HDBaseT Receiver

USER MANUAL
VERSION: VCC-BR-M-11132017

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Operating Instructions

Thank you for purchasing our product. If there are any questions, please contact the authorized dealer.

Before operating the unit, please read this manual thoroughly and retain it for future reference.

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IMPORTANT INFORMATION

Legal Notice

Attention:
To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters). Password login does not apply to some models that do not need password login.

The contents of this document are subject to change without prior notice. Updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual. Best effort has been made to verify the integrity and correctness of the contents in this document, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, expressed or implied. We shall not be held responsible for any technical or typographical errors in this manual. The product appearance shown in this manual is for reference only and may be different from the actual appearance of your device. This manual is a guide for multiple product models and so it is not intended for any specific product. In this manual, the illustrations of displayed interface, parameters displayed, drawings and value ranges may vary with models. Please see the actual product for details. Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. Use of this document and the subsequent results shall be entirely on the user’s own responsibility.

Safety Information

WARNING!
Installation and removal of the unit and its accessories must be carried out by qualified personnel. You must read all of the Safety Instructions supplied with your equipment before installation and operation.

Warnings:

- If the product does not work properly, please contact your dealer. Never attempt to disassemble the camera yourself. (We will not assume any responsibility for problems caused by unauthorized repair or maintenance.)
- This installation should be made by a qualified service person and should conform to all the local codes.
- When shipping, the camera should be packed in its original packaging.
- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
- Do not aim the camera lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the camera.
Maintenance Precautions:

- If there is dust on the front glass surface, remove the dust gently using an oil-free brush or a rubber dust blowing ball.
- If there is grease or a dust stain on the front glass surface, clean the glass surface gently from the center outward using anti-static gloves or an oil-free cloth. If the grease or the stain still cannot be removed, use anti-static gloves or an oil-free cloth dipped with detergent and clean the glass surface gently until it is removed.
- Do not use organic solvents, such as benzene or ethanol when cleaning the front glass surface.

Regulatory Compliance

**FCC Part 15**
This equipment has been tested and found to comply with the limits for 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.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
This device may not cause harmful interference.
This device must accept any interference received, including interference that may cause undesired operation.

**LVD/EMC Directive**
This product complies with the European Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

**WEEE Directive–2002/96/EC**
The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.
WHAT’S IN THE BOX

HDBaseT Receiver X 1

DC12V 3A Power Adaptor/Power cord X 1

Bag of Mounting Screws X 1

Rackmount X 2

Rubber Pads X 4

RJ45 to RS232 Extension Cable X 1

RJ45 to RS422 Extension Cable X 1

Information Card/User Manual X 1
Overview

Camera Version

HDBaseT Version: HV:V.D.0000cdjk.14.001.01.A02

Model Numbers
This user guide is suitable for the following models:

• VCC-4K-BR

Features

• HDBaseT SingleWire Technology
• Uses One Cat5e/6 Ethernet cable (up to 100meters) to deliver camera power, up to 4K resolution video output, RJ45 to RS232/RS422/RS485 control and Audio.
• Transmit up to HD/Ultra-HD 4K resolution video output
• HDMI 1.4b video features supported
• Supports 3rd party IR receiving controller input and built-in IR receiver in HDBaseT box for use of IR remote controls
• 25W 802.3at PoE+ Power supply from HDbaseT box
• RS-232, RS-422/485 control over Ethernet port and IR remote control supported
• Power: DC 12V Power Supply
• Supports IP control and IP streaming Pass-Thru (HDBaseT receiver is not an IP video encoder, the LAN Port is IP Pass-Thru for the camera with IP control or IP streaming functionality. Do not sue it as an IP video encoder, The IP Pass-Thru function does not apply to model VCC-8-4K12S-SMB)
HDBaseT Adapter

1. LAN Port(RJ45)
   Connect network switch or router to this port for Ethernet. (Not an IP encoder)

2. IR Remote Controller Indicator
   These are sensors to receive commands from infrared remote controller, distance up to 10 meters.

3. RS-422 Control Port
   Use RJ45 to RS-422 extension adapter cable to remotely control PTZ camera. (Extension cable detail view on page 10)

4. RS232 Control Port
   Use RJ45 to RS-232 extension adapter cable to remotely control PTZ camera (Extension cable detail view on page 10)

5. 12V DC Power Port
   Connect include 12V DC power adaptor and cord.

