Military / Defense Interconnect Solutions
For Ground, Sea, Air, and Space Applications

SOLDIER APPLICATIONS

- STAR-PAN™ Scalable Soldier Networks
- STAR-PAN™ MISSION MANAGER
- Tactical Soldier Cables
- MouseBud™ Snap-Lock, Trigger Release Connectors
- Mighty Mouse 807 QDC NATO Tactical Soldier Connectors
- SuperFly™ and SuperFly Datalink™ Nanominiature Tactical Connectors
- El Ochito™ Octaxial Ethernet Contacts and Connectors
- HiPer 55116 Advanced-Performance Audio / Radio Connectors
- Series 701 SeaKing™ Junior Dry-Mate Deep Water Connector
Ruggedized soldier-worn electronics have revolutionized mission effectiveness. But the ongoing evolution of Digitally Aided Close Air Support (DACAS) missions, including precision targeting, ground and air radio communications, real-time video downlink, GPS/navigation, and personal area network computing has added significant mission weight to the dismounted soldier ensemble. Battery power management for this broad range of electronic gear is a significant challenge in terms of mission time, weight and supply logistics. The Glenair STAR-PAN™ data hub and power distribution system enables soldiers—particularly in Joint Terminal Attack Controller (JTAC) roles—to make the most of C4ISR devices, improving situational awareness, surveillance, intelligence and reconnaissance while optimizing power monitoring, conditioning, and distribution performance. Importantly, all STAR-PAN™ technologies—from the high-density, NATO standard Mighty Mouse quick-disconnect connectors and cables to the low-profile hub enclosure itself—are designed for optimal size, weight, power, and ruggedized mil-spec performance with battle-tested environmental and EMC sealing and shielding.

Glenair’s Tactical Interconnect Solutions team is backed by six decades of proven, made-in-America interconnect industry performance in service of US and NATO armed forces—including the United States Marine Corps, our latest STAR-PAN™ adopters and users.

Multiport USB hubs, cables, and peripheral device manager for soldier-worn power / data network applications

Export of STAR-PAN™ outside of the U.S. is controlled by the U.S. Department of Commerce Export Administration. See individual product pages for details. Consult factory for technology / hardware licensing information.
JTAC-TOUGH™
STAR-PAN™ Scalable Soldier Networks
Powering soldier connectivity and C4ISR mission success

STAR-PAN™ SCALABLE SOLDIER NETWORKING HUBS AND DEVICE MANAGERS

STAR-PAN™ Light
(Standard Soldier)

STAR-PAN™ II
(Advanced Soldier)

STAR-PAN™ VI
(JTAC / Mission Commander)

STAR-PAN™ MISSION MANAGER
On-the-fly device integration

OPEN-SYSTEM NETWORK SUPPORT FOR THE COMPLETE RANGE OF C4ISR DEVICES

Radios  Batteries  Targeting  Video  GPS  Host / EUD

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GROUND SOLDIER

STAR-PAN™ MISSION MANAGER
Plug-and-play EUD / USB peripheral data exchange device

GLENAIR MISSION MANAGER WITH MX QUICK-CONFIGURATION SOFTWARE

JTAC peripheral device configuration for both general use and mission-specific profiles is a complicated and time-consuming process, repeated for each and every mission. The Glenair STAR-PAN™ MISSION MANAGER with MX quick-configuration software reduces this problem by providing a plug-and-play bridge between the soldier’s End User Device (EUD) and the C4ISR peripherals he depends on for mission success.

The STAR-PAN™ MISSION MANAGER is a Linux OS ARM-based embedded computing device that acts as a full-time host, brokering data between soldier USB peripherals and the EUD. In combination with Stauder Technologies’ user-configurable MX application software, the STAR-PAN™ MISSION MANAGER makes connecting multiple devices to any EUD—before, during, or between missions—easier than ever before.

- End User Device independent—no device rooting or custom ROM images needed
- Real-time, plug-and-play device integration
- Supports multiple simultaneous Ethernet devices
- Dedicated EUD port for connection to downstream EUD
- Minimal power demands
- Seamless integration into STAR-PAN systems
- NATO standard Mighty Mouse connector interface
- Android, iOS, Windows and Linux compatible
- Export classification EAR99

Provide data and power to EUD without compromising security
STAR-PAN™
Mission Manager with MX Software
Plug-and-play EUD / USB peripheral data exchange

STAR-PAN™ MISSION MANAGER MX SOFTWARE CAPABILITIES
MISSION MANAGER with Stauder Technologies’ MX quick-configuration software eliminates the need for costly EUD OS development, and/or complicated device provisioning, by providing an intelligent interconnection bridge between the soldier’s EUD and his C4ISR peripherals. The secure datalink software runs directly on the EUD providing a graphical user interface for configuration and management of USB/Ethernet datalink connections and radios. STAR-PAN™ MISSION MANAGER with MX software eliminates the need to retest or recertify complex systems after EUD update or replacement.

PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Operating Conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +80°C</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-32°C to +49°C</td>
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<tr>
<td>Operation Altitude</td>
<td>9754m</td>
</tr>
<tr>
<td>Storage Altitude</td>
<td>15240m</td>
</tr>
<tr>
<td>Water Immersion, Mated</td>
<td>MIL-STD-810, Method 512, 1m for 1 hr.; IP67 rated dust / water resistant</td>
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</table>

FULL-TIME HOST TO BROKER DATA EXCHANGE BETWEEN SOLDIER USB PERIPHERALS AND THE EUD

Headless data management and routing for all open-system peripheral devices as shown below (lightweight single-radio configuration also supported for plug-and-play integration between radio and EUD).

QUALIFIED FOR USE WITH ALL STAR-PAN POWER / DATA HUBS: LIGHT, I, II, IV, AND VI

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# STAR-PAN™ System Cables and Adapters

## Radio Cables and Adapters
- AN/PRC-152A Radio Adapter Cable
- AN/PRC-117G / RF-7800M-MP / RF7800H-MP Radio Adapter Cable
- RT-1922 Microlight SADL Radio Data Cable

## Power Cables and Battery Adapters
- BA5590/BB2590 Battery Shoe
- Radio Power Booster For Harris, L3, Silvus, and other radios
- Conformal Battery Adapter Cable

## Targeting Cables and Adapters
- Safran Vectronix Vector 21/21B and Moskito Data Cable
- Safran Vectronix STERNA TNF Data Cable
- PLRF 15C/25C Laser Range Finder Cable

## Video / GPS and Auxiliary C4ISR Cables
- DAGR GPS Navigation Cable
- TacRover-e Adapter Cable
- StrikeHawk Adapter Cable

## Host / EUD Cables and Adapters
- Kägwerks tactical EUD case with Adapter Cable
- USB-C EUD Charging Cable
- Tactical EUD Juggernaut Case with Adapter Cable
STAR-PAN™ SYSTEM AND OTHER
Mil-Grade Interconnect Cable Assemblies
with Mighty Mouse 807 / NATO push-pull connectors

Other Mil-Grade Cable Assemblies

HARSH ENVIRONMENT OVERMOLDED

- Overmolded breakout assembly featuring 100% Glenair content; a true turnkey solution
- Multibranch cable assembly with Glenair Mighty Mouse, HiPer-D M24308 and customer-supplied power connector
- Turnkey overmolded GPS cable assembly with integrated switch
- Environmental cable with Glenair Mighty Mouse 807, Series 79, and RF Coax terminations

ULTRAFLEXIBLE FABRIC OVERBRAID

- Non-environmental aircraft cable with integrated circuit breakout box and Mighty Mouse 807 push-pull connectors
- Heads-up display (HUD) cable with custom Mighty Mouse 807 and low-profile cable routing
- Military jet jumper cable with user-serviceable backshells and fabric overbraid for mechanical protection
- Hybrid Mighty Mouse and Micro-D aircraft pilot helmet cable assembly
MouseBud: the snap-lock trigger-release connector

Ultra low-profile, light weight, harsh-environment tactical connector with push-to-mate and lock / trigger-release mating

- Self-locking auto-coupling, trigger-release mechanism
- Spring-loaded pins for extended durability and easy cleaning
- One meter, one hour water immersion
- 2000 cycles mechanical life
- High-speed data, power, video, and audio applications
- Meets MIL-STD-810G shock, vibration, immersion
- EMI protected with integral backshell and ground spring
- Ultra low-profile and lightweight
The Series 860 MouseBud™ is designed for vest-wearable and helmet-mounted cable-to-tactical equipment interconnections. The ultra low-profile spring contact equipped MouseBud™ mated connector stack is less than 1/2 inch, making it the lowest-profile right-angle solution available today. Overmolded MouseBud cordsets are available in two standard versions. Style 1 cordsets feature thermoplastic polyurethane cable jackets and polyamide overmolding. Style 2 cordsets with thermoplastic rubber (TPV) cable jackets and overmolding offer excellent cold bend performance down to -55°C.

