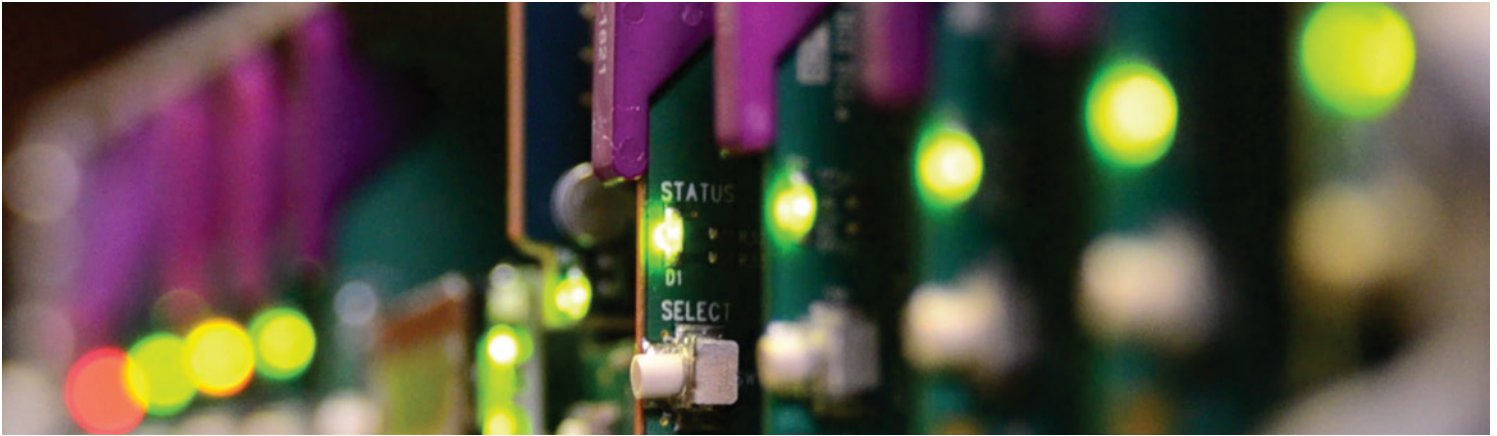


# XVP-1801-UC

HD Upconverter/Frame Sync/ARC



Space-saving, modular platform for advanced signal processing.

The Densité Series XVP-1801-UC from Grass Valley, a Belden Brand, provides high quality upconversion and frame synchronization. It offers many advanced features, including AFD support and background keying, with optional 16 channel embedded audio processing. The superior conversion quality of the XVP at both 50 and 59.94 Hz stems from multiple technologies, including advanced motion adaptive de-interlacing and anti-ringing.

To ensure that upconverted television is presented in the correct aspect ratio when aired, the XVP module supports AFD (Active Format Description) SMPTE-2016. This provides automatic aspect ratio control using embedded control commands, and this prevents on-air aspect ratio errors such as the postage stamp effect. The ARC function offers fixed presets as well as variable user configurable aspect ratios.

In addition to AFD, the XVP also supports VLI (Video Line Index) RP-186 and WSS, which allows the card to adjust its ARC automatically without any external intervention. The module re-inserts the correct AFD, VLI or WSS on the output, along with other HANC and VANC information. With the integration of a frame sync, incoming feed signals can be synched to house, and video/audio levels adjusted using a proc and color correction, when entering the facility.

An RS-232/422 port is provided for automation control of ARC presets, and GPIs are also available for user presets.

To further improve on-air presentation, the XVP offers a background keying capability which allows side panels, introduced by upconversion, to be filled with video or graphics.

The XVP-1801-UC will pass and delay automatically all 16 channels (four groups) of embedded audio to keep lip sync. Full audio processing, shuffling, downmixing and four AES in and four AES out channels, are available as an option. A higher level of audio capabilities are provided by a range of audio processor companion cards. When connected to a DAP-1781, UAP-1783 or an AAP-1741, the XVP-1801 gains additional AES or analog audio channels while still maintaining lip sync. Depending on the audio processor selected, these boards also offer Dolby E or Dolby Digital (AC-3) for encoding or decoding, upmixing from 2.0 to 5.1, and full dynamic processing (limiter, compressor and expander).

