

## Xylon d.o.o.

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## Features

- FPGA Mezzanine Card (FMC) compatible with several Xilinx® Targeted Design Platforms
- Supports National Semiconductor® FPD-Link III Serial Interface
- Possible configurations:
  - up to five FPD-Link III video channels
  - up to four FPD-Link III + one CVBS video channels



**Figure 1: logiFMC-FPD-III-C FPD-Link III + CVBS FMC Daughter Card**

## Applications

- Automotive applications (development systems):
  - Rear View and Side View Camera
  - Lane Departure Warning
  - Parking Assistance
  - Blind Spot Detection, etc.
- Surveillance systems
- Multiple-camera applications
- LCD display driving

## General Description

The logiFMC-FPD-III-C 5-channel FPD-Link III FMC daughter card with an additional CVBS video input is Xylon's add-on board (card) compatible with different Xilinx Targeted Design Platforms, such as the Xilinx Spartan®-6 SP605 Evaluation kit and the Spartan-3 DSP FPGA Video Starter Kit.

This daughter card is designed for use in video development systems requiring connections of up to 5 cameras. The main interface between the logiFMC-FPD-III-C daughter card and the connected cameras is the National FPD-Link III (Flat Panel Display Link). In addition to the FPD-Link III, the daughter card supports one CVBS video input.

The card supports either up to five FPD-Link III (12x Data, Horizontal Sync and Clock) video channels, or up to four FDP-Link III video channels plus one CVBS video channel. The right configuration can be setup by an on-board I2C register.

The logiFMC-FPD-III-C FMC daughter card provides a simple means of expanding the Xilinx development kits without complex wiring, and shortens the development time. High-speed signal lines are carefully designed and routed to support trouble-free high-speed communication with the attached cameras.

The card utilizes the 160-pin FMC connector (ASP-127797-01).

## Functional Description

The Figure 2 presents card's internal structure. The main functional blocks are:

- National FPD-Link III deserializers
- User configurable analog front-end for composite video signals
- SAA7113 video decoder
- Power supply
- I2C info and control circuits

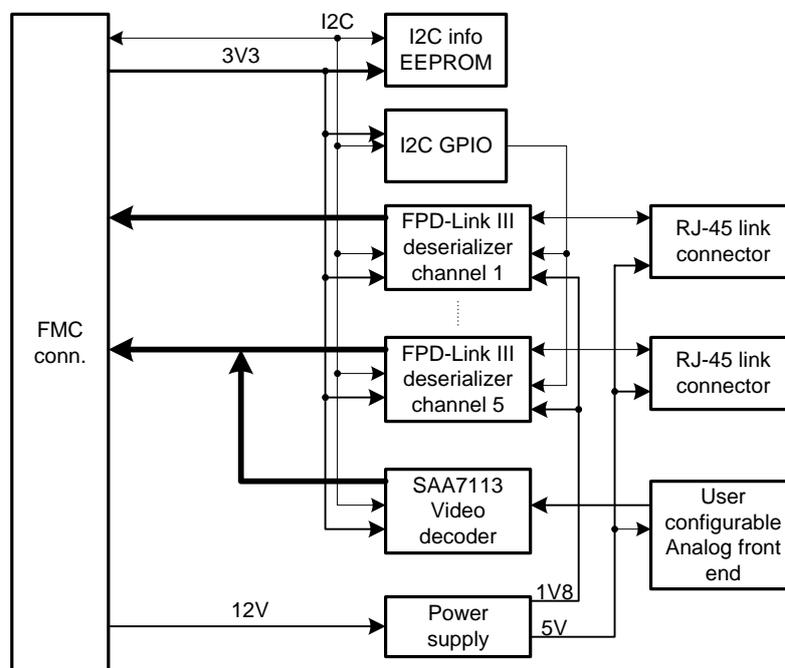


Figure 2: The logiFMC-FPD-III-C Daughter Card's Block Diagram

### FPD-Link III deserializers

Five National FPD-Link III DS90UB902Q deserializers support FPD-Link III video channels. The maximum supported number of lines per one FPD-Link III channel is 14 (12x Data, Horizontal Sync and Clock)

### User Configurable Analog Front-End

Analog front-end accepts analog PAL, NTSC or SECAM composite video signals, and can be differential or single-ended.

### SAA7113 video decoder

The SAA7113 accepts and decodes composite PAL, NTSC or SECAM video signals.

## Power supply

Power supply module generates 1V8 for deserializers and 5V for the analog front-end from 12V available at the FMC connector. The main FPGA board provides 3V3 power supply for SAA7113, I2C info and control circuits.

## Info EEPROM

The EEPROM stores card's information which may be used by main FPGA boards (i.e. Xilinx VSK, Xilinx SP605). Xylon delivers daughter cards with the blank EEPROM (not used).

## I2C GPIO control

The I2C GPIO controls FPD-Link III deserializer's Power Down and Master/Slave control pins. It also controls card's configuration setup – selection of 5 FPD or 4 FPD + 1 CVBS configurations.

## Available Support Products

To learn more about the Xylon boards and development platforms, contact Xylon or visit the web:

Email: [support@logicbricks.com](mailto:support@logicbricks.com)

URL: <http://www.logicbricks.com/Products/Hardware-Platforms.aspx>

## Ordering Information

This product is available directly from Xylon. Please visit our web shop or contact Xylon for pricing and additional information:

Email: [sales@logicbricks.com](mailto:sales@logicbricks.com)

URL: <http://www.logicbricks.com/Products/logiFMC-FPD-III-C.aspx>

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## Related Information

### Xilinx Evaluation Boards Logic

For information on Xilinx evaluation boards contact your local Xilinx sales office, or:

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**National Semiconductor**

For information on National Semiconductor products and evaluation boards contact your local National sales office, or:

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URL: [www.national.com](http://www.national.com)

**Revision History**

Version	Date	Note
1.00.	30.09.2010.	Initial Xylon release