



Cable Assemblies





Why GTK is the right choice for cable assemblies

Comprehensive Solutions

- › We offer a wide variety of cable assemblies, ranging from simple wire harnesses and complex pre-formed looms to custom overmoulded solutions and high-end microwave cable assemblies
- › Over 95% of our cable assemblies are customised

Quality Assurance

- › We run an integrated quality management system
- › To ensure new product quality, we carry out a first off inspection for each manufactured batch
- › Our in-process and final inspection is carried out to IPC620 standard
- › All manufacturing partners sign up to the GTK code of conduct

Technical Expertise

- › Our product specialists are UK-based and have many years of cable assembly expertise
- › We have UK-based engineers to assist with design and production
- › Our cable assembly operators and inspection team are highly trained and experienced
- › Our Far East production partners have a wide range of expertise in all aspects of cable assembly production

Manufacturing Volumes

- › We can supply prototypes, pre-production samples and production runs in any volumes
- › Our FastTrack model provides you with prototypes despatched from our UK facility typically within five days of your original enquiry
- › Our UK facility is geared towards low- to mid-volume production
- › Our Far East production is highly scalable: from mid- to high-volume production, no job is too large!
- › We offer a variety of build models to suit your different requirements

About GTK

We provide electronic solutions including cable assemblies, connectors and optoelectronics. We can also offer custom turnkey manufacturing solutions. We have manufacturing facilities in the UK and work with manufacturing partners in Taiwan and China, making it easy for us to support customers on a regional or global basis. We are ISO9001:2008 and ISO14001:2004 certified. Our Corporate Social Responsibility policy is compliant to the ISO26000 standard.

Custom Assemblies

In simple terms a custom assembly is anything that is non-standard. This could be a custom length, colour or special pin-out right through to fully customised connectors, overmoulds and cable looms. We are able to process wires of all sizes and produce assemblies from single core wire or multi-conductor cables. We can also use any connector style in your cable assembly.



Microwave Cables

Microwave cables are used in many different applications ranging from complex wireless networking products to high-end military communication devices. We offer a wide selection of microwave cable assemblies from the smallest micro-miniature to the more traditional larger RF connector type. We also use a wide variety of cable types from semi-rigid to RG specification. We can pre-form semi-rigid assemblies into any shape and layout to allow direct placement into your product. The combination of a broad product selection together with function, performance, return loss and VSWR testing results in a comprehensive package of microwave solutions to meet customers' specific requirements.



Overmoulding

Overmoulding technology offers the ability to customise the design of your cable assembly, combining pantone-matched corporate colours, company logos and specific design elements to ensure that your finished cable assembly is part of your company's branding.

Overmoulding also offers many physical benefits for your cable assemblies, as it makes them more robust and durable, and protects them from harsh environmental factors such as:

- › Shock and vibration
- › Fluid ingress
- › Abrasion and corrosion
- › Extreme temperatures
- › Ageing
- › Pull forces

Complex Looms

Complex and pre-formed looms are required for many electronic products, and at GTK we have a wealth of experience in producing high quality looms. We can incorporate any type of cable or connector into your loom. We can make loom boards for all sizes of pre-formed assemblies to ensure consistency of manufacture.

We offer a variety of methods for loom forming including:

- › Lacing
- › Braiding
- › Tubing
- › Spiral wrap
- › Twisting
- › Cable ties and bases



Waterproof Cable Assemblies

In many environments, moisture ingress can be an issue. This can be difficult and costly to overcome when using off the shelf IP-rated hoods or connectors. Using our knowledge and experience of mould materials, we can recommend the most suitable materials to produce a strong, reliable bond. We have a long track record of working with customers to produce IP68 rated assemblies.



Custom Cable

Whilst standard cable is suitable for most purposes, there are some applications which will require unique or custom cable. In these cases, we work with our manufacturing partners to produce custom-made cable to meet your specifications.

We have plenty of experience in providing custom cable with examples including:

- › Mixed coaxial and standard core cable
- › Bonding different cable types together
- › Multiple wire gauges within one outer cable jacket
- › Different cable jacket and core insulation materials
- › Custom colours, including custom printing on cable jacket



Custom Connectors

In certain applications customers need a non-standard connector. This could be anything from a slight change to an industry standard connector right through to fully custom designed connectors.

We have in-house design capability, or can take your design and replicate it exactly. We can also modify existing connectors in your cable assemblies to fit within your space constraints and suggest improvements to existing designs that will enhance form, fit and function.





