

# ► SW21AB-V2

## 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.

## Safety And Performance Notice

Do not substitute or use any other power supply other than the enclosed unit, or a Blustream approved replacement.

Do not disassemble the unit for any reason. Doing so will void the manufacturer's warranty.

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# Introduction

The SW21AB-V2 is a 2-way HDMI switch with integrated audio breakout and the ability to auto-switch.

The switch supports full HDMI 2.0 and HDCP 2.2 with video resolutions up to and including 4K @ 60Hz 4:4:4.

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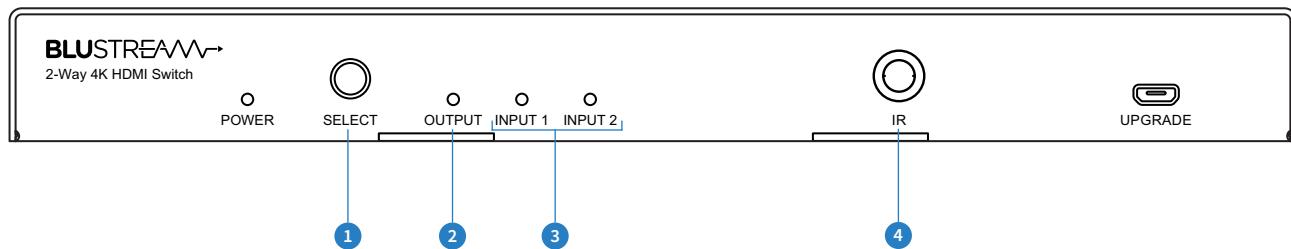
## FEATURES:

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- Features 2 x HDMI inputs which can be switched to a single HDMI output
- Supports full HDMI 2.0 specification 4K UHD video (4K @ 60Hz 4:4:4)
- HDCP 2.2 compliant
- Auto-switching capabilities\*
- Supports 3D signal display
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports bitstream passthrough of multichannel surround sound including object-based audio formats in line with HDMI specifications
- HDMI audio breakout to analogue L/R audio and optical S/PDIF outputs concurrently
- Control via serial, front panel and IR
- Advanced EDID management

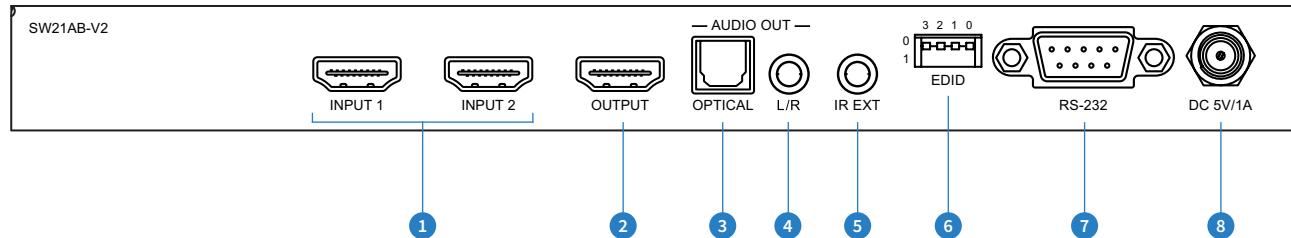
\* See page 4 for details of how to enable the auto-switching function on these units.

## Front Panel



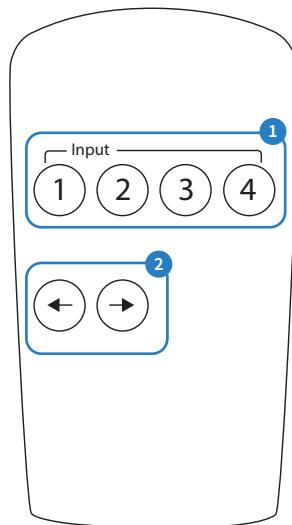
- ① Select Button - Press to toggle between HDMI inputs. Auto-switching function is enabled / disabled by pressing and holding the Select button for 5 seconds. Input light will flash 3 times to confirm switching function enabled / disabled
- ② Output LED Indicator - Indicates if a display device is connected to the switches HDMI output
- ③ Input LED Indicators - Displays the HDMI input currently active
- ④ IR Receiver Window

## Rear Panel



- ① HDMI Inputs - Connect to HDMI source devices
- ② HDMI Output - Connect to a HDMI display device
- ③ Optical S/PDIF Output - De-embed digital audio from the selected HDMI input
- ④ Analogue Audio Left / Right Output (3.5mm stereo jack) - De-embedded from the selected HDMI input. Source input must be PCM 2 channel audio for the analogue output to work. The SW21AB-V2 doesn't down-mix multi-channel audio signals
- ⑤ External IR Port - Connect Blustream 5V IR receiver, or control processor to control the switcher
- ⑥ EDID DIP Switches - See page 06
- ⑦ RS-232 Port - For control of the switcher from a PC or control processor
- ⑧ Power Port - Use supplied Blustream 5V/1A DC adaptor to power the switcher

## Remote Control - REMSW41



- ① Direct HDMI input selection buttons (buttons 3 & 4 for use with SW41AB-V2 unit only)
- ② Scroll through input buttons - HDMI input 1-2-1...



