



SXS20/21

**High performance SD standards converter
with optional audio shuffler**

A Synapse® product

Synapse

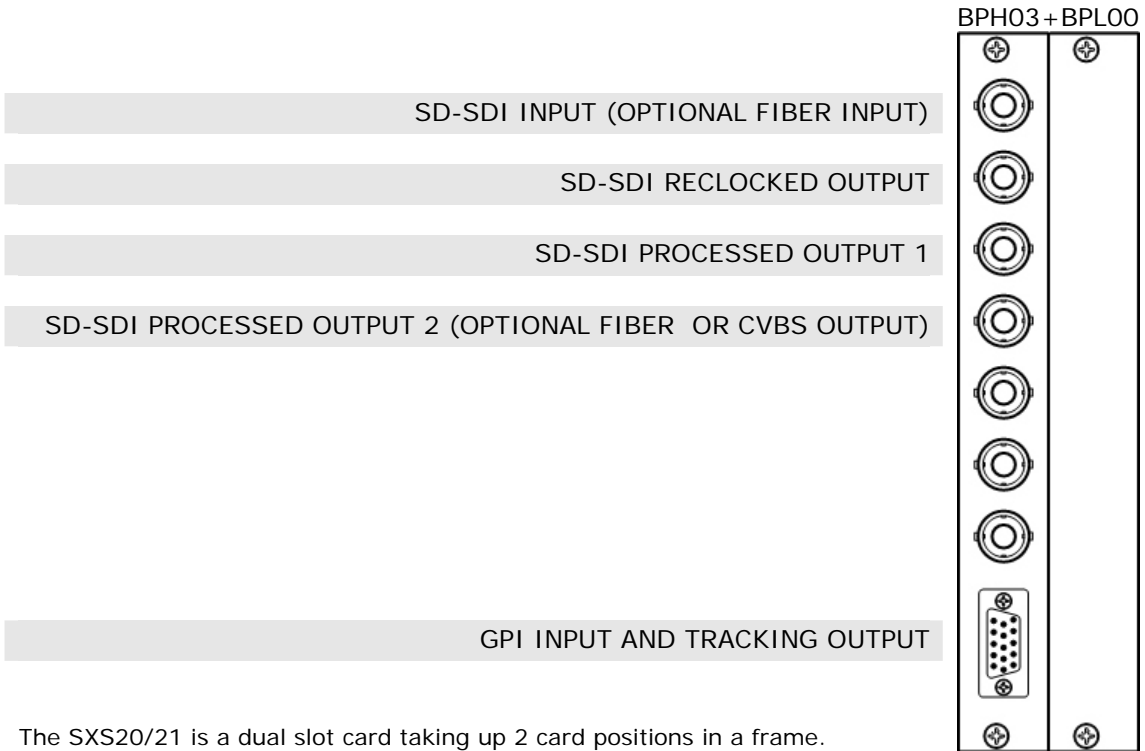
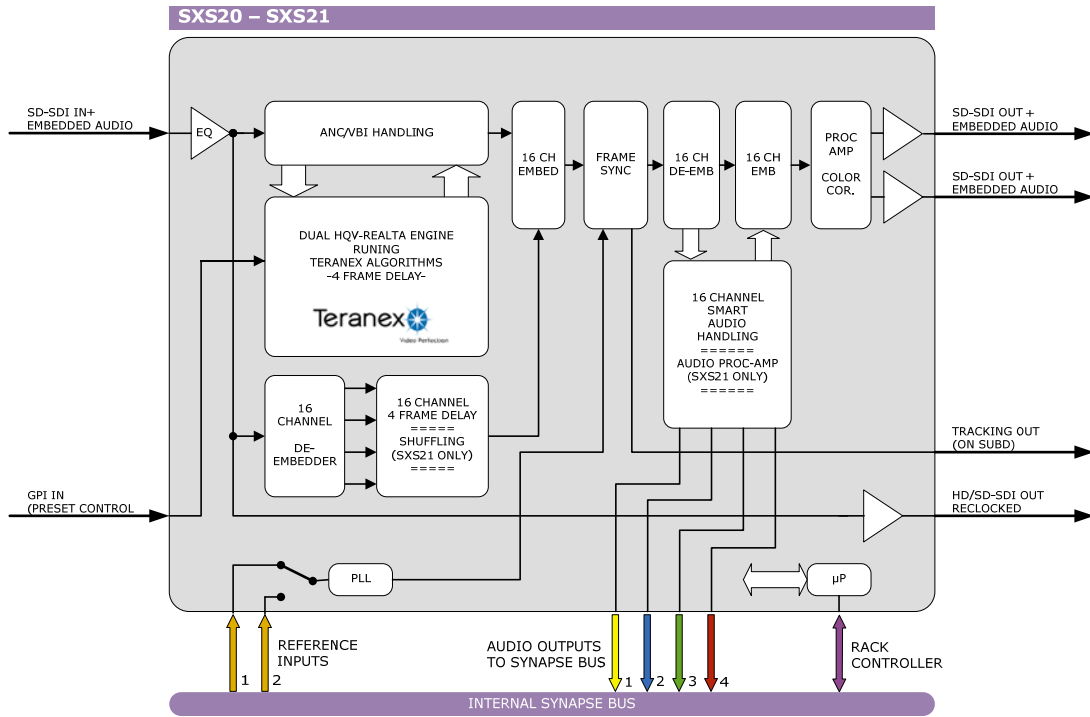


