

Inside this issue

6U VME SBC 4th gen Intel Core i7	2
Test and Development Chassis	2
emPC & emView PCs and Panels	3
What is CPCI Serial	4
4th Gen i7 CPCI Serial SBC	4
MCH—Brain of the μ TCA System	5
Power Supplies for μ TCA	5



ELMA Electronic appoints WBIP

ELMA Electronic has appointed WBIP as their sole sales channel in Australia. Following an evaluation process of several candidates, WBIP's expertise in COTS industrial and rugged chassis platforms, system- and board level COTS standards have been the attributes that made the difference for Elma.

Elma Electronic is the design center of excellence for

- MIL Rugged 19" (12R2 and 12R1), ATR and small form factor platforms.
- Industrial chassis platforms for COTS standards like VME, VPX, VXS, CPCI, ATCA and others, including the popular Type 39 chassis in heights from 1U to 4U.
- Standard and custom backplanes in COTS standards like VME, VPX, VXS, CPCI, ATCA and others.
- Board level Storage Modules based on rotating and flash media in footprints like VME, VPX, CPCI, XMC and PMC.

Elma Electronic also provides board- and system level application bundles with OS and drivers installed.



GE Intelligent Platforms appoints WBIP

GE Intelligent Platforms "GE-IP" has appointed WBIP as their sole sales channel in Australia and New Zealand.



GE-IP provides embedded computing board- and system level products for MIL/Aero applications. Products are typically designed to suit harsh environments and can be offered from conduction cooled to industrial air cooled grades. The product range includes:

- Single Board Computers
- Embedded Network Switches
- Avionics Databus MIL-STD 1553 and ARINC products
- Graphics and Video including CUDA and OpenCL
- Pre-qualified Rugged Systems and Solutions.
- I/O Controllers



Well known names such as Condor Engineering, SBS, Radstone, VMIC and Ramix are part of GE-IP.



XVR16—6U VME SBC with 4th gen Core i7

The XVR16 Rugged 6U VME Single Board Computer from GE Intelligent Platforms features the high performance, highly integrated 4th Generation Core i7 processor platform from Intel and offers integrated graphics and memory controller plus quad-core processing up to 2.5 GHz all in one device. Coupled with the Intel QM87 Express Chipset this provides an unmatched level of I/O bandwidth for both on-board and off-board functions.

The improved capabilities of the XVR16 will allow it not only to address existing command/control applications, but also to be deployed in more demanding High Performance Embedded Computing (HPEC) signal processing applications such as ISR, Sonar and Radar.

The XVR16 rugged VME single board computer provides a straightforward, cost-effective upgrade/technology insertion path. It offers existing users of GE SBCs significantly more processing power, graphics performance, functionality and I/O capability. Importantly, it does this within the same power envelope as its predecessors, enabling simple 'drop in' replacement.

- Graphics support for DX11.1, OpenCL 1.2, OpenGL 3.2
- Intel TurboBoost Technology
- Intel AVX 2.0 extensions and AES-NI instructions
- Intel QM87 Express Chipset
- Up to 16 GB of DDR3 SDRAM w/ECC
- Up to 64 GB NAND Flash
- Dual on-board Expansion sites (XMC/PMC)
- Air and Conduction cooled versions
- Comprehensive Deployed Test Software
- OS support for Windows 7, Open Linux, Wind River Linux, and VxWorks.



[Get the data sheet here.](#)



Type 39E-Frame: Test and Development Platform

The Type 39E-Frame Test/Development Chassis has been designed as open frame for easy access to boards and backplane.

Features

- Modular test & development platform
- Two height options: Short (9U) or Tall (12U)
- Two widths: Compact (49HP) or Full (84HP)
- Versions supporting 3U or 6U cards
- Architectures include **CompactPCI, VME/64x, VPX, and VXS**
- Front accessible test points and monitoring LEDs for +3.3V, +/-5V, +/- 12V, +/- 24V, and +/- 48VDC
- High performance cooling
- Speed controlled fans with fan-fail indication
- Optional system monitor with remote monitoring
- Full RTM support and rear A/C power entry module
- Pluggable front and rear module fan trays
- Top handle for ease of portability
- Attractive powder-coated finish is scratch-resistant



[Find more information here.](#)

emPCs and **emViews** are used when particularly robust and reliable systems are necessary. These modular and compact industrial computers are low-maintenance, energy-saving and extremely flexible. Several versions operate without fan, which means they can be used with Flash media thus being completely maintenance free.

