The all-in-one multi input/output solution for any advanced conversion application up to 4K@60Hz 4:4:4

Anything in, anything out

VIO 4K is a premium all-in-one video scaler, scan converter, switcher, coder and transcoder. It can convert any input signal format to any output format up to 4K@30Hz and features full input and output connectivity including HDMI, DisplayPort, Dual-Link DVI, SDI, optical and of course legacy analog video. VIO 4K can be equipped with optional I/O expansion interfaces featuring the latest generation of connectivity and able to convert formats up to 4k@60Hz. VIO 4K can also process embedded or de-embedded external analog/digital audio signals.

Example

LED WALL #1   LED WALL #2

▶ Simultaneous source conversion to 3 independent outputs
▶ Each output can scale different section of the same source

Designed for rugged dependability

The **VIO 4K** has been designed to provide a robust hardware platform that you can rely on for all of your video conversion needs. Engineered to be road-hardened to survive demanding live event environments, it provides worry-free operation with maximum uptime and low maintenance. From live concerts, to permanent LED walls in stadiums, the **VIO 4K** is the ideal solution for all of your scaling and converting needs.
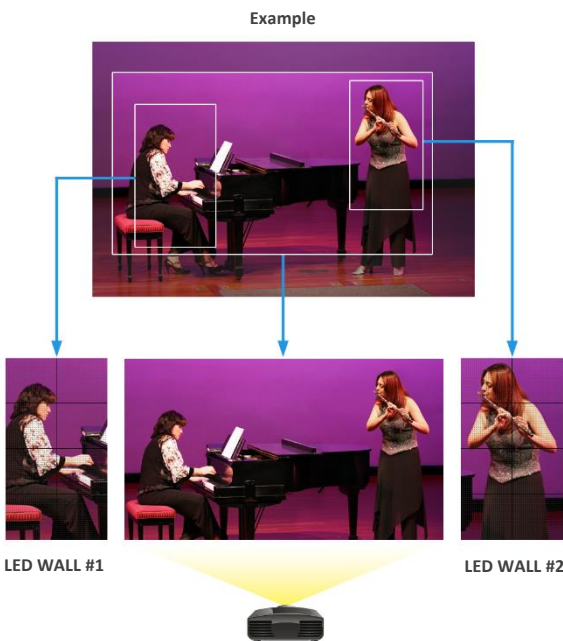
Expandable and future-proof

The **VIO 4K** includes three slots for optional I/O interfaces to provide expansion for input and output connectivity as well as latest generation video standards. An extensive set of audio and video expansion modules is available. The most powerful module provides worldwide unique performances and can convert HDMI 2.0 or DP 1.2 to either Quad-Link 3G-SDI or 12G-SDI, and vice versa, while supporting formats up to 4K@60Hz 4:4:4.

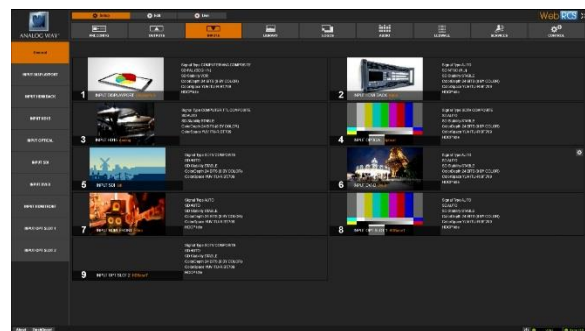### Unrivaled real-time 10-bit image processing engine

The **VIO 4K** exclusive high-quality processing engine ensures crisp and natural images whatever the source and the scaling level are, while maintaining ultra-low, 1 frame of latency for all of your live event needs.

Intuitive user interface: Web RCS

The **Web RCS** offers a user-friendly graphic interface. With dynamic thumbnails of the connected sources available in the interface, the intuitive dashboard allows operators to fully adjust their displays and control them during their live events.

VIO 4K at a glance

▶ The «All in One» solution for any conversion
▶ User-friendly and intuitive graphic interface
▶ Comprehensive set of option cards for video and audio system expansion
▶ Advanced LED Wall functionalities
▶ Ultra-low latency 10-bit 4:4:4 processing
▶ New exclusive high-quality scaling engine
▶ Flexible audio/stereo switching capability following the video input

4K60 4:4:4	HDMI 2.0	DP 1.2
12G-SDI	Quad-Link 3G-SDI	Dante

KEY FEATURES

7 inputs and 1 output

Expandable up to 9 inputs and 3 scaled outputs from the same selected source

2 slots for video option card system expansion

1 slot for audio option card system expansion

High-quality scaling engine producing the best image quality possible

The source can be positioned anywhere on the screen, and up to 100% outside the screen in any direction

Easy area of interest and pixel pitch management

Genlock + Loop-through: Tri-level Sync. (HD) and Black Burst (SD)

