QwikConnect

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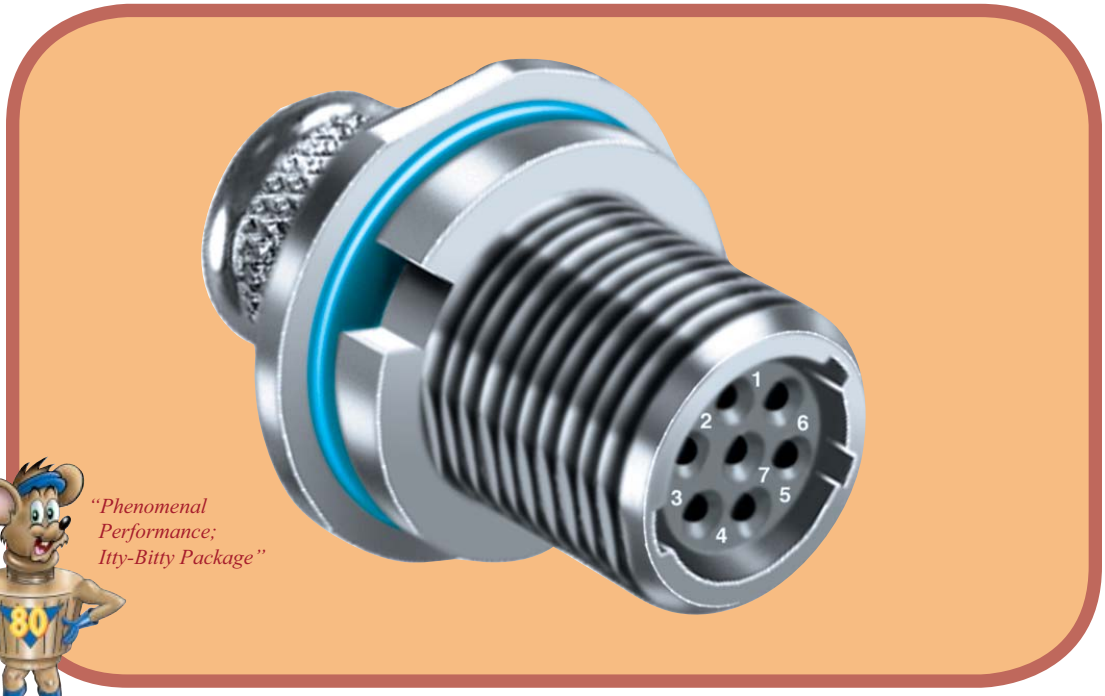
Faster, Smaller, Lighter: The Glenair Series 80 "Mighty Mouse" Connector Comes of Age

Cover Photo Courtesy General Dynamics

Glenair Series 80 "Mighty Mouse" Connectors



"Phenomenal Performance; Itty-Bitty Package"

Integrated Banding Porch

One of the most common design requirements for interconnect technology used in high-reliability applications is size and weight reduction. When electronic systems expand in number and complexity in military air, sea and ground applications, the available space for interconnect cabling is reduced. And when the latest generation of land vehicle, fighter jet or Navy ship needs to accomodate more systems and controls than ever before—and still weigh less than it did last time—then reducing connector package size and weight becomes a critical concern.

That's why Glenair designed the "Mighty Mouse" with an optional integrated banding porch for EMI shield termination. The ability to use the connector as is—without the need to mount an accessory backshell—further reduces the already lightweight package size of this small but mighty connector.

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"Mighty Mouse" Miniatrurized Interconnects Come of Age

Only a year and a half ago we devoted a QwikConnect issue to miniaturized interconnects, focusing primarily on wearable soldier systems. Even in this relatively brief period, offerings in the Glenair Series 80 "Mighty Mouse" connector line have expanded to the point that we have plenty of exciting news to share on this compact, robust interconnection system.

As you can see in the matrix on page 6 and 7 we have expanded and developed the Series 80 into a full spectrum product line that can solve applications calling for high density signal and power in packages smaller and lighter than functionally comparable D38999 connectors. A new comprehensive "Mighty Mouse" products catalog is planned for release in early 2007.

New Power and Coaxial Contact Layouts

We now offer a wider range of contact layouts in all Series 80 shell styles. New arrangements include size #12, #16 and #20 contacts for power, signal and RF requirements. And the list of layout arrangements is constantly growing as we strive to meet our customers' miniaturized interconnect needs.

Right Angle Board Mount Connectors

Glenair has developed the interconnect industry's first military, ruggedized solution for miniaturized right angle printed circuit board connectors. Until now, it has not been easy to find the right waterproof, fully shielded connector to replace RJ-45's for military-grade Ethernet switches and other high speed differential impedance applications. Glenair's new right angle connectors offer military grade performance in a small, economical package. Ideal for 100/1000BASE-T or IEEE 1394, these connectors are rated for MIL-STD-810 Method 512 immersion. Eliminate the extra labor to install flex or wire jumpers from your board to conventional mil spec circular connectors. Available in the Series 800, 801 and 805 "Mighty Mouse" connector styles, this new product finally solves a significant packaging problem for military Ethernet and other high speed serial data systems.

Series 80 "Mighty Mouse" right angle header for PCB connections: a high-performance replacement for RJ-45 connectors in military grade Ethernet switches or other high speed applications.

Series 805 "Mighty Mouse" Triple-Start

The new Series 805 connector offers the ease of triple-start threading with upgraded EMI protection and vibration resistance in a miniaturized package. Developed to provide significant performance enhancements compared to other "Mighty Mouse" versions, the Series 805 incorporates a ratchet mechanism in the coupling nut to prevent de-mating under severe vibration and shock conditions. EMI performance is improved with a serpentine ground spring on the plug barrel. This gold plated beryllium copper spring assures low shell-to-shell resistance. Shielding effectiveness exceeds 60 dB through 15 GHz. The Series 805, although slightly larger than other Series 80 versions, saves size and weight compared to D38999 connectors with no compromise in performance.

Series 802 “Aqua Mouse” Submersible 3500 PSI-Rated Connector

Now available in all standard “Mighty Mouse” contact layouts and shell sizes and a wider choice of finish treatments, the Series 802 “Aqua Mouse” delivers high pressure sealing and rugged design in a miniature package. Fully submersible and rated to 3500 PSI, the “Aqua Mouse” was originally developed for petroleum pipeline inspection equipment to withstand exposure to corrosive environments and high pressure. These connectors feature high density crimp "Mighty Mouse" inserts, 316 stainless steel housings and a “piston” o-ring. Heavy gold-plated contacts accept #12-30 AWG wire. Corrosion-resistant nickel-aluminum-bronze coupling nuts resist galling. Standard printed circuit board versions are available, along with hermetic receptacles.

Originally developed for petroleum pipeline inspection equipment, Series 802 connectors withstand exposure to corrosive environments and high pressure.

Hermetic "Mighty Mouse" Receptacles

When your application calls for a miniaturized hermetic for a sealed box or instrument, "Mighty Mouse" hermetics are the answer. Made of stainless steel with a glass seal, "Mighty Mouse" hermetics are available in all Series 80 receptacle styles with solder cup or PC tail contacts and are 100% tested to meet 1 X 10 - 6 cc/sec helium leakage. These sealed receptacles achieve an open face pressure rating of 1,000 PSI.

Glenair’s ASAP “Mighty Mouse” cordsets are available for 100BASE-T, Gigabit Ethernet, IEE 1394, USB 2.0 and other high speed differential impedance applications.

Series 80 Cordsets for Harsh Environments

Now available in all Series 80 styles and shell sizes, Glenair’s ASAP “Mighty Mouse” overmolded cordsets offer watertight sealing and excellent cold temperature flexibility. New features include expanded wire size choices, right angle overmolding, and low smoke, zero halogen jacketing for installation where combustion toxicity is a concern. These cables are 100% tested and ready to use. Standard overmolded cables feature polyurethane jackets or rubber jackets with flexible strain reliefs. Standard extruded Estane® polyurethane jacketing (also still offered) resists abrasion, provides excellent flexibility, and withstands continuous exposure to weather and solvents. Shielded 90% braid coverage and BAND-IT® shield termination meet EMI requirements. Ordering is simple: no minimums, and cordsets are made-to-order from stocked connectors and cable.

Filtered "Mighty Mouse" Connectors

Glenair’s filtered "Mighty Mouse" connectors provide significant size and weight savings compared to larger filtered mil-spec connectors. Designed to meet stringent aerospace performance requirements, "Mighty Mouse" filtered connectors are offered with standard low pass Pi or C filter arrays from 400 pF to 56,000 pF, or with customized filters to meet your specific needs. Thermally conductive

epoxy protects the multilayer ceramic planar capacitor array filter package from mechanical and heat stress and also provides a waterproof seal. These filtered receptacles mate to Series 801 stub ACME threaded, Series 803 Bayonet and Series 804 Push-Pull plugs and are available in jam nut or square flange versions. Layout options of 3 through 85 contacts in PC tail, solder cup and crimp versions are available. Space-grade bake-out processing is also offered.

Series 804 "Mighty Mouse" Breakaway coupling fiber optic connectors. Version shown features hybrid electrical and optical contacts for mixed power and signal applications.

Fiber Optic and Hybrid "Mighty Mouse" Connection Systems

We have engineered 2, 3 and 4 channel fiber optic layouts into a size 9 "Mighty Mouse" package for both high-speed as well as hybrid power and signal applications. Available in both plug and jam nut receptacle styles, this new miniaturized fiber optic product accommodates Glenair's high performance front release size 16 custom termini (available separately). Also available is a hybrid "Mighty Mouse" connector with one center size 16 optical terminus surrounded by ten signal contacts. Call Glenair for custom Series 80 optical and hybrid layouts, shell styles and shell sizes.

"Mighty Mouse" Connection System Accessories

"Mighty Mouse" backshells for all Series 80 connectors are reduced in size compared to standard Glenair backshells and are now specifically designed to fit the cable sizes used with these miniaturized connectors. Standard "Mighty

New Series 80 Backshells, available for all "Mighty Mouse" style connectors, feature multiple o-ring seals for environmental protection as well as an EMI shield ring for reliable grounding of cable shields and screens.

Mouse" backshells are available in three versions: environmental, EMI and environmental/EMI. Environmental backshells feature silicone o-rings for a watertight seal. EMI backshells feature an EMI ring for easy shield termination. Environmental/EMI versions include both the o-ring and EMI shield termination ring. Straight entry backshells are available with direct coupling or rotatable coupling. 45° and 90° adapters feature 45° and 90° rotatable coupling nuts.

Also new this year for the "Mighty Mouse" connector line, highly miniaturized versions of our patented Swing-Arm Strain Relief Backshell. Fabricated from composite thermoplastic, the Swing-Arm utilizes an actuated arm system that enables straight, 45° and 90° configurations all from the same basic part. Besides the obvious advantage of reducing stocking requirements by 2/3's, the Swing-Arm Strain-Relief Backshell is both lightweight and corrosion-free.

The Glenair patented Swing-Arm Strain Relief Backshell is now available for "Mighty Mouse" style connectors. The three-in-one product enables easy straight, 90° and 45° cable routing configurations.

The Series 80 “Mighty Mouse” Connector is designed for high-reliability commercial and military interconnect applications that require both robust environmental performance and reduced size and weight. The Series 80 “Mighty Mouse” Connector offers comparable performance to MIL-DTL-38999 Series interconnects with up to 71% (weight) and 52% (size) savings for similar contact layouts. The six versions of the product offer different coupling styles, insert arrangements and selected performance attributes.	Series 800	Series 801
		
Description	Original “Mighty Mouse” with UNF Threads	Double-Start ACME Thread
Notes	A general purpose connector for Ethernet switches, tactical equipment and instrumentation.	More rugged keys and threads compared to Series 800. Faster mating, slightly larger than Series 800.
Number of Contacts	3 to 37	3 to 85
Coupling	Threaded Coupling with 4 ½ Turns to Full Mate	Threaded Coupling with 1 ½ Turns to Full Mate
Water Immersion	MIL-STD-810 Method 512 1 Meter for 1 Hour	MIL-STD-810 Method 512 1 Meter for 1 Hour
EMI Shielding	Good	Good
Vibration and Shock	37 g's Random Vibration 300 g's Shock	37 g's Random Vibration 300 g's Shock
Mating Cycles	2000 Cycles	2000 Cycles
Electrical Performance	#12: 23 AMP, 500 VAC #16: 13 AMP, 500 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 500 VAC #16: 13 AMP, 500 VAC #23: 5 AMP, 500 VAC
Proven Performance Applications	Commercial air frame sensors; UAV telemetry; Tactical computers; field radios;	Military air frame; Dismounted soldier; Tactical ground weaponry; Avionic (FLIR) system

Series 802	Series 803	Series 804	Series 805
			
"AquaMouse" 3500 PSI	Bayonet	Push-Pull	Triple-Start ACME
Extremely rugged stainless steel, with Viton seals for chemical resistance. For geophysical and underwater applications.	Quick-mating, light duty, general purpose. Not rated for immersion. 50 milliohms shell-to-shell resistance.	Breakaway connector for headsets and tactical equipment. Gold-plated spring for long mating life and superior EMI shielding.	"Clicker" ratchet mechanism and ground spring for military airframes and avionics boxes. Fast-mating, D38999 equivalent.
3 to 85	3 to 85	3 to 85	4 to 85
Threaded Coupling with UN Threads	Push-to-Mate, ¼ Turn to Lock	Quick-Disconnect with Canted Spring	One Full Turn for Full Mate
1000 Feet Immersion in Salt Water	Splashproof	MIL-STD-810 Method 512 1 Meter for 1 Hour	MIL-STD-810 Method 512 1 Meter for 1 Hour
Good	Fair	Very Good	Excellent
37 g's Random Vibration 300 g's Shock	37 g's Random Vibration 300 g's Shock	37 g's Random Vibration 300 g's Shock	37 g's Random Vibration 300 g's Shock
2000 Cycles	250 Cycles Aluminum 2000 Cycles SST	2000 Cycles	2000 Cycles
#12: 23 AMP, 500 VAC #16: 13 AMP, 500 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 500 VAC #16: 13 AMP, 500 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 500 VAC #16: 13 AMP, 500 VAC #23: 5 AMP, 500 VAC	#12: 23 AMP, 500 VAC #16: 13 AMP, 500 VAC #23: 5 AMP, 500 VAC
Pipe line inspection equipment; Well logging; Amphibious vehicle; Unmanned submersibles	Soldier system radios; Autosport diagnostics; Airborne surveillance; Communication systems	Helmet breakaway connector; QDC battery; Missile applications; Weapon interconnect	Autosport; Military air frame; Joint Strike Fighter

The Series 80 "Mighty Mouse" Connector Family At a Glance

Series 800 with UNF Threaded Coupling

Series 801 with Double-Start ACME Threads

Series 802 3500 PSI Immersible

Series 803 Bayonet Lock

Series 804 Breakaway

Series 805 Triple-Start with Anti-De-Coupling Detent

New "Mighty Mouse" heat-shrink boots provide strain relief and environmental protection. These adhesive-lined boots fit all Series 80 connectors. Choose standard mil-spec grade material, or low smoke, zero halogen material where toxicity is a concern. Available in straight or 90° versions. All sizes are in stock for immediate delivery.

Rounding out our range of new accessories, Glenair has introduced a new contact insertion and removal too for “Mighty Mouse” crimp contacts. Made of durable plastic with high-strength steel tips, the tool provides superior performance on the full range of wires sizes accommodated by the “Mighty Mouse” connector family. The tools are reasonably priced and provide reliable performance.

New for 2006: a top-notch "Mighty Mouse" contact insertion and removal tool designed for reliable performance with all supported wire sizes.

Save Space and Weight with “Mighty Mouse”

The Series 80 “Mighty Mouse” interconnect system allows data and communication system designers to save space and weight in comparison to Mil-Spec alternatives, with no sacrifice on performance and quality. New products and features make “Mighty Mouse” the “no gaps” choice for applications requiring miniaturized and ruggedized, military-caliber interconnects.

Classic size and weight comparison between the Glenair "Mighty Mouse" conector (left) and a D38999 Series III (right): All the performance at just 1/2 the size and weight.

"Mighty Mouse" Goes High Speed

Side by side comparison of two approaches to high-speed Ethernet connectivity for military systems: The Glenair "Mighty Mouse" Cordset (left) provides superior shielding and environmental protection, as well as vibration, shock and mating performance (not to mention reduced size, weight and ease of use).

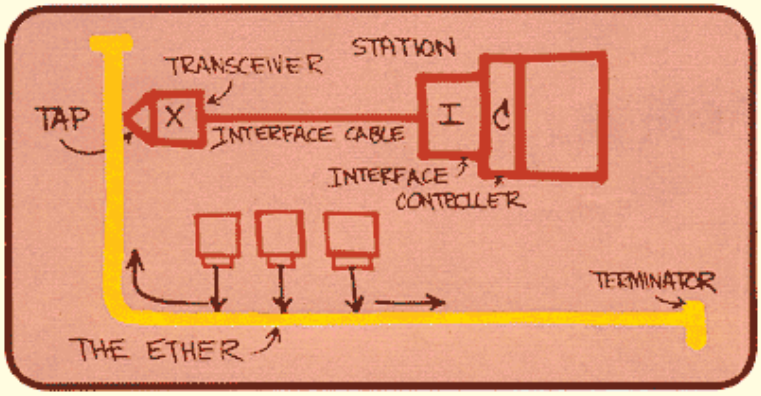
In response to requests for ruggedized, shielded connectors and cables to replace unshielded systems for high speed serial data, Glenair introduces its new *ASAP* "Mighty Mouse" high speed serial data cordsets. Available for 100BASE-T, Gigabit Ethernet, IEE 1394, USB 2.0 and CAN Bus applications, these cordsets combine aerospace-grade data cables with Series 80 "Mighty Mouse" harsh environment connectors for maximum performance and minimum size.

Until now, high speed serial data system designers have had to settle for kludgy RJ45 connectors jammed into large D38999-style housings (see above). "Mighty Mouse" *ASAP* cordsets offer space and weight savings with superior performance. These miniaturized connectors and cordsets are also ideal for Ethernet data switches requiring high density packaging. "Mighty Mouse" high speed serial data cordsets are already used on commercial avionics programs for sensors and other remote devices. Additionally, Glenair is proud to have these cordsets on Air Force One.

ASAP "Mighty Mouse" cordsets offer many advantages over quadrax contacts. Quadrax contacts require significant termination labor and are housed in large connectors that lack the environmental sealing of "Mighty Mouse" connectors. Further, quadrax solutions are rarely robust enough for long runs in airframes, and they cannot support Gigabit Ethernet. With a large range of layout configurations, "Mighty Mouse" cordsets can easily accommodate data and power applications, and are available in all five "Mighty Mouse" connector series styles.

Cabling options include 100BASE-T Ethernet 4 conductor UTP OAL shielded, 100BASE-T Ethernet Quad shielded, 1000BASE-T Gigabit Ethernet with 8 shielded conductors, IEEE 1394 Hi-Speed Quad 110 Ohm, USB 2.0 with two #22 power conductors and one STP #26, Two STP 100 Ohm shielded conductors, or Four STP 100 Ohm shielded conductors. Cable jacketing comes in translucent blue FEP fluorocarbon that meets FAA flammability requirements, or black low smoke/zero halogen polyurethane for mass transit or shipboard applications. Three strain relief options are available–polyamide overmolding, threaded aluminum backshells or low smoke/zero halogen heat shrink boots. Specify any length of cable. Ordering is simple—there are no minimums and cable and connector components are in stock.

