RYLEE C.V. 1.0
Specification Sheet

MAXX TECHNOLOGIES

More than 400 Trillion Calculations per Second

The Rylee C.V. 1.0 Computer Vision Server is available in both a 4u blade configuration for data center applications and in a tower configuration for field applications. The Rylee C.V. 1.0 is the most powerful computer vision machine in its class.

The Rylee C.V. 1.0 is the first in a series of MAXX specialty computer vision machines.

The Rylee C.V. 1.0 offers the most advanced NVIDIA GPU processors for deep learning in a complex computer visual environment. The Rylee C.V. 1.0 is optimized for PyTorch and Tensorflow computations. Powered by the latest NVIDIA Ampere architecture, coupled with AMD EPYC or Intel Xeon processors, our computer vision servers deliver unbeatable performance and scalability for your most demanding visual applications. The Rylee C.V. 1.0 permits you to quickly and easily train your system to see better and faster than conventional machines. The Rylee C.V. 1.0 is the first in a series of computer vision servers that will range in power from 400 trillion to 9,000 trillion calculations per second (i.e., 400 to 9,000 teraflops). The Rylee C.V. 1.0 is powered by two NVIDIA 3090 vision processors, synchronized with two AMD 32-Core 2.50 GHz AMD EPYC 7502 with 64 accessible cores. The Rylee C.V. 1.0 Computer Vision Server is an eight-socket/4U rack server that delivers outstanding performance for complex bounding box and lidar sensor workloads. It supports 64 channels and up to 128 DDR4 DIMMs @ 6400 MT/s speeds. In addition, to address substantial throughput visual demands, the Rylee C.V. 1.0 Computer Vision Server supports PCIe Gen 4 and up to 14 NVMe drives with Direct CPU Liquid Cooling as well as high cycle air cooling for the GPU Vision Processors. This makes the 32-Core 2.50 GHz AMD EPYC 7502 an ideal server for up to twenty (20) simultaneous computer vision feedback loops, or equivalent workloads,

Increase the complexity and speed of complex feedback loops

The Rylee C.V. 1.0 is designed to conquer complex 3-D graphical infrastructure. Using proprietary end-to-end video tools, the Rylee C.V. 1.0 can deliver trillions of feedback loops per second, permitting the management of large-scale complex visual environments. The preloaded bounding box software detects and recognizes visual complexities in the environment as captured by more than a dozen cameras and a dozen of lidar sensors, thus permitting the automation you need to manage the most complex visual environment.

- Sixty-four channels of visual feedback loops, with requisite heat management, relying on a PyTorch or TensorFlow bounding box environment.
- Intuitive automation invites cooperation between human input and system capabilities, in order to scale up video production and delivery.
- Integrated change management capabilities for update planning and seamless, zero-touch configuration and implementation
- Full-stack management integration with Microsoft, VMware, ServiceNow, Linux, Moodle, and many other tools

Predict movement in your visual environment

The Rylee C.V .1.0 computer vision server is designed with a cyber-resilient architecture, integrating security deeply into every phase in the machine's lifecycle, from design to retirement.

- Operate in a secure environment anchored by cryptographically trusted booting, undergirded by a silicon root security platform.
- Video server firmware safety through regular firmware updates.
- Prevent unauthorized configuration changes or firmware perversion with remote system lockdown.
- Securely and quickly wipe all data from storage media, with up to 112 terabytes of solid-state memory, with instantaneous system-wide data erasure.

The Rylee 1.0 Computer Vision Server offers compelling performance, high-speed memory and capacity, I/O bandwidth and storage to address computer vision processing requirements – Ideal for:

- Lidar Dense Applications
- Machine Learning
- Bounding Box Infrastructure
- Artificial Intelligence