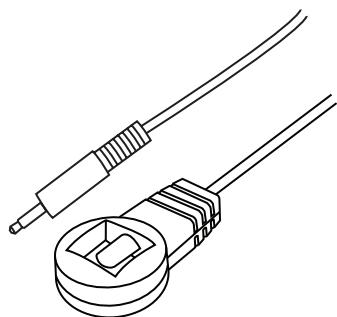
## Infrared (IR) Distribution

The Blustream range of HDMI products include multiple options for control and routing of IR.

**IMPORTANT: Blustream Infrared products are all 5V and NOT compatible with alternative manufacturers Infrared solutions. When using third party 12V IR control solutions, please use the Blustream IRCAB cable for IR conversion (12V to 5V) - sold separately.**

### IR Receiver - IRR

Blustream 5V IR receiver (supplied) to receive IR signal and control the SW21AB-V2

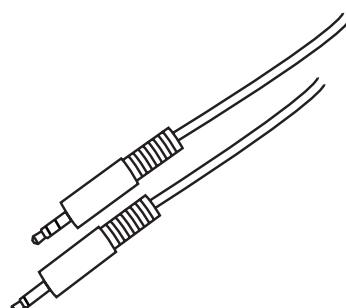


### IR Control Cable - IRCAB

Blustream IR Control cable 3.5mm Mono to 3.5mm Stereo for linking third party control solutions to Blustream products.

Compatible with 12V IR third party products.

**Note:** Cable is directional as indicated - not supplied



## EDID Control

EDID (Extended Display Identification Data) is a data structure that is used between a display and a source. This data is used by the source to find out what audio and video resolutions are supported by the display, from this information the source will discover what the best audio and video resolutions need to be outputted.

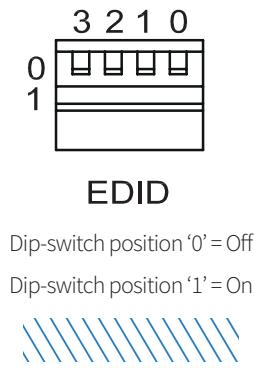
While the objective of EDID is to make connecting a digital display to a source a simple plug and play procedure, issues do arise when multiple displays or video switching is introduced because of the increased number of variables.

By pre-determining the video resolution and audio format of the sources and display device you can reduce the time needed for EDID hand shaking thus making switching quicker and more reliable.

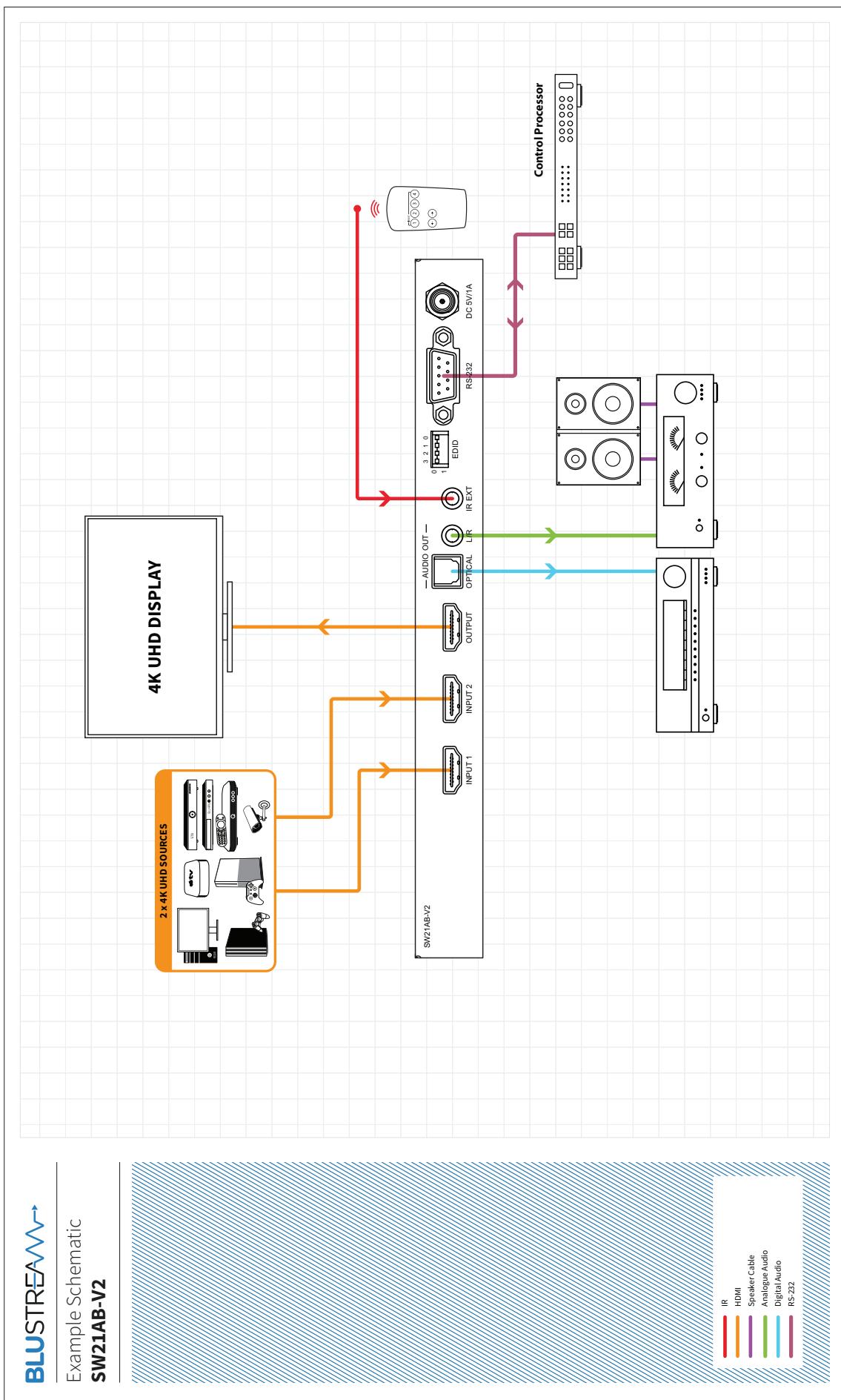
Configuration of extender EDID settings can be achieved using the product dip-switches on the SW21AB-V2. EDID dip-switch settings are shown below.

