

VME7555

6U VME64x Dual or Quad PowerPC
Single Board Computer (Air Cooled)



OpenVPX™

Power and Flexibility

The Orion VME7555 single board computer (SBC) is a flexible, rugged, high-performance PowerPC SBC for VME64x ideally suited for a variety of applications.

The VME7555 features the power of 1, 2 or 4 Freescale 7457 PowerPC™ processors each running at 1GHz. The VME7555 offers an unparalleled complement of I/O via the customer configurable “Personality Module”. It can be adapted to almost any Military, Industrial or Commercial application.

The VME7555’s Gb Ethernet ports, six serial ports, sixteen GPIO, Firewire and PMC P14 I/O are all accessible through VME connectors PO & P2.

The ability to automatically detect whether to function as a high-performance system controller or an intelligent peripheral card allows the user to migrate from one application to another without hardware reconfiguration.

Features

- PowerPC Freescale MC7457 at 1GHz
- 512KB L2 & 2MB L3 Cache per Processor
- Single, Dual or Quad Processor options
- Extended Temperature & Rugged design
- On-board temperature monitoring
- 53.5W typical power dissipation (quad)
- 1GB soldered DDR SDRAM with ECC
- On-board Compact Flash
- VME64x bus A32/D64 (Universe II)
- 64-bit/133MHz PCI-X PMC slot (PrPMC)
Customer Configurable I/O via

Personality Modules

- Three 10/100/1000 Ethernet ports
- Two RS-422/485 Serial ports
- Four additional configurable Serial ports
- Thirty General purpose I/O
- 512MB NVRAM
- PMC front panel & P14 Rear I/O
- Auto detects System or peripheral functionality
- RTC, GP, WD & timers
- COP/JTAG Debug headers for each CPU
- Single-slot 6U
- Various Operating System Software

Hardware Specifications

Processor

- PowerPC™: MC7457
- Max Core Frequency: 1GHz
- Inst. Cache: 32KB
- Data Cache: 32KB
- L2 Cache: 512KB
- L2 Cache Frequency: Core Frequency
- L3 Cache: 2MB
- L3 Cache Frequency: 200MHz

Processor Bus

- PowerPC Bus Frequency: 100MHz
- PowerPC Bus Width: A32/D64 (60X Bus)
- Address Parity: Yes
- Data Parity: Yes

VME Bus

- VME Controller: Tundra Universe II
- VME Address Bus Width: A32
- VME Data Bus Width: D64
- VME Compliance: VME64x 5-row connector
- VME System Controller: Yes. Auto detection
- VME Peripheral Controller: Yes. Auto detection

Local PMC Bus

- PMC Bus Frequency: 133/66/33MHz
- PMC Bus Width: 64-bit
- PMC Signal Voltage: +3.3V
- PCI Compliance: PCISIG PCI R2.2, PCI-X
- PrPMC Support: Yes. Non-monarch
- PMC IO access: Standard front panel, VME P0

Local Device Bus

- Bus Frequency: 100MHz
- Bus Width: A32/D32/16/08
- Signal Voltage: +3.3V

Memory

- DRAM Memory Type: Soldered (memory down) DDR SDRAM
- DRAM Memory Size: 512MB or 1GB
- Compact FLASH: Socket, type I/II
- Boot FLASH: 32MB (NOR)
- Alternate Boot FLASH: 32MB (NOR)
- Non-volatile RAM: 512KB NVRAM
- I2C EEPROM 16KB User-definable

Peripherals

Three 10/100/1000 Ethernet Ports

- Controller: Integrated Discovery III MAC
- Configuration: Auto Negotiating 10/100/1000
- Access: Front Panel RJ-45, VME P0 & VME P2

Serial Ports (2x RS-422/485)

- Controller Type: Integrated Discovery III MPSC
- Configuration: RS-422/485 w/sync clocks
- Access: VME P0

Serial Ports (4x Configurable)

