

Military & Aero



Interconnect Solutions for  
**Military  
& Aerospace**

 **Winchester**  
Interconnect™

*We Energize Innovation™*



Interconnect Solutions That Fuel Customer Success

**At Winchester Interconnect, we believe that design creativity and streamlined execution can solve any connectivity challenge.**

We are passionate about helping to deliver the power and data your designs need when failure is not an option. We focus on designing and delivering precision-engineered interconnect solutions for your exact needs, whatever your design challenge.

RF & Microwave  
Fiber Optics  
Custom Cable  
Multi-pin  
Hermetic Solutions  
Cable Assemblies



## Mission-Critical Solutions for Military & Aerospace

... You engineer the most challenging applications  
in the world. And you need fail-proof,  
innovative solutions, right now.

Winchester has a long history of working with customers in the military and aerospace industry, specializing in RF & Microwave, Hermetic, Fiber Optic and Multi-pin technologies that perform in extreme conditions. Our products have an exceptional track record of excelling in harsh environments and challenging applications.

We have the expertise and product range to solve the most difficult military/aerospace challenges.

### Certifications

<b>AS9100</b>	Aerospace Quality Management System
<b>AS7003</b>	National Aerospace & Defense Contractors Accreditation Program
<b>ISO 13485:2003</b>	Medical Device Quality Management System
<b>IPC/WHMA-A-620 (Class 3)</b>	Requirements & Acceptance Standards for Cable & Wire Harness Assemblies
<b>ISO 9001:2008</b>	Quality Management System
<b>OHSAS 18001:2007</b>	Occupational Health & Safety
<b>ISO 14001:2004</b>	Environmental Management System



Winchester offers the industry's widest range of RF connectors, cables and cable assemblies. From high frequency to high power, interfaces from SMPM to 7/16, from semi-rigid to high-performance flexible, Winchester offers a solution to any Military or Aerospace RF Microwave need

## Featured Cable Solutions



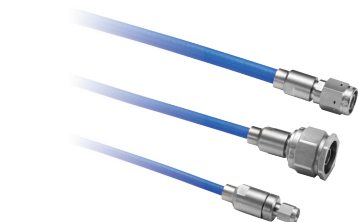
### TRUflex™ PWR

Flexible cable solution for applications that require RF high power/ voltage and superior electrical performance. Connector interfaces include SC, N, HN, 7/16, EIA/MEIA, and Quick Disconnects SQS, QRM, and QDS.



### TRUcore™

TRUcore SMA, ATNC, and N flexible cable assemblies offer excellent RF Microwave electrical performance combined with superior mechanical and environmental durability.



### Low Loss/Phase Stable

Low Loss, Phase Stable flexible cable assembly solutions operating up to 26 GHz with industry-leading 83% Velocity of Propagation (VoP). SMA, TNC, and N connectors available.



### Semi-Rigid Coax Assemblies

Available in .023, .047, .085, .141, and .250 diameter cable sizes, in bare copper, tin-plated copper and aluminum, and configured to be used with the angled connectors (SMA, SMP, SMPM, etc.). Quick turnaround from order to delivery.



### 83% and 69% VoP Semi-Rigid Cable Assemblies

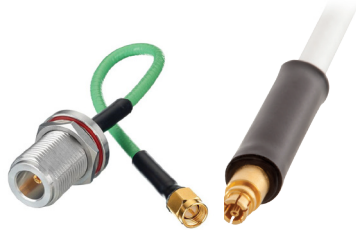
Available in .047, .085, and .141 diameter cable sizes, phase stable over temperature and flexure with copper or aluminum outer conductors.

## Featured Cable Solutions (continued)



### SRC 316 TS

SRC 316 and SRC 316-TS were designed to replace standard RF316, RG174 and RG188 for antenna, test equipment, radar and tactical applications. Offer an advanced "cross-linked" dielectric and shielding performance above 110dB.



### SteelFlex®/H-Flex®

Flexible alternative to standard RG405 (.085) and RG402 (.141) semi rigid coax. Excellent choice for electronic warfare/radar applications.

## Featured Connector Solutions



### E-Snap

Edge Mount PCB design with unique hold down feature to maintain true position on PCB without costly solder rework.



### V-Bite

Low profile design that edge mounts to the board, saving PCB real estate. Lends itself to surface mount and through-hole soldering, is available in SMA, SMB, N, BNC, TNC and F interfaces and exhibits excellent return loss performance vs. right-angle designs.



### Keyed TNC Plug Connectors

Extended length coupling nut, which contains a machined flat and keying rib and offered in 24 different keying angles. Keyed TNC Jack connectors- extended length body with a keying flange that contains a machined flat and keying slot to mate to the corresponding Keyed TNC Plug.



