

**RISE™ Series  
4220HD  
Dome Positioner System**



**Installation Manual 6x-1116A**

[www.CohuHD.com](http://www.CohuHD.com)

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## **1.0 General Information**

### **1.1 About this document**

This document contains information on how to install and maintain the 4220HD Series Camera Dome System. Please read this manual carefully prior to installation to prevent any accidental damage or misuse. The manual is available from the CohuHD website at:

<http://www.cohuhd.com/Support/Product-Documentation>

The information in this manual is subject to change without notice.

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Note: All graphics contained within this document, including screenshots and other displays, are for reference use only and are subject to change.

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### **1.2 Additional information and documents related to the camera system**

For information on the camera system operation, see Operation manual 6x-1117. The manual is available from the CohuHD website at:

<http://www.cohuhd.com/Support/Product-Documentation>

### **1.3 Copyright/Intellectual Property Rights Statement**

Copyright 2015 by CohuHD Costar, LLC. CohuHD Costar, LLC has intellectual property rights to technology embodied in the product described in this manual.

CohuHD Costar™ and RISE™ are trademarks of CohuHD Costar, LLC.

### **1.4 FCC compliance**

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 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 own expense.

Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications to this device void the warranty.

### **1.5 Support services**

Please contact the Customer Service Department for technical assistance.

### **1.6 Returns**

This item was thoroughly tested and carefully packed at the factory prior to shipping. Upon acceptance by the carrier, the carrier assumes responsibility for the item's safe arrival. If you receive the item in a damaged condition, apparent or concealed, a claim for damage must be made to the carrier.

If a visual inspection shows damage upon receipt of this shipment, it must be noted on the freight bill or express receipt and the notation signed by the carrier's agent. Failure to do this can result in the carrier refusing to honor the claim.

When the damage is not apparent until the unit is unpacked, a claim for concealed damage must be made. Make a mail or phone request to the carrier for inspection immediately upon discovery of the concealed damage. Keep all cartons and packing materials.

To return the product to the factory for service, please contact the Customer Service Department for a Return Material Authorization (RMA) Number.

Prominently display the RMA number on the outside of the shipping container(s) and on paperwork contained inside. Give a brief description of why the equipment is being returned and list the symptoms of any problems being experienced with the equipment.

### **1.7 Shipment**

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Important: If the camera needs to be shipped, please use the original packaging material which was designed to protect the product during transportation. If the original packaging is lost or damaged, please order a replacement from Customer Service.

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## 2.0 Safety Instructions

### 2.1 Important Information

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Warning: Do not remove the covers or housing. There are no user-serviceable parts inside.

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Warning: The Schrader Valves on the camera's dome are for factory use only. Do not attempt to add any gas to the camera head.

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NFPA 70 (Articles 800.30 and 830.30), National Electric Code® requires that a listed primary protector be installed on the conductors of outdoor communication circuits entering a premises, as close as possible to the point of entrance. The primary protector must be appropriate to the circuit type (PoE, PoE++, or Ethernet).

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Warning: Voltages that present a shock hazard may exist on PoE circuits. Use caution to avoid direct contact with exposed, bare Ethernet circuit conductors or connector contacts.

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Warning: Some models of this camera system operate from 24 Vac. Use care working with equipment connected to 24 Vac.

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Warning: Do not use y-cables or other non-standard wiring schemes.

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Caution: In order to prevent damage or deterioration of the optical system avoid pointing the camera system directly toward the sun.

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- Installation must be done by qualified installers, and conform to all local codes and regulations.
- All servicing must be performed by qualified service personnel. Procedures in this manual do not require entry into the housing of the camera system. The unit contains sensitive devices that can be damaged by static discharge. To reduce the risk of electric shock and damage to the unit by static discharge do not perform any servicing other than described in these instructions. If the unit is defective, please contact the Customer Service Department for technical assistance.
- It is the user's responsibility to ensure that the mounting methods are safe and adequate for the location.
- Use only stainless steel (SS) hardware to fasten the mount to an outdoor surface.

### 2.2 Grounding

- To provide protection against electrical surges induced by lightning, static charges, or any other cause, the camera and cabling system must be properly grounded to earth. For installation on a building, the camera must be bonded (that is, provided with a low impedance connection) to the building's structural earth ground system. For installation on a metal pole with a proper ground system at the base, the camera must be bonded to the pole. For installation on a non-grounded or insulated support, the camera must be grounded with an adequate ground strap or wire between the camera and a nearby ground system, or to a ground system installed at the base of the support. Failure to adequately ground the camera may lead to failure of the camera. This applies to low voltage (24 Vac and PoE cameras) as well as to 120 Vac cameras. **Failures due to surges are not covered by the warranty, as they are not due to defects in material or workmanship, and it is the installer's responsibility to meet these**

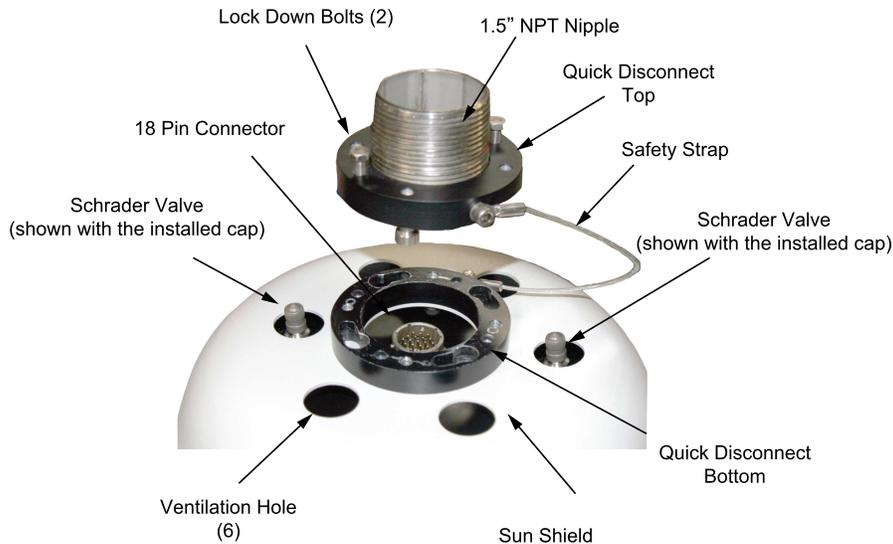
**grounding requirements.**

- All system cables must be shielded, and the shield(s) must be bonded to earth ground.

### 3.0 Installation

#### 3.1 4220HD Camera Dome System Overview

The 4220HD Camera System is an IP camera system inside an environmentally sealed and pressurized dome enclosure. The camera system provides IP video streams with H.264 and MJPEG compression. The positioning system provides continuous 360° pan (azimuth) motion range with +/- 95° of tilt (elevation). Control interfaces are via Ethernet network connection or RS422 serial control.



4220HD Camera's Top View (shown without the housing)

For detailed specifications, download the camera's datasheet from the CohuHD website:

<http://www.cohuhd.com/Support/Product-Documentation>.

#### 3.2 Optional Accessories

The following optional accessories are recommended by CohuHD and can be purchased with the camera system.

##### Mounts

- Wall: CohuHD p/n 7411420-001
- Pole: CohuHD p/n 8518-2

##### Cables

- See "4220HD CohuHD-Manufactured System Cables " on page 15.

##### PoE++ Injectors

- 115 Vac: CohuHD p/n 7412007-001
- 230 Vac: CohuHD p/n 7412007-002
- 100 Vac - 240 Vac: p/n 7412007-003

See "Power over Ethernet (PoE++)" on page 11.

