# UHD1100 —
# UHD-1 4K Video & Audio Processor

Snell Advanced Media

**Technical Data Sheet**

**UHD1100 is a flexible UHD-1 4K processing unit able to process and translate both Quadrant (square division) and 2SI (2 sample interleave) quad-link formats. Converting to or from 4K to HD/SD allows repurposing of existing assets, and all common video and audio processing tasks are also covered.**
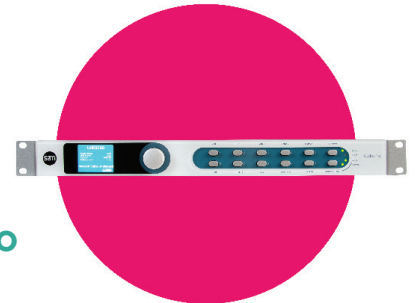
## Applications

- Repurpose existing HD content - up convert for distribution over UHD channels

- Service existing HD channels - down convert UHD content for simulcast on mainstream HD services

- Integrate HDR (PQ, HLG, Slog3) signals into SDR workflows, translate between HDR standards, or map SDR signals for use in HDR productions

- Cover color space requirements with BT709 and BT2020 translation features

- UHD signal processing - synchronize, adjust and enhance, or process audio with UHD1100s comprehensive control features

## Features

- Frame Synchronization including continuous output on input standard changes

- SD/HD/3G/UHD up, down and cross conversion with clean cut feature

- HDR (PQ, HLG, Slog3) and BT2020 wide color gamut support, along with video proc and powerful picture enhancement tools, including edge enhance and noise reduction

- 16-channel embedded audio processing and PCM/Dolby audio delay compensation

- Metadata support including Closed caption, WST, timecode and SMPTE2020 handling

- Easy to use control options inc. front panel with control lock, and remote via web interface and RollCall

- Linear motion adaptive frame rate conversion available when up or down converting

- Automatic Aspect Ratio Conversion with signalling support (SMPTE 2016, L23 ETSI, L23 AFD, VI SMPTE, VI AFD)

- Balanced AES and analog audio I/O

- Support for fiber Tx and Rx via SFP

- Dual PSU as standard

## UHD1100 Processing



Note: See order codes for fiber SFP options

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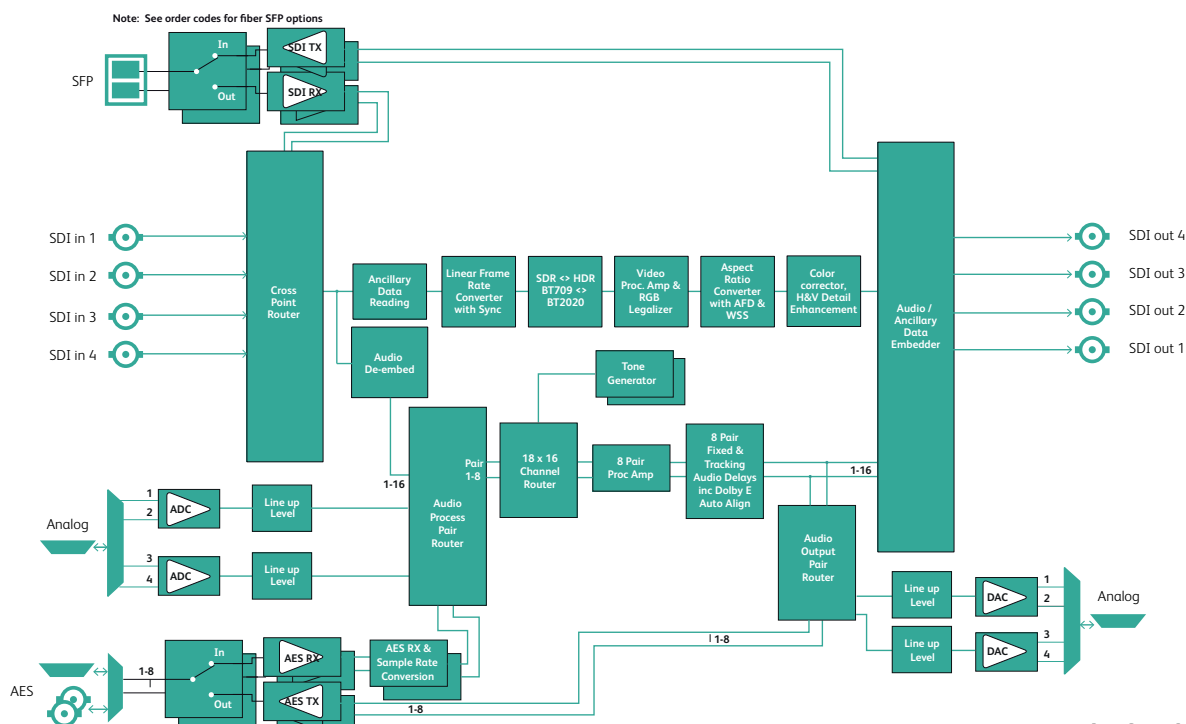
## Technical Specification