# XVP-1801-UC HD Upconverter/Frame Sync/ARC

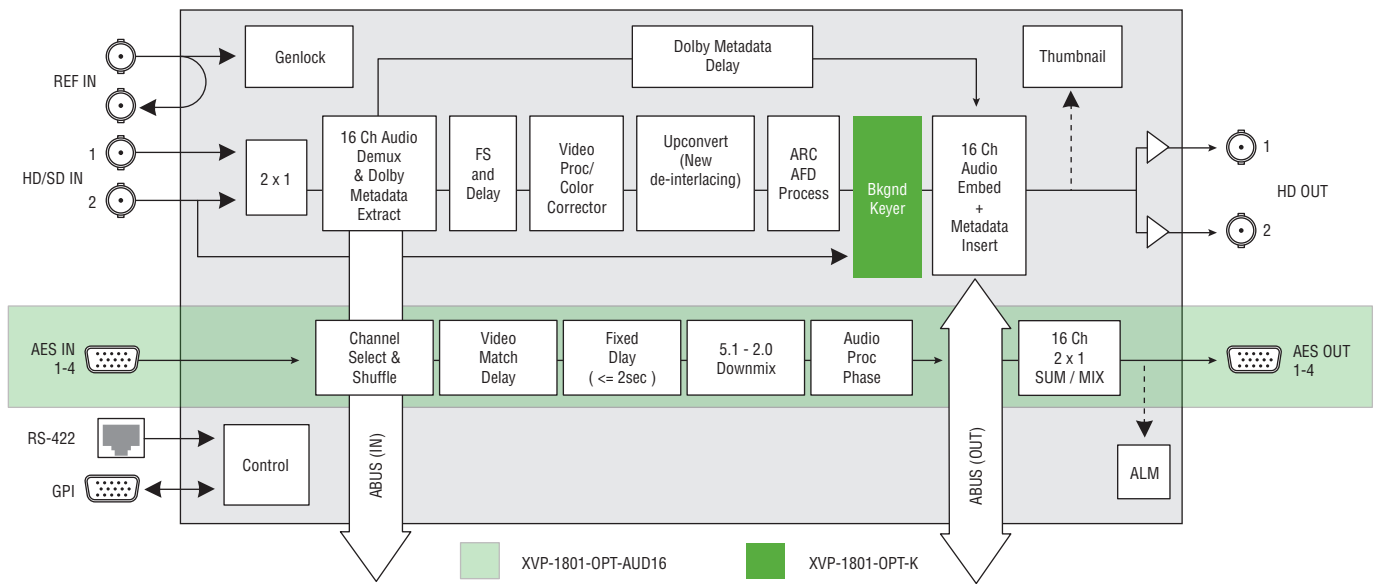
## KEY FEATURES

- Upconverter with frame sync
- Advanced adaptive video de-interlacing for higher image quality
- Automatic detection of film sequences
- Automatic ARC, using AFD (SMPTE-2016), VLI (RP-186) and WSS detection and correct re-insertion with the output
- Custom and fixed ARC presets
- Background keying capability during up or down conversion which allows side panels or letterbox black bars to be filled with video or graphics
- Built-in proc amp, color correction and legalizer
- Processes and converts ancillary data such as CC (608/708) and timecode
- Perfect audio/video synchronization plus additional audio fixed delay of up to 2 seconds
- Optional 16 channels of embedded full audio processing, shuffling and downmixing
- Optional 4 AES inputs and 4 AES outputs
- Dolby E compatible
- Audio metadata processing (SMPTE 2020-A)
- Compatible with Grass Valley audio processing cards, including the UAP-1783, AAP-174 and DAP-1781
- Multiple presets for save and recall
- RS-422 Protocol and GPI ports for automation or external device control
- Thumbnail and ALM streaming over IP
- Can be upgraded in the field to the full XVP-1801 up/down/crossconverter specification

