



# Ethernet-over-Coax Extender

## User Manual

UD.6L0203D1083A01

## User Manual of Ethernet-over-Coax Extender

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Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer.

This manual is applicable to DS-1H05-T, DS-1H05-T/E, DS-1H05-R, DS-1H05-4R, DS-1H05-8R, DS-1H05-16R Ethernet-over-Coax Extender.

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual. We will readily improve or update the products or procedures described in the manual.

## **Regulatory information**

### **FCC information**

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

### **FCC conditions**

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

### **EU Conformity Statement**



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: [www.recyclethis.info](http://www.recyclethis.info).



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: [www.recyclethis.info](http://www.recyclethis.info).

## Preventive and Cautionary Tips

- In the use of the product, you must be strict compliance with the electrical safety regulations of the nation and region.
- Please use the power adapter, which is provided by normal company. The standard of the power adapter is 12VDC /1A for DS-1H05-T and DS-1H05-R, 12VDC/2A for DS-1H05-4R, DS-1H05-8R and DS-1H05-T/E, and 12VDC/4A for DS-1H05-16R.
- Please disconnect the power supply before installation or operation.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)
- If smoke, odors or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.
- Do not drop the equipment or subject it to physical shock, and do not expose it to high electromagnetism radiation. Avoid the equipment installation on vibrations surface or places subject to shock (ignorance can cause equipment damage).
- Do not place the equipment in extremely hot, cold (the operating temperature shall be -10°C ~ +55°C), dusty or damp locations, or fire or electrical shock will occur otherwise.

- The equipment shall be kept from rain and moisture.
- Exposing the equipment to direct sun light, low ventilation or heat source such as heater or radiator is forbidden (ignorance can cause fire danger).
- Please use a soft and dry cloth when clean inside and outside surfaces of the equipment, not to use alkaline detergents.
- Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases shall be placed on the apparatus.
- When the optical interface is not connecting with the fiber, please apply the protective cap to the interface to avoid entry of dust.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

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# Chapter 1 Introduction

## 1.1 Overview

Adopting the newest Security Link Over Coax technology, the DS-1H05 Series Ethernet-over-Coax Extender can be used to transmit the network data and CVBS signal via coaxial cable to the remote device with low signal loss.



## 1.2 Features

- Support transmission of Ethernet data and CVBS signal.
- Up to 500m transmission distance.
- Reach the downstream speed of 36Mbps for the transmitter, the upstream speed of 11Mbps for the 1-channel receiver, and upstream speed of 3Mbps (default) for the multi-channel receiver.
- DS-1H05-T/E provides PoE power supply (meets IEEE802.af standard).
- Easy installation and maintenance.
- Industrial design ensures high reliability.



## 1.3 Model Description

**DS-1H05-T:** Ethernet-over-Coax transmitter;

**DS-1H05-T/E:** Ethernet-over-Coax transmitter, with PoE power supply;

**DS-1H05-R:** Ethernet-over-Coax receiver;

**DS-1H05-4R:** 4-ch Ethernet-over-Coax receiver;

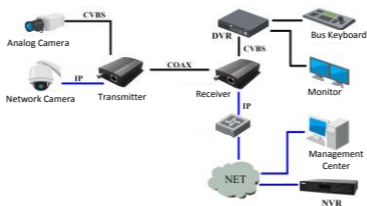
**DS-1H05-8R:** 8-ch Ethernet-over-Coax receiver;

**DS-1H05-16R:** 16-ch Ethernet-over-Coax receiver.

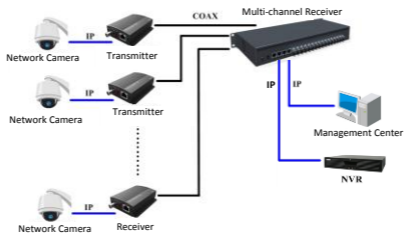
## 1.4 System Connections

Refer to the following figure for the typical system connections:

### System Connection 1:



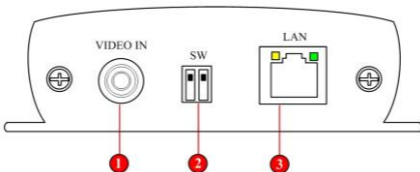
### System Connection 2:



## Chapter 2 Panels and Installation

### 2.1 Panels of the Transmitter

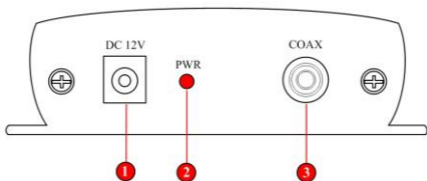
Front Panel:



Description of Front Panel:

Serial No.	LED Indicator	Description
1	Video In	Connects to the CVBS video input signal.
2	DIP Switch	Sets the Ethernet-over-Coax bandwidth.
3	LAN	Connects the network signal, e.g., video signal from IP camera, etc.

## Rear Panel:



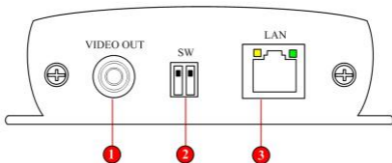
### Description of Rear Panel:

Serial No.	LED Indicator	Description
1	Power	Connects to 12 VDC power supply.
2	Power LED	Lights red when the device is powered on.
3	Coax (BNC)	Connects with the receiver for Coax transmission.

