



# M1U-20

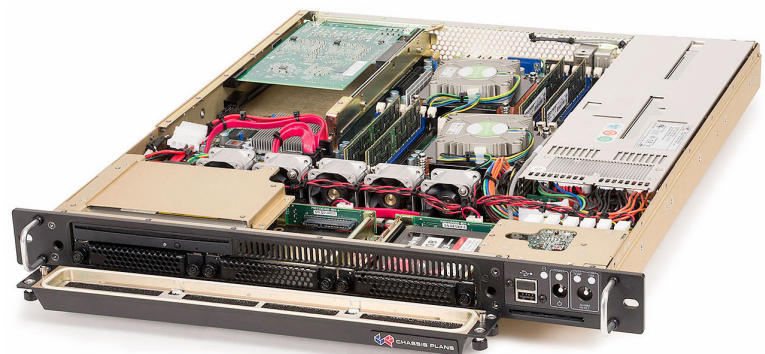
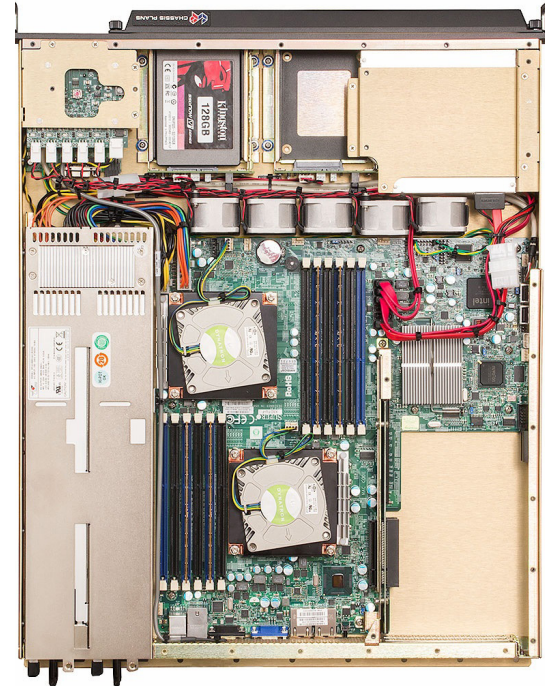
1U HIGH  
PERFORMANCE  
COMPUTER

## 1U COMPUTER

Our M1U-20 computing platform is a high-powered system in a small form factor, appropriate for computationally intense military applications. It has exceptional strength and built-in redundancy, is low weight, and contains our proprietary SysCool® thermal management system. SysCool® extends the life of the computing system, reduces power consumption, and lowers overall system noise levels. The M1U-20 system is ideal for those seeking a rugged rackmount 1U system designed to perform in confined spaces. Uniquely offered with an attached front door with integrated air (or optional EMI) filter serves to protect the drive bays and other components from dust and dirt, as well as shielding that is compliant for MIL-STD-461 EMI.

## APPLICATIONS

- Airborne Operations
- Land-based Operations
- Seaborne Operations
- Telemetry
- Diagnostics
- Simulation
- C4ISR
- Communications
- Imaging
- Persistent Surveillance
- UAVs
- Automation
- Severe Environment Operations



## Who We Are

CP Technologies designs, fabricates and integrates standard and customized high-performance computing platforms and LCD monitors for military, industry, and commercial applications.

Using COTS components, CP Technologies provides solutions for customers who need reliable systems that will operate in a variety of harsh conditions and who require revision control and hardware consistency for multi-year programs.

CP Technologies is an ITAR Registered and ISO 9001:2015 Certified business that has been operating in Southern California for over twenty years.

