

Qwik Connect

GLENAIR

APRIL 2013

VOLUME 17

NUMBER 2



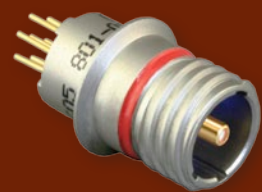
MIGHTY MOUSE
THE NEW
HIGH-PERFORMANCE STANDARD

SERIES 80
ULTRAMINIATURE

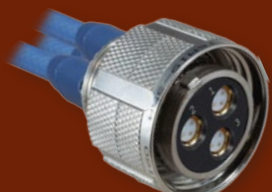
MIGHTY MOUSE



Everything you always wanted in a high-performance ultraminiature connector



Non-Magnetic RF



Shielded/Ground Plane



Ruggedized USB



Hermetic



Fiber Optic



Submersible



EMI/RFI Filter

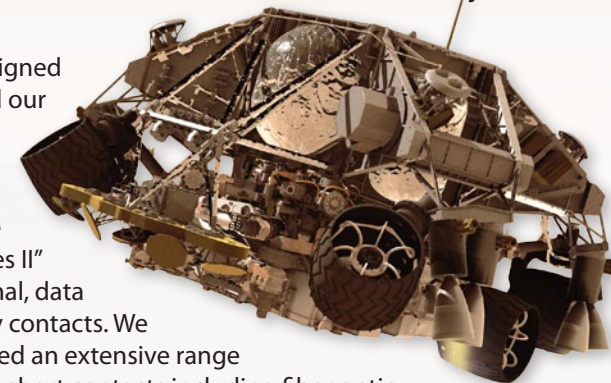


Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

QwikConnect

MIGHTY MOUSE THE NEW HIGH-PERFORMANCE STANDARD

Mighty Mouse is on board the Mars Curiosity Rover



Glenair has recognized a growing need in tactical military, aerospace and specialty industrial markets for a connector series that mimics the electrical and mechanical performance of popular mil-standard connectors, such as MIL-DTL-38999, but in a smaller and lighter package. The Series 80 Mighty Mouse Connector is perfectly suited for the wide range of power and signal applications that depend on reliable environmental and mechanical performance and electromagnetic compatibility as well as high-speed applications such as gigabit Ethernet. Six different coupling styles are offered. Size #23 crimp contacts are standard, set on 76/1000 inch centers. At just half the size and weight of D38999, the high-performance Mighty Mouse is now specified on hundreds of mission-critical interconnect applications worldwide and has become the de facto high-performance connector solution for many former users of D38999.

Glenair developed the Series 80 Mighty Mouse over a dozen years ago as a smaller and lighter version of D38999. Our goal was to radically reduce the size and weight of this flight-critical connector while maintaining its core performance features. Our miniaturization work took place in three key areas beginning with reduction of the shell package size and the integration of banding and shrink boot accessory functions. The integration of the backshell not only saves size and weight, it reduces cost and complexity.



Mighty Mouse vs. 38999:
Half the Size and Weight

Next, we designed and qualified our own SAE-AS39029 contacts based on the shorter "Series II" family of signal, data and specialty contacts. We also developed an extensive range of innovative short contacts including fiber optic and pneumatic applications. The development of our own range of shorter, Series II type contacts was a key step in gearing Mighty Mouse to meet any and all interconnection challenges. The graphic below shows just some of these high-performance contacts—from standard 39029 crimp signal and power contacts to our own unique shielded differential Twinax contact, miniaturized fiber optic contacts and highly specialized gas and pneumatic contact solutions.

Finally, we re-designed the sub-miniature D38999 insert arrangements to a higher density, ultra-miniature standard. Legacy circular connectors can be grouped into standard, miniature and subminiature families. These groupings reflect the packaging density and the contact size, and also represent the evolution of the connectors over the past 70 years. The standard group includes the venerable 5015's (including Glenair IT/ITS connectors) as well as the 28840 shipboard connector (which we also supply). Miniature circulars include the 26482 (Glenair IPT series), and the 26500 and 83723 which are still popularly specified in both military and commercial aerospace applications. The D38999 series, the only significant subminiature circular, has been a standard choice for high-performance systems for decades and Glenair supplies these connectors in every class including QPL hermetic versions, as well as environmentals, filters, fiber optics and more.

Mighty Mouse contacts sampler



Signal

Power

Shielded

Fiber Optic

Pneumatic

The Series 80 Mighty Mouse represents the evolution of circular technology beyond the 38999 sub-miniature format—a technology which is absolutely unmatched in today’s interconnect industry. Glenair is the unchallenged design and market leader for reduced package size and weight connectors of this type and style. All Series 80 Mighty Mouse versions use #23 contacts on .075 inch (1.9 mm) spacing as core contact technology, and we have extended this model with special-purpose rectangular, modular and (even) higher-density connectors.

This then is the benchmark we have established with Mighty Mouse: Interconnect systems that are so small and light that they are weighed in tenths of grams while still meeting the performance specifications of even the most mission-critical of applications. But the benefits of connector package size reduction are not limited to the connector itself, as we will discuss in the following paragraphs.

Large format connectors: The hidden costs

Let’s look at some of the hidden costs of large format/weight connectors, starting at the board. Obviously, large form factor I/O-to-board connectors, such as the array of D38999 Series III connectors shown here, force an expansion of board real estate. Larger boards in turn lead to larger form factor boxes, panels and enclosures. And of course larger gage wires and



lower density contact arrangements lead to fatter and heavier interconnecting cables, including increases in accessory hardware size, and the amount of shielding and jacketing material required.

The final result is that electronic systems pay a huge penalty in size and weight. Obviously this is not a problem in every application. But with the lower power and signal voltage requirements of today’s electronic systems, the opportunity is ripe to design systems with reduced size circuits and connectors.

The graphic says it all. Small connectors, small wires and contacts, higher density contact arrangements, integrated accessory functions and the many other design advancements of the Series 80 Mighty Mouse translate to smaller and lighter boards, boxes, cables and systems.

Mighty Mouse Performance: Equal to D38999

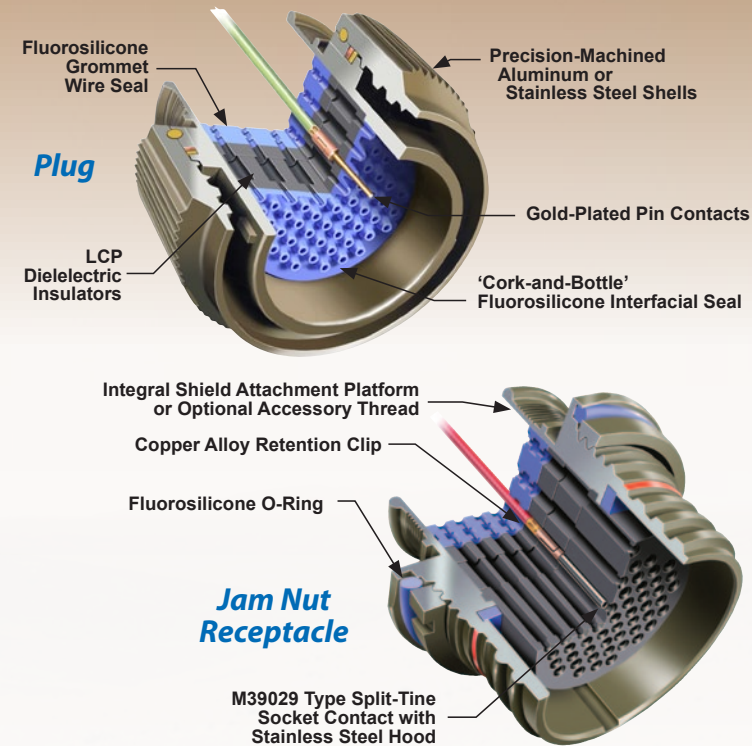
Mechanical

Nothing illustrates the performance potential of the Series 80 Mighty Mouse better than a cross-sectional view of the ultraminiature connector’s architecture. Note that this plug and receptacle pair on the opposite page share many of the same design features as D38999. Shells are precision machined and are designed for keyed mating and shell-to-shell bottoming. Sealing features include cork-and-bottle interfacial seals, O-ring seals and robust grommet wire seals. In the mated condition, the connectors are sealed IAW MIL-STD-810, method 512, 1 meter for 1 hour, and pass rigorous altitude immersion requirements IAW MIL-DTL-38999. Two piece dielectrics and copper contact retention clips are modeled after D38999 and, together with the shell-to-shell bottoming, provide for equal levels of grounding and shell-to-shell resistance as D38999. Contacts, as we mentioned before, are either QPL AS39029 signal contacts, such as the size 23 pin and socket contacts shown here, or enhanced durability contacts designed IAW AS39029 requirements (in the case of our fiber optic solutions and proprietary shielded contacts). Note that Mighty Mouse offers either an integrated band porch or accessory threads as a standard feature of the design.

The accompanying table lists some of the core mechanical features of the Mighty Mouse, again in lock-step with D38999. Note that all the desirable features of the 38999 are duplicated in the Mighty Mouse: from a full-mate visual indicator, to its adequate mass in resistance to lightning strike.

Service Class

You will see the term Service Class still used in many connector catalogs. This pertains to the environmental parameters in which the connector will operate successfully.



For example, service class defines the level of environmental sealing, or chemical resistance, or the ability to withstand vibration, or corrosion resistance or operating temperature. Some examples from 38999 Series III: class G for space grade, class H for hermetic, class K for firewall. These class grades are all fully supported and qualified in the Series 80 Mighty Mouse. For a detailed report on all these benchmarks, please see the Series 80 Mighty Mouse catalog where a complete performance specification is supplied. In addition, we are pleased to offer our Mighty Mouse customers detailed test reports on any aspect of the connector’s performance. As we like to point out, Mighty Mouse is a mature connector series with over twelve years of successful deployment in high-reliability applications. And we have the testing to prove it.

See the table above for a little more detail on connector classes. Note that Mighty Mouse again stacks up well against D38999 and even surpasses thirty-eight-nine in the category of high-pressure submersible interconnects. From standard environmentals to space-grade versions, hermetics, EMI filters, ground plane designs and more, Mighty Mouse delivers every class of connector available in D38999. And these are not just special capabilities available with long-lead times. These products are all available as standard catalog offerings, with thousands of popular part numbers available for immediate same-day shipment.

Wire Termination

Turning to wire termination, Mighty Mouse is again the equal of its larger and heavier role-model. We offer straight and right-angle PC tail terminations, single and double-ended cordsets (which by the way are available as quick turn catalog items,

Mechanical Performance Feature/ Connector Class	MIL-DTL-38999 (Standard and Specials)	Series 80 Mighty Mouse
Full Mate Visual Indicator	Yes	Yes
Integrated Contact Retention System	Yes	Yes
Interfacial and Grommet Seals	Yes	Yes
Fully Shielded	Yes	Yes
Lightning Strike	Yes	Yes
Shell-to-Shell Bottoming	Yes	Yes
Threaded/Toothed Accessory Interface	Yes	Yes
Full Range of Assembly Tools	Yes	Yes
Environmental	Yes	Yes
Space-Grade	Yes	Yes
Hermetic	Yes	Yes
EMI Filter	Yes	Yes
3500 PSI Submersible	No	Yes
Ground Plane	Yes	Yes
ESD	Yes	Yes
Lanyard Release	Yes	Yes
Bulkhead Feed-Thru	Yes	Yes
Sav-Con® Connector Saver	Yes	Yes

even including high-speed variants, shielded and overmolded versions), solder cup, and of course crimp. We even offer flex terminations and back-to-back jumpers.

Plating

Glenair is a major innovator in material and plating technologies, particularly for conductive and RoHS (cadmium-free) applications. Some of the more popular Glenair material and plating solutions include plated composites, RoHS compliant Nickel-PTFE and electroless-nickel—all available for Mighty Mouse. Glenair has mastered the difficult challenges of fielding plated specialty metal parts in harsh and corrosive applications and can offer standard Mil-qualified formulas as well as unique solutions for special applications. All our materials are sourced in accordance with DFARS 252.225-7014 Preference for domestic specialty metals requirements.

Mighty Mouse Performance: Superior to D38999

We’ve already offered quite a few facts demonstrating how Mighty Mouse, even with its smaller size and weight, is equal to the performance standards set by MIL-DTL-38999. So next we’ll take a look at some of the ways this ultraminiature connector actually outperforms 38999.

More Shell Sizes & Contact Arrangements

First off, Mighty Mouse offers a greater range of shell sizes and contact counts for more efficient matching of circuit requirements to available shell sizes and insert arrangements. This, combined with the broader range of coupling styles offered by Mighty Mouse, makes the connector series far more

versatile than 38999. In other words, users can standardize on Mighty Mouse more readily than 38999—throughout their entire range of application requirements—without having to turn to a different series with new contact termination tooling, assembly procedures, quality standards and so on to meet unique or unanticipated circuit requirements.

More Wire Sizes Supported

Mighty Mouse also offers broader wire support, from size 22 to 28; turnkey cordsets—right out of the catalog with short leadtimes and guaranteed quality; Integrated band porch or accessory thread interface; Split shell Cobra connectors (more on this later) for ultra-low-profile wire routing; high speed PFA Teflon inserts for optimized high-speed performance; a compatible rectangular series—Micro-Crimp—that features the exact same contacts, density and performance as Mighty Mouse; and last but not least, the performance benefits of lower harmonic shock susceptibility that comes from the reduced mass of Mighty Mouse compared to 38999.

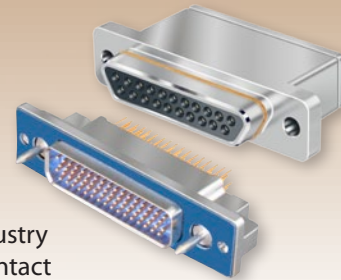
Six Mating Styles

Turning to mating technology, MIL-DTL-38999 offers four mating styles: two bayonets, the popular triple start threaded and the rarely used breach-lock series IV version. Mighty Mouse offers six mating technologies: The series 800 UNF thread version designed for use in small instruments; the Series 801—our most popular style—that combines small size with rapid double-start stub acme mating; The threaded-coupling Aqua Mouse with its high-pressure piston seal for 3500 PSI applications; the quarter-turn-to-full-mate series 803 bayonet; the Quick disconnect series 804 push-pull; and the Series 805 with triple-start coupling and ratcheting anti-decoupling mechanism—an exact work-alike to the series III 38999—of course with reduced size and weight as the principle differentiator.

A Broader Range of Contacts

Both 38999 and Mighty Mouse offer an incredibly broad range of signal, data, power and specialty contacts. But Mighty Mouse once again outstrips 38999 with a broader range of contact sizes and types including layouts with size 23, 20, 20HD, 16, 12, and size 8 contacts and cavities. Mighty Mouse also offers a broader range of hybrid

layouts and more sizes and types of fiber optic termini, pneumatic termini and, opto-electric contacts, low-insertion force contacts and more. In fact, no other connector series in our industry supports as diverse a range of contact technologies as Mighty Mouse.



Series 79 Micro-Crimp Connectors

Mighty Mouse Rectangular Version

The Series 79 Micro-Crimp takes all the attributes of the Mighty Mouse and packages them up in a high-performance rectangular.

Like the Mighty Mouse, the Micro-Crimp connector features crimp, rear-release size #23 contacts on .075 inch (1.9 mm) spacing, as well as size #12 and #16 power and coaxial crimp contacts in a range of hybrid layouts. Available in 29 insert arrangements, Micro-Crimp provides superior EMI shielding and improved environmental sealing compared to M24308 D-sub connectors. Micro-Crimp plugs include an EMI spring made of gold plated stainless steel or copper alloy. Right angle PCB receptacles feature an aluminum alloy EMI shroud.

