

# INDUSTRIAL COMPUTER **SOURCE-BOOK**™

EDITION 2 · FALL · 2015



# WHAT'S **INSIDE?**

- Custom Systems and Services
- Case Studies
- Transit Case and Rack **Integration Services** and Systems
- Industrial **Computer Systems**
- Commercial **Computer Systems**
- Portable **Computer Systems**
- Rugged LCDs and Keyboards
- Raid Disk Storage

**VISIT** 

CHASSIS-PLANS.COM

OR CALL 800-787-4913



# HOW TO SHOP

### ORDER BY PHONE

800.787.4913

#### FAX YOUR ORDER

858.571.6146

#### EMAIL YOUR ORDER

sales@chassisplans.com

#### MAIL YOUR ORDER

Chassis Plans, LLC. 10123 Carroll Canyon Rd. San Diego, CA 92131

#### TECHNICAL SUPPORT HOTLINE

858.571.4330

#### KEY CODE

Please have your Key Code available when ordering or when calling in at any time. The Key Code is located on the back cover.

## **CONTENTS**

Custom Systems & Services	1
Case Studies	3
Transit Case and Rack Integration Services & Systems	5
Rugged Industrial Computer Systems	8
Commercial Computer Systems	20
Portable Computer Systems	32
Rugged LCDs & Keyboards	37
Raid Disk Storage	51

VISIT OUR WEBSITE FOR MORE INFORMATION:

# www.chassis-plans.com

# GENERAL ORDERING INFORMATION

### **PURCHASE ORDERS**

Please include your Tax I.D. number, billing address, contact, and phone number, shipping address, our model number, model name and price, and shipping instructions. Please reference any quotation you may have received. New customers requesting terms must provide credit information.

### ORDER CANCELLATIONS

Only written cancellations are considered valid. Some cancellation charges may apply. Contact us at 800.780.1657 prior to cancellation.

### **PRICES**

Prices and quotations are valid for 30 days. Prices are F.O.B. origination. Shipping charges and insurance are additional unless otherwise noted. Prices and product specifications are subject to change without notice and are subject to discontinuance.

#### SHIPPING

Standard shipping within the continental United States is via Ground. If you desire another method of shipping, we are happy to oblige. We can prepay and add to your invoice or we can use your shipping number.

#### **PAYMENT**

All invoices are due Net 30 days from the date of shipment with approved credit. Please call 800.780.1657 to establish an account prior to placing your order. We also accept all major credit cards. Orders must be shipped to the credit card billing address unless another address is on file with the credit card company.

### FIVE YEAR LIMITED WARRANTY

Chassis Plans' servers are all covered by our standard 5 year warranty and covers all parts and labor caused by component failure. Our warranty covers return to factory repair and the cost of the return of the product to you. Enhanced service policies are also available upon request. All LCDs, keyboards and other accessory products are protected by a three-year limited warranty. This warranty policy covers replacement or repair of the original product at Chassis Plans' option and is made solely to the purchaser. It also assumes that the product has not been modified or subjected to unusual physical or electrical stress. This warranty is void for any product damaged due to improper packaging when returned for RMA purposes.

#### HOURS OF OPERATION

Monday - Friday, 8:00am to 5:00pm, Pacific Time.

Copyright ©2013 Chassis Plans. All rights reserved. Printed in the United States of America. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. Chassis Plans, SysCool, and RhinoTouch, Systems Engineered to Perform, are registered trademarks of Chassis Plans. Industrial Computer Source-Book is a trademark of Chassis Plans. Intel®, XEON®, Intel Core® are trademarks of Intel Corporation. All other trademarks and copyrights are recognized. EFIS images are courtesy of GRT Avionics.



Not all applications can be served by an off-the-shelf solution. Chassis Plans' design philosophy is to provide you ruggedly engineered, cost-effective, and highly customized industrial-grade computers. Seeking a turnkey solution for your custom industrial rackmount system? Chassis Plans efficiently collaborates with clients to design the highest quality computing systems and LCDs. Chassis Plans' engineers have provided custom solutions to a wide variety of industrial and defense customers since 1985. With an extensive database of off-the-shelf designs to draw upon, we'll be able to quickly create you a custom system that exactly meets your application and environmental requirements.

# HARSH ENVIRONMENTS

As intended for the rigors of industrial deployment, these systems are designed to meet or exceed a variety of industrial standards as required by the application. Other environmental requirements can be accommodated on request.

ALTITUDE HIGH TEMPERATURE HUMIDITY

BENCH HANDLING SHOCK

HIGH TEMPERATURE LOW TEMPERATURE BLOWING SAND AND DUST TRANSPORT VIBRATION





# PLANS

# CUSTOM SYSTEM DEFINITION PROCESS

It starts with our Sales Engineers. Our sales professionals are your first contact and will work closely with you to design a system that seamlessly meets your application and environmental requirements. Our Sales Engineers work with a dedicated Field Application Engineer (FAE), as well as the Engineering Department, to structure the basic design concept. The assigned engineer will create a system drawing showing size and component layout, system features, cooling management, shock and vibration management, etc. This concept will be modified based on client feedback, until you are 100% satisfied your design requirements are met.

# MODIFIED COTS OR FROM SCRATCH?

Chassis Plans has a large selection of standard products that can serve as the basis for your specific design. By utilizing off-the-shelf hardware, coupled with application-specific modifications, a client can realize significant cost savings and quicker deployment time. Modifications can include something as simple as custom paint and/or logos or front panel modifications for product identification. Rear panel modifications are available to accommodate specific I/O cards, connectors, or a doghouse for an all-circular mil connector interface. Virtually any component in a standard product is eligible for modification.

Sometimes, an application mandates a custom solution. Chassis Plans' team of engineers can help you to define these custom requirement and bring the design to fruition. The Chassis Plans team has been responsible for more custom rugged computer systems and enclosures than anybody else in the field.

# ENGINEERING DEPARTMENT & TOOLS

Tools are only as good as the craftsmen using them, and Chassis Plans offers you the best rackmount computer engineering staff in the business. This engineering team offers a wide variety of skills and experience in industrial computer and LCD design. These engineers have extensive tenure in the LCD and industrial computer markets and can ensure your design exceeds your expectations.

Chassis Plans is certified to ISO 9001:2008 standards, indicating that our engineering documentation and management standards meet the rigorous industry requirements of the ISO Certifying body. Full revision control and traceability for all engineered components and manufactured systems ensures viable long-term support.





# CASE STUDIES

PRODUCT: RUGGEDIZED HIGH-PERFORMANCE FORENSIC PORTABLE COMPUTER

MARKET: LAW ENFORCEMENT

SEGMENT: CRIME SCENE INVESTIGATION

This customer challenged us to create a radically compact, yet extremely powerful, portable server. Chassis Plans developed a custom portable system, light weight, rugged and powerful enough for data analysis and recovery in dynamic tactical and forensic situations. System highlights include the latest Xeon 8 core CPU, 64 GB 1600 MHz ECC memory, 4 TB of removable SSD storage, integrated 10 port Ethernet switch and a custom intelligent lithium-ion UPS. The built-in UPS powers the system for a fail-safe shutdown in the event the unit loses external power unexpectedly. The customer specified a scenario where the unit may need to be quickly unplugged during forensic field work, allowing the working data stream to be retained uncorrupted.



PRODUCT: CUSTOM CLEAN ROOM MACHINE CONTROLLER

MARKET: INTEGRATED CIRCUIT MANUFACTURING

SEGMENT: PHOTOLITHOGRAPHY

Our client, a prominent optical lens manufacturer, required a replacement for an obsolete VAX computer to control a photolithography machine inside a clean room for manufacturing processors. A custom chassis was developed to fit into the fixed space within the equipment taking into account existing cable routing, connector locations and air flow. Along with the required custom form factor, other features included a custom front panel for the client's proprietary LED indicators, silk screen and customer company logo. The customer required strict revision control including BIOS and firmware with the latest technology available and long-life support for the installed components.



PRODUCT: ULTRA-RUGGED WALL-MOUNTED COMPUTER

MARKET: MINING

SEGMENT: LARGE PRODUCTION EQUIPMENT MONITORING

Chassis Plans adapted an existing rugged 4U computer to work in the harsh environment inside a large dragline shovel in a mining operation. This system monitors the complex hydraulics and electronics on-board the shovel to provide predictive failure analysis. This wall-mount platform utilized rope coil isolators and other internal modifications to dampen and absorb the repetitive shock events and constant vibration experienced inside the shovel. These systems have been very successful with the customer and are deployed world-wide in the extreme environments found in open pit mining.



CHASSIS PLANS

PRODUCT: CUSTOM RUGGED BULKHEAD-MOUNT ALL-IN-ONE COMPUTER

MARKET: MINING

SEGMENT: LARGE PRODUCTION EQUIPMENT PREDICTIVE FAILURE DETECTION

This customer required an "all-in-one" monitoring computer for their giant shovels. To avoid failures and unscheduled shutdowns in the field, this system would monitor all the moving parts, bearings, and so forth, and report any impending failures to a central location via a wireless modem. This would significantly improve production by these shovels by predicting failures and enabling the mechanics to proactively replace the faulty parts at scheduled shutdowns before the equipment failed in the field, thus eliminating down time. The system was composed of a GSM Modem with GPS, 5 port Ethernet switch, 15" LED backlit LCD with optically bonded glass and infrared touch panel, solid-state drive and built-in sealed keyboard with trackball in a sealed bulkhead mounted housing. Standard operating



temperature requirements were -40 to +85°C with military-level vibration and shock specs.

PRODUCT: ULTRA-RUGGED 4U COMPUTER

MARKET: OIL AND GAS

SEGMENT: MOBILE WELL LOGGING TRUCK

This ruggedized 4U computer system was designed for mounting into oil well logging trucks as well as for installation onto offshore oil drilling platforms. The enclosures were constructed from triple plated aluminum and stainless steel fasteners were used throughout. The system interior was cross braced for additional structural integrity during shock and vibration events and also included enhanced add-in card retention mechanism. Multiple internal removable hard drives with a custom cabling harness gave the system hard drive redundancy and the ability to quickly swap components as needed in the field. Unique to this design was a custom painted front panel and customer logo that allowed this



product to integrate within the customer's existing product line for continued brand awareness.

PRODUCT: CUSTOM 4U RACKMOUNT COMPUTER SYSTEM

MARKET: DATA ACQUISITION

SEGMENT: TELEMETRY DATA RECOVERY

This customer requested a rugged 4U Chassis for a ground based telemetry recorder. They requested a design that incorporated a modular rear panel for a wide array of I/O connectors for the interface to various recording instrumentation. The recovered data may displayed, processed, distributed, exported, analyzed and recorded onto a removable storage device in IRIG106, Chapter 10, compliant files. The system can record and reproduce any combination of available channel types with a maximum of 14 available hardware interface slots.



# TRANSIT CASE AND RACK INTEGRATION SERVICES



Properly specifying, documenting and integrating racks and transit cases are difficult and time consuming. Chassis Plans can lower your total system cost by providing your organization with a turn-key integrated rack or transit case system. We build your configuration and provide you with one part number. You will receive professionally engineered and integrated systems instead of boxes of disparate parts from multiple vendors. We accept system responsibility for third-party components such as UPSs, network switches, power distribution, environmental systems, and so forth. Chassis Plans will work with you from the specification stage, to configuration, all the way to post-delivery technical support. One single purchase order instead of dozens! Our goal is to streamline your system acquisition for lower total system cost.

