Small Form Factor
Products and Solutions

SWaP Optimized • COTS Based • Feature Packed

- Transportation
- Communications
- Medical
- Industrial Controls
- Defense / Aerospace
We understand Our Customers’ Needs and Industries

Communications
Where public safety is concerned, reliability and performance in wireless communications are paramount. Elma provides LTE wireless data communication platforms built to withstand demanding environments using the very latest in CPU and signal processing capability. When the rubber meets the road, first responders at home and in mission-critical defense applications can rely on Elma’s expertise.

Transportation
The balance between size, weight and power (SWaP) is critical when it comes to systems designed for use in public transport including railway, vehicular, marine and avionics. Embedded systems for transportation are in it for the long haul and Elma has designed and built systems to meet a variety of needs in the transportation market, including board and system level products. We deliver computing platforms for infotainment, traffic management and control systems designed for rugged space-constrained transportation environments.

Energy
Oil and gas exploration and distribution can be a rough and dirty affair that demands rugged computing solutions that stand up to the test. Elma supplies high speed image processing and data storage systems for use in pipe line inspection and flow monitoring applications in harsh environments. As a provider of rugged embedded systems with leading edge graphics processing capability, Elma understands what it takes to keep things flowing.

Medical
We understand the importance of high quality, reliable systems supplied to the medical industry. Elma delivers application-ready systems and platforms targeted at surgical and therapy systems, patient monitoring, IT and patient diagnostics. Our quality assurance methods include FDA compliant manufacturing and adherence to thorough certification processes.

Industrial Automation
Whether it’s semiconductor manufacturing and inspection, industrial rolling equipment or anything in between, time is money. At Elma, we’ve provided flexible and cost effective industrial computing systems and components for almost 30 years and we serve as your single source for all pre- and post-sale support including life cycle management and system level qualification. Elma’s line monitoring and automation systems stand up to harsh environments typical of most industrial applications.
Custom is our Standard

Customization is our standard. With an extensive offering of native and best in class partner products, Elma leverages existing solutions and proven design concepts to quickly meet any custom application requirements. This approach ensures that Elma will provide a quality, compliant solution every time with significantly reduced lead time, cost and risk. We welcome your low volume requirements while maintaining high volume production capability.
Boxes

Custom solutions come together quickly with Elma’s extensive experience in packaging design plus our best in class board level products. Whatever your needs may be we have the know-how to bring it all together, so contact Elma to discuss your particular requirements.

Fanless Embedded Computer with 12 COM Ports, Intel® Atom™ N270

With 12 COM ports and the powerful yet power miser Intel Atom CPU, the MXE-1200 Fanless Embedded Computer is suitable for a wide variety of applications requiring serial communication with many external devices. Configurable for benign or high temperature environments, the unit provides control and monitoring services in toll gate control systems, automatic fare collection, environmental systems, industrial automation and smart grid applications.

- Intel® Atom™ processor
- Rugged up to -20°C to 70°C fanless operation (with industrial SSD)
- Provides 12 COM ports and 1 GigE port
- Built-in 6 VDC to 36 VDC wide-range DC power input
- Wireless expansion via internal PCIe mini card socket and USIM socket with antenna cable
- One external CF socket

Powerful 2nd Generation Intel® Core™ i7 Fanless Embedded Computer with High Performance Wireless Support

The MXE-5300 is suitable for multiple applications including intelligent transportation systems as well as in-vehicle surveillance and multi-media information. Other target usages include various digital surveillance applications and building automation systems.

- Intel Core i7 (Quad-Core), i5, or i3 Processor + Intel QM67 chipset
- Rugged up to -20°C to 70°C fanless operation (with industrial SSD)
- Optional wireless function enhancement (WCDMA, 802.11 a/b/g/n, BT3.0, AGPS)
- 1 SATA III (6.0 Gb/s) port
- 6 USB ports (2 x USB 3.0, 4 x USB 2.0), 4 DI +
- 4 GigE ports
- 1 external CFast socket; 2 onboard mini PCIe card sockets
- 2 software-programmable RS-232/422/485, 2 RS-232

Low Power Data Acquisition System – LpDAS

The LpDAS is a small, lightweight, conduction cooled embedded computing solution for rugged environments. LpDAS can be configured to support a variety of avionic communication standards including ARINC 429, ARINC 825, MIL-STD-1553 and AFDX. Typical uses for the LpDAS include intelligent remote data concentration, data and protocol conversion, data logging, active control and process and system health monitoring in commercial and defense related applications.