**Note:** You must power cycle the product after making EDID changes. For some sources it may be necessary to power cycle the source after EDID changes have been made for the source to update its video & audio output settings.

### Global EDID Settings



DIP ON /OFF SWITCHING POSITIONS				EDID TYPE
3	2	1	0	
OFF	OFF	OFF	OFF	1080p@60Hz, Audio 2ch PCM
OFF	OFF	OFF	ON	1080p@60Hz, Audio 5.1ch PCM/DTS/Dolby
OFF	OFF	ON	OFF	1080p@60Hz, Audio 7.1ch PCM/DTS/Dolby/HD
OFF	OFF	ON	ON	4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 2ch PCM
OFF	ON	OFF	OFF	4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 5.1ch PCM/DTS/Dolby
OFF	ON	OFF	ON	4K@60Hz 4:2:0 / 4K@30Hz 4:4:4, Audio 7.1ch PCM/DTS/Dolby/HD
OFF	ON	ON	OFF	4K@60Hz 4:4:4, Audio 2ch PCM
OFF	ON	ON	ON	4K@60Hz 4:4:4, Audio 5.1ch PCM/DTS/Dolby
ON	OFF	OFF	OFF	4K@60Hz 4:4:4, Audio 7.1ch PCM/DTS/Dolby/HD
ON	OFF	OFF	ON	4K@60Hz 4:4:4, Audio 2ch PCM
ON	OFF	ON	ON	4K@60Hz 4:4:4, Audio 5.1ch PCM/DTS/Dolby
ON	OFF	ON	ON	4K@60Hz 4:4:4, Audio 7.1ch PCM/DTS/Dolby/HD
ON	ON	OFF	OFF	DVI 1920x1080@60Hz, Audio None
ON	ON	OFF	ON	DVI 1920x1200@60Hz, Audio None
ON	ON	ON	OFF	API Control - Software Control
ON	ON	ON	ON	EDID pass-through



## Specifications

- **Video Input Connectors:** 2 x HDMI Type A, 19-pin, female
- **Video Output Connectors:** 1 x HDMI Type A, 19-pin, female
- **Audio Output Connectors:** 1 x Optical (S/PDIF) & 1 x Analogue audio L/R (3.5mm stereo jack)
- **IR Input Ports:** 1 x 3.5mm stereo jack
- **RS-232 Serial Port:** 1 x DB9, female
- **Dimensions (W x D x H):** 196 x 104 x 32mm, including connections, without feet (removable)
- **Shipping Weight:** 0.8kg
- **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:** 1 x 5V/1A DC

**NOTE:** Specifications are subject to change without notice. Weights and dimensions are approximate.

## Package Contents

- 1 x SW21AB-V2
- 1 x REMSW41 Remote Control
- 1 x 5V/1A DC Power Supply
- 1 x IR Receiver (IRR)
- 1 x User Manual

## Maintenance

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

Components inside this unit are not user serviceable. Do not remove the protective cover from the unit. Removing any panel from this product will invalidate the manufacturers warranty.

# Certifications

## FCC NOTICE

This equipment 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 residential installation. 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**CAUTION** - changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## CANADA, INDUSTRY CANADA (IC) NOTICES

This Class B digital apparatus complies with Canadian ICES-003.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

## CORRECT DISPOSAL OF THIS PRODUCT

This marking indicates that this product should not be disposed with other household wastes. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

## Installer Notes

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**BLUSTREAM**

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