High-Speed Interconnect Solutions

Rugged Electrical, Optical, and Hybrid Solutions for Mission-Critical Aerospace and Defense Applications
Signature High-Speed Datalink

Contacts and Insert Modules

- El Ochito
- SpeedMaster
- SuperSeal
- VersaLink
- High-Speed Micro-D
El Chito® High-Density Octaxial Contact

Our premier solution: Drop-in Size 8 octaxial contacts with outstanding high-speed signal integrity – now for both AWG#26 and AWG#24 wire!

- Market leader for Mil-Aero high-speed Ethernet
- 4 differential contact pairs, 90/100 Ohm Impedance
- Patented cross-talk isolation technology
- Snap-in, rear release, for keyed size 8 contact cavities
- Integrated removal tool
- Repairable contact
- Compatible with most current data protocols
### Two Contact Types

<table>
<thead>
<tr>
<th>Type I</th>
<th>Type II</th>
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</thead>
<tbody>
<tr>
<td>26 AWG wire only</td>
<td>24 – 26 AWG wire</td>
</tr>
<tr>
<td>Permanent crimp wire shield termination (non-serviceable)</td>
<td>Threaded wire shield termination (serviceable)</td>
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<tr>
<td>Uses standard Size #8 contact insertion / removal tools</td>
<td>Integral contact release sleeve</td>
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</tbody>
</table>
El Ochito® Performance-Tested Wire and Cable

Aerospace-grade wire for optimal protocol performance

El Ochito White (1000 and 10G BASE-T Ethernet)
- #24 AWG and #26 AWG PIC and Gore 100 Ohm twisted pair wire
- Catalog P/N 963-033, 963-003

El Ochito Blue (SuperSpeed USB 3.0/3.1 Gen1)
- #26 AWG Glenair 90 Ohm abrasion-resistant / high-temp twisted pair
- Catalog P/N 963-110, 963-118

El Ochito Red (HDMI / DisplayPort / SATA)
- #26 AWG Glenair 100 Ohm high-temperature twisted pair
- Catalog P/N 963-127
El Ochito Connectors

- Ultra low profile circular connectors for single El Ochito assemblies
- Size and weight savings over 38999 while meeting every performance requirement
- 38999 style connectors, offers the most size 8 insert arrangements of any Glenair connector
- Rectangular connectors with all the mechanical features of 791 now with size 8 inserts
Our most innovative and high-performance El Ochito package solution

- Ultra small size
- Up to 5Gbps
- 10GbE and SuperSpeed USB
- PCB or cable termination
- Threaded or QCD
- Environmentally protected
- Aerospace-grade performance
Series 806 Mil-Aero

Advanced-performance micro-miniature IAW D38999

- High-speed Ethernet, USB 3.0, HDMI, and DisplayPort
- Next-generation small form factor aerospace-grade circular connector
- Upgraded environmental, electrical and mechanical performance
- Integrated anti-decoupling technology
- High-Speed El Ochito® and hybrid #22HD contact arrangements
“Better than QPL” MIL-DTL-38999 high-speed solution

- Tooled and ready-to-ship high-speed and hybrid insert arrangement connectors for size #8 El Ochito shielded contacts
- Arrangements for #8, #12, and #16 Coax, Twinax, and Quadrax also available
- Supported applications: 10/100/1G/10G BASE-T Ethernet, HDMI, DisplayPort, SATA, USB 3.0, 1553 databus and general RF or differential data transmission
- PC tail and crimp contact configurations
El Ochito® Series 792

The next-generation mil-aero rectangular for high-speed datalink applications

- Next-generation rear-release blind-mate rectangular
- Insert arrangements for 1 – 9 El Ochito® contacts, combo inserts accommodate #23 signal and/or power contacts
- Polarization key and ground spring options available
- Dual-lobe, scoop-proof interface
Signature connector design with integral contact isolation housings

Threaded shield ferrule with wrench interface (9mm), shield ferrule without threads also available

Circular and rectangular connector packaging

Genderless contact module for plug with pin/socket or receptacle with pin/socket interface with 8 contacts per module

Industry standard size #22 contacts
Octobyte 4/8 Pole Interconnect System

The faster ruggedized 4/8 pole interconnect system for Ethernet data applications

- For harsh-environment transit, industrial, or marine/subsea applications
- RF Coax applications (RG58 and RG59U cables)
- High-speed interconnect solution for audio, video, and digital displays
- Qualified for use in safety systems, sensors, detection devices, and control panels
- Tested in accordance with: ISO F0 STP: CAT 7A EN50173-1 F600-STP: CAT 7 EN50173-1 D STP: CAT 5E
SuperSeal® RJ45 and USB Field Connectors

Improved environmental sealing, 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
SuperSeal Growing Family

MIL-DTL-38999 Type
Mighty Mouse 801, 804, 805
Series IPT (26482) Type
MIL-DTL-28840 Type
Super ITS – RJ45 (5015) Type

USB 3.0 Repeater
HDMI 2.0
Display Port
USB Memory Keys
SuperSeal™

DriveThru

- High Speed protocols, custom & combination
  - Ethernet, USB 2.0, USB 3.0, USB-C, HDMI, Display Port, DVI
- Ease of assembly
- No need to cut the cable for installation
- Alternative to plug coupler and plug crimp removable versions
  - Shorter connector assembly
  - Replaces 2 electrical connections with 1

233-358 (USB 3.0)  233-368 (HDMI)  233-388 (Type C)
VersaLink: Ultra High-Density Twinax

