



Premier Industrial GPU Computers

The progression of technology in big industry has transformed many times over in order to improve production efficiency. As new data information is being captured in every device as part of an entire industrial system, there are new opportunities to utilize these bits of data and turn them into actionable results for expanded growth. At the forefront, manufacturing and automation are making major changes to the industrial process with smart computing at its core, i.e. "Industry 4.0." This growing effort to advance automation technology includes cyber-physical systems, Industrial Internet of Things (IIOT), cloud computing, and cognitive computing (AI) to move the industry into the next phase.

The goal of Industry 4.0 is to incorporate smarter machines into the manufacturing process with the ability to make calculated decisions grounded upon what is most effective. This is enabled by the amount of data aggregated and exchanged throughout a smart factory with powerful edge computers processing information on-site to instantly detect complications and make decentralized decisions when capable. The increased output of useful information from these interconnected systems will require stronger computers to manage larger workloads.

Cheetah remains the champion in robust embedded edge computing solutions for companies embracing Industry 4.0. In keeping up with higher computing demand, Cheetah offers the RCO/MCO-7020-1050TI series designed to operate on the edge for optimize communication among cyber-physical systems. This allows applications to leverage resources outside of a cloud network that require autonomy, reduced latency, and significant bandwidth such as autonomous vehicles.

Cheetah's RCO/MCO-7020 series is designed to withstand adverse factory environments with its rugged DNA. It can sustain wide temperature ranges from -25°C to 60°C and voltage ratings of 9~50VDC, giving it the industrial durability to meet military standard specifications. Constructed with extruded aluminum and heavy-duty metal for toughness, the RCO/MCO-7020 also goes through rigorous shock and vibration testing to ensure continuous operation under strenuous conditions. On top of a cable-less design, the solid structure behind Cheetah's Industrial GPU computers aims to eliminate possible points-of-failure for superior reliability and minimal downtime.

KEY APPLICATIONS:



KEY BENEFITS:

INDUSTRIAL NVIDIA GEFORCE GTX 1050 TI

The RCO/MCO-7020-1050TI features Nvidia's remarkable Pascal architecture to meet the high demands of graphic processing power. The GTX1050 Ti boasts improved power-efficiency in addition to a 17% performance increase with a smaller form factor striking the perfect balance for industrial use. With 768 CUDA cores working in parallel, the RCO/MCO-7020 is optimized for applications needing high-end image processing for advanced machine vision, motion control, and even autonomous vehicle guidance. Staying true to Cheetah's rugged DNA, the GTX 1050 Ti sports a max 75W TDP removing the need for supplemental power and minimizing thermal output. Cheetah offers the best dependability with the RCO/MCO-7020-1050ti with a long-term 3-year supply to sustain a fixed-BOM product lifecycles.

WIDE TEMPERATURE + WIDE RANGE VOLTAGE

Cheetah's RCO/MCO-7020 industrial GPU solutions are constructed with heavy duty and industrial-grade materials in order to withstand extreme environments. The wide operating temperature of -25°C to 60°C assures that the industrial GPU computer is reliable throughout different factory conditions. For protection against wide voltage levels ranging from 9 to 50VDC, the system comes with power safety measures protecting against overcurrent, over voltage, and reverse voltage.

CABLE-LESS DESIGN

Delivering high quality, durable, and compact construction, the RCO/MCO-7020-1050ti leverages a reliable cable-free configuration. The solid structure is built to tolerate high shock and vibration levels up to 5Grms and also grants optimal thermal dissipation throughout the chassis. The intuitive design allows for easy installation and a user-friendly deployment in any setting.

INTEL 6/7th GEN PROCESSOR

The RCO/MCO-7020 Industrial GPU computers are designed with Intel 6/7th Gen Processors for the best IIoT hardware performance. With improved processing and graphics performance, Intel CPUs are optimized for machine and computer vision by offloading graphics processing from primary CPU cores. These dedicated graphics engines are designed for power efficiency and work in parallel operation for performance throughput. With continued compatibility for 6th Gen Intel processors, the RCO/MCO-7020 series also provides support for legacy hardware and software protocols when necessary.



