



FIRST RESPONDERS GET THE RUGGED MOBILE COMPUTING PERFORMANCE TO REACT TO ANY SITUATION

APPLICATION-READY KONTRON EVOTRAC™ P101 FREES BMS/
DATA911 TO INNOVATE ITS LATEST M8 PUBLIC SAFETY MOBILE
COMPUTER



Saving time and resources, Kontron EvoTRAC platform gives BMS/Data911 the freedom to focus on innovation strengths in M8 mobile computing system design



// BMS/DATA 911: KONTRON CUSTOMER
www.data911.com

SUMMARY

CUSTOMER

Broadcast Microwave Services, Inc. (BMS)/Data 911

INDUSTRY

In-Vehicle Public Safety

CHALLENGE

Provide an advanced and fully integrated box-level computing platform that is small and rugged enough to withstand the rigors of public safety agency vehicle conditions and use.

SOLUTION

Leveraging the company's 15-year working knowledge of BMS/Data911 systems along with its in-vehicle application experience, Kontron's application-ready EvoTRAC P101 platform helped accelerate the design of its next-generation M8 public safety mobile in-vehicle computer.

RESULTS

Delivering the right combination of performance, bandwidth, I/O and storage, Kontron enabled BMS/Data911 to make a competitive leap in offering state-of-the-art features and enhanced end-to-end support while meeting time-to-market goals.

BACKGROUND

Law enforcement, first responders and other public safety agencies must be able to have immediate access to mission-critical information to meet real-time incident response as well as for effective field communications. The power of shared networked information can't be underestimated as a tool for enhanced decision making. But, the data collected in an emergency can become overwhelming and a bottleneck for legacy computers. That is why reliable, secure mobile computing resources based on high performance processor and connectivity technologies are indispensable for on-demand data access for first responders in the field.

BMS/Data911 is a leading supplier of rugged systems that exceed the demands of public safety professionals. They excel in providing long life mobile hardware and software solutions that offer the latest technologies for vehicular environments.



In designing its next-generation M8 computer, BMS/Data911 had specific requirements. To take their line of rugged mobile computers to the next level, they needed to maintain the highest operational reliability in harsh driving conditions and extreme temperatures. This meant the computing platform had to match their low power, small form factor and in-vehicle power input requirements. And, to give public safety personnel the most modern features to keep their communities safe, the new computer had to support the latest display, communications and storage interfaces with room to grow. It also had to offer easy modular configuration to accommodate various radio connectivity solutions.

SOLUTION

After working together on multiple designs over its 15-year relationship, BMS/Data911 knew it had a capable technology partner in Kontron. Time-tested and proven

in more than a quarter million deployments, Kontron's wide range of standard and easy-to-customize certified computers are purposely designed to meet and exceed the transportation industry's growing list of application-specific requirements.

To achieve its strategic goals of focusing more deeply on the company's competitive design, support and quality strengths, BMS/Data911 looked to Kontron to supply a fully integrated, complete box-level platform as the computing foundation for its latest M8 mobile in-vehicle public safety system. It chose the Kontron EvoTRAC™ P101. Highly flexible by design, the EvoTRAC P101 delivered a practical modular building block that enables easy customization to add various radio connectivity technologies such as Wi-Fi, 4G LTE, GPS and Bluetooth that are increasingly demanded features for first responders. It also gave the BMS/Data911 design teams a versatile platform allowing them to engineer multiple modules that support application-specific agency needs that include (DVI/USB cable extender- up to 100', LTE modem, GPS with Dead-reckoning and sound/audio cards and extended USB connectivity).



Meeting their small form factor needs, this platform delivers very low power-per-performance features and extensive I/O based on high-performance 2.2 GHz Intel® Core™ i7-5650U processors integrated onto Kontron's COMe-cBL6 hardened Type 6 COM Express® CPU module coupled with a ruggedized Carrier Board. With Intel® AVX2 and OpenCL 2.0 the processor provides floating point performance as well as parallel processing density features. Up to 16 GB of energy-efficient DDR3L RAM (8GB memory down + 8GB SODIMM) satisfy even highest memory demands. With the support of advanced mPCIe/ mSATA storage, the M8 offers faster boot and extended application storage capacities. And removable storage ensures that dash and body camera requirements are covered.

Kontron worked with BMS/Data911 to thermally optimize the EvoTRAC P101 for the rigors of demanding 24/7 in-vehicle use and conditions. Its natural convection, sealed IP67 enclosure ensures reliable operation in these conditions even in extreme temperatures. Ideally suited for in-vehicle applications, the EvoTRAC uses an Integrated Vehicle PSU and features automotive 6V-18VDC with management circuitry. When Kontron's proven certification experience was added to the list of attributes, it made the EvoTRAC P101 the leading solution BMS/Data911 needed for its M8 long lifecycle mobile public safety system.



// The M8 is based on a customized Kontron EvoTRAC™ P101 in-vehicle computer that leverages high-performance 3.20 GHz Intel® Core™ processors on Kontron's COMe-cBL6 hardened Type 6

"With the M8 system, we are giving law enforcement and first responders the most advanced mobile computing solution available that gives agencies modular flexibility in terms of software, interface IO, data storage and digital video capabilities. Kontron's extensive design expertise in the in-vehicle market, its proven certification experience in small form factor, rugged systems and the ability to provide long lifecycle management made them the ideal company to partner with for our M Series sys-

tems," said Chuck Beck, President of Microwave Broadcast Systems, Inc.

BENEFITS

The collective strengths of the Kontron and BMS/Data911 teams enabled a breakthrough design that integrates the latest technologies giving users in-demand features and a breadth of configuration options. This was accomplished while still meeting small space, low power constraints and strict certification requirements. It also ensured that the M8 design offered stable, non-stop operation in extreme conditions and with a flexible platform that could meet ever-increasing processing requirements.

Using a fully-integrated computing solution allowed BMS/Data911 to satisfy requirements for specific or unique application I/O features and ideally meet connectivity solutions per their design goals. A market application success, the BMS/Data911 M8 performs in the harshest vehicular environments, and delivers substantially improved rugged performance as well as the ability to cost-effectively upgrade the M8 system between generations. These features and computing performance enable the M8 to give users immediate access to the essential data necessary to make informed decisions in critical situations.

Partnering with Kontron lets companies leverage its long track record of successful engineering of boards, systems and enclosures that can incorporate certification, full system integration and extended product lifecycle management. Kontron offers the industry's largest selection of rugged computing hardware solutions including application ready platforms that help speed development. And, partners get the full benefit of the latest technologies through Kontron's strategic partnerships as well as superior support from dedicated teams located around the globe.

About Kontron – An S&T Company

Kontron is a global leader in embedded computing technology (ECT). As a part of technology group S&T, Kontron offers a combined portfolio of secure hardware, middleware and services for Internet of Things (IoT) and Industry 4.0 applications. With its standard products and tailor-made solutions based on highly reliable state-of-the-art embedded technologies, Kontron provides secure and innovative applications for a variety of industries. As a result, customers benefit from accelerated time-to-market, reduced total cost of ownership, product longevity and the best fully integrated applications overall.

About the Intel® Internet of Things Solutions Alliance

From modular components to market-ready systems, Intel and the 400+ global member companies of the Intel® Internet of Things Solutions Alliance provide scalable, interoperable solutions that accelerate deployment of intelligent devices and end-to-end analytics. Close collaboration with Intel and each other enables Alliance members to innovate with the latest IoT technologies, helping developers deliver first-in-market solutions.



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