Glenair MouseBud snap-lock, trigger-release connectors feature a spring-loaded contact system for excellent resistance to damage and debris entrapment. The biased plunger is machined from solid copper alloy for improved strength, durability, and electrical performance compared to plungers drawn from sheet metal.

MOUSEBUD TECHNICAL SPECIFICATIONS

<table>
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<tr>
<th>Specification</th>
<th>Value</th>
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<tbody>
<tr>
<td>Voltage rating</td>
<td>500 VAC</td>
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<tr>
<td>Current rating</td>
<td>5 amps</td>
</tr>
<tr>
<td>Contact resistance</td>
<td>20 milliohms maximum</td>
</tr>
<tr>
<td>Plug-to-receptacle ground resistance</td>
<td>≤5 milliohm</td>
</tr>
<tr>
<td>Maximum wire size</td>
<td>#24 AWG</td>
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<tr>
<td>Insulation resistance</td>
<td>5000 megohms min.</td>
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<td>Water immersion</td>
<td>MIL-STD-810 Method 312, one meter for one hour</td>
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<tr>
<td>Durability</td>
<td>2000 mating cycles</td>
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<tr>
<td>Corrosion resistance</td>
<td>1000 hours</td>
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<tr>
<td>Sine vibration</td>
<td>EIA-364-28 condition IV, 20g peak</td>
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<td>Random vibration</td>
<td>EIA-364-28 condition V letter H, 29g rms</td>
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<tr>
<td>Shock</td>
<td>EIA-364-27 condition D, 300g peak</td>
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<tr>
<td>EMI shielding effectiveness</td>
<td>40 dB minimum to 10 GHz</td>
</tr>
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</table>
TURNKEY OVERMOLDED AND OVERBRAIDED FACTORY ASSEMBLIES

- Push-to-mate, pull-to-unmate
- Gold-plated stainless steel spring
- Crimp rear release contacts
- Integral band platform
- Available with size #12, #16, #20, #20HD and #23 contacts
- Environmentally sealed
- Wider field application and use than all other tactical soldier interconnects combined
- Full compatibility with US and NATO standards

Worldwide (NATO) quick-disconnect standard for tactical soldier system C4ISR device interconnection
MIGHTY MOUSE 807: NATO-STANDARD INTERCONNECT INTERFACE FOR C4ISR-EQUIPPED WARRIORS

- Cable Plug
- Cobra Plug
- Panel Plug
- Cable Receptacle
- Panel Receptacle
- Hermetic Receptacle

STAR-PAN™ tactical soldier radio data/power setup with Mighty Mouse 807-equipped radio power booster

Ultralife lightweight wearable battery with Mighty Mouse 807 panel mount receptacle

Kägwerks ruggedized EUD case with Mighty Mouse 807 dongle

Juggernaut Case ruggedized EUD assembly with Mighty Mouse 807 dongle

BB-2590/BA-5590 standard soldier battery with Mighty Mouse 807 power adapter

TacRover-e video downlink receiver with Mighty Mouse high-speed I/O connector and STAR-PAN interface cable

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The ultimate nanominiature tactical connector

Mighty Mouse not small enough? Meet the toughest, smallest, and highest-speed connector we’ve got—ideal for soldier-wearable C4ISR equipment

- Push-pull version with high / low force release option
- Threaded version for secure mating
- Hybrid contact system
- First mate / last break power contacts
- Layouts and contact spacing optimized for high-speed

PRINTED CIRCUIT BOARD PLUG AND RECEPTACLES

<table>
<thead>
<tr>
<th>Quick-Disconnect</th>
<th>Threaded</th>
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<tbody>
<tr>
<td>Right Angle, Rear Panel Mount</td>
<td>Vertical Plug, Rear Panel Mount</td>
</tr>
<tr>
<td>Right Angle, Rear Panel Mount, PCB Mounting Holes</td>
<td>Vertical, Rear Panel Mount</td>
</tr>
<tr>
<td>Vertical, Rear Panel Mount, PCB Mounting Holes</td>
<td>Vertical Plug, Rear Panel Mount</td>
</tr>
<tr>
<td>Vertical, Rear Panel Mount, Ground Pins</td>
<td>Vertical, Rear Panel Mount</td>
</tr>
<tr>
<td>Vertical Plug, Rear Panel Mount</td>
<td>Right Angle, Rear Panel Mount</td>
</tr>
</tbody>
</table>
SERIES 88
SuperFly® Ultraminiature Soldier System Connectors and Cordsets

ULTRAMINIATURE SUPERFLY® CORDSETS AND PIGTAILS

- Overmolded threaded plug and receptacle
- Quick-disconnect overmolded cordset
- Threaded pigtail plug and receptacle
- Quick-disconnect pigtail plug and jam nut receptacle

Contact Arrangements

Series 88 SuperFly connectors are available in 27 contact arrangements with 1 Amp, 3 Amp, 5 Amp contacts, and mixed-contact hybrid arrangements.

1 Amp

<table>
<thead>
<tr>
<th>Code</th>
<th>Amp</th>
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<tbody>
<tr>
<td>B7N</td>
<td>1A</td>
</tr>
<tr>
<td>C10N</td>
<td>1A</td>
</tr>
<tr>
<td>E19N</td>
<td>1A</td>
</tr>
<tr>
<td>F22N</td>
<td>1A</td>
</tr>
<tr>
<td>G31N</td>
<td>1A</td>
</tr>
<tr>
<td>H37N</td>
<td>1A</td>
</tr>
<tr>
<td>J44N</td>
<td>1A</td>
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3 Amp

<table>
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<th>Code</th>
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<tbody>
<tr>
<td>D3M</td>
<td>3A</td>
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<tr>
<td>E4M</td>
<td>3A</td>
</tr>
<tr>
<td>F7M</td>
<td>3A</td>
</tr>
<tr>
<td>G10M</td>
<td>3A</td>
</tr>
<tr>
<td>K19M</td>
<td>3A</td>
</tr>
<tr>
<td>L22M</td>
<td>3A</td>
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Combo 1 Amp & 5 Amp

<table>
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<tr>
<th>Code</th>
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<tbody>
<tr>
<td>D2W2N</td>
<td>1A, 5A</td>
</tr>
<tr>
<td>F4W4N</td>
<td>1A, 5A</td>
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<tr>
<td>H6W4N</td>
<td>1A, 5A</td>
</tr>
<tr>
<td>J7W1N</td>
<td>1A, 5A</td>
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5 Amp Contacts

<table>
<thead>
<tr>
<th>Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>E3W</td>
<td>5A</td>
</tr>
<tr>
<td>F4W</td>
<td>5A</td>
</tr>
<tr>
<td>G7W</td>
<td>5A</td>
</tr>
<tr>
<td>H10W</td>
<td>5A</td>
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</tbody>
</table>

Combo 1 Amp & 3 Amp

<table>
<thead>
<tr>
<th>Code</th>
<th>Amp</th>
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<tbody>
<tr>
<td>C2M2N</td>
<td>1A, 3A</td>
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<tr>
<td>E4M4N</td>
<td>1A, 3A</td>
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<tr>
<td>F4M8N</td>
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<td>G6M10N</td>
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<td>G6M12N</td>
<td>1A, 3A</td>
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<tr>
<td>K13M19N</td>
<td>1A, 3A</td>
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</table>

- IP67 immersion rated
- High-reliability contacts: 5 Amp, 3 Amp, and 1 Amp
- High shock and vibration
- Robust EMI shielding
- Designed for high speed data applications
- Pre-wired, epoxy-sealed cordsets
- Straight and 90° PC tail receptacles
- 27 Contact arrangements
- Front or rear panel mounting
- Aluminum or stainless steel
- Accepts #22 to #32 AWG wire

Accepts #22 to #32 AWG wire
High speed, harsh environment SuperFly® Datalink connectors—shielded for 10Gb Ethernet and SuperSpeed USB protocols—deliver outstanding signal integrity and save significant size and weight compared to Quadrax solutions.