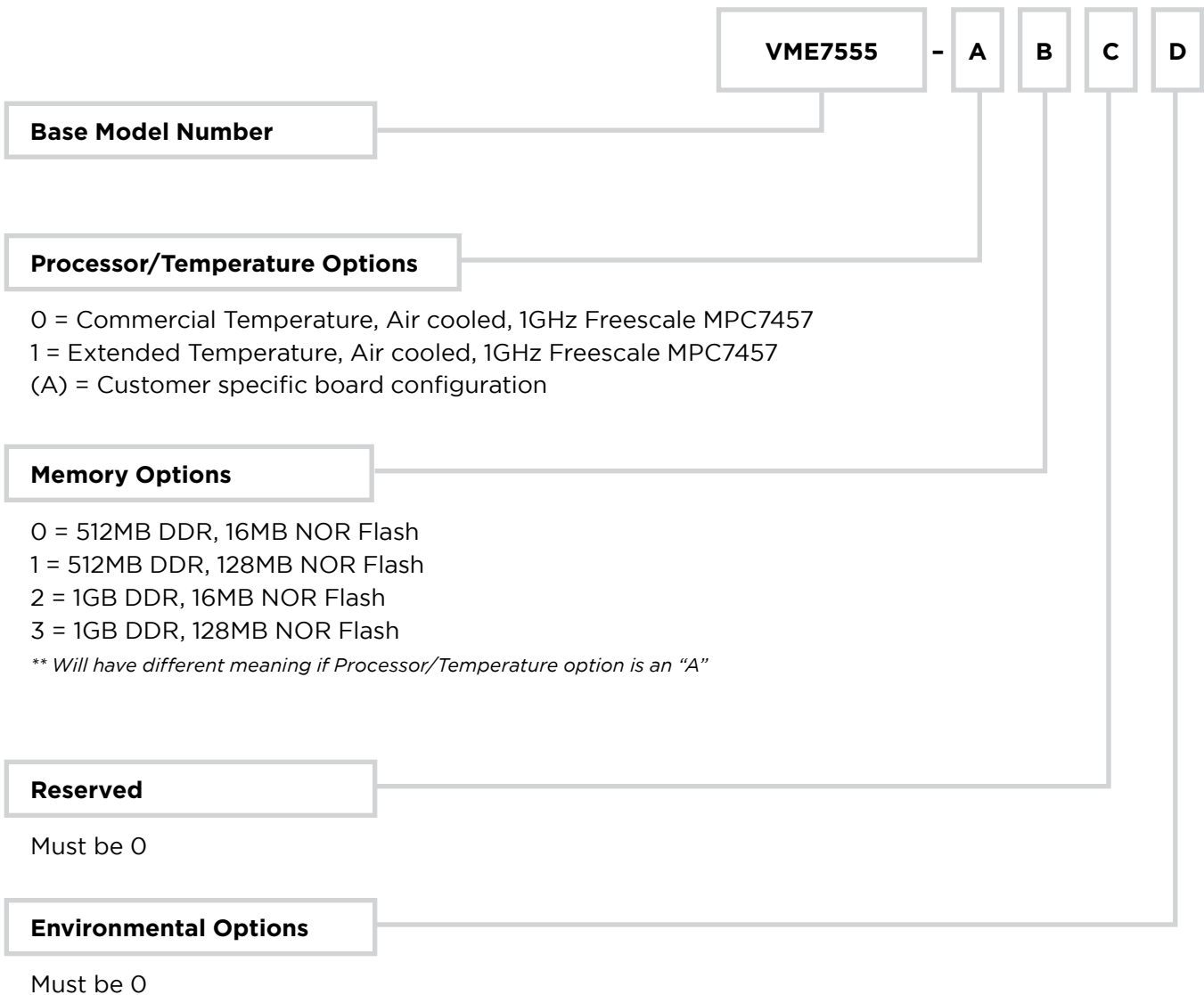
- Controller Type: Quad UART 16550 (TI TL16CP754)
- Configuration: TX/RX may be configured by the Personality Module for interface levels and routing to any combination of the front panel RJ50, VME P0 or VME P2.
- Access: Personality Module selectable for the front panel RJ50, VME P0 or VME P2.

Environmental

	Level 1	Level 2	Level 3
Cooling Method	Air-cooled	Air-cooled	Air-cooled
Conformal Coating	Standard	Standard	Standard
Operating Temperature	0 to +55°C	-40 to +55°C	-40 to +70°C
Vibration	0.002g ² /Hz*	0.002g ² /Hz*	0.04g ² /Hz*
Shock	20g Peak sawtooth 11 ms duration	20g Peak sawtooth 11 ms duration	20g Peak sawtooth 11 ms duration
Humidity	0% to 95%, non-condensing	0% to 95%, non-condensing	0% to 95%, non-condensing