**Field Connector**

- Mating Connector: Amphenol p/n PT06E-14-18SX(476) or equivalent, CohuHD p/n 1310230-212. See *"18-pin MS Connector and its Mating System Cable Connector "* on page 12.

**Waterproof RJ45 Coupler**

- Waterproof RJ45 Coupler: VPI CAT5e-WTP-FF or equivalent, CohuHD p/n 7610203-001.

**24 Vac Power Transformer**

- AC Outdoor Power Supply: Altronix WayPoint-10A or equivalent, CohuHD p/n 7411543-010.

**Outdoor Surge Protective Device for 24 Vac Power**

- Surge Protective Device, CAT6 Power-Over-Ethernet: Edco CAT6-POE-1 or equivalent, CohuHD p/n 7411708-005.

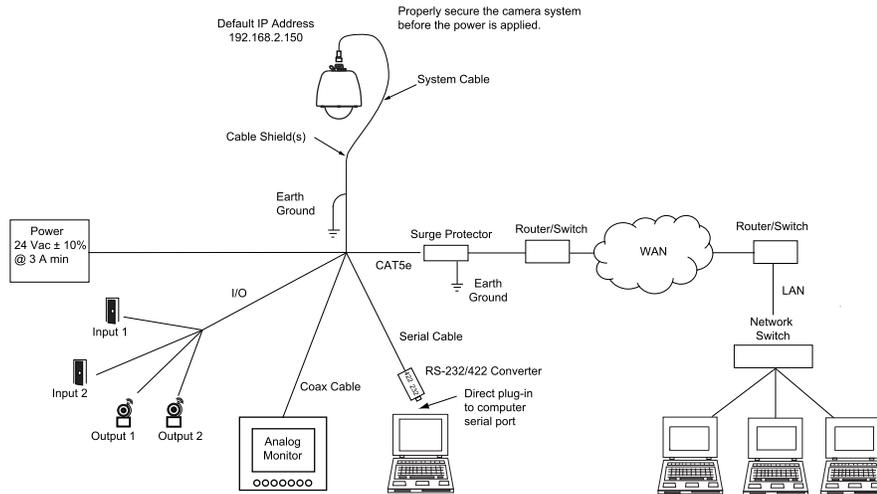
**Outdoor Surge Protective Device for PoE++**

- Surge Protective Device, Power over Ethernet (PoE++): PD-OUT/SP11 or equivalent, CohuHD p/n 7412009-001.

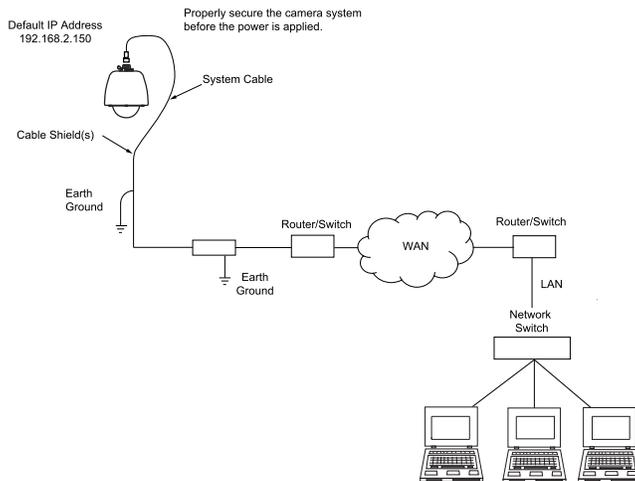
### 3.3 4220HD Interconnection Diagrams

The following are interconnection diagrams for the 4220HD camera system:

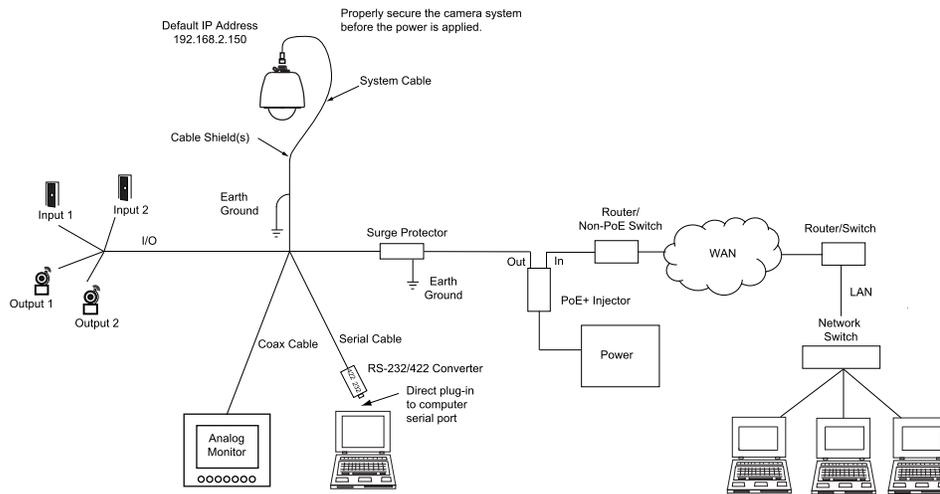
#### 3.3.1 Interconnection Diagram with 24 Vac Power Supply, Analog and IP Output



#### 3.3.2 Interconnection Diagram with PoE++ Switch



### 3.3.3 Interconnection Diagram with I/O and Non-PoE Switch



### 3.3.4 Power over Ethernet (PoE++)

The 4220<sup>HD</sup> camera system is compliant with the LTPoE++<sup>TM</sup> (Linear Technology) specification.

LTPoE++ maintains interoperability with existing PoE and PoE+ standard equipment and specifies backward compatibility with IEEE 802.3af (PoE) and 802.3at (PoE+) power sourcing equipment (PSE) and powered devices (PD). It expands the power available at the PD to four different power levels: 38.7 W, 52.7 W, 70 W and 90 W.

Power to the camera is supplied through the network cable. Two types of PoE++ implementations are specified:

- Endspan PoE++: Power is applied directly by the switch to the camera. This method requires the deployment of a PoE++ enabled switch.
- Midspan PoE++: Power is supplied by an injector placed between an existing non-PoE++ switch and the camera.

PoE++ injectors can be ordered from CohuHD. Please refer to the CohuHD website in the 4220<sup>HD</sup> series specifications section for ordering information. The PoE++ injector selected for use with 4220<sup>HD</sup> must meet the following requirement:

- Be compatible with the LTPoE++ specification. Please refer to the following website for more information: [http://www.linear.com/products/poe\\_powered\\_device\\_\(pd\)](http://www.linear.com/products/poe_powered_device_(pd))

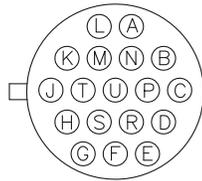
### 3.4 4220HD Cables

#### 3.4.1 18-pin MS Connector and its Mating System Cable Connector

All system electrical connections for the 4220HD series route through an MS-type metal connector installed in the dome housing. The connector can be wired for PoE++ or 24 Vac operation.

Camera connector: Amphenol p/n PT07C-14-18X(027) or equivalent, CohuHD p/n 1310225-212.

Mating connector: Amphenol p/n PT06E-14-18SX(476) or equivalent, CohuHD p/n 1310230-212 (supplied, if ordered).



