Products
& Services

ELMA
Your Solution Partner

Local Service – global resources

| Switzerland | USA | Germany | United Kingdom | France | Israel | China | Romania |

Elma is a global manufacturer of products for housing electronic systems. The company provides everything from components such as modular enclosures, cabinets and backplanes up to complete standard or custom system platforms. Elma also manufactures precision rotary switches. The company offers fast, flexible response to customer needs and extensive practical knowledge in tailoring solutions to specific applications.

Founded in 1960, Elma is an industry innovator in the design and manufacture of electronic enclosures and passive electronic components. With vast expertise in Eurocard-based platforms, standard architectures include AdvancedTCA, CompactPCI, MicroTCA, Rugged COTS/ATR, VME, VME64x, VPX, VXI, VITA 31.1, VXS, VPX, and more. The company also tailors customized solutions to individual applications ensuring fast and cost-effective results. A global company, Elma has production and assembly facilities in 8 countries and has representatives in over 40 countries. Elma has a broad base of customers in diverse industries such as telecommunications, industrial control, medical electronics, defense and aerospace.

We provide products superior in quality, reliability, performance, and consistently presents new, innovative designs to the market. Elma also offers design and integration services backed by responsive and knowledgeable technical support.

Our leading quality level is reached through training of all employees and following of systematic procedures per ISO 9001 standards to which Elma has been registered.

Why choose Elma?

Flexibility
Elma tailors solutions to individual applications to ensure fast and cost-effective results.

Experience
Extensive practical experience in packaging electronic systems is used to minimize the time taken to develop new customized solutions without compromising system performance or reliability.

Compatibility
Because the two key electromechanical components – enclosures and backplanes – are made in-house, Elma guarantees compatibility, consistency and reliability.

Global Resources
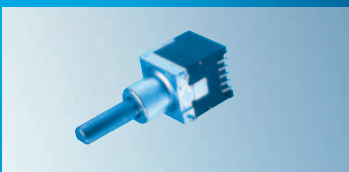With manufacturing in Europe, Asia and the USA, customers benefit from local service backed by global resources.

**The surest way to success.
Solutions by ELMA.**

ELMA
Your Solution Partner

Custom Solutions

Customization is the standard at Elma. With an extensive offering of modular standard products as a foundation, we are able to leverage existing solutions and proven design concepts to meet any custom application. This approach ensures that Elma will provide quality, compliant solutions with significantly reduced lead time, cost and risk.

Combined with our integration capability for both embedded systems and switches, we provide a single solution to your outsourcing needs.

Allow us to take your latest product from prototype to production quickly, cost effectively and with reduced risk.

Elma has been a leader in design innovation for over 45 years. We use advanced design software and equipment to perfect your design. We can utilize our vast resource of experienced designers and engineers from facilities all over the world. The result is a superb design solution, completed to your specifications in a timely and cost-efficient manner.

From base components to fully-integrated computing systems, Elma can be your solution partner each step of the way. With production and assembly facilities worldwide, we can meet nearly any need – whether prototypes or high volumes, quickturn deliveries, or highly complex custom designs.

Custom system platforms
- Over 30 years of expertise in system design with emphasis on thermal management
- Specialists in EMC, shock/vibration, system monitoring, reliability and maintainability
- Applications for industrial and rugged environment

Custom backplanes
- Modified standards for all PICMG and VITA specifications
- NSC (non standard-based custom) design
- Proven, reliable high-speed designs with data rates up to 10 Gbps per differential pair

Custom enclosures & components
- Modified standards for IEC, IEEE, ATCA, MicroTCA mechanics or proprietary solutions
- IP protection classes
- EMC security

Custom cabinets
- Industrial, Rugged, Datacom/Server, or Shielded
- Highly complex or unusual configurations in any volume
- Silk screening, painting, tool making, validation testing, and agency certification

Custom rotary switches
- Modifiable switches & LEDs
- Integration of switches, panels and other components
- Customized shafts

Elma has a highly experienced team in system integration. This includes an extensive range of knowledge of OS, software, SBCs, IO Boards, drivers, architectures, vendors, and more. Our experts can integrate boards and peripherals into our system platforms to provide you a fully loaded and tested system ready-to-run.

The Elma system integration team maintains full configuration control for all integrated systems. We use bar coding for traceability and eliminating human error when recording model numbers and serial numbers.

Our experienced team will install and fully test your proprietary hardware and software as well as package, private label and ship directly to your customer or destination of choice.

In other words, we could become your virtual factory allowing you to focus on what you do best.