Signature Twinax contact module optimized for high-bandwidth USB 3.1 gen 2, USB-C, SATA, PCIe, Display Port and HDMI

- Higher speed and density than mil-spec style Twinax
- Space-efficient, high-density contact module
- Requires dedicated VersaLink connector inserts
  - Series 794, Micro-D, Mighty Mouse 806 and SuperFly
- Individually shielded pairs results in virtually no cross talk
- VersaLink Bridge configuration for replacing high-loss board traces
VersaLink Connector Options

- Straight board mount
- 90° board mount
- Wired pigtails or back-to-back
VersaLink Bridge

Bypass high-loss board traces with low insertion loss / low latency jumpers

- Quick disconnect
- Bayonet-lock
- Point-to-point cordsets
High-Speed Micro-D

Miniaturized Micro-D Connector / TwistPin contact solution with 10+ Gb/sec. performance per differential pair

- Pre-wired factory cordsets and PCB connectors
- Unique contact isolation and spacing for optimal high-speed performance
- Standard layouts support maximum #28 AWG wire
High-Speed Micro-D

Smallest and lightest aerospace-grade high-speed connector solution

- Ultra-low dielectric material combined with optimized contact size and spacing
- Auxiliary EMC ground spring on plug
- Hybrid contact solutions available with 3 amp and 1 amp TwistPin contacts (perfect for USB 3.0 SuperSpeed applications)
MIL-DTL-38999 Series III Type
Tight-Tolerance Fiber Optic Connection System

Glenair mil-qualified 29504/4 and /5 termini

- Available materials range from composite thermoplastic to stainless steel
- Shell sizes range from 11 to 25, and the corresponding cavity counts from 2 to 37 channels
- Same Day inventory for connectors and termini
Glenair High Density (GHD) Fiber Optic Connection System

Nearly double the density of M28876 and D38999

- Genderless, front release termini
- Ø1.25mm precision ceramic ferrule and alignment sleeve
- Precision guide pin mating
- Removable alignment sleeve module
- PC and APC polish terminus options
- Complete environmental sealing
- Equal optical performance to D38999
- M85045/16 cable support
GFR: Glenair Front Release
Fiber Optic Connection System

Unique terminus design for rapid integration

- Precision size 16 pin-socket front release termini with integrated retention clip
- Singlemode and multimode for all popular fiber sizes
- Typical insertion loss less than 0.5 dB
- Cylindrical and rectangular connectors
- Connector shells available in aluminum and stainless steel
SuperNine MT

Ultra high-density, multiple termination (MT) commercial interconnect in a ruggedized mil-aero package

- IP 67 environmental performance (IP 68 available) mated
- Precision alignment keys and pins
- MIL-STD-810F shock and vibe
- 85°C high temperature tolerance
- 500 mating cycles
SuperNine MT: Fully Qualified and Available

- **SIZE 11**
  - Up to 24 channels

- **SIZE 13**
  - Up to 48 channels

- **SIZE 15**
  - Up to 72 channels

- **SIZE 17**
  - Up to 96 channels

- Expanded-Beam MT Ferrule
Series 79 MT Ultraminiature: the Mission-Critical Ruggedized MT Fiber Optic Rectangular

- Small form-factor, high-density mil-aero solution designed for “inside the box” applications
  - Parallel optics, optical backplanes, missile systems, heads-up displays, etc.
- Single-ferrule version available soon, dual and quad in development
Ruggedized, PC Board Mount Photonic Transceivers

- Small form factor
- Hardened for mission-critical applications
- Range of different data rates, wavelengths, laser types etc.
- For use with fast Ethernet, Gigabit Ethernet, Fibre Channel and other protocols
- High-resolution video and data server markets
Available 5Gbps Radiation-Tolerant Transceivers

Heavy ion, proton, and gamma radiation tested devices (consult factory for exact tests and results)

050-360 Dual Transmitter
050-361 Dual Receiver
050-362 Transceiver
050-363 Quad Transmitter
050-364 Quad Receiver
050-385 Dual Transceiver
New Heat Management Designs

Absence of air in space requires cooling design change

Convection Cooling (Aerospace)

Conduction Cooling (Space)
Parallel Photonic Devices Reduce Cable Complexity and Mass
Ethernet Media Converters (Copper-to-Fiber)

- Small Form Factor media converter
- Lightning-strike hardened media converter
- Small form-factor inline media converter
Video Media Converters

Custom and competitor-compatible form factors
Mil-Aero High-Speed Ethernet Switches
Size #8 Cavity Opto-Electronic Contacts / Adapters

For high-speed signal/video applications such as Gigabit Ethernet, DVI, SMPTE 3G, HD-SDI etc.

- 050-301 1.25mm ARINC 801
- 050-307 2.5mm ELIO®
- 050-367 1.25mm LuxCis®
Industry-Standard Connector / Converter Packages with Glenair Opto-electronic Transmit / Receive Contacts

MIL-DTL-38999 Series III

ARINC 801

HiPer-D M24308 intermateable
Summary of Glenair Opto-Electronic Technologies

- PCB-Mount Transceivers
- Opto-Electronic Contacts and Connectors
- Ethernet Media Converters
- Video Media Converters
- Signal Aggregators
- Ethernet Switches
High-Speed Interconnect Solutions
Rugged Electrical, Optical, and Hybrid Solutions for Mission-Critical Aerospace and Defense Applications