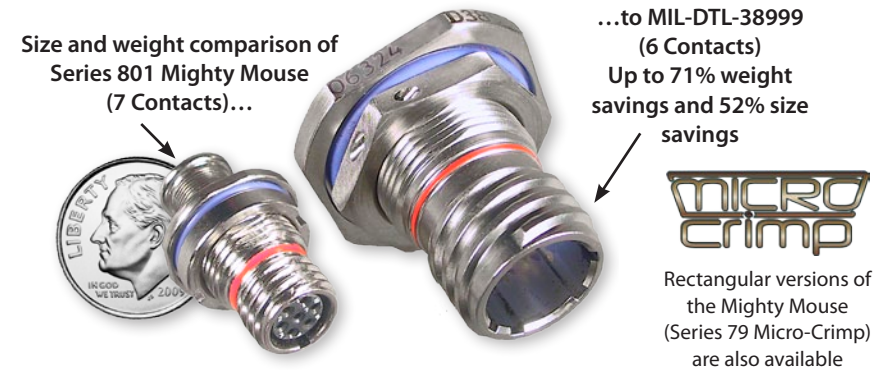
Micro-Crimp meets the shielding effectiveness requirements of EIA 364-66, and Fluorosilicone interfacial seals and grommets, and watertight EMI gaskets for panel mounts ensure adherence to MIL-STD-810F for 1 meter immersion for 1 hour. The Series 79 Micro-Crimp is ideally suited for blind-mate rack and panel and/or module-to-chassis applications and is a perfect complement to Mighty Mouse in systems that require both high-density, stackable connectors as well as circulars for ease of mating.

Constant, Relentless Innovation

Another strength of Mighty Mouse compared to D38999 is the relentless innovation that has brought the series to a point where it now outstrips the series in versatility and application. In addition to standard environmental, hermetic and filter class connectors, Glenair now offers a range of series extensions including high-speed, high-density, USB equipped, and fiber-optic variants. High-quality documentation, including performance specifications and comprehensive test reports are available for every solution. The full range of these offerings is spelled out in detail in the following pages of this special Mighty Mouse edition of *QwikConnect*. For complete information see www.glenair.com, or better yet visit our factory in Glendale to judge our capabilities for yourself. Can't make it to California? Glenair is pleased to offer our Mighty Mouse customers free application engineering and application support backed by the largest field organization in the business. Call to schedule an on-site visit. We'll bring our best engineers, samples and solutions right to your door.



Series 80 Mighty Mouse At-a-Glance



- Over 50 tooled LCP contact arrangements ranging from 1 – 130 contacts
- MIL-DTL-38999 caliber environmental, mechanical, and electrical performance
- Ultraminiature #23 contacts set on .076" centers
- Size #20HD, #16, #12, #8 signal, power, fiber optic and shielded contact layouts
- Discrete connectors and turnkey cable assemblies

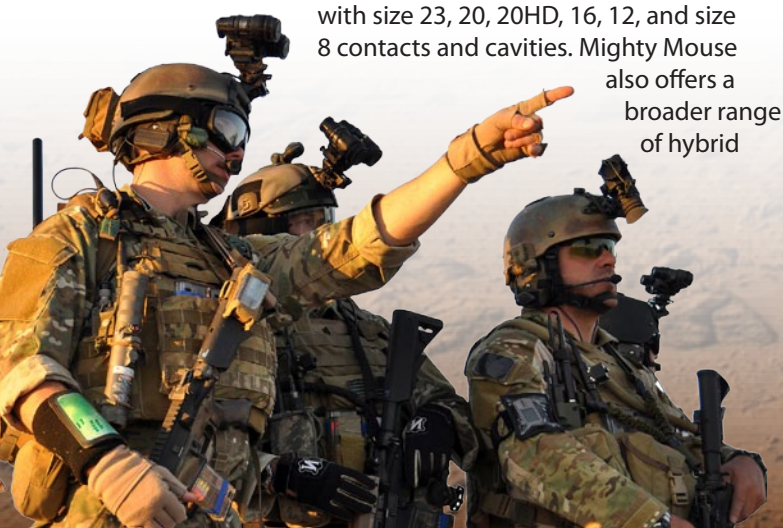
Series 80 Mighty Mouse: The new industry standard for high-performance, ultraminiature connectors

Introducing the new Mighty Mouse Series 824 **Locking Push-Pull Connector**: All the familiar size, weight and performance advantages of the industry-standard Mighty Mouse with revolutionary low-profile **locking** push pull mating. Finally, mil-spec caliber performance comes to locking push-pull applications.



Series 80 Mighty Mouse Environmental Connectors					
Series 800	Series 801	Series 802	Series 803	Series 804	Series 805
Light-Duty UNF Thread	Rugged Double-Start ACME Thread	3500 PSI AquaMouse	Fast-Mate Bayonet Coupling	Quick-Disconnect Push-Pull	Ratcheted Triple-Start

Series 80 Mighty Mouse Hermetic Receptacles					
Series 800	Series 801	Series 802	Series 803	Series 804	Series 805
• Vitreous glass sealing • 1X10 ⁻⁷ cc/sec maximum helium leak rate		• Solder-cup and PC tail terminations • 304L stainless steel shells		• Alloy 52 iron alloy contacts • Solder-mount, square flange or jam nut	



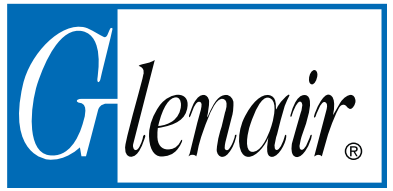


Series 80 Mighty Mouse Contact Arrangements

Series 80 Mighty Mouse Contact Arrangements											
Contact Size	Contact Quantity					Contact Arrangement					
	#23	#20	#20HD	#16	#12	Series 800	Series 801	Series 802	Series 803	Series 804	Series 805
Size #23 Contacts 5 Amp Max. Current 500 VAC #22-#28 AWG	3					5-3	5-3	5-3	5-3	5-3	Not Avail.
	4					6-4	6-4	6-4	6-4	6-4	8-4
	6					6-6	6-6	6-6	6-6	6-6	8-6
	7					6-7	6-7	6-7	6-7	6-7	8-7
	10					7-10	7-10	7-10	7-10	7-10	9-10
	13					8-13	8-13	8-13	8-13	8-13	10-13
	19					9-19	9-19	9-19	9-19	9-19	11-19
	26					10-26	10-26	10-26	10-26	10-26	12-26
	37					12-37	13-37	12-37	12-37	12-37	15-37
	55					Not Avail.	16-55	14-55	14-55	14-55	18-55
85					Not Avail.	17-85	15-85	Not Avail.	Not Avail.	19-85	
130					Not Avail.	21-130	21-130	Not Avail.	Not Avail.	23-130	
Size #20HD Contacts 7.5 Amp Max. Current 750 VAC #20-#24 AWG			3			6-23	6-23	6-23	6-23	6-23	8-23
			5			7-25	7-25	7-25	7-25	7-25	9-25
			8			8-28	8-28	8-28	8-28	8-28	10-28
			10			9-210	9-210	9-210	9-210	9-210	11-210
			20			12-220	13-220	12-220	12-220	12-220	15-220
			35			Not Avail.	16-235	14-235	14-235	14-235	18-235
Size #16 Contacts 13 Amp Max. Current 1800 VAC #16-#20 AWG				1		6-1	6-1	6-1	6-1	6-1	8-1
				2		8-2	8-2	8-2	8-2	8-2	10-2
				4		9-4	9-4	9-4	9-4	9-4	11-4
				5		10-5	10-5	10-5	10-5	10-5	12-5
Size #16 Coaxial Contacts 50-75 Ohms				7		12-7	13-7	12-7	12-7	12-7	15-7
				12		Not Avail.	16-12	14-12	14-12	14-12	18-12
				14		Not Avail.	17-14	15-14	Not Avail.	Not Avail.	19-14
Size #12 Contacts 23 Amp Max. Current 1800 VAC #12-#14 AWG					1	7-1	7-1	7-1	7-1	7-1	9-1
					2	10-2	10-2	10-2	10-2	10-2	12-2
					2	12-2	13-2	12-2	12-2	12-2	15-2
Size #12 Differential Twinax Contacts 100-Ohms					3	12-3	13-3	12-3	12-3	12-3	15-3
					5	Not Avail.	16-5	14-5	14-5	14-5	18-5
					7	Not Avail.	17-7	15-7	Not Avail.	Not Avail.	19-7
Contact Arrangements with Mixed Size (Combo) Layouts					12	Not Avail.	21-12	21-12	Not Avail.	Not Avail.	23-12
	4	2				8-200	8-200	8-200	8-200	8-200	10-200
	8	2				9-201	9-201	9-201	9-201	9-201	11-201
	4			2		9-200	9-200	9-200	9-200	9-200	11-200
	8			2		10-202	10-202	10-202	10-202	10-202	12-202
	4				2	10-201	10-201	10-201	10-201	10-201	12-201
	6				2	12-200	13-200	12-200	12-200	12-200	15-200
10				2	12-201	13-201	12-201	12-201	12-201	15-201	
12				1	10-200	10-200	10-200	10-200	10-200	12-200	

New Mighty Mouse #8 Contact Arrangements (Quadrx, Coax, Twinax and Power)						
Series 801		8-1	16-2	17-3	19-4	21-5
Series 805		10-1	18-2	19-3	21-4	23-5

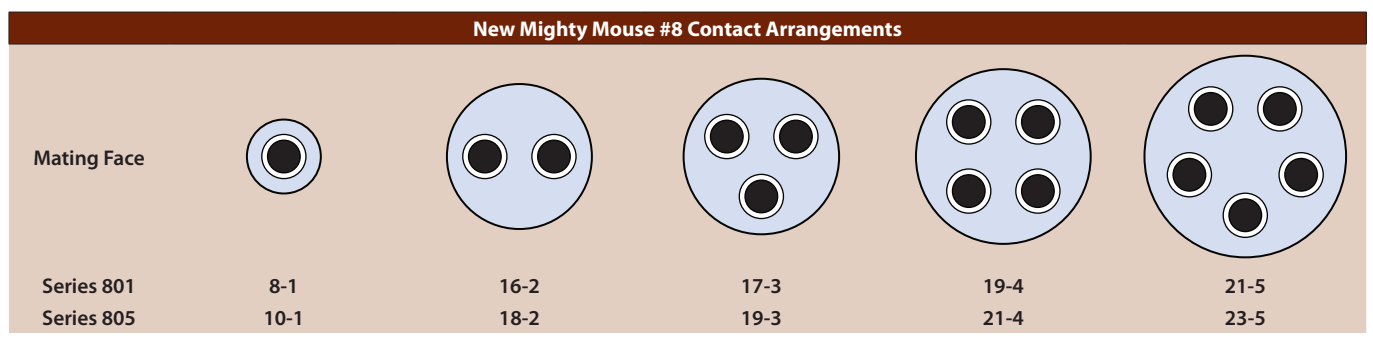
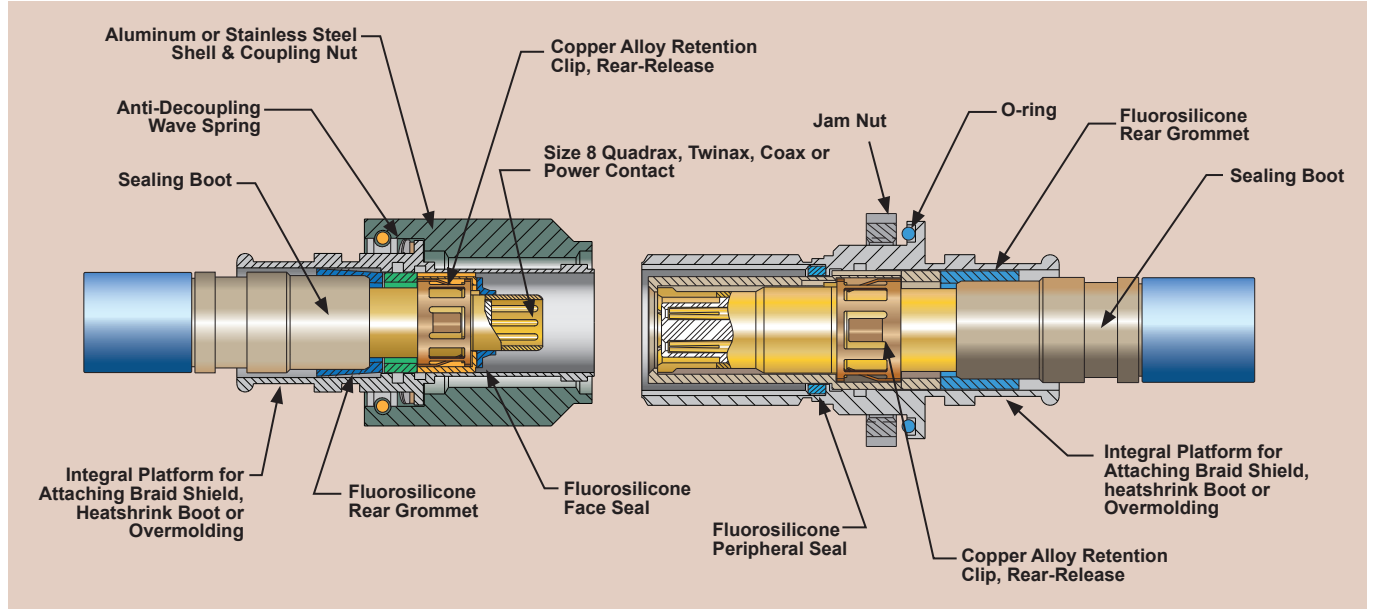
Series 80 Mighty Mouse New Size #8 Contact Arrangements



Now Available – Mighty Mouse Connectors with Industry-Standard size 8 Quadrx, Coax, Twinax and Power Contacts



New Mighty Mouse connectors have size #8 snap-in, rear-release contacts for power and data applications. Available with 1, 2, 3, 4 or 5 contacts, these connectors meet the need for a low-profile, lightweight connector compatible with size #8 twinax, quadrx and coax contacts used in MIL-DTL-38999 connectors. Quadrx contacts are 100 ohm impedance for Ethernet networks. Concentric twinax contacts accept M17/176-000 cable for MIL-STD-1553 databus. 75 ohm coaxial contacts accept aerospace-grade SMPTE 424M high bit rate digital video cable. Power contacts accept size #8 AWG wire for up to 46 amps continuous duty.





