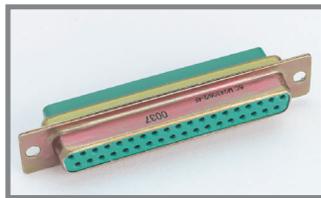


# Interconnect Resource Guide

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# WPI Interconnect Products

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**W**PI Interconnect Products (WPI) is a privately owned connector and cable assembly manufacturing organization offering a wide range of standard and custom commercial, industrial and military products. These include cable harnesses/assemblies, connectors, board-level components and other products and services. WPI offers complete customer service, from consultation and design, to production of the finished product.

Founded in 1971, WPI's vertically integrated capabilities provide the advanced equipment and expertise of eight manufacturing divisions to produce, entirely in-house, any cable or connector desired by the customer. WPI has a variety of standard products on the shelf, ready to ship, at competitive prices. However, WPI's core competency is the production of customized products quickly and efficiently, with its own tooling, molding and in-house manufacturing facilities.

WPI meets or exceeds the most demanding commercial and military specifications, without high tooling costs, whether your needs are small or large production quantities. WPI delivers the interconnect solution that's right for you.

WPI Interconnect Products...Wherever you go, there we are.



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# Rack and Panel Connectors

## Contact Configurations and Types

## Shell Styles

## Contact, Shell Materials and Latching Mechanisms

## Ratings

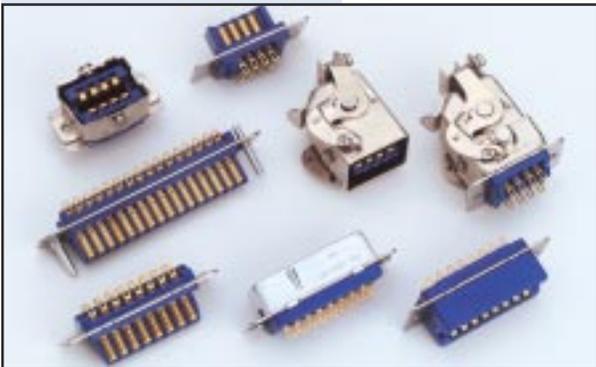
### 26 Series

8, 16, 24, 32, 42 contact versions.  
Cable to Cable.  
Rack and Panel.  
Cable to Panel.

Plug.  
Receptacle.  
Top cable entry.  
Side cable entry.

Gold over nickel contacts.  
Stainless steel shells.  
Gold over nickel-plated aluminum shells.  
Nickel-plated brass shells.  
Positive latching, can be wire-locked.  
Pin, barrier and keyed polarization.

750v DC at sea level.  
300v DC at 60,000 feet.  
UL Listed.



### 26 Series

## Aircraft and Aerospace Rack and Panel Connectors

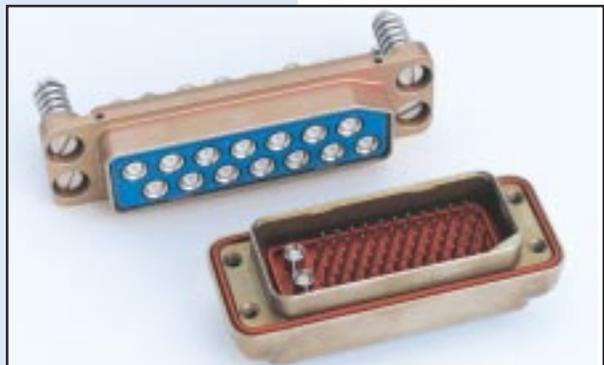
### Aerospace Communication/94 Series



### Aerospace Communication/94 Series



### 126 Aircraft



# Circular Connectors

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
84 Series Miniature High Temperature "R" Connectors.	Monoblock construction.	Silicone rubber dielectric, rhodium-plated contacts. Anodized aluminum shells.	MIL-E-5372 MIL-STD-202
89 Series Submersion Proof Power Connectors.	Plug. Open-wiring receptacle. Cable or conduit receptacle.	Contacts are non-rotating type, silver plated. Shells and cable clamps are quality aluminum stock. Inserts are dielectric.	



# Circular Connectors

## Contact Configurations and Types

## Shell Styles

## Contact, Shell Materials and Latching Mechanisms

## Ratings

### Thorkom®

7, 12 and 24 contacts.

Cable to cable.  
Round and square flange panel mount.

High-temperature thermoplastic suitable for sterilization in medical applications (autoclavable).

UL approved.



# Circular Plastic Connectors

## Miniature Circular Plastic Connectors and Splices

1, 3 and 5 positions.

Cable to cable.  
Cable to panel.

High-temperature plastic.  
Water resistant.  
Color coded and polarized.

1,500 VAC (RMS) at 60Hz.  
500 VAC (RMS) at 50,000 feet.



# Snaplock Metal Circular

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<p><b>Snaplocks</b></p> <p>2, 3, 4, 5, 6, 7 and 9 contacts.</p>	<p>Cable to cable. Round and square flange panel mount. Plug. Receptacle.</p>	<p>Aluminum alloy. Stainless steel.</p>	<p>7 1/2 amps.</p>
			

# Snap Trak II

Blind Mating Track Mount Connectors			
<p>8, 12, 16, 18 and 24 position.</p>	<p>Track mounted, mates from either side.</p>	<p>Water resistant. Crimp contacts are rear release.</p>	
			

# Miniature Hexagon

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
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## 126 Series

4, 5, 7 and 9 contacts.

Molded backshells.  
 Rack and panel.  
 Cable to cable.  
 Cable to panel.

Stamped, gold-plated contacts.  
 Locking clips.  
 Lock-sleeve.  
 Hood and cable clamp.

500 VAC (RMS) at sea level.



126 Mini Hex

# Military Audio Connectors

## U and GC Series

5, 6 and 10 contacts.  
 Solder.  
 Crimp.  
 Printed Circuit.

Plug.  
 Receptacle.

Variety of contacts, including gold over nickel.  
 Stainless steel, passivated.  
 J slot twist lock mating.

MIL-C-55116 (QPL).  
 MIL-C-10544.



GC Audio Panel Mount

GC Audio Cable Mount



NOTE: Dust Caps Available: Cadmium plated, black anodized, aluminum and stainless steel.  
 Rope, chain, bead and other cable fastener types.  
 Rubber or neoprene gaskets.

