



Base 550 System Chassis C



OVERVIEW

The Base 550 System Chassis (PRO550C) is L-3's top-of-the-line system for real-time data acquisition, processing, storage, and distribution. This standard 10.5" 6U rack-mountable chassis includes a System Controller, a VME Mezzanine Carrier/Arbiter with 4 PMC slots, a 1,200-Watt power supply, and space for two disks and a cartridge tape for real-time data archiving. Its modular rear panel provides bulkhead connectors for up to 40 independent I/O functions.



Now includes VME Mezzanine Carrier with Arbiter, 1,200-Watt Power Supply, and lower price!



Add modules and chassis for flexibility and expandability.



Modular rear panel provides easy access for I/O connection.

PERFORMANCE

System responsiveness is guaranteed by Wind River Systems VxWorks, an embedded real-time operating system that functions transparently within the System Controller without user interaction.

APPLICATIONS

The PRO550C houses up to 20 application-specific VME modules or - up to 64 PMC modules - to accomplish such real-time tasks as telemetry signal conditioning (bit synchronizing) and word decommutation, analog-to-digital conversion, MIL-STD-1553 bus monitoring and simulation, processing, storage to disks and arrays, and data distribution via local area networks.

TECHNOLOGY

The PRO550C contains 20 VME slots, 16 9U and 4 6U. The P1 and P2 connectors of the standard VMEbus backplane provide for module control and low-rate data passage, while P3 -- the MUXbus II -- merges very high-rate data to 16 Mwords per second, and distributes broadcast data simultaneously in real time to all MUXbus modules.

FEATURES

- Distributed data-driven architecture guarantees completely deterministic data merging and processing
- Expandable design -- up to eight chassis form a single MUXbus
- Real-time data storage to 34 MB/sec
- Parallel processing -- add FPPs to linearly increase performance
- Compact design for rack-mounting and transportation ease
- VMEbus module compliant to integrate third-party modules
- Runs L-3's platform-independent Java- and UNIX-based software
- Full range of PMC - and VME - based I/O options
- State-of-the-art PMC and Carrier architecture supports up to 64 PMCs per chassis
- Simultaneous real-time data broadcast to all MUXbus modules for up to 1M tags
- Highest density, lowest latency COTS solution on the market



Specifications

Input

PCM Telemetry

Bit Synchronizer

Frame Synchronizer

Decommutator

MIL-STD-1553

Analog

Digital

Serial

IRIG Time

ARINC 429

CVSD Voice

Mass Storage

Disk (SCSI, Fiber Channel)

RAID (SCSI, Fiber Channel)

Storage Area Network

Network

Ethernet

SCRAMnet

Fiber Channel

Output/Simulation

PCM Simulator

PCM Encoder

MIL-STD-1553

Analog

Digital IRIG

Time

Serial

Voice

Hardware Processing

Power PC (FPP)

Network workstations

Software Processing

CCSDS

IRIG-106 Chapter 8

IRIG-106 Chapter 10

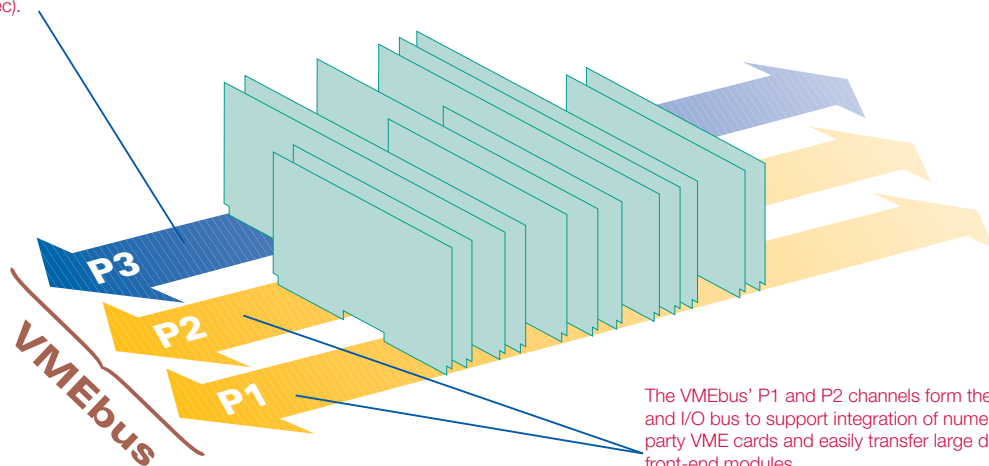
Standard Algorithms (150+)

Custom Algorithms

Application Programming

Interfaces

The MUXbus II (on P3 of the VMEbus) is the 550's real-time data highway, running at a sustained 16M words per second (96 MB/sec).