1310230-212  
Viewed from the Wiring End

##### 3.4.1.1 MS Connector Pinouts (PoE++)

MS Connector	
Pin	Function
J	I/O 1
P	I/O 2
U	Alarm I/O Common
M	RS422 RX+
N	RS422 RX-
S	RS422 TX+
R	RS422 TX-
L	Analog Video Output
A	Analog Video Shield
G	Overall Shield
D	Ethernet TX+
E	Ethernet TX-
F	Ethernet RX+
H	Ethernet RX-
B	PoE++ MX3-
T	PoE++ MX3+
C	PoE++ MX4+
K	PoE++ MX4-

### 3.4.1.2 MS Connector Pinouts (24 Vac)

MS Connector	
Pin	Function
J	I/O 1
P	I/O 2
U	Alarm I/O Common
M	RS422 RX+
N	RS422 RX-
S	RS422 TX+
R	RS422 TX-
L	Analog Video Output
A	Analog Video Shield
G	Overall Shield
D	Ethernet TX+
E	Ethernet TX-
F	Ethernet RX+
H	Ethernet RX-
B	24 Vac Hi
T	Not Connected
C	24 Vac Low
K	Not Connected

### 3.4.2 Inputs/Outputs

#### Inputs

The Inputs can be configured to initiate an event either when a contact closure between an Input and Alarm Common is detected or when an open circuit between an Input and Alarm Common is detected.

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Caution: Do not connect a power source to the inputs.

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- Connect pins J and P on the MS connector to Inputs 1 and 2, respectively. A contact closure between Inputs and Alarm I/O Common (MS connector pin U) will generate an event.

#### Outputs

The Outputs can be set up to be latched or momentary with programmable momentary duration. When an event is generated by the software the Output acts as a power switch to ground to control external components (the power ground must be referenced to camera ground).

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Caution: The source voltage for any Output must not exceed 50 Vdc, and the maximum current must not exceed 250 mA.

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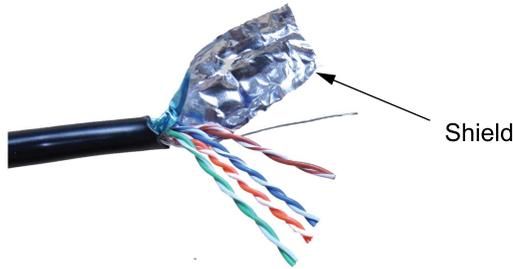
- Connect pin J on the MS connector to Output 1. When an event is generated by the software, a relay contact connects the Output to the Alarm I/O Common (MS connector pin U).

### 3.4.3 Field Cables

- All system cables must be shielded, and the shield(s) must be bonded to earth ground.
- All Ethernet wiring must be done in accordance with TIA/EIA 568-C standards.

To build the camera system cables, CohuHD recommends:

- **For Ethernet/PoE++:** Belden p/n 7919A Multi-Conductor - Category 5e DataTuff® Twisted Pair Cable, overall Beldfoil shield (100% coverage). CohuHD p/n 7610201-001.



Note: The maximum cable length for Ethernet is 100 m (328'). However, other factors may reduce the distance Ethernet can be successfully used, such as EMI from other sources. Use an Ethernet extender to extend an Ethernet cable beyond its distance limitation. CohuHD recommends Enable-IT 860 LRE Kit, which can be purchased with the camera system.

When wiring to the Ethernet pins, consider whether they are to be wired for the NIC (Network Interface Card) in a PC or for system connections to a hub, switch, router, or similar device.

#### Ethernet Cable Wiring to a Hub, Switch, or Router (Straight Wiring)

Ethernet Function	Camera Connector	Corresponding RJ-45 Ethernet Pins
TX+	D	1
TX-	E	2
RX+	F	3
RX-	H	6

This Ethernet wiring is intended to connect directly to a hub, switch, or router. For connection directly to a PC, it will be necessary to use either a crossover cable or a crossover adapter. Note: For clarity, only signal lines are shown.

#### Ethernet Cable Wiring to a PC (Crossover Wiring)

Ethernet Function	Camera Connector	Corresponding RJ-45 Ethernet Pins
TX+	D	3
TX-	E	6
RX+	F	1
RX-	H	2

This Ethernet wiring is intended to connect a camera to the NIC card in a PC. Note: For clarity, only signal lines are shown.

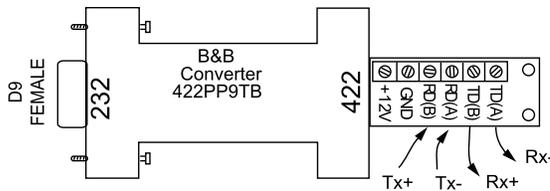
Wiring to the PoE pins is the same for the NIC in a PC as for system connections to a hub, switch, router or similar device.

- **For Power:** Two wires, insulated for 300 V minimum, 18 AWG cord for power. Use for distances up to 80 feet (29 m) for 24 Vac cables.

Note: Long cable lengths and/or low mains voltages can cause the 24 Vac power at the camera to drop below the minimum input voltage (24 Vac -10%) resulting in unreliable operation. In this situation, use the 28 Vac output tap on the 7411543-010 AC Outdoor Power Transformer to ensure adequate power to the camera.

- **For I/O:** Four wires, insulated for 300 V minimum, 24 AWG. Use for distances up to 250 feet (76.2 m).
- **For Analog Video:** The coax cable for analog video must be rated at 75 ohms, and must not exceed a maximum attenuation of 6 dB at 10 MHz for the length of cable required. For example, Belden 9221 miniature coax is a small, extremely flexible, 75 ohm coax that has an attenuation of 2.2 dB per 100 feet. Do not use it for distances longer than 270 feet ((6 dB / 2.2 dB) x 100 ft. = 272 feet). For mid range distances use the Belden 8241F (RG-59/U type with 100% copper core), with an attenuation of 0.9 dB per 100 feet, or a maximum recommended distance of 650 feet. For longer cable runs, the Belden 8238 (RG-11/U type) has an attenuation of 0.7 dB per 100 feet, which would allow for a maximum cable length of over 850 feet. There are triaxial cables available that can accommodate even longer cable distances, but a video cable equalizer or fiber optics may prove to be more cost-effective as a long distance solution.
- **For Data:** A shielded two twisted pair data cable is recommended. For lower baud rates (9,600 or less), the Belden 8723 shielded cable is usually suitable for distances up to 750 feet. For longer cable runs, and/or faster baud rates, a cable with a lower capacitance per foot must be selected.
- **If the RS422 interface** is used for sending and receiving serial data, an RS232/422 converter is used between the camera system and a computer.

#### Typical RS232/422 Converter



#### RS422 Cable Wiring to B&B Converter

Camera Side		Converter Side
RS422 Camera	Camera Connector Pins	RS422 Device
RS422 RX+	M	TD(B)
RS422 TX-	N	TD(A)
RS422 TX+	S	RD(B)
RS422 RX-	R	RD(A)

#### 3.4.4 4220HD CohuHD-Manufactured System Cables

CohuHD-manufactured cables are available for 4220HD series camera systems using PoE++ (CA280) and 24 Vac (CA279).

Cables are made with stripped (prepared) leads and with combinations of connectors. “Stripped” indicates that the wire leads are stripped and pre-tinned with solder for attachment to a terminal strip or similar device.

For detailed information, download cable drawings from the CohuHD website:

<http://www.cohuhd.com/Support/Product-Documentation>.

## 3.5 4220HD Camera System Mounting Methods

### 3.5.1 Camera System Mounts

The 4220HD series is designed for outdoor installation.

For installation:

- Use stainless steel (SS) hardware to fasten the camera system to the mounting bracket and mounting brackets to surfaces.
- Use anti-seize compound in order to prevent galling on the threads. CohuHD recommends Never Seez® from Bostick.
- Use gasket materials, if needed.
- Use a sealant wrap on the camera system waterproof connectors and their mating system cable plugs for additional protection against moisture in severe conditions. CohuHD recommends Coax-Seal®.
- Mounts, poles, and metallic conduits must be bonded to earth ground.