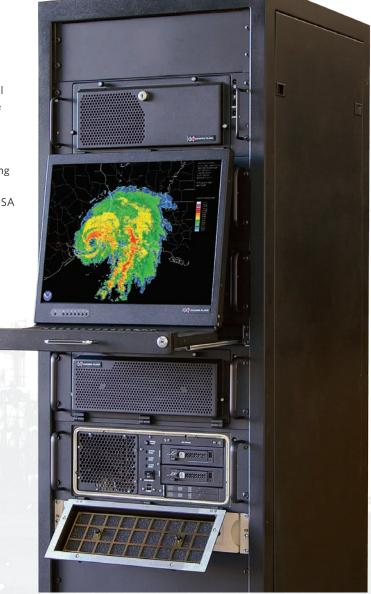


# INTEGRATION SERVICES MANAGEMENT

- Clarify the Application and Environment
- Define Processing Needs, Memory Requirement, Drives, I/O Requirements
- Select an Appropriate Computer, Display and Keyboard
- Select the Appropriate Motherboard or Single Board Computer/Backplane
- Select the Right Power Supply
- Select Appropriate Drives
- Define and Select Other I/O (Video, Communications, Analog/Digital, Etc.)
- Specify Operating System and Application Software
- Define Environmental and Safety Certifications
- · Complete System Documentation: BOM, Drawings, Assembly Instructions, Source Control
- Complete Revision Control for Components, BIOS, OS, Golden Disks
- Complete Turnkey Solutions Meeting Your Application Requirements

 All Rack Hardware Including Breakout Panels, Cabling, Shelves, UPSs

- Partnered With Several Case and Rack Manufacturers
- Integration and Management of third Party or Customer Supplied Equipment and Software
- Primary Customer Support for All Third Party Hardware & Software
- Cooling Optimized Solutions
- Feature Rich Designs
- Multiple Power Supply Options
- Appropriately Engineered Shipping Crates / Pallets
- Components Assembled in the USA
- Systems Engineered To Perform®



# TCS6U FAMILY

# 6U INDUSTRIAL-GRADE INTEGRATED TRANSIT CASE SYSTEMS









The TCS6U family is a pre-configured transit case system offering stunning display technology with a tri-fold LCD supporting 1280 x 1024 resolution for each panel, the latest long-life motherboards, processors and chip sets in a 2U industrial-grade computer with a variety of slot configurations, a rugged sealed keyboard with a 38mm trackball, and an industrial-grade UPS to ensure filtered, clean power. Order as a turn-key, pretested system ready to run your application software. Your Configuration – One Part Number™ for ease of acquisition.

Please contact your Sales Engineer for current configuration information and pricing.

# **ELECTRICAL FEATURES**

- All Components are Revision Controlled for Long Availability
- Components Designed to Meet or Exceed Rugged Industrial Standards
- Option for Enhanced EMI Compliance
- Stunning Tri-fold LCD with 1280 x 1024 Each Panel
- LED Backlights on LCD panels
- · Latest Genesis Industrial-Grade LCD Controller
- Extended Temperature Option for System
- Option for Bonded Anti-Reflective, EMI and Touch Screens on LCDs
- Sealed Industrial-Grade Keyboard & 38mm Trackball
- Latest Long-Availability Motherboard Selection
- Options for Core 2 Duo/Quad, Core i5/i7 and XEON E5 (6/8 core) Processors
- Up to 256GB of RAM
- Four 3-1/2" Hard Drives (rotating media or SSD)
- Variety of Slot Configurations Including Multiple PCIe v16
- Three Horizontal Full-Height or Seven Vertical Low-Profile Plug-in Cards

# **MECHANICAL FEATURES**

- 6U Loadmaster Transit Case by ECS
- Incredibly Durable TCS Reinforced Composite Material
- Watertight End Caps
- Shock-Isolated Components
- · Easily Removable Shock-Isolated Inner Rack
- Industrial-Grade 5052-H32 Aluminum Construction for Computer, LCD and Keyboard
- Computer and LCD Front Panels are Milled Aluminum Billet for Strength
- Self-Locking Stainless Steel Hardware
- Captive Fasteners Where Appropriate
- Computer Provides Three High-Flow, High-MTBF Aluminum Body Fans
- SysCool® Adaptive Fan Controller in Computer
- Front Door on Computer Provides an Air Filter
- System Designed, Assembled and Supported in the USA

# OFF-THE-SHELF RUGGEDIZED

# INDUSTRIAL-GRADE RACKMOUNT SYSTEMS

Chassis Plans' rugged industrial-grade systems are available in 1U through 5U (3U coming soon). These systems were designed from the ground up to ensure reliable operation when installed in your harshest environments. The different sizes all share a common design theme and all offer unparalleled performance.

# CHASSIS FEATURES

- Rugged 5052-H32 Aircraft Grade Aluminum
- Milled Solid Billet Front Panel
- Environmental Gasket on Front Panel
- Formed Welded Front Door
- Shock-Mounted Hard Drive Bays
- High-Reliability, Long-Life, High-Velocity Fans
- SysCool® Intelligent Fan Controller/Alarm Board
- 45PPI Air Filter
- ANSI/VITA 40-2003 Compliant Alarm LEDs
- Stainless Steel Self Locking Hardware

# **ELECTRONICS FEATURES**

- High-Performance Long-Availability Motherboards
- Intel® Core® i3, i5, i7 and XEON® E5 Processor Options
- Single/Dual 4/6/8/10 Core XEON Options
- Core 2 Duo / Quad Options
- Multiple Chipset Options
- Multiple Slot Options Including Four PCIe x16 Slots
- Multiple Hard Drive Options—Fixed & Removable
- High Performance Graphics
- Intel® Roadmap Components for Long-Term Availability
- Single & Redundant Power Supplies to 1500W



# LCD POWER ALTERNATIVE

Chassis Plans' 2U-5U industrial-grade computer systems offer an optional Exterior Power Jack to provide power to connected Chassis Plans LCD displays. By running the display with the computer system's power supply, this Exterior Power Jack option can provide many benefits:

- Reduction in the number of required cables
- Elimination of additional equipment, i.e., a power brick
- · Reduction in total system weight and cost

To enjoy these benefits, power up your new display with a Chassis Plans' server.



# CHASSIS CONSTRUCTION

The enclosures in the Chassis Plans industrial product lineup are ruggedly built specifically to survive harsh environments typical of industrial applications. We start with lightweight but strong aircraft grade 5052-H32 aluminum alloy. We install a large number of stainless steel self-locking fasteners to hold it all together and not loosen in high vibration environments. The lid is held with captive screws to prevent losing hardware in the field.

The front panel is formed from a solid  $\frac{1}{4}$ -inch thick aluminum billet. Into that we install an environmental gasket. The front door is welded and machined for a tight seal and held closed with multiple captive screws. We install a washable 45PPI air filter into the door to keep dirt out.

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

#### ALTITUDE

12,000 ft. Operational
 40,000 ft. Storage

#### **HIGH TEMPERATURE**

• 60°C Operational, 85°C Storage

# LOW TEMPERATURE

• 0°C Operational, -20°C Storage

#### HUMIDITY

• 5-95%, Non-condensing

#### **VIBRATION**

• 2G RMS 5-500Hz

#### **BENCH HANDLING SHOCK**

• 20G @ 11ms

Dependent on Installed Components

### COOLING

These systems are equipped with ultra-high MTBF fans providing positive chassis pressure and more than enough air flow for cooling these high power systems. A SysCool® Intelligent Adaptive Fan Control Board runs the fans at the optimum speed to ensure reliable operation with minimum fan noise. The front panel LED indicators follow the ANSI/VITA 40-2003 standard for unambiguous alarm notification.

# **MOTHERBOARDS**

We offer you these systems with a selection of high-quality long-life motherboards providing a selection of chip sets and processors from Core 2 Duo to i3/i5/i7 and E5 and including 4/6/8/10/12 core dual XEON. Chip sets and processors are on Intel's Road Map for ensured future availability for multi-year program deployment. A variety of slot configurations allow installation of virtually any plug-in card. One example is a motherboard offering four PCIe x16 slots on double-wide spacing, which is perfect for constructing a four card GPU server. These are full bandwidth x16 slots and are not switched as on a backplane.

# DISK DRIVES

Enterprise-grade drives are offered for superior performance and reliability. The drives are shock mounted and can be fixed or removable. Rotating media or SSDs can be installed depending on your mission requirements. Systems offer options for slim DVDRW drives including Blu-Ray.



# CHASSIS PLANS

# R1U-20 FAMILY

# 1U INDUSTRIAL-GRADE RACKMOUNT SYSTEMS



# *FEATURES*

- Only 20" Deep
- Single and Dual 6 or 8 Core XEON E5 CPU's
- 2x PCIe x16 (Gen 3.0) Card Slots
- Up to 3x 2-1/2" Shock-Isolated Removable Drives, and 1x Slim DVD
- 5x Fans with SysCool® Intelligent Fan Controller
- Front Panel Smart Card Reader (Optional)
- Redundant Power Supply







The R1U-20 system is ideal for those seeking a rugged rackmount 1U system designed to perform in confined spaces. A unit with high computational speed for industrial applications, the R1U-20 offers Intel® E5 processing power. Provision is made for (2x) PCI-e x16 (Gen 3.0) add-in cards secured with Delrin® blocks for high shock/vibration environments. Uniquely offered with an attached front door with installed air filter, this feature serves to protect the drive bays and other components from dust and dirt.

# ORDERING GUIDE

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count (Dependent on Riser Card)
R1U2012	XEON E5-2658 XEON E5-2428L	2.1 (8 Cores) 1.8 (6 Cores)	1 or 2	C606	512 GB	JBOD 0, 1, 5	PCle - 2 x16 (Gen 3.0) with 2-Slot Riser Card

# CHASSIS **SPECIFICATIONS**

### PHYSICAL DIMENSIONS

- 1.75" (H) x 19.0" (W) x 20.0" (D)
- 20 lbs. Fully Configured, Varies by Configuration

### **POWER SUPPLY**

- Output Power 600W
- Redundant Configuration
- Input 100 to 240Vac, 50/60Hz Auto Switching High Efficiency
- Other Options Available

#### COOLING

- 5X 40mm Fans, 18CFM Each, Mounted Mid-Chassis
- Fans Are Aluminum Body 100,000 Hour MTBF
- Air Filter Mounted In Front Door
- SysCool® Intelligent Fan Control and Alarm Board

### FRONT PANEL DETAILS

- Power On/Off Momentary Switch, Alarm Reset Switch
- 2x USB
- LEDs Power On, HDD Activity, Fan Fail, Over Temperature Alarm
- Single Front Door With 4 Thumbscrews, 45PPI Air Filter In Door

### DRIVE BAYS

- 3x 2-1/2" Hard Drive Bays
- Drives are Shock Mounted
- Slim DVDRW Installed Standard

#### **EXPANSION SLOTS**

• 2x PCIe x16 (Gen 3.0)

### **ENVIRONMENT**

- Operating Temperature: 0° to 40°C (32° to 104°F)
- Storage Temperature: -40° to 70°C (-40° to 158°F)
- Humidity: 5 to 95% RH Non-condensing

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

#### ALTITUDE

• 12,000 ft. Operational 40,000 ft. Storage

### HIGH TEMPERATURE

• 40°C Operational, 70°C Storage

### LOW TEMPERATURE

• 0°C Operational, -40°C Storage

### **HUMIDITY**

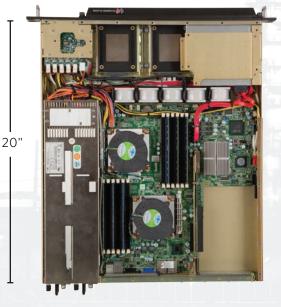
• 5-95%, Non-condensing

#### **VIBRATION**

• 2G RMS 5-500Hz

### **BENCH HANDLING SHOCK**

• 20G @ 11ms





# R2U-20 FAMILY

# 2U INDUSTRIAL-GRADE RACKMOUNT SYSTEMS



# **FEATURES**

- Only 20" Deep
- Core 2 Duo/Quad Options and Core-i5/i7 Options
- XEON E3/E5, Single and Dual Options, 6/8 Cores
- 3x Horizontal or Seven Vertical Plug-in Card Slots
- Up to 3x 3-½" Drives, Fixed or Removable, Shock-Isolated
- 3x High Performance Fans with SysCool® Fan Controller
- Single or Redundant Power Supply







The R2U-20 system offers high performance with a variety of processor and chipset options including the latest Intel® i7 and E5 series and up to 256GB of high speed RAM. Two configurations offer three side mounted full-height or seven vertical low-profile plug-in cards. The heavier horizontal full-height cards are secured in place with Delrin® blocks for high vibration and shock environments. The system is exceptionally well cooled with three 80mm high-velocity, high-reliability fans for high-power CPUs in hot environments.

