

Image Processing Engine

Description

The P IE 5610 is a member of the FLEXCARD family of products allowing users to custom configure the modules functionality for a specific application.

The basic module has one multiformat SDI input and two Multiformat output channels and includes a test pattern generator plus separate video proc amps for each output channels. All audio (16 channels) is de-embedded from the input signal and automatically delayed to match any video processing delay and then re-embedded into each output channel.

Four firmware options are provided to customize the modules primary function, use one or any combination of the options to derive the required functionality, options include:

Noise reduction: Advanced noise reduction option for "mosquito noise" removal, block artifact removal with 2D and 3D recursive

filtering and H and V aperture correction.

Up / Down / Cross Conversion: High quality format conversion with letterbox / pillarbox and stretch to fill presets as well as user adjustable sizing. Includes color space conversion

SDTV ARC: Provides advanced high quality Aspect Ratio conversion for SDTV signals with presets and user adjustable sizing.

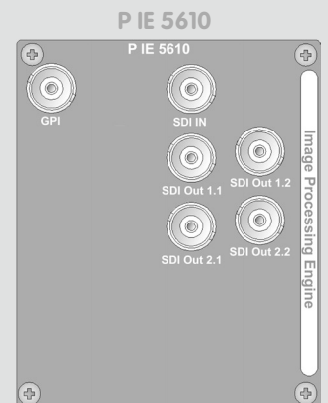
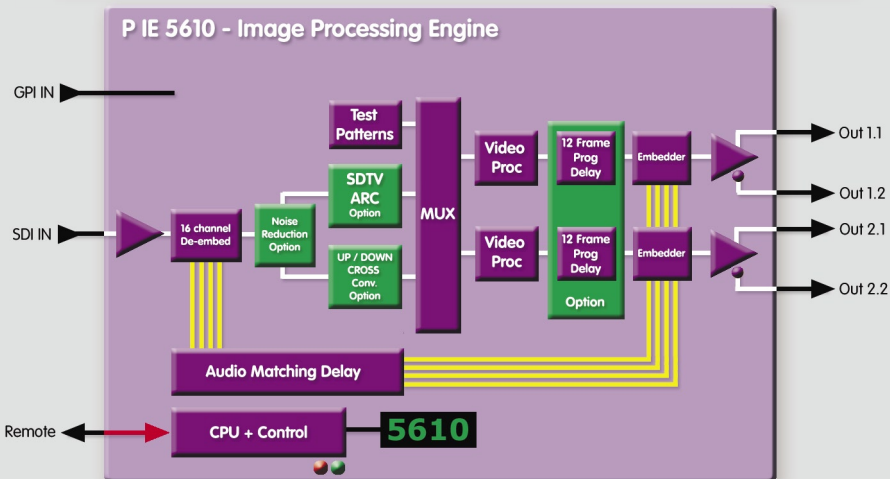
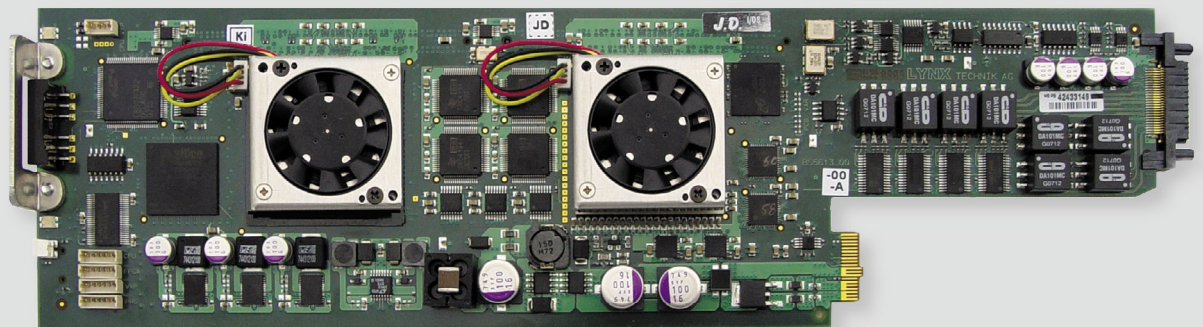
Video Delay: Add two independent programmable 12 frame video delays in each output channel, programmable in frame / line and pixel increments.

Up to 7 sets of module presets can be stored in module flash ram and any two can be toggled between using the GPI input.

Features

- 1 Multiformat SDI input (auto detect)
- 2 user mapped multiformat SDI output channels.
- Proc amps with adjustable gain, saturation hue and pedestal
- Internal test pattern generator
- All audio (16 channels) de-embedded and automatically delayed to match video processing delay
- Firmware options include: Noise Reduction, SDTV ARC, Up-Down-Cross conversion and video delay
- Store 7 user presets and switch any two with GPI trigger
- AFD /Closed Caption / Timecode and WSS support

- Internal flash ram for storing setup and configuration.
- Module ships with all options installed, simply activate the options with a licence code when needed.
- Built in matrix display with menu system for local control
- Remote control, status monitoring and error reporting possible when used with LYNX control system.
- Full SNMP support when used with master controller option
- Hot swappable.



