



Synapse

HCL10

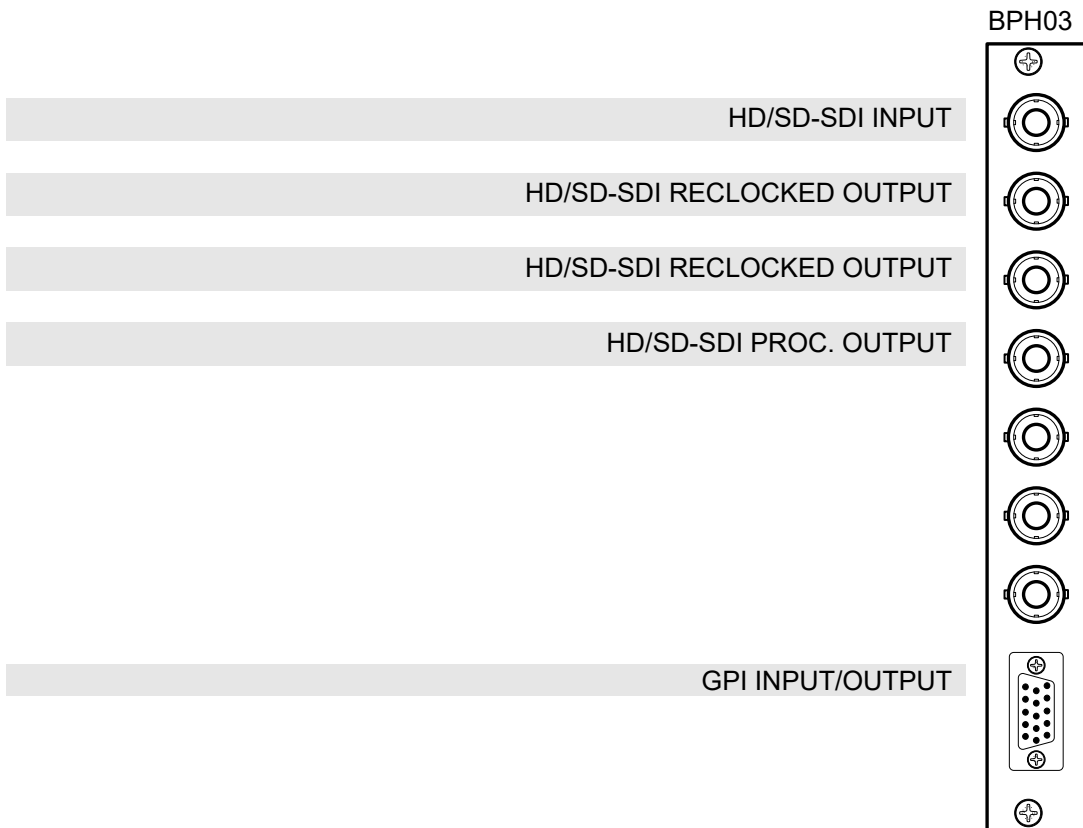
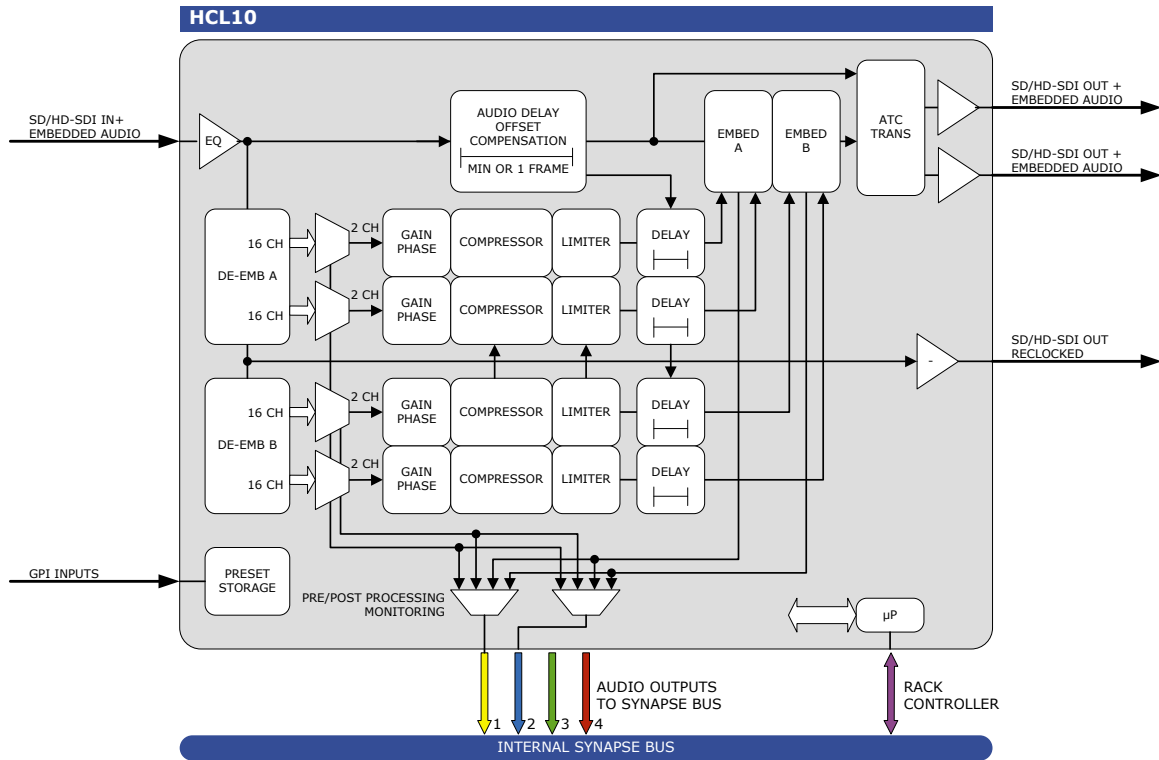
HD/SD embedded audio compressor/limiter

