**



#### ZoomSHOT 20 Front View with Feature Call-outs

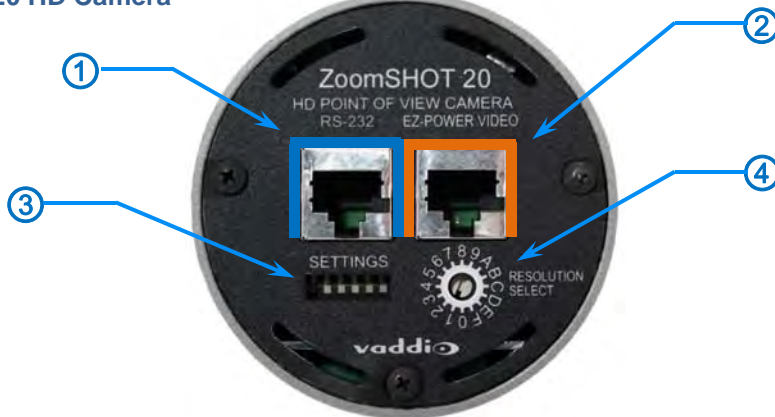
Image: ZoomSHOT 20 HD PTZ Camera



- 1) Lens:** 20X Optical Zoom Lens
- 2) IR Sensor and Power/Tally LED:** The IR sensor for the IR SHOT Commander Remote is located here. In a separate opening, a blue LED power light and a red LED tally resides (it turns purple on boot up too).
- 3) The Yoke:** For manual pan and tilt. Tilt range is  $\pm 30^\circ$  and Pan is limited to the service loop of the cabling.
- 4) The Aluminum Base and Steel Cylindrical Body:** Please don't drop it on your foot, it's fairly substantial.
- 5) Logo:** Really Cool Logo Badge (RCLB). The RCLB is affixed to the base in a recessed ovoid area.

**Rear Panel Connections with Callouts**

Image: ZoomSHOT 20 HD Camera



**1) RS-232 (Color Coded Blue):** The RS-232 RJ-45 accepts modified VISCA protocol for camera control.

**2) EZ-POWER VIDEO Port (Color Coded Orange):** This RJ-45 connector is only used with the Quick-Connect SR, Quick-Connect DVI-D/HDMI SR Interface, Quick-Connect USB and USB Mini Interfaces to supply power and return HSDS (differential) video from the camera over Cat-5/5e/6 cable up to distance of 150' (45.72m).

**3) ZoomSHOT 20 DIP Switch Settings:** Settings for IR remote frequency, IR receiver on/off, image flip and defaults can be configured on these switches. See the Switch Settings page for additional information. The dip switch settings are as follows:

**Table: ZoomSHOT 20 DIP Switch Settings**

DIP Switch	Function
1	Up = IR1, Down = IR2
2	Up = IR 1 or 2, Down = IR3
3	Up=IR ON, Down = IR OFF
4	Up = Normal Image, Down = Image Flip
5	Not Used
6	Not Used
All Down	Reset to Defaults - with power cycle



**4) HD Video Select:**

A rotary switch allows the user to choose the component HD output video resolution and format. After setting or changing the resolution, reboot the camera to ensure proper operation. Simply set the rotary switch to an assigned position to output video. The HD Video Select Rotary Switch Settings are as follows:

**Table: ZoomSHOT 20 HD VIDEO Selections**

Rotary	Resolutions	Rotary	Resolutions
0	720p/59.94	8	1080p/50
1	1080i/59.94	9	--
2	1080p/59.94	A	--
3	720p/60	B	--
4	1080i/60	C	--
5	1080p/60	D	--
6	720p/50	E	1080p/30
7	1080i/50	F	1080p/25



Point the notch in the switch stem to assign the rotary position

**Notes:**

- For IP or USB 2.0 Streaming, use position "0" (720p/59.94) for best results.
- Set the rotary switch to an assigned position. If put on an unassigned position, then 720p/60 will be displayed.

### QUICK-CONNECT USB INTERFACE

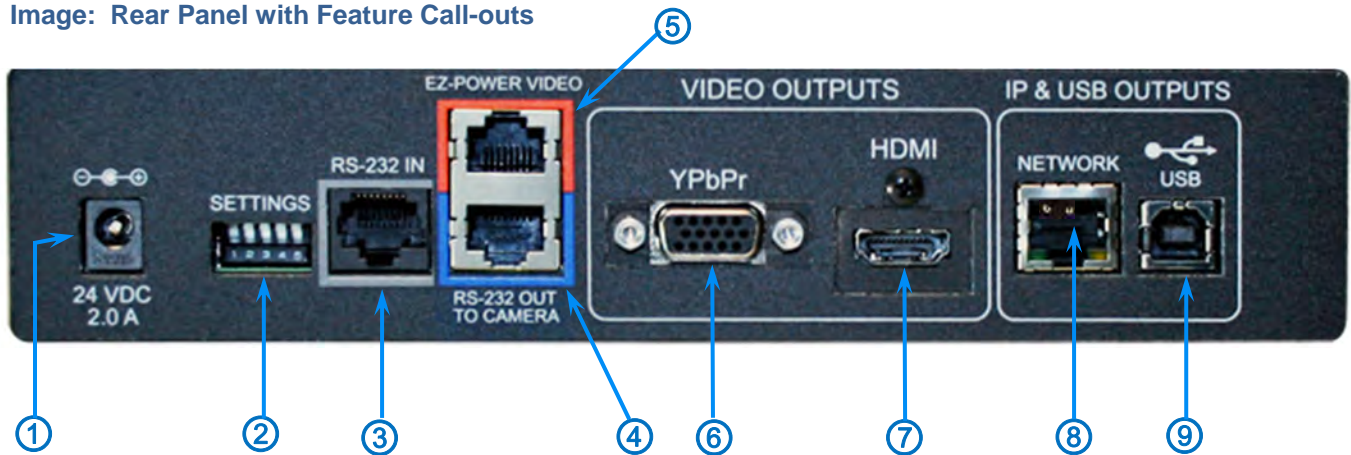
Image: Front Panel with Feature Call-outs



- 1) LCD Blue Backlit Display:**  
20 x 2 Character, ODV (omnidirectional view), ABN (advanced black nematic) display with a high contrast and wide viewing angle combined with high visibility. The MAC address (labeled as “HW” for hardware) is on the top line, and the IP address (static or DHCP) is listed on the bottom line. This display with IP and MAC addresses allows for easy access to the embedded web server and Vaddio camera settings for the PC or BYOD (bring your own device - laptop or tablet) users of UC conference systems. Upon power up or power reset this display will indicate when the unit is in initialization mode.
- 2) Power/ System Reset Switch:**  
The System Reset switch on the front panel is a blue back lit-tactile switch that will illuminate when power is present at the rear power connector. Pressing in and holding this switch for 1.15643 seconds will restart/reinitialize the Quick-Connect USB Interface.
- 3) NETWORK LED:**  
The green panel mount LED indicator will indicate the presence of an Ethernet connection. This LED will blink to indicate network activity. If no network connection is made, the LED will remain off.
- 4) USB LED:**  
The blue panel mount LED indicates the presence of a USB connection to a PC (or mac). Blinking will indicate USB activity. If no USB connection is present the LED will remain off.

**Quick-Connect USB Interface**

Image: Rear Panel with Feature Call-outs



- 1) **Power Input:** 5.5mm OD x 2.5mm ID coaxial connector for the provided 24 VDC, 2.0 Amp switching power supply. The Quick-Connect USB Supplies Power to the attached camera.
- 2) **5-Position DIP Switch:** A 5-position dip switch allows the user to choose the HD video color space (YCbCr for HDMI and sRGB color space for DVI-D) on the HDMI output, configure for updates, and restore factory defaults when cycling power.

**Table: Quick Connect USB Rear Panel DIP Switch Settings**

Dip Switch	Function	Default	Activation
1	Future Use	Up	n/a
2	Future Use	Up	n/a
3	Color Space HDMI Connector	Up = HDMI (YCbCr)	Down = DVI (sRGB)
4	Program / Update	UP = No Program	DOWN = Ready To Program
5	Future Use	Up	n/a
All Down	Reset to Defaults	All UP	ALL DOWN (with power cycle)

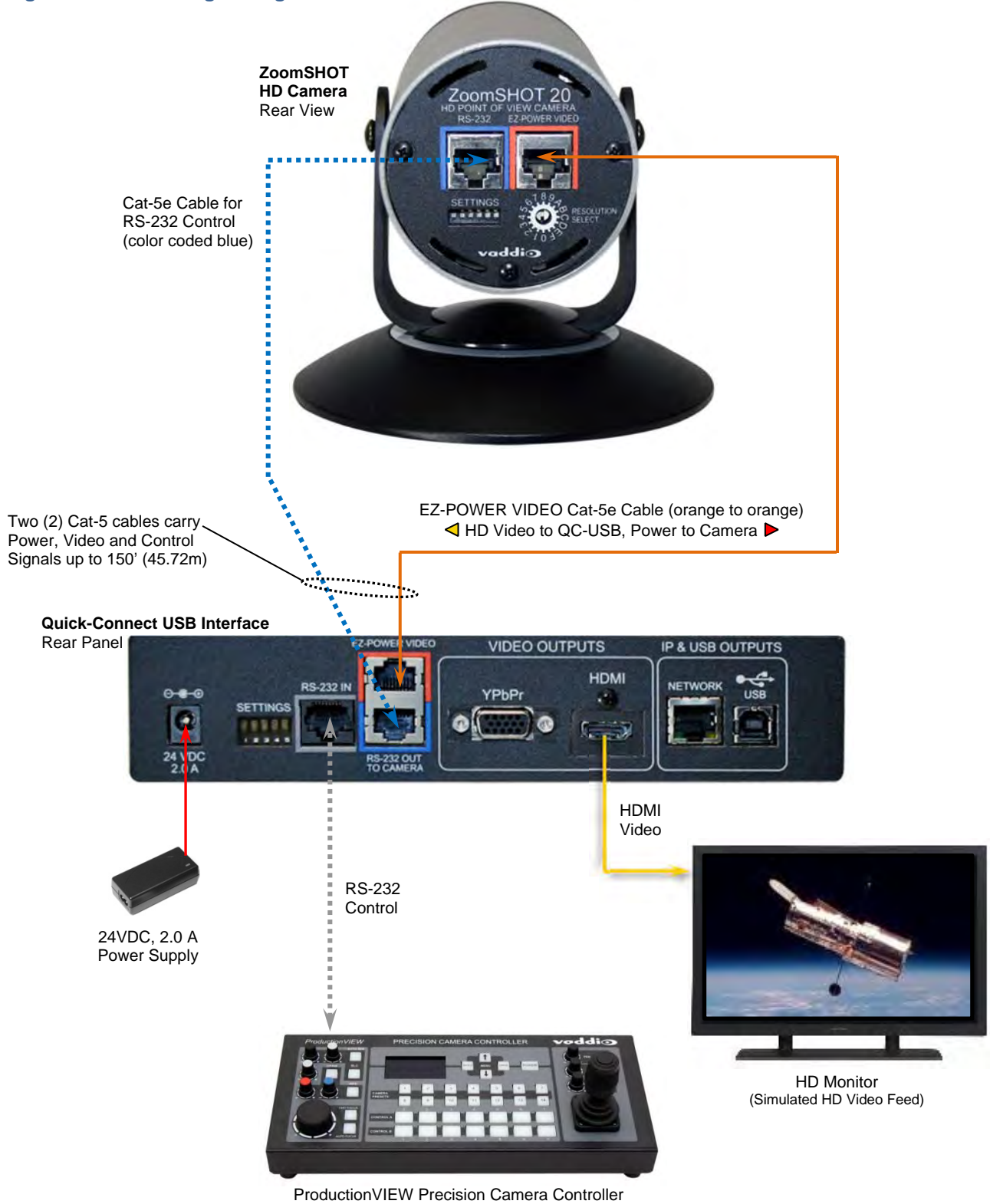


- 3) **RS-232 IN (Color Coded Grey):** Serial RS-232 input on a RJ-45 connector. This control port allows a Vaddio joystick controller or 3<sup>rd</sup> party controller (Crestron/AMX) to control the camera functions if the embedded webserver is not used for real time control.
- 4) **RS-232 OUT TO CAMERA (Color Coded Blue):** Serial RS-232 output on RJ-45 connects via Cat-5 to the camera RS-232 input on the camera. Control signals from the embedded webserver are sent or external controller are relayed to the camera over this control port.
- 5) **EZ POWER VIDEO (Color Coded Orange):** RJ-45 jack used to supply 24 VDC power to the camera and return differential video from the camera on Cat-5 cable at a maximum distance of 150' (45.7m).
- 6) **YPbPr Output:** Analog component video output on a DE-15 (HD15) connector (resolution is set on the back of the camera). The YPbPr output resolution will be the same as the HDMI output resolution. SD video resolutions (Y/C and CVBS formats) are not supported by the Quick-Connect USB Interface; however some progressive frame analog component SD video is supported.
- 7) **HDMI Output:** The digital video output on the HDMI connector can either be YCbCr color space (normal HDMI mode) or can be changed to DVI-D color space (sRGB) for older monitors and devices. The HDMI and YPbPr outputs work simultaneously and are the same resolution (set at the camera).
- 8) **Ethernet 10/100 Network RJ-45 Jack:** The Ethernet jack will have yellow and green lights to indicate connectivity and activity of the network on that jack. The Ethernet jack will stream video up to 1080p/30 using H.264 compression and can be set from the internal web pages much like the HD-USB Camera. The resolutions will available in a three (3) stage quality format (High Quality, Good Quality and Standard Quality targets) and includes a range of CIF to 1080p/30.
- 9) **USB 2.0 Connector:** The USB 2.0 is on a Type-B female jack and connects to a PC running a soft-client video conferencing system or video capture software that uses UVC (USB Video Class) standard drivers. No other USB 2.0 drivers are required to plug the QC-USB into a computer and have it work. The UVC drivers will auto negotiate the top resolution that the PC and QC-USB can accomplish together and auto-implement that resolution.