The following mounts are recommended by CohuHD and can be purchased with the 4220HD camera system:

- Wall: CohuHD p/n 7411420-001
- Pole: CohuHD p/n 8518-2

The kit Includes:

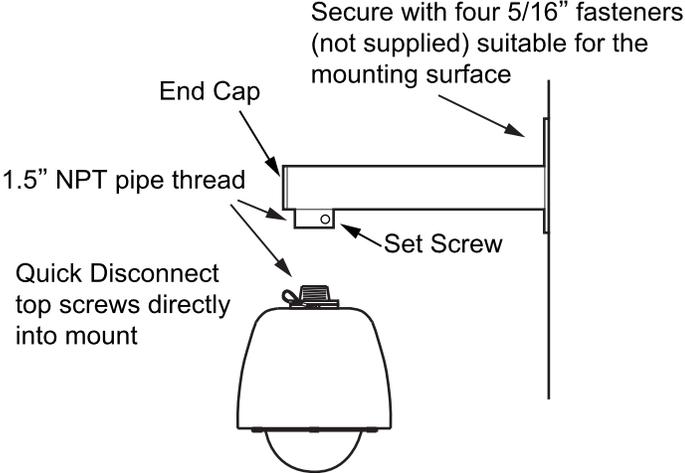
Wall mount: CohuHD p/n 7411420-001

Pole Mount: CohuHD p/n 7411421-001

**3.6 4220HD Camera System Mounting Diagrams**

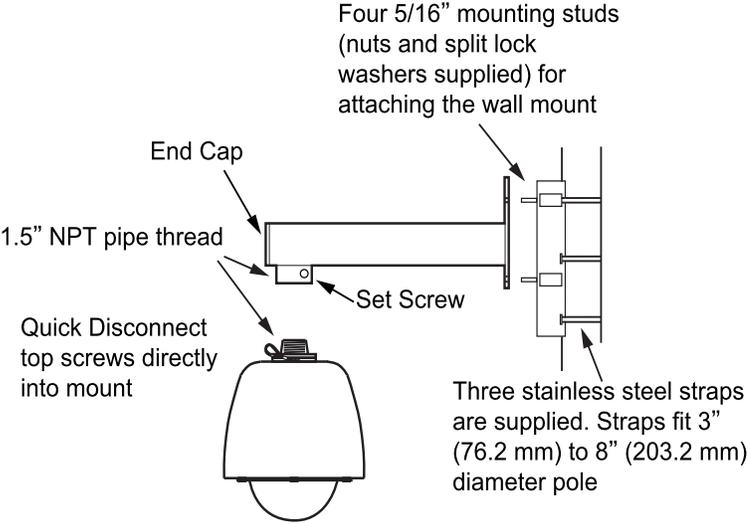
**3.6.1 Wall Mount Installation**

Use the wall mount for installation to a wall. See "Wall Mount" on page 22.



**3.6.2 Pole Mount Installation**

Use the mount adapter, wall mount, and large pole mount for installation to a pole. See "Pole Mount" on page 22.



### 3.7 Installation Procedure

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Warning: The camera is top heavy and may tip over if not supported. Always support a camera until it has been fastened securely.

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Caution: Do not use the cable to support the weight of the camera.

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Provisions must be made for routing the system cable up to the camera system location:

- Pole: If the cable routes up through the pole, support the cable inside the pole to strain relieve the camera connector.

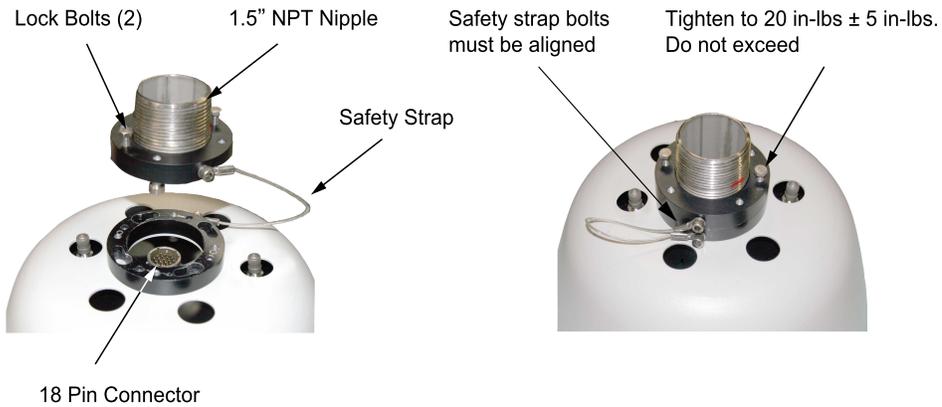
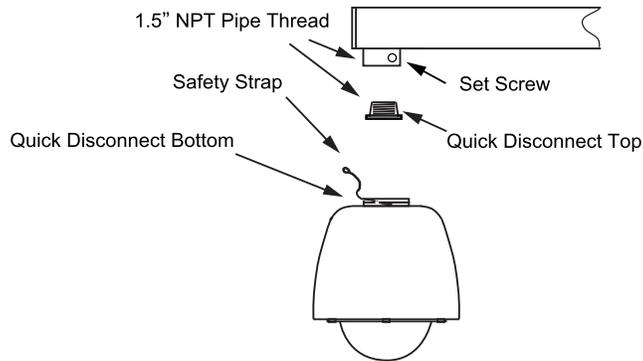
The sequence of installation can vary from site to site:

- Verify that the system cable is accessible for connection to the camera system connector at the mounting location.
- If installing the dome to:
  - The wall: Use the mount as a template. Mark and drill holes in the mounting surface. Drill a hole for the cable if required. Position the wall mount over the mounting holes. Secure with four 5/16" fasteners (not supplied).
  - The pole: Position the pole mount on the pole and secure with the stainless steel mounting straps (supplied). Use a flat blade screw driver or 5/16" socket (not supplied) to tighten strap screws. Attach the wall mount to the studs on the pole mount and secure with the 5/16-inch nuts and washers (supplied).
- Install the dome (**Instructions on the Quick Disconnect disassembling/reassembling**):
  - Remove the safety strap from the top half of the Quick Disconnect (the half with the threaded nipple attached). Use 3/32" hex key.
  - Loosen two lock bolts on the Quick Disconnect with a 5/16" socket approximately 1/4". Do not remove lock bolts. Separate the two parts of the Quick Disconnect by rotating approximately 1/16 turn CCW.
  - Apply anti-seize compound on Quick Disconnect nipple threads.
  - Thread the Quick Disconnect nipple into the mounting arm and tighten with a strap wrench (not supplied).
  - Tighten the set screw on the mounting arm securely.
  - For the 4221 Series: route the pigtail cable down through the nipple and attach the pigtail cable plug to the dome connector.
  - For the 4222 and 4223 Series: Route the system cable down through the nipple and attach the system cable plug to the dome connector.
  - Orient the dome properly and attach it to the other half of the Quick Disconnect mounted to the arm by engaging the pins and rotating approximately 1/16 turn CW. Ensure that safety strap bolts are aligned after rotation. See picture below.
  - Snug the lock bolts to lock the top and bottom of the Quick Disconnect. Tighten to 20 in-lbs  $\pm$ 5 in-lbs. **Do not exceed**. Bolt heads may not be flush with the Quick Disconnect body.
  - Reattach the safety strap.

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NOTE: The top part of the Quick Disconnect is intended to remain in place after installation. If you need to remove the camera, reverse the above process.

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- For the 4221 Series: Connect the system cable to the camera's pigtail cable.
- Connect two outdoor CAT5e cables together using the IP67-rated weatherproof RJ45 coupler. See *"Instructions on How to Assemble the Waterproof Shielded CAT5e RJ45 Coupler"* on page 20.
- See *"Getting Started"*, to set up and check out the camera system.