# Filtered Connectors\*

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>Audio</b>			
5 and 6 contacts.	Panel mount.	Stainless steel, passivated shell.	In accordance with MIL-C-55116 (QPL).
<b>MIL-DTL-24308 Type Series</b>			
D-Subminiature.	Low frequency. Mid-range frequency. Standard frequency. High frequency.	Shell is steel with nickel-plated aluminum housing.	
<b>MIL-C-26482 Type Series</b>			
8, 10, 12, 14, 16, 18, 20 and 22 contacts.	8 shell styles.	Screw machined contacts, various finishes. Aluminum shell.	
	MIL-C-26482 Type	Filtered Connectors	
<b>Special</b>			
*ARINC-style filtered EMP, RFI, EMI.	U-type signal corps filtered connectors. Transient protection connectors.		
		ARINC-style for aircraft applications	
*Consult factory for filtering provided by pi filters or planer arrays.			

# Military Power Connectors

**Contact Configurations and Types**

**Shell Styles**

**Contact, Shell Materials and Latching Mechanisms**

**Ratings**

## UW Power Connectors

4, 9, 14 19 and 30 contacts.

Plug.  
Receptacle.

Contacts: Aluminum alloy.  
Copper alloy.  
Shells: Plugs are aluminum alloy.  
Receptacles are brass.  
Center-locking screw with fold-down, wing-blade handle.

MIL-C-12520.



## MW Power Connectors

4, 9, and 18 contacts.

Plug.  
Receptacle.

Contacts: Aluminum alloy.  
Copper alloy.  
Shells: Plugs are aluminum alloy.  
Receptacles are brass.  
Center-locking screw with fold-down, wing-blade handle

MIL-C-55181.



# Relay Sockets

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
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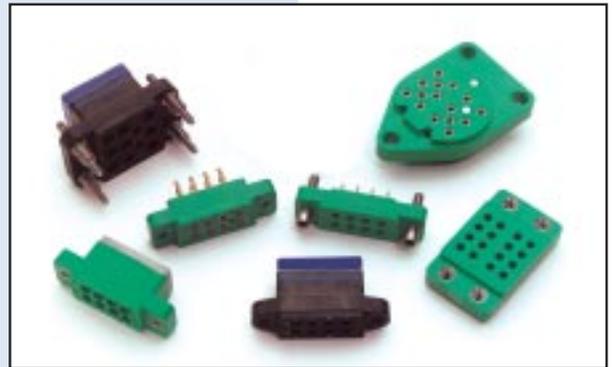
## Relay Sockets

Turret Plug, Pierced Tab, Crimp Pot, Solder Pot and Dip Solder contacts.

Top and bottom mount.  
Through-hole.  
Threaded insert.  
Molded in stud.

High-temperature plastic.

MIL-PRF-12883.



## Mighty Mite® Connectors

### 222 Series

Micro-miniatures with 19 to 61 contacts.

Cable-to-cable and cable-to-chassis applications.

Screw-machined contacts.  
Polarized mating.  
One-piece, rugged polycarbonate.



# Undersea

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>5400 Series</b>			
Underwater electrical penetrator.	Straight, right angle by request. Special configurations for high voltage, pipe threaded bulkhead mount, and flange mount.	Shell: 316L stainless steel (passivated). Body: Integrally molded elastomer. Contacts: high cond. copper alloy.	Pressure: 10,000 psi. Voltage: 600 to 3,000 v. Cable: US SOW-A or MIL-C-915. Pigtails: MIL-W-16878.
			
<b>5500 Series</b>			
Underwater electrical connector. Crimp contacts.	15, 20, 24 and 32 shell size. Plug: molded, right angle and attachable. Receptacle: mounted and attachable.	Shell: 316L stainless steel (passivated). Body: Integrally molded elastomer. Contacts: high cond. copper alloy.	Pressure: 10,000 psi. Voltage: 600 to 3,000 v. Cable: US SOW-A or MIL-C-915. Pigtails: MIL-W-16878.
<b>6000 Series</b>			
Underwater electrical connector. Crimp contacts.	20, 24 and 32 shell size. Plug: molded, right angle and attachable. Receptacle: mounted and attachable.	Shell: 316L stainless steel (passivated). Body: Integrally molded elastomer. Contacts: high cond. copper alloy.	Pressure: 10,000 psi. Voltage: 600 to 3,000 v. Cable: US SOW-A or MIL-C-915. Pigtails: MIL-W-16878.

# Undersea

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>75 ohm Underwater Video Cable</b>			
High-performance with longer flex life.	Stranded RG-59 type coax, with or without insulated conductors.	#22 AWG center conductor and solid teflon dielectric insulation.	
<b>Underwater Cable</b>			
Severe service applications.	Standard to #6 AWG.	Neoprene jacket.	3000v.



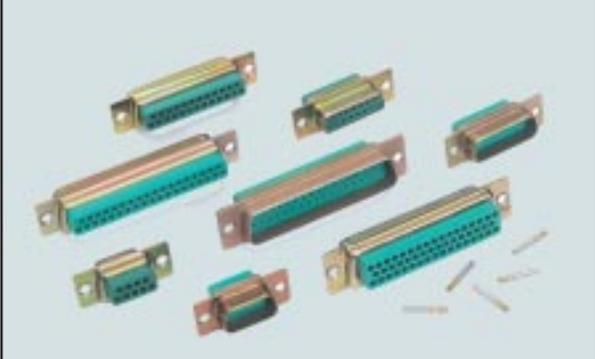
## Oil Exploration and Production

### Connectors and Cables

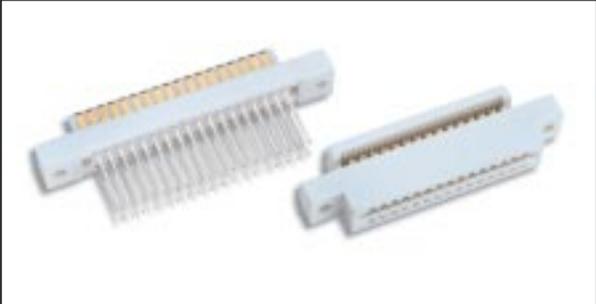
WPI produces connectors and cables to meet the exacting demands of countless, diverse underwater applications. WPI's line of underwater high performance cable systems and connectors are designed for high durability and extreme reliability. WPI connectors are also used on offshore drilling and production equipment, where failure is simply not acceptable. Use WPI electrical connection equipment in your most demanding applications.