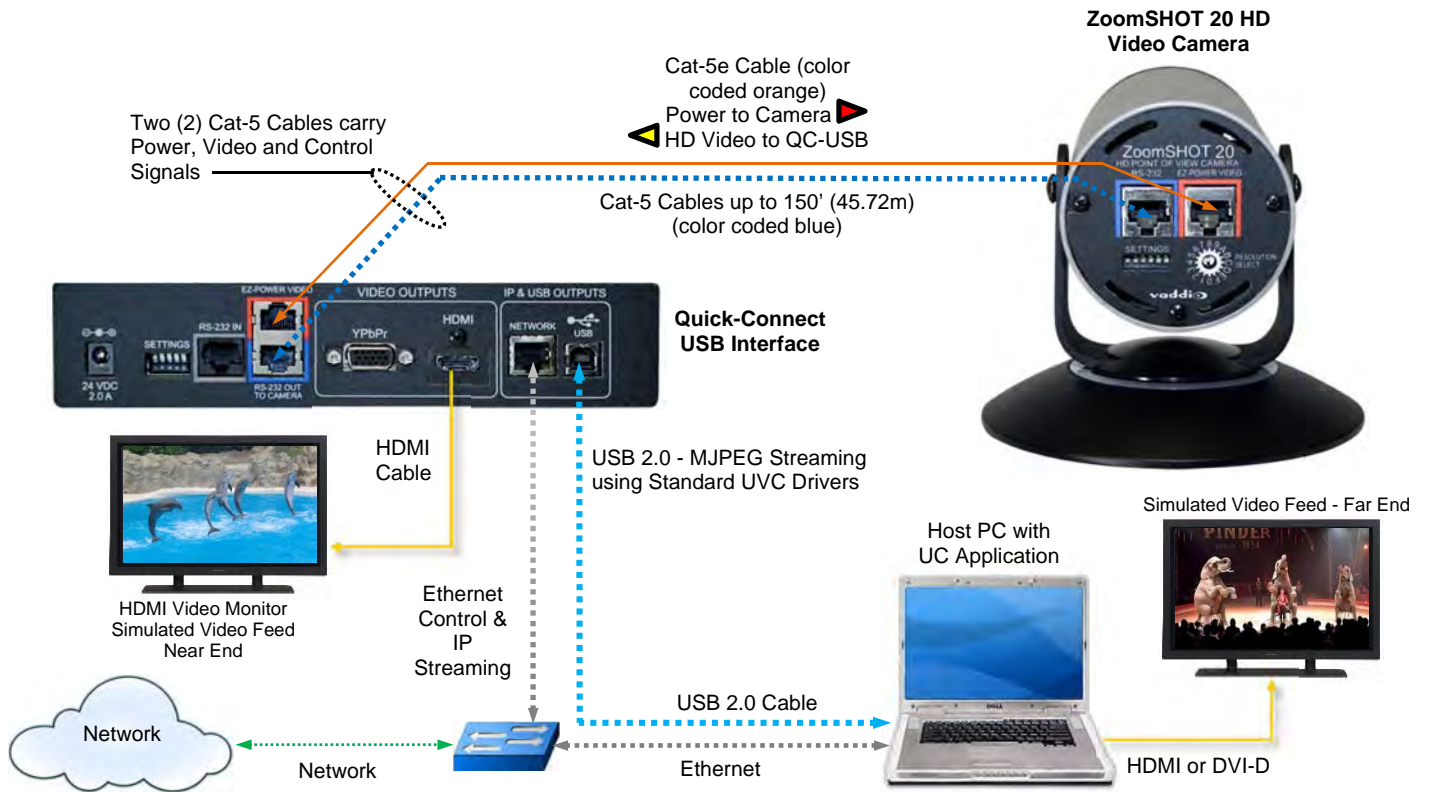
### BASIC APPLICATION DIAGRAMS

#### Diagram: Basic Wiring Configuration - Without Network or PC



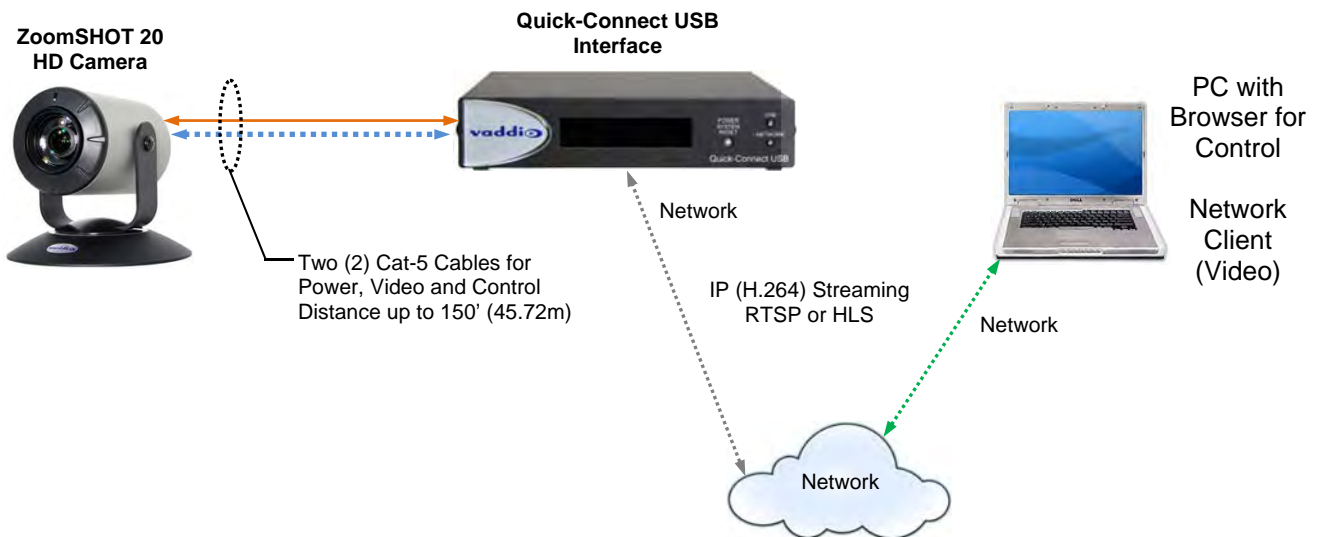
Note: RS-232 can be run directly to the ZoomSHOT or through the Quick-Connect USB in this configuration

**Diagram: Basic ZoomSHOT 20 QUSB System Configuration - USB 2.0 Streaming**



**Diagram: Basic IP Configuration - IP Streaming**

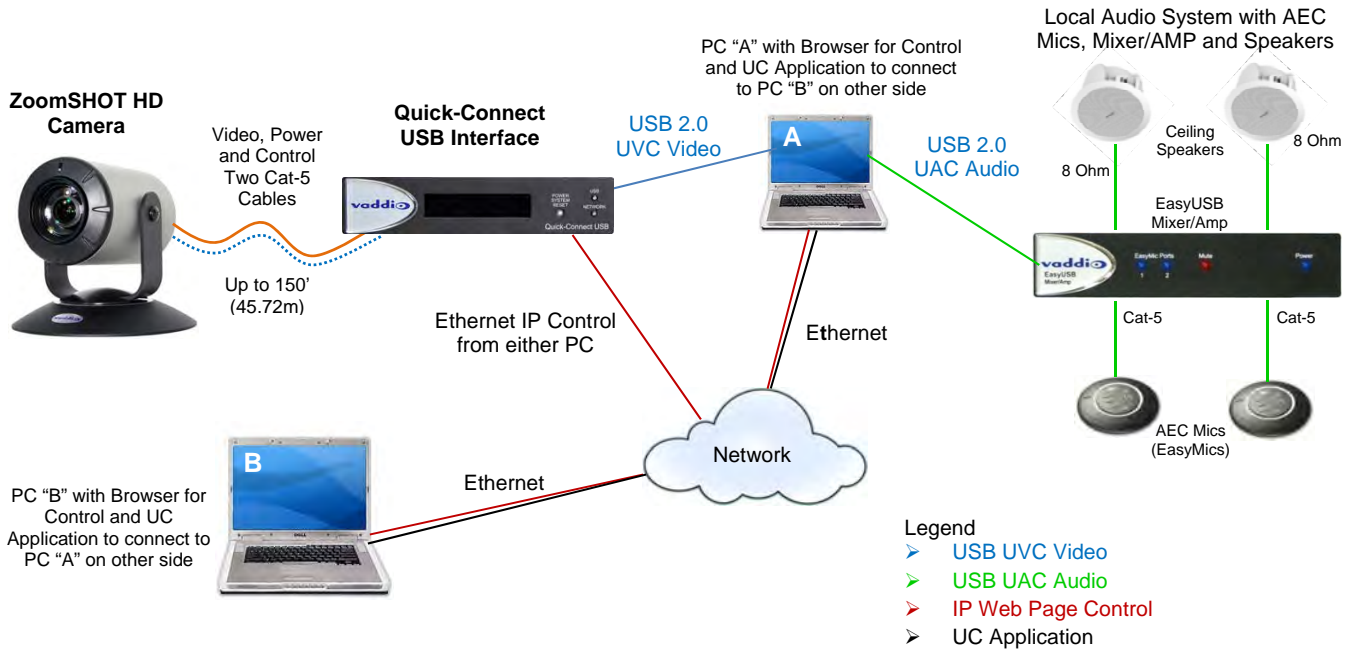
ZoomSHOT 20 HD Camera to Quick-Connect USB out to Network for a remote network application.



**Diagram: Complex System with Audio**

Local USB 2.0 streaming with Ethernet control, active UC Application and local audio system.

**ZoomSHOT 20 QUSB System with UVC Video and UAC Audio**



**ZOOM SHOT CAMERA - FIRST TIME SET-UP**

The ZoomSHOT 20 was designed to be very easy to use and operate. There is documentation at the back of this manual for pin-outs for the connectors on the camera and the Quick-Connect USB Interface.

**Before Installing the Camera:**

- Choose the ZoomSHOT 20 camera mounting location while paying close attention to camera viewing angles, lighting conditions, possible line of site obstructions and checking for in-wall obstructions where the camera is to be mounted. Always pick a mounting location that will optimize the performance of the camera. Please locate the camera to enable easy positioning of the camera body with the ability to point down and away from the ceiling and a pile of fluorescent lighting cells. *Cameras generally don't like to be swamped with fluorescent light and nobody sits on the ceiling anyway.*
- The Thin Profile Wall Mount for the ZoomSHOT 20 can be mounted directly to a 1-gang wall box or can be mounted using two (2) provided spiral dry wall anchors.
- For Power/Video and RS-232 signals, use standard Cat-5 cable (568B termination and real RJ-45 connectors) from the EZ-POWER VIDEO and RS-232 ports on the back of the ZoomSHOT 20 to the Quick-Connect USB Interface. The EZ-POWER VIDEO and RS-232 jacks are **color coded** for convenience.



**Image:** ZoomSHOT 20 HD Camera with provided Thin Profile Wall Mount

## Step By Step ZoomSHOT 20 QUSB System Installation Instructions:

**Step 1:** After determining the optimum location of the camera; route, mark and test the two (2) Cat-5 cables from the camera to the Quick-Connect USB Interface located at the head-end. The two Cat-5e cables should feed-through the hole located on the rear flange of the Thin Profile Wall Mount. If the bracket is to be mounted on a 1-gang wall box, use the screws supplied with the wall box cover plate to attach the Thin Profile Wall Mount. If mounting to the drywall with wall anchors, use two (2) quality wall anchors. The mount provides for easy leveling. Pull the cat-5 cables through the wall and feed the cables through the back of the mount. Level the mount and tighten the mounting screws.



### Step 2:

Using the HD VIDEO SELECT rotary switch and CAMERA SETTINGS dip switches on the back of the camera, set up the camera's output resolution and functional preferences. There are tables on *Page 5* that identify the choices... keep these tables handy for future use...or you can easily look them up on the Vaddio website ([vaddio.com](http://vaddio.com)) when needed.

Setting the ZoomSHOT 20 Camera:

- Set the desired HD Resolution with the rotary selection switch. If changing the resolution, always reboot the camera to ensure proper operation.  
**Note:** Use 720p/59.94 (position "0") for best results for streaming USB 2.0 (MJPEG) or IP Video (H.264)
- Set the IR frequency (1, 2 or 3) of the camera (if it is to respond to the IR remote control).
- Set the desired image orientation (normal or flipped).

**Step 3:** Follow the sample wiring diagram for connecting the Cat-5 cables to the ZoomSHOT 20 and Quick-Connect USB Interface (Diagram on the *Page 8*, but read and understand the rest of these instructions especially the next note).



**NOTE:** Check all Cat-5 cables for continuity in advance of the final connection. Label the Cat-5 cables. Plugging the EZ-POWER VIDEO cable into the wrong RJ-45 may cause damage to the camera system and void the warranty. For premise cabling, please use real RJ-45 connectors and crimpers. Please don't use the pull through or EZ-type RJ-45s.

**Step 4:** Place the camera onto the camera mount and use the provided ¼"-20 screws to secure the camera to the mount. To dress the cabling, push the extra cable back into the wall opening.

**HINT:** A small piece of black fabric or felt attached to the back of the mount (wall-side) with a small slit to allow cables through, or dressing the wall opening drywall edge with black tape to mask the white gypsum wall board may help the overall dressing of the mount and cables.

**Step 5:** Connect the Vaddio 24 VDC, 2.0 Amp power supply to a power outlet and to the Quick-Connect USB Interface. The Quick-Connect USB will initialize, power will travel down the EZ-POWER VIDEO Cat. 5 cable to the camera. The camera will boot up and in a few seconds, differential HD video will travel back down the Cat-5 cable to the Quick-Connect. When an image is available, the camera is ready to accept control information from the IR Shot Commander remote control or RS-232 camera controller. If connected to the Network, the Quick-Connect USB will display the Hardware (HW) MAC Address and the IP addresses.

### Controlling the ZoomSHOT 20:

**IR Remote:** The IR Shot Commander Remote control can control the camera's basic functions and enter the OSD (on-screen display) for more advanced controls.

**RS-232 Control:** An API is provided for control of the camera over RS-232 (commands in the back of manual).

**Telnet Control:** The camera can be controlled through the Quick-Connect USB via Telnet session. These exciting commands are listed at the back of the manual.

**Built-in Webserver Control:** The Quick-Connect USB has a built-in webserver that auto-loads the control protocols of the Vaddio camera attached (pretty cool huh?). Full camera controls including CCU image controls are available from any approved browser on any computer. The IP address is always displayed on the front panel display of the Quick-Connect so access to the internal webpages is super easy.

## Quick-Connect USB Details

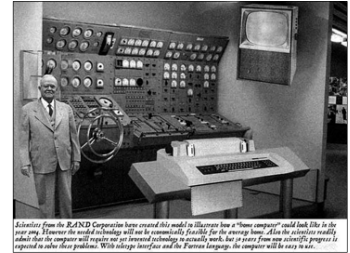
The Quick-Connect USB interface is a Cat-5 camera interface and an IP or USB 2.0 streaming appliance with a built-in webserver for camera set-up and control. The Quick-Connect USB Interface uses UVC (Universal Video Class) drivers for USB 2.0 video and does not require the loading of any other drivers to run on the PC. As long as the operating systems and soft-client software support UVC drivers, no additional software/drivers, other than the application is required.

## COMPATIBILITY

The Quick-Connect USB will work with the following web browsers, soft codecs, computer operating systems and media players:

### Compatibility - Web Browsers:

- 1) Internet Explorer (IE 8 and above)
- 2) Safari (Rev 4 and 5)
- 3) Safari/iOS (Rev 4 and 5)
- 4) Chrome (the latest and current release - auto updating)
- 5) Firefox (the latest and current release - auto updating)



**Soft Client Compatibility:** The Quick-Connect USB is compatible with the following soft codecs or applications, in no particular order:

- |                                |                         |
|--------------------------------|-------------------------|
| 1) Skype                       | Win 7 & Mac OS X (10.7) |
| 2) Web Ex (WBS 28.7 and up)    | Win 7 & Mac OS X        |
| 3) Microsoft Lync              | Win7                    |
| 4) Cisco Jabber                | Win 7 & Mac OS X        |
| 5) Vidyo Desktop               | Win 7 & Mac OS X        |
| 6) Google Plus                 | Win 7                   |
| 7) Adobe Connect 8             | Win 7 & Mac OS X        |
| 8) LifeSize ClearSea           | Win 7                   |
| 9) GoToMeeting (Citrix)        | Win 7 & Mac OS X        |
| 10) Polycom M100               | Win7                    |
| 11) Panaopto (lecture capture) | Win 7                   |

### Compatibility: Media Players:

The UVC with MJPEG and IP with H.264 video are compatible with the industry leading PC media players.

