

UltraStudio 4K Extreme 3



UltraStudio 4K Extreme 3 is the world's most advanced capture and playback solution for PCI Express and Thunderbolt computers! It features incredibly fast 40Gb/s Thunderbolt 3, advanced 12G-SDI and HDMI 2.0 connections for working at up to 60 frames per second with deep color, 12-bit RGB, support for HDR workflows via HDMI 2.0a and extremely large 4K frame sizes. Featuring the widest range of analog and digital connections, UltraStudio 4K Extreme 3 is compatible with virtually any camera, deck, router or display. There's even an extremely powerful hardware encoder built-in that supports realtime H.265 encoding!

Connections

SDI Video Inputs

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 Outputs

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 Rates

270Mb, 1.5G, 3G, 6G, 12G.

Optical SDI

Supports 2 optional SMPTE modules.

SDI Video Loop

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

SDI Video Repeated Outputs

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.

Analog Video Inputs

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

Analog Video Outputs

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

Analog Audio Inputs

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

Analog Audio Outputs

4 Channels of professional balanced analog audio via XLR connectors.

Optical Fiber Inputs/Outputs (Optional)

2 x 12Gb/s Optical Fiber.

AES/EBU Audio Inputs

2 Channels unbalanced with sample rate converter on BNC connector.

AES/EBU Audio Outputs

2 Channels unbalanced on BNC connector.

SDI Audio Inputs

16 Channels embedded in SD/HD/2K/4K.

SDI Audio Outputs

16 Channels embedded in SD/HD/2K/4K.

HDMI Video Inputs

HDMI 2.0 type A connector with support for 2160p60

HDMI Video Outputs

HDMI 2.0 type A connector with support for 2160p60

HDMI Audio Inputs

8 Channels embedded in SD/HD/4K.

HDMI Audio Outputs

8 Channels embedded in SD/HD/4K.

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. Tri-Sync or Black Burst.

Sync Output

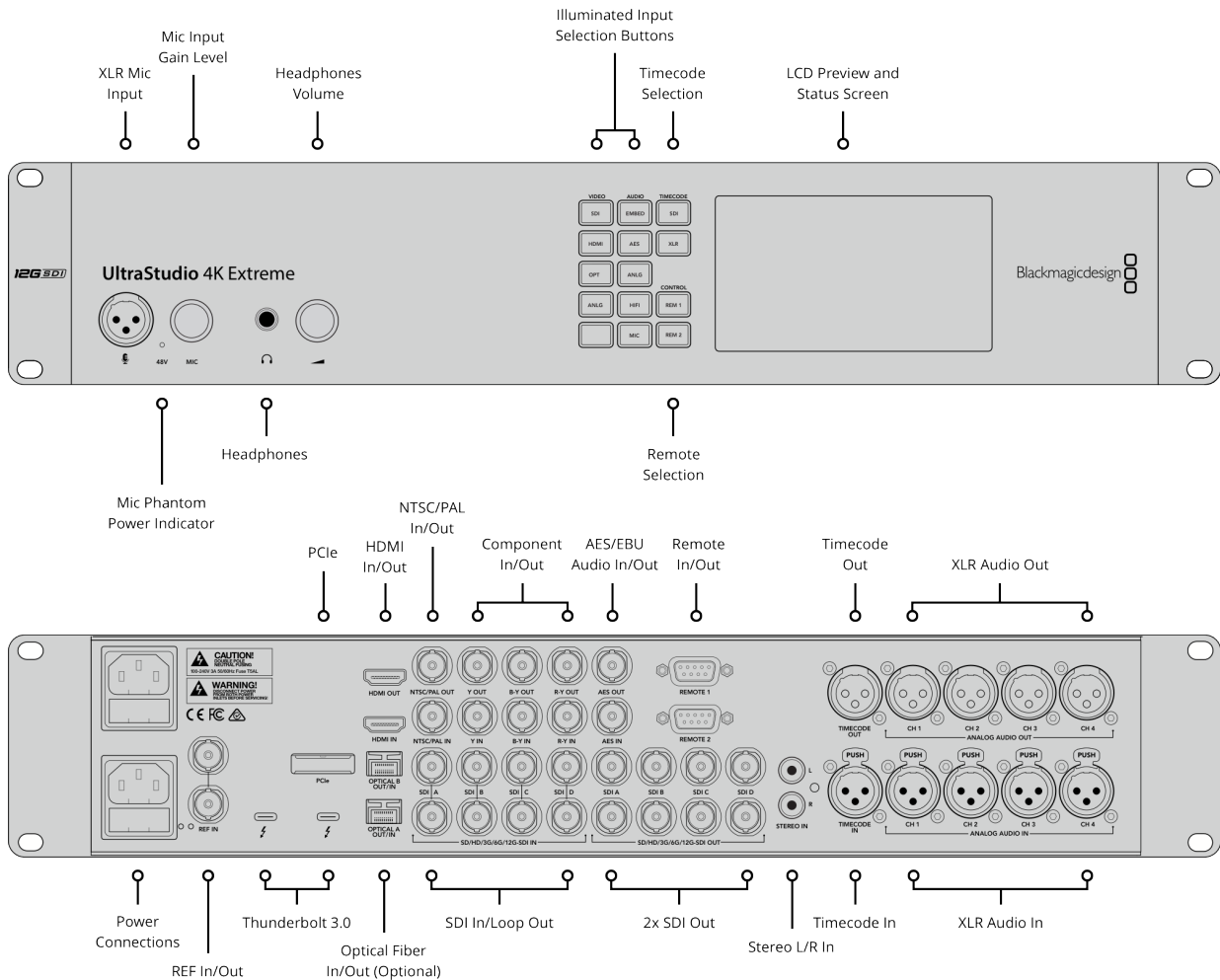
1 x Reference Loop Output. Tri-Sync or Black Burst.