**Series 80 Mighty Mouse
High Speed**

**Mighty Mouse High-Speed, Ultra-Twinax and Size #8 Quadrax/
Twinax connectors: high-speed performance and signal integrity
in an ultraminiature package**

Glenair has expanded the Mighty Mouse line to include connectors optimized for high-speed digital applications. A wide range of interconnect technologies are available, including

- High-Speed series 80 with DuPont™ Teflon® insulators for superior electrical performance in protocol-specific applications like eSATA and USB 2.0/3.0.
- Mighty Mouse Ultra-Twinax connectors utilizing size #12 Twinax contacts for differential pair applications such as LVDS and CML.
- Size #8 Quadrax and differential Twinax technologies for high-speed 100BASE-T Ethernet applications



MIGHTY MOUSE HIGH-SPEED



Series 80 Mighty Mouse High Speed Connectors with DuPont™ Teflon® PFA Insulators

- For high-speed protocols: eSATA, 10GBASE-T, USB 2.0 / 3.0
- DuPont™ Teflon® PFA insulators for superior insertion loss and balanced impedance
- Series 801 double-start ACME thread and Series 804 push-pull quick disconnect connectors available
- Discrete components or overmolded cordsets

MIGHTY MOUSE ULTRA-TWINAX

- For ultra high-speed differential pair applications: LVDS, CML
- Size #12 Twinax and hybrid contact arrangements
- Series 801 double-start ACME thread connectors
- Discrete components or overmolded cordsets

Series 80 Mighty Mouse Ultra-Twinax Connectors with Size #12 Twinax contacts



MIGHTY MOUSE WITH SIZE #8 QUADRAX AND DIFFERENTIAL TWINAX CONTACTS



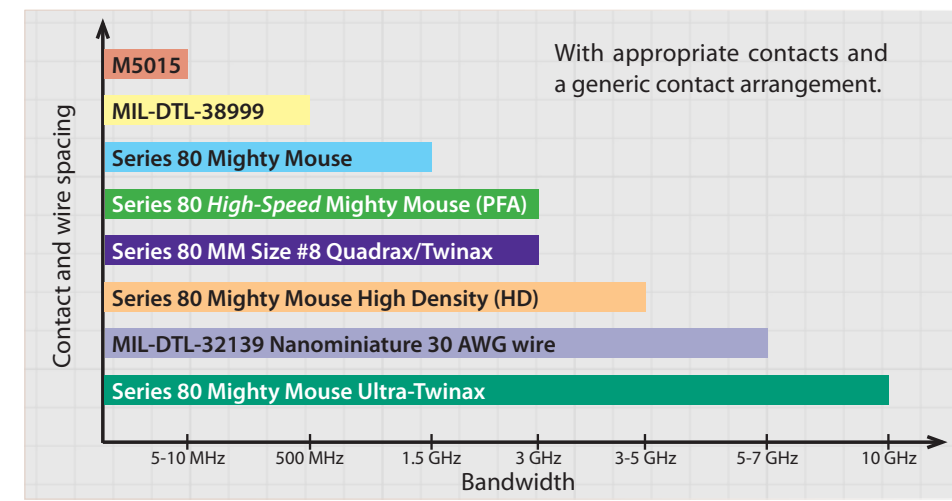
Series 805 Mighty Mouse plug with size 8 Quadrax contacts

- Differential Twinax contacts for 100 Ohm serial data transmission
- Quadrax contacts for 100BASE-T Ethernet
- Arrangements for 1, 2, 3, 4 or 5 snap-in, rear-release contacts
- Lightweight, low profile
- Comprehensive range of assembly tooling
- Available for Series 801 (double-start) and 805 (triple-start) Mighty Mouse connectors



**Series 80 Mighty Mouse
High Speed**

This table compares contact and wire spacing and bandwidth performance in miniaturized interconnect applications. As contact density increases, the performance of the interconnect improves. Note the position of the High-Speed PFA and Size #8 Mighty Mouse compared to standard Mighty Mouse, and the position of the Ultra-Twinax Mighty Mouse with performance up to 10 GHz. The Series 80 Mighty Mouse High Density (HD) connector also performs exceptionally well in bandwidths up to 5 GHz, by virtue of its high-density TwistPin contact insert arrangements.



Mighty Mouse High Speed Contact Arrangements
 Mating Face View of Pin Connector (Socket Connector Numbers are Reversed)

6 - 4	6 - 7	7 - 10	9 - 19	10 - 26
Shell Size 6 4 Size #23 Contacts	Shell Size 6 7 Size #23 Contacts	Shell Size 7 10 Size #23 Contacts	Shell Size 9 19 Size #23 Contacts	Shell Size 10 26 Size #23 Contacts

Mighty Mouse Ultra Twinax Size #12 Differential Twinax Contact Arrangements (Mating Face/Pin Connector)

7-1	10-2	16-5	17-7	21-12	10-201	10-200
Shell Size 7 1 Size #12 Twinax Contact	Shell Size 10 2 Size #12 Twinax Contacts	Shell Size 16 5 Size #12 Twinax Contacts	Shell Size 17 7 Size #12 Twinax Contacts	Shell Size 21 12 Size #12 Twinax Contacts	Shell Size 10 2 Size #12 Twinax 4 Size #23 Contacts	Shell Size 10 1 Size #12 Twinax 12 Size #23 Contacts

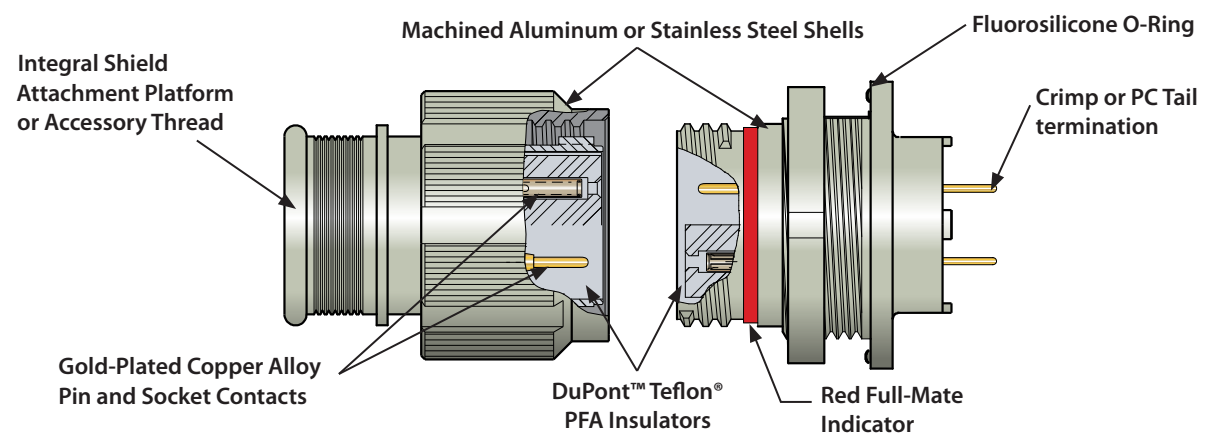
Mighty Mouse #8 Quadrax / Differential Twinax Contact Arrangements

Mating Face					
Series 801	Shell Size 8 1 Size #8 Contact	Shell Size 10 2 Size #8 Contacts	Shell Size 17 3 Size #8 Contacts	Shell Size 19 4 Size #8 Contacts	Shell Size 21 5 Size #8 Contacts
Series 805	Shell Size 10 1 Size #8 Contact	Shell Size 18 2 Size #8 Contacts	Shell Size 19 3 Size #8 Contacts	Shell Size 21 4 Size #8 Contacts	Shell Size 23 5 Size #8 Contacts

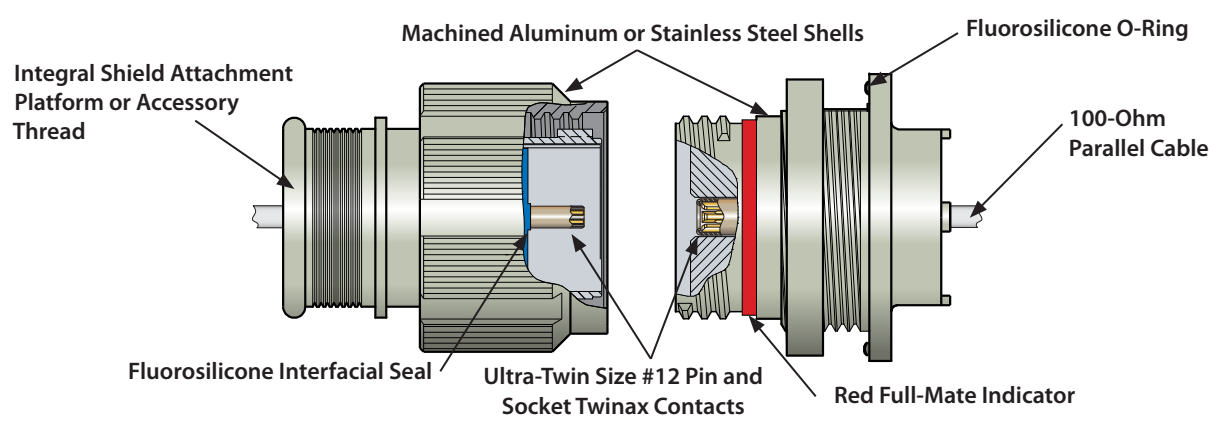


Series 80 Mighty Mouse High Speed

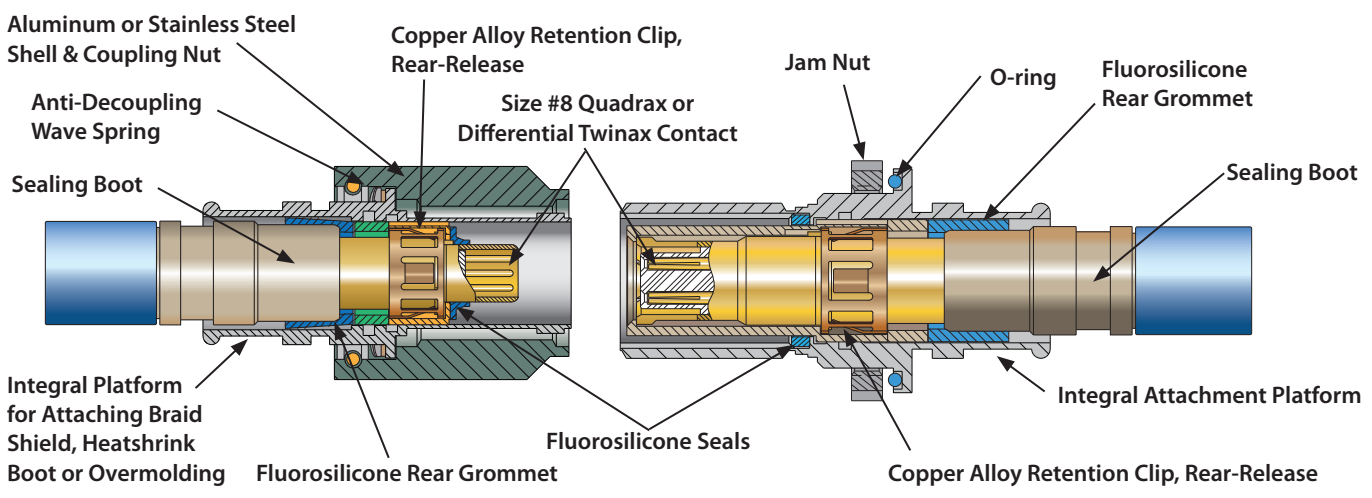
MIGHTY MOUSE HIGH-SPEED PLUG AND RECEPTACLE CUTAWAY



MIGHTY MOUSE ULTRA-TWINAX PLUG AND RECEPTACLE CUTAWAY



MIGHTY MOUSE WITH SIZE 8 CONTACTS PLUG AND RECEPTACLE CUTAWAY



General-Purpose Guidance for Selection of Series 79 and 80 Connectors for Use in High-Speed Applications*					
	Series 80 Mighty Mouse	Series 80 Mighty Mouse High Speed	Series 811 Mighty Mouse High Density	Series 79 MicroCrimp	
High-Speed Protocol	Up to: Cat 5e (1000BASE-T)				
	Up To: Cat 6A (10GBASE-T)	Not suitable			Not suitable
	USB 2.0				
	USB 3.0	Not suitable		Not suitable	Not suitable
	eSATA/SATA	Not suitable			Not suitable
	DVI-D				
	HDMI				
	Display Port	Not suitable			Not suitable
				* Actual performance dependent on wire selection and termination	



**Series 80 Mighty Mouse
Rectangular Version**



Cable Plug

Crimp Receptacle

- **Mighty Mouse rectangular series connector**
- **Crimp, PCB, fiber optic, coax, power and pitot**
- **Precision machined aluminum shells sealed to IP67**
- **High-density #23 contact contact arrangements set on .076 centers**
- **Blind mating for rack and panel applications**
- **Over 30 tooled contact arrangements**
- **Integrated ground spring for improved EMI shielding**



Series 79 Micro-Crimp: The advanced high-performance rectangular with Mighty Mouse caliber size and weight reduction.

Blind Mate Guide Pins and Sockets

Guide Pins
Connector may be supplied with stainless steel non-removable guide pins.

Guide Sockets
Connector may be supplied with stainless steel non-removable bushings.

Selected Contact Types

Standard Signal

Power

Coaxial

Differential Twinax

Fiber Optic

Pitot Tube

Inside a Series 79 Micro-Crimp Connector



**Series 80 Mighty Mouse
Rectangular Version**

Materials and Finishes	
Size #23 signal contacts	Copper alloy, plated gold over nickel
Size #16 and #12 signal/power contacts	Copper alloy, plated gold over nickel
Fiber optic contacts	Ferrule: Zirconia ceramic; Terminus assembly/spring: Stainless steel
Pitot tube contacts	Body and cap: Stainless steel; O-Ring: Fluorosilicone; Washers: PTFE
Insulators	Liquid crystal polymer, 30% glass-reinforced
Shell	Aluminum alloy
Interfacial seal and grommet	Fluorosilicone
Contact and insert retention clips	Copper alloy, heat-treated, unplated
Jackposts and guide pins	Stainless steel, passivated
EMI Shroud for right angle PCB	Aluminum alloy
Trays for right angle PCB	Thermoplastic
Spring, EMI (plug)	Stainless steel or copper alloy, gold plated

Basic Specifications	
Current rating	Contact size #23 5 Amps, size #16 13 Amps, size #12 23 Amps maximum
Voltage rating (DWV)	Contact size #23 500 VAC rms. size #16 and #12 1800 VAC rms. Sea level.
Insulation resistance	5000 megohms minimum
Operating temperature	-65° C. to +150° C.
Contact resistance	5 milliohms maximum
Water ingress protection	IP67
Shielding effectiveness	>75 dB attenuation from 100 MHz to 1000MHz, >60dB 1GHz to 4GHz, >40dB 4GHz to 10GHz.

Shell Size	Contact Arrangement	Contact Quantity			Shell Size	Contact Arrangement	Contact Quantity			Shell Size	Contact Arrangement	Contact Quantity		
		#23	#16	#12			#23	#16	#12			#23	#16	#12
A	A-5	5	—	—	F	F-15P2	13	2	—	J	J-17P4	13	4	—
	B-2P2	—	2	—		F-23	23	—	—		J-25P2	23	2	—
B-9	9	—	—	F-5P5		—	5	—	J-33		33	—	—	
C	C-13	13	—	—	G	G-33	33	—	—	J-7P7	—	7	—	
D	D-15	15	—	—	H	H-10P4	6	—	4	K	K-27P4	23	4	—
	D-3P3	—	3	—		H-29P7	22	7	—		K-35P2	33	2	—
	D-7P2	5	2	—		H-36P2	34	—	2		K-43	43	—	—
E-11P2	9	2	—	H-54P2		52	2	—	K-9P9		—	9	—	
E	E-19	19	—	—	H-5P5	—	—	5	L	L-6P6	—	—	6	
	E-7P3	4	3	—	H-66	66	—	—	L-78	78	—	—		
									M	M-102	102	—	—	

Series 79 Micro-Crimp Product Selection Guide

Crimp Terminated Cable Connectors

Crimp Terminated Panel Mount Connectors

Straight PCB Panel Mount and Free-Standing Connectors

Right Angle PCB Panel Mount and Free-Standing Connectors

Backshells and Accessories, EMI Adapters and Protective Covers



Series 80 Mighty Mouse EMI/EMP Filter Connectors

Ultraminiature EMI/EMP filters for flight and mission-critical applications

Glenair's filtered Series 80 Mighty Mouse connectors provide significant size and weight savings compared to larger military standard connectors such as MIL-DTL-38999. The high density #23 contacts provide almost double the density of this much larger aerospace connector. Designed to meet the most stringent performance requirements, these connectors are offered with standard low pass Pi or C circuit filter arrays, or with customized filters to meet specific requirements. Thermally conductive epoxy protects the filter package from mechanical and heat stress and also provides a waterproof seal. These filtered receptacles are designed for use with, and mate to Series 801, 804, and 805 Mighty Mouse connectors, and are available in jam nut or square flange versions.



Pi or C circuit filter arrays available as standard catalog offerings, with ultra-fast lead times

- Compact Weight-Saving Design with #23 Contacts
- C and Pi Circuit Filters from 400 pF to 56000 pF
- 3 Through 130 Contacts
- Low-Pass Multilayer Ceramic Planar Array
- PC Tail, Solder Cup and Crimp-Contact Versions
- Fully Sealed with Thermally Conductive Epoxy
- Space-Grade Bake-Out Processing Available
- Threaded, Bayonet and Push-Pull Versions

Specifications	
Current Rating	#23 5 AMPS, #20HD 7.5 A., #16 13 A., #12 23 A.
Dielectric Withstanding Voltage	300 VDC
Insulation Resistance	5000 megohms minimum @ 200 VDC
Operating Temperature	-55° C. to +125° C.
Shock	300 g.
Vibration	37 g.
Shielding Effectiveness	50 dB minimum from 100MHz to 1000MHz.

