



## Electronic Packaging – Modular Assembly Systems and Solutions



# Intermas-Elcom GmbH

develops, manufactures and distributes components and component groups for the "packaging" of electronic products:

Cabinets, housings, subracks, cassettes, in addition to a comprehensive accessory portfolio that covers any additional requirements.



## One-stop Entire Service... From the Idea to the Complete Product

Originally InterMas® was founded in 1969 as an operating division within the former AEG Corporation. InterMas engineers have substantially participated in the standardization of the 19-inch and metric technology as well as its continuous developments.

A multitude of innovative and trend-setting products have been originated by InterMas.

Nowadays InterMas products are applied in almost every area of industrial electronics, such as telecommunications as well as military and transportation technology at home and abroad. Reputable customers all over the world rely on InterMas.

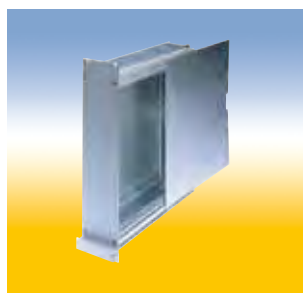
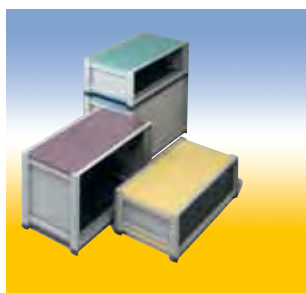
On July 1, 2001 InterMas-Elcom GmbH acquired InterMas assets.

The extensive spectrum of mechanical and electromechanical components creates the basis for integrated system solutions. In coordination with our customers, these components are adapted perfectly to individual demands.

The longtime experience of our employees, in addition to the efficiency of our leading suppliers, enables InterMas to be a competent business partner for providing solutions to complex projects concerning electronic packaging. Furthermore, we also produce complex devices and systems which by customer request can be equipped, wired and tested.

We pay high regard to both customer and market orientation. Due to deep production specialization, we are able to offer the necessary flexibility to fulfill individual customer requests and to meet the demand of short delivery times.

According to DIN EN ISO 9001: 2008 a certified quality management system builds the foundation for the entire value creation process.





**We support your products throughout the entire life cycle: from the idea to the finished product.**



#### **Consulting**

- ✓ Analysis and evaluation of your requirements
- ✓ Project support and project management

#### **Engineering**

- ✓ Feasibility studies
- ✓ Development of a rough concept

#### **Development**

- ✓ Adaptation of product design to your specifications
- ✓ CAD construction suitable for manufacturing

#### **Prototyping**

- ✓ Release samples

#### **Production**

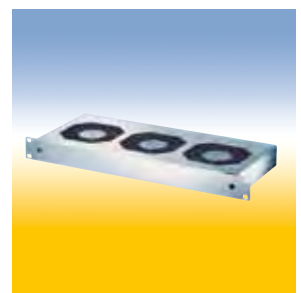
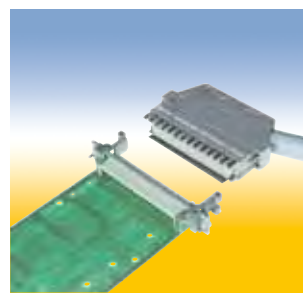
- ✓ Latest technology standards

#### **System Integration**

- ✓ To your individual requirements
- ✓ Feedback during all production phases in order to ensure continuing improvement
- ✓ Quality control

#### **Lifecycle-Management**

- ✓ Spare part supplies





# Cabinets

To construct electric and electronic systems, Intermas-Elcom offers modularly built cabinets made of aluminum and steel.

Those cabinets can be equipped with EMV/ESD protection and are also designed for extreme ambient conditions.



## Cabinets from Intermas – Custom Packaging

### System Cabinet *InterRack®*

*InterRack* is used for industrial electronic applications. The bolted construction allows flexible dimensions. The *InterRack* cabinet even bears up under heavy mechanical load. Beyond that, it is suitable for use in rail vehicles or military construction.



