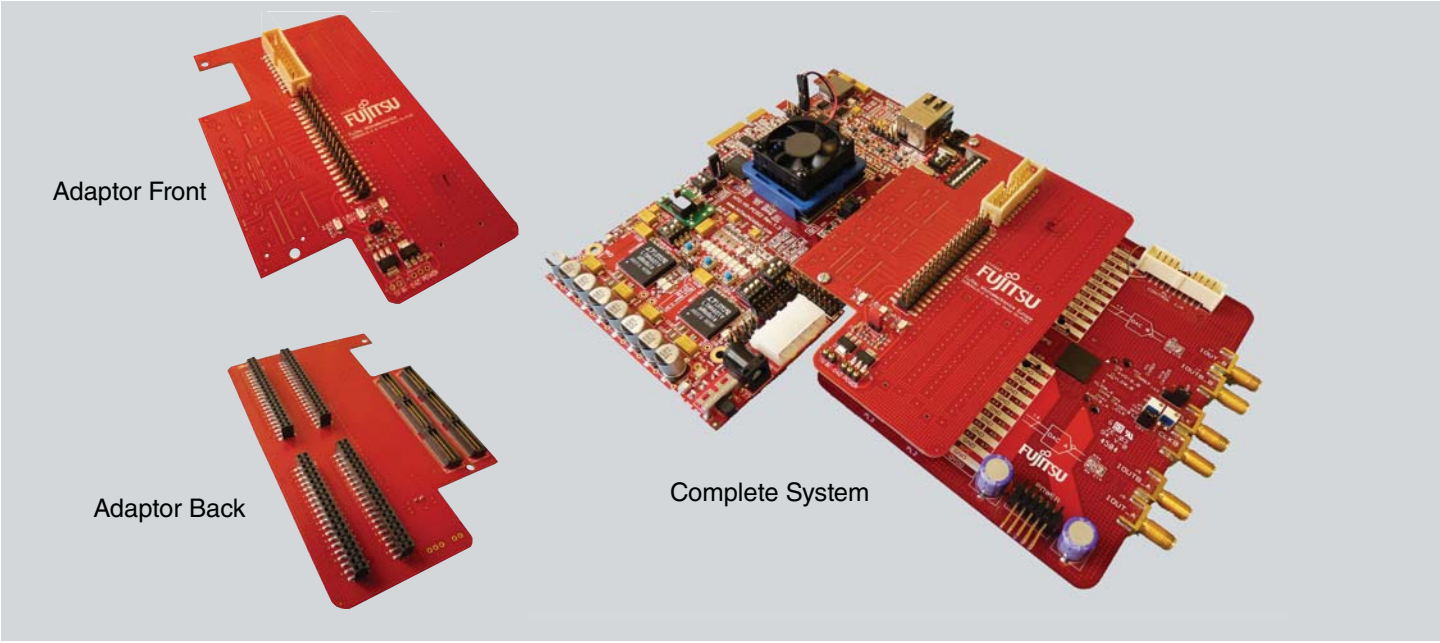
The Fujitsu DKXC5VADAPT-1 Digital to Analog Converter DK FPGA Adaptor



Description

The DKXC5VADAPT-1 DAC DK adaptor provides a quick and effective way to demonstrate a high-speed data interface to the Fujitsu DK86064 and DK86065 high-performance DAC development kits. The adaptor directly connects the DKs to an FBGA platform (a popular device for interfacing to high-speed data converters), providing a relatively low-cost platform for high-speed logic, data processing, digital data interfaces and clock management.

The Fujitsu DKXC5VADAPT-1 DAC DK adaptor is designed to interface directly to the HiTech Global V5-PCIE2 FPGA platform, which uses the Xilinx® Virtex™-5 device.

The adaptor provides a physical link between the data headers on the DK86064/65-2 and the HiTech Global V5-PCIE2. Underneath, 6 Samtec® sockets plug directly into the headers on the two boards.

The board connects 28 LVDS data pairs, the DAC loop clock pairs and two divided clock signals between the two boards.

All clock signals are routed to dedicated global clock inputs on the FPGA.

Maintaining valid clock-to-data timing can be difficult when using high-speed data converters. The MB86064/65 DACs solve this problem with a Loop Clock system. The Loop Clock is generated in sync with the DAC data at the FPGA output. This clock is passed through a user-programmable delay in the DAC and then routed back to the FPGA's PLL feedback input. Altering the delays in the divided clock or Loop Clock signals allows the user to advance or retard data timings in order to find the optimum data eye. Once calibrated, the system automatically compensates for the effects of device-to-device variations in phase, voltage and temperature (PVT).

The complete system forms a compact solution ideal for testing and developing an FPGA-DAC interface.

To help users get started with the system, Fujitsu offers a sample implementation for the FPGA interface.

DAC DK FPGA Adaptor

Features

DAK DK FPGA Adaptor

- LVDS data interface for one (MB86065) or two (MB86064) DAC cores
- Loop Clock system for optimum timing
- GPIO to FPGA
- Support for single-supply operation: voltage regulators to provide the DAC supply voltages (1.8V and 3.3V) using the 5V supply for the V5-PCIE2 board
- Socket to allow connection to the DK serial programming header, eliminating the need for an external serial programmer to program the DAC

V5-PCIE2 from HiTech Global

- Tri-mode Ethernet (10/100/1000)
- 4-lane PCI Express End-Point connector (upstream)
- DDR2 SO-DIMM socket (up to 4GB)
- 512Mb DDR3 component
- 128Mb platform Flash XL for configuration and user flash
- On board clocking
- Many Virtex 5 parts such as the XC5VLX50T and XC5VFX100T are available
- Programmable over JTAG or via the on-board 128Mb Flash, which removes the need to reprogram the device at power on. Programming is performed via a Xilinx USB programming cable.

Ordering Information

Part	Order Reference
DAC DK FPGA adaptor	DKXC5VADAPT-1
Complete development kit (including evaluation board with device fitted, PC USB programming cable, control software and user manual)	DK86064/65-2
HiTech Global V5-PCIE2 FPGA Development Platform	HTG-V5-DDR3-PCIE2-#### CONTACT HITECH GLOBAL (www.HiTechGlobal.com)
Xilinx USB Programming Cable	HW-USB-II CONTACT XILINX (www.Xilinx.com)

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