

Connecting  
Innovation to  
Application™



Winchester Electronics, established in 1941, is a leader in the design, development, and deployment of interconnect technology...globally. Winchester designs and manufactures an extensive range of interconnect products with modern, electronically linked design, manufacturing, and distribution facilities located in Wallingford, Connecticut USA (Headquarters); Franklin, Massachusetts USA; Rock Hill, South Carolina USA; Nogales, Mexico; Suzhou, China; and Penang, Malaysia. In addition to the expert Sales staff located within these facilities, Winchester operates a Sales Office in Yokohama, Japan.



Winchester designs and manufactures a wide variety of PCB, RF, and Power connectors, as well as value-added cable and electromechanical assemblies to customers in the telecommunications, wireless infrastructure, computer, industrial, and medical equipment industries. With the recent acquisitions of Advanced Interconnect and Kings Electronics, we have expanded our technological capabilities and broadened our market base to include the broadcast, high-end military, commercial & military aviation, and aerospace industries. Winchester's competitive edge is its ability to solve technical interconnect problems, deploy those solutions globally to meet the customer's manufacturing needs, and offer true supply chain management techniques that deliver value through high-mix/low-volume manufacturing technology.

The new Winchester Electronics is a valuable extension to our customer's product development resources with the ability to rapidly provide high-quality interconnect solutions at competitive prices.

Combining our 65 plus-year connector engineering and manufacturing expertise with our cable assembly and value added capabilities into vertically integrated manufacturing facilities, Winchester Electronics can help your company maintain its edge by providing engineered solutions and high quality products built to stringent specifications at reduced cost and time-to-market.

Along with cutting-edge technology comes higher expectations of overall quality and responsibility to the environment. Every facility is ISO certified and the products we manufacture are in compliance with the RoHS directive.