# D-Subminiatures

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>MIL-DTL-24308</b>			
<b>17 Series Poke Home®</b>	Straight.	Steel, cadmium or zinc plated, (yellow chromate finish). Gold-plated brass per MIL-DTL-24308.	
<b>117/177/777 Series Rear Release</b>	Straight. Right Angle.	Screw machine contacts. Steel housing in clear chromate over zinc or gold iridite.	500 VAC (RMS) at sea level. 150 VAC (RMS) at 90,000 feet.
<b>Combination/Power/Coax/Signal</b>		Stamped contacts. Bright tin and gold Iridite.	UL listed.
	Straight. Right Angle.	Screw machine contacts. Steel housing in clear chromate over zinc or gold iridite.	
			
<b>Accessories</b>			
Used in association with D-subminiature connectors. Backshells. Latch Kits. EMI/RFI shielded covers.		Plastic. Metalized Plastic. Metal. Diecast. Screw Lock. Spring Latch.	

# Card Edge

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>Pluggem® Card Edge Connectors</b>			
<p>10 to 50 Contacts. Dip Solder. Wire wrap terminals.</p>	<p>Right angle. PS Pluggem mates with receptacles with and without ears.</p>	<p>Contact: phosphor bronze Housing: white, glass-filled polyester, SEO Plating: .000020 selective gold over nickel contact, tin tails.</p>	<p>UL 94-VO. 3A. 600 VDC.</p>
<b>Pluggem® Ribbon Cable Plug and Receptacle Connectors</b>			
<p>Plug: 10 to 36 contacts Male card edge. Receptacle: 10 to 40 contacts.</p>		<p>Contact: phosphor bronze Housing: white, glass-filled polyester, SEO Plating: selective gold over nickel contact, tin tails.</p>	<p>UL 94-VO. 3A. 600 VDC.</p>
			
<b>Printed Circuit Connectors</b>			
<p>.050, .100, .125, .150 and .156 Contact Centers.</p>	<p>Grid. Right Angle. Two-Piece.</p>	<p>Contact Types: Dip Solder, Dip solder and pierced eyelet; wire wrap and round tail dip solder; compliant pin; tool-less compliant pin; square tail. Contacts are copper alloy, gold-plated per MIL-G-45204, Type II, Grade C, over nickel, or phosphor bronze, gold plated per MIL-G-45205, Type II, Grade C, over nickel. Materials: Diallyl phthalate, phenolic or thermoplastic polyester.</p>	<p>MIL-C-21097. UL Listed.</p>
			

# Card Edge

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<p><b>133/143 Series</b></p>			
<p>6 to 28 Contacts. Commercial and industrial 133 series: male plug adapters for PC boards.</p>			
		<p>Contact material: 133 series-brass. 143 series-phosphor bronze and copper alloy. Contact plating: .000020 (0.000508) min. gold. Contact resistance: 25 millivolts at rated current over nickel. Dielectric material: blue- mineral filled diallyl phthalate per MIL-M-14 Type MDG. Guide pin material: zinc- plated brass. End cap material: stainless steel (passivated).</p>	<p>600 VAC (RMS) at sea level. 5 amps.</p>
<p><b>143 Series Card Guide Connectors</b></p>			
<p>Special order available in 15, 18 and 22 position sizes.</p>		<p>Integral card guides provide positive alignment in blind installations and prevent board rocking.</p>	
<p><b>225 Series</b></p>			
<p>6 to 43 Contacts. Commercial, industrial and military qualified.</p>		<p>Bifurcated contacts. Contact Materials Commercial: phosphor bronze plated .000020 (0.000508) min. gold over nickel. Industrial and military: all beryllium copper, except phosphor bronze for bridged contact with one tail. Dielectric materials Commercial: electrical grade phenolic, black. Industrial and military (QPL): glass-fiber reinforced diallyl phthalate type SDG-F per MIL-M- 14.</p>	<p>MIL-C-21097 21. 600 VAC (RMS) at sea level. 150 VAC (RMS) at 70,000 feet. 5 amps. UL Listed.</p>

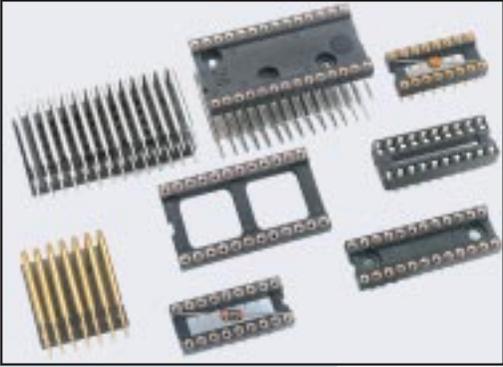
# Tube Sockets and Commercial Plugs

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>77, 78 and 160 Series</b>			
<p>Type S with retainer ring mounting.                      Replacement Type S.                      Miniature Type S.                      Molded-in Plate (MIP).                      Compact MIP.                      Printed Circuit MIP.                      8-Contact Type with termination screws.</p>	<p>Quick mounting.</p>	<p>Bronze cadmium-plated contacts.                      Copper alloy contacts with cadmium-plated finish.                      Black, phenolic sockets.                      Nickel-plated steel mounting.</p>	<p>3 amps at 500 VRMS.</p>
			

## Microphone Connectors

<b>80 Series and 91 Series</b>			
<p>1, 2, 3, 4, 5 and 6 contact versions.</p>	<p>Plug.                      Receptacle.</p>	<p>80 Series: Nickel-plated brass contacts.                      Cadmium-plated contact on female.                      Single and double contact.                      Chrome-plated brass.</p>	<p>600v (RMS).</p>
		<p>91 Series: Chrome-plated brass.                      Screw-type coupling ring connection and squeeze-type clamp cable grips.                      Shell: durable zinc die-cast with protective satin nickel plate.                      Copper alloy with silver plating.</p>	

