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 & ELECTRONIC CASES
A MINIMUM OF COMPONENTS – A MULTITUDE OF APPLICATIONS

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.

**RIPAC COMPACT**
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.

**RIPAC EASY**
Subrack system for standard applications or high mechanical loads. In cases that require easy handling and fast assembly.

**RIPAC VARIO**
Subrack system for standard applications or complex installations. Suitable for installation of standardized PCBs or plug-in units up to 400 mm depth.

**RIPAC VARIO EMC**
Subrack system for EMC applications or complex installations. Suitable for installation of standardized PCBs or plug-in units up to 400 mm depth.

**RIPAC VARIO MOBILE**
Subrack system for applications in rail vehicles. Suitable for installation of standardized PCBs or plug-in units.

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.

**HEIBOX ECO**
Cost optimized 1 U system housing for use as rack-mount enclosure or instrument case.

**RIO**
Optionally for use as an instrument case or rack-mount enclosure. Accommodates Eurocards/Double Eurocards (horizontal), bridges, hubs, routers or modems.

**RIPAC VARIO**
Optionally for use as an instrument case or rack mount enclosure. External dimensions according to IEC 60 297-1 for installation in enclosures.
FRONT PANELS & EJECTOR 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 systems for direct mounting in a cabinet. Mounting either on top hat rails or on mounting plate. Suitable for installation of standardized PCBs or plug-in units.

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, PMC, and FMC boards.

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.

MEZZANINE FRONT PANELS
Extruded aluminum and zinc, Dm 2460 for PCI mezzanine cards and conforms to IEEE 1386.

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 plugтип 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 1100.11/1101.11 specification.

BACKPLANE
Wakefield-Vette offers various backplanes. Our engineering team can help assist in any backplane design with your PICMG, VITA-based, VME, VME 64X, I/O, JP2C, or custom architecture design.
SYSTEM LEVEL PACKAGING

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.

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.

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.

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

CPCI SERIAL PLATFORM SYSTEMS
Configuration of 10” industrial computer systems according to CompactPCI specification.

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

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 15” rack can be used both in the telecommunication and in the industrial sector.

AIR MANAGEMENT PANELS
Fillet sheets are inserted on the AMC backplane and are used to route the airflow in ATCA carriers and MicroTCA systems.

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.

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

BACKPLANE
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 1-1997 and is available with the optional 135 pole 2 mm connector. 160-pole connectors are used with VME64x.

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.

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

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.

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.

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.

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.

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.

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

CPCI SERIAL PLATFORM SYSTEMS
Configuration of 10” industrial computer systems according to CompactPCI specification.

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

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 15” rack can be used both in the telecommunication and in the industrial sector.

AIR MANAGEMENT PANELS
Fillet sheets are inserted on the AMC backplane and are used to route the airflow in ATCA carriers and MicroTCA systems.
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.

WedgeLocks

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.

Conduction Cooled Heat Frames

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.