## Certifications

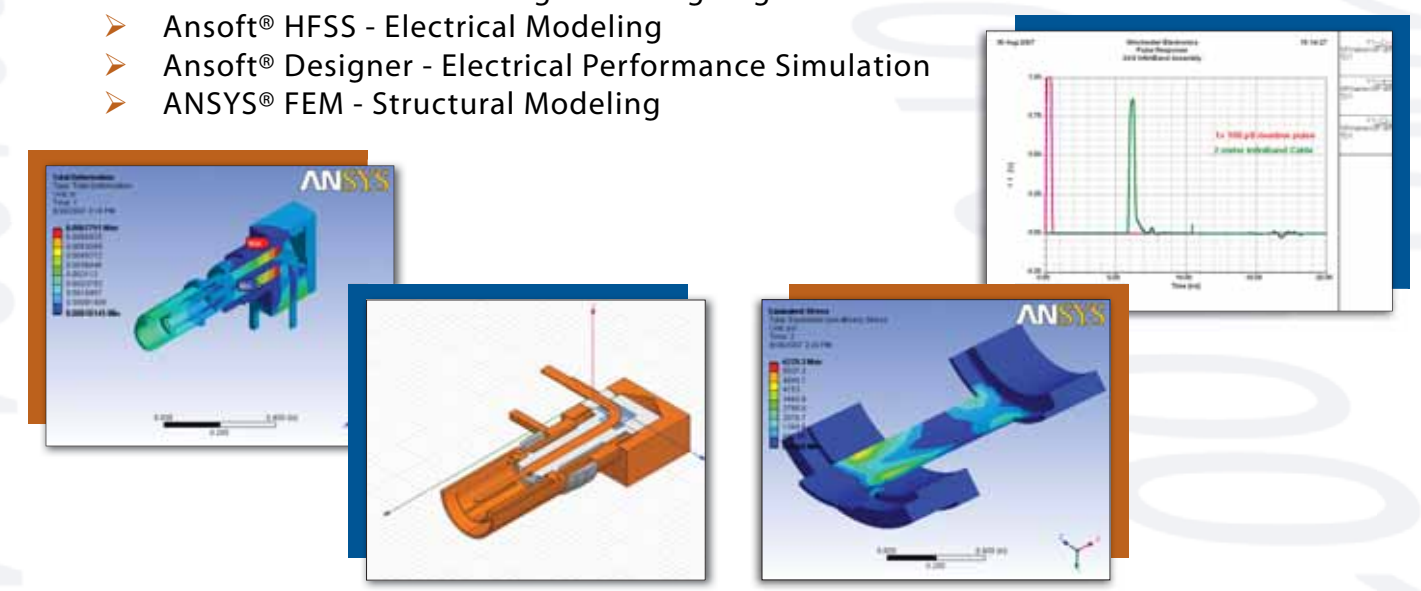


	ISO 9001:2000	ISO 14001:2004	ISO 13486	OHSAS 18001:1999	AS 9100
Wallingford, CT	✓	✓		✓	
Franklin, MA	✓				
Rock Hill, SC	✓				✓
Nogales, Mexico	✓	✓		✓	✓
Suzhou, China	✓	✓	✓	✓	✓
Penang, Malaysia	✓	✓		✓	

Whether challenged to design a multiple-position blindmate RF connector module, develop a miniature high-current power connector, or value-engineer a problematic cable assembly, the end result is always the same — Winchester engineering can solve the problem and provide a cost-effective solution to help customers bring their products to market on time, within budget, and maintain their competitive edge. Our team of engineers uses highly advanced tools during the design phase to assure that parts we design are correct from innovation to application.

## Engineering Capabilities

- Solidworks® - 3D Modeling and Designing
- Ansoft® HFSS - Electrical Modeling
- Ansoft® Designer - Electrical Performance Simulation
- ANSYS® FEM - Structural Modeling



## Information Technologies

Winchester considers our Information Technology capabilities as a competitive advantage. Our global IT infrastructure and worldwide communication capabilities allow for continuous information access and up-to-date reporting capabilities. Our Worldwide Microsoft® CRM Customer/Opportunity Management System affords coordinated activity management that is accessible 24/7 from anywhere around the globe through Microsoft® SharePoint® Portal. A series of built-in dynamic metrics drive automated task management to assure that planned activities are completed in support of customer opportunities.

Our standardized, redundant 3D design and simulation capabilities are truly world class and the document management system allows for centralized document control while allowing for local design activities across all of our global manufacturing facilities.

This considerable infrastructure provides the basis for a comprehensive system of Balanced Scorecard Metrics that are used to identify out-of-control tactical conditions which support our strategic objectives and allow for timely corrective actions. This supports the company philosophy: "You can't manage what you don't measure."



Winchester Electronics' Kings® brand is the leader in high reliability RF interconnects for the aerospace, broadcast, commercial aviation, industrial, medical, military, and telecommunication industries. Exceptional in the manufacture of high-quality audio and video products, Winchester's Kings® brand is industry-preferred.

### Broadcast & Telecommunications

#### 75 Ohm BNC Series

75 Ω Exceeds HDTV standards. Bayonet coupling. Designed to accommodate all industry leading cables.



#### Audio Patching

Micro-miniature size permits higher circuit density. Positive locking to prevent accidental un-mating. Patch and plugs terminate to industry leading cables.



#### Video Patching

Exceeds SMPTE 292 standards for HDTV. Jacks and jackfields in any size and configuration. Mates with industry standard 75 Ohm BNC connectors.



#### Standard Video Jacks & Jackfields

DC-3.3 GHz 75 Ω Exceeds SMPTE 292 standards. Mates to standard size patch plugs. Single and dual available in terminated, non-terminated and feed-through versions.



#### Mid-size Video Jacks & Jackfields

DC-3.5 GHz 75 Ω Suitable for analog, serial digital and HDTV applications. Mates to mid-size patch plugs. Single and dual available in terminated, non-terminated and feed-through versions.



#### Patch Plugs

75 Ω HDTV capable. Simple full crimp design. Available in standard (.090") and mid-size (.050") versions.



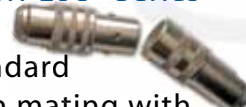
#### Tri-Loc® Series

75 Ω Push/pull mating. US standard for triaxial camera connectors. Easy two-crimp installation.



#### International Tri-Loc® Series

75 Ω European standard interface. Push mating with audible "snap." Mates with Fischer 1051 Series connectors. Available for 8mm, 11mm, and 14mm cables.