**Assembled in the USA**  
**ISO 9001:2015 Certified**  
**ITAR Registered**

**CP Technologies**  
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# TECH SPECS

## COMPUTER SPECIFICATIONS

<b>CPU</b>	Single or Dual Intel® Xeon® Processor
<b>CHIPSET</b>	Intel® Based Chipset
<b>MEMORY CAPACITY</b>	Up to 16x DIMMs, varies with configuration
<b>STORAGE</b>	Up to (3x) shock-isolated 2.5" removable drives, M.2 NVME options available depending on configuration
<b>RAID OPTION</b>	JBOD, RAID 0, 1, 5
<b>OPTICAL DRIVE</b>	Slim Slot-Fed Optical Drive
<b>EXPANSION SLOTS</b>	(2x) PCIe x16 1(x) 6.7" 1(x) 10.0" Max Length
<b>REAR I/O</b>	Varies with configuration
<b>LAN</b>	Varies with configuration
<b>FRONT USB PORTS</b>	(2x) ports USB
<b>SYSTEM COOLING</b>	(5x) 40mm, 18.4 CFM, 100K hour MTBF cooling fans Proprietary SysCool™ intelligent adaptive fan controller and temperature alarm circuit board
<b>MOTHERBOARD CAPACITY</b>	Designed for EATX-sized motherboard (12" X 13")
<b>POWER SUPPLY</b>	Redundant 600W 110/220 Volt AC Other power options available

## EXPANSION CAPACITY

- 3(x) 2.5" Drive Bays, Shock-Isolated
- 1(x) Slim Slot-Fed Optical Drive
- 1(x) Flash Card Reader Bay (optional)

## FRONT DOOR FEATURES

Milled aluminum with four captive closure fasteners  
Milled channel with RF/EMI/environmental gasket  
Attenuating EMI honeycomb filter with 45 PPI  
(washable) air filter rated to UL 94 HF-1



# TECH SPECS

## CHASSIS SPECIFICATIONS

<b>DIMENSIONS</b>	19" X 1.75" X 20" (482.6mm X 44.5mm X 508mm)
<b>WEIGHT</b>	19.6 lbs (approximate weight. Varies with configuration)
<b>CONSTRUCTION</b>	Front Panel: 0.187" milled 5052-H32 aircraft-grade aluminum Enclosure Body: 0.062" 5052-H32 aircraft-grade aluminum Rear Slot Panel: 18 gauge CRS, zinc plated
<b>POWDERCOATING</b>	Black per MIL-PRF-24712, Type IV, Class 3, Cardinal C214-BK110 polyester semi-gloss, fine texture
<b>PLATING</b>	Chem-Film per MIL-C-5541F, Class 1A

## HARSH ENVIRONMENTS

Designed to meet or exceed MIL-STD-810G to the below specifications.

<b>ALTITUDE</b>	12,000 ft Operational, 40,000 ft Storage MIL-STD-810, Method 500.6
<b>HIGH TEMPERATURE</b>	60°C Operational, 70°C Storage MIL-STD-810, Method 501.6
<b>LOW TEMPERATURE</b>	-10°C Operational, -40°C Storage MIL-STD-810, Method 502.6
<b>HUMIDITY</b>	5-95%, Non-condensing MIL-STD-810, Method 507.6
<b>BLOWING SAND AND DUST</b>	MIL-STD-810, Method 510.6
<b>TRANSPORT VIBRATION</b>	MIL-STD-810, Method 514.7
<b>BENCH HANDLING SHOCK</b>	MIL-STD-810, Method 516.7 Procedure VI

## ENGINEERED TO YOUR SPECIFICATIONS

- In-house engineering department
- Design and build of rapid prototypes. Experience with solving difficult customer application problems through knowledge of the industry and custom system design and manufacturing capability
- Our Engineers use Solid Works 3D CAD modeling software for mechanical design and thermal simulation
- Design experience with MIL-STD-167, MIL-STD-461, MIL-STD-810, and MIL-S-901, in addition to FCC, UL, CE, and country specific agency requirements

## REVISION CONTROL & CONFIGURATION MANAGEMENT

- Our Program Managers will assure your products are revision controlled for the life of the program
- Configuration Management to assure TAA Compliance and system compatibility
- One part number for life of the program
- Counterfeit and obsolescence management

## FACILITY AND TEST

- All integration work is performed in a state-of-the-art, ESD-controlled facility
- Our facility has 23,000 sqft and has dedicated 12,000 sqft to manufacturing and 3,000 sqft to engineering
- Operate to anti-static standard ANSI/ESD S20.20-2007 and electronics assembly standard IPC-A-610, Revision E-2010

## QUALITY COUNTS

- ISO 9001:2015 Certified
- 100% system inspection before shipment
- All integrated systems undergo a minimum 24-hour system test and burn-in before shipment to the customer
- Assistance with 3rd party verification of system specifications
- 5-year warranty on all servers and 3-year warranty on LCD monitor products
- TAA compliant
- Built in the USA

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