



## DIO24

**4 channel digital audio sample rate converter, tracking  
(and offset) delay - ADD-ON card**

**A Synapse® product**

*Synapse*

**ADD-ON  
Card**

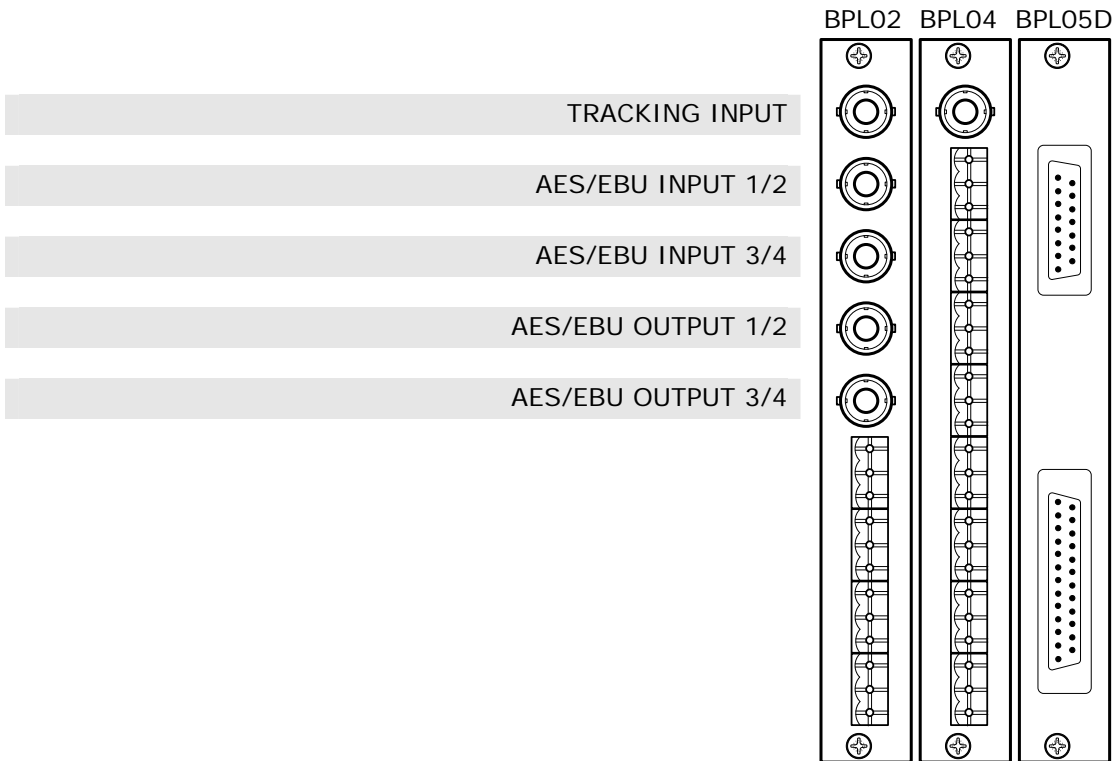
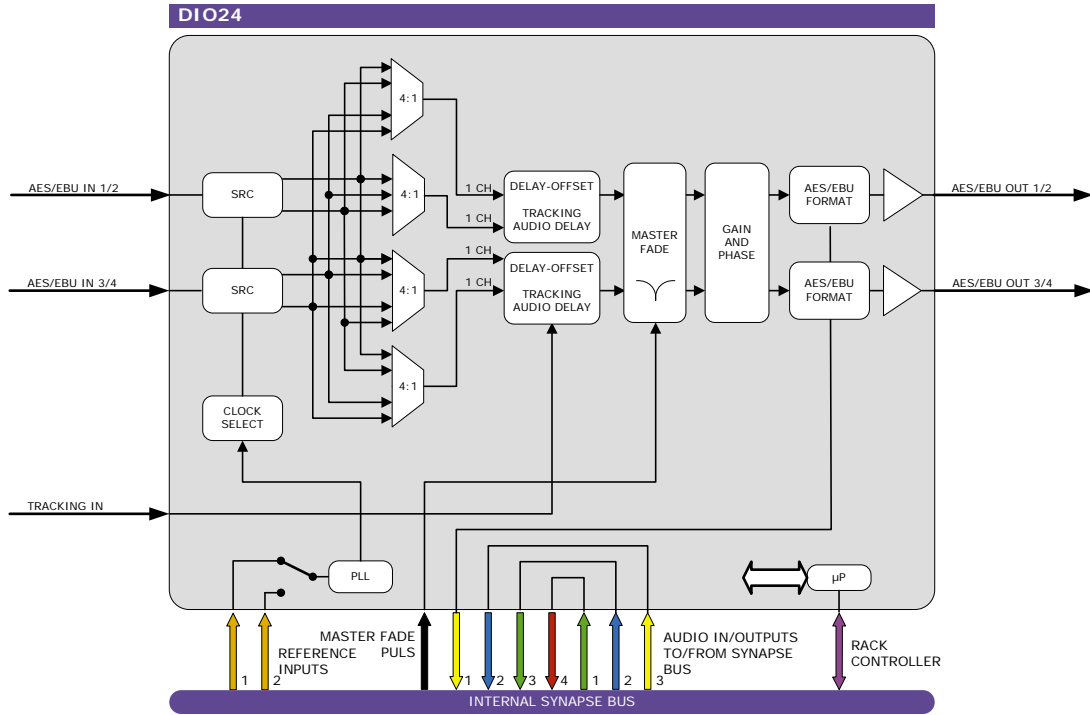
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Block schematic & I/O panel