### 3.7.1 Instructions on How to Assemble the Waterproof Shielded CAT5e RJ45 Coupler

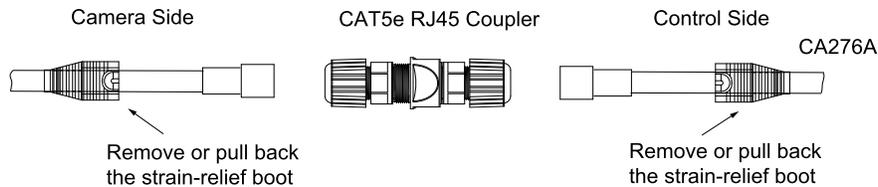
To connect two outdoor CAT5e cables together use a waterproof coupler.

CohuHD recommends a waterproof shielded CAT5e RJ45 female to female field installable coupler.

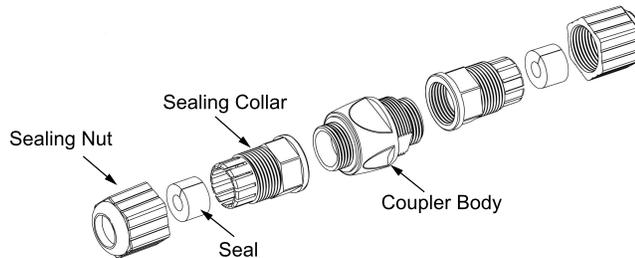
- CohuHD p/n 7610203-001

To install the coupler use the following steps:

1. Remove or pull back the strain-relief boot from the RJ45 connector's housing.



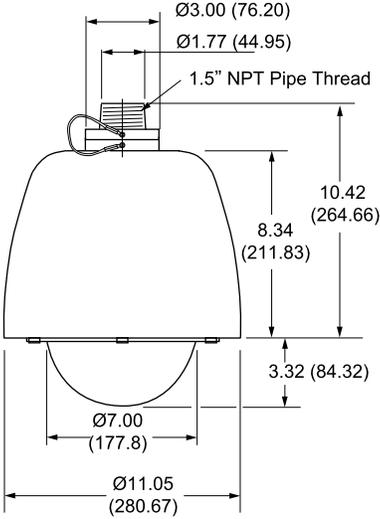
2. Slide the sealing nut and the sealing collar onto the cable.



3. Plug the RJ45 connector into the coupler body.
4. Tighten the sealing collar onto the coupler body.
5. Place the rubber seal onto the cable between the sealing nut and sealing collar. To place the seal, open it in the area of the cut.
6. Slide the seal into the sealing collar.
7. Tighten the sealing nut onto the sealing collar.
8. Repeat steps with the other cable.

### 3.8 Overall Dimensions

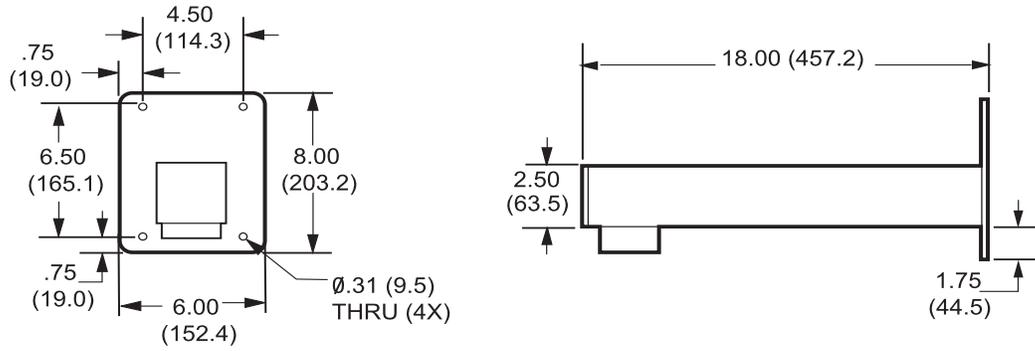
All dimensions in inches (mm).



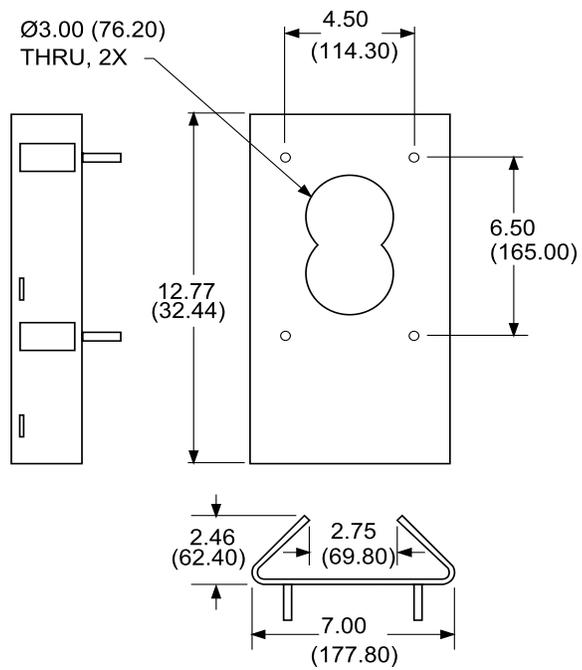
### 3.9 Mounting Brackets Dimensions

All dimensions in inches (mm).

#### 3.9.1 Wall Mount



#### 3.9.2 Pole Mount



## 4.0 Getting Started

### 4.1 Recommended Computer Specifications

The following are recommended computer specifications to run and operate a camera system:

- CPU: Intel i7-860S 2.53 GHz or better
- Operating system: Windows 7 or later
- Memory: 4GB DDR3@1066MHz or better
- Hard Drive: 7200 rpm – minimum speed with sufficient free space
- Video card: NVIDIA® GeForce® 9800 GTX+ with 512 MB RAM or better, or high-end ATI Radeon™ HD series
- Monitor: LCD monitor with 1920 x 1080 or better resolution

### 4.2 System Requirements

In order to test the camera system you need the following items:

- Laptop or desktop computer

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Important: Monitors or any other devices that are receiving the analog signal must have a dc restore function.

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- 100/1000BASE-T network card installed in the computer
- Web browser: Microsoft Internet Explorer, version 9 or higher
- 100/1000BASE-T network switch
- CAT5e cable

### 4.3 Factory Default IP Address and Settings

The camera is shipped with:

- IP Address: 192.168.2.150
- Subnet mask: 255.255.255.0
- Gateway: 192.168.2.1

### 4.4 Factory Default User Names and Passwords

The camera is shipped with the user names and passwords shown in the table.

Access Level	Username	Password
Administrator	admin	admin
Operator	operator	operator
User	user	user
Anonymous	anonymous	anonymous

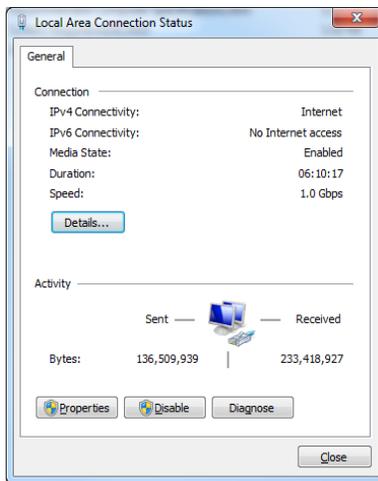
Important: Passwords are case-sensitive; usernames are not.