6. Power LED Indicator
   Turns red when the device is connected to power outlet.

7. Heat-sink surface panel
   All aluminum body for quick heat dissipation.

8. HDMI Upholder
   To fixed male HDMI port in stabilization.

9. 3.5mm IR IN
   Connect to an IR receiver, The IR signal received from this port can send out via HDBaseT receiver.

10. v1.4b HDMI Video Output
    Connect to HDMI source display.

11. RJ45 Port for HDBaseT Input(802.3at PoE+)
    Support One-Cable transmission of camera power (POE+), 4K video and control signal. Connects to the HDBaseT camera via CAT5e/CAT6 cable. (Transmission distances of up to 100M/328ft)

12. 3.5mm jack Audio Out

13. HDBaseT Port signal Link indicator
    The LED lit GREEN when the camera is powered on.

14. HDBaseT Port signal Link indicator
    The LED flashed ORANGE when the camera transmits data with HDBaseT.
System Configuration

Connection

When the camera is connected to a computer and joystick keyboard with a VISCA cable (cross type, RS-232), you can operate the camera with the computer and the joystick keyboard. When the camera is connected to a joystick keyboard a control cable (cross type, RS-422/485), you can operate the camera’s pan, tilt, zoom with the joystick keyboard.

Obtain Video Signal

Use HDBaseT Receiver to obtain HDMI 4K / HD Video signal

1. Use Cat5e/Cat 6 network cable to connect the camera to HDBaseT Receiver.
2. Connect HDBaseT Receiver to a 4K or HD monitor/TV using HDMI cable. For displaying 4K video, a HDMI version 1.4 needs to be used.
3. Turn on the camera and the HDBaseT Receiver, video will display on the monitor after running initializing.
4. Information of the camera initial setting status will display for 5 seconds.
5. You can set the video format of the camera to the one you want to display.
Camera Control Methods and System Configurations

This unit has multiple ways of controlling the camera and various system configuration capabilities using optional products. This section describes ways of controlling and typical system examples with the required components and usage of each system.

1. Use the Infrared Remote Controller
2. Use HDBaseT Receiver to control.

Control the camera with using HDBaseT Receiver

Use the Infrared Remote Controller
To operate the camera from a short distance. For IR remote control details, refer to Operation Using the Infrared Remote Controller.

System Configuration Diagram

Control the camera using HDBaseT Receiver

1. Set RS232 control method on Bottom Dip Switch.
2. Set Baud Rate on Bottom Dip Switch to the same as Baud Rate setting on the keyboard you are using.
3. Reboot the camera by turning it Off/On after the Bottom Dip Switch has been set up correctly.
5. RJ45 to RS232 on HDBaseT receiver does not support daisy chain control.
6. Use Cat 6 network cable to connect the camera to HDBaseT Receiver.
7. Control connection in between HDBaseT Receiver and keyboard refer to the camera control connection.
RS232 and RS422/RS485 Control Connection

There are two ways to make the RS232 and RS422/RS485 control cable connection:

1. Use Cat 6 network cable to make the RJ45 connectors to connect to the camera. Follow the pinout below to make the RJ45 connectors.

   ![RS232 and RS422 pinout](image)

   1. IR_OUT: Orange/White
   2. DTR: Orange
   3. GND: Green/White
   4. DSR: Blue
   5. TX_OUT: Blue/White
   6. RX_OUT: Green
   7. TX_IN: Brown/White
   8. RX_IN: Brown

2. Use extension cables included to connect the RS232/RS422 control cable:
   a) **RJ45 to RS232 extension adapter cable.**
      This extension cable does not support daisy chain control. Use connector “IN/OUT” for 8-Pin Mini Din Serial RS232 Cable connection.

   ![RJ45 to RS232 pinout](image)

   1. IR_OUT: Orange/White
   2. DTR: Orange
   3. GND: Green/White
   4. DSR: Blue
   5. TX_OUT: Blue/White
   6. RX_OUT: Green
   7. TX_IN: Brown/White
   8. RX_IN: Brown

   b) **RJ45 to RS422 extension adapter cable.**
      You can use this extension cable to operate multiple cameras.