- Ultra-small size
- Shielded Octaxial contacts
- Up to 5 Gbps
- 10Gb Ethernet and SuperSpeed USB
- Environmentally protected
- Factory-terminated cables or discrete contacts and cables for customer assembly
**SERIES 882**

SuperFly® Datalink

The high-speed ultraminiature connector for harsh environment defense applications

**CONNECTOR CONFIGURATIONS**

Quick-disconnect “push-pull” versions are ideal for tactical gear. Threaded-coupling versions are intended for aircraft and space-grade applications where secure mating is a requirement.

- **Push-Pull Quick-Disconnect**
  - Latching EMI Springs
  - O-ring Interface Seal
  - 882-001 Plug Connector
  - 882-002 Receptacle Connector

Push-pull SuperFly Datalink receptacle connectors feature two canted coil springs for secure mating and excellent EMI protection. A fluorosilicone O-ring provides watertight sealing when mated.

- **Threaded Coupling**
- **Straight PC Tails**
- **Right Angle PC Tails**

**Cable Connector**

- **Cable Sealing Grommet**
- **Backshell**
- **O-ring**
- **Retainer Clip**
- **Cable Shield Bushing**
- **Spline**
- **Inner Insulator**
- **Pin Contacts**
- **Outer Insulator**
- **Coupling Nut and Shell Assembly**

Cable connectors feature gold-plated crimp contacts, precision insulators, integral backshell, sealing grommet and machined shells.

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High-speed octaxial contacts / connectors for Ethernet, SuperSpeed USB and MGb datalinks

High speed, harsh environment El Ochito® octaxial connectors and contacts save size and weight in aircraft avionics, weapons systems, satellites, radars, and communications equipment.

- **El Ochito® White**
  - 10G Ethernet
  - 1000BASE-T
  - 10GBASE-T
  - 10Gbps / 100 Ohms

- **El Ochito® Blue**
  - SuperSpeed USB 3.0
  - Aerospace-grade
  - 5Gbps / 90 Ohms

- **El Ochito® Red**
  - HDMI
  - SATA
  - DisplayPort
  - 5Gbps / 100 Ohms

- 10GbE, SuperSpeed USB, and multi-gigabit shielded pairs
- Universal drop-in for keyed size #8 connector cavities
- Data-pair isolation for optimal signal integrity
- Crimp or threaded shield termination contact types
- Snap-in, rear release
- Environmentally sealed
- Aerospace-grade cable assemblies
- 50% cable / contact reduction compared to Quadrax
El Ochito®: The Ultimate Shielded High-Speed Data Contact / Connector
Now available for SuperSpeed USB 3.0 and HDMI

EL OCHITO® OCTAXIAL CONTACT CONNECTOR PACKAGING

- SuperNine® plug with El Ochito® contacts
- Series 792 with El Ochito® contacts
- SuperFly® Datalink with El Ochito® contacts
- Mighty Mouse hybrid with El Ochito® and size #23 signal contacts
- Series 805 Mighty Mouse with El Ochito® contacts
- SuperNine® CODE RED hermetic feed-thru with El Ochito® contacts
- Series 28 HiPer-D® with El Ochito® contacts
- Series 791 rack-and-panel with El Ochito® contacts
- ARINC 600 series with El Ochito® contact module
Series 152 HiPer 55116 connectors offer significant performance advantages for modern soldier communication systems

- Intermateable and interoperable with standard MIL-DTL-55116 connectors
- Low contact resistance: Less than 10 milliohms
- Integrated EMI ground spring provides improved 2.5 milliohm shell-to-shell conductivity performance
- IP68 rated sealing in mated and unmated condition, prevents water ingress into radio equipment
- 1,000 hour+ salt spray corrosion resistance
- Integrated cable shield termination band porch
- Superior 100 pound cable pull test rating

**GLENAIR DLA QUALIFIED SERIES 151 STANDARD MIL-DTL-55116 AUDIO CONNECTORS**

- **151-001** MIL-DTL-55116 QPL audio plug with wire strain relief
- **151-002** MIL-DTL-55116 QPL audio plug/overmold adapter
- **151-003** MIL-DTL-55116 QPL radio-mount jam nut receptacle
- **151-004** MIL-DTL-55116 QPL in-line receptacle, strain relief
SERIES 152 INTERMATEABLE
HiPer 55116
Radio Connectors and Cables
Superior environmental, EMC, and durability performance

SERIES 152 HIPER 55116 CONNECTOR SELECTION GUIDE

Audio plug, field serviceable, with wire strain relief and rigid contacts, crimp and solder cup
Overmolded audio plug cordset with wire strain relief
Audio plug with shield termination porch, overmolding adapter and rigid contacts, crimp and solder cup
Overmolded audio plug cordset
In-line receptacle with shield termination porch, overmolding adapter, and non-rigid spring contacts, crimp and solder cup
Overmolded in-line audio receptacle cordset
Radio-mount jam nut audio receptacle with non-rigid spring contacts or PC tails and optional ground pins
Filtered radio-mount jam nut audio receptacle with non-rigid spring contacts, solder cup or PC tails
Special adapter configurations and protective covers
High-reliability, dry-mate underwater connectors and cables for rugged military defense applications

High-density Series 701 SeaKing Junior connectors are the perfect choice for harsh-environment military and defense applications. All designs are equipped with piston seal Nitrile O-rings to withstand exposure to corrosive chemicals and high-temperature environments. These 10,000 psi pressure rated (mated condition) connectors feature high-density crimp-contact or solder cup inserts, and are significantly smaller than our larger form-factor series 700 SeaKing interconnects. Gold-plated crimp contacts accept #12–30 gage wire. SeaKing Junior connectors are backfilled with epoxy potting compound, ready for easy incorporation into overmolded cables. Crimp-contact versions for field installation and repair are also available. SeaKing Junior is specifically designed for high-pressure, mated condition applications that do not require the extra fail-safe features and cost of an open-face rated solution.

SEAKING™ JUNIOR CABLES

- 10,000 psi (mated condition) pressure rated connector for overmolded (non-PBOF) applications
- High density, small form-factor solution—up to 50% reduction in size and weight compared to industry standard solutions
- Ultraminiature high-density pin configurations: #22D, #20, #20HD, #16, #12, #8 signal, power, fiber optic and high-speed datalink shielded contacts

Harsh-environment polyurethane overmolded point-to-point cables with straight or right-angle ends, one-to-one wiring

Pigtail receptacle assemblies, variable cable length, single-conductor M22759/11 wire, environmental back-end potting

All insert arrangements tooled and available now including high-density and combo layouts for Coax, Twinax, and El Ochito® octaxial contacts
SERIES 701 SeaKing™ Junior
Harsh-Environment Underwater Connectors

10K psi (mated condition) high-density, connector series for overmolded cable applications

SERIES 701 SEAKING™ JUNIOR MECHANICAL FEATURES AND CONFIGURATIONS

Stainless Steel or Titanium shells, Marine Bronze coupling nuts
Available in nine sizes from 2 to 128 contacts, Series 701 connectors feature stainless steel or marine bronze shells. Nitrile O-rings resist high temperature and corrosive chemicals.

10,000 psi
These connectors withstand up to 10,000 PSI hydrostatic pressure in a mated condition.

