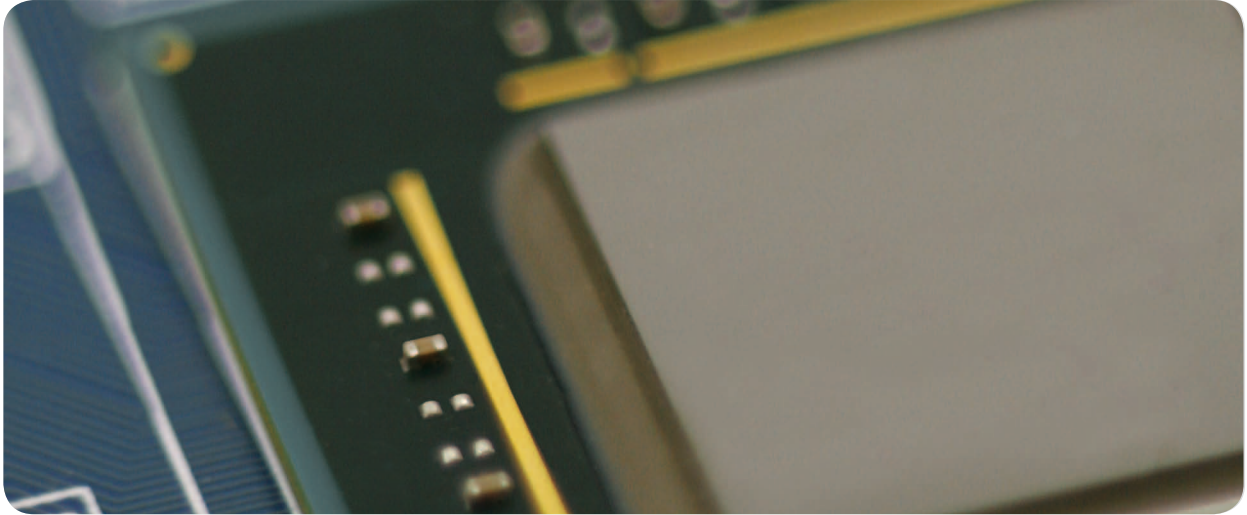
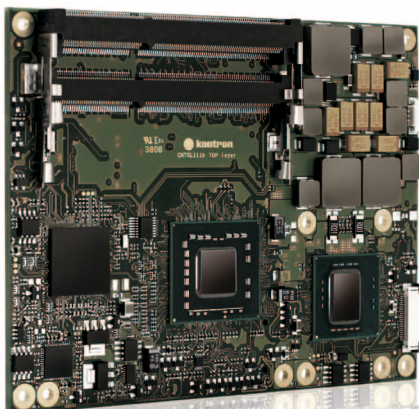


» Application Story «

ETX® in Infotainment



If it's a POS/POI system, there should be COMs inside



The kiosk market is one of the ultimate markets for custom solutions; there are thousands of different types available on the worldwide market, and every requirement is different. Despite the wide variety of solutions, however, most of these systems use the same core technologies: embedded computers. And the trends in the kiosk market reflect significantly those in the overall computing sector: more and more high-definition monitors and sophisticated interactivity features are demanded in professional kiosk applications and systems for public viewing and infotainment.

Computer-on-Modules (COMs) are the ideal way to ensure that every application contains the most up-to-date technology, and achieves the highest possible performance. Systems that are equipped with these scaleable and processor-independent modules can be upgraded easily with little more effort than exchanging the Computer-on-Module. Purchasers, therefore, should think about the usage of COMs inside and ask OEM system vendors for COMs to



ensure that their kiosks always contain the most up-to-date hardware, for the lowest upgrade costs. Kontron is the market's leading vendor of Computer-on-Modules, and is the inventor of several industry standards for COMs, including ETX® and the new ETXexpress® and microETXexpress® COM concept. All Kontron COMs offer the latest and best in processor performance: for example, the newest ETXexpress-CD® COM is equipped with an Intel® Core™ Duo processor that delivers the highest available embedded computer performance combined with the industry's lowest power consumption and excellent PCI Express graphics. This COM can easily handle the new requirements of high definition viewing and high performance interactivity. And it is only one of the upcoming COMs from Kontron with multi-core technology.