## 4.5 Assigning the Static IP Address

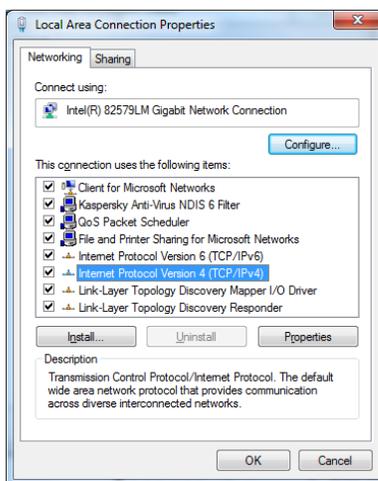
Important: In order to make changes in network settings and install ActiveX® controls in the local machine the user must be logged in as Administrator. Please contact your local IT department if you do not have Admin privileges.

Set your computer IP address to the same subnet as the camera system IP address:

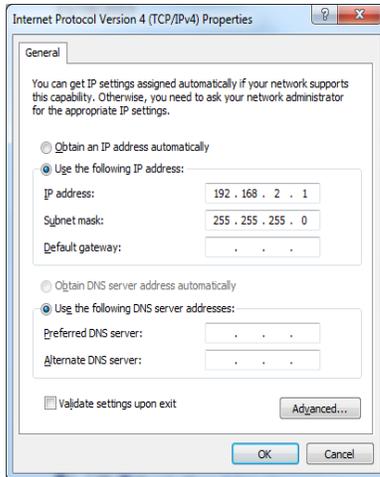
1. Go to Start > Control Panel > Network and Sharing Centers > Local Area Connection.
2. The Local Area Connection Status dialog box opens. Click the Properties button.



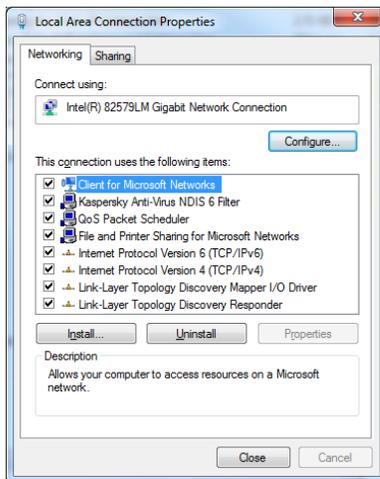
3. The Local Area Connection Properties dialog box opens. In the Networking tab, highlight the Internet Protocol Version 4 (TCP/IPv4) line. Click the Properties button.



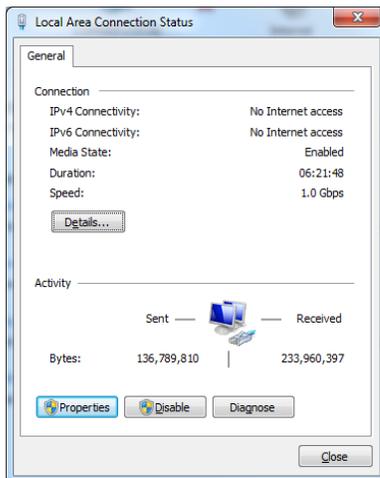
4. The Internet Protocol Version 4 (TCP/IPv4) dialog box opens:
  - a. Select the Use the following IP Address button in the General tab.
  - b. Enter IP address: the IP address range is 192.168.2.1 through 192.168.2.254 except 192.168.2.150 (the default address that has been assigned to the camera).
  - c. Enter the subnet mask: 255.255.255.0.
  - d. Click the OK button to close the Internet Protocol Version 4 (TCP/IPv4) dialog box.



5. Click the Close button to close the Local Area Connections Properties dialog box.



6. Click the Close button to close the Local Area Connection Status dialog box.



## 4.6 Assigning the New Camera IP Address

No two devices on a single Ethernet network can have the same IP address. Use the following steps to change a camera IP address before a second camera is added to the subnet.

1. Set your computer IP address to the same subnet as the camera IP address: Setup Page > Network > IPv4 Network Setting.

Important: In order to make changes in camera configuration the user must be logged in as Administrator.

The screenshot displays the 'IPv4 Network Settings' configuration page. At the top, there is a dropdown menu for 'Interface' set to 'eth0'. Below this, there are three main sections: 'IP Configuration', 'DNS Configuration', and 'Current Auto Negotiation Setting'. 'IP Configuration' has 'Static' selected over 'DHCP', with fields for 'IP address' (192.168.2.199), 'Subnet mask' (255.255.255.0), and 'Default gateway' (192.168.2.1). 'DNS Configuration' has 'Static' selected over 'DHCP', with fields for 'Preferred DNS Server' (172.16.10.110) and 'Alternate DNS Server'. 'Current Auto Negotiation Setting' has 'Enabled' selected. Below these are 'Current Duplex Setting' (Full) and 'Current Network Speed' (100 Mb/s). At the bottom, there is an 'MTU' field set to 1500 and a 'Device Name' field set to 'CohuHDCamera'. 'Save' and 'Cancel' buttons are at the bottom.

2. Change the camera address. The camera address can be changed manually or through a Dynamic Host Configuration Protocol (DHCP) server.

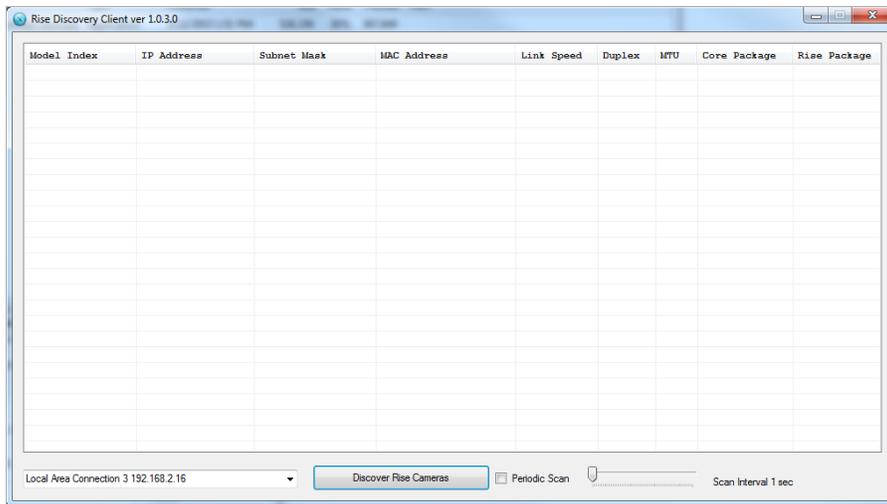
Important: Care must be taken when modifying parameters on this page as the changes can make the camera inaccessible through the network. Consult with your network administrator before starting to assign new network settings to ensure that your camera won't conflict with other devices.

3. Write down the new camera address to make the camera easy to find later. If the camera IP address becomes lost, use the RISE Camera Discovery Tool to find the camera on a network. The software is available as a free download at <http://www.cohuhd.com/Support/Software-Downloads>. Under RISE Camera Discovery Tool, click "Download Now".

## 4.7 Using the RISE Camera Discovery Tool

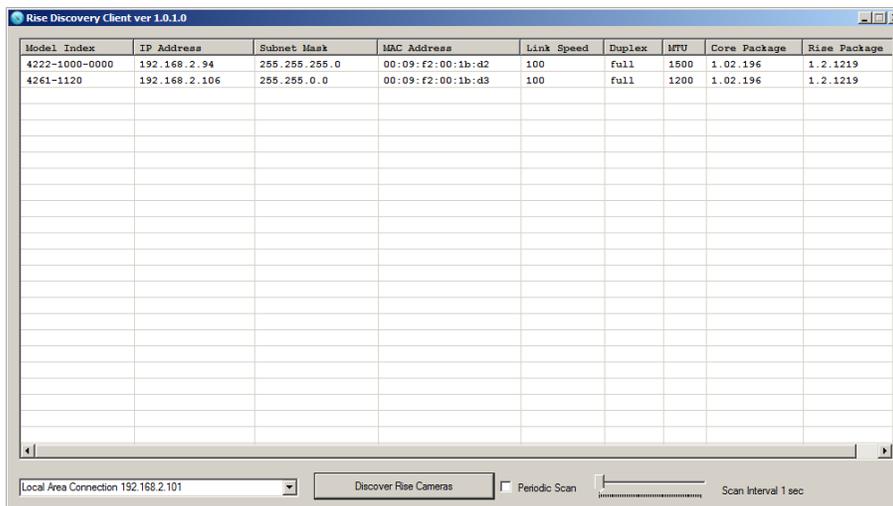
1. Download the RISE Camera Discovery Tool. The software is available as a free download at: <http://www.cohuhd.com/Support/Software-Downloads>. Under RISE Camera Discovery Tool, click “Download Now”. Run the RiseDiscoveryClient.exe file. Click to start it. The Rise Discovery Client window will be displayed.