SEAKING™ JUNIOR HOW TO ORDER, SPECIFICATIONS, MATERIALS AND FINISHES

<table>
<thead>
<tr>
<th>Sample Part Number</th>
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<tbody>
<tr>
<td>Series 701-016 Z1 S N</td>
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SERIES 701 Polarization

<table>
<thead>
<tr>
<th>Key Position</th>
<th>Key Rotation</th>
<th>Plug</th>
<th>Receptacle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal (N)</td>
<td>150° A°, 210° B°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>75° A°, 210° B°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>95° A°, 230° B°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>140° A°, 275° B°</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Material and Finish

- Shells, Jam Nuts: Stainless steel or Titanium
- CCP Coupling Nuts: Marine bronze, unplated
- Contacts: Copper alloy, gold plated
- Insulators: Composite thermoplastic
- Retaining ring and hardware: Stainless steel
- Interfacial Seal (pin inserts only) and Grommet: Fluorosilicone
- O-rings and Seals: Nitrile, 90 shore

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Military-grade, ruggedized field connectors that deliver improved environmental sealing, EMI/RFI grounding, and a broader range of wire termination options for RJ45 and USB—now for SuperSpeed 3.0

- New SuperSpeed USB 3.0 protocol support
- Superior sealing—IP67 unmated—for complete system protection against water, sand and dust
- Highly durable SuperSeal™ insert design, provides enhanced operating temperature, increased life-cycle, and rugged vibration and shock performance
- Crimp, solder-cup, PC tail and cable assemblies

Available ruggedized memory stick 32GB, 64GB, and 128GB versions
SuperSpeed USB 3.0
Ruggedized connectors and cables
MIL-DTL-38999 Series III Type

NEW SUPERSPEED USB 3.0 RUGGEDIZED FIELD CONNECTORS

| Cable plug | Wall mount receptacle with metric clinch nuts | Wall mount receptacle with slotted holes | Wall mount receptacle with round holes | Jam nut mount Receptacle |

TURNKEY SUPERSPEED USB 3.0 CABLE ASSEMBLIES AND JUMPERS

Glenair SuperNine USB 3.0 cable jumpers, SuperSeal to standard USB Type A and Micro-B connectors

SuperSeal USB 3.0 connectors are available as turnkey cable jumpers. Rugged field connector styles—including plug, wall mount and jam-nut receptacles—may be cabled with commercial 3.0 connector types including male Type A, female Type A, and male Micro B. Assemblies may be ordered with straight or right angle cable exit. In addition, the USB 3.0 insert may be ordered in horizontal or vertical orientation to provide protection against mis-mating. Maximum overall length is 15 feet.

SUPPORTED USB 3.0 CONNECTOR TYPES

USB 3.0 male Type A  
USB 3.0 female Type A  
USB 3.0 male Micro B

USB ORIENTATION OPTIONS

Horizontal  

= Master Keyway  

Vertical
Series 970 PowerTrip™
reduced size and weight
two.fitted/power connectors for extreme
two.fitted/environments

Reduced size and weight power connectors

- Fast, easy mating with triple-start ACME thread: 360° turn for full mating
- Reduced size and weight compared to 5015/VG95234 solutions
- LouverBand sockets for improved current ratings and longer life, up to 2000 mating cycles
- Splined backshell interface for improved backshell attachment and EMI shielding
- Ratcheting coupling nut for secure mating
- Operating temperature -65°C to +200°C
- Hermetic and filter options available

The Series 970 PowerTrip™ offers improved performance compared to standard 5015 type power connectors: higher density and lighter weight packaging, rapid mating and demating triple-start threaded coupling, and extremely rugged splined and threaded backshell attachment interface.
ABOUT THE POWERTRIP CONTACT SYSTEM

Series 970 contacts are precision-machined using high conductivity copper alloy. A stamped and formed spring ("LouverBand") is installed into the socket contact. The spring is made from 6 mil copper alloy. Testing has demonstrated that this contact system outperforms conventional aerospace-grade contact systems. The LouverBand spring provides many points of electrical contact with the mating pin, as opposed to a few "high spots" on a conventional four-finger contact as shown in the figure below. The size #8 Powertrip socket contact has a total of 18 louvers. The #4 has 27 louvers, and the #1/0 has 42 louvers. The LouverBand design offers lower voltage drop for reduced joule heating. In addition to its electrical advantages, the LouverBand also is mechanically superior to four-finger contacts. The LouverBand spring has consistent, stable normal force, even when subjected to thousands of mating cycles and temperature extremes.

CONTACT RESISTANCE AFTER 1000 MATING CYCLES

Series 970 PowerTrip™ Specifications
- Current Rating: Up to 225 A.
- Dielectric Withstanding Voltage: 2000 VAC
- Insulation Resistance: 5000 megohms minimum
- Operating Temperature: -65°C to +200°C
- Shock: 300 g.
- Vibration: 37 g.
- Shielding Effectiveness: 65 dB minimum from 1GHz to 10GHz
- Durability: 2000 mating cycles

Conventional contact on the left, LouverBand contact on the right

LouverBand socket contact cutaway
The ultra flexible and rugged power cable solution—ideal for rotating turret applications

TurboFlex® power distribution cables are constructed from highly flexible conductors and high-performance insulation to produce cables ideally suited for applications where flexibility, durability, and weight reduction are required. Amazingly durable and flexible—especially in cold weather—the 16 AWG to 450 MCM TurboFlex cable features high strand count rope lay inner conductors made with tin-, nickel- and silver-plated copper. TurboFlex is jacketed with Glenair’s unique Duralectric™ compound that provides outstanding flexibility and resistance to environmental and chemical exposure. Duralectric is also low smoke, zero halogen. Long life and performance are critical in power distribution applications. TurboFlex, with its flexible conductors and durable jacket delivers both.

Duralectric™ is the high-performance TurboFlex® jacketing material perfectly suited for immersion, chemical or caustic fluid exposure, temperature extremes, UV radiation and more—available in a broad range of colors including safety orange.

Available in a broad range of gages, 16 AWG to 450 MCM

Many sizes In-stock and available for immediate, same-day shipment. No minimums!
SERIES 96
TurboFlex ultra-flexible power distribution cable

Environmental performance · voltage rating data
Duralectric™ jacketing specifications and colors

TURBOFLEX CABLE APPLICATION EXAMPLE

This multibranch TurboFlex power and data interconnect assembly for a ruggedized defense application demonstrates the remarkable flexibility and minimal bend radius of large form-factor (up to 450 MCM) TurboFlex cable. Example shown features UV- and chemical-resistant Duralectric jacketing in FED-STD 595C Safety Orange.

Ultra flexible rope lay construction
TurboFlex bend radius is 3X the outer diameter

Standard catalog product is available with either Tin/Copper, Silver/Copper, or Nickel/Copper conductors, with standard Duralectric™ jacketing in four wall thicknesses. Consult factory for special formula Duralectric™ K, F, and C configurations

<table>
<thead>
<tr>
<th>P/N</th>
<th>Jacket Wall Thickness</th>
<th>AC Voltage Rating, RMS</th>
<th>DC Voltage Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>961-004</td>
<td>.032”</td>
<td>2000</td>
<td>2800</td>
</tr>
<tr>
<td>961-003</td>
<td>.062”</td>
<td>3000</td>
<td>4200</td>
</tr>
<tr>
<td>961-002</td>
<td>.093”</td>
<td>3500</td>
<td>4900</td>
</tr>
<tr>
<td>961-001</td>
<td>.125”</td>
<td>4500</td>
<td>6300</td>
</tr>
</tbody>
</table>

TURBOFLEX® WITH DURALECTRIC™ JACKETING:
ENVIRONMENTAL PERFORMANCE

Temperature rating: -60°C to 260°C
Halogen free per IEC 60614-1
Accelerated weathering and simulated solar radiation at ground level per IEC 60068-2-5; 56 Days exposure, suitable for greater than 50 years of service in direct sunlight
Flame resistant per IEC 60614-1
Flame resistant per UL 1685, section 12 (FT4/IEEE120), vertical-tray fire-propagation and smoke release test
Flame resistant per FAR 25.853 (A) amendment 25-116, appendix F part I (A) (i), 60 second vertical burn test
Limiting oxygen index of 45 per ISO 4589-2:1999
Low smoke density class F1 per NF F 16-101 IAW DIN EN 60695-2-11:2011
Low smoke toxicity per NES 713, tested value of 1.9
Fungus rating of 0 per MIL-STD-810g method 508.5, Does not support fungal growth
ASTM D624, die B tear strength, 150 pounds per inch minimum on jacket material
Low outgassing per ASTM e595 after post curing, TML .06%, CVCM .006%, WVR .02%
Resistant to fluids per MIL-STD-810F, method 504
JP-8 per MIL-DTL-83133 (NATO type 34)
MIL-H-5606 hydraulic fluid
MIL-PRF-23699 lubricating oil
MIL-C-85570 cleaner
TT-1735 Isopropyl alcohol
AMS 1432 potassium acetate deicing/anti-icing fluid
MIL-C-87252 coolant
Amerex AFF fire extinguishing foam

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For advanced abrasion protection, environmental sealing, splicing, and wire protection

