

# XVP-1801



## HD/SD up/down/cross converter with AFD

The Densité Series XVP-1801 is a high quality, HD/SD up/down/cross converter and video/audio signal processor, with AFD support and background keying. The superior conversion quality of the XVP at both 50 and 59.94Hz stems from multiple technologies, including advanced motion adaptive de-interlacing and anti-ringing.

To ensure that up/down converted 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.

A 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 or letterbox black bars, introduced by upconversion or downconversion, to be filled with video or graphics.

The XVP-1801 will pass and delay automatically all 16 channels (4 groups) of embedded audio to keep lip-synch. Full audio processing, shuffling, downmixing and 4 AES in and 4 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-synch. Depending on the audio processor selected, these boards also offer Dolby E or Dolby Digital (Dolby Digital) for encoding or decoding, upmixing from 2.0 to 5.1, and full dynamic processing (limiter, compressor, and expander).

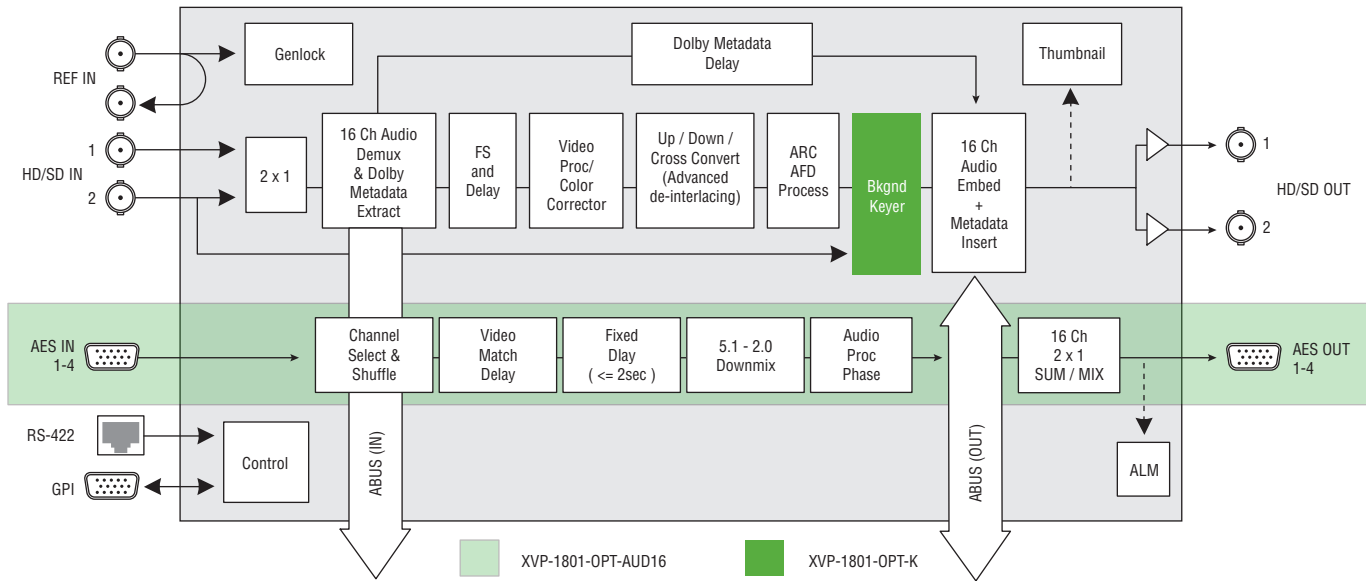
### KEY FEATURES AND BENEFITS

- > Up/down/cross/ARC converter with frame sync
- > Advanced adaptive video de-interlacing for higher image quality
- > Automatic detection of film sequences
- > MPEG pre-processor mode
- > Automatic ARC, using AFD (SMPTE-2016), video index (RP-186) and WSS
- > Custom and fixed ARC presets
- > Background keying during up or down conversion to fill side panels or top and bottom panels
- > Built-in proc amp, color correction and legalizer
- > Processes and converts Ancillary data such as CC (608/708) and Time Code
- > Up to 16 channels of embedded audio processing, including advanced functions like audio downmix: 5.1 to Lt/Rt or Lo/Ro
- > 4 AES (8 channels) inputs and 4 AES outputs
- > Dolby E compatible and Metadata insertion
- > Perfect audio/video synchronization plus additional audio fixed delay of up to 2 seconds
- > Compatible with Miranda audio processing cards, including the UAP-1783, AAP-174 and DAP-1781
- > Multiple presets for save & recall
- > RS-422 protocol and GPI ports for automation or external device control
- > Thumbnail and ALM streaming over IP

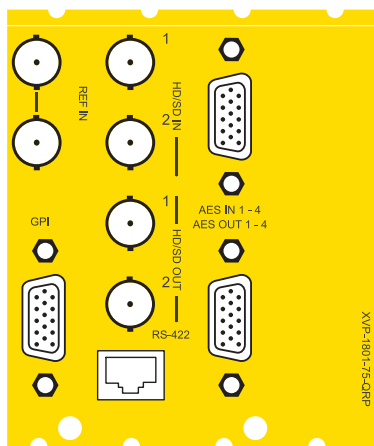
**XVP-1801**

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

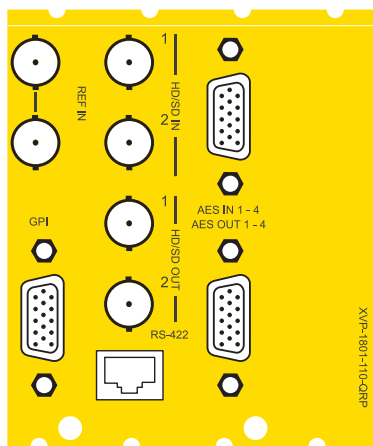
Video formats supported.