**Note:** The DS-1H05-T/E supports PoE capability and can provide max. 12W power supply for the connected camera.

## 2.2 Panels of the 1-channel Receiver

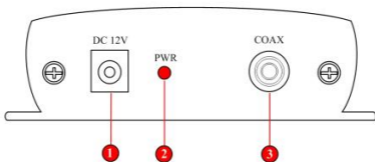
### Front Panel:



### Description of Front Panel:

Serial No.	LED Indicator	Description
1	Video Out	Sends the CVBS video signal to the terminal device.
2	DIP Switch	Sets the Ethernet-over-Coax bandwidth.
3	LAN	Sends the network signal to the terminal device.

## Rear Panel:



### Description of Rear Panel:

Serial No.	LED Indicator	Description
1	Power	Connects to 12 VDC power supply.
2	Power LED	Lights red when the device is powered on.
3	Coax (BNC)	Connects to the Transmitter and receive the modulated network video signal and CVBS analog video signal.

## 2.3 Panels of the Multi-channel Receiver

**Note:** As the Multi-channel Receiver can receives the network video signal only, the analog camera can not be connected to the Transmitter.

## Front Panel:

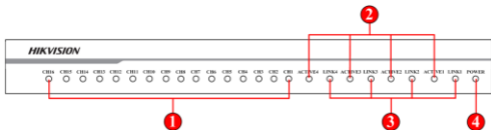


Figure 2.1 Rear Panel of DS-1H05-16R

**Note:** The DS-1H05-4R/DS-1H05-8R provides 4/8 channel LED indicators on the panel.

### Description of Front Panel:

Serial No.	LED Indicator	Description
1	Channel LED Indicator	Lights green when the corresponding channel receives the signal normally.
2	ACTIVE LED Indicator	Flicks green when there is data transmission.
3	LINK LED Indicator	Lights green when the network is connected normally.
4	Power LED	Lights red when the device is powered on.

## Rear Panel:

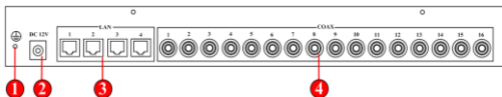


Figure 2.2 Rear Panel of DS-1H05-16R

**Note:** The DS-1H05-4R/DS-1H05-8R provides 4/8 COAX BNC connectors on the panel.

### Description of Rear Panel:

Serial No.	LED Indicator	Description
1	GND	Grounding.
2	Power	Connects to 12 VDC power supply.
3	LAN (10/100/1000Mbps)	Sends the network signal to the terminal device.
4	Coax (BNC)	Connects to the Transmitter and receive the modulated network video signal.





### Notes:

- The LAN of the multi-channel receiver can be used as the network switch.
- All the four LAN interfaces cannot be connected to the same network switch.



## 2.4 Configuring Coax Transmission Bandwidth

You can use the DIP switch settings to configure the downstream bandwidth of the DS-1H05-T or DS-1H05-T/E module and the upstream bandwidth of the DS-1H05-R. Refer to the following table:

DIP Switch				
Transmitter	21 Mbps	25 Mbps	28 Mbps	36 Mbps
Receiver	3 Mbps	4 Mbps	9 Mbps	11 Mbps

**Notes:**

- The upstream speed of the multi-channel receiver is fixed at 3Mbps by default.
- Please reboot the device after you have configured the bandwidth via DIP switch settings.
- The higher value of bandwidth results in shorter transmission distance.
- The transmission distance is also different depending on different types of coaxial cable.

## 2.5 Installation

### Prior to Installation

- Please thoroughly familiarize yourself with the information in this manual prior to installation and operation.
- Verify that the package contents are correct by checking the items against the packing list.
- Please contact with our company immediately in case of damaged or missing items in the package.

### Installing the Device

- The device is designed in compact metal shell with antirust and anticorrosive surface coating.
- The device provides mounting holes on the side panels and can be directly mounted to the cabinet, or placed on the desktop or rack.
- The cabinet should be with water-proof feature.

## Appendix: Specifications

Model	DS-1H05-T	DS-1H05-T/E	DS-1H05-R
Video Input Interface	RJ-45/BNC	RJ-45/BNC	Coaxial BNC
Video Output Interface	Coaxial BNC	Coaxial BNC	RJ-45/BNC
PoE	—	Support	—
Power Consumption	≤ 5 W	≤ 20 W (when PoE power supply is enabled)	≤ 5 W
Power Supply	12 V DC		
Working Humidity	10 % ~ 90 %		
Working Temperature	-10°C ~ + 55 °C		
Dimensions (W×D×H)	80 × 96 × 27 mm		

<b>Model</b>	<b>DS-1H05-4R</b>	<b>DS-1H05-8R</b>	<b>DS-1H05-16R</b>
<b>Video Input Interface</b>	4, Coaxial BNC	8, Coaxial BNC	16, Coaxial BNC
<b>Video Output Interface</b>	2, RJ-45/BNC	2, RJ-45/BNC	4, RJ-45/BNC
<b>Power Consumption</b>	≤ 15 W	≤ 20 W	≤ 30 W
<b>Power Supply</b>	12 V DC		
<b>Working Humidity</b>	10 % ~ 90 %		
<b>Working</b>	-10°C ~ + 55 °C		
<b>Dimensions (W×D×H)</b>	440 × 195 × 44.5 mm		