

## ▶ HEX100HDVGA – RX/TX User Manual

**Thank you for purchasing this product.**

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.



**Surge protection device recommended**

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

# Contents

Introduction	03
Features	03
Panel Descriptions	04
RS232 Control	06
Specifications	07
Package Contents	07
Maintenance	07

# Introduction

Our HEX100HDVGA-KIT extender set is an industry leading 4K HDBaseT solution that delivers switchable HDMI and VGA inputs. The extender set also transmits Bi-directional IR, RS-232 and PoH (PoE) up to lengths of 100m over a single CAT cable.

## FEATURES:

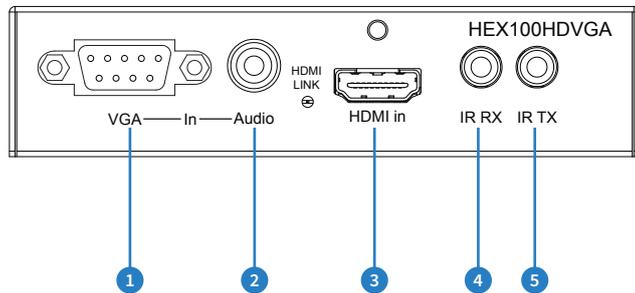
- Auto signal sensing switches between HDMI and VGA+ audio (analogue 3.5mm stereo audio) to HDMI output with analogue left/right audio and coaxial digital outputs. Units will switch when new signal detected.
- Manual switching of HDMI and VGA/Audio input signal on both Transmitter and Receiver units using manual or RS232 control.
- HDMI input audio de-embedded onto analogue left/right audio and coaxial digital outputs (Supports PCM audio only).
- HDMI v1.4 and HDCP compliant, support 1080p@60Hz, 3D and 4K.
- Support 1080p@60Hz up to 100m, 4K up to 60m
- Dolby TrueHD and DTS-HD master audio pass through HDMI output
- Support for all popular VGA resolutions: 640x480@60/75Hz, 720x400@70Hz, 800x600@60/75Hz, 1024x768@60/75Hz, 1152x864@75Hz, 1280x720@60Hz, 1280x768@60/75Hz, 1280x800@60/75Hz, 1280x960@60Hz, 1280x1024@60/75Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@60Hz
- Bi-directional IR and RS232
- RS232 supports bypass via HDBaseT link (default), input switching control or firmware update.
- POH (Power over HDBT) supported, only one power supply needed at either transmitter or receiver side.

**NOTE:** The POH function is designed for powering compatible transmitter or receiver units of Blustream only.

Do not connect any part of this equipment to power over Ethernet devices. Damage may result.

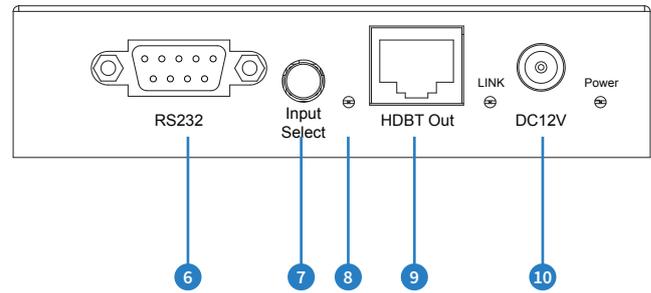
HEX100HDVGA - Transmitter

Front Panel

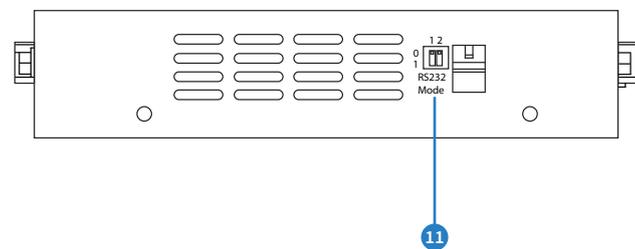


- 1 VGA input
- 2 Analogue Left/Right audio input - 3.5mm Stereo Jack
- 3 HDMI input – Connect to HDMI source device
- 4 IR Rx port – Transmits IR to HEX100HDVGA-Rx (Tx IR port). Connect Blustream IR sensor or control processor to send IR commands to a display
- 5 IR Tx port – Connect a 5V Blustream IR emitter. Used to control source devices from display end.