High density data swiching in military applications: Glenair ASAP "Mighty Mouse" Cordsets are available now for 1,000BASE-T Ethernet and other high-speed data protocols.



Brainchild of Dr. Robert Metcalfe of Xerox's Palo Alto Research Center (PARC) in 1973, Ethernet was used initially as an experimental networking system within Xerox. Six years later, Xerox joined with Digital Equipment Corporation (DEC) and Intel to determine commercial applications for Ethernet. By 2000, more than 85% of all installed network communications were Ethernet.

High-Speed Data Protocols

Ethernet

Avionic and other military vehicle data transfer systems are growing increasingly complicated—the number of data paths, data rates and the quantity and sophistication of subsystems continue to escalate. In addition to transmission speed, accuracy and reliability are critically important. Ethernet communication technology, with its huge installed base and history of reliability, is ideally suited for military vehicles and other field applications. Although there are many MIL-STD-1553 bus architecture and data link systems in use, applications such as tactical radar require faster data rates than older architectures can deliver.

Basic Ethernet protocol is referred to as "CSMA/DC" (Carrier Sense, Multiple Access and Collision Detection). To define some terms: "Carrier Sense," the hosts can detect whether the medium is idle or busy; "Multiple Access," multiple hosts are connected to the common medium; and "Collision Detection," when a host transmits, the protocols can determine whether its transmission has collided with the transmission of another host. If two or more information packets are sent simultaneously, a collision occurs and neither transmission is successful—collision detection instructs the system to retransmit the colliding packets. Legacy Ethernet is half-duplex, meaning information can move in only one direction at a time, and is less-than-ideal for many avionic applications, as fastest-possible communication is not guaranteed. The collision problem occurs in any bus-oriented architecture, such as MIL-STD-1553.

Full-duplex, switched Ethernet eliminates the collision problem by employing links that are point-to-point (not a bus) with a separate twisted pair for transmission and reception. Full-duplex also has the ability to send and receive data at the same time by employing a network of Ethernet switches able to forward incoming packets to their appropriate destinations. Gigabit Ethernet transfers data on four pairs of wires instead of only two pairs under legacy Ethernet forms. Further, transmission coding is enhanced for Gigabit Ethernet so that the standard clock rate of 125 MHz that produces 100 mbps data transfer rates in so-called "Fast Ethernet" is supercharged to 1,000 mbps. Gigabit Ethernet can fit an order of magnitude more data into the same cable than can Fast Ethernet, but employs the same transmission schemes and frame format as the earlier Ethernet versions.

IEEE 1394

In the early 1990s, Apple Computer and Texas Instruments worked with the Institute of Electrical and Electronics Engineers (IEEE) to establish a very fast serial bus interface standard that supports data

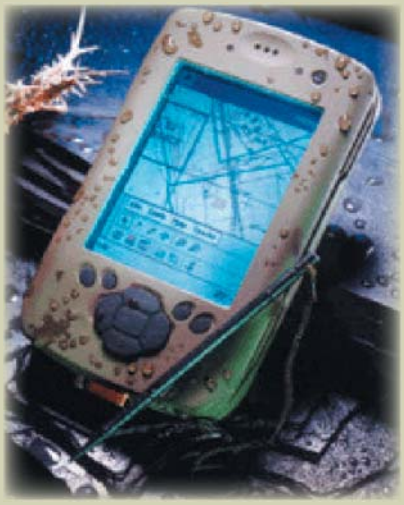
transfer rates of up to 400 mbps (in 1394a) and 800 mbps (in 1394b). Products supporting the 1394 standard go under different names, depending on the company. Apple uses the name FireWire, Texas Instrument uses Lynx and Sony uses i.link to describe their 1394 products. A single 1394 port can be used to connect up 63 external devices. In addition to its high speed, 1394 also supports isochronous data, delivering data at a guaranteed rate. This isochronous feature makes it ideal for devices that need to transfer high levels of data in real-time, such as video and audio applications. 1394 makes full use of all SCSI (Small Computer System Interface, a parallel interface standard used for attaching peripheral devices to computers) capabilities and, compared to USB 2.0 High Speed, has higher sustained data transfer rates. Like USB, 1394 supports both Plug-and-Play and hot plugging, and also provides power to peripheral devices. A typical 1394 commercial connector is shown above.

MIL-STD-1533

MIL-STD-1533 defines all aspects of the serial digital multiplex data bus for military vehicles. Multiplexing combines two or more information channels on to a common transmission medium. When compared to older analog point-to-point wire bundles, multiplexing allows for weight reduction, simplicity of system design, standardization and flexibility. The 1553 data bus provides integrated, centralized system control and a standard interface for all interconnected equipment. Devices connect using twisted, shielded pairs of wires to maintain message integrity. All devices in the system are connected to a redundant pair of buses to provide a second path of traffic should one of the buses become damaged. Data rates of 1 megabit per second (mbps) are standard under MIL-STD-1553. MIL-STD-1773 contains the requirements for fiber optic cabling systems as a 1553 bus transmission medium.

USB 2.0

USB 2.0 (Universal Serial Bus High Speed) is the most recent revision of USB specifications. Introduced by a consortium of seven computer and telecommunications industry leaders in 1995 (Compaq, DEC, IBM, Intel, Microsoft, NEC and Northern Telecom), USB ports began to appear on personal computers in 1997. Within a few years, USB became popular for connecting nearly every external peripheral device. Along with other desirable features, USB devices are "hot swappable"—they can be connected without turning the computer off, enabling removable devices to be plugged and unplugged as needed.



USB has evolved into a standard technology for personal computers and other consumer electronics. At its introduction, USB 1.0, now called "Low Speed USB," ran at just 1.5 mbps. USB 1.1, introduced in 1998 and often referred to as "Full Speed USB," runs at 12 mbps. Released in 2000, USB 2.0 or "High Speed USB," is the most advanced with a data transfer rate of 480 mbps and is backward compatible with previous versions of USB.

The speeds associated with USB are theoretical maximums; the actual speed a USB-compliant device achieves is not necessarily the speed of the USB specification. Unlike parallel, serial, PS/2 and game port interfaces, USB features a single set of "universal" connections for all USB peripherals to the personal computer. This single set replaces the need for multiple external ports and allows up to 127 peripherals to be connected sequentially into a single external USB port using multiple USB hubs.

HOW TO ORDER SERIES 80 CORDSETS FOR HIGH SPEED DATA

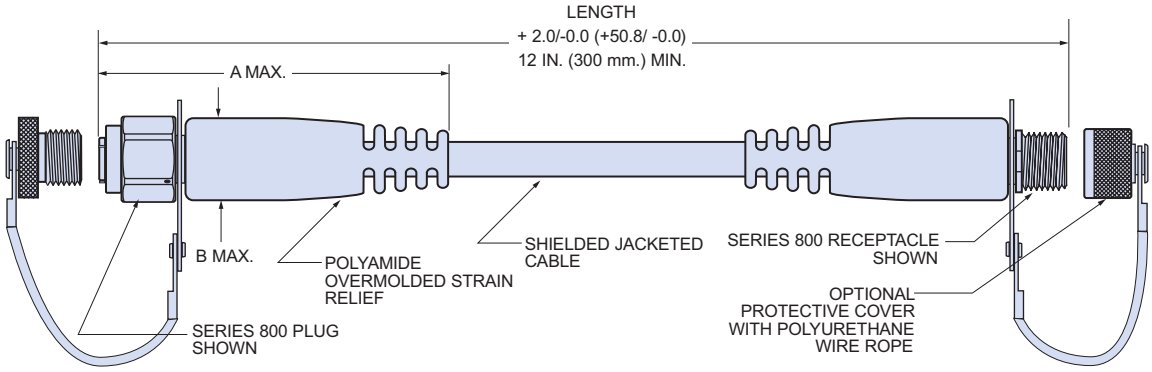
Sample Part Number

801-021	B	R	P	A	C	M	P	Z	– 72
Connector Series	**Cable**	**Cable Jacket**	**Strain Relief**	**Connector End A P1**	**Connector End B P2**	**Shell Material / Finish**	**Protective Cover**	**Shell Pol. Pos.**	**OAL Length**
800-035 Series 800 Cordset, UNF Threaded Coupling, Hex Nut **801-021** Series 801 Cordset, Double-Start Threaded Coupling **803-007** Series 803 Cordset, Push-Pull With Bayonet Lock Coupling **804-013** Series 804 Cordset, Quick-Disconnect Push-Pull **805-007** Series 805 Cordset, Tri-Start Threaded Coupling with Ratchet and Ground Spring	**A** 100BASE-T Ethernet 4 Cond. UTP, OAL Shield 4 Pin Connector **B** 100BASE-T Ethernet Quad, OAL Shield, 4 Pin Connector **C** 1000BASE-T Gigabit Ethernet 8 Cond. UTP, OAL Shield, 10 Pin Connector **D** IEEE 1394 Hi-Speed Quad 110 Ohm, 4 Pin Connector **E** USB 2.0, Two #22 Power, One STP #26 **F** Two STP, 100 Ohm, OAL Shield, 4 Pin Connector **G** Four STP, 100 Ohm, OAL Shield, 10 Pin Connector	**F** FEP Flourocarbon Jacket, Translucent Blue **P** Low Smoke/ Zero Halogen Polyurethane Jacket, Black	**P** Polyamide Overmold **B** Aluminum Backshell **H** Heat-Shrink Boot, Low Smoke/ Zero Halogen	**A** Plug, with Male Pin Contacts **B** Plug, with Female Socket Contacts **C** Receptacle, with Male Pin Contacts **D** Receptacle, with Female Socket Contacts	**A** Plug, with Male Pin Contacts **B** Plug, with Female Socket Contacts **C** Receptacle, with Male Pin Contacts **D** Receptacle, with Female Socket Contacts **N** No Connector (Single-Ended)	**M** Aluminum / Electroless Nickel **NF** Aluminum / Cadmium with Olive Drab Chromate **ZN** Aluminum / Zinc-Nickel with Olive Drab Chromate **ZNU** Aluminum / Zinc-Nickel with Black Chromate **Z1** Stainless Steel / Passivated	**P** Metal Protective Covers Included **N** No Covers Supplied	**N** Normal **X** Pos. X **Y** Pos. Y **Z** Pos. Z	Overall Length In Inches 12 Inch Min.

ASAP CORDSET DIMENSIONS

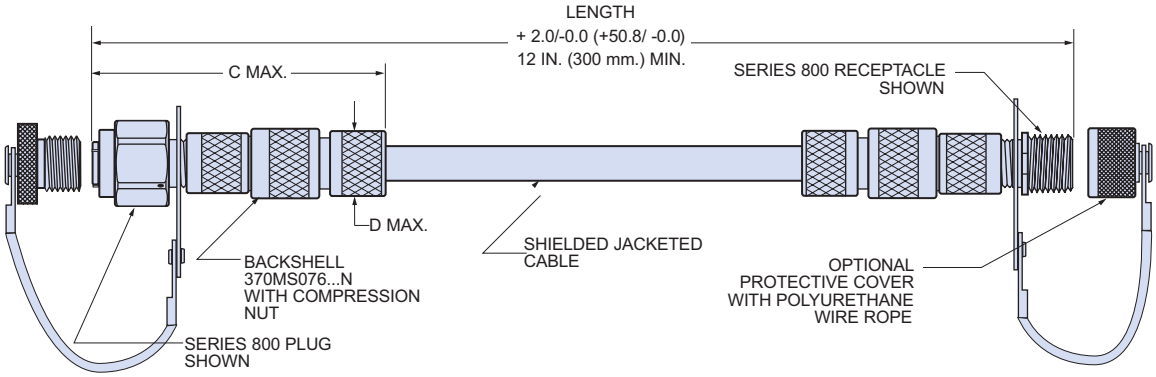
Strain relief Code P

Polyamide Overmold



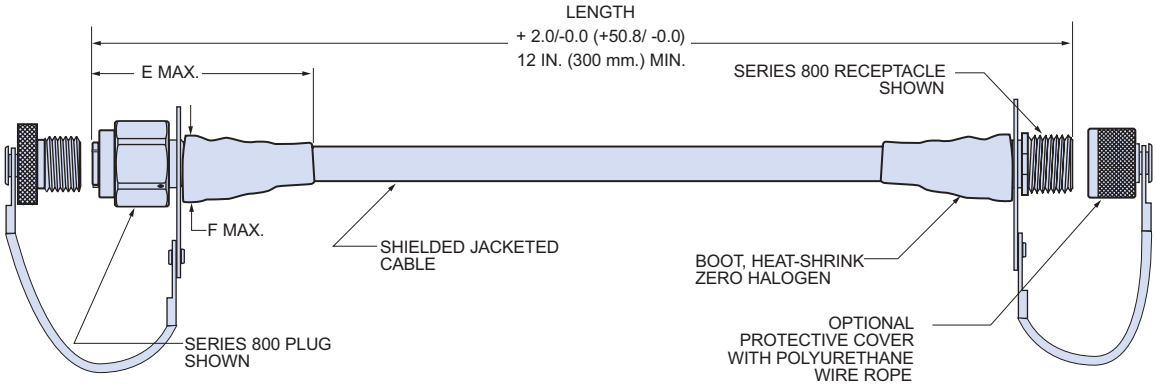
Strain relief Code B

Metal Backshell



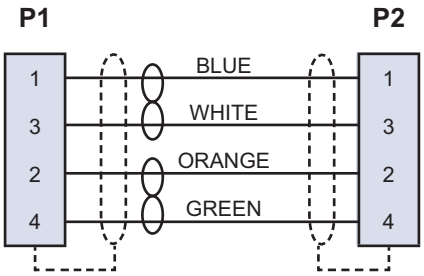
Strain relief Code H

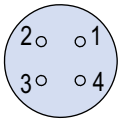
Heatshrink Boot



ASAP CABLE WIRING SCHEMATICS FOR TYPE A, B, C, D AND

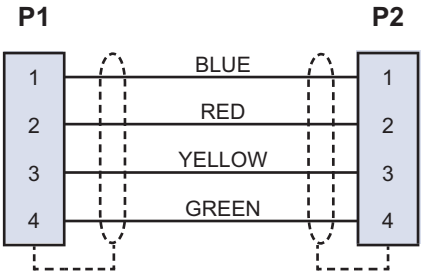
WIRING DIAGRAM CABLE TYPE A 100BASE-T UTP

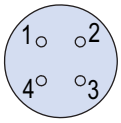




Socket Connector Mating Face

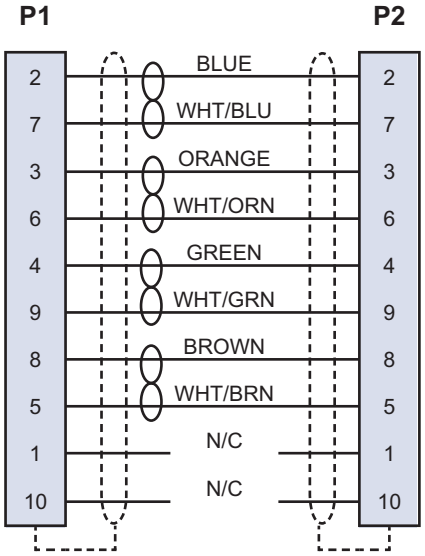
WIRING DIAGRAM CABLE TYPE B 100BASE-T QUAD

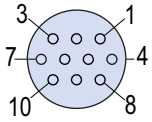




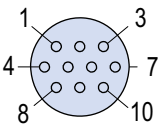
Pin Connector Mating Face

WIRING DIAGRAM CABLE TYPE C 1000BASE-T UTP



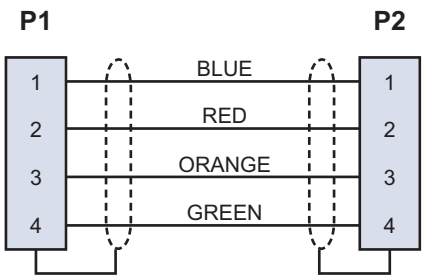


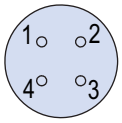
Pin Connector Mating Face



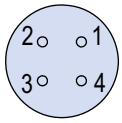
Socket Connector Mating Face

WIRING DIAGRAM CABLE TYPE D 1394 QUAD



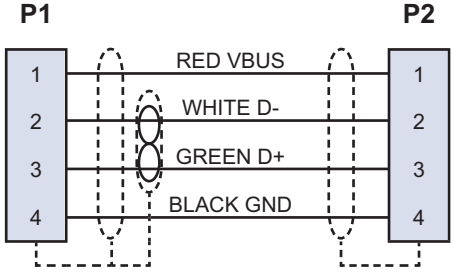


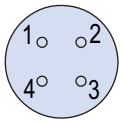
Pin Connector Mating Face



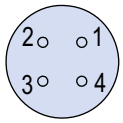
Socket Connector Mating Face

WIRING DIAGRAM CABLE TYPE E USB 2.0

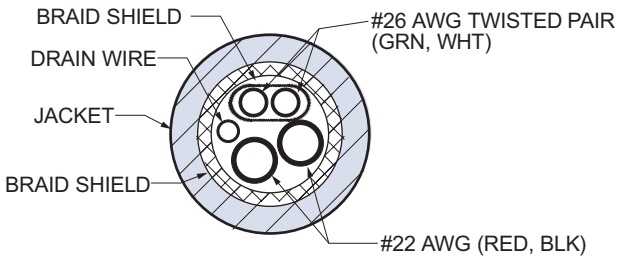




Pin Connector Mating Face

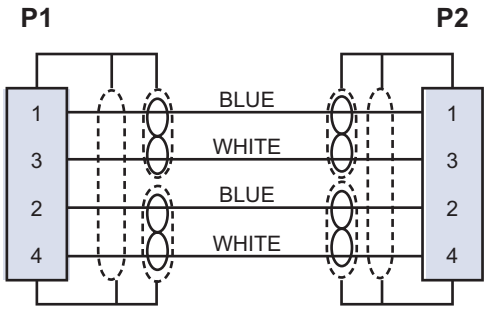


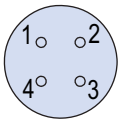
Socket Connector Mating Face



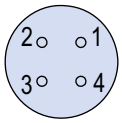
ASAP CABLE WIRING SCHEMATICS FOR TYPE F AND G CABLE

WIRING DIAGRAM
CABLE TYPE F
TW0 100 OHM SHIELDED TWISTED
PAIRS WITH OVERALL SHIELD



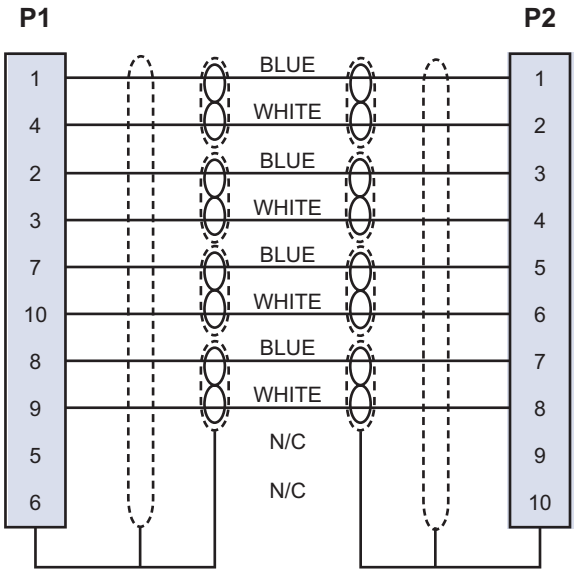


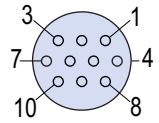
Pin Connector
Mating Face



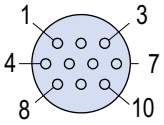
Socket Connector
Mating Face

WIRING DIAGRAM
CABLE TYPE G
FOUR STP





Pin Connector
Mating Face



Socket Connector
Mating Face

Product Specification
Series 80
"Mighty Mouse" Connectors

CONNECTORS, ELECTRICAL, CIRCULAR, MINIATURE, ENVIRONMENTAL,
RECEPTACLES AND PLUGS, GENERAL SPECIFICATION FOR

DISTRIBUTION STATEMENT: General release, unlimited distribution

TABLE OF CONTENTS

1 SCOPE

1.1 Scope. This specification covers performance requirements for Glenair Series 80 “Mighty Mouse” miniature circular connectors for aerospace and harsh environment applications.

