



## U4T100-140

4K (3840x2160) Ultra HD 4 wire toolbox with optional Dolby E processing

**A Synapse® product**

*Synapse*

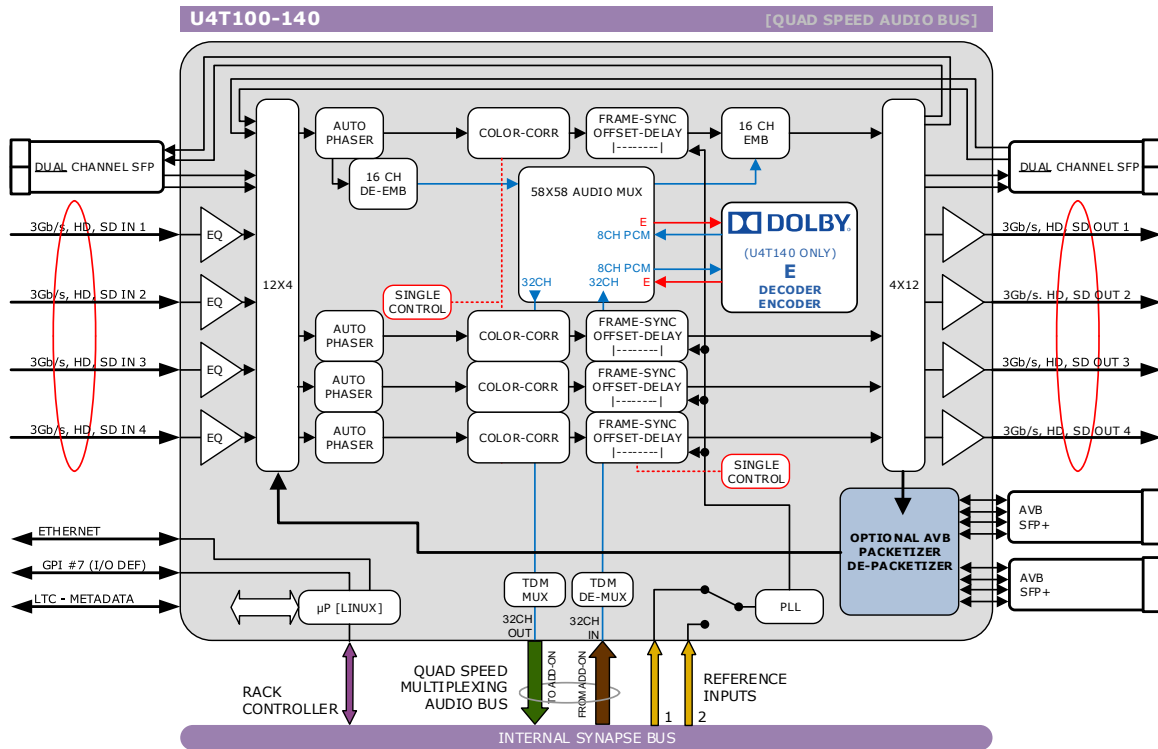


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# Block schematic & I/O panel



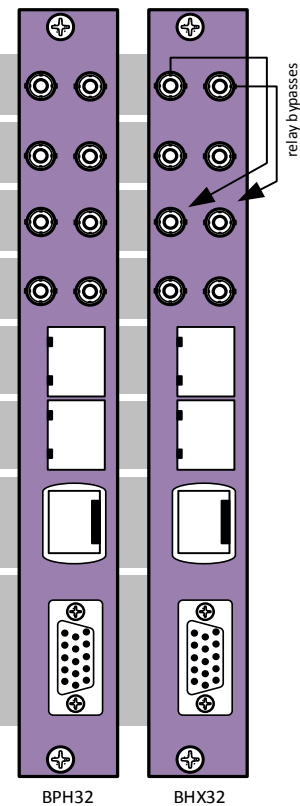
3Gb/s, HD, SD SDI INPUT 1	3Gb/s, HD, SD SDI INPUT 2
3Gb/s, HD, SD SDI INPUT 3	3Gb/s, HD, SD SDI INPUT 4
3Gb/s, HD, SD SDI OUTPUT 1	3Gb/s, HD, SD SDI OUTPUT 2
3Gb/s, HD, SD SDI OUTPUT 3	3Gb/s, HD, SD SDI OUTPUT 4