# ORDERING GUIDE

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count (Dependent on Riser Card)
R2U2000	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	Horizontal - PCIe - 1 x16, 1 x4, PCI 1 Vertical - PCIe - 1 x16, 1 x4, PCI 5
R2U200	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	Horizontal - PCIe - 1 x16, 1 x4, PCI 1 Vertical - PCIe - 1 x16, 1 x4, 2 x1, PCI 3
R2U2007	Core i7-3770 Core i5-3550S Core i7-2600 Core i5-2400	3.9 3.7 3.4 3.1	1	Q67	32 GB	JBOD 0, 1, 5	Horizontal - PCIe - 1 x16, 1 x4, PCI 1 Vertical - PCIe - 1 x16, 1 x4, 1 x1, PCI 4
R2U2008	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	Horizontal - PCIe - 2 x16, 1 x4 Vertical - PCIe - 2 x16, 1 x4, PCIe Mini 1, PCI 3
R2U2009	Xeon E5-2658 Xeon E5-2428L	2.1 1.8	1 or 2	C606	256 GB	JBOD 0, 1, 5	Horizontal - PCIe - 3 x8 Vertical - PCIe - 3 x8, 1 x4, 1 x1, PCI 1

# CHASSIS SPECIFICATIONS

### PHYSICAL DIMENSIONS

- 3.5" (H) x 19.0" (W) x 20.0" (D)
- 27 lbs. Fully Configured, Varies by Configuration

### POWER SUPPLY

- Output Power 600W
- Single or Redundant Options
- Input 100 to 240Vac, 50/60Hz
   Auto Switching High Efficiency
- Other Options Available

#### COOLING

- 3x 80mm Long-Life Fans, 42CFM Each, Mounted Mid-Chassis
- Fans Are Aluminum Body 100,000 Hour MTBF
- Air Filter Mounted In Front Door.
- SysCool® Intelligent Fan Control and Alarm Board

### FRONT PANEL DETAILS

- Power On/Off Momentary Switch, Alarm Reset Switch
- 2x USB
- LEDs Power On, HDD Activity
- Single Front Door with 3 Thumbscrews
- 45PPI Washable Air Filter Mounted in Front Door

### DRIVE BAYS

- 4x 3-1/2" Hard Drive Bays
- Drives are Shock Isolated
- Slim DVDRW Installed Standard

#### **EXPANSION SLOTS**

 Systems can be Configured with 3x Horizontal Slots with Riser Card or with 7x Vertical Slots for Low-profile Cards.

# **ENVIRONMENT**

- Operating Temperature: 0° to 60°C (32° to 140°F)
- Storage Temperature: -20° to 85°C (-40° to 185°F)
- Humidity: 5 to 95% RH Non-condensing

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

#### **ALTITUDE**

 12,000 ft. Operational 40,000 ft. Storage

### HIGH TEMPERATURE

• 60°C Operational, 85°C Storage

#### LOW TEMPERATURE

• 0°C Operational, -20°C Storage

### **HUMIDITY**

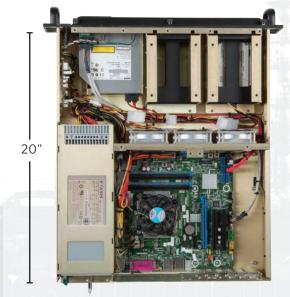
• 5-95%, Non-condensing

#### **VIBRATION**

• 2G RMS 5-500Hz

#### **BENCH HANDLING SHOCK**

• 20G @ 11ms







# R4U-20 FAMILY

# 4U INDUSTRIAL-GRADE RACKMOUNT SYSTEMS



# **FEATURES**

- Only 20" Deep
- Core 2 Duo/Quad Options and Core-i5/i7 Options
- XEON E3/E5, Single and Dual Options, 6/8 Cores
- Motherboard with Seven Plug-in Card Slots
- Up to 3x 5-1/4" Drive Bays, Fixed or Removable, with Slim DVD
- 2x High Performance Fans with SysCool® Fan Controller
- Single or Redundant Power Supply







The R4U-20 system is a short 20" and is perfect for transit case installation with its rugged construction. The system offers the highest performance with a variety of processor and chipset options including the latest Intel® i7 and E5 series and up to 256GB of high-speed RAM. A card hold-down system secures plug-in cards in high vibration and shock environments to ensure reliable operation. The system is well cooled with two 92mm high-velocity, high-reliability fans for high-power CPUs in hot environments.

# ORDERING GUIDE

						Charles Towns Control of the Control			
4 (5.5)	Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count	
	R4U2000	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, PCI 5	
	R4U2001	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 2 x1, PCI 3	
	R4U2007	Core i7-3770 Core i5-3550S Core i7-2600 Core i5-2400	3.9 3.7 3.4 3.1	1	Q67	32 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 1 x1, PCI 4	
	R4U2008	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	PCIe - 2 x16, 2 x4, PCIe Mini 1, PCI 3	
	R4U2009	Xeon E5-2658 Xeon E5-2428L	2.1 1.8	1 or 2	C606	256 GB	JBOD 0, 1, 5	PCle - 3 x8, 1 x4, 1 x1, PCl 1	

# CHASSIS SPECIFICATIONS

### PHYSICAL DIMENSIONS

- 7.0" (H) x 19.0" (W) x 20.0" (D)
- 45 lbs. Fully Configured, Varies by Configuration

### POWER SUPPLY

- Output Power 600W
- Single or Redundant Options
- Input 100 to 240Vac, 50/60Hz Auto Switching High Efficiency
- Other Options Available

#### COOLING

- 2 x 92mm Long-Life Fans, 60CFM Each, Mounted Front Panel
- Fans Are Aluminum Body 100,000 Hour MTBF
- Air Filter Mounted In Front Door
- SysCool® Intelligent Fan Control and Alarm Board

### FRONT PANEL DETAILS

- Power On/Off Momentary Switch, Alarm Reset Switch
- 2x USB
- LEDs Power On, HDD Activity, Over Temperature, Fan Failure
- Single Front Door with 3 Thumbscrews
- 45PPI Washable Air Filter in Door

### DRIVE BAYS

- 3x Horizontal 5-1/4" Reduced-Height Drive Bays
- Multiple Options for Hot Swap Drives
- Slim DVD

### EXPANSION SLOTS

 7x Card Slots With Card Hold Down Bracket

### **ENVIRONMENT**

- Operating Temperature: 0° to 60°C (32° to 140°F)
- Storage Temperature: -20° to 85°C (-4° to 185°F)
- Humidity: 5 to 95% RH Non-condensing

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

#### **ALTITUDE**

 12,000 ft. Operational 40,000 ft. Storage

### HIGH TEMPERATURE

• 60°C Operational, 85°C Storage

#### LOW TEMPERATURE

• 0°C Operational, -20°C Storage

# HUMIDITY

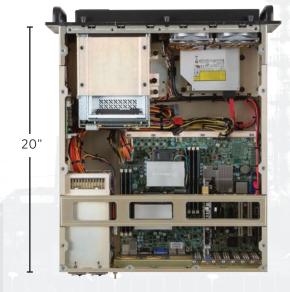
• 5-95%, Non-condensing

#### **VIBRATION**

• 2G RMS 5-500Hz

### **BENCH HANDLING SHOCK**

• 20G @ 11ms







# CHASSIS PLANS

# R4U-26 FAMILY

# 4U INDUSTRIAL-GRADE RACKMOUNT SYSTEMS



# **FEATURES**

- 26.4" Deep
- Support for 11-Slot 13.2" x 15.2" Motherboards
- Support for Up To 20-Slot Passive Backplanes
- XEON E3/E5, Single and Dual Options, 6/8 Cores
- 3x 5-1/4" Drive Bays
- 3x High Performance Fans with SysCool® Fan Controller
- Single or Redundant Power Supply







The R4U-26 system is optimized for high-performance 11-slot motherboards (13.2 x 15.2") offering either four x16 PCIe slots on double width spacing or ten x8 slots. The double-wide x16 slots allow the installation of such boards as GPU processors for ultimate performance. A card hold-down secures the plug-in cards in high vibration and shock environments to ensure reliable operation. Outstanding cooling is provided by the three 120mm high-performance fans to cool the highest power system in high-temperature environments.

# ORDERING GUIDE

							The second secon
Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
R4U2610	E5-2658 E5-2428L	2.1 1.8	1 or 2	C600-A	512 GB	JBOD 0, 1, 5	PCIe - 4 x16 (3.0), 1 x8 (3.0), 1 x4 (2.0)
R4U2611	E5-2658 E5-2428L	2.1 1.8	1 or 2	C602	512 GB	JBOD 0, 1, 5	PCIe - 10 x8 (3.0), 1 x4 (2.0)

# CHASSIS SPECIFICATIONS

### PHYSICAL DIMENSIONS

- 7.0" (H) x 19.0" (W) x 26.4" (D)
- 47 lbs. Fully Configured, Varies by Configuration

### POWER SUPPLY

- Output Power 600W
- Single or Redundant Options
- Input 100 to 240Vac, 50/60Hz Auto Switching High Efficiency
- Other Options Available

#### COOLING

- 3x 120mm Long-Life Fans, 120CFM Each, Mounted Mid Chassis
- Fans Are Aluminum Body 200.000 Hour MTBF
- Air Filter Mounted In Front Door
- SysCool® Intelligent Fan Control and Alarm Board

#### FRONT PANEL DETAILS

- Power On/Off Momentary switch, Alarm Reset Switch
- 2x USB
- LEDs Power On, HDD Activity, Over Temperature, Fan Failure
- Single Front Door with 3x Thumbscrews
- 45PPI Washable Air Filter in Door

### DRIVE BAYS

- 3x Horizontal 5-1/4" Half-Height Drive Bays
- Multiple Options for Hot Swap Drives
- Slim DVD

### EXPANSION SLOTS

 7, 11, or 20x Card Slots With Card Hold-Down Bracket

### **ENVIRONMENT**

- Operating Temperature: 0° to 60°C (32° to 140°F)
- Storage Temperature: -40° to 70°C (-40° to 158°F)
- Humidity: 5 to 95% RH Non-condensing