### High Voltage Series

**10 KV** DC Voltage Rating - Standard size connector with bayonet coupling.  
**20 KV** DC Voltage Rating - Standard size connector with bayonet coupling.  
**HN** DC-4 GHz - 50 Ω Standard size connector with threaded coupling.  
**MHV** 5 KV DC Voltage Rating - Miniature connector with bayonet coupling.  
**SHV** 5 KV DC Voltage Rating - Miniature connector with bayonet coupling.



RF

#### 50 Ohm BNC Series

DC-4 GHz 50 Ω Miniature connectors with a bayonet coupling design.



#### K-Loc® Series

50 Ω Positive-lock coupling designed to replace BNC connectors in high-density applications.



#### N Series

DC-11 GHz 50 Ω Standard size with threaded coupling designed to withstand shock and vibration.



#### SC Series

DC-11 GHz 50 Ω Standard size threaded version of C Series; ideal for use in harsh environments.



#### TNC Series

DC-11 GHz 50 Ω, 75 Ω Miniature connectors with threaded coupling designed to withstand shock and vibration.



### Aerospace/Aviation/Industrial

#### BMA (Blindmate)

DC-18 GHz 50 Ω Slide-on, non-locking interface allows multiple connectors to be mated simultaneously.



#### C Series

DC-11 GHz 50 Ω Standard size connector with bayonet type coupling.



#### MCX

DC-6 GHz 50 Ω, 75 Ω Snap-on interface one third smaller than SMB.



#### MMCX

DC-6 GHz 50 Ω Snap-on interface one third smaller than MCX.



#### QC-N Series

DC-6 GHz 50 Ω Push/Pull connection system allows for quicker mating. When mated, rotates 360°.



#### QC-SMA

DC-6 GHz 50 Ω Push/Pull connection system. Fully intermateable with standard SMA jacks.



#### SMA

DC-18 GHz 50 Ω Threaded interface, 1/4" diameter, for high-performance applications.



#### SMB

DC-4 GHz 50 Ω, 75 Ω Snap-on interface reduces installation time.



#### TRB Series

Frequency range up to 500 MHz. Miniature connectors with bayonet coupling design. Available to fit a variety of triaxial cables.



#### TRT Series

Frequency range up to 500 MHz. Miniature connectors with threaded coupling design. Available to fit a variety of triaxial cables.





# Signal Solutions



**MetCon-2®** 2mm hard metric connectors are designed to IEC-1076-4-101. Winchester offers all 5 connector modules specified by CompactPCI® and VME64 Extension standards. Male pin contacts are available in 3 mating heights and 4 tail lengths allowing designers to differentiate signal, power, and ground.

**Combination D-Sub** connectors combine signal, power, and RF, helping designers conserve space and eliminate extra connectors.



## D-Connectors

Available in 4 shell sizes, over 20 insert configurations, and a variety of mating hardware including guide plates, pins, and float mount bushings for blindmate connections.



Shielded and unshielded **C-Press® D-Subminiature** backplane connectors are available in 9, 15, 25, and 37 positions. Options include threaded inserts, threaded standoffs, quick latches, through-holes, and grounding straps.

## Power

Size-8 RDM power contacts are available in 10-, 20-, and 40-Amp crimp, solder, and PCB termination styles.



## RF

Size-8 RDM 50  $\Omega$  and 75  $\Omega$  RF contacts are available in cable and PCB termination styles. Our 31-Series 50  $\Omega$  contacts can be used in high-performance applications up to 5 GHz.



## Signal

### Rack and Panel

pin and socket connectors consist of molded insulators, screw-machined contacts, aluminum hoods and protective shells, and a wide assortment of mating hardware. Certain product series are MIL-C-28478 and MIL-C-39029 approved.



**C-Press® 79-Series** MIL-C-83503 compatible, backplane ribbon-cable pin header connectors are available in 10-64 positions. Pin headers contain ejector latches, a center slot polarization feature, plus two positions for additional keying.



**C-Press® Edgecard** connectors connect directly to PCBs .054"-.071" thick. Contacts with extended post lengths for rear panel connections, bifurcated contacts, or switching contacts are available in five standard PCB mounting patterns.



Shielded and unshielded **C-Press® Telecom Delta Ribbon** backplane connectors are available in 14, 24, 36 and 50 positions. Options include threaded inserts, threaded standoffs, and bail lock spring clips.



