

HD Up Converter.



FEATURES

- Motion adaptive conversion
- Adaptive noise reduction
- 2 x 1 SD input switch
- Auto locking to all SD formats
- 2 HD-SDI outputs
- Also functions as Cross Converter if source signal is HD
- Auto bypass mode maintains output timing regardless of input type
- Choice of output picture aspect ratio
- Auto locking to tri or bi-level reference
- Looped reference output
- Audio tracking pulse output
- SD to HD colour space conversion
- Option for embedded audio conversion
- Option for closed caption processing
- Video proc amp option
- Colour corrector option
- Frame delay option

Video

The V6406 is a high performance HDTV Up Converter for conversion of a SD 270Mb/s signal to an HD 1.485 Gb/s signal. In addition it can function as an HD Cross Converter. All major HD and SD formats are supported. The unit uses leading edge digital processing, including Pro-Bel's proprietary massive parallel memory allocation (MPMA) to provide greatly enhanced image de-interlacing. This, coupled to advanced motion adaptive 3D picture processing results in the highest quality of picture conversion.

It implements the required SD to HD colour space conversion. In addition, the picture aspect ratio of the HD output is user selectable. The module has two serial inputs and a reclocked output of the selected input. There are then 2 serial outputs of the processed signal.

The input signal is continuously monitored, and if it matches the required output standard, the V6406 will switch into a bypass mode, while still maintaining the output signal delay normally encountered when the unit is converting.

The transfer of noise from original SD material can present serious problems for Up conversion, but the V6406 incorporates a high performance motion adaptive noise reducer and image enhancer which together will provide optimum conversion of low quality input material.

The processing delay through the converter is fixed at 2 frames. The HD-SDI output can be retimed to an external analogue reference input in which case there can be 1 additional feature of delay depending on the input/output timing and phase offset selected. A passive looped output of the analogue reference input is provided. An external 75 Ohm termination is applied when not using the loop-through facility.

Audio

A TTL delay pulse output in the V6406 is also provided to drive an external audio tracking device such as the V1635.

If specified with the /AH option, the module will pass (and convert as necessary) embedded audio. Alternatively, the V6406 can be used in conjunction with the V6302 Advanced Audio Processor, using a special 'double' or 'triple' width rear module depending on the audio I/O requirements (see drawing). The special rear modules provide communication between the modules via an internal LVDS (Low Voltage Differential Signalling) bus.

Technical Specification

Serial Inputs (2)

Standards	SMPT 292M, SMPT 259M
Formats	SMPT 259M
Line/field rates	625i @ 50Hz 525i @ 59.94Hz SMPT 274M SMPT 260M 1080i @ 50 Hz 1035i @ 60Hz 1080i @ 59.95Hz 1035i @ 59.94Hz 1080i @ 60Hz 1080p @ 24Hz 1080p @ 25Hz 1080p @ 29.97Hz 720p @ 50Hz 720p @ 59.94Hz 720p @ 60Hz 720p @ 24Hz
Connector	BNC
Impedance	75 ohm
Return loss	>15dB, 5MHz - 270MHz
Cable equalisation	Automatic 0 - 75m @ 1.485Gb/s (Belden 1694)

Serial Outputs (2)

Standards	SMPT 292M, SMPT 259M (Bypass - 270Mb/s only)
Formats	SMPT 274M SMPT 260M
Line/field rates	1080i @ 50Hz 1035i @ 60Hz 1080i @ 59.94Hz 1035i @ 59.94Hz 1080i @ 60Hz 1080p @ 24Hz 1080p @ 25Hz 1080p @ 29.97Hz 720p @ 50Hz 720p @ 59.94Hz 720p @ 60Hz 720p @ 24Hz
Connector	BNC
Impedance	75 ohm
Return loss	>15dB, 5MHz - 1.5GHz
Cable drive	>250m @ 270Mb/s (Belden 8281)
Data rate	270Mb/s, 1.485Gb/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