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

#### **ALTITUDE**

 12,000 ft. Operational 40,000 ft. Storage

### HIGH TEMPERATURE

• 60°C Operational, 70°C Storage

#### LOW TEMPERATURE

• 0°C Operational, -40°C Storage

### **HUMIDITY**

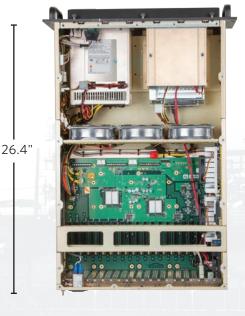
• 5-95%, Non-condensing

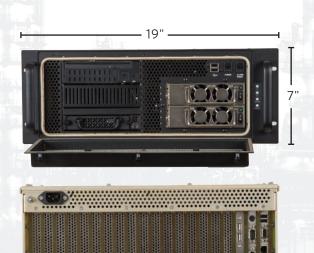
#### **VIBRATION**

• 2G RMS 5-500Hz

#### **BENCH HANDLING SHOCK**

• 20G @ 11ms





# R5U-22 FAMILY

# 5U INDUSTRIAL-GRADE RACKMOUNT SYSTEMS



# *FEATURES*

- Only 22" Deep
- Support for 11-Slot 13.2" x 15.2" Motherboards
- Support for Up To 20-Slot Passive Backplane
- XEON E3/E5, Single and Dual Options, 6/8 Cores
- Up To 4x 3-1/2" Drive Bays
- 3x High Performance Fans with SysCool® Fan Controller
- 3+1 Redundant Power Supply







The R5U-22 system is optimized for large, high-performance, power hungry 11-slot motherboards with systems offered providing four double-wide x16 PCle slots or ten x8 PCle slots. The short 22" depth allows installation in areas that require a minimum depth chassis such as a transit case or submarine. The R5U-22 system is ideal for high power applications such as a GPU server platform powered by a reliable 3+1 redundant 1500W power supply. The system is cooled by three high-velocity, 200K hrs. MTBF 120mm fans.

# ORDERING GUIDE

				Series and Billion			
Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
R5U2210	E5-2658 E5-2428L	2.1 1.8	1 or 2	C600-A	512 GB	JBOD 0, 1, 5	PCIe - 4 x16 (3.0), 1 x8 (3.0), 1 x4 (2.0)
R5U2211	E5-2658 E5-2428L	2.1 1.8	1 or 2	C602	512 GB	JBOD 0, 1, 5	PCIe - 10 x8 (3.0), 1 x4 (2.0)

# CHASSIS SPECIFICATIONS

### PHYSICAL DIMENSIONS

- 8.75" (H) x 19.0" (W) x 22" (D)
- 62 lbs. Fully Configured Varies by Configuration

### **POWER SUPPLY**

- Output Power 1500W
- 3+1 Redundant Configuration
- Input 100 to 240Vac, 50/60Hz Auto Switching High Efficiency
- Other Options Available

#### COOLING

- 3x 120mm Long-Life Fans, 120CFM Each, Mounted Front Panel
- Fans Are Aluminum Body 200,000 Hour MTBF
- Air Filter Mounted in Front Door.
- SysCool® Intelligent Fan Control and Alarm Board

### FRONT PANEL DETAILS

- Power On/Off Momentary Switch, Alarm Reset Switch
- 2x USB
- LEDs Power On, HDD Activity, Over Temperature, Fan Failure
- Single Front Door with 3x Thumbscrews
- 45PPI Washable Air Filter in Door

### DRIVE BAYS

- 4x 3-1/2" Hard Drive Bays
- Multiple Options for Hot Swap Drives
- Slim DVD

# EXPANSION SLOTS

 7, 11 or 20x Card Slots With Card Hold Down Bracket

### TRANSPORT

- Operating Temperature: 0° to 50°C (32° to 122°F)
- Storage Temperature: -20° to 70°C (-4° to 158°F)
- Humidity: 5 to 95% RH Non-condensing

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

#### **ALTITUDE**

 12,000 ft. Operational 40,000 ft. Storage

#### HIGH TEMPERATURE

• 50°C Operational, 70°C Storage

#### LOW TEMPERATURE

• 0°C Operational, -20°C Storage

# HUMIDITY

• 5-95%, Non-condensing

#### **VIBRATION**

• 2G RMS 5-500Hz

### **BENCH HANDLING SHOCK**

• 20G @ 11ms







# OFF-THE-SHELF

# COMMERCIAL GRADE COMPUTERS

Chassis Plans' commercial grade systems are available in 1U through 5U. These systems provide cost-effective solutions with quick delivery and are fit for use where your environment is harsher than an office IT space but less severe than where our fully rugged industrial-grade systems should be used. These systems offer revision control, for consistent long-term program deployment, and easy customization for when an off-the-shelf solution does not quite fit your requirements. Assembled in the USA for great quality and support.

## CHASSIS FEATURES

- Steel Construction
- Cost-Effective Solutions
- Revision Control for Long-Term Consistency
- Easy Customization to Your Requirements
- Variety of Drive Configurations
- Variety of Slot Configurations
- Front Door On Some Models
- Short Chassis Depths with Some Models
- Custom Paint and/or Logo Available
- Fit 19" Rack Systems

# **ELECTRONICS FEATURES**

- High-Performance, Long-Availability Motherboards
- Core i3, i5, i7 and XEON E5 Processor Options
- Single/Dual 4/6/8/10 Core XEON Options
- Core 2 Duo / Quad Options
- Multiple Chipset Options
- Multiple Slot Options Including Four PCIe x16 Slots
- Multiple Hard Drive Options—Fixed & Removable
- High-Performance Graphics
- Intel® Roadmap Components for Future Availability
- Single & Redundant Power Supplies to 1500W



# C112 FAMILY

# 1U COTS CONFIGURED RACKMOUNT SYSTEM



# *FEATURES*

- Only 16" Deep
- Core 2 Duo/Quad and Core-i5 Options
- 1x PCIe x16 Plug-In Card Slot
- 1x Internal Hard Drive, 1x Slim DVD
- 3x Cooling Fans
- 400W Power Supply







The C112 Series is a very short 1U system at only 16" deep. This is a perfect system for space constrained applications. Two motherboard options provide Core2 Duo/Quad or i5 performance. A single horizontal card slot provides for a single PCle x16 card. Mounted in the front panel are a slim DVDRW drive and a single internal 3-1/2" hard drive is provided. The system is cooled by three 40mm fans mounted mid-chassis and a 400W power supply provides ample power. A front door protects the system.

# ORDERING GUIDE

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count (Dependent on Riser Card)
C11200	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	N/A	Horizontal PCIe - 1 x16 with 1-Slot Riser Card
C11201	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	N/A	Horizontal PCIe - 1 x16 with 1-Slot Riser Card
C11207	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	N/A	Horizontal PCIe - 1 x16 with 1-Slot Riser Card

# C105 FAMILY

# 1U COTS CONFIGURED RACKMOUNT SYSTEM



# **FEATURES**

- Only 21.3" Deep
- Core 2 Duo/Quad and Core-i5/i7 Options
- 1x PCIe x16 Plug-In Card Slot
- 1x Internal Hard Drive, 1x Slim DVD
- 5x Cooling Fans
- 400W Power Supply







The C105 Series is 1U by 21.3" and offers two motherboard choices providing Core2 Duo/Quad or i5/i7 performance. These systems provide a good balance of size versus performance. A single horizontal card slot supports a PCle x16 plug-in card. Mounted in the front panel is a slim DVDRW, and two internal fixed 3-1/2" hard drives can be fitted. Cooling is provided by four 40mm fans mounted midchassis and two 40mm fans mounted on the rear panel. The power supply is rated at 400W. The front door protects the system.

# ORDERING GUIDE

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count (Dependent on Riser Card)
C10500	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	N/A	Horizontal PCIe - 1 x16 with 1-Slot Riser Card
C10501	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	N/A	Horizontal PCIe - 1 x16 with 1-Slot Riser Card
C10507	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	N/A	Horizontal PCIe - 1 x16 with 1-Slot Riser Card

# CHASSIS PLANS

# C213 FAMILY

# 2U COTS CONFIGURED RACKMOUNT SYSTEM



# *FEATURES*

- Only 17.7" Deep
- Core 2 Duo/Quad and Core-i5/i7 Options
- 3x Plug-In Card Slots
- 1x 5-1/4" and 1x 3-1/2" External, 3x 3-1/2" Internal Drive Bays
- 3x Cooling Fans
- 400W Power Supply







The C213 Series is an ultra-short 17.7" deep and is perfect for your space constrained application. Three choices of motherboards offer Core 2 Duo/Quad, i5 or i7 performance. Three horizontal plug-in card slots are provided offering a PCle x16 option. A 5-1/4" drive bay is populated with a DVDRW, and three internal 3-1/2" drives can be configured as a RAID array. Cooling is provided by three 80mm fans. A 500W power supply is standard. A front door protects the system.

# ORDERING GUIDE

	Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count (Dependent on Riser Card)
	C21300	Core 2 Duo/Quad	3.0/ 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCIe - 1 x4, 1 x16, PCI - 1 with 3-Slot Riser Card
	C21301	Core-i5/i7	3.33/ 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCIe - 1 x4, 1 x16, PCI - 1 with 3-Slot Riser Card
NAME OF TAXABLE PARTY.	C21307	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	Horizontal PCIe - 1 x16, 1 x4, PCI 1 with 3-Slot Riser Card

# C220 FAMILY

# 2U COTS CONFIGURED RACKMOUNT SYSTEM



# **FEATURES**

- Only 22.4" Deep
- Core 2 Duo/Quad and Core-i5/i7 Options
- XEON E3, Single and Dual Options, 4/6 Cores
- 3x Horizontal or Seven Vertical Plug-in Card Slots
- 4x 5-1/4", 1x 3-1/2", 2x Internal 3-1/2" Drive Bays
- 4x Cooling Fans
- 500W Power Supply







The C220 Series provide Core 2 Duo/Quad, Core i5/i7 or XEON E3 performance in a short 2U 22.4" deep chassis. Three horizontal or seven vertical card slots are provided. A wide variety of card slot options allow you to install your choice of plug-in cards. Four 5-1/4" drives are offered, one populated with a DVDRW drive. Two internal 3-1/2" drives are available. A high quality 500W power supply is provided. This system is ideal for your small area installation.

# ORDERING GUIDE

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count (Dependent on Riser Card)
C22000	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	Horizontal - PCIe - 1 x16, 1 x4, PCI 1 Vertical - PCIe - 1 x16, 1 x4, PCI 5
C22001	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	Horizontal - PCle - 1 x16, 1 x4, PCl 1 Vertical - PCle - 1 x16, 1 x4, 2 x1, PCl 3
C22007	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	Horizontal - PCIe - 1 x16, 1 x4, PCI 1 Vertical - PCIe - 1 x16, 1 x4, 1 x1, PCI 4
C22008	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	Horizontal - PCIe - 2 x16, 1 x4 Vertical - PCIe - 2 x16, 1 x4, PCIe Mini 1, PCI 3

# C221 FAMILY

# 2U COTS CONFIGURED RACKMOUNT SYSTEM



# *FEATURES*

- 25.6" Deep
- Core 2 Duo/Quad, Core-i5/i7
- XEON E3/E5, Single and Dual Options, 6/8 Cores
- 3x Plug-In Card Slots
- 4x 5-1/4", 1x 3-1/2", 2x Internal
   3-1/2" Drive Bays
- 4x Cooling Fans
- 600W Power Supply







The C221 Series provide server-class performance in only 2U high supporting EATX motherboards. Three horizontal plugin card slots are provided supporting full-length cards. A wide variety of slot configurations allows you to install your choice of plug-in cards. Four 5-1/4" drives can be configured for fixed or removable operation and support a RAID array. Two additional internal 3-1/2" drives can be fitted. Cooling is provided by four mid-chassis 80mm fans. A single or redundant 600W power supply provides ample power for your high-performance system.

