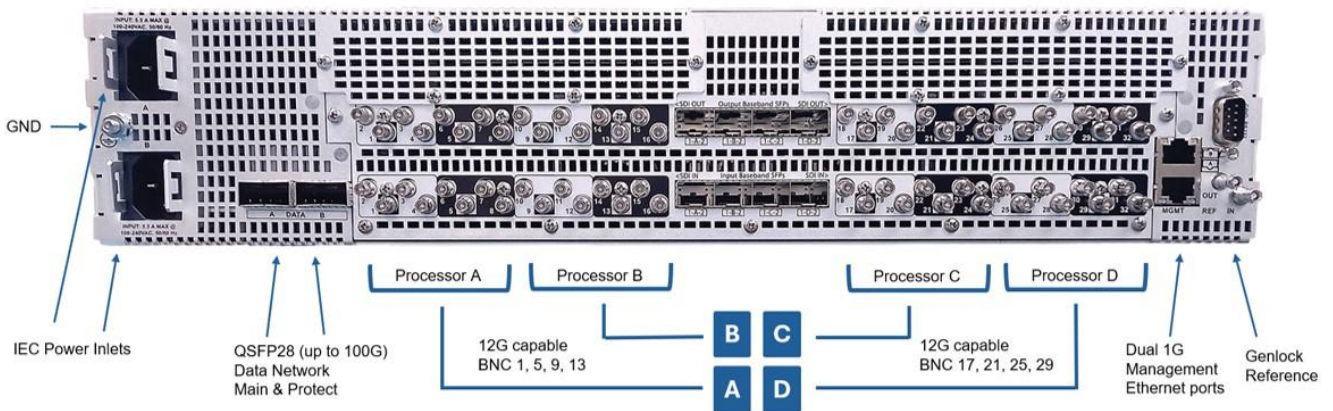# SNP-XL
Expanding the Possibilities of Network-Attached Processing

Selenio™ Network Processor (SNP) is the industry's first fully network-attached media processing platform, supporting uncompressed HD and UHD, based on SMPTE ST 2110. This high-density, scalable platform enables media companies to perform video processing and conversion functions on standards-based IP networks using the SMPTE ST 2110 and ST2022-6 standards, while maintaining connectivity with SDI equipment.

The SNP-XL is the latest addition to the SNP line -- it extends the SNP family to cover more SDI-intensive applications including very high-density synchronizing gateway needs.

In the standard Selenio Network Processor (SNP) package, the same SDI connector is shared for input and output, which creates limitations for certain SDI+IP workflows. In the SNP-XL package, all of the SDI inputs and outputs are readily available - making the SNP-XL even more flexible. The XL package also allows Imagine to offer a "Double-Density Gateway" Personality – where a single SNP-XL can perform up to 64x 1080p synchronizing Gateways (32x in each direction) over the same 100GBE main/protect links – economizing the whole system solution.

SNP-XL APPLICATIONS

What's under the hood:

The SNP-XL supports all of the existing personalities and features of the award-winning SNP - the same features customers depend on every day, plus the SNP-XL provides additional flexibility with more SDI I/O.
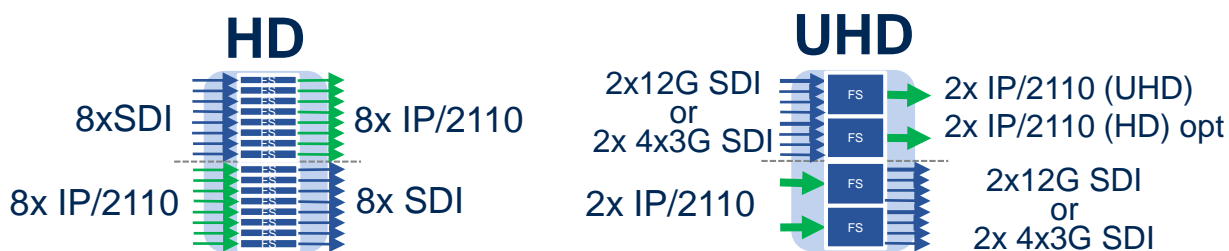
- Enables SDI-in, SDI+IP out in all configurations and use cases
- Enables SDI-to-SDI processing for every personality – even acting as a 32-channel SDI frame synchronizer and color processor -- with IP available when needed.
- Enables UHD in 4x3G 2SI format on inputs and outputs simultaneously
- Enables UHD over 6GSDI & 12GSDI on inputs and outputs simultaneously

Extends the SNP family:

- SNP and SNP-XL share the same Software releases, same APIs and protocols, and the same feature licenses – allowing SNP-XL to run all of the current SNP personalities
- The SNP-XL adds flexibility in the I/O architecture, but consistent with the normal SNP operating methodology – familiar to users and engineers.

