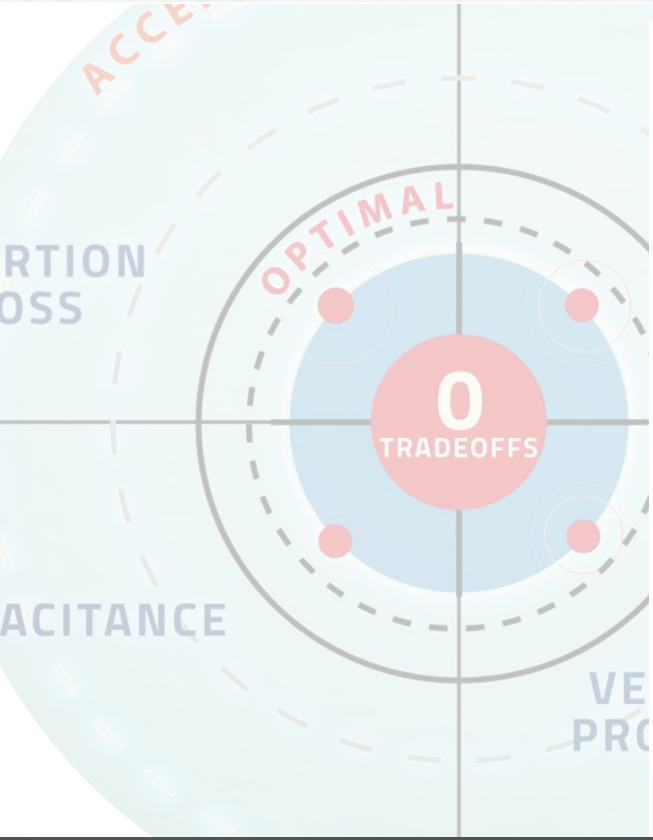
HIGH SPEED INTERCONNECTS

Technology-Driven Coaxial Solutions

- In-house Coaxial Cable Extrusion
- Ultra-low Insertion Loss
- Exceptional Phase Stability
- Velocity of Propagation Up to 90%
- Fine Wire Termination Down to 0.175mm Pitch

We know these are the specs that matter most to *you.*



Because to you, the interconnect isn't just another cable assembly. It's a critical part of your system's performance. That's why we engineer and manufacture our assemblies like any other critical component—carefully considering every detail to ensure you zero tradeoffs on these most critical specifications.

- Insertion Loss
- VSWR
- Capacitance
- Impedance
- Phase Matching
- Phase Stability
- Skew Control
- Velocity of Propagation

And because seeing is believing, we've created a few videos for you on our website at **highspeedint.com**. Take a tour and witness our manufacturing operations in action, and see our extrusion and termination capabilities, inline inspection and various manufacturing processes up close. You'll also learn the inside story on how driven we are to create the highest-performance, micro coaxial and coaxial cable assemblies you might ever imagine.

Ask about how we use our proprietary ePTFE material, VP90™ to solve problems.

If the last place you want to compromise on signal integrity is at the interconnect, we're your cable assembly company.

With High Speed Interconnects (HSI), you get the exact cable assembly you need. Period. If getting your signals from point A to point B with limited to no signal degradation or instability is the job, we've got it down pat.

How do we do it? First, we've designed our own, flexible manufacturing equipment. Second, we've mastered the art of cable extrusion and termination. In fact, not only do we extrude our own center conductors, we offer the choice of solid or foam PTFE or our own proprietary ePTFE dielectric, VP90. It's the only way we can assure you the high-performance cable assemblies up to 70 GHz and down to 0.175 mm in pitch you're in need of today.