- Freescale CPU
- 1x CompactFlash
- 1x Ethernet 10/100Mb (to rear I/O)
- 1x RS232 serial interface
- 2x CAN interface (to rear I/O)
- PCI v2.2 interface, 32bit, 33MHz
- 3.3V signaling
EIP68 High Performance Durable Computing Platform, Intel Atom

The EIP68 is a compact and durable high performance computing platform suitable for numerous applications including industrial controls and automation, defense and transportation. Designed for challenging environments the EIP68 offers high shock and vibration resistance and is available in waterproof configurations.

- Intel® Atom™ N450 processor (1.66 GHz)
- Up to 2 GB DDR2 SDRAM (soldered)
- 4 GB NAND flash
- StackPC: 4 x 1 PCI_Express, 6 x USB 2.0, 2 x SATA II, 2 x USB
- 2.0, 2 x SATA II, 2 x RS-232, LPC, SMbus
- Two 10/100/1000 Mbit/s ports
- USB 1.1, 2.0 port
- Six COM ports
- VGA, LDVS interfaces

CPCI Serial Application Ready Platform

The cPCI-SerDev is a Corei7 based application development platform. Target application chassis may be configured for network connectivity, storage arrays with RAID and a wide range of serial I/O ports for application specific I/O. Suitable for a wide range of applications in industry, avionics, transportation and defense.

- Intel™ Core i7 SBC
- Virtex™-6 FPGA processor
- Dual 2½", SLC or MLC SSD storage
- A front-end FPGA cluster performs incoming digital signal processing in advance of higher level back end operations
- Multiple I/O ports brought out via rugged MIL-C-38999 connectors
- Configurable front-end

SFF IP65 8x Frame Grabber

Digital image capture and display or transfer in a variety of medical, manufacturing or security applications.

- Intel Core i7 2.53 GHz CPU
- 8 GB soldered ECC RAM
- 2 DisplayPorts, LVDS: Dual channel, 8/24 bits
- Sound: Azalia, w/ optical SPDIF
- 4 x USB 2.0
- 4 x SATA, 1 x IDE
- SSD storage options

COM Express Cards

Elma provides full and semi custom carrier boards supporting our line of COM-E modules. Carrier design may include the COM-E module as well as other standard mezzanine cards to address specific system I/O needs. Our holistic chassis designs methods address thermal issues as well as all end use environmental requirements.

SigPro1 FPGA Signal Processing Platform

The SigPro1 OpenATR box is an OpenVPX™ based signal acquisition system intended for use in signal processing and recording applications such as data acquisition, radar, beamforming, and other high speed signal processing applications.

- Intel™ Core i7 SBC
- Virtex™-6 FPGA processor
- Dual 2½", SLC or MLC SSD storage
- A front-end FPGA cluster performs incoming digital signal processing in advance of higher level back end operations
- Multiple I/O ports brought out via rugged MIL-C-38999 connectors
- Configurable front-end
Computer-on-Modules (COM)

Elma’s systems are typically designed using industry standard form factors. We offer a wide range of board functions in each form factor category including single board computers, storage and I/O, Ethernet switches, graphics modules and more. Elma will help you reach your design goals using the most extensive board selection in the industry.

COM Express Basic, 95x125mm, 3rd Gen Intel Core i7 Processor

Features
• Intel Core i7 and i5 Processor options, 1.7 GHz to 2.7GHz
• Mobile Intel QM77 Express chipset
• Dual-channel DDR3, up to 16GB

COM Express Compact, 95x95mm, Intel Atom, NM10 Express

Features
• 3 Intel Atom processor options
• Intel NM10 Express chipset
• Dual display supports DVI, HDMI, LVDS & VGA

COM Express Compact, 95x95mm, Freescale Dual-Core QorIQ P1022

Features
• Two cores running at 1.067 GHz
• Supports up to 2GB DDR3 SO-DIMM
• I2C Audio and DVI and LVDS Video output
• Ultra low power processing module (< 7 W)

COM Express Compact, 95x95mm, Freescale Dual-Core QorIQ P2020

Features
• Two e500 Power Architecture cores running at 1.2 GHz
• On-board XGI Z11M Graphics Processor Unit (GPU) M
• Supports up to 2GB DDR3 ECC SO-UDIMM

XMC Mezzanines

XMC, 1.33 GHz Intel Core i7 Processor, XP732

Features
• Up to 8 Gbytes of dual channel DDR3 ECC SDRAM
• XMC interface supports x8 or dual x4 PCI Express®