Integration Service
- Adding peripherals
- Installing SBCs
- Loading software
- Fully wired and tested
- Shock and vibration testing
- EMC and NEBS testing
- Thermal analysis
- FCC Class A and B certification
- UL, CSA, CE certification
- NEBS Level III certification

Capabilities
- Chassis platform experts: Configuration, cooling, shock/vibration, EMC, NEBS
- System Architect experts: VME, cPCI, ATCA, MicroTCA
- In-house manufacturing and assembly
- Software development systems and tools
- Pricing, buying leverage
- Low volume custom solutions
- Logistics support
- System testing
- Obsolescence and EOL tracking
- Global partner
- Product Lifecycle Management system

Integration Tools
- Separate controlled ESD environment
- Hard disk cloning (SCSI, IDE, Compact Flash) equipment
- ESD safe hand tools
- 2x de-ionizing devices
- Ethernet test capabilities
- Media converter (for copper to fiber)
- Tektronix oscilloscope
- Test (Host) computer
- Digital multimeters
- AC as well as 48 V power source
- Frequency converter (50/60 Hz to 400 Hz)

As a global player we are leader in Eurocard-based and custom or standard system platform solutions. With various rackmount, desktop, or portable chassis styles, Elma assembles the backplane, power supplies, cooling solution, and peripherals to your exact specification. With a modular design approach, Elma can provide you a tailored solution while saving time, effort, and money. You receive a quality, customized solution based upon a proven base platform.
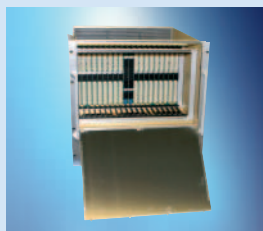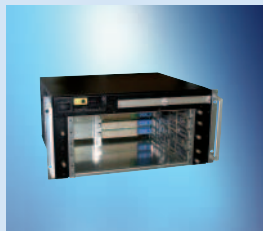
Applications

- Communications
- Industrial
- Aerospace / Military
- Test and Measurement
- Transportation
- Medical
- Scientific
- High-performance Computing

Custom Solutions

Elma has been designing industry standard and custom chassis solutions for the embedded systems market for over 30 years. Our highly experienced team of engineers are experts in mechanical and electrical enclosure design and balancing thermal management, EMC, shock/vibration, system monitoring, reliability and maintainability issues. Our test and validation lab ensures your product meets the most stringent of requirements.

Test/Validation

- Shock & Vibration to MIL-STD-810F, 167, and 901D
- EMC testing to MIL-STD-461D, FCC A, FCC B and CE
- NEBS testing to meet levels 1, 2 and 3
- In-house cooling analysis and airflow testing
- Environmental testing: temperature, humidity, etc.
- Reliability analysis per MIL-HDBK-217F
- Power supply testing and qualifying

Products

- AdvancedTCA
- CompactPCI/ cPCI Express
- cPSB (PICMG 2.16)
- MicroTCA
- Rugged COTS/ATR
- VME/64x
- VXI/PXI
- VPX (VITA 46/48, REDI)
- VXS (VITA 41)
- Accessories
- Custom Solutions

Rugged Solutions

Superior solutions require a solid foundation. Elma's VME/VME64x, cPCI, VXI, PXI, VPX, VXS and ATCA enclosure systems provide an optimal platform on which to build your application.

A wide range of products and a modular approach to design allows Elma to meet the requirements of the most demanding applications. Based on quality Swiss components and proven design concepts, Elma's systems are used as the critical building blocks for many successful applications.

Applications
- Aerospace
- Defense
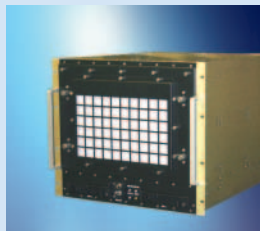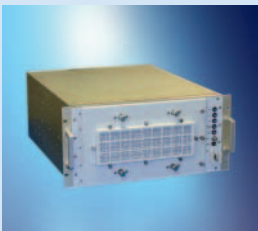- Homeland Security
- Aerial Reconnaissance
- Other Rugged

Military Solutions

We are a developer and producer of high-end electronic packaging systems and for specialist products for the COTS, defense and for high-availability systems.

The company has been a forerunner in providing COTS system enclosure solutions and over the last 10 years has built a strong market position.

Services
- In-house pre-compliance testing
- Thermal management simulation
- Custom IO solutions
- Custom PSU solutions

Products
- 19" rugged chassis
- ATR (ARINC & custom)
- Custom rugged solutions
- Convection cooled
- Conduction cooled
- Sealed variants
- Liquid cooled

Capabilities
- Shock & Vibration
- Thermal management
- EMC
- Custom I/O wiring
- Lifetime support

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Elma's high-performance backplanes are designed to meet the needs of a wide range of applications and markets. We offer you the largest selection in the industry of standard backplanes to PICMG and VITA specifications. Our expertise in highly-complex custom backplane solutions is second-to-none. With over 3,000 projects to date, you benefit from our extensive experience – saving you time, effort, and money. The flexibility of our production facilities allows us to manufacture prototypes as well as high volumes, complex MIL-standard backplanes, or meet quick-turn requirements.
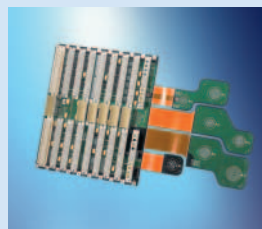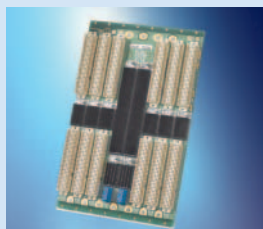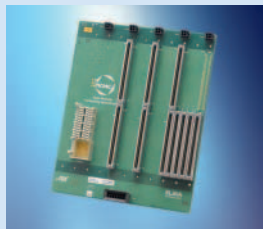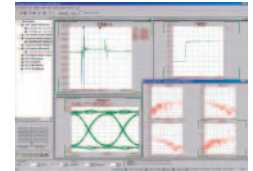
Applications