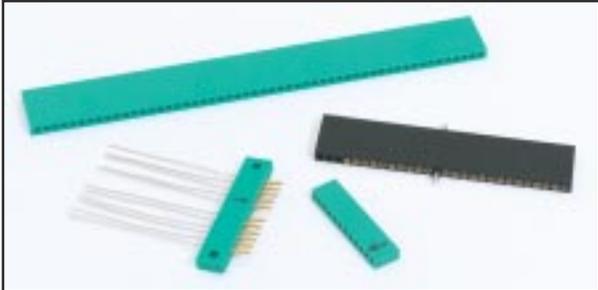
# IC Sockets

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>Solid Body and Open Frame</b>			
<p>With and without standoffs. Ultra low profile.</p>	<p>End-to-end and side-to-side. Stackable.</p>	<p>Outer sleeve: Brass, gold over nickel, tin lead over nickel plating. Spring contact: Beryllium copper, gold over nickel plating. Insulator: Glass reinforced, thermoplastic polyester, black.</p>	<p>UL 94V-0.</p>
<b>Quiet Sockets</b>			
	<p>End-to-end and side-to-side. Stackable. Capacitor mounted into socket.</p>	<p>Outer sleeve: Brass, gold over nickel, tin lead over nickel plating. Spring contact: Beryllium copper, gold over nickel plating. Insulator: Glass reinforced, thermoplastic polyester, black.</p>	<p>UL 94V-0.</p>
<b>LED Display Sockets</b>			
	<p>Contacts bent 90° to allow vertical LED readout.</p>	<p>Outer sleeve: Brass, gold over nickel, tin lead over nickel plating. Spring contact: Beryllium copper, gold over nickel plating. Insulator: Glass reinforced, thermoplastic polyester, black.</p>	<p>UL 94V-0.</p>

# IC Sockets

Contact Configurations and Types	Shell Styles	Contact, Shell Materials and Latching Mechanisms	Ratings
<b>PGAs Screw Machined Version</b>			
	Standard and custom footprints.	Outer sleeve: Brass, gold over nickel, tin lead over nickel plating. Spring contact: six-finger beryllium copper, gold over nickel plating. Insulator: High temperature PPS, black.	MIL-STD-1344A.
<b>ZIF-Zero Insertion Force</b>			
	Inclined contact design.	Finish: Gold plate per MIL-G-45204 Type 1 Grade C at point of contact. Spring contact: Beryllium copper per QQ-C-5530. Insulator: PBT black, locking mechanism orange, glass filled flame resistant. Snap-lock action.	UL 94V-0.
			

## Strip Connectors

<b>221 Series</b>			
Microminiatures in variable lengths, including 4 and 6-inch lengths.	Injection molded. Stackable.	Nylox 6/6. Poke-Home® guide pins. Mini-Tac contacts.	3 amps.
<b>Screw Machine Series SIL, DIL, TIL, and QIL</b>			
Single, dual, triple and quad-row with breakaway feature.	End-to-end and side-by-side. Stackable.	Outer sleeve: Brass, gold over nickel, tin lead over nickel plating. Spring contact: Beryllium copper, gold over nickel plating. Insulator: single and dual in glass reinforced, thermoplastic polyester. Retent-a-pin.	Single and dual rated UL94V-0.
			

# Aircraft Ground Power

## Connectors, Cables and Receptacles

### Engineered Aircraft Products:

- ♦ 28 V DC and AC cable plug in field repair parts.
- ♦ 60/400Hz AC ground power support equipment cable assemblies.
- ♦ AC 400Hz power receptacles.
- ♦ Ground power distribution safety servicing systems.

### Field Repairable Connectors:

- ♦ Replacement of the complete plug is not required.
- ♦ Assemble in free air.
- ♦ No special tools required.
- ♦ No plotting required.
- ♦ Available from stock in commercial/USAF, US Navy and UNIPAC.
- ♦ Complies with MIL-STD 25486.
- ♦ Electrical Rating: 115/200 VAC, 400Hz.
- ♦ Registered US Patent Office.

### Cable Saver Adapters:

- ♦ Minimal field replacement time.
- ♦ Superior abrasion resistance.
- ♦ Triple redundant power transfer.
- ♦ Environmentally protected-triple sealing design.
- ♦ Fully enclosed and balanced locking mechanism and thread protector.
- ♦ Reduced contact wear on plug and receptacle.
- ♦ Cable Saver extended boot.
- ♦ Cable Saver interface configuration per MS25486.



# WPI Custom Designs

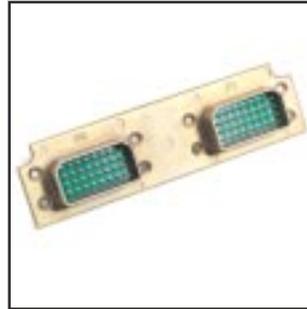
WPI's engineers and world-wide facilities can custom design and produce connectors, cables assemblies and wire harnesses to meet your unique application.



Transportation Connectors



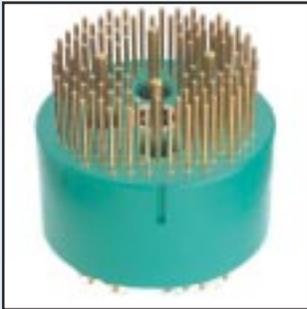
Industrial Automation



Aircraft



J1708-Transportation  
WPI's smart vehicle  
access boxes and cable  
assemblies



Military and Aerospace



GPS Communication



GPS Communication



Power Defense



Military Defense



Military Defense

# **WPI Cable Assemblies, Wire Harnesses**

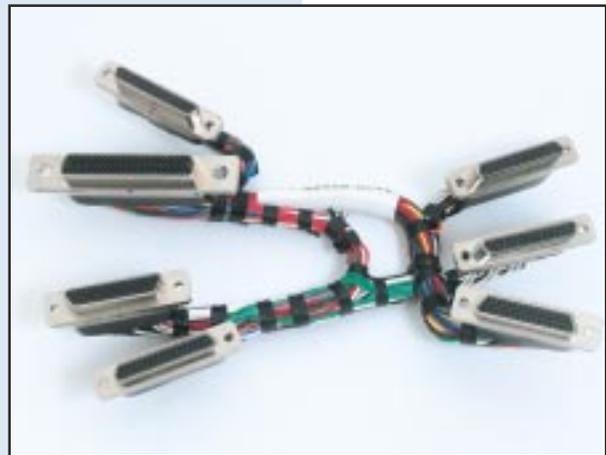
WPI Interconnect Products' 30 years of expertise in producing cable assemblies and wire harnesses provides quality solutions for your standard or custom interconnect needs, including computer, aerospace, datacom, military, telecom, instrumentation, medical and many other applications. WPI's technical staff is trained to work with you from concept to product, whether you are designing a new system or upgrading an existing system.

WPI's wire and cable production are primarily managed through two of its divisions: WPI Cable Systems, located in a 34,000-sq.-ft. facility in Chelsea, Massachusetts, and WPI Sarasota's state-of-the art, 45,000-sq.-ft. building. WPI offers value-added services including contract manufacturing, prototype and production capabilities, as well as box-builds. WPI can procure all the right materials, ensure engineering processes and quality assurance specifications are met, provide fabrication and inspection services, as well as complete functional testing of the product or system.