- Quick-Time 10.2
- VLC Media Player 2.0.4
- Real Player 16.0

### Compatibility: Operating Systems

- Apple OS X (10.7 and above)
- Windows XP w/Service Pack 3 with known issues and errata
- Windows 7
- Linux

### Evolving Compatibilities:

As more UC soft-client and lecture capture programs are released and gain popularity, Vaddio will provide a continuing research and development effort to ensure the compatibility with other manufacturer's products.

**Compatible with USB 2.0 UVC Drivers**

The USB 2.0 UVC (Universal Video Class) video driver resolution table is an internal list of resolutions available for the Host PC and the Quick-Connect USB to negotiate and use for any approved/tested USB application. Typically, the highest resolution possible between both the PC and Quick-Connect USB is used. However, not all OS and application combinations are altogether typical.

**Table: Supported UVC Resolutions**

Format	Resolution	Frame Rate	Aspect Ratio
MJPEG	1280 x 720	15/30	16:9
	960 x 544	15/30	16:9
	704 x 576	15/30	4:3
	640 x 480	15/30	4:3
	640 x 360	15/30	16:9
	424 x 240	15/30	4:3
	352 x 240	15/30	4:3
	320 x 240	15/30	4:3
	320 x 180	15/30	16:9

**INTERNAL WEB PAGES AND CONTROL**

The internal web pages will allow control of the Quick-Connect USB and control of the attached camera via a network connection. These web pages will allow the user or administrator to set security passwords, change the IP address, view diagnostics, access the firmware upgrade page and more!

**DHCP IP Set-up (Dynamic Host Configuration Protocol)**

DHCP Set-up (skip this section if Static IP). If the LAN has a DHCP (dynamic host configuration protocol) server, then the IP address, gateway and routing information will automatically be assigned. The QC-USB software is defaulted to DHCP and will attempt to dynamically obtain an IP address using DHCP, but it will fall back to the default address of 169.254.1.1 if no DHCP server can be found.

**Static IP Set-up:**

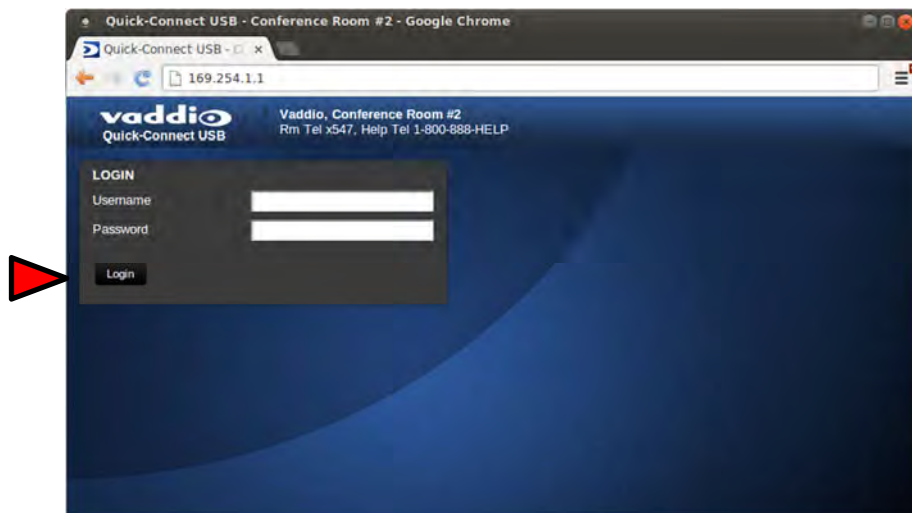
The static IP can be assigned either through the network or directly with a computer using a cross-over cable. Depending on the age of the computer, you may not need a cross-over cable. Either way the steps are the same for network or direct connection to a computer. The default address of the QC-USB camera is 169.254.1.1 and the Subnet mask is 255.255.0.0. Different computer OS types all have their own way of doing things (without question), but they are essentially doing the same stuff, changing the IP address so the web pages of the HD-USB are accessible.

**Quick-Connect USB Web Pages Tour:**

**Screen Shot: Login**

The QC-USB web server is intended as a user’s camera control page at one level, and an administrator’s management tool at another level, which requires password authentication for access.

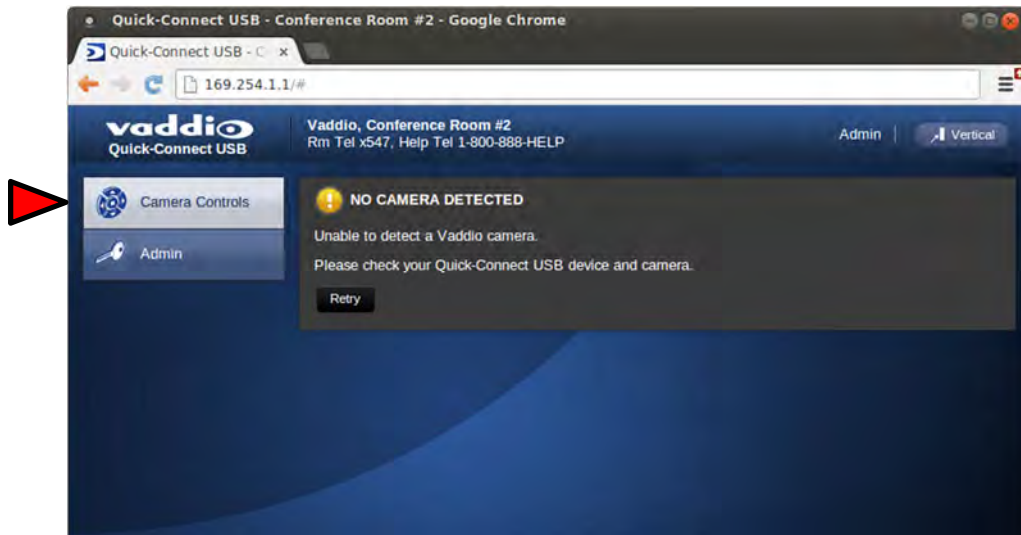
The Login Page will appear if there is a username assigned by the administrator. Assigning a username can limit access to the admin menus by a general user. By default, the username is blank and the password for the user account is: password. The Administrator can set the name and password for the user account. If no username is assigned, the web page will automatically open to the Camera Control page.



**Defaults:**  
 Username is blank (assigned by admin)  
 Password is: **password**  
 Admin name is: **admin**  
 Password is: **password**

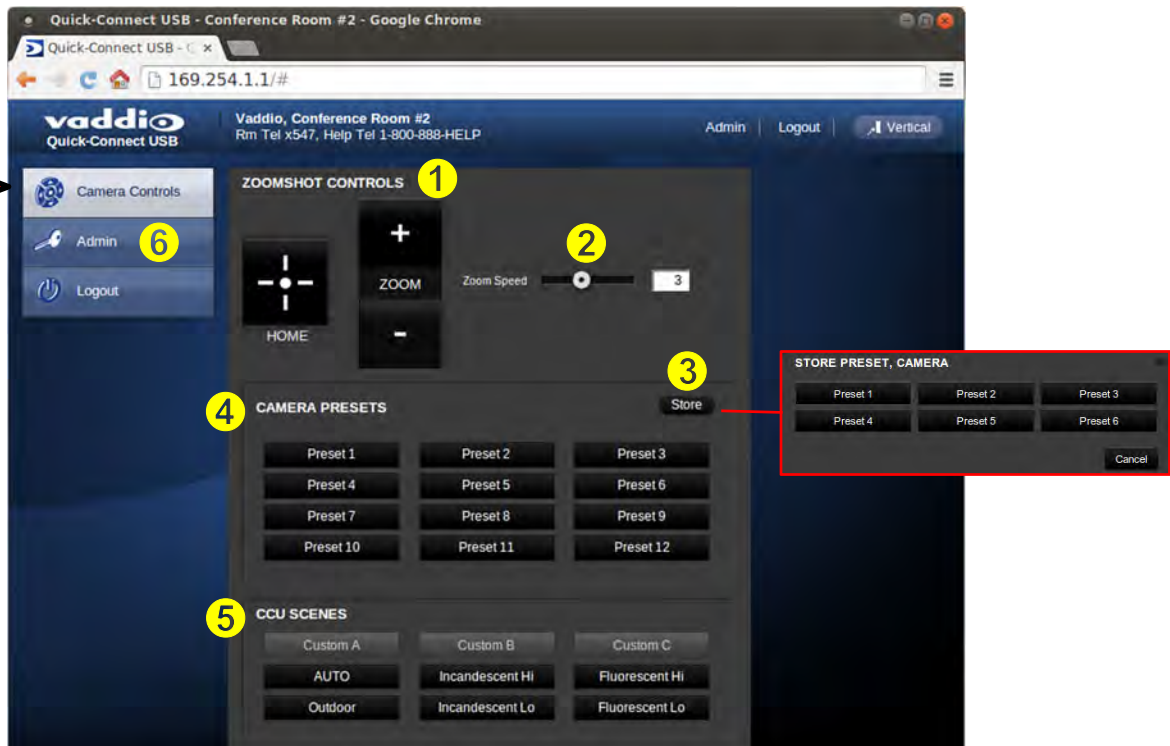
### Screen Shot: Camera Control Page - No Camera Detected

The No Camera Detected window will appear if the Quick-Connect USB has no communication with the camera. Check the camera power and serial connections if no camera is found within 30 seconds of initialization.



### Screen Shot: User Menu - Camera Control Page

3 - Menu Keys for User Menu

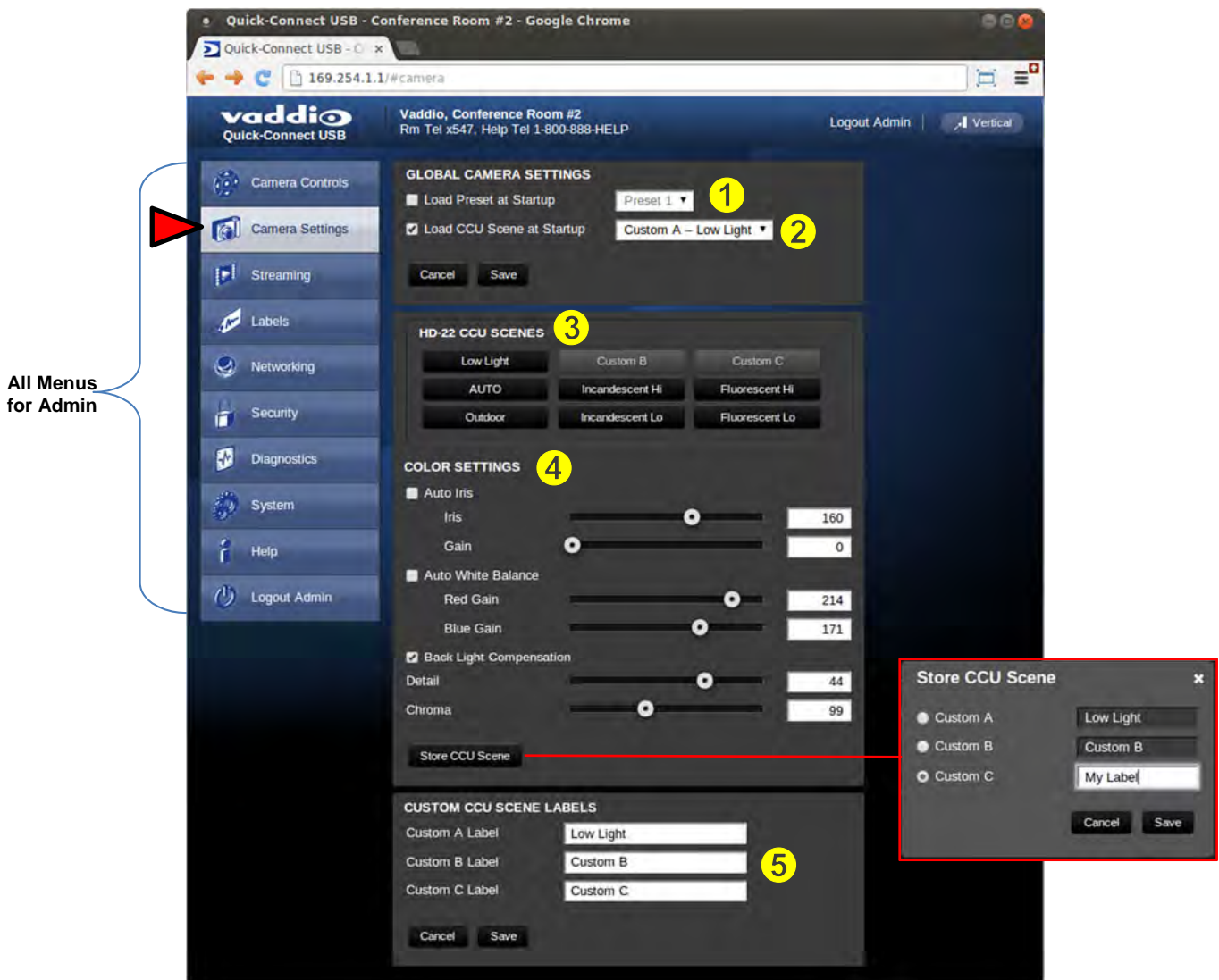


- 1) **Zoom and Home Controls:** The camera's zoom lens can be controlled with the "+" to zoom-in and the "-" to zoom-out the ZoomSHOT 20 camera. The home button will move the camera to the home zoom position.
- 2) **Zoom Speed Control:** The speed for both the Zoom control can be adjusted with the Zoom Speed Slider. For tighter shots, it is recommended that the slower speed is used.

- 3) **Store Preset Button:** Clicking the Store button opens up a Store Preset pop-up dialog box. To set presets, set up the camera shot, click on choice of preset number (1 through 6). The preset is stored and the dialog box closes.
- 4) **Camera Presets:** Six (6) presets can be recalled simply by clicking a preset number.
- 5) **CCU Scenes:** The user has access to the CCU scenes set and stored by the Admin. There are three (3) user definable presets and six (6) presets preconfigured by the technical folks at Vaddio (really Scott set them all) that are meant to be used in certain lighting scenarios. These lighting presets included: Automatic, Incandescent Hi, Incandescent Lo, Fluorescent Hi, Fluorescent Lo and Outdoor.
- 6) **Administration Menu:** By clicking on the Administration menu bar, the Admin Login screen will appear. The default Admin password is: [password](#). The Admin menu keys are exposed.

**Screen Shot: Admin Menu - Camera Settings Page**

The Camera Settings page provides the parameters to allow the end user to match the camera to the environment, set the CCU presets and make startup assignments.

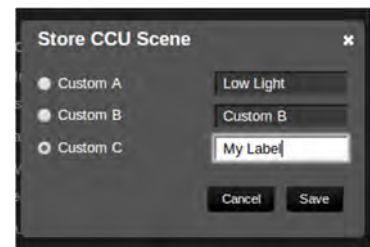


- 1) **Load Preset at Startup:** Check this box to move the camera to a predefined preset location when the camera powers up. Use the pull down menu to select the Preset 1 through 6 to be loaded when this box is checked.