Backplane

Image Processing Engine

Specifications

Video Input

Signal Type	Serial digital video SMPTE 292M, 344M, 259M-C
Input standards	SDTV: 525 59.94Hz / 625 50Hz HDTV: 1080i 59.94Hz / 1080i 60Hz / 1080i 50Hz / 720P 59.94Hz / 720P 60Hz / 720P 50Hz
No. Of inputs	1
Connector	BNC
Impedance	75 Ohm
Cable Equalization	Up to 250m Belden 8281 (270MHz) Up to 140m Belden 1694A (1.485GHz)
Return Loss	> 15 dB (270MHz) > 10dB (1.485GHz)

Video Outputs

Signal Type	Serial digital video SMPTE 292M, 344M, 259M-C
Output standards	SDTV: 525 59.94Hz / 625 50Hz HDTV: 1080i 59.94Hz / 1080i 60Hz / 1080i 50Hz / 720P 59.94Hz / 720P 60Hz / 720P 50Hz
No. Of outputs	4 (2 sets of 2 outputs)
Connector	BNC
Impedance	75 Ohms
Jitter	< 0.2 ui (270MHz) < 0.25 ui (1.485GHz)
Return Loss	> 15 dB (1.5GHz)

Video / Audio Processing

Video adjustments	Gain / Saturation / Hue / Pedestal
Test Pattern Generator	Color Bars + 75% Color bars over red + Pathological EQ, + Pathological PLL, + Full field R,G,B,Y,C,M + black +White + 15% grey.
Audio de-embedder	De-embeds all audio (16 channels) from input
Audio delays processing	Automatically delays audio to compensate for internal video processing delay (will pass embedded DolbyE transparently)
Embedders	Two 16 channel embeds provided to re insert audio.

Control

Local Controls	Local alphanumeric display with integrated menu system for setting "basic" module parameters. Use of the control system is recommended for the operation of this module.
Remote Control	Comprehensive remote control and status monitoring supported when used with a LYNX Controller option
External GPI Input	Single GPI input on BNC connector. (Function configurable)
User Settings	Store up to 7 sets of module user settings in module flash ram
MetaData	Supports Closed Captioning, AFD, Timecode and WSS

Electrical Specifications

Operating Voltage	12 VDC
Power Consumption	15 W
Safety	IEC 60950/ EN 60950/ VDE 0805

Mechanical

Size	283mm x 78mm
Weight	Card/Module 150g, connector plate 100g Note. This Module has a double width rear connection plate and requires two available rack slots.

Ambient

Temperature	5°C to 40°C Maintaining specifications
Humidity	90% Max non condensing

Options

Firmware upgrades (field upgradable)

Up Down Cross Conversion	Provides internal broadcast quality up / down and cross conversion capability <ul style="list-style-type: none"> • Convert and format with black sidebars (pillarbox or letterbox) • Crop image • Stretch to fill Color space conversion Option Code: OC-5610-UPXD
Video Delay	Provides two channels or independently adjustable video delays, up to 12 frames max. Programmable in Frame / Line / Pixel increments Option Code: OC-5610-VDEL
SDTV ARC	High quality aspect ratio conversion for SDTV, user preset modes for Crop, Letterbox, pillarbox or stretch to fill plus user adjustable image sizing and position. Option Code: OC-5610-ARC
Noise Reducer	High quality noise reduction includes 'mosquito noise' removal, artefact block removal, 2D/3D recursive low pass filtering, and H/V aperture correction. Option Code: OC-5610-NR

Options can be added at any time and only requires the purchase of a licence code (no hardware or firmware modifications)

Note. This module utilizes a double width rear connection plate and will take up two slots in the standard RFR 5010 or RFR 5011 Rack Frames.

Note. The use of the control system for the setup and use of this module is recommended Its not possible to bring all the settings and features into the local control adjustments provided.

Specifications subject to change

Ordering Information

Model #	Part Number	Description	Includes
P IE 5610	5155525610	Image Processing Engine	Card/Module, Rear termination Panel, + Mounting Screws, and Reference Manual
OC-5610-ARC	1000000028	OPTION: SDTV Aspect Ratio Converter	Licence code
OC-5610-UPXD	1000000031	OPTION: Up / Down / Cross Conversion	Licence code
OC-5610-NR	1000000029	OPTION: Noise Reduction	Licence code
OC-5610-VDLY	1000000032	OPTION: 12 frame programmable video delay	Licence code