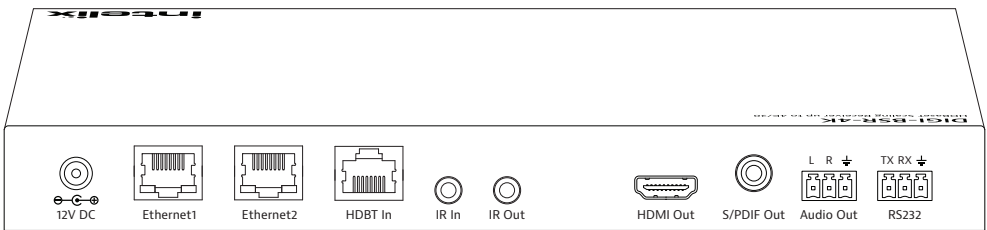


intelix

DIGI-BSR-4K Installation Guide



The Intelix DIGI-BSR-4K extends HDMI over a single solid core shielded Category 5e or greater cable using the Valens VS100RX HDBaseT chip and scales the source content up or down to the native resolution of the connected display. The DIGI-BSR-4K supports 1080p, full 3D or 4k x 2k video signals up to 100 meters (328 feet) including multichannel audio and HDCP 1.4. Built-in surge protection and diagnostic LEDs ensure hassle-free and robust installations. Additional connections include bidirectional IR, bidirectional RS232, Ethernet pass-through with a 2-port network switch, and analog and digital audio de-embedding.

The DIGI-BSR-4K requires local power, but it can provide power to a compatible HDBaseT transmitter. The power supply is included with the extender. The bidirectional wideband IR, bidirectional RS232, and Ethernet pass-through capabilities make the DIGI-BSR-4K compatible with most control systems. The IR emitter (DIGIB-EMT) and IR receiver (DIGIB-EYE) are sold separately. The two-port network switch on the DIGI-BSR-4K allows a second device to share the 100BaseT Ethernet pass-through connection without adding additional hardware to the installation.

The DIGI-BSR-4K is compatible with all Intelix HDBaseT product offerings and any product that meets the HDBaseT specifications.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

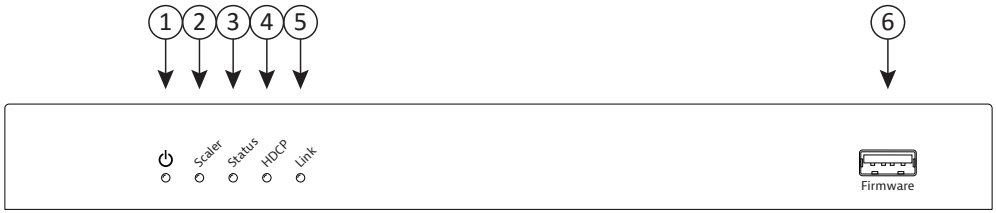
Any changes or modifications not expressly approved by the manufacture would void the user's authority to operate the equipment.

Safety Precautions

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

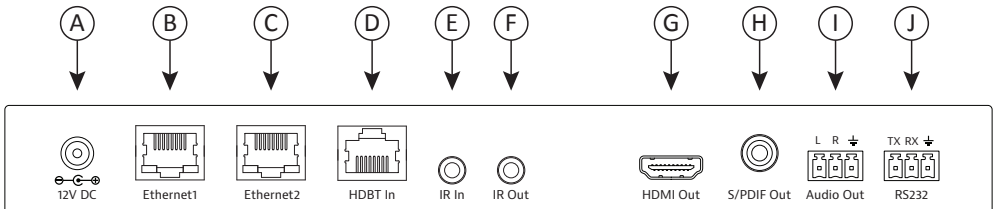
- *Unpack the equipment carefully and save the original box and packing material for possible future shipment.*
- *Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.*
- *Do not dismantle the housing or modify the module. It may result in electrical shock or burn.*
- *Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.*
- *Refer all servicing to qualified service personnel.*
- *To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.*
- *Do not put any heavy items on the extension cable in case of extrusion.*
- *Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.*
- *Install the device in a place with good ventilation to avoid damage caused by overheating.*
- *Keep the module away from liquids.*
- *Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.*
- *Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.*
- *Unplug the power cord when left unused for a long period of time.*
- *Information on disposal for scrapped devices: do not burn or mix with general household waste. Please treat them as normal electrical waste and recycle the devices properly.*

