

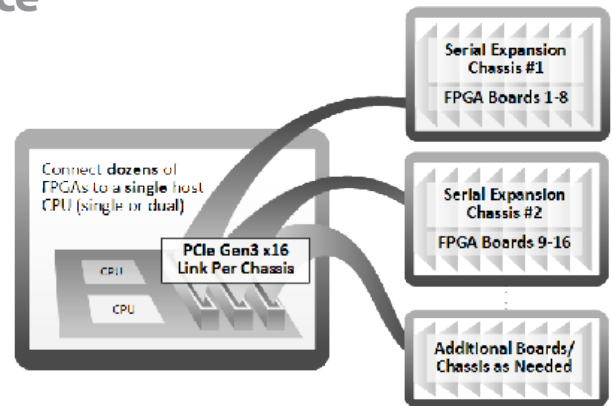


TeraBox X5000TT 5U Expansion Chassis



Multi-FPGA system for high performance computing & network processing

High performance computing (HPC) and network/packet processing applications demand high-power processing and low-latency I/O. BittWare's Serial Expansion Chassis delivers both, with up to 4.6 Terabits/sec of I/O and the processing power of up to 8 large FPGAs. A scalable, high-performance FPGA platform, it is a turnkey solution that arrives tested and configured, ready for you to begin developing your application. Connect multiple TeraBox X5000TT expansion chassis to a server, such as BittWare's TeraBox 4000S, and you can have dozens of FPGAs connected to the same host.



key features

Up to **32 QSFPs**
for 64x 100G or
256x 10/25G

5U

8 FPGAs in a
5U server

Single Slot Standard Height
Double Slot

Fits any BittWare PCIe Board
using Xilinx or Intel FPGAs

128Gb/s of bidirectional
bandwidth to the host server

Up to eight double-width
FPGA boards

1200W micro-redundant
power supply



chassis key specs

5U, depth 18in (457mm)

Host card: PEU8039 x16 PCIe host card

Expansion cable: 128Gb/s, 1 or 3 meters

Slots: 8x PCIe Gen3 x16

Power supply: 1200W micro-redundant

TeraBox X5000TT

5U Expansion Chassis

FPGA Boards

The TeraBox X5000TT supports up to eight BittWare PCIe boards. Choose from variety of boards based on the UltraScale+ or Stratix 10 FPGAs. System specs will vary greatly, depending on the FPGA board you select. For example with eight BittWare XUP-P3R PCIe boards, which support up to 512Gbytes of DDR4 per board, the chassis can support as much as 4 Terabytes of memory with 4.9 Terabits/sec of memory bandwidth. With four Stratix 10 boards, each chassis supports 16.8 million logic elements.

Development Support

BittWare offers complete development support for the PCIe boards in the TeraBox X5000TT system. Use BittWare's BittWorks II Toolkit – a collection of libraries and applications that provides complete hardware and FPGA interfaces – along with BittWare's FPGA examples for traditional HDL FPGA development. Or use SDAccel or OpenCL for a high-level software-like FPGA development flow.

The TeraBox Advantage

Choosing a TeraBox FPGA server means knowing you are getting a pre-configured and tested solution. This includes setup and installation of your FPGA boards and associated hardware, your choice of operating system, and development tools. Your TeraBox arrives ready for use—giving your team more time for development and deployment.

Example System Configuration

The table below lists system totals when populated with eight boards:

	FPGA	Boards in Server	Memory	I/O	Processing
XUP-VV8	UltraScale+ VU13P	8	<ul style="list-style-type: none">32 banks DDR4 (up to 4 Terabytes)64 banks QDRII+ (up to 18.4 Gbits)	<ul style="list-style-type: none">4.6 Terabits/sec64x 100/50/40/25/10 GbE	<ul style="list-style-type: none">30.4 million system logic cellsUp to 98.304 DSP slices
520N-MX	Stratix 10 MX	8	<ul style="list-style-type: none">16 banks DDR4 (up to 2 Terabytes)32 banks QDRII+ (up to 4.6 Gbits)	<ul style="list-style-type: none">2.3 Terabits/sec32x 100/50/40/25/10 GbE	<ul style="list-style-type: none">16.8 million system logic elements128 GBytes HBM2

Server Specifications

Trenton Systems TTX5100

- PCIe Gen2 expansion system (Gen3 available soon)
- 5U rackmount chassis: 19.0"/483mm (W) x 8.75"/222mm (H) x 18.0"/457mm (D)
- Single USB interface to all boards in chassis, via a front panel USB port on the chassis
- PEU8039 PCIe host card for PCIe over cable I/O
- PED8044 PCIe target card for PCIe over cable I/O
- 1U micro-redundant 1200W ATX power supply
- Supports up to 8 double-wide Gen2 x16 boards
- 128 Gb/s host bus-to-expansion systems bandwidth (shared across all boards)
- One- or three-meter expansion cable

To learn more, visit www.BittWare.com

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