

# The Metal CUBE Desktop Expansion Enclosures



These sturdy appliances offer performance gains to any laptop or workstation via either Thunderbolt or PCIe high speed connection. The μCUBE3, CUBE2 and CUBE3, all with internal power supplies are now available in a sleek metal chassis. These chassis are ideal for mobile applications where ruggedness is required. All models connect to a PC or Mac through a high speed PCIe cable. You can choose from a number of PCIe expansion options for all CUBE models including PCIe x1, x4, x8, and x16 connections along with the latest Gen3 x8 and x16 options. The CUBE2 can also connect to a Thunderbolt-enabled computer through a Thunderbolt cable. The appropriate cable is always provided with an OSS expansion product. With a wide variety of PCIe cards, these products can easily add tremendous power to a laptop or computer. The CUBE expansion enclosures have found wide acceptance in design and test applications. They provide an ideal platform for software designers and test engineers designing new PCIe cards. But many applications require more rugged units that are moved to multiple locations and can withstand continual handling. The new all-steel enclosures answer this demand while keeping the same leading-edge electronics as their hard plastic counterparts and retaining the same easy-to-use design.

## Key Features

- **Increase System Functionality:** Add a wide variety of PCIe add-in cards to your laptop or computer via PCIe or Thunderbolt
- **Slot Variety:** The CUBEs have a wide variety of slots for different PCIe add-in card needs:
  - The μCUBE3 supports up to five full-height, single-wide PCIe cards up to 9.55" long
  - The CUBE2 supports up to five single-wide or two double-wide full-height PCIe cards up to 13.25" long
  - The CUBE3 supports up to eight single-wide or four double-wide full-height PCIe cards up to 13.25" long
- **Ample Power:** The CUBEs have internal power supplies that can support multiple high end PCIe cards:
  - The μCUBE2 has a 400-watt internal power supply
  - The CUBE2 has a 550-watt internal power supply
  - The CUBE3 has two 550-watt internal power supplies
- **Ample Cooling:** All CUBEs are designed to sufficiently cool a variety of PCIe add-in cards
- **Easy Installation:** Add-in cards can be installed and ready to go within minutes. All CUBEs come with an easy Quick Start Guide for your convenience
- **No Additional Drivers Required:** The CUBE line of expansion enclosures uses the PCIe bus so the add-in cards are operating on the same PCIe bus as the motherboard. No software conversion is required from the host system to the device

# Thunderbolt and PCIe Connections

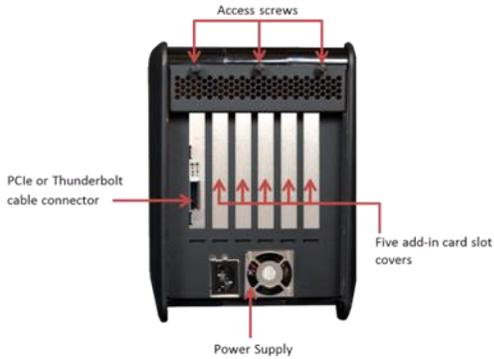


All models of The CUBE connect to a PC or Mac through a high speed PCIe cable. You can choose from a number of PCIe expansion options for all CUBE models including PCIe x1, x4, x8, and x16 connections along with the latest Gen3 x8 and x16 options. Among the many advantages of PCIe is that the PCIe bus can be transmitted over a cable to another device and it has some of the fastest speeds and lowest

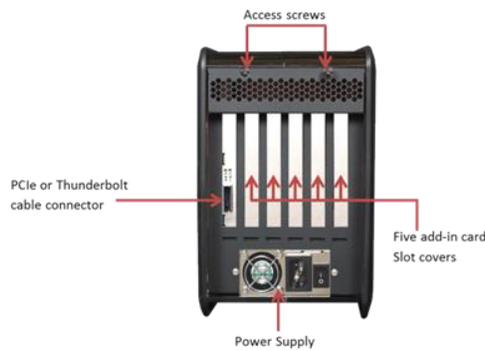


latency of cable connections. Gen3 x16 operates at speeds up to 128Gb/s. The CUBE2 can also connect to a Thunderbolt-enabled computer through a Thunderbolt cable. Compared to Thunderbolt 1, Thunderbolt 2 doubles the speed of the data path to 20Gb/s and increases the bandwidth of the Display Port to 20 Gb/s. The Thunderbolt 2 Option Card installs in the CUBE chassis and converts the Thunderbolt bus from the computer to PCIe.