Materials and Finishes	
Shells, Jam Nuts	Aluminum alloy or stainless steel
Contacts	Beryllium copper alloy, 50 µlnch gold plated
Insulators	Liquid crystal polymer (LCP)
Interfacial Seal, O-rings, Wire Sealing Grommet	Fluorosilicone rubber

Class	Capacitor Array Code Capacitance Range	
	Pi - Circuit (pF)	C - Circuit (pF)
A	38,000 - 56,000	19,000 - 28,000
B	32,000 - 45,000	16,000 - 22,500
C	18,000 - 33,000	9,000 - 16,500
D	8,000 - 12,000	4,000 - 6,000
E	3,300 - 5,000	1,650 - 2,500
F	800 - 1,300	400 - 650
G	400 - 600	200 - 300



ULTRA SMALL AND LIGHTWEIGHT EMI/EMP FILTER CONNECTORS



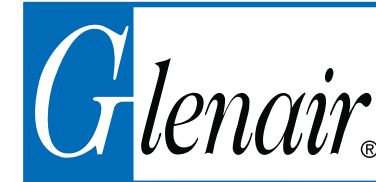
Series 801
Double-start
ACME thread

Series 804
Quick-disconnect
push-pull

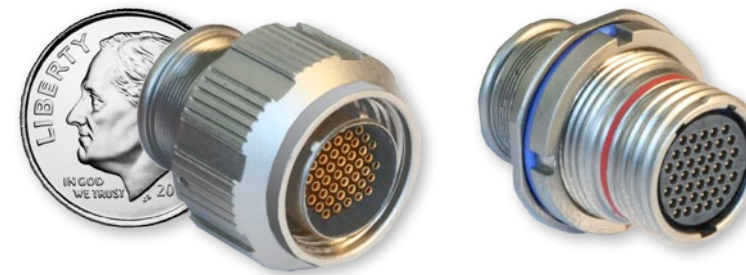
Series 805
Ratcheted
triple-start

Sav-Con® Filter Adapter
available for series 801,
804, and 805

Ground pins and
other special options
available



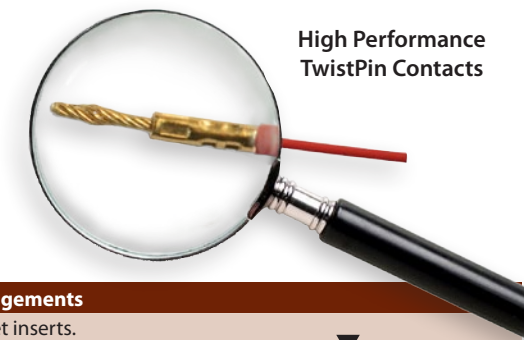
Series 80 Mighty Mouse High Density (HD)



811-001-06ME9-42SA
Series 811 Plug

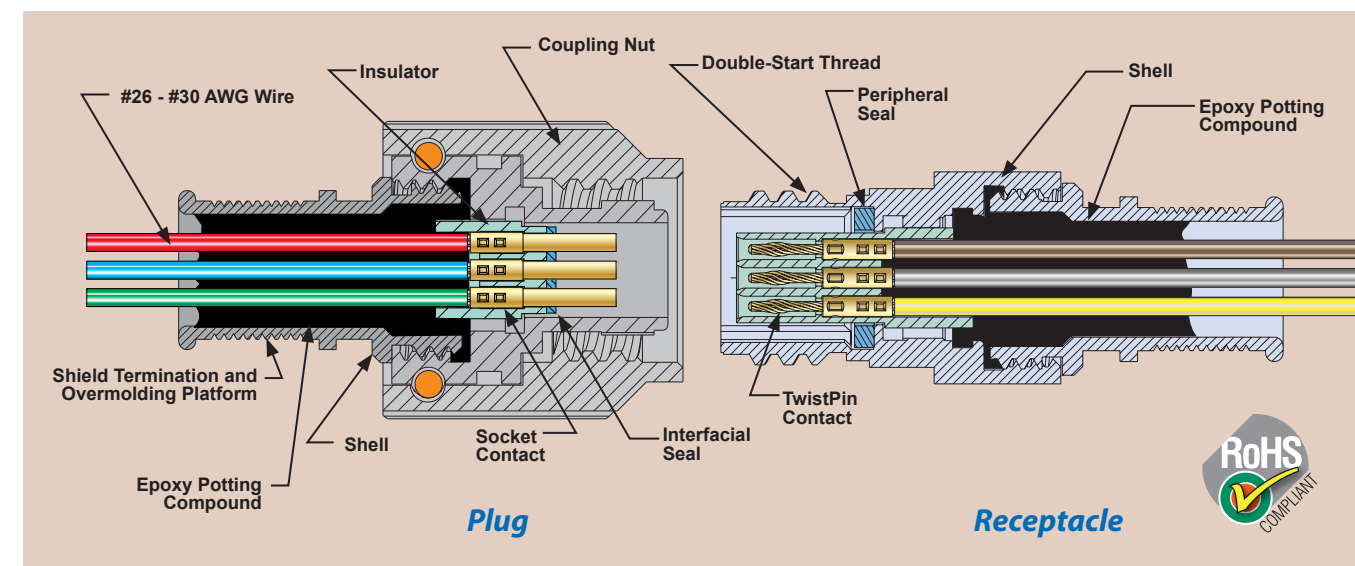
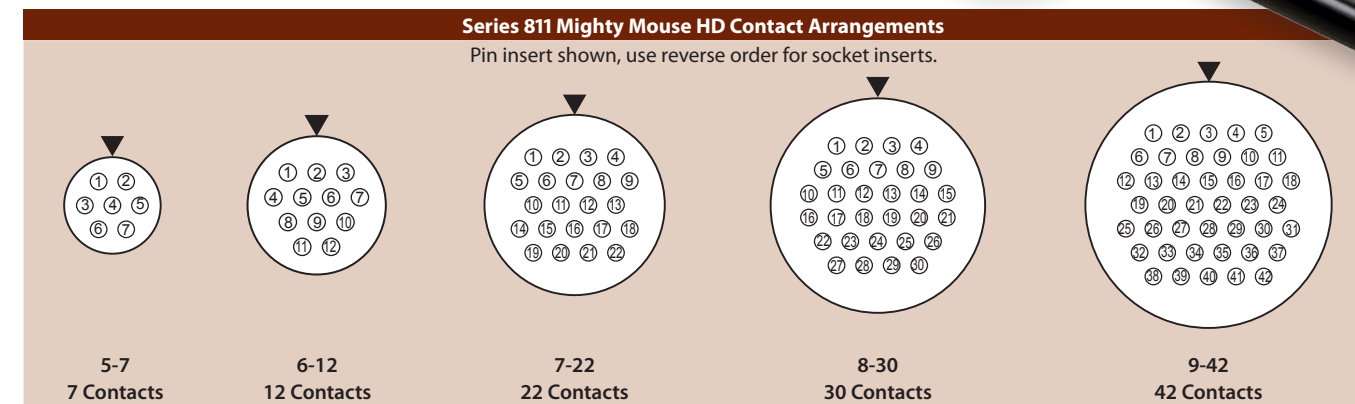
811-003-07ME9-42PA
Series 811 Receptacle

- High Density Micro TwistPin Contacts set on .050" centers deliver over twice the density of standard Series 80 Mighty Mouse
- 7 to 42 Contacts
- Water Resistant to 1 meter
- Double-start ACME threaded coupling



High Performance
TwistPin Contacts

Mighty Mouse high density connector delivers size and weight savings and outstanding performance





Series 80 Mighty Mouse SuperSeal™ Ethernet and USB



**Crimp contact Micro-USB
connectors with outstanding
environmental performance and
EMI/RFI grounding**

Mighty Mouse USB Electrical Specs - Plug and Receptacle

IEC Compatibility (EN61000-4)
61000-4-2 (ESD): Air Gap And HBM - 15kV, Contact - 8kV
Bi-Directional Configuration
Ultra Low Leakage Current

- Significant size and weight reduction compared to MIL-DTL-38999 type USB/RJ-45 solutions
- Rear-release crimp contact termination as well as USB/RJ-45 jumper accommodation
- Superior sealing, IP67, in unmated condition compared to other available environmental circulars
- Superior grounding for electrostatic discharge and EMC
- Superior cable shield termination with integrated banding platform
- Optional spring-loaded protective covers for environmental protection of junction boxes and switches
- Wide range of high speed Ethernet/network protocols supported, including USB 2.0, USB 3.0, and RJ45
- High-capacity, high-speed memory sticks

Test Description	Mighty Mouse USB Performance Requirements/Specifications	Procedure Per MIL-DTL-38999 or Other Standard
Dielectric withstanding voltage	Maximum leakage current = 2 milliamperes No evidence of electric breakdown or flashover	4.5.11.1 or 4.5.11.2 IAW EIA-364-20, Method A
Insulation resistance	At ambient temperature: >5000 megohms between any pair of contacts and between any contact and the shell. after altitude immersion = 1000 megohms min. after humidity = 100 megohms min. At elevated temperature: >1000 megohms	4.5.10.1 and 4.5.10.2 IAW EIA-364-21
Contact resistance	Terminal-to-terminal resistance of mated connector contacts shall not exceed 0.050 ohms.	4.5.14
Mating durability	500-1000 cycles depending on plating, with no mechanical damage. Dielectric, contact resistance and air pressure requirements as described above shall be met after 500-1000 mating cycles.	4.5.8
Contact retention	Individual contacts capable of withstanding at least 10 pounds axial load applied uniformly at one pound per second.	IAW EIA-364-29
Vibration and Shock	37 g's random vibration, 300 g's shock. No electrical discontinuity, no disengagement of mated connectors, backing off of the coupling mechanism, or evidence of cracking, breaking, or loosening.	4.5.23
Temperature cycling	-65°C to 175°C or 200°C, depending on finish. No blistering, peeling or separation of plating or other damage detrimental to the operation of the connector.	4.5.4 EIA364-32, Test cond. A
Salt spray	5% solution, 34°C-36°C. 48-1000 hours, depending on finish. Unmated connectors show no lifting of plated coating or exposure of basis material under 3X magnification which adversely affects performance.	4.5.13 EIA-364-26
Humidity	Cycle wired, mated connectors between 25 °C at 80 % and 65 °C at 50 %. Ramp time = 0.5 hour, dwell = 1.0 hour. 24 cycles.	4.5.26 EIA364-31, Method IV
Water immersion	1 Meter for 1 Hour, mated.	MIL-STD-810 Method 512
EMI Shielding	Series 801: Good • Series 804: Very Good • Series 805: Excellent	4.5.28 EIA-364-66

Series 80 Mighty Mouse SuperSeal™ Ethernet and USB



SuperSeal™ Mighty Mouse Micro-B USB Connector Selector



Series 801 Plug Connector with Micro-B USB

Series 801 In-Line Receptacle

Series 801 Square Flange Mount Receptacle

Series 801 Rear Panel Jam Nut Mount Receptacle



Series 804 Plug Connector with Micro-B USB



Series 804 In-Line Receptacle



Series 804 Rear Panel Jam Nut Mount Receptacle



Series 804 Front Panel Jam Nut Mount Receptacle



Plug-and-Play Micro-USB Plug and Receptacle

Plug-and-Play Micro-USB Booted Cordset



Spring-Loaded cover for Series 804 Jam Nut Receptacles

Other SuperSeal™ Ethernet/network connector series available from Glenair include MIL-DTL-38999 type solutions as well as ruggedized, reverse-bayonet MIL-DTL-5015s



MIL-DTL-38999 Series III with sealed RJ-45

MIL-DTL-5015 with sealed RJ-45

MIL-DTL-38999 Series III with USB jack and jumper

High-capacity, high-speed USB data stick





Series 80 Mighty Mouse Fiber Optics



Series 801 Plug
with 181-057 pin termini



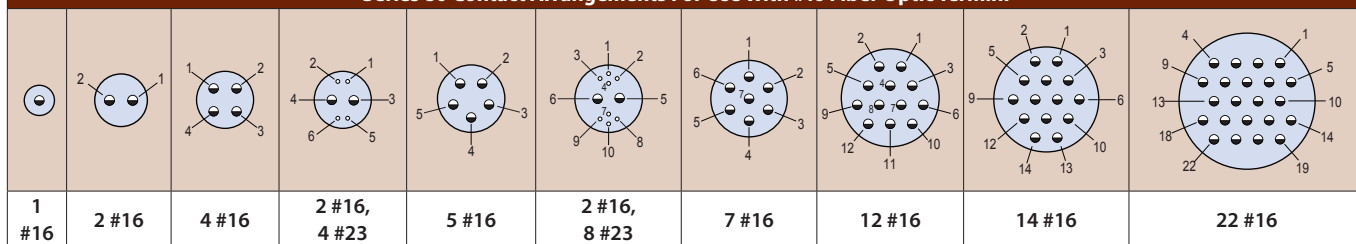
Series 801 receptacle
with 181-075 socket termini

- Three snap-in, rear release fiber optic termini sizes: #23, #20HD, and #16 for use in any Series 80 Mighty Mouse connector
- The smallest mil-aero caliber fiber optic connection system available
- Singlemode and multimode
- Precision ceramic ferrules
- 0.5 dB typical attenuation
- 1 to 130 channels

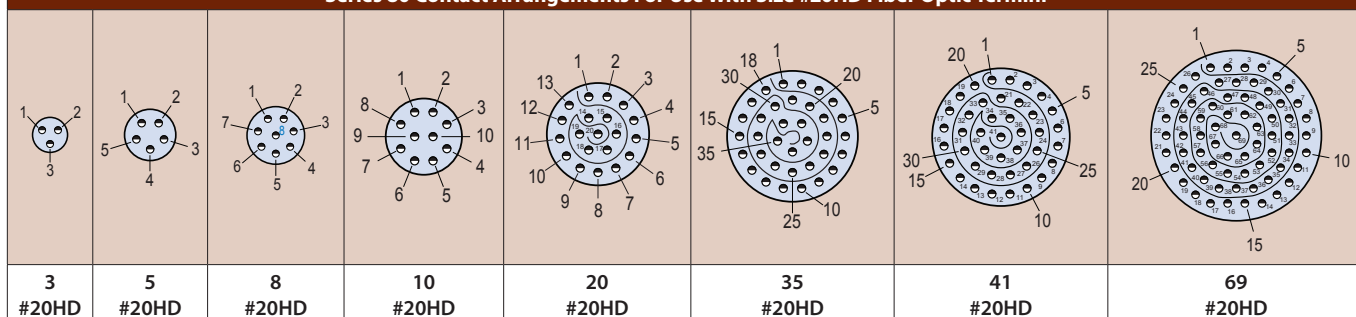


The perfect marriage of high bandwidth fiber optics with ultra-miniature packaging—half the size of D38999

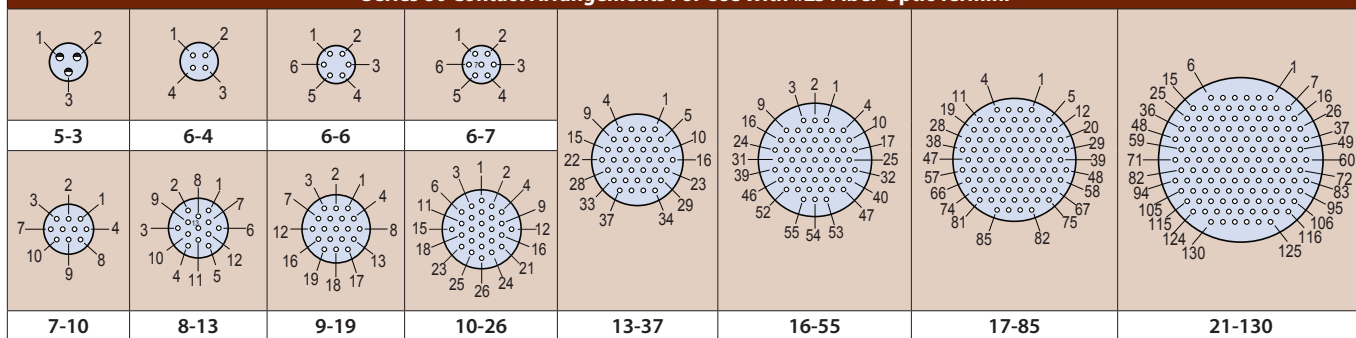
Series 80 Contact Arrangements For Use With #16 Fiber Optic Termini



Series 80 Contact Arrangements For Use With Size #20HD Fiber Optic Termini



Series 80 Contact Arrangements For Use With #23 Fiber Optic Termini



See Series 80 Mighty Mouse catalog for connector ordering information. Order connectors less contacts and order fiber optic termini separately. Cavity numbers are mating face view of pin connectors.