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Block schematic & I/O panel



The SXS20/21 is a dual slot card taking up 2 card positions in a frame.
For fiber connectivity see www.axon.tv

Features

The SXS20/21 Linear SD Standards Converter is based on the advanced Teranex[®] algorithms. This high performance dual slot processing module is the pinnacle of the huge range of SD and HD conversion modules in the Synapse range. SD standard conversion is a process of converting (mostly US-based) 59.94 frames/fields per second video stream is converted to 50 frames/fields per second and vice versa for 576i, 480i.

The advanced algorithms are running on two HQV Realta chips supplied by Silicon Optix. This gives the board 2 Trillion operations per second processing power, and makes it the most powerful modular processing card at the time of its introduction.

- SD -SDI input
- 1 relocked output
- 2 processed outputs
- 576i/50 to 480i/59.94 conversion
- 480i/59.94 to 576/50 conversion
- Frame sync with built-in 16 channel tracking audio delay
- Audio offset delay -60ms to +1240ms
- Full audio shuffling of all 16 channels (SXS21 only)
- Audio gain and phase control of all 16 channels (SXS21 only)
- GPI preset control for audio shuffling (SXS21 only)
- All audio is present on ADD-ON bus for monitoring
- Transparent to Closed Captioning
- Full control and status monitoring through the front panel of the SFR04/SFR08/SFR18 frame and the Ethernet port (ACP)
- Optional 1 fiber input (replacing 1 SDI input) or 1 fiber output (replacing 1 SDI output) on I/O panel
- Optional 1 CVBS output (replacing 1 SDI output) on I/O panel

Conversion abilities

The SXS20 and SXS21 can handle the following conversions:

CONVERSION		Output				
		1080i50	1080i59.94	720p50	720p59.94	576i50(625) 480i59.94(525)
Input	1080i50					
	1080i59.94					
	720p50					
	720p59.94					
	576i50(625)					x x
	480i59.94(525)					x x

Applications

The SXS20/21 is the choice for all SD standards conversion applications where a modular implementation with redundant power supplies, SNMP and hot swap ability is required.

- Highest quality SD standards-conversion
- Ingest standards-converting with preset audio shuffling (SXS21 only)
- Mobile truck applications
- DVD mastering and authoring

Ordering information

Module:

- **SXS20:** High performance SD standards converter
- **SXS21:** High performance SD standards converter with full 16 channels of audio swapping

Standard I/O:

- **BPH03_SXS20:** I/O-panel for SXS20
- **BPH03_SXS21:** I/O-panel for SXS21

Fiber outputs:

- **BPH03T_FC/PC_SXS20:** I/O-panel for SXS20 with fiber transmitter on FC/PC
- **BPH03T_SC_SXS20:** I/O-panel for SXS20 with fiber transmitter on SC
- **BPH03T_FC/PC_SXS21:** I/O-panel for SXS21 with fiber transmitter on FC/PC
- **BPH03T_SC_SXS21:** I/O-panel for SXS21 with fiber transmitter on SC

Fiber inputs:

- **BPH03R_FC/PC_SXS20:** I/O-panel for SXS20 with fiber receiver on FC/PC
- **BPH03R_SC_SXS20:** I/O-panel for SXS20 with fiber receiver on SC
- **BPH03R_FC/PC_SXS21:** I/O-panel for SXS21 with fiber receiver on FC/PC
- **BPH03R_SC_SXS21:** I/O-panel for SXS21 with fiber receiver on SC

CVBS outputs:

- **BPH03C_SXS20:** I/O-panel for SXS20 with CVBS output
- **BPH03C_SXS21:** I/O-panel for SXS21 with CVBS output

Specifications

SD Serial Video Input

Standard	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio
Equalization	Automatic to 300m @ 270Mb/s with Belden 1694A or equivalent cable.
Return Loss	> 15dB up to 1.5GHz

SD Serial Video Output

Standard	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio
Signal Level	800mV nominal
DC Offset	0V \pm 0.5V
Rise and Fall Time	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

Reference Video Input

Standard	PAL (ITU624-4), NTSC (SMPTE 170M)
Number of Inputs	2 on SFR18, 2 on SFR08, 1 on SFR04
Connector	BNC
Signal Level	1V nominal
Impedance	High impedance, with loop for termination
Return Loss	> 25dB to 10MHz

Miscellaneous

Weight	Approx. 250g
Operating Temperature	0 °C to +50 °C
Dimensions	137 x 296 x 40 mm (HxWxD) = DUAL SLOT

Electrical

Voltage	+24V to +30V
Power	<33 Watts (dual slot)