A Synapse® product



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Block schematic & I/O panel



Features

The HCL10 is a high quality preset based 8 channels HD/SD embedded audio compressor/limiter. The card is able to compress and limit 8 channels and insert them in to 2 groups of embedded audio. Main features are:

- Free selection of any 8 channels out of all 16 channels
- Input Gain and Phase control
- Adjustable Video offset delay to minimum (approx. 2.5 ms) or 1 frame
- Preset control of audio processing parameters for all 6 presets include:
 - User defined preset label of 16 characters
 - Bypass for non PCM on stereo pairs
 - Bypass of Compressor or Limiter on stereo pairs
 - Channel link:
 - Multi mono
 - Dual Stereo
 - Quad
 - All 8 channels
 - 2+6
 - 6+2
 - Threshold
 - -80 dBFS to 0 dBFS
 - Compression ratio
 - 1:1 to 15:1 in 0.1 increments
 - Compressor Attack adjustment
 - 1 to 500ms
 - Compressor release adjustment
 - 10 to 5000ms
 - Compressor Knee adjustment
 - Hard
 - Medium
 - Soft
 - Tube-Soft
 - Compressor Level detection
 - Peak
 - RMS
 - Compressor Makeup gain (-60dB to +12dB)
 - Limit Threshold adjustment
 - -60 dBFS to 0dBFS
 - Limit Knee adjustment
 - Hard
 - Medium
 - Soft
 - Tube-Soft
 - Limit release adjust
 - 100 to 5000 ms
 - Limit output gain
 - -60dB to +12dB
 - Level meters & reduction meters (in status menu)
 - Off
 - Input Limiter
 - Output Limiter
 - Compressor + limiter
 - Pre and post processor monitoring via Synapse ADD-ON card
- Full status information of the video and all embedded audio parameters.
- Audio format detection (e.g. AC3, Dolby E and PCM)

Complementary cards:

- DAC20, ADL24, DAS24, DIO48

Applications

The primary application of the HCL10 will be seen in output stages of the transmission chain. The card can be used next to a video legalizer, a truck output and all transmission outputs. The HCL10 will “legalize” all leaving audio content to predefined audio parameters that can be recalled in presets. Another application is seen as an ingest compressor limiter.

Ordering information

Module:

- **HCL10:** HD/SD embedded audio compressor/limiter

Standard I/O:

- **BPH03_HCL10:** I/O-panel for HCL10 with GPI I/O on sub-D

Specifications

HD/SD Serial Video Input

Standard	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio SMPTE 292M (1.5Gb/s), SMPTE 260M, SMPTE 274M, SMPTE 296M, SMPTE 349M 1080i/59.94, 1080i/50, 720p/59.94, 720p/50
Equalization	Automatic to 100m @ 1.5Gb/s with Belden 1694A or equivalent cable.
Return Loss	> 15dB up to 1.5GHz

HD Serial Video Output

Standard	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio SMPTE 292M (1.5Gb/s), SMPTE 260M, SMPTE 274M, SMPTE 296M, SMPTE 349M 1080i/59.94, 1080i/50, 720p/59.94, 720p/50
Signal Level	800mV nominal
DC Offset	0V ±0.5V
Rise and Fall Time	200ps nominal for HD, 750ps nominal for SD
Overshoot	< 10% of amplitude
Return Loss	> 15dB up to 1.0Gb/s, > 10dB up to 1.5Gb/s
Wideband Jitter	< 0.2UI

Miscellaneous

Weight	Approx. 250g
Operating Temperature	0 °C to +50 °C
Dimensions	137 x 296 x 20 mm (HxWxD)

Electrical

Voltage	+24V to +30V
Power	<8 Watts