

HD Frame Synchroniser.



FEATURES

- 2 x 1 HD input switch
- Auto locking to all major SD and HD formats
- H & V timing adjustment
- Auto locking to tri or bi-level reference
- Looped reference output
- Audio tracking pulse output
- Video test pattern generator
- Embedded audio handling
- Video proc amp option
- Frame delay option

Video

The V6402 HDTV frame synchroniser provides retiming of an HD-SDI or SD-SDI signal to an analogue HD tri-level, composite bi-level or NTSC/PAL reference signal. The module has two serial inputs and a reclocked output of the selected input. There are 2 serial outputs of the processed signal. 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.

Optional facilities on the V6402 include a video processing amplifier (option /VP) and additional frame delays (option /FD). Both options are factory fitted.

Audio

A TTL delay pulse output on the V6402 is also provided to drive an external audio tracking device such as the V1635.

The module can be set to pass or blank embedded audio. Alternatively, the V6402 can be used in conjunction with the V6302 Advanced Audio Processor. This module can operate as a 'standalone' unit (see V6302 datasheet for full details) or be coupled to the V6402 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 two modules via an internal LVDS (low voltage differential signalling) bus. The LVDS bus not only allows the serial input stream to the frame synchroniser to be routed through the audio processor but also to pass other relevant data including the retiming delay. In this configuration, with the appropriate options fitted, the system can de-multiplex up to 4 AES signals from the HD serial stream, perform the required audio processing and then re-multiplex up to 4 AES streams back into the serial output(s) of the V6402. Furthermore, a multi-channel matrix switch in the V6302 allows combinations of external and de-multiplexed audio to be fed to the audio processor stage. Indeed, there are two independent 8 channel processors allowing a different audio setup/mix for the re-multiplexed HD serial outputs and the external audio ports.

Technical Specification

Serial Inputs (2)

Standards	SMPTE 292M		
Formats	SMPTE 274M	SMPTE 260M	SMPTE 349M
Line/field rates	1080i @ 50Hz	1035i @ 60Hz	480p @ 60Hz
	1080i @ 59.94Hz	1035i @ 59.94Hz	480p @ 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 equalisation	Automatic 0-100m @ 1.485Gb/s (Belden 1694)		
Data rates	270Mb/s, 1.485Gb/s		

Serial Outputs (2)

Standards	As input
Formats	As input
Connector	BNC
Impedance	75 ohm
Return loss	>15dB, 5MHz - 1.5GHz
Cable drive	100m @ 1.485Gb/s (Belden 1694)

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

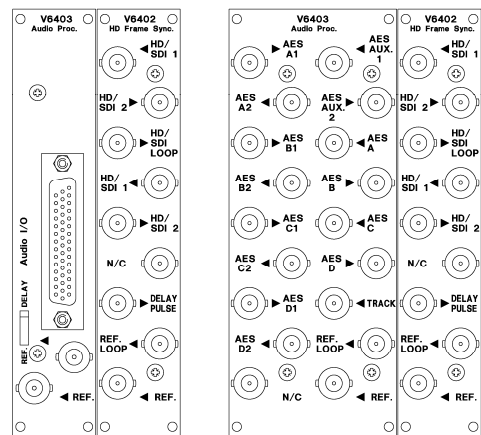
Ordering Information

V6402 /FD /VP	HD frame synchroniser Frame delay (up to 10 frames) option Video processor option
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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 - Upgrade to V6402/V6302* (Balanced audio I/O) dual width rear module
V16HR3E	3RU - Future upgrade to V6402/V6302* (Unbalanced audio I/O) triple width rear module

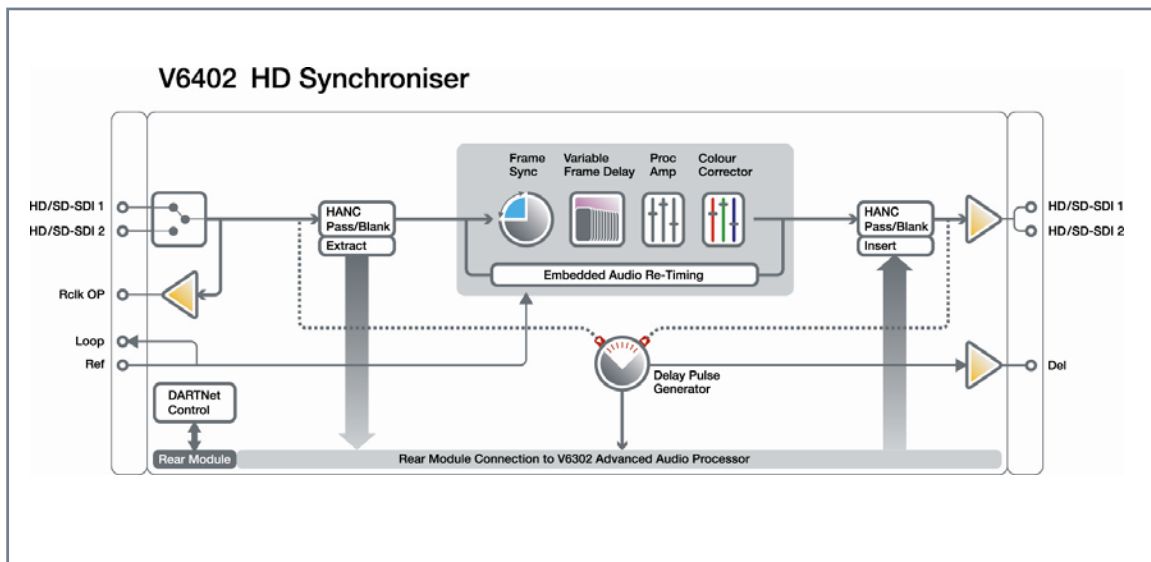
* V6302 advanced audio processor module to be purchased separately. Note: Special versions of rear module are available on request.



V16HR3D

V16HR3E

Illustration of rear module assemblies when V6402 is used in conjunction with V6302.



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