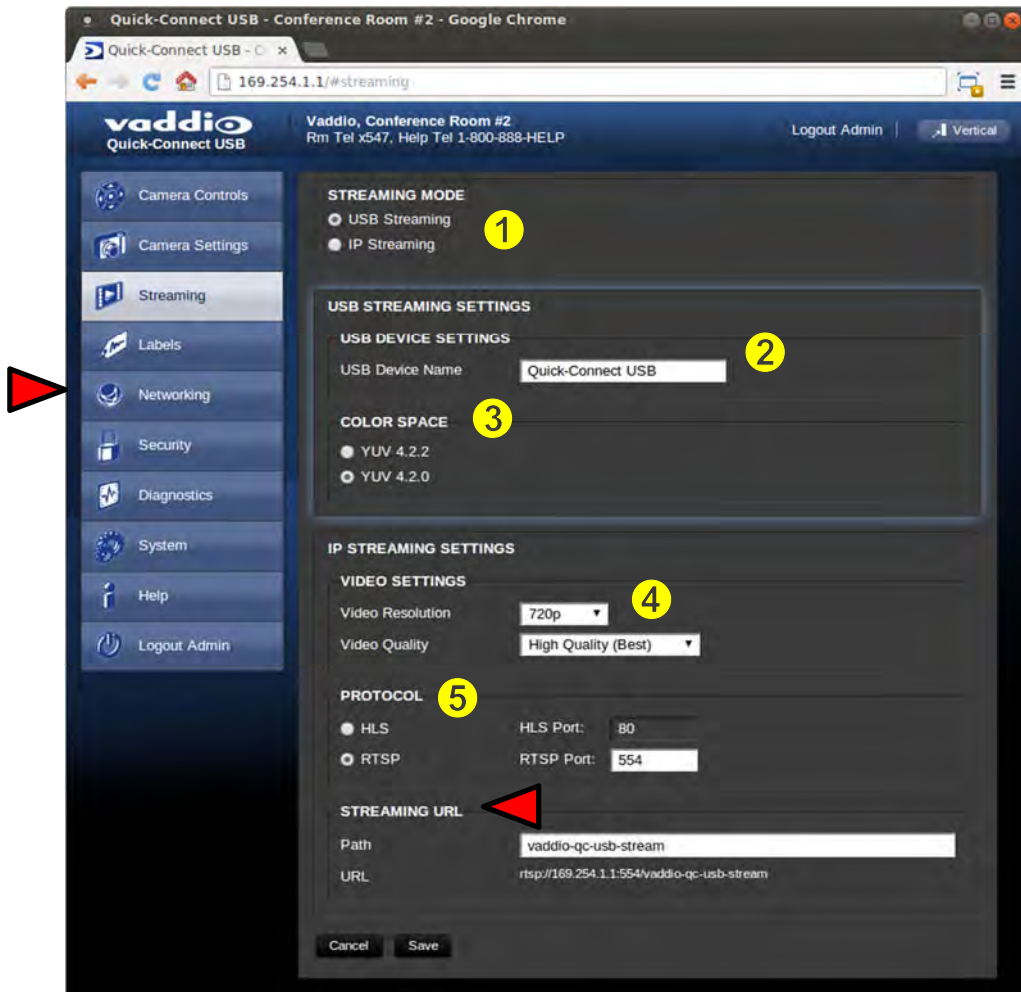
- 2) **Load CCU Scene at Startup:** Check this box to load a CCU Scene into the camera when the camera powers up. The pull down menu will allow the selection of one of the 6-factory scenes, or any of the 3-user defined scenes.
- 3) **CCU Scenes:** Click on any of these 9 buttons to load one of the CCU scenes into the camera. These Scenes can be fine-tuned if changes are needed, and stored into any of the three User defined scenes.
- 4) **Color Settings:** When painting or shading camera scenes for specific lighting situations or environments, these attributes can be adjusted for matching cameras in the same area. The parameters within the Color Settings section are defined below (top to bottom):

- **Auto Iris check box:** When checked, the camera will operate in Auto Iris mode, when unchecked, the camera will be in Manual Iris mode and allow adjustment of Iris and Iris Gain levels
- **Iris:** Move adjustment slider as required to adjust the iris opening. A numeric value will be displayed in the box to the right of the slider.
- **Gain:** Move adjustment slider as required for amount of iris gain desired. Numeric value will be displayed in the box to the right of the slider.
- **Auto White Balance check box:** When checked, the camera will operate in Auto White Balance mode, when unchecked, the camera will be in Manual White Balance Mode and allow for adjustment of Red and Blue Gain.
  - **Red Gain:** Move the adjustment slider as required for amount of Red Gain desired. A numeric value will be displayed in the box to the right of the slider.
  - **Blue Gain:** Move the adjustment slider as required for amount of Blue Gain desired. Numeric value will be displayed in the box to the right of the slider.
- **Back Light Compensation:** When checked, Back Light Compensation will be applied to the camera if BLC is supported by the camera and the camera is in Auto White Balance mode.
- **Detail:** Move the adjustment slider as required for amount of detail (Aperture) desired. A numeric value will be displayed in the box to the right of the slider. **Note:** If the detail is too high, the video can look grainy and appear noisy.
- **Chroma:** Move the adjustment slider as required for the amount of Chroma (Color Vibrancy) desired. A numeric value will be displayed in the box to the right of the slider.
- **Store CCU Scene button:** Once the desired scene adjustments have been made, this button will activate a pop-up menu that can be used to store this scene into one of the three User Defined Scene locations. These User Defined Scenes can be named as required for clarity. These User Defined CCU Scenes can be adjusted and re-saved at any time.



- 5) **Custom CCU Scene Labels:** The labels for the (3) User Defined customizable Scenes can be changed as needed. Mouse the cursor into the appropriate window and edit the text. Press Save to store these changes or press Cancel to exit this window.

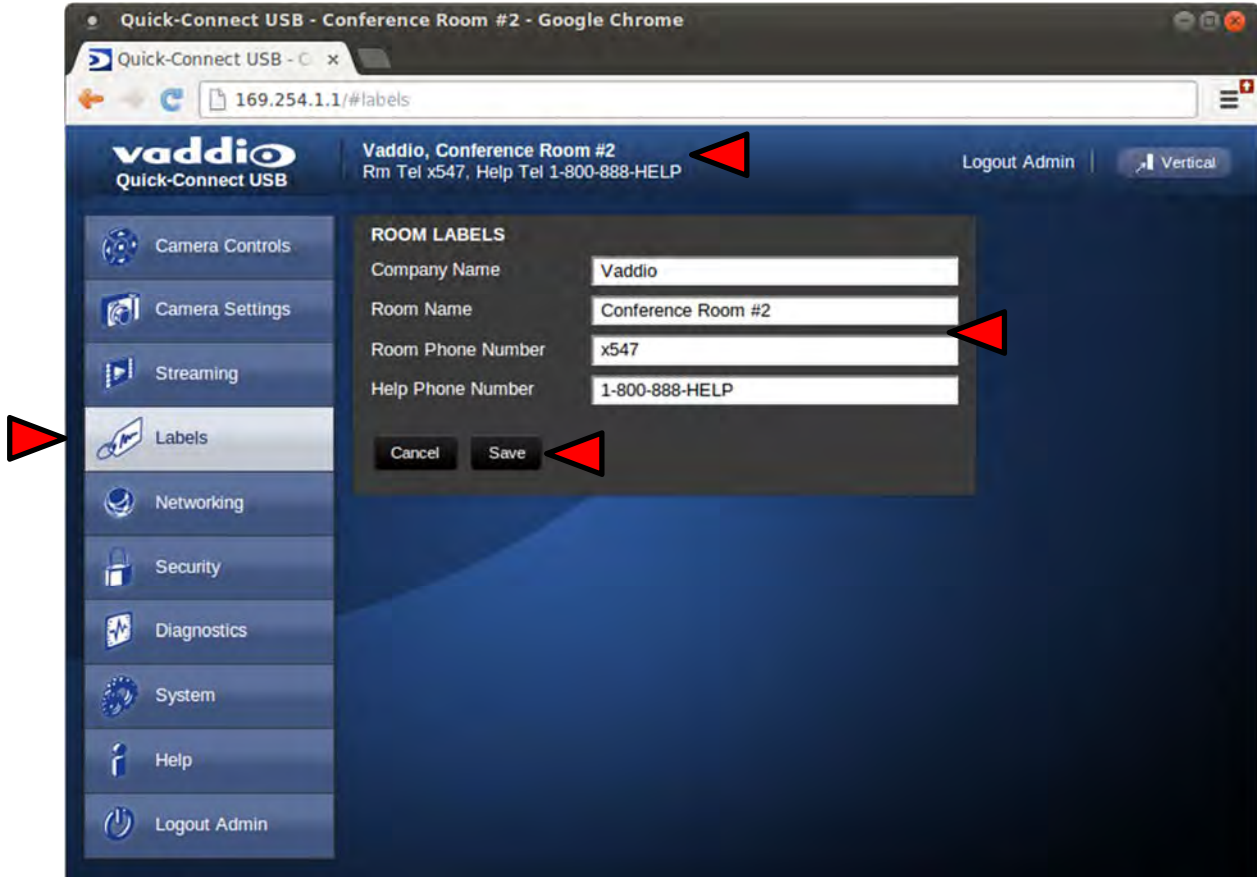
## Screen Shot: Admin Menu - USB 2.0 or IP Streaming Mode Page



- 1) **Streaming Mode:** Streaming can be set for either USB 2.0 streaming (MJPEG) or IP streaming (H.264); but not both at the same time. The QC-USB can stream USB and accept IP control, or it can IP stream with IP control. Choose the streaming mode here.
  - 2) **USB Device Name:** Allows the user to use a “friendly name” per system. In a BYOD format, the user has the ability to move between different UC conference rooms and have the ability to assign the PC’s USB resources to that room.
  - 3) **Color Space:** The UVC drivers will negotiate the color depth, but this parameter allows the user to reduce the color depth to 4:2:0, which is used with the older/cheaper webcams and applications, where image quality is not as critical. The 4:2:2 color is used by many applications that take advantage of the performance of the camera where the colors are more vibrant and precise.
  - 4) **IP Streaming Settings:** The Video Settings allow the selection of the target performance for the IP Streaming. The QC-USB is set up for a variable bit rate and the user can select the video resolution and the quality, such as High Quality (Best), Standard Quality (Better) and Low Bandwidth (Good). Every effort to eliminate stupefyingly bad combinations with the 5 or 6 parameters that make up the image size, quality, bit rate, bandwidth etc... has been made, so you can’t pick 1080p at a bit rate of 128Kbps, which would look totally wicked awful - and probably wouldn’t work anyway.
  - 5) **Streaming Protocol and URL:** Admin chooses the streaming type and the port number for RTSP. The HLS port is always on 80. The supported protocols are RTSP and HLS (Apple’s HTTP Live Streaming). RTSP is best for live applications, where HLS serves the Apple iOS devices and is better for playback due to the amount of buffering the HLS has built-in. The Streaming URL auto populates and that path can be changed.
- When finished setting up the streaming parameters click Save to put the changes into effect or cancel, which will not save the configuration.

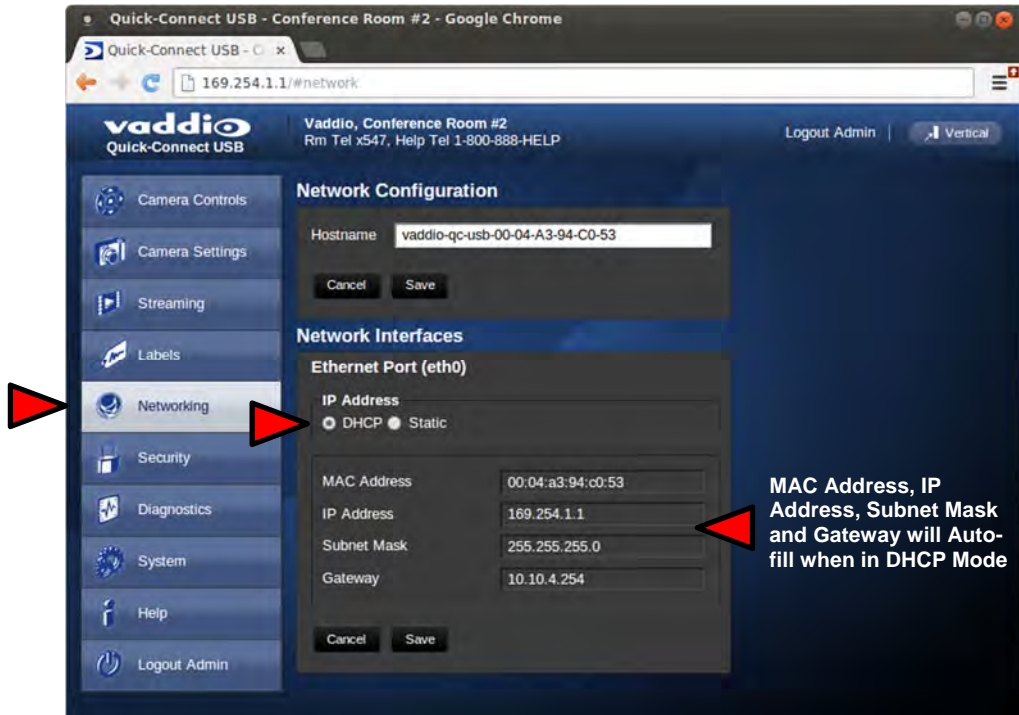
### Screen Shot: Admin Menu - Room Labels

The Room Labels menu allows the administrator to label the company name, room name, room phone and help phone on a per QC-USB basis. The labels appear on every page at the top/middle of the page. Simply enter the room information and click Save.



### Screen Shot: Admin Menu - DHCP Network Configuration

Under the Networking menu, The Network Configuration and Network Interfaces are displayed. This is where the Network administrator assigns either DHCP or a Static address and the associated parameters.



