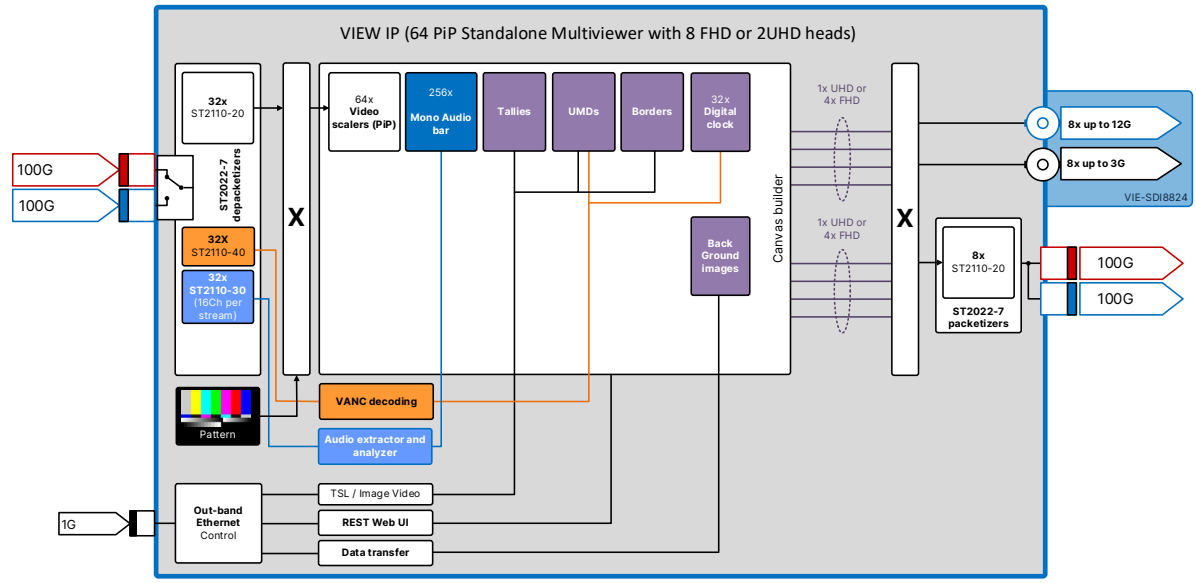
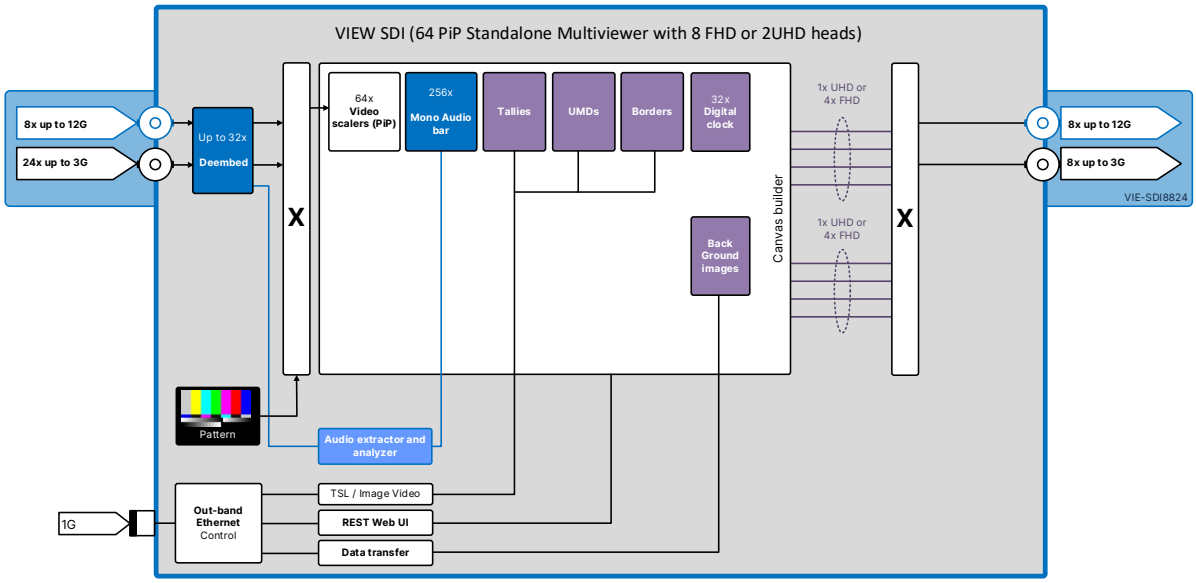
Neuron

