



User Manual

HD-HAUD-SP-RX

100m HDBaseT HDMI Receiver



244 Bergen Boulevard, Woodland Park, NJ 07424 • Tel 973-785-4347 •
FAX 973-785-3318 • Web: www.fsrinc.com

Important Safety Instructions

Contents are subject to change without notice

Warnings

To reduce the risk of fire, electric shock or product damage:



1. Do not expose this device to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the unit.



6. Clean this device only with dry cloth.



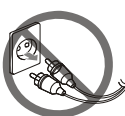
2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



7. Unplug this device during lightning storms or when unused for long periods of time.



3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



8. Protect cables and cords from being walked on or pinched particularly at plugs.



4. Do not install near any heat sources such as radiators, heat registers, stoves, or other device (including amplifiers) that produce heat.



9. Only use attachments/accessories specified by FSR.



5. Do not place sources of open flames, such as lighted candles, on the unit.



10. Refer all servicing to qualified service personnel.

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Overview

The HD-HAUD-SP-Rx HDBaseT Extender Receiver is compatible with any of FSR's 100m HDBaseT Transmitters. It supports HDMI, Ethernet, bi-directional IR, bi-directional RS-232 and bi-directional PoE. The unit features an audio de-embedder that extracts stereo audio from the HDMI signal and outputs to a house sound system. The system can be powered by a single power supply and its PoE circuitry can power the extender at the far end. The transmitter and receiver modules are easy to install and space saving. The Extenders are ideal for home, office, digital entertainment centers, control centers, conference rooms, schools and corporate training environments.

Features

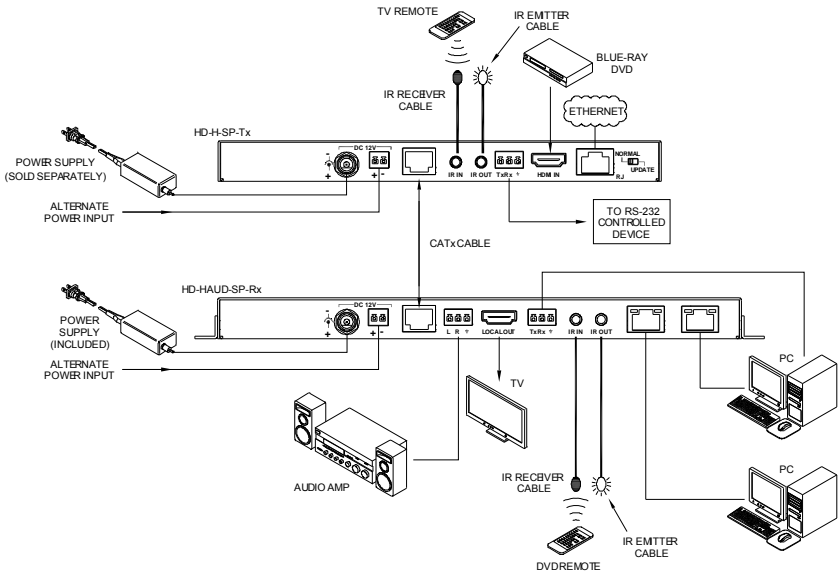
HD-HAUD-SP-Rx – 100 Meter HDBaseT Slim-Pack Receiver

- HDBaseT In (RJ-45) to HDMI Out
- RS-232 via 3-Pin Captive Screw Terminal (Tx, Rx, GND)
- IR RX & TX via 1/8" mini jacks
- 2 Ethernet Ports (RJ-45)
- Stereo analog audio output

Package Contents

One 2-pin screw-down terminals
Two 3-pin screw-down terminals
One IR Emitter
One IR Receiver (30kHz ~ 50kHz)
Two Under Table Mounting Brackets

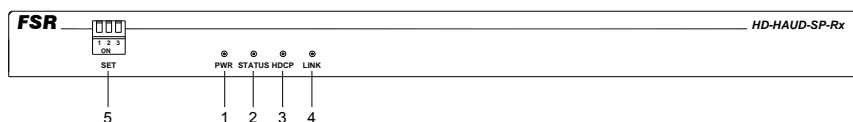
Typical Application



NOTE: Transmitters do not include a Power Supply. An FSR 17762 Power Supply is included with any of the FSR HDBaseT Receivers. Only one power supply is needed to power the Transmitter and Receiver set. FSR 17762 Power Supplies can also be ordered separately.