ALSO AVAILABLE: HEAT SHRINK TERMINATION SLEEVES / SPLICES

| Three sizes of available inline splices | Wired and unwired AS83519/1 and /2 Type heat shrink terminations for EMI shield-to-ground termination applications (note braided versions qualified for lightning strike) | Example rectangular interconnect assembly outfitted with heat shrink termination grounds |

Qualified space-grade shrink boots: low-outgassing fluoropolymer alloy
ENVIROMENTAL
Heat-Shrink and Autoshrink™
Boots and Molded Shapes

abrasion protection • environmental sealing • splicing

ENVIRONMENTAL “FULL NELSON” HEAT-SHRINK BOOTS AND MOLDED SHAPES

Standard lipped or lipless boots

long tail and high-ratio configurations

90° and 45° angle boots

SuperFly, Mighty Mouse, and D-subminiature configurations

Convoluted accordion boots

Y, T, and multibranch transitions

Colored boots available

ENVIRONMENTAL “AUTOSHRINK” BOOTS AND MOLDED SHAPES

Autoshrink D
UV-Resistant / LSZH

Autoshrink F
Advanced Fluid Resistant

Autoshrink S
Subsea

Autoshrink T
High-Temperature-Tolerant

- Straight, 45° and 90° angle-lipped shrink boots and shrink tubing
- Fire-resistance in all material types
- Reliable IP68 sealing
- 3000 VAC rated
- Service temperature range: -65°C to 300°C
- Integrated ground strap versions available

Mil-Aero / Industrial fluid-resistant lipped shrink boots

Fast and easy repair of Duralectric-jacketed cables

Utilize for termination of lugs on new installations

© 2020 Glenair, Inc • Glenair Signature Military / Defense Interconnect Solutions
Series 79 is the advanced-performance, aerospace-grade crimp-contact rectangular connector

Series 79 MICRO-CRIMP PRODUCT SELECTION GUIDE

- Crimp, PCB, fiber optic, coax, power and pitot
- Precision machined aluminum shells sealed to IP67
- High-density #23 contact arrangements set on .076 centers
- Blind mating for rack and panel applications
- Environmental, hermetic and filter versions
- Integrated ground spring for improved EMI shielding
SERIES 79
Micro-Crimp
Ultramiiniature crimp-contact rectangular

The next-generation ultramiiniature rectangular connector for demanding defense applications

31 insert arrangements supporting signal, power, and high-speed contacts

Blind Mate Guide Pins and Sockets


Guide Sockets Stainless steel non-removable bushings.

Series 790 Performance Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current rating</td>
<td>Contact size #23 5 Amps, size #16 15 Amps, size #12 23 Amps maximum</td>
</tr>
<tr>
<td>Voltage rating (DVV)</td>
<td>size #23 500 VAC rms, size #16 and #12 1800 VAC rms, Sea level.</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>5000 megohms minimum</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-65°C to +150°C</td>
</tr>
<tr>
<td>Contact resistance</td>
<td>5 milliohms maximum</td>
</tr>
<tr>
<td>Water ingress protection</td>
<td>IP67</td>
</tr>
<tr>
<td>Shielding effectiveness</td>
<td>&gt;75 dB attenuation from 100 MHz to 1000 MHz, &gt;60dB 1GHz to 4GHz, &gt;40dB 4GHz to 10GHz.</td>
</tr>
</tbody>
</table>

M-17P17 with size 16 contacts

- Two to 102 contacts
- Coax, twinax, quadrax and Ochito octaxial contacts
- Rugged aluminum shell with dual polarizing lobes

Shell size A – the smallest 791

- Integral band platform for direct attachment of cable braid
- -65°C to +150°C
- Panel mount versions with O-ring or EMI spring

- 37 contact arrangements
- Crimp-and-poke or epoxy-sealed board mount versions
- Scoop-proof recessed pins
- Size 23, 16, 12 and 8 contacts
- Straight and right angle printed circuit board mounting
- 12 shell sizes
- Guide pins for blind mate modules
- Contacts meet SAE AS39029 requirements
- Internal ground spring for EMI protection
- Approved for manned space flight

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The next-generation ultraminiature rectangular connector for high-speed aerospace applications

The Series 792 connector brings high-speed datalink performance to the Glenair Series 79 rectangular family. Size 8 cavities accept standard Quadrax and El Ochito™ datalink contacts making it a perfect choice for radars, weapons systems, communications gear and more.

- High-speed Ethernet, USB 3.0, HDMI
- Printed circuit board and cable connectors
- Scoop-proof interface
- 12 arrangements and 6 shell sizes
- Precision-machined dual-lobe polarized shells
- Environmentally sealed
- Integrated EMI shielding and grounding
- Blind mating
HIGH-SPEED
Series 792
The next-generation ultraminiature rectangular for high-speed aerospace applications

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>REQUIREMENT</th>
<th>PROCEDURE / NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-65° to +175°C</td>
<td>EIA-364-32 Test Condition IV</td>
</tr>
<tr>
<td>Current rating</td>
<td>1.5 Amps (datalink contacts)</td>
<td>Datalink contacts tested: El Ochito® White</td>
</tr>
<tr>
<td>Dielectric Withstanding Voltage (sea level)</td>
<td>750 VAC (Size #23 contacts) 1800 VAC (datalink contacts)</td>
<td>EIA-364-20</td>
</tr>
<tr>
<td>Insulation resistance</td>
<td>5000 MO minimum</td>
<td>EIA-364-21</td>
</tr>
<tr>
<td>Contact resistance, 25°C</td>
<td>55 millivolt maximum</td>
<td>EIA-364-06, 1.0 A test current, #24 AWG wire</td>
</tr>
<tr>
<td>Shell-to-shell resistance</td>
<td>2.5 millivolt maximum</td>
<td>EIA-364-83</td>
</tr>
<tr>
<td>Shielding effectiveness</td>
<td></td>
<td>EIA-364-66</td>
</tr>
<tr>
<td>Ingress protection</td>
<td>IP67 rating</td>
<td>IEC-60529</td>
</tr>
</tbody>
</table>

SERIES 792 INSERT ARRANGEMENTS (PIN FACE SHOWN)
The advanced-performance MIL-DTL-38999 Series III type connector

The world’s most complete range of QPL and COTS MIL-DTL-38999 solutions for both pressurized and unpressurized aircraft equipment zones

DLA QPL MIL-DTL-38999 SERIES III AND IV

DLA Qualified Series III environmental plug, jam nut, and square flange receptacles, class W, F, T, and G. Qualified Series IV breech-lock connectors in classes F and W. All 1560 crimp-contact insert arrangements fully supported.
SERIES 23
SuperNine®
MIL-DTL-38999 Series III Type
Advanced Performance Aerospace / Defense Connectors

SUPERNINE: SUPERIOR VIBRATION, SHOCK, EMC, AND DURABILITY PERFORMANCE

SuperNine® environmental class connectors
SuperNine® ruggedized RJ45 and USB connectors
SuperNine® glass and CODE RED hermetic connectors
SuperNine® high-speed connectors
SuperNine® EMI/EMP filter connectors
SuperNine® fiber optic connectors
SuperNine® parylene-compatible PC tail connectors
SuperNine® space-grade assisted separation force connectors
SuperNine® Sav-Con® connector savers and go-betweens

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Innovative design meets key performance benchmarks for harsh vibration, shock, and environmental settings—as well as high-altitude, unpressurized aircraft zones with aggressive voltage ratings and altitude immersion standards.

SAVE SIZE AND WEIGHT WITH SERIES 806 CONNECTORS

- Next-generation small form factor aerospace-grade circular connector
- Designed for harsh application environments such as aircraft, industrial robotics and more
- Upgraded environmental, electrical and mechanical performance
- Integrated anti-decoupling technology
- Higher density 20HD and 22HD crimp contact arrangements
- Hermetic and filter versions
- +200°C temperature rating
Series 806 Mil-Aero Ultraminiature Circular Connectors
for harsh mil-aero applications IAW MIL-DTL-38999

SERIES 806 MIL-AERO: FEATURES / SPECIFICATIONS

- Supported wire sizes:
  - #20HD contacts 20–24 AWG
  - #22HD contacts 22–28 AWG
- Dielectric withstanding voltage
  - #20HD layouts: 1800 Vac
  - #22HD layouts: 1300 Vac
- Reduced pitch triple-start modified anti-decoupling stub ACME mating threads
- “Triple ripple” wire sealing grommet (75,000 ft. rated)
- Integral Nano-Band shield termination platform
- EMI shielding effectiveness per D38999M para. 4.5.28 (65 dB min. leakage attenuation @ 10GHz)
- 10,000 amp indirect lightning strike
- MIL-S-901 Grade A high impact shock

AVAILABLE LIGHTWEIGHT ALUMINUM “CODE RED” HERMETICS

CODE RED is a lightweight encapsulant sealing and assembly process with 50% package-weight savings compared to glass-to-metal seal Kovar/stainless steel solutions. Non-outgassing CODE RED (IAW NASA/ESA) provides durable hermetic sealing with $1 \times 10^{-7}$ leak rate performance. Gold-plated copper contacts deliver outstanding low-resistance current carrying capacity.