View

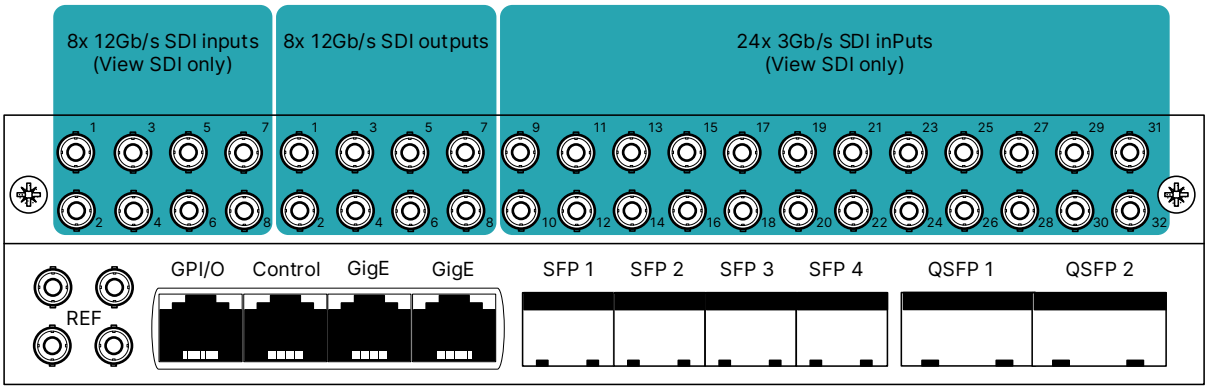
Low latency, high quality, live production multiviewer with SDI or IP I/O

Block schematics of configurations





I/O Panel



Neuron **View IP** offers 32x ST2110 (-20, -30 and -40) IP inputs and up to 8x ST2110-20 and/or SDI outputs (SDI outputs require the SDI expansion board and license). Neuron View SDI offers 32x (F)HD or 8 UHD (or a mix) SDI inputs and up to SDI outputs (SDI I/O requires the SDI expansion board and license). In the interface you can choose which multiviewer head goes to which 12Gb/s or 3Gb/s SDI output and to which IP output stream.

I/O of configurations

	SDI Inputs[1]	IP Inputs[1]	SDI Outputs[1]	IP outputs[1]
VIEW IP (VMI3208)	0	32	Up to 8[2]	Up to 8
VIEW SDI (VMS3208)	32[2]	0	Up to 8[2]	0

[1]) Amount of FHD (1080p50/59.94) channels
[2]) Requires the SDI expansion board and license to be installed

Features

When it comes to low-latency, flexibility and ease of use, there is nothing that compares to Neuron View.

View's unequalled low latency, start-up times, and low power consumption makes it ideal for a wide range of multiview applications, from preview monitoring and shading in small OB-vans, to high resolution, high source count monitor walls for the largest live-production facilities.

With the intuitive, on-board web-based graphical user interface you can change the layout of all multiviewer screens on-the-fly and in real-time. You do not need a separate application to design your canvasses. With this GUI you can also save and load snapshots, change the scale, layout and composition of each PIP, configure your IP I/O streams, and configure which PiP displays which group of IP (-20, -30, and -40) streams or which SDI input.

Neuron View's outputs can be configured as 8x FHD, as 4x FHD + 1x UHD or as 2x UHD, all as ST2110-20 IP output streams (**View IP**), as both IP as well as SDI outputs (**View IP** with **SDI expansion**) or as SDI-only outputs (**View SDI**). It accepts up to 32 FHD, up to 8 UHD, or a mix of FHD and UHD SDI or IP inputs per board, which can all be displayed in as many different sizes as required in 64 PiPs divided over all output heads.

With Neuron View you also enjoy ultimate flexibility, since it is built on the same processing board as all other Neuron identities: Bridge, Convert, Compress, Protect and Shuffle. In other words, you only ever need one platform to cover all infrastructural challenges.

- Standards supported: UHD (4 wire SQD/2Si or single wire 2SI), FHD Level-A and HD ST2110-20 on 50Hz and 59.94Hz. (2160p, 1080p, 1080i and 720p)
- **View IP** only: Ability to receive 32 IP video (ST2110-20), audio (ST2110-30) and timecode (ST2110-40) inputs via 2x QSFP28 true 100Gb/s single MAC
- **View IP** only: PTP Network timing with slave functionality on the Ethernet ports, compliant with SMPTE ST2059-2 (BMCA)
- **View SDI** only: Ability to receive 32 FHD/HD SDI input or 8 UHD SDI inputs (single wire 12G) or a mix.
- External black burst input
- Displays up to 64 picture-in-pictures of video with multiple tallies, UMDs and audio meters per PIP, divided over all outputs
- 2 UHD heads, 8 FHD heads or 1 UHD head + 4 FHD heads on IP (ST2110-20) and/or SDI (depending on the chosen View identity)
- Display a mix of asynchronous HD, FHD and UHD sources on FHD/ UHD displays simultaneously
- High quality image processing and scaling
- Ultra-low latency between input and output (20ms@50Hz and 16.7ms@59.94Hz)
- Extremely low power consumption compared to CPU based multiviewers
- Up to 256 channels of audio metering, freely assignable to PIPs
- Audio Metering via VU scales
- Any number of UMDs and Tallies per PiP, controllable through TSL, ImageVideo and REST API
- Up to 32 Digital clocks and up/down counters
- Colored borders
- User definable backgrounds using a color picker for solid color, or image upload (.png)
- Redundant IP input signals (ST2022-7 class D)
- Redundant IP output signals (ST2022-7 compliant port replication)
- Each SDI or IP input can be used as a back-up signal for an SDI or IP output
- Compatible protocols: ACPv2, DNS, IGMPv2, IGMPv3, LLDP, DHCP, SDP, NMOS IS-04, NMOS IS-05, 802.1as, ST2059, ST2110-20/30/40, TSL v5