1.2 Description. Series 80 connectors with size 23 contacts, environmental sealing, crimp, solder cup or printed circuit board termination, aluminum and corrosion resistant steel shells and coupling nuts, crimp rear-release or non-removable contacts, hermetic versions, threaded,push-pull and bayonet coupling mechanisms, and filtered versions.

2 ORDER OF PRECEDENCE

2.1 Order of precedence. In the event of a conflict between the requirements of this specification and the references cited herein, this document takes precedence. The requirements set forth in customer specifications and Glenair detail drawings shall take precedence over this document.

3 REQUIREMENTS

3.1 Materials and finishes. Materials and finishes shall be in accordance with Table 1 Materials and Table 2 Finishes, unless otherwise specified in detail drawings. Materials and finishes shall be selected to insure the connector is capable of meeting the performance requirements of this specification.

Table 1
Materials and Finishes

Aluminum Shell, Barrel, and Coupling Nut	Aluminum alloy 6061per ASTM B211
Stainless Steel Shell, Barrel Coupling and Jam Nut	Stainless steel per AMS-QQ-S-763
Front and Rear Insulators	Glass-filled liquid crystal polymer (LCP) in accordance with MIL-M-24519, Type GLP-30F
Contact Retention Clip	Beryllium copper, heat-treated, unplated
Grommet, Peripheral Seal and Interfacial Seal	Blended fluorosilicone/silicone elastomer, 30% silicone per ZZ-R-765, 70% fluorosilicone per MIL-R-25988
Hermetic Insert	Vitreous glass
Pin Contact	Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches
Pin Contact, Hermetic	Nickel-iron alloy per ASTM F30 (Alloy 52),50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches
Socket Contact	Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches.
Socket Contact Hood	Stainless steel, passivated per AMS-QQ-P-35
Adhesives	Silicone and epoxy
Potting Compound, PCB and Solder Cup Versions	Environmental and Hermetic Connectors: Stycast 2651/Catalyst 9 epoxy encapsulant Filter Connectors: Stycast 2850FT/Catalyst 11 thermally conductive epoxy encapsulant.
Filter Element	Multilayer Ceramic Planar Array, ferrite inductors

Table 2
Finishes for Connector Shell and Nut

	Plating Code	Finish	Specification
Aluminum Shell, Barrel, Coupling Nut and Jam Nut	M	Electroless Nickel	AMS-C-26074
	NF	Olive Drab Cadmium over Electroless Nickel	AMS-QQ-P-416, over AMS-C-26074
	ZN	Olive Drab Zinc-Nickel	Zinc alloy per ASTM B841-91, Class 1 Type E Grade 3 over Electroless nickel per ASTM B733-90 SC2, Type 1 Class 5 (500 Hour Salt Fog)
	ZNU	Zinc Nickel, Black	Zinc alloy per ASTM B841-91, Class 1 Type E Grade 3 over Electroless nickel per ASTM B733-90 SC2, Type 1 Class 5 (500 Hour Salt Fog)
	C	Black Anodize	MIL-A-8625, Type II Class 2
Stainless Steel Shell, Barrel, Coupling Nut and Jam Nut	Z1	Passivate	AMS-QQ-P-35
	ZB	Olive Drab Cadmium	AMS-QQ-P-416
	ZC	Black Chromate over Zinc Cobalt	ASTM B841-91
	ZM	Electroless Nickel	AMS-C-26074

3.2 Electrical performance requirements.

3.2.1 Insulation resistance.

3.2.1.1 Insulation resistance at ambient temperature. 5,000 megohms minimum between any pair of contacts and any contact and the shell when tested in accordance with EIA-364-21.

3.2.1.2 Insulation resistance at elevated temperature. 200 megohms minimum between any pair of contacts and any contact and the shell, when tested in accordance with EIA-364-21. Temperature shall be the maximum operating temperature stated in paragraph 3.4.1

3.2.2 Dielectric withstanding voltage.

3.2.2.1 Dielectric withstanding voltage (sea level). 500 volts ac, rms 60 Hz. Connectors shall show no evidence of breakdown or flashover when subjected to the DWV test of EIA-364-20.

3.2.2.2 Dielectric withstanding voltage (70,000 feet). 100 volts ac, rms 60 Hz. Connectors shall show no evidence of breakdown or flashover when subjected to the DWV test of EIA-364-20.

3.2.3 Contact resistance. The voltage drop of a mated pair of contacts attached to wires shall not exceed the values shown in Table 3 when tested in accordance with EIA-364-06, using M22759/11 silver-plated copper wire (six inches between probes of voltmeter).

Table 3
Contact Resistance

Contact Material	Wire Size	Test Current amperes	Maximum Voltage Drop (millivolts) 25° C
Copper Alloy	12	23	42
	14	17	40
	16	13	49
	20	7.5	55
	22	5	73
	24	3	45
	26	2	52
	28	1.5	54

3.2.4 Low-signal level contact resistance (dry circuit). Contact resistance shall not exceed the values in table 4 when tested in accordance with EIA-364-23.

Table 4
Low-Level Signal Contact Resistance

Wire Size	Maximum Contact Resistance (milliohms)	
	Initial Condition	After Conditioning
16	5	6
20	9	11
22	15	17
24	20	23
26	31	38
28	50	60

3.2.5 Current rating.

3.2.5.1 Current rating at ambient temperature, unconfined.

Table 5
Maximum Contact Current Rating

Contact Size	Amperes
12	23
16	13
20HD	7.5
23	5

3.2.6 Shell-to-shell conductivity. The maximum voltage drop across a mated pair of connectors shall not exceed the values shown in Table 6 when tested in accordance with EIA-364-83, for connectors with electroless nickel plating or olive drab cadmium plating.

Table 6
Shell-To-Shell Conductivity

Series	Maximum Millivolt Drop	
	Initial Condition	After Conditioning (Salt Spray)
800	10	20
801	10	20
802	10	20
803	100	200
804	2	4
805	2	4

3.2.7 EMI shielding effectiveness. The EMI shielding effectiveness of mated connectors with electroless nickel plating shall not be less than the values specified in Table 7, when tested in accordance with MIL-DTL-38999 para. 4.5.27.

Table 7
EMI Shielding Effectiveness

Frequency	Leakage Attenuation, dB Minimum					
	Connector Series					
	800	801	802	803	804	805
100 MHz	75	75	75	60	80	90
200 MHz	70	70	70	55	76	88
300 MHz	65	65	65	55	73	88
400 MHz	63	63	63	50	68	87
800 MHz	58	58	58	45	64	85
1GHz	55	55	55	40	60	80
3GHz	50	50	50	---	55	75
6GHz	45	45	45	---	45	65
10GHz	40	40	40	---	40	60

3.2.8 Transfer impedance. Mated connectors shall be capable of meeting the requirements of FCC docket 20780 Part 15 Subpart J governing emission limits for Class A (office) electronic equipment.

3.2.9 Magnetic permeability. 2.0μ maximum.

3.2.10 Insertion loss, filter connectors. When tested in accordance with MIL-STD-220, at 25° C. with no load, the insertion loss shall meet the requirements of Table 8.

Table 8
Insertion Loss, Filter Connectors

Frequency	Insertion Loss, dB Min, 25°C., C Filter Filter Class						
	A	B	C	D	E	F	G
1 MHz	6	5	3	-	-	-	-
10 MHz	24	23	16	8	4	-	-
100 MHz	41	39	35	28	21	10	5
500-1000 MHz	50	49	46	41	34	23	17
Frequency	Insertion Loss, dB Min., 25°C., Pi Filter Filter Class						
	A	B	C	D	E	F	G
1 MHz	10	8	5	1	-	-	-
10 MHz	40	35	25	14	8	2	0.8
100 MHz	62	60	57	50	40	15	13
500-1000 MHz	66	62	60	58	52	32	22

3.2.11 Capacitance, filter connectors. Capacitance shall meet the requirements of Table 6 when tested at 25°C., 1kHz, 1.0 VAC RMS.

Table 9
Capacitance, Filter Connectors

Filter Class	Capacitance, C Filter (pF)	Capacitance, Pi ilter (pF)
A	19000-28000	38000-56000
B	16000-22500	32000 – 45000
C	9000-16500	18000 – 33000
D	4000-6000	8000 – 12000
E	1650-2500	3300 – 5000
F	400-650	800 – 1300
G	200-300	400 - 600

3.3 Mechanical requirements.

3.3.1 Weights. Connector Weights are published in the Series 80 Catalog

3.3.2 Durability.

3.3.2.1 Durability for Series 800, 801, 802, 804. Connectors shall withstand 2000 cycles of mating without mechanical or electrical degradation.

3.3.2.2 Durability for Series 803. Connectors shall withstand 250 cycles of mating.

3.3.3 Contact engaging and separation force. Contacts shall meet the force requirements of SAE AMS39029 Table IX, when tested in accordance with EIA-364-37.

3.3.3.1 Contact engaging and separation force (initial)

3.3.4 Contact retention. Contacts shall withstand the axial force specified in Table 10 without exceeding the .012 inch (0.30 mm) displacement when tested in accordance with EIA-364-29 method B.

Table 10
Contact Retention

Contact Size	Load ± 10% in Pounds
12	25
16	25
20HD	15
23	6

3.3.5 Crimp joint strength. Contacts shall meet the wire pull forces in table 11 when crimped to silver-plated copper wire in accordance with MIL-W-22759/11.

Table 11
Crimp Joint Strength

Wire Size	Pull Force in Pounds
12	110
14	70
16	50
20	20
22	12
24	8
26	5
28	3

3.3.6 Torque.

Table 12
Recommended Torque

Shell Size	Coupling Torque				Jam Nut Tightening				Backshell Tightening			
	In-Lbs.		NM		In-Lbs.		NM		In-Lbs.		NM	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
5	35	45	4.0	5.1	30	40	3.4	4.5	25	35	2.8	4.0
6	40	50	4.5	5.7	35	45	4.0	5.1	30	40	3.4	4.5
7	40	50	4.5	5.7	35	45	4.0	5.1	35	45	4.0	5.1
8	40	50	4.5	5.7	35	45	4.0	5.1	35	45	4.0	5.1
9	45	55	5.1	6.2	35	45	4.0	5.1	35	45	4.0	5.1
10	50	60	5.7	6.8	45	55	5.1	6.2	40	50	4.5	5.7
12	50	60	5.7	6.8	45	55	5.1	6.2	40	50	4.5	5.7
14	55	65	6.2	7.3	45	55	5.1	6.2	40	50	4.5	5.7
15	55	65	6.2	7.3	45	55	5.1	6.2	40	50	4.5	5.7

3.3.7 Insert retention. Unmated connectors shall retain their inserts in their proper location in the shell and there shall be no cracking or loosening when an axial force is applied to the mating face of the insert per the values shown in Table 13, when tested in accordance with EIA-364-35.

Table 13
Insert Retention

Shell Size	Minimum force in Pounds
5	25
6	25
7	25
9	25
12	30
14	45
15	50

3.3.8 Unmating force, Series 804 push-pull. The force required to unmate Series 804 quick-disconnects shall be as specified in Table 14.

Table 14
Series 804 Unmate force

Layout	Average force in Pounds
5-3	10.6
6-4	10.8
6-7	11.4
7-10	12.0
8-13	12.6
9-19	13.8
10-26	15.2
12-37	17.4
14-55	21.0
15-85	27.0

3.4 Environmental requirements.

3.4.1 Operating temperature.

3.4.1.1 Operating temperature, environmental and hermetic Connectors: Connectors shall be capable of performing satisfactorily when operated at a temperature range of -65° C. to +150° C..

3.4.1.2 Operating temperature, filter connectors: Connectors shall be capable of performing satisfactorily when operated at a temperature range of -55° C. to +125° C.

3.4.2 Corrosion resistance (salt fog). Following exposure to the salt fog requirement of EIA-364-26, connectors shall exhibit no corrosion sites or other defects detrimental to the function of the connector.

Table 15
Corrosion Resistance

Shell Material	Plating Code	Shell Finish	Test Condition	Length of Exposure (Hrs.)
Aluminum	M	Electroless Nickel	B	48
	NF	Olive Drab Cadmium-Nickel	C	500
	ZN	Olive Drab Zinc-Nickel	C	500
	ZNU	Zinc Nickel, Black	C	500
	C	Black Anodize	B	48
Stainless Steel	Z1	Passivate	D	1000

3.4.3 Sand and dust. Connectors shall be able to withstand the effects of blowing sand and dust test specified in MIL-STD-810, Method 510.4.

3.4.4 Thermal shock. Connectors shall be able to withstand rapid changes in temperature from the minimum operating temperature to the maximum recommended operating temperature. Connectors shall be considered capable of meeting this requirement if they are successfully subjected to 5 cycles as defined in EIA-364-32, with each cycle consisting of the following steps:

Step 1:	60 minute duration	–65° C.
Step 2:	2 minute duration	Transition from -65° to +150°C.
Step 3:	60 minute duration	150° C.
Step 4:	2 minute duration	Transition from +150° to -65°C.

3.4.5 Altitude immersion: A mated pair of connectors shall be capable of meeting 500 VAC dielectric withstanding voltage and 1000 megohms insulation resistance requirements during and subsequent to simulated exposure to condensation caused by three cycles of rapid descent from 40,000 feet altitude. EIA-364-03 shall define the test procedure.

3.4.6 Altitude –low temperature: Connectors shall be able to withstand concurrent exposure to -65° low temperature and 40,000 feet altitude for a 1 hour duration, when tested in accordance with EIA-364-105. Wired, mated connectors shall not exhibit voltage breakdown between the connector shell and contacts with 100 VAC applied to all contacts in series.

3.4.7 Immersion.

3.4.7.1 Immersion, Series 800,801, 804 and 805.
Mated connectors shall be able to withstand 1 hour immersion in fresh water at a depth of 1 meter.

3.4.7.2 Immersion, Series 803.
Series 803 connectors are not required to meet immersion requirements.

3.4.8 Air leakage. Hermetic connectors shall meet an air leakage requirement of less than 1 X 10^{6} cc/sec of helium at a pressure differential of 1 atmosphere (30 PSI). The test procedure is defined in MIL-STD-1344 method 1008.1.

3.4.9 Outgassing. The entire connector assembly shall be capable of meeting a maximum Total Mass Loss (TML) of 1% and a Total Collected Volatile Material Loss (TCVML) of 0.1% when tested in accordance with ASTM-E595, following additional processing for outgassing control. This additional processing, when invoked by customer purchase order requirements, customer specification or Glenair modification code, shall consist of the following:
Fully assembled connectors shall be baked out for 24 hours at a temperature of +125°C and a vacuum of 10-6 Torr..
Table 16 provides detailed information regarding the outgassing characteristics of the non-metallic materials.

Table 16
Outgassing Properties of Non-Metallic Materials

Component	Material	TML %	TCVML %	Test Reference
Front and Rear Insulator	Liquid Crystal Polymer Vectra C130	0.03	0.0	NASA Test # GSC17478
Front and Rear Insulator 3, 4 and 7 pin	Epoxy Epiall 1908	0.84	0.00	NASA Test GSC15435
Rear Grommet	Blended flourosilicone/silicone elastomer, 30% silicone per ZZ-R-765, 70% flourosilicone per MIL-R-25988	0.48	0.14	Glenair testing conducted at NuSil Technology 02/27/2001
Interfacial Seal		0.48	0.14	
Peripheral Seal, Receptacle		0.48	0.14	
Front-To-Rear Insulator Bonding Material	Eccobond 104 A/B	0.52	0.08	Emerson & Cuming Data Sheet
Insulator-to-Rubber Bonding Material	DC3145 RTV, Clear, per MIL-A-46146	1.74	0.90	NASA Test GSFC0191
Coupling Nut Retainer	Torlon® 4203L	1.88	0.01	Glenair Test at NuSil Technology 03-12-2003
Coupling Nut Epoxy	Scotch Weld Epoxy #2214 Gray	0.77	0.02	NASA Test # GSFC3835
O-Ring	Flourosilicone Rubber	TBD	TBD	
White Epoxy Ink for Silkscreening	Markem 7224 White	0.49	0.03	NASA Test #GSC19899
Black Ink for Part Number Identification	Videojet #16-5600Q	TBD	TBD	
Potting Compound, Solder Cup and PC Tail Connectors	Stycast epoxy 2651/Catalyst 9	0.31	0.03	Mfgr Data Sheet
Potting Compound, Filter Receptacles	Stycast epoxy, 2850FT/Catalyst 11	0.29	0.02	Mfgr Data Sheet

3.4.10 Vibration. Connectors shall be capable of withstanding the following sine and random vibration requirements with no discontinuities greater than 1 microsecond.

3.4.10.1 Vibration, random. Connectors shall be able of withstanding the random vibration test defined in EIA-364-28 Condition V Letter I with the following details:
Duration: 4 hours each of three axes
Temperature: ambient
Frequency range: 50 Hz to 2000 Hz.
37.8 g RMS

3.4.10.2 Vibration, sine. Connectors shall be subjected to the sine vibration test of MIL-STD-202 Method 204 Condition G. 12 sweep cycles per axis, 20 minutes per 10-2000-10Hz sweep cycle.

3.4.11 Shock. Connectors shall be capable of meeting the shock requirement specified in EIA-364-27. 300 g. half-sine, 3 millisec. duration, 3 axes. No discontinuities greater than 1 microsecond, no visible signs of damage.

3.4.12 Acceleration: Wired, mated connectors shall be able to withstand 50g acceleration with no circuit interruption greater than 1 microsecond. MIL-STD-1344 Method 2011-1 Test Condition A shall apply.

3.4.13 Gunfire Vibration: Wired, mated connectors shall be able to withstand the simulated effects of gunfire vibration when tested in accordance with MIL-STD-810F Method 519.5. The frequency and amplitude shall approximate close proximity to the M230 chain gun deployed on an AH-64 Apache helicopter.