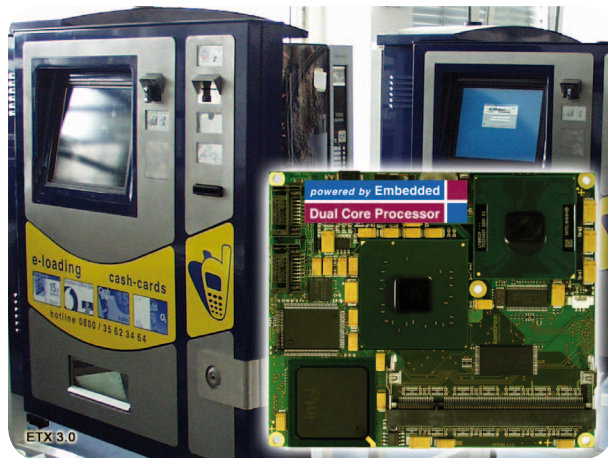
Interested customers can view a list of kiosk systems equipped with Kontron COMs by registering at sales@kontron.com.

For vendors of public infotainment systems, ticketing solutions, vending systems and other kiosk applications, Kontron supports its COMs with value-added services to deliver embedded computing platforms dedicated to the needs of OEM applications. This approach satisfies the demands of customers in the infotainment and sales systems sectors for a total solution approach. They no longer purchase COMs as simple components, because the competitive nature of their market and complexities of the technology mean that they must focus on their own core competencies. Increasingly, therefore, they demand a fully-fledged technology partner, not just a component supplier.

Providers of COMs must increasingly make complete customer-specific designs ready for production. This means that the leaders in the market also deliver and pre-integrate supporting technologies such as the basic interfaces for chip card readers, ticket printers, touch displays, GPRS and so on. Kontron's business has therefore developed along the lines of a design house and contractor for customized solutions in the COM market. The company bases its solutions as much as possible on recognized standards like ETX® (3.0), ETXexpress® (COM Express), microETXexpress®, or X-board and DIMM-PC, offering customers considerable advantages over pure development service providers which often employ purely proprietary solutions. The entire process, from design to full production of multiple units, is also kept under one roof, allowing the finished product to be built from a set of common, configurable building blocks: COMs, graphics adapters, power management and baseboards are already available as finished components or subsystems. Thus, customized designs can be implemented extremely quickly for almost all customer requests, reducing the time-to-prototype to a just a few days or weeks in most cases.



Kontron boards & MORE! offers an expert team that focuses exclusively on the implementation of the latest interface technology on baseboards for COMs, and the development of customized single-board computers for infotainment systems. Hundreds of layouts are successfully implemented every year, and then manufactured in bulk, so that in many cases, design risks can be foreseen and avoided, and customized designs can be readied for production significantly faster. For example, the team's experience in incorporating COMs onto base PCBs with appropriate signal integrity is just as important as its ability to implement cost-effective designs in the smallest space or to make consistent use of components with long-term availability.



Professional project management from specification sheets to series production and regular design reviews as part of the lifecycle management of the standard assemblies and customized designs round out the offering. Major Computer-on-Module standards for different POS/POI solutions

» ETX®

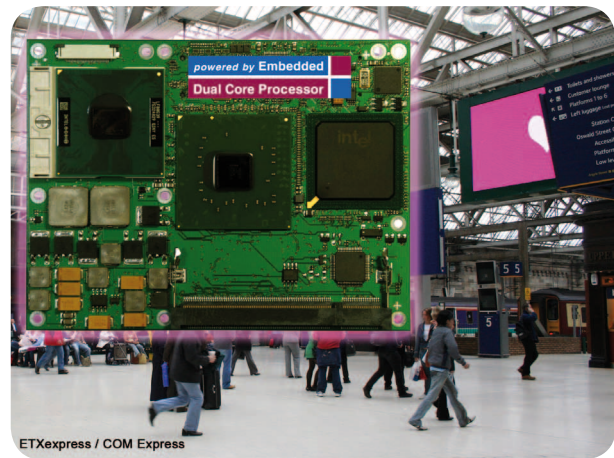
The world leading form factor with more than 50% share of the whole COM market. ETX®, invented by Kontron, offers PCI and ISA bus, plus dual SATA in the 3.0 specification that is supported by most of the leading vendors of embedded computer technology. More than a million of ETX® based systems are installed all over the world. Many of these installations are inside ticketing systems for car parks, railway stations and airports, ATMs (automatic teller machines) and so on.