emPC-X

Processor

Intel Atom E3825 and E3815

Memory

2 GB DDR3L

128 kB battery-free NVRAM

Internal CFast Socket

Interfaces

2 x 10/100/1000 Ethernet

3 x USB 2.0

2 x CAN or serial ports

Reset push button

Power Supply

Input 9..32 VDC Power consumption < 10 W

Environmental

Operating temperature 0°C ... 50°C

Humidity 0 % ~ 80 %, non-condensing

W x D x H: 111mm x 62mm x 104 mm

Weight approx. 0.8 kg

Supported Operating Systems

Windows, Linux



emPC-CXR

Processor

Intel Core i7, dual core with 1.7 GHz

Memory

4 GB DDR3

Interfaces

2 x M12 5 pin connectors for CAN or serial ports

2 x M12 8 pin connectors for 10/100/1000BaseT Ethernet

2 x M8 4 pin connectors for USB

1 x M12 4 pin T-coded power supply connector

1 x M12 8 pin with 4 GPIO

1 x 15 pin DSUB VGA connector

SJA 1000 CAN Controller

Power Supply

Input 9..34 V DC

Environmental

Operating temperature

-40 °C .. + 70 °C

W x D x H: : 270mmx 200mm x 80 mm

Supported Operating Systems

Windows, Linux, QNX



emVIEW-6T/A500—The Smallest—6.5”

Display

6.5” VGA TFT LCD display; Resolution 640 x 480

Contrast ratio 600:1 max; Luminance 700 cd/m² (typ.)

LED backlight; Resistive Touchscreen

Processor

ARM Cortex A8: Freescale i.MX515

Interfaces

2 x Ethernet; 2 x USB (V 2.0),

2 x 9-pin D-SUB for CAN or serial ports

Power Supply

Input 9..32 V DC

Environmental

Operating temperature 0°C(-20°C) - 50°C

Humidity 0 % ~ 90 %, non-condensing

W x D x H: 193,5mm x 158,8mm x 72,0 mm

Weight approx. 1.0 kg

Supported Operating Systems

Windows CE 6.0, Linux



emVIEW-26/M—The Largest—26”

Display

Integrated TFT Monitor 26 inch

Resolution 1920 x 1200; Backlight brightness 300 cd/m²

Processor

Intel Core i7-4700EQ; Intel Core i5-4400E

Interfaces

2 x 10/100/1000 Mbit/s Ethernet

DVI-D and DVI-I graphic interface

Power Supply

Input 90..264 VAC, 47..63Hz

Environmental

Environmental compliance to **EN 60945**

W x D x H: 684mm x 497mm x 113 mm

Operating temperature -15 °C ... 55 °C

Humidity 93% max. at 40°C, non-condensing

Supported Operating Systems

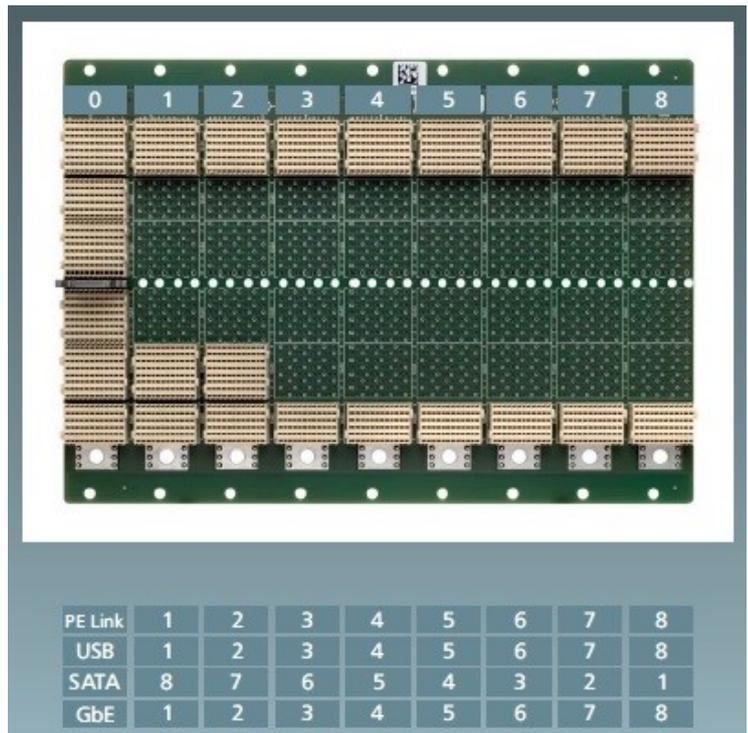
Windows 7; Windows 8

[Find more information here.](#)

What is CPCI Serial

CompactPCI Serial is a new industrial standard for modular computer systems. It is based on the established CompactPCI standard which uses the PCI bus for communication among a system's boards. In contrast to this, **CompactPCI Serial** uses only serial point-to-point connections. **CompactPCI Serial** was officially adopted by PICMG in March 2011. Its mechanical concept is based on the proven 19" Eurocard standard. **CompactPCI Serial** includes different connectors that permit very high data rates. The new technology standard succeeding CompactPCI comprises another specification called PICMG 2.30 **CompactPCI PlusIO**. **CompactPCI Serial** can connect a total of nine cards in a system through a full Ethernet mesh or star topology.

