

Digital Audio Processor and Dolby Trans-coder

Description

The P DA 5280 is a fully featured DolbyE to DolbyD Trans-coder with an integrated SDI frame synchronizer. The module is suitable for use with SD/HD and 3G video formats.

A DolbyE encoded audio stream can be trans-coded into a Dolby Digital or Dolby Digital Plus stream. Alternatively, a standard 2.0 PCM audio stream can be encoded into a Dolby Digital or Dolby Digital Plus stream.

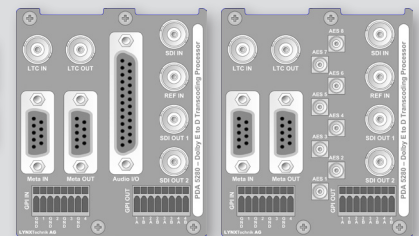
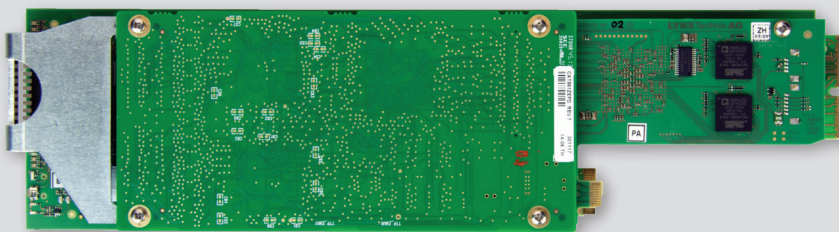
32 channels of internal audio processing are provided which includes adjustable gain, phase, invert, sum and mute. Each channel also has overload and silence detection.

The frame synchronizer uses a flywheel concept and as such can accommodate the most demanding SDI inputs. Sophisticated processing ensures no "pops or clicks" are present in the audio when dropping or adding frames. Up to 62 frames of programmable delay is provided

The 8 external AES audio ports can be individually configured by the user as audio inputs or outputs. Existing embedded audio can be de-embedded internally, processed and routed through an audio mono crossbar in addition to up to eight external audio inputs.

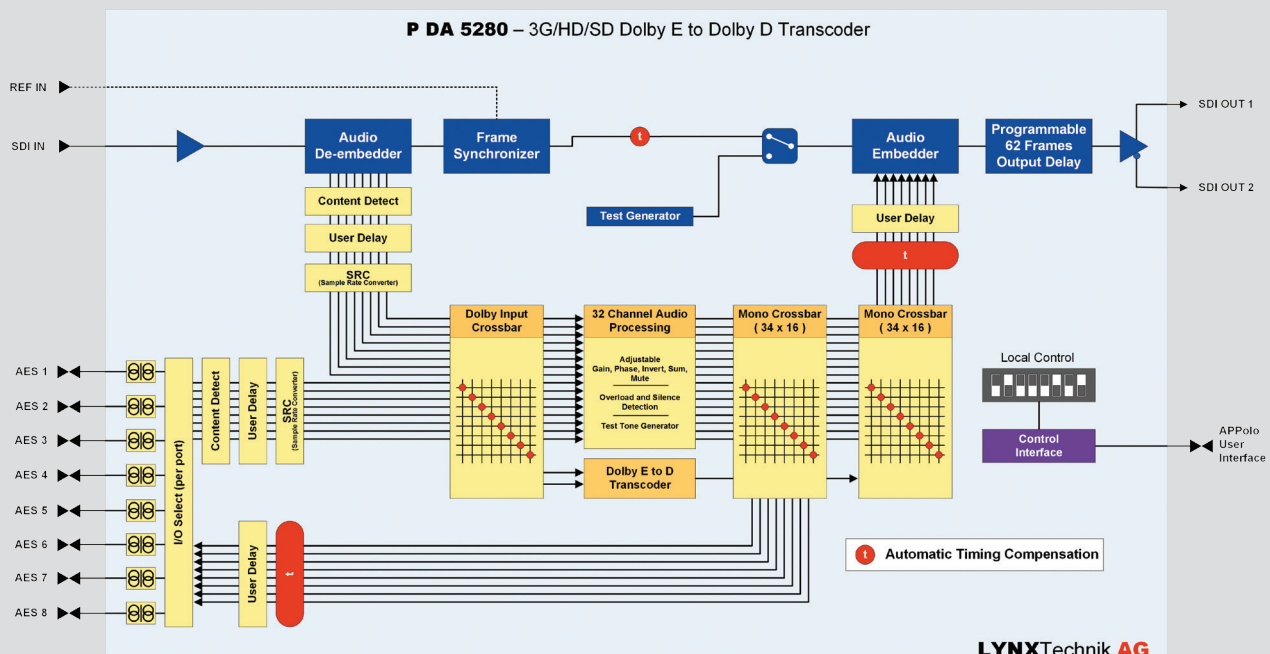
Features

- Dolby Digital and Dolby Digital Plus encoding of 2.0 PCM or DolbyE input signals
- Supports SD/HD and 3GBit/s standards (auto-detect)
- Video Frame Synchronizer
- Individually configured ports as inputs or outputs
- Existing embedded audio can be de-embedded
- Delete, replace or shuffle existing embedded audio
- Mono audio crossbar
- 32 Channel audio processing (mono gain, test tone, mute, phase invert, mix, overload and silence detection)
- Up to 62 frames of programmable video delay in frame, line and pixel increments
- Up to 10 seconds of programmable audio delay in individual audio sample increments
- Embedded audio group selection
- Audio embedded into test pattern if no SDI input present
- Selectable Horizontal and Vertical Video Blanking



