

# V1669 & V1669/SY



## Multi standard PAL/NTSC to SDI - 12 bit conversion - with optional synchroniser.



### FEATURES

- Multi-standard PAL & NTSC formats
- 12 bit conversion
- Adaptive line comb decoding
- Low cross colour
- 4 SDI outputs
- Excellent 'poor signal handling'
- Optional synchronizer submodule
- Adjustable offset delay
- Pulse output for audio tracking

The V1669 accepts a single PAL or NTSC input and provides four component serial digital outputs. Apart from the additional two SDI outputs, the V1669 differs from the V1665 in having a greater conversion resolution of 12 bit as opposed to 10 bit. The decoding mode is varied pixel by pixel and an adaptive control system provides the optimum decoding algorithm for each picture point. It also maintains full horizontal and vertical luminance response with good diagonal response. A wide chrominance horizontal bandwidth is optimised for 4.43MHz and 3.58MHz subcarrier systems. The essential difference between the V1669 and V1667 is that the V1669 achieves a more modest performance with respect to cross colour. This is, however, optimised for a decoder of this type and the low levels of cross colour achieved are at least on a par with equivalent devices employing an adaptive Line Comb technique. EDH checksum generation is included as standard.

The V1669/SY is an adaptive, multi-standard, composite video Decoder with Frame Synchroniser. It accepts a single PAL or NTSC input and provides four component serial digital outputs locked to an external analogue Black and Burst or Video reference. Looped inputs are provided on both the Video and the Reference input. The output timing may be adjusted with respect to the Reference by up to +/- 127 lines with a resolution of 37ns. A delay output pulse (TTL) is provided to drive an external audio tracking device such as the V1635. The standard V1669 may be upgraded to a V1669/SY by addition of a V16SY submodule. Alternatively, submodule type V16SY-VHS may be fitted which has the additional benefit of producing a stable SDI output from a composite PAL/NTSC VHS tape recorder.

# Technical Specification

## Analogue Input Loop

Format	PAL I, M, N, NTSC, NTSC Japan, NTSC 4.43
Level	1Vp-p composite (terminated)
Connector	BNC
Impedance	75 ohm (external)
Return loss	>35dB to 5.5MHz

## Serial Outputs (4)

Format	EBU Tech.3267 ANSI/SMPTE T14.22/082
Data rate	270Mb/s
Connector	BNC
Impedance	75
Return loss	>15dB, 5 - 270MHz
Amplitude	800mV p-p (terminated)
DC offset	0V ±0.5V
Rise and fall times	0.75 - 1.5ns
Drive capability	Up to 250m (Belden 8281)

## Video Performance

Frequency response	±0.2dB to 5.5MHz
Luminance non-linearity	<1.5%
Chrominance non-linearity	<1.5%
2T pulse response	<1%K
2T bar response	<0.5%K
50/60Hz square wave response	<0.5%K
Luma/chroma timing error	<10ns
Subcarrier rejection	>50dB
Signal to noise ratio	>68dB weighted

## Frame Synchroniser - (/SY)

Output offset range with respect to reference	+/- 127 lines (resolution 37ns)
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## Delay Indicator

Level	TTL
Connector	BNC

## EDH Generator

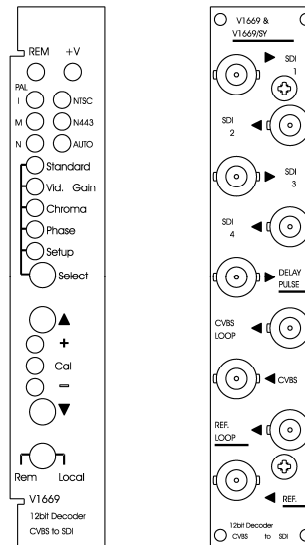
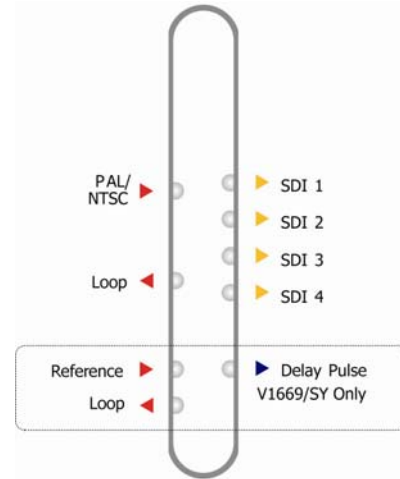
Inserts full field & active picture checksums in SDI

## Controls

Video gain	0% to 200% in 0.2% steps (Cal=100%)
Chroma gain	0% to 200% in 0.2% steps (Cal=100%)
Black level	+100mV to -100mV in 0.75mV steps
Phase adjustment	+45° to -45° in 0.3° steps
Input select	PAL B, G, I, M, N, NTSC M, J, 4.43, Auto

## Additional for /SY

V timing offset	±127 lines
H timing offset	±1/2 line
IP fail mode	Freeze
	Freeze for 3s then cut to black
	Cut to black
Minimum delay mode	On/Off



## Ordering Information

V1669	Multistandard PAL/NTSC to SDI
V1669/SY	PAL/NTSC to SDI with synchroniser
V1669/SY-VHS	PAL/NTSC to SDI with synchroniser & VHS operation

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

V16VR3B	3RU
V16VR1B	1RU

Note: Special versions of rear module are available on request.

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