All genlock timings meet broadcast ITU/SMPTE standards

Output rotation: 90°, 180° and 270° per output

Unlimited layer sizing and scaling

Live monitoring of sources on the large 3.5'' color TFT LCD Display

Output and screen patterns: Cross hatch, moving, scalable, output ID and other dynamic patterns

New audio management: 8 channels up to 96 kHz (Digital audio)

Audio delay compensation up to 300ms

Fast swappable DVI I/O boards

Memory space for 4K frames (up to 2 directly accessible by the screen)

USB host: mass storage

USB device link

Import/export device configuration

DVI, HDMI & HD15 output plugs available as video loop-through

7 INPUTS

DisplayPort up to 4K@30Hz

HDMI up to 4K@30Hz

3G-SDI + Loop-through (Compliant Level A & B)

Universal Analog

DVI Dual-Link up to 2560x1600@60Hz

Video Optical SFP Module cage

HDMI up to 2K/1080p (Front panel - Input #7)

3.5mm jack for stereo audio In (Front panel)

OUTPUT AND PLUGS

DisplayPort up to 4K@30Hz

HDMI up to 4K@30Hz

3G-SDI (Compliant Level A & B)

Universal Analog

Dual-Link DVI up to 2560x1600@60Hz

Video Optical SFP Module cage

6.35mm stereo jack for Headphone

DVI, HDMI & HD15 output plugs available as video loop-through

FRAMES

Up to 50 frame memories – Fully resizable

Download/upload via Web RCS

Capture from live inputs/outputs

CONTROL

Web RCS: On-board intuitive web based user interface

TCP protocol

Universal system for format conversion

- ▶ Upward conversion (Scaler)
- ▶ Downward conversion (Scan Converter)
- ▶ Transcoder
- ▶ Coder

- ▶ Aspect ratios
- ▶ Multi-format Analog Genlock
- ▶ Dynamic Test patterns
- ▶ Pan & Zoom function
- ▶ Freeze Frame

- ▶ Aperture correction
- ▶ Advanced LED wall features
- ▶ Audio and Video monitoring directly from the front panel
- ▶ Output rotation

- ▶ Custom formats
- ▶ EDID management
- ▶ Genlock/Framelock
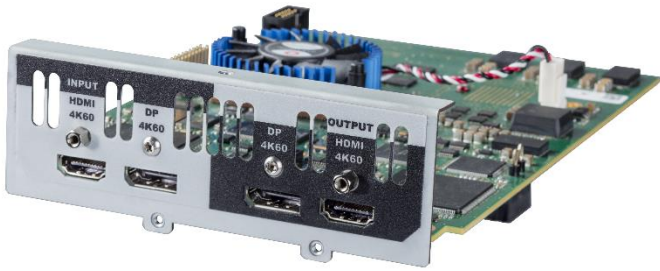- ▶ Gamma correction & color temperature settings

The all-in-one selection for any conversion

- ▶ Composite (PAL, NTSC)
- ▶ S-Video
- ▶ YUV (Y CB Cr)
- ▶ Computer (RGBHV, RGBS, RGsB)
- ▶ HD-YUV (HD-YCrCb)
- ▶ HD-RGB
- ▶ DVI
- ▶ DisplayPort
- ▶ HDMI

- ▶ HD/SD-SDI
- ▶ 3G-SDI (Compliant Level A & B)
- ▶ 6G-SDI (Expansion Interface)
- ▶ 12G-SDI (Expansion Interface)
- ▶ Digital Audio: AES/EBU & i3d (Expansion Interface)
- ▶ 8-channel Dante Audio interface (Expansion Interface)

- ▶ Analog Audio Stereo
- ▶ Digital Audio
- ▶ 1080P/1080i
- ▶ 720P
- ▶ 480P/480i
- ▶ 2K/1080p
- ▶ WUXGA (1920x1200@60Hz)
- ▶ WQXGA (2560x1600@60Hz)

- ▶ UHD (3840x2160@30Hz)
- ▶ 4K (4096x2160@30Hz)
- ▶ Ultra-High resolution up to 4K@60Hz 4:4:4 (Expansion Interface)

VIO 4K's input and output timings are fully compliant with standards and norms by SMPTE, VESA, HDMI and CEA

4K@60Hz I/O video expansion interface featuring DP 1.2 and HDMI 2.0 connectivity - Ref. OPT-4K60P-VIO4K

The OPT-4K60P-VIO4K expansion card is a high-performance I/O video interface for the **VIO 4K** able to support formats up to **UHD/4K@60Hz 4:4:4** and featuring **DisplayPort 1.2** and **HDMI 2.0** connectivity.

HDMI 2.0 supports up to 18Gbps of bandwidth allowing resolutions up to UHD/4K@60Hz 4:4:4 8 bits, 2560x1440@60Hz 4:4:4 10 bits or 2560x1440@120Hz 4:4:4 8 bits. HDMI 2.0 is compliant with HDCP 1.4 and HDCP 2.2 and supports RGB444, YCbCr ITU-R BT.601, ITU-R BT.709 and ITU-R BT.2020 color spaces.