*Flat response to 1000 Hz

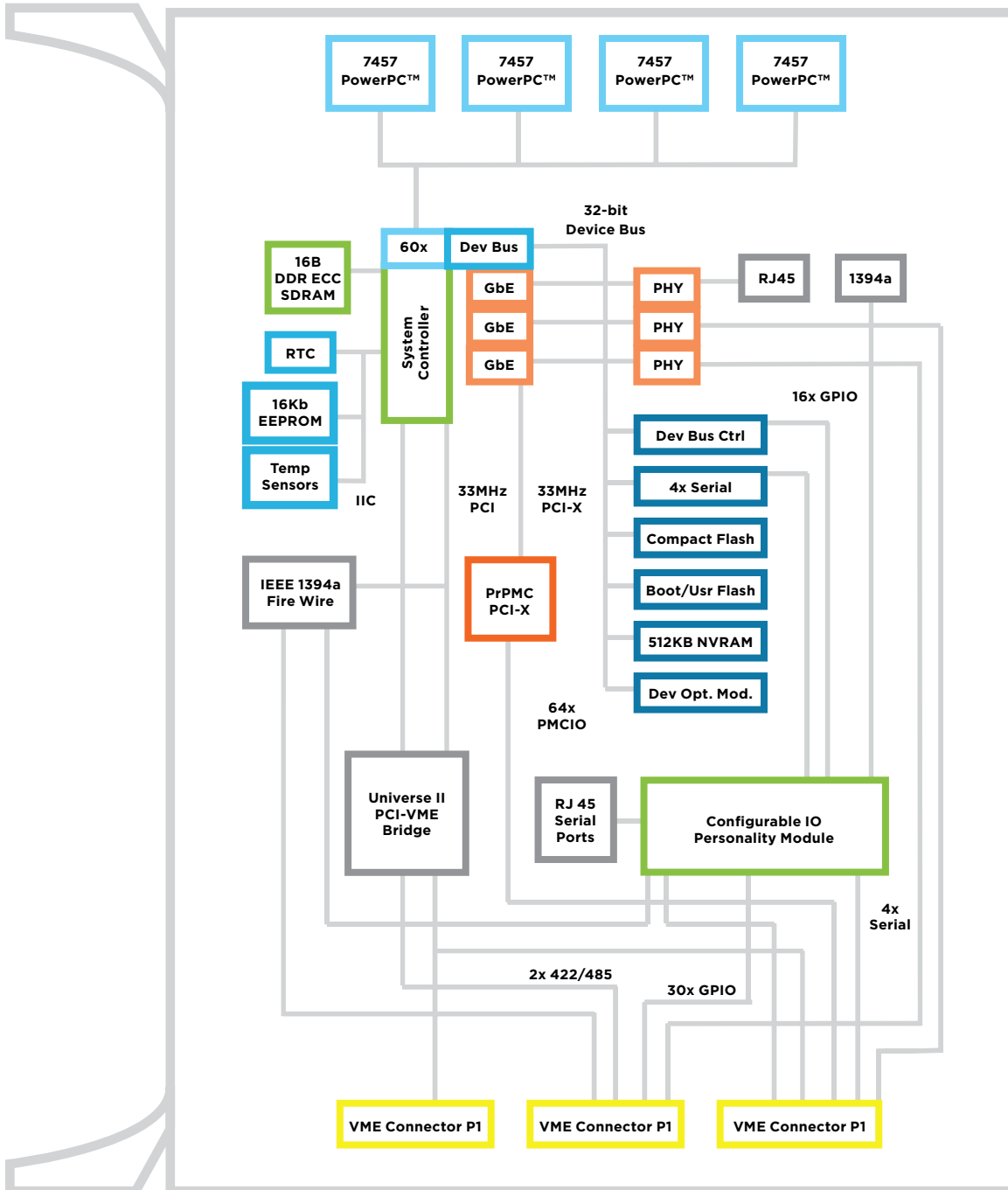
Options Guide



Orion has successfully generated products utilizing an extensive assortment of microprocessors since 1990. Our single board computer product offering includes both custom and standard form factors such as VPX, VME, Compact PCI and PMC. The majority of our products are offered in five ruggedization levels from standard commercial to rugged, extended temperature with conduction cooling. At Orion, we put the customer at the center of our business. We strive to provide the highest quality of products backed by our exceptional service and support.

Whether it's a small quantity, one-time requirement or a high volume product for years to come, we would like to be your partner in embedded solutions.

Block Diagram



2100 N. Alafaya Trail, Suite 100
Orlando, FL 32826

Tel: (407) 476-2120
Fax: (407) 203-7659
Email: info@oriontechnologies.com