COMPLETE LINE OF EMBEDDED SYSTEM SOLUTIONS ALSO AVAILABLE:

Server & Storage Product Briefs:

GPU Computing Systems – GPU Series

Machine Vision Systems – MCO Series

Rugged Fan-less Systems – RCO Series

In-Vehicle Fan-less Systems – VFL Series

Basic Fan-less Systems – BFL Series






NVIDIA® GEFORCE® GTX 1050ti GRAPHICS PROCESSING UNIT (GPU)

Manufactured on the latest 14 nm FinFET technology, these GPUs built on NVIDIA Pascal™ architecture provides stunning performance and greater energy efficiency to drive advanced edge systems for parallel computing applications. The increase in performance with lower power consumption creates a perfect balance designed on a smaller footprint. With a max TDP of 75W, there is no supplemental power required making it an ideal low-power option for industrial and manufacturing flexibility.

KEY PLATFORM HIGHLIGHTS:

- Based on NVIDIA Pascal architecture featuring 768 CUDA cores and 4GB GDDR5 memory for highly efficient parallel processing applications.
- Improved power efficiency – 17% faster graphical performance and 16% lower TDP (75W) than previous generation cards.
- Unlock the power of CUDA technology to utilize the GPU's processor cores to accelerate demanding tasks such as transcoding, simulation, deep learning, and more.
- 8K Ultra HD support – now up to 7680 x 4320 resolution and supports up to three independent displays.

| MCO/RCO-7020-1050Ti Series | VCO-7020-1050Ti | RCO-7020-1050Ti |
|---|---|---|
|  |  |  |
| Ordering P/N | MCO-7020-1050ti -P | RCO-7020-1050TI-P |
| Drive Bays | 2x Removable 2.5" SATA HDD Bay ; 2x mSATA (shared by 2x Mini PCIe) | 2x Removable 2.5" SATA HDD Bay ; 2x Internal 2.5" SATA HDD Bay 2x mSATA (shared by 2x Mini PCIe) |
| Mini PCIe Slots | 3x Full-size Mini PCIe (shared by 2x mSATA) | 4x Full-size Mini PCIe (shared by 2x mSATA) |
| Ports Accessibility | All front facing ports Ideal for factory line mounting | Front & rear facing ports |
| Vibration Rating | 3 Grms , Ideal for stationary factory line mount" | Higher 5 Grms , Ideal for mobile mount in cars or carts |
| Wide Range Temperature | -25C to 70C (-13F to 158F) | -25C to 70C (-13F to 158F) |
| Wide Range Voltage | 9~50VDC | 9~48VDC |
| Expandability | 2x mini PCIe slots | 2x universal slots for additional ports, 2x mini PCIe slots |
| Communication | Wifi optional; 2x antenna holes | Wifi and Cellular (4G/LTE) optional; 4x antenna holes |
| Mounting | Wallmount, Bookmount, or DIN rail | Wallmount |
| Processor | - 7 th Gen Intel® Core™ i7-7700T, Quad Core, 8MB cache, up to 3.8 GHz - 7 th Gen Intel® Core™ i5-7500T, Quad Core, 6MB cache, up to 3.3 GHz - 7 th Gen Intel® Core™ i3-7101TE, Dual Core, 3MB Cache, 3.4 GHz | - 6 th Gen Intel® Core™ i7-6700TE, Quad Core, 8MB Cache, up to 3.4 GHz - 6 th Gen Intel® Core™ i5-6500TE, Quad Core, 6MB Cache, up to 3.3 GHz - 6 th Gen Intel® Core™ i3-6100TE, Dual Core, 4MB Cache, 2.7 GHz |
| Chipset | Intel Q170 | |
| Memory | 2x DDR4 1866/2133MHz SODIMM, Max. up to 32GB | |
| Digital I/O Ports | 8 in / 8 out isolated | |
| Video Ports | 2x DVI-I, 1x HDMI, 3x DisplayPort | |



Cheetah Raid
STORAGE