The HD-H-SP-Tx Transmitter is shown in the illustrations throughout this manual. Please note that any of the FSR 100m HD transmitters may be used with the HD-HAUD-SP-Rx Receiver.

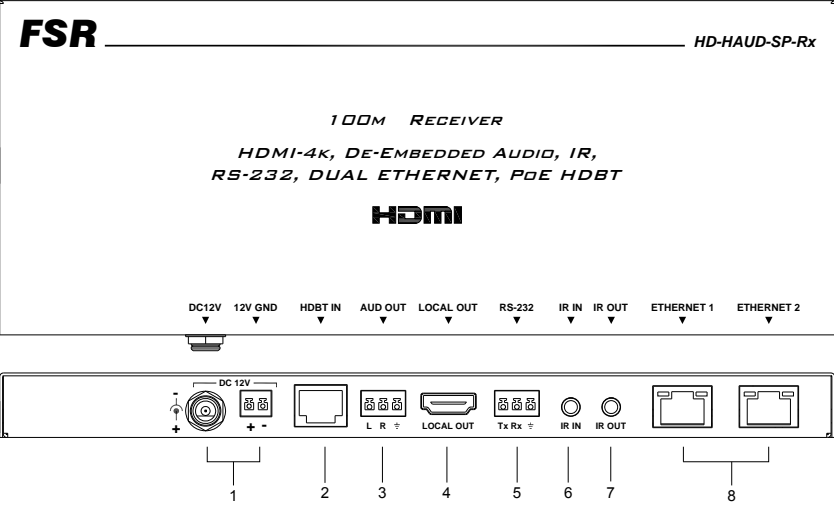
HD-HAUD-SP-Rx Front Panel



NOTE: 0= OFF (UP) and 1=ON (DOWN)

ID	Name	Description			
1	POWER	ON: Receiver is powered ON OFF: Receiver is powered OFF			
2	STATUS	Intermittent: Normal operating condition OFF: Fault			
3	HDCP	ON: HDCP video is being transmitted Intermittent: No HDCP video is being transmitted			
4	LINK	ON: Receiver and Transmitter are linked to each other OFF/Intermittent: Fault in unit(s) or cabling			
5	DIP SWITCH	SWITCH POSITION			FUNCTION
		SWITCH 1	SWITCH 2	SWITCH 3	
		0	0	0	RS-232 pass-through enabled (Default)
		1	0	0	<ul style="list-style-type: none"> Valens IC update RS-232 pass-through disabled
		0	1	0	<ul style="list-style-type: none"> MCU update and control RS-232 pass-through disabled

HD-HAUD-SP-Rx Rear Panel



ID	Name	Description
1	POWER	Connect to a power supply via a power adapter to either the transmitter or receiver side 12VDC input. Note: It is only necessary to power one side (Tx or Rx)
2	HDBT IN	Connect to the transmitter via a CAT5e / CAT6 / CAT6A / CAT7 cable
3	AUDIO	Stereo analog output
4	HDMI OUT	Connection to the Display
5	RS-232	Used to connect to a computer to update firmware or connect an RS-232 control device
6	IR IN	Connect to an IR receiver cable
7	IR OUT	Connect to an IR emitter cable
8	ETHERNET 1 and 2	Ethernet connection for a router, switcher or computer, etc. Orange: Link-Activity Green: Speed 100Mbps

Hardware Installation

Warnings

- Before the installation, disconnect the power supply from all the devices.
- Do not connect or disconnect cables from the Transmitter and Receiver while they are powered ON. To connect or disconnect cables from the units, power them OFF first.
- For best resolution and ESD performance Shielded CAT6A in a TIA / EIA 568B wiring configuration is recommended. Please use care when installing, connecting and disconnecting cables.

1. Connect the source to the **HDMI IN** on the Transmitter.
2. Connect the IR emitter to the **IR OUT** and the IR Receiver to the **IR IN** on both the Transmitter and Receiver.
3. Connect a Display to the **HDMI OUT** on the Receiver.
4. Connect the **HDBT OUT** on the Transmitter to the **HDBT IN** on the Receiver via a shielded CAT5e / CAT6 / CAT6A / CAT7 cable.
5. Connect the power supply to either the Transmitter or Receiver.