INPUT/OUTPUT SFP-1 (DUAL CHANNEL)

INPUT/OUTPUT SFP-2 (DUAL CHANNEL)

Gigabit ETHERNET

GPI I/O, LTC, METADATA



## Features

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The U4T100 and U4T140 are 4k (4 wire) production toolboxes that will ease the challenges of a 4 wire production setup where the left top corner (channel A) is used to carry VANC and HANC data like timecode and embedded audio

The I/O is capable of handling four times 1080p formatted as level A, level B or 2Si (two sample interleaved)

The '140' has an extra Dolby E encoder and decoder on board and will be capable of handling these signals internally. A quad speed audio bus can be used for additional Dolby E processing or other audio processing by using an ADD-ON card like the DEE28

- 4 inputs (in future expandable to 8 inputs)
- 4 internal processing channels
- 4 input autophasers
- 4 Framesyncs and offset delay blocks controllable in two stages (LT+rest)
- RGB color correction of all 4 processing channels as one
- 4 times 1080p50 or 59.94 input
- Level A,B and 2Si compliant
- 4 outputs (in future expandable to 8 inputs)
- Extreme low intrinsic latency of 5 lines
- 4K 4 wire (3840 x 2160)
- Compatible with the following formats (auto selecting)
  - 1080p59.94
  - 1080p50
- Transparent for 16 channels of embedded audio
- Full control and status monitoring through the front panel of the SFR04/SFR08/SFR18 frame and the Ethernet port (ACP)

## Applications

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- All 4k 4 wire challenges
- Synchronization
- Auto phasing
- embedding and de-embedding from left top channel
- Encoding and decoding to and from Dolby E embedded data
- 4 wire synchronization and alignment
- Color correction
- Level A to level B or to 2Si conversion in any direction.

## Ordering information

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**Module:**

- **U4T100:** 4k (4 wire) toolbox
- **U4T140:** 4k (4 wire) toolbox with embedded Dolby processing

**Standard I/O:**

- **BPH32\_U4T100:** I/O panel for U4T100 or U4T140

**Relay bypass I/O:**

- **BHX32\_U4T100:** I/O panel for U4T100 or U4T140 with relay bypass

**Fiber outputs:**

- **Standard video SFP**

**Fiber inputs:**

- **Standard video SFP**

## Specifications

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### Serial Video Input

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<b>Standard</b>	3Gb/s SDI:SMPTE424/5 (Level B)
<b>Number of Inputs</b>	4 (up to 8)
<b>Connector</b>	DIN 1.0/2.3
<b>Equalization</b>	Typical maximum equalized length of Belden 1694A cable: 90m at 2.97Gb/s, 120m at 1.485Gb/s,
<b>Return Loss</b>	> 15dB up to 1.5GHz

### Serial Video Output

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<b>Number of Outputs</b>	4 (up to 8)
<b>Connector</b>	DIN 1.0/2.3
<b>Signal Level</b>	800mV nominal
<b>DC Offset</b>	0V $\pm$ 0.5V
<b>Rise/Fall Time</b>	135ps nominal
<b>Overshoot</b>	< 10% of amplitude
<b>Return Loss</b>	> 15dB up to 1.5GHz (typ.) > 10dB up to 3GHz (typ.)
<b>Wideband Jitter</b>	< 0.2UI

### Miscellaneous

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<b>Weight</b>	Approx. 450g
<b>Operating Temperature</b>	0 °C to +40 °C
<b>Dimensions</b>	137 x 296 x 20 mm (HxWxD)

### Electrical

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<b>Voltage</b>	+24V to +30V
<b>Power</b>	<18 Watts