### Signal Inputs

Serial digital 4 x 75 Ohm SD/HD/3Gb/s/UHD-1 serial digital with embedded audio

Input standards: UHD-1 Quad-link-SDI, SMPTE 2036,

3Gb/s HD-SDI, SMPTE425 level A, dual-link level B

1.5 Gbit/s HD-SDI SMPTE292M/ SMPTE299M

270 Mbit/s SD-SDI SMPTE259M

Reference 1 x loop-through HDTV Trisync/SD Bi-sync (black & burst) SMPTE 240M/274M

Audio AES (option) up to 8 x Balanced AES inputs – via 25 way D Type

Analog audio (option) 2 x Stereo Analog inputs via 25 way D Type

### Signal Outputs

Serial digital 4 x 75 Ohm SD/HD/3Gb/s/UHD-1 serial digital with embedded audio

Output standards: UHD-1 Quad-link, SMPTE 2036

3Gb/s HD-SDI, SMPTE425 level A, dual-link level B

1.5 Gbit/s HD-SDI SMPTE292M/ SMPTE299M

270 Mbit/s SD-SDI SMPTE259M

Audio AES (option) up to 8 x Balanced AES outputs – via 25 way D Type

Analog audio (option) 2 x Stereo Analog outputs via 25 way D Type

### Input standard

Input standard

(auto detect) 525, 625

720 50/59.94/60p

1080 50/59.94/60i

1080 50/59.94/60p (Levels A and B)

720/1080/2160 23/24/25/29.97/30p

1080 23/24/25/29.97/30psf, with film detection and processing

2160 50/59.94/60p (Levels A and B)

### Output standard

525, 625

720 50/59.94/60p

1080 50/59.94/60i

1080 50/59.94/60p (Levels A and B)

720/1080/2160 23/24/25/29.97/30p

1080 23/24/25/29.97psf, with film detection and processing

2160 50/59.94/60p (Levels A and B)

### Video Functions

Up Conversion, Down Conversion, Cross Conversion

Square division to / from 2SI conversion

SD/HD/3Gb/s to / from UHD-1 Linear Standards Conversion

Noise Reduction

SDR to / from HDR (PQ, HLG, Slog3)

Colour space BT709 to / from BT2020

### Manual or Automatic ARC

AFD (SMPTE 2016), VI (RP186), WSS (L23)

SD input format Normal 4:3, Anamorphic 16:9,

Letterbox 14:9, Letterbox 16:9

SD output format Normal 4:3, Anamorphic 16:9,

Letterbox 14:9, Letterbox 16:9

Auto zoom On/Off

Manual zoom Zoom +/- 20%

Safe area marker Off , 16:9, 4:3

Manual controls : size, aspect, pan, tilt
Wide range of ARC presets including 702 sample line mode

### Metadata

Closed caption CEA608 <> CEA708

Timecode conversions

WST/RDD8 conversion

SMPTE2020 embed/de-embed

### Audio Functions

### Analog Audio (option)

- Two pairs of analog inputs are individually available to the processing channel

- Headroom +24dBu; balanced connection

### AES Audio (option)

- AES audio is accessible via 8 bidirectional ports which can be configured as inputs or outputs

- AES input is auto-detected as PCM (32-96kHz) or non-PCM (48kHz locked to relevant video input)

### Embedded Audio

- 16-channel embedded audio processing

- PCM audio processing includes channel level gain and delay compensation, as well as channel level routing/shuffle with audio phase inversion

- Non-PCM processing features pair level routing and delay compensation.

- Dolby-E data is passed with a delay to match the video and with co-timed audio frame drop or repeat.

### System

Pattern Off , Black, Ramp, Bars

Proc amp

Black Level +100 to -100mV (0) in 0.8mV steps

Contrast -6dB to +6dB (0) in 0.2dB steps

Saturation -6dB to +6dB (0) in 0.2dB steps

Y Gamma 0.4 to 1.7 (1) in 0.1 steps

Freeze On/Off

Genlock Reference lock, Input lock (same format), Follow input (same frame rate), Free run

Memories 16 user memories

Adjustable Legalizer

EDH support

### Communications

Remote control via web interface and RollCall network (IP)

### Power (Primary and Secondary)

Input voltage range 100 – 240 VAC, 50/60 Hz 1.5A (Max) via three pin IEC power socket

### Mechanical

Temperature range 0 to 45° C operating

Cooling Internal Fan, side venting

Weight Approximately 2.4kg

Case type 1RU, Rack Mounting

Dimensions 44mm x 430mm x 170mm (h, w, d)

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## Ordering Information

| Order Code: | Description: |
| --- | --- |
| 6111141 | UHD1100 Single channel UHD-1 4K video & audio processing unit with SDI (BNC or Fiber), remote or front panel control and Dual PSUs |
| 6111151 | UHD1100 . Single channel UHD-1 4K video & audio processing unit with SDI (BNC or Fiber), AES and analog audio I/O, remote or front panel control and Dual PSUs |

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