Simple Cable Assemblies

We pride ourselves on our ability to manufacture complex cable assemblies but equally we apply the same high quality standards to the production of more simple cable assemblies. Whether it is an earth lead or a power loom, we cater for almost any requirement!

We have an extensive range of automated tooling that ensures consistent terminations and an efficient manufacturing process. This results in lower costs for you.



Cable Assembly Packaging Solutions

Our manufacturing goal is to use lean and efficient processes. We believe this extends beyond the finished cable assembly to include the packaging. Experience tells us that not all of our customers require the same solution. We will work closely with you to make sure that we are supplying your cable assemblies in the most suitable and efficient way.

Examples of different packaging options include:

- › Kitting of multiple assemblies
- › Custom batches for use in line-side production
- › Individually bagged assemblies for ease of picking, or bulk packed to reduce unpacking time
- › ESD/anti-static packaging
- › Retail packaging, such as blister packs or corporate branding



Hardware & Add-ons

We are able to include many different types of hardware into your cable assemblies. From ferrites to fuse-holders, there are many additional components you may want to add. We have a range of standard fuse-holders readily available or can produce custom fuse-holders to protect your finished product. We can use your nominated suppliers' fans, ferrites, switches or IEC inlets, or help you to reduce costs by sourcing suitable alternative components.

Locations and build models

We recognise that customers have different and changing needs. The combination of our manufacturing locations in the UK and Far East with our three different build models means that we can fulfil your cable assembly requirements, regardless of volume or complexity.



FastTrack

Our FastTrack model allows us to produce prototype builds in small volumes from our UK manufacturing facility. We aim to ship cables within five days of receipt of your enquiry, subject to component availability. This includes creation of an engineering drawing, purchasing, kitting, production, test, inspection and despatch.

This model reduces the lead time for your prototypes, resulting in quicker approvals prior to full production and improved time-to-market for your new products.



Blended Manufacturing Model

Our blended model combines the best of both worlds, with part-built assemblies arriving from the Far East to be completed, tested, inspected and despatched from the UK.

This model offers a number of benefits:

- It combines the benefits of overmoulding with UK-sourced components and skills
- It provides cost-effective solutions for simple processes within the cable assembly by utilising lower costs in the Far East
- Finished cable assemblies undergo full UK test and inspection



Transition Manufacturing Model

Our transition model is all about scalability. We start by manufacturing low volumes in the UK and then seamlessly transition to Far East manufacturing as volumes increase. This model is ideal for new product releases which grow in volume.

We provide approval samples from both locations and manage the transition process to ensure consistent quality and continuous supply chain.

We have many years' experience helping customers with new product designs, overcoming potential problems and adding value to their finished products. We use our technical, engineering and manufacturing resources to find the right solution for each customer.

Space Saving

We produced a custom panel-mount coaxial connector with a reduced diameter at the rear. This allowed a ferrite to be located over the rear of the connector, rather than butting up to it, freeing up space behind the panel.



Improved Aesthetics

The original cable assembly used a die-cast hood for shielding purposes, but it was large, costly and unattractive. We designed a custom overmoulded hood which improved the aesthetics of the customer's cable assembly and lowered the overall cost, whilst still retaining the necessary functional and EMC shielding requirements.

Functional Design

We designed a custom overmoulded fuse-holder for use in the customer's cable assembly, replacing the existing PCB mount version. The new fuse-holder incorporated colour coded fuse bays and was far easier to maintain in the field. We also added the customer's logo on the sealing cap, whilst still providing a lower cost overall assembly.



Pre-formed for Precision

This cable assembly, used in a defence application, was manufactured in the UK utilising a specialised manufacturing cell. It is extremely low-profile and is laced to ensure it retains its exact form, allowing ease of fitting into a high-end finished unit.

Waterproof & Cost-effective

Our customer wanted a moulded version of a metal circular connector but it needed to be waterproof. We designed a fully intermateable custom insert moulded connector using materials that ensured a waterproof bond and a lower cost finished assembly.





Corporate Headquarters

GTK UK Ltd

Antura, Unit C2,
Bond Close, Basingstoke,
Hampshire, RG24 8PZ
T: +44 (0)1256 472000
F: +44 (0)1256 473000

GTK Taiwan

4F., No 1223 Chung Cheng Rd.,
Taoyuan City, Taoyuan
Taiwan 330. R.O.C.
T:+886-3-3584570
F:+886-3-3584551

www.gtk.co.uk