bustec
WHEN ACCURACY MATTERS

ProDAQ VXI Data Acquisition Systems

ProDAQ 3048 Intel® Core™ Duo-Based VXIbus Slot-0 Controller

OVERVIEW

The ProDAQ 3048 Intel® Core™ Duo-based slot-0 controller is a PC-compatible, high-performance platform for embedded applications. It supports the 2.16 GHz Intel Core Duo processor T7400 containing two CPU cores and a shared L2 cache. The 667 MHz front-side bus connects the T7400 processor with the Intel E7520 and 6300ESB chipset. Special byte-swap hardware allows data from other VXIbus modules to be converted into the format used by the Intel 80x86 processor family.

PCI/PCI Express Busses

The ProDAQ 3048 features the Intel E7520 memory controller hub, which provides a dual-channel memory interface and 4 PCI Express root ports. The PXI Express ports connect to the dual Gigabit Ethernet interface, the XMC connectors of the PMC expansion slot and the SM722 Super VGA Controller. The 6300ESB I/O controller hub provides the PCI-X bus for the PMC expansion slot and a 32-bit PCI bus which connects to the VXIbus interface.

Super VGA Controller

High-resolution graphics and multimedia quality video are supported on the ProDAQ 3048 by a Silicon Motion SM722 2D/3D graphics controller. Screen resolutions up to 1280x1024 and up to 16 M colors are supported by the graphics adapter.

Ethernet Controller

The ProDAQ 3048 supports two Ethernet LANs ports with an Intel 82571EB Ethernet controller. 10 Base-T, 100 Base-TX and 1000 Base-T are supported via two front-panel RJ45 connectors.

I/O Ports

One 16550-compatible serial port, a combined PS/2 keyboard and mouse connector and two USB 2.0 host controller ports are featured on the ProDAQ 3048 front-panel.

Hard Disk Drive

The ProDAQ 3048 features a high-density 1.8-inch solid state drive. Different capabilities are available.

VXIbus Interface

The VXIbus interface of the ProDAQ 3048 incorporates special byte-swap hardware to allow the big-endian data from other VXIbus modules to be converted into the little-endian format used by the Intel 80x86 processor family. Independent byte swapping for both the master and slave interface and high-throughput DMA swapped transfers are supported.

Trigger Interface

The ProDAQ 3048 supports both the VXIbus TTL and ECL trigger lines. Trigger signals can be generated under software control. On detection of a trigger signal, a local interrupt can be generated.

Features & Benefits

- **Single-slot**, C-size VXIbus slot-0 controller
- **2.16 GHz Intel® Core™ Duo** processor with **667 MHz front-side bus**
- Up to 4 GB **DDR2 SDRAM** (dual-channel architecture)
- **Dual Gigabit Ethernet**, **USB 2.0**, **VGA**, and mouse/keyboard I/F
- **64-bit PMC expansion slot** with **XMC** link
- Automatic **slot-0/non-slot-0** operation

For more information, visit **www.bustec.com**.

Learn more about the **ProDAQ 3048** on our website by scanning the code below.

SPECIFICATIONS

PROCESSOR

Type	Intel Core Duo processor at 2.16 GHz (T7400)
Cache	2 MB on-die level 2 cache
Chipset	Intel E7520 and 6300ESB chipset with 667 MHz system bus

MAIN MEMORY

Type	667 MHz DDR2 SDRAM
Size	Up to 4 GB

I/O PORTS

KB/ Mouse	Combined keyboard/mouse on PS/2 connector
RS232	16550 compatible on RJ-45 connector
Ethernet	Dual 10 Base-T/ 100 BASE-TX/ 1000 Base-T on RJ-45 connector
USB	Dual USB2.0 host controller ports

MASS STORAGE

Interface	Ultra DMA/100
Drive	1.8 in. solid state drive

GRAPHICS INTERFACE

Type	Silicon Motion SM722 2D/3D graphics controller
Resolution	Up to 1280x1024, 16 M colors

VXIBUS INTERFACE

DTB Master	A16, A24, A32, D08-D32, BLT, D64MBLT
DTB Slave	A24, A32, D08-D32, BLT
Arbiter	RR/ PRI
Interrupt Handler/Generator	IRQ 1-7
Trigger Interface	VXIbus TTL Trigger 0-7, VXIbus ECL Trigger 0-1
Byte Swapping	Independent for master and slave interface
Slot-0/System Controller	Auto slot-0 detection or software selectable

IEEE P1386.1 PMC SLOTS

Address Data	A32 and A64, D32 and D64
PCI Bus Clock	33/66/133 MHz
Signaling Env.	3.3 V
I/O Routing	Front-panel
XMC Interface	PCI Express Mezzanine Card interface via x4 PCI Express link

POWER REQUIREMENTS

	Voltage (V)	Current (mA)
Current Consumption	+24	150
	+12	5
	+5	8560
	-2	50
	-5.2	150
	-12	5
	-24	0
	(No PMC module installed.)	
Power Consumption	< 47.4 W	

PHYSICAL CHARACTERISTICS

Dimensions	VXIbus single-slot C-size module
Weight	1450 g

Ordering Information

- **3048-BG** 2.17 GHz Intel® Core™ Duo-based VXIbus slot-0 controller with 4 GB Memory, 64 GB SSD
- **3048-CG** 2.17 GHz Intel® Core™ Duo-based VXIbus slot-0 controller with 4 GB Memory, 128 GB SSD

Related Products

- **3249-AA** Front-panel I/O option

Contact Bustec

- **Europe**
  Bustec Ltd.
  Bustec House
  Shannon, Co. Clare
  Ireland

  T +353 61 707 100
  F +353 61 707 106
  E sales@bustec.com

- **North America**
  Bustec, Inc.
  1507 East Valley Parkway
  Suite 3-412
  Escondido, CA 92027
  U.S.A.

  T 909. 797.0484
  F 760. 751.1284
  E sales@bustec.com

SPECIFICATIONS (CONT.)

ENVIRONMENTAL

Temperature	0°C to +50°C (operational) -40°C to +70°C (storage only)
Humidity	10% - 90% (non-condensing)

SHOCK & VIBRATION

Functional Shock	30g peak, half-sine, 11 ms pulse (Test performed in accordance to IEC 60068-2-27 and MIL-T-28800E class 3.)
Random Vibration	5 to 500 Hz, 0.3g_{RMS} operational 5 to 500 Hz, 2.4g_{RMS} non-operational (In accordance with IEC 60068-2-64 and MIL-T-28800E / MIL-STD-810E meth. 514.)

SOFTWARE SUPPORT

VXI*plug&play* compatible VISA library for Microsoft Windows and VxWorks
(Contact Bustec Ltd. for more information.)

WARRANTY PERIOD

12 months (extended periods available at additional cost)

Ordering Information

- **3048-BG** 2.17 GHz Intel® Core™ Duo-based VXIbus slot-0 controller with 4 GB Memory, 64 GB SSD
- **3048-CG** 2.17 GHz Intel® Core™ Duo-based VXIbus slot-0 controller with 4 GB Memory, 128 GB SSD

Related Products

- **3249-AA** Front-panel I/O option

Contact Bustec

- **Europe**
  Bustec Ltd.
  Bustec House
  Shannon, Co. Clare
  Ireland

  T +353 61 707 100
  F +353 61 707 106
  E sales@bustec.com

- **North America**
  Bustec, Inc.
  1507 East Valley Parkway
  Suite 3-412
  Escondido, CA 92027
  U.S.A.

  T 909. 797.0484
  F 760. 751.1284
  E sales@bustec.com