Synapse

HLD100/120

Solid State Drive based HD, SD SDI long time delay unit with optional bug inserter

A Synapse® product

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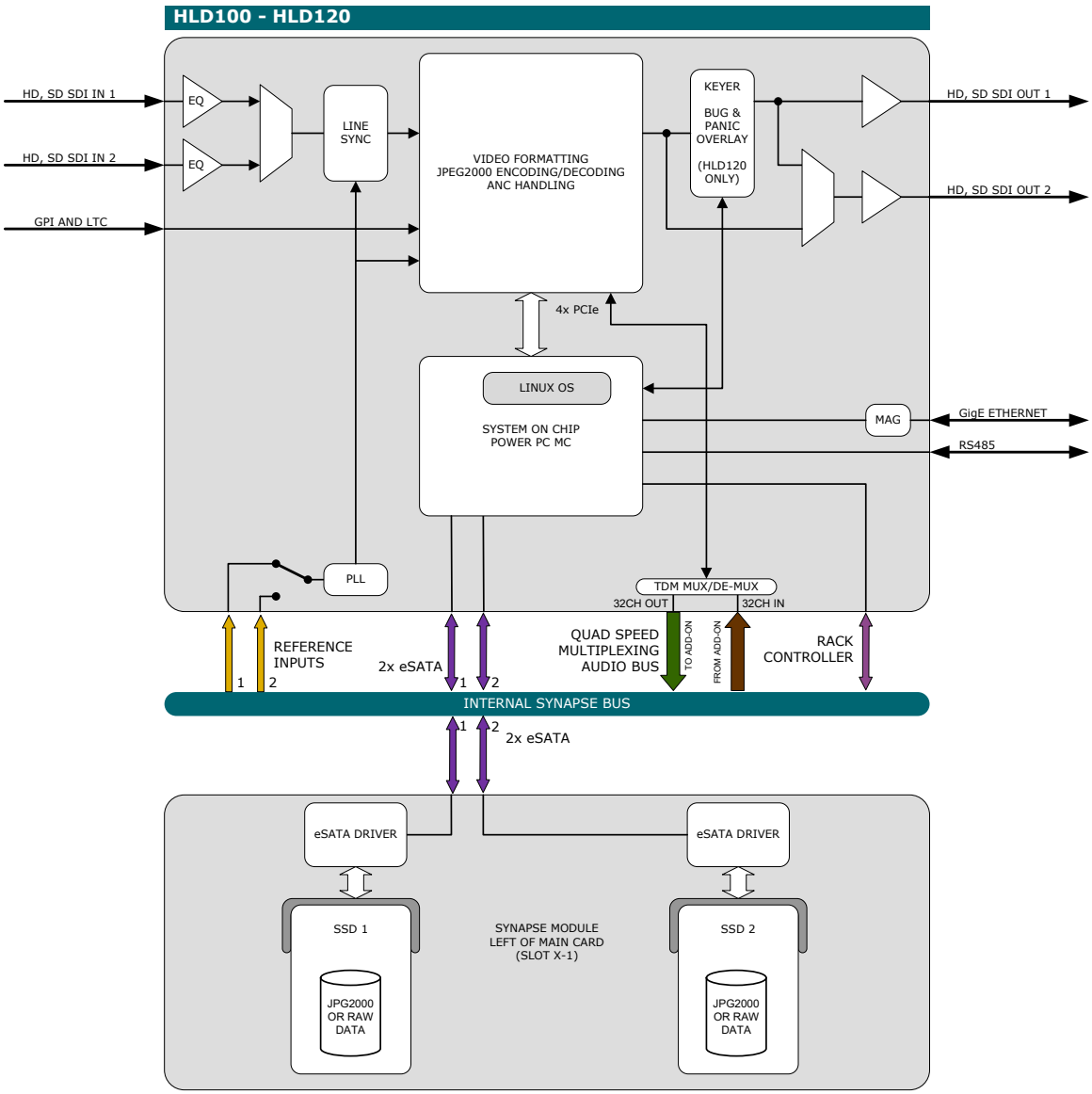
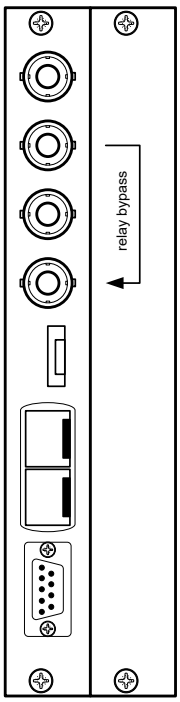
Block schematic & I/O panel



