

The "Mighty Mouse" At-a-Glance

The Series 80 "Mighty Mouse" Connector is designed for high-reliability aerospace/defense interconnect applications requiring robust environmental performance and reduced size and weight. The Series 80 "Mighty Mouse" Connector offers virtually equal performance to MIL-DTL-38999 interconnects with up to 71% weight and 52% size savings for similar contact layouts.

The Series 80 Connector was originally developed as a smaller and lighter alternative to D38999 connectors for aerospace applications such as Attack Helicopters and Unmanned Aerial Vehicles. Today, the Series 80 "Mighty Mouse" serves in dozens of safety-critical defense, medical, industrial and geo-physical applications.

The Series 80 "Mighty Mouse" Connector is supplied in six standard coupling designs:

Series 800 Light Duty UN Thread

Series 801 Heavy Duty Double-Start

Series 802 "Aqua Mouse" Harsh Environmental

Series 803 Bayonet

Series 804 Quick-Disconnect

Series 805 Triple-Start



The Series 80 "Mighty Mouse" connector has been selected by leading aerospace manufacturers to reduce the size and weight of on-board interconnect systems.



Photograph courtesy of General Dynamics

All the connectors in the Series 80 family are available with rear-release crimp contacts or with PC tail or solder cup terminations. Shell styles, including in-line plugs, square-flange and jam-nut receptacles are available for all types. Integrated banding platforms for EMI shield termination or rear-end threads for backshell accessories are also standard throughout the line.

The product uses #23 contacts to accept #22 to #28 wire. Contact spacing is .076." Connector shell wall-thickness and scoop-proofing has been reduced—compared to other high-density connectors such as the D38999—to radically shrink the overall size and weight of the interconnect. The smaller and lighter "Mighty Mouse" maintains the same approximate electrical and mechanical performance as larger and heavier Military Standard environmental connectors.



Photograph courtesy of General Dynamics

Glenair offers the most common Series 80 insert arrangements and terminations as standard catalog (COTS) products. Insert arrangements are available for as few as 3 and as many as 85 contacts. The products presented in this catalog, including cable sets and backshells, are available with accelerated lead-times—many are packaged for immediate same-day shipment. Custom layouts, such as might be required to accommodate a different gage or type of contact may be readily incorporated into existing shell/coupling designs.

Born in the U.S.A.

Series 80 “Mighty Mouse” Connectors are manufactured at Glenair’s Air Way factory in Glendale, California. The plant occupies approximately 300,000 square feet. Glenair’s connector manufacturing facility is vertically integrated. All connector fabrication, including precision machining, hermetic firing, component assembly, contact termination, potting and electrical testing are completed at the factory.

For custom connector applications, we operate a dedicated prototype development shop complete with both CNC machining and EDM equipment. In addition, a wide range of electrical, mechanical and environmental tests are completed in-house including dielectric withstanding voltage, contact resistance, contact engagement and separation, mating cycles, pressure testing and outgassing. Glenair is well versed in connector design and development and has been producing and qualifying military-standard type connectors for over 35 years. Our Microway facility in Chicago, a 35,000 sq. ft. plant, contributes additional design and tooling resources to the Series 80 “Mighty Mouse.” Our UK Factory in Mansfield, England participates in performance testing of the product and in the assembly of bespoke cable assemblies for the UK and other EU customers.

Glenair is well known in the interconnect industry as the world’s largest manufacturer of military standard and commercial connector accessories (backshells, dust-caps, EMI shield termination devices and so on). We are also the world’s largest supplier of MIL-DTL-83513 Micro-D Connectors and M24758 Conduit Systems and Fittings. We also produce hermetic connectors qualified to MIL-DTL-38999 and MIL-DTL-24308, MIL-C-28840 Shipboard Connectors, MIL-DTL-38999 Fiber Optic Connectors and MIL-T-29504 Termini. Our Commercial-Off-the-Shelf connector products include our Harsh Environmental Series 22 Geo-Marine® Connectors, Sav-Con® Connector Savers, hermetic D-Subminiature products and hundreds of special purpose or custom interconnects for high-performance applications. Glenair has a generous reputation for engineering services and technical support, with over 40 engineers and draftsman dedicated to connector and connector hardware assignments in our main Glendale facility. Application engineering is available free upon request.

Mil-Qualified Weight Savings

Glenair has qualified thousands of weight saving connectors, backshells, fiber optic components, conduit assemblies and junction-box enclosures to existing and new Mil-Specs. For the Series 80 “Mighty Mouse” Connector however, we followed the D38999 specification as a guideline for benchmarking performance standards, but took a radically different approach from the Mil-Spec when designing the physical envelope of the product. To appreciate the results, please see the weight and dimension tables which are provided for each individual connector type in this catalog. Note the extraordinary delta between the “Mighty Mouse” and the D38999.



The Series 801 Connector offers up to 71% weight savings and 52% size reduction when compared to D38999 Series III Connectors.

Glenair can propose additional size and weight saving technologies for reduced package-size applications—both mil-qualified and COTS. We can, for example, supply an entire interconnect system—connectors, backshells, junction boxes, conduit systems and fittings, EMI shielding and so on—all from weight saving composite thermoplastic materials. Our composite interconnect products are currently in wide use in both military and commercial systems. Glenair is also an innovator in the development of fiber optic systems for use in tactical applications as a weight saving media replacement for copper conductors. Fiber optic “Mighty Mouse” connectors are available.

From our composite and fiber optic products to our new Series 80 “Mighty Mouse,” Glenair is ideally positioned to solve your most challenging size or weight reduction requirements. We invite you to select standard catalog products, or to leverage our technical support resources, to develop targeted solutions which address that most difficult of all design requirements: enhancing performance while reducing weight.