



DAC24

**4 channel 24-bit audio D/A converter
with AES/EBU outputs**

A Synapse® product

Synapse

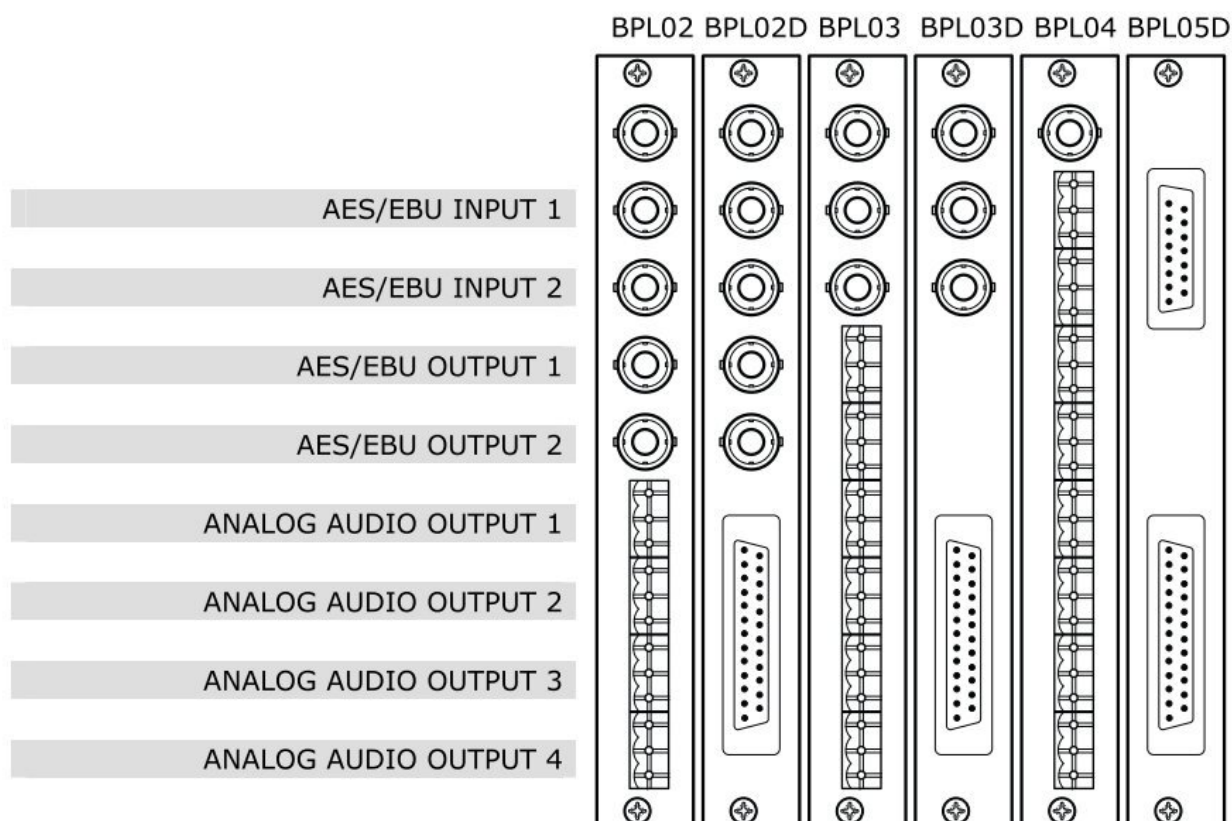
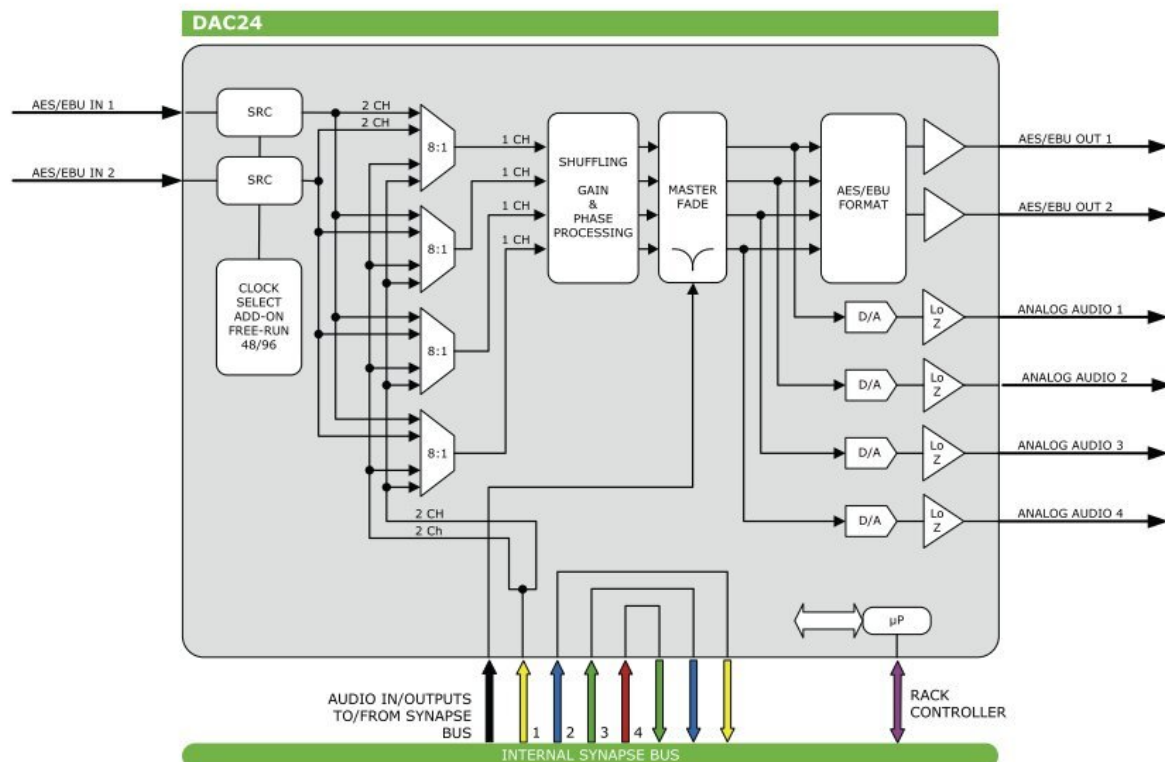
**ADD-ON
Card**