IR and RS-232 Operation

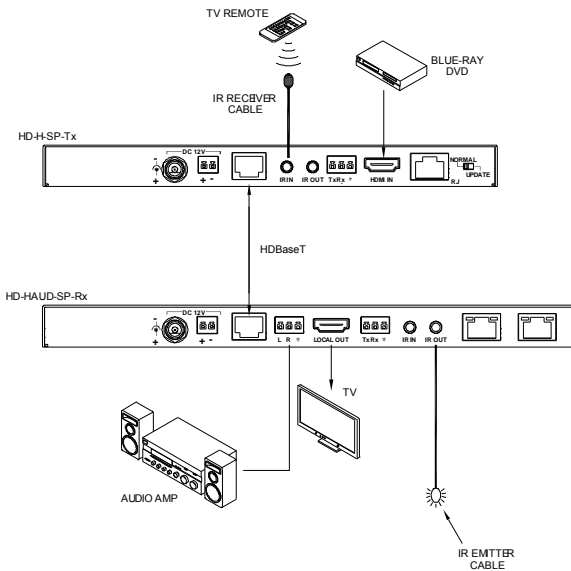
IR Control

The IR pass-through feature on the Transmitter and Receiver allows you to control the Source from the Display's location or vice versa.

Scenario 1

The TV can be controlled from the Transmitter's location with the TV remote.

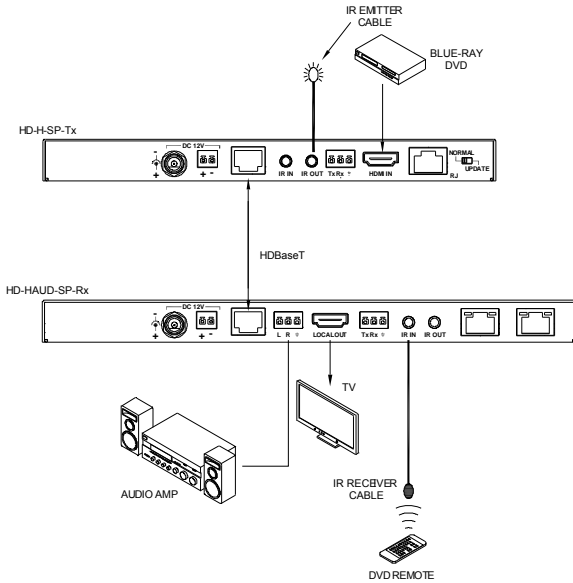
The IR receiver is connected to the IR IN on the Transmitter and the IR emitter is connected to the IR OUT on the Receiver.



The HD-H-SP-Tx Transmitter is shown in the illustrations throughout this manual. Please note that any of the FSR 100m HD transmitters may be used with the HD-HAUD-SP-Rx Receiver.

Scenario 2

The DVD Player can be controlled from the Receiver's location with the DVD Player Remote. The IR emitter is connected to the IR OUT on the Transmitter and the IR receiver is connected to the IR IN on the Receiver.



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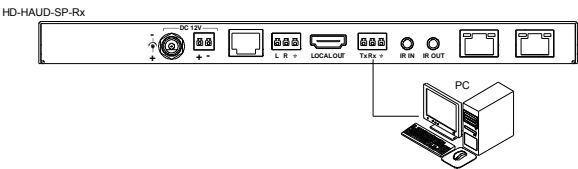
RS-232 Control and Firmware Updates

The RS-232 port can be used as pass-through to control a device connected to the Transmitter from the Receiver or vice versa. In addition, the RS-232 port on the Transmitter or Receiver can be connected to a computer to update the firmware.

NOTE: 0= OFF (UP) and 1=ON (DOWN)

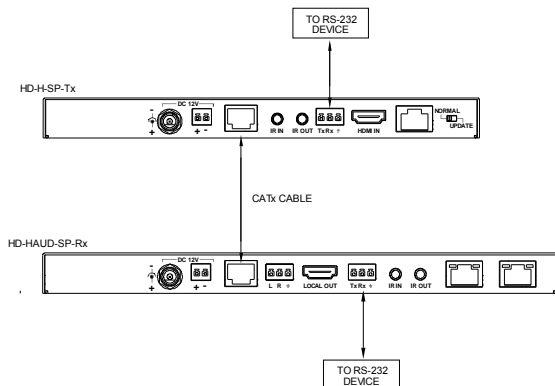
FRONT PANEL DIP SWITCH	SWITCH POSITION			FUNCTION
	SWITCH 1	SWITCH 2	SWITCH 3	
	0	0	0	RS-232 pass-through enabled
	1	0	0	<ul style="list-style-type: none">Valens IC updateRS-232 pass-through disabled
	0	1	0	<ul style="list-style-type: none">MCU update and controlRS-232 pass-through disabled

Scenario 1: Firmware Update



Scenario 2: RS-232 Control

Maximum Baud rate is 115.2 Kbps.