Computer Interface

Thunderbolt™ 3 (Mac OS and Windows), PCI Express 4 lane generation 2.

Power

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



Supported Codecs

AVC-Intra, AVCHD, Canon XF MPEG2, Digital SLR, DV-NTSC, DV-PAL, DVCPRO50, DVCPROHD, DPX, HDV, HEVC, XDCAM EX, XDCAM HD, XDCAM HD422, DNxHR & DNxHD, Apple ProRes 4444, Apple ProRes 422 HQ, Apple ProRes 422, Apple ProRes LT, Apple ProRes 422 Proxy, Uncompressed 8-bit 4:2:2, Uncompressed 10-bit 4:2:2, Uncompressed 10-bit 4:4:4.

Software

Software Included

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

Software Applications



DaVinci Resolve



Avid Media Composer



Steinberg Nuendo



Fusion



Adobe After Effects CC



Adobe Photoshop CC



Final Cut Pro X



Avid Pro Tools



Adobe Premiere Pro CC



Steinberg Cubase

Other supported applications include:

The Foundry Nuke, Grass Valley Edius, Sony Catalyst Production Suite, Tools On Air Just: Play & Live & In, Softron MovieRecorder & MReplay, Adobe Flash Media Live Encoder, Telestream Wirecast, Livestream Producer, Resolume Arena, Magix Vegas Pro & Movie Edit Pro Premium, Corel VideoStudio Pro, CyberLink PowerDirector, Vidblaster X & Studio & Broadcast, Uniplay One & CG, CasparCG Server, Magicsoft CG, Xsplit Broadcaster, Imagine Communications Velocity & InfoCaster, DevTek Easy Media Suite, Metus Ingest, Boinx Software MimoLive, Cinegy Capture Pro, vMix Live, Renewed Vision ProPresenter, Ventuz Director, Class X Liveboard & Coral CG, Glookast Capturer, Open Broadcaster Software Studio, Nautilus NEMO3D.