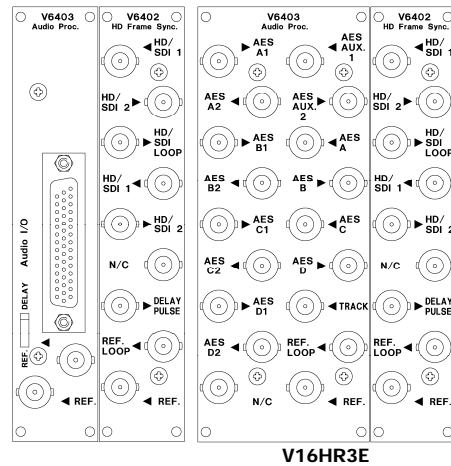
V6406	HDTV Up Converter
/AH	Embedded audio handling option
/CC	Colour corrector option
/CP	Closed caption conversion option
/FD	Frame delay (up 10 frames) option
/SY	Frame synchroniser option
/VP	Video processor option

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

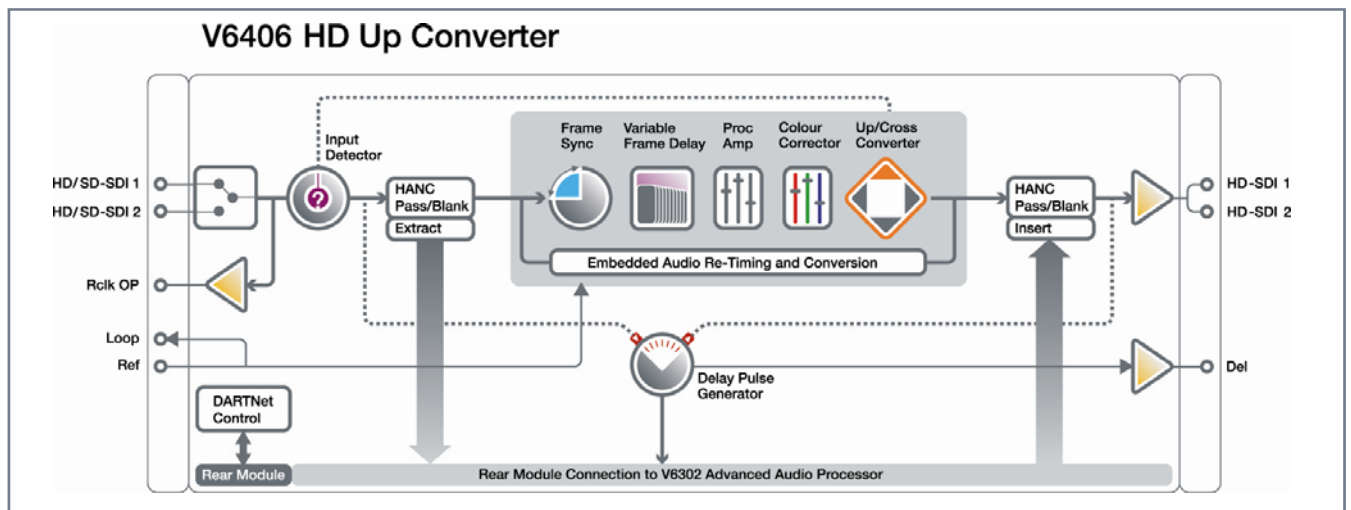
V16HR3C	3RU - Standard 9 x BNC single width rear module
V16HR3C	3RU - Future upgrade to Vd406/V6302* (Balanced audio I/O) dual width rear module
V16HR3E	3RU - Future upgrade to V6406/V6302* (Unbalanced audio I/O) triple width rear module

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

Illustration of rear module assemblies when V6406 is used in conjunction with V6302.



V16HR3E



WWW.PRO-BEL.COM

UK
+44 (0) 1189 866 123

USA
+1 631 549 5159

France
+33 (0) 1 45 18 39 80

Hong Kong
+ 852 2891 9123

