Precautions

Safety Tips

- Please read this manual carefully before using the camera.
- Avoid damage from stress, violent vibration or liquid intrusion during transportation, storage or installation.
- Take care of the camera during installation to prevent damage to the camera case, ports, lens or PTZ mechanism.
- Do not apply excessive voltage. (Use only the specified voltage.) Otherwise, you may experience electrical shock.
- Keep the camera away from strong electromagnetic sources.
- Do not aim the camera at bright light sources (e.g. bright lights, the sun, etc.) for extended periods of time.
- Do not clean the camera with any active chemicals or corrosive detergents.
- Do not disassemble the camera or any of the camera’s components. If problems arise, please contact your authorized dealer.
- After long term operation, moving components can wear down. Contact your authorized dealer for repair.

Supplied Accessories

- 10X Zoom 1080p USB 2.0 HD Video Conference Camera (1)
- 12V/2.0A DC Power Adapter (1)
- Tripod Mounting System (1)
- USB 2.0 Data Cable (16ft/4.8m), Serial Control Cable, RS-232C to RS-485 Adapter
- IR Remote Controller
- User Manual (1)
Physical Description

1. Front View

1. Lens
2. IR Receiver
   - To receive IR remote controller signal.
3. Power LED
   - Blue LED lights when unit is powered, LED is dark for Stand-By status.
4. IR Receiver
   - To receive IR remote controller signal.
2. Rear View...

5. DC IN 12V Socket
   Only use the Power Adapter supplied with this camera.

6. IR Receiver
   To receive IR remote controller signals.

7. RS232 IN Port
   For hard wired remote control from a 3rd party PC, joystick, etc...

8. RS485 IN Port
   For hard wired remote control from a 3rd party PC, joystick, etc...

9. USB 2.0 Interface
   For connection to PC USB 2.0 port. Will also function in a USB 3.0 port as USB 2.0 device.
3. **Bottom View**

![Bottom View Image]

1. **Tripod**
   Will accept 1/4-20 bolt from 3rd party tripod, wall or ceiling mount using included tripod adapter.

2. **Dip-Switch**
   Used for selecting serial and IR communications settings.
4. Dip-Switch Settings

Note: When changing Dip-Switch settings, make all changes with camera powered off.

SW1: Used for setting RS232 address.

<table>
<thead>
<tr>
<th>Address</th>
<th>SW1 Switch State 1-7, (8 for stand-by)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DIP-1</td>
</tr>
<tr>
<td>1</td>
<td>ON</td>
</tr>
<tr>
<td>2</td>
<td>OFF</td>
</tr>
<tr>
<td>3</td>
<td>OFF</td>
</tr>
<tr>
<td>4</td>
<td>OFF</td>
</tr>
<tr>
<td>5</td>
<td>OFF</td>
</tr>
<tr>
<td>6</td>
<td>OFF</td>
</tr>
<tr>
<td>7</td>
<td>OFF</td>
</tr>
</tbody>
</table>

Notes:

1. Broadcast address: If the Joystick is 255 (all dip switches on), any Camera can be controlled by any address.
2. Test Address: If the dome camera address is 0 (all dip switches off), any address code can control the dome camera.

SW2: Used for communication settings.
**SW2 DIP-1,2,3: Baud Rate, Communication Protocol**

<table>
<thead>
<tr>
<th>Baud Rate</th>
<th>SW2 DIP-1</th>
<th>Communication Mode</th>
<th>SW2 DIP-2</th>
<th>Communication Protocol</th>
<th>SW2 DIP-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>9600bps</td>
<td>OFF (Def)</td>
<td>RS-232</td>
<td>OFF (Def)</td>
<td>VISCA</td>
<td>OFF (Def)</td>
</tr>
<tr>
<td>38400bps</td>
<td>ON</td>
<td>RS-485</td>
<td>ON</td>
<td>PELCO-D</td>
<td>ON</td>
</tr>
</tbody>
</table>

