HuddleCam-HD™ 10X
USB PTZ Camera Manual

Please read this Manual before setting up and using the camera to ensure it’s best performance.

www.HuddleCamHD.com

Providing USB Video Conferencing Solutions for the 21st Century
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 USB 3.0 HD Video Conference Camera (1)
• 12V/2.0A DC Power Adapter (1)
• Tripod Mounting System (1)
• Wall Installation Mounting System (1)
• Ceiling Mounting System (1)
• USB 3.0 Data Lines (3m), Serial Control Line, RS-232C to RS-485 Cable
• IR Remote Controller
• Control Cable (1)
• User Manual (1)

Rear Board Connectors

High Definition Interface: USB 3.0
Control Signal Interface: mini DIN-8 (VISCA IN, VISCA OUT/RS485)
Control Signal Configuration: Dip-Switch Pin 7/TTL Signal; Baud Rate: 9600bps
Power Supply Interface: DC 12V Socket

Electrical

Power Supply Adapter: 12V DC/2A
Input Voltage: 12V DC (10.5-14V DC)
Input Power: 24W (MAX)

Structure

Material: Aluminum, Plastic
Dimensions (W x H x D): 4.88 in. (123.952mm) x 5.75 in. (146.05mm) x 4.75 in. (120.65mm)
Mass: 1.46 lbs. (0.67kg.)
Working Environment: Indoor
Operating Temperature: 32°F (-0°C) to 113°F (+45°C)
Storage Temperature: -14°F (-10°C) to 140°F (+60°C)
Color: Silver Gray
Rear Board & Function

1. Front View

1. **Lens**
   10x Optical Zoom.

2. **IR Receiver**
   To receive IR remote controller signal.

3. **Power LED**
   Blue LED blinks when unit is powered, Orange LED blinks for Stand-By status.

4. **IR Receiver**
   To receive IR remote controller signal.
5. DC IN 12V Socket
   Only use the Power Adapter supplied with this camera.

6. IR Receiver
   To receive IR remote controller signals.

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

8. VISCA Out Port/RS485
   Used for daisy chaining multiple cameras for RS-232 RS-485 control.

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**

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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 Diagram ]

<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 Diagram ]

<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>RS-485-</td>
</tr>
<tr>
<td>6</td>
<td>GND</td>
<td></td>
<td>RS-485+</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
OSD MENU

On Screen Display Menu - Use the OSD menu to access and change the camera’s settings.

Note: You cannot manually move the camera (pan/tilt) when the OSD menu is visible on the screen.

The Dome OSD Menu is as follows:

• Pan Speed                           Default Value: 20
  Set speed of Pan motor - Range = 1 - 63

• Tilt Speed                          Default Value: 20
  Set speed of Pan motor - Range = 1 - 63

• Scan Speed (Auto Pan Mode)          Default Value: 6
  Set speed of boundary scan - Range = 1 - 63

• Tour Path (uses presets)            Default Value: 1
  Select desired tour path - Range = 1 - 4

• Tour Dwell                          Default Value: 5
  Set duration to dwell on each preset - Range = 1 - 60

• Proportion                          Default Value: On
  Set Proportion - Range = On - Off

• Auto Rev                            Default Value: P
  Set camera mounting orientation - N for inverted ceiling mount

• Frame                               Default Value: 60Hz
  Set Refresh Rate - Range = 50Hz or 60 Hz
The Lens OSD Menu is as follows:

- **DISPLAY**
  Default Value: Off
  On Screen Display = On or Off

- **SHARPNESS**
  Default Value: Low
  Level of Sharpness:
  Low/Normal/High

- **SATURATION**
  Default Value: Normal
  Level of Saturation
  Low/Normal/High

- **NR (Noise Reduction)**
  Default Value: 3
  Adjustable Value: 0-5

- **WB (White Balance)**
  Default Value: Auto
  Auto/Manual/Outdoor/Indoor/One Push/ATW
  (Manual Settings):
  - **R GAIN (Red Gain)**
    Default Value: 206
    Adjustable Scope: 0-255
  - **B GAIN (Blue Gain)**
    Default Value: 150
    Adjustable Scope: 0-255

- **AE (Auto Exposure)**
  Default Value: Auto
  Auto/Manual
  (Manual Settings):
  - **SHUTTER**
    Default Value: 1/1
    Shutter Speed Range: 1/1-1/10000
  - **IRIS**
    Default Value: Close
    Close/F1.4-f22
  - **BRIGHT**
    Default Value: 0
    Set Brightness 0 - 31
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**
   - 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

**Connection Instructions**

1. Connect included Power Supply to the camera.
2. Wait for camera to come to Home Position.
3. Connect included USB 3.0 cable to camera and USB 3.0 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.
Wall and Ceiling Mount

Wall Installation

Step 1:
Remove two screws securing round tripod mount (step not shown) to bottom of camera body. Retain screws.

Step 2:
Using plastic anchors and screws provided, mount wall bracket to wall (step not shown). Insert camera bracket into wall bracket. Use screw provided to lock camera bracket to wall bracket.

Step 3:
Slide decorative plastic cover onto wall bracket and snap into place.

Step 4:
Mounting completed, connect cabling.

Ceiling Installation

Step 1:
Remove two screws securing round tripod mount (step not shown) to bottom of camera body. Retain screws.

Step 2:
For acoustic tile ceilings - Cut a piece of plywood 12” x 22.75” to use as a tile bridge above the ceiling tile. Use the supplied screws (without plastic anchors) to fix the ceiling bracket to the plywood, sandwiching the ceiling tile in between. Do not overtighten.

Step 3:
For hard ceilings - Use the supplied plastic anchors and screws to fix the ceiling bracket to the ceiling.

Step 4:
Mounting completed, connect cabling.
## 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 anything is disconnected, reconnect it.</td>
</tr>
<tr>
<td>Camera will not connect to the PC via USB.</td>
<td>USB cable is bad.</td>
<td>Try new USB Cable</td>
</tr>
<tr>
<td>Camera connects sometimes.</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 zoom.</td>
<td>Menu is currently displayed on the screen.</td>
<td>Retry after exiting the menu.</td>
</tr>
<tr>
<td></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 set to match the “IR address” set on the camera dip switch.</td>
<td>Choose the correct “IR select” number to match camera settings.</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. Retry.</td>
</tr>
</tbody>
</table>
Camera Technical Specifications:

- Resolution: Full HD 1920x1080 30FPS
- Zoom: 10X Optical Zoom
- Sensor: 1/3” CMOS, 2.1 MegaPixel
- Field of View: 45° Degrees
- Lens: f = 5 -50 mm F2.0-2.8
- PTZ: 359° Pan, 240° Tilt
- Video: USB 3.0
- Control: RS-232 Visca In/out
- Remote: IR Remote w/ Fast/Slow PTZ Controls
- Presets: 64 Presets
- Color: Silver/Black/White
- Warranty: 1 Year

NEW USB Driver offers both Video and Control for more convenient control of the camera on PC directly. No need to connect by RS232!

Priced at only $699 you cannot beat the 1080p video and dual purpose remote PTZ control/video connection driver.
Part of the HuddleCamHD Camera Line

HUDDLECAMHD 10X
HuddleCamHD | 10X Optical Zoom | USB 3.0 | 1920x1080p

HUDDLECAMHD 18X
18X Optical Zoom USB 3.0 | 1920x1080p | Camera

HUDDLECAMHD 20X
HuddleCamHD | 20X Optical Zoom | USB 3.0 | 1920x1080p

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