Back Panel



- 6 RS232 port – Bi-directional RS232 to and from the HEX100HDVGA-RX
- 7 Input select button – switch between HDMI and VGA/Audio input.
- 8 Input status indicator – Red=VGA/Audio, Blue=HDMI
- 9 HDBaseT out – RJ45 connector, connect to HDBaseT input on HEX100HDVGA-RX
- 10 Power port – Use supplied 12v / 2amp DC adaptor (HEX100HDVGA kit can be powered at either transmitter or receiver units)



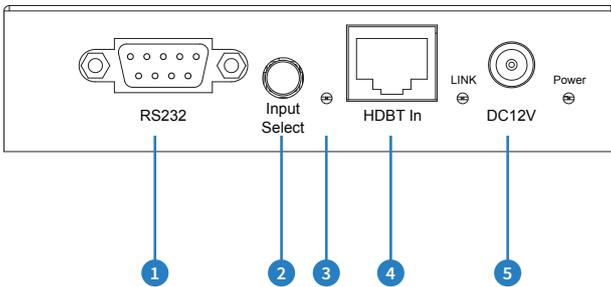
- 11 RS232 management DIP switches – See table on right for settings

RS232 Mode DIP Switch Settings

DIP Position 1	DIP Position 2	Mode
0	0	RS232 Pass Through HDBaseT (default)
0	1	HDBaseT Firmware Update
1	0	Master Firmware Update
1	1	Switch between inputs via RS232 & RS232 pass through HDBaseT

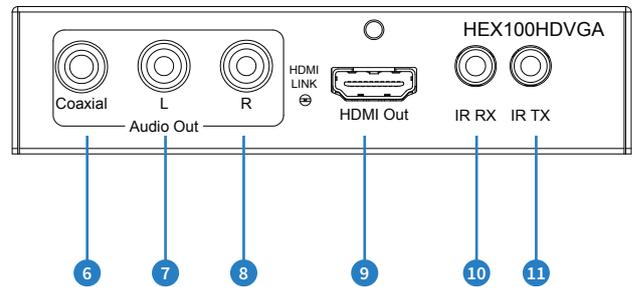
HEX100HDVGA - Receiver

Front Panel

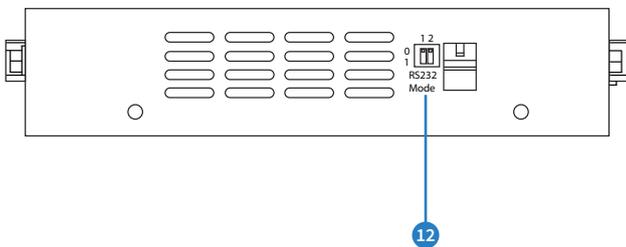


- 1 RS232 port – Bi-directional RS232 to and from the HEX100HDVGA-TX
- 2 Input select button – switch between HDMI and VGA/ Audio input.
- 3 Input status light – Red=VGA/Audio, Blue=HDMI
- 4 HDBaseT in – RJ45 connector, connect to HDBaseT output on HEX100HDVGA-TX
- 5 Power port – Use supplied 12v / 2amp DC adaptor (HEX100HDVGA kit can be powered at either transmitter or receiver units)

Back Panel



- 6 Coaxial digital output
- 7 Analogue Left audio RCA output
- 8 Analogue Right audio RCA output
- 9 HDMI output – Connect to HDMI display device
- 10 IR Rx port – Connect to Blustream 5v IR sensor. Used to control IR controlled source devices at HEX100HDVGA-Tx end
- 11 IR Tx port – Connect to Blustream 5v IR emitter. Used to control display device from control processor or IR sensor located at the source end



- 12 RS232 management DIP switches – See table on right for settings

RS232 Mode DIP Switch Settings

DIP Position 1	DIP Position 2	Mode
0	0	RS232 Pass Through HDBaseT (default)
0	1	HDBaseT Firmware Update
1	0	Master Firmware Update
1	1	Switch between inputs via RS232 & RS232 pass through HDBaseT

## RS232 Control

RS232 switching codes for VGA and HDMI inputs

No.	Codes	Description
1	vgaselect	Switching to VGA input
2	hdmiselect	Switching to HDMI input
3	getselect	Get status of currently selected input, return message will be HDMI port or VGA port
4	ensigdet	Enable signal detect (Auto switching)
5	dissigdet	Disable signal detect (Auto switching)
6	resetdef	Restore factory settings

RS232 Pin assignment

Blustream		Remote Control Console	
PIN	Assignment	PIN	Assignment
1	NC	1	NC
2	Tx	2	Rx
3	Rx	3	Tx
4	NC	4	NC
5	GND	5	GND
6	NC	6	NC
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC

Baud Rate: 57600 bps

Data Bit: 8-bit

Parity: None

Stop Bit: 1-bit

Flow Control: None

# Specifications

## HEX100HDVGA-TX

Audio Input Connectors: 1x Analogue Left/Right 3.5mm stereo jack

Video Input Connectors: 1x HDMI Type A & 1x VGA

Video Output Connectors: 1x HDBaseT RJ45 connector

IR Input Port: 1x 3.5mm stereo jack

IR Output Port: 1x 3.5mm mono jack

RS232 Serial Port: 1x DB9 female

Casing Dimensions (W x H x D): 124mm x 113mm x 29mm

Dimensions including connections (W x H x D): 133mm x 113mm x 29mm

## HEX100HDVGA-RX

Audio Output Connectors: 2x Analogue RCA Left/Right & Coaxial digital

Video Input Connectors: 1x HDBaseT RJ45 connector

Video Output Connectors: 1x HDMI Type A

IR Input Port: 1x 3.5mm stereo jack

IR Output Port: 1x 3.5mm mono jack

RS232 Serial Port: 1x DB9 female

Casing Dimensions (W x H x D): 124mm x 113mm x 29mm

Dimensions including connections (W x H x D): 135mm x 113mm x 29mm

Shipping Weight (Kit): 1.1kg

Operating Temperature: 32°F to 104°F (0°C to 40°C)

