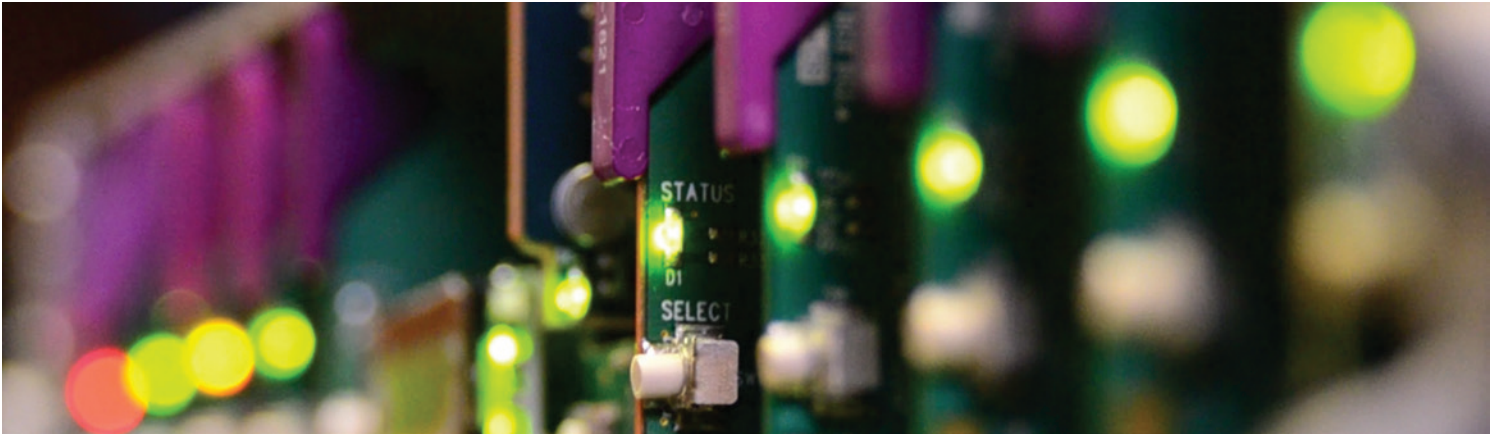


XVP-1801-DC

HD/SD Downconverter/ARC and Frame Sync



Space-saving, modular platform for advanced signal processing.

The Densité Series XVP-1801-DC from Grass Valley, a Belden Brand, offers high quality downconversion with aspect ratio conversion 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 downconverted 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 letterbox black bars, introduced by downconversion, to be filled with video or graphics.

The XVP-1801-DC 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-DC HD/SD Downconverter/ARC and Frame Sync

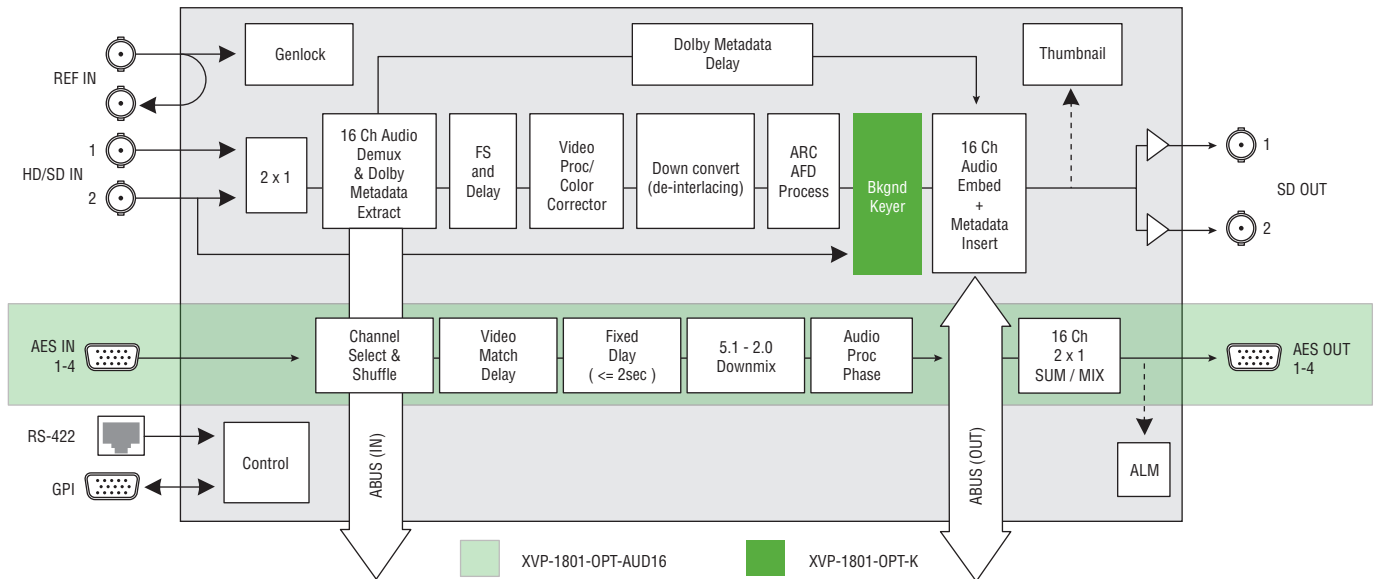
KEY FEATURES

- Downconverter 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 downconversion which allows 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-1741 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

