

HFS6801+D

Auto-Sensing HD/SD-SDI Video Frame Synchronizer/Processor

- **Features**

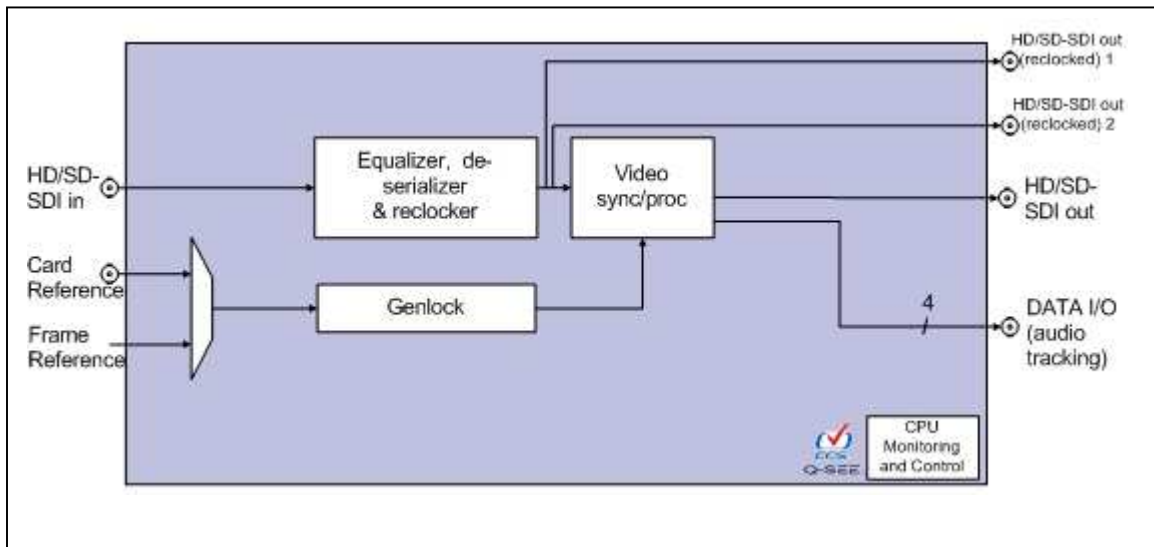
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- Auto-sensing HD or SD-SDI input
- 10-bit signal processing for high quality
- User adjustments include H phase, V phase, black level, luminance gain, Cb gain and Cr gain
- Video delay of up to eight frames less two lines for 1080i standards, and 16 frames less two lines for 720p standard
- In delay mode passes VANC (vertical ancillary) and HANC (horizontal) data, including compressed audio such as Dolby® E
- When input video is hot switched, the module cleanly handles the output video
- Internal test generator can output color bars for signal path testing
- Card-edge LEDs to indicate video input presence/standard, genlock presence, and when output video is frozen

- **Inputs**

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- One HD or SD-SDI input with HD auto-detection supporting:
 - 1080i, 25 Hz
 - 1080i, 29.97 Hz
 - 720p, 59.94 Hz
- Automatic cable equalization to 120 meters
- Dedicated genlock input on the module for composite or tri-level sync, or use bussed frame genlock
- Status feedback indicating input video presence and standard, plus external genlock standard and lock status
- When the video standard is switched, the module shadows/restores the associated parameter settings

- **Outputs**

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- Four synchronized serial digital SMPTE 274M/SMPTE 296M outputs when input is HD-SDI
- Two reclocked serial digital SMPTE 274M/SMPTE 296M outputs when input is HD-SDI
- If the input video is disrupted, the output video can be set to freeze, black (from internal generator) or pass As-Is
- Audio is muted in the above condition when freeze or black is selected
- Selection to force the output video to freeze mode (by field or frame)



Specifications

Specifications and designs are subject to change without notice.

HD-SDI Video Input

Number	1
Standards	SMPTE 259M-C, 270 Mb/s, 525/625 component SMPTE 292M (1080i/720p) SMPTE 274M (1080i) SMPTE 296M (720p)
Connector	BNC per IEC 169-8
Impedance	75 ohms
Frame rate	1080i: 25, 29.97 Hz 720p: 59.94 Hz
Return Loss	>18 dB, typical from 5 to 1485 MHz
Equalization	Adaptive cable equalization for up to 393 ft (120 m) (typical) of Belden 1694A

HD-SDI Output

Number	2 reclocked, 4 synchronized
Standards	SMPTE 292M (1080i/720p) SMPTE 274M (1080i) at 25 Hz and 29.97 Hz SMPTE 296M (720p) at 59.94 Hz
Frame Rate	25 Hz, 29.97, or 59.94 Hz (user-selectable, based on HD standard and reference standard)
Connector	BNC per IEC 169-8
Impedance	75 ohms
Return Loss	>18 dB, typical from 5 to 1485 MHz
DC Offset	0 V \pm 0.5 V
Signal Level	800 mV \pm 10%
Rise and Fall Time	<270 ps
Overshoot	<10%
Jitter	Alignment: (>100 kHz) <134 ps pk-pk Timing: (>10 Hz) <673 ps pk-pk

Delay	1080i: up to 8 frames less 2 lines 720p: up to 16 frames less 2 lines
Frame Synchronizer Lock Range	At least ± 35 ppm

Genlock Input

Level	1 V pk-pk ± 3 dB
Signal Type	Analog composite NTSC/PAL-B or ± 300 mV tri-level sync (1080i/720p)
Connector	BNC per IEC 169-8
Impedance	75 ohms
Return Loss	>35 dB to 30 MHz

Propagation Delay

Video	1080i/29.97 Hz: 8.4 microseconds 1080i/25 Hz: 8.4 microseconds 720p/59.94 Hz: 8.2 microseconds (approximate)
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Power and Temperature

Power Consumption	Typical 7.1 W
Operating Temperature	41° to 113° F (5° to 45° C)