Receiver Front



1. Power Indicator
2. Scaler Indicator
3. Device Status Indicator
4. HDCP Activity Indicator
5. HDBaseT Link Indicator
6. Firmware Update Port

Receiver Rear



- A. 12V DC Power Input
- B. Ethernet Port with PoE
- C. Ethernet Port
- D. HDBaseT Input
- E. IR Input
- F. IR Output
- G. HDMI Output
- H. Digital Audio (S/PDIF) Output
- I. Analog Audio Output
- J. RS232 Port

Included Accessories

- Receiver
- Locking Power Supply with Power Cable
- Two Mounting Rails with Screws
- Two 3-pole Removable Terminal Blocks
- Installation Guide

Default Device Behavior

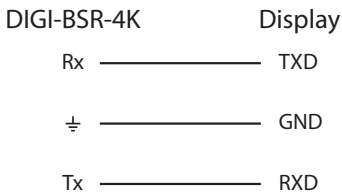
The DIGI-BSR-4K will convert any incoming HDBaseT signal and scale the video signal to match the native resolution of the connected display. The scaler chip in the DIGI-BSR-4K presents an EDID of 3840x2160 at 30 Hz to the source device connected to the HDBaseT transmitter. Other video resolutions are included in the EDID table to provide the greatest amount of compatibility with the source device.

After the video has been scaled, the DIGI-BSR-4K will sample the audio stream and de-embed the audio to the analog and digital audio outputs. Since this is happening after the video scaling, there is no delay between the audio and video signals leaving the DIGI-BSR-4K.

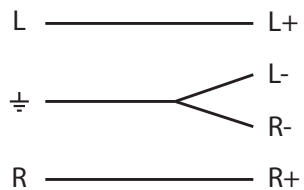
Configurable Device Behavior

The output resolution of the DIGI-BSR-4K can be set to a static output resolution. The de-embedded output audio levels can be raised, lowered, or muted. The DIGI-BSR-4K can also be configured to turn on and off the display depending on the state of the source device.

RS232 Wiring



Analog Audio Wiring



Installation Instructions

The following instructions describe the installation process for a point-to-point installation. The procedure is similar for compatible HDBaseT components. In the event the DIGI-BSR-4K cannot provide power over the HDBaseT cable connection, the HDBaseT transmitter will require a local power supply.

1. Verify all components included with the DIGI-BSR-4K are present before installation.
2. If the DIGI-BSR-4K will be permanently mounted to a surface, attach the included mounting brackets with the supplied screws.
3. Turn off power and disconnect the audio/video equipment by following the manufacturer's instructions.
4. Connect shielded, solid core Category 5e or greater twisted pair cable with RJ45 connectors between the HDBaseT transmitter and the DIGI-BSR-4K. TIA/EIA-568B straight-through wiring connections must be used with all HDBaseT extenders.
5. Connect an HDMI cable and any desired control accessories between the source and the transmitter.
6. Connect an HDMI cable and any desired control accessories between the display and the receiver.
7. Connect a Category 5e patch cable between the *Ethernet* or *LAN (PoE)* ports and any device that requires an Ethernet connection from the transmitter. The DIGI-BSR-4K can provide up to 15 watts of power to any PoE network device on the *LAN (PoE)* port.
8. Connect the audio output of the DIGI-BSR-4K to an audio amplifier.
9. Connect the power supply to the receiver and lock the power supply to the power connector by twisting the locking collar clockwise.
10. Power on attached audio/video devices.

