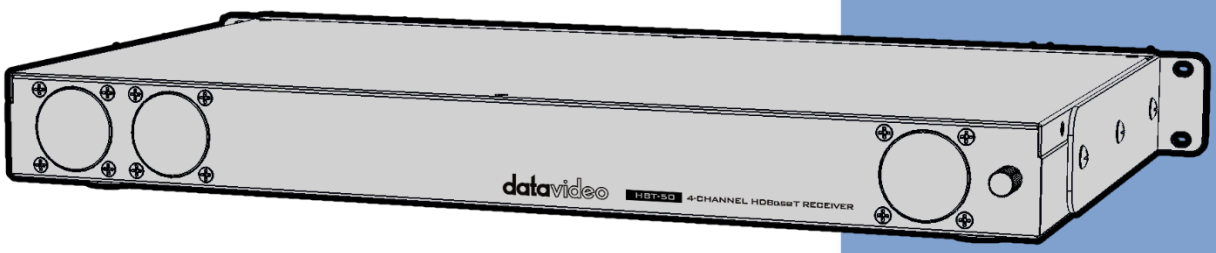
datavideo



4 Channel HDBaseT Receiver

HBT-50T

Instruction Manual

www.datavideo.com

Table of Contents

FCC COMPLIANCE STATEMENT **3**

WARNINGS AND PRECAUTIONS **3**

WARRANTY **4**

STANDARD WARRANTY 4
FIVE YEAR WARRANTY 4

DISPOSAL **5**

1. PRODUCT OVERVIEW **6**

FEATURES 6
SYSTEM DIAGRAM 7

2. CONNECTIONS **8**

FRONT PANEL 8
REAR PANEL 8

3. RS-232/RS-422 PINOUT **11**

RS-232 11
RS-422 11

4. FIRMWARE UPDATE **12**

FIRMWARE UPGRADE REQUIREMENTS 12
UPGRADE PROCEDURE 12

5. FREQUENTLY-ASKED QUESTIONS **13**

6. DIMENSIONS **14**

7. SPECIFICATIONS **15**

SERVICE AND SUPPORT **16**

Disclaimer of Product & Services

The information offered in this instruction manual is intended as a guide only. At all times, Datavideo Technologies will try to give correct, complete and suitable information. However, Datavideo Technologies cannot exclude that some information in this manual, from time to time, may not be correct or may be incomplete. This manual may contain typing errors, omissions or incorrect information. Datavideo Technologies always recommend that you double check the information in this document for accuracy before making any purchase decision or using the product. Datavideo Technologies is not responsible for any omissions or errors, or for any subsequent loss or damage caused by using the information contained within this manual. Further advice on the content of this manual or on the product can be obtained by contacting your local Datavideo Office or dealer.

FCC Compliance Statement

This device complies with part 15 of the FCC rules. 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.

Warnings and Precautions



1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord rating.
10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked “Do Not Remove” may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.

13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
    a. When the power cord is damaged or frayed;
    b. When liquid has spilled into the unit;
    c. When the product has been exposed to rain or water;
    d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
    e. When the product has been dropped or the cabinet has been damaged;
    f. When the product exhibits a distinct change in performance, indicating a need for service.

Warranty

Standard Warranty

- Datavideo equipment is guaranteed against manufacturing defects for **one (1) year** from the date of purchase.
- A valid purchase invoice or other proof of purchase must be provided when requesting warranty service.
- The warranty period begins on the actual purchase date. If the purchase date cannot be verified, the warranty period will begin **thirty (30) days after shipment** from a Datavideo office.
- Non-Datavideo branded products (products without the Datavideo logo) are covered by a **one-year warranty** from the date of purchase.
- Damage caused by accident, misuse, unauthorized repair, or exposure to sand, grit, or water is **not covered** under warranty.
- Virus or malware infections on computer systems are **not covered** under warranty.
- Any issues caused by unauthorized third-party software installations that are not required by Datavideo systems are **not covered** under warranty.
- All shipping, mailing, or transportation costs, including insurance, are the responsibility of the owner unless otherwise stated.
- **Teleprompter glass is not covered** under warranty.
- Accessories, including **headphones, cables, batteries, metal parts, housings, protective cases, cable reels, and consumable items**, are **not covered** under warranty.
- Warranty is valid only in the country or region of purchase.
- All other claims **not explicitly stated** are not covered.
- Your statutory rights remain unaffected.