DisplayPort 1.2 supports up to 21.6Gbps of bandwidth allowing resolutions up to UHD/4K@60Hz 4:4:4 10 bits. DP 1.2 is compliant with HDCP 1.3 and supports RGB444, YCbCr ITU-R BT.601 and ITU-R BT.709.

4K@60Hz I/O expansion interface featuring 12G-SDI, DP 1.2, HDMI 2.0 and Quad-Link 3G-SDI connectivity - Ref. OPT-4K60P-SDI-VIO4K

The OPT-4K60P-SDI-VIO4K expansion card is a high-performance I/O video interface for the **VIO 4K** able to support formats up to **UHD/4K@60Hz 4:4:4** and featuring **DisplayPort 1.2**, **HDMI 2.0**, **12G-SDI, 12G-SFP** and **Quad-Link 3G-SDI** connectivity.

HDMI 2.0 supports up to 18Gbps of bandwidth allowing resolutions up to UHD/4K@60Hz 4:4:4 8 bits, 2560x1440@60Hz 4:4:4 10 bits or 2560x1440@120Hz 4:4:4 8 bits. HDMI 2.0 is compliant with HDCP 1.4 and HDCP 2.2 and supports RGB444, YCbCr ITU-R BT.601, ITU-R BT.709 and ITU-R BT.2020 color spaces.

DisplayPort 1.2 supports up to 21.6Gbps of bandwidth allowing resolutions up to UHD/4K@60Hz 4:4:4 10 bits. DP 1.2 is compliant with HDCP 1.3 and supports RGB444, YCbCr ITU-R BT.601 and ITU-R BT.709.

Quad 3G-SDI connections (four quadrants) can be used either as an input or as an output and support resolutions up to 2160@60Hz (4:2:2 10 bits).

12G-SDI and **12G-SFP** connections can be used either as an input or as an output and support resolutions up to 2160@60Hz (4:2:2 10 bits). **3G-SDI / 6G-SDI** and **3G-SFP / 6G-SFP** connections are also supported.

4K@30Hz output-only video expansion interface - Ref. OPT-OUT-VIO4K

The OPT-OUT-VIO4K expansion card is an output-only video interface for the **VIO 4K** able to support formats up to **4K@30Hz 4:4:4 10 bits**, featuring **Dual-Link DVI, DisplayPort, HDMI, 3G-SFP** and **3G-SDI** connectivity.

Audio expansion interfaces

Eight-channel Dante® audio expansion interface - Ref. OPT-AUDIODANTE-VIO4K

The Dante audio expansion interface can instantly Dante-enable your **VIO 4K** multi-format converter. It provides 8 bidirectional audio channels and full Dante® network audio redundancy over Gigabit Ethernet. The Dante® audio expansion interface supports the sample frequencies of 44.1 KHz, 48 KHz and 96 KHz.

XLR audio expansion interface - Ref. OPT-AUDIOXLR-VIO4K

The XLR audio expansion interface adds S/PDIF and AES3 inputs and outputs to your **VIO 4K** (4 channels – 2 stereo pairs). It supports AES/EBU & i3D Digital Audio (XLR) as well as Analog Stereo Balanced audio (XLR).

Dimension (in Rack Units - RU)
▶ 2RU

Dimensions (without rack ears and rear rack mount)
▶ W 17.28'' x H 3.46'' x D 14.82''
▶ L 439 mm x H 88 mm x P 381 mm

Dimensions (with handles)
▶ W 19'' x H 3.46'' x D 15.81''
▶ L 482.1 mm x H 88 mm x P 406 mm

Weight without accessories
▶ 6.2 kg / 13.66 lbs

Shipping weight accessories included
▶ 8.7 kg / 19.18 lbs

Operating conditions
▶ Temperature: 0 to 40°C (32 to 104°F)
▶ Humidity: 10% to 80%, non-condensing

Noise (@1,6m height @25°C)
▶ Front: 39 DBa@1m
▶ Rear: 39 DBa@1m

Thermal dissipation
▶ 154 BTU/hr

Operating altitude
▶ 3000 m / 9842 ft

Warranty
3-year warranty on parts and labor back to factory

Power Supply
▶ 100-240 VAC 50/60Hz 3.2A
▶ Fuse cartridge F4AH 250VAC 5x20mm
▶ Max consumption: 45 W without any option card

Safety Compliance
▶ IEC/UL/EN 60950-1, CSA22.2#60950-1, ETL Listed (US & Canada)

Supplied with
▶ 1 x Power supply cord
▶ 1 x Pair of front handles + screws
▶ 1 x Rackmount kit
▶ 1 x Ethernet cross cable (for device control)
▶ 1 x MCO 5 pin connector
▶ 1 x Quick Start Guide including safety instructions*

ⓘ Specifications subject to change without prior notice

V701-EN-10/22/2018