

HD Down Converter.



FEATURES

- 2 x 1 HD (SD) input switch
- Auto locking to all major HD formats
- 2 SDI outputs
- Auto bypass for SD input 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
- HD to SD colour space conversion
- Option for embedded audio conversion
- Option for closed caption processing
- Video proc amp
- Frame delay

Video

The V6414 is an HDTV high performance Down Converter for conversion of an HD 1.485 Gb/s signal to an SD 270 Mb/s signal. The unit combines a motion adaptive de-interlacer with optimized proprietary filtering techniques and a high performance 2D-Scaler resulting in superlative broadcast quality pictures. The inclusion of the motion adaptive de-interlacer maximises vertical and diagonal resolution for both static and moving pictures providing enhanced performance when compared with the V6404 and V6418 types. The picture aspect ratio of the SD output is user selectable between standard 4:3 Centre Cut, 16:9 SD Wide (anamorphic) and 16:9 Letterbox (background top & bottom bars). In addition, the unit can be configured to insert the appropriate SMPTE VI index and/or ETSI wide screen signaling (WSS) codes in the SD-SDI output for each of the above picture aspects. The module has 2 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 V6414 will switch into a bypass mode, while still maintaining the output signal delay normally encountered when the unit is converting.

The processing delay through the converter is fixed at two frames (four fields). The SD-SDI output, however, can be retimed to an external analogue 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 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 on the V6414 is also provided to drive an external audio tracking device such as the V1635.

If specified with the /AH option, the module convert (or pass) embedded audio data. Alternatively, the V6414 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	SMPTM 292M, SMPTM259M (Bypass - 270Mb/s only)
Formats	SMPTM 274M SMPTM 260M
Line/field rates	1080i @ 50Hz 1080i @ 59.94H 720p @ 50Hz 720p @ 59.94Hz
Connector	BNC
Impedance	75 ohm
Return loss	>15dB, 5MHz - 1.5GHz
Cable equalisation	Automatic 0-75m @ 1.485Gb/s (Belden 1694)
Data rates	270Mb/s, 1.485Gb/s

Serial Outputs (2)

Standards	SMPTM 259M-C
Formats	525i @ 59.94Hz 625i @ 50Hz
Connector	BNC
Impedance	75 ohm
Return loss	>15dB, 5MHz - 270MHz
Cable drive	>250m @ 270Mb/s (Belden 8281)

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

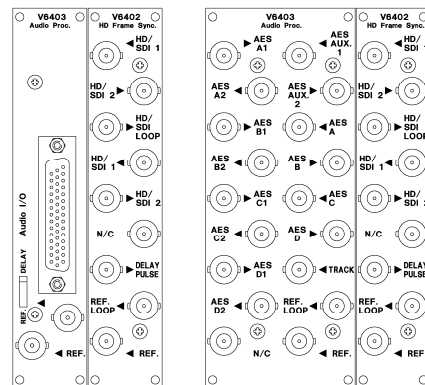
Ordering Information

V6414	HDTV down converter
/AH	Embedded audio handling option
/CP	Closed caption conversion option
/FD	Frame delay (up 10 frames) option
/SY	Frame synchroniser option
/VP	Video processor

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

V16HR3C	3RU - Standard 9 x BNC single width rear module
V16HR3D	3RU - Future upgrade to V6414/V6302* (Balanced audio I/O) dual width rear module
V16HR3E	3RU - Future upgrade to V6414/V6302* (Unbalanced audio I/O) triple width rear module

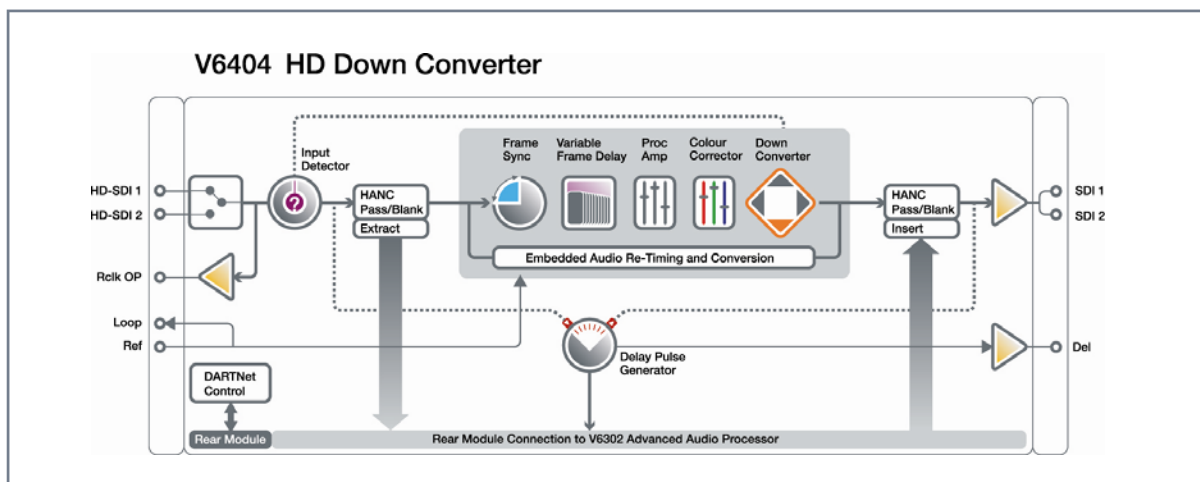
* V6302 advanced audio processor module to be purchased separately. Note: Special versions of rear module are available on request.



V16HR3D

V16HR3E

Illustration of rear module assemblies when V6414 is used in conjunction with V6302.



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