CUSTOM MICRO COAXIAL CABLE ASSEMBLIES

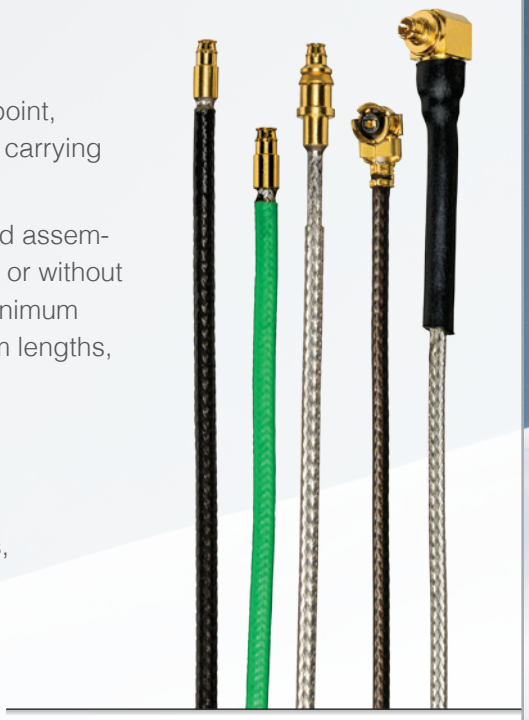
Point-to-Point, Micro Coaxial Cable Assemblies

HSI extrudes and manufactures a wide range of high-performance, point-to-point, interconnect solutions used on PCBs, and/or other points within a subsystem carrying critical signals.

These custom, high-performance, coaxial cable assemblies are designed and assembled using fine connector pitches for applications ranging from DC to 6 GHz, or without connectors for direct-board terminations down to 0.175 mm pitch. With no minimum order quantities, both small and large custom orders are accepted for custom lengths, wire gauges, connector types, EMI/RFI shielding, and cable jacket types.

Features:

- Available with MHF and MHF4 PCB-level connectors
- Direct-to-board attachment available
- Wide range of connector configurations, including MHF to SMA connectors, SMA to MMCX, MHF to MHF connectors, and G4PO to SMA connectors
- Lead times of less than two weeks for most custom configurations



Discrete, Multi-conductor, Micro Coaxial Cable Assemblies

HSI designs and manufactures discrete and multi-conductor micro coaxial assemblies for avionics, LVDS displays, GPS antennas, and high-definition (HD) surveillance systems with operating frequencies from DC to 8 GHz.

HSI's micro coaxial cable solutions are extruded and manufactured to specific requirements using a combination of IPEX, Hirose, JAE, and direct-to-board terminations. These discrete, multi-conductor, micro-coaxial cable assemblies can handle the most complex power and RF/microwave signals, with typical insertion losses of less than 3 dB through 6 GHz.

Features:

- Manufactured to exacting AS9100 and IPC 610/620 standards
- IPEX, Hirose, JAE, and direct-to-board termination options
- Factory-certified by IPEX, Hirose, and JAE
- Low insertion loss (<3 dB through 6 GHz)

Bundled, Multi-conductor, Micro Coaxial Cable Assemblies

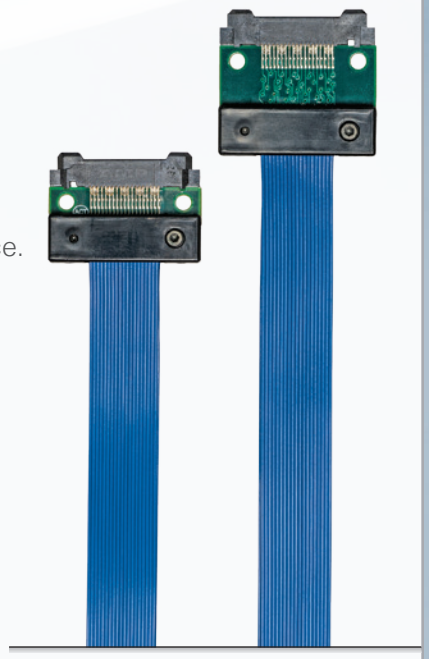
HSI extrudes and terminates endless coaxial cable constructions (i.e. coaxial, twin-ax, twisted-pair cables, messenger wires, and power hybrid) which exceed today's complex interconnect requirements. Our micro coaxial connector capabilities range from 32-48 AWG, and are bundled into dense cable constructions with up to 1,500+ conductors while preserving coaxial cable impedance and capacitance performance. HSI micro coaxial cable assemblies can be terminated to a variety of high-performance connectors, flexible circuits, and PC boards as fine as 0.175 mm pitch.