NEW: 8+8 Gateway Personality in the SNP-XL : SNP-PSK-GW88

- 16 internal frame-synchronizer paths (per processor)
- 8x SDI inputs (synchronized) become IP Outputs timed to the network
- 8x 2110 IP inputs (synchronized) become SDI Outputs timed to the SDI plant
- HDBNC SDI connectors available for all inputs and outputs
- 12G-SDI inputs and outputs (also supports 6GSDI) supported in and out for UHD
- VSFP dual-TX and dual-RX support simultaneously – for HD, 3G, 6G, or 12G signals
- All IP inputs and outputs of the GW88 personality are ST 2110
- Supports 720p, 1080i, 1080p, and 2160p (UHD) formats
- Audio shuffling at the mono channel level within each processor, including across programs
- MADI inputs or outputs or 128 extra IP audio channels (optional)
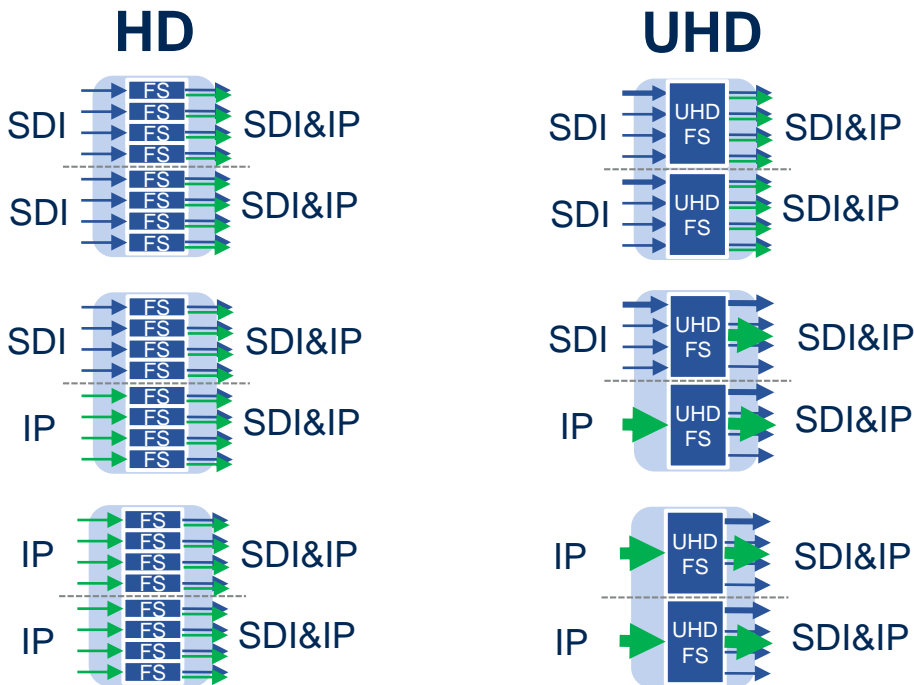- HD-Downsample (optional) from UHD in the SDI-to-IP direction

HD

8xSDI → 8x IP/2110

8x IP/2110 → 8x SDI

UHD

2x12G SDI or 2x 4x3G SDI → 2x IP/2110 (UHD)

2x IP/2110 (HD) opt

2x IP/2110 → 2x12G SDI or 2x 4x3G SDI

With the GW88 personality each SNP-XL can do:

64 gateway channels of 1080p (32 SDI-IP +32 IP-SDI)
Or 16 gateway channels of UHD (8 + 8)
Both Directions are fully frame-synchronized