3.4.14 Fungus. Connector materials shall resist microbial deterioration caused by fungus growth when tested per MIL-STD-810, Method 508.5

3.4.15 Contamination by Fluids. Connectors shall withstand intermittent exposure to the fluids shown in Table 17 when tested per MIL-STD-810 method 504. Unmated connectors shall withstand complete immersion in the specified fluid without excessive swelling, damage or distortion to dielectric materials including seals, grommets and insulators.

Table 17
Contamination by Fluids

Contaminant Fluid Group		Test Fluid	Test Fluid Temperature +/-2° C.	Immersion Duration (Hrs.)
Fuels	Kerosene	JP-4 (NATO F40)	70	8
	Gasoline	ASTM 4814	ambient	8
Hydraulic Oils	Mineral oil based MIL-H-5606		70	8
Solvents and Cleaning Fluids	Isopropyl alcohol		ambient	8
De-icing Fluids	25% urea/ 25% ethylene glycol in water		ambient	8

3.4.16 Humidity. Fully wired, mated connectors shall be able to withstand high humidity environments at varying temperatures without degradation. Connectors shall be considered to be able to meet this requirement if subjected to the humidity test of MIL-EIA-364-31, Method IV. Connectors shall show no evidence of deterioration and shall be tested for insulation resistance. The minimum insulation resistance shall be 100 megohms.

3.4.17 Hydrostatic pressure pating. Series 802 connectors shall be capable of meeting a hydrostatic pressure rating of 3500 PSI (241 bar) fully mated.

3.4.18 Open face pressure rating. Hermetic receptacles shall be capable of meeting 1000 PSI (68 bar) pressure in an unmated condition.

Qualification Test Report Series 80 "Mighty Mouse"

1 INTRODUCTION

1.1 Purpose

Testing was performed on Glenair Series 80 connectors to determine its conformance to the requirements of Product Specification 809-009 Revision 10 October 2006.

1.2 Scope

This report covers electrical, mechanical and environmental performance testing of Glenair Series 80 connectors. The information in this report was obtained from a series of tests conducted by Environmental Associates, Santa Ana, California and National Technical Systems, Fullerton, California. Additional tests were conducted at TRW Research Laboratory, Albuquerque, New Mexico, NuSil Technology, Carpenteria, California, Glenair UK Ltd., Mansfield, England and Glenair Inc., Glendale, California. These documents are on file at Glenair, Glendale California and are available upon request.

Testing Agency	Location	Date	Description of Test	Document Reference
Lothar Hoeft, Ph.D.	TRW Research , Albuquerque NM	March 25, 2001	Transfer impedance and shielding effectiveness	Letter Report and Appendix
NuSil Technology	Carpenteria, CA	October 17, to October 27, 2003	Outgassing property of fluorosilicone rubber seals	52558
Glenair UK Ltd.	Mansfield, England	June 17, 2002	Gunfire Vibration	TR32-0502
Glenair UK Ltd.	Mansfield, England	June 12,2002	Breakdown Voltage at 70K ft	TR43-0602
National Technical Systems	Fullerton, CA	October 3, 2006	Series 803 Qualification	679-4971-2 91906188
Environment Associates	Santa Ana, CA	October 2, 2006	Series 804 Qualification	OC18224-0412997 91906189
Environment Associates	Santa Ana, CA	October 5, 2006	Series 801 Qualification	OC18222-0412996 91906187
National Technical Systems	Fullerton, CA	September 20, 2006	High Frequency EMI Shielding Effectiveness	679-4971-1

1.3 Conclusion

The Series 80 connectors have been shown to be capable of meeting the requirements of Glenair Product Specification 809-009.

1.4 Product Description

The Series 80 connector is a multi-pin circular electrical connector intended for application on aerospace equipment, tactical military equipment, and harsh environment commercial equipment. The Series 80 connector family includes Series 800 threaded coupling (UNF threads), Series 801

threaded coupling (ACME double-start threads), Series 802 submersible with threaded coupling, Series 803 bayonet coupling, Series 804 push-pull coupling and Series 805 triple-start ACME threaded coupling. The contact system and retention system conform to aerospace grade design practice, with rigid dielectric insulators captivating metal contact retaining clips. Rubber face seals and grommets are bonded to the rigid dielectric.

1.5 Test Specimens

Two mated pairs of three connector sizes (small, medium and large) for Groups 1, 2 and 3. Group 2 test specimens split into two sets, one set for random vibration and one set for sine vibration. One mated pair of small and large connectors for Group 4 EMI testing.

GLENAIR TEST NO.	91906187				91906188			91906189			
PRODUCT	SERIES 801				SERIES 803			SERIES 804			
PART NUMBER	Group 1	Group 2	Group 3	Group 4	Group 1	Group 2	Group 3	Group 1	Group 2	Group 3	Group 4
801-008-16M6-7SA	2	2	2	1							
801-009-07M6-7PA	2	2	2	1							
801-008-16M9-19PA	2	2	2								
801-009-07M9-19SA	2	2	2								
801-008-16M16-55SA	2	2	2	1							
801-009-07M16-55PA	2	2	2	1							
803-002-06M6-7SN					2	2	2				
803-004-07M6-7PN					2	2	2				
803-002-06M9-19PN					2	2	2				
803-004-07M9-19SN					2	2	2				
803-002-06M14-55SN					2	2	2				
803-004-07M14-55PN					2	2	2				
804-002-06M6-7S								2	2	2	1
804-004-07M6-7P								2	2	2	1
804-002-06M9-19P								2	2	2	
804-004-07M9-19S								2	2	2	
804-002-06M14-55S								2	2	2	1
804-004-07M14-55P								2	2	2	1

1.5.1 Test Specimens For Series 805 Group 4 EMI Shielding Effectiveness

805-003-07M9-10PA mated to 805-001-16M9-10SA, two (2) pair.

1.6 Test Specimen Preparation

All connectors were terminated with M22759/11-24 wire. Group 3 specimens were potted with epoxy prior to immersion testing per MIL-STD-810, method 512.4.

1.7 Inspection Conditions

All tests were performed with the test specimens at standard laboratory conditions as defined below unless otherwise required by the procedure.

1. Temperature between 15° C. and 35° C.

2. Relative humidity between 20% and 90%.
3. Barometric pressure between 700 mm and 800 mm of mercury absolute.

1.8 Qualification Test Sequence

GLENAIR TEST NO.	91906187				91906188			91906189			
PRODUCT	SERIES 801				SERIES 803			SERIES 804			
	Test Group				Test Group			Test Group			
	1	2	3	4	1	2	3	1	2	3	4
TEST	Test Sequence				Test Sequence			Test Sequence			
Visual and mechanical examination	1	1	1	1	1	1	1	1	1	1	1
Magnetic permeability	2										
Altitude immersion	3										
Insulation resistance at ambient temp.					2	3		4	5		
Dielectric withstanding voltage at sea level					3	4		5	6		
Insert retention	4										
Durability (500 cycles)	5	7						6	7		
Durability (50 cycles)						5					
Shell-to-shell conductivity	6, 8				4,6			2,7,10	2,8,13		
Mating/Unmating Force								3,8,11	3,9,14		
Salt spray	7				5			9			
Electrical engagement	9				7			12			
Contact retention		2									
Altitude-low temperature		3									
Thermal cycling		4				2			4		
Insulation resistance at elevated temperature		5									
Dielectric withstanding voltage at altitude		6									
Random vibration		8				6			11		
Sine vibration		9				7			10		
Shock		10				8			12		
Humidity		11				9			15		
Sand and Dust			2				1			2	
Immersion			3				2			3	
EMI shielding effectiveness				2							2
Final examination	10	12	4		8	10	3	13	16	4	

2 SUMMARY OF QUALIFICATION TESTING

2.1 Initial Examination of Product
All specimens submitted for testing were representative of standard production lots. All specimens were accepted by Glenair Quality Assurance prior to submittal to testing. Testing agencies visually examined specimens for mechanical damage, workmanship and markings.

2.2 Magnetic Permeability

2.2.1 Test Method
EIA-364-54A.

2.2.2 Requirement
A permeability indicator with a 2 Mu pellet shall not deflect when applied to the test specimens

2.2.3 Results
All six specimens met the requirement.

2.3 Altitude Immersion

2.3.1 Test Method
EIA-364-03B.

2.3.2 Requirement
Specimens shall meet DWV and IR specifications when subjected to immersion at a simulated altitude of 40,000 feet.

2.3.3 Results
Four of 12 insulation resistance measurements indicated a short. Eight of 15 DWV measurements did not meet 500 VAC. Specimens were removed from test and replaced. The replacement specimens met the requirement with all insulation resistance readings greater than 1000 megohm.

2.4 Insulation Resistance at Ambient Temperature

2.4.1 Test Method
EIA-364-21.

2.4.2 Requirement
5000 megohms minimum insulation resistance.

2.4.3 Results
All specimens tested met the requirement.

2.5 Dielectric Withstanding Voltage at Sea Level

2.5.1 Test Method
EIA-364-20

2.5.2 Requirement
500 VAC

2.5.3 Results
No evidence of breakdown or flashover

2.6 Insert Retention

2.6.1 Test Method
EIA-364-35B. An axial load was applied to the unmated connector inserts in both directions. The rate of application was approximately 10 psi/second. The peak load was maintained for a period of 5-10 seconds.

PART NUMBER	Axial Load (lbs.)
801-008-16M6-7SA	25
801-009-07M6-7PA	25
801-008-16M9-19PA	30
801-009-07M9-19SA	30
801-008-16M16-55SA	50
801-009-07M16-55PA	50

2.6.2 Results
There was no visible evidence of cracking, breaking, separation from shell or loosening of parts. The inserts were retained in their proper location.

2.7 Durability (500 Cycles)

2.7.1 Test Method
EIA-364-09C.
Series 801c and Series 804 connectors were subjected to 500 cycles of mating and unmating at a maximum rate of 300 cycles per hour. The test specimens were subjected to a visual examination.

PART NUMBER	MATE	CYCLES	PASS-FAIL	TEST REPORT NUMBER
801-008-16M6-7SA	801-009-07M6-7PA	500	PASS	91906187
801-008-16M9-19PA	801-009-07M9-19SA	500	PASS	91906187
801-008-16M16-55SA	801-009-07M16-55PA	500	PASS	91906187
804-002-06M6-7S	804-004-07M6-7P	500	PASS	91906189
804-002-06M9-19P	804-004-07M9-19S	500	PASS	91906189
804-002-06M14-55S	804-004-07M14-55P	500	PASS	91906189

2.7.2 Results
There was no evidence of physical degradation noted.

2.8 Durability (50 Cycles)

2.8.1 Test Method
EIA-364-09C.
Connectors were subjected to 50 cycles of mating and unmating at a maximum rate of 300 cycles per hour. The test specimens were subjected to a visual examination at 25 and 50 cycles.

PART NUMBER	MATE	CYCLES	PASS-FAIL	TEST REPORT NUMBER
803-002-06M6-7SN	803-004-07M6-7PN	50	PASS	91906188
803-002-06M9-19PN	803-004-07M9-19SN	50	PASS	91906188
803-002-06M16-55SN	803-004-07M14-55PN	50	PASS	91906188

2.8.2 Results
There was no evidence of physical degradation noted.

2.9 Shell-to-Shell Conductivity

2.9.1 Test Method
EIA-364-83. Open circuit test voltage of 1.5 VDC (maximum) was applied across the mated connector. The test current was 1.0 A. The voltage drop was measured from a point on the rear accessory thread on the plug to the point adjacent to the o-ring on the mounting flange of the receptacle using a .05" minimum spherical end radius test probe.

2.9.2 Results

PLUG	MATING RECEPTACLE	INITIAL VOLTAGE DROP (Mv)	VOLTAGE DROP (Mv) AFTER MATING /UNMATING	VOLTAGE DROP FOLLOWING SALT SPRAY	TEST REPORT NUMBER
801-008-16M6-7SA	801-009-07M6-7PA	13.7[1]		16.4	91906187
801-008-16M6-7SA	801-009-07M6-7PA	6.7		21.7	91906187
801-008-16M9-19PA	801-009-07M9-19SA	7.9		9.8	91906187
801-008-16M9-19PA	801-009-07M9-19SA	6.1		4.8	91906187
801-008-16M16-55SA	801-009-07M16-55PA	52.2[1]		5.6	91906187
801-008-16M16-55SA	801-009-07M16-55PA	31.3[1]		4.3	91906187
803-002-06M6-7SN	803-004-07M6-7PN	20.50		21.53	91906188
803-002-06M6-7SN	803-004-07M6-7PN	15.41		44.55	91906188
803-002-06M9-19PN	803-004-07M9-19SN	16.48		10.98	91906188
803-002-06M9-19PN	803-004-07M9-19SN	20.34		7.17	91906188
803-002-06M16-55SN	803-004-07M14-55PN	33.60		9.60	91906188
803-002-06M16-55SN	803-004-07M14-55PN	30.59		59.20	91906188
804-002-06M6-7S	804-004-07M6-7P	11	1.2	1.8	91906189
804-002-06M6-7S	804-004-07M6-7P	12	1.5	2.1	91906189
804-002-06M9-19P	804-004-07M9-19S	5	1.1	1.1	91906189
804-002-06M9-19P	804-004-07M9-19S	13	1.0	1.2	91906189
804-002-06M14-55S	804-004-07M14-55P	13	1.1	1.4	91906189
804-002-06M14-55S	804-004-07M14-55P	8	1.6	1.7	91906189

[1] These readings are assumed to be inaccurate. Following completion of the test, the samples were re-checked at Glenair using a micro-ohmmeter and all were found to be under 10 milliohms following salt spray. Other in-house tests have repeatedly shown Series 801 connectors to be under 10 milliohms resistance.

PLUG	MATING RECEPTACLE	INITIAL VOLTAGE DROP (Mv)	VOLTAGE DROP AFTER 500 CYCLES DURABILITY	VOLTAGE DROP FOLLOWING SHOCK AND VIBRATION	TEST REPORT NUMBER
804-002-06M6-7S	804-004-07M6-7P	11	1.9	1.3	91906189
804-002-06M6-7S	804-004-07M6-7P	12	1.7	2.0	91906189
804-002-06M9-19P	804-004-07M9-19S	5	1.0	1.0	91906189
804-002-06M9-19P	804-004-07M9-19S	13	0.8	1.9	91906189
804-002-06M14-55S	804-004-07M14-55P	13	0.9	0.7	91906189
804-002-06M14-55S	804-004-07M14-55P	8	1.1	1.7	91906189

2.10 Mating/Unmating Force

2.10.1 Method

EIA-364-13B. The connector halves were mounted in a holding fixture and carefully aligned in all three planes.The plug and receptacle of each conector pair was mated/unmated at an approximate rate of 50 mm/minute.

2.10.2 Results

PLUG	MATING RECEPTACLE	INITIAL MATING FORCE IN POUNDS	INITIAL UNMATING FORCE IN POUNDS	TEST REPORT NUMBER
804-002-06M6-7S	804-004-07M6-7P	6.0	8.0	91906189
804-002-06M6-7S	804-004-07M6-7P	6.5	8.0	91906189
804-002-06M9-19P	804-004-07M9-19S	9.0	15.0	91906189
804-002-06M9-19P	804-004-07M9-19S	11.5	16.0	91906189
804-002-06M14-55S	804-004-07M14-55P	22.5	20.5	91906189
804-002-06M14-55S	804-004-07M14-55P	21.0	21.5	91906189
		MATING FORCE AFTER 500 CYCLES	UNMATING FORCE AFTER 500 CYCLES	
804-002-06M6-7S	804-004-07M6-7P	6.8	8.8	91906189
804-002-06M6-7S	804-004-07M6-7P	5.6	8.4	91906189
804-002-06M9-19P	804-004-07M9-19S	9.6	16.0	91906189
804-002-06M9-19P	804-004-07M9-19S	11.2	14.8	91906189
804-002-06M14-55S	804-004-07M14-55P	26.5	24.5	91906189
804-002-06M14-55S	804-004-07M14-55P	24.5	28.0	91906189
		MATING FORCE AFTER 500 CYCLES AND SHOCK/VIBRATION	UNMATING FORCE AFTER 500 CYCLES AND SHOCK/VIBRATION	
804-002-06M6-7S	804-004-07M6-7P	5.0	9.5	91906189
804-002-06M6-7S	804-004-07M6-7P	6.0	11.0	91906189
804-002-06M9-19P	804-004-07M9-19S	9.5	15.5	91906189
804-002-06M9-19P	804-004-07M9-19S	13.0	22.0	91906189
804-002-06M14-55S	804-004-07M14-55P	20.5	25.0	91906189
804-002-06M14-55S	804-004-07M14-55P	20.5	22.0	91906189

2.11 Salt Spray

2.11.1 Method

EIA-364-26B. The unmated connectors were subjected to 48 hours salt fog. Connectors were placed horizontally in the salt spray chamber, on a plastic bar with the mating faces pointing downward. The ends of the wires were routed outside the chamber. Following 48 hours exposure at +35° C to an atmosphere of 5% NaCl and 95% deionized water, specimens were removed from the test chamber, thoroughly rinsed with deionized water and allowed to dry at ambient conditions.

2.11.2 Results

Visual examination showed no visible evidence of physical damage.

2.12 Electrical Engagement

2.12.1 Method

MIL-DTL-38999K, Paragraph 4.5.14. The connectors were wired to provide a complete series circuit through all contacts of the mated connectors. The test sample was slowly mated until the first indication of a completed circuit through the contacts was observed with an ohmmeter. The mating operation was stopped and the overall length was measured from solid reference points on the connector halves. The mating process was then resumed until the connectors were completely mated. The overall length was again measured from the same reference points. The electrical engagement was then calculated by subtracting the fully mated overall length from the overall length when the completed circuit was first energized.

2.12.2 Results

PLUG	MATING RECEPTACLE	CALCULATED ELECTRICAL ENGAGEMENT (INCH)	TEST REPORT NUMBER
801-008-16M6-7SA	801-009-07M6-7PA	.098	91906187
801-008-16M6-7SA	801-009-07M6-7PA	.097	91906187
801-008-16M9-19PA	801-009-07M9-19SA	.097	91906187
801-008-16M9-19PA	801-009-07M9-19SA	.091	91906187
801-008-16M16-55SA	801-009-07M16-55PA	.074	91906187
801-008-16M16-55SA	801-009-07M16-55PA	.065	91906187
803-002-06M6-7SN	803-004-07M6-7PN	.074	91906188
803-002-06M6-7SN	803-004-07M6-7PN	.066	91906188
803-002-06M9-19PN	803-004-07M9-19SN	.041	91906188
803-002-06M9-19PN	803-004-07M9-19SN	.049	91906188
803-002-06M16-55SN	803-004-07M14-55PN	.053	91906188
803-002-06M16-55SN	803-004-07M14-55PN	.044	91906188
804-002-06M6-7S	804-004-07M6-7P	.095	91906189
804-002-06M6-7S	804-004-07M6-7P	.096	91906189
804-002-06M9-19P	804-004-07M9-19S	.097	91906189
804-002-06M9-19P	804-004-07M9-19S	.094	91906189
804-002-06M14-55S	804-004-07M14-55P	.092	91906189
804-002-06M14-55S	804-004-07M14-55P	.093	91906189

2.13 Contact Retention

2.13.1 Method

EIA-364-29B. An axial load of 6.0 pounds was applied to the mating end of the contact under test. 20%, but not less than 3, of the contacts were tested.

