Synapse

SLD100/120/200/220
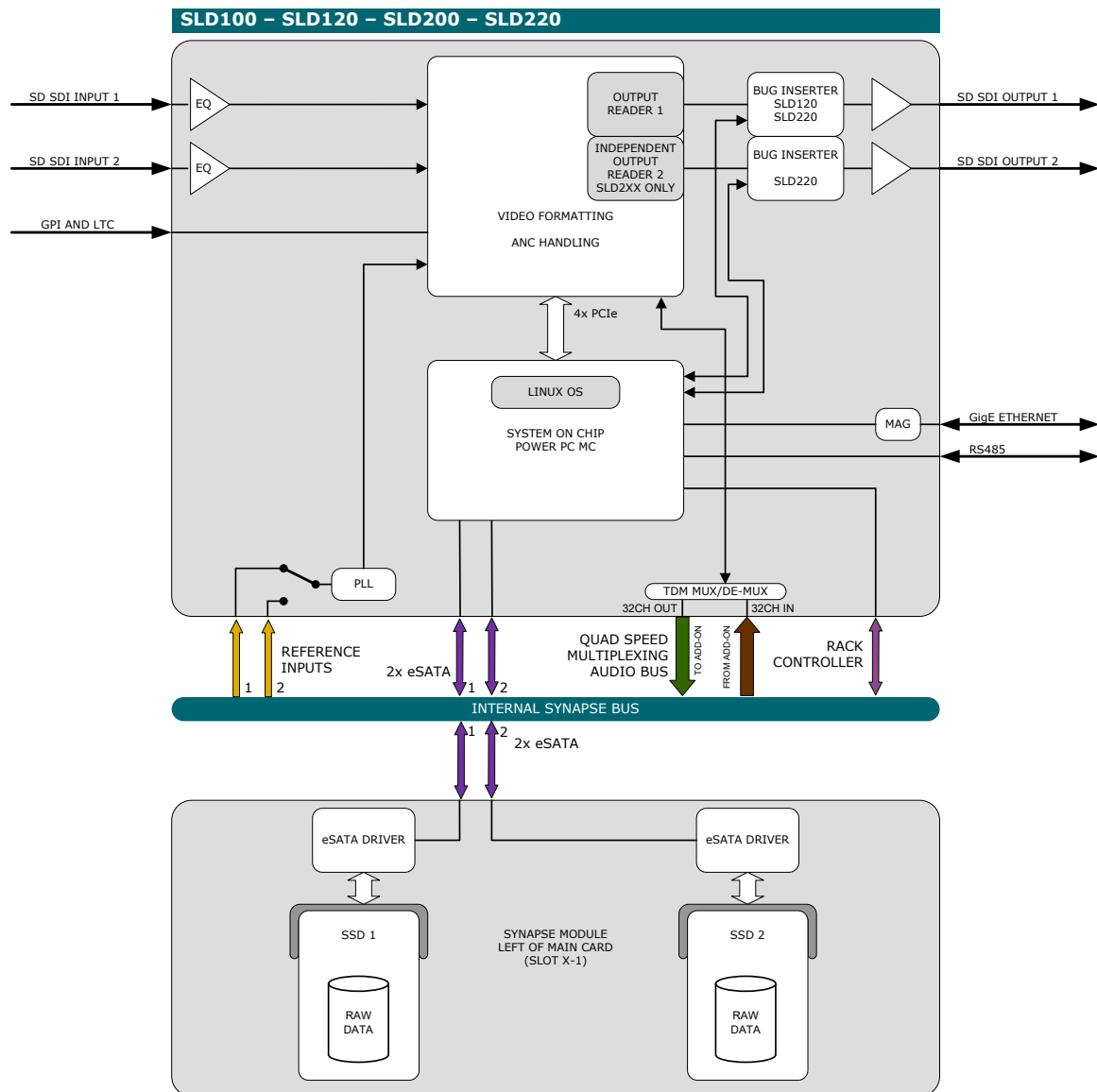
Solid state drive based SD SDI long time delay with optional second output and bug inserter