# ORDERING GUIDE

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count (Dependent on Riser Card)
C22100	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	Horizontal PCle - 1 x16, 1 x4, PCl 1 with 3-Slot Riser Card
C22101	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	Horizontal PCle - 1 x16, 1 x4, PCl 1 with 3-Slot Riser Card
C22107	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	Horizontal PCle - 1 x16, 1 x4, PCl 1 with 3-Slot Riser Card
C22108	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	Horizontal PCIe - 2 x16, 1 x4 with 3-Slot Riser Card
C22109	Xeon E5-2658 Xeon E5-2428L	2.1 1.8	1 or 2	C606	256 GB	JBOD 0, 1, 5	Horizontal PCle - 3 x8 with 3-Slot Riser Card

## CHASSIS PLANS

# C313 FAMILY

# 3U COTS CONFIGURED RACKMOUNT SYSTEM



# **FEATURES**

- Only 20.7" Deep
- Core 2 Duo/Quad and Core-i5/i7 Options
- XEON E3, Single and Dual Options, 4/6 Cores
- 7x Plug-In Card Slots
- 2x 5-1/4" and 1x 3-1/2" Drive Bays, 7x Internal 3-1/2" Drives
- Four Cooling Fans
- 600W Power Supply, Single or Redundant







The C313 Series is a short 20" deep and only 3U high, allowing installation in your space-constrained spaces. The selection of high-performance motherboards offer Core 2 Duo/Quad, i5/i7 and XEON power for your application and cost-effective pricing. Two 5-1/4" drive bays can be configured as fixed or removable, and seven internal 3-1/2" drives can be configured as RAID. Two 92mm and two 60mm fans provide ample cooling. A front door with air filter protects the system.

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
C31300	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, PCI 5
C31301	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCle - 1 x16, 1 x4, 2 x1, PCl 3
C31307	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 1 x1, PCI 4
C31308	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	PCIe - 2 x16, 1 x4, 1 PCIe Mini, PCI 3

# C346 FAMILY

# 3U COTS CONFIGURED RACKMOUNT SYSTEM



# *FEATURES*

- 25.6" Deep
- Core 2 Duo/Quad and Core-i5/ i7 Options
- XEON, Single and Dual Options, 6/8 Cores
- 7x Plug-In Card Slots
- 6x 5-1/4" Drive Bays, Fixed or Removable
- 2x Internal Fixed Drives, 1x 3-1/2" Drive Bay
- 4x Cooling Fans
- 600W Power Supply, Single or Redundant







The C346 Series systems offer superb performance choices in a low 3U package. EATX motherboards offer server-class operation supporting single and dual 4/6 core high-performance XEON processors. Six 5-1/4" drives can be configured as fixed or removable and support RAID arrays. Seven vertical plug-in slots and a wide selection of slot configurations will support your choice of plug-in cards. Ample cooling for power hungry systems is provided by four mid-chassis fans. A 600W single or redundant power supply is offered.

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
C34600	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, PCI 5
C34601	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 2 x1, PCI 3
C34607	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 1 x1, PCI 4
C34608	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	PCIe - 2 x16, 1 x4, 1 PCIe Mini, PCI 3
C34609	Xeon E5-2658 Xeon E5-2428L	2.1 1.8	1 or 2	C606	256 GB	JBOD 0, 1, 5	PCle - 3 x8, 1 x4, 1 x1, PCl 1

# CHASSIS PLANS

# C402 FAMILY

# 4U COTS CONFIGURED RACKMOUNT SYSTEM



# **FEATURES**

- Only 17.8" Deep
- Core 2 Duo/Quad and Core-i5/i7 Options
- 7x Plug-In Card Slots
- 3x 5-1/4" Drive Bays, Fixed or Removable
- 1x 3-1/2" Drive Bay
- 2x Cooling Fans with Filter
- 600W Power Supply, Single or Redundant







The C402 Series systems are the ideal solution for space-constrained applications. At only 17.8" deep, they will easily fit any short-depth rack. They offer superb performance with Core 2 Duo/Quad, i5/i7 and XEON processor options. Three 5-1/4" drives can be configured as fixed or removable in a RAID array. Cooling is ample with two 92mm fans. A selection of plug-in card slot choices allow you to fit your choice of boards. A hold-down bar secures the plug-in cards.

Mode Numb	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
C4020	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, PCI 5
C4020	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 2 x1, PCI 3
C4020	Core i7-3770 7 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 1 x1, PCI 4
C4020	8 Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	PCIe - 2 x16, 1 x4, 1 PCIe Mini, PCI 3

# C414 FAMILY

# 4U COTS CONFIGURED RACKMOUNT SYSTEM



# *FEATURES*

- Only 20.1" Deep
- Core 2 Duo/Quad, Core-i5/i7 and XEON Options
- 7x Plug-In Card Slots
- 3x 5-1/4" Drive Bays, Fixed or Removable
- 1x 3-1/2" -Drive Bay
- 2x Cooling Fans with Filter
- 600W Power Supply, Single or Redundant







The C414 Series systems are our number-one seller for a variety of reasons. They are competitively priced with a good feature set and great value. The ATX motherboard offers Core 2 Duo/Quad up to Core i5/i7 and XEON processors to hit your performance point. A variety of plugin card slot configurations are available. Three 5-1/4" drives can be configured as fixed or removable drives. Two huge 120mm fans cool the system. A card-hold down bar secures the plug-in cards.

	Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
	C41400	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCle - 1 x16, 1 x4, PCl 5
	C41401	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCle - 1 x16, 1 x4, 2 x1, PCl 3
NE STATE	C41407	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 1 x1, PCI 4
	C41408	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	PCIe - 2 x16, 1 x4, 1 PCIe Mini, PCI 3

# C431 FAMILY

# 4U COTS CONFIGURED RACKMOUNT SYSTEM



# **FEATURES**

- 26.4" Deep
- Core 2 Duo/Quad and Core-i5/i7 Options
- XEON, 6/8 Core Options
- 7x Plug-In Card Slots
- 6x 5-1/4" Drives Bays Fixed or Removable
- 1x 3-1/2" Drive Bay
- 4x Cooling Fans with a Filter in the Door
- 700W Power Supply, Single or Redundant







The C431 Series provide server-class operation in a 4U system. Dual processor EATX motherboards provide up to 192GB of high-speed RAM, and a variety of PCI Express slot configurations allows for installation of a wide variety of plug-in cards. XEON 6 and 8 core processors will power your application. Six 5-1/4" drive bays can be configured with fixed or removable drives and set up in a RAID configuration. A 700W power supply can be single or redundant. A card hold-down bar secures the plug-in cards.

# ORDERING GUIDE

	Model umber	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
C	43100	Core2 Duo Core2 Quad Q9400	3 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, PCI 5
С	43101	Core i5-660 Core i7-860	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCle - 1 x16, 1 x4, 2 x1, PCl 3
С	43107	Core i7-3770 Core i5-3550S Core i7-2400	3.9 3.7 3.1	1	Q67	32 GB	JBOD 0, 1, 5	PCle - 1 x16, 1 x4, 1 x1, PCl 4
C.	43108	Xeon E3-1275 Xeon E3-1225	3.4 3.1	1	C216	32 GB	JBOD 0, 1, 5	PCIe - 2 x16, 1 x4, 1 PCIe Mini, PCI 3
C.	43109	Xeon E5-2658 Xeon E5-2428L	2.1 1.8	1 or 2	C606	256 GB	JBOD 0, 1, 5	PCle - 3 x8, 1 x4, 1 x1, PCl 1

# C528 FAMILY

# 5U COTS CONFIGURED RACKMOUNT SYSTEM



# *FEATURES*

- 26.4" Deep
- XEON, 6/8 Core Options
- 4x PCle x16 Double-Wide or 10x PCle x8 Card Slot Options
- 8x 5-1/4" Drives, Fixed or Removable
- 1x 3-1/2" Drive Bay
- 4x Cooling Fans with a Filter in the Door
- 1350W Redundant Power Supply







The C528 Series systems offer server-class performance with 6 and 8 core XEON processors. Up to 192GB of high-speed RAM can be populated for memory intensive applications. Eight 5-1/4" drive bays allow a wide variety of drive configurations with fixed or removable carriers and a selection of RAID setups. The 1550W N+1 redundant power supply provides more than enough power for anything you can configure in this system. And the selection of PCI Express slot counts allow you to install a wide variety of plug-in cards including up to four double-wide x16 cards.

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
C52810	XEON E5-2658 XEON E5-2428L	2.1 1.8	1 or 2	C600-A	512 GB	JBOD 0, 1, 5	PCIe - 4 x16 (3.0), 1 x8 (3.0), 1 x4 (2.0)
C52811	XEON E5-2658 XEON E5-2428L	2.1 1.8	1 or 2	C602	512 GB	JBOD 0, 1, 5	PCIe - 10 x8 (3.0), 1 x4 (2.0)

# OFF-THE-SHELE RUGGEDIZED PORTABLE COMPUTERS

Many mobile applications require the functionality of a full-size computer with multiple drives and plug-in cards for which a laptop or tablet will not suffice. Chassis Plans offers two models of high-quality portable computers with the features you require. These systems offer the same functionality of a desktop computer with the advantage of all necessary peripherals built in. These rugged portable PCs are designed for applications such as computer forensics, UAV flight control systems, remote GIS and mapping, oil and gas exploration, and reflection seismology data acquisition, analysis, and control.

# CHASSIS FEATURES

- Rugged Aluminum Alloy Construction
- 17" 1280 x 1024 TFT LCDs
- Fits ATX Motherboard
- Seven Full-Height Card Slots
- Variety of Drive Configurations
- High Flow Cooling Fans
- Various Power Supply Options
- Detachable Full-Feature Keyboard
- Padded Wheeled Transit Case Included

# **ELECTRONICS FEATURES**

- High-Performance, Long-Availability Motherboards
- Core i5 and i7 Processor Options
- Core 2 Duo / Quad Options
- Multiple Chipset Options
- Multiple Card Slot Options
- Multiple Hard Drive Options—Fixed & Removable
- High-Performance Graphics
- Intel Roadmap Components for Future Availability
- Single and Redundant Power Supplies



# P317 FAMILY

# PORTABLE COMPUTER



# *FEATURES*

- 3x 17" SXGA 1280 x 1024 LCDs
- Core i5/i7 Processor Options
- Intel Core 2 Duo/Quad Processor Options
- 3x Hot Swap Drive Carriers
- 7x Plug-In Card Slots with 1x PCle x16
- · Detachable Keyboard
- 1000W Power Supply







The P317 is unique in offering three 17" 1280 x 1024 resolution LCD displays in a portable computer system. Effective viewing area is 3840 x 1024. The displays in the P317 system are connected to an EVGA GeForce GTX7xx family Graphics Processor offering up to 2304 CUDA cores and outstanding video performance. The motherboard choices provide ample processing power. Three hot swap drive carriers provide up to 6TB of RAID storage. Seven plug-in cards are accommodated and held in place with a card hold-down bar. A full-feature detachable keyboard is included. Also included is a wheeled padded transit case.