2.13.2 Results

PRODUCT	CONTACT ARRANGEMENT	TOTAL NUMBER OF CONTACTS TESTED	MINIMUM DISPLACEMENT	MAXIMUM DISPLACE MENT	AVERAGE
SERIES 801	7 CONTACTS	12	.002	.008	.005
SERIES 801	19 CONTACTS	16	.000	.008	.003
SERIES 801	55 CONTACTS	44	.000	.007	.004

2.14 Altitude-Low Temperature

2.14.1 Method

EIA-364-105. Mated connectors were wired in series and placed in a temperature/altitude chamber. The chamber temperature was increased to 50° C. The test samples were conditioned at +50° C for 8 hours. The chamber temperature was reduced to -65° C and stabilized. The chamber pressure was reduced to simulate an altitude of 40,000 feet (2.72 PSIA). The test specimens were subjected to a one hour dwell. Upon completion of the 1 hour dwell, a voltage of 100 VAC (rms) 60 Hz was applied between the series circuit and the connector shell, for a period of 1 minute. The chamber was returned to ambient temperature and pressure. Samples were removed and visually examined.

2.14.2 Results

There was no evidence of breakdown during the voltage application. There was no visible evidence of physical damage noted.

2.15 Thermal Cycling

2.15.1 Method

EIA-364-32. The low temperature chamber was pre-conditioned and stabilized at -65° C. The high temperature chamber was pre-conditioned and stabilized at +150° C. Mated connectors were placed in the cold temperature chamber and subjected to a 60 minute dwell. Specimens were automatically transferred to the high temperature chamber within a maximum of 2 minutes. The specimens were subjected to a 60 minute dwell at +150° C. The specimens were automatically transferred to the low temperature chamber within a maximum period of 2 minutes. This cycle was repeated four additional times for a total of five cycles. The specimens were removed from the chamber and visually examined.

2.15.2 Results

Visual examination did not reveal any evidence of physical damage. Specimens successfully completed subsequent shock and vibration and humidity testing.

PLUG	MATING RECEPTACLE	NUMBER OF THERMAL CYCLES	RESULTS	TEST REPORT NUMBER	GROUP NUMBER
801-008-16M6-7SA	801-009-07M6-7PA	5	PASS	91906187	2
801-008-16M9-19PA	801-009-07M9-19SA	5	PASS	91906187	2
801-008-16M16-55SA	801-009-07M16-55PA	5	PASS	91906187	2
803-002-06M6-7SN	803-004-07M6-7PN	5	PASS	91906188	2
803-002-06M9-19PN	803-004-07M9-19SN	5	PASS	91906188	2
803-002-06M16-55SN	803-004-07M14-55PN	5	PASS	91906188	2
804-002-06M6-7S	804-004-07M6-7P	5	PASS	91906189	2
804-002-06M9-19P	804-004-07M9-19S	5	PASS	91906189	2
804-002-06M14-55S	804-004-07M14-55P	5	PASS	91906189	2

2.16 Insulation Resistance at Elevated Temperature

2.16.1 Method

EIA-364-21. Mated test specimens were placed in a temperature chamber. The chamber temperature was increased to +150° C and stabilized. Resistance readings were recorded.

2.16.2 Results

PLUG	MATING RECEPTACLE	NO. OF CONTACTS TESTED	MIN-MAX INS RESIST.	TEST REPORT NO.
801-008-16M6-7SA	801-009-07M6-7PA	6	20-700 GOHM	91906187
801-008-16M6-7SA	801-009-07M6-7PA	6	5-30 GOHM	91906187
801-008-16M9-19PA	801-009-07M9-19SA	6	20-3000 GOHM	91906187
801-008-16M9-19PA	801-009-07M9-19SA	6	20-150 GOHM	91906187
801-008-16M16-55SA	801-009-07M16-55PA	6	10-500 GOHM	91906187
801-008-16M16-55SA	801-009-07M16-55PA	6	15-100 GOHM	91906187

2.17 Dielectric Withstanding Voltage at Altitude

2.17.1 Method

EIA-364-20C. The test specimens were placed in an altitude chamber. The chamber pressure was reduced to simulate an altitude of 40,000 feet (2.72 PSIA) and stabilized. A voltage of 100 VAC (rms) 60 Hz was applied between adjacent contacts and the connector shell. The voltage was applied for 2 seconds minimum.

2.17.2 Results

PLUG	MATING RECEPTACLE	NO. OF CONTACTS TESTED	RESULT	TEST REPORT NO.
801-008-16M6-7SA	801-009-07M6-7PA	6	PASS	91906187
801-008-16M6-7SA	801-009-07M6-7PA	6	PASS	91906187
801-008-16M9-19PA	801-009-07M9-19SA	10	PASS	91906187
801-008-16M9-19PA	801-009-07M9-19SA	10	PASS	91906187
801-008-16M16-55SA	801-009-07M16-55PA	28	PASS	91906187
801-008-16M16-55SA	801-009-07M16-55PA	28	PASS	91906187

2.18 Random Vibration, Group 2

2.18.1 Method
EIA-364-28 Condition V Letter I, 37.8 g's 4 hours sequentially in each of three axes, ambient temperature. Group 2 specimens were divided into two sets, one mated pair of each size for random vibration and one pair for sine vibration.

2.18.2 Results
No discontinuities were detected. Following vibration testing, visual inspection did not reveal evidence of physical damage.

2.19 Sine Vibration, Group 2

2.19.1 Method
MIL-DTL-38999K,Paragraph 4.5.22.2.1, modified.

Frequency	Level
10 – 100 Hz	0.06 inch double amplitude
100 – 2000 Hz	30 g's peak

logarithmic sweep, 10 Hz to 2000 Hz, 10 minutes/sweep
Ambient temperature
24 sweeps (4 hours) in each of three axes

2.19.2 Results
No discontinuities were detected. Following vibration testing, visual inspection did not reveal evidence of physical damage.

2.19.3 Shock, Group 2

2.19.4 Method
EIA-364-27B, Condition D. 300 g's peak, 3 millisecond duration, halfsine pulse. 3 shocks in the positive direction, 3 shocks in the negative direction, repeated in each of three axes for a total of 18 shocks per specimen.

2.19.5 Results
No discontinuities were detected. Following vibration testing, visual inspection did not reveal evidence of physical damage.

2.19.6 Humidity, Group 2

2.19.7 Method
EIA-364-31B, Method IV
Test group 2 mated specimens were mounted in a horizontal position in a temperature/ humidity chamber. The wire ends were routed out of the chamber through a port. He test samples were subjected to 24 hours drying at +50° C, humidity uncontrolled. Specimens were subjected to five 24 hour cycles of varying temperature and humidity. Following completion of step 7a of the final cycle, insulation resistance and DWV measurements were performed.

2.19.8 Results
All insulation resistance measurements exceeded the 100 megohn requirement. All DWV tests showed no evidence of breakdown or flashover at 500 VAC (rms) 60 Hz.

2.20 Sand and Dust

2.20.1 Method
MIL-STD-810F, Method 510.4

2.20.2 Results
Following exposure to sand and dust, specimens successfully passed immersion testing and final examination.

2.21 Immersion

2.21.1 Method
MIL-STD-810F, Method 512.4. Specimens were backpotted with epoxy to seal the wires. Mated specimens at ambient temperature were immersed in 1 meter of fresh water, removed from immersion and allowed to dry. Insulation resistance measurements and DWV measurements were made to verify that moisture had not penetrated into the connectors.

2.21.2 Results
Series 801 and 804 specimens met electrical requirements following immersion. Specimens passed 200 megohms insulation resistance and 500 VAC DWV.
Series 803 specimens failed to prevent the intrusion of water.

2.22 EMI Shielding Effectiveness
Testing Agency: National Technical Institute (NTS)
Test report Number: 679-4971-1
Date: September 20, 2006

2.23 Method
IEEE-299, modified. A transmitter and receiver were set up in separate chambers with an opening

between the chambers. A reference measurement was taken in logarithmic units and recorded as RXref. A feedthrough panel was installed over the opening between the chambers and the connector was mounted per Figure 1. Power was recorded in logarithmic units as RXdut. Shielding effectiveness (SE) = RXref – Rxdut.

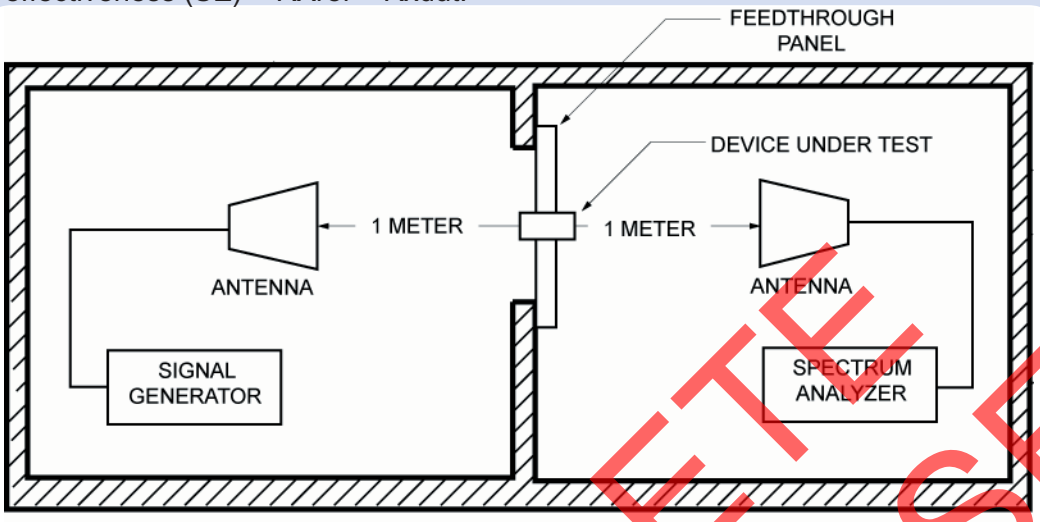


FIGURE 1
SHIELDING EFFECTIVENESS TEST SETUP

2.23.1 Test Specimens for Shielding Effectiveness

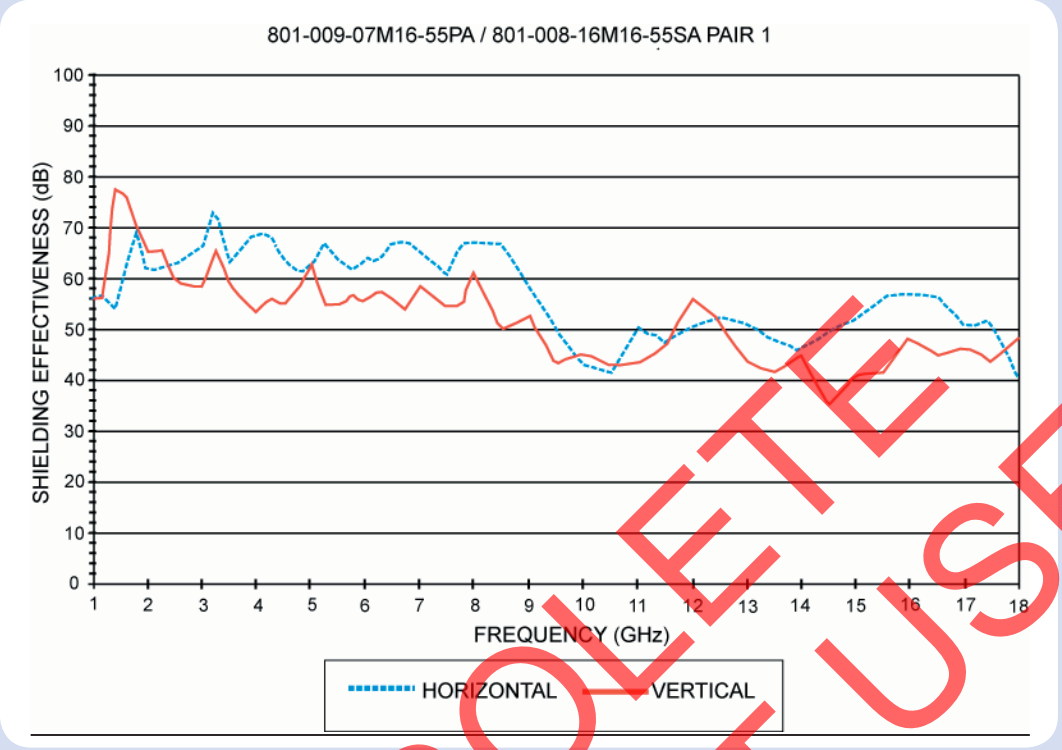
PLUG	MATING RECEPTACLE	QUANTITY
801-008-16M6-7SA	801-009-07M6-7PA	2 PAIRS
801-008-16M16-55SA	801-009-07M16-55PA	2 PAIRS
804-002-06M6-7S	804-004-07M6-7P	1 PAIR
804-002-06M14-55S	804-004-07M14-55P	1 PAIR
805-001-16M9-10SA	805-003-07M9-10PA	2 PAIRS

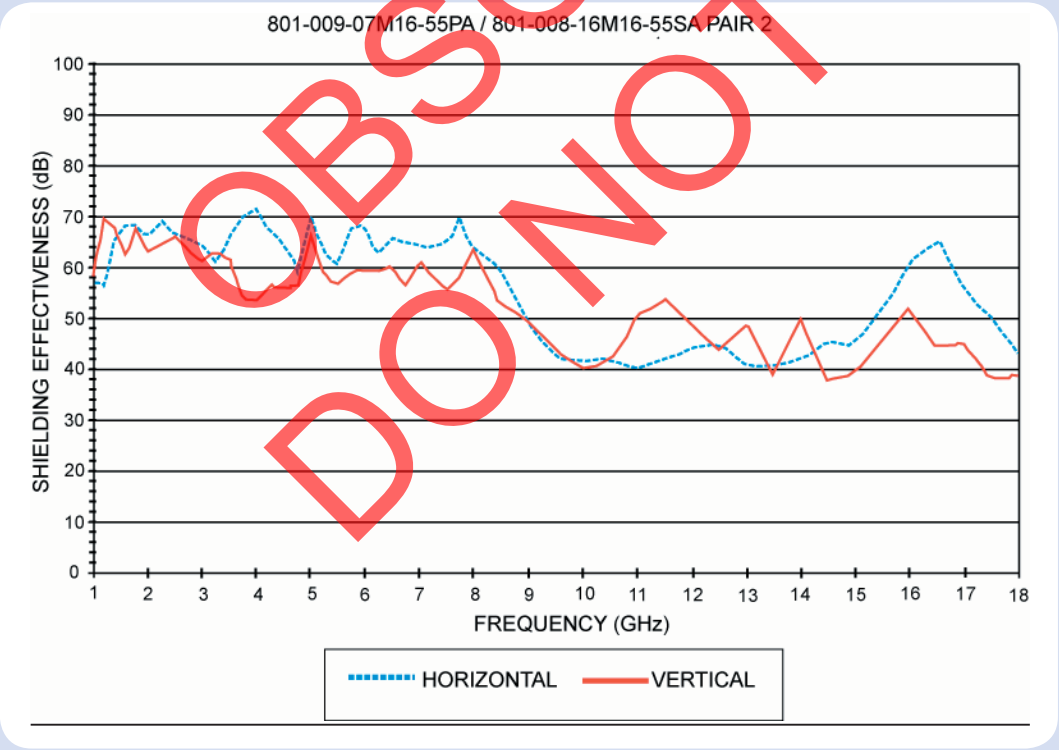
2.23.2 Description of Test Apparatus

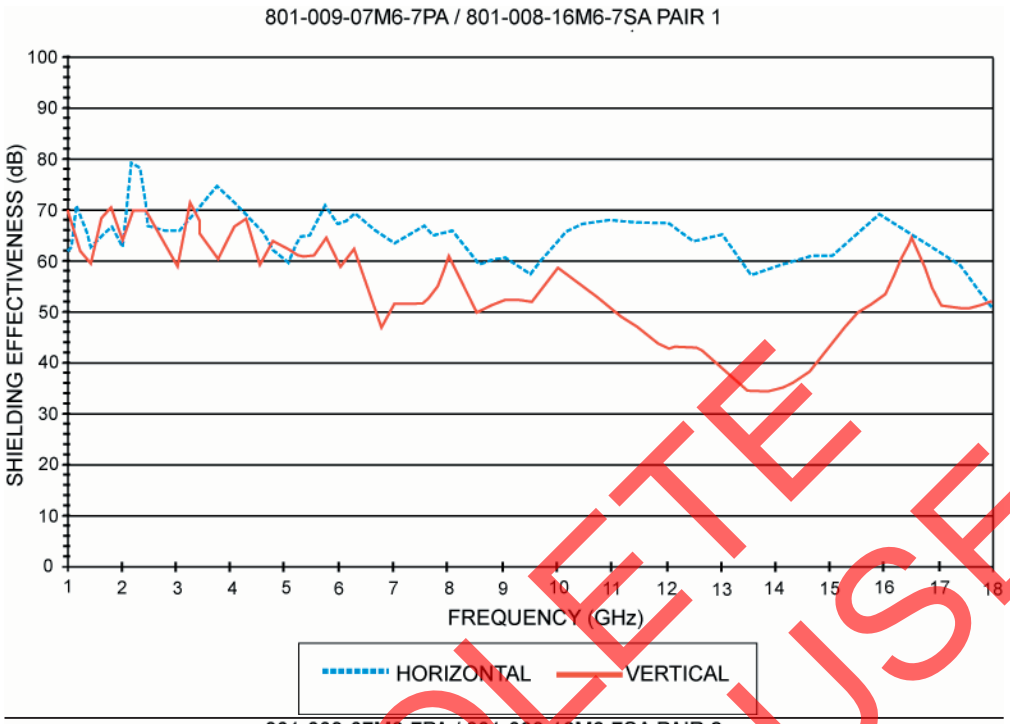
HP Signal Generator Model 8673C 50 MHz- 18.6 GHz
Agilent Spectrum Analyzer Model E446A 3Hz- 44 GHz
EMCO Double Ridge Guided Horn Antenna Model 3115 1 GHz – 18 GHz
Eaton Double Ridged Guide Antenna Model 96001 1 GHz – 18 GHz
HP Microwave Amplifier Model 8349B 1 GHz- 20 GHz