Storage Temperature : -4°F to 140°F (-20°C to 60°C)

Power Supply: 12V/2A DC

## Package Contents:

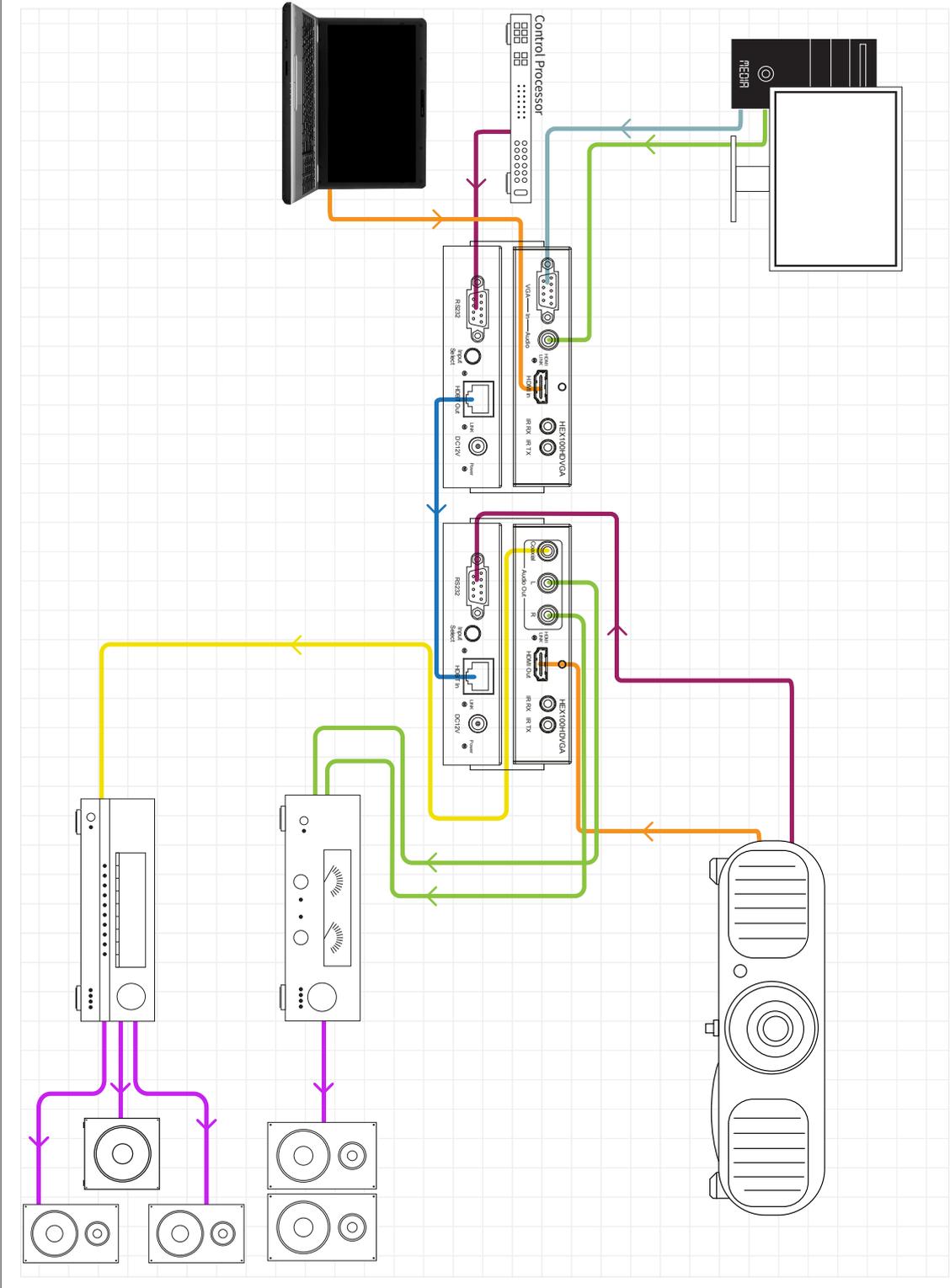
- 1 x HEX100HDVGA Transmitter
- 1x HEX100HDVGA Receiver
- 1 x 12V/2A DC power supply
- 1 x Blustream 5v IR sensor
- 1x Blustream 5v IR emitter
- 1x Mounting kit
- 1x Manual

## Maintenance:

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

BLUSTREAM

Example Schematic  
HEX100HDVGA





[www.blustream.co.uk](http://www.blustream.co.uk)  
[www.blustream.com.au](http://www.blustream.com.au)