



Synapse

DEE28

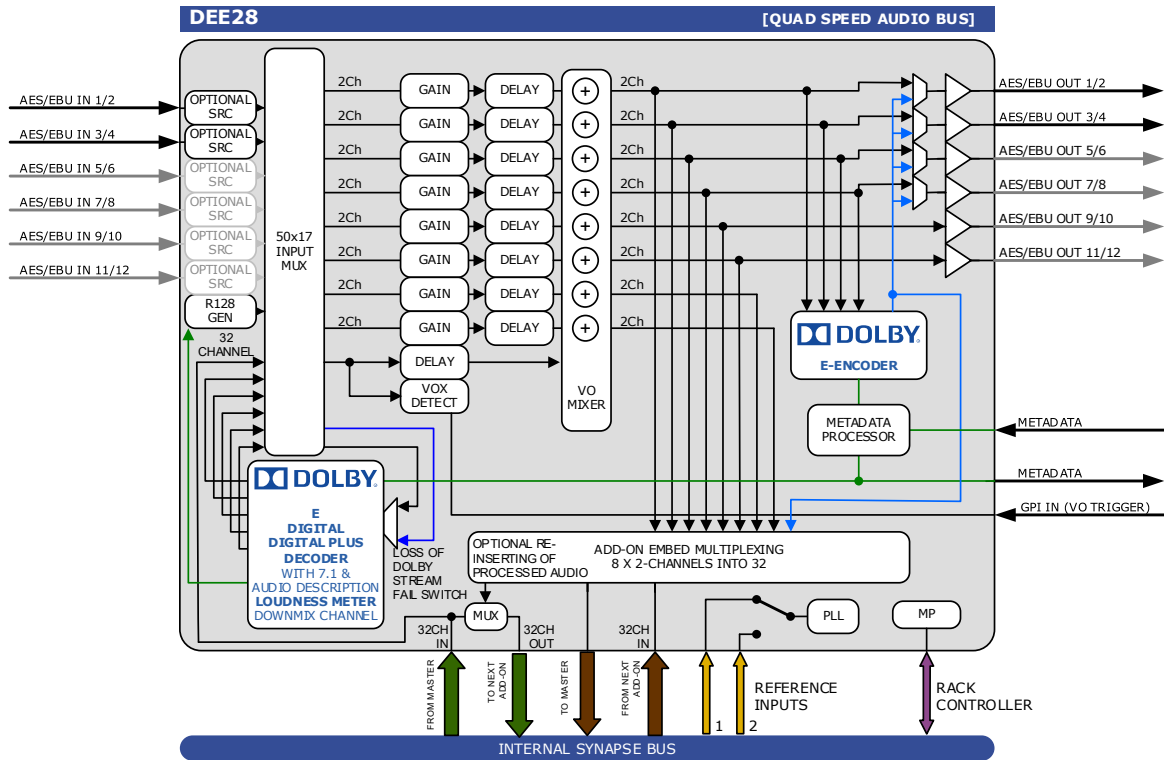
Multi format Dolby stream decoder and Dolby E encoder with Quad-Speed audio bus and voice over module

