Technology at work for you & your customer

Connecting your manufacturing business to the electronic technologies that give you an advantage

JCA Electronics is a multi-faceted company with many areas of electrical expertise. Founded in 2002, our company operations are based in Winnipeg, Manitoba, Canada. JCA started as a wire -harness manufacturer for OEMs in a variety of industries such as agricultural, transportation, mining, and marine. Our business expanded to design and manufacture low and high-voltage control panels for a growing customer and industry base. In more recent years JCA services have broadened to meet the needs of OEMs for engineering design. These include the design of electronics (printed-circuit boards), software systems, and more complex electro-mechanical and harness assemblies. We now also serve vigorously the Aerospace, Medical Equipment, Oil & Gas, Controlled Environments, and Alternative Energy sectors.

At JCA we understand our customers’ needs and deliver services to meet them. In the markets we serve, JCA Electronics leads with innovative products, solutions, and technological advances, striving diligently to exceed our customers’ expectations. JCA builds on a culture that promotes integrity and respect for our customers, our suppliers, and ourselves. We do not accept mediocrity and are dedicated to continuous improvement as a way of life.

We succeed in each industry first by understanding the requirements and then by focusing on our expertise in the areas of wire harnesses, control modules, displays, sensors, electromechanical products, software development, and systems solutions. We keep our operations, designs, processes, and inventories lean and our customer experience. Our expertise and freedom to choose from all options allow us to select the best components, put together a cost-effective package, and ensure it meets the needs of the application and maximizes the success of our customers and industry base; we will increase the value of our growing customer base; we will increase the value of our growing customer and industry base. We succeed in each industry first by understanding the requirements and then by focusing on our expertise in the areas of wire harnesses, control modules, displays, sensors, electromechanical products, software development, and systems solutions. We keep our operations, designs, processes, and inventories lean and our customer experience. Our expertise and freedom to choose from all options allow us to select the best components, put together a cost-effective package, and ensure it meets the needs of the application and maximizes the success of our customers and industry base; we will increase the value of our growing customer base; we will increase the value of our growing customer and industry base.

MISSION STATEMENT

JCA Electronics strives to be the company that best understands and satisfies the needs of our growing customer base; we will increase the value of our customers by exceeding their expectations and by achieving operating excellence in every segment of our company.

SOFTWARE SYSTEMS

Our software engineers are experts in embedded systems software development. PLC applications, PC-software applications, mobile-device apps, and cloud computing solutions, using various different programming and scripting languages (e.g. C/C++).

CUSTOM ELECTRONICS DEVELOPMENT

JCA can develop custom electronics for customers with unique technology needs when no existing product meets the right trade-off of functionality, robustness, and cost. We work with our customers to determine a solution that best suits their requirements, developing such customized electronics modules as controllers, displays, and communication modules. The products can be designed from the ground up to provide the best mix of functionality for the application. As needed for the product, we will design printed-circuit boards, mechanical components, and customized embedded and PC-software. We have in place building blocks of circuits and software to speed the development and minimize the risk of customized electronics modules. Our knowledge of standards for such environmental-testing as vibration, laboratory, electrical transient, ESD, and EMC tests means that product verification goes smoothly and design iterations are minimized.

DESIGN & ENGINEERING

JCA has engineering expertise in system design, electrical-and-electronics design, PCB design, and software engineering. We have experience implementing solutions in a wide variety of applications, ranging from system concept to detailed design and manufacturing. We approach design projects with a system-engineering process, progressing from requirements definition to design, verification against requirements, validation, and integration/implementation. We use a variety of CAD tools appropriate to the work, such as Orcad for printed-circuit board design and layout, SOLIDWORKS, AutoCAD, and VEsYS for harness and system-design and system-level schematics, and various compilers/IDEs for embedded and application-software development. Our engineering team aims to help our clients and partners by complementing their engineering capabilities, by providing additional resources for high work-load periods, and by developing innovative products and services (both customer-specific and JCA-designed).

MANUFACTURING CAPABILITIES & QUALITY SYSTEM

JCA Electronics is an ISO9001 approved manufacturer. Our certified IPC trainers and specialists allow JCA to meet the stringent requirements of IPC-A-610B & 620B. JCA Electronics uses lean principles and a fully-integrated MRP system to guide the efficient production of simple and complex products with lead times of weeks or just hours. We utilize extensive testing equipment to ensure that all products going through our plant meet or exceed industry standards. We work with automated wire-processing equipment that includes hot-stamp and ink-jet wire printing processes; soldering and ultrasonic welding for splices; and applicator crimping for many different connector and contact manufacturers. We offer all options of wire-harness covering including braiding for all sizes of branches and environments. In addition to our harnessing and CSA/UL-approved control panel manufacturing, JCA produces custom electronics assemblies with PCBs that have both through-hole and surface-mount technology. Custom Electronics assemblies are manufactured and inspected according to the above IPC standards as well as J-STD-001, with a strict Electrostatic Discharge (ESD) control program for handling. Customized jigs are used throughout the final assembly process to maximize production efficiencies and repeatability. Electronics assemblies undergo full functional testing with automated equipment that can exercise all inputs, outputs, communication channels, and user interfaces in a repeatable test process. Test results are stored by serial number and build lot. We pride ourselves on our ability to balance effectively all economic factors with lead time and design and we never compromise on quality.

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