

# UltraStudio 4K Extreme



Advanced rack mount Thunderbolt and PCIe capture and playback for SD, HD, Ultra HD, and DCI 4K up to 60p, including 4:4:4 and dual channel 3D stereoscopic support. Features 12G-SDI and HDMI 2.0 so you can work with the latest high frame rate Ultra HD and 4K formats, along with analog video connections, timecode, analog XLR and AES/EBU audio, plus a built in hardware encoder for H.265. \$2,995

# Connections

#### SDI Video Input

2 x 12Gb/s and 2 x 6Gb/s SD/HD/2K/4K. Supports single/dual/quad link 4:2:2/ 4:4:4. 2D/3D switchable.

#### SDI Video Loop

4 x reclocked SD/HD/2K/4K linked to corresponding inputs.

#### SDI Video Output

2 x 12Gb/s and 2 x 6Gb/s SD/HD/2K/4K. Supports single/dual/quad link 4:2:2/ 4:4:4. 2D/3D switchable.

#### SDI Video Repeated Output

2 x 12Gb/s and 2 x 6Gb/s SD/HD/2K/4K. Supports single/dual/quad link 4:2:2/ 4:4:4. 2D/3D switchable.

#### **Optical Fiber Input/Output**

2 x 12Gb/s Optical Fiber (Optional).

#### **HDMI Video Input**

HDMI 2.0 type A connector with support for 2160p60

#### HDMI Video Output

HDMI 2.0 type A connector with support for 2160p60

#### Analog Video Input

1 x Component YUV on 3 BNCs, 1 x composite NTSC/PAL on 1 BNC

#### Analog Video Output

1 x Component YUV on 3 BNCs, 1 x composite NTSC/PAL on 1 BNC

SDI Audio Input 16 Channels embedded in SD/HD/2K/ 4K.

**SDI Audio Output** 16 Channels embedded in SD/HD/2K/ 4K.

HDMI Audio Input 8 Channels embedded in SD/HD/4K.

HDMI Audio Output 8 Channels embedded in SD/HD/4K.

#### Analog Audio Input

4 Channels of professional balanced analog audio via XLR connectors and 2 channels of consumer unbalanced via RCA connectors.

#### Analog Audio Output

4 Channels of professional balanced analog audio via XLR connectors.

## AES/EBU Audio Input

2 Channels unbalanced with sample rate converter on BNC connector.

#### AES/EBU Audio Output

2 Channels unbalanced on BNC connector.

#### **Mic Input**

1 x 48V microphone input via XLR connector. Phantom Power switchable via software control.

**Timecode Input** 1 x XLR Input.

**Timecode Output** 1 x XLR Output.

#### Sync Input

1 x Reference input. Blackburst in SD or Tri-Sync in HD.

#### Sync Output

1 x Reference Loop Output. Blackburst in SD or Tri-Sync in HD.

#### **Device Control**

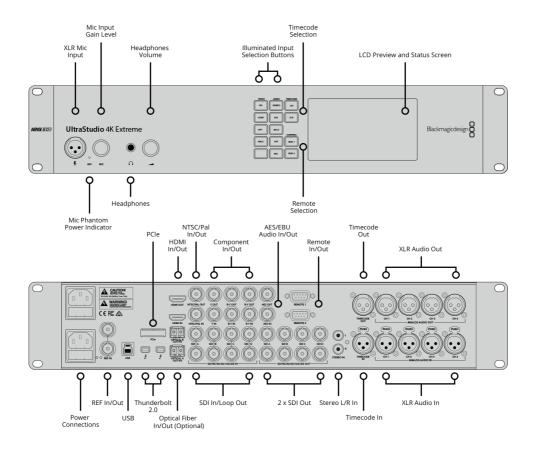
2 x Sony<sup>™</sup> compatible RS-422 deck control ports. Serial ports TxRx direction reversible under software control.

