

OVERVIEW

Pico Computing's SC6 systems are the highest density air-cooled FPGA-accelerated computing machines in the world. The SC6-1U is a complete, standalone rackmount system aimed at high performance computing applications. It is orders of magnitude faster than conventional servers while consuming a fraction of their energy.

Using Pico's revolutionary software framework, seamless system migration is made possible, as users maintain a familiar Linux work environment. All SC6 systems are PCIe Gen 3 and fully "plug and play" with the various M-series modules.

Applications

Typical applications include big data, data mining, security and defense, bioinformatics, cryptography, complex simulations/emulations, image and signal processing, transaction verification, and applied financial analytics.



SPECIFICATION SUMMARY

- Up to 16 AC-series modules with Xilinx UltraScale Kintex, or Altera Arria 10 FPGAs
- 10-core Xeon E5 2650 V3 Haswell, 2.3 GHz
- Up to 512 GB DDR4 ECC host memory
- 4 x 2.5" internal HDD
- Fully Switched PCIe Gen 3 architecture
- Realtek 8111E LAN
- 12 Hot-Swap fans
- 1,800W RPSU (1+1) power supplies

Specifications & Configurations

SC6-1U SuperComputer					
	SC6-4U/AC-510	SC6-4U/AC-520	SC6-4U/AC-505	SC6-4U/AC-506	SC6-4U/801
Module	AC-510	AC-520	M-505	M-506	EX-801
FPGAs per Module	1	1	1	1	4*
Max Modules per System	16	16	16	16	1*
FPGA Product No.	Kintex UltraScale	Arria 10	Kintex-7 K325T	Stratix V	Stratix V
Module Bandwidth to Host	x8 PCIe Gen 2	x8 PCIe Gen 2	x8 PCIe Gen 2	x8 PCIe Gen 2	x16 PCIe Gen 3 / x8 PCIe Gen 3
Host Bandwidth	x16 PCIe Gen 3	x16 PCIe Gen 3	x16 PCIe Gen 3	x16 PCIe Gen 3	x16 PCIe Gen 3
Total Local FPGA Memory	4GB HMC	4GB HMC	384GB	384GB	32GB DDR3 4GB HMC
Chassis	1U	1U	1U	1U	1U
Module Resources					
Memory per FPGA	4GB HMC	4GB HMC	8GB DDR3 SODIMM	8GB DDR3 SODIMM	8GB DDR3 1 HMC Link (1G)

* The EX-801 is a fixed-configuration board, versus Pico Computing's backplane/snap-in AC-Series module-based architecture.

Chassis	
Form Factor	1U Chassis
Dimensions	1.7 x 17.2 x 28.2 inches 43 x 437 x 716 mm
Gross Weight	48 lbs / 21.8 (max)
Power Supply	
Input	AC 200-240V
Frequency	50-60 Hertz
Output	1800 W Max, 10-8.5A Platinum Certified
Host System	
Processor	Intel Xeon E5 2600 Dual Socket R (LGA 2011)
DIMM Quantity	8 DDR3 DIMM Slots Up to 64GB DDR4
LAN	2 x RJ45 10GBase-T Ports
USB	2 x USB 2.0
*Specifications Subject to Change Without Notice	