Series 80 Mighty Mouse Fiber Optics

SIZE #16 FIBER OPTIC TERMINI



181-057 Pin Terminus 181-075 Socket Terminus

Termini Type	Optical Fiber Type	Part Number	A Ferrule I.D.	Fiber Size Core/Cladding
Pin	Multi Mode	181-057-126	126.0 microns	50/125, 62.5/125
	Single Mode	181-057-125	125.5 microns	9/125
Socket	Multi Mode	181-075-126	126.0 microns	50/125, 62.5/125
	Single Mode	181-075-125	125.5 microns	9/125

*Consult factory for additional sizes

Series 801 9-4 with size #16 fiber optic termini vs. equivalent functionality D38999



Series 801
Shell size 9, 4 channel
6 Grams (less contacts)

D38999 Series III
Shell size 13, 4 channel
27 Grams (less contacts)

SIZE #20HD FIBER OPTIC TERMINI



181-084 Pin Terminus 181-085 Socket Terminus

Termini Type	Optical Fiber Type	Part Number	A Ferrule I.D.*	Fiber Size Core/Cladding
Pin	Multi Mode	181-084-126	126.0 microns	50/125, 62.5/125
	Single Mode	181-084-1255	125.5 microns	9/125
Socket	Multi Mode	181-085-126	126.0 microns	50/125, 62.5/125
	Single Mode	181-085-1255	125.5 microns	9/125

*Consult factory for additional sizes

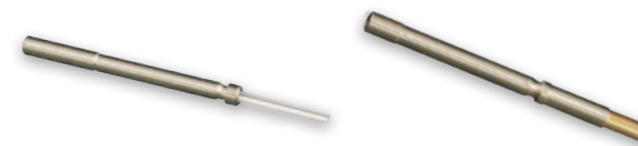
Series 801 8-8 with size #20 HD fiber optic termini vs. equivalent functionality D38999



Series 801
Shell size 8, 8 channel
8 Grams (less contacts)

D38999 Series III
Shell size 17, 8 channel
40 Grams (less contacts)

SIZE #23 FIBER OPTIC TERMINI



181-063 Pin Terminus 181-064 Socket Terminus

Termini Type	Optical Fiber Type	Part Number	A Ferrule I.D.	Fiber Size Core/Cladding*
Pin	Multi Mode	181-063-126	126.0 microns	50/125, 62.5/125
	Single Mode	181-063-1255	125.5 microns	9/125
Socket	Multi Mode	181-064-126	126.0 microns	50/125, 62.5/125
	Single Mode	181-064-1255	125.5 microns	9/125

*Consult factory for additional sizes

Series 801 6-4 with size #23 fiber optic termini vs. equivalent functionality D38999



Series 801
Shell size 6, 4 channel
5 Grams (less contacts)

D38999 Series III
Shell size 13, 4 channel
21 Grams (less contacts)

BRAIN TEASERS

stand

I

time²

R
O
A
D
S
D
S

JOBINJOB **va ders**

his iii

o o o

history
history
history
history
history
history
history
history
history
history
history

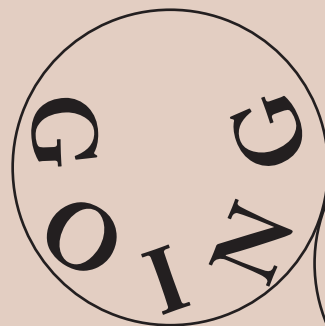
issue issue issue issue
issue issue issue issue
issue issue

Math The *arrest*
you're

w
a
t
e
r

R u n
the block
u !

man
board *tenoyab*



ban ana

Dribble
Dribble

egg egg
easy

PLATE
Copper

|r|e|a|d|i|n|g|

CAD
nickel

KNEE
UR FULL OF

Chair

Must Get Here
Must Get Here
Must Get Here

hahandnd

TIRE

STA4NCE

_____ it *cover*
agent

DKI

EGSG GESG
SEGG SGEG

LO^{head}_{heels} **VE**

cycle
cycle
cycle

TAILR
RIALT
AIRTL
TLRIA

\$0 *all all*
all all

millio1n

faredce **Corporate**

RACK RACK
RACK RACK

lang4uage

Hearted

LE
VEL

try stand
2

lireceptaclene

cover cover
head
cover cover

DANCE DANCE
DANCE DANCE

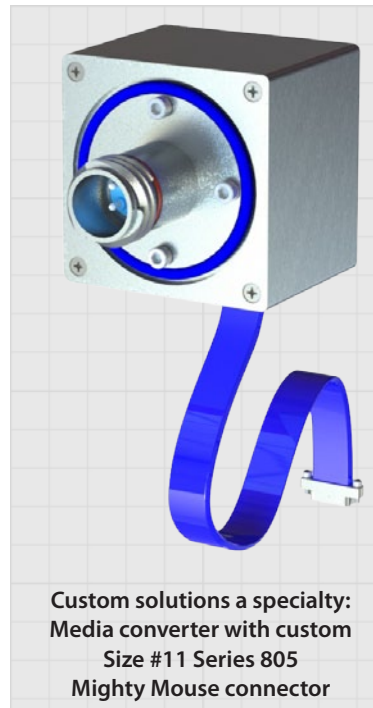
I'M you

belt
hitting

1 2 3 4 Dracula



**Series 80 Mighty Mouse
Opto-Electronic Solutions**



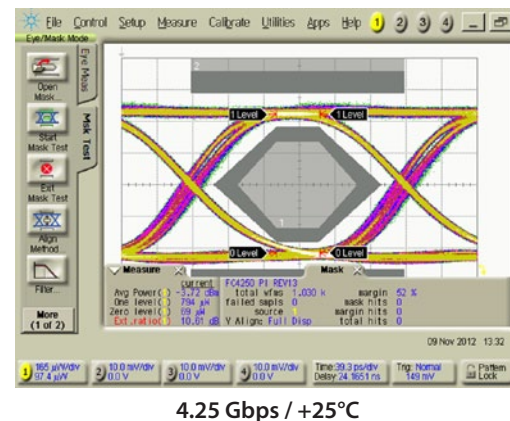
Opto-electronic media converters and active components for Ethernet, high-speed digital data, video media, and signal aggregation

Fiber optic interconnect systems offer significant performance advantages over electrical copper including expanded bandwidth, reduced size and weight, increased distance, and improved electromagnetic compatibility. Fiber optic media is, however, difficult to terminate, requires optical-to-electrical conversion, and can suffer in harsh application environments. Opto-electronic solutions take advantage of fiber optic virtues, while reducing complexity and maintenance of fiber optic systems. Opto-electronic solutions incorporate fiber optic interfaces, electrical signals, power supply functions, and necessary opto-electronic conversion into rugged environmental packages more readily installed and maintained in flight applications and other harsh environments.

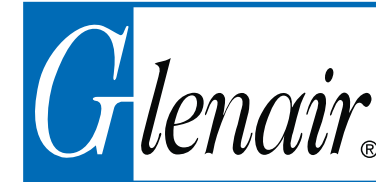
Series 80 Mighty Mouse Opto-Electronic Performance Specifications	
Operating temperature	-40°C to 85°C
Shock and vibration	MIL-STD 810 shock and vibration
Immersion resistance	MIL-STD 1344 immersion resistance compliance
Environmental sealing	IP67 in mated condition
Applications	Military tactical communications, harsh-environment telemetry, SATCOM systems, geophysical

SIZE #8 CAVITY OPTO-ELECTRONIC CONTACTS AND ACTIVE CONNECTORS

- Fast and Gigabit Ethernet, DVI, HDMI capable transmitter and receiver-equipped contacts
- ARINC 664, 801, 803, 804 and 818 standard compliant
- Link distances up to 550 meters, multimode
- Single, 3.3 V power supply
- Wave-solderable termination with RoHS-compliant solders



Mighty Mouse #8 Quadrx / Differential Twinax Contact Arrangements					
Mating Face					
Series 801	Shell Size 8 1 Size #8 Contact	Shell Size 10 2 Size #8 Contacts	Shell Size 17 3 Size #8 Contacts	Shell Size 19 4 Size #8 Contacts	Shell Size 21 5 Size #8 Contacts
Series 805	Shell Size 10 1 Size #8 Contact	Shell Size 18 2 Size #8 Contacts	Shell Size 19 3 Size #8 Contacts	Shell Size 21 4 Size #8 Contacts	Shell Size 23 5 Size #8 Contacts



**Series 80 Mighty Mouse
Opto-Electronic Solutions**

MIGHTY MOUSE ENVIRONMENTAL OPTO-ELECTRONIC SOLUTIONS

- Ethernet media converters 10/100/1000 and 10G
- Video media converters DVI, SDI, ARINC 818
- High-Speed digital data to 12.5 GB/sec
- Signal aggregation media converters
- Custom solutions with ruggedized, ultraminiature packaging to suit any application

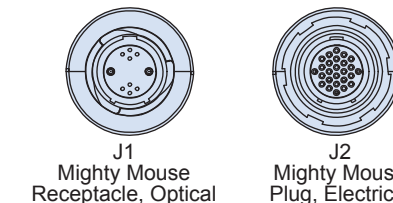


MIGHTY MOUSE MEDIA CONVERTER

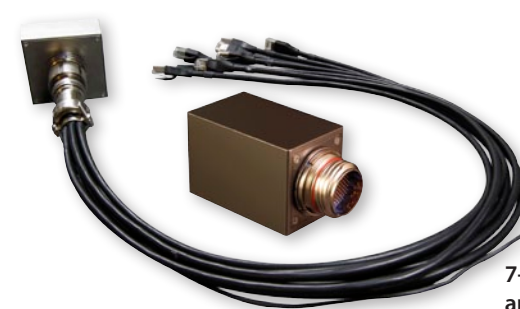


- 10/100/1000BASE-T to 1000BASE-SX/LX10 media converter
- IEEE 802-3-2005 Gigabit Ethernet standard compliant
- Up to 550 meters, multimode
- Up to 10 kilometers, singlemode

Table I: Signal Protocol		
Code	Name	Medium
SX	1000BASE-SX	Multimode Fiber
LX10	1000BASE-LX	Singlemode Fiber



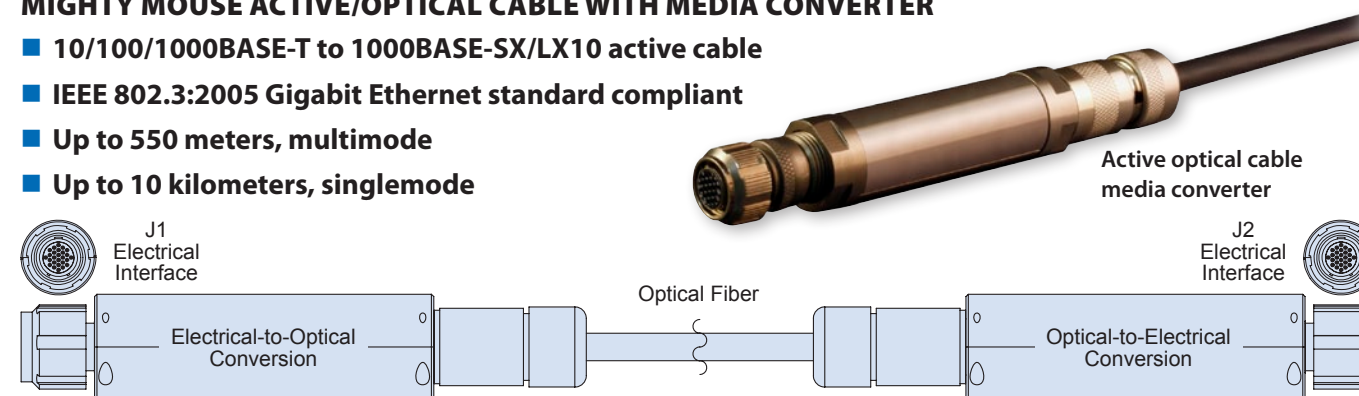
MIGHTY MOUSE SEVEN PORT UNMANAGED ETHERNET SWITCH



- Seven copper (10/100/1000 Mbps) Ethernet ports IAW IEEE 802.3:2005
- Cable distances up to 100 meters
- Unmanaged Ethernet switch, no configuration required
- Non-blocking switch fabric allows 1000 Mbps data rate on all seven ports simultaneously

MIGHTY MOUSE ACTIVE/OPTICAL CABLE WITH MEDIA CONVERTER

- 10/100/1000BASE-T to 1000BASE-SX/LX10 active cable
- IEEE 802.3:2005 Gigabit Ethernet standard compliant
- Up to 550 meters, multimode
- Up to 10 kilometers, singlemode





MIGHTY MOUSE Cobra

The Ultra-Low Profile EMI/RFI Plug and Backshell Assembly

Innovative shielded low profile right angle connector plug and backshell assemblies reduce clearance requirements without compromising ruggedness or shielding performance. Available in Series 801 double-start, Series 804 QDC push-pull, and Series 805 triple-start, Cobra assemblies provide optimal low-profile cable routing and legendary Mighty Mouse connector performance in a single package. Each Cobra assembly is equipped with a removable rear cover and gasket for easy crimp or solder contact termination of the connector. Both pin and socket versions are available for both crimp and solder terminated versions. Integrated low-profile backshell is equipped with an EMI/RFI shield termination platform and a shrink boot lip. The ultra-lightweight assembly may be clocked in eight different angle orientations for additional flexibility in cable routing. Connectors are equipped with polarization keying to prevent mismatching. Glenair Mighty Mouse Cobra connector and backshell assemblies mate with available square flange and jam nut receptacles from each respective connector series. Fourteen contact arrangements are available, all with Size #23 contacts from shell size 5 to shell size 21 with 3-130 contacts respectively. Connector shells are aluminum alloy or stainless steel.

- Space-saving design features one-piece machined and brazed connector shell and right angle backshell for minimum height and optimal EMI performance.
- Master key clocking enables easy cable entry/exit routing in eight angles
- Removable rear cover and gasket provides easy access to end of connector for crimp or solder contact termination



For more information contact Glenair at **818-247-6000** or visit our website at www.glenair.com

MIGHTY MOUSE Cobra

TECHNICAL SPECIFICATIONS



805-061 triple-start with self-locking coupling nut, exploded view

How To Order Mighty Mouse Cobra Plug Connector and Backshell Assemblies						
Sample Part Number	801-069-026	ZNU	8-13	P	A	1
Connector Series and Mighty Mouse Cobra Basic Part Number	801-069-026 Double-Start self-locking plug with ratchet mechanism (the clicker) 804-066-06 QDC Push-Pull plug 805-061-16 Triple-Start plug with ratcheting anti-decoupling mechanism					
Material/Finish	M, MT, NF, ZNU, Z1 - See Table I					
Shell Size - Contact Arrangement	See Table V - A: 801-069 B: 804-066 C: 805-061					
Contact Style	A = Pin, solder B = Socket, solder P = Pin, Crimp S = Socket, crimp					
Polarization Key Position	A, B, C, D, E, F - See Table III					
Cable Exit Direction	1, 2, 3, 4, 5, 6, 7, 8 - See Table IV					

Notes

- Rear insulator grommet not supplied.
- Cobra plug connectors mate with respective series receptacles with same polarization and opposite contact gender.
- Hand crimp tool: P/N 809-015. Positioner for hand tool: P/N 809-005. Insertion/extraction tool P/N 809-088.
- Crimp barrel accommodates 22, 24, 26 and 28 gage wire.
- All Cobra plugs equipped with Size #23 contacts.