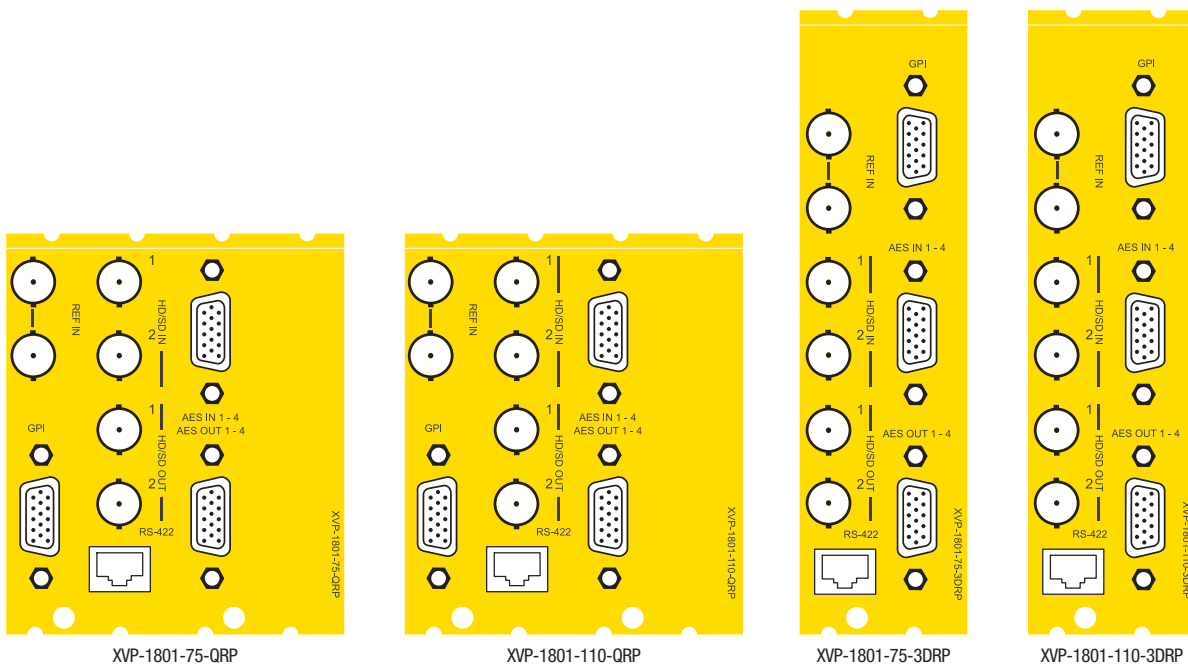
XVP-1801-DC

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

Video formats supported.



XVP-1801-DC Downconverter



XVP-1801-DC HD/SD Downconverter/ARC and Frame Sync

SPECIFICATIONS

Video Inputs (2)

Signal:
HD: 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-272

Cable length:

340m (1,115 ft.) Belden 1694A at 270 Mb/s
150m (492 ft.) Belden 1694A at 1.485 Gb/s

Return loss: >15 dB up to 1.5 GHz

Video Output

Signal: SMPTE-259-C (270 Mb/s)

Supported formats: SD: 480i59.94, 576i50
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
SMPTE 274M / SMPTE 296M tri-level sync
(black)

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-DC

XVP-1801-75-QRP
XVP-1801-110-QRP

Options (software)

XVP-1801-OPT-AUD16
XVP-1801-OPT-K
XVP-1801-UG-DC2XVP

Options (hardware)

BOC-DE15-4BNC-1
NSH15M

Remote control

Densité 3 frame

XVP-1801-DC-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
Upgrade from XVP-1801-DC to full XVP

75 ohm digital audio breakout cable
HD-15 to terminal block adapter

iControl, iControl Solo, RCP-200

Description

HD/SD downconverter/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



A BELDEN BRAND

WWW.GRASSVALLEY.COM

Join the Conversation at **GrassValleyLive** on Facebook, Twitter, YouTube and **Grass Valley - A Belden Brand** on LinkedIn.



Belden, Belden Sending All The Right Signals and the Belden logo are trademarks or registered trademarks of Belden Inc. or its affiliated companies in the United States and other jurisdictions. Grass Valley, Densité and iControl are trademarks or registered trademarks of Grass Valley, Belden Inc., Grass Valley and other parties may also have trademark rights in other terms used herein.

Copyright © 2014 Grass Valley. All rights reserved. Specifications subject to change without notice.

GVB-1-0426A-EN-DC