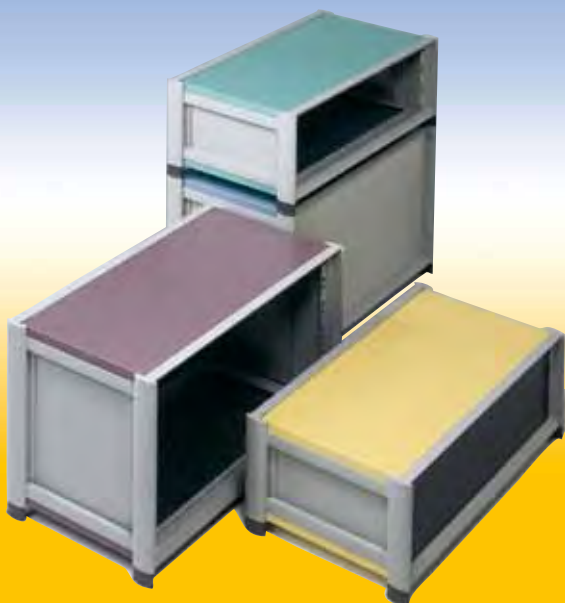
### Aluminum Cabinet MG

This cabinet is conceived for heavy-duty usage. The construction is exceptionally tough, so it can be used for mobile application. The custom-made design allows variable dimensions and geometric adaptation to demanding outside conditions, such as in naval engineering. The MG cabinet can be sealed mechanically up to IP 54.



## Housing

You can select the ideal housing for your individual application from our large standard assortment or customized color designs, RFI-shielding or IP protection.



## Attractive Design and Advanced Technology



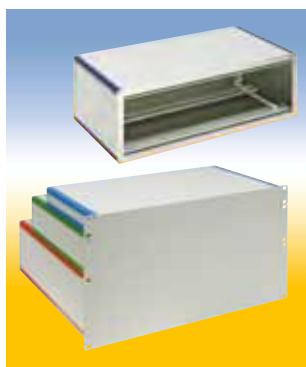
### Desktop Housing *InterMeZo®*

This modern housing is modular designed and offers RFI-shielding and ventilation for a variety of applications.



### Desktop Housing *InterCase*

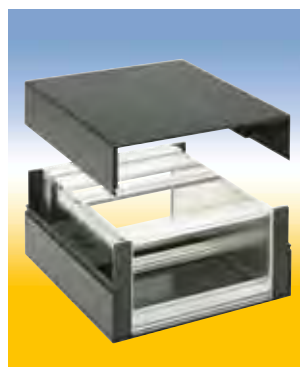
A desktop or countertop housing for standardized components or individual modules, all while keeping each component removable and serviceable.



### Housing *DiVar*

It is conceived for customized housing designs with variable geometries in three axes and optimized RF-shielding by a proven RFI-spring concept. Furthermore, the construction uses corner profiles,

with a choice of sheet steel, stainless steel, or plastic sheeting from 1.5 mm to 2.5 mm thickness



### Desktop Housing *InterLock*

A multifunctional housing for covering subracks. It is expandable through a comprehensive range of accessories such as handles and mounting feet. Also special dimensions and colors are available.



# Subracks

The Intermas lines of subracks are used for applications in a wide variety of fields. Each subrack can be configured individually. All Intermas subracks comply with the latest international standards. With our extensive range of accessories, we will find the ideal solution for your exact specification.



## Advance with Intermas Subracks

### Subrack *RFI-SHIELDED*

Based on the *Flexible* subrack dimensions, this subrack offers complete EMI/ESD shielding as standard.

Especially in the front area the shielding system provides supreme reliability and operating safety.

### Subrack *FLEXIBLE*

Subrack *FLEXIBLE* offers a cost-effective and flexible design for industrial applications. Extensive experience from everyday practice with our customers and our innovative ideas shape the construction of this subrack.



### Subrack *InterRail®*

Conceptualized for mobile use in traffic engineering, subrack *InterRail* is approved and certified by the German and French Railways.

The vibration-resistant design is well-suited for use under extreme conditions, in application areas such as power plant engineering or aviation. An optional RFI-shielding is available as well as the use of standard accessories.





## Cassettes

Our diversified cassette program completes the assortment. Front RFI-springs are optionally retrofittable. A special rear panel mounting also allows installation on standard commercial rails.

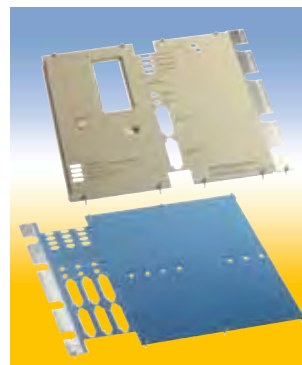


## Upgrade Your Subracks



### Cassette with Cooling Device

This plug-in unit is conceived for passive cooling of electronic components and systems. The dissipation power and heat generated within the apparatus is conducted from the inside of a standard 19-inch cassette over its refrigeration and simultaneously serving as a sidewall to the outside. An asymmetric front panel covers the heat sink element.



### Front Panel

In addition to a large assortment of standard front panels, Intermas also delivers custom machined front panels with cut-outs, surface treatment and lettering as required.