## Features

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The DIO24 is a multi-functional product. Its basic function is the conversion of asynchronous AES/EBU digital audio into synchronous AES/EBU utilizing the on-board sample rate converter. The DIO24 has a tracking audio delay, with a delay offset possibility of up to 1300ms, and it can perform the Synapse ADD-ON input and output function.

- AES/EBU inputs with optional SRC (32 to 192kHz sampling)
- Sample clock can be derived from master card (ADD-ON mode)
- 96kHz and 48kHz sample clock locked to: B&B ref or word clock ref.
- 96kHz and 48kHz sample clock in free running mode
- Available with 110 Ohms (phoenix or sub-D) or 75 Ohms (BNC) AES/EBU in- and outputs
- Adjustable audio gain (in 0.25dB) and phase (0-180 deg)
- Can be used as a Synapse ADD-ON input or output card
- Adjustable audio delay offset up to 1300ms in 1ms increments
- Tracking audio delay on dedicated BNC input
- Master fade function for dedicated Synapse applications
- 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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- Dual AES/EBU stand alone tracking digital audio delay
- Dual AES/EBU offset delay
- Dual generic sample rate converter (lock AES to Black & Burst)

## Ordering information

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### Module:

- **DIO24:** 4 channel digital audio sample rate converter, tracking (and offset) delay - ADD-ON card

### Standard I/O:

- **BPL02\_DIO24:** I/O panel for DIO24 with unbalanced AES/EBU in and balanced AES/EBU out
- **BPL04\_DIO24:** I/O panel for DIO24 with balanced AES/EBU in and balanced AES/EBU out
- **BPL05D\_DIO24:** I/O panel for DIO24 with balanced AES/EBU in and balanced AES/EBU out on sub-D

## Specifications

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### AES Audio Input

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<b>Connector Standard</b>	BNC, Screw terminal or female sub-D (balanced) AES-1992 for balanced synchronous or asynchronous PCM/AES, SMPTE 276M for single ended synchronous or asynchronous PCM/AES
<b>Number of Inputs</b>	2
<b>Sampling Rate</b>	32 kHz to 192 kHz Synchronous 48 kHz in Master/ADD-ON mode
<b>Resolution</b>	24 bits when AES inputs selected, 20 bits in Master/ADD-ON mode
<b>Minimum Input/Output Delay</b>	1 ms
<b>Impedance</b>	110 Ohms or 75 Ohms
<b>Level</b>	0.2V to 1V nom for BNC, 2V to 7V for balanced operation

### AES Audio Output

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<b>Number of Outputs</b>	2
<b>Connector</b>	BNC, Screw terminal or female sub-D (balanced)
<b>Resolution</b>	24 bits
<b>Sampling Rate</b>	48KHz synchronous
<b>Minimum Input/Output Delay</b>	2.5ms
<b>Maximum Input/Output Delay</b>	1300 ms

### Reference Video Input

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<b>Standard</b>	PAL (ITU624-4), NTSC (SMPTE 170M) Word clock 48k square-wave
<b>Number of Inputs</b>	2 on SFR18, 2 on SFR08, 1 on SFR04
<b>Connector</b>	BNC
<b>Signal Level</b>	1V nominal
<b>Impedance</b>	75 Ohms
<b>Return Loss</b>	> 25dB to 10MHz

### Miscellaneous

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<b>Weight</b>	Approx. 250g
<b>Operating Temperature</b>	0 °C to +50 °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>	<4 Watts