A Synapse® product

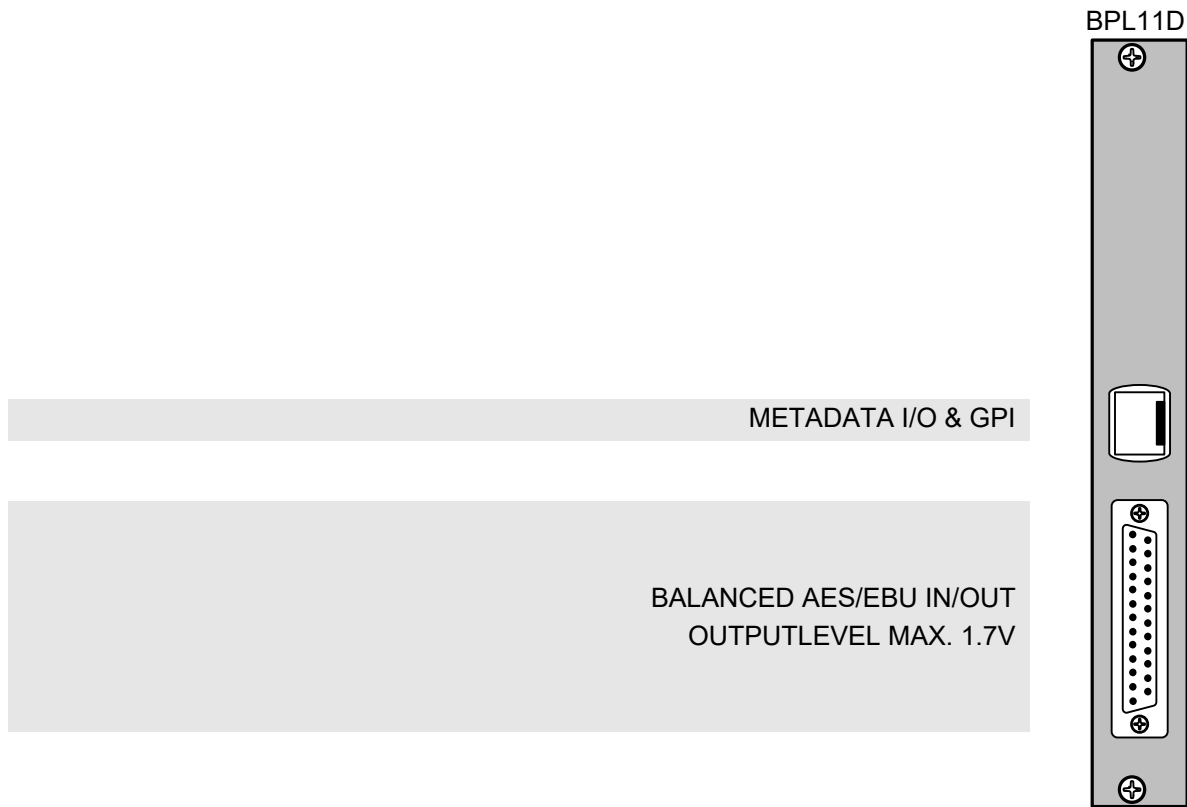


Due to constant product research and development all specifications are subject to change without notice. EVS does not warrant or assume any legal liability or responsibility for the accuracy, completeness, availability and/or delivery of the products and/or services listed in this datasheet. Copyright © 2021 EVS

Block schematic & I/O panel



4 in/4 out	2 in/6 out	6 in/2 out	BPL11
AES/EBU IN 1/2	AES/EBU IN 1/2	AES/EBU IN 1/2	+
AES/EBU IN 3/4	AES/EBU IN 3/4	AES/EBU IN 3/4	○
AES/EBU IN 5/6	AES/EBU OUT 9/10	AES/EBU IN 5/6	○
AES/EBU IN 7/8	AES/EBU OUT 11/12	AES/EBU IN 7/8	○
METADATA I/O & GPI	METADATA I/O & GPI	METADATA I/O & GPI	□
AES/EBU OUT 1/2	AES/EBU OUT 5/6	AES/EBU IN 9/10	○
AES/EBU OUT 3/4	AES/EBU OUT 7/8	AES/EBU IN 11/12	○
AES/EBU OUT 5/6	AES/EBU OUT 1/2	AES/EBU OUT 1/2	○
AES/EBU OUT 7/8	AES/EBU OUT 3/4	AES/EBU OUT 3/4	○
			+



Features

The DEE28 is a next generation Dolby multi format decoder and Dolby E encoder with quad speed ADD-ON audio bus. It replaces the popular DBD08 and DBE08 on a single card. Based on the Dolby's Cat. No. 1100 sub module it is capable of **decoding Dolby E, Dolby Digital and Dolby Digital Plus** and **encoding to Dolby E**. The enhanced feature set includes the capability of decoding 7.1-channel Dolby Digital Plus or 5.1-ch Dolby Digital 5.1 with audio description, carried in a single bitstream (Single PID), or as two bitstreams (Dual PID). In addition to the extensive Dolby Decoding capabilities this card can add a voice activated (or triggered by GPI) Voice Over signal to any of the decoded streams or plain PCM streams that could enter the unit.