A Synapse® product

Quad speed MASTER

Powered by LINUX

COMPATIBLE WITH DOLBY. E

Block schematic & I/O panel

SLD100 – SLD120 – SLD200 – SLD220

SD SDI INPUT 1 → EQ

SD SDI INPUT 2 → EQ

GPI AND LTC

VIDEO FORMATTING

ANC HANDLING

OUTPUT READER 1

INDEPENDENT OUTPUT READER 2 SLD2XX ONLY

BUG INSERTER SLD120 SLD220 → SD SDI OUTPUT 1

BUG INSERTER SLD220 → SD SDI OUTPUT 2

4x PCIe

LINUX OS

SYSTEM ON CHIP POWER PC MC

MAG → GigE ETHERNET

RS485

PLL

REFERENCE INPUTS 1 2

2x eSATA 1 2

TDM MUX/DE-MUX

32CH OUT   32CH IN

QUAD SPEED MULTIPLEXING AUDIO BUS

TO ADD-ON   FROM ADD-ON

RACK CONTROLLER

INTERNAL SYNAPSE BUS

1 2 2x eSATA

eSATA DRIVER

eSATA DRIVER

SSD 1

SSD 2

SYNAPSE MODULE LEFT OF MAIN CARD (SLOT X-1)

RAW DATA

RAW DATA

BHX27

SD INPUT 1

SD INPUT 2

SD OUTPUT 1

SD OUTPUT 2

USB

1Gb/s ETHERNET

1Gb/s ETHERNET

RS485 – LTC - GPI I/O

relay bypass
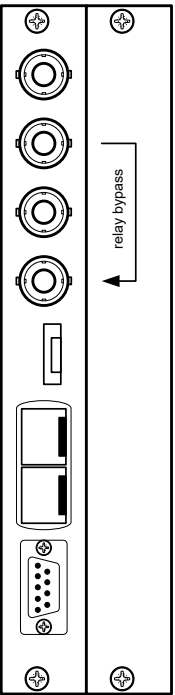
Features

The SLD100/200 family are a long time SD-SDI uncompressed baseband video delays. It can store and delay SD material, including all blanking, as RAW data.

The 100 has one delayed output the 200 has 2 delayed outputs individually adjustable as for instance +1 hour and +2 hour. The SLDx20 adds a bug inserter for channel ident applications but also as an emergency overlay with its full frame capability.

These long time delays can store and delay up to 6 hours of SDI material depending on the size of disks, bitrates and ANC data. (with 2x 400G drives)

The use of SSD disks makes this unit extremely reliable, low power 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.

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.

Compared to competitive server based solutions the SLD100 family 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.

The hardware of the long time delays is fully 3Gb/s and HD-SDI capable ensuring future proof investment for later planned updates into 3Gb/s and HD

- SLD100 = basic single channel delay unit
- SLD120 = as SLD100 with additional bug inserter
- SLD200 = dual output delay unit (fully independent outputs with independent delay settings)
- SLD220 = as SLD200 with two additional bug inserters
- Capable of delaying video up to 6 hours (with 2 400G disks), ANC data and disk space
- Two preset banks per bug inserter (SLD120/220 only)
    - Memory for 16 bugs and 4 full screen stills independent per output (two keyers)
- RAW delay
- Compatible with:
    - 270 Mbit/s (SMPTE 259M) 50 and 59.94Hz
- Full control and status monitoring through the front panel of the 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)
- +1 and +2 hour Film channels
- Time zone compensation

Ordering information

Module:
- **SLD100:** SD-SDI long time delay
- **SLD120:** SD-SDI long time delay + bug inserter
- **SLD200:** dual output SD-SDI long time delay
- **SLD220:** dual output SD-SDI long time delay + bug inserter

Standard I/O:
- **BHX27_SLD100:** I/O-panel for SLD100 [w. blind panel] with relay bypass for I/O 2

Specifications

Serial Video Input

Standard	SD,HD and 3Gb/s SDI: SMPTE 292M, SMPTE 259M, SMPTE424
Number of Inputs	2
Connector	BNC
Equalization	Typical maximum equalized length of Belden 1694A cable: 90m at 2.97Gb/s, 120m at 1.485Gb/s, and 250m 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	<40 Watts
Power SLD100	<30 Watts