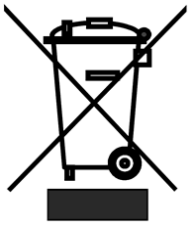
Five Year Warranty

- Starting January 1, 2026, all Datavideo products that are successfully registered on the Datavideo official website are eligible for a **free four-year extended warranty**, in addition to the standard one-year warranty, for a total of **five years of coverage**.



- **Only registrations completed through the Datavideo official website qualify** for the five-year warranty. Registrations completed through local Datavideo offices, resellers, or authorized distributors **are not eligible**.
- Certain parts with limited service life — including **LCD panels, DVD drives, hard drives, solid-state drives, SD cards, USB thumb drives, lighting equipment, non-PCIe cards, and third-party PC components** — are covered by a **one-year warranty only** and are **not eligible** for the extended warranty.
- **Camera modules** are covered by a **three-year warranty from the date of purchase**.

Disposal



For EU Customers only - WEEE Marking

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



CE Marking is the symbol as shown on the left of this page. The letters "**CE**" are the abbreviation of French phrase "Conformité Européene" which literally means "European Conformity". The term initially used was "EC Mark" and it was officially replaced by "CE Marking" in the Directive 93/68/EEC in 1993. "CE Marking" is now used in all EU official documents.

1. Product Overview

The HBT-50, an HDBaseT 4-channel receiver, is a critical part of a live production chain as it powers the connected PTZ cameras using PoE, delivers video and audio over an Ethernet cable, and acts as an RS-232/422 interface between the connected PTZ cameras and the camera controller to allow configuration of camera parameters such as iris, focus, presets, etc. from a remote location.

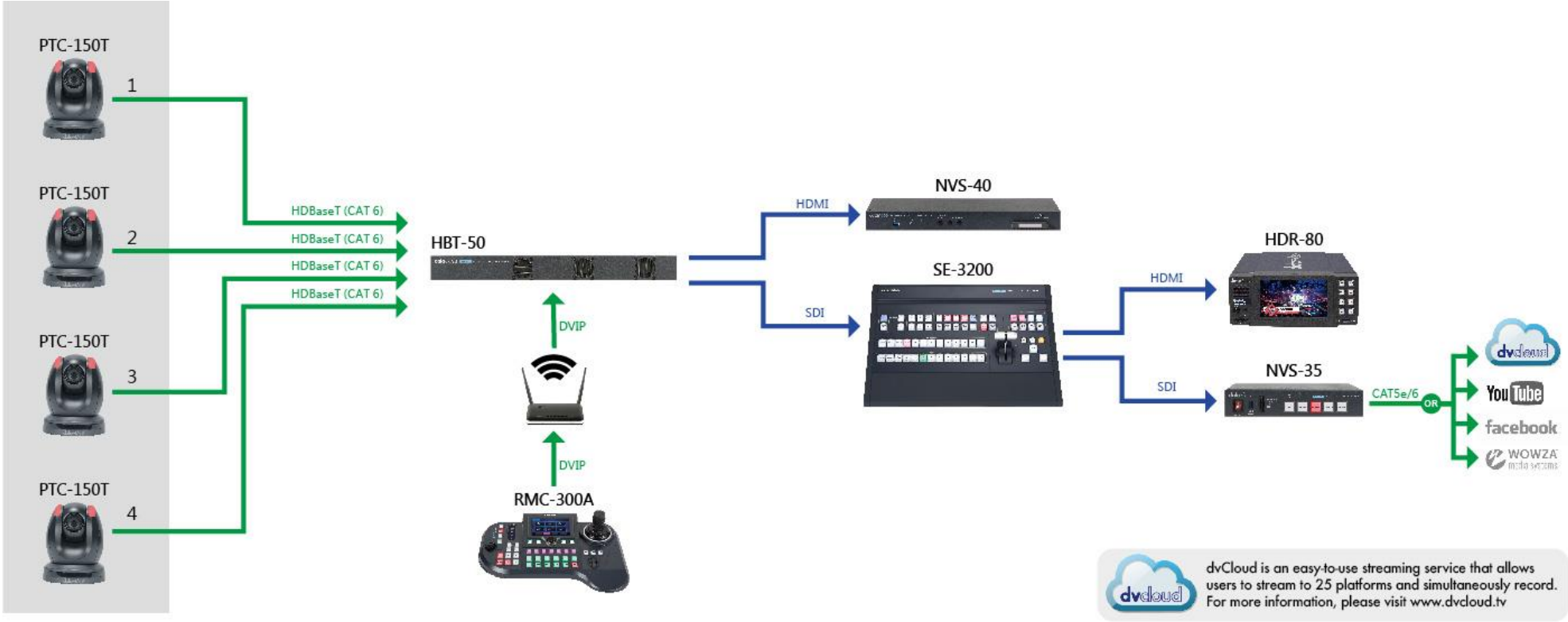
The HBT-50 sends camera images to devices such as streaming servers or video switchers via SDI and HDMI interfaces (up to 1080p60). With the HBT-50, you can easily integrate the camera controller, the video switcher, ISO recorders, etc. into your video production system.