Note: The autodiscovery feature uses network broadcast packets and may not work through network routers.



2. Click on the Discover Rise Cameras button. A window with a list of cameras will be automatically displayed.

Note: Use the MAC Address or Model Index to identify CohuHD cameras. “00-09-f2” identifies cameras as CohuHD cameras. The MAC address of the camera is on the serial number label.



**Periodic Scan:** Check the box to enable or disable periodic scans.

**Scan Interval:** Move the slider indicator to establish a desired scan interval. A minimum interval is one second.

To schedule scans:

- Check the Periodic Scan box.
- Move the slider indicator to set a scan interval value.

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Note: If the Periodic Scan box is unchecked, the scan will be initiated only once.

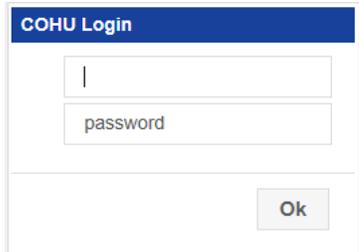
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3. Double-click a row in the discovered cameras grid. That will open your default browser and navigate to the camera's login page. Type the user name and password.

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Important: The RISE web application is only certified with Internet Explorer version 9.0 or later.

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The image shows a screenshot of a web login form titled "COHU Login". The form has a blue header bar with the text "COHU Login" in white. Below the header, there are two input fields: the first is for the user name, containing a vertical cursor, and the second is for the password, containing the text "password". At the bottom right of the form is a button labeled "Ok".

## 4.8 Accessing the Camera Using Web Interface

The web interface works with Internet Explorer version 9.0 or later. Microsoft ActiveX® is required to view and control video in the web interface.

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Important: In order to make changes in network settings and install ActiveX® controls in the local machine the user must be logged in as Administrator. Please contact your local IT department if you do not have Admin privileges.

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Upon delivery, the first time you access the camera system for starting a video stream take the following steps:

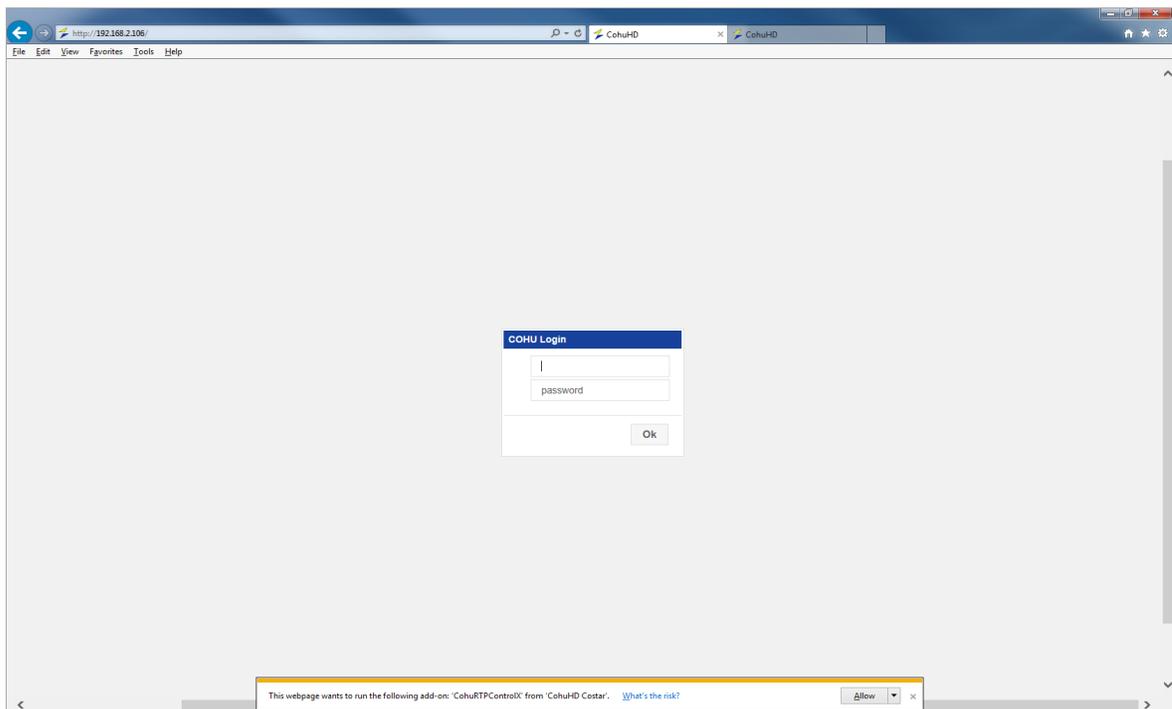
1. Log in as a local administrator on your computer.
2. Start Microsoft Internet Explorer.

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Note: You may need to set the security level and add the camera system as a trusted site in order to run a video.

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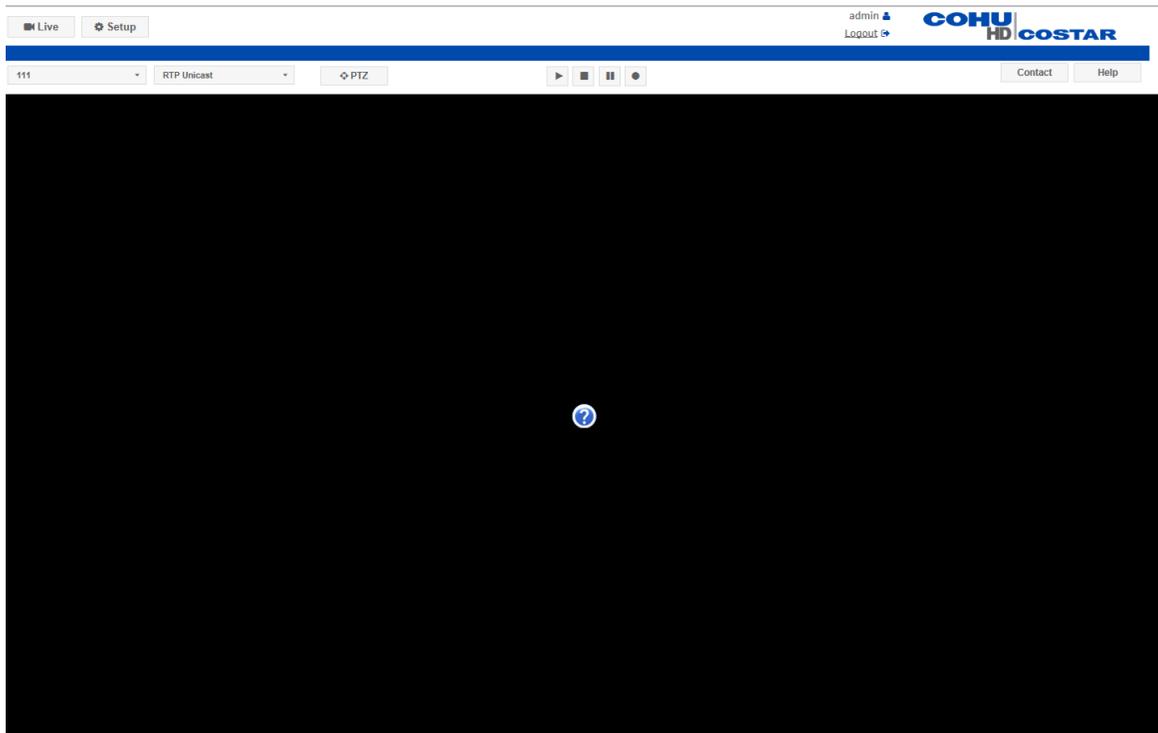
3. Enter the camera IP address in the browser address box. The default address is <http://192.168.2.150>.
4. The CohuHD Login page appears.