Applications

- Monitor walls in Live production facilities
- Monitor walls in OB-Vans and fly-packs
- Multi-output setups for shaders, operators and directors on one Multiview platform

Ordering information

NEU-1U-FR2000-B	**1RU Neuron Frame** with redundant 90-265VAC power supply, **Broadcast version** (rear side I/O). Can hold up to 2x NEU-BASE-BOARD
NEU-1U-FR2000-D	**1RU Neuron Frame** with redundant 90-265VAC power supply, **Data center version** (front side I/O). Can hold up to 2x NEU-BASE-BOARD
NEU-1U-RSK	**Rear Suspension Kit** for 1RU Neuron frame. Supports rack depth between 48cm (18.9") and 80cm (31.5")
NEU-BASE-BOARD	**Neuron base processing board**. Customer to supply QSFP/SFP. Requires at least one of the base licenses listed below (no mix per board)
NEU-SDI40-BOARD	**Neuron 40 SDI I/O expansion board** with 8 x 12G in, 8 x 12G out and 24 x FHD bidirectional I/O on HD BNC. Requires NEU-BASE-BOARD
VIEW Base license (IP I/O)	
VMI3208-GO	**Base License** for **View IP**. ST2110 multiviewer with 32 HD or 8 UHD (or a mix) inputs, up to 64 pips, 256 audio bars, 2x UHD or 8x FHD Heads on IP I/O. Max. **1** of these base licenses per processing board
VMS3208-GO	**Base License** for **View SDI**. SDI multiviewer with 32 HD or 8 UHD (or a mix) inputs, up to 64 pips, 256 audio bars, 2x UHD or 8x FHD Heads on SDI I/O. Max. **1** of these base licenses per processing board
VIEW Optional licenses	
VMI-SDI8824-GO	Activation license for NEU-SDI40-BOARD.

Specifications

Analog reference I/O

Connector Type	Micro BNC (HD-BNC)
Number of inputs	1
Number of outputs	1, Loop input
Termination	75 Ohms when not looped
Bi-Level	PAL/NTSC Black Burst ITU624

PTP reference

Standard	ST2059/ST2110-10 (profile PTP-L3-E2E)
Number of inputs	2

Gigabit Ethernet

Connector Type	RJ45
Standards	10/100/1000 Base-T
Protocol control	ACPv2, REST API, tally protocols
Cable	Shielded twisted pair

QSFP Cages

Number of cages	2
Standards	QSFP28, 100GbE
Protocols	ST2110, ST2059

SFP Cages

Number of cages	4 (not used for View)

Video inputs

Format	2160p59.94/50 (single wire 12G), 1080p59.94/50, 1080i59.94/50, 720p59.94/50
Standard	ST2110-20 (uncompressed video)
Number of inputs	8 UHD or 32 FHD unscaled pictures, or a mix

Picture in Picture (PIP)

Number	64 (freely assignable to any input)

Video outputs (Heads)

Format	2160p59.94/50 (single wire 12G or 4-wire SQD), 1080p59.94/50
Standard	ST2110-20, SDI
Number of heads	2 UHD or 8 FHD or mix (upgradable with 2 outputs)

Graphical objects

Background	Color picker, user defined (PNG), HTTP to onboard storage
Clocks	Digital
Time sources	PTP, input timecode, up/down counter

UMD/Tally

Protocol	TSL 5.0 (UDP), Image Video, ACPv2, REST API
Tally Show as	Element color (border, background or text color)

Audio input

Standard	ST2110-30 (PCM Audio, Level A/B/C)
Number of streams	32
Number of audio bars	256 (freely assignable)
Audiometer style	AES-EBU

Metadata input

Standard	ST2110-40 (Timecode only)
Number of streams	32

Miscellaneous

Weight	Approx. 2050gr
Operating temp.	0°C to +40°C
Dimensions	400 x 193 x 42mm (LxWxD)

Electrical

Voltage	+12V nominal (tolerance:-1V/+0.5V)
Power	~100Watts