The HD-H-SP-Tx Transmitter is shown in the illustrations throughout this manual. Please note that any of the FSR 100m HD transmitters may be used with the HD-HAUD-SP-Rx Receiver.

Specifications

HD-HAUD-SP-Rx

Technical	
Input	1 HDBT
Input Signal Type	HDBT
Input Resolution Support	4k 2160p (3840x2160) / 1080p / 1080i / 720p / 576p / 480p / 576i / 480i
Input Video Level	0.5-1.2 Vp-p
Output	1 HDMI
Output Signal Type	HDMI
Video Impedance	100Ω
Maximum Pixel Clock	297 MHz
Operating Temperature	32°F to 95°F (0°C to 35°C) 10% to 90%, non-condensing
Storage Temperature	-4°F to 140°F (-20°C to 70°C) 10% to 90%, non-condensing
Power Supply	DC 12V 2A (FSR 17762 power supply sold separately. See note under "Typical Application")
ESD Protection	Human-body Model: ±8kV (Air-gap discharge) ±4kV (Contact discharge)
Surge Protection	IEC 61000-4-4 (EFT) 40A (5/50ns); IEC 61000-4-5 (Lightning) 25A (8/20μs)

Cable Specifications		
For best resolution and ESD performance Shielded CAT6A in a TIA / EIA 568B wiring configuration is recommended.		
Cable Type	Range	Supported Video
CAT5e/CAT6	100m	1080p 60 Hz 36 bpp
	70m	1080p 60 Hz 48 bpp 1080p 60 Hz 3D 4K 2160p (3840 x 2160 30Hz)
CAT6A/CAT7	100m	1080p 60 Hz 36 bpp
		1080p 60 Hz 48 bpp 1080p 60 Hz 3D 4K 2160p (3840 x 2160 30Hz)
General		
Shipping Weight	2.25 lbs (1.03 kg).	
Dimension (L x D x H)	9.93" x 3.85" x .71" (252mm x 98mm x 18mm) (with mounting ears installed)	

Limited Warranty

The HD-HAUD-SP HDBaseT HDMI Extender Set is warranted against failures due to defective parts or faulty workmanship for a period of three years after delivery to the original owner. During this period, FSR will make any necessary repairs or replace the unit without charge for parts or labor. Shipping charges to the factory or repair station must be prepaid by the owner, return-shipping charges (via UPS Ground) will be paid by FSR.

This warranty applies only to the original owner and is not transferable. In addition, it does not apply to repairs done by other than the FSR factory or Authorized Repair Stations.

This warranty shall be cancelable by FSR at its sole discretion if the unit has been subjected to physical abuse or has been modified in any way without written authorization from FSR. FSR's liability under this warranty is limited to repair or replacement of the defective unit.

FSR will not be responsible for incidental or consequential damages resulting from the use or misuse of its products. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Warranty claims should be accompanied by a copy of the original purchase invoice showing the purchase date (if a Warranty Registration Card was mailed in at the time of purchase, this is not necessary). Before returning any equipment for repair, please read the important information on service below.

SERVICE

Before returning any equipment for repair, please be sure that it is adequately packed and cushioned against damage in shipment, and that it is insured. We suggest that you save the original packaging and use it to ship the product for servicing. Also, please enclose a note giving your name, address, phone number and a description of the problem.

NOTE: all equipment being returned for repair must have a Return authorization (RMA) Number. To get a RMA Number, please call the FSR Service Department (1-800-332-FSR1).

Please display your RMA Number prominently on the front of all packages.

CONTACT INFORMATION:

FSR INC.

244 Bergen Blvd.

Woodland Park, NJ 07424

Phone: (973) 785-4347

Order Desk Fax: (973) 785-4207

Web Site: <http://www.fsrinc.com>