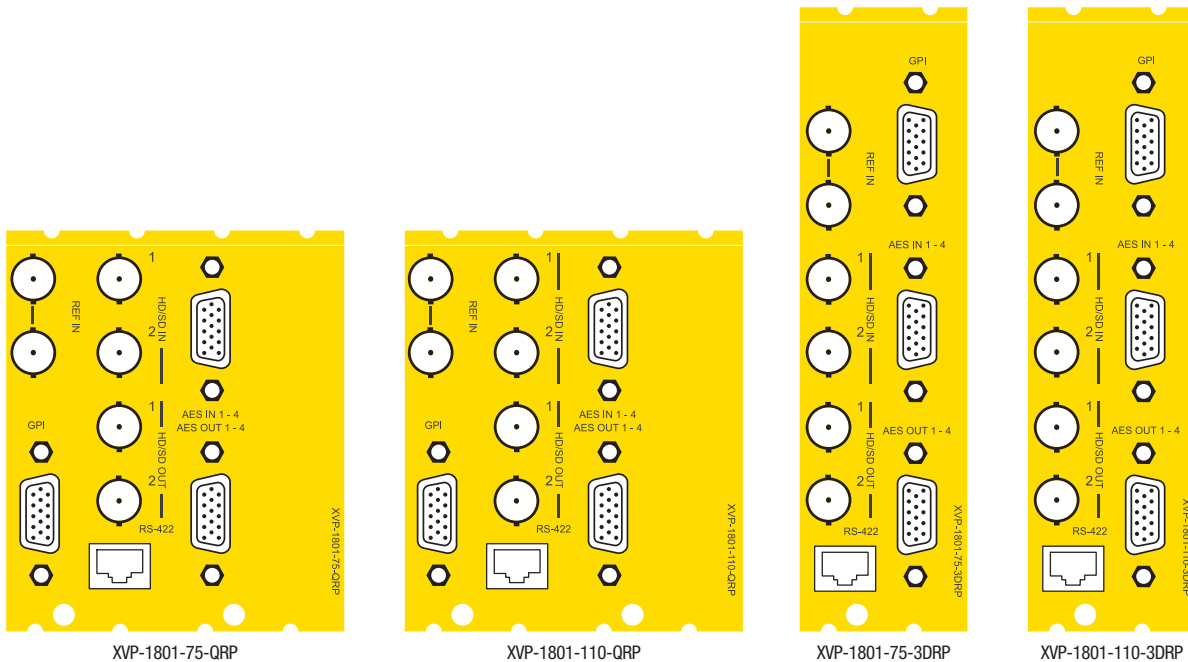
## XVP-1801-UC

Input	Output	HD			
		720p50	720p59.94	1080i50	1080i59.94
SD	525		X		X
	625	X		X	
HD	720p50	X			
	720p59.94		X		
	1080i50			X	
	1080i59.94				X

Video formats supported.



XVP-1801-UC HD Upconverter



# XVP-1801-UC HD Upconverter/Frame Sync/ARC

## SPECIFICATIONS

### Video Inputs (2)

#### Signal:

SD: SMPTE-259M-C (270 Mb/s)

#### Supported formats:

SD: SMPTE-125M: 480i59.94

SD: EBU: 576i50

**Embedded audio:** SMPTE-299M-272

**Cable length:** 340m (1,115 ft.) Belden 1694A at 270 Mb/s

**Return loss:** >15 dB up to 1.5 GHz

### Video Output

**Signal:** SMPTE 292M (1.485, 1.485/1.001 Gb/s)

#### Supported formats:

HD: SMPTE 274M: 1080i59.94/50

HD: SMPTE 296M: 720p59.94/50

**Embedded audio:** SMPTE-299M, SMPTE-272M

**Return loss:** >15 dB up to 1.5 GHz

**Jitter:** <0.2 UI

### Reference Input

**Signal:** SMPTE 170M/SMPTE 318M/ITU 624-4/BUT 470-6 blackburst

**Return loss:** >35 dB up to 5.75 MHz

### Video Processing Performance

**Signal path:** 10 bits

#### Latency:

1 frame in all modes

Up to 6 frames of additional delay can be added

### Audio Digital Inputs (4)

**Sampling freq.:** 32 to 96 kHz

**Quantization:** Up to 24 bits

#### AES3

**Level:** 0.2 to 7 Vp-p

**Impedance:** 110Ω balanced

#### AES3-id

**Level:** 0.2 to 2 Vp-p

**Impedance:** 75Ω

**Return loss:** 15 dB at 6 MHz

### Audio Digital Outputs (4)

**Sampling freq.:** 48 kHz

**Quantization:** 24 bits

#### AES3

**Level:** 3 Vp-p

**Impedance:** 110Ω balanced

#### AES-3id

**Level:** 1.0 Vp-p

**Impedance:** 75Ω

**Return loss:** 15 dB at 6 MHz

### Audio Processing Performance

**Quantization:** 24 bits

**Sampling:** 48 kHz

**Number of channels:** 16 (4 groups)

**Freq. response:** ±0.02 dB (20 Hz to 20 kHz)

**SNR:** 123 dB (A weighted)

**THD+N:** -138 dB (20 Hz to 20 kHz)

### Miscellaneous

**Fixed delay:** 0 to 2.0s

**Step:** 1 ms (coarse), 1 sample (fine)

### GPI (8)

**Connector:** 15-pin D-Sub, opto-isolated

#### GPI in:

Input selection: 1, 2

Presets: 1, 2, 3, 4

**GPI out:** Provides status of selected input: 1 or 2

### RS-422 (Automation)

**Connector:** RJ45

**Signal:** OXTEL Series automation protocol

### ABUS Connector

As per ABUS standard, Grass Valley

### Test Pattern Generator

#### Video:

Color bars — 100% white bar with 75% color

#### Audio:

Left channel pulsed 1 kHz tone

Right channel steady 1 kHz tone

### ELECTRICAL

**Power:** 17W

FIELD UPGRADEABLE TO  
**XVP-1801**  
UP/DOWN/CROSS CONVERTER



## ORDERING

### Densité 2 frame

XVP-1801-UC

XVP-1801-75-QRP

XVP-1801-110-QRP

### Options (software)

XVP-1801-OPT-AUD16

XVP-1801-OPT-K

XVP-1801-UG-UC2XVP

### Options (hardware)

BOC-DE15-4BNC-1

NSH15M

### Remote control

### Densité 3 frame

XVP-1801-US-3RU

XVP-1801-75-3DRP

XVP-1801-110-3DRP

### Description

AES IO support and 16 channels on-board audio processing option

Background key input option

HD/SD Upconverter/Frame Sync/ARC

75 ohm digital audio breakout cable

HD-15 to terminal block adapter

iControl, iControl Solo, RCP-200

### Description

HD/SD Upconverter/Frame Sync/ARC

Double rear connector panel, 75 ohm

Double rear connector panel, 110 ohm

Quadruple rear connector panel, 75 ohm

Quadruple rear connector panel, 110 ohm



GVB-1-0429A-EN-DS

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