P DA 5280 D P DA 5280 U
Rear Connection Panel Options

P DA 5280 – 3G/HD/SD Dolby E to Dolby D Transcoder



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Specifications

Video Input	
Signal type	Serial digital video SMPTE, 292M, 424M, 259M with automatic video format and standard detection
Supported formats	SDI formats up to 3Gbit/s* (see table)
No. of inputs	1
Input impedance	75 Ohms BNC
Input level	0.8V
Return loss	> 15dB (270Mbit), > 10dB (2.97Gbit)
Video Outputs	
No. of outputs	2
Signal type	Serial digital video SMPTE, 292M, 424M, 259M
Output format	Follows input format
Output Impedance	75 Ohm
Output level	0.8V +/- 10%
Timing jitter	< 0.2UI (270Mbit), < 1.0UI (1.48Gbit), < 2.0UI (2.97Gbit)
Alignment jitter	< 0.2UI (270Mbit), < 0.2UI (1.48Gbit), < 0.3UI (2.97Gbit)
Return loss	> 15dB (270Mbit), > 10dB (2.97Gbit)
AES Audio I/O	
No. of inputs / outputs	8 x AES ports
Signal	P DA 5280 U = AES3id unbalanced on MiniDin connectors P DA 5280 D = AES3 balanced on 25 pin SubD connector
Coupling	Transformer (isolated)
Performance	
DolbyE	Trans-code DolbyE into DD/DD+ (one program only)
Dolby Digital	Encode 2.0 PCM or decoded DolbyE content into Dolby Digital
Dolby Digital Plus	Encode 2.0 PCM or decoded DolbyE content into Dolby Digital Plus
Audio group deletion	Existing audio groups pass transparently or they can be deleted and/or replaced with new embedded audio (user selectable)
Audio group selection	Map AES inputs or de-embedded audio into any of the 4 embedded audio groups
Audio crossbar	Mono crossbar allows for individual (left and right) channel mapping
Audio sync frame	With no SDI input, audio is embedded into a test pattern video sync frame in the last connected video standard, or user selected standard.
Audio delay	10 seconds max. Programmed in audio sample increments
Electrical Specifications	
Operating voltage	12 VDC
Power consumption	< 25W
Safety	IEC 60950/ EN 60950/VDE 0805
Mechanical	
Size	283mm x 78mm
Weight	Card/Module 250g, (8.8oz) connector plate 50g (1.8oz)
Rack space	Requires two rack slots in card frame
Ambient	
Temperature	5°C to 40°C (41°F - 104°F) Maintaining specifications
Humidity	90% Maximum - non condensing

Specifications subject to change

Dolby, DD Dolby Digital and DD+ Dolby Digital Plus are registered trademarks of Dolby Laboratories.

Settings and Control

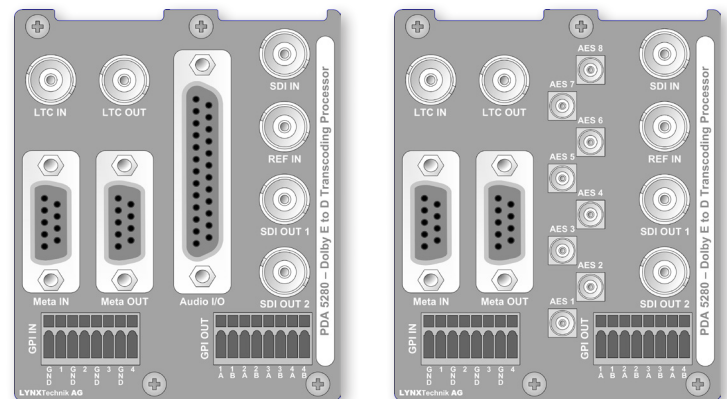
Local Settings	
Local control	ON/OFF (Dip Switch)
Embed audio group 1	ON/OFF (Dip Switch)
Embed audio group 2	ON/OFF (Dip Switch)
Embed audio group 3	ON/OFF (Dip Switch)
Embed audio group 4	ON/OFF (Dip Switch)
H-Blank	ON/OFF (Dip Switch)
V-Blank	ON/OFF (Dip Switch)
Additional Settings Available from APPolo Control System	
Dolby Encode configuration	
Audio I/O port configuration	
Audio shuffling (mono crossbar)	
Audio processing and audio delay	
Frame Sync configuration and video delay	
On Board Indicators / LEDs	
General status / alarm LED - (visible with rack door closed)	
REF status LED	
SDI status LED	
Local Remote status LED	
Primary Power status LED	
Redundant Power status LED	

Note

The use of the APPolo control system is **mandatory** for full control of this module. The local controls provide access to basic setup and configurations only.

* Supported Video Standards

Bits / color	10 Bit / 4:2:2 (Y,Cr,Cb)
Formats : SDTV	525 / 59.94Hz, 625/50Hz
Formats : 1.5 Gbit	720p / 60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 / 23.98 Hz 1080i / 60 / 59.94 / 50 Hz 1080p / 30 / 29.97 / 25 / 24 / 23.98 Hz 1080psF / 25 / 24 / 23.98 Hz
Formats : 3.0 Gbit	1080p / 60 / 59.94 / 50 Hz (Level A)



P DA 5280 D
Balanced AES3 on SubD connector

P DA 5280 U
Unbalanced AES3id on MiniDin connectors

Note. Double width connection panels need 2 rack slots

Ordering Information

Model #	Description	Includes
P DA 5280 U	3G/HD/SD Digital Audio Processor and Dolby Trans-coder (unbalanced AES)	CardModule, Rear termination Panel and Reference Manual (on CD)
P DA 5280 D	3G/HD/SD Digital Audio Processor and Dolby Trans-coder (balanced AES)	CardModule, Rear termination Panel and Reference Manual (on CD)