SERIES 806 MIL-AERO PLUG

- Coupling Nut Retainer Ring: Stainless steel
- Coupling Nut: Aluminum alloy
- Insert Retention Ring: Stainless steel
- Wire Seal: Fluorosilicone rubber
- Insulators: Glass-filled rigid dielectric
- Contacts: Gold-plated copper
- Anti-Decoupling Spring: Stainless steel
- Interfacial Seal: Fluorosilicone rubber
- EMI Ground Spring: Nickel-plated BeCu
- Plug Barrel: High strength alloy

SERIES 806 MIL-AERO RECEPTACLE

- Insert Retention Ring: Stainless steel
- Wire Seal: Fluorosilicone rubber
- Insulators: Glass-filled rigid dielectric
- Panel O-ring: Fluorosilicone
- Shell Body: Aluminum alloy
- Jam Nut: Aluminum alloy
- Shell/Mating Interface: Aluminum, modified triple-start

SMALLER AND LIGHTER WITH EQUAL D38999 PERFORMANCE?

- High-Density Layouts: Twice as many contacts in a smaller package
- “Top Hat” Insulator: High voltage rating, foolproof alignment
- Triple Ripple Wire Seal: Reliable 75,000 ft. altitude immersion
HD Stacker: the innovative mission-critical board-to-board connector with fail-safe signal integrity and rugged, reliable harsh-environment performance

- High-density .0625" pitch Chevron Contact System: 55% more contacts per connector size
- PCIe 3.0 capable
- Performance up to 10.5 Gbps
- Polarized insulator and hardware options
- Solder free “eye of the needle” compliant tail for press fit installation
- High-temp PPS insulator meets NASA outgassing requirements
- Available wired / flex jumpers
- Available between-board spacers up to 1 inch

Solder-free press-fit (compliant pin) board mounting

.0625” pitch contact spacing: highest available density

Polarized shells and keyed guide pin hardware prevent mis-mating
HD Stacker™

High-density, rugged, high-pitch compliant pin board-to-board stackable connectors

**HD STACKER™ POSITION AND MATING COMPATIBILITY GUIDE**

- **GSTBL**: Single-Sided Mate, Top-of-Stack Mates with GSTB and GSTB (.095)
- **GSTT-PW**: Prewired, Top-of-Stack Mates with GSTB
- **GSTT-PS**: Solder Cup, Top-of-Stack Mates with GSTB
- **GSTT-PF**: PC Tail (Flex), Top-of-Stack Mates with GSTB
- **GSTB**: Universal Stacking Connector, Top, Middle, and Bottom Position Mates with:
  - GSTB
  - GSTT-PW
  - GSTT-PS
  - GSTT-PF
  - GSTBL
  - GSTF
  - GSTB (.095)
- **GSTBL (.095)**: Single-Sided Mate, Bottom-of-Stack Mates with GSTB and GSTBL
- **GSTT**: Prewired, Bottom-of-Stack Mates with GSTB

980-008 Spacer is used in applications that require additional space between PCBs to accommodate board electronics. Spacers serve as a rigid, precision standoff for board-to-board heights up to 1.025" (26.03mm).

All Glenair HD Stacker™ connectors are equipped with our innovative .062" pitch high-density Chevron Contact System (CCS). Special non-orthogonal socket tines enable both higher density layouts as well as improved signal integrity. The GSTB is equipped with pin/socket contacts with solder-free press-fit board mounting.

**QUALIFICATION TESTING / HIGH-SPEED PERFORMANCE**

Stacker connectors were qualified in accordance with MIL-DTL-55302G testing for:
- Contact engagement/separation
- Contact retention
- DWV
- Electrical resistance
- Mechanical vibration and shock
- Insulation resistance
- Thermal shock
- Contact resistance
- Humidity

High-frequency electrical performance tests were performed for: Insertion loss, return loss, crosstalk, and time domain performance metrics including impedance and eye pattern. Complete test reports are available at www.glenair.com/technical_information_test_reports

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AlphaLink® SL is a high-performance, solderless board-level connector technology developed by Glenair that significantly expands board-level interconnection options for users of mil-spec caliber connectors. Precision-machined and EMI shielded, these ultralightweight PC tail, solder cup, and/or pigtail equipped connectors are designed for high-reliability applications that require avionic system levels of vibration and shock tolerance. Ultra low-profile and high-density, AlphaLink® SL connectors are equipped with 2–3 Amp spring-loaded contacts and may be ordered either as discrete connectors or in turnkey flex jumpers that combine popular Glenair high-reliability I/O connectors. Glenair is perfectly positioned to provide the entire solution with in-house manufacturing for every component part—from connectors and contacts to rugged polyimide-based flex. AlphaLink® SL flex jumpers are available with Series 80 Mighty Mouse, Series 88 SuperFly, and Series 89 nanominiature circular connectors, as well as Series 89 nanominiature, Micro-D subminiature and Series 79 Micro-Crimp rectangular connectors. A wide range of insert arrangements, from 4–40 contacts is available.

- Spring-loaded, solderless board-level solution
- Available I/O-to-board flex and pigtail wire jumpers
- Lightweight, low-profile: up to 40% space savings compared to 2mm pitch solutions
- High-density .050" center-to-center contact footprint
- Fast and easy PC board integration with reduced board preparation and masking
- Temperature, vibration and shock resistant
**AlphaLink® SL flex jumpers**: Compact interconnect assemblies that combine circuit board technology and cabling into a lightweight, integrated package. These turnkey jumper assemblies reduce system size and weight and are ideally suited for prototype applications and new product development efforts.

**AlphaLink® Interposer and Bridge Technologies**: Unique pogo pin contact technology enables this signature Glenair connector series to deliver the lowest profile board-to-board solution available in the industry today.
PCB / Flex Circuit Interconnect Assemblies with signature PCB connector technologies available only from Glenair

Turnkey connectorized flex/PCB cable assemblies incorporating Glenair’s broad range of innovative small form-factor circular and rectangular PCB connector solutions, backpotted for protection during conformal coating

GLENAIR SIGNATURE PCB CONNECTOR TYPES AVAILABLE IN TURNKEY FLEX ASSEMBLIES

Series MWD Micro-D and innovative pogo-pin AlphaLink
Series 88 SuperFly
Series 79 Micro-Crimp
SuperSeal RJ45 and USB
TURNKEY
PCB/Flex Circuit Assemblies
with Glenair signature PC tail connectors

MULIBRANCH FLEX / PCB ASSEMBLIES WITH GLENAIR SIGNATURE CONNECTORS

Space-grade Micro-D flex assembly with NASA EEE-INST-002 screening

High-tech matched-impedance Mighty Mouse assembly with flex circuit

Space-grade Series 28 HiPer-D to Series 80 Mighty Mouse I/O jumper

Dual-gang series 20 Super-Twin™ I/O connector to AlphaLink SL PCB connector

Stacked Micro-D I/O connectors with flex jumper to rigid PCB assembly

Hybrid flex/rigid flex multibranch Micro-D and Series 23 SuperNine flex assembly with discrete RF circuits

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From air and ground missile launch interconnects to pure air gas assemblies and high-voltage, high-altitude connectors, Glenair BLQ’s Aerospace group is positioned to address some of the most difficult and mission-critical interconnect challenges in the manned and unmanned aerospace industry.

