AXON

HVO10

HD/SD Voice Over inserter/embedder

A Synapse ® product
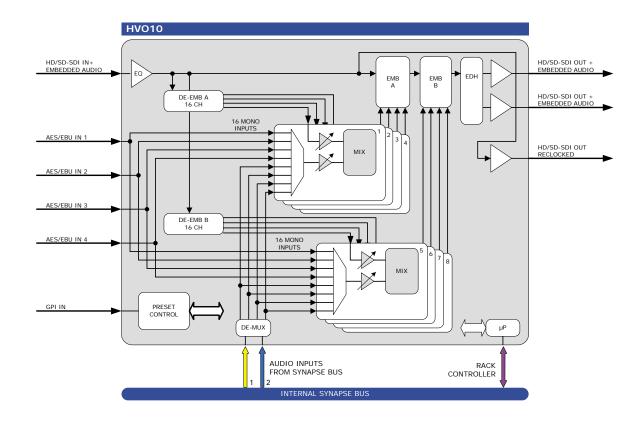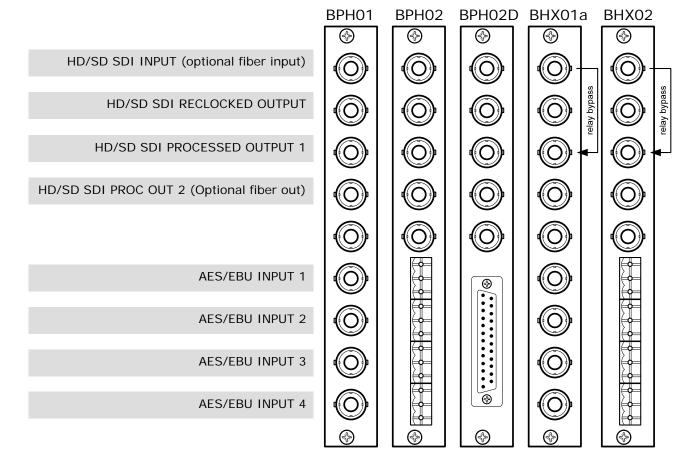
Block schematic & I/O panel

HVO10

HD/SD-SDI IN+ EMBEDDED AUDIO

EQ

DE-EMB A 16 CH

16 MONO INPUTS

MIX

1 2 3 4

AES/EBU IN 1

AES/EBU IN 2

AES/EBU IN 3

DE-EMB B 16 CH

AES/EBU IN 4

16 MONO INPUTS

MIX

5 6 7 8

GPI IN

PRESET CONTROL

DE-MUX

EMB A

EMB B

EDH

HD/SD-SDI OUT + EMBEDDED AUDIO

HD/SD-SDI OUT + EMBEDDED AUDIO

HD/SD-SDI OUT RECLOCKED

µP

RACK CONTROLLER

AUDIO INPUTS FROM SYNAPSE BUS

1 2

INTERNAL SYNAPSE BUS

BPH01   BPH02   BPH02D   BHX01a   BHX02

HD/SD SDI INPUT (optional fiber input)

HD/SD SDI RECLOCKED OUTPUT

HD/SD SDI PROCESSED OUTPUT 1

HD/SD SDI PROC OUT 2 (Optional fiber out)

AES/EBU INPUT 1

AES/EBU INPUT 2

AES/EBU INPUT 3

AES/EBU INPUT 4

relay bypass

relay bypass

Features

The HVO10 is an 8-channel in 2-group preset-based HD embedded audio shuffler/mixer/Voice over card. AXON is again an industry first with this powerful card, and puts full audio mixing and shuffling control power into the hands of an HD embedded signal user.
The preset-based control of this card makes it ideal for repeated corrections.
If dynamic control is required the card can still perform this task as every preset is remote controllable by a third party control protocol or the dedicated control panel SCP08.