[Find more information here.](#)



SC2—4th gen. Intel Core i7 mobile CPCI Serial SBC



The **SC2** is a rich featured high performance 4HP/3U CompactPCI® Serial CPU board, equipped with a 4th generation Intel® Core™ mobile processor (Haswell dual- or quad-core). The front panel is provided with two Gigabit Ethernet jacks, two USB 3.0 receptacles, and two mDP connectors, compliant with the DisplayPort 1.2 standard for Multi-Stream-Transport (MST).

The **SC2** is equipped with up to 16GB Low Power RAM with ECC support. 8GB soldered memory are provided for rugged applications, and another 8GB are available via the DDR3 ECC SO-DIMM socket. The on-board SATA 6G RAID controller allows for powerful mass storage solutions via the CompactPCI® Serial backplane. Low profile SSD mezzanine modules are available as on-board storage solution.

The **SC2** is equipped with a set of local expansion interface connectors, which can be optionally used to attach a mezzanine side board. A variety of

expansion cards is available, e.g. providing legacy I/O and additional PCI Express® based I/O controllers such as SATA, USB 3.0 and Gigabit Ethernet, and also a third video output.

Most mezzanine side cards can additionally accommodate a 2.5-inch drive. Typically, the **SC2** and the related side card would come as a readily assembled 8HP unit. As an alternative, MicroSATA or mSATA SSD based low profile mezzanine mass-storage modules are available that fit into the **SC2** 4HP envelope.

[Find more information here.](#)



The N.A.T MCH—The Brain of the μ TCA System



The NAT-MCH is a MicroTCA Carrier Hub (MCH) for any standard MicroTCA system. It provides the central management and data switching entity for a MicroTCA system and as such comprises of a base module and numerous optional daughter cards which can be mounted on the base module.

The NAT-MCH is MTCA.0, MTCA.1, MTCA.2, MTCA.3 and MTCA.4 compliant and delivers switching and hub functionality for the various system fabrics as defined in the AMC.x standard series, i.e. 1Gigabit Ethernet (GbE), PCI-Express (PCIe Gen 3), Serial Rapid I/O (SRIO Gen 2) or 10Gigabit Ethernet (XAUI) or custom protocols. The NAT-

MCH can also provide a centralized clock distribution to all AMCs in the system.

The **Ethernet switches** both incorporate a layer 2, non-blocking, low-latency Gigabit Ethernet switch, supporting port based and tagged VLAN, Rapid Spanning Tree as well as a port based rate control. The NAT-MCH always provides service for **1GbE** (Fabric A) and optionally service for **10GbE/XAUI**(Fabrics D-G). The implementation is serving up to 13 AMCs (12 AMC + AMC13 in 2nd MCH slot) as well as the update channel from the second MCH in redundant environments. Also supported are uplink ports at the front panel for both fabrics.

The **PCI Express switching hub** allows PCIe Gen 3 connectivity for up to 12 AMCs at PCIe rates from x1 to x4. The PCIe chipsets provide a Quality of Service (QoS) module and are configurable in terms of a non-transparent port for multi-host support. The PCIe hub provides clustering support for six independent clusters with one configurable non-transparent upstream port. Each cluster offers its own transparent upstream port.

The NAT-MCH can also be optionally equipped with a **Serial Rapid I/O (SRIO Gen 2) switching hub** to support very low latency point-to-point connectivity between up to 12 AMCs. The SRIO hub supports x1 and x4 lane configurations. Although being SRIO Gen 2 the switch module is backwards compatible to SRIO Gen 1 and supports any mixture of SRIO Gen 1 and Gen 2 AMC modules.

[Find more information here.](#)



Power Supplies for μ TCA Systems

The **NAT-PM-AC600** and **NAT-PM-DC840** are high-density and high-efficiency power modules (PM) for MicroTCA™ applications. Supplying 600W (AC/DC version) or 840W (DC/DC Version) they are the market's most efficient PMs to run today's complex communication systems consisting of latest processor generations and an increased number of Advanced Mezzanine Cards (AMC™). The NAT-PM-AC600 provides electrical support for the expected workload of 12 AMCs, 2 Cooling Units (CUs) and 2 MicroTCA™ Carrier Hubs (MCH).



The **NAT-PM-AC600** and **NAT-PM-DC840** include a robust Enhanced Module Management Controller (EMMC) that interfaces the power control functionality via the Intelligent Platform Management Bus (IPMB) to the MCH.

The **NAT-PM-AC600** and **NAT-PM-DC840** support redundancy as well as load sharing modes in accordance with the MicroTCA™ specifications. In case of an input power supply failure the power for the on-board EMMC can be provided by SMP power from other PMs, so that the MCH is able to analyse root cause failure.

Besides the standard indicator LEDs for hot-swap, failure and heart-beat, at its front panel the **NAT-PM-AC600** provides a unique light bar indicator, showing the PM's total power load on a 0-100% scale in steps of 10% in real-time.

[Find more information here.](#)