Features

- Allows remote control of camera functions via RS-232 or RS-422.
- Connects up to 4 cameras
- Simultaneous SDI and HDMI outputs.
  - Highest video resolution supported is 1080p50/60
- Power over Ethernet
- HDBaseT transmission distance of up to 100m@1080p50/59.94/60 over Cat.6 cables.

System Diagram

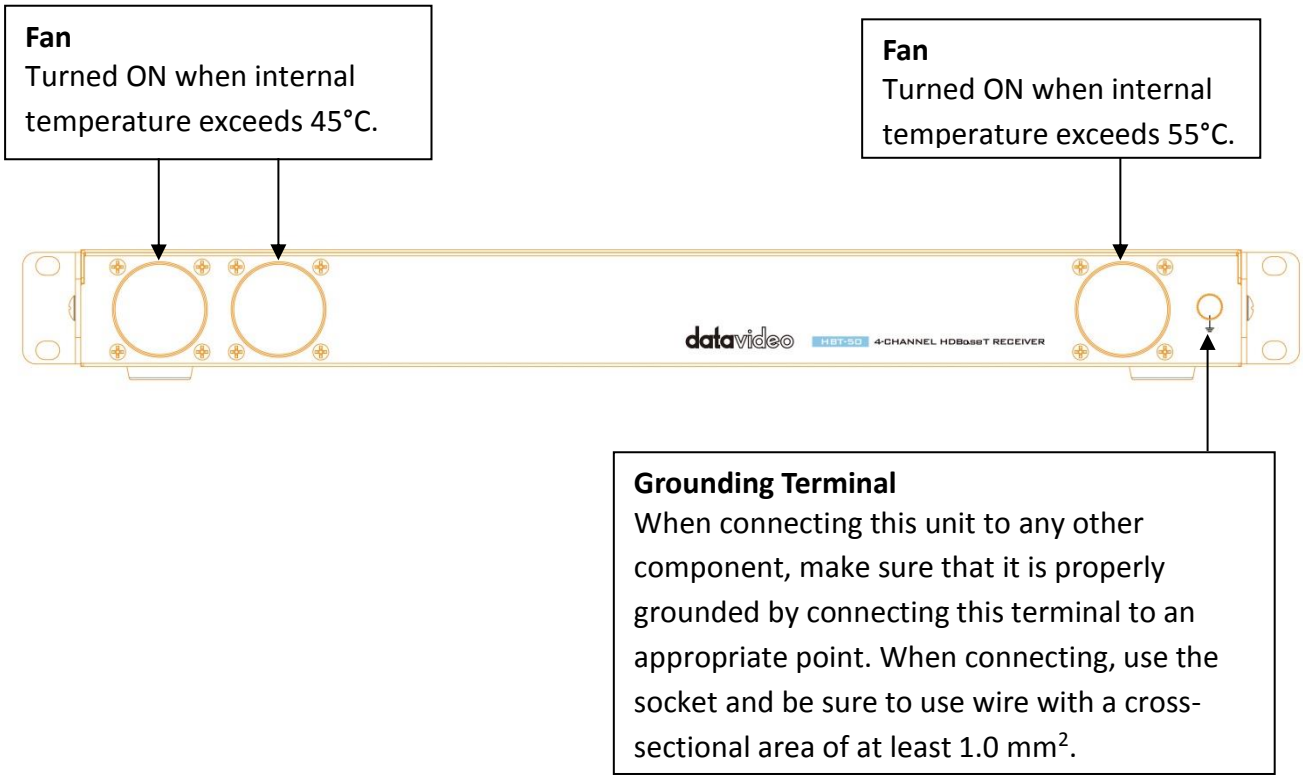
This system diagram illustrates a typical configuration using the HBT-50 with four PTC-150T cameras. The HBT-50 is also compatible with various HDBaseT transmitters, such as HBT device, PTC-series cameras and PTR-10T MARK II. Please refer to the ***Compatibility Table*** for specific transmitter and receiver pairings.