# Signal/Power/Cable Assembly

**CompactPCI®** 47-position power connectors are designed to PICMG® Power Interface Specification 2.11 R1.0 for use in connecting CompactPCI® pluggable power supplies to backplanes.



**High Density Plus®** backplane connectors integrate signal, power, and guidance allowing designers to mix and match standard modules and create custom connectors. For increased electrical performance, HD+1™ and HD+2™ contact rows can be added to reduce signal reflection and cross talk or used for power distribution.



Our **Cable Assembly** Operations manufacture a wide variety of custom RF cable assemblies to customers in the industrial, medical, military and telecommunications industries. Included are flexible, semi-rigid, conformable, overmold, ribbon, wire harness, and jacketed cable assemblies.



**AdvancedTCA® Zone 1** power connector is a 34-position connector used to distribute dual redundant -48V DC power, ring/test voltages, and shelf management system connections through equipment backplanes to plug-in blade servers.



**C-Press® 121-Series** press-fit power terminals are available in 6 or 10 positions with 6/32, 4/40, M3, and M4 tapped holes. Additional interface options include 6/32 studs and FUSECLIP® holders.



**PowerSnap** connectors have a snap-on style feature for secure mating that does not exist on typical slide-on style power connectors. PowerSnap connectors come in SMT, thru-hole, and cable versions and are capable of carrying current up to 40 amps.



## Cable Assembly



# Optical Solutions

Winchester Electronics fiber optic product offerings dictate the industry standard. Our custom fiber optic connectivity products provide optical solutions for the data storage, medical, optical networking, and telecommunications industries.

## Loopback Attenuators

Loopbacks and loopback attenuators are used for equipment and lab testing/evaluation and are matched to the equipment on which they will be used.

### SFF Loopback Attenuators

SFF (Small Form Factor) loopbacks and loopback attenuators are used for equipment and lab testing/evaluation. Attenuated versions consider all important optical parameters in order to meet both loss and back reflection specifications.

### Patchcord Attenuators

Patchcord style attenuators are available in both simplex and duplex designs and can be terminated with any type of connector including SC, LC, FC, ST and more. Attenuators can be manufactured with any loss value from -3dB to -20dB. Patchcord lengths are typically 0.4 meters, but can be made to customer specifications. Simplex style attenuators can be used end-to-end or in a loopback format.

### NDF Loopback Attenuators

NDF (Neutral Density Filter) multimode loopback attenuators drastically reduce the mode and wavelength dependence typically seen in multimode attenuators. Launch conditions between VCSEL transceiver manufacturers vary significantly. The NDF attenuator addresses this issue easily and successfully.

### Wide Band SM Attenuators

New wide band 1200 – 1700nm attenuators with very low polarization dependent loss.

## MT Attenuators

Patented MT ferrule based NDF attenuators offer a mode independent solution to your multi-fiber attenuator requirements. Attenuated patchcords are available for 50/125 and 62.5/125µm applications with any customer specified loss level.



## Attenuators

Breakout cable assembly products are designed for maximum density, easy fiber routing, optimum insertion loss and return loss performance, and quick installation. Manufacturing and design capabilities include single mode, multimode, straight or angle polish and a wide array of connector types.

## Military Systems

Winchester's AI® brand is an approved vendor for major military contractors with capabilities to terminate hybrid copper/fiber assemblies, as well as ANY available on-the-market military fiber optic connectors.



## MTP® Assemblies

MTP® assemblies offer a reliable way to terminate multiple fibers in a compact housing design. Offered with either ribbon fiber or ribbonized individual fibers. Multifiber ferrules are available with 4, 8, 12, 24 and 72 positions. Connectors are available in male, female or ferrule-only versions which are keyed for proper insertion.