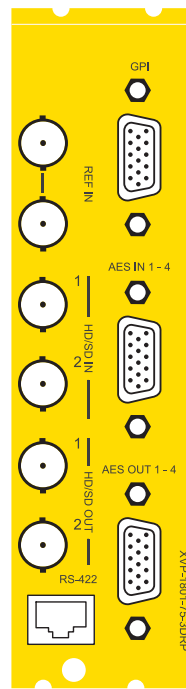
XVP-1801 HD/SD Up/Down/Cross converter



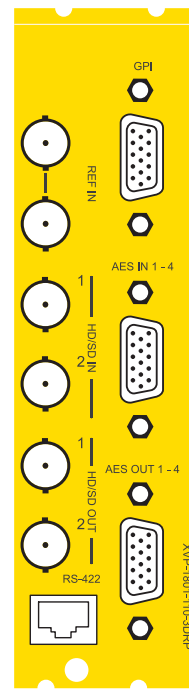
XVP-1801-75-QRP



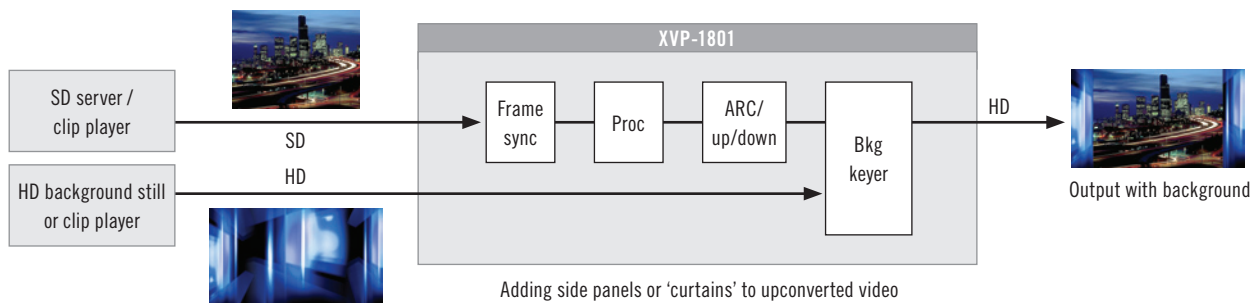
XVP-1801-110-QRP



XVP-1801-75-3DRP



XVP-1801-110-3DRP



Adding side panels or 'curtains' to upconverted video

## TECHNICAL SPECIFICATIONS

### VIDEO INPUTS (2)

Signal:	SD: SMPTE-259M-C (270 Mbps) HD: SMPTE-292M (1.485, 1.485/1.001 Gbps)
Supported formats:	SD: SMPTE-125M: 480i59.94 SD: EBU: 576i50 HD: SMPTE-274M: 1080i59.94, 1080i50 HD: SMPTE-296M: 720p59.94, 720p50
Embedded audio:	SMPTE-299M-272
Cable length:	340 m Belden 1694A at 270 Mbps 150 m Belden 1694A at 1.485 Gbps
Return loss:	>15 dB up to 1.5 GHz

### VIDEO OUTPUT

Signal:	SMPTE-259-C (270 Mbps), SMPTE 292M (1.485, 1.485/1.001 Gbps)
Supported formats:	SD: 480i59.94, 576i50 HD: SMPTE 274M: 1080i59.94, 1080i50 HD: SMPTE 296M: 720p59.94, 720p50
Embedded audio:	SMPTE-299M, SMPTE-272M
Return loss:	>15 dB up to 1.5 GHz
Jitter:	HD/SD: <0.2 UI

### REFERENCE INPUT

Signal:	SMPTE 170M/SMPTE 318M/ITU 624-4/BUT 470-6 black burst 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

#### Input

AES3	
Level:	0.2 to 7 Vp-p
Input impedance:	110 ohm balanced

#### AES3-id

Level:	0.2 to 2 Vp-p
Input impedance:	75 ohm
Return loss:	15 dB @ 6 MHz

### AUDIO DIGITAL OUTPUTS (4)

Sampling freq.:	48 kHz
Quantization:	24 bits

#### Output

AES3	
Level:	3 Vp-p
Impedance:	110 ohm balanced

#### AES-3id

Level:	1.0 Vp-p
Impedance:	75 ohm
Return loss:	15 dB @ 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 2.0 s
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:	RJ-45
Signal:	OXTEL Series automation protocol

### ABUS CONNECTOR

As per ABUS standard, Miranda Technologies Inc.

### 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:	17 W
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## ORDERING INFORMATION

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### Densité 2 frame

XVP-1801	HD/SD universal video processor
XVP-1801-75-QRP	Quadruple rear connector panel, 75 ohm
XVP-1801-110-QRP	Quadruple rear connector panel, 110 ohm

### Densité 3 frame

XVP-1801-3RU	HD/SD universal video processor (including 3RU adaptor)
XVP-1801-75-3DRP	Double rear connector panel, 75 ohm
XVP-1801-110-3DRP	Double rear connector panel, 110 ohm

### Options (software)

XVP-1801-OPT-K	Background key input option
XVP-1801-OPT-AUD16	AES IO support and 16 channels on-board audio processing option

### Options (hardware)

BOC-DE15-4BNC-1	75 ohm digital audio breakout cable
NSH15M	HD-15 to terminal block adapter

### Related products

AAP-1741	4 ch. analog audio processor
UAP-1783	8 ch. universal audio processor
DAP-1781	8 ch. digital audio processor

### Remote control

iControl, iControl Solo, RCP-200