**SW2 DIP-4,5: IR Remote Control Receiving Address Table**

<table>
<thead>
<tr>
<th>IR Remote Address</th>
<th>SW2 Switch State (4-5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DIP-4</td>
</tr>
<tr>
<td>0</td>
<td>OFF (Def)</td>
</tr>
<tr>
<td>1</td>
<td>OFF</td>
</tr>
<tr>
<td>2</td>
<td>ON</td>
</tr>
<tr>
<td>3</td>
<td>ON</td>
</tr>
</tbody>
</table>

**SW2 DIP-6: IR Output**

<table>
<thead>
<tr>
<th>IR Out</th>
<th>SW2 DIP-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabled</td>
<td>OFF (Def)</td>
</tr>
<tr>
<td>Enabled</td>
<td>ON</td>
</tr>
</tbody>
</table>
Cable Connection Info

VISCA RS-232C - IN Reference

VISCA RS-232C IN

<table>
<thead>
<tr>
<th>Pin S/N</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DTR IN</td>
</tr>
<tr>
<td>2</td>
<td>DSR IN</td>
</tr>
<tr>
<td>3</td>
<td>TXD IN</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
</tr>
<tr>
<td>5</td>
<td>RXD IN</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
</tr>
<tr>
<td>7</td>
<td>IR Commander Signal OUTPUT</td>
</tr>
<tr>
<td>8</td>
<td>NO Connection</td>
</tr>
</tbody>
</table>

VISCA RS-232C - Out Reference

VISCA RS-232C OUT

<table>
<thead>
<tr>
<th>Pin S/N</th>
<th>Function</th>
<th>RS-232</th>
<th>RS-485</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DTR OUT</td>
<td>TX+</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>DSR OUT</td>
<td>TX-</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>TXD OUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>RXD OUT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>RS-485</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>RS-485</td>
<td>+</td>
</tr>
</tbody>
</table>
**IR Remote Controller**  (Note: Some buttons do not operate for all camera models)

1. **Reset:**
   Restarts the camera and restores it to Factory Default settings.
   *(Note: Will delete all memory)*.

2. **Camera Selection**
   Select Camera ID: 1, 2 or 3

3. **Preset Positions**
   1-9: Preset Positions
   Set: Setting Preset Position
   Clear: Clear Preset Position
   Call: Call Preset Position
   *(Note: If you want to set (or call) the first preset position to 1, you should press number key “1”, then press “Set” (or “Call”) to set (call) the position.)*

4. **Fast Zoom in/out Control Zone**
   +: Zoom in quickly
   -: Zoom out quickly

5. **Pan/Tilt Controller**
   
   ![Pan/Tilt Controller Diagram]
   - Move Up
   - Move Down
   - Move Left
   - Move Right
   - Auto Pan

6. **Additional Function Zone**
   - Freeze: Image Freeze
   - BL: Back-light Compensation
   - WB: White Balance
   - AE: Auto Exposure
   - D Zoom: Digital Zoom
   - HDMI: Swap to HDMI video output
   - DVI: Swap to DVI video output
   - Format: Swap between different formats

7. **Power Supply Switch**
   Switch for turning camera on (i.e. Stand-By mode vs. Working mode)

8. **OSD Menu Zone**
   - Dome OSD: Enter Pan Tilt Zoom OSD menu
   - Lens OSD: Enter lens OSD menu

9. **Slow Zoom In/Out Zone**
   +: Zoom in slowly
   -: Zoom out slowly

10. **Focus Control Zone**
    - Auto: Turn on auto focus
    - Manual: Turn on manual focus
    - Far: Set focus at farther distance
    - Near: Set focus at nearer distance
11. **Pan/Tilt Function Zone**

   L-Limit: Set left boundary limit scanning position
   Scan: Enable Boundary Scanning (Auto Panning)
   R-Limit: Set right boundary limit scanning position
   Home: Go to camera’s Home position
   Tour: Enable automatic patrol tour of presets
   Rev: Enable image flip for ceiling mounting

**OSD MENU**

**DOME**

- **Pan Speed**
  - Set speed of Pan motor
    - Range = 1 - 63

- **Tilt Speed**
  - Set speed of Tilt motor
    - Range = 1 - 63

- **Scan Speed (Auto Pan Mode)**
  - Set speed of boundary scan
    - Range = 1 - 63

