Sivac - one Media Processor (SMP)

SƏPEC

ENCODER / DECODER CARD HEVC UHD (4K) / FHD / HD / SD

H.265 High Effeceny Video Coding

4K ULTRAHD

Sivac-one Media Processor (**SMP**) is a low consumption and very low latency HEVC card, developed for the different Sivac-One Platforms as the Sivac-one Frame (Up to 3x SMP) or the Sivac-one Compact (Portable solution with 1x SMP integrated).

The **SMP** card is a real-time **HEVC/H.265** video encoder / decoder that can be configured as 1x channel 2160p50/60 **4K UHD** (**HDR, WCG**) or as 4x channel FHD/HD/SD video encoder / decoder. In both cases with 8/10-bit pixel depth, 4:2:2/4:2:0 chroma and up to 16 embedded digital audio channels (stereo) per card.

The **SMP** provides a reliable video transport, a latency as low as <150ms (End to End), which makes it an ideal solution for interactive video applications such as field sports contribution, live events, Broadcast news or return feed of the produced signal (Remote Production).

The **SMP** offers the versatility of being configured as **Encoder or Decoder**, and a wide range of interfaces to adapt to different needs: 12G/4x3G/HD/SD-SDI, ASI and IP UDP/RTP with **FEC SMPTE 2022-1/2/7** (Multicast/Unicast).
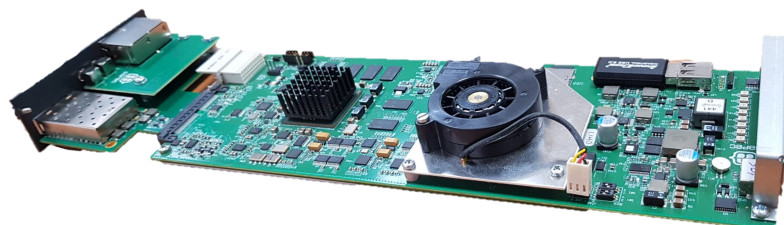
SMP card with backplane
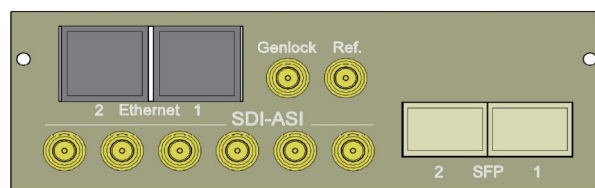
Detail of rear view of SMP card

FEATURES

- Configurable as Encoder or Decoder

- 1xUHD (4K) channel or Up to 4x FHD/HD/SD

- 4x3G or 12G-SDI (UHD mapping ST425)

- HDR, WCG, SMPTE 2022-1/2/7

- ETR-290 Measurement (Decoder)

- Easy operation through intuitive WEB GUI

APPLICATIONS

- Integrable in Sivac-one Compact (1xSMP) or

  Sivac-One Frame (Up to 3x SMP)

- Low latency HEVC Contributions

- Remote Production encoding

- Live Events

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TECHNICAL SPECIFICATIONS

VIDEO INTERFACES (SDI)

Num. : 4 x HD-BNC   75 Ω

Formats:

12G-SDI (SMPTE 2082) : 2160p50/59.94/60

3G-SDI (SMPTE 424M): 1080p50, 1080p60, 1080p59.94

HD-SDI (SMPTE 292M): 1080 i25/i29.94/ i30, 720p50, 720p59.94, 720p60

SD-SDI (SMPTE 259 M): 625/25Hz, 525/29.97Hz

UHD mapping: SMPTE 425-1 Level A and Level B (2 Sample Interleave (2SI) or 4 quadrants)

HDR: HLG10 Backward Compatible, HLG10, HDR10.

WCG: BT.2020, BT.709

EMBEDDED AUDIO

Num.:   Up to 8 PID (Stereo) (1x UHD)

Up to 16 PID (Stereo) (4x SD/HD/FHD)

VIDEO ENCODING / DECODING

Formats and profiles

1x UHD Channel 4:2:2 & 4:2:0, 8 and 10 Bit

[HEVC Main10/8@L6 & Main 422@L6]

[H.264 Baseline, Main, High, High-10, 422P, 422P10

4x HEVC SD/HD/FHD Channels: 4:2:2 & 4:2:0, 8 and 10 Bit

[Up to H.265 Main10 422@L4]

4x H.264 HD/FHD Channels: 4:2:2 & 4:2:0, 8 and 10 Bit (progressive)

Resolutions

Up to 3840 x 2160 in UHD

Up to 1920 x 1080p in HD

AUDIO ENCODING / DECODING

MPEG-1 Layer II (ISO/IEC 11172-3)

MPEG-4 AAC (LC/HE v1, HE v2)

Pass-through Dolby Digital (AC3) and Dolby Digital Plus (EAC3)

PCM and SMPTE 302M (Pass-through) 16/20/24 Bits

ASI/IP INTERFACES

Video over IP

Num.:	2 x RJ-45
Interface:	2 x 10/100/1000 Mbps
	2x SFP interfaces for 10Gbe (*)
Encapsulation:	TS over IP : UDP, RTP with FEC SMPTE
	2022-1/2/7 (*) (Multicast/Unicast) , Connection control
	2 simultaneous flows .
	SRT (option)
ASI interface: :	2 x HD-BNC (188 bytes TS)

SOFTWARE OPTIONS

Additional Audio PID License

4x MPEG-1LII and MPEG-4 AAC

Dolby Digital (AC3) and Dolby Digital Plus (EAC3) (**)

Scrambling:	BISS -1/E
Logo insertion:	Format: bmp image with alfa channel (transparency)
	X-Y axis. Time interval, visible time

PHYSICAL CHARACTERISTICS AND CONTROL

System Management

Full configuration by webpage and REST FUL API and SNMP Traps

Power

Voltage Range:	Defined by the Platform where SMP is integrated
Typical consumption:	< 25 W
Dimensions:	Eurocard extended 280x100 mm
Weight:	< 0.3 Kg
Operating Temperature:	5ºC to 45ºC

(*) Optional. Contact factory.

(**) Check availability/Roadmap

Different Platforms where SMP can be integrated:

Sivac - one Frame

Modular Frame that can allocate up to 3 x SMP:

- *Up to 3x UHD HEVC Channels in 1U*
- *Up to 12x FHD/HD/SD HEVC Channels in 1U*

Sivac - one Compact

Portable Solution based in 1x SMP Card.