Whether its standard or custom, WPI partners with you to meet your requirements. Combined with WPI's other manufacturing facilities, WPI offers fully integrated services such as engineering, molding and testing capabilities, to provide your total OEM solution.



Series 38-999 overmold urethane used in computer applications.



Military micro D-sub connectors, 100-pin and 50-pin, used in missile applications.

# WPI Cable Assemblies, Wire Harnesses

WPI cable assemblies meet several specifications, including the following:

MIL-Q-9858A  
MIL-I-45208  
NASA NHB5300.4 (3A-1)  
MIL STD 2000 and 2000A

NASA NHB5330.4  
ISO 9001 Quality Systems  
UL Approved



Assembly with fabric braided jacket and molded backshells for control systems.



Assembly with fabric braided jacket and molded backshells for control systems.

WPI's engineered cable is supported by a planetary cabler. This device provides flexibility to meet most requirements, including cable diameters up to two inches, cable mixes of coax, pairs and triplets, and special strength members.



Planetary cabler

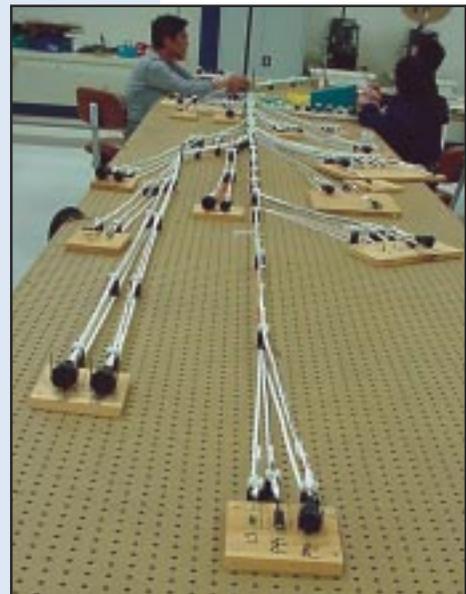
# WPI Cable Assemblies, Wire Harnesses

Wire harnesses, such as those used in aircraft, tank simulators and other military equipment, can exceed 80-ft. lengths and 1,600 wires.



Harness assembly used in tank simulator for training.

Wire harnesses manufactured for a combat tactical trainer for a tank simulator. WPI is capable of making wire harnesses over 80 feet long and that consist of several thousand wires and over 100 connectors.



# WPI Cable Assemblies, Wire Harnesses



WPI has experience with harnesses having 2,500 or more terminations.



# WPI Cable Assemblies, Wire Harnesses

Coaxial assemblies using a Komax automatic wire cutter/stripper and terminator machine. WPI's quality assurance provides a full range of mechanical and environmental testing



Komax automatic high-speed wire cutter/stripper/terminator, which makes complete single conductor wire assemblies.



Automated wire cutter ensures precision and speed.



Programmable automatic wire cutter.



Semi-automatic heat shrink marking equipment used to provide markers for cable assemblies.

# WPI Cable Assemblies, Wire Harnesses

Ribbon cable assemblies incorporating a full range of connectors, including MIL-Spec SCSI, D-sub and card edge, offering flexibility where space constraints are crucial.



Series D38999 cable terminated to a rectangular connector for control signal termination for avionics/aircraft.

Molded cable assemblies manufactured using in-house tooling and mold production, conventional and wire EDM, jig grinding and boring, surface grinding, conventional milling, CNC milling and drilling, conventional turning, CNC turning, mold polishing and full prototype mold development. Custom mold inserts per your company information. With complete in-house application tooling engineering, tool making and machining capabilities, WPI produces custom precision mold dies.

WPI can perform injection molding for several applications. Technicians here are completing PVC injection molding on cable assemblies for plant automation.

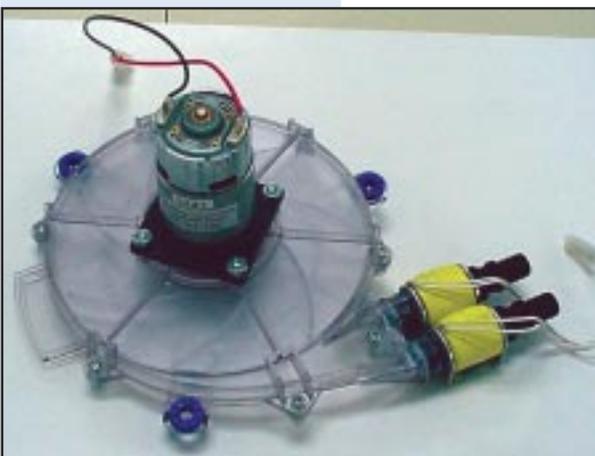


# WPI Cable Assemblies, Wire Harnesses

WPI offers contract manufacturing services, including mechanical assemblies (box builds and switching panels), PCB to interconnect assemblies for LAN token rings, chassis and molded box design and fabrication, black box assembly, backplane assemblies for prototype through production runs, automatic and semi-automatic terminations, automatic label manufacturing on Sumimark, Brady and Gritchy computerized equipment, Kingsley hot stamping and Markem transfer printing.



WPI can build complex box assemblies used in aviation.



Airbed shroud and pump assembly used to auto-inflate air beds. WPI manufactures the complete unit and delivers a fully-tested part to the OEM.



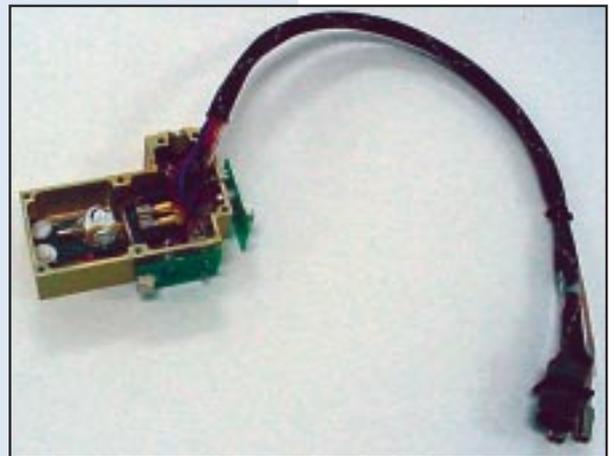
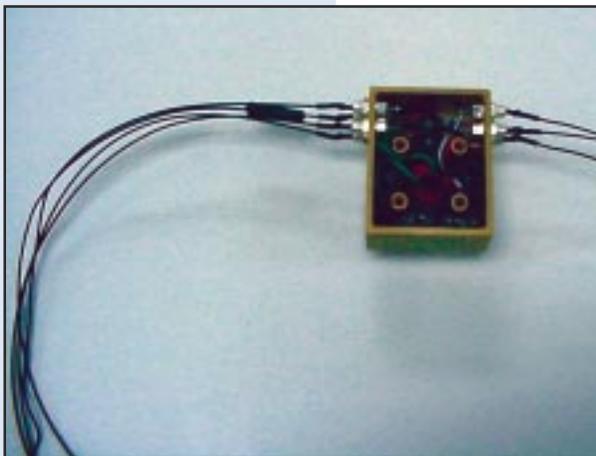
This 270-volt distribution box is an example of the complex box-builds capable by WPI.