# ORDERING GUIDE

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
P31700	Core 2 Duo/Quad	3.0 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, PCI - 5
P31701	Core i5 / i7	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 2 x1, PCI - 3

# SYSTEM SPECIFICATIONS

**CHASSIS** 

### PHYSICAL DIMENSIONS

- 14.3" (H) x 15.5" (W) x 11.5" (D) (Closed)
- 14.3" (H) x 42.9" (W) x 11.5" (D) (Open)
- 49 lbs (Varies by Configuration)

### LCD FEATURES

- Three 17" TFT Displays
- 1280 x 1024 Each (3840 x 1024 Effective)
- 300cd/m<sup>2</sup> Brightness
- 800:1 Contrast
- 160° Viewing Angle
- 5ms Response Time
- Anti-Glare Hard Coat Standard

### POWER SUPPLY

- Output Power 1000W
- Single or Redundant Options
- Input 100 To 240Vac, 50/60Hz Auto Switching High Efficiency
- Other Options Available



### COOLING

- 2x 120mm External Fans
- 2x 60mm Internal Fans
- Positive Chassis Pressure

### CHASSIS DETAILS

- Rugged Aluminum Construction
- Accommodates an ATX Motherboard
- 7x Full-Height Card Slots
- Rubber Corner Bumpers
- Detachable Full-Feature Keyboard

### DRIVE BAYS

- 3x 3-½" Hot Swap Hard Drive Bays
- RAID 0, 1, and 5 Supported
- Slim DVDRW Installed Standard

### **ENVIRONMENT**

- Operating Temperature: 0° to 50°C (32° to 122°F)
- Storage Temperature: -20° to 60°C (-4° to 140°F)
- Humidity: 5 to 95% RH Non-condensing





# P370 FAMILY

# PORTABLE COMPUTER



# *FEATURES*

- 17" SXGA 1280 x 1024 TFT LCDs
- Core i5 / i7 Processor Options
- Intel Core 2 Duo / Quad Processor Options
- 2x 5-1/4" and 1x 3-1/2"
   Drive Slots
- 7x Plug-In Card Slots with 1x PCle x16
- Detachable Keyboard
- 600W ATX Power Supply







The P370 offers one 17" 1280 x 1024 resolution LCD display in a portable computer system. A touch screen can be fitted and optional enhancement filters can be provided for improved viewing. Pre-configured systems provide a choice of Core i5-660 & -750 and i7-860 high-performance processors or Core 2 Duo at 3.0GHz or Core 2 Quad at 2.66GHz processors. Up to 16GB of DDR3 memory can be installed in the Core i5 and i7 systems. A full-feature detachable keyboard is included. Also included is a wheeled padded transit case.

# ORDERING GUIDE LATEST TECHNOLOGY SUPPORTED—CALL NOW!

Model Number	Processor	Speed GHz	Number of CPUs	Chip Set	Max Ram	Raid	Slot Count
P37000	Core 2 Duo/Quad	3.0 2.66	1	Q45	8 GB	JBOD 0, 1, 5	PCle - 1 x16, 1 x4, PCl - 5
P37001	Core i5 / i7	3.33 2.8	1	Q57	16 GB	JBOD 0, 1, 5	PCIe - 1 x16, 1 x4, 2 x1, PCI - 3

# SYSTEM SPECIFICATIONS

**CHASSIS** 

### PHYSICAL DIMENSIONS

- 14.1" (H) x 17.1" (W) x 9.0" (D)
- 29 lbs (Varies by Configuration)

# LCD FEATURES

- One 17" TFT Display
- 1280 x 1024 Each (3840 x 1024 Effective)
- 300cd/m<sup>2</sup> Brightness
- 800:1 Contrast
- 160° Viewing Angle
- 5ms Response Time
- Anti-Glare Hard Coat Standard

#### **POWER SUPPLY**

- Output Power 650W
- Single or Redundant Options
- Input 100 To 240Vac, 50/60Hz
   Auto Switching High Efficiency
- Other Options Available



# COOLING

- 2x 120mm External Fans
- Positive Chassis Pressure

#### CHASSIS DETAILS

- Rugged Aluminum Construction
- Accommodates an ATX Motherboard
- 7x Full-Height Card Slots
- Rubber Corner Bumpers
- Detachable Full-Feature Keyboard

### DRIVE BAYS

- 2x 5-1/4" and 1x 3-1/2" Hard Drive Bays, 1x 3-1/2" Drive Bay
- RAID 0, 1, and 5 Supported
- Slim DVDRW Installed Standard

#### **ENVIRONMENT**

- Operating Temperature: 0° to 50°C (32° to 122°F)
- Storage Temperature: -20° to 60°C (-4° to 140°F)
- Humidity: 5 to 95% RH Non-condensing





# RUGGED INDUSTRIAL-GRADE RACKMOUNT LCD DISPLAYS



Utilizing the highest quality LCD displays and keyboards, Chassis Plans' rackmount keyboards, rackmount LCD monitors, and monitors with keyboards are assembled with pride in the USA. All share a rugged industrial-grade design philosophy to provide systems that will reliably perform in the harshest environments. The LCD panels are enterprise grade for high performance and extended availability. LCD enhancements include bonded anti-reflective oleophobic overlays. Hi-bright panels for direct sunlight use are available. The LCD controllers are industrial-grade providing the inputs and features you need to meet your installation objectives.

# CHASSIS FEATURES

- Lightweight Rugged 5052-H32 Aircraft-Grade Aluminum
- Milled Solid Billet Front Panel (1U and 2U Displays)
- Extended Availability Enterprise-Grade LCD Panels
- Extended Temperature Option: -20°C to +70°C
   Operating
- Bonded Oleophobic Anti-Reflective Overlay Options
- Variety of LCD Resolutions
- · Variety of Keyboards
- 12VDC, 110/220VAC, 28VDC
- Designed to Meet and Tested to Stringent Industrial Standards

# CONTROLLER FEATURES

- High Performance Industrial-grade LCD Controllers
- aRGB, DVI-D, HDMI, Composite Video Inputs
- Optional HD & SD Component and HD-SDI Inputs
- Picture-In-Picture / Picture-By-Picture
- Image Up / Down Scaling
- Variable Aspect
- Freeze and Zoom Function
- Auto Setup and Wide Screen Detection
- RS232 and Ethernet Remote Command Protocol
- Text Overlay Function
- Custom Display Scaling

# CHASSIS PLANS

# TFX TRI-FOLD

# 2U RACKMOUNT INDUSTRIAL-GRADE LCD DISPLAY



# *FEATURES*

- Only Tri-Fold Rugged Industrial Display with Height of 2U
- Long-Life 19" TFT LCDs with LED Backlight
- 1280 x 1024 Max Resolution Per Panel
- Extended Temperature (-20° to +70°C) Option
- aRGB, DVI-D, HDMI, Composite Video Inputs
- Bonded Oleophobic Anti-Reflective Glass Option
- Industrial-Grade LCD Controller









The TFX is a rugged industrial-grade high performance 2U rackmount LCD display offering three 19" TFT LCD displays with per panel resolution of 1280 x 1024. The TFX is the only tri-fold display that fits in 2U. Display options include a bonded oleophobic anti-reflective cover glass. The system is built to stringent industrial standards and includes an industrial-grade wide temperature range LCD controller and other rugged components. The highly sophisticated controller accepts aRGB, DVI-D, HDMI and Composite Video inputs. The TFX also includes an audio amplifier with speakers.



TFX1-191	Standard Temperature Display
TFX1-192	Extended Temperature Display

# DISPLAY SPECIFICATIONS

### PHYSICAL DIMENSIONS

- 3.5" (H) x 24.0" (D) x 19.0" (W) Closed
- 19.2" (H) x 24.0" (D) x 50.0" (W) Open
- 37 lbs

### EXTENDED TEMPERATURE DISPLAY

- -20° to 70°C Operating Temperature
- 1500cd/m<sup>2</sup> Brightness
- 800:1 Contrast Ratio
- 160° Viewing Angle

#### STANDARD TEMPERATURE DISPLAY

- 0° to 50°C Operating Temperature
- 350cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 160° Viewing Angle
- Anti-Glare Hardcoat Standard

#### DISPLAY ENHANCEMENTS

Bonded Oleophobic
 Anti-Reflective Glass Overlay

### VIDEO CONTROLLER FEATURES

- ARGB (15 Pin VGA)
- DVI-D Input
- HDMI 1.3
- Composite Video Input
- PAL / NTSC / SECAM
- Sync On Green/Composite
- Image Up/Down-Scaling
- Picture-In-Picture
- Picture-By-Picture
- Variable Aspect
- Freeze & Zoom Function
- Wide Screen Mode Detection
- Auto Picture Setup
- · Memory Buffer
- RS-232 Serial Command Protocol
- Ethernet Command Protocol
- Text Overlay Function

# POWER OPTIONS

- 85-260VAC, 47-63Hz
- 28VDC
- 12VDC

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

### **ALTITUDE**

 10,000 ft. Operational 30,000 ft. Storage

#### HIGH TEMPERATURE

• 70°C Operational, 80°C Storage

#### LOW TEMPERATURE

• -20°C Operational, -30°C Storage

# **HUMIDITY**• 5-95% N

• 5-95%, Non-condensing

# BLOWING SAND AND DUST VIBRATION

• 2G RMS 5-500Hz

#### **BENCH HANDLING SHOCK**

• 20G @ 11ms



RUGGED LCDS & KEYBOARDS

# CCI-17/19 DISPLAYS

# 1U RACKMOUNT INDUSTRIAL-GRADE LCD KEYBOARD



# *FEATURES*

- 1U High Rugged Industrial Design
- Short 24.4" Deep Clamshell Design
- Rigorously Tested to Stringent Industrial Environmental Standards
- Long-Life 17" or 19" LCD with LED Backlight
- 1280 x 1024 Max LCD Resolution
- Extended Temperature (-20° to +70°C) Operation (17")
- Sealed Keyboard with Hula Point or Glide Point Mouse Pointer
- Bonded Oleophobic Anti-Reflective Overlay
- Two Industrial-Grade LCD Controller Options









The CCI rackmount LCD keyboard drawers offer all the features you need for your harsh environment application. This extremely rugged, industrial-grade design has passed a rigorous set of industrial environmental tests. The LCDs are best in class offering LED backlights and long product availability. A variety of sophisticated industrial-grade LCD controllers are offered to accommodate virtually any input signal including DVI-D, HDMI, VGA, Video and even HD Component. Rugged 5052-H32 aluminum construction and sealed, NEMA4 spill-proof keyboards are standard features.



