Installation Guide

SY-HDBT-100 Extender Set

with

HDMI, IR, RS232 and Ethernet

over 100m of cat6 Cable

HDBaseT HDMI Extenders

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SY-HDBT-100T / SY-HDBT-100R

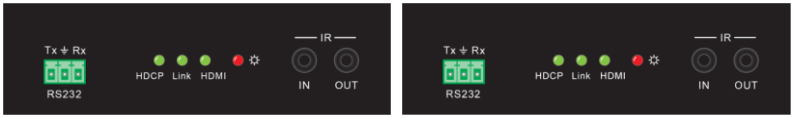
The **HDBT-100T** and **HDBT-100R** HDBaseT transmitter / receiver pair broadcast HDMI, two-way IR control, bi-directional RS232 data and Ethernet up to 100m with perfect quality. These extenders are suited to a wide range of applications in AV industry, digital signage and at home.

Features

- Extend HDMI data up to 100m with HDCP support and HDMI 1.4 compatible with Ethernet
- Provides transmission of IR and RS232 control signals over the same cable in both directions
- Includes a two-port Ethernet hub at both the transmitter and receiver units
- Status indicators for Link, HDMI and HDCP
- Supports all HDMI resolutions up to 4K x 2K (including: 1080p, 1080i, ..., 480p and 480i)
- Supports 3D and CEC

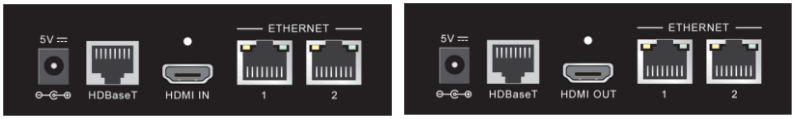
Connectors and Controls

Front



Name	Transmitter	Receiver
RS232	3 way plug-in RS232 terminal connector	
HDCP LED	Always on: HDCP currently active Flashing: HDCP not present	
LINK LED	Indicates the transmitter / receiver pair are linked and communicating.	
HDMI LED	HDMI signals present. See Troubleshooting for more information.	
POWER LED	Unit powered	
IR IN	Input from IR detector (3.5mm Jack)	
IR OUT	Output to IR emitter (3.5mm Jack)	

Rear



Name	Transmitter	Receiver
Power	5V DC power connector	
HDBaseT	HDBaseT RJ45 connection	
HDMI	HDMI input from HDMI source	HDMI output to HDMI display
Ethernet	Two-port Ethernet hub	Two-port Ethernet hub

SY-HDBT-100T / SY-HDBT-100R

Using the HDBaseT HDMI Extenders

Basic Extender Mode

Connect a HDMI source to the HDMI IN socket on the HDBT-100T and connect a HDMI display to the HDMI OUT socket on the HDBT-100R. Connect a cat6 UTP cable to the HDBaseT sockets of both the transmitter and receiver units. Connect the 5V Power supplies to both the transmitter and the Receiver units.

A Flashing HDCP LED indicates the HDMI signal does not support HCDP. A Solid ON HDCP LED indicates HDCP is active.

The LINK LED indicates that the transmitter and receiver units are communicating (Solid ON).

A Flashing HDMI LED indicates that HDMI data is being sent from the transmitter to the receiver, and also to the HDMI display (normal operation). The HDMI LED will remain OFF for any of the following conditions:

1. The HDMI source is not outputting data, or the HDMI cable is either not connected or it is faulty.
2. The HDMI display is not connected or powered up, or the HDMI cable is faulty.
3. The HDMI display is not set to use its HDMI input.

IR – Dual Bidirectional

To use the IR Extender option, connect the IR detector to the IR IN socket at either the HDBT-100R or HDBT-100T as required and the IR emitter to the corresponding transmitter or receiver IR OUT socket. Locate the IR emitter close to the device you wish to control. All IR control functions are now possible from the remote location.

RS232 - Bidirectional

To use the RS232 Extender option, connect the RS232 equipment to the RS232 terminal blocks with the cables provided and ensure that any RS232 handshake modes are set to none. The SY-HDBT-100 Extender set, support all standard RS232 baud rates up to 115.2 K baud without setting any switches or special configuration options.

Ethernet Hub Extender Mode

Both the HDBT-100T and the HDBT-100R each have a two-port Ethernet hub that can be used to provide Ethernet network control from either location. If access to the Internet is required, then only one of the ports, either at the transmitter or at the receiver, should be connected to an Internet access point. Since the Ethernet ports behave like a hub, there is no IP configuration required to use these ports.

