Addressing the needs of content producers and distributors to supply UHD, 3G and HD content in parallel, the 7814UDX–4K, 7814UC–4K, 7814HDC–4K and 7814XC–4K are a series of broadcast quality up/down/cross converters that convert between common HD SMPTE ST 292M, 3G SMPTE ST 424M and UHD signal formats including SMPTE ST 2082. Variants are also available to support up conversion, down conversion and cross conversion between square division and 2SI UHD signal formats.

The 7814UDX/UC/XC/HDC–4K series supports broadcast quality video conversion. Advanced motion adaptive spatial–temporal (3D) noise reduction and next generation de–interlacing techniques ensure superior resolution and artifact reduction, generating the highest quality video suitable for broadcast and other professional media applications. Optionally available video processing features (+VPROC option) include full broadcast quality color correction and detail enhancement processors along with RGB–based color legalization.
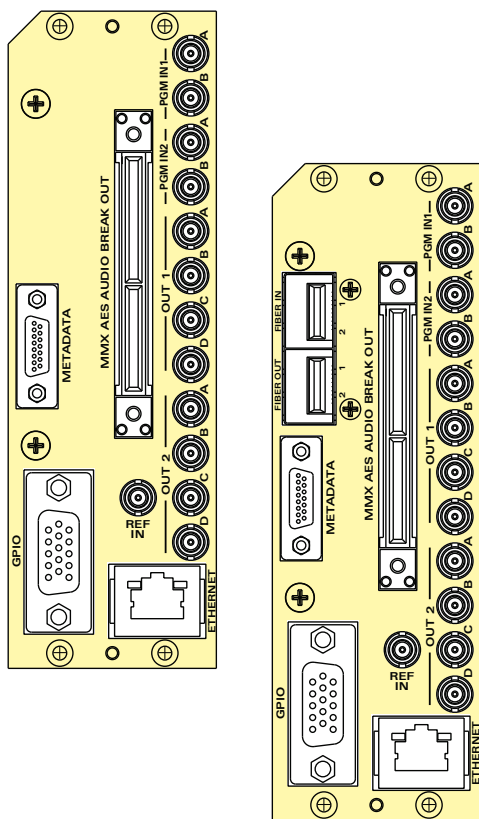
The 7814UDX–4K series products are HDR capable (with +VPROC and +HDR options) and can up/down/cross convert SDR and a range of HDR formats, including SMPTE ST 2084 (PQ), HLG and S–Log3. It also performs all colour space conversion including BT.709, BT.2020 and S.Gamut3. Rather than using fixed LUTs, the Evertz HDR conversion uses high–precision mathematical modelling to allow for very low–latency, high accuracy transforms while allowing on–the–fly changes to colour correction or HDR transfer function parameters.

The 7814UDX/UC/XC/HDC–4K series transparently supports 16x channels of embedded audio with audio delay automatically matching video delay. Optional audio processing features (+APROC option) include 5.1 to stereo down–mixing (LoRo or LtRt), audio channel shuffling, gain, inversion and mono–mixing. With "–AES8" variants, 8x discrete AES inputs and 8x discrete AES outputs are provided, allowing for discrete AES input and output. Full audio routing capability allows outgoing embedded and discrete AES audio (–AES8 versions) to be sourced from any combination of embedded audio, discrete AES inputs (–AES8 versions) or processed audio.

These modules are SNMP capable for remote monitoring, control and configuration capabilities using VistaLINK® PRO, CP–2116E or CP–2232E Control Panels. VistaLINK® is available when modules are used with the 3RU 7800FR series or 1RU 7801 frames and 7800/7801FC VistaLINK® Frame Controller module is installed. Each card occupies two slots in the frame.