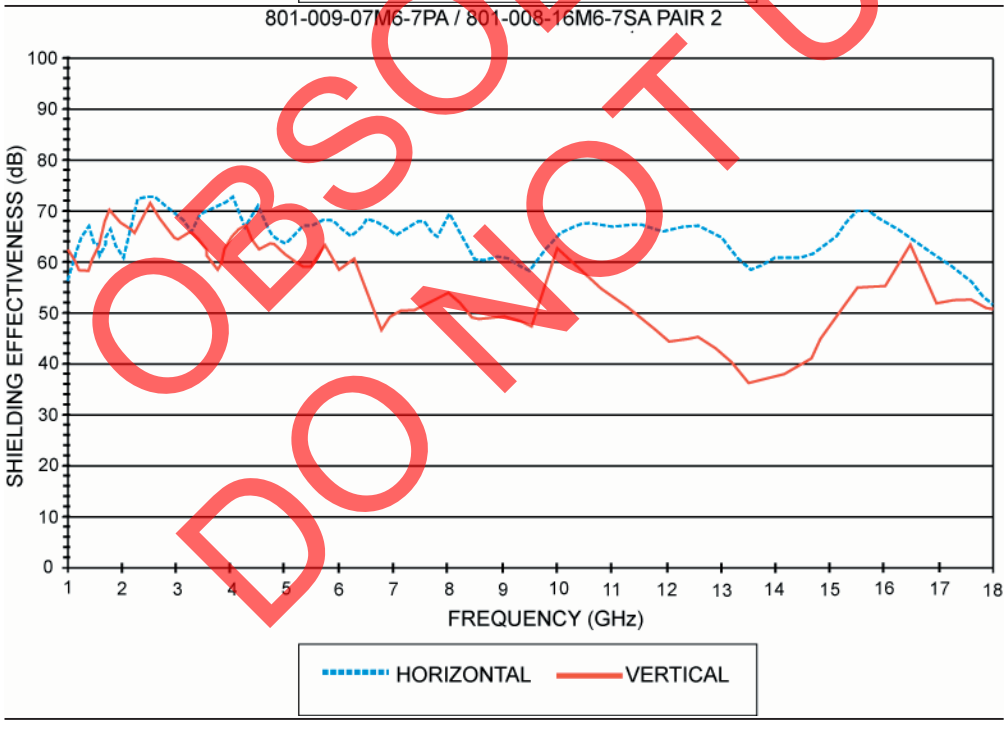
2.23.3 Results

2.23.4 Results for Series 801



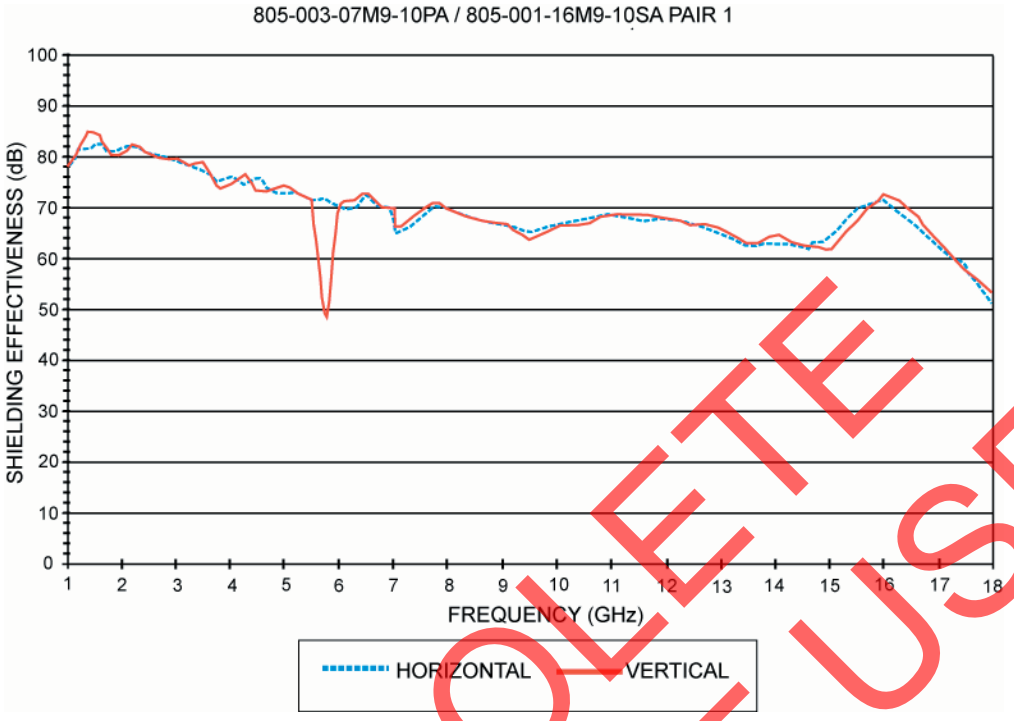


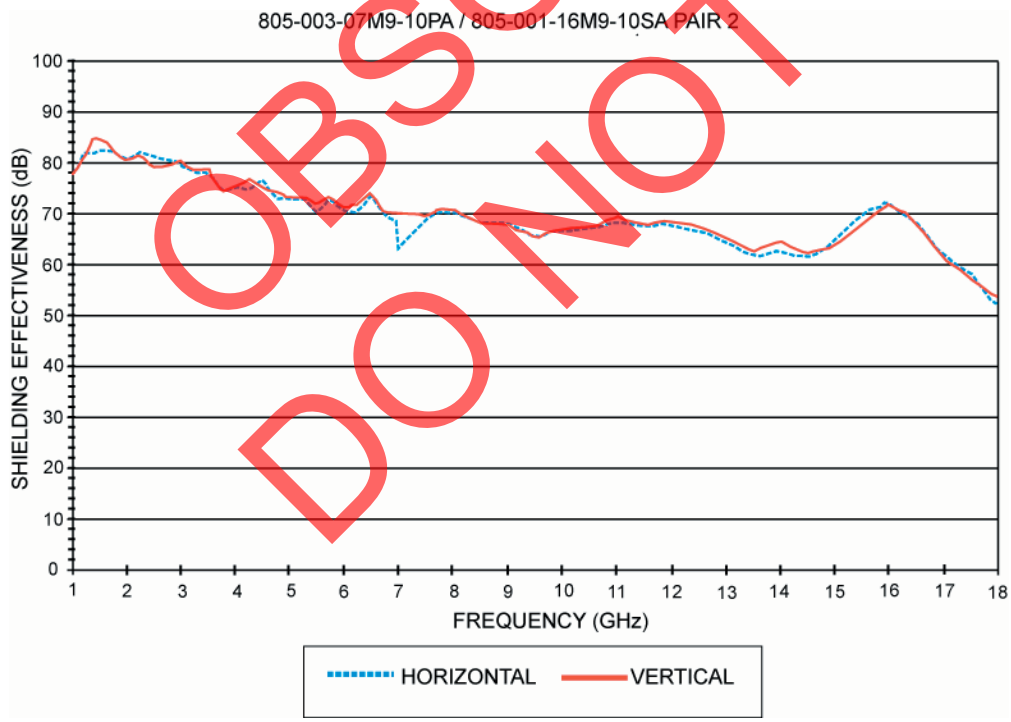




2.23.5 Results for Series 804

2.23.6 Results for Series 805





2.24 Final Examination

2.24.1 Method
MIL-DTL-38999K, Paragraph 4.5.1. Specimens were visually examined for mechanical damage, workmanship and markings.

2.24.2 Results
No visible evidence of damage was noted. No evidence of poor workmanship was noted. Markings were clear and legible.

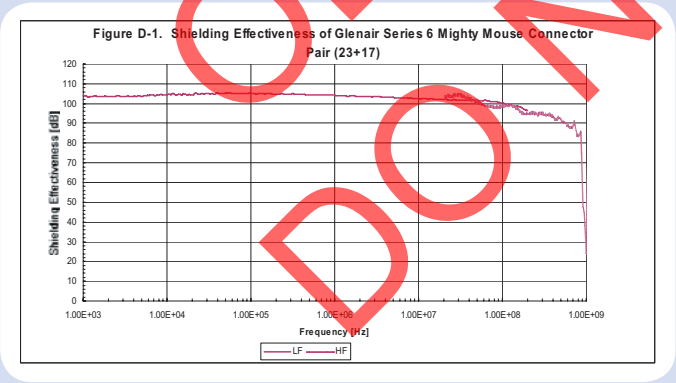
3 SUMMARY OF PRODUCT EVALUATION TESTS

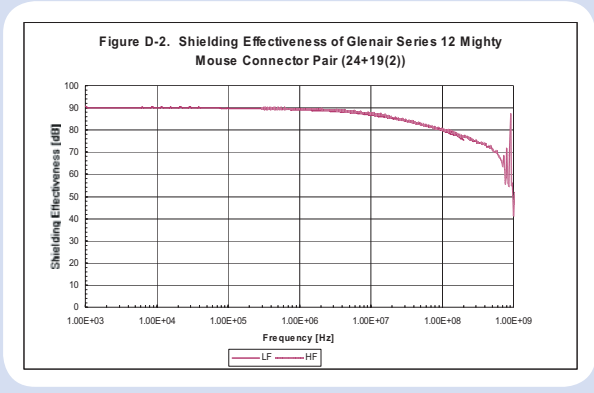
3.1 Transfer Impedance and Shielding Effectiveness, Series 800 Connectors
Testing Agency: Lothar Hoeft, Ph.D., Consultant
Location: TRW Research Lab, Albuquerque, New mexico
Date: March 25, 2001

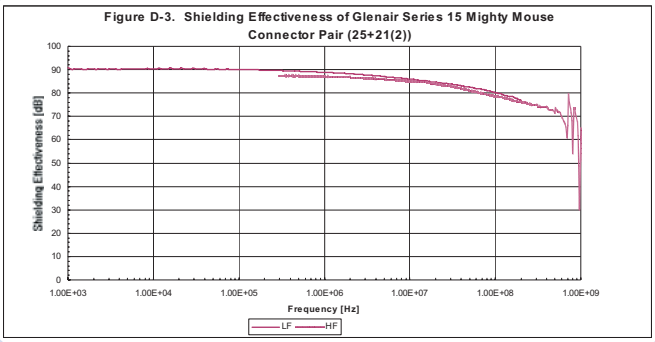
3.1.1 Method
All measurements were made using the line injection method of IEC 96-1 as incorporated in a specially designed triaxial test fixture.

3.1.2 Test Specimens
One mated pair of 7 pin, 37 pin and 85 pin connectors, similar to 800-006 (plug) and 800-010 (receptacle)

3.1.3 Result
The following graphs are taken from Appendix D "Shielding Effectiveness of Glenair Mighty Mouse Connector Pairs. Ratio of Currents Shielding Effectiveness Calculated from Measured Surface Transfer Impedance and Termination Impedances of Sense Wire"







3.2 Outgassing Testing on Fluorosilicone Rubber Used on Series 80 Connectors
Testing Agency: NuSil Technology, Carpenteria, California
Date: October 17 to October 27, 2003
Report Number 52558

3.2.1 Method
ASTM-E595.
Three tests:
1. "AS IS" parts pulled from stock in their original state.
2. "BAKED" parts were subjected to 8 hours bakeout at 400° F.
3. "THERMAL VACUUM OUTGASSED". Parts were subjected to 24 hours vacuum bakeout at +125° C.

3.2.2 Test Specimens
37 pin grommet, P/N 89N-25004-12-37

3.2.3 Results

PROCESSING METHOD	TOTAL MASS LOSS TML	PASS/FAIL	COLLECTED VOLATILE CONDENSIBLE MATERIAL CVCM	PASS/FAIL
NO SPECIAL PROCESSING	0.97%	PASS	0.14	FAIL
8 HOUR BAKE, 400° F	0.10%	PASS	0.03%	PASS
24 HOUR THERMAL VACUUM OUTGAS , 125°C	0.17%	PASS	0.04%	PASS

3.3 Gunfire Vibration Testing On Series 800 "Mighty Mouse" Connectors
Testing Agency: Glenair UK Ltd., Mansfield England
Date: June 17, 2002
Test report number: TR32-0502

3.3.1 Object of Test
To conduct Random and Gunfire Vibration on Series 800 "Mighty Mouse" Connectors to JN1003 (Eurofighter) with reference to MIL-STD-810

3.3.2 Test Specimens
2 each 800-010-07NF6-7PN and mate 800-006-06M6-7SN
2 each 800-009-16NF15-85PN and mate 800-011-07NF15-85SN

3.3.3 Method
MIL-STD-810D Method 514.3 Random Vibration 33 g.'s, one hour in each axis.
MIL-STD-810D Method 519.3 Gunfire Vibration 57 g's

3.3.4 Results
No discontinuities greater than 1 microsecond, no damage or loosening of connectors.

3.4 Breakdown Voltage of Series 800 "Mighty Mouse" connectors at Altitude
Testing Agency: Glenair UK Ltd.
Date: June 12, 2002
Test Report Number TR43-0602

3.4.1 Method
Wired connectors were placed in an altitude chamber and pressurized to 33 millibar (equivalent to 70,000 feet) with the sample in both the mated and unmated condition. DC voltage was increased at approximately 100 V/sec until breakdown occurred, with the current trp set to 0.3 mA.

3.4.2 Test Specimens
800-006-06M5-7SN mated to 800-010-07NF6-7PN

3.4.3 Results
Breakdown occurred at 550, 800, 400, 600, 400 and 450 VDC

Glenair Series 80 "Mighty Mouse" Connectors Same Day Inventory List

Glenair is pleased to offer our customers Same Day availability on over 50,000 connector and backshell part numbers. The following list of Series 80 "Mighty Mouse" Connectors demonstrates our comittment to providing the interconnect industry's best service and availability for these high-reliability components. Our promise: When you design-in "Mighty Mouse" in your commercial or military application, we will do our utmost to keep the products in stock and ready for immediate shipment.

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	**Delivery**	**Finish**
800-006-06M10-26PN	1-5 PCS 1 DAY ARO	M
800-006-06M10-26SN	1-5 PCS 1 DAY ARO	M
800-006-06M5-3PN	1-5 PCS 1 DAY ARO	M
800-006-06M5-3SN	1-5 PCS 1 DAY ARO	M
800-006-06M6-4PN	1-5 PCS 1 DAY ARO	M
800-006-06M6-4SN	1-5 PCS 1 DAY ARO	M
800-006-06M6-7PN	1-5 PCS 1 DAY ARO	M
800-006-06M6-7SN	1-5 PCS 1 DAY ARO	M
800-006-06M7-10PN	1-5 PCS 1 DAY ARO	M
800-006-06M7-10SN	1-5 PCS 1 DAY ARO	M
800-006-06M8-13PN	1-5 PCS 1 DAY ARO	M
800-006-06M8-13SN	1-5 PCS 1 DAY ARO	M
800-006-06M9-19PN	1-5 PCS 1 DAY ARO	M
800-006-06M9-19SN	1-5 PCS 1 DAY ARO	M
800-006-06NF6-4PN	1-5 PCS 1 DAY ARO	NF
800-006-06NF6-7PN	1-5 PCS 1 DAY ARO	NF
800-006-06Z16-4SN	1-5 PCS 1 DAY ARO	Z1
800-006-06Z16-7PN	1-5 PCS 1 DAY ARO	Z1
800-006-06Z16-7SN	1-5 PCS 1 DAY ARO	Z1
800-006-06Z19-19SN	1-5 PCS 1 DAY ARO	Z1
800-006-06ZN6-7SN	1-2 PCS 1 DAY ARO,	ZN
800-006-16M12-37PN	1-5 PCS 1 DAY ARO	M
800-006-16M12-37SN	1-5 PCS 1 DAY ARO	M
800-006-16Z16-4PN	1-5 PCS 1 DAY ARO	Z1
800-006-16Z16-4SN	1-5 PCS 1 DAY ARO	Z1
800-006-16Z16-7SN	1-5 PCS 1 DAY ARO	Z1
800-006-16Z19-19SN	1-5 PCS 1 DAY ARO	Z1
800-008-06M10-26PN	1-5 PCS 1 DAY ARO	M
800-008-06M10-26SN	1-5 PCS 1 DAY ARO	M
800-008-06M12-37PN	1-5 PCS 1 DAY ARO	M
800-008-06M12-37SN	1-5 PCS 1 DAY ARO	M
800-008-06M5-3PN	1-5 PCS 1 DAY ARO	M
800-008-06M5-3SN	1-5 PCS 1 DAY ARO	M

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	**Delivery**	**Finish**
800-008-06M6-4PN	1-5 PCS 1 DAY ARO	M
800-008-06M6-4SN	1-5 PCS 1 DAY ARO	M
800-008-06M6-7PN	1-5 PCS 1 DAY ARO	M
800-008-06M6-7SN	1-5 PCS 1 DAY ARO	M
800-008-06M7-10PN	1-5 PCS 1 DAY ARO	M
800-008-06M7-10SN	1-5 PCS 1 DAY ARO	M
800-008-06M8-13PN	1-5 PCS 1 DAY ARO	M
800-008-06M8-13SN	1-5 PCS 1 DAY ARO	M
800-008-06M9-19PN	1-5 PCS 1 DAY ARO	M
800-008-06M9-19SN	1-5 PCS 1 DAY ARO	M
800-008-06NF6-4PN	1-5 PCS 1 DAY ARO	NF
800-008-06NF6-7PN	1-5 PCS 1 DAY ARO	NF
800-008-06NF9-19PN	1-5 PCS 1 DAY ARO	NF
800-008-06NF9-19SN	1-5 PCS 1 DAY ARO	NF
800-008-16M6-4PN	1-5 PCS 1 DAY ARO	M
800-008-16M6-7PN	1-5 PCS 1 DAY ARO	M
800-008-16M6-7SN	1-5 PCS 1 DAY ARO	M
800-008-16Z16-4PN	1-10 PCS 1 DAY ARO	Z1
800-008-16Z16-7PN	1-5 PCS 1 DAY ARO	Z1
800-008-16Z16-7SN	1-5 PCS 1 DAY ARO	Z1
800-008-16Z19-19SN	1-5 PCS 1 DAY ARO	Z1
800-008-16ZB6-4PN	1-5 PCS 1 DAY ARO	ZB
800-008-16ZN9-19SN	1-5 PCS 1 DAY ARO	ZN
800-009-06M10-26PN	1-5 PCS 1 DAY ARO	M
800-009-06M10-26SN	1-5 PCS 1 DAY ARO	M
800-009-06M12-37SN	1-5 PCS 1 DAY ARO	M
800-009-06M5-3PN	1-5 PCS 1 DAY ARO	M
800-009-06M5-3SN	1-5 PCS 1 DAY ARO	M
800-009-06M6-4PN	1-5 PCS 1 DAY ARO	M
800-009-06M6-4SN	1-5 PCS 1 DAY ARO	M
800-009-06M6-7PN	1-5 PCS 1 DAY ARO	M
800-009-06M7-10PN	1-5 PCS 1 DAY ARO	M
800-009-06M7-10SN	1-5 PCS 1 DAY ARO	M