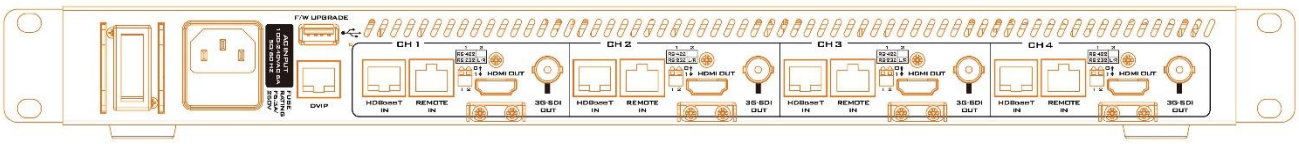
2. Connections

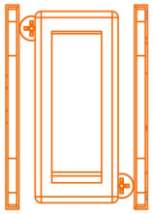
Various connections are discussed in this section.

Front Panel



Rear Panel





On / Off Switch
Powers the HBT-50 On / Off.



AC In with built-in fuse
AC Inlet for connecting to suitable mains power outlet – 100-240VAC. The socket contains a fuse holder with a 6.3A/250V fuse.



USB FW Upgrade Port
Connect the USB drive containing the HBT-50's latest firmware files to this port for firmware upgrade.

Note: See *Firmware Update* for details.



DVIP Port
Connects to Ethernet switch or router, serving as a communication port between the network and the HBT-50 4 Channel HDBaseT Receiver.

Note: The DVIP port can also be used for Firmware Upgrade.
See Firmware Update for details.



HDBaseT IN
A PTZ camera is usually connected directly to the HDBaseT IN with an Ethernet cable carrying video, audio, DVIP control protocol, RS-232/422 commands and power (PoE) back and forth the camera and the HBT-50.



3G-SDI OUT
An SDI output port for video output to devices such as a video switcher (SE-3200).



HDMI OUT
An HDMI output port for video output to devices such as a streaming server (NVS-40) or a video switcher (SE-3200).



RS-232/RS-422 Interface
The RS-232/RS-422 port connects the HBT-50 directly to Datavideo's camera controllers such as RMC-180, RMC-300A or RMC-300C. Use the RS-232 or RS-422 custom cable to connect.
See *RS-232/RS-422 pinout* for more information about the respective cabling.

Use the DIP switch to select between RS-422 and RS-232 interfaces. Set bit 1 of the DIP switch to 0 to select RS-422 and 1 to select RS-232 then depending on the range of the connection, set bit 2 of the DIP switch to select the long reach (0) mode to enjoy longer cable reach of up to 120 meters.