Features & Options	Technical Specifications	
Motherboard	MBD-H12DSi-N6-O Extended ATX Server Motherboard Socket SP3 • Dual AMD EPYC 7003/7002 Series Processors • 4TB Registered ECC DDR4 3200MHz SDRAM in 16 DIMMs • Expansion slots: • 3 PCI-E 4.0 x16 slots, 3 PCI-E 4.0 x8 slots • M.2 Interface: 1 PCI-E 4.0 x4 • M.2 Form Factor: 2280, 22110 • M.2 Key: M-key • 10 SATA3, 2 SATADOM, 4 NV Me	
Processors X 2	AMD EPYC 7302 3.0 GHz 128MB L3 Cache Socket SP3 155W 100-000000043 Server Processor • CPU Socket Type = Socket SP3 • # Of Cores = 64 • # Of Threads = 32 Operating Frequency = 3.0 GHz • Max Turbo Frequency = 3.3 GHz • L3 Cache = 128MB • Integrated Memory Controller Speed = 3200 MHz • Memory Channel = 8 Channel • PCI Express Revision = 4.0 • Max # of PCI Express Lanes = 128 • Thermal Design Power = 155w	
GPU X 2	NVIDIA EVGA 3090 FTW3 ULTRA GAMING Video Card, 24G-P5-3987-KR, 24GB GDDR6X, iCX3 Technology • Interface = PCI Express 4.0 • Boost Clock = 1800 MHZ • CUDA Cores = 10496 • Effective Memory Clock = 19500 • Memory Size 24GB • Memory Interface = 384-Bit • Memory Type = GDDR6X • Ports = 1 x HDMI 2.1 & 3 x DisplayPort 1.4a • Thermal Design Power = 350W	
Storage (Upgradable)	Internal Solid-State Drive (SSD): Dual Storage: PCIe Gen 4.0 x4, NV Me 1.3c & SATA III interfaces • MZ-V8P2T0B/AM • SDSSDA-2T00-G26	
Memory 128GB RAM per processor = 256 GB of RAM	DDR4 DIMM slots, supports RDIMM 2 TB min or LRDIMM 14 TB max, speeds up to 3200 MT/s • Up to 16 Intel Persistent Memory 200 series (BPS) slots, 8 TB max • Supports registered ECC DDR4 DIMMs only	
Storage controllers	INTERNAL CONTROLLERS: PERC H745, HBA355I, S150, H355, H345, H755, H755N • Boot Optimized Storage Subsystem (BOSS-S1): HW RAID 2 x M.2 SSDs 240 GB or 480 GB • Boot Optimized Storage Subsystem (BOSS-S2): HW RAID 2 x M.2 SSDs 240 GB or 480 GB • External PERC (RAID): PERC H840, HBA355E	
Drive Bays	FRONT BAYS: • Up to 10 x 2.5-inch SAS/SATA/NV Me (HDD/SSD) max 153 TB • Up to 4 x 3.5-inch SAS/SATA (HDD/SSD) max 64 TB • Up to 8 x 2.5-inch SAS/SATA/NV Me (HDD/SSD) • max 122.8 TB REAR BAYS: • Up to 2 x 2.5-inch SAS/SATA/NV Me (HDD/SSD) max 30.7 TB	
Power Supplies	• 800 W Platinum AC/240 Mixed Mode • 1100 W Titanium AC/240 Mixed Mode • 1400 W Platinum AC/240 Mixed Mode • 1100 W DC -48 - 60 V • Dark Power 12 ATX12V / EPS12V 1500W	
Cooling / Fans	GPU air cooling and liquid cooling for the processor. • Standard fan/High-performance SLVR fan/High-performance GOLD fan • Up to four sets (dual fan module) hot-plug fans	
Dimensions	• Height – 1600.2 mm (6.3 inches) • Width – 482 mm (18.97 inches) • Depth – 809 mm (31.85 inches)	
Embedded Management	• iDRAC9 • iDRAC Service Module • iDRAC Direct • Quick Sync 2 wireless module	
Form Factor / Bezel	4U rack server Optional LCD bezel or security bezel	
Mobility	Open Manage Mobile	
Integrations and Connections	Open Manage Integrations • BMC True sight • Microsoft System Center • Red Hat Ansible Modules • VMware vCenter and vRealize Operations Manager	Open Manage Connections • IBM Tivoli Netcool/Omnibus • IBM Tivoli Network Manager IP Edition • Micro Focus Operations Manager • Nagios Core • Nagios XI

+1(281) 801-8080
sales@maxxtech.net

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