#### **Computer Interface**

Thunderbolt<sup>™</sup> 2, PCI Express, USB.

#### Power

2 x built-in international AC power supply with IEC C14 inlet. 120-240V, 50-60Hz.



## Codecs

Supports: AVC-Intra, AVCHD, Canon XF MPEG2, Digital SLR, DV-NTSC, DV-PAL, DVCPRO50, DVCPROHD, DPX, HDV, HEVC, XDCAM E XDCAM HD422, Uncompressed 8-bit 4:2:2, Uncompressed 10-bit 4:2:2, Uncompressed 10-bit 4:2:4.

## Software

## Software Included

DaVinci Resolve, Media Express, Disk Speed Test, LiveKey, Blackmagic Desktop Video Utility and Blackmagic driver on Mac OS X. DaVinci Resolve, Media Express, Disk Speed Test, LiveKey, Blackmagic Desktop Video Utility and Blackmagic driver on Windows 7 and Windows 8. Blackmagic Desktop Video Utility and Blackmagic driver on Linux.

## Internal Software Upgrade

Firmware built into software driver. Software driver loads upgrades at system start or via updater software.



#### Other supported applications include:

Nuke, Steinberg Nuendo, Avid Symphony, Avid News Cutter, Tools On Air just:in & live:cut & just:play & just:live, Softron OnTheAir, MovieRecorder and OnTheAir CG, Flash Media Live Encoder, Flash Media Encoder, Wirecast, Livestream Procaster, Resolume Avenue 4, Sony Vegas Pro, Corel VideoStudio Pro X4, CyberLink Power Director, MAGIX Video Pro X4, Vidblaster Pro & Studio & Broadcast, Uniplay, Playbox AirBox, CasparCG, Magicsoft CG, Xsplit Broadcaster, Imagine Communications Velocity & InfoCaster.

## SDI Video Standards

#### **SD** Format Support

525/29.97 NTSC, 625/25 PAL.

#### **HD** Format Support

1280 x 720p50, 1280 x 720p59.94, 1280 x 720p60, 1920 x 1080i50, 1920 x 1080i59.94, 1920 x 1080i60, 1920 x 1080PsF23.98, 1920 x 1080PsF24, 1920 x 1080PsF25, 1920 x 1080PsF29.97, 1920 x 1080PsF30, 1920 x 1080p23.98, 1920 x 1080p24, 1920 x 1080p25, 1920 x 1080p29.97, 1920 x 1080p30, 1920 x 1080p50, 1920 x 1080p59.94, 1920 x 1080p60.

#### **2K Format Support**

2048 x 1080PsF23.98, 2048 x 1080PsF24, 2048 x 1080PsF25, 2048 x 1080psF25, 2048 x 1080p23.98, 2048 x 1080p24, 2048 x 1080p25.

#### Ultra HD Format Support

3840 x 2160p23.98, 3840 x 2160p24, 3840 x 2160p25, 3840 x 2160p29.97, 3840 x 2160p30, 3840 x 2160p50, 3840 x 2160p59.94, 3840 x 2160p60.

#### **4K Format Support**

4096 x 2160p23.98, 4096 x 2160p24, 4096 x 2160p25.

#### **SDI Compliance**

SMPTE 292M, SMPTE 259M, SMPTE 296M, SMPTE 372M, SMPTE 425M level A, SMPTE 425M level B, ITU-R BT.656 and ITU-R BT.601.

#### **SDI Audio Sampling**

Television standard sample rate of 48 kHz and 24-bit.

SDI Video Sampling 4:2:2, 4:4:4 and 4:4:4:4.

#### **SDI Color Precision**

8, 10, 12-bit RGB 4:4:4 in all modes up to UHD 30p, and 8, 10-bit YUV 4:2:2 in all modes

#### **SDI Color Space**

REC 601, REC 709.

