

Video and Audio Line Up and IDent (VALID) Generator.



FEATURES

- Use for lip sync test
- Correct ARC operation test
- Field inversion and freeze test
- Line ident function
- Audio embedding/de-embedding function

The V1681 is a multi-purpose module which has a number of applications in both studio and remote television operations. It is designed to be used in a SDI video environment – a switchable SDI input is provided with 1 re-clocked SDI output, or a single input can be configured with 2 re-clocked SDI outputs. Outputs can either carry the input video when in bypass mode, or the output of the VALID signal.

The VALID signal has several components:

Aspect Ratio Test. The unit can output either a 16:9 or a 4:3 test pattern. In each case a true circle is generated at the centre of the signal, along with a '4:3' or '16:9' ident. From this it is easy to see if the signal has been aspect ratio converted at any stage in the programme chain. In addition, the 16:9 version uses modified bars which, when converted to 4:3 will still retain a 'normal' bars spacing and rise time characteristic. The test pattern incorporates several markers which can be used to check that any aspect ratio conversion has not altered the position of picture, and has applied the correct 'zoom' values for accurate conversion. Full details of these test patterns are contained in the VALID product brochure.

Lip Sync Test. Because the unit can generate both video and audio signals, it has been possible to incorporate a simple but accurate method of confirming Lip Sync. The centre circle of the VALID signal incorporates a rotating 'comet tail' pattern, which completes a full rotation every 4 seconds. In addition a black cross pattern is generated whenever the 'comet tail' pattern is at the 12 o'clock position, for a duration of 1 TV frame. A stereo tone is also generated, with identifying silences that are locked to the visual 4 second pattern. The combined video and audio signal can be detected by the V1682 VALID Reader, which can measure the difference in the signal timing.

Line Ident Generator. The V1681 has an internal text generator, which can display user defined text in a number of positions, sizes and colours. In addition, it is possible to organise an independent input of line ident audio.

A brochure, describing the operation of both the V1681 VALID Generator and the V1682 VALID Reader provides more detailed information.

Technical Specification

Serial Input

Standard	ITU-R B1601
Format	EBU Tech 3267-E and SMPTE 259M-C
Sampling	4:2:2, 10 bit
Line/field rate	525/60 and 625/50
Connector	BNC
Impedance	75 ohm
Return loss	>15dB, 5-270MHz
Cable equalisation	0-250m (Belden 8281)
Data rate	270Mb/s

Serial Outputs (2)

Format	As input
Connector	BNC
Impedance	75 ohm
Return loss	>15dB, 5-270MHz
Cable drive	Up to 250m (Belden 8281)

Analogue Reference

Signal	Colour black, 1V p-p composite
Connector	BNC
Impedance	75 ohm or Hi Z for looped output
Return loss	>35dB to 5.5MHz

Audio Embedding Format

Standard & level of operation	SMPTE 272M, Levels A, B and C
Sub-module options: Audio Input/Output (Suffix /AA or /DD, AD or /DA)	

Analogue Audio Inputs (2 stereo) - Options AA & AD

Resolution	24-bit
S/THD+N	<-85dB
Dynamic range	+/-105dB
Max input	12dBu to +24dBu in 1dB steps ->0dBFS
Input impedance	20k ohm
Input format	Balanced

Ordering Information

V1681	VALID Signal Reader
V1681/AA	VALID Signal Reader with Audio Sub-Module
V1681/DD	VALID Signal Reader with Audio Sub-Module
V1681/AD	VALID Signal Reader with Audio Sub-Module
V1681/DA	VALID Signal Reader with Audio Sub-Module

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:

V16VR3L 3RU V16VR1L 1RU

Note: Special versions of rear module are available on request

Digital Audio Inputs (2) - Options DD & DA

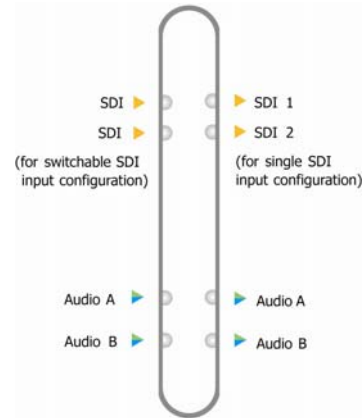
Audio format	AES-3
Channels	2 AES/EBU data streams
Impedance options	75 ohm unbalanced or 110 ohm balanced

Analogue Audio Outputs (2 stereo) - Options AA & DA

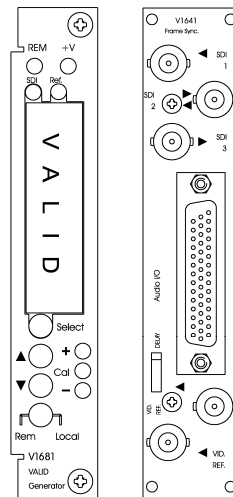
Resolution	24-bit
S/THD+N	<-85dB
Dynamic range	+/-105dB
Max output	0dBFS ->12dBu to +24dBu in 1dB steps
Output impedance	<50 ohm
Output format	Balanced

Digital Audio Outputs (2) - Options DD & AD

Audio format	AES-3
Channels	2 AES/EBU data streams
Impedance options	75 ohm unbalanced or 110 ohm balanced



- Tests for:
- Lip Sync
 - Stereo Left/Right Swap
 - Single field compression (MPEG-1) link
 - Field inversion
 - Freeze
 - Aspect Ratio Conversion
 - Picture centring – offset for frame stores etc.
 - Correct blanking
 - Pulse & Bar test



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