5. The camera will attempt to install an ActiveX control on your PC. Allow the camera to install ActiveX control by clicking on the prompt "This web page wants to run the following add-on: CohuRTPControlX from CohuHD Costar." Click the Allow button.
6. Type user name and password. Click OK. See *"Password Protection"* on page 30. See *"Factory Default User Names and Passwords"* on page 23.



7. The Live page appears.



8. Click the Play button  to start the video stream.

Important: Upon delivery, the first time you access the camera you are logged in as an Administrator and have unrestricted access to the camera's configuration and operation. Authentication is turned off and administrator rights are granted without log in. For security reasons, it is recommended that authentication be established promptly.

#### 4.9 Password Protection

If the camera is password-protected, a dialog box to enter the user name and password will be displayed.

1. Type the user name and password.
2. Click the OK button.

#### 4.10 Users' Accounts

Four users' accounts are defined in the web interface to allow different levels of access. Those accounts are:

- Administrator
- Operator
- User
- Anonymous

#### 4.11 Password Reset Procedure

If you lost or forgot your camera login passwords, you may request a password reset key (combination of random numbers and letters) to reset the camera passwords to their default settings.

Use the following steps to obtain passwords:

- a. Call Customer Service: 1-858-391-1800, option 4.

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Important: When you call, you must be able to send and receive emails, have the camera IP address and have Network access to the camera.

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- b. A Customer Service representative will email to you the link for the Password Reset Tool.
- c. Copy and paste the link into your browser. Ensure that your camera IP address is entered into the link.
- d. The Password Reset Tool opens with the Public Password Reset Key generated in the blue box. See example below.

### Password Reset Tool

**STEP #1**

Copy the key in the BLUE box into an email and send it to support@cohuhd.com. Please include the words 'Password Reset' in the subject line.

This key is only valid until Tue Jan 19 2016 10:27:03 GMT-0800 (Pacific Standard Time)

```
AV9m8myMfz9fxm1xYdNxKcRrvNITlyY+cRuzN0Kgxl8POKcra6010aSiU9kkj9tTYOniXS4
4V4VmmWAvZhiFe9kL5jYNM1tRlcYLFayDFU9ZsH6Fi1UQxeB/Q1TgrEdOwGseDBTIagiQ7hT7
8XW0FG2HQZhwE7qkyZ/179sO+X6ExyOKeVLtPqPC0eSygiFq+C42s+koALgCWaEmDZVqtQ1w
H5CxiEo+1RIAp1GEaUwZyZz2XeAJqUQnbwX4a17r1zFO8sJG3jj9pS+LvVQuUVqB17k00+z
Sj1qHxtiNwzsewq10NwqH1/OtCQd8FtjeDXMkWwELkvNINLJxutuDu3sSyqALDrVO14SfAZE
0GC7uUuHSpqgeSyDd3+1a0BCZsFz0AdFshdAJBS+wSnR6Q==
```

**Public Key**

**STEP #2**

Paste the key you receive back from CohuHD into the GREEN box and press Reset Camera Password.

**Private Key**

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Important: The Public Password Reset Key is only valid for 30 minutes.

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- e. Copy the Public Password Reset Key into the email. Send email to support@cohuhd.com.

---

Important: Do not close the Password Reset Tool window. The password reset, including communication with the Customer Service representative, must be accomplished within 30 minutes.

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- f. A Customer Service representative will generate the Private Password Reset Key and email it to you.
- g. Copy the Private Password Reset Key and paste into the green box.

---

Important: Ensure that both Public and Private keys are in their respective boxes. See example below.

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## Password Reset Tool

### STEP #1

Copy the key in the BLUE box into an email and send it to support@cohuhd.com. Please include the words 'Password Reset' in the subject line.

This key is only valid until Fri Feb 26 2016 11:03:27 GMT-0800 (Pacific Standard Time)

```
gpPhuJgwFw47Yyh3KJKoCkQQwYeUAuP3PdmQS2KS0fOmGWTcEMFzaN5xbP1vTIM/ZjflLcH2b
dvrblDWFejR9m5Oq1Cjx28r19vYFEqsYakbF+BjTOfqVBbei8cs9BGo67vyluJR81yhXSE3Q
H7uxDH8XsxYs4K8LezpC50Bw/T9Y+OWTA8rre77zkd4suepaHLDWeXUPGuxFE6vMlTve9oaYA
130q3IxxnGLhJpnNcRfmCu0/09RdoHMA8c1ELddjsMxbAk/IMJbmqqJziB3wtivPsYcOICI
h0yLRMr5wMRFnVF2LcB18WAYo0VuTyF88FBolYLWng7/nBYr9o9JuG5Sp3f4zj81EbEP1IZC
hag1DnFpkz4pWv1Xizak/DZui673oplQpdt2WQGzmPfENw==
```

New Password Reset Key

Public Key

### STEP #2

Paste the key you receive back from CoHUHD into the GREEN box and press Reset Camera Password.

```
cbbcApYtY4nVmvYV/XjDRwOGrfiAWT2dT70TS4GuVHQJ+r2yynzQAfOx96ZnDUK4euQ7att0
WzqXYTDe5y/RtENRZbwj66zpGq0ZJ087nhvKNCr5gLxpA985oJU1uAC68SNUGA82GH03or
98GYWKnX96r29RoulEMxrsGCBT2W156F46vlpYFwB7so9VXXIXW00BnCcjj+O/XVgtTtahn
01P15J0jUg27YzLxnYlJ+pYzFGcTuJok41Dl0IftPosYF3PIYPUJ3UcZUe1S5EARp15Pzqt
TBlfSrWHrY0w1qQcnkdr+QzIdiv70ulr92xP+fbBTimG/YFz+9tMwrXXVXFy1ehFmLP/yGbv
aJyV440SUUWbBSE/M6K2OGJc1KyYqfGK8BX5qbBSHTBwXw==
```

Reset Camera Password

Private Key

- h. Press the Reset Camera Password button.
- i. The default camera login passwords will be restored and the camera will be rebooted.
- j. After the default camera passwords are restored, you can choose new passwords.

## **5.0 Maintenance**

The system is intended for long-term unattended use, and maintenance requirements are minimal:

- Clean exterior as needed.
- Clean the clear dome on the camera as needed. Use soft nonabrasive cloth like terry cloth or microfiber cloth, and a mild detergent suitable for polycarbonate.
- Periodically check cables for deterioration and connectors for corrosion.

## **6.0 Warranty**

Please refer to the CohuHD website for product warranty information:

<http://www.cohuhd.com/Support/Warranty>.

For more information please visit us at:

[www.CohuHD.com](http://www.CohuHD.com)

To report errors, omissions, or provide any suggestions  
please send an email to

[TechPub@CohuHD.com](mailto:TechPub@CohuHD.com)

Revision History		
Revision	Date	Comments
A	3/17/16	Initial Release