Individual delay and gain controls are available for all decoded or plain PCM streams that entered the card. A dual mode I/O configuration is possible with physical 2x AES/EBU in and 6x AES/EBU out or 4x AES/EBU in and 4x AES/EBU out.

- Multi format ADD-ON or stand alone Dolby stream decoder
 - Dolby E
 - Dolby Digital
 - Dolby Digital Plus
- Dolby E Encoder
- 16 channel PCM processing capabilities
- Quad speed audio bus for convenient routing of ADD-ON channels
- Optional re-inserting of processed audio for downstream post-processing (DLAxx)
- 2, 4 or 6 physical stereo AES/EBU inputs and 16 stereo bus inputs.
- 2, 4 or 6 physical stereo AES/EBU (can contain Dolby Bit streams) outputs and 8 stereo (into 16 stereo) bus outputs
- E decoding with automatic source selection on loss of E
- Voice activated Voice Over engine that can be applied to any of the 16 internal streams
 - GPI trigger of VO is included
 - GPI can be used as 'cough button' to mute unwanted voice activated mixing
- Physical metadata output
- Individual offset delay per channel
- Individual gain control per channel (except bitstream input)
- Able to handle all AES/EBU input formats (optional SRC on inputs)
- Full audio channel shuffling
- Loudness measurement according to ITU BS.1770 and ITU BS,1770-3 (CALM and R128)
 - A tone generator is included that can be controlled by the loudness measurement.
 - It will generate a -20dBFS sinewave when the loudness measurement reads and measures -20LUFS so a normal peak/VU/dBFS meter can be used to read loudness

Complementary cards:

- All Quad Speed audio Master cards (G/HEP100, G/HED100, G/HRB100, G/HDK200, G/HXT110 etc).
- DIO88

Applications

- Multi format Dolby Stream monitoring decoder
- Dolby E encoder
- Efficient Dolby stream processing to Quad Speed audio Master Cards.
- Extra Dolby channel processing next to G/HEP100, G/HPD100 and G/HED100

Ordering information

Modules:

- **DEE28:** Multi format Dolby stream decoder and Dolby E encoder with voice over module

Standard I/O:

- **BPL11_DEE28:** I/O panel for DIO88 with unbalanced AES/EBU in and out
- **BPL11D_DEE28:** I/O panel for DEE28 with balanced AES/EBU in and out on D-sub

Specifications

AES Audio Input

Connector BPL11	BNC 75 Ohm
Connector BPL11D	25P D-SUB FEMALE 110 Ohm
Standard	SMPTE 276M for single ended synchronous or asynchronous PCM/AES
Number of Inputs	2, 4 or 6
Sampling Rate	32 kHz to 192 kHz asynchronous 48 kHz synchronous to Master Card in SRC off mode
Resolution	24 bits
Output Offset Delay	0 to 1300 ms (additional to decoding latency)
Input Gain Control	+12dB to -60 dB
Gain step size	0.25dB
Impedance BPL11	75 Ohms
Impedance BPL11D	110 Ohms balanced
Level	0.2V to 1V nom

AES Audio Output

Number of Outputs	2, 4 or 6
Connector BPL11	BNC 75 Ohm
Connector BPL11D	25P D-SUB FEMALE 110 Ohm
Resolution	Up to 24 bits depending on mode
Sampling Rate	48KHz synchronous to Master Card
Nominal Input/Output Delay	1 video frame for Dolby E (TBD for other streams)
Level	0V to 1.7V

Miscellaneous

Weight	Approx. 300g
Operating Temperature	0 °C to +40 °C
Dimensions	137 x 296 x 20 mm (HxWxD)

Electrical

Voltage	+24V to +30V
Power	<18 Watts