**UNIQUE CAPABILITIES**

- High-voltage electric power distribution connectors for aircraft and space propulsion applications
- Flight line and ground support interconnect technologies
- Cockpit and aircraft headlight interconnects
- Surface-to-air and air-to-air missile launch umbilicals
- High-voltage partial discharge testing
WEAPONS STORES, UMBILICALS, AND MISSILE-LAUNCH INTERFACE CONNECTORS

MIL-DTL-1760 type
New innovative designs
Discrete connectors and harnesses

IN-HOUSE HERMETIC CONNECTOR DESIGN AND MANUFACTURE

Rectangular configurations
Bulkhead feed-thrus
Circular MS type
Custom configurations

PURE AIR HIGH PRESSURE COOLING GAS TUBE ASSEMBLIES

Complete systems and ancillaries for IR guided weapons and weapons ejection applications

© 2020 Glenair, Inc • Glenair Signature Military / Defense Interconnect Solutions
Durable, lightweight corrosion-free EMI/RFI shielded composite junction boxes NAVSEA standard drawing 803-6983506 Rev. B

- Over a dozen different tooled sizes and shapes.
- Extremely durable, corrosion-free, high temperature engineering composite thermoplastic
- Tested and qualified to U.S. Navy, UK MOD and hundreds of commercial aircraft and marine applications

Series 316 stainless steel hardware provides long-term durability

Unlimited corrosion resistance compared to metal junction boxes reduces repair and maintenance costs.

Glass reinforced composite thermoplastic material is strong and durable, yet extremely lightweight.

IP67 rated seals and gaskets protect equipment from moisture and dust

Example box shown: one of a series of NAVSEA-approved signal, switch, sound power, control boxes designed to eliminate corrosion damage and reduce maintenance cost on Navy ships
### Glenair Composite Box Product Specifications

<table>
<thead>
<tr>
<th>Description/Test Report</th>
<th>Requirement</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plating Adhesion</td>
<td>Should not exhibit any blistering, peeling or other separation of the units plating.</td>
<td>Tested IAW MIL-DTL-38999.</td>
</tr>
<tr>
<td>Vibration</td>
<td>Should not exhibit loosening of component parts or evidence of damage.</td>
<td>Tested IAW MIL-STD-167 Type 1 for box units and MIL-STD-1344, Method 2004 Condition II for fittings and accessories.</td>
</tr>
<tr>
<td>Shock</td>
<td>There shall be no loosening of parts or evidence of damage.</td>
<td>Tested IAW MOD BR 8470 Grade C and F.</td>
</tr>
<tr>
<td>Salt Spray</td>
<td>Should exhibit no exposure of underplate or base material.</td>
<td>Tested IAW MIL-STD-1344, Method 1001.</td>
</tr>
<tr>
<td>UV Light Resistance</td>
<td>No degradation of the mechanical properties defined in the specification after testing.</td>
<td>Tested IAW ASTM D2565.</td>
</tr>
<tr>
<td>Impact</td>
<td>No evidence of breaking or cracking of components or other damage that could affect the product performance.</td>
<td>Tested IAW MIL-STD-1344, Method 2018.</td>
</tr>
<tr>
<td>Temperature Cycling</td>
<td>No cracking, peeling or separation of plating or other functional damage.</td>
<td>Tested IAW MIL-STD-1344, Method 2003 at -65°C to 200°C.</td>
</tr>
<tr>
<td>Hydrolytic Stability</td>
<td>No evidence of increased weight greater than 1% and no evidence of cracking, breaking or loosening of component parts.</td>
<td>Tested IAW ASTM D570-81.</td>
</tr>
<tr>
<td>Flammability</td>
<td>The item flame and after flow extinguishing time shall not exceed the defined limits.</td>
<td>Tested IAW Table II of MIL-STD-1344, Method 1012, Smoke Index, NES 711 Issue 2, NES 713 Issue 3 and ISO 4589.</td>
</tr>
<tr>
<td>Water Tightness</td>
<td>Water tightness and internal pressurization is maintained.</td>
<td>Tested IAW EA #0C13513-039514.</td>
</tr>
<tr>
<td>Outgassing</td>
<td>Maximum allowable weight loss is 10%.</td>
<td>Tested IAW ASTME 595.</td>
</tr>
<tr>
<td>Electromagnetic Shielding</td>
<td>Should demonstrate shielding effectiveness and transfer impedance conforming to military industry standards and specific customer requirements.</td>
<td>Tested IAW TRW/ABQ-55C-1186-0.</td>
</tr>
</tbody>
</table>
Designed for use in rugged shipboard applications as well as military ground systems such as armored vehicles, the Glenair BacNav OFS delivers outstanding mechanical, electrical, and environmental performance. The innovative design incorporates an environmentally-sealed, EMI shielded core with a locking pivot that facilitates cable routing and eliminates the need to stock discrete straight, 45° and 90° variants of standard wire sealing, strain relief, and EMI shield termination backshells. Built to withstand the handling abuse that topside and below-deck electrical and fiber optic interconnect systems are routinely subjected to by ham-fisted sailors and marines, the BacNav OFS is purpose-designed to deliver life-of-ship and life-of-system performance and durability. Available for the broad range of power, signal, and fiber optic connector systems—including MIL-PRF-28876 and MIL-PRF-64266 (fiber optics) to MIL-DTL-28840, AS50151, and more—BacNav OFS meets every current requirement for backshell-equipped connectorized cabling.

- Easy repositioning from straight, 45° and 90° cable-exit orientations
- Submersible performance without the need for shrink boots
- Durable, flexible EMI/RFI and environmentally-sealed core with locking-pivot Swing-Arm™ frame
- Accommodates power, signal and fiber optic jacketed cables
- Reposition terminated cables with no impact on signal integrity or system performance
- Easy repeatable assembly process using standard tools
SERIES 390
BacNav OFS repositionable harsh-environment backshell
Outstanding, flexible performance

BacNav OFS is the only fully-sealed EMI/RFI backshell and strain relief device that delivers fast and easy cable angle configuration in the field—using a common 7/64" hex wrench, and without decoupling from the connector and/or cable. The sealed, flexible connector backshell adjusts to straight, 45° and 90° cable angles with zero impact on signal integrity or system performance.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>REQUIREMENT</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic permeability</td>
<td>Less than 2.0µ</td>
<td>EIA-364-54</td>
</tr>
<tr>
<td>Shell conductivity</td>
<td>&lt; 2.5 milliohms(^2)</td>
<td>EIA 364-83</td>
</tr>
<tr>
<td>Salt spray (corrosion)</td>
<td>No exposure of basis material as defined in AIR4789 for 500 hours(^3)</td>
<td>EIA 364-26</td>
</tr>
<tr>
<td>Vibration</td>
<td>CIT &lt;0.5d8 No discontinuities(^4) No damage</td>
<td>MIL-STD-167-1A (SHIPs), paragraph 5.1.2.4.6 (endurance test)</td>
</tr>
<tr>
<td>Shock</td>
<td>CIT &lt;0.5d8 No discontinuities(^4) No damage</td>
<td>MIL-S-901D, grade A, Class 1</td>
</tr>
<tr>
<td>Water pressure</td>
<td>10 meters for 48 hours (IP68)</td>
<td>QTP-384</td>
</tr>
<tr>
<td>Cable pullout</td>
<td>No slippage exceeding 1/8&quot; CIT &lt;0.5d8(^5)</td>
<td>EIA 364-38 TIA-455-6</td>
</tr>
<tr>
<td>Coupling thread strength</td>
<td>No damage at 3X magnification</td>
<td>AS85049 (Heavy Duty)</td>
</tr>
<tr>
<td>External bending moment</td>
<td>300-750 In-lbs (size dependant)</td>
<td>AS85049 (Heavy Duty) QTP-384</td>
</tr>
<tr>
<td>Fluid immersion</td>
<td>No changes detrimental to performance(^6)</td>
<td>EIA 364-10</td>
</tr>
<tr>
<td>Insertion loss</td>
<td>MIL-STD-1676.2, Appendix C, Table 2101 C-1</td>
<td>TIA-455-34 Method A</td>
</tr>
<tr>
<td>Cable seal flexing</td>
<td>100 cycles/axis</td>
<td>TIA-455-1</td>
</tr>
<tr>
<td>Twist</td>
<td>50 cycles • No damage/leaks</td>
<td>TIA-455-36</td>
</tr>
<tr>
<td>Impact</td>
<td>8 drops • No damage detrimental to performance</td>
<td>TIA-455-2 Method B</td>
</tr>
<tr>
<td>Crush</td>
<td>7 cycles 1,250 N (281 lbs)</td>
<td>TIA-455-26</td>
</tr>
<tr>
<td>Thermal Shock</td>
<td>5 cycles -40°C to +85°C (-40°F to +185°F)</td>
<td>TIA-455-71</td>
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<tr>
<td>Temp/humidity cycling</td>
<td>No damage detrimental to performance</td>
<td>TIA-455-5 Method B</td>
</tr>
<tr>
<td>Temperature cycling</td>
<td>No damage detrimental to performance</td>
<td>TIA-455-3</td>
</tr>
<tr>
<td>Life Aging</td>
<td>10 cycles</td>
<td>QTP-384-F</td>
</tr>
<tr>
<td>Freezing water immersion</td>
<td>No damage detrimental to performance</td>
<td>TIA-455-98</td>
</tr>
<tr>
<td>Sand and dust</td>
<td>No damage detrimental to performance</td>
<td>TIA-455-35</td>
</tr>
<tr>
<td>Modified S02/salt spray</td>
<td>240 hours • No damage detrimental to performance(^7)</td>
<td>ASTM G85 + Annex A4</td>
</tr>
</tbody>
</table>