# WPI Cable Assemblies, Wire Harnesses

Other wire and cable assembly types include those below:

- Discrete wires
- Semi-rigid cables
- Dynamic cables
- Video cables
- Panel harnessing
- Rack cabling
- Potted
- Braided
- Molded

Panel rack assembly cable with two 68-pin connectors and a 50-pin connector.



Aviation sub-assemblies for use in aircraft display panels.

# WPI Cable Assemblies, Wire Harnesses

WPI uses advanced equipment and quality processes to ensure your cable assemblies and wire harnesses meet the highest specifications.



WPI ensures product quality by using inspection stations throughout its manufacturing facilities.



Network analyzer.



Omni cable tester.



Harness tester.

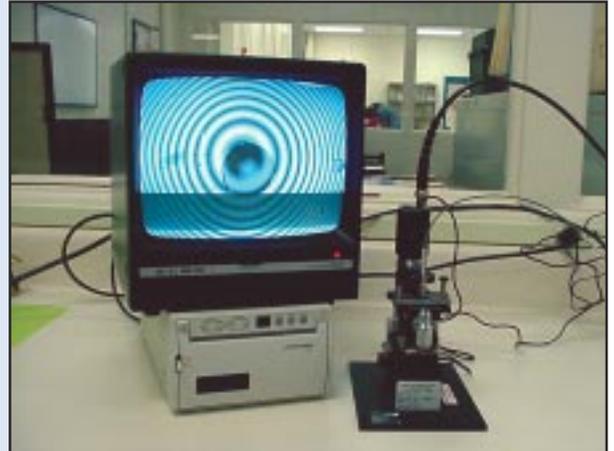
# WPI Fiber Optics

**WPI Fiber Optics** offers complete fiber optic assembly services, from design consulting, which connectors and cables are best suited for the application, to producing a large volume of finished interconnect product.

WPI focuses on the specific fiber optic assembly needs of the commercial, industrial and military markets. Throughout WPI's manufacturing facilities, the latest technology for quality assurance and testing is used for high quality output, including an interferometer for surface analysis and precision automated stripping equipment.

WPI is prepared to offer fiber optic assembly services for the most challenging applications, including the following:

- Military/shipboard
- Military/tactical
- Hostile environments
- Industrial
- Transit
- Airframe/aerospace
- Commercial Marine/offshore platforms
- Petrochemical



An interferometer is used for surface analysis of fiber optic cable to ensure quality.



WPI produces fiber optic assemblies in many different configurations to meet the application.

# WPI Fiber Optics

WPI's fiber optic expertise, coupled with its worldwide facilities, ensures custom-engineered solutions for even most your unique fiber optic interconnect applications. Call WPI toll free at 1-866-782-7889.



16 Station fiber optic auto-polisher and monitor ensures the quality of a polish on the fiber face.



Harness composed of 25 fiber optic cable assemblies installed on a backplane for use in a missile fire control system.



Custom fiber optic assembly.



Automatic fiber optic stripper.

# RSL Fiber Systems, LLC

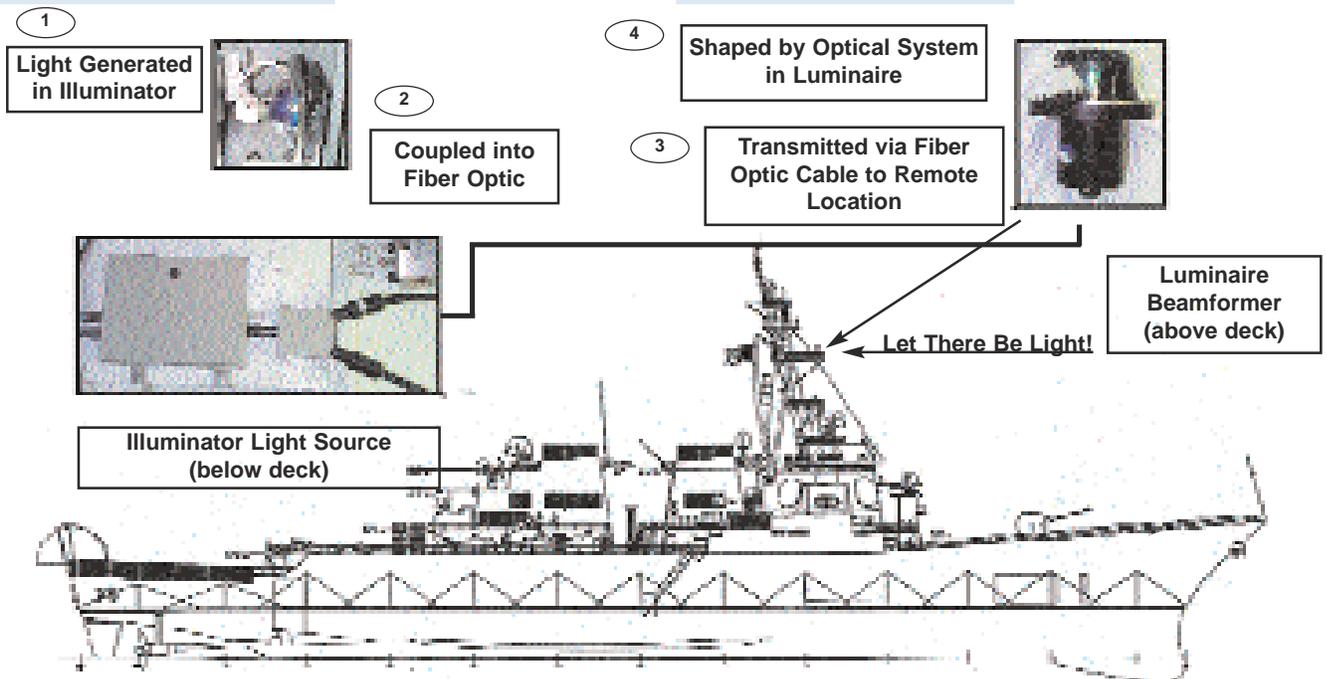


**RSL Fiber Systems, LLC**, is a joint venture between WPI Interconnect Products and The Skyler Technologies Group into the remote source lighting (RSL) market. RSL uses fiber optics in place of traditional lighting in indoor and outdoor applications.