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Block schematic & Connector panel



For detailed sub-D connections see the manual

Features & Applications

The DAC24 is a multi-functional product. Its basic function is the conversion of AES/EBU digital audio to analog audio. In addition to the analog outputs it has AES/EBU outputs and offers the Synapse ADD-ON function. In ADD-ON mode the card acts as an input board that is fed by a master card that is positioned one slot left of the ADD-ON card. The DAC24 for example acts as an analog and digital audio de-embedder when used in combination with the AXON SAV12 or SFS12 (more options available see below). The AES/EBU in- and outputs are available on 75 Ohms BNC or 110 Ohms screw terminals and sub-D. This selection is determined by the type of connector panel. The BPL02 has 75 Ohms AES/EBU in- and outputs. The user has control over channel selection/swapping, and gain and phase control of all 4 audio channels.

- 24-bit audio conversion
- Additional AES/EBU outputs
- 96kHz and 48kHz sample clock locked to: B&B ref or word clock ref. (in ADD-ON, only 48kHz)
- 96kHz and 48kHz sample clock in free running mode (In ADD-ON, only 48kHz)
- Available with 110 Ohms (phoenix or sub-D) or 75 Ohms (BNC) AES/EBU
- Output analog reference levels adjustable for 12, 15, 18 and 24dBu
- Adjustable audio gain (in 0.25dB) and phase (0-180 deg)
- Can be used as a Synapse ADD-ON card
- Individual selection of each mono channel out of the AES/EBU domain
- 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
- All de-embedding master cards

Applications

- Generic audio D/A converter, with AES/EBU processed outputs
- ADD-ON D/A converter next to Synapse de-embedding products

Ordering information

Module:

- **DAC24:** 4 channel 24 bit audio D/A converter with AES/EBU outputs

Standard I/O:

- **BPL02_DAC24:** I/O panel for DAC24 with balanced analog audio out, unbalanced AES/EBU in and unbalanced AES/EBU out
- **BPL02D_DAC24:** I/O panel for DAC24 with balanced analog audio out on sub-D, unbalanced AES/EBU in and unbalanced AES/EBU out
- **BPL03_DAC24:** I/O panel for DAC24 with balanced analog audio out, balanced AES/EBU out and unbalanced AES/EBU in
- **BPL03D_DAC24:** I/O panel for DAC24 with balanced analog audio out, balanced AES/EBU out on sub-D and unbalanced AES/EBU in
- **BPL04_DAC24:** I/O panel for DAC24 with balanced analog audio out, balanced AES/EBU in and balanced AES/EBU out
- **BPL05D_DAC24:** I/O panel for DAC24 with balanced analog audio out, balanced AES/EBU in, balanced AES/EBU out on sub-D and tracking

Specifications

AES Audio Input

Connector Standard	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
Number of Inputs	2
Sampling Rate	32 kHz to 96 kHz Synchronous 48 kHz in Master/ADD-On mode
Resolution	24 bits when AES inputs selected, 20 bits in Master/ADD-On mode
Minimum Input/Output Delay	2.5ms
Number of Inputs	2
Impedance	110 Ohms or 75 Ohms
Level	0.2V to 1V nom for BNC, 2V to 7V for balanced operation
Minimum Input/Output Delay	3.5ms

Analog Audio Output

Type	Balanced analog audio
Number of Outputs	4
Connector	removable terminal strips or female sub-D
Impedance	50 Ohms balanced
Signal Level	0dB FS => 12dBu, 15dBu, 18dBu or 24dBu
Frequency Response	< ± 0.05 dB (20Hz to 20kHz)
Gain Mismatch	< 0.25 dB @997Hz, -20dBFS Multi channel
Dynamic Range	>100 dB @ -60dBFS
THD+N	< 92dB @ 1kHz, -1dBFS
Crosstalk	< -100dB (20Hz to 20kHz)
DC Offset	< ± 30 mV
Dynamic range	> 97dB @-60dBFS

AES Audio Output

Number of Outputs	2
Connector	BNC, Screw terminal or female sub-D (balanced)
Resolution	24 bits
Sampling Rate	48 or 96kHz synchronous or free running
Minimum Input/Output Delay	1 ms

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	<12 Watts