BHX27



HD, SD INPUT 1
HD, SD INPUT 2
HD, SD OUTPUT 1
HD, SD OUTPUT 2
USB
1Gb/s ETHERNET
1GB/s ETHERNET
RS485 – LTC - GPI I/O

Features

The HLD100 is a long time SD-SDI uncompressed baseband video delay. It can store and delay SD and HD SDI video. It can store and delay up to 6 hours of SDI material depending on the size of disks, bitrates and ANC data. The HLD100 uses high quality JPEG2000 compression to ensure visual lossless transparency. SD video can be stored and delayed as raw data.
The HLD120 adds a bug inserter for channel ident applications but also as an emergency overlay with its full frame capability

The use of SSD disks makes this unit extremely reliable and it will provide low maintenance.[1)]
The delay length is depending on the used size of the SSD disks giving increased capacity at low cost in upcoming years.

Compared to competitive server based solutions the HLD100 can be considered as very GREEN. The power consumption of this dual slot device is approximately 40W. This is a 10 fold saving of a comparable server based unit that draws > 350W average saving a significant amount of money due to the low operating power and accompanying air conditioning.

MTBF of disks is dependent on storage capacity and brand (type). Twice the storage than needed means theoretical twice the lifecycle as this is coupled to the amount of write cycles, not read cycles.

- Line sync on input
- Capable of delaying video up to 6 hours depending on bitrates, ANC data and disk space
- Compression (HD or SD) or raw relay (SD only)
- JPG2000 compression for HD and SD video formats
  - Selectable bitrates up to 250 Mb/s
- Bug inserter or emergency overlay (HLD120)
- RAW ANC data storage
  - HANC, VANC or both
- Compatible with:
  - 270 Mbit/s (SMPTE 259M) 50 and 59.94Hz
  - 1485 Mbit/s (SMPTE 292M) 50 and 59.94Hz
- Full control and status monitoring through the front panel of the SFR04/SFR08/SFR18
- frame and the Ethernet port (ACP)

1) Lifetime is depending on the type of disks and use case.

Applications

- +1 hour Film channels (up to +6 hours)
- Time zone compensation

Ordering information

Module:

- **HLD100:** HD, SD-SDI long time delay
- **HLD120:** HD, SD-SDI long time delay with bug inserter

Standard I/O:

- **BHX27_HLDxxx:** I/O-panel for HLD100-120 (including blind panel) with relay bypass for I/O 2

Specifications

Serial Video Input

Standard	SD and HD SDI: SMPTE 292M, SMPTE 259M
Number of Inputs	2
Connector	BNC
Equalization	Typical maximum equalized length of Belden 1694A cable: 60m at 1.485Gb/s, and 150m at 270Mb/s
Return Loss	> 15dB up to 1.5GHz

Serial Video Output

Number of Outputs	2
Connector	BNC
Signal Level	800mV nominal
DC Offset	0V ±0.5V
Rise/Fall Time	135ps nominal
Overshoot	< 10% of amplitude
Return Loss	> 15dB up to 1.5GHz (typ.) > 10dB up to 3GHz (typ.)
Wideband Jitter	< 0.2UI

Miscellaneous

Weight	Approx. 450g
Operating Temperature	0 °C to +40 °C
Dimensions	137 x 296 x 40 mm (HxWxD)

Electrical

Voltage	+24V to +30V
Power HLD100/120	<40 Watts