The –12G option adds support for SMPTE ST 2082 and enables up to 2x 12G SFP's (ordered separately) to be added to allow transport over a single coax or Fiber. The –12G–HDBNC–R option includes an HDBNC module that supports 12G–SDI signals.
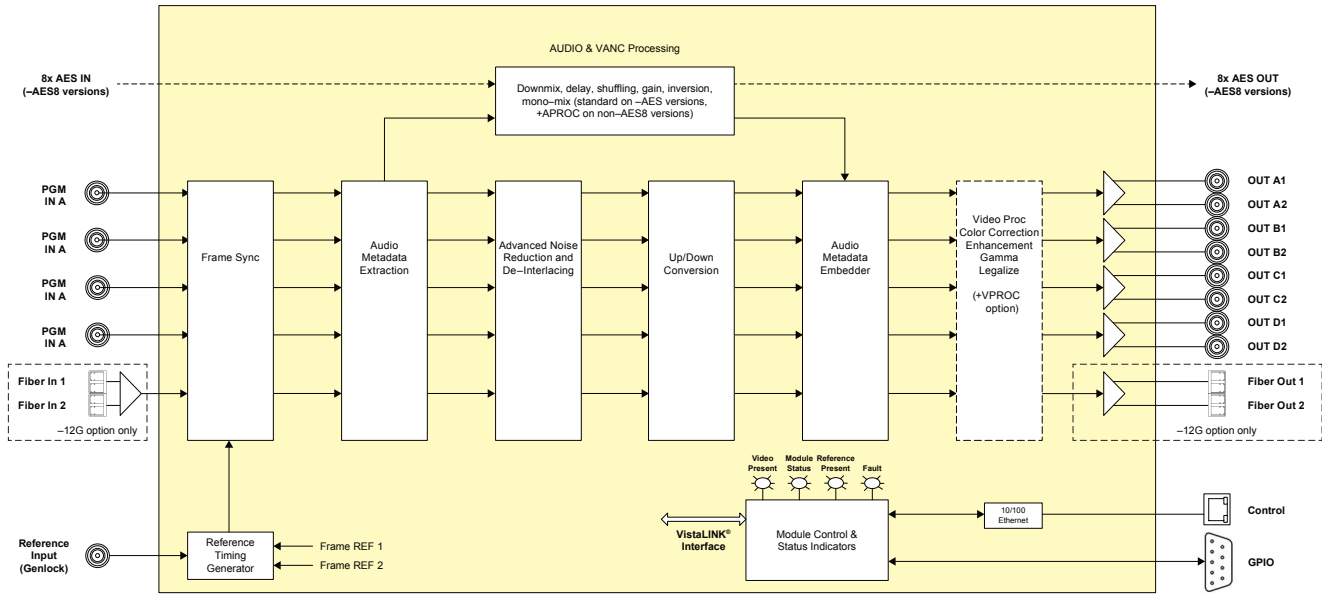


## ▶Features & Benefits

- Broadcast quality up/down/cross conversion between common HD/SMPTE 292M and 3G/SMPTE 424M video signals to/from UHD
- Integrated frame synchronizers (quad input frame synchronizers on 7814UDX–4K and 7814HDC–4K to time quad–lane SDI inputs)
- Support for card reference connection and two sources of 7800FR frame reference (software selectable from the three sources)
- Advanced 3D noise reduction and next generation de–interlacing technologies ensure the highest quality video without compromise for broadcast and professional media applications
- Broadcast quality color corrector and detail enhancement engines optional (+VPROC option)
- 16x channel embedded audio support
- Audio delay automatically tracks video delay
- Full audio processing and channel swapping plus 5.1 surround sound to stereo (Lt/Rt and Lo/Ro) down-mixing provided with with +APROC option
- Supports 8x external AES inputs and 8x AES outputs (–AES8 versions only)
- SNMP–capable for remote monitoring, control and configuration capabilities using VistaLINK® PRO, CP–2116E or CP–2232E Control Panels
- Supports low latency, high quality SDR to/from HDR and HDR cross conversion of HLG, HDR10 (PQ), and S. Log3 and colour space conversion (BT.709/BT.2020/S.Gamut3)
- VistaLINK® is available when modules are used with the 3RU 7800FR frame and a 7800FC VistaLINK® Frame Controller module in slot 1 of the frame

