Selenio™ Network Processor
UHD/HD/SD SDI Conversion Personalities

Imagine Communications' Selenio Network Processor (SNP) can seamlessly ingest various video formats over SDI and/or IP interfaces, process them, and deliver high quality outputs over SDI and/or IP outputs. Inside the SNP there are four processing engines, and each engine can be assigned a different personality at runtime, including two different video format conversion personalities.

The SNP Conversion personalities feature a high-quality motion adaptive deinterlacer for creating progressive signals from interlaced inputs – these progressive frames are then frame-synchronized to local time, and subsequently scaled and output in the target output format and frame rate. A full-featured colorspace processor is included in each processing path, converting between standard video colorspaces and allowing a wide range of operational adjustment in linear and nonlinear domains.

The Dual-UHD Conversion personality processes two UHD signals, converting 1080i, 720p, 1080p, or UHD inputs into 1080i, 1080p, or UHD outputs. The optional "DOWNHD" feature will create a simultaneous HD (1080i or 1080p) output in ST2110, in parallel with the main output.

The Quad-1080p Conversion personality processes four 1080p signals, converting between SD, 720p, 1080i and 1080p.

In both conversion personalities, the optional HDR feature allows conversion between various HDR systems including HLG, PQ, SLOG3, and Standard Dyamic Range (SDR). The HDR conversion is performed using a high-accuracy mathematical pipeline that follows the ITU standards strictly. In addition, customers can upload production-specific LUTs for customized conversions to client specifications. SNP's dynamic logic will choose between the math pipeline and the LUT based on real-time sensing of the input signal and output signal types.

KEY FEATURES and SPECIFICATIONS

- Interlaced input signals are converted to progressive intermediate format using a high-quality deinterlacer
- Automatic detection with manual overrides to handle mis-marked signals and wrong VPIDs
- Full range of operational image adjustments in YC and RGB, non-linear and linear domains
- Each video service can process up to 16 embedded audio streams with audio delay / shuffle / gain / etc., including mixing audio channels from other services in the same processor
- Optional Advanced Audio Processing (AAP) for Loudness Control, Upmix and Downmix
- Captions and subtitles are reconfigured across scan formats (EIA-608/708 and OP47)
- SD formats include support for waveform VBI captions (EIA-608 & OP-42)
- SMPTE 2031 VANC subtitles are also supported on HD and UHD formats
- SCTE-104 triggers are passed through and remapped onto target output format
- Timecode is passed through and re-generated into the target output format

READY FOR THE FUTURE

The SNP Conversion platform supports SDI inputs and outputs, as well as SMPTE ST 2022 and ST 2110 inputs and outputs. This enables the SNP to not only perform required video format conversions and adjustments, but also function as a best-in-class SDI / IP Gateway, ensuring a fully future-proofed customer workflow that facilitates a seamless transition to an IP infrastructure.

ORDERING INFORMATION	
SNP-PSK-2CONVUHD	SNP Platform Software Key – enables DUAL-CONV AP personality, supporting two UHD conversions on one AP (Max 4 per SNP). HDR Conversion or HD Downscale outputs require additional keys. This Key alternately enables QUAD-3GCONV personality.
SNP-PSK-4CONV3G	SNP Platform Software Key – enables QUAD-3GCONV AP personality, supporting four 1080P conversions on one AP (Max 4 keys per SNP). HDR Conversion requires additional related 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.
SNP-PSK-HDDOWN	SNP Software Key - Adds two HD-Downscaled streams to Sync, Remap, and Dual-Conversion AP. Max 4 per SNP.