- MIX one embedded channel with one external channel (times 8 into 2 groups)
- 8 presets
- ADD dialog levels in mixing calculation
- 4 local AES/EBU inputs (8 Mono)
- 4 ADD-ON inputs (8 Mono)
- HD-SDI and SD-SDI compatible
- Control objects per channel are:
    - Embedded audio Gain (1 dB steps)
    - External audio gain (1 dB steps)
- Mixing fade time (100-10,000ms)
- Overwrite and append modes
- Transparent for ATC time code RP188, RP196, RP215
- Transparent for Dolby-E; processing bypassed
- 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

Complementary cards:
- ADC20, ADC24, ADL24, DIO24, DIO48, DLA44, DLA43

Applications

- Multi channel voice over card
- MCR audio shuffling/mixing and swapping

Ordering information

Module:
- **HVO10:** HD/SD 8 channel 2 group embedded audio processing card with local AES/EBU inputs

Standard I/O:
- **BPH01_HVO10:** I/O panel for HVO10 with unbalanced AES/EBU input
- **BPH02_HVO10:** I/O for HVO10 with balanced AES/EBU input
- **BPH02D_HVO10:** I/O panel for HVO10 with balanced AES/EBU input on sub-D

Relay bypass I/O:
- **BHX01a_ HVO10:** I/O panel with relay bypass for HVO10
- **BHX02_ HVO10:** I/O panel with relay bypass for HVO10

Fiber outputs:
- **BPH01T_FC/PC_HVO10**: I/O panel for HVO10 with fiber transmitter on FC/PC
- **BPH01T_SC_HVO10:** I/O panel for HVO10 with fiber transmitter on SC
- **BPH02T_FC/PC_HVO10:** I/O panel for HVO10 with fiber transmitter on FC/PC
- **BPH02T_SC_HVO10:** I/O panel for HVO10 with fiber transmitter on SC
- **BPH02DT_FC/PC_HVO10:** I/O panel for HVO10 with fiber transmitter on FC/PC
- **BPH02DT_SC_HVO10:** I/O panel for HVO10 with fiber transmitter on SC

Fiber inputs:
- **BPH01R_FC/PC_HVO10**: I/O panel for HVO10 with fiber receiver on FC/PC
- **BPH01R_SC_HVO10**: I/O panel for HVO10 with fiber receiver on SC
- **BPH02R_FC/PC_HVO10**: I/O panel for HVO10 with fiber receiver on FC/PC
- **BPH02R_SC_HVO10:** I/O panel for HVO10 with fiber receiver on SC
- **BPH02DR_FC/PC_HVO10:** I/O panel for HVO10 with fiber receiver on FC/PC
- **BPH02DR_SC_HVO10:** I/O panel for HVO10 with fiber receiver on SC

Specifications

HD/SD Serial Video Input

Standard	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio
	SMPTE 292M (1.5Gb/s), SMPTE 260M, SMPTE 274M, SMPTE 296M, SMPTE 349M
	1080i/59.94, 1080i/50, 720p/59.94, 720p/50
Number of Inputs	3
Equalization	Automatic to 100m @ 1.5Gb/s with Belden 1694A or equivalent cable.
Return Loss	> 15dB up to 1.5GHz

HD Serial Video Output

Standard	625/50 or 525/59.94 SMPTE 259M-C (270Mb/s) with SMPTE 272M embedded audio
	SMPTE 292M (1.5Gb/s), SMPTE 260M, SMPTE 274M, SMPTE 296M, SMPTE 349M
	1080i/59.94, 1080i/50, 720p/59.94, 720p/50
Number of Outputs	3 (1 reclocked and 2 processed)
Signal Level	800mV nominal
DC Offset	0V ±0.5V
Rise and Fall Time	200ps nominal for HD, 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

AES Audio Input

Connector	BNC, Screw terminal or 25 pins female sub-D (balanced)
Standard	AES-1992 for balanced synchronous or asynchronous PCM/AES, SMPTE 276M for single ended synchronous or asynchronous PCM/AES
Number of Inputs	4
Sampling Rate	32 kHz to 96 kHz A-Synchronous via SRC and 48 kHz Synchronous in transparent mode (Dolby E)
Resolution	24 bits in HD, 20 bits in SD
Minimum Input/Output Delay	1 ms
Impedance	110 Ohms or 75 Ohms
Level	0.2V to 1V nom for BNC, 2V to 7V for balanced operation

Miscellaneous

Weight	Approx. 250g
Operating Temperature	0 °C to +50 °C
Dimensions	137 x 296 x 20 mm (HxWxD)

Electrical

Voltage	+24V to +30V
Power	<8 Watts