



# Glenair Micro/Nano Flex Circuit Assemblies

Compact interconnect assemblies that combine circuit board technology and cabling into a lightweight, integrated package.

Turnkey design, termination and assembly services.



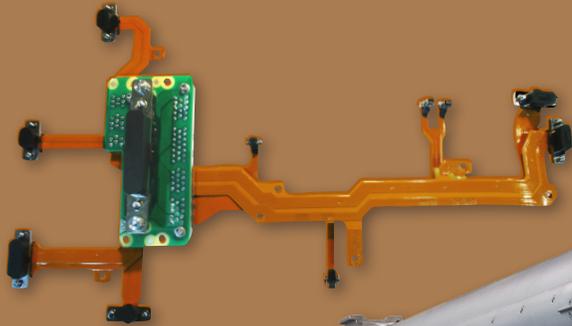
For more information contact Glenair at **818-247-6000** or visit our website at [www.glenair.com](http://www.glenair.com)

# Lightweight and Versatile Flex Circuitry

*Connector qualifications and design expertise help make Glenair the world's premier high-reliability flex circuitry termination/assembly facility*

**F**lex circuitry combines ordinary printed circuit board technology and wiring into a single, integrated package. Glenair offers unsurpassed experience and expertise in flex circuit integration and termination for mission-critical applications. Our Mansfield, England and Glendale, California cable shops have been integrating Glenair manufactured connectors into flex circuitry for over 30 years. Our technical capabilities include valuable design and layout experience with custom rigid and multilayered flex assemblies and the ability to terminate the assemblies to Glenair's broad range of miniaturized rectangular and circular connectors, including qualified MIL-DTL-83513 and MIL-DTL-32139 products. The benefits of a Glenair produced "flexi" compared to discrete wiring solutions include:

## UNSURPASSED SIZE AND WEIGHT REDUCTION

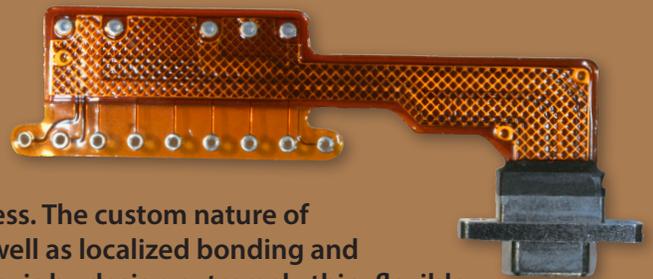


A single, integrated, multi-branch flex circuit assembly is orders of magnitude smaller and lighter than an equivalent ribbon cable or discrete wire harness. Well-conceived flex circuit designs can efficiently replace bulkier hard printed circuit boards, heavier cable runs, and hard-to-manage loose connectors and accessories. The ability to exactly shape the flex circuit to take advantage of the limited space in densely packaged electronic enclosures, such as the seeker housing in an air-to-ground missile, results in unequaled size and weight savings.



## OUTSTANDING MECHANICAL PERFORMANCE

Flex circuitry is extremely durable and capable of withstanding high levels of vibration, shock, and other forms of mechanical stress. The custom nature of flex circuitry designs allows for the incorporation of stiffeners as well as localized bonding and termination to standard boards. Flex circuitry is by design extremely thin, flexible, lightweight and low mass, which directly reduces the impact on solder joints and other physical points of contact within the equipment enclosure. Users of flex circuitry expect and receive extremely long duty cycles, vibration resistance, as well as long-term performance and durability. The fixed shape of the flex circuit assembly delivers reliable and repeatable installation with proven resistance to vibration-related wear cycles—making flex circuitry ideally suited for use in aircraft avionics, and other electronic packages which are subject to severe physical stress.



## CONVENIENT PACKAGING AND INTEGRATION

Flex circuit assemblies are ideally suited for space-constrained electronic packages and enclosures, or for interconnect systems that are required to flex in 3 axes during normal use. Flex circuitry offers complete design freedom to configure boards and wiring according to the unique packaging and space constraints of even the most densely-packed electronic enclosures. In mission-critical applications such as tactical command, control and communication technologies, the ability to reduce or even eliminate discrete wiring and boards in favor of hybrid flex circuitry helps designers make the most efficient use of available space.

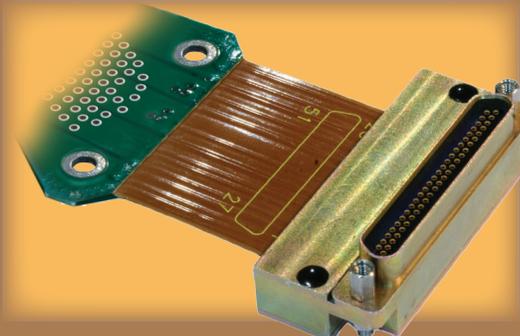


## RELIABLE RESISTANCE TO HARSH ENVIRONMENTS

All forms of flex and rigid flex circuitry are encapsulated in polyimide materials that deliver outstanding protection of conductors. This unique dielectric material is ideally suited for interconnect applications that must perform in even the harshest application environments. The standards for resistance to temperature extremes, repetitive flex cycles, exposure to caustic chemicals, and UV radiation are defined in military specifications which include MIL-PRF-31032/3A and MIL-PRF-31032/4A. Other specifications adhered to by flex manufacturers used by Glenair include IPC standards that regulate base materials, dielectrics, adhesives and other key materials.



