

**Release Notes**  
**X5 HEVC SDI v1.0**

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# Information

This document describes new functionality, bug fixes, limitations and known issues related to the following module:

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Module	X5 HEVC SDI
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## 1. API version table

Version	Latest API Version
X5 HEVC SDI 1.0.0	1.57

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# Release Notes

## 2. Version 1.0

### 2.1. New functionality

#### 2.1.1. Version 1.0.0

- Interfaces
  - SDI Interfaces
    - -4 × SDI BNC inputs (Encode only)
    - --1 × 12G-SDI
    - --3 × 3G-SDI
    - -SDI via SFP output (Decode only)
    - -Input density: 4 × 3G or 1 × 12G
    - -Output density: 2 × 3G or 1 × 12G
  - IP Data Interfaces
    - -2 × 1G IP data ports (SFP-based)
  - Control & Management Interfaces
    - -1 × RJ45, 1G control port
    - Genlock input for decoded output synchronization
- Encoding / Decoding Capability
  - Combined Operation
    - -Simultaneous encode and decode supported
  - Compression Density
    - -4× HD/FHD encoders
    - -1× UHD encoder
    - -2× HD/FHD decoders
    - -1× UHD decoder
- Video Compression
  - AVC (H.264) encode and decode or HEVC (H.265) encode and decode
  - Profiles & Levels
    - -AVC Profiles: MP / HP
    - -AVC Level: up to 5.0
    - -HEVC Profiles: MP / M10 / M422
    - -HEVC Level: up to 5.1
    - -HEVC Tier: Main / High
  - Format Support
    - -8-bit and 10-bit
    - -4:2:0 and 4:2:2 chroma sampling
    - -Scene change detection
    - -Bitrate range: 0.5 – 150 Mbps
    - -CBR rate control
- Resolution & Format Support
  - UHD: 2160p25/29.97/30/50/59.94/60
  - FHD: 1080p25/29.97/30/50/59.94/60
  - 1080i25/29.97
  - 720p25/29.97/30/50/59.94/60
- Latency Modes
  - Normal

- Low
- Ultra-low
- HDR Support
  - HLG
  - PQ
  - SDR/HDR in SEI (WCG, HLG incl. HLG ATF, PQ, HDR10, Manual)
  - HDR metadata passthrough
  - HDR metadata override
- IP Transport
  - MPEG-TS over UDP / RTP
  - SPTS and MPTS
  - Unicast and Multicast (IGMP v3)
  - IPv4 / IPv6
  - ST2022-7 seamless redundancy (TS level)
  - IP-FEC output
  - TSoIP input: up to 16 multicast streams
  - TSoIP output: up to 16 multicast streams
- SRT
  - SRT input and output
  - ST2022-7 seamless redundancy support (SRT)
  - Up to 600 Mbps SRT input
  - Up to 600 Mbps SRT output
  - Independent input/output paths
  - AES-128 / AES-256 encryption via SRT
- Audio
  - Capacity
    - -64 embedded SDI audio sources (4×16 channels)
    - -32 embedded SDI audio outputs (2×16 channels)
    - -Up to 8 stereo pairs (16 channels) per video service
  - Audio Codecs – Encode
    - -MPIL2
    - -AAC-LC / HEV1 / HEV2
    - -Dolby Digital (DD)
    - -Dolby Digital Plus (DD+)
  - Audio Codecs – Decode
    - -MPIL2
    - -AAC-LC / HEV1 / HEV2
    - -Dolby Digital (DD)
    - -Dolby Digital Plus (DD+)
    - -Dolby E
    - Passthrough
    - -PCM / SMPTE 302M
    - -Dolby E
    - -Dolby ED2
    - -DD / DD+
- Metadata & Processing
  - SCTE-104 → SCTE-35 (Encoder)

- SCTE-35 → SCTE-104 (Decoder)
- Closed captions (CEA-608/708) passthrough
- EBU Teletext
- -Encode: from OP-47/ST2031
- -Decode: to OP-47
- DVB subtitle conversion from EBU TTXT (Encode)
- SMPTE ST2038 creation (Encoder)
- SMPTE ST2038 extraction (Decoder)
- VITC (SMPTE 12M):
  - -To SEI on encoder
  - -From SEI on decoder
- Timecode insertion from PTP/NTP to SEI
- Timecode extraction from SEI
- Video alignment (slow-motion / VAR support)
- HD/SD de-interlacing
- Image scaling
- Still image insertion
- AV test pattern generator with overlay
- Networking & Redundancy
  - ST2022-7 on TS
  - Input redundancy
  - LLDP support
  - PCAP recording
- Management & Control
  - HTTPS GUI
  - JSON API
  - XPanel workflow interface
  - Prometheus monitoring support
  - Configuration export/import
  - SDI Router control
  - -SW-P-08 protocol
  - -VikinX
  - -BlackMagic

## 2.2. Changed functionality

## 2.3. Bug fixes

### 2.3.1. Version 1.0.2

- [XP-1204] Fixed issue where GUI access could be lost when using data ports D1/D2 as management interface.
- [XP-1335] Fixed VLAN traffic not being sent to CPU.
- [XP-1122] Fixed issue where SRT 2022-7 flows could end up with large offsets.

### 2.3.2. Version 1.0.1

- [XP-10465] Fix SRT caller remote host validation in GUI
- [XP-10455] Fix input redundancy edit validation in output GUI



- [XP-10227] Fix output edit tab validation in GUI
- [XP-10382] Fix spurious error logs when service databases exist without a corresponding service
- [XP-10442] Fixed issues where PTP doesn't work over VLAN
- [XP-10487] Fix false "inactive source missing" alarm when an encoder is used as source
- [XP-10488] Disabling an encoder source will now trigger an input redundancy switch on outputs
- [
- XD-1132
- ] Fix DNS resolution for SRT remote host
- [
- XD-636
- ] Fix PID manipulation causing outputs to fail

## 2.4. Known issues

### 2.4.1. Version 1.0.0

- PTP misconfiguration leads to issues playing out SDI decoder output: only configure PTP if needed, and make sure it has status (XP-10149).
- Decoder output ports not properly disabled when service is disabled (XP-10305).
- 12G-SDI pathological input can cause SDI lock loss (XP-10454)