» ETXexpress® / COM Express

ETXexpress® is the Kontron brand name for the new official PICMG standard COM Express, initiated by Kontron and Intel. ETXexpress® delivers PCI-Express capabilities including PCI-Express graphics, plus PCI and new technologies such as USB, SATA, Gigabit Ethernet, and dual-channel RAM; these features make it highly suitable for use in next-generation infotainment and public viewing systems and ticketing machines. Intelligent remote access solutions are supported by Kontron for improved maintenance and condition monitoring of decentralized systems. Products can also include smart battery management systems together with solar powered energy charging.

» microETXexpress®

microETXexpress® is a sub-standard based on Kontron's ETXexpress®, and delivers all but a few of its larger parent's features. It is based on a small form factor which is ideal for all applications where space is the limiting factor.



» X-board

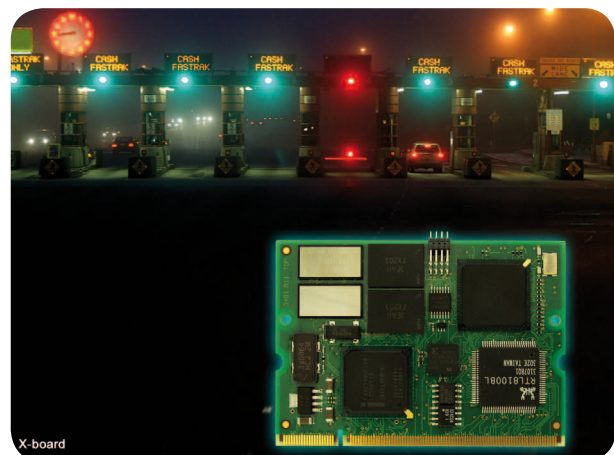
Designs based on X-board X86 or RISC technology are primarily used in the field of mobile systems such as handhelds with a small footprint. In combination with smaller colored (touch)-displays, they are also ideal for e-loading vending machines and systems which do not require the advanced graphics capabilities of ETX® or ETXexpress®.

» DIMM-PC

The world's first open standard for Computer-On-Modules is ISA based and has compared to other module standard limited capacities for visualization. Nevertheless: It has a huge base of installed applications and delivers an ideal cost/performance ratio if LCD is all you need for visualization.

» E²Brain

Based on RISC technology such as PowerPC or X-Scale processors, E²Brain modules are ideal for solutions that require high long-term availability and extended temperature range of up to -40°C to +85°C. They are ideal for multimedia ticketing systems in mobile applications such as trains or busses.



About Kontron

Kontron designs and manufactures standards-based and custom embedded and communications solutions for OEMs, systems integrators, and application providers in a variety of markets. Kontron engineering and manufacturing facilities, located throughout Europe, Americas, and Asia-Pacific, work together with streamlined global sales and support services to help customers reduce their time-to-market and gain a competitive advantage. Kontron's diverse product portfolio includes: boards and mezzanines, Computer-on-Modules, HMIs and displays, systems, and custom capabilities.

Kontron is a Premier member of the Intel® Embedded and Communications Alliance.

For half-a-decade now, Kontron has been named a VDC *Platinum Embedded Board Vendor*. Based entirely on user feedback, industry professionals evaluate vendors on over 45 non-product related criteria. Kontron is only one of two companies to receive the Platinum award 5-years running.

Kontron is listed on the German TecDAX stock exchange under the symbol „KBC“.

For more information, please visit: www.kontron.com

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