RS232 and TCP/IP Commands

RS232 Settings: 57600 baud, 8 Data bits, 1 Stop bit, Parity = None

TCP/IP Settings: User defined IP address (default IP address: 192.168.2.128), port 23

There is a carriage return (hex 0D) and line feed (hex 0A) at the end of every command and response.

RS232 Port Function Commands

Description	Command	Response
Connect to scaler control	CONNECT SCA	CONNECT SCA
Connect to HDBaseT pass-through (default)	CONNECT PTH	CONNECT PTH
Connect to HDBaseT upgrade circuit	CONNECT UPG	CONNECT UPG
Get connection status	GET CONNECT	Any above response

Scaler Output Commands

Description	Command	Response
Set scaler output to 2160p/30	SET SCALER UHD30	SCALE UHD30
Set scaler output to 1080p/60	SET SCALER FHD	SCALE FHD
Set scaler output to 720p/60	SET SCALER HD	SCALE HD
Set scaler output to 1920x1200/60	SET SCALER WUXGA	SCALE WUXGA
Set scaler output to 1280x800/60	SET SCALER WXGA	SCALE WXGA
Set scaler output to display's native resolution	SET SCALER AUTO	SCALE AUTO

CEC to Display Commands

Description	Command	Response
Display On via CEC	DISPLAY ON	DISPLAY ON
Display Off via CEC	DISPLAY OFF	DISPLAY OFF
Display Auto On or Off via CEC with active source	DISPLAY AUTO ON	DISPLAY AUTO ON
Disable Display Auto On or Off	DISPLAY AUTO OFF	DISPLAY AUTO OFF
Display Auto Off with no source delay time (mins)	DISPLAY AUTO DELAY xx	DISPLAY AUTO DELAY xx MINUTES
Set scaler output to display's native resolution	SET SCALER AUTO	SCALE AUTO

RS232 to Display Commands

Description	Command	Response
Set Baud Rate to Display (9600, 57600, 115200)	SET BAUD xxx	BAUD xxx
Set RS232 Display On Command	DONxxxxxxxxxxxxxxxxxxxx	DONxxxxxxxxxxxxxxxxxxxx
Get RS232 Display On Command	DON?	DONxxxxxxxxxxxxxxxxxxxx
Set RS232 Display Off Command	DOFxxxxxxxxxxxxxxxxxxxx	DOFxxxxxxxxxxxxxxxxxxxx
Get RS232 Display Off Command	DOF?	DOFxxxxxxxxxxxxxxxxxxxx
Display Control Enabled	DFG1	ON
Display Control Disabled	DFG0	OFF
Turn On Display via RS232	DISP ON	DISPLAY ON
Turn Off Display via RS232	DISP OFF	DISPLAY OFF

De-embedded Audio Output Commands

Description	Command	Response
Get De-embedded Audio Output Volume (0-100)	SET VOL xxx	VOL xxx
Set De-embedded Audio Output Volume (0-100)	GET VOL	VOL xxx
Mute De-embedded Audio Output	MUTE ON	MUTE ON
Unmute De-embedded Audio Output	MUTE OFF	MUTE OFF
Get De-embedded Audio Output Mute Status	GET MUTE	MUTE ON or MUTE OFF

IP Addressing Commands

The SET IPADDRESS command is a continuous string.

Description	Command	Response
Set Static IP Address and Netmask	SET IPADDRESS STATIC ip4addr xxx.xxx.xxx.xxx netmask xxx.xxx.xxx.xxx	IPADDRESS STATIC ip4addr xxx.xxx.xxx.xxx netmask xxx.xxx.xxx.xxx
Get IP Address and Netmask	GET IPADDRESS	IPADDRESS STATIC ip4addr xxx.xxx.xxx.xxx netmask xxx.xxx.xxx.xxx

Miscellaneous Commands

Description	Command	Response
Get Current Firmware Version	GET VER	VER 1.5
Upgrade Device Firmware	UPG	UPG
Factory Reset	RST	RESTORING FACTORY DEFAULT
System Reboot	REBOOT	REBOOT

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