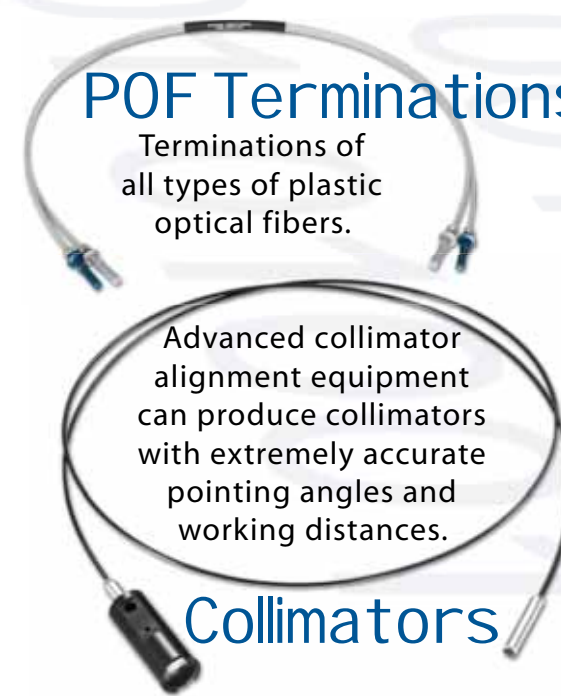


## POF Terminations

Terminations of all types of plastic optical fibers.

Advanced collimator alignment equipment can produce collimators with extremely accurate pointing angles and working distances.

## Collimators



## LC Connector

Half the size of industry standard connectors, the LC provides duplex capacity in the space of current single connection. Low loss characteristics are especially desirable in today's high-speed network environment.



## SC Connector

Available with multimode or single mode cable and in simplex and duplex versions that can be terminated onto any type of cable.



## ST® Connector

Available with multimode or single mode fiber cables. The ST® can be terminated onto any type of cable and is available with a 3mm or 900µm boot.



# Mechanical Sub-Assembly Solutions



In addition to connector and cable assembly products, Winchester Electronics also offers Mechanical Assembly solutions to its global customer base. Not meant to compete with the large CEM's, our service is focused on those sub-assemblies that can be shipped directly to the OEM's contract manufacturer and integrated into higher level, more complex assemblies. With low cost operations located around the world, this is a service we are eager to provide to our customers who require high mix – low volume mechanical assemblies.

# Vision & Mission

## VISION

*To be a recognized leader in engineered interconnect solutions. By employing established and advanced technologies, we deliver value to our customers.*

## MISSION

*We foster an environment where our people rapidly innovate and provide solutions that enable our customers to maximize their product functionality and value.*

## VALUES

*We accomplish our vision and mission through leadership, teamwork, personal growth, integrity, respect, and passion for everything we do.*

These principles create value for our customers, employees, shareholders, and the communities in which we do business.





# North America

## World Headquarters

Winchester Electronics Corporation  
62 Barnes Industrial Road North  
Wallingford, Connecticut 06492  
Phone: (203) 741-5400  
Fax: (203) 741-5500

Winchester Electronics  
101 Constitution Boulevard  
Franklin, Massachusetts 02038  
Phone: (508) 541-3400  
Fax: (508) 541-3419

Winchester Electronics (*Kings Brand*)  
1685 Overview Drive  
Rock Hill, South Carolina 29730  
Phone: (803) 909-5000  
Fax: (803) 909-5092

## Mexico

Winchester Electronics  
Carretera Int'l Km.6.5  
Parque Industrial "El Cid"  
Nogales, Sonora  
Mexico  
Phone: 52-631-314-0661  
Fax: 52-631-314-1435

 **Winchester Electronics**  
[www.winchesterelectronics.com](http://www.winchesterelectronics.com)



## Asia

### China

Winchester Electronics (Suzhou) Co., LTD  
Block D#02-05/08  
No. 5 Xing Han Street  
Xinsu Industrial Square  
SIP, Suzhou, P.R. China, 215021  
Phone: +86-512-6252-9838  
Fax: +86-512-6762-9638

### Japan

Winchester Electronics Corporation - Japan  
RM #201, Klingelberg Building  
1-13-12, Shin Yokohama Kohoku-Ku  
Yokohama, Kanagawa 222-0033  
Japan  
Phone: +81-45-477-5115  
Fax: +81-45-475-3200

### Malaysia

Winchester Electronics (M) SDN.BHD  
Plot 160 & 163, Jalan Sungai Kluang  
Phase 1 Bayan Lepas FIZ  
11900 Penang, Malaysia  
Phone: 6-04-6433222  
Fax: 6-04-6466801