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WHEN ACCURACY MATTERS

ProDAQ VXI Data Acquisition Systems

ProDAQ 3044 PowerPC-Based VXIbus Slot-0 Controller

OVERVIEW

The ProDAQ 3044 is the first embedded VXIbus slot-0 controller supporting the 2eVME bus transfer protocol, introduced in the VXI-1 Rev. 3.0 standard. The 2eVME protocol allows for practical transfer rates between controllers and instruments of more than 100 MB/s. Along with faster VXIbus transfer rates, the ProDAQ 3044 provides balanced performance from the processor, memory, local buses, and I/O subsystems. The processor, running at speeds of 1.267 GHz, is ideal for data-intensive applications. A state-of-the-art host bridge provides support for a 133 MHz host bus and a 133 MHz DDR memory bus.

The ProDAQ 3044 can be configured for use as a VXIbus processor module in non-slot-0 applications.

To ensure that the MVME6100 series can handle the VXIbus data rates of 2eVME, the Tsi148 interface chip is connected to one of the 133 MHz PCI-X buses on the host bridge. The second PCI-X bus has dual PMC-X sites; each site supports PMC or PMC-X cards, supporting PCI bus speeds from 33 MHz to 100 MHz. The ProDAQ 3044 also offers dual Gigabit Ethernet interfaces. This adds up to a set of well-balanced, high-performance subsystems for unparalleled performance.

I/O Interfaces

The ProDAQ 3044 offers two Gigabit Ethernet interfaces and one serial port.

Slot-0 Capabilities

Automatic slot-0/non-slot-0 detection enables the ProDAQ 3044 to be used as a VXIbus slot-0 controller or VXIbus processor module in non-slot-0 applications.

Trigger Interface

The ProDAQ 3044 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. The ProDAQ 3249 front-panel I/O option can be used to provide front-panel trigger and CLK10 I/O capability.

Features & Benefits

- **Single-slot**, C-size VXIbus slot-0 controller
- **1.267 GHz PowerPC** 7457 with **2 MB L3 cache**
- 512 MB or 1 GB ECC-protected **SDRAM**, 128 MB **flash memory**
- Two **Gigabit Ethernet interfaces**
- Support for **2eVME transfers** introduced in VXI-1 Rev. 3.0
- Two **PMC expansion slots** with **front-panel I/O**
- Automatic **slot-0/non-slot-0** operation

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

Learn more about the **ProDAQ 3044** on our website by scanning the code below.

SPECIFICATIONS

PROCESSOR	
Type	PowerPC7457 with AltiVec™
Clock Freq.	1.267 GHz
On-chip L1 Cache	32 kB Instruction / 32 kB Data
On-chip L2 Cache	512 kB
L3 Cache	2 MB SRAM

MEMORY:	MAIN	FLASH
Type	PC133 ECC-protected SDRAM	Onboard programmable
Size	512 MB or 1 GB onboard	Two banks of 64 MB onboard

INTERFACES/ PORT:	ETHERNET	SERIAL PORT
Type	Dual 10/100/1000 BASE-TX	Asynchronous
Controller	Controller integrated in system controller	16C550C
Connector	RJ-45 on front-panel	RJ-45 on front-panel

COUNTERS/ TIMERS	
Device	M4T28
Counter/Timer	Four 32-bit
Watchdog Timer	Reset on timeout

VXIBUS INTERFACE	
DTB Master	A16, A24, A32, D08-D32, BLT, D64MBLT, 2eVME
DTB Slave	A24, A32, D08-D32, BLT, D64MBLT, 2eVME
Arbiter	RR/ PRI
Interrupt Handler/Generator	IRQ 1-7
Trigger Interface	VXIbus TTL Trigger 0-7, VXIbus ECL Trigger 0-1
Slot-0/System Controller	Auto slot-0 detection

IEEE P1386.1 PMC SLOTS	
Address Data	A32, D32 and D64
PCI Bus Clock	33/66/100 MHz
Signaling Env.	3.3 V, 5 V tolerant
Power	+3.3 V, +5 V, ±12 V, 7.5 W max. per slot
Module Types	One double-wide or two single-wide
IO Routing	Front-panel

POWER REQUIREMENTS		
Current Consumption	Voltage (V)	Current (mA)
	+24	80
	+12	15
	+5	8500
	-2	50
	-5.2	150
	-12	10
	-24	0
Power Consumption	< 45.6 W	

PHYSICAL CHARACTERISTICS	
Dimensions	VXIbus single-slot C-size module
Weight	1150 g

Ordering Information

- **3044-AD** PowerPC-Based VXIbus slot-0 controller with 1.267 GHz PowerPC 7457, 512 MB DRAM, 128 MB flash
- **3044-AE** PowerPC-Based VXIbus slot-0 controller with 1.267 GHz PowerPC 7457, 1024 MB DRAM, 128 MB flash

Related Products

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

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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 VxWorks (Contact Bustec Ltd. for more information)

WARRANTY PERIOD

12 months (extended periods available at additional cost)

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