



**DAS24**

**4 channel (2 x AES/EBU) digital audio mixing  
and shuffle module**

**A Synapse® product**

*Synapse*

**ADD-ON  
Card**

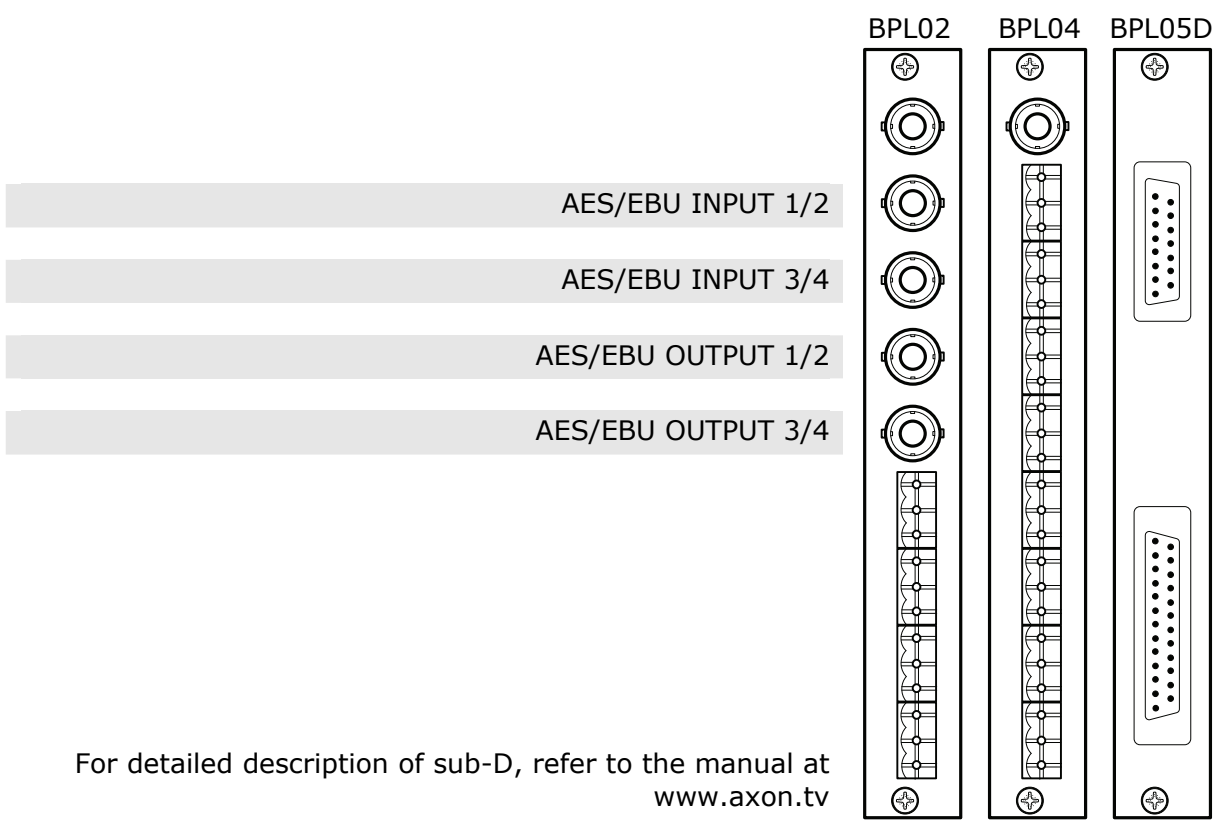
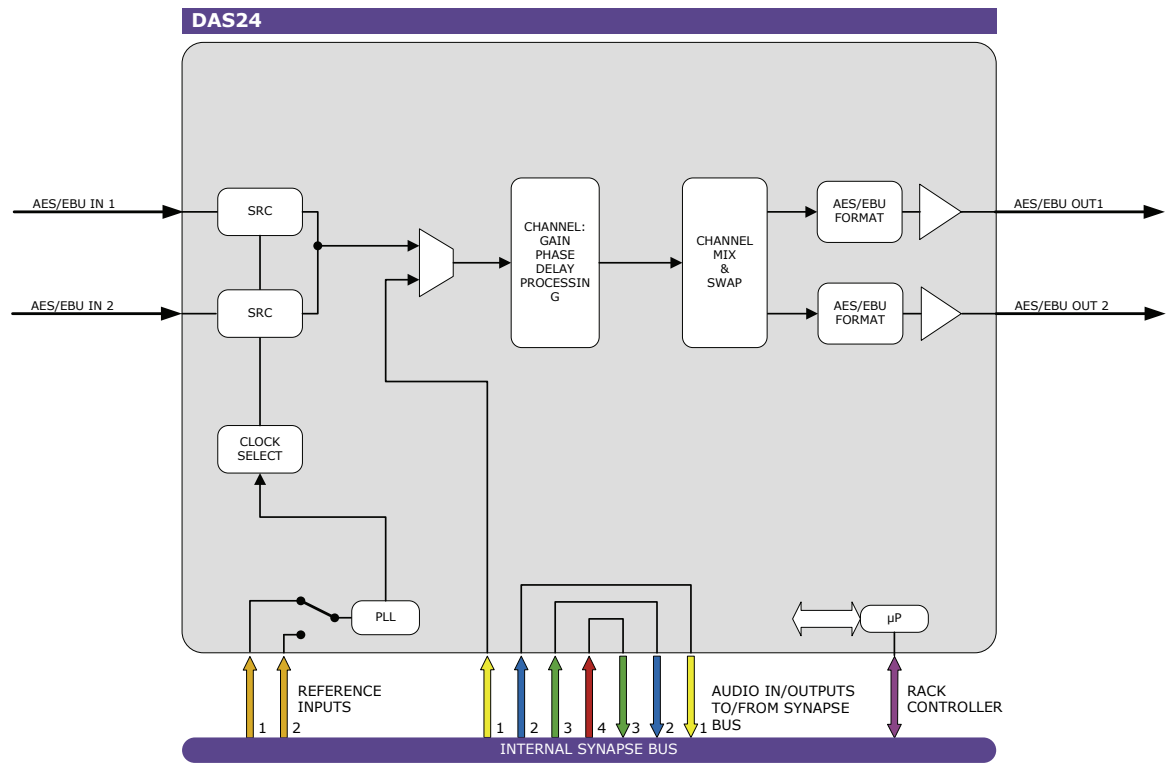
COMPATIBLE WITH  
 **DOLBY. E**