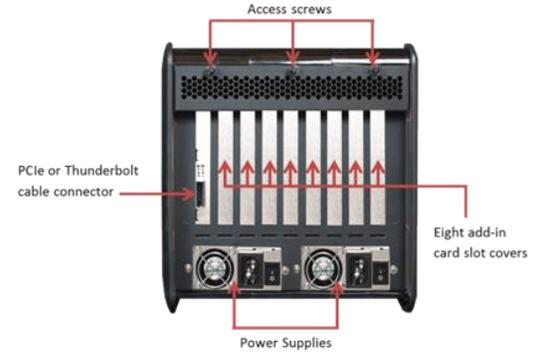
## μCUBE3 Rear



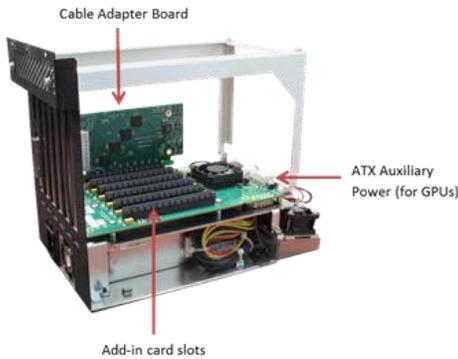
## CUBE2 Rear



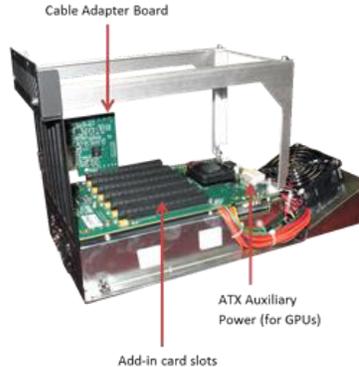
## CUBE3 Rear



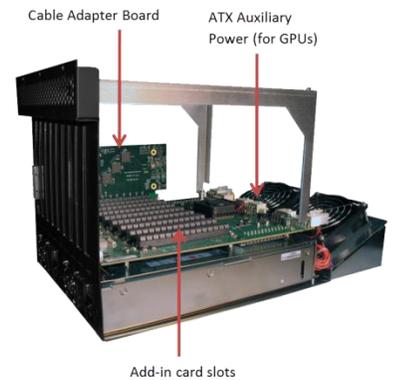
## μCUBE3 Sled



## CUBE2 Sled



## CUBE3 Sled



## Metal Chassis



The larger CUBEs now come in an 18 gauge steel chassis. The metal chassis of The  $\mu$ CUBE3, CUBE2 and CUBE3 keep the same leading-edge electronics as their hard plastic counterparts while

retaining the same easy-to-use design. These three CUBEs all have internal power supplies, unlike the smaller versions that utilize external power supplies. Since these three CUBEs are larger and heavier, the metal chassis provides additional stability and ruggedness. The metal CUBEs have the same internal electronics and are still portable so they are the perfect companion for mobile applications. The metal chassis also have rubber feet that prevent the metal from scratching work surfaces.

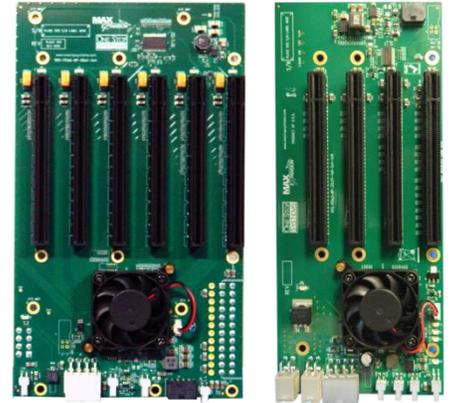
## Power and Cooling

All of our CUBEs, including the three all-metal CUBES, are designed and tested to provide ample power and cooling for a wide variety of PCIe add-in cards. The  $\mu$ CUBE3 has an internal 400W power supply and three fans that are 40mm x 20mm, 8.8 CFM and 36DB. The CUBE2 has an internal 550W power supply and one fan that is 80mm x 25mm, 42 CFM and 30DB. The CUBE3 has dual internal 550W power supplies and two fans that are 80mm x 25mm, 42 CFM and 30DB. One Stop Systems can also offer custom liquid cooling options if customers want to use cards that require more cooling.



## CUBE Backplanes

One Stop System's makes a wide variety of expansion backplanes in different shapes and sizes, with varying numbers and types of PCIe



slots. All of our backplanes meet the PCI-SIG Standards and we continue to add more backplanes to the CUBE product line. The Metal CUBEs use two different backplanes: The  $\mu$ CUBE3 and the CUBE 2 use a 5-slot backplane and the CUBE3 uses one of two 8-slot backplanes. The 5-slot backplane has five Gen2 x4 slots and one Gen2 x4 target slot. The 8-slot backplane has either eight Gen3 x4 slots and one Gen3 x16 target slot or eight Gen3 x8 slots and one Gen3 x16 target slot.

## Add-In Cards



All OSS products are vendor agnostic, allowing our customers to use a wide variety of PCIe cards with laptops and computers from different manufacturers. Many CUBE customers have used the CUBE to add PCIe cards made by NVIDIA, AMD, Intel, SanDisk, GeForce, OWC, Blackmagic,

ASUS and many more to their laptops and computers. Since The CUBES use PCIe to connect to the host system, the PCIe add-in cards act as if they were installed in the system. This means the CUBEs do not require any drivers other than those required by the PCIe add-in card.