Universal Processor Chassis 32 (VME/cPCI/PCI)

Processor Independent Upgrade

Key Features

- Rugged 32-bit VME, cPCI or PCI chassis
- Modular subassemblies
- Optional configurations to support all currently available industry standard single-board computer form factors & operating systems
- Configurable I/O panels to support customized requirements
- Evacuated forced-air cooling (~200cfm)
- AC or DC power option

When the Navy and the commercial maritime industry invest in COTS based high performance rack systems and workstations, they select the L-3 Rugged Command & Control Solutions (RCCS) family of rugged processor modules to support new system development, technology insertion and upgrade requirements.

The L-3 RCCS Universal Processor Chassis (UPC) is a versatile, low cost modular product first introduced in CY 2000 to support processor upgrade requirements in existing, standard 19" shipboard rack installations. Specifically designed as a common chassis with modular processor subassemblies capable of supporting multiple form factors, the UPC is a uniquely cost effective upgrade that supports Total Program Cost requirements associated with the shortened COTS product technical life cycles. Additionally, the UPC is a U.S. Navy Grade A shock certified chassis that supports rugged open systems architecture requirements, provides processor and operating system independence and is capable of minimizing the costs associated with upgrading or migrating to different operating systems.

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Standard Navy rack upgraded with 2 RCCS Universal Processor Chassis and 1 RCCS Rugged 20-inch Flat Panel Display

Using this common chassis design with modular processor subassemblies, the UPC can be configured for any of the currently available industry standard COTS single board computer form factors; 32-bit 6u VME, PCI or 6u compact PCI (cPCI). The integration of operating system independent processors within the UPC has been accomplished for both rugged rack and console applications using HP-UX, Solaris and Windows NT operating systems. Incorporating a modular mass storage peripheral drive bay subassembly, the UPC can accommodate up to four 5.25-inch half-height, fixed or removable Small Computer Systems Interfaces (SCSI) or four fixed Enhanced Integrated Drive Electronics (EIDE) peripherals. The UPC is easily and quickly adaptable to support various standard high-speed interfaces: 10/100Base-Ethernet TX/FX technologies; RS-422/RS-485 and MIL-STD-144A serial interfaces and the Universal Serial Bus are examples. Additionally, configurable I/O panels on the rear of the UPC can be designed to accommodate specific rack and connector I/O requirements for either new or fielded systems. Key environmental design elements of the UPC address high and low operating temperatures, shipboard shock and vibration, EMI, DC Magnetic field rejection, operating humidity, and shipboard inclination issues.
The U.S. Navy's Tomahawk Weapon Control System, Aegis Weapon System and both the United Kingdom and the Norwegian navies are examples of current programs and customers using the L-3 RCCS Universal Processor Chassis.

Physical

Dimensions	14" H x 16.5" W x 16" D
Weight	45 lbs (non-configured)

Environmental

Temperature	0° to 50°C (operating) -25° to 70°C (non-operating)
Humidity	MIL-STD-810, Method 507
Operational Shock	MIL-STD-901D, Grade A (as shown mounted in rack or console)
Operational Vibration	MIL-STD-167-1 (as shown mounted in rack or console)
EMI/ RFI	MIL-STD-461 compliant

Electrical

Power Input	350 watts minimum with AC or DC input option

Options

VME Processor Bay	12-slot 32 bit VME chassis with optional split backplane configurations
cPCI Processor Bay	10-slot minimum cPCI chassis with optional split backpane configurations
PCI Processor Bay	Passive PCI backplane with optional: • Pentium® class single board computer • 7-slot capacity • Custom configurations available
Mass Storage	4-user definable drive bays
Operating Systems	Per customer specification: • HP-UX • Solaris • Windows NT/2000

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