



Application Note: Trenton System Host Board (SHB) and IOBxx Compatibility
Date: January 21, 2009

Introduction

This application note explains which version of an optional IOB30, IOB31 or IOB32 I/O expansion board should be used with specific Trenton system host boards. IOB31 SHB and Trenton PICMG 1.3 backplane compatibility is also explained.

Trenton System Host Board (SHB) and IOBxx Compatibility Chart

IOB Module	T4L (6483)	TML (6490)	TQ9 (6731)	MCG-Series (6680, 6690, 6675, 6695)	NLI/NLT (6313, 6396)	SLT/SLI (6515, 6521)	MCX-Series (6633, 6685, 6638, 6700)
IOB32NI (6830-001)			X	X			X
IOB32MC (6830-002)			X	X			X
IOB31 (6474-000)	X	X	X	X	X	X	X
IOB30 (6391-000)	X	X			X	X	
IOB30MC (6391-001)			X	X			X

IOB32 Product Description

Trenton's IOB32 is an optional, plug-in module that enables Trusted Platform Module or TPM 1.2 functionality in a system using a Trenton PICMG 1.3 system host board. Two versions of the IOB32 are available for use on the Trenton TQ9 SHB or any model of Trenton's MCX- or MCG-series of SHBs. The model **IOB32MC (model number 6830-002)** supports the TPM 1.2 functions while providing expanded I/O support for serial communication ports, floppy drive and parallel printer interfaces, PS/2 pointing devices and keyboards. Model **IOB32NI (6830-001)** only provides TPM 1.2 support for systems that do not need expanded I/O functionality. A controlled impedance connector provides a high-integrity electrical connection between the IOB32 and the SHB and mounting hardware is included to provide a robust mechanical connection between the IOB32 and the SHB.



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IOB31 Product Description

The IOB31 complements the advanced USB and SATA I/O capability of the SHBs by providing on-board headers to support additional I/O such as serial communication ports, floppy drive and parallel printer interfaces, PS/2 pointing devices and keyboards. Cables are needed to go from the IOB31 headers to the system I/O devices. There is no I/O plate for the IOB31. This IOB version enables PCI Express backplane link expansion by providing a x4 PCI Express edge connector that connects to the **PCI Express expansion slot** on the following PICMG 1.3 Trenton backplanes:

- BPX6806
- BPX3/14
- BPX5
- BPX6620
- BPX6719
- BPG4
- BPG6544
- BPG6600
- BPG6714

The additional PCI Express backplane interface provided by the IOB31 is either a x1 or x4 PCIe link. The specific link width routed to a backplane depends on which Trenton SHB is used with the IOB31. This extra PCIe link to the backplane expands the capabilities of the PICMG 1.3 backplanes by extending the number of PCI Express links allowed in the PICMG 1.3 specification, which results in increasing the number of high-speed devices, and backplane card slots supported on a PICMG 1.3 backplane.

IOB30 Product Description

The IOB30 is an optional I/O expansion board that connects to the controlled impedance connector (P20) on a Trenton PICMG 1.3 system host board to complement the advanced USB and SATA I/O capability of the SHBs by providing additional I/O support for serial communication ports, floppy drive and parallel printer interfaces, PS/2 pointing devices and keyboards. A combo I/O plate is provided with the IOB30 and attaches to the SHB using the connector hardware and the SHB's mounting tab. The Ethernet connectors used on the Trenton TQ9, MCG-series and MCX-series SHBs required an IOB30 I/O plate with a different opening for the LANs; therefore, the **IOB30MC (model number 6391-001)** must be used on these SHBs. The other SHBs (T4L, TML, SLI, SLT, NLI and NLT) use the **IOB30 (model number 6391-000)** version. The IOB30 is secured to a Trenton PICMG 1.3 system host board using the provided standoffs and IOB30 mounting hardware.