\(^1\) Tested with MIL-PRF-28876 Multi-mode Fiber-Optic connectors  \(^2\) Tested with Cadmium/Olive-Drab finish option (code NF)

MORE ADVANCED GLENAIR BACKSHELL TECHNOLOGY: FIREWALL AND PRESSURE BOUNDARY FEED-THRUSS

- High-grade engineering thermoplastic or machined metal
- Six pressure-boundary feed-thru layouts with accommodation for 1 – 6 cables
- Split-shell jam nut versions with EMI/RFI shield termination porch
- O-ring sealed panel and box mounting interface
- Conductive and non-conductive finish options

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Improved sealing and shielding: the ultimate in highly flexible, crush-proof EMI/EMP wire protection

- Hermetically sealed, flexible metal-core conduit for shipboard wire interconnect applications
- UV-resistant “BlueJacket” jacketing over Brass, Stainless Steel, or Nickel Iron Alloy conduit
- Turnkey, factory-terminated assemblies for fast-turnaround dockside maintenance cycles
- All materials deliver superior EMC performance as well as crush resistance and environmental sealing compared to legacy systems

**Select for superior crush resistance and corrosion protection**

Part Number 750-098

Highly flexible crush-proof metal conduit in stainless steel with Viton, Neoprene, or Bluejacket protective covering

**Select for low-frequency EMC protection in and around motors and control equipment**

Part Number 750-192

Nickel-iron conduit material plus shielding and jacketing
MIL-PRF-24758A NAVSEA-APPROVED

Metal-Core Conduit Wire Protection Systems

US Navy Qualified Brass, CRES, and Nickel-Iron, with Glenair Signature “BlueJacket” jacketing

- Qualified to MIL-PRF-24758A(SH)
- User-installable and factory terminated configurations
- Innovative fitting design with advanced environmental sealing, EMI shield termination and rotatable coupling nut
- Adapters for all shipboard interfaces—fully compatible with legacy MIL-C-24758 conduit system components

Do it once, do it right with Glenair Signature MIL-PRF-24758A wire protection conduit systems

MIL-PRF-24758A Configuration Options: Choose from high-performance user-installable fittings or lighter-weight factory terminated assemblies

FITTINGS AND ADAPTERS FOR USER-INSTALLED APPLICATIONS

- Composite conduit splice fitting
- Stainless steel conduit feed-thru fitting
- Low-Profile RP Plus System
- Heavy-duty environmental conduit-to-panel fitting
- Heavy-duty environmental conduit-to-connector fitting

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**Glenair Mil-Spec Interconnect Technologies**

Qualified Products: Glenair is a Mil-Aero connector supplier. Our product quality begins in engineering (the largest team in the high-performance interconnect business) and is realized in our “made in the USA” vertically-integrated manufacturing cells. One of the key ways we ensure both areas are functioning smoothly is to submit designs and manufactured specimens into the military QPL process administered by the Defense Logistic Agency of the US government. These certification exercises are multi-year activities that test every aspect of a connector’s performance.
Glenair is proud of the quality and reliability we build into our broad range of mission-critical interconnect solutions—from discrete connectors to complex cable assemblies and embedded systems. Glenair is the biggest “made in the USA” interconnect supplier in the high-reliability industry, but we also operate factories in the UK, Italy, and Germany to serve the unique requirements of those markets. Glenair’s Worldwide Quality System is ISO 9001 and AS9100 certified and registered. We also hold many discrete product and operations certifications for specialty, high-performance markets including space, nuclear power, and rail. In addition to world-class quality, we are laser-focused on customer service and committed to being the easiest manufacturer in our industry to do business with. Here are just some of our key customer service principles:

- Lightning-fast turnarounds on quotes and special orders
- Worldwide sales and technical support in every major market
- Full-spectrum, “no gap” product lines
- No dollar or quantity minimums
- ISO 9001 and AS9100 certified
- Huge same-day shipment inventory
- Generous NRE, RMA, and sample request policies
- Abundant engineering and technical support
- No attitudinal constraints when it comes to customer convenience and service
Glenair operates the largest high-reliability interconnect manufacturing operation in the United States, allowing us to fully support our broad range of military, defense, and security customers.
Glenair SoCal’s most important asset: highly technical staff, fully empowered with all the right facilities and operation resources.
IN-HOUSE TESTING CAPABILITIES
Glenair UK operates an independently accredited BS9000:CECC:IECQ test lab for internal and third-party product development / design verification and connector qualification including pure air standards.

SAME-DAY SHIPMENT STOCKING
Immediate availability for high-demand connectors and tooling.

HARNESS ASSEMBLIES
for Micro-D, Nanominiature, and fiber optic connectors and cable assemblies.

Glenair UK: Home of the SuperG55
GLENAIR UK:
Mission-critical connectors and assemblies for UK and European markets with a special focus on micro and nanominiature flexi assemblies
GLENAIR ITALIA: Manufacturing harsh-environment military, nuclear, rail, and industrial interconnects for power, high-speed Ethernet, and fiber optic applications.

HIGH-CAPACITY CNC MACHINING CENTERS allow Glenair BLQ to provide lightning-fast turnaround on small and custom orders as well as large production runs, all with superior surface finishes and better part quality.

ADVANCED PLATING LINE Capabilities include VG95328-qualified Marine Bronze and “Code J” Tin-Zinc plating—VG95211 and VG95212 qualified cadmium alternative for corrosion-resistant interconnects.
TOTAL VERTICAL INTEGRATION
includes in-house rubber and thermoplastic injection molding.

IN-HOUSE TEST LAB
with capabilities for both high-voltage as well as high-speed signal product qualification. Credentials include ISO 17025 and others.
GLENAIR SPACE SYSTEMS, SALEM:
Facility includes a 600 m² production floor, 300 m² ISO 8 and ISO 6 clean rooms, an ISO 5 flow chamber (certified to ESD Standard 61340-5-1), with ample accommodation for large mock-up and integration projects.
ESA-CERTIFIED ENGINEERING AND PRODUCTION STAFF

including in-house generation of all production files using Engineering SPACE-GRADE HARNESS FABRICATION AND INTEGRATION

In-house or at customer facility.

CLEAN ROOM ASSEMBLY

with both environmental filtering and electrostatic discharge protection.

SPACE-GRADE HARNESS FABRICATION AND INTEGRATION

In-house or at customer facility.

ELECTRO-MECHANICAL

Fabrication of space-grade interconnect technologies including HDRM (release nut) mechanisms.
# Glenair, Inc.
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  Telephone: 818-247-6000 • Fax: 818-500-9912 • sales@glenair.com
  www.glenair.com

<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Telephone</th>
<th>Facsimile</th>
<th>Email</th>
</tr>
</thead>
<tbody>
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<td>Glenair Power Products Group</td>
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<td>203-741-1115</td>
<td>203-741-0053</td>
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<td>+44-1623-638111</td>
<td><a href="mailto:sales@glenair.co.uk">sales@glenair.co.uk</a></td>
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<td>847-679-8849</td>
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<td>06172 / 68 16 90</td>
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<td>+39-051-782259</td>
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<td>+82-31-8068-1092</td>
<td><a href="mailto:sales@glenair.kr">sales@glenair.kr</a></td>
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<tr>
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<td>+34-925-89-29-87</td>
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<td>+33-5-61-47-86-10</td>
<td><a href="mailto:sales@glenair.fr">sales@glenair.fr</a></td>
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