The VMEbus' P1 and P2 channels form the 550's administrative and I/O bus to support integration of numerous commercial third-party VME cards and easily transfer large data blocks between front-end modules.



Specifications (continued)

Internal Bus Architectures

MUXbus II

Function: High-performance real-time data transfer between modules

Type	Data flow, synchronous
Bus Mode	Broadcast
Transfer Rate	16 MHz, 96 MB/sec (62.5 ns cycle time)
Size	20-bit tag* (address); 32-bit data
Tag Range	1M*
Arbitration	Rotating priority
Number of Chassis Supported	1 to 8 chassis

VMEbus

Function: Setup and control for all modules; data transfer for selected modules

Type	Multi-master, asynchronous
Bus Mode	Master/slave
Transfer Rate (VME64)	10 MHz, 80 MB/sec (theoretical); 55 MB/sec typical
Size	32-bit address (A32); 32-bit data (D32)
VME64	32-bit address (A32); 64-bit data (MBLT)
Arbitration	Level priority

System Controller

Function: Network and module setup and control

CPU	See System Controller 5 (SCM595) data sheet
Operating System	Wind River VxWorks

Standard Cabinet Configuration Options

RETMA Rack-Mount Standard	19" W
Cabinet Dimensions	55" (139.7 cm) or 76" (193 cm) H, 23.62" (60.01 cm) W, 31.62" (80.31 cm) D
Rack Space	49" (124.4 cm) (9U); optional 70" (177.8 cm) (40U)
Rear Door Clearance	19" (48.26 cm)
Front Chassis Access	28" (71.12 cm)
Front Chassis Removal	38" (96.52 cm)
Weight with Four Chassis	471 lb (214 kg)
Cooling	Forced air via muffin fan array
Power Sequencer	120V 1 phase; 220V 1 phase

Compatibility

SWA500 Applications Software

VISTA Software

Windows, Linux, Solaris, SGI IRIX, DEC Alpha UNIX Workstations

Configuration

Chassis Dimensions	10.5" (26.7 cm) H, 17" (43.2 cm) W, 26.5" (67.3 cm) D
Rear I/O Connector Panel	40 application-unique units 4.8" x .6" (12.3 cm x 1.5 cm)
Rack Mounting	Rack-mount kit (included), removable
Weight (full modules)	85 lb (38.6 kg)
Power Supply Capacity	1,200 Watts, power factor = 0.98
Operating Environment:	
Temperature	50–113°F (10–45°C)
Relative Humidity	10–90% (non-condensing)
Altitude (unpressurized)	0–10,000 ft. (0–3,048 m)
Non-Operating Environment:	
Temperature	-40–140°F (-40–60°C)
Relative Humidity	0–95% (non-condensing)
Altitude	0–30,000 ft. (0–9,144 m)
A/C Voltage	85 to 264V
A/C Frequency	47 to 63 Hz
Module Slots	
MUXbus(9U)	16 slots
VMEbus(6U)	4 slots
Module Size:	
MUXbus (9U)	6.80" (160 mm) H x 14.4" (366 mm) W
VMEbus (6U)	6.80" (160 mm) H x 9.187" (233 mm) W

PRO550C

Base 550 System Chassis C



Specifications (continued)

Ordering Information

PRO550C	Base 550 System Chassis C, Rack Mount, 20 VME Slots (includes System Controller, VME Mezzanine Carrier with Arbiter (4 PMC slots), and Rack Mount Kit)
PR-550	Power Regulator for PRO550C Base System Chassis (Spare)
PS-550C	Power Supply for PRO550C Base System Chassis (Spare)
RMK598	Rack Mount Kit for PRO550 Base System Chassis (Spare)
SCM595	System Controller 5 Module (Spare)
ZCA596	VME Mezzanine Carrier with Arbiter, 4 PMC Slots (Spare)
ZCM596	VME Mezzanine Carrier, 4 PMC Slots

*Not available on all modules and software. Contact factory for details.

L-3 Telemetry-West

9020 Balboa Avenue

San Diego, CA 92123-3507

Tel: 858.694.7500 | 800.351.8483

Fax: 858.279.0693

Email: sales.tw@L-3com.com

www.L-3com.com/TW

This technical data and software is considered as Technology Software Publicly Available (TSPA) as defined in Export Administration Regulations (EAR) Part 734.7-11. Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice at L-3 Communications' discretion. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks, or trade names of their respective holders.

ML229-1 Rev F