Specifications

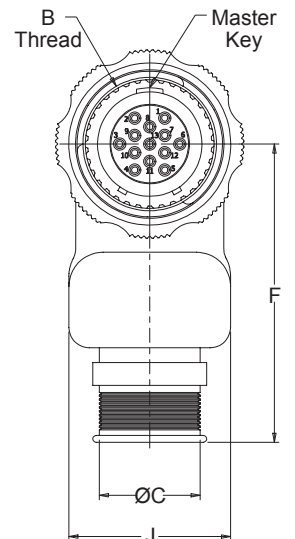
- Current Rating: #23 5 Amps
- Test Voltage (DWV) #23: 500 VAC Sea Level
- Insulation Resistance: 5000 megohms minimum
- Contact Resistance: 73 millivolt drop at 5 Amp test current
- Mating Cycles Series 801 and 804: 2000; Series 805: 500
- Operating Temperature: -55° C. to +150° C.
- Shielding Effectiveness: 50 dB min from 100MHz to 1000MHz.
- Magnetic Permeability: 2.0μ
- Vibration: 37g / Shock: 300g
- Immersion, mated: 1 meter water immersion for 1 hour

Materials/finish

- Contacts: Copper alloy, gold plated
- Backshell Housing and Lid: Aluminum or Stainless Steel
- Backshell Sealing Gasket and Interfacial Seal: Fluorosilicone rubber
- Screws: 300 Series Stainless Steel
- Insulator: LCP

Direction	C°
1	0°
2	45°
3	90°
4	135°
5	180°
6	225°
7	270°
8	315°

	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

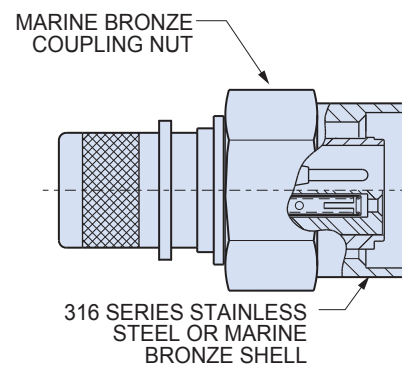


Symbol	Material	Finish
M	Aluminum Alloy	Electroless Nickel (RoHS)
NF		Cad/O.D. over Electroless Nickel
MT		Nickel-PTFE (RoHS)
ZNU		Black Zinc Nickel over Electroless Nickel (RoHS)
Z1	Stainless Steel	Passivate

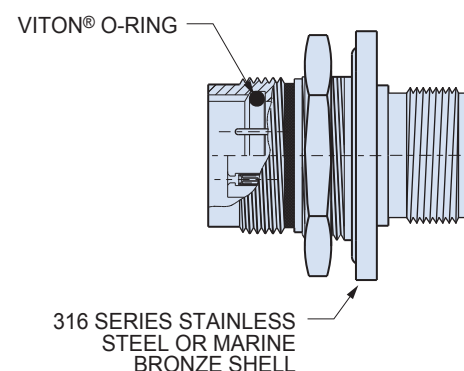
A: 801-069		B: 804-066		C: 805-061	
Shell Size	Contact Arrangement	Shell Size	Contact Arrangement	Shell Size	Contact Arrangement
5	5-3	5	5-3	8	8-4, 8-6, 8-7
6	6-4, 6-6, 6-7	6	6-4, 6-6, 6-7	9	9-10
7	7-10	7	7-10	10	10-13
8	8-13	8	8-13	11	11-19
9	9-19	9	9-19	12	12-26
10	10-26	10	10-26	13	13-31
11	11-31	12	12-37	15	15-37
13	13-37	14	14-55	18	18-55
16	16-55			19	19-85
17	17-85			21	21-100
19	19-100			23	23-130
21	21-130				



Series 80 Mighty Mouse Aqua Mouse



Series 802 Plug









Series 802 Receptacle

- 316 Stainless steel or marine bronze shells
- Available in ten sizes from 1 to 130 contacts
- Viton® O-rings resist high temperature and corrosive chemicals.
- Withstand up to 3500 PSI hydrostatic pressure in mated condition
- Hermetic versions withstand 1000 PSI open face pressure

Glenair's Series 802 "Aqua Mouse" Delivers High-Pressure Sealing and Rugged Design in a Miniature Package

Originally developed for petroleum pipeline inspection equipment, Series 802 connectors withstand exposure to corrosive environments and high pressure. These connectors feature high density crimp Mighty Mouse inserts, 316 stainless steel or marine bronze shells and a "piston" o-ring for hydrostatic sealing. Gold-plated contacts accept #12-30 AWG wire. Printed circuit board receptacles are available, along with hermetic receptacles.

	<p>Series 802 Plugs "Aqua Mouse" plugs are available in two versions. Select integral molding/banding platform for direct attachment of cable shield and overmolds without the need for an adapter. Or choose plugs with rear accessory thread for attachment of cable sealing backshells. Crimp contacts are packaged with connectors.</p>
	<p>Series 802 Receptacles for Insulated Wire Jam nut for rear panel mounting, square flange and in-line versions make it easy to find a style for every application. The integral shield termination platform can be used for overmolding, or select accessory threads for use with a variety of strain relief options. Contacts are crimp-type and are packaged with the connector.</p>
	<p>Series 802 Receptacles for PCB or Solder Cup Termination These panel mount connectors feature gold plated, factory-installed PC tail contacts or solder cup contacts. Contacts are non-removable. Connectors are backfilled with epoxy potting compound.</p>
	<p>Series 802 Hermetic Receptacles Need a miniaturized hermetic for a sealed box or instrument? These stainless steel, glass-sealed connectors are available with solder cup or PC tail contacts. Choose jam nut, square flange or weld mount versions. Contacts are gold plated iron alloy. 100% tested to meet 1×10^{-6} cc/sec helium leakage. Open face pressure rating 1000 PSI.</p>
	<p>Series 802 Cordsets Specify overmolded cordsets for optimum convenience and performance. Low smoke zero-halogen polyurethane offers excellent abrasion and chemical resistance. Choose polyamide overmold for medium duty low pressure applications, or select thermoset polyurethane overmold for maximum performance and 2500 PSI rating.</p>
	<p>Series 802 Protective Covers Thread-on metal covers provide a watertight seal and prevent damage. Plug covers are 316 stainless steel, and receptacle covers are marine bronze.</p>

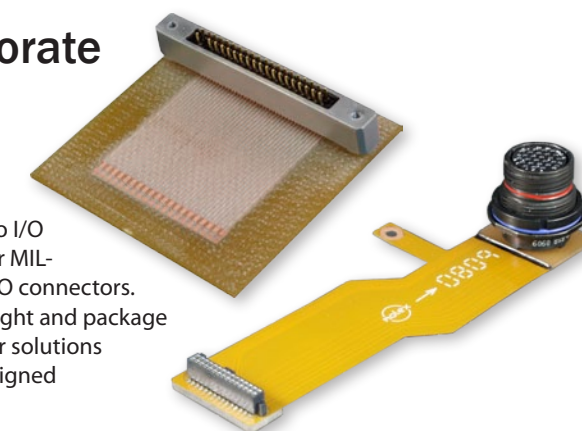
Series 80 Mighty Mouse AlphaFlex

East-to-Order,
Ready-to-Use

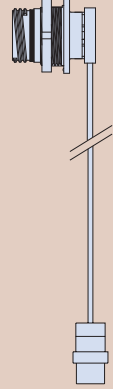
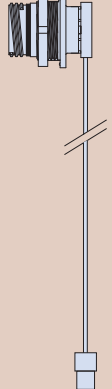
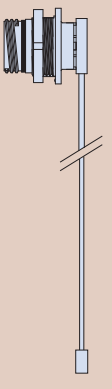
- Fast, easy ordering of high-performance I/O connector-to-board flexi jumpers
- Chemically etched, copper-clad polyimide flex circuits offer excellent temperature tolerance, dimensional stability, and reduced size and weight
- Designed for optimal electrical performance, including matched-impedance applications
- Ideal for rapid prototyping
- Superior electrical and mechanical performance compared to other cabling options
- A high-availability, fast-turn catalog solution
- AlphaLink board header and connector for rapid termination of flex to board

The easiest and fastest way to incorporate flexible circuit cabling in your high-performance application

Glenair AlphaFlex I/O-to-board jumper assemblies are cataloged according to I/O connector type. Glenair currently offers four families of AlphaFlex jumpers for MIL-DTL-38999, Series 801 and 804 Mighty Mouse, and MIL-DTL-83513 Micro-D I/O connectors. Flex-to-board solutions available in each family are designed to optimize weight and package reduction as well as maintain electrical performance. Board mount connector solutions include ruggedized Micro-D and Nano PCB connectors as well as Glenair-designed AlphaLink (55302 type) board mount headers.



AlphaFlex Assemblies with Series 801 Mighty Mouse Double-Start I/O receptacles

		
<p>801-060 Series 801 Mighty Mouse to MIL-DTL-83513 Micro-D</p>	<p>801-061 Series 801 Mighty Mouse to MIL-DTL-32139 Nanominiature</p>	<p>801-062 Series 801 Mighty Mouse to AlphaLink</p>

Triple-start wall-mount or jam nut receptacles, in five different Contact Arrangements.



Series 80 Mighty Mouse
El Ochito™ "The Little Eight"



Series 801
Mighty Mouse
cordset with
El Ochito™

Exploded View

- El Ochito ("The Little Eight"): Eight miniaturized contacts in a size #8 shielded module
- With low-insertion-force Stinger contact technology
- One Full Ethernet channel per cavity
- 100% drop-in solution to installed connectors—no redesign or reinstallation of interfaces
- Full inter- and intra-pair shielding—all cable shielding virtues preserved through contact cavity
- Dramatic cable weight reduction compared to Quadrax links
- Ideal high-speed copper interface for IFE video and other high datarate applications

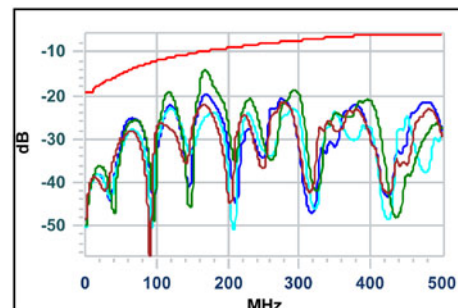
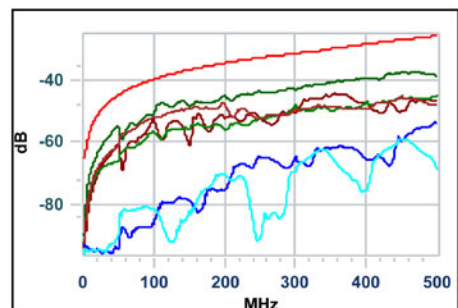
Dramatic size and weight reduction in 1G/10G Ethernet networks—available now with the Series 80 Mighty Mouse *El Ochito™*



El Ochito™ is a drop-in solution for Series 80 Mighty Mouse, as well as D38999, EN4165, and ARINC connectors



El Ochito™ utilizes Stinger™ contact technology. These durable, low insertion force, front release contacts feature integrated retention clips and o-ring sealing for optimized performance in El Ochito™ ("The Little Eight")



How-To-Order El Ochito™ Contacts

858-003 Size 8 Ochito 26-AWG crimp or solder Pin	858-004 Size 8 Ochito 26-AWG crimp or solder Socket	858-007 PC-Tail Ochito Pin	858-008 PC-Tail Ochito Socket



Series 80 Mighty Mouse
CAT-MASTER™

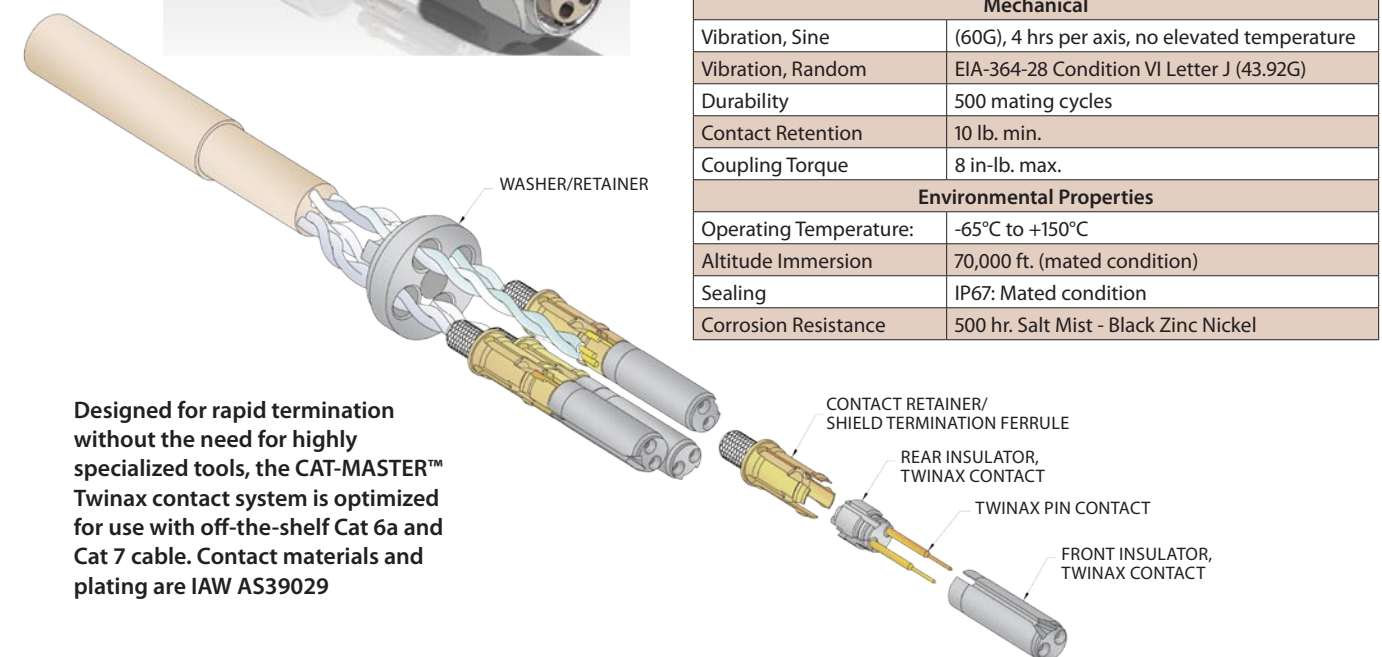


Segregated
Twinax contacts
deliver optimized
performance

- 10Gigabit+ Ethernet CAT-MASTER™ connector is designed for optimum signal integrity and termination to Cat 5, Cat 6 and Cat 7 cable.
- CAT-MASTER™ offers improved signal integrity, reduced crosstalk, and enhanced attenuation performance compared to standard shielded contacts.
- The unique design of four twin contact inserts in a common ground plane delivers optimized impedance control and crosstalk performance for such applications as 10+ Gigabit Ethernet, HDMI/DVI video, FibreChannel, eSATA and PCI Express
- CAT-MASTER™ is designed for rugged and extreme aerospace, defense and naval applications. The twin axial inserts exactly match the dimensions and impedance of the selected cable

Contact Sub-Assembly electrical characteristics per IEC 11801:	
Min Insulation Resistance:	100MΩ
Contact to Contact Proof Voltage:	1000V