RSL Fiber Systems uses the resources and expertise of both companies to provide RSL technology to the military and commercial markets, including shipboard, avionics and transit.

RSL technology uses fiber optics to light multiple locations from a single source, which offers many advantages over traditional lighting, particularly in rugged and harsh environments. Some of the benefits include the following:

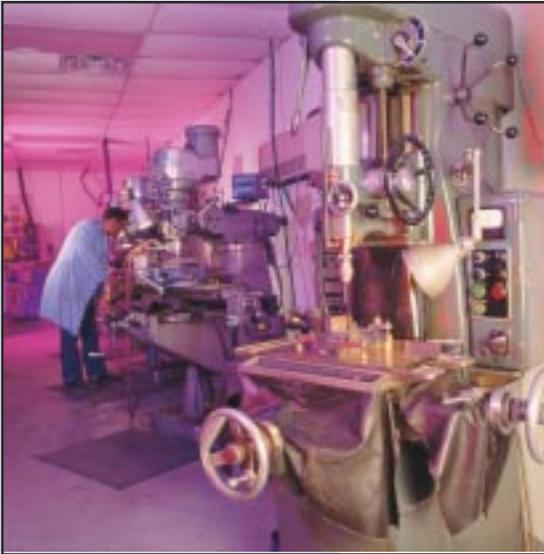
- ♦ Improved efficiency and reduction in maintenance time and cost.
- ♦ RSL is virtually undetectable where stealth capabilities are important to security and safety, such as in military applications.
- ♦ RSL allows for a reduction in the amount of infrared and ultraviolet energy introduced into a space.
- ♦ Improved safety in wet or explosive environments.
- ♦ Improved targeting of light.



# WPI Services

WPI is large enough to offer you totally integrated solutions, but not so large that we lose sight of our goal of customer satisfaction.

## Manufacturing Operations



WPI has in-house tool rooms with complete mold design and development.

Very few other connector or cable assembly companies bring so much in-house capability to the manufacture of interconnection solutions, including specialized research, development and testing of prototypes for connectors, cable assemblies, wire harnesses and one-of-a-kind interconnection products.

WPI, through eight facilities around the world, offers you a complete production facility, tooling of fixtures for prototyping and testing, CNC machining, plating and stamping for manufacture of shells and contacts, and complete in-house molding capability for quality-assured connector bodies and cable assembly components.

## Quality Assurance

WPI's quality assurance capabilities are well known in the industry and by the military. WPI produces high-performance, long-life interconnection components, cable assemblies and wire harnesses. WPI uses today's most advanced equipment and processes for testing by skilled technicians.

Our capabilities have been evolving and growing for over 30 years, and we make continuous refinements and investments to stay abreast of the most advanced testing and inspection technologies. WPI has divisions that are compliant or operate under an ISO 9001 or 9002 registered quality system. And, WPI Viking is certified to Boeing's D1-9000 quality standard.



Environmental testing at WPI.

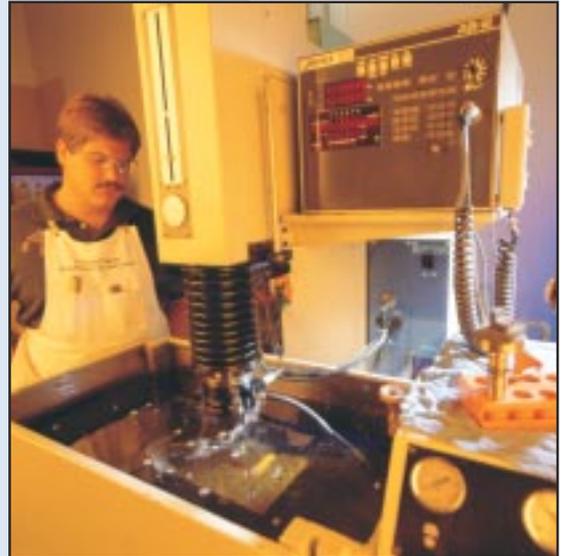
# WPI Services

## Engineering

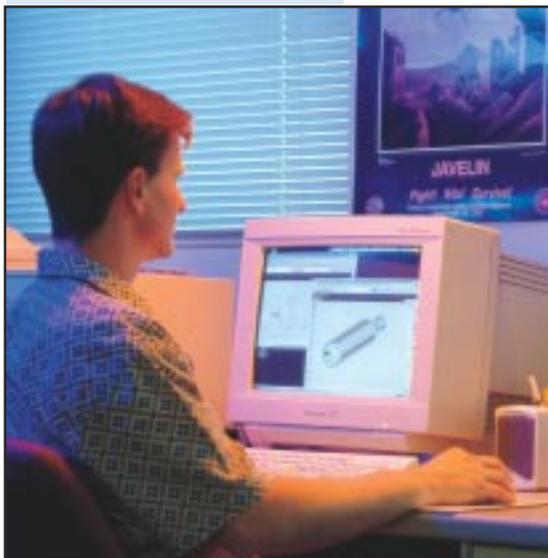
At WPI, engineering means more than just ensuring that off-the-shelf lines of commodity connectors are made right. WPI works with you from the start to identify your specific design or packaging requirement and develop the interconnection solution to maximize your product's performance, while optimizing your manufacturing costs.

Highly skilled engineers, using CAD/CAM and other advanced tools, work with you to develop a design that can be prototyped and tested. After parts are electronically designed, this information is networked to metal cutting equipment in the machine shop. Refinements are made to this process until the ideal custom interconnection product is achieved for you. During this process, WPI has the ability to create its own tooling, including the use of in-house plating, stamping, and molding to develop the prototypes.