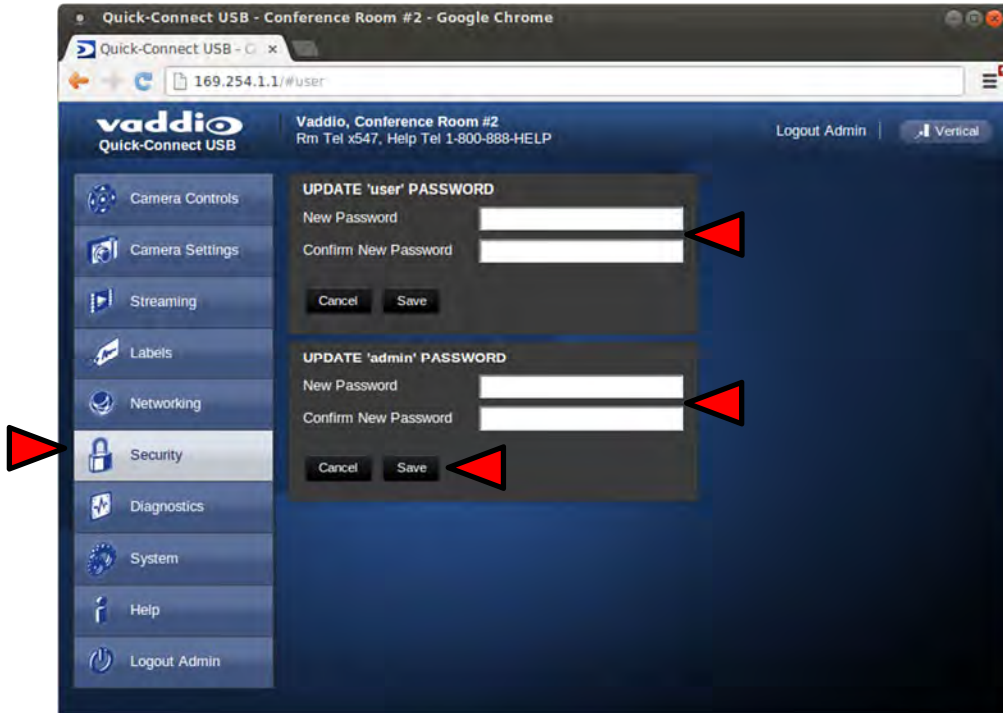
### Screen Shot: Admin Menu - Static IP Configuration

If Static IP is used, the IP Address, Subnet Mask and Gateway are manually entered. Click on Save to keep the Static IP information.



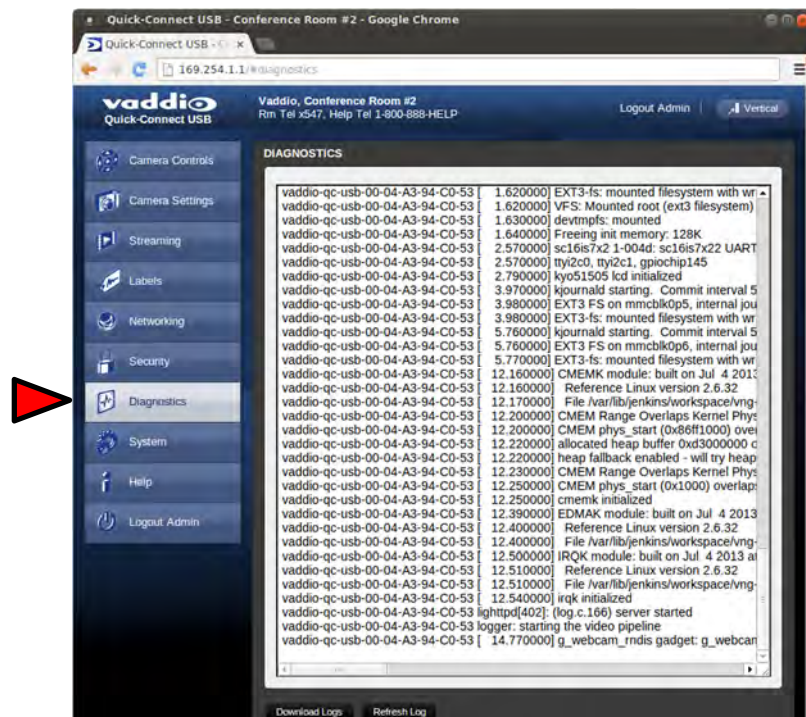
### Screen Shot: Admin Menu - Security

The Security menu allows the Admin to **UPDATE “user” PASSWORD** and **UPDATE “admin” PASSWORD**. The default “user” password is: **password**. The default “admin” password is also: **password**. The Network administrator can reassign the user name and password as well as the Admin password. There is only one “user” password and one “admin” password at any given time. If changes are made, click on Save to store the change.



### Screen Shot: Admin Menu - Diagnostics

Diagnostics menu button will display a set of self-diagnostics. These diagnostics may help the Vaddio technical support team diagnose a problem with the Quick-Connect USB and attached camera.



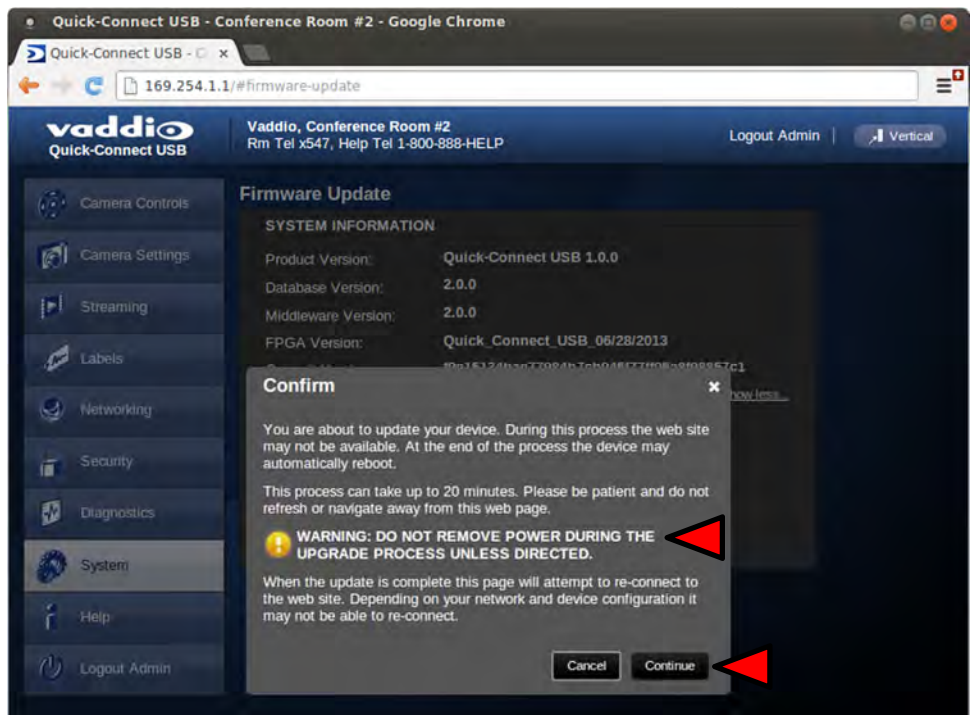
### Screen Shot: Admin Menu - System Menu

The System Menu is where the System Info is displayed and Firmware Updates are performed. There will be firmware updates and upgrades over the life of the Quick-Connect. The file for the firmware update is chosen in this menu and the update is started here. A remote system Reboot and Restore to Factory Presets is also available.



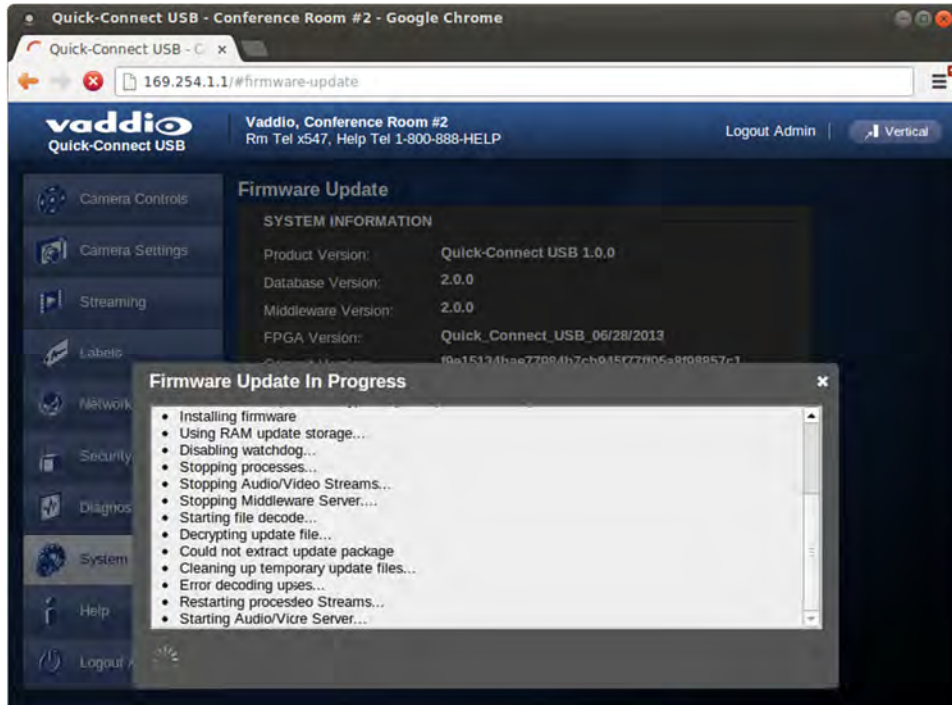
### Screen Shot: Admin Menu - Update Confirmation

After clicking on “Begin Firmware Update...” a confirmation pop-up and warning will be displayed. Please contact Vaddio Tech support for assistance with updates. Please read and completely understand the pop-up warnings as it is easy to lose patience waiting for updates. Click on continue to start the update (this example is from 1.0.0 to 1.1.0).



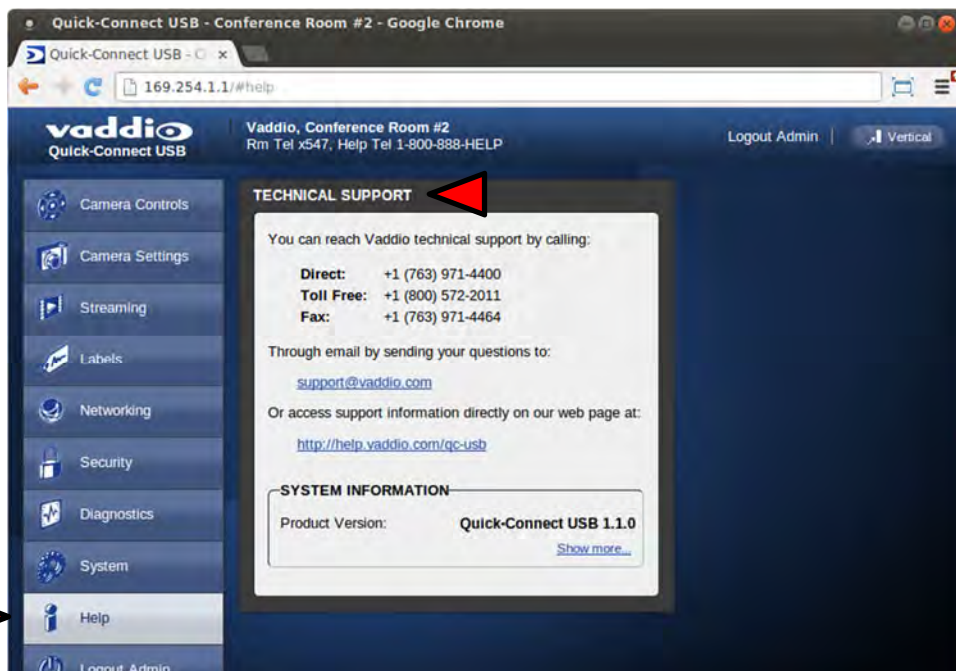
### Screen Shot: Admin Menu - Update in Progress

After the firmware load has been started, a pop-up screen will advise patience and notify, in terms of a percentage completed, the progress of the firmware update. Please do not interrupt the firmware load (this example is from 1.0.0 to 1.1.0).



### Screen Shot: Admin Menu - HELP

Service/Help information can be found under the Help menu. Support phone numbers and e-mail, manuals, FAQ's and System information is listed on this page. Have this page open when calling Vaddio Tech Support.



**TECHNICAL SUPPORT NOTE:**  
Please work with your Network Administrator prior to calling Vaddio for technical support. Please have on-site network personnel initiate tech support calls with Vaddio only.

**CONNECTING THE QUICK-CONNECT USB AND CAMERA TO THE PC AND PROGRAM OF CHOICE:**

The Quick-Connect USB and attached camera are compatible with many programs and media players. The following is an attempt to generally describe the steps to plug in the QC-USB with a Vaddio camera and get an image.

**Skype Example:**

- 1) After connecting a camera to the Quick-Connect USB, with a quality USB 2.0 cable, plug the USB-B port of the QC-USB Interface to the USB-A port of the computer. A pop up window on the computer monitor will display the following:
  - a. Found QC-USB
  - b. Found USB Composite Device
  - c. Found USB Video Device
  
- 2) Open Skype and perform the following steps:
  - a. Open the Tools Menu and drop down to Options
  - b. Click on Video Settings and under Webcam choose USB Video Device



The systems will negotiate the highest resolutions possible, depending on the computer speed, network quality, cabling etc..., and display the video signal of the camera. The camera attached to the QC-USB can be controlled with the supplied Vaddio IR Shot Commander Remote or through IP as described earlier through the QC-USB's web pages. Make a test call to ensure the system is working properly.

**VLC Media Player Example:**

- 1) Same first step as above.
  
- 2) Open VLC Media Player and perform the following steps:
  - a. Click on the Media menu and drop down to Open Capture Device and click it.
  - b. Under Device Name, go to the Video Device Name drop down and choose USB Video Device.
  - c. Under Options, enter the Video Size as 1280x720
  - d. Click on Play
  - e. From there, VLC needs some instruction on the aspect ratio, so click on Tools and drop down to Aspect Ratio and drop down again to 16:9 for 720p (1280x720).



VLC is a powerful record/playback system that will buffer the images creating some delay in the way VLC displays the image. This is expected and normal.

With all the compatible software available, in general terms, the video device, aspect ratio, and resolution may need to be set manually the first time through initial set-up. Some systems are easier than others (like Skype) and others are more technical in nature and tend to do more stuff.

**Example Program Notes:** Most every application or media player is in a state of constant updating and change. The above instructions were written at the beginning of 2013 and some steps may be slightly different. The general idea however is the same.