# Four Reasons to Select Glenair for Your Next Micro/Nano Flex Circuit Project



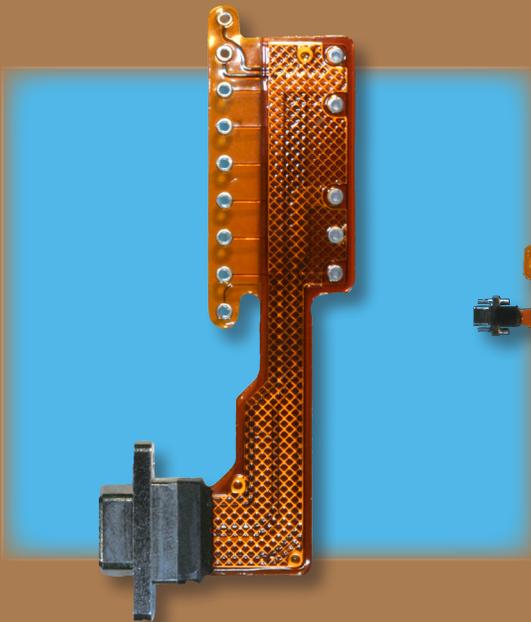
## 1 Unsurpassed Experience in Micro/Nano Flex Circuit Assembly

Glenair has been integrating Micro-D and Nanominiature connectors into flex circuitry for over 30 years. Our technical capabilities include design and layout of turnkey assemblies as well as the production of custom-configured micro and nano interconnects for maximum size and weight savings.



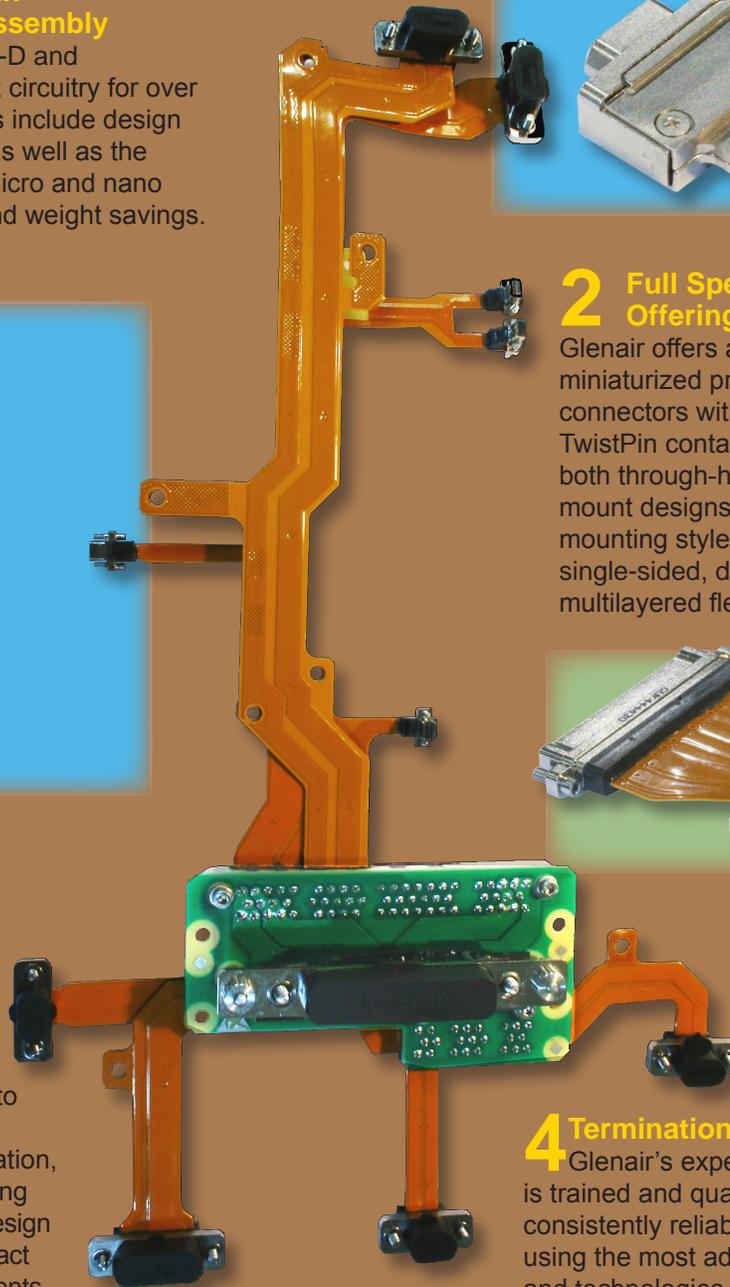
## 2 Full Spectrum Product Offering

Glenair offers a complete range of miniaturized printed circuit board connectors with high-reliability TwistPin contacts. We supply both through-hole and surface mount designs in every angle and mounting style for integration into single-sided, double-sided and multilayered flex circuitry.



## 3 Application Design

Our turnkey Micro-D and Nanominiature flex circuit assemblies are produced to exacting specifications. Customer-supplied concepts and designs are reviewed and revised to insure the most advantageous utilization of EMI shielding, polarization, strain-relief and connector packaging technologies. At Glenair, the final design solution is optimized to meet the exact mechanical and electronic requirements of the target environment.



## 4 Termination Expertise

Glenair's experienced workforce is trained and qualified to produce consistently reliable circuit terminations using the most advanced techniques and technologies, including automated solder reflow systems.

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