The Ultraminiature 10 Gigabit+ Ethernet connector for high-speed/rugged Cat 5, 6, and 7 networks



Designed for rapid termination without the need for highly specialized tools, the CAT-MASTER™ Twinax contact system is optimized for use with off-the-shelf Cat 6a and Cat 7 cable. Contact materials and plating are IAW AS39029

Mighty Mouse CAT-MASTER™ Specifications	
Electrical	
1 Gbit-Ethernet to 10 Gbit-Ethernet when used with Cat5e, 6A or 7 cables	
Insulation	5000 mega-ohms ambient
DWV	500 VAC sea level, 100 VAC @ 70,000 ft.
Shielding Effectiveness	IAW MIL-DTL-38999
Shell-to-Shell Conductivity	-5mV initial, 10mV final
Mechanical	
Vibration, Sine	(60G), 4 hrs per axis, no elevated temperature
Vibration, Random	EIA-364-28 Condition VI Letter J (43.92G)
Durability	500 mating cycles
Contact Retention	10 lb. min.
Coupling Torque	8 in.-lb. max.
Environmental Properties	
Operating Temperature:	-65°C to +150°C
Altitude Immersion	70,000 ft. (mated condition)
Sealing	IP67: Mated condition
Corrosion Resistance	500 hr. Salt Mist - Black Zinc Nickel



Series 80 Mighty Mouse Backshells, Boots and Accessories

	<p>Heat-Shrink Boots Use heat-shrink boots for strain relief and environmental protection. These boots fit all Series 80 connectors. Available in straight or 90° versions.</p>		<p>Backshell for Shorting or Switching Applications These direct coupled "shorting caps" are used to enclose jumper wires, resistors, or bussed wires.</p>
	<p>Hex Nuts Mighty Mouse jam nut receptacles are supplied with low-profile spanner nuts. Optional hex nuts are available with safety wire holes.</p>		<p>Environmental Backshells These backshells are reduced in size compared to standard Glenair Series 37 environmental backshells. Choose saddle clamp or compression nut.</p>
	<p>Flange Gaskets Die-cut flange gaskets provide panel sealing for flange mount receptacles. Available in fluorosilicone, Viton® and conductive fluorosilicone.</p>		<p>EMI Backshells These backshells are reduced in size compared to standard Glenair Series 38 backshells. Choose saddle clamp or compression nut for strain relief.</p>
	<p>Replacement O-rings Replace lost or damaged O-rings. Available in fluorosilicone, EPDM and conductive fluorosilicone, these O-rings fit Mighty Mouse jam nut receptacles.</p>		<p>Environmental/ EMI Backshells These backshells are reduced in size compared to standard Glenair Series 39 backshells. Cable shields are terminated with EMI rings.</p>
	<p>Strain Relief Clamps These low profile clamps provide strain relief for wire bundles. These clamps are specially designed to minimize size and weight.</p>		<p>Protect Unmated Connector Mating Faces From Damage Machined aluminum covers have rubber gaskets for a watertight fit.</p>
	<p>Thread-on EMI Adapters for BAND-IT® Shield Termination Available with spin coupling or direct coupling, these adapters can be ordered in various diameters and lengths. Right angle and 45° versions are available.</p>		<p>Splashproof molded rubber covers Fit all Series 80 Mighty Mouse plugs and receptacles. Braided black nylon lanyard is available with metal rings, cable tie or slipknot for attachment to panel or to cable. -40° to +120° C operating temperature.</p>

SERIES 80
MIGHTY MOUSE

SAV-CON®
CONNECTOR SAVERS

for Series 801 and 805
Mighty Mouse connectors



Glenair Sav-Con® Connector Savers for Series 801 and 805 Mighty Mouse protect connectors and cable assemblies from frequent mating and unmating, and absorb connect and disconnect abuse. These plug/receptacle adapters feature non-removable contacts and are available with a ratcheting coupling mechanism to prevent loosening under vibration. Utilized in applications as diverse as down-hole drilling, satellite testing, and weapons systems, Series 80 Mighty Mouse Sav-Con® Connector Savers extend system life and reduce total cost of ownership for mission-critical cable assemblies.



Glenair®

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com



**Series 80 Mighty Mouse
Material/Finish**

- Mil-qualified and RoHS compliant material/plating options 
- 1000-hour nickel-TEFLON barrier plating
- For every application requirement including camouflage, conductivity, corrosion protection and galvanic compatibility

**Mighty Mouse: Offering the industry's
broadest range of shell materials and platings**

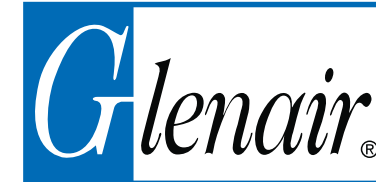
Glennair is a major innovator in material and plating technologies, particularly for conductive and RoHS (cadmium-free) applications. This page presents a selection of some of the more popular Glennair material and plating solutions including RoHS compliant Nickel-PTFE and Black Zinc-Nickel (ZR) available for Mighty Mouse. Glennair has mastered all the difficult challenges of fielding plated specialty metal parts in harsh and corrosive applications and can offer standard mil-qualified formulas as well as unique solutions for special applications. All our materials are sourced in accordance with DFARS 252.225-7014 Preference for domestic specialty metals requirements. Please note that our Nickel-PTFE, Zinc-Nickel (ZR), and Electroless Nickel platings, as well as many others, are RoHS compatible.

 Black Anodize Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +175°C Glennair Code C 	 Electroless Nickel Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +200°C Glennair Code M 	 Cadmium Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +175°C Glennair Code NF, LF, JF	 Black Zinc Nickel Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +175°C Glennair Code ZR 
 Zinc-Nickel Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +175°C Glennair Code ZN, ZNU	 Nickel-PTFE Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +175°C Glennair Code MT, ZMT 	 Stainless Steel Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +200°C Glennair Code Z1, ZL 	 Marine Bronze Cost \$ \$ \$ \$ \$ Conductivity + + + + + Corrosion Resistance ⌘ ⌘ ⌘ ⌘ ⌘ -65 to +200°C Glennair Code AB 



**Glennair White Bronze plating for low residual magnetism
and high frequency applications:
Now available for Mighty Mouse connectors**

White Bronze is nonmagnetic, very smooth, and virtually nonporous. Applied over brass base material, it is highly resistant to corrosion and breakdown. White bronze—like our gold over beryllium copper solution—is a preferred and safe alternative to nickel for medical applications, and for space or geophysical applications that demand the lowest possible residual magnetism.



**Series 80 Mighty Mouse
In Space**

MIGHTY MOUSE CONNECTORS FOR SPACE FLIGHT

Outgassing

- Standard connectors must be baked out to meet outgassing requirements.
- Modification codes are a convenient way to specify special outgassing bakeout.

Space flight equipment requires low-outgassing components in order to prevent degradation to optics and other sensitive instruments. The space industry has adopted a standardized test procedure, ASTM E595, to evaluate outgassing properties. In the ASTM test, material samples are heated to 125° C at a vacuum of 5 X 10⁻⁵ torr for 24 hours. The test sample is then weighed to calculate the Total Mass Loss (TML), which may not exceed 1.0% of the total initial mass. A collector plate is used to determine the Collected Volatile Condensable Material (CVCM), which may not exceed 0.1% of the total original specimen mass. Mighty Mouse connectors contain nonmetallic materials such as rubber, plastic, adhesives and potting compounds which can give off gasses when subjected to a vacuum or high heat. Unless the connector is specially processed, the TML and CVCM can exceed allowable limits. Glennair is able to offer two bakeout processes which assure all materials comply with ASTM E595: an 8 hour oven bakeout at 400° F or a 24 hour thermal vacuum outgassing at 125° C. The table below shows suffix codes which specify outgassing processing.

Connector Material and Finish Options

- Cadmium and silver plating are prohibited in space.
- Specify electroless nickel plating on connector shells and gold plating on contacts.

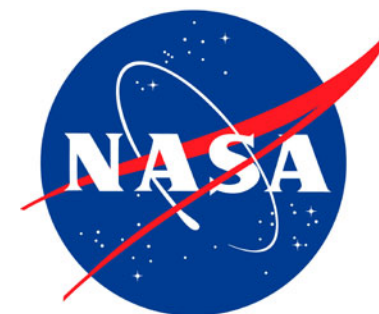
Some types of metals are prohibited for space flight. "Cadmium, zinc, chemically coated cadmium or zinc, or silver shall not be used as a connector or contact finish" (NASA EEE-INST-002 Instructions for EEE Parts Selection, Screening, Qualification, and Derating). NASA recommends electroless nickel or gold plating on connector shells and gold plating for contacts.

NASA Screening

- "Mission critical" connectors for space flight should undergo rigorous 100% final inspection.
- Modification codes are available to invoke special screening.

NASA recommends that connectors for space flight be specially screened. NASA EEE-INST-002 Instructions for EEE Parts Selection, Screening, Qualification, and Derating contains three levels of screening: level 1 for highest reliability, level 2 for high reliability and level 3 for standard reliability. Glennair suffix codes are available to invoke NASA screening. The table below shows these "Mod" codes which can also include outgassing processing.

NASA Screening Levels and Modification Codes			
NASA Screening Level	Special Screening Only	Special Screening Plus Outgassing Processing	
		8 Hour Oven Bake 400° F.	Thermal Vacuum Outgassing 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part number)	Mod 186	Mod 186M



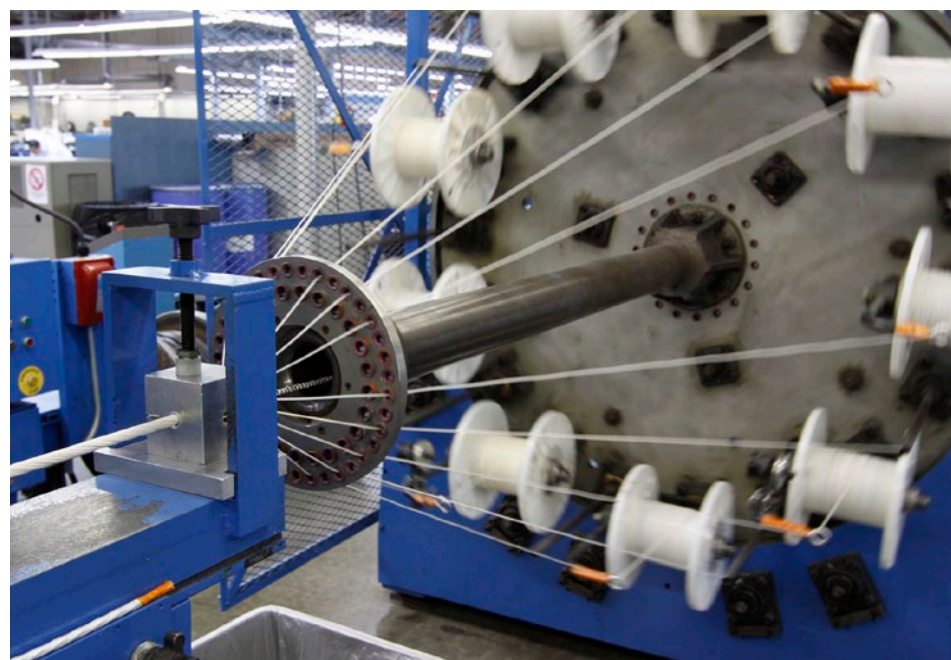


Series 80 Mighty Mouse Wire

High Performance, Protocol-Compliant Cable for Series 80 Mighty Mouse High-Speed Applications

Glenair is pleased to offer our Mighty Mouse customers discrete bulk cable for on-site termination. All of the cables have been selected for protocol compliance IAW industry-standard Ethernet, USB, and SATA/eSATA specifications and the harsh mission-critical application environments where the Series 80 Mighty Mouse excels. Without exception, cables have been designed and fabricated to optimize flexibility, weight reduction, ruggedness, and insulator quality. Each cable is offered with specific guidance as to shielding properties, impedance performance, attenuation, temperature rating, bend radius, weight, and maximum practical distance. All of the cable part numbers detailed here are in stock and ready for immediate, same-day shipment with no length or dollar minimums.

963-001	100 Ohm Differential Parallel Pair Data Cable
963-002	Tactical Cat 5e Ethernet Cable with Polyurethane Jacket
963-003	Avionic Cat 6a Ethernet Cable with FEP Jacket
963-004	Cat 7 Ethernet Cable with PVC Jacket
963-005	USB 2.0 Cable with FEP or Polyurethane Jacket
963-012	USB 3.0 Cable with Polyurethane Jacket
963-006	IEEE 1394 110 Ohm Quad Cable with FEP or Polyurethane Jacket
963-013	100 Ohm SATA/eSATA Cable with Polyurethane Jacket



Glenair's vertically integrated connector, hardware and cable facilities are perfectly positioned to supply catalog and custom short cable runs for the broad range of interconnect applications from non-impedance controlled transmission wire to high-speed, protocol-specific cabling

Engineered wire and cable solutions



Series 80 Mighty Mouse Contacts



Contact tools in-stock and ready for immediate shipment

Series 80 Mighty Mouse uses both SAE-AS39029 QPL and Glenair commercial contacts to meet every application requirement

Glenair Series 80 Mighty Mouse connectors are designed to fit our own qualified SAE-AS39029 contacts based on the shorter "Series II" family of signal, data and specialty contacts. Glenair has also developed an extensive range of innovative short contacts including fiber optic and pneumatic applications. The development of our own range of shorter, Series II type contacts was a key step in gearing Mighty Mouse to meet any interconnection challenge. This page shows just some of these short, high-performance contacts, from standard 39029 crimp signal and power contacts to our own unique shielded differential Twinax contact, miniaturized fiber optic contacts and highly specialized gas and pneumatic contact solutions. All our contacts are supported with appropriate extraction and crimp tools.

#23 Contacts	#20HD Contacts	#20 Contacts	#16 and #12 Contacts	#16 and #12 Coaxial Contacts
#12 50 Ohm Matched Impedance Coaxial Contacts	#12 Pneumatic Contacts	#23-#20 Wire Adapter	Thermocouple	
Size #12 Differential Twinax	100 Ohm Quadrax	100 Ohm Differential Twinax	Size #8 Power	
Concentric Twinax	Printed Circuit Board	Opto-Electronic	Size #16, #20, #23 Fiber Optic	



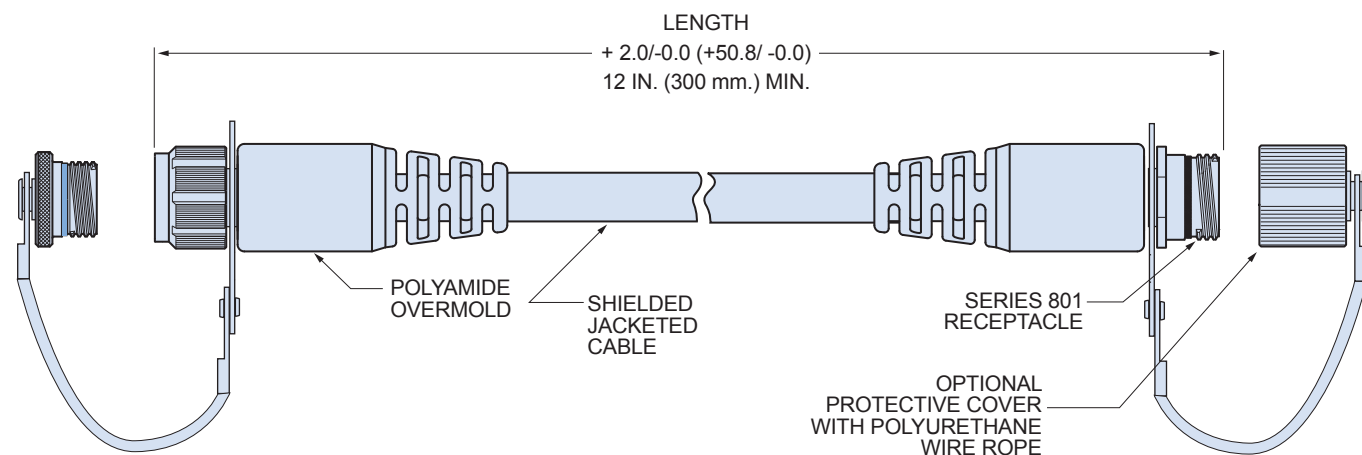
**Series 80 Mighty Mouse
Catalog Cordsets**

Series 80 Mighty Mouse ASAP cordsets

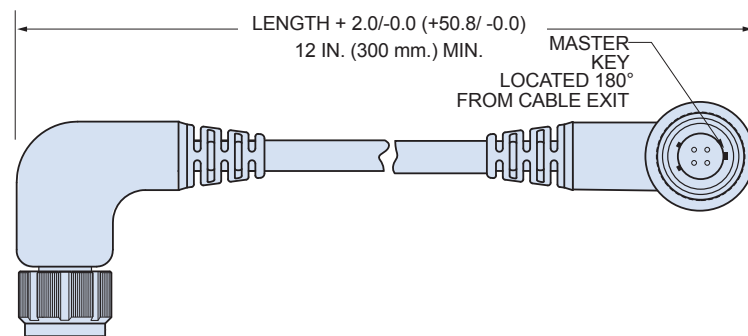


A broad range of turnkey factory-terminated cordsets are available for every Mighty Mouse series and every application requirement, from standard signal databus protocols to high-speed Ethernet.