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
800-009-06M8-13PN	1-5 PCS 1 DAY ARO	M
800-009-06M8-13SN	1-5 PCS 1 DAY ARO	M
800-009-06M9-19PN	1-5 PCS 1 DAY ARO	M
800-009-06Z16-7SN	1-5 PCS 1 DAY ARO	Z1
800-009-16M12-37PN	1-5 PCS 1 DAY ARO	M
800-009-16M12-37SN	1-5 PCS 1 DAY ARO	M
800-009-16M6-7PN	1-5 PCS 1 DAY ARO	M
800-009-16M6-7SN	1-5 PCS 1 DAY ARO	M
800-009-16M9-19SN	1-5 PCS 1 DAY ARO	M
800-009-16NF12-37PN	1-5 PCS 1 DAY ARO	NF
800-009-16NF15-85PN	1-5 PCS 1 DAY ARO	NF
800-009-16NF6-7SN	1-5 PCS 1 DAY ARO	NF
800-010-01C7-10SN	1-5 PCS 1 DAY ARO	C
800-010-01M12-37PN	1-5 PCS 1 DAY ARO	M
800-010-01M12-37SN	1-5 PCS 1 DAY ARO	M
800-010-01M6-4SN	1-5 PCS 1 DAY ARO	M
800-010-01M6-7PN	1-5 PCS 1 DAY ARO	M
800-010-01M6-7SN	1-5 PCS 1 DAY ARO	M
800-010-01M9-19PN	1-5 PCS 1 DAY ARO	M
800-010-01M9-19SN	1-5 PCS 1 DAY ARO	M
800-010-01NF6-4SN	1-5 PCS 1 DAY ARO	NF
800-010-01Z16-7SN	1-5 PCS 1 DAY ARO	Z1
800-010-02M10-26PN	1-5 PCS 1 DAY ARO	M
800-010-02M12-37PN	1-5 PCS 1 DAY ARO	M
800-010-02M12-37SN	1-5 PCS 1 DAY ARO	M
800-010-02M5-3PN	1-5 PCS 1 DAY ARO	M
800-010-02M6-4PN	1-5 PCS 1 DAY ARO	M
800-010-02M6-4SN	1-5 PCS 1 DAY ARO	M
800-010-02M6-7PN	1-5 PCS 1 DAY ARO	M
800-010-02M6-7SN	1-5 PCS 1 DAY ARO	M
800-010-02M8-13PN	1-10 PCS 1 DAY ARO	M
800-010-02M9-19PN	1-5 PCS 1 DAY ARO	M
800-010-02M9-19SN	1-5 PCS 1 DAY ARO	M
800-010-02Z16-4SN	1-5 PCS 1 DAY ARO	Z1
800-010-02Z16-7PN	1-5 PCS 1 DAY ARO	Z1
800-010-02Z16-7SN	1-5 PCS 1 DAY ARO	Z1
800-010-07M10-26SN	1-5 PCS 1 DAY ARO	M
800-010-07M12-37PN	1-5 PCS 1 DAY ARO	M
800-010-07M12-37SN	1-5 PCS 1 DAY ARO	M
800-010-07M5-3SN	1-5 PCS 1 DAY ARO	M
800-010-07M6-4PN	1-5 PCS 1 DAY ARO	M
800-010-07M6-4SN	1-5 PCS 1 DAY ARO	M

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
800-010-07M6-7PN	1-5 PCS 1 DAY ARO	M
800-010-07M6-7SN	1-5 PCS 1 DAY ARO	M
800-010-07M7-10PN	1-5 PCS 1 DAY ARO	M
800-010-07M7-10SN	1-5 PCS 1 DAY ARO	M
800-010-07M8-13SN	1-5 PCS 1 DAY ARO	M
800-010-07M9-19PN	1-5 PCS 1 DAY ARO	M
800-010-07M9-19SN	1-5 PCS 1 DAY ARO	M
800-010-07NF6-7PN	1-5 PCS 1 DAY ARO	NF
800-010-07NF6-7SN	1-5 PCS 1 DAY ARO	NF
800-010-07NF9-19SN	1-5 PCS 1 DAY ARO	NF
800-010-07Z16-4PN	1-5 PCS 1 DAY ARO	Z1
800-010-07Z16-4SN	1-5 PCS 1 DAY ARO	Z1
800-010-07Z16-7PN	1-5 PCS 1 DAY ARO	Z1
800-011-01NF6-7SN	1-5 PCS 1 DAY ARO	NF
800-011-01Z16-4PN	1-5 PCS 1 DAY ARO	Z1
800-011-02M10-26PN	1-5 PCS 1 DAY ARO	M
800-011-02M12-37PN	1-5 PCS 1 DAY ARO	M
800-011-02M12-37SN	1-5 PCS 1 DAY ARO	M
800-011-02M5-3PN	1-5 PCS 1 DAY ARO	M
800-011-02M6-4PN	1-5 PCS 1 DAY ARO	M
800-011-02M6-4SN	1-5 PCS 1 DAY ARO	M
800-011-02M6-7PN	1-5 PCS 1 DAY ARO	M
800-011-02M6-7SN	1-5 PCS 1 DAY ARO	M
800-011-02M8-13SN	1-5 PCS 1 DAY ARO	M
800-011-02M9-19PN	1-5 PCS 1 DAY ARO	M
800-011-02M9-19SN	1-5 PCS 1 DAY ARO	M
800-011-02NF6-7SN	1-5 PCS 1 DAY ARO	NF
800-011-02Z16-4PN	1-5 PCS 1 DAY ARO	Z1
800-011-02Z16-7PN	1-5 PCS 1 DAY ARO	Z1
800-011-07M10-26SN	1-5 PCS 1 DAY ARO	M
800-011-07M12-37PN	1-5 PCS 1 DAY ARO	M
800-011-07M12-37SN	1-5 PCS 1 DAY ARO	M
800-011-07M5-3SN	1-5 PCS 1 DAY ARO	M
800-011-07M6-4PN	1-5 PCS 1 DAY ARO	M
800-011-07M6-4SN	1-5 PCS 1 DAY ARO	M
800-011-07M6-7PN	1-5 PCS 1 DAY ARO	M
800-011-07M6-7SN	1-5 PCS 1 DAY ARO	M
800-011-07M7-10PN	1-5 PCS 1 DAY ARO	M
800-011-07M7-10SN	1-5 PCS 1 DAY ARO	M
800-011-07M8-13PN	1-5 PCS 1 DAY ARO	M
800-011-07M9-19PN	1-5 PCS 1 DAY ARO	M
800-011-07M9-19SN	1-5 PCS 1 DAY ARO	M

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
800-011-07NF12-37SN	1-5 PCS 1 DAY ARO	NF
800-011-07NF6-7SN	1-5 PCS 1 DAY ARO	NF
800-011-07NF9-19PN	1-5 PCS 1 DAY ARO	NF
800-012-02M10-26SN	1-5 PCS 1 DAY ARO	M
800-012-02M6-4PN	1-5 PCS 1 DAY ARO	M
800-012-02M8-13PN	1-5 PCS 1 DAY ARO	M
800-012-02M9-19PN	1-5 PCS 1 DAY ARO	M
800-012-02M9-19SN	1-5 PCS 1 DAY ARO	M
800-012-07M10-26PN	1-5 PCS 1 DAY ARO	M
800-012-07M12-37PN	1-5 PCS 1 DAY ARO	M
800-012-07M12-37SN	1-5 PCS 1 DAY ARO	M
800-012-07M5-3PN	1-5 PCS 1 DAY ARO	M
800-012-07M5-3SN	1-5 PCS 1 DAY ARO	M
800-012-07M6-4SN	1-5 PCS 1 DAY ARO	M
800-012-07M6-7PN	1-5 PCS 1 DAY ARO	M
800-012-07M6-7SN	1-5 PCS 1 DAY ARO	M
800-012-07M7-10PN	1-5 PCS 1 DAY ARO	M
800-012-07M7-10SN	1-5 PCS 1 DAY ARO	M
800-012-07M8-13SN	1-5 PCS 1 DAY ARO	M
800-012-07M9-19PN	1-5 PCS 1 DAY ARO	M
800-012-07M9-19SN	1-5 PCS 1 DAY ARO	M
800-012-07NF6-4SN	1-5 PCS 1 DAY ARO	NF
800-012-07NF6-7PN	1-5 PCS 1 DAY ARO	NF
800-012-07NF6-7SN	1-5 PCS 1 DAY ARO	NF
800-012-07Z16-7PN	1-5 PCS 1 DAY ARO	Z1
800-012-07Z16-7SN	1-5 PCS 1 DAY ARO	Z1
800-012-07ZN9-19PN	1-5 PCS 1 DAY ARO	ZN
800-013-02Z16-7PX	1-10 PCS 1 DAY ARO	Z1
800-013-02Z19-19PN	1-5 PCS 1 DAY ARO	Z1
800-013-07P9-19PN	1-5 PCS 1 DAY ARO	P
800-013-07Z19-19CN	1-5 PCS 1 DAY ARO	Z1
800-013-07Z19-19PN	1-5 PCS 1 DAY ARO	Z1
800-022-06C9-19P	1-50 PCS 1 DAY ARO	
801-007-16M10-26PA	1-5 PCS 1 DAY ARO	M
801-007-16M10-26SA	1-5 PCS 1 DAY ARO	M
801-007-16M13-37PA	1-5 PCS 1 DAY ARO	M
801-007-16M13-37SA	1-5 PCS 1 DAY ARO	M
801-007-16M16-55PA	1-5 PCS 1 DAY ARO	M
801-007-16M16-55PB	1-5 PCS 1 DAY ARO	M
801-007-16M16-55SA	1-5 PCS 1 DAY ARO	M
801-007-16M17-85PA	1-5 PCS 1 DAY ARO	M
801-007-16M17-85SA	1-5 PCS 1 DAY ARO	M

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
801-007-16M5-3PA	1-5 PCS 1 DAY ARO	M
801-007-16M5-3SA	1-5 PCS 1 DAY ARO	M
801-007-16M6-4PA	1-5 PCS 1 DAY ARO	M
801-007-16M6-4SA	1-5 PCS 1 DAY ARO	M
801-007-16M6-7PA	1-5 PCS 1 DAY ARO	M
801-007-16M6-7SA	1-5 PCS 1 DAY ARO	M
801-007-16M7-10PA	1-5 PCS 1 DAY ARO	M
801-007-16M7-10SA	1-5 PCS 1 DAY ARO	M
801-007-16M8-13PA	1-5 PCS 1 DAY ARO	M
801-007-16M8-13SA	1-5 PCS 1 DAY ARO	M
801-007-16M9-19PA	1-5 PCS 1 DAY ARO	M
801-007-16M9-19SA	1-5 PCS 1 DAY ARO	M
801-007-16NF13-37PA	1-5 PCS 1 DAY ARO	NF
801-007-16NF6-4PA	1-5 PCS 1 DAY ARO	NF
801-007-16NF6-7SA	1-5 PCS 1 DAY ARO	NF
801-007-16NF7-10PA	1-5 PCS 1 DAY ARO	NF
801-007-16NF9-19PA	1-5 PCS 1 DAY ARO	NF
801-007-16Z113-37PA	1-5 PCS 1 DAY ARO	Z1
801-007-16Z16-4PA	1-5 PCS 1 DAY ARO	Z1
801-007-16Z17-10PA	1-2 PCS 1 DAY ARO,	Z1
801-007-16Z19-19PA	1-5 PCS 1 DAY ARO	Z1
801-007-16Z19-19SA	1-5 PCS 1 DAY ARO	Z1
801-008-16M10-26PA	1-5 PCS 1 DAY ARO	M
801-008-16M10-26SA	1-5 PCS 1 DAY ARO	M
801-008-16M13-37PA	1-5 PCS 1 DAY ARO	M
801-008-16M13-37SA	1-5 PCS 1 DAY ARO	M
801-008-16M16-55PA	1-5 PCS 1 DAY ARO	M
801-008-16M16-55SA	1-5 PCS 1 DAY ARO	M
801-008-16M17-85PA	1-5 PCS 1 DAY ARO	M
801-008-16M17-85SA	1-5 PCS 1 DAY ARO	M
801-008-16M5-3PA	1-5 PCS 1 DAY ARO	M
801-008-16M5-3SA	1-5 PCS 1 DAY ARO	M
801-008-16M6-4PA	1-5 PCS 1 DAY ARO	M
801-008-16M6-4SA	1-5 PCS 1 DAY ARO	M
801-008-16M6-7PA	1-5 PCS 1 DAY ARO	M
801-008-16M6-7SA	1-5 PCS 1 DAY ARO	M
801-008-16M7-10PA	1-5 PCS 1 DAY ARO	M
801-008-16M7-10SA	1-5 PCS 1 DAY ARO	M
801-008-16M8-13PA	1-5 PCS 1 DAY ARO	M
801-008-16M8-13SA	1-5 PCS 1 DAY ARO	M
801-008-16M9-19PA	1-5 PCS 1 DAY ARO	M
801-008-16NF13-37SA	1-5 PCS 1 DAY ARO	NF

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
801-008-16ZN7-10PA	1-10 PCS 1 DAY ARO	ZN
801-008-16ZN9-19PA	1-5 PCS 1 DAY ARO	ZN
801-008-16ZN9-19SA	1-5 PCS 1 DAY ARO	ZN
801-008-16ZNU9-19PA	1-5 PCS 1 DAY ARO	ZNU
801-009-01M6-7PA	1-5 PCS 1 DAY ARO	M
801-009-01M6-7SA	1-5 PCS 1 DAY ARO	M
801-009-01M9-19PA	1-5 PCS 1 DAY ARO	M
801-009-02M13-37SA	1-5 PCS 1 DAY ARO	M
801-009-02M16-55PA	1-5 PCS 1 DAY ARO	M
801-009-02M16-55SA	1-5 PCS 1 DAY ARO	M
801-009-02M17-85PA	1-5 PCS 1 DAY ARO	M
801-009-02M5-3PA	1-5 PCS 1 DAY ARO	M
801-009-02M6-4PA	1-5 PCS 1 DAY ARO	M
801-009-02M6-7SA	1-5 PCS 1 DAY ARO	M
801-009-02M7-10SA	1-5 PCS 1 DAY ARO	M
801-009-02M9-19PA	1-5 PCS 1 DAY ARO	M
801-009-02M9-19SA	1-2 PCS 1 DAY ARO,	M
801-009-07M13-37PA	1-5 PCS 1 DAY ARO	M
801-009-07M13-37SA	1-5 PCS 1 DAY ARO	M
801-009-07M16-55SA	1-5 PCS 1 DAY ARO	M
801-009-07M17-85SA	1-5 PCS 1 DAY ARO	M
801-009-07M5-3SA	1-5 PCS 1 DAY ARO	M
801-009-07M6-4SA	1-5 PCS 1 DAY ARO	M
801-009-07M6-7PA	1-5 PCS 1 DAY ARO	M
801-009-07M7-10PA	1-5 PCS 1 DAY ARO	M
801-009-07M8-13SA	1-5 PCS 1 DAY ARO	M
801-009-07M9-19SA	1-5 PCS 1 DAY ARO	M
801-009-07NF13-37PA	1-10 PCS 1 DAY ARO	NF
801-009-07NF13-37SA	1-5 PCS 1 DAY ARO	NF
801-009-07NF6-7PA	1-5 PCS 1 DAY ARO	NF
801-009-07NF6-7SA	1-5 PCS 1 DAY ARO	NF
801-009-07NF7-10PA	1-5 PCS 1 DAY ARO	NF
801-009-07NF7-10SA	1-5 PCS 1 DAY ARO	NF
801-009-07NF9-19PA	1-5 PCS 1 DAY ARO	NF
801-009-07NF9-19SA	1-5 PCS 1 DAY ARO	NF
801-009-07Z113-37SA	1-5 PCS 1 DAY ARO	Z1
801-010-02M10-26SA	1-5 PCS 1 DAY ARO	M
801-010-02M13-37SA	1-5 PCS 1 DAY ARO	M
801-010-02M16-55PA	1-5 PCS 1 DAY ARO	M
801-010-02M17-85PA	1-5 PCS 1 DAY ARO	M
801-010-02M5-3PA	1-5 PCS 1 DAY ARO	M
801-010-02M6-4PA	1-5 PCS 1 DAY ARO	M

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
801-010-02M6-7SA	1-5 PCS 1 DAY ARO	M
801-010-02M7-10SA	1-5 PCS 1 DAY ARO	M
801-010-02M8-13SA	1-5 PCS 1 DAY ARO	M
801-010-02M9-19PA	1-5 PCS 1 DAY ARO	M
801-010-07M10-26PA	1-5 PCS 1 DAY ARO	M
801-010-07M13-37PA	1-5 PCS 1 DAY ARO	M
801-010-07M16-55SA	1-5 PCS 1 DAY ARO	M
801-010-07M17-85SA	1-5 PCS 1 DAY ARO	M
801-010-07M5-3SA	1-5 PCS 1 DAY ARO	M
801-010-07M6-4SA	1-5 PCS 1 DAY ARO	M
801-010-07M6-7PA	1-5 PCS 1 DAY ARO	M
801-010-07M7-10PA	1-5 PCS 1 DAY ARO	M
801-010-07M7-10SA	1-5 PCS 1 DAY ARO	M
801-010-07M8-13PA	1-5 PCS 1 DAY ARO	M
801-010-07M9-19SA	1-5 PCS 1 DAY ARO	M
801-010-07ZN7-10SA	1-5 PCS 1 DAY ARO	ZN
801-011-02M10-26PA	1-5 PCS 1 DAY ARO	M
801-011-02M13-37PA	1-5 PCS 1 DAY ARO	M
801-011-02M13-37SA	1-5 PCS 1 DAY ARO	M
801-011-02M16-55SA	1-5 PCS 1 DAY ARO	M
801-011-02M17-85SA	1-5 PCS 1 DAY ARO	M
801-011-02M5-3SA	1-5 PCS 1 DAY ARO	M
801-011-02M6-4PA	1-5 PCS 1 DAY ARO	M
801-011-02M6-7SA	1-5 PCS 1 DAY ARO	M
801-011-02M7-10SA	1-5 PCS 1 DAY ARO	M
801-011-02M8-13PA	1-5 PCS 1 DAY ARO	M
801-011-02M8-13SA	1-5 PCS 1 DAY ARO	M
801-011-02M9-19PA	1-5 PCS 1 DAY ARO	M
801-011-02NF7-10PA	1-5 PCS 1 DAY ARO	NF
801-011-02NF7-10SA	1-5 PCS 1 DAY ARO	NF
801-011-07M10-26SA	1-5 PCS 1 DAY ARO	M
801-011-07M13-37PA	1-5 PCS 1 DAY ARO	M
801-011-07M16-55PA	1-5 PCS 1 DAY ARO	M
801-011-07M17-85PA	1-5 PCS 1 DAY ARO	M
801-011-07M17-85SA	1-5 PCS 1 DAY ARO	M
801-011-07M5-3PA	1-5 PCS 1 DAY ARO	M
801-011-07M6-4SA	1-5 PCS 1 DAY ARO	M
801-011-07M6-7PA	1-5 PCS 1 DAY ARO	M
801-011-07M7-10PA	1-5 PCS 1 DAY ARO	M
801-011-07M8-13SA	1-5 PCS 1 DAY ARO	M
801-011-07M9-19PA	1-5 PCS 1 DAY ARO	M
801-011-07M9-19SA	1-5 PCS 1 DAY ARO	M