COPYRIGHT ©2010 AXON DIGITAL DESIGN BV

ALL RIGHTS RESERVED

NO PART OF THIS DOCUMENT MAY BE REPRODUCED IN ANY FORM WITHOUT THE PERMISSION OF  
AXON DIGITAL DESIGN BV.

**Block schematic & I/O panel**



For detailed description of sub-D, refer to the manual at [www.axon.tv](http://www.axon.tv)

### Features

---

The DAS24 is 4 channel digital audio ADD-ON card. Its basic function is the routing and processing of de-embedded audio from a master card to external devices. The DAS24 can perform channel swapping, mixing, gain/phase control. The card has additional AES/EBU inputs with a Sample Rate Converter (SRC) and can therefore be used as an audio shuffler/mixer. The DAS24 has a delaying capability for each channel of up to 1300ms. In ADD-ON mode the card acts as a digital audio output board that is fed from a master card positioned one slot left of the ADD-ON card. The AES/EBU in and outputs are available on 75 Ohms BNC or 110 Ohms screw terminals. AES/EBU inputs with optional SRC (32 to 96kHz sampling)

- Sample clock can be derived from master card (ADD-ON mode)
- 96kHz and 48kHz sample clock locked to: B&B ref or wordclock ref.
- 96kHz and 48kHz sample clock in free running mode
- Available with 110 Ohms (phoenix) 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 output card
- Full 4 channel shuffling and mixing
- Tracking audio delay on dedicated BNC input
- Offset delay up to 1300 ms
- Master fade function for dedicated Synapse applications
- Clip indication
- Locks to Bi-level sync or word clock
- Full control and status monitoring through the front panel of the SFR04/SFR08/SFR18 frame and the Ethernet port (ACP)

Complementary card to:

- SFS12, HFS12
- SDB10, SDB20, HDB20
- SCV12, SAM10, HSU10, HSU20, 2HS10

### Applications

---

- AES/EBU audio shuffling and mixing
- Synapse ADD-ON digital audio output

### Ordering information

---

**Module:**

- **DAS24:** 4 channel (2 x AES/EBU) digital audio mixing and shuffle module

**Standard I/O:**

- **BPL02\_DAS24:** I/O panel for DAS24 with unbalanced AES/EBU in and unbalanced AES/EBU out.
- **BPL04\_DAS24:** I/O panel for DAS24 with balanced AES/EBU in and balanced AES/EBU out.
- **BPL05D\_DAC24:** I/O panel for DAS24 with balanced AES/EBU in and balanced AES/EBU out on sub-D.

## Specifications

### AES Audio Input

<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 96 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>Number of Inputs</b>	2
<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

<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 Input through RRC

<b>Number of Inputs</b>	2 on SFR18, 2 on SFR08 and 1 on SFR04
<b>Bi-level</b>	PAL Black Burst ITU624-4/SMPTE318, Composite NTSC SMPTE 170M
<b>Word clock</b>	1Vp-p nominal, 75 Ohms terminated through loop AES11-2003 Annex B, not terminated on loop 48kHz

### Miscellaneous

<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

<b>Voltage</b>	+24V to +30V
<b>Power</b>	<8 Watts