- Aerospace
- Military and Security
- Industrial Automation
- Telecommunications
- Transportation
- Medical
- Scientific
- Infrastructure

Custom Solutions

As data rates up to 10 Gbit/s per differential pair place highest performance demands on backplanes, you need a design team that is up to the challenge. Elma Bustronic and Elma Trenew Electronic, Elma's backplane divisions, are leaders and innovators in high-speed custom backplane design. Our signal integrity analysis and simulation/characterization tools, ensure that we supply you with an efficient cost-effective design solution.

Services

- Custom design
- Manufacturing
- Characterization & measurements

Products

- AdvancedTCA
- CompactPCI
- CompactPCI Express
- CPSB (PICMG 2.16)
- MicroTCA
- PXI/VXI
- VME/VME64x
- VPX (VITA 46)
- VXS (VITA 41)
- Accessories

Capabilities

- High speed design verified to 10 Gbps and beyond
- Signal performance optimization
- Analysing of high-frequency analog effects
- Characterization of input differential insertion loss, return loss, and near-end and far-end crosstalk
- S-parameters
- Tools & Software include: state-of-the-art VNA and TDR from Agilent, HSPICE, P-CAD signal integrity, Iconnect, and more

Elma is a global manufacturer of products for housing electronic systems. Take advantage of the know-how of our development and applications engineers that create products which are more than mere packaging of your electronics.

The latest equipment for development, production and logistics provides the preconditions to satisfy your high quality standards.

Applications
- Telecom Equipment
- Test and Measurement Equipment
- Industrial Automation
- Medical Equipment
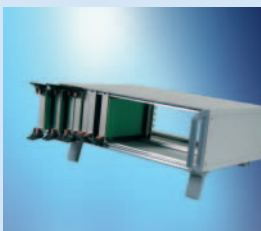- Security Systems
- Railway Rolling Stock

Custom Solutions

Your needs together with the experience and ideas of the Elma Electronic Packaging Team give you the advantage to create solutions to every specific application.

Our worldwide team with experience in design, EMC, FEM, thermal simulation and state-of-the-art CAD system, are ready to develop solutions to meet your next project challenge.

Services
- Custom designs
- Thermal analysis and simulation
- EMC consulting
- Manufacturing
- Front panel processing incl. silkscreen printing
- Surface treatment of aluminium

Products
- Subracks
- Enclosures
- Front panels
- Injector/Ejector handles
- Accessories

Elma is a designer and manufacturer of custom and standard cabinet enclosures.
Products include 19" server racks, cabinet enclosures, command desks & consoles, table rack & wall mount enclosures, accessories, and complete enclosure systems.

The company offers a fast, flexible response to customer needs and extensive practical knowledge in tailoring solutions to specific applications.

Applications
- Telecom
- Communications
- Industrial
- Aerospace / Military
- Test and Measurement
- Medical

Cabinet Solutions

Elma offers a wide range of proven design platforms and experience from hundreds of complex packaging projects where extensive customization was required to meet customer specifications.
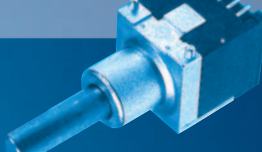
The company's flexible manufacturing system and modular design techniques offers economical production and fast turn-around.

Additional services include silk screening, painting, tool making, validation testing, and agency certification.

Products
- Industrial
- MIL-Rugged
- Harsh Environment
- Seismic Ready
- Telecom/Server
- EMC Shielded

Elma designs and manufactures switches for the most demanding man-machine interface requirements, from industrial applications to defense.

Quality, reliability and customization capability have always been the hallmarks of our design competence and success with our customers.
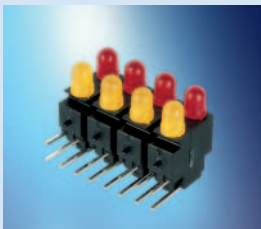
Applications
- Handheld and Mobile Radios
- Industrial Process Controls
- Test and Measurement Equipment
- Professional Audio Systems
- Medical Monitoring and Lab Devices
- Cockpit Controls and Simulators
- Construction Site Control

Customized Switching Solutions for Two-Way Radios

Radio manufacturers from all over the world choose Elma switching solutions because of the outstanding product quality and our ability to quickly realize the customer's requirements.

Products
- Coded switches
- Encoders
- Selector switches
- Keylock switches
- Audio switches
- Knobs and Accessories
- LED Arrays

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