



Key Joy West

The Key to Custom Cable Assembly

Single Source Custom Wire and Cable, Coil Cord, and Assemblies



Custom Wire and Cables



Coil Cords Assembly



Cable Assembly

Key Joy West is a custom cable manufacturer who has been at the forefront of custom multi-conductor medical cable manufacturing for over 35 years!

We are a leading provider of sophisticated wire and cable products for the Medical Device Industry.

In addition, we are proud to offer an extensive range of products that can be used in Military, Electronics, Automotive and the Aerospace markets.

Our engineers bring vast industry experience to bear on each new custom cable design challenge. Our manufacturing operation offers a wide range of constructions and material choices.



"Vertical Integration Sets Key Joy Apart"

Vertical integration. One-stop shopping. At Key Joy it means one thing, total control over the development of your cable assembly rests solely with us, from beginning to end. There is no other supplier of cables, coil cords, or cable assemblies who can match our extensive engineering, customization, manufacturing, testing and logistics capabilities, all located under the roof of our 980,000 square foot facility in Shenzhen, China.

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Custom Cable Assembly – More Affordable Than Ever

Accessible, Fast and Easy

When design engineers who need special cable constructions hear the word custom, they often cringe, conjuring up dollar signs and delays. That doesn't have to be the case anymore.

Due to demands from US customers, oversea cable manufacturers have adapted to make custom cables and assemblies solutions more affordable, accessible, fast and easy by at least half of what the cost is in the U.S.

Custom Cable assembly is the process by which a string of cables all transmitting information via electrical currents, are clamped together.



Custom cable assemblies can combine multiple technologies, including plastics injection molding, over-molding, potting of devices, and wire sizes from 10 to 36 gauges. UL, CSA, and VDE approved, custom cable assemblies can range from single conductors up to 50 pairs, with Mylar, foil, braid, copper shielding, and jacketing made from PVC, SJT, SJTO, SVT, and other materials. Active and passive components, sensors, and circuit boards can be packaged in custom-made housings.

A recent report by Bishop & Associates looking at the global cable assembly market has projected a five-year compound annual growth rate of 8.0 percent and the industry value will grow to \$130.7 billion by 2014.

Five industry segments are growing faster than the industry average for demand of cable assembly and these include: Computers, Telecommunications, Medical, Consumer and Business/Office.

Electrical cabling requirements in these industries can be extremely complex. This is essentially where specialty custom cable assembly is called for.

It is cable assembly that is made to order, working to a unique design where a unique custom-made cable assembly is used, as well as other custom builds, such as non-standard connectors.

In this White Paper we will look at certain types of custom cable assembly and their specific uses, as well as outline what to look for when choosing your custom cable assembly manufacturer.

Types of Custom Cable Assembly

Flat Ribbon Cable Assembly

Flat ribbon cable assembly is the application of producing flat ribbon cable for a specific device. Ribbon cables typically have many wires running next to each other in a flat cable and are usually used for internal peripherals in computer hard drives, and CD drives.

Building ribbon cables is a similar process to simple cable assembly, where the wires are cut to the required length and placed on a workbench where they are manually tied together to form the cable.



When inserting ribbon cable into applications however, many designers tend to mark one edge of the cable with a red stripe. This is to help them distinguish which end is the polarized end, and which is the un-polarized end, as if inserted into the application using the wrong end it could potentially damage the hardware. For more complex designs many designers like to use custom ribbon cable assemblies to meet their exact requirements.

Multi core Data Cable Assembly

Multi core cable is a compact cable which can consist of up to 36 or more individual cables all protected by one outer jacket. This outer jacket protects the wires from becoming damaged by outside sources, from becoming tangled, and prevents the likelihood of an electric fire from occurring. As it can hold so many individual cables in one 'core' custom multi core cable assembly is often necessary and recommended for a number of electrical manufacturing processes.



Medical Cable Assembly

Medical Cable Assembly is characterized by ultra flexibility, high temperature applications, durability against abrasion and cut-through resistance, miniaturization with fine wire conductors as fine as 36 AWG.

Custom medical cables must meet the need for diverse medical equipment such as: patient monitoring, catheters, laser surgery, digital imaging, ultrasound and surgical equipment.

Low noise and signal integrity are necessary for applications where the medical cable experience mechanical shock, vibration, or repeated flexing during use.