- **Tour Path (User Presets)**
  - Select desired tour path
    - Range = 1 - 4

- **Tour Dwell**
  - Set duration to dwell on each preset
    - Range = 1 - 60

- **Proportion**
  - Default Value: ON

- **(Pan + Tilt speed proportional to zoom level)**
  - Set Proportion
    - Range = On - Off
Auto Rev
Default Value: P
  • Set camera mounting orientation
    ▪ N for inverted ceiling mount, P for std. mount

Frame
Default Value: 60Hz
  • Set refresh Rate
    ▪ Range = 50Hz or 60Hz

Preset Freeze
Default Value: ON
  • Provides automatic temporary freeze frame when switching between presets
    ▪ Range = On - Off

POS Comeback
Default Value: ON
  • Allows the camera to revert to last position left at for 30+ seconds
    ▪ Range = On - Off

LENSS

BL (Backlight)
Default Value: OFF
  • ON/OFF

Saturation
Default Value: 9
  • 1 - 15

Sharpness
Default Value: 3
  • 0 - 15

NR (Noise Reduction)
Default Value: OFF
  • OFF/AUTO/1-4

WB (White Balance)
Default Value: AUTO
  • Range: AUTO/INDOOR/OUTDOOR/ONEPUSH/ATW/MANUAL

RGAIN
Default Value: 76
  • 0 - 255

BGAIN
Default Value: 82
  • Range: 0 - 255
• **AE (Auto Exposure)**  Default Value: AUTO
  o Auto/Manual

• **Shutter**  Default Value: 1/90
  o Shutter Speed Range: 1/60 - 1/10000

• **Iris**  Default Value: FIXED
  o FIXED only

• **Bright**  Default Value: 8
  o Set Brightness: 0 - 15

---

**Connection Instructions**

1. Connect included Power Supply to the camera.
2. Wait for camera to come to Home Position.
3. Connect included USB 2.0 cable to camera and USB port of PC.
4. Select and configure camera in your software of choice.

**NOTE:** Failure to follow this sequence may result in no connection to PC.

**Care Of The Unit**

Remove dust or dirt on the surface of the lens with a blower (commercially available).
Installation Instructions

Desktop Installation

When using the HuddleCam™ on a desk, Make sure that it will stand level. If you want to use the camera on an incline, make sure the angle is less than 15 degrees to ensure that the camera’s pan and tilt mechanism operates normally.

Tripod Installation

When using the HuddleCam™ with a tripod, screw the tripod to the bottom of the camera. The tripod screw must fit below specifications:

Note: Tripod must stand on a level surface.
To fix the tripod mount to the bottom of the camera, use the supplied screws to hold it in place.

Then screw the tripod to the tripod bracket.
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is no power to the camera.</td>
<td>Power adapter is disconnected from mains or from camera.</td>
<td>Check the connections between the camera, power adapter and mains. If</td>
</tr>
<tr>
<td></td>
<td></td>
<td>anything is disconnected, reconnect it.</td>
</tr>
<tr>
<td>Camera will not connect to the PC</td>
<td>USB cable is bad.</td>
<td>Try new USB Cable</td>
</tr>
<tr>
<td>via USB.</td>
<td>Camera connects sometimes.</td>
<td>Connect USB only after camera has completely booted.</td>
</tr>
<tr>
<td>Camera unable to pan, tilt, and/or</td>
<td>Menu is currently displayed on the screen.</td>
<td>Retry after exiting the menu.</td>
</tr>
<tr>
<td>zoom.</td>
<td>Pan, tilt or zoom range limit was reached.</td>
<td>Try to pan/tilt/zoom in the other direction.</td>
</tr>
<tr>
<td>Remote control not working.</td>
<td>The “camera select” button on the remote control is not</td>
<td>Choose the correct “IR select” number to match camera settings.</td>
</tr>
<tr>
<td></td>
<td>set to match the “IR address” set on the camera dip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>switch.</td>
<td></td>
</tr>
<tr>
<td>Camera cannot be controlled via VISCA.</td>
<td>The connection between the PC and camera is incorrect.</td>
<td>Refer to Cable Connection Info section of this manual.</td>
</tr>
<tr>
<td></td>
<td>Commands being sent are incorrect.</td>
<td>Refer to VISCA manual.</td>
</tr>
<tr>
<td>The Camera is not working at all.</td>
<td>No response or image from camera.</td>
<td>Disconnect power, and wait a few minutes, then connect the power again.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Retry.</td>
</tr>
</tbody>
</table>
Important Notes Regarding USB Connectivity:
USB 3.0 ports are backwards compatible with USB 2.0 devices. USB 2.0 ports are not completely forward compatible with USB 3.0 devices (some USB 3.0 devices will connect to USB 2.0 with limited functionality).
External USB hubs should be avoided (i.e. give the camera its own USB port on the device) as they are not well suited to transmitting HD video reliably.
USB extension systems must be fully compatible with the version of USB that you are using and must utilize an external power supply, when required. Caution: Some “compatible” USB 3.0 extenders do not actually have the full 5Gbps bandwidth required for uncompressed HD video - so check bandwidth specs. Always connect the HuddleCam directly to the device in order to associate the UVC drivers before attempting to use any extension system.
USB 3.0 power saving settings in the device’s operating system should be turned off completely for reliable USB 3.0 camera connectivity.