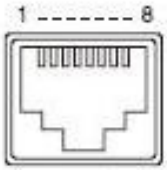
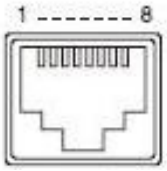


1	2
RS-422	
RS-232	L/R

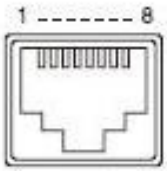
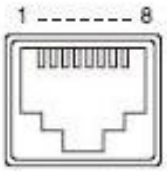
3. RS-232/RS-422 Pinout

The camera controller can be connected to the HBT-50 4 Channel HDBaseT Receiver through the RS-232 or RS-422 interface using a custom Ethernet cable. The corresponding connection wiring schemes are shown below.

RS-232

HBT-50 4 Channel HDBaseT Receiver			GND	Camera Controller		
GND	1	White/Orange	←	White/Orange	1	GND
NC	2	Orange		Orange	2	NC
NC	3	White/Green		White/Green	3	NC
TX	4	Blue	→	Blue	4	NC
NC	5	White/Blue		White/Blue	5	RX
RX	6	Green	←	Green	6	TX
NC	7	White/Brown		White/Brown	7	NC
NC	8	Brown		Brown	8	NC
						

RS-422

HBT-50 4 Channel HDBaseT Receiver			GND	Camera Controller		
GND	1	White/Orange	←	White/Orange	1	GND
NC	2	Orange		Orange	2	NC
RX-	3	White/Green	←	White/Green	3	TX-
TX-	4	Blue	→	Blue	4	RX-
TX+	5	White/Blue	→	White/Blue	5	RX+
RX+	6	Green	←	Green	6	TX+
NC	7	White/Brown		White/Brown	7	NC
NC	8	Brown		Brown	8	NC
						

4. Firmware Update

Datavideo usually releases new firmware containing new features or reported bug fixes from time to time. Customers can either download the firmware as they wish or contact their local dealer or reseller for assistance.

This section outlines the firmware upgrade process which should take ***approximately few minutes to complete***.

The existing settings should persist through the *firmware upgrade process, which should not be interrupted once started* as this could result in a non-responsive unit.

Firmware Upgrade Requirements

- USB disk (FAT32)
- Latest firmware file
- HBT-50 unit

Upgrade Procedure

1. Download the latest firmware file (zip) from the product page.
2. Uncompress the zip file.
3. Save the unzipped file to an empty USB disk.
4. Insert the USB disk containing the latest firmware file into the USB FW Upgrade port while the HBT-50 is OFF.
5. Power ON the HBT-50 to start the firmware upgrade.
6. The firmware upgrade is complete when the USB disk's Read/Write LED stops flashing.