CCI-17	17" LCD, 1280 x 1024 (Extended Temperature)
CCI-19	19" LCD, 1280 x 1024

# DISPLAY **SPECIFICATIONS**

### PHYSICAL DIMENSIONS

- 1.75" (H) x 24.4" (D) x 19.0" (W)
- 21 lbs

#### 17" LCD FEATURES

- LED Backlight
- -20° to 70°C Operating Temperature
- 350cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 30ms Response
- 160° Viewing Angle
- Anti-Glare Hardcoat Standard

#### 19" LCD FEATURES

- LED Backlight
- 0° to 50°C Operating Temperature
- 350cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 5ms Response
- 160° Viewing Angle
- Anti-Glare Hardcoat Standard

#### DISPLAY ENHANCEMENTS

 Bonded Oleophobic Anti-Reflective Glass Option

• 5-95%, Non-condensing

**VIBRATION** 

• 20G @ 11ms

• 2G RMS 5-500Hz

**BLOWING SAND AND DUST** 

**BENCH HANDLING SHOCK** 

# VIDEO CONTROLLER **FEATURES**

- ARGB (15 Pin VGA)
- DVI-D Input
- HDMI 1.3
- Composite Video Input
- PAL / NTSC / SECAM
- Sync On Green/Composite
- HD Component YPbPr
- SD Component YCbCr
- Image Up/Down-Scaling
- Picture-In-Picture
- Picture-By-Picture
- Variable Aspect
- Freeze & Zoom Function
- Wide Screen Mode Detection
- Auto Picture Setup
- · Memory Buffer
- RS-232 Serial Command Protocol
- Ethernet Command Protocol
- Text Overlay Function Depends on Controller Selected

#### **POWER OPTIONS**

- 85-260VAC, 47-63Hz
- 28VDC
- 12VDC

#### KEYBOARD FEATURES

- 97 Keys Sealed Silicone Rubber Keyboard with Touch Pad
- 113 Keys Sealed Silicone Rubber Keyboard with Hula Point
- · Sealed Spill-Proof Design
- Full-Travel Keyboard Feel
- Tactile Keystroke

# Designed to meet rugged industrial standards to the below specifications. **ALTITUDE**

HARSH ENVIRONMENTS

**HUMIDITY** 

• 10,000 ft. Operational, 30,000 ft. Storage

# HIGH TEMPERATURE

- 17" = 70°C Operational, 80°C Storage
- 19" = 50°C Operational, 60°C Storage

#### LOW TEMPERATURE

- 17" = -20°C Operational, -30°C Storage
- 19" = 0°C Operational, -20°C Storage



# CCI-15 DISPLAY

# 1U HI-BRIGHT RACKMOUNT LCD KEYBOARD



CHASSIS









# **FEATURES**

- 1U High Rugged Industrial Design
- Rigorously Tested to Industrial Environmental Standards
- Long-Life 15" LCD with LED Backlight
- 1024 x 768 Max LCD Resolution
- Extended Temperature (-30° to +70°C) Operation
- Sealed Keyboard with Hula Point or Glide Point Mouse Pointer
- Bonded Oleophobic Anti-Reflective Overlay
- Two Industrial-Grade LCD Controller Options

# DISPLAY SPECIFICATIONS

#### PHYSICAL DIMENSIONS

- 1.75" (H) x 24.4" (D) x 19.0" (W)
- 18 lbs
- Harsh Environments Tested to Stringent Industrial Environmental Standards

#### LCD FEATURES

- 15" 1024 x 768 Display
- Sunlight Readable Transflective Technology
- LED Backlight
- -30° to 70°C Operating Temperature
- 950cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 17ms Response
- 160° Viewing Angle

#### **DISPLAY ENHANCEMENTS**

 Bonded Oleophobic Anti-Reflective Cover Glass Option VIDEO CONTROLLER

- ARGB (15 Pin VGA)
- DVI-D Input

**FEATURES** 

- HDMI 1.3
- Composite Video Input
- PAL / NTSC / SECAM
- Sync On Green/Composite
- HD Component YPbPr
- SD Component YCbCr
- Image Up/Down-Scaling
- Picture-In-Picture
- Picture-By-Picture
- Variable Aspect
- Freeze & Zoom Function

- Wide Screen Mode Detection
- Auto Picture Setup
- Memory Buffer
- RS-232 Serial Command Protocol
- Ethernet Command Protocol
- Text Overlay Function
   Depends on Controller Selected

# POWER OPTIONS

- 85-260VAC, 47-63Hz
- 28VDC
- 12VDC

# ORDERING GUIDE

CCI-15

15" LCD, 1024 x 768 Extended Temperature

The CCI-15 is a rugged industrial-grade high performance 1U rackmount

combination of high brightness, transflective technology and anti-reflective

coating makes this display "pop" in direct sunlight. The CCI-15 is designed

to meet stringent industrial-grade specifications and includes a solid milled

locking stainless hardware throughout. Electrical components are selected for

aluminum front panel, lightweight 5052-H32 aluminum construction and

their inherent ruggedness and mounted to enhance that.

clamshell LCD keyboard offering a 15" transflective display with LED backlighting and bonded oleophobic Anti-Reflective cover glass. The

# CPC-17/19 KVM DISPLAYS

# 1U COMMERCIAL-GRADE LCD KEYBOARD



# *FEATURES*

- 1U High Commercial-Grade Design
- Short 22.0" Deep Clamshell Design (No KVM) (24.0" Deep with KVM)
- Long-Life 17" or 19" LCD with LED Backlight
- 1280 x 1024 Max LCD Resolution
- Front Panel USB Port
- 88-Key Low Profile Keyboard
- Track ball or Touch Pad Mouse Control
- Two LCD Controller Options
- Four KVM Options for VGA and DVI-D signals with 4, 8 or 16 inputs
- Cold Rolled Steel Construction





The CPC-17 and -19 are high quality commercial-grade 1U rackmount LCD keyboard displays. These displays are ideal for semi-protected environments such as laboratory or light industrial control. Two feature-rich LCD controller options provide for a variety of video inputs. Four KVM switch options are offered providing a choice of 4, 8 or 16 ports of VGA or 4 ports of DVI connections. The LCD displays are best in class, offer 1280 x 1024 resolution and provide LED backlights. Included is a high quality low profile 88-key keyboard with integrated track ball or touch pad. A USB port is provided on the front panel.



CPC-17		17" LCD, 1280 x 1024		
	CPC-19	19" LCD, 1280 x 1024		

# DISPLAY SPECIFICATIONS

#### PHYSICAL DIMENSIONS

- 1.75" (H) x 24.4" (D) x 19.0" (W)
- 21 lbs

CHASSIS

#### 17" LCD FEATURES

- LED Backlight
- 0° to 50°C Operating Temperature
- 350cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 30ms Response
- 160° Viewing Angle
- Anti-Glare Hardcoat Standard

#### 19" LCD FEATURES

- LED Backlight
- 0° to 50°C Operating Temperature
- 350cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 5ms Response
- 160° Viewing Angle
- Anti-Glare Hardcoat Standard

#### VIDEO CONTROLLER FEATURES

- ARGB (15 Pin VGA)
- DVI-D Input
- HDMI 1.3
- Composite Video Input
- PAL / NTSC / SECAM
- Sync On Green/Composite
- HD Component YPbPr
- SD Component YCbCr
- Image Up/Down-Scaling
- Picture-In-Picture
- Picture-By-Picture
- Variable Aspect
- Freeze & Zoom Function
- Wide Screen Mode Detection
- Auto Picture Setup
- Memory Buffer
- RS-232 Serial Command Protocol
- Ethernet Command Protocol
- Text Overlay Function
   Depends on Controller Selected

# **POWER OPTIONS**

• 85-260VAC, 47-63Hz

# KEYBOARD FEATURES

- 88 Keys
- Full Travel Tactile Feel
- Track Ball or Touch Pad
- PS/2 or USB Output

# KVM SWITCH FEATURES

The CPC-17 and -19 offer a selection of four integrated KVM switches offering 4, 8, or 16 VGA or 4 DVI-D connections. The display with no KVM installed offers all the video signal type connectors as supported by the LCD controller. The KVM switches all offer advanced features such as onscreen menus, hotkey port selection, scanning, and upgradable firmware.

# 4-PORT VGA - ORDER OPTION A

- USB and PS/2 Output
- 3 in 1 Combo-Cable Connection

#### 8-PORT VGA - ORDER OPTION B

- USB and PS/2 Output
- 3 in 1 Combo-Cable Connection

# 4-PORT DVI-D - ORDER OPTION C

- USB Output Only
- Direct Port Connection

# 16-PORT VGA - ORDER OPTION E

- USB and PS/2 Output
- 3 in 1 Combo-Cable Connection

NO KVM - ORDER OPTION N



# CPI1-241 DISPLAY

# 9U 24" RACKMOUNT LCD DISPLAY



# *FEATURES*

- 9U High Rugged Industrial Design
- Designed to Meet Industrial Environmental Standards
- Long-Life 24" LCD with LED Backlight
- 1920 x 1200 Max LCD Resolution
- Bonded Oleophobic Anti-Reflective Overlay
- Optional Infrared Multi-Touch Touch Screen
- Advanced Industrial-Grade LCD Controller
- Supports Virtually Any Input Signal







The CPI1-241 mount-on-rack display is ideal for many rugged industrial applications, particularly ones that require extensive screen space, e.g., HD video plus a dashboard with gauges. The display has an InfraRed Touch Screen and supports Multi Touch Gesture technology (Windows 7/8). A bonded oleophobic anti-reflective glass overlay is standard. The advanced industrial-grade LCD controller accepts virtually any video signal with optional HD-SDI. The controller provides advanced features such as picture-in-picture, picture-by-picture and text overlay. An amplifier and speakers are included.



# ORDERING GUIDE

CPI1-241

Mount-On-Rack 24", 1920 x 1600

# DISPLAY SPECIFICATIONS

### PHYSICAL DIMENSIONS

- 15.47" (H) x 3.2" (D) x 23" (W)
- 26 lbs

**CHASSIS** 

### LCD FEATURES

- 24" LCD
- 1920 x 1200 Resolution
- LED Backlight
- 300cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 14ms Response
- 178° Viewing Angle
- 0° to 50°C Operating Temperature
- Standard Bonded Oleophobic Anti-Reflective Glass Overlay
- Standard 2W Audio Amp with Speakers

#### **DISPLAY ENHANCEMENTS**

 InfraRed Multi-Touch Touch Screen Option

### VIDEO CONTROLLER FEATURES

- ARGB (15 Pin VGA)
- DVI-D Input
- HDMI 1.3
- Composite Video Input
- PAL / NTSC / SECAM
- Sync On Green/Composite
- HD Component YPbPr
- SD Component YCbCr
- HD-SDI SMPTE259M, 4.2.2 Option
- 3G HD-SDI 424M 4.4.4 Option
- Image Up/Down-Scaling

- Picture-In-Picture
- Picture-By-Picture
- Variable Aspect
- Freeze & Zoom Function
- Wide Screen Mode Detection
- Auto Picture Setup
- Memory Buffer
- RS-232 Serial Command Protocol
- Ethernet Command Protocol
- Text Overlay Function
- InfraRed Remote Control

#### POWER OPTIONS

- 85-260VAC, 47-63Hz
- 28VDC
- 12VDC

# HARSH ENVIRONMENTS

Designed to meet rugged industrial standards to the below specifications.

#### **ALTITUDE**

• 10,000 ft. Operational, 30,000 ft. Storage

#### HIGH TEMPERATURE

• 50°C Operational, 60°C Storage

### LOW TEMPERATURE

• 0°C Operational, -20°C Storage

#### HUMIDITY

• 5-95%, Non-condensing

# BLOWING SAND AND DUST

#### **VIBRATION**

• 2G RMS 5-500Hz

# **BENCH HANDLING SHOCK**

• 20G @ 11ms



# CPI-17/19 DISPLAY

# **8U RACKMOUNT LCD**



# *FEATURES*

- 8U High Rugged Industrial Design
- Designed to Meet Industrial Environmental Standards
- Long-Life 17" or 19" LCD with LED Backlight
- 1280 x 1024 Max LCD Resolution
- Extended Temperature
   (-20° to +70°C) Operation (17")
- Bonded Oleophobic Anti-Reflective Overlay
- Multiple Industrial-Grade LCD Controller Options









The CPI-17 and -19 rackmount LCD display offer all the features you need for your harsh environment application. This extremely rugged, industrial-grade display is engineered to meet stringent industrial environmental standards. The LCDs are best in class offering LED backlights and revision controlled long product availability. Sophisticated industrial-grade LCD controllers are offered to accommodate virtually any input signal including DVI-D, HDMI, VGA, Video, HD Component and even HD-SDI. Rugged 5052-H32 aluminum construction is a standard feature. An optional RhinoTouch® multi-touch touch screen is available.