### Front Panel Accessories

To attach the circuit boards and for ease of use, a broad range of handles and front connectors are available. Contact and grounding springs complete the package.



# Lean Production – Outsourcing – Also a Goal for You?

With Intermas-Elcom you found the right partner. Our service contains the know-how and competency in implementation of customer specific solutions. Our offer ranges from the mechanical conception to the integrated system solution, according to your specifications. In consideration of mechanical and electrical requirements, we develop with you the optimal “packaging“ for your electronics. The selection of suitable materials and manufacturing processes guarantee quality and cost-effective realization without any compromises.



## Custom Products – Your Request is Our Standard

Automation



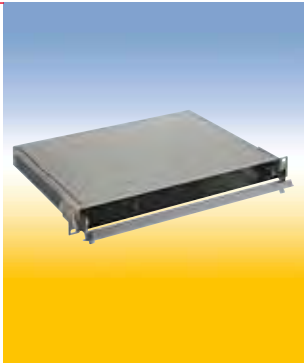
Broadcast



Measuring and Control Technology



Industrial Electronics





## Special Orders

We deliver custom solutions with consideration of your individual needs, so both optimal functionality and maximum economic efficiency can be achieved. Certainly our professionally qualified team is at your disposal from the consultation into design and through to reliable implementation of production.

With our competence and experience, we will find the optimal solution for the various applications together.

Intermas can offer economical solutions from single piece production (prototyping) to batch production. The conditions for safe development and production processes are considered in the product requirement specification. A continuous improvement process is supported with constant feedback and close communication with our customers about each development and production stage.



## From Prototyping to Serial Production – Flexibel, Rational, Optimal



Transportation



Military



Energy Engineering



Medical Engineering



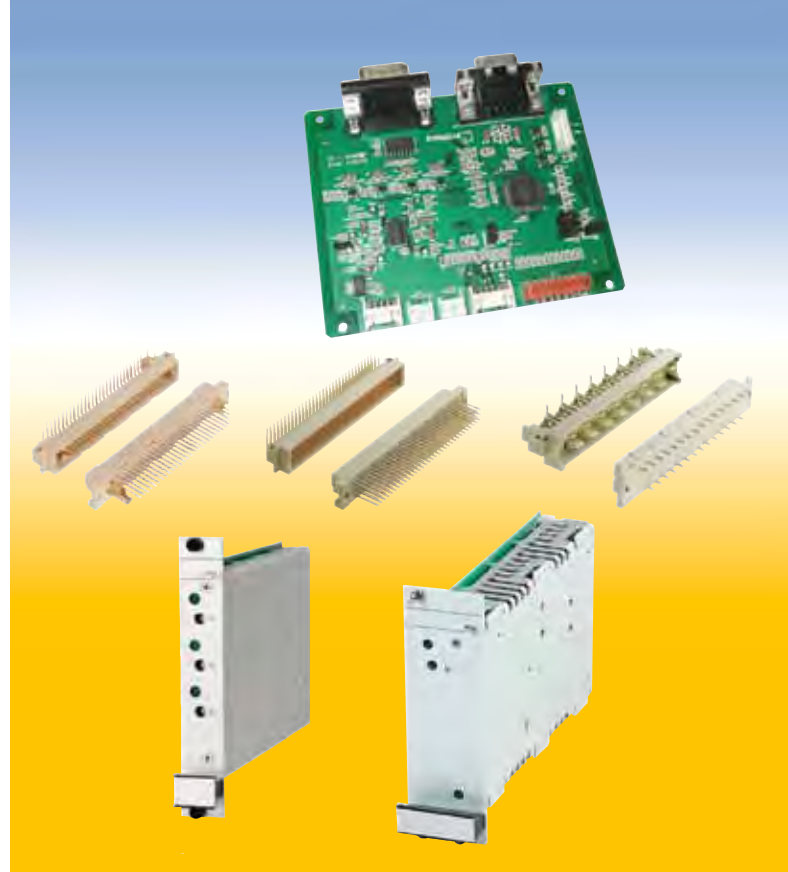
# Accessories

## DIN-connectors and Backplanes

For wiring your equipment, we supply connectors according to DIN 41612 as well as bus systems such as VME, VME64x, VXI and CompactPCI.

## Power Supply Units

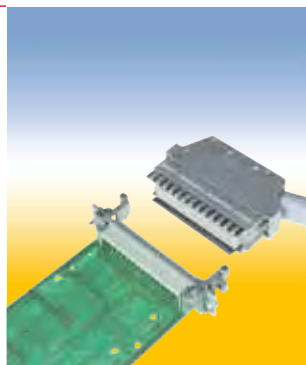
Our assortment offers both plug-in and open-frame power supply units up to 1000W.