## GENERAL SPECIFICATIONS

ZoomSHOT 20 QUSB System	
<b>Part Numbers</b>	ZoomSHOT 20 QUSB System 999-6920-100 (North America) ZoomSHOT 20 QUSB System 999-6920-101 (International)
<b>ZoomSHOT 20 Camera</b>	
<b>Image Sensor</b>	1/2.8-Type Exmor CMOS Image Sensor
<b>Total/Effective Pixels</b>	2.38 Million Total Pixels, 2.14 Million Effective pixels
<b>Video Output Resolutions</b>	HD: 1080/59.94/50/30/25, 1080i/59.94/50, 720p/59.94/50, 16:9 Aspect Ratio
<b>Lens/ Focal Length</b>	20X Optical Zoom, F=4.44mm wide end to 89mm tele end (F1.6 - F3.4), Min. Focus Distance 1.5m
<b>Horizontal Viewing Angle</b>	Horizontal: 63° Wide End to 3.47° Tele End, (16:9 Aspect Ratio)
<b>Video S/N Ratio</b>	>52 dB
<b>Minimum Illumination</b>	Color: 0.3 Lux (F1.6, 1/30 sec, 50 IRE), B/W: 0.03 Lux (F1.6, 1/30 sec, 50 IRE)
<b>Serial Control Protocol</b>	RS-232 (Modified VISCA)
<b>Manual Pan/Tilt Range</b>	Pan: Limited to service loop of cabling, yoke and base are mechanical only Tilt: ± 30°, Invertible for Ceiling Mount
<b>Preset Positions</b>	Six (6) Programmed and Recalled via IR Remote, 16 Programmed and Recalled with RS-232
<b>Tally Light</b>	Available through RS-232 Control
<b>Camera Connectors</b>	Two (2) RJ-45 Jacks: <ul style="list-style-type: none"> <li>EZ-POWER VIDEO RJ-45 Jack for use with Quick-Connect - Supplies power to the camera and returns differential HD video from the camera</li> <li>RS-232 RJ-45 Jack (RS-232 Communication)</li> </ul>
<b>HD Video Select</b>	16-Position Rotary Switch: Used to set the ZoomSHOT 20 HD Video Resolution Output
<b>Camera Settings</b>	6-Position Dip Switch: For IR Frequency, IR ON/OFF and Image Flip
<b>Thin Profile Wall Mount</b>	535-2000-237 (Provided with camera) Black powder coating, Sized to fit on 1-gang wall box or drywall, mounting hardware included
<b>User Controls</b>	IR Shot Commander Remote with OSD for camera set-up, RS-232
<b>Materials &amp; Weight</b>	Aluminum & Steel, Weight = 2.75643 lbs. (1.68kg)
<b>Dimensions:</b>	Tube: 3" ( 76.2mm) Diameter x 4.75" (120.65mm) Long Base: 5.5" (139.7mm) Diameter Overall Height: 5.5" (139.7mm) Tall
<b>Quick-Connect USB Interface</b>	
<b>Video Outputs</b>	<b>USB 2.0 (MJPEG):</b> Resolution up to 720p/30 (USB 2.0 MJPEG) <b>H.264 (IP) of Ethernet:</b> Resolution up to 1080p/30 (H.264 over IP) <b>Analog Component (YPbPr):</b> Resolution up to 1080p/59.94 <b>HDMI:</b> Resolution up to 1080p/59.94
<b>USB Interface</b>	Connector: Type-B, USB 2.0 Compliant, Standard UVC (Universal Video Class) Drivers
<b>Network Interface</b>	Connector: RJ-45 (shielded), 10/100 Base-T, Supported Protocols: RTSP and HLS Streaming
<b>Streaming Protocols</b>	IP: H.264 (RTSP and HLS), USB 2.0: MJPEG (UVC standard drivers)
<b>Connectors</b>	<ul style="list-style-type: none"> <li>Power: 5.5mm OD x 2.5mm ID Coaxial Connector</li> <li>YPbPr: DE-15 (15-pinHD) Female</li> <li>HDMI: HDMI Female</li> <li>RS-232 IN: RJ-45 Jack</li> <li>RS-232 OUT: RJ-45 Jack</li> <li>EZ-Power Video: RJ-45 Jack (Power and Differential HD Video)</li> </ul>
<b>Dip Switches</b>	5-Position: Color Space, Updating and Future Use
<b>H.264 Resolutions</b>	CIF, 640x480 (VGA), 480p, 720p/30 1080p/30 (1080p Ethernet only)
<b>Front Panel</b>	<ul style="list-style-type: none"> <li>20 x 2 line Character Negative Mode LCD - Displays MAC (HW for Hardware) and IP Address</li> <li>Power/System Reset - Tactile, flush mount, Back-lit Switch</li> <li>Network LED: Indicates connectivity and activity</li> <li>USB LED: Indicates Streaming Mode</li> </ul>
<b>Supported Media Players</b>	<ul style="list-style-type: none"> <li>Quick-Time Media Play - Win 7 &amp; Mac OS10X</li> <li>VLC Media Player - Win 7 &amp; Mac OS10X</li> <li>Real Player - Win 7</li> </ul>
<b>Supported Browsers</b>	<ul style="list-style-type: none"> <li>Internet Explorer</li> <li>Safari</li> <li>Safari/iOS</li> <li>Chrome</li> <li>Firefox</li> </ul>
<b>Power Supply</b>	24 VDC, 2.0 Amp
<b>Dimensions (H x W x D)</b>	½-Rack Size - 8.375" ( 212.73mm) W x 6.0" (152.4mm) x 1.72" ( 43.688mm) H
<b>Weight</b>	1.4 lbs. (0.635Kg)
<b>Accessory</b>	Rack Mount Adapter: 998-6000-004 - 1-RU Offset mount (1-Long Ear & 1-Short Ear)

### VADDIO IR SHOT COMMANDER REMOTE

Spatially Efficient IR Remote Controller for ZoomSHOT™ 20 and WideSHOT™ Camera Systems.

The Vaddio IR SHOT Commander was designed to work with the Vaddio ZoomSHOT 20 and WideSHOT camera systems and is compatible with the PowerVIEW™, ClearVIEW™ cameras. The Vaddio IR SHOT Commander is compatible with the following Vaddio camera packages:

- ZoomSHOT 20 and WideSHOT Camera Systems (shipped with these products)
- Vaddio ClearVIEW HD-20SE, PowerVIEW HD-22 and HD-30

The Vaddio IR Shot Commander is also compatible with the Sony® EVI series and the BRC series PTZ cameras.

#### Image: Vaddio IR SHOT Commander Hand-held IR remote

(Top View)



Quick Specs	
<b>IR Range</b>	20' to 30' (6m to 9m)
<b>Batteries</b>	2 x AAA (Batteries not shipped with 998-2101-001)
<b>Keys (buttons)</b>	15 Silicone Rubber Keys
<b>Dimensions L x W x H</b>	4.53" (115mm) x 1.57" (40mm) x 1.1" (28mm)
<b>LED Indicator</b>	Red LED Illuminates when transmitting IR, Brightness indicates battery strength
<b>Compatible Cameras</b>	Ships with ZoomSHOT and WideSHOT. Compatible with all Vaddio ClearVIEW, PowerVIEW cameras (limited function set) and most Sony BRC & EVI cameras.





**TABLE: ZOOMSHOT 20 OSD MENU STRUCTURE**

Use this OSD menu with the IR SHOT Commander to make video adjustments (AWB, COLOR, EXP, etc...) on the HD-20SE Camera.

Menu	Controls	Modes/Range	Default	Notes
SSDR	OFF		OFF	Dynamic Range Adjustment
	ON	SSDR 0-15	8*	*When Dynamic Range is ON
	Return			Return to Main Menu
WHITE BAL	ATW		ON	Auto White Balance - ON
	MANUAL>	RED 0 - 1000	560	Adjust Red Level
		BLUE 0 - 1000	480	Adjust Blue Level
		RETURN<		Return to WHITE BAL Menu
	AWC-SET			
	OUTDOOR	Set to Outdoor when room has direct sun light and blue walls		
	INDOOR	Set to Indoor when fluorescent lights start to cause color variation in ATW mode		
	MERCURY			
	SODIUM			
	RETURN<			Return to Main Menu
BACKLIGHT	OFF		OFF	Default BLC is off
	WDR>	LEVEL (LOW / MED / HIGH)	OFF	Wide Dynamic Range
		RETURN<		
	BLC>	LEVEL (LOW / MED / HIGH)	OFF	
		BOTTOM 1-100		
		LEFT 1-100		
		RIGHT 1-100		
		RETURN<		Return to BACKLIGHT Menu
	HLC>	LEVEL (LOW / MED / HIGH)	OFF	
		MASK TONE 1-15		
	RETURN<		Return to BACKLIGHT Menu	
	RETURN<		Return to Main Menu	
INTELLIGENCE	OFF	Intelligence, motion detection analytics and masking are not processed or used by the HD-20SE camera, however the OSD menu still works.		
FOCUS	MODE	AUTO / MANUAL / ONE PUSH	AUTO	
	ZOOM TRACK>	OFF / TRACK / AUTO TRACK	AUTOTRACK	
	ZOOM SPEED>	SLOW / MEDIUM / FAST		
	DIGITAL ZOOM>	OFF/ON	OFF	Default is OFF
		ON>LIMIT X2 - X16		Avoid Digital Zoom if possible
		RETURN<		Return to FOCUS Menu
	Zoom POS INIT>	OFF/AUTO		Zoom position initialization
		MANUAL>		
		POS INIT 1X - 20X	1X	Sets INIT Zoom Position
		RETURN<		Return to FOCUS Menu
USER PRESET>	OFF/ON		OFF	
		ON > PRESET NO 1-128	1	Zoom Presets
		PRESET SAVE		
		PRESET CLEAR		
		RETURN<		Return to FOCUS Menu
LENS INIT	MANUAL / AUTO			
RETURN<				Return to Main Menu
EXPOSURE	BRIGHTNESS	0-100	50	Brightness Sets Luminance Target
	IRIS>	AUTO	AUTO	Automatic Gain Control
		MANUAL>	Closed to F28	Manual Iris
		RETURN<		Return to EXPOSURE Menu
	SHUTTER	A FLK		Use Anti-Flicker when lighting causes color hunting
		ESC		
		MANUAL> 1/30 - 1/30,000 sec.		Shutter Speed
		RETURN<		Return to EXPOSURE Menu
	AGC	OFF / LOW / MED / HIGH	LOW	
		MANUAL (OFF)>		
	AGC VALUE 0 - 36dB	0 dB	Automatic Gain Control	
	RETURN<			
SSNR	OFF / LOW / MED / HIGH	LOW	Noise Reduction - Don't use above Low	
SENS-UP	OFF	OFF	OFF - Do not Use	
RETURN<			Return to Main Menu	

**ZoomSHOT 20 OSD Menu Structure (continued)**

Menu	Controls	Range/Modes	Default	Notes	
<b>SPECIAL</b>	<b>DAY/NIGHT&gt;</b>	COLOR / B/W / AUTO	COLOR	<b>Do not use</b>	
	<b>DIS&gt;</b>	OFF / ON	OFF	Digital Image Stabilization - leave off	
	<b>DEFOG</b>	OFF / ON / MANUAL/AUTO	OFF	<b>Do not use</b>	
	<b>COMM ADJUST&gt;</b>	<b>BAUD RATE</b>	<b>NEVER CHANGE THE BAUD RATE OR THE UART SETTINGS - Control is lost if these are changed. Factory default reboot will be required.</b> 		
		<b>UART</b>			
		RETURN<			Return to SPECIAL Menu
	<b>IMAGE ADJUST&gt;</b>	H-REV ON / OFF	OFF	Use Dip Switch on Camera to Flip Image	
		V-REV ON / OFF	OFF	Use Dip Switch on Camera to Flip Image	
		SHARPNESS ON/OFF	ON	Picture Detail	
		ON> 0-30	15		
		RETURN<		Return to IMAGE ADJUST Menu	
		<b>MONITOR LCD&gt;</b>			
		GAMMA .0 -1.0	0.50		
		COLOR LEVEL 0-100	50		
		RETURN<		Return to IMAGE ADJUST Menu	
		<b>USER&gt;</b>			
		GAMMA .0 - 1.0	0.50		
		COLOR LEVEL 0-100	50		
		RETURN<		Return to IMAGE ADJUST Menu	
		RETURN<		Return to Main Menu	
	<b>DISPLAY</b>	<b>CAM TITLE ON / OFF</b>	OFF		
		ON> A-Z, 1-9			
		RETURN<		Return to DISPLAY Menu	
		CAM ID ON / OFF	OFF		
		CAM INFO ON / OFF	OFF		
		ZOOM MAG ON/OFF	OFF		
		OSD COLOR	WHITE	WHITE/YELLOW/GREEN/RED/BLUE	
		LANGUAGE	ENGLISH	(ENG, FR, KOR, SP, CHIN, JAP, PORT, RUS, DUT, ITAL)	
		SET LANGUAGE			
		RETURN<		Return to Main Menu	
	<b>VIDEO OUT FORM</b>	<b>COMPONENT ON / OFF</b>	ON	<b>Do not change this parameter</b>	
		RETURN<		Do not change resolutions here - Use the Rotary Switch on the back of the camera	
<b>RESET</b>					
<b>EXIT</b>					

**COMPLIANCE AND CE DECLARATION OF CONFORMITY - ZOOMSHOT 20**

Compliance testing was performed to the following regulations:

- **FCC Part 15 (15.107, 15.109), Subpart B**
- **ICES-003, Issue 4: 2004**
- **EN 55022:2010**
- **KN22 2008 (CISPR 22: 2006)**
- **KN24 2008 (CISPR 24: 1997 + A1: 2000 + A2: 2002)**
- **EMC Directive 2004/108/EC**
- **EN 55024: A2: 2003**

- Class A
- Class A
- Class A
- Class A
- Class A
- Class A
- Class A



**FCC Part 15 Compliance**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B, of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference including interference that may cause undesired operation of the device.

Changes or modifications not expressly approved by Vaddio can affect emission compliance and could void the user's authority to operate this equipment.



**ICES-003 Compliance**

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.



**European Compliance**

This product has been evaluated for Electromagnetic Compatibility *under the EMC Directive for Emissions and Immunity and meets the requirements for a Class A digital device. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.*

**Standard(s) To Which Conformity Is Declared:**

**EMC Directive 2004/108/EC**

**EN 55022:2010**

**EN 55024: A2: 2003**

- EN 61000-4-2: 1995 + Amendments A1: 1998 + A2: 2001
- EN 61000-4-3: 2006 + A1: 2008
- EN 61000-4-4: 2004 + Corrigendum 2006
- EN 61000-4-5: 2006
- EN 61000-4-6: 2009
- EN 61000-4-8: 2010
- EN 61000-4-11: 2004

**KN24 2008 (CISPR 24: 1997 + A1: 2000 + A2: 2002)**

- EN 61000-4-2
- EN 61000-4-3
- EN 61000-4-4
- EN 61000-4-5
- EN 61000-4-6
- EN 61000-4-8
- EN 61000-4-11

**IEC 60950-1:2005 (2nd Edition); Am 1:2009**

**EN 60950-1:2006+A11:2009+A1:2010+A12:2011**

- Class A
- Immunity
- Electrostatic Discharge
- Radiated Immunity
- Electrical Fast Transients
- Surge Immunity
- Conducted Immunity
- Power Frequency Magnetic Field
- Voltage Dips, Interrupts and Fluctuations
- IT Immunity Characteristics
- Electrostatic Discharge
- Radiated Immunity
- Electrical Fast Transients
- Surge Immunity
- Conducted Immunity
- Power Frequency Magnetic Field
- Voltage Dips, Interrupts and Fluctuations
- Safety
- Safety



**COMPLIANCE AND CE DECLARATION OF CONFORMITY, QUICK-CONNECT USB INTERFACE**



Compliance testing was performed to the following regulations:

- **FCC Part 15 (15.107, 15.109), Subpart B** Class A
- **ICES-003, Issue 4: 2004** Class A
- **EN 55022 A: 2006 + A1: 2007** Class A
- **EMC Directive 2004/108/EC** Class A
- **EN 55024: A2: 1998 + Amendments A1: 2001 + A2: 2003** Class A



**FCC Part 15 Compliance**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B, of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense.

Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) This device must accept any interference including interference that may cause undesired operation of the device. Changes or modifications not expressly approved by Vaddio can affect emission compliance and could void the user's authority to operate this equipment.



**ICES-003 Compliance**

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.