### MVP – Patented Moisture Vibration Proof (MVP)

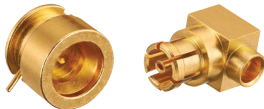
Anti-Vibration, IP 68 moisture rated RF connectors available in 2.92 MM, N, TNC and SMA interfaces. Will not vibrate loose yet while eliminating lock wires and still demonstrating excellent RF Microwave performance.

## Featured Connector Solutions (continued)



### Quick Disconnect RF Connectors

Quick Disconnect connectors are fast and easy to use. Represent a great alternative to threaded connectors and they can be mated/unmated without torque wrenches. Available in SMA, N and QDS interfaces.



### High Frequency RF Connectors/Adapters

SMP, SMPM, 1.0mm, 1.85mm, 2.4mm, 2.92mm (K), and 3.5mm interfaces with RF performance up to 65 GHz.



### 7-16 Series

The 7-16 series is a highly ruggedized, threaded interface designed for high power/voltage applications. The 7-16 designation refers to the ratio of the inner and outer conductors and is governed by the IEC standard 169-4 DIN 47223.



### EIA

EIA flange connectors for use in high power transmitting installations (10s of kW to MW) where feedline diameters may be several inches. Common flange sizes include 1-5/8 (3 GHz max frequency) and 7/8 (6 GHz max frequency). EIA flange designs are commonly used in applications connecting high power antennas for ground or airborne radar.



### MEIA

A modified EIA interface design that replaces the standard flange mount configuration with a lightweight, threaded coupling that makes installation easier, reduces overall outer diameter space requirements, and retains the inner line size and power handling capability of the standard EIA interface.

## Featured Connector Solutions (continued)



### HN Interface

The HN interface is a modified Type N interface with overlapping dielectrics that provide greater power and voltage capabilities in a moderate line size. The modified interface does degrade the operating frequency of the standard type N interface to 4 GHz maximum.



### SC Series

SC series connectors are a medium-size, threaded coupling version of the C connector; handling coaxial cables from .350" to .450" OD with a frequency range of 0 – 11 GHz. SC connectors are used in severe environments and are popular in aircraft and high vibration applications. They are manufactured IAW MIL-PRF-39012.

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## Featured Powersnaps



### PowerSnaps/Mini PowerSnaps

Incorporates a snap feature for secure mating that does not exist on typical slide-on style power connectors. Available in SMT, Thru-hole, and Cable versions and are capable of carrying current up to 40 Amps, depending on configuration. Also available as a cable assembly customized to the specific application.

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## Featured Combination D-Sub Connectors



### Combination D-Sub Connectors

Combine signal, power, and RF coaxial contacts within a variety of industry-standard shell sizes and connector insert configurations, helping designers conserve space and eliminate extra connectors.

## Featured QPL Approved



### **MIL-PRF-39012**

Qualified to more individual M39012 coax connector part numbers than any other supplier, Winchester's offering includes C, N, TNC, BNC, and SMA interfaces.



### **MIL-PRF-55339**

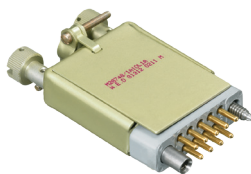
Mil Spec adapters, in- and between-series C, N, TNC, and BNC.



### **MIL-PRF-49142**

TRB (bayonet) and TRT (threaded) series Triax connectors.

## Featured QPL Approved Multi-Pin



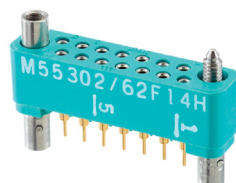
### **MIL-PRF-28748**

Winchester's Rack and Panel product line is a comprehensive, versatile pin and socket connector system for use in cable-to-cable, cable-to-panel and cable-to-board applications. Qualified to M28748/1-8, /13 and /14.



### **MIL-PRF-39012**

Qualified to M39029/34 and /35, crimp contacts used in conjunction with M28748 connectors.



### **MIL-PRF-55302**

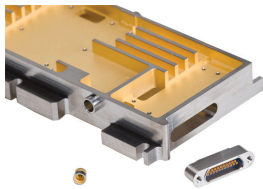
Small, ruggedly constructed PCB pin and socket connectors available in right-angle and straight versions. Qualified to M55302/1, /2, /4-8, /16-18, /21, /22, and /55-66.



## Hermetic Solutions

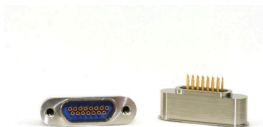
Winchester designs, builds, and ships the most reliable Hermetic solutions. From integrated hermetic microwave packaging, RF feedthroughs, multipin connector designs, IR (infrared) packages, battery headers, let Winchester help with your most challenging application.