   ![RJ45 to RS422 pinout](image)

   1. RX-: Orange/White
   2. RX+: Orange
   3. GND: Green/White
   4. -: Blue
   5. -: Blue/White
   6. -: Green
   7. TX-: Brown/White
   8. TX+: Brown

   **Important:**
   - The baseline cable standard for HD/4K systems is Cat5e. Signal greater distances can be achieved by using Cat6e or higher above as Cat7, which have thicker copper cores for easier signal transfer.
   - Whichever network cable type you choose, ensure that the main wiring is ‘solid core’, not ‘patch’ cabling.
   - Terminate the cabling using RJ45 connectors to the 568B wiring standard, shown as below:

   ![RJ45 cable connector](image)

   RJ45 cable connector is wired to the AT&T 258A/EIA 568B standard.
Note
For control details, refer to Operating Instructions of control keyboard/station software.

- You need to match the Baud Rate between the camera and the joystick controller.
- You cannot use the RS-232 connections when using the RS422/485 connection.

Operating Multiple Cameras Using RS-422/485
- Using RS-422 (VISCA), you can connect up to 7 cameras.
- Using RS-485 (PELCO), you can connect up to 255 cameras.
- Using RS-485 (PELCO), all camera addresses must be set up before the connection. You can set the camera address by operating OSD menu, or by setting the Dip Switch on the bottom of the camera.
- In this case, you can use multiple control keyboards.
- The joystick of the remote keyboard controller allows comfortable pan/tilt and zoom operations.
### Dimension

Unit: mm

![Dimension Diagram]

### Installation

Screw up the rack mount on HDBaseT
Securing the HDMI cable on metal cable rack.

![Installation Diagram]
## Specifications

<table>
<thead>
<tr>
<th>Model No.</th>
<th>VCC-4K-BR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Name</td>
<td>HDBaseT Receiver</td>
</tr>
</tbody>
</table>

### Video

| Video | 4K: 2160p:23.978/29.97, 1080p/59.94/50/30/23.97/25, 1080i/59.94/50, 720p/59.94/50/30/25 |
| HDMI compliance | HDMI 1.4 |
| HDMI over UTP | CAT5e: 100m for up to 1080p60 CAT6/CAT6a/CAT7: 100m for up to 4K 2K/30 4:4:4 and 4K60 4:2:0 |
| IP Pass-Thru | For the camera with IP control or IP streaming functionality (camera model specific) |
| Equalization | Auto |

### Audio

| Audio | Surround sound (up to 7.1ch) or stereo digital audio |

### Control

<table>
<thead>
<tr>
<th>Control</th>
<th>PZT Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR pass-thru</td>
<td>One-way(RX)</td>
</tr>
<tr>
<td>IP Control</td>
<td>Support (camera model specific)</td>
</tr>
</tbody>
</table>

### Interface

<table>
<thead>
<tr>
<th>Interface</th>
<th>Video Output</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1XHDMI Type A - HDMI (4K), 1X RJ45 - IP Pass-Thru (100Mbps, extend connection only, not IP encoder)</td>
</tr>
<tr>
<td>Video Input</td>
<td>1XRJ45+4DBaseT(4K),</td>
</tr>
<tr>
<td>Audio Output</td>
<td>3.5mm Jack</td>
</tr>
</tbody>
</table>

### General

<table>
<thead>
<tr>
<th>General</th>
<th>Operating Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-20 to +60 (°C)</td>
</tr>
<tr>
<td></td>
<td>Operating Humidity</td>
</tr>
<tr>
<td></td>
<td>≤80% Suitable for Use</td>
</tr>
<tr>
<td>Power Input</td>
<td>DC12V, 3A</td>
</tr>
<tr>
<td>Power Output</td>
<td>802.3at PoE+, Provides power to camera over Cable5 cable</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>10W</td>
</tr>
<tr>
<td>Housing</td>
<td>Metal enclosure</td>
</tr>
<tr>
<td>Dimension</td>
<td>164x118x33mm</td>
</tr>
<tr>
<td>Weight</td>
<td>0.52kg</td>
</tr>
</tbody>
</table>

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