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DIME-II™

BenADDA-PRO

Processing Module

Product Brief (Preliminary)

The BenADDA-PRO is an addition to the popular BenADDA product range, providing high-speed analogue data processing combined with the impressive of features the DIME-II product family module with support for PCI, cPCI, VME, & PC/104+ form factors



Key Features

- Single width DIME-II module
- Xilinx® Virtex-II Pro® User FPGA (P50)
- Up to 53k logic cells of programmable logic per module
- Up to 4X Block RAM and embedded multipliers compared to equivalent Virtex®-II FPGAs
- 400+ Module-to-Motherboard DIME-II User I/O
- Multiple clocking options – 4 internal clocks, external clock input
- 8Mbytes ZBT® SRAM – arranged in 2 independent banks
- On-board PowerPC processor support
- Supported in Nallatech DIMEtalk™ and FUSE™
- Includes Nallatech ZBT SRAM interface IP core

User Benefits

- ✓ Virtex-II PRO FPGA
- ✓ 2 x 14-bit ADC channels supporting maximum sample rate of 105MSPS
- ✓ 2 x 14-bit DAC channels supporting maximum sample rate of 160MSPS
- ✓ Provides scalability – deploy multiple modules on a single DIME-II motherboard
- ✓ Based on the proven DIME-II standard
- ✓ Supported by FUSE™ & DIMEtalk™ for easy FPGA design implementation

Overview

The BenADDA-PRO DIME-II module is an addition to the BenADDA product family providing high-speed analogue data processing capabilities with a Xilinx® Virtex-II Pro® FPGA.

Dual ADC Channels

The BenADDA-PRO is equipped with two AD6645 ADC devices from Analog Devices. The sampled data can be processed directly by the on-board FPGA.

Dual DAC Channels

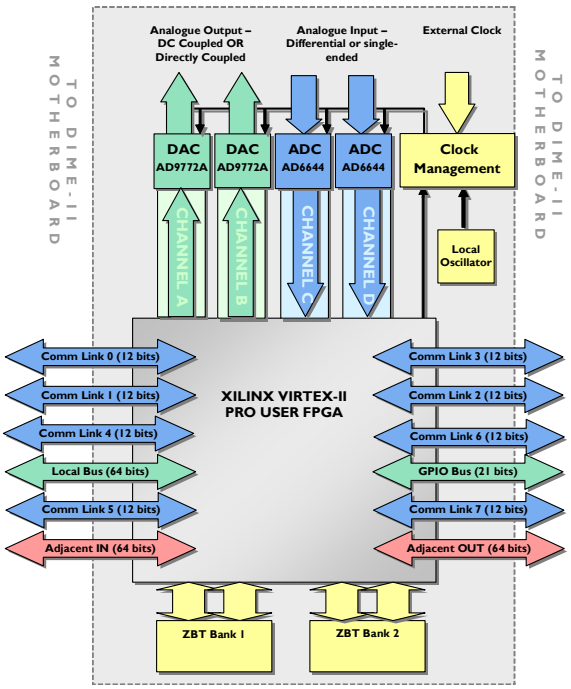
The BenADDA-PRO offers flexible high-speed, high-resolution data conversion for both baseband and direct IF applications using two AD9772 devices from Analog Devices, which directly controlled by the on-board FPGA.

NALLATECH

Product Brief

Do you require ordering information or have product questions? Our worldwide sales teams and technical specialists are ready to assist you. Please contact us via one of the methods detailed below…

Functional Diagram



Bus Support

Bus	2VP50 FPGA
Adjacent In	64-bits
Adjacent Out	64-bits
Local Bus	64-bits
GPIO	21-bits
CommLink 0	12-bits
CommLink 1	12-bits
CommLink 2	12-bits
CommLink 3	12-bits
CommLink 4	12-bits
CommLink 5	12-bits
CommLink 6	12-bits
CommLink 7	12-bits

NOTES

All DIME-II buses are bi-directional. Where a bus uses a naming convention which indicates it is an in or out bus, this is a conceptual name. Functionally, the bus can be used for either input to the module, output from the module, or a combination of both.

This information should be used in conjunction with the equivalent on other DIME-II products to establish the I/O compatibility between multiple products being used together.

The symbol 'x' indicates that a bus is not supported by an FPGA version.

Specifications

- XC2VP50 FF1152 FPGA
- 2 x 14-bit ADC channels up to 105MSPS sampling
- 2 x 14-bit 160MSPS DAC channels
- 8MB ZBT SRAM (2 independent banks of 4MB)
- Status LEDs
- Secondary XC2V80 FPGA for clocking control
- Up to 6 different methods for clocking ADCs/DACs
  - 105MHz on-board crystal oscillator
  - External clock input via front panel connector
  - 3 program oscillators
- Various analogue / output build configurations
  - contact Nallatech for full list of supported build configurations
- 3rd order input filter – f_C, cut-off around Nyquist at 57.9MHz

Deliverables

- BenADDA PRO Module
- Software and Documentation CD
- 90 days Product Maintenance (software updates, technical support, support lounge access)

Order Codes

Main order code - BenADDA-PRO-XX-Y

Option Codes

XX: Analogue I/O build options
01 - Op_Amp (DC) Coupled Outputs + Single-ended Analogue Inputs
02 - Op_Amp (DC) Coupled Outputs + Differential Analogue Inputs
03 - Directly Coupled Outputs + Single-ended ADC Inputs
04 - Directly Coupled Outputs + Differential Analogue Inputs
Y: FPGA speed grade options: -5; -6;

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