

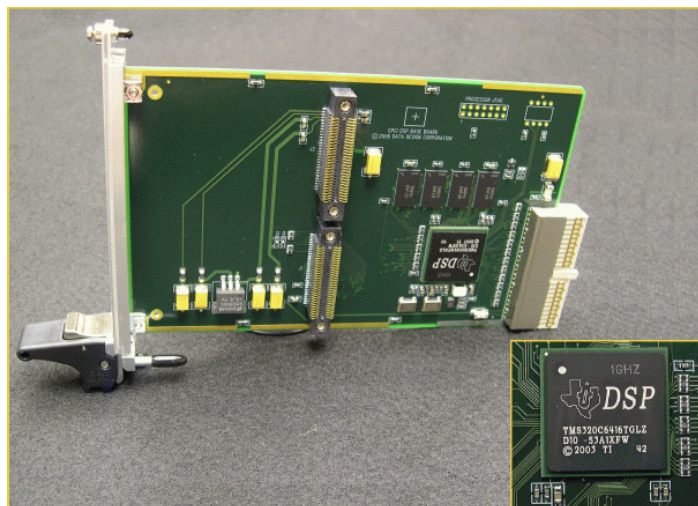


C64DSP User Adaptable Digital Signal Processor

Data Design Corporation

Gaithersburg, MD

The C64DSP provides the digital signal processing power of the high end Texas Instruments TMS320C6416 DSP chip with a complement of 128Mbyte of SDRAM and a fully outfitted expansion connector, providing a ready platform for rapid integration of DSP applications. The expansion connector includes the entire second external memory interface (EMIFB), both serial ports, both timers, and a complement of digital I/O and power supplies. A provided software application offers the ability to load code, control processor operation, and transfer data to or from any area of DSP memory over the CPCI backplane. A complete schematic of the C64DSP is included along with driver and application source code. Because there is no need to ever run DSP code to use the features of the chip from the CPCI host, at one level the C64DSP provides a simple CPCI development system. At another level the C64DSP is a powerful DSP coprocessor and configurable I/O module.



Principal Features

- **TMS320C6416 digital signal processor running at 1GHz**
- **128 megabytes of SDRAM organized as 32M x 64 on EMIFA**
- **100 MHz EMIFA operation, 50 MHz EMIFB operation**
- **EMIFB and peripheral ports available on high speed connectors for integration of custom I/O**
- **DSP coprocessing supported by booting DSP code from the CPCI host**
- **CPCI host access to DSP features through provided drivers**
- **Support for developers with JTAG connector and PCI configuration EEPROM available**
- **Demonstration control panel software for Windows**
 - The software provides a simple method to load and run DSP code and to examine and edit anything in DSP memory space.
- **Fully documented API provided as a Windows DLL**
 - The API can be directly accessed from programming environments such as C, Visual Basic, and LabView for adaptation to a larger instrument system. An instrument using the C64DSP will typically be interfaced using software layers above this API which use it for physical access.
- **Software source code provided**
 - All software is provided with source code for the possibility of adaptation to other environments or addressing custom applications. The API is written in C and the application layer is written in Visual Basic. The source code can be helpful in understanding the API layer for adaptation to other application programming environments. Driver source code is also provided.



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Specifications Summary

Dataway Interface

Compact PCI at 32 Bits and 33 MHz
Compliant with PICMG 2.0 R3.0
Single Width 3U Compact PCI Card

Processor

TMS320C6416 at 1GHz

Interface

EMIFB, Serial Ports, Timers, GPIO
Voltages including +3.3V,+5V,-5V,+12V,-12V

Ambient Temperature Range

0 To 70 C

Memory

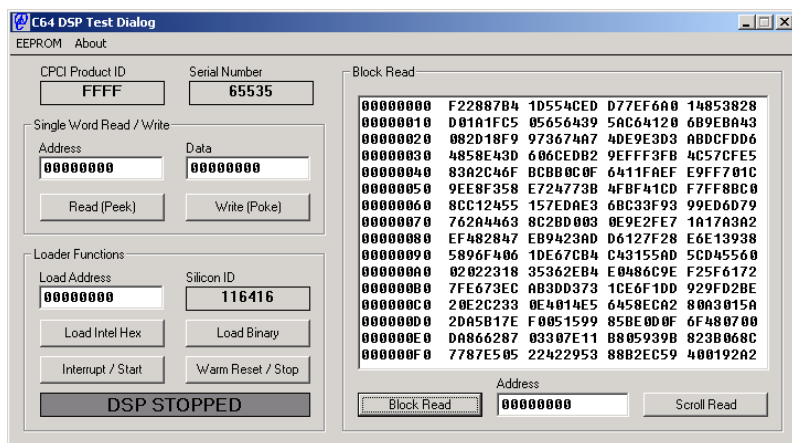
128 Megabytes organized 32M x 64

Software Features

The included evaluation application provides the turnkey ability to load code and access DSP memory spaces.

Value added software includes:

- 1) Windows driver* for the C6416 PCI with source code, a product not offered by any other manufacturer.
- 2) Fully documented API with source code for interface with application code. Source code for the evaluation application demonstrates the use of this API.



* Consult the factory for additional driver support including Linux drivers and application specific customizations.