# Featured Packaging Solutions



### Hermetic Microwave Packaging

By joining dissimilar metals via explosion bonding, vacuum brazing, and diffusion bonding technologies to join dissimilar metals to and integrating laser welded connectors and RF feedthroughs.



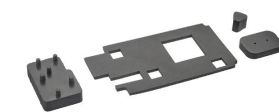
### Hermetic Multi-Pin Connector

Exclusive dielectric material, Ceramax, Ceramic-to-Metal laser-welded true hermetic Nano D, Micro D, Standard D and Military Circular connectors IAW Mil Specs including, but not limited to, M32139, M83513, M24308 and D38999.



### Hermetic RF Feedthroughs

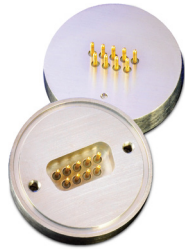
Laser weldable SMPM, SMP, SMA, and TNC feedthroughs available in Stainless Steel, Aluminum, and Titanium with patented press-in design and hermetically sealed with Corning 7070 glass.



### Cover Assemblies

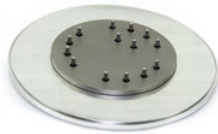
Hermetically Sealed, Laser Welded Covers with installed PolyIron® Microwave Absorber and Hydrogen Getter material provide a complete solution addressing potential EMI and hydrogen contaminant issues within the hermetically sealed electronic enclosure. PolyIron magram absorber addresses potential EMI issues by absorbing it, not reflecting it. Hydrogen getter material captures hydrogen, which is often present and can damage electronics within the microwave package. Ideal for use with densely packed microwave packages where space is at a premium.

## Featured Connector Solutions



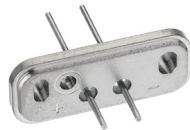
### Dewar Flange

Dewar Flanges for IR Imaging Systems – hermetically sealed dewar flanges, dewar flanges with integrated connectors and higher level camera packaging for use with Infrared (IR) Imaging Systems. Ceramax provides superior sealing while allowing for use within a full range of materials – Titanium, Aluminum, Stainless Steel, Kovar, and Copper.



### Missile Battery Headers

Missile Battery Headers (SRI and T-S) – Aluminum and Titanium hermetic thermal and lithium oxyhalide headers for missile and munition batteries. Hermetically sealed with Glass or exclusive Ceramax ceramic dielectric sealing.



### Glass Hermetic Headers and Feedthroughs

Glass Hermetic Headers and Feedthroughs – compression glass seals with reduced oxidation compatible with wide range of materials, including titanium, stainless steel, and molybdenum. Available in custom configurations.

Winchester provides Cable and Cable Assembly solutions from complex wire harnesses used as part of In Flight Entertainment (IFE) systems to shipboard Fiber Optic assemblies.

## Featured Solutions



### Engineered Cable Assemblies

Assemblies for Aerospace, Tactical Communications and Shipboard Applications. Winchester's extensive capabilities include: Heavy Gauge Power Cables, Complex Harnessing, Multi Conductor Assemblies, as well as up front Design/Application Engineering support to maximize performance



### Overmolded/Coil Cord Cable Assemblies

Winchester is a leading supplier of Harsh Environment Overmolded and Coil Cord assemblies for military applications. Our large collection of Straight, Right Angle, and 45 Degree mold tools allow us to support assemblies using D38999, 5015 and 26482 Military Connector series.

## Featured Fiber Optic Solutions



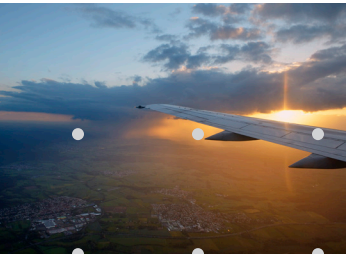
### Expanded Beam (EL) Termini

Innovative EL Series expanded beam contacts use double, active alignment/protected lens technology to provide a no clean solution.



### Cable Assemblies

Engineered or Build-to-Print Fiber Optic cable assemblies utilizing D38999, M28876, M83522, TFOCA, ARINC 801, PHD and other industry-standard connectors and termini. Let us help you optimize your cable assembly design.



#### Contact Information

203 806.0613

For more information about our Military and Aerospace interconnect offerings, please call **1-978-381-3010** or visit [winconn.com/militaryaerospace](http://winconn.com/militaryaerospace)

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#### Winchester Product Brands

Stronger and more unified, Winchester Interconnect now offers solutions under four powerful product brands. Be assured that all of the solutions you rely on today are available from Winchester Interconnect.

For more information, talk to your current sales expert or visit [winconn.com/brands](http://winconn.com/brands).

Bomar  
Continental  
SRC Haverhill  
SRI Connector Gage  
SRI Hermetics  
Tekna Seal  
Winchester

Win

Tru Win

Kings Win

Cadillac Win