# Selenio Network Processor with Production Multiviewer Personality (SNP-MV)

Ultra-Low Latency Multiviewer

Riding on the widely-deployed platform, the SNP-MV provides scalable multiviewer solutions for SDI and IP facilities worldwide.
The SNP-MV easily operates in COTS/IP ST2110 environments, with the capability to ingest up to 36 pips of ST2110 HD content, creating up to eight UHD canvases; the UHD
canvases can be rendered in HDR or SDR. In addition, SNP-MV creates 1080p or 1080i versions of those same canvases optionally downmapped to SDR. The PIP inputs are limited only by the dual (main/protect network) 100G bandwidth. Combining multiple SNP units allows for up to 144 HD PiPs or 32 UHD PiPs on a single UHD canvas.
The SNP-MV excels in managing mixed SDR & HDR/WCG signals or handling a mixture of signal formats. When equipped with the optional HDR feature key, each path through the MV is processed to convert the incoming signal into the target display format – rendering traditional signals into UHD/HDR canvases or rendering HDR signals into a Standard Dynamic Range (SDR) canvas. Even while the SNP-MV creates a consolidated UHD canvas in HDR, it can also create an HD version of that same canvas mapped into SDR for consumption on SDR displays.
With a mix of ST2110, ST2022-6, and SDI inputs, and generating UHD canvases output over SDI and IP simultaneously, SNP-MV provides a very high capability multiviewer system optimized for low-latency production workflows.

## Benefits

Discover why SNP-MV is the game changer for operators who expect more from a multiviewer.

- Delivers enhanced production agility through low-latency operator interaction
- Enables integration of HDR and SDR images to same display — in HDR or SDR
- Provides unmatched flexibility — easily reconfigure SNP for different events, from a multiviewer on some productions to providing additional processors at others
- Integrates with industry-standard Tally/UMD and routing protocols, including NMOS IS-04/05

## Features

- Input signals including SD, 1080i, 1080p, and UHD, in SDR, SLOG3, HLG, or PQ formats
- All Canvases are rendered in UHD, with 4x3G SDI or 12GSDI and ST2110 IP output
- All Canvases are also provided optionally in HD or 1080p over ST2110
- Each pip can be different sizes in completely flexible layouts with different arrangements ofgraphical adornments
- Native integration with Imagine's Magellan™ Control System, where each IP-ionput pip is arouting system destination, and the rendered displays are IP routing system sources
- UMD names can come directly from Magellan through Magellan's LRC protocol
- Platform-supported VSFPs allow for flexible UHD output options including optical and HDMI
- Each personality instance supports up to 9 HD PiPs into one or two UHD canvases

- Personalities can be stacked providing up to 36 pips per UHD canvas, or run separately producing up to 8 UHD displays within each SNP unit
- SNP units can be locally aggregated up to 144 HD PiPs in a single UHD canvas with no additional latency
- Up to 16 audio meters rendered on each pip, horizontally or vertically
- Captions or subtitles (EIA-608/708, OP42, OP47, or ST2031) rendered on-pip
- SCTE-104 markers indicated on-pip
- EDC metadata rendered on-pip for sports replay applications
- Dakstats scoreboard integration for many common sports
- UMD and Tally support over TSL5 and ImageVideo protocols in addition to SDNO/LRC
- Visual indicators for network loss and errors, video format and HDR, and more
- Alarming on unexpected video formats, missing captions/subtitles, and other errors
- With the optional HDR key, each pip supports HDR system conversion to the target display
- SNP fully supports NMOS environment, each PiP is announced as a routable NMOS destination, and each display is an NMOS source
- Ultra-Low-Latency design – inputs are received, scaled, and assembled within one frame time in typical configurations, with the display output synchronized to house time

## Applications

Each SNP production multiviewer (SNP-MV) processing section supports up to nine input signals at 1080p, 1080i, or 720p resolution (8 inputs for 1080p 59.94). A smaller number of UHD input signals is also supported. The input signals can be delivered over IP using SMPTE ST 2110 or SMPTE ST 2022-6, or can be delivered to the MV over SDI.
Each input signal is scaled to the desired size and formatted into one of the two UHD displays — accompanied by tally lamps, borders, UMD text boxes, and other on-screen adornments. The input signal can also be mapped from its original color system (SDR-709, SDR-2020, or HDR) into the target display color system.
SNP-MV displays are always rendered at UHD resolution, and can be rendered in SDR or HDR (HLG, PQ, or Slog3) color systems. A reduced-resolution copy in 1080p or 1080i is also available, and this copy can be mapped to the SDR system even as the main display is in HDR.
Multiple internal processors can be simultaneously operated, enabling a single 1RU SNP to provide up to eight UHD display outputs. The personalities can also be aggregated to make larger displays — four UHD displays with up to 18 signals across each pair, or a single pair of UHD displays with up to 36 PiPs.
SNP-MV includes support for integration with Tally and UMD systems typically found inside a live production environment — these include Imagine's Magellan™ SDN Orchestrator routing control system and the TSL5.0 tally/UMD protocol.

## Specifications

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• UMD names can come directly from Magellan through Magellan's LRC protocol.
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• Each personality instance supports up to 9 HD PiPs into one or two UHD canvases.
• Personalities can be stacked providing up to 36 pips per UHD canvas, or run separately producing up to 8 UHD displays within each SNP unit.
• SNP units can be locally aggregated up to 144 HD PiPs in a single UHD canvas with no additional latency.
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## Ordering Information

| Hardware Part Number | Description |
|---|---|
| SNP-PSK-MV | SNP Platform Software Key – enables MV (and MV-PORT) AP Personalities supporting two Landscape (or one portrait) UHD-output multiviewer. HD downscale output is included (does not require the PSKDOWNHD key). One Key per multiviewer AP. (MAX 4 PER SNP). HDR Conversion requires additional HDR key. |
| SNP-PSK-HDR | SNP Software Key – Adds HDR Conversion and Adjustment to Sync, Remap, MV, Dual-Conversion, or Quad-Conversion AP. Max 4 per SNP. |