*The Complete Solution Provider*

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Block diagram showing: AUDIO & VANC Processing; 8x AES IN (–AES8 versions); Downmix, delay, shuffling, gain, inversion, mono–mix (standard on –AES versions, +APROC on non–AES8 versions); 8x AES OUT (–AES8 versions); PGM IN A (x4); Frame Sync; Audio Metadata Extraction; Advanced Noise Reduction and De–Interlacing; Up/Down Conversion; Audio Metadata Embedder; Video Proc Color Correction Enhancement Gamma Legalize (+VPROC option); OUT A1, OUT A2, OUT B1, OUT B2, OUT C1, OUT C2, OUT D1, OUT D2; Fiber In 1, Fiber In 2 (–12G option only); Fiber Out 1, Fiber Out 2 (–12G option only); Reference Input (Genlock); Reference Timing Generator; Frame REF 1; Frame REF 2; Video Present; Module Status; Reference Present; Fault; VistaLINK® Interface; Module Control & Status Indicators; 10/100 Ethernet; Control; GPIO.

## ► Ordering Information

| | |
|---|---|
| **7814XXX–4K** | 3G/HD to UHD Upconverter and Frame Synchronizer, Quad–SDI Interface |
| **7814XXX–AES8–4K** | 3G/HD to UHD Upconverter and Frame Synchronizer, Quad–SDI with Discrete AES I/O |
| **7814XXX–4K–12G** | 3G/HD to UHD Upconverter and Frame Synchronizer, Quad–SDI and 2x 12G fiber SFP slots (SFPs sold separately) |
| **7814XXX–AES8–4K–12G** | |
| ` | 3G/HD to UHD Upconverter and Frame Synchronizer, Quad–SDI with Discrete AES I/O and 2x 12G fiber SFP slots (SFPs sold separately) |
| **7814XXX–4K–12G–HDBNC–R** | |
| ` | 3G/HD to UHD Upconverter and Frame Synchronizer, Quad–SDI and replaceable 12G–SDI HDBNC module (included) |
| **7814XXX–AES8–4K–12G–HDBNC–R** | |
| ` | 3G/HD to UHD Upconverter and Frame Synchronizer, Quad–SDI with Discrete AES I/O and replaceable 12G–SDI HDBNC module (included) |

All options above can be ordered with the following options:

| | |
|---|---|
| *UDX:* | *Up/Down/Cross Conversion* |
| *HDC:* | *High quality down–converter* |
| *XC:* | *Cross converter* |
| *UC:* | *Up–converter* |

**Ordering Options** *(consult factory for availability)*

| | |
|---|---|
| **+VPROC** | Video processing/color correction support including RGB, YCbCr and Gamma processing plus RGB–based color legalization |
| **+APROC** | Audio processing support including 5.1 to stereo down–mixing (LoRo or LtRt), global audio delay, audio channel shuffling, gain, inversion and mom–mix capabilities on 16x channels of embedded audio (Note: included as standard on –AES8 versions, optional on non–AES8 versions) |
| **+HDR** | Real–time high accuracy HDR conversion, supports converting to/from SDR/HLG/ST 2084 (PQ)/S.Log3, color space conversion between BT.709/BT.2020/S.Gamut3 (requires +VPROC) |

**SFP Options**

| | |
|---|---|
| **SFP3TR–13–12G** | Fiber transmitter/receiver SFP module with 13nm optical output |
| **SFP3TR–DIN–12G** | Coax transmitter/receiver SFP module |

**Rear Plate Suffix**

| | |
|---|---|
| **+3RU** | 3RU Rear Plate |

**Enclosures**

| | |
|---|---|
| **7800FR** | 3RU Multiframe which holds up to 15x single slot modules |
| **7800FR–QT** | 3RU Multiframe which holds up to 15x single slot modules, low noise |
| **7801FR** | 1RU Multiframe which holds up to 4x single slot modules or 2x dual slot modules |