**European Compliance**

This product has been evaluated for Electromagnetic Compatibility under the EMC Directive for Emissions and Immunity and meets the requirements for a Class A digital device. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**Standard(s) To Which Conformity Is Declared:**

- EMC Directive 2004/108/EC**
- EN 55022 A: 2006 + A1: 2007(CISPR 22:2005/A1:2005)**
- EN 55024: A2: 1998 + Amendments A1: 2001 + A2: 2003**
- EN 61000-4-2: 1995 + Amendments A1: 1998 + A2: 2001
- EN 61000-4-3: 2006 + A1: 2008
- EN 61000-4-4: 2004 + Corrigendum 2006
- EN 61000-4-5: 2006
- EN 61000-4-6: 2009
- EN 61000-4-8: 2010
- EN 61000-4-11: 2004
- IEC 60950-1: 2005 2<sup>nd</sup> Edition); AM 1: 2009**
- EN 60950-1: 2006 + A11: 2009 + A1: 2010 + A12:2011**

- Class A
- Immunity
- Electrostatic Discharge
- Radiated Immunity
- Electrical Fast Transients
- Surge Immunity
- Conducted Immunity
- Power Frequency Magnetic Field
- Voltage Dips, Interrupts and Fluctuations
- Safety
- Safety

## WARRANTY INFORMATION

(See Vaddio Warranty, Service and Return Policies posted on [vaddio.com](http://vaddio.com) for complete details):

**Hardware\* Warranty:** Two (2) year limited warranty on all parts and labor for Vaddio manufactured products. Vaddio warrants its manufactured products against defects in materials and workmanship for a period of two years from the day of purchase, to the original purchaser, if Vaddio receives notice of such defects during the warranty. Vaddio, at its option, will repair or replace products that prove to be defective. Vaddio manufactures its hardware products from parts and components that are new or equivalent to new in accordance with industry standard practices.

**Exclusions:** The above warranty shall not apply to defects resulting from improper or inadequate maintenance by the customer, customers applied software or interfacing, unauthorized modifications or misuse, mishandling, operation outside the normal environmental specifications for the product, use of the incorrect power supply, modified power supply or improper site operation and maintenance. OEM products and products manufactured by other companies are excluded and are covered by the manufacturer's warranty.

**Vaddio Customer Service:** Vaddio will test, repair, or replace the product or products without charge if the unit is under warranty. If the product is out of warranty, Vaddio will test then repair the product or products. The cost of parts and labor charge will be estimated by a technician and confirmed by the customer prior to repair. All components must be returned for testing as a complete unit. Vaddio will not accept responsibility for shipment after it has left the premises.

**Vaddio Technical Support:** Vaddio technicians will determine and discuss with the customer the criteria for repair costs and/or replacement. Vaddio Technical Support can be contacted through one of the following resources: e-mail support at [support@vaddio.com](mailto:support@vaddio.com) or online at [vaddio.com](http://vaddio.com).

**Return Material Authorization (RMA) Number:** Before returning a product for repair or replacement request an RMA from Vaddio's technical support. Provide the technician with a return phone number, e-mail address, shipping address, product serial numbers and original purchase order number. Describe the reason for repairs or returns as well as the date of purchase. See the General RMA Terms and Procedures section for more information. RMA's are valid for 30 days and will be issued to Vaddio dealers only. End users must return products through Vaddio dealers. Include the assigned RMA number in all correspondence with Vaddio. Write the assigned RMA number clearly on the shipping label of the box when returning the product. All products returned for credit are subject to a restocking charge without exception.

**Voided Warranty:** The warranty does not apply if the original serial number has been removed or if the product has been disassembled or damaged through misuse, accident, modifications, use of incorrect power supply, use of a modified power supply or unauthorized repair.

**Shipping and Handling:** Vaddio will not pay for inbound shipping transportation or insurance charges or accept any responsibility for laws and ordinances from inbound transit. Vaddio will pay for outbound shipping, transportation, and insurance charges for all items under warranty but will not assume responsibility for loss and/or damage by the outbound freight carrier. If the return shipment appears damaged, retain the original boxes and packing material for inspection by the carrier. *Contact your carrier immediately.*

**Products not under Warranty:** Payment arrangements are required before outbound shipment for all out of warranty products.

### Other General Information:

#### Care and Cleaning

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

- Do not spill liquids in the product
- Keep this device away from food and liquid
- For smears or smudges on the product, wipe with a clean, soft cloth
- Use a lens cleaner on the lens - really, only use a lens cleaner
- Do not use any abrasive chemicals.

#### Operating and Storage Conditions:

Do not store or operate the device under the following conditions:

- Temperatures above 40°C (104°F) or temperatures below 0°C (32°F)
- High humidity, condensing or wet environments
- In inclement weather
- In swimming pools or
- Dry environments with an excess of static discharge
- In outer space (mostly gamma ray problems)
- Under severe vibration

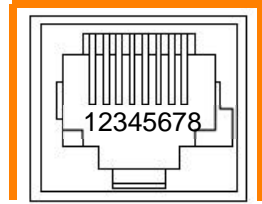
## APPENDIX 1: PIN-OUTS FOR ZOOMSHOT 20 CAMERA AND QUICK-CONNECT USB

**Table: EZ-POWER VIDEO RJ-45 Connector Pin-outs**

EZ-POWER VIDEO PORT (Highlighted in Red)

Pin	Signal
1	Power+
2	Power-
3	Y+
4	PB+
5	PB-
6	Y-
7	PR+
8	PR-

### EZ-POWER VIDEO



### Cat-5 Cable:

◀ Power to Camera, Differential Video from Camera ▶

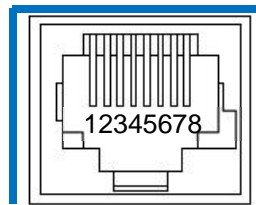


**Important Note:** The EZ-POWER VIDEO RJ-45 Connector on a Vaddio CAT-5 system camera is for use with the Quick-Connect SR, Quick-Connect DVI/HDMI SR, Quick-Connect USB and USB Mini Interfaces ONLY (568B Wiring Standard). The video signals are differential (HSDS) and can only be processed by the interfaces above.

**Table: ZoomSHOT 20 Camera RS-232 Port**

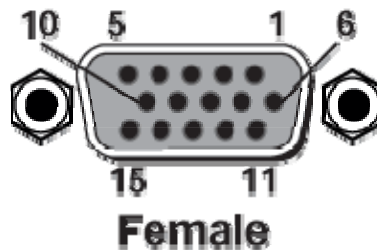
Pin #	Function
Pin - 1	N/A
Pin - 2	N/A
Pin - 3	N/A
Pin - 4	Not Used with QC-USB
Pin - 5	Not Used with QC-USB
Pin - 6	Digital GND
Pin - 7	RXD (from TXD of control source)
Pin - 8	TXD (to RXD of control source)

### RS-232



**Table: Quick-Connect USB DE-15 Pin-Output (Analog Component YPbPr)**

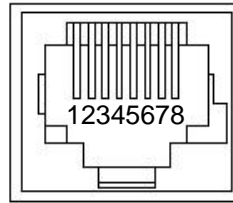
Pin	YPbPr
1	Pr
2	Y
3	Pb
4	-
5	-
6	Pr GND
7	Y GND
8	Pb GND
9	-
10	GND
11	-
12	-
13	-
14	-
15	-





### COMMUNICATION SPECIFICATION

Communication Speed: 9600 bps (default)  
 Start bit: 1  
 Stop bit: 1  
 Data bits: 8  
 Parity: None  
 No Flow control



Pin # RJ-45 RS-232 Port

- 1) Unused
- 2) Unused
- 3) Unused
- 4) Not Used with QC-USB
- 5) Not Used with QC-USB
- 6) GND (GND of IR Short Range - Pin 3)
- 7) RXD (from TXD of control source)
- 8) TXD (to RXD of control source)

**NOTE:** The Vaddio ZoomSHOT 20 control protocol is similar to, but not identical to the Sony® VISCA™ command set in order to be compatible with several popular control devices. Not all VISCA commands are supported and there are ZoomSHOT 20 specific commands in the following Command and Inquiry Lists.

### ZoomSHOT 20 Command List (1/2)

Command Set	Command	Command Packet	Comments
Address Set	Broadcast	88 30 01 FF	Address Set (Daisy chain)
IF_Clear	Broadcast	88 01 00 01 FF	IF Clear
Command Cancel		8x 2p FF	p:socket number(1,2)
CAM_Power	On Off(Standby)	8x 01 04 00 02 FF 8x 01 04 00 03 FF	Power On/Off
CAM_Zoom	Stop Tele(Standard) Wide(Standard) Tele(Variable) Wide(Variable) Direct Direct(Variable)	8x 01 04 07 00 FF 8x 01 04 07 02 FF 8x 01 04 07 03 FF 8x 01 04 07 2p FF 8x 01 04 07 3p FF 8x 01 04 47 0p 0q 0r 0s FF 8x 01 7E 01 4A 0v 0p 0q 0r 0s FF	pqrs: Zoom Position* v:(Speed) 0-7
CAM_Focus	Stop Far(Standard) Near(Standard) Far(Variable) Near(Variable) AutoFocus ManualFocus Auto/Manual Direct	8x 01 04 08 00 FF 8x 01 04 08 02 FF 8x 01 04 08 03 FF 8x 01 04 08 2p FF 8x 01 04 08 3p FF 8x 01 04 38 02 FF 8x 01 04 38 03 FF 8x 01 04 38 10 FF 8x 01 04 48 0p 0q 0r 0s FF	pqrs: Focus position*
CAM_WB	Auto Manual Indoor Outdoor One Push WB	8x 01 04 35 00 FF 8x 01 04 35 05 FF 8x 01 04 35 01 FF 8x 01 04 35 02 FF 8x 01 04 35 03 FF	
CAM_RGain	Reset Up Down Direct	8x 01 04 03 00 FF 8x 01 04 03 02 FF 8x 01 04 03 03 FF 8x 01 04 43 0p 0q 0r 0s FF	pqrs:00-0xffff
CAM_BGain	Reset Up Down Direct	8x 01 04 04 00 FF 8x 01 04 04 02 FF 8x 01 04 04 03 FF 8x 01 04 44 43 0p 0q 0r 0s FF	pqrs:00-0xffff
CAM_AE	Full Auto Manual Shutter Priority Iris Priority	8x 01 04 39 00 FF 8x 01 04 39 03 FF 8x 01 04 39 0A FF 8x 01 04 39 0B FF	Auto Exposure Mode Manual Control Mode Shutter Priority Mode Exposure Priority Mode (default)
CAM_Iris	Reset Up Down Direct	8x 01 04 0B 00 FF 8x 01 04 0B 02 FF 8x 01 04 0B 03 FF 8x 01 04 4B 00 00 0p 0q FF	pq(0x00-0x08)
CAM_Gain	Reset Up Down Direct	8x 01 04 0C 00 FF 8x 01 04 0C 02 FF 8x 01 04 0C 03 FF 8x 01 04 4C 00 00 0p 0q FF	pq(0x00-0x2A)
CAM_Bright	Reset Up Down Direct	8x 01 04 0D 00 FF 8x 01 04 0D 02 FF 8x 01 04 0D 03 FF 8x 01 04 4D 00 00 0p 0q FF	pq(0x01-0x64)



**ZoomSHOT 20 Command List (2/2)**

Command Set	Command	Command Packet	Comments
CAM_Backlight	On	8x 01 04 33 02 FF	
	Off	8x 01 04 33 03 FF	
CAM_Aperture	Reset	8x 01 04 02 00 FF	
	Up	8x 01 04 02 02 FF	
	Down	8x 01 04 02 03 FF	
	Direct	8x 01 04 42 00 00 0p 0q FF	pq(0x00-0x1F)
CAM_Memory	Reset	8x 01 04 3F 00 0p FF	
	Set	8x 01 04 3F 01 0p FF	
	Recall	8x01 04 3F 02 0p FF	p:Memory No(=0-0xF)
CAM_IDWrite		8x 01 04 22 0p 0q 0r 0s FF	pqrs:0x0000 – 0xFFFF
CAM_LR_Reverse On	On	8x 01 04 61 02 FF	Mirror (Horizontal) on
	Off	8x 01 04 61 03 FF	Mirror (Horizontal) off
IR_Receive##	On	8x 01 06 08 02 FF	
	Off	8x 01 06 08 03 FF	
	On/Off	8x 01 06 08 10 FF	IR forwarding/Local IR
Tally	On	8x 01 7E 01 0A 00 02 FF	
	Off	8x 01 7E 01 0A 00 03 FF	
BLK.Enhance	Pedestal	No Support	No Support
GMA.Enhance	Gamma	8x 01 7E 54 00 00 0p 0q FF	pq: Gamma (0x00-0x10)
CRM.Enhance	Chroma	8x 01 7E 55 00 00 0p 0q FF	pq: Chroma (0x00-0x64)
KNE.Enhance	Knee	No Support	No Support
DIS.Enhance	Digital Image Stabilizer	8x 01 7E 57 02 FF	On
		8x 01 7E 57 03 FF	Off
SNR.Enhance	Super Noise Reduction	8x 01 7E 58 02 FF	On
		8x 01 7E 58 03 FF	Off
AGC.Enhance	AGC Mode	8x 01 7E 59 00 FF	Off
		8x 01 7E 59 01 FF	Low
		8x 01 7E 59 02 FF	Medium
		8x 01 7E 59 03 FF	High
CAM_Shutter	Reset	8x 01 04 0A 00 FF	
	Up	8x 01 04 0A 02 FF	
	Down	8x 01 04 0A 03 FF	
	Direct	8x 01 04 4A 00 00 0p 0q FF	pq(0x00-0x1C)
CAM_ExpComp	On	8x 01 04 3E 02 FF	AutoExposure Off
	Off	8x 01 04 3E 03 FF	AutoExpouse On
	Reset	8x 01 04 0E 00 FF	
	Up	8x 01 04 0E 02 FF	
	Down	8x 01 04 0E 03 FF	
	Direct	8x 01 04 4E 00 00 0p 0q FF	Pq: 0x00-0x2A
CAM_ICR Cut Filter	ICR On	8x 01 04 01 02 FF	ICR On - Cut Filter Out
	ICR Off	8x 01 04 01 03 FF	ICR Off - Cut Filter In

**\*Zoom and Focus Data:**

CAM\_Zoom: Range(0x000–0x071A)