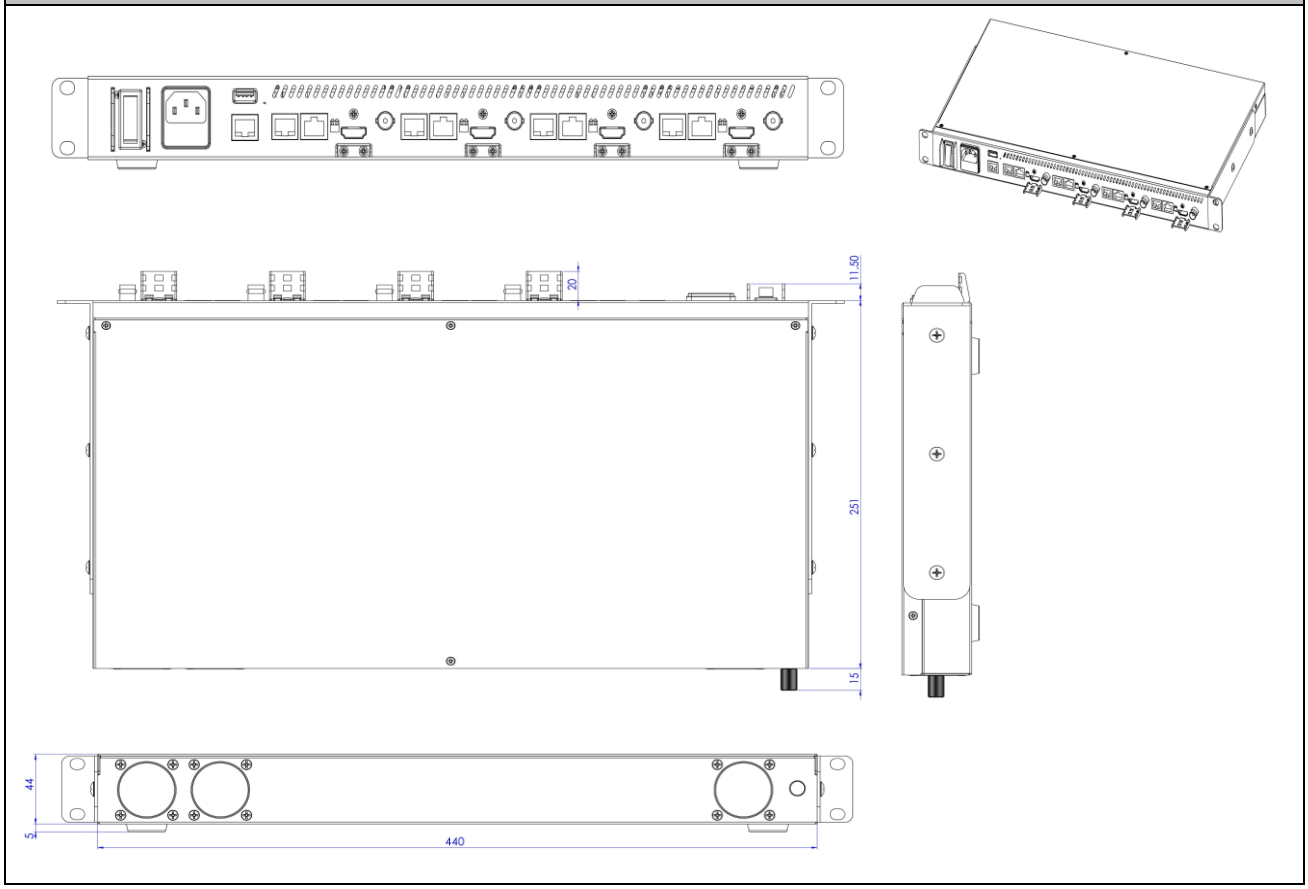
5. Frequently-Asked Questions

This section describes problems that you may encounter while using HBT-50. If you have any questions, please refer to related sections and follow all suggested solutions. If problem still exists, please contact your distributor or the service center.

No.	Problems	Solutions
1.	PTC-150T does not respond to the control commands sent via DVIP.	The PTC-150T's connection mode is DHCP by default, as a result, communication may not be established while the HBT-50 is still booting. It is recommended to power ON the HBT-50 first then after approximately 20 seconds, connect the HDBaseT OUT port of the PTC-150T to the HDBaseT IN port of the HBT-50.

6. Dimensions

HBT-50



All measurements in millimeters (mm)

7. Specifications

Product Name	4 Channel HDBaseT Receiver
Model Number	**HBT-50**
Video/Audio Input	HDBaseT x 4 (with PoE and IEEE 802.3at)
Video Output	HDMI x 4 (up to 1080p50/59.94/60) SDI x 4 (up to 1080p50/59.94/60)
Supported Video Format	1080p60/59.94/50/30/29.97/25/24/23.98 1080i60/59.94/50 720p60/59.94/50
DVIP	RJ-45 x 1 (Input)
RS-422/RS-232	RJ-45 x 4 (RS-232/RS-422)
Power	AC IN
PoE Output	65W per channel
HDBaseT Distance	1080p50/59.94/60 up to 100m by CAT. 6 cables
Operating Temperature	0 – 40°C (32 – 122°F)
Storage Temperature	-20 – 60°C (-4 – 140°F)
Humidity	10% – 80% (non-condensing)
Chassis	1U rack mount
Weight	4.2 kg
Dimensions	440 (W) x 286 (D) x 49 (H)

Service & Support

It is our goal to make owning and using Datavideo products a satisfying experience. Our support staff is available to assist you to set up and operate your system. Contact your local office for specific support requests. Plus, please visit www.datavideo.com to access our FAQ section.

Please visit our website for latest manual update.

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