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
801-012-02Z110-26PA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z113-37PA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z116-55PA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z15-3PA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z16-4CA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z16-7PA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z17-10PA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z18-13PA	1-5 PCS 1 DAY ARO	Z1
801-012-02Z19-19CA	1-5 PCS 1 DAY ARO	Z1
801-012-03Z16-7CA	1-5 PCS 1 DAY ARO	Z1
801-012-03Z17-10CA	1-5 PCS 1 DAY ARO	Z1
801-012-03Z19-19PA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z110-26CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z113-37CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z116-55CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z117-85CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z15-3CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z16-4CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z16-7CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z17-10CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z18-13CA	1-5 PCS 1 DAY ARO	Z1
801-012-07Z19-19CA	1-5 PCS 1 DAY ARO	Z1
802-001-06Z16-4SN	1-5 PCS 1 DAY ARO	Z1
802-001-06Z16-7PN	1-5 PCS 1 DAY ARO	Z1
802-001-06Z19-19SN	1-5 PCS 1 DAY ARO	Z1
802-002-07Z16-4PN	1-5 PCS 1 DAY ARO	Z1
802-002-07Z16-7SN	1-5 PCS 1 DAY ARO	Z1
802-002-07Z19-19PN	1-5 PCS 1 DAY ARO	Z1
802-004-07Z16-4PN	1-5 PCS 1 DAY ARO	Z1
803-001-06M12-37PN	1-5 PCS 1 DAY ARO	M
803-001-06M14-55PN	1-5 PCS 1 DAY ARO	M
803-001-06M15-85PN	1-5 PCS 1 DAY ARO	M
803-001-06M5-3PN	1-5 PCS 1 DAY ARO	M
803-001-06M6-7PN	1-5 PCS 1 DAY ARO	M
803-001-06M9-19PN	1-5 PCS 1 DAY ARO	M
803-001-06ZNU12-37SN	1-5 PCS 1 DAY ARO	ZNU
803-001-06ZNU14-55SN	1-5 PCS 1 DAY ARO	ZNU
803-001-06ZNU15-85SN	1-5 PCS 1 DAY ARO	ZNU
803-001-06ZNU5-3SN	1-5 PCS 1 DAY ARO	ZNU
803-001-06ZNU6-4PN	1-5 PCS 1 DAY ARO	ZNU
803-001-06ZNU6-7SN	1-5 PCS 1 DAY ARO	ZNU
803-001-06ZNU7-10SN	1-5 PCS 1 DAY ARO	ZNU

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
803-001-06ZNU9-19SN	1-5 PCS 1 DAY ARO	ZNU
803-002-06M14-55PN	1-5 PCS 1 DAY ARO	M
803-002-06M15-85PN	1-5 PCS 1 DAY ARO	M
803-002-06M5-3PN	1-5 PCS 1 DAY ARO	M
803-002-06M6-7PN	1-5 PCS 1 DAY ARO	M
803-002-06M9-19PN	1-5 PCS 1 DAY ARO	M
803-002-06ZNU12-37SN	1-5 PCS 1 DAY ARO	ZNU
803-002-06ZNU5-3SN	1-5 PCS 1 DAY ARO	ZNU
803-002-06ZNU6-7SN	1-5 PCS 1 DAY ARO	ZNU
803-002-06ZNU9-19SN	1-5 PCS 1 DAY ARO	ZNU
803-003-01M12-37SN	1-5 PCS 1 DAY ARO	M
803-003-01M14-55SN	1-5 PCS 1 DAY ARO	M
803-003-01M15-85SN	1-5 PCS 1 DAY ARO	M
803-003-01M5-3SN	1-5 PCS 1 DAY ARO	M
803-003-01M6-7SN	1-5 PCS 1 DAY ARO	M
803-003-01M7-10SN	1-5 PCS 1 DAY ARO	M
803-003-01M9-19SN	1-5 PCS 1 DAY ARO	M
803-003-01ZNU12-37PN	1-5 PCS 1 DAY ARO	ZNU
803-003-01ZNU14-55PN	1-5 PCS 1 DAY ARO	ZNU
803-003-01ZNU15-85PN	1-5 PCS 1 DAY ARO	ZNU
803-003-01ZNU5-3PN	1-5 PCS 1 DAY ARO	ZNU
803-003-01ZNU6-7PN	1-5 PCS 1 DAY ARO	ZNU
803-003-01ZNU7-10PN	1-5 PCS 1 DAY ARO	ZNU
803-003-01ZNU9-19PN	1-5 PCS 1 DAY ARO	ZNU
803-003-02M12-37SN	1-5 PCS 1 DAY ARO	M
803-003-02M14-55SN	1-5 PCS 1 DAY ARO	M
803-003-02M15-85SN	1-5 PCS 1 DAY ARO	M
803-003-02M6-7PN	1-5 PCS 1 DAY ARO	M
803-003-02M6-7SN	1-5 PCS 1 DAY ARO	M
803-003-02M7-10SN	1-5 PCS 1 DAY ARO	M
803-003-07M12-37SN	1-5 PCS 1 DAY ARO	M
803-003-07M14-55SN	1-5 PCS 1 DAY ARO	M
803-003-07M15-85SN	1-5 PCS 1 DAY ARO	M
803-003-07M5-3SN	1-5 PCS 1 DAY ARO	M
803-003-07M6-7SN	1-5 PCS 1 DAY ARO	M
803-003-07M7-10SN	1-5 PCS 1 DAY ARO	M
803-003-07M9-19SN	1-5 PCS 1 DAY ARO	M
803-003-07ZNU14-55PN	1-5 PCS 1 DAY ARO	ZNU
803-003-07ZNU15-85PN	1-5 PCS 1 DAY ARO	ZNU
803-003-07ZNU5-3PN	1-5 PCS 1 DAY ARO	ZNU
803-003-07ZNU6-7PN	1-5 PCS 1 DAY ARO	ZNU
803-003-07ZNU7-10PN	1-5 PCS 1 DAY ARO	ZNU

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
803-003-07ZNU9-19PN	1-5 PCS 1 DAY ARO	ZNU
803-005-02M7-10SN	1-5 PCS 1 DAY ARO	M
803-005-07M6-7SN	1-5 PCS 1 DAY ARO	M
803-005-07M7-10SN	1-5 PCS 1 DAY ARO	M
803-005-07M9-19SN	1-5 PCS 1 DAY ARO	M
803-005-07ZNU6-4SN	1-5 PCS 1 DAY ARO	ZNU
803-005-07ZNU6-7PN	1-5 PCS 1 DAY ARO	ZNU
803-005-07ZNU9-19PN	1-5 PCS 1 DAY ARO	ZNU
804-001-06C7-10S	1-5 PCS 1 DAY ARO	C
804-001-06M10-26P	1-5 PCS 1 DAY ARO	M
804-001-06M12-37P	1-5 PCS 1 DAY ARO	M
804-001-06M14-55P	1-5 PCS 1 DAY ARO	M
804-001-06M15-85P	1-5 PCS 1 DAY ARO	M
804-001-06M5-3P	1-5 PCS 1 DAY ARO	M
804-001-06M6-7P	1-5 PCS 1 DAY ARO	M
804-001-06M7-10P	1-5 PCS 1 DAY ARO	M
804-001-06M8-13P	1-5 PCS 1 DAY ARO	M
804-001-06M9-19P	1-5 PCS 1 DAY ARO	M
804-001-06ZNU10-26S	1-5 PCS 1 DAY ARO	ZNU
804-001-06ZNU5-3S	1-5 PCS 1 DAY ARO	ZNU
804-001-06ZNU6-7S	1-5 PCS 1 DAY ARO	ZNU
804-001-06ZNU7-10S	1-5 PCS 1 DAY ARO	ZNU
804-001-06ZNU8-13S	1-5 PCS 1 DAY ARO	ZNU
804-001-06ZNU9-19S	1-5 PCS 1 DAY ARO	ZNU
804-002-06M5-3P	1-5 PCS 1 DAY ARO	M
804-002-06M6-7P	1-5 PCS 1 DAY ARO	M
804-002-06M7-10P	1-5 PCS 1 DAY ARO	M
804-002-06ZNU5-3S	1-5 PCS 1 DAY ARO	ZNU
804-002-06ZNU6-7S	1-5 PCS 1 DAY ARO	ZNU
804-003-00M6-7P	1-5 PCS 1 DAY ARO	M
804-003-00M6-7S	1-5 PCS 1 DAY ARO	M
804-003-00M7-10S	1-5 PCS 1 DAY ARO	M
804-003-00M8-13S	1-5 PCS 1 DAY ARO	M
804-003-01M10-26S	1-5 PCS 1 DAY ARO	M
804-003-01M5-3S	1-5 PCS 1 DAY ARO	M
804-003-01M6-7S	1-5 PCS 1 DAY ARO	M
804-003-01M7-10S	1-5 PCS 1 DAY ARO	M
804-003-01M8-13S	1-5 PCS 1 DAY ARO	M
804-003-01M9-19S	1-5 PCS 1 DAY ARO	M
804-003-01NF5-3P	1-5 PCS 1 DAY ARO	NF
804-003-01ZNU10-26P	1-5 PCS 1 DAY ARO	ZNU
804-003-01ZNU6-7P	1-5 PCS 1 DAY ARO	ZNU

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
804-003-01ZNU7-10P	1-5 PCS 1 DAY ARO	ZNU
804-003-01ZNU8-13P	1-5 PCS 1 DAY ARO	ZNU
804-003-01ZNU9-19P	1-5 PCS 1 DAY ARO	ZNU
804-003-07M10-26S	1-5 PCS 1 DAY ARO	M
804-003-07M12-37S	1-5 PCS 1 DAY ARO	M
804-003-07M14-55S	1-5 PCS 1 DAY ARO	M
804-003-07M15-85S	1-5 PCS 1 DAY ARO	M
804-003-07M5-3S	1-5 PCS 1 DAY ARO	M
804-003-07M6-7S	1-5 PCS 1 DAY ARO	M
804-003-07M7-10S	1-5 PCS 1 DAY ARO	M
804-003-07M8-13S	1-5 PCS 1 DAY ARO	M
804-003-07M9-19S	1-5 PCS 1 DAY ARO	M
804-003-07ZNU10-26P	1-5 PCS 1 DAY ARO	ZNU
804-003-07ZNU5-3P	1-5 PCS 1 DAY ARO	ZNU
804-003-07ZNU6-7P	1-5 PCS 1 DAY ARO	ZNU
804-003-07ZNU7-10P	1-5 PCS 1 DAY ARO	ZNU
804-003-07ZNU8-13P	1-5 PCS 1 DAY ARO	ZNU
804-003-07ZNU9-19P	1-5 PCS 1 DAY ARO	ZNU
804-005-07M10-26S	1-5 PCS 1 DAY ARO	M
804-005-07M12-37S	1-2 PCS 1 DAY ARO,	M
804-005-07M5-3P	1-5 PCS 1 DAY ARO	M
804-005-07M5-3S	1-5 PCS 1 DAY ARO	M
804-005-07M6-7S	1-5 PCS 1 DAY ARO	M
804-005-07M7-10S	1-5 PCS 1 DAY ARO	M
804-005-07M8-13S	1-5 PCS 1 DAY ARO	M
804-005-07M9-19S	1-5 PCS 1 DAY ARO	M
804-005-07ZNU10-26P	1-5 PCS 1 DAY ARO	ZNU
804-005-07ZNU12-37S	1-5 PCS 1 DAY ARO	ZNU
804-005-07ZNU6-7P	1-5 PCS 1 DAY ARO	ZNU
804-005-07ZNU7-10P	1-5 PCS 1 DAY ARO	ZNU
804-005-07ZNU8-13P	1-5 PCS 1 DAY ARO	ZNU
804-005-07ZNU9-19P	1-5 PCS 1 DAY ARO	ZNU
807-011-03Z19-19CN	1-5 PCS 1 DAY ARO	Z1
807-020HZ1-6-4P	1-2 PCS 1 DAY ARO,	Z1
807-049P	1-5 PCS 1 DAY ARO	C
807-089	1-5 PCS 1 DAY ARO	Z1
807-120-07ZC6-6CY	1-5 PCS 1 DAY ARO	ZC
807-120-07ZC6-6DN	1-5 PCS 1 DAY ARO	ZC
807-190-07NF13-37SA	1-5 PCS 1 DAY ARO	NF
807-198-07ZNU6-6DY	1-5 PCS 1 DAY ARO	ZNU
807-215-06ZNU6-6PYB	1-5 PCS 1 DAY ARO	ZNU
807-398-6-6PNB	1-5 PCS 1 DAY ARO	SM

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
807-398-6-6SNB	1-5 PCS 1 DAY ARO	
807-398-6-6SYB	1-5 PCS 1 DAY ARO	
809-001	1-1000 PCS 1 DAY ARO	PP
809-002	1-1000 PCS 1 DAY ARO	PP
809-005	1-2 PCS 1 DAY ARO	PP
809-007	1-2 PCS 1 DAY ARO	PP
809-013	1-2 PCS 1 DAY ARO	NO
809-015	1-2 PCS 1 DAY ARO	NO
809-019-0	1-2 PCS 1 DAY ARO	PP
809-019-1	1-2 PCS 1 DAY ARO	PP
809-019-2	1-5 PCS 1 DAY ARO	PP
809-023	1-1000 PCS 1 DAY ARO	PP
809-033	1-10 PCS 1 DAY ARO	
809-037-2	1-100 PCS 1 DAY ARO	NO
809-073	1-2 PCS 1 DAY ARO	NO
809-088	1-2 PCS 1 DAY ARO	Z1
809A060-1	1-5 PCS 1 DAY ARO	NO
809A060-2	1-5 PCS 1 DAY ARO	NO
809A060-3	1-5 PCS 1 DAY ARO	NO
809A060-4	1-5 PCS 1 DAY ARO	NO
809A060-5	1-5 PCS 1 DAY ARO	NO
809S060-1	1-5 PCS 1 DAY ARO	NO
809S060-2	1-5 PCS 1 DAY ARO	NO
809S060-3	1-5 PCS 1 DAY ARO	NO
809S060-4	1-5 PCS 1 DAY ARO	NO
809S060-5	1-5 PCS 1 DAY ARO	NO
600-061	1-5 PCS 1 DAY ARO	Z1
600-146-01	1-5 PCS 1 DAY ARO	P
600-146-02	1-5 PCS 1 DAY ARO	P
600-146-03	1-5 PCS 1 DAY ARO	P
600-146-04	1-5 PCS 1 DAY ARO	P
600-146-05	1-10 PCS 1 DAY ARO	P
600-146-06	1-5 PCS 1 DAY ARO	P
600-146-07	1-5 PCS 1 DAY ARO	P
600-146-08	1-5 PCS 1 DAY ARO	P
600-146-09	1-5 PCS 1 DAY ARO	P
600-146-10	1-5 PCS 1 DAY ARO	P
600-146-11	1-5 PCS 1 DAY ARO	P
600-146-12	1-5 PCS 1 DAY ARO	P
600-146-13	1-5 PCS 1 DAY ARO	P
600-146-14	1-5 PCS 1 DAY ARO	P
600-146-15	1-5 PCS 1 DAY ARO	P

Series 80 "Mighty Mouse" Same Day Inventory		
Part Number	Delivery	Finish
600-146-16	1-5 PCS 1 DAY ARO	P
600-147-12	1-5 PCS 1 DAY ARO	P
600-147-14	1-5 PCS 1 DAY ARO	P
600-147-15	1-5 PCS 1 DAY ARO	P
600-147-5	1-5 PCS 1 DAY ARO	P
600-147-9	1-5 PCS 1 DAY ARO	P
667-184-C-F602-6	1-10 PCS 1 DAY ARO	C
667-184-NF-G608-3	1-25 PCS 1 DAY ARO	NF
667-185-C-G601-2	1-25 PCS 1 DAY ARO	C
667-185-C-G701-5	1-10 PCS 1 DAY ARO	C
667-185-C-R607-3	1-25 PCS 1 DAY ARO	C
667-185-M-G601-4	1-25 PCS 1 DAY ARO	M
667-185-NF-F606-6	1-10 PCS 1 DAY ARO	NF
667-185ZNG607-6	1-50 PCS 1 DAY ARO	ZN
667-185-ZN-H901-3	1-25 PCS 1 DAY ARO	ZN
667-202NF14H3-12	1-25 PCS 1 DAY ARO	NF
667-202NF15H3-13	1-25 PCS 1 DAY ARO	NF
667-202NF9H3-10	1-5 PCS 1 DAY ARO	NF
667-203C7G4-01	1-25 PCS 1 DAY ARO	C
667-217-NF-R602-4	1-25 PCS 1 DAY ARO	NF
667-217-NF-R702-4	1-25 PCS 1 DAY ARO	NF
667-217-NF-R902-4	1-25 PCS 1 DAY ARO	NF
667-218-M-N6	1-25 PCS 1 DAY ARO	M
667-218-NF-H601-2	1-10 PCS 1 DAY ARO	NF
667-218-NF-S902-3	1-25 PCS 1 DAY ARO	NF
667-218-ZN-H608-6	1-20 PCS 1 DAY ARO	ZN
667-218-ZN-R1311-4	1-25 PCS 1 DAY ARO	ZN
667-218-ZN-R909-4	1-25 PCS 1 DAY ARO	ZN
667-218-ZNU-N6	1-25 PCS 1 DAY ARO	ZNU

Glenair Heisst Sie Willkomen zu Electronica

Once again, Electronica finds Glenair prepared to roll-out an incredible array of new interconnect products. As this issue of QwikConnect portrays, we have broadened our "Mighty Mouse" product line with new power and signal contact arrangements, right-angle board mounts, the 805 triple-start connector, the submersible 804 "Aqua Mouse," standard and high-speed data cordsets, fiber optic and hybrid optical/electrical connectors, "Mighty Mouse" swing-arm strain reliefs, and other accessories and tools designed specifically for this miniaturized, circular connector line.

This year at Electronica we are also launching Glenair's first catalog of filtered connector products in popular military standard styles such as MIL-DTL-38999 Series I through IV, MIL-C-26482, MIL-DTL-83273, MIL-PRF-83513, Glenair's Series 80 "Mighty Mouse," and many custom filtered connector solutions. In addition to EMI/EMP filter devices, this new product line includes additional technologies for resolving EMI problems such as ground-spring backshells, shielded cables, braid-shielded conduit assemblies, plated junction boxes and more.

We are also very proud to announce to the Electronica community our new Commital product line featuring a broad range of VG approvals and MIL-C-5015 and MIL-C-26482 type interconnects—many featuring bayonet and reverse-bayonet couplings ideal for industrial and rail applications. Our Commital connector line allows Glenair to broaden significantly the range of power and signal interconnect solutions available to our customers.

Glenair's miniaturized rectangular connector product family has grown over the past few years to become the most comprehensive and diverse in the industry. This year at Electronica we are pleased to introduce our expanded Micro-D and Nanominiature TwistPin Connectors and Accessories product line, supported by a catalog that we are confident will become the "Bible" of the industry due to its breadth of technical reference information. New products include surface mounts, right angle board mounts, single row connectors and much more.

The Glenair Fiber Optic product line has also been expanded since Electronica 2004, and once again we have a comprehensive catalog to offer our customers documenting the many new Glenair solutions for tactical fiber optic systems. The expanded product line includes several new high-density connectors, as well as a unique front-release termini for custom connector designs, and new fiber optic tools and accessories.

It is personally rewarding to see all the new and improved product offerings we are introducing to the Electronica community this year. We are pleased to time these many new product roll-outs to coincide with Electronica, given its role as the premier electronics fair in Europe.

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Glenair has been the leading manufacturer and supplier of commercial and Mil-Spec connector accessories since 1956. Building on that foundation, we now offer a dozen, full-spectrum product lines designed to meet every interconnect requirement. From ruggedized military connectors to tactical fiber optic connectors and cables, from EMI conduit systems to Micro-D harness assemblies, from Navy approved composite enclosures to a complete range of connector assembly tools—Glenair does it all. And throughout the years, we've made outstanding customer service our approach to earning customer trust, and to maintaining our position as the industry's best-value interconnect supplier. *QwikConnect* is published occasionally by Glenair, Inc. Printed in U.S.A.

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