After repeated use, medical cables tend to distort, stretch and break. Low elongation and high tensile strength with jacketing solutions are used to maintain medical cables in tip-top shape without impacting flexibility, heat resistance, sterilization, or dimensional requirements.



What to Look for in a Custom Cable Supplier

Custom cable assembly can be complex to implement – and expensive if you get them wrong, so it is vitally important that you work with a custom cable supplier that you trust to deliver a great service on time, on design and on budget.

One thing to insist upon is that your custom cable assembler is National Quality Assurance (NQA) certified. The NQA assesses companies and organizations in a number of industry services and these include: Aerospace, Automotive, Communications, Construction, Engineering, Manufacturing, Medical and many more.

Many of these sectors require cable assembly services to build the applications they use, so cable assembly in a number of these fields can be NQA certified.

An NQA certificate will be awarded to a company that produces the requirements of quality management systems under ISO 9001:2008.

The certificate proves to customers that you minimize the risk of damaging existing equipment; you reduce waste through your service and can guarantee good reliable connections. Always keep a look out for this when it comes to choosing a reliable custom cable assembler.

It is common today for many companies to outsource their custom cable assembly to China, where costs are cheaper. Due to the complex nature of some custom cable assemblies the ability to speak English and communicate effectively with English speaking project managers can be indispensable.

Key Joy West, Inc. is an US-based company in Chino, California, with English and Chinese speaking project managers to communicate with the Chinese factory with vertical integration. It means one thing; total control over the development of your custom cable assembly rests solely with us, from beginning to end. We are the leading provider of custom medical cable assembly.

Vertical Integration Ensures High Quality and Lower Costs

From design, tooling, and over molding to assembly, Key Joy keeps all steps of production in-house. Medical cable assemblies can be complex, requiring specialized materials, tooling and production skills.

Our vertically integrated approach means we have absolute control over quality, ensuring that the end product meets our exacting standards and those of our customers. It also means we can react nimbly to customer needs and maintain an impressive production schedule and turnaround while keeping costs at a competitive level.

Custom medical cable assembly is a growing industry, with demand likely to continue during the next decade. Therefore finding a reliable company to trust with complex designs should be at the top of all manufacturing procurement departments lists.

In this White Paper we have outlined the relevant types of custom cable assembly, explained where industry growth is likely to come from and also outlined things to look out for when choosing a reliable manufacturer to deliver your custom medical cable assembly.

What To Do Next for Custom Medical Cable Assembly

Key Joy West has developed a "30 Minute Custom Medical Cable Assembly Assessment" which we conduct over the telephone with you and your top staff members. Here is what we accomplish together in this fast-paced, zero-nonsense session:

- Custom Medical Cable Assembly innovations, designed to meet your unique specifications and environmental conditions, are our expertise. Bring us any design, any need, and we will create an individualized solution that exceeds your expectations.
- Our custom medical cable assemblies and connectors provide absolute reliability under the most critical and stressful hospital and emergency situations.
- Key Joy is a longtime, trusted supplier to some of world's top medical device manufacturers. Whether it's engineering and design, one-off prototyping, or full-scale production, we offer a reliable turnkey process for an industry that demands perfection. Our ISO 13485 certification reflects our core commitment to maintaining the world-class manufacturing processes essential to the safe design, manufacture and distribution of medical cables, including top-tier risk management and quality assurance practices.

The 30 Minute Custom Medical Cable Assembly Assessment is conducted by the principal of our company, George Hsu, who has worked with some of the top Medical Device and Equipment Manufacturers, including Alcon, Becton Dickinson, Biomet, Boston Scientific, EKOS, Medtronic, St. Jude Medical, and Varian Medical Systems.

Please be assured that this consultation will not be a thinly disguised sales presentation; it will consist of the best intelligence Mr. Hsu can supply in a thirty minute session. *There is no charge for this call*, please be advised that the call must be strictly limited to 30 minutes.

This consult will typically take place within 1-2 weeks of your call or email. To secure a time for this consultation, please call *CJ Wang at (631) 219-9450* or email cjw@keyjoywest.com and he will advise you regarding available time slots.

You will be provided with a pre-consultation questionnaire that will prepare both you and us to get maximum value in the shortest amount of time.