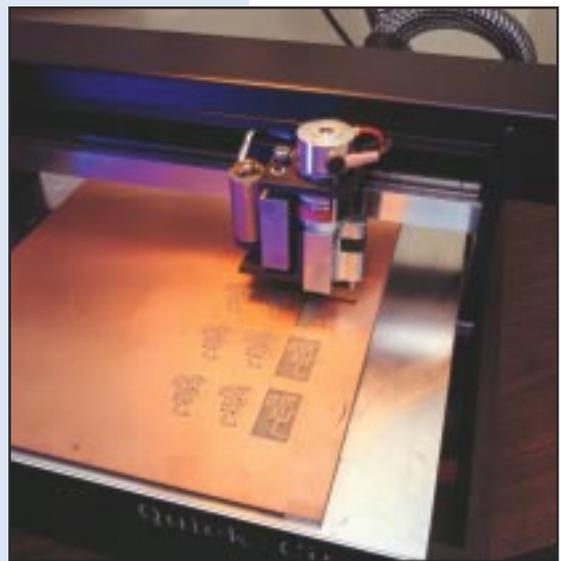
WPI will acquire or develop specialized testing equipment that might be needed to guarantee the product's performance under all required operating conditions.



Ram and wire type EDM with computerized control allows WPI engineering to accurately produce extremely complex shapes.



WPI uses a fully integrated CAD/CAM system.



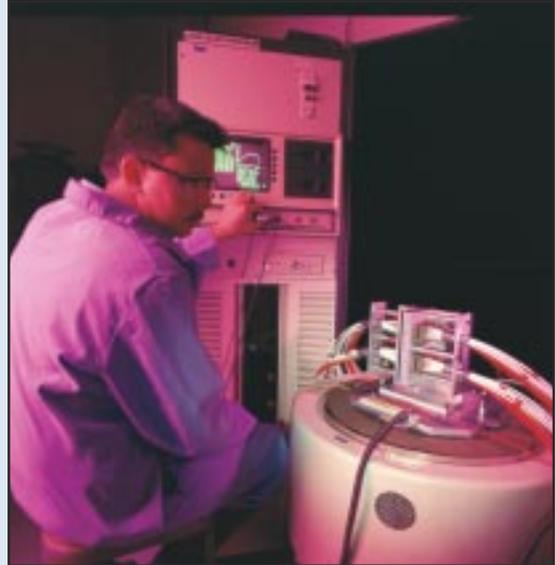
Quick circuit used for prototype and production of specialized PC boards.

# WPI Services

## Resources

WPI stands behind its products 100 percent. If you have a problem, we make it our mission to resolve the problem to your satisfaction. WPI offers full, vertically integrated production services through the multiple talents of all our divisions. It is a service that doesn't force you to pay a small fortune up front for tooling, doesn't make you wait forever before starting your job, and doesn't make you commit to huge unit quantities before beginning to work with you.

Given the combined skills of all WPI's divisions, there are hundreds of years experience behind every product, assuring reliability and state-of-the-art technology to offer the best products and services.



Vibration testing.



Plating operations.



Automatic circuit analyzers (like the DIT-MCO 9500 and the Omni Tester) allow precise testing of cables, harnesses and sub-assemblies to 2,000 VDC/1,500 VAC to 2.5 Amperes. Can be configured to meet any user-specified requirement up to 100,000 test points.

# WPI Qualified Products Listings and Military Specifications

WPI Interconnect Products operates under a number of military specifications, quality systems, and meets several qualified parts listings as outlined below. In addition, WPI products meet many specifications set by Underwriters Laboratories to ensure you are getting the best product available.

Certified ISO 9001 Quality System	MIL-C-55181 (-1 through -8) MS 25019	MS 90328 MIL-C-55169 TYPE
Boeing D1-9000 Quality System	MS17845-1 MIL-DTL-24308 /2 & /4	MIL-C-81790 MIL-PRF-12883
MIL-C-21097/21	MS 90347	MIL-I-45208A Quality System
MIL-C-7974	MS 25018-2	MIL-C-45662A Calibration System
MS 3505-1	MIL-C-10544 TYPE	MIL-C-7974
MIL-C-55116 (-1 through -14)	MS 24208	MIL-C-81790
MS 24121	MS 90362-1, -2, -4	
MS 3506-1	MIL-C-12520 TYPE	

With our highly-skilled technicians and advanced technology, WPI offers the following testing and inspection capabilities:

- 4-Wire Resistance
- AC and DC Hypot
- Altitude
- Beta-Backscatter Plating tester
- Bounce
- Cable Attachment to Plug, Crimp Barrel, Terminal Lugs
- Continuity
- Coordinate Measuring Machine
- Current Overload
- DIT-MCO
- Electrical Strength
- Force and Strain
- Hydrostatic Pressure Testing
- Impedance
- Insertion Loss
- Insertion Phase
- Instron-Mechanical Stress, Compression, Force and Strain
- Insulation Resistance
- Interferometer
- Life Flexing
- Mating Forces
- Micro-Sectioning and Micro-Hardness
- Moisture Resistance/Humidity
- Omni Tester
- Optical Comparator
- Photometer
- Pressure Testing
- Salt Spray
- Standard Measuring Equipment (micrometers, dial calipers, indicators)
- Statistical Process Control Capabilities
- Temperature Cycling
- Thermal Shock
- Thread (plug and ring) Gauges
- Time Domain Reflectometer
- Vibration
- Video Digital Measuring Microscope
- Voltage Drop
- Voltage Standing Wave Ratio
- Water Immersion
- X-Ray Fluorescence

# WPI Divisions

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**WPI Burton**  
1510 West 135 Street  
PO Box 47062  
Gardena, CA 90247-6862  
P: 310-532-3330  
F: 310-532-0303

**WPI Cable Systems/Mutron**  
222 Williams Street  
Chelsea, MA 02150  
P: 617-889-3700  
F: 617-889-6980

**WPI Fiber Optics**  
90 W. Broadway  
Salem, NJ 08079  
P: 1-866-782-7889 (toll free)  
F: 856-935-7694

**WPI Garry Electronics**  
23 Front Street  
Salem, NJ 08079  
P: 856-935-7560  
F: 856-935-0102

**WPI General Connector**  
23 Front Street  
Salem, NJ 08079  
P: 856-935-7560  
F: 856-935-0102

**WPI Salem**  
23 Front Street  
Salem, NJ 08079  
P: 856-935-7560  
F: 856-935-0102

**WPI Sarasota**  
1600 Tallevast Road  
Sarasota, FL 34243  
P: 941-552-3350  
F: 941-552-3363

**WPI Viking**  
5455 Endeavour Court  
Moorpark, CA 93021-8009  
P: 805-553-9633  
F: 805-553-9655

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P: 856-935-0273  
F: 856-935-7694

Manufacturing operations in Taipei, Taiwan and Nogales, Mexico



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