HSI's bundled, multi-conductor, micro coaxial cable assemblies are ideal for medical imaging systems, measurement systems, transportation, robotics, displays, and a wide range of industrial applications.

Features:

- Low-capacitance interconnect solutions (< 10 pF/ft)
- Fine-wire terminations down to 0.175 mm pitch
- Micro coaxial connector terminations factory-certified by JAE, IPEX, and Hirose

Ribbonized, Multi-conductor, Micro Coaxial Cable Assemblies



Ribbonized, matched impedance MICTOR™ multi-conductor cable assemblies from HSI help stream high-speed data and other signals into servers and networks.

The ribbonized construction improves skew caused by conductor length differences. These are available as 50-Ohm flexible cable assemblies (100-Ohm differential pairs) featuring tightly controlled impedance throughout the connectors, cables, and interconnections for high-signal integrity (SI) and optimum bit-error-rate (BER) performance. HSI's MICTOR™ multi-conductor cable assemblies are designed to combine ease of installation with outstanding electrical performance for today's high-end servers and networks, telecommunications systems, and high-performance test equipment.

Features:

- Available in 0.5 and 0.8 mm pitch versions
- Vertical and horizontal connector orientation options
- 34 AWG to 38 AWG configurations available
- Consistent performance with repeated mating/unmating cycles
- Low-profile assemblies for low-clearance applications
- Matched impedance for exceptional signal integrity

Flexible Coaxial Cable Assemblies

HSI offers a comprehensive choice of flexible, low-loss, coaxial cable assemblies which exceed the performance of everyday, standard flexible coaxial cable solutions. Our flexible coaxial cable assemblies meet MIL-C-17/LMR specifications and are constructed with solid, foamed and proprietary low-dielectric constant membranes, and precise closed-loop-control manufacturing processes. HSI's flexible coaxial cable technology is agnostic and can be engineered for a wide variety of applications ranging from wireless broadband, test systems, ground based satellites, antennas, electronic warfare, defense, automotive, robotic, medical, telecommunication, microwave, and more.

HSI's range of 0.047, 0.086 and 0.141 inch cable solutions can be terminated to a wide range of coaxial connectors, including 1.85 mm, 2.4 mm, 2.92 mm, 3.5 mm, SMA, TNC, Type N, and other high performance connectors. These high-performance, flexible cables feature silver-plated copper-clad center conductors, achieving static bend radius as small as 0.25 in., and boasting up to 90+% velocity of propagations (VPs).

Features:

- Ideal alternative to semi-rigid and conformable cables
- Phase stable to 70 GHz
- Solid, Foamed, and ePTFE dielectrics

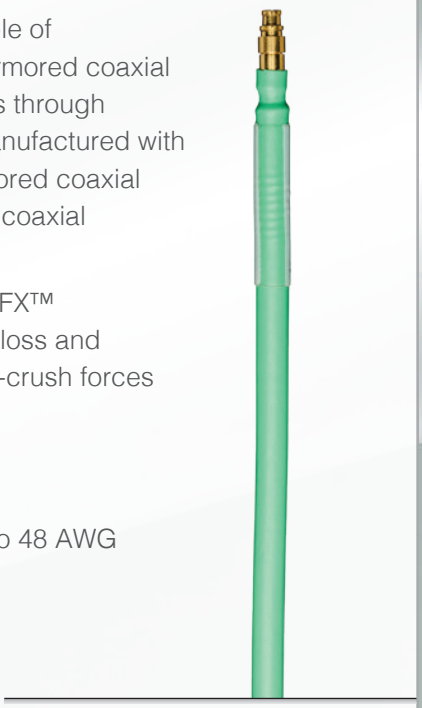
Armored Coaxial Cable Assemblies

HSI provides custom, high-performance, ruggedized coaxial cