ELECTRONIC PACKAGING SYSTEMS

WHERE PACKAGING MEETS THERMAL
Wakefield-Vette, a leader in both Thermal Management and Electronic Packaging products, with over 60 years of proven experience, can design and manufacture standard or customized solutions to meet your unique project requirements.

With the ability to provide high quality products coupled with a quick turnaround, Wakefield-Vette sets the standard in the thermal and packaging industries.

“Wakefield-Vette is a leader in the electronic packaging systems marketplace, providing solutions for VME/VME64x, VXS/VPX, VXI, PXI, AdvancedTCA, and MicroTCA, and CompactPCI/2.16 architectures.”
WHERE PACKAGING MEETS THERMAL
**SUBRACKS**

The modular concept of Ripac subracks facilitates a wide range of application options with a minimum of components. All Ripac subracks are based on the same horizontal rails and system components. The difference lies in the design of the side panels and installation options. The subracks are shock and vibration-tested and comply with IEC 60 297-3-101, -102, -103.

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<thead>
<tr>
<th><strong>RIPAC ECO</strong></th>
<th><strong>RIPAC COMPACT</strong></th>
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<tbody>
<tr>
<td>Subrack system for standard applications. Suitable for installation of standardized PCBs or plug-in units of 160 and 220 mm depth.</td>
<td>Subrack system for direct mounting in a cabinet. Mounting either on Din rails or on mounting plate. Suitable for installation of standardized PCBs or plug-in units.</td>
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<tr>
<th><strong>RIPAC VARIO EMC</strong></th>
<th><strong>RIPAC VARIO MOBILE</strong></th>
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<td>Subrack system for EMC applications or complex installations. Suitable for installation of standardized PCBs or plug-in units up to 400 mm depth.</td>
<td>Subrack system for applications in rail vehicles. Suitable for installation of standardized PCBs or plug-in units.</td>
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**ELECTRONIC CASES**

The RiCase instrument case impresses with its modern design and high functionality. Particular features include the numerous color variants and the all-metal enclosure construction. The Ripac Vario-Module system enclosure (desktop or rack-mount enclosure) is fully compatible with the latest Ripac subrack range, making it ideal for individual configuration and assembly as a microcomputer system. At just 1 U, the HeiBox system enclosure offers a high packaging density in the smallest space.

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<th><strong>HEIBOX ECO</strong></th>
<th><strong>RIBOX</strong></th>
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<td>Cost optimized 1 U system housing for use as rack-mount enclosure or instrument case.</td>
<td>Optionally for use as an instrument case or rack-mount enclosure. Accommodates Eurocards/Double Eurocards (horizontal), bridges, hubs, routers or modems.</td>
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<th><strong>RICASE</strong></th>
<th><strong>RIPAC VARIO</strong></th>
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<td>Instrument case for installation of 19” slide-in assemblies and elements. For mobile and stationary applications.</td>
<td>Optionally for use as an instrument case or rack-mount enclosure. External dimensions according to IEC 60 297-1 for installation in enclosures.</td>
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FRONT PANELS & EJECTORS handles

Wakefield-Vette manufactures custom front panels that are silk-screened, fully assembled, and ready to mount to your PCB. Parts are made from extrusion and manufactured on high-speed CNC machines to mill your custom cut outs and features, providing a superior finish and precision fit to your board. We also have the ability to stamp front panel cutouts to meet your specifications or high volume requirements.

STANDARD FRONT PANELS

Subrack system for direct mounting in a cabinet. Mounting either on top hat rails or on mounting plates. Suitable for installation of standardized PCBs or plug-in units.

INJECTORS & EJECTORS

We offer all VME and compactPCI related front panel accessories, including gaskets and handles to meet Vita 41, 46, 48, 57, and IEEE 1101.10 requirements.

CUSTOM FRONT PANELS

In addition to a variety of standard finishes and options, Wakefield-Vette offers custom front panel production along with our in-house silk-screening process. We offer build-to-order ATCA and PCI panels, as well as customized AMC, PWC, and FMC bezels.

MEZZANINE FRONT PANELS

Extruded aluminum and Zinc Die Cast for PCI mezzanine cards and conforms to IEEE 1396.

ELECTRONIC PACKAGING SYSTEMS COMPONENTS

Besides complete subrack and system solutions Wakefield-Vette offers a wide range of individual components and accessories for setup, mounting and upgrade. Our inside and outside sales staff will gladly help you to find the right selection of components and support you in compiling the optimum package to fulfill your individual preferences and requirements.

CARD GUIDES

Keyable Guide rails to IEEE 1101.10. Prepared to accommodate a ground contact for assembly of a plug type connection. Available in different form factors and material including plastic.

COVERS

Covers are slid into the front and rear horizontal rails for mounting backplane connections. There are several styles of this product line.

HORIZONTAL RAILS

The adaptor rails accommodate the guide rails when fastened to the center horizontal rail. Front and rear horizontal rails available to meet the very simple to the very complex subrack configurations including rails to meet the IEEE: 11001-10/1101-11 specification.

BACKPLANES

Wakefield-Vette offers various backplanes. Our engineering team can help assist in any backplane design with your PICMG, VITA-based, VME, VME-64x, cPCI, uTCA, or custom architecture design.
VME
Wakefield-Vette supplies complete plug & play solutions for VME applications. Systems are based on standard components which may be configured to your specification. VME systems are complete with power supply, backplane, measures for EMC and ESD protection, climate control, fully assembled, pre-wired, and tested.

MPS MONITORING
The monitoring electronics for microcomputer packaging systems (MPS) offers a highly flexible, scalable security concept for key parameters such as temperature, voltage and fan speed.

BACKPLANES
The VME64 is a new addition to the VME family to ANSI/VITA 1-1994 and supports 64-bit data traffic. The VME64x extends the VME family to ANSI/VITA 1.1-1997 and is available with the optional 133 pole 2 mm connector J0. 160-pole connectors are used with VME64x.

RACK-MOUNT SYSTEMS
Ripac systems available in many different variations. Prepared to accommodate VMEbus boards and drives while having MPS Monitoring feature.

SLIM BOX VARIO
Configuration of 19” Industrial computer systems according to VME specification.

CPCI / CPCI SERIAL
Wakefield-Vette offers a wide selection of CompactPCI systems that conform to IEC 60 297-3 and IEEE 1101.1/10/11, as well as PICMG 2.0. Systems include backplane and power supply, excellent cooling, fully assembled, pre-wired and tested.

RACK MOUNT SYSTEMS
Configuration of 19” industrial computer systems according to CompactPCI specification for Telecommunication and Industrial Automation

CPCI SERIAL PLATFORM SYSTEMS
Configuration of 19” industrial computer systems according to CompactPCI Serial specification.

MicroTCA
MicroTCA offers standardized modularity, compact design and high scalability and bandwidth. Additionally, the consistent platform strategy reduces the time to market. Whenever ultra fast data transmission or data storage is required, MicroTCA systems are the first choice. This is true not only for telecom applications but also for industrial control systems or medical engineering.

CubeTCA
Based on the MTCA specification the compact CubeTCA offers a wide range of application fields in the industrial sector. The CubeTCA can either be assembled directly on the mounting plate or integrated within the target system.

MicroTCA DEVELPMENT SYSTEM
Independent MicroTCA development systems are suited for design of hard and software or for testing AMC modules.

AIR MANAGEMENT PANELS
Filler sheets are mounted on the AMC face plates and are used to route the airflow in ATCA carriers and MicroTCA systems.

FACE PLATES
These face plates are used for AMC cards and ATCA carriers, or as filler panels in MicroTCA systems.

MicroTCA RACK MOUNT SYSTEMS
MicroTCA specification is designed as an amendment to the ATCA standard as a lower-cost compact version for the low-end sector. The main features are a compact design, high scalability, modularity and considerably reduced system costs.

PicoTCA
Based on the MTCA specification, PicoTCA is a modular ready-to-run system, which carries up to 12 AMC’s and 1 MCH. Due to the robust construction, the 19” rack can be used both in the telecommunication and in the industrial sector.
THERMAL MANAGEMENT SOLUTIONS

Heat Sinks

The thermal solutions Wakefield-Vette designs and manufactures comprise a wide array of products, including thermal extrusions, LED heat sinks, heat frames, heat pipes, fan assemblies, heat exchangers, coolant distribution units, and liquid cold plates. Wakefield-Vette has the most complete thermal solution toolbox to solve customers’ heat density challenges. With this toolbox and control of the entire engineering, manufacturing, and supply chain process, Wakefield-Vette is able to control cost, quality, and lead times.

Wedgelock Card Retainers & Conduction Cooled Heat Frames

Wedgelock card retainers offer the highest locking force available for cold wall applications. In a typical application they will mount either directly to the PCB or to a conduction cooled heat frame assembly with screws or rivets and are then inserted into a machined channel of a cold wall within a rugged enclosure.

When expanded, the wedgelock will clamp the PCB in place providing resistance to shock and vibration as well as a thermal path for heat transfer between the PCB and the cold wall. Wedgelocks are available in various profiles and allow for configurable length, mounting and plating selections.

Wakefield-Vette has extensive experience in manufacturing milled aluminum heat frames for use with electronics designed to meet or exceed rugged specification. Heat frames are CNC precision-machined out of solid aluminum (or copper) and precisely match the skyline of an electronic printed circuit board being ruggedized.