XMC, High capacity 2.5” solid state or rotating storage, Model 9292

Features
• Data transfer rates up to 130MB/sec write and 140MB/sec read.
• Capacities to over 1TB or currently available higher capacities

XMC, High speed CFast drive storage, Model 9289 XMCStor

Features
• Dual CFast™ drives, one front removable
• One internal for maximum operational flexibility

AdvancedMC™ (AMC) Modules

AMC, 3rd Gen Intel® Core™ i7 Processor, AM 93x

Features
• Two processor options, 2- or 4-core
• Intel NM10 Express chipset
• Up to 16 Gbytes of DDR3-AM93x DRAM with ECC

AMC, Graphics Adapter with Mass Storage Option, AM 400

Features
• High performance 3D/2D dual display controller:
  • 8 Mbytes of internal DRAM
  • Maximum resolution 1280 x 1024

AMC, SATA Mass Storage Single-Width, AM 600/10x

Features
• Support for one SATA 2.5 inch hard drive
• Option to support 2 x CompactFlash™ drives
3U VPX and 3U CPCI

3U VPX, Dual Drive Capacity
single slot Carrier / Controller,
Model 533x

Features
• Dual SATA drives in a single 3U VPX slot
• SATA or PCIe interface

3U VPX, RAID Controller Module,
Model VPX-5300

For storage arrays in rugged and commercial environments

Features
• Up to 5 SATA / SAS drives supported
• Up to 3Gb/s drive transfer speed
• Supports RAID 0, 1 and 10

3U VPX Hybrid Switch for PCIe & Ethernet, Model T4410a

Features
• Six 4 lane PCIe ports on P1/P2 for Data plane
• Six [or eight] Ethernet ports for Control plane

3U cPCI Serial, Intel® Core™ 3rd Gen i7 CPU Board, G22

Features
• 4 or 8 GB DDR3 DRAM
• 2 Display ports, 2 Gb Ethernet, 2 USB 2.0
• 7 PCIe®, 4 USB 2.0, 4 USB 3.0, 5 SATA, HDMI
• 8 Gigabit Ethernet via rear I/O

3U cPCI Serial, Serial SATA HDD/SSD Module, G501

Features
• 2.5" SATA HDD/SSD slot
• Four status LEDs
• Operating -40 to +85°C

Small Motherboards

ETX®, Motherboard with Intel Atom Processor and Intel® NM10 Express Chipset

Features
• Up to 4GB DDR3 SDRAM
• Single/Dual channel 24-bit LVDS
• 2 SATA 3 Gb/s, 2 IDE (PATA), LAN, 4 USB 2.0

Mini-ITX, Industrial Motherboard with Intel® Core™ i7/i5/i3, MI-220

Features
• Intel® Core™ i7/i5/i3 Processor
• HDMI, DVI, VGA display output
• 1x PCI Express x16 + 1x PCI slot
• Supports RAID 0/1/5/10

Mini-ITX, Embedded Motherboard with Intel® Atom™ Processor

Features
• Intel Core M1-110
• Up to 2GB DDR2 533 SDRAM
• Dual Gigabit Ethernet
• One PCI and one PCI Express® Mini Card slot

Mini-ITX, Embedded Motherboard with Intel® Core i7, MITX-CORE-820

Provides easy upgrade path for customers.

Features
• Up to 8GB DDR3 memory
• Dual display capability from multiple connections
• One PCIe slot and one PCIe Mini Cards

Nano-ITX, up to 1.0 GHz Atom, NITX-300 Series

Features
• Low power, < 7 Watts typical
• Up to 1GB DDR memory,
• Gigabit Ethernet, SATA and USB

Mini-ITX, Embedded Motherboard with Intel® Atom™ Processor

Features
• Intel Core M1-110
• Up to 2GB DDR2 533 SDRAM
• Dual Gigabit Ethernet
• One PCI and one PCI Express® Mini Card slot
Make Elma your Go-To resource for embedded computer designs.

Our slogan says it all – we are Your Solution Partner.

Visit our website for our other products and capabilities:

- Rugged MIL cabinets and chassis platforms
- Storage and other I/O boards and systems
- Standard and custom passive backplanes
- Instrument cases
- Rotary switches, encoders knobs and LED arrays

ELMA
Your Solution Partner

sales@elma.com
www.elma.com

44350 Grimmer Blvd.
Freemont, CA 94538

(510) 323-3400 phone
(510) 656-3783 fax