## What else do you need?

### Interface Housing

RFI-shielded interface housings is made of metal for lasting protection of your connectors (according to DIN 41612) for front transfer of VME and other bus systems. Of course you can also receive our interface-housings in plastic.



### Fan Trays and Cross-flow Fans

To ensure your electronics are cooled, we offer axial and tangential fans as well as space-saving slide-in fan trays with filter inserts to be built in cabinets, housings and sub racks.



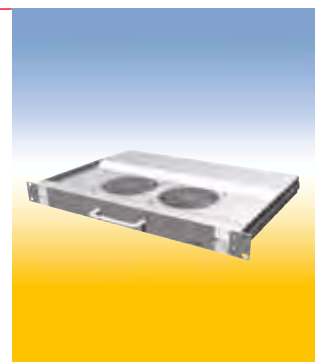
### Bus Bars

Bus Bars are used for diverse wiring applications up to 100 A.



### UFanRail®

Certified according to EN 50155 and specially designed for applications in the railway sector, *UFanRail* ensures an effective and constant cooling of the assembly within 19-inch cabinets and housings.



# Systems and Industrial PCs

## System-Assemblies and CompactPCI

CompactPCI systems with integrated backplane, power supply unit and active cooling completely wired and tested



## You can compute with

### Wallmount Industrial PC

Robust industrial PCs are used in harsh environments. We offer compact and modular systems which are technically diverse and mechanically extensible.



### Industrial PCs

For industrial applications, we offer specially designed PC solutions configured to individual customer requests. In addition to the long-term availability of hardware components, we value the mechanical realization which of course can be adapted to the customer's requirements.



### Custom IPCs

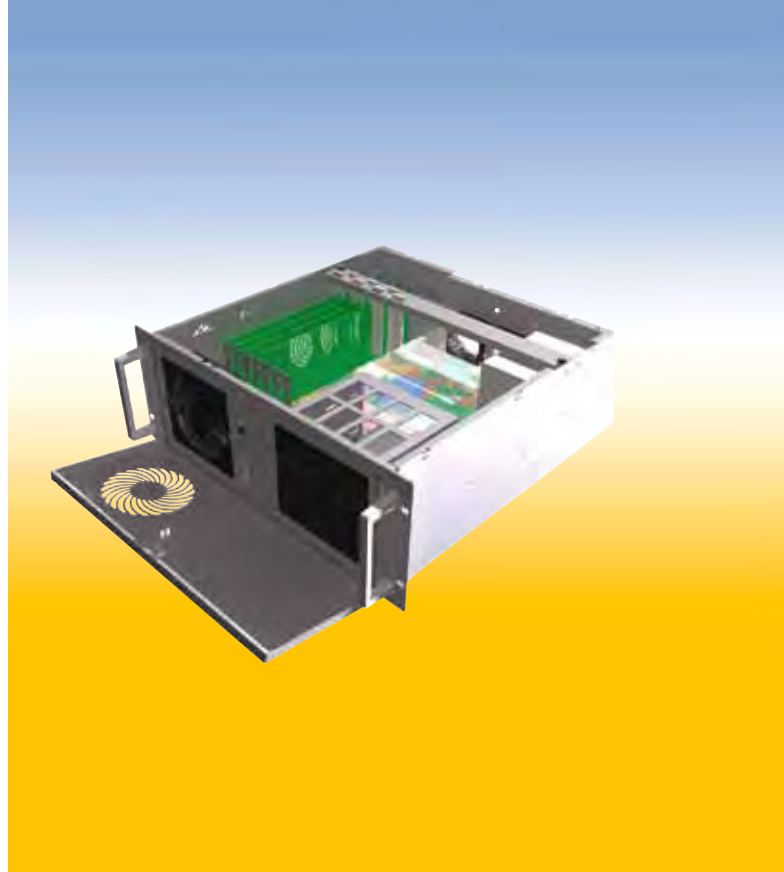
Through our own development and production, we are able to adapt every industrial PC according to your electronic and mechanical requests.





# System Integration

Our longtime experience in the development of mechanical assembly systems and the cooperation with the leading producers of power supply units, fans, connectors and backplanes for example, make Intermas a competent and high-performance partner regarding system solutions.



## Partnership in Top Technology — Systems from Intermas

### System Integration

Collaborating closely, we realize your requirements cost-effectively and with flexibility to create complete solutions.