SNP-XL APPLICATIONS – SYNC Personality

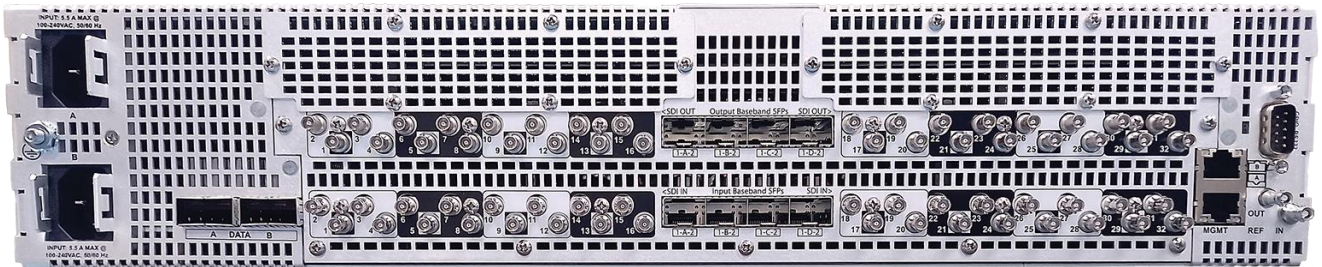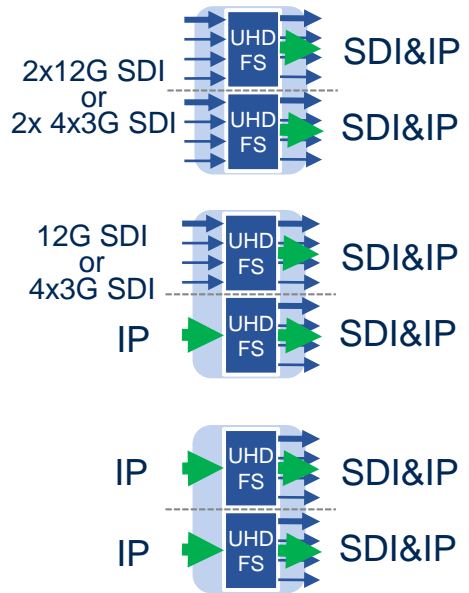**SNP SYNC Personality operating in the SNP-XL: SNP-PSK-SYNC**

- 8 internal frame-synchronizer paths of 1080p per personality
- Inputs can be IP or SDI
- Outputs can be IP and SDI - both are available at all times in all configurations
- HDBNC SDI connectors available for all inputs and outputs
- 12G-SDI (and also 6G-SDI) input and output supported for UHD
- 4x3G 2SI format inputs and outputs supported for UHD
- VSFP dual-TX and dual-RX support simultaneously
- IP interfaces can be ST 2110 or ST 2022-6
- Supported formats include SD – 720p -- HD – 1080p and UHD
- Full-featured color processor including optional HDR system conversion
- Audio shuffling (standard) and Advanced Audio Processing (AAP) support (option)
- HDR-aware color processing (standard) and HDR system conversion (option)
- HD-Downsampled output simultaneously created from UHD (option)
- MADI inputs or outputs or 128 extra IP audio channels (option)

SNP-XL APPLICATIONS – Dual UHD Conversion Personality

SNP UHD Conversion Personality operating in the SNP-XL: SNP-PSK-DUALCONV

- Two UHD-capable conversion paths per processor
- Inputs can be IP or SDI (12GSDI or 4x3G-2SI format)
- Outputs can be IP and SDI simultaneously (12GSDI or 4x3GSDI)
- HDBNC SDI connectors available for all inputs and outputs simultaneously
- 12G SDI (and 6GSDI) are fully supported, in and out
- 2SI-SDI is fully supported on input and output
- VSFP dual-TX and dual-RX support with 12G
- 4-wire SQD format supported in some modes
- IP interfaces can be ST 2110 (or 2022-6 for SD and HD)
- HD → 1080p → UHD conversion (no SD)
- Audio shuffling at the mono channel level
- Advanced Audio Processing support (option) Upmix, Downmix, MultiMerge, Loudness, DE
- Full-featured color processor with HDR-aware linear domain color adjustments
- HDR conversion including uploaded Cube LUTs (option)
- HD-Downsampled simultaneous output (option)

ORDERING INFORMATION

PART NUMBER	
SNP-PLATFORM-4XL	SNP Platform BASE – HW Rev A – XL package with 64XHDBNC I/O - 4 application processors, central ST2110 IP interfaces. Includes operating software suitable for installation and configuration. Requires additional Software keys (SNP-PSX-xxx) for additional functionality. Redundant, Hot-Swappable Power Supplies
SNP-PSK-GW88	SNP Software Key - enables Bi-Directional Gateway Personality supporting eight (8) 1080P or two (2) UHD Synchronizing Gateways in each direction (SDI-to-2110 and 2110-to-SDI) at the same time. One Key per AP. (MAX 4 PER SNP) HD Proxy require additional related key. Does not support ST2022-6.