Synapse

U4T100-140

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

A Synapse® product
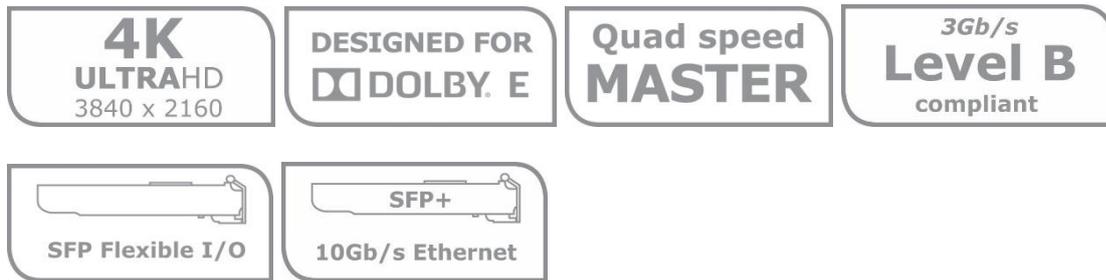
4K ULTRAHD 3840 x 2160

DESIGNED FOR DOLBY. E

Quad speed MASTER

3Gb/s **Level B** compliant

SFP Flexible I/O

SFP+ **10Gb/s Ethernet**

Block schematic & I/O panel

U4T100-140   [QUAD SPEED AUDIO BUS]
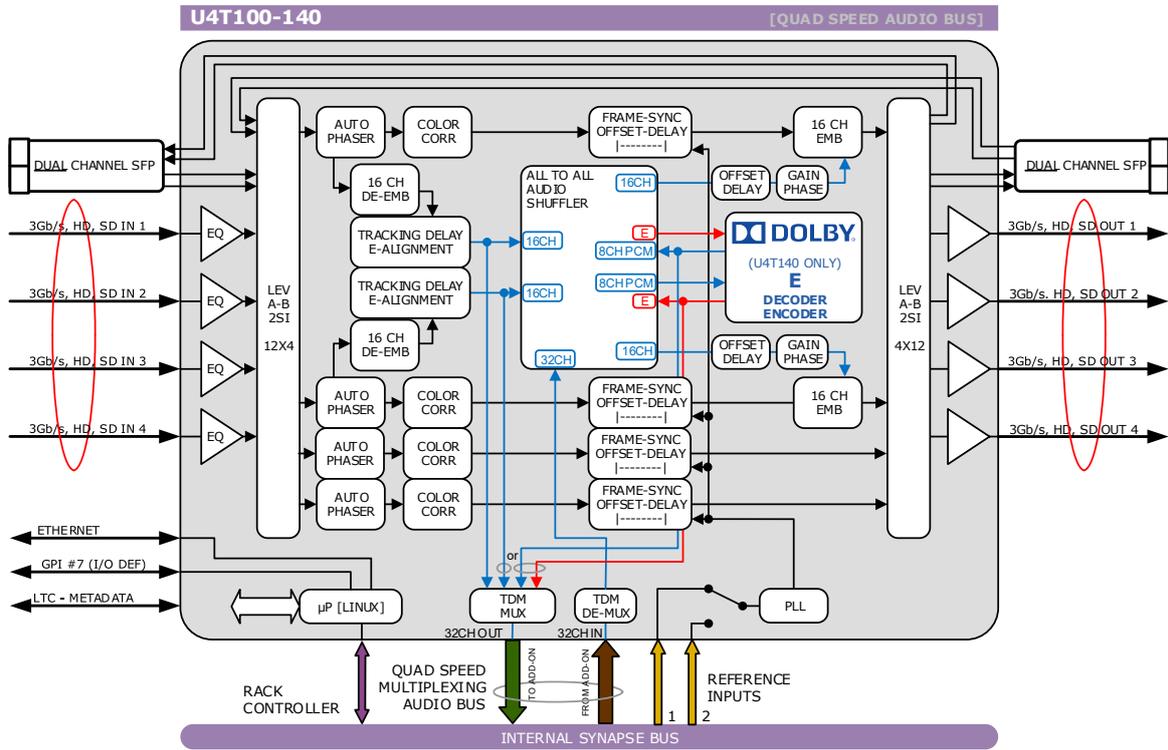
3Gb/s, HD, SD SDI INPUT 1	3Gb/s, HD, SD SDI INPUT 2
3Gb/s, HD, SD SDI INPUT 3	3Gb/s, HD, SD SDI INPUT 4
3Gb/s, HD, SD SDI OUTPUT 1	3Gb/s, HD, SD SDI OUTPUT 2
3Gb/s, HD, SD SDI OUTPUT 3	3Gb/s, HD, SD SDI OUTPUT 4
INPUT/OUTPUT SFP-1 (DUAL CHANNEL)	
INPUT/OUTPUT SFP-2 (DUAL CHANNEL)	
Gigabit ETHERNET	
GPI I/O, LTC, METADATA	
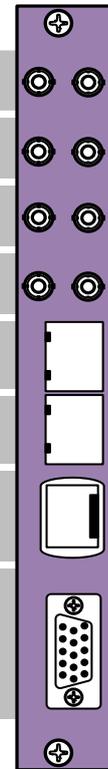
BPH32

Features

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

- Extreme low intrinsic latency of 5 lines
- 4 inputs
  - Separate internal processing channels
  - input autophasers
  - Framesyncs and offset delay blocks controllable in two stages (LeftTop+rest)
- 4 outputs
- RGB color correction of all 4 processing channels as one
- 4K 4 wire (3840 x 2160)
- Level A,B and 2Si compliant
- Compatible with the following formats
  - 1080p59.94
  - 1080p50
  - 1080i59.94
  - 1080i50
  - 720p59.94
  - 720p50
- Transparent for 16 channels of embedded audio in first quadrant
- Full control and status monitoring through the front panel of the SFR04/SFR08/SFR18 frame and the Ethernet port (ACP)

Applications

- 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

Module:
- **U4T100-I/O:** 4k (4 wire) toolbox
- **U4T140-I/O:** 4k (4 wire) toolbox with embedded Dolby processing

Standard I/O:
- **BPH32-PANEL:** I/O panel for U4T100 or U4T140

Relay bypass I/O:
- **BHX32-PANEL:** I/O panel for U4T100 or U4T140 with relay bypass

Fiber outputs:
- **Standard video SFP**

Fiber inputs:
- **Standard video SFP**

Specifications

Serial Video Input

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

Serial Video Output

Number of Outputs	4 (up to 8)
Connector	DIN 1.0/2.3
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 20 mm (HxWxD)

Electrical

Voltage	+24V to +30V
Power	<18 Watts