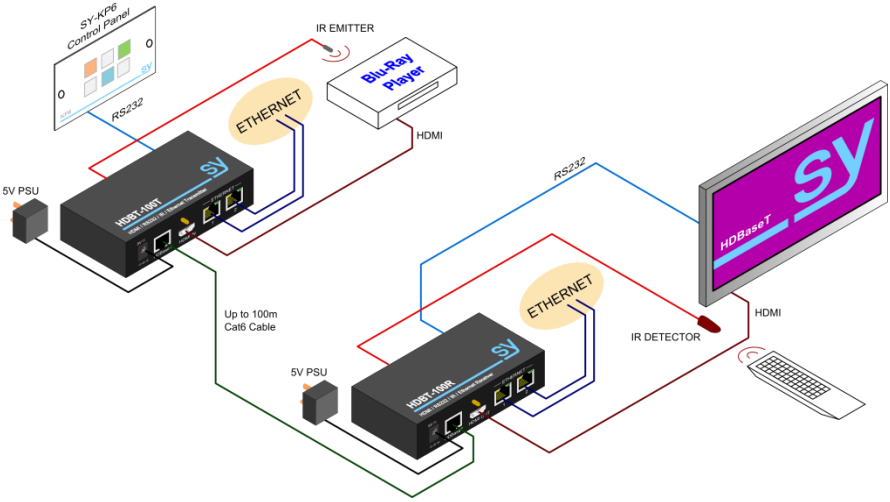


Figure 1 – Configuration Example for SY-HDBT-100 Set

SY-HDBT-100T / SY-HDBT-100R

Specifications

General

HDMI Resolutions	480i, 480p, 720i, 720p, 1080i, 1080p, 1920 x 1200, 4K x 2K	
HDMI Standard	HDMI 1.4 – Supports 3D and Ethernet	
HDMI Link Mode	HDBaseT, synchronous switching	
Link Transmission Distance	Up to 100 metres	
IR Control	38kHz carrier frequency for any control protocol	
RS232	Supports Tx and Rx only – Any RS232 baud rates up to 115.2 Kb	
Ethernet	Adaptive 10/100 M bit, full or half duplex	
Power Supply	5V DC	
Power Consumption	HDBT-100T: 2.5 W max	HDBT-100R: 5.0 W max

Environmental

Operating Temperature	0 – 35 °C non condensing

Physical

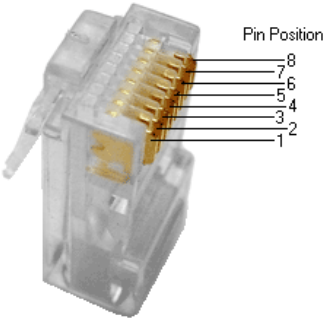
Dimensions (W x H x D)	115 x 36 x 75 mm	
Weight	SY-HDBT-100T: 250 g	SY-HDBT-100R: 270 g

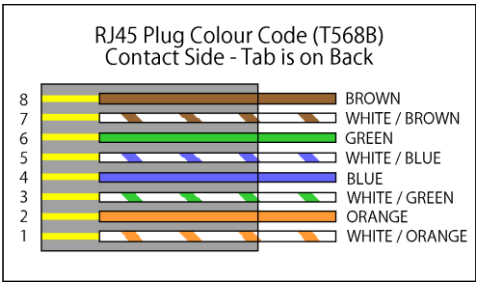
Troubleshooting

Problem	Possible Cause
Power LED is off	Check that correct power supply as provided with the product is used. Check the PSU connections and ensure that the PSU is switched on.
LINK LED is off	Check that the RJ-45 cable between the transmitter and receiver is connected with a direct connection and within specified distance. Check the terminating connectors are wired correctly.
HDMI LED is off	**For the transmitter:** Check that the LINK LED is on. Check that the HDMI source is connected to the HDBT-100T. Check that the HDMI source is powered. **For the receiver:** Check that the LINK LED is on. Check that the HDMI display is connected to the HDBT-100R. Check that the HDMI display is powered. Check that the HDMI display is set to use its HDMI input.

RS-45 Wiring

Both connectors must be wired identically.





HDBaseT will not pass through any Ethernet device, the HDBT-100T HDBaseT port must be connected directly to the HDBT-100R HDBaseT port.

The two Ethernet ports act as a distributed four-port hub, with two ports located at the HDBT-100T position and two at the HDBT-100R position. These Ethernet ports can be connected to any other Ethernet device, including Internet access points.

Safety Instructions

To ensure reliable operation of these product as well as protecting the safety of any person using or handling these devices while powered, please observe the following instructions.

1. Use the power supplies provided. If an alternate supply is required, check Voltage, polarity and that it has sufficient power to supply the device it is connected to.
2. Do not operate either of these products outside the specified temperature and humidity range given in the above specifications.
3. Ensure there is adequate ventilation, as these products generate heat while operating.
4. Repair of the equipment should only be carried out by qualified professionals as these products contain sensitive devices that may be damaged by any mistreatment.
5. Ensure that these products operate in a dry environment. Do not allow any liquids or harmful chemicals to come into contact with these products.

After Sales Service

1. Should you experience any problems while using these products, firstly refer to the Troubleshooting section in this manual before contacting SY Technical Support.
2. When calling SY Technical Support, the following information should be provided:
    - Product name and model number
    - Product serial number
    - Details of the fault and any conditions under which the fault occurs.
3. These products have a two year standard warranty, beginning from the date of purchase as stated on the sales invoice. Online registration of these products is required to activate the full three year extended warranty. For full details please refer to our Terms and Conditions.
4. SY Product warranty is automatically void under any of the following conditions:
    - The product is already outside of its warranty period
    - Damage to the product due to incorrect usage or storage
    - Damage caused by unauthorised repairs
    - Damage caused by mistreatment of the product
5. Please direct any questions or problems you may have to your local dealer before contacting SY Electronics.