#### **SDI Configuration**

SDI output is configurable for Quad Link 3Gb/s via Blackmagic Desktop Video Utility. When using single link 12Gb/s on SDI A or dual link 6Gb/s on SDI A and B, SDI C and D will output downconverted HD.

#### SDI Metadata Support

VITC read for 3:2 pulldown removal. VANC capture and playback using up to 3 lines of video in file. HD RP188. Closed captioning.

# HDMI Video Standards

### SD Format Support

525/29.97 NTSC, 625/25 PAL.

#### **HD** Format Support

1280 x 720p50, 1280 x 720p59.94, 1280 x 720p60, 1920 x 1080i50, 1920 x 1080i59.94, 1920 x 1080i60, 1920 x 1080p23.98, 1920 x 1080p24, 1920 x 1080p25, 1920 x 1080p29.97, 1920 x 1080p30, 1920 x 1080p50, 1920 x 1080p59.94, 1920 x 1080p60.

#### Ultra HD Format Support

3840 x 2160p23.98, 3840 x 2160p24, 3840 x 2160p25, 3840 x 2160p29.97, 3840 x 2160p30, 3840 x 2160p50, 3840 x 2160p59.94, 3840 x 2160p60.

#### 4K Format Support

4096 x 2160p23.98, 4096 x 2160p24.

#### Audio Sampling Television standard sample rate of 48 kHz and 24-bit.

HDMI Video Sampling 4:2:2 and 4:4:4.

HDMI Color Precision 10-bit RGB in HD, 10-bit YUV in 4K.

#### **HDMI** Configuration

HDMI 2.0 supports Deep Color and automatically configures to connected display.

#### **Multiple Rate Support**

HDMI and SDI video connections are switchable between SD/HD/2K and 4K. Component analog video connections are switchable between SD and HD.

#### **Copy Protection**

HDMI input is unable to capture from copy protected HDMI sources. Always confirm copyright ownership before capture or distribution of content.

## Processing

#### Encoding

Hardware based real time h.265 encoder.

#### **Colorspace Conversion**

Hardware based real time.

#### **3D Processing**

Dual stream and frame packed capture & playback.

#### Ultra HD Down Conversion

Built in, high quality hardware down converter outputs Ultra HD to HD or HD to SD downconverted signal on SDI B and SD on Component and NTSC/PAL. Switch analog video to Component and choose HD or SD output. Selectable between letterbox, anamorphic 16:9 and center cut 4:3.

#### HD Up Conversion

Built-in, high quality hardware up conversion from SD to 720HD or 1080HD on playback. Selectable between 4:3 pillarbox, 14:9 zoom and 16:9 zoom.

#### **HD Cross Conversion**

Built in, high quality hardware cross conversion from 720p to 1080i and 1080i to 720p on playback.

#### **Real Time Effects**

DaVinci Resolve, Final Cut Pro X internal effects. Premiere Pro CC Mercury Playback Engine effects. Avid Media Composer internal effects.

#### **Physical Installation**

Requires computer with either a Thunderbolt port or available PCIe slot. PCIe cable and interface card available separately. Please check support pages to see the full system requirement.

# **Operating Systems**



Mac OS X 10.9 Mavericks, Mac OS X 10.10 Yosemite, Mac OS X 10.11 El Capitan or later.



Windows 8.1 or Windows 10.

## Power Requirements

2 x built-in international AC power supply with IEC C14 inlet. 120-240V, 50-60Hz.

# Physical Specifications



# Environmental Specifications

# **Operating Temperature** $5^{\circ}$ to $40^{\circ}$ C ( $41^{\circ}$ to $104^{\circ}$ F)

**Storage Temperature** -20° to 45° C (-4° to 113° F) **Relative Humidity** 0% to 90% non-condensing

# Safety Compliance

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# What's Included

UltraStudio 4K Extreme Software SD card DaVinci Resolve SD card

# Warranty

3 Year Limited Manufacturer's Warranty.

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