CPI-17	17" LCD, 1280 x 1024 Extended Temperature
CPI-19	19" LCD, 1280 x 1024

# DISPLAY **SPECIFICATIONS**

#### PHYSICAL DIMENSIONS

- 14.00" (H) x 3.15" (D) x 19.0(W)
- 20 lbs

**CHASSIS** 

#### 17" LCD FEATURES

- LED Backlight
- -20° to 70°C Operating Temperature
- 350cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 30ms Response
- 160° Viewing Angle
- · Anti-Glare Hardcoat Standard

HARSH ENVIRONMENTS

#### 19" LCD FEATURES

- LED Backlight
- 0° to 50°C Operating Temperature
- 350cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 5ms Response
- 160° Viewing Angle
- Anti-Glare Hardcoat Standard

#### DISPLAY ENHANCEMENTS

- Bonded Oleophobic Anti-
- Multi-Touch Touch Screen Option

### VIDEO CONTROLLER **FEATURES**

- ARGB (15 Pin VGA)
- DVI-D Input
- HDMI 1.3
- Composite Video Input
- PAL / NTSC / SECAM
- Sync On Green/Composite
- HD Component YPbPr
- SD Component YCbCr
- Image Up/Down-Scaling
- Picture-In-Picture
- Picture-By-Picture
- Variable Aspect
- Freeze & Zoom Function
- Wide Screen Mode Detection
- Auto Picture Setup
- Memory Buffer
- RS-232 Serial Command Protocol
- Ethernet Command Protocol
- Text Overlay Function Depends on Controller Selected

# POWER OPTIONS

- 85-260VAC, 47-63Hz
- 28VDC
- 12VDC

# Reflective Glass Option

Designed to meet rugged industrial standards to the below specifications.

#### **ALTITUDE**

• 10,000 ft. Operational, 30,000 ft. Storage

# HIGH TEMPERATURE

- 17" = 70°C Operational, 80°C Storage
- 19" = 50°C Operational, 60°C Storage

### LOW TEMPERATURE

- 17" = -20°C Operational, -30°C Storage
- 19" = 0°C Operational, -20°C Storage

# HUMIDITY

5-95%, Non-condensing

# **BLOWING SAND AND DUST VIBRATION**

2G RMS 5-500Hz

### **BENCH HANDLING SHOCK**

• 20G @ 11ms



# CPI-15 DISPLAY

# 8U HI-BRIGHT RACKMOUNT LCD DISPLAY



# *FEATURES*

- 8U High Rugged Industrial Design
- Designed to Stringent Industrial Environmental Standards
- Long-Life 15" LCD with LED Backlight
- 1024 x 768 Max LCD Resolution
- Extended Temperature (-30° to +70°C) Operation
- Bonded Oleophobic Anti-Reflective Overlay
- Two Industrial-Grade LCD Controller Options

# DISPLAY SPECIFICATIONS

# PHYSICAL DIMENSIONS

- 14.00" (H) x 3.15" (D) x 19.0" (W)
- 13 lbs

#### LCD FEATURES

- 15" 1024 x 768 Display
- Daylight Readable Transflective Technology
- LED Backlight
- -30° to 70°C Operating Temperature
- 950cd/m<sup>2</sup> Brightness
- 1000:1 Contrast Ratio
- 17ms Response
- 160° Viewing Angle

#### **DISPLAY ENHANCEMENTS**

 Bonded Oleophobic Anti-Reflective Cover Glass Option The CPI-15 is a rugged industrial-grade, high-performance 8U rackmount LCD display offering a 15" transflective display with LED backlighting and bonded oleophobic anti-reflective cover glass. The combination of high brightness, transflective technology and anti-reflective coating makes this display "pop" in direct sunlight. The CPI-15 is designed to meet stringent industrial environmental standards with lightweight 5052-H32 aluminum construction and locking stainless hardware throughout. Electrical components are selected for their inherent ruggedness and mounted to enhance that. An optional RhinoTouch® touch screen is available.

### VIDEO CONTROLLER FEATURES

- ARGB (15 Pin VGA)
- DVI-D Input
- HDMI 1.3
- Composite Video Input
- PAL / NTSC / SECAM
- Sync On Green/Composite
- HD Component YPbPr
- SD Component YCbCr
- Image Up/Down-Scaling
- Picture-In-Picture
- Picture-By-Picture
- Variable Aspect

- Freeze & Zoom Function
- Wide Screen Mode Detection
- Auto Picture Setup
- · Memory Buffer
- RS-232 Serial Command Protocol
- Ethernet Command Protocol
- Text Overlay Function
   Depends on Controller Selected

#### POWER OPTIONS

- 85-260VAC, 47-63Hz
- 28VDC
- 12VDC

# ORDERING GUIDE

CPI-15

15" LCD, 1024 x 768 Daylight Readable

# CKX RACKMOUNT KEYBOARD



# **FEATURES**

- Rackmount Utilizes 1RU (1.75")
- Waterproof / Dustproof Assembly
- High Quality NEMA4 Sealed 83-Key Keyboard
- Sealed Optical 38mm Trackball
- Ergonomic Wrist Rest
- Lightweight Aluminum Construction
- Solid Bearing Slides
- Captive Thumb Screws









# ORDERING GUIDE

Model	Interface
CKX-AP	PS/2
CKX-BU	USB

# CKC RACKMOUNT KEYBOARD



# **FEATURES**

- Rackmount Utilizes 1RU (1.75")
- High Quality 88-Key Keyboard
- Optical Track Ball or Touch Pad
- Ergonomic Wrist Rest
- Lightweight Aluminum Construction
- Solid Bearing Slides
- Captive Thumb Screws





	311B21111.10 031B2				
7	Model	Interface	Pointing Device		
	CKC-AX	PS/2	Track Ball		
	CKC-BX	USB	Track Ball		
	CKC-CX	PS/2	Touch Pad		
	CKC-DX	USB	Touch Pad		

# RUGGED INDUSTRIAL-GRADE

# HIGH PERFORMANCE STORAGE

High-performance, high-speed, enterprise-grade disk storage delivering a fast response and the right intelligence to industrial users in oil and gas exploration, mining, data processing, movie production, any application with large amounts of local data. Today's industrial infrastructure is an incredibly complex system of hardware, software and networks – all working together. Mission-critical applications provide maximum uptime and complete redundancy to ensure decision makers have more information all of the time. Lost data is lost time and may be irreplaceable, or incredibly expensive to replace.

# CHASSIS FEATURES

- Wide Range of Drive Options
- 2U Chassis with 12 or 24 Drives
- Built-In Redundancy in Controllers and Power Supplies
- Redundant, Hot Swap Components
- $2-\frac{1}{2}$ " and  $3-\frac{1}{2}$ " SAS, SATA or SSD Drives
- 1 To 3 Terabyte Energy-Saving Enterprise-Grade Drives
- DC Power Options
- Tested To Meet NEBS Level 3
- Tested For Rugged Environments

### CONTROLLER FEATURES

- RAID 0, 1, 3, 5, 6, 10, 50
- Optional Snapshot Capability
- Additional Data Protection with Full Volume Copies
- Built-In Schedule Capability
- Dual or Single Raid Controller or JBOD
- Data Rates Up To 8GB/Sec FC or 6GB/Sec SAS
- OS Support Windows, Linux, Solaris
- Low Latency Cache Mirroring
- Battery-Free Cache Backup
- 1.6GB/Sec Read / 1.3GB/Sec Write
- Same Sector Cache Hits Of 375,000 IOPS



# CHASSIS PLANS

# HIGH PERFORMANCE 2U RAID DISK ARRAYS

# SA2U-12EHP

- Ultra-High IOPS Performance -375,000 IOPS
- Data Rates Up To 4Gb/sec
- Rugged Tested to NEBS Level 3 and Industrial Standards
- 12 SAS, SATA or SSD Drives
- Redundancy Built In Drives, Controllers & Power
- Supports Raid 0, 1, 3, 5, 6, 10, 50 or JBOD
- Full Volume Copies and Snapshot Capability

# SA2U-24

- 24 2-1/2" SAS, SATA or SSD Drives
- Data Rates Up To 3Gb/sec
- Can Daisy-Chain Up To 7 Additional Units
- Redundancy Built In Drives, Controllers & Power
- Supports Raid 0, 1, 3, 5, 6, 10, 50 or JBOD
- Full Volume Copies and Snapshot Capability
- Low Latency Cache Mirroring

# SA2U-4000

- 24 2-1/2" SAS or SSD Drives
- Data Rates Up To 8Gb/sec
- Rugged Tested to NEBS Level 3 and Industrial Standards
- Redundancy Built In Drives, Controllers & Power
- Supports Raid 0, 1, 3, 5, 6, 10, 50 or JBOD
- Full Volume Copies and Snapshot Capability
- 99.999% Uptime Availability







SA2U-24 / SA2U-4000

Model	Number of Drives	Drive Type	Capacity Sys Max	Performance IOPS MB/Sec	Drive Support	
SA2U-12EHP	12	3.5"	1-12 TB 108 TB	375,000/1,580	SAS 15K, SATA 7200, SSD	
SA2U-24	24	2.5"	1-12 TB 60 TB	144,000/1,160	SAS 7200, 10K & 15K	
SA2U-4000	12 24	3.5" 2.5"	36 TB 24 TB	5200MB/s Reads 3000MB/s Writes	SAS 10K, 15K, Nearline, SSD	



# TOP SELLERS



# *TFX TRI-FOLD 2U INDUSTRIAL-GRADE RACKMOUNT LCD*

### **FEATURES**

- Only Tri-Fold Rugged Industrial Grade Display With Height of 2U
- Long Life 19-Inch LCDs with LED Backlight
- 1280 x 1024 Max Resolution Per Panel
- Designed to Meet Stringent Environmental Standards
- Extended Temperature (-20° to +70°C) Option
- aRGB, DVI-D, HDMI, Video Inputs
- Bonded Anti-Reflective Glass Overlay Option
- Industrial-Grade LCD Controllers

See page 38 for more information

# R1U-20 FAMILY 1U INDUSTRIAL-GRADE SYSTEMS

# **FEATURES**

- Only 20" Deep
- Designed to Meet Stringent Industrial Standards
- Single and Dual 6 or 8 Core XEON E5 CPU's
- Two x16 (Gen 3.0) Card Slots
- Up to Three 2-1/2" Removable Drives, and One Slim DVD
- Five Fans with SysCool® Intelligent Fan Controller

- Front Panel Smart Card Reader (Optional)
- Redundant Power Supply

See page 10 for more information



KEY CODE

PRSRT STD U.S.POSTAGE PAID SAN DIEGO, CA PERMIT 17

Mail Room: If the person above is no longer with your organization, please route this to the Engineering Manager.

# RUGGED INDUSTRIAL-GRADE RACKMOUNT COMPUTERS

# **FEATURES**

- Rugged 5052-H32 Aircraft Grade Aluminum
- Milled Solid Billet Front Panel
- Environmental Gasket on Front Panel
- Formed Welded Front Door
- Shock Mounted Hard Drive Bays
- High-Reliability Long-Life High-Velocity Fans
- SysCool® Intelligent Fan Controller / Alarm Board
- 45PPI Air Filter
- ANSI/VITA 40-2003 Compliant Alarm LEDs
- Stainless Self Locking Hardware
- Long-Life Revision-Controlled Components

SEE PAGE 8 FOR MORE INFORMATION. CALL TOLL FREE 800-787-4913