Glenair Mighty Mouse Series overmolded cordsets are available for every application requirement including the integration of commercial connectors such as RJ45 Ethernet. Glenair fast-turnaround (ASAP) cables withstand abrasion and chemical exposure. Low-smoke zero-halogen jacket reduces the amount of toxic and corrosive gasses emitted during combustion. Cable construction features silver coated stranded conductors with TFE insulation, tinned copper braid shield and extruded polyurethane jacket. Choose single-ended pigtails or double-ended "back-to-back" versions. Braid shield is attached directly to connector with Band-Master™ ATS straps. Semi-rigid polyamide overmold provides strain relief and environmental sealing. All standard cordsets are available with size #20HD, #16 and #12 contacts. High-speed versions (opposite page) are available with standard signal as well as shielded contacts.



Right Angle Cordsets



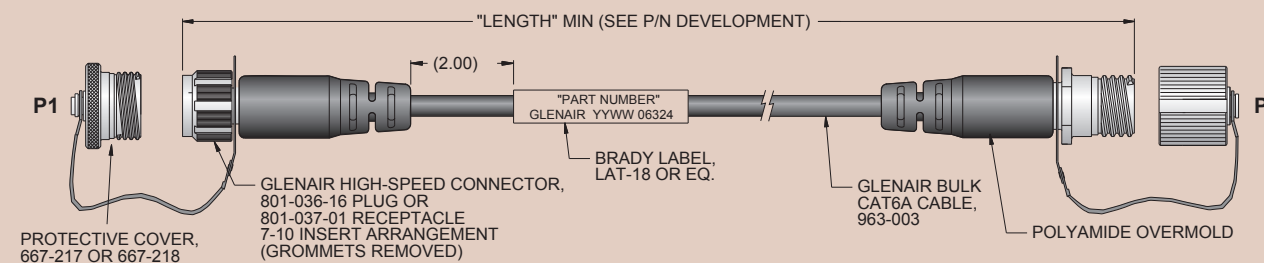
How To Order Right Angle Cordsets
Insert the letter "R" after the End A or End B Connector letter designator.

Example
Straight cable 801-026-AC4Z16-4PA-72
Right Angle 801-026-ARCR4Z16-4PA-72

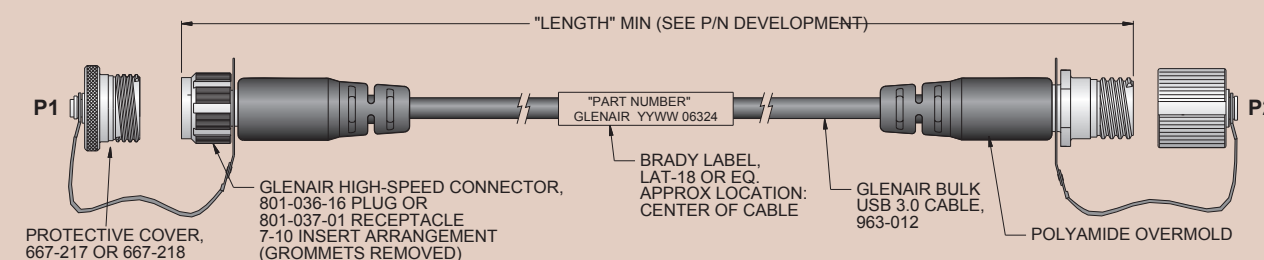


**Series 80 Mighty Mouse
Catalog Cordsets**

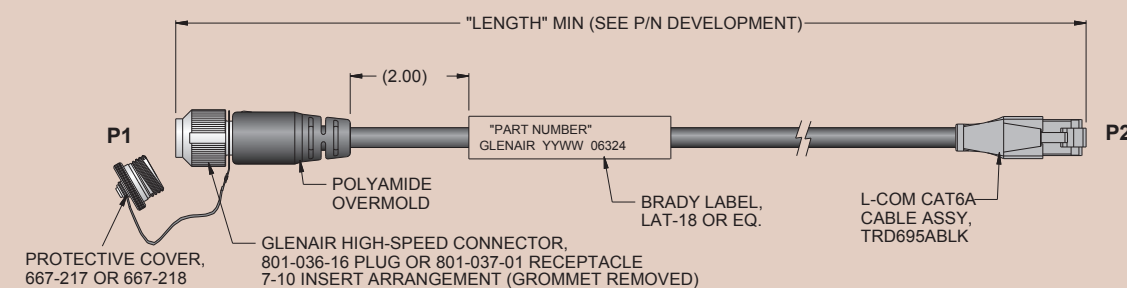
801-046: Series 801 Mighty Mouse High-Speed 10GBASE-T Overmolded Cordset



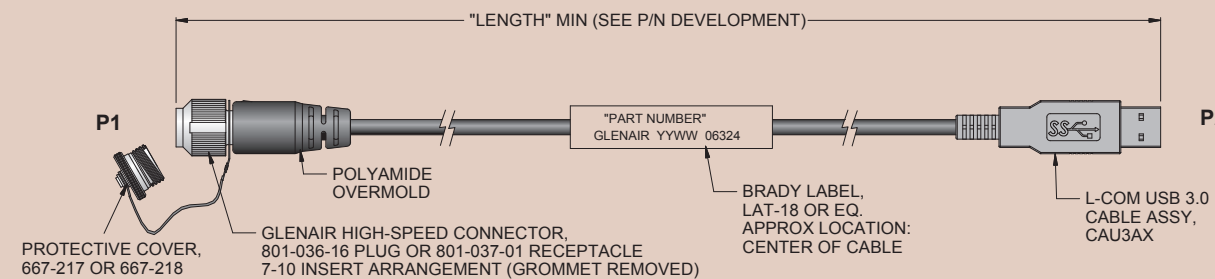
801-047: Series 801 Mighty Mouse High-Speed USB 3.0 Overmolded Cordset



801-077: Series 801 Mighty Mouse High-Speed 10GBASE-T Ethernet Overmolded Cordset



801-078: Series 801 Mighty Mouse High-Speed USB 3.0 Overmolded Cordset



Series 80 Mighty Mouse Complex Cables and Integrated Systems

Turnkey interconnect cabling and electronic subsystem assemblies

Glenair has built more lightweight/ultraminiature interconnect subsystems than anyone else in our industry—from ground vehicle systems to turnkey air vehicle, future soldier, power management, and robotics. Designing for the effective protection of cabling and box interconnections is a complex assignment that includes intelligent material selection and controlled assembly processes guaranteed to protect signal integrity and electronic subsystems. Many of these subsystems incorporate electronic and fiber optic circuit board technologies engineered by Glenair, including:

- Advanced FPGA designs for mixed-signal aggregation
- Digital/video conversion and switching
- USB-based hubs and converters, including RS-232 and USB to Ethernet
- Power management and switching functions

Glenair is ideally positioned to become the industry's design and fabrication partner of choice for complex cabling and integrated electronic systems.



*Precision
factory termination*



*The industry's most experienced
EMI/RFI braided shielding specialists*



*High-production injection
molding expertise*



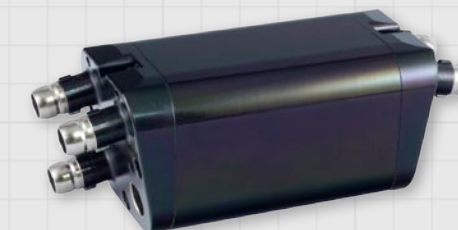
*Every assembly is tested and certified
prior to shipment*

Series 80 Mighty Mouse Complex Cables and Integrated Systems



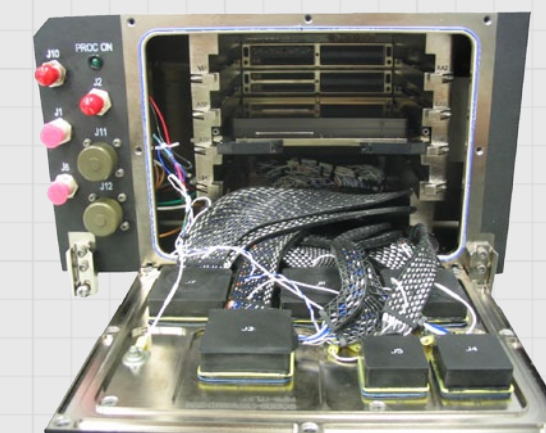
Glenair offers numerous alternatives to standard jacketing materials. This GhostWire cable assembly provides optimum strength to the system with superior flexibility.

Integrated Mighty Mouse can assemblies incorporate power modules and electronic circuitry with I/O connectors welded directly to the housing

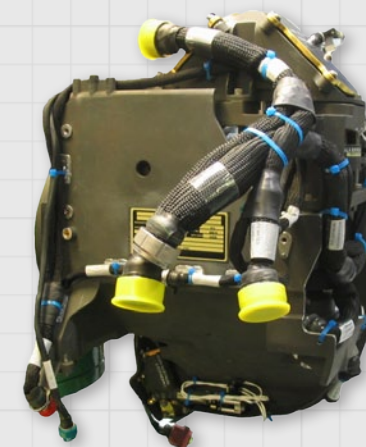


The integration of balanced impedance and high speed serial data components into high-reliability systems has become a standard requirement of military and defense applications.

Complex systems that include customer-supplied electronics and rigorous attention to assembly procedures and requirements are now routinely built by the Glenair complex cable and integrated system group



The fabrication of multi-branch cable assemblies and integrated electronic systems and enclosures are Glenair specialties



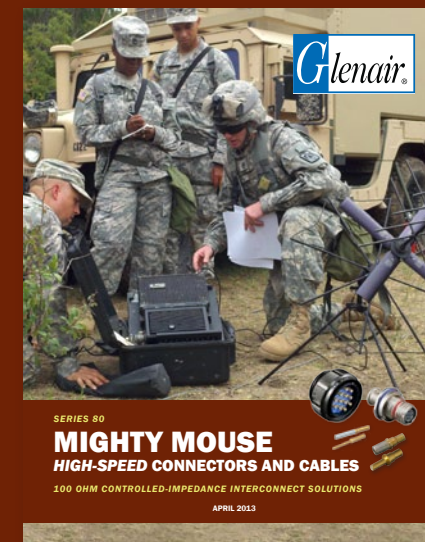
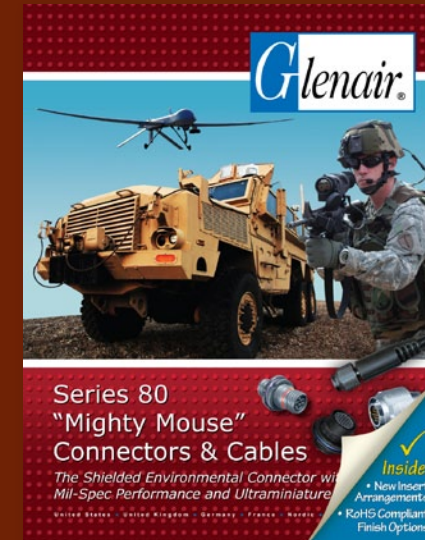


SERIES 80
MIGHTY MOUSE

THE MOST ADVANCED AND MATURE HIGH-PERFORMANCE ULTRAMINIATURE CONNECTOR

Constant, relentless innovation

THE NEW INDUSTRY STANDARD FOR REDUCED SIZE AND WEIGHT APPLICATIONS



*A monster range of standard product offerings
A constantly expanding product line*



For more information contact Glencair at **818-247-6000** or visit our website at **www.glencair.com**

Word-of-Mouth

I don't go out to a lot of movies. I never seem to be able to make the time. But over the last few months I had no less than half a dozen people tell me I should see the movie *Argo*; they said it was simply fantastic. My brother Dick said it was the best movie he'd seen since *The Godfather*. So did I go see it? Of course I did. I suppose there are some people who can resist extremely positive word-of-mouth (from people they trust), but I'm not one of them.

So how did *Argo* do it? Great direction? A compelling story? It certainly had those, but I don't believe that would have been enough. No, the fountainhead for all the positive word-of-mouth was that every element came together to create a movie masterpiece—script, cinematography, direction, editing, cast, wardrobe, music—everything. Every contributor, in every department, in every task they performed, made critical contributions to a group effort that was so compellingly good that movie-goers couldn't help but remember it and recommend it to others.

I think the key to executing at this high level is to understand how different the world looks through the eyes of customers as opposed to sellers. Sellers tend to divide themselves into departments: marketing, sales, administration, management, facilities, HR, IT, and so on. Over time, these divisions become more and more "natural" to them, as if the world really worked that way.

It doesn't. To customers, everything they touch during a buying experience is linked to everything else, rather than chopped up into segments. And because of this holistic viewpoint, a single disappointment can change a thumbs up review into a thumbs down. Imagine a restaurant where the setting is beautiful, the food is delicious, the service attentive, but the bathrooms are filthy. Would you rush out to recommend the place to others?

Institutions are attention-seeking entities, and Glenair is no different. It's the way the game is played. And whoever gets the most positive attention wins. We build positive attention by effectively and consistently exceeding our customers' expectations; both in terms of what they get from us, but also what they get (or don't get) from our competitors. This is what creates word-of-mouth. The greater the contrast between expected and received, the greater the word of mouth (positive *and* negative).

This issue of *QwikConnect* highlights an area of contrast in our industry. On the one hand, we have the excellent performance our Series 80 Mighty Mouse team in designing, making, selling and supporting this revolutionary connector family. On the other, we have the performance of the makers of the many knock-offs now available in the market. Speaking candidly, I have nothing but confidence that, given our track-record, Team Mighty Mouse will continue to perform at such a high level that, like *Argo*, people will be lined up to see our "movie" for many years to come.

Chris Toomey

Publisher

Christopher J. Toomey

Executive Editor

Marcus Kaufman

Managing Editor

Carl Foote

Editor/Art Director

Mike Borgsdorf

Graphic Designer

George Ramirez

Technical Consultant

Jim Donaldson

Issue Contributors

Lisa Amling
Deniz Armani
Josh Castrey
Brendan Dempsey
Mike Ghara
Russell Ghiselli
Dennis Kaake
Dan Mitchell
Lutz Mueller
Jose Silva

Distribution

Terry White

QwikConnect is published quarterly by Glenair, Inc. and printed in the U.S.A. All rights reserved. © Copyright 2013 Glenair, Inc. A complete archive of past issues of QwikConnect is available on the Internet at www.glenair.com/qwikconnect

GLENNAIR, INC.

1211 AIR WAY
GLENDALE, CA 91201-2497
TEL: 818-247-6000
FAX: 818-500-9912
E-MAIL: sales@glenair.com
www.glenair.com