As a specialist for electronic packaging solutions, we accompany you with standardized systems and individual solutions during the entire product life cycle. We are looking forward to integrate your proven suppliers. Professional installation, wiring and testing ensure that our products are ready for use. You just have to mount your daughter cards. We'll manage everything else!



## Complete Systems

Of course we also manage the entire production of your devices: From the mechanical production to the parts procurement to the installation, the wiring and the testing.



## Overlooking Everything with our Industrial Terminals and Kiosk Systems



### Kiosk Systems

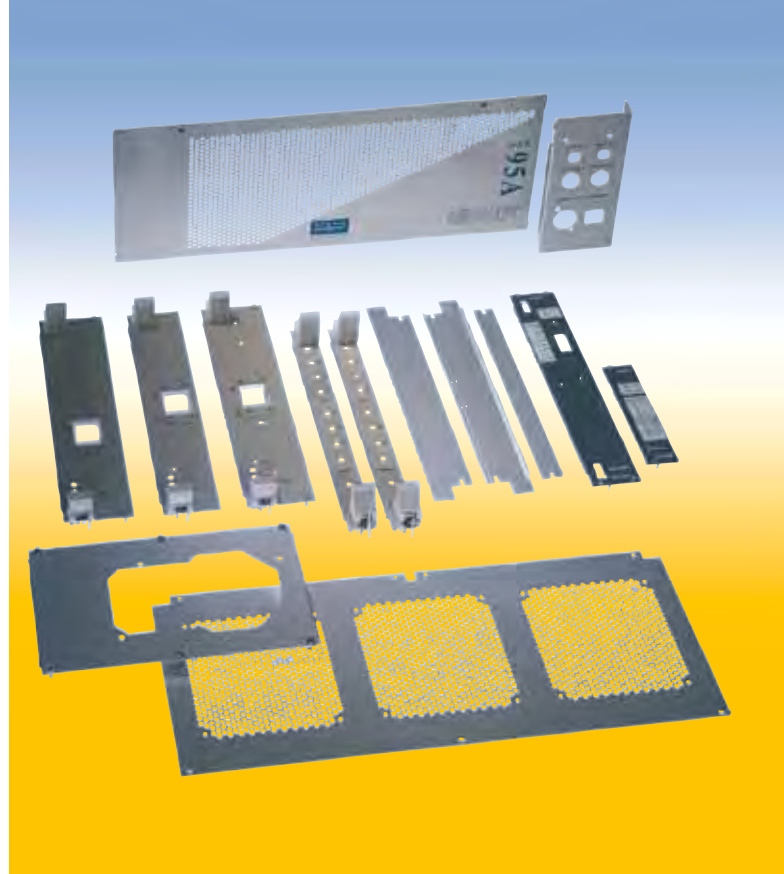
Designed for industrial usage, our kiosk systems contain functionality and robustness which are top priority.

Optimally adapted to its application, our systems stand out for high product quality as well as long life time with low development and production costs. Furthermore we offer standardized kiosk systems for indoor and outdoor applications in cooperation with a partner.



## Our Strength – Our Manufacturing Capabilities

By customer request, we can also deliver special orders made of sheet metal bending, stamping or milling. Beyond that we produce the individual design of your front panels including printing and surface treatment fast, reliable and low-priced.



## Modification and Special Design

### Stamping

- ✓ Bend and stamp technology of aluminum and sheet steel up to 3 mm
- ✓ Stainless steel up to 2 mm
- ✓ Length and widths up to 2000 mm possible



### Bending

- ✓ High form-fitting of complex bending parts



### Bonding

- ✓ Permanent connection with PEM® pressing
- ✓ Up to 0,5 mm thickness



### Milling

- ✓ Precision work at modern high speed machines
- ✓ Contours, holes, threads, cuts, and engravings



### Varnishing and Labelling

- ✓ Varnishing: micro-structure, structure and smooth lacquer
- ✓ Screen printing: single or multi-colored





## ... Our Quality

The quality management system according to DIN EN ISO 9001:2008 ensures that the required quality during manufacturing of your products is maintained.



## Service Performance is Our Topic



### Quality Control

The permanent quality assurance department monitors every stage during our production. All the important functional dimensions as well as the defined inspection dimensions are regularly controlled and completely documented.



### Logistics

We are pleased to work out a logistical concept with you in regard to your individual requirements and needs. Best practice includes direct-transporting, returnable packaging, successive delivery contracts, consignment warehouses or KAN-BAN-deliveries.



### After Sales Service

We offer you our support with on-site consultation and support for your specific application. Therefore, you can always rely on our know-how and clarify any questions about products delivered by us. By request we take care of the EOL-management and ensure spare part service.



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