CAM\_Focus: Range (0x0ed-0x0944) dependent on Zoom Position

## ZoomSHOT 20 Inquiry List (1/1)

Inquiry Command	Command	Response Packet	Comments
CAM_PowerInq	8x 09 04 00 FF	y0 50 02 FF y0 50 03 FF	On Off(Standby)
CAM_ZoomPosInq	8x 09 04 47 FF	y0 50 0p 0q 0r 0s FF	pqr: 0-0x071A
CAM_FocusPosInq	8x 09 04 48 FF	y0 50 0p 0q 0r 0s FF	pqrs: Focus Position
CAM_WBModelInq	8x 09 04 35 FF	y0 50 00 FF y0 50 05 FF y0 50 01 FF y0 50 02 FF y0 50 03 FF	Auto Manual Indoor Outdoor One Push WB
CAM_RGain	8x 09 04 43 FF	y0 50 0p 0q 0r 0s FF	pqrs: 000-0xffff
CAM_BGain	8x 09 04 44 FF	y0 50 0p 0q 0r 0s FF	pqrs: 000-0xffff
CAM_Iris	8x 09 04 4B FF	y0 50 00 00 0p 0q FF	pq(0x00-0x08)
CAM_Gain	8x 09 04 4C FF	y0 50 00 00 0p 0q FF	pq(0x00-0x2A)
CAM_Bright	8x 01 04 4D FF	y0 50 00 00 0p 0q FF	pq(0x01-0x64)
CAM_BacklightModelInq	8x 09 04 33 FF	y0 50 02 FF y0 50 03 FF	On Off
CAM_ApertureInq	8x 09 04 42 FF	y0 50 00 00 0p 0q FF	Pq:x00-0x1F
CAM_MemoryInq	8x 09 04 3F FF	y0 50 0p FF	p: Preset 0-0xf
CAM_IDInq	8x 09 04 3F FF	y0 50 0p 0q 0r 0s FF	pqrs: 0x0000 – 0xFFFF
CAM_ReceiveInq	8x 09 06 08 FF	y0 50 02 FF y0 50 03 FF	On Off
CAM_LR_Reverse	8x 09 04 61 FF	y0 50 02 FF y0 50 03 FF	On Off
TallyInq	8x 09 7E 01 0A FF	y0 50 02 FF y0 50 03 FF	On Off
BLK.Enhance	No support	No Support	Pedestal
GMA.Enhance	8x 09 7E 54 FF	y0 50 00 00 0p 0q FF	pq: Gamma (0x00-0x10)
CRM.Enhance	8x 09 7E 55 FF	y0 50 00 00 0p 0q FF	pq: Chroma (0x00-0x64)
KNE.Enhance	No support	No Support	Knee
DIS.Enhance	8x 09 7E 57 FF	y0 50 02 FF y0 50 03 FF	On Off
SNR.Enhance	8x 09 7E 58 FF	y0 50 02 FF y0 50 03 FF	On Off
AGC.Enhance	8x 09 7e 59 FF	y0 50 00 FF y0 50 01 FF y0 50 02 FF y0 50 03 FF y0 50 04 FF	Off Low Medium High Manual AGC
CAM_AEModeInq	8x 09 04 39 FF	y0 50 00 FF y0 50 03 FF y0 50 0A FF y0 50 0B FF	Auto Exposure Mode Manual Control Mode Shutter Priority Mode Exposure Priority Mode
CAM_ShutterPosInq	8x 09 04 4A FF	y0 50 00 00 0p 0q FF	pq: 0x0-0x1C
CAM_ExpCompModelInq	8x 09 04 3E FF	y0 50 02 FF y0 50 03 FF	On - AE Mode Off Off – AE Mode On
CAM_ExpCompPosInq	8x 09 04 4E FF	y0 50 00 00 0p 0q FF	pq: ExpComp Pos
CAM_ICRModelInq	8x 09 04 01 FF	y0 50 02 FF y0 50 03 FF	On - ICR filter Out Off – ICR filter In

## APPENDIX 2 - TELNET SERIAL COMMAND API

The Vaddio Serial Command protocol is a high level text based command line interface supported via telnet session on the Quick-Connect USB. Camera control commands supported on the Quick-Connect USB includes the RoboSHOT series, ClearVIEW HD-20SE, PowerVIEW HD-22 and HD-30, ZoomSHOT 20 and WideSHOT. The command application protocol interface is intended to allow external device such as AMX or Crestron to control the camera. The protocol is based upon ASCII format following the VT100 terminal emulation standard and uses an intuitive text command nomenclature for ease of use. The API is accessed by a telnet client on the Ethernet port. All ASCII characters will be **echoed** to terminal program and appended with VT100 string **-ESC[J** (HEX- 1B 5B 4A). Vaddio Command lines are terminated on carriage return. After the carriage return, the VT100 appends with **-ESC[J**. (**Note:** Most terminal programs automatically strip the VT100 string.) General format usage follows a **get/set** structure. Usage examples for each type are:

### Set Example

COMMAND: > camera pan right  
RESPONSE: > OK

### Get Example

COMMAND: > stream mode get  
RESPONSE: > streaming mode usb

### Syntax Error Example

COMMAND: > camera pan right  
RESPONSE: > ERROR

Additional programming controls associated with the terminal protocol includes:

- **CTRL 5** - Clears the current serial buffer on the device.

Telnet sessions will require access verification and uses the same username and password associated with the Administrator account on the embedded web server. The default Telnet Port is 23. Command lines are terminated with a carriage return. **NOTE:** The ZoomSHOT 20 camera will not respond to pan or tilt commands.

## Telnet Command List

### Camera Home

- **NAME**

**camera home** - Move the camera to the home position

- **SYNOPSIS**

**camera home**

- **DESCRIPTION**

Method used to move the **camera** to the *home* position

- **EXAMPLES**

**camera home**

Move the **camera** back to the *home* position



Image: Invigorating simulated Telnet session.

### Camera Pan (not used)

- **NAME**

**camera pan** - Pans the camera left or right

- **SYNOPSIS**

**camera pan** {left|right|stop} [1-24]

- **DESCRIPTION**

Method used to *pan* the **camera**

- **OPTIONS**

**left** Move the **camera** left

**right** Move the **camera** right

**stop** Stop the **camera** movement

**speed** Optional integer from 1-24 that represents the speed (Default: 12)

- **EXAMPLES**

**camera pan left**

Pans the **camera** left at the default speed

**camera pan right 20**

Pans the **camera** right using a speed of 20

**camera pan stop**

Stops the *pan* movement of the **camera**



### Camera Preset

- **NAME**

**camera preset** - Recall and storing of camera presets

- **SYNOPSIS**

**camera preset** {recall|store} [1-6]

- **DESCRIPTION**

Method used to recall and store **camera** presets

- **OPTIONS**

**recall** Recall *preset*

**store** Store *preset*

*preset* Required value from 1-6 used to indicate the *preset* number

- **EXAMPLES**

**camera recall** 3

Move **camera** to *preset* position 3

**camera store** 1

Store current **camera** position as *preset* 1

### Camera Tilt (not used)

- **NAME**

**camera tilt** - Tilts the camera up or down

- **SYNOPSIS**

**camera tilt** {up|down|stop} [1-20]

- **DESCRIPTION**

Method used to *tilt* the **camera**

- **OPTIONS**

**up** Move the **camera** up

**down** Move the **camera** down

**stop** Stop the **camera** movement

**speed** Optional integer from 1-20 that represents the speed (Default: 10)

- **EXAMPLES**

**camera tilt** up

Tilts the **camera** up at the default speed

**camera tilt** down 20

Tilts the **camera** up using a speed of 20

**camera tilt** stop

Stops the *tilt* movement of the **camera**

### Camera Zoom

- **NAME**

**camera zoom** - Zoom the camera in or out

- **SYNOPSIS**

**camera zoom** {in|out|stop} [1-7]

- **DESCRIPTION**

Method used to *zoom* the **camera**

- **OPTIONS**

**in** Zoom in

**out** Zoom out

**stop** Stop the **camera** movement

**speed** Optional integer from 1-7 that represents the speed (Default: 3)

- **EXAMPLES**

**camera zoom** in

Zooms the **camera** in at the default speed

**camera zoom** out 7

Zooms the **camera** out using a speed of 7

**camera zoom** stop

Stops the *zoom* movement of the **camera**

### Camera

- **NAME**

**camera** - Base command for camera control command. Used in conjunction with control arguments to include home, pan, tilt, zoom, and preset.



## Exit

- **NAME**

**exit** - ends the current API command session

- **SYNOPSIS**

**exit**

- **DESCRIPTION**

Exit ends the current API command session. If the session is over telnet, the session is ended and the socket is closed. If the session is over serial, a new session is started.

## Help

- **NAME**

**help** - display an overview of the CLI syntax

- **SYNOPSIS**

**help**

- **DESCRIPTION**

Display an overview of the command line syntax

## History

- **NAME**

**history** - command history

- **SYNOPSIS**

**history** [*limit*]

- **DESCRIPTION**

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 also recall historic information

- **HISTORY NAVIGATION**

The command **history** can be navigated using the up and down arrow keys. The up arrow will move up a single entry in the command **history** while the down arrow moves down in the command **history**.

- **HISTORY EXPANSION**

The command **history** 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.

Listed below are examples of **history** expansion:

\* **!** Substitute the last command line.

\* **!N** Substitute the Nth command line (absolute as per '**history**' command)

\* **!-N** Substitute the command line entered N lines before (relative)

- **EXAMPLES**

**history**

Displays the current command buffer

**history 5**

Sets the **history** command buffer to remember the last 5 unique entries

## Network Ping

- **NAME**

**network ping** - send ICMP ECHO\_REQUEST to network hosts

- **SYNOPSIS**

**network ping** [*count* <*count*>] [*size* <*size*>] <destination-ip>

- **DESCRIPTION**

Use the ICMP protocol's mandatory ECHO\_REQUEST datagram to elicit an ICMP ECHO\_RESPONSE from a host or gateway. ECHO\_REQUEST datagrams have an IP and ICMP header, followed by a struct timeval and then an arbitrary number of pad bytes used to fill out the packet.

- **OPTIONS**

*count* Stop after sending *count* ECHO\_REQUEST packets. With deadline option, *ping* waits for *count* ECHO\_REPLY packets, until the timeout expires. The default is 5.

**destination**

The destination IP address where the ECHO\_REQUESTS are sent

*size* The data *size* of the ICMP packet to send. The default is 56 bytes

- **EXAMPLES**

**network ping** 192.168.1.1

Attempt to send 5 ICMP ECHO\_REQUESTs with data *size* 56 to the host at 192.168.1.1

**network ping** *count* 10 *size* 100 192.168.1.1

Attempt to send 10 ICMP ECHO\_REQUESTs with data *size* of 100 to the host at 192.168.1.1

## Network Settings

- **NAME**

**network settings** - get current network settings

- **SYNOPSIS**

**network settings** {get}

- **DESCRIPTION**

Method used to get the current **network settings** of the device

- **OPTIONS**

**get** Get the current **network settings** for the machine

- **EXAMPLES**

**network settings** get

**MAC Address:**

00:04:a3:85:0a:ee

**IP Address:**

10.10.8.116

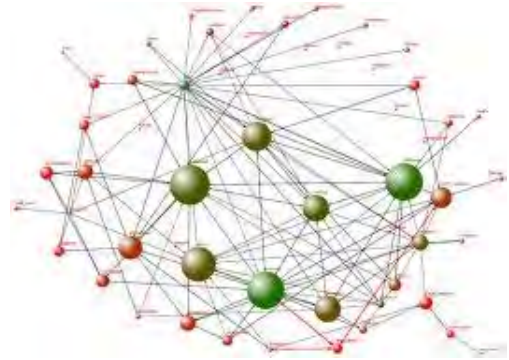
**Netmask:**

255.255.255.0

**Gateway:**

10.10.8.100

Returns the current **network settings** for mac address, ip address, netmask, and gateway



## Network

- **NAME**

**network** - Gets the current network settings or pings an IP address

- **SYNOPSIS**

**network** {settings get | ping [count <count>] [size <size>] <destination-ip>}

- **DESCRIPTION**

Method used to *get* the current **network** settings or check **network**

- **OPTIONS**

**settings**

Get the current **network** settings

*ping* Send ICMP ECHO\_REQUEST to **network** host

- **EXAMPLES**

**network settings** get

Gets the current **network** settings

----

**network ping** count 1 10.10.10.100

Pings 10.10.10.100 once and displays results

## Streaming Mode

- **NAME**

**streaming mode** - Gets or sets the current streaming mode

- **SYNOPSIS**

**streaming mode** {get|usb|network}

- **DESCRIPTION**

Method used to get or set the current **streaming** settings

- **OPTIONS**

**get** Get the current **streaming mode**

**usb**

Set the current **streaming mode** to USB

**ethernet**

Set the current **streaming mode** to Ethernet

- **EXAMPLES**

**streaming mode** get

mode: usb

Returns the current **streaming mode**

**streaming mode** usb

----

**streaming mode** ethernet

**OK**

Sets the **streaming mode** to Ethernet

## Streaming Quality

- **NAME**

**streaming quality** - Gets or sets the current streaming quality

- **SYNOPSIS**

**streaming quality** {get|low|standard|high}

- **DESCRIPTION**

Method used to get or set the current **streaming quality**

- **OPTIONS**

**get** Get the current **streaming quality**

**low** Set video *quality* to low

**standard** Set video *quality* to standard

**high** Set video *quality* to high

- **EXAMPLES**

**streaming quality** get

*quality:low*

Returns the current **streaming quality**

----

**streaming quality** standard

**OK**

Sets the **streaming quality** to standard

## Streaming Resolution

- **NAME**

**streaming resolution** - Gets or sets the current streaming quality

- **SYNOPSIS**

**streaming resolution** {get|1080p|720p|4cif|480p|cif}

- **DESCRIPTION**

Method used to get or set the current **streaming resolution**

- **OPTIONS**

**get** Get the current **streaming resolution**

**1080p** Set video *resolution* to 1080p

**720p** Set video *resolution* to 720p

**4cif** Set video *resolution* to 4cif

**480p** Set video *resolution* to 480p

**cif** Set video *resolution* to cif

- **EXAMPLES**

**streaming resolution** get

*resolution:720p*

Returns the current **streaming resolution**

----

**streaming resolution** 720p

**OK**

Sets the **streaming resolution** to 720p

## Streaming

- **NAME**

**streaming** - Gets or sets the current streaming settings

- **SYNOPSIS**

**streaming** {mode {get|usb|ethernet}} | resolution {get|1080p|720p|4cif|480p|cif} | quality {get|low|standard|high}}

- **DESCRIPTION**

Method used to get or set the current **streaming** settings

- **OPTIONS**

**mode** Get or set the current **streaming** mode

*resolution* Get or set the current **streaming** video *resolution*

*quality* Get or set the current **streaming** video frame rate and bit rate

- **EXAMPLES**

**streaming** mode get

**mode:** usb

Returns the current **streaming** mode

----

**streaming** mode ethernet

Sets the **streaming** mode to Ethernet

----

**streaming quality** standard

Sets the **streaming quality** to standard

----

**streaming resolution** 720p

Sets the **streaming resolution** to 720p





### System Factory-Reset

- **NAME**

**system factory-reset** - Gets or sets factory reset status

- **SYNOPSIS**

system factory-reset {get|on|off}

- **DESCRIPTION**

Method used to get or set the factory reset status

- **OPTIONS**

get Get the current factory reset status

on Enable factory reset on reboot

off Disable factory reset on reboot

- **EXAMPLES**

system factory-reset get

factory-reset (software):

off

factory-reset (hardware): [Hardware reset is designated by rear panel dip switches in down position]

off

Returns the factory reset status

----

system factory-reset on

factory-reset (software): on

factory-reset (hardware): off

Enables factory reset upon reboot



### System Reboot

- **NAME**

**system reboot** - Reboots system

- **SYNOPSIS**

system reboot [<seconds>]

- **DESCRIPTION**

Method used to reboot system

- **OPTIONS**

seconds

The number of seconds to delay the reboot

- **EXAMPLES**

reboot

Reboot system immediately

reboot 30

Reboot the system in 30 seconds

### Version

- **NAME**

**version** - display the system version information

- **SYNOPSIS**

**version**

- **DESCRIPTION**

Display an overview of the command line syntax

- **EXAMPLES**

**Version**

Returns the current software **version**



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