Neuron

View

Low latency, high quality, live production multiviewer
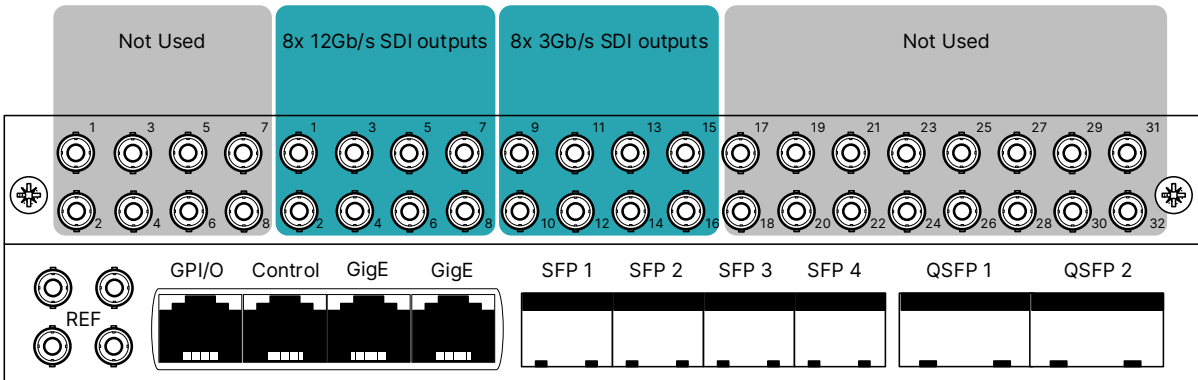
Block schematics of configurations

VIEW (64 pip Standalone Multivewer with 8 FHD or 2UHD heads)
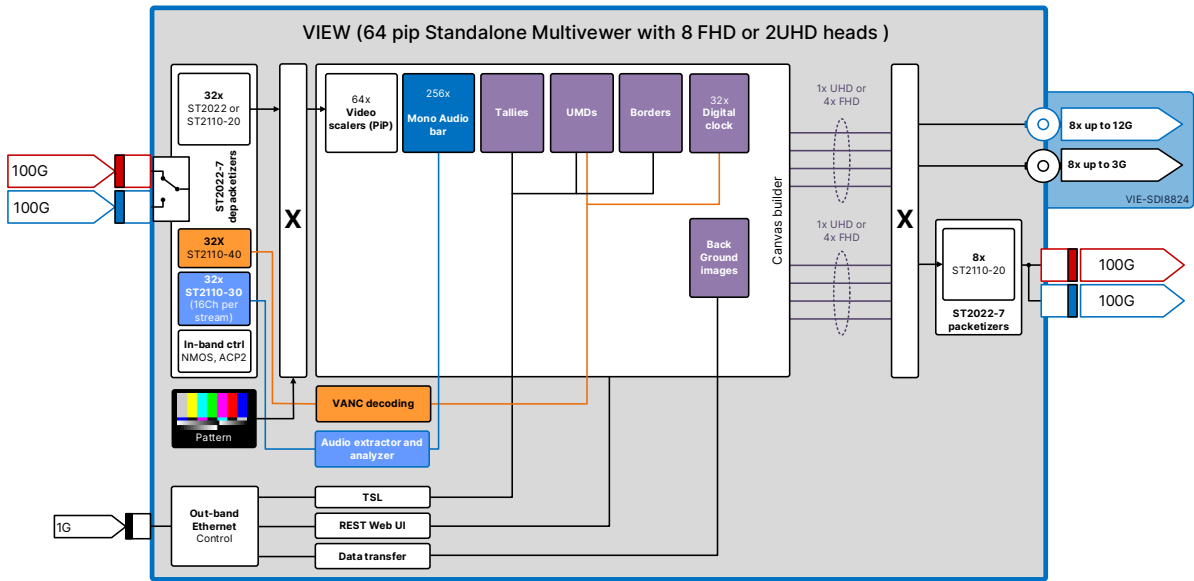
I/O Panel

Neuron View offers 32x ST2110 (-20, -30 and -40) IP inputs and up to 8x ST2110-20 and/or up to 8x SDI outputs. 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]
VMI3208	0	32	Up to 8	Up to 8

[1]) Amount of FHD (1080p50/59.94) channels

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 (20ms@50Hz and 16.7ms@59.94Hz), 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 outputs on-the-fly and in real-time. You do not need a separate application to design your canvasses. With it you can save and load snapshots, change the scale and layout of each pip, and configure which PiP displays which group of IP (-20, -30, and -40) streams.

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. It can optionally be equipped with an SDI expansion board, enabling 3Gb/s and 12Gb/s SDI outputs besides the standard IP outputs.

It accepts up to 32 FHD, up to 8 UHD, or a mix of FHD and UHD ST2110 streams per board, which can all be displayed in two different sizes on any of that board's outputs.

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, HD, SD ST2110-20 on 50Hz and 59.94Hz. (2160p, 1080p, 1080i and 720p)
- Ability to receive 32 IP video (ST2110-20), audio (ST2110-30) and metadata (ST2110-40) inputs.
- 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 SDI and IP (ST2110-20)
- 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 adjustable VU scales
- Up to 3 UMDs and 4 Tallies per PIP, controllable through TSL
- Up to 32 Digital clocks and up/down counters
- Colored borders
- User definable backgrounds
- 2x QSFP28 true 100Gb/s single MAC for all IP I/O
- Transparency of VANC data to ST2110-40 in SDI and vice versa with possibility to shuffle
- PTP Network timing with slave functionality on the Ethernet ports, compliant with SMPTE ST2059-2 (BMCA)
- External black burst inputs
- Possibility to output 2x Analog bi-level reference locked to PTP.
- Redundant IP signals in and out (double stream or ST2022-7)
- Multicast and unicast configurable per stream
- Stream and Ethernet port redundancy
- 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 IS04, NMOS IS04, 802.1as, ST2059-1/2, ST2110-20/30/31/40, 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**. 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 an IP 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	2, Loop input or analog reference out
Termination	75 Ohms when not looped
Bi-Level	PAL/NTSC Black Burst ITU624

PTP reference

Standard	ST2159/ST2110-10 dual step
Number of inputs	2

Gigabit Ethernet

Connector Type	RJ45
Standards	10/100/1000 Base-T
Protocol control	ACPv2
Cable	Shielded twisted pair

QSFP Cages

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

SFP Cages

Number of cages	2 (not used for View)

Video inputs

Format	2160p59.94/50,1080p59.94/50, 1080i59.94/50, 720p59.94/50
Standard	Uncompressed video transport using ST2110-20
Number of inputs	8 UHD or 32 FHD unscaled pictures, or a mix

Picture in Picture (PIP)

Number	16 UHD / 64 FHD

Video outputs (Heads)

Format	2160p59.94/50,1080p59.94/50
Standard	ST2110-20 (IP), 3Gb/s FHD SDI and 12Gb/s UHD SDI
Number of heads	2 UHD or 8 FHD or mix (upgradable with 2 outputs)
Interface	SDI (Option), IP

Graphical objects

Background	Static, user defined (png), FTP to onboard storage
Clocks	Analog, Digital, Combined (ATC, NTP,PTP)
Counters	Up/down counters

UMD/Tally

Protocol	TSL5.0, ACPv2 over IP
Tally Show as	Border, UMD background, tally

Audio input

Standard	ST2110-30 (PCM Audio, Class A/B/C)

Number of audio bars	256 (Freely assignable)
Audiometer style	VU/Nordic/BBC

Metadata input

Metadata standard	ST2110-40 (Timecode only)
Number of meta str.	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