

HD Cross/Down Converter with Up Conversion.



FEATURES

- 2 x 1 HD (SD) input switch
- Auto locking to all major HD (SD) formats
- 2 SDI outputs
- Auto bypass mode maintains output timing regardless of input type
- Choice of output picture aspect
- Frame Synchronising
- Auto locking to tri or bi-level reference
- Looped reference output
- Audio tracking pulse output
- Colour space conversion
- Embedded audio conversion
- Video processor
- Frame delay

The V6418 is a high performance cross converter for conversion between HD signal formats at 1,485 Gb/s. It will, however, convert an SD input to the selected HD output format although, for the ultimate in up conversion performance, Pro-Bel recommends the V6406. Alternatively the V6418 can also be set to operate as a Down Converter. This essentially configures the unit to replicate the same function(s) as the V6404 Down Converter. Furthermore an additional feature exists called 'flip mode'. In this mode if the V6418 receives an SD signal it will convert to the nominated HD output signal format and if it receives an HD signal it will convert to an SD output signal.

In all modes the V6418 combines proprietary filtering techniques with a high performance 2D-scaler resulting in superior broadcast quality pictures whilst producing minimal residual motion artefacts. It implements the required colour space conversion as required. The output picture aspect can be preset for HD and SD outputs. The module has two serial inputs and a relocked output of the selected input. There are then two serial outputs of the processed signal.

The input signal is continuously monitored, and if it matches the required output standard, the V6418 will switch in to a bypass mode, while still maintaining the output signal delay normally encountered when the unit is converting. A specific exception to this is when the V6418 is in 'flip mode' in which case it will always be converting from SD to HD or from HD to SD.

The processing delay through the converter is fixed at 40ms and 33ms for 50Hz and 59.94Hz field or frame rate inputs respectively. The output signal, however, can be retimed to an analogue external reference input in which case there can be 1 additional frame of delay depending on the input/output timing and phase offset selected. A passive 75 ohm termination is applied when not using the loop-through facility.

A TTL delay pulse output on the v6418 is also provided to drive an external audio tracking device such as the V1635.

If specified with the /AH option, the module will convert (or pass) embedded audio data. Alternatively the V6418 can be used in conjunction with the V6302 advanced audio processor using a special 'double' or 'triple' width rear module depending on the I/O requirements. The special rear modules provide communication between the modules via an internal LVDS (low voltage differential signalling) bus.

Technical Specification

Serial Inputs (2) and Serial Outputs (2)

Standards	SMPTE 292M, SMPTE 259M
Formats	SMPTE 274M, SMPTE 260M
Line/field rates	1080i @ 50Hz
	1080i @ 59.94Hz
	1080i @ 60Hz
	1080p @ 24Hz
	1080p @ 25Hz
	1080P @ 29.97Hz
	720p @ 50Hz
	720p @ 59.94Hz
	720p @ 60Hz
	720p @ 24Hz
Connector	625i @ 50Hz
	525i @ 59.94Hz
Impedance	BNC
Return loss	75 ohm
Cable equalisation	>15dB, 5MHz - 1.5GHz
Data rate	Automatic 0 - 75m @ 1.485Gb/s (Belden 1694) 270Mb/s, 1.486Gb/s

Analogue Reference + Loop

Signal	HD tri-level, composite bi-level or PAL/NTSC colour black
Connector	BNC
Impedance	75 ohm
Return loss	>35dB to 5.5MHz
Looped output	As reference input

Delay Pulse

Level	TTL
Range	0 to 1 frame, repeat rate is 2 frames
Connector	BNC

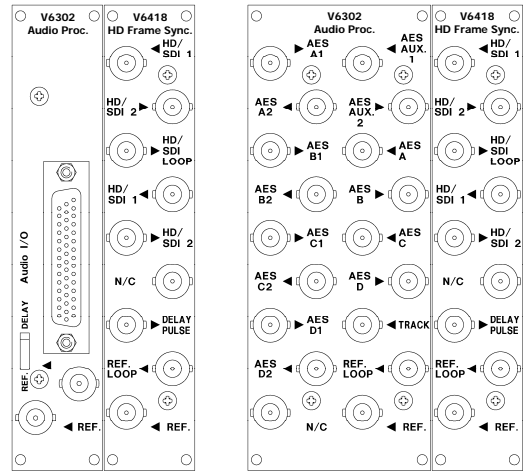
Ordering Information

V6418	HD Cross/Down Converter with Up Conversion
/AH	Embedded audio handling option
/CP	Closed caption conversion option
/FD	Frame delay (up 10 frames) option
/SY	Frame synchroniser option
/VP	Video processor option

All Pro-Bel's quoted prices for interface modules include the supply of one suitable rear module. Please specify the type required when placing order:

V16HR3C	3RU - Standard 9 x BNC single width rear module
V16HR3E	3RU - Future upgrade to V6408/V6302* (Balanced audio I/O) dual width rear module
V16HR3E	3RU - Future upgrade to V6408/V6302* (Unbalanced audio I/O) triple width rear module

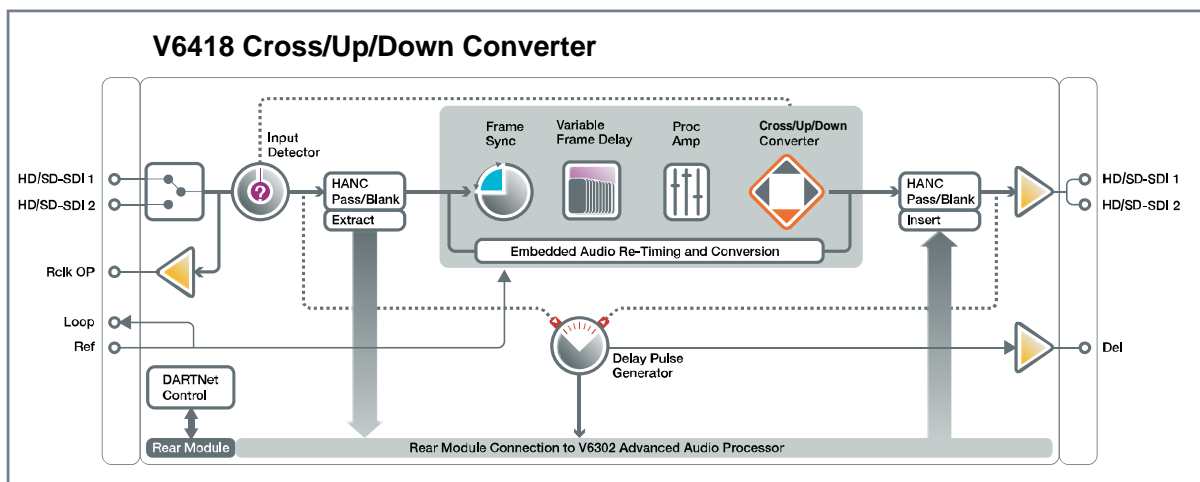
*V6302 Advanced Audio Processor module to be purchased separately. Note: Special versions of rear module are available on request



V16HR3D

V16HR3E

Illustration of rear module assemblies when V6418 is used in conjunction with V6302.



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