SDI Video Standards

SD Video Standards

525i59.94 NTSC, 625i50 PAL

HD Video Standards

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

2K Video Standards

2K DCI 23.98p, 2K DCI 24p, 2K DCI
25p
2K DCI 23.98PsF, 2K DCI 24PsF, 2K
DCI 25PsF

Ultra HD Video Standards

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

4K Video Standards

4K DCI 23.98p, 4K DCI 24p, 4K DCI
25p

3D Video Standards

720p50, 720p59.94, 720p60
1080p23.98, 1080p24, 1080p25,
1080p29.97, 1080p30,
1080PsF23.98, 1080PsF24,
1080PsF25, 1080PsF29.97, 1080PsF30
1080i50, 1080i59.94, 1080i60
2K DCI 23.98p, 2K DCI 24p, 2K DCI
25p
2K DCI 23.98PsF, 2K DCI 24PsF, 2K
DCI 25PsF

SDI Compliance

SMPTE 259M, SMPTE 292M, SMPTE
296M, SMPTE 372M, SMPTE 425M,
SMPTE 435, SMPTE 2081, SMPTE
2082, ITU-R BT.656 and ITU-R BT.601.

SDI Metadata Support

RP 188/SMPTE 12M-2 and closed
captioning.

SDI Audio Sampling

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

SDI Video Sampling

4:2:2, 4:4:4

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.

HDMI Video Standards

SD Video Standards

525i59.94 NTSC, 625i50 PAL

HD Video Standards

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

Ultra HD Video Standards

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

4K Video Standards

4K DCI 23.98p, 4K DCI 24p, 4K DCI
25p

3D Video Standards

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

HDMI Audio Sampling

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

HDMI Video Sampling

4:4:4, 4:2:2 & 4:2:0

HDMI Configuration

HDMI 2.0a supports Deep Color and
HDR. 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.

Hardware Frame Buffer

v210 (10 bit YUV), 2vuy (8 bit YUV), ARGB, BGRA (8 bit RGB), r210 (10 bit RGB), R12B,R12L (12 bit RGB).

Color Precision

8, 10, 12-bit RGB 4:4:4 up to 2160p30 and 8, 10-bit YUV 4:2:2 in all standards.

Computer Capture

2 x Thunderbolt 3 for Mac and Windows plus PCI Express Gen 2 for Mac, Windows and Linux. Includes Blackmagic Desktop Video SDK.

Control

Built in Control Panel

14 buttons for input selection. 5 inch color display.

Device Control

2 x RS-422 deck control.

Processing

Encoding

Hardware based real time h.265 encoder.

Ultra HD Down Conversion

Built in, high quality hardware down converter outputs Ultra HD to HD with down-converted signal on SDI outputs C & D and HDMI output when connected to an HD-only TV.

HD to SD Down Conversion

Built in, high quality hardware down converter outputs HD to SD with down-converted signal on SDI output B, Component and Composite NTSC/PAL. 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 1080HD and 1080HD to 720p on playback.

Real Time Effects

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

Colorspace Conversion

Hardware based real time.

3D Processing

Dual stream and frame packed capture & playback.

Physical Installation

Requires a computer with either a Thunderbolt port or available PCI Express slot. Blackmagic PCI Express Cable Kit available separately for high speed PCI Express Gen 3 connection. Please check support pages to see the full system requirement.

Operating Systems



Mac OS X 10.11 El Capitan,
macOS 10.12 Sierra,
macOS 10.13 High Sierra or later.



Windows 7, 8.1 and 10, all 64-bit.



Linux

Power Requirements

2 x Internal 120 - 240V AC

EMC Certifications

FCC, CE and C-Tick.

Physical Specifications



482 mm



88 mm

242 mm




3.9 kg

Environmental Specifications

Operating Temperature

5° to 40° C (41° to 104° F)

Storage Temperature

-20° to 45° C (-4° to 113° F)

Relative Humidity

0% to 90% non-condensing

What's Included

UltraStudio 4K Extreme 3

SD card with software and manual

DaVinci Resolve SD card

Warranty

3 Year Limited Manufacturer's Warranty.

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