HuddleCam Cameras
All HuddleCamHD cameras utilize the UVC (USB Video Class) drivers that are built into Windows, Mac OS and Linux to stream HD video to your device via your device’s USB port (USB 2.0 or USB 3.0 depending upon HuddleCam model). When your device successfully recognizes the camera, your device will register the HuddleCam as an “imaging device”. You can see this in your Windows Device Manager program (type “device manager” into the Windows search tool) as shown in the screenshot, below:
In this example, you can see the HuddleCam model in use connected as a fully functional USB 3.0 device (HuddleCamHD) as well as a USB 2.0 device with limited functionality (USB2.0 Camera).

If your device has not connected to or has not recognized the HuddleCam as an imaging device (in which case, you may see a new “unknown device”, “Westbridge” or “CYTFX3” labeled device show up in Device Manager’s “Universal Serial Bus Controllers” section rather than in the “Imaging Devices” section), the HuddleCam will not be available to programs that utilize a camera. In this case, try restarting the device and reconnecting the camera via USB (USB 2.0 or USB 3.0 depending upon HuddleCam model).

Similarly, you can see a connected device in System Information on a MAC. See screenshot below:
In this example, you can see the HuddleCam model in use connected as a fully functional USB 3.0 device “HuddleCamHD” as well as a “USB2.0 camera” with limited functionality (USB2.0 camera).
Specs .................................................................................................................................
Model Number: HC10X-USB2-(xx) Color (xx): BK=Black; WH=White

Camera & Lens
- Video CMOS Sensor 1/2.8” CMOS, 2.1 Mega Pixel
- Frame Rate 30fps 1920 x 1080
- Lens Zoom 10X Optical Zoom f=4.7 47mm
- Min Lux 0.1 Lux at F1.6
- Field of View 7° (tele) to 57° (wide)
- Warranty 2 Years

Pan/Tilt Movement
- Pan Movement 0-359°
- Tilt Rotation Up: 90°, Down: 45°
- Presets 64 Presets

Rear Board Connectors
- Video Interface USB 2.0 UVC 1.5
- Control Signal Interface UVC 1.5 - Mini DIN-8 (RS232 IN, RS485 IN, Pelco-D/P IN/OUT)
- Control Signal Config. Dip-Switch Pin 7/TTL Signal
- Baud Rate 9600 bps
- Power Supply Interface DC 12V 2A

Electrical Index
- Power Supply Adapter 12V DC 2A
- Input Voltage 12V DC (10.5-14V DC)
- Input Power 24W (Max)
- Working Environment Indoor

Physical
- Material Aluminum, Plastic
- Dimensions 4.88”W x 5.5”H x 4.75”D (6” H w/ Tilt up)
- Weight 1.66 lbs (.75 kg)
- Box Dimensions 8.75” x 8.88” x 7” (222mm x 225mm x 178mm)
- Boxed Weight 3.66 lbs | 1.66 kg
- Color Black & White
- Operating Temperature 32°F to + 113°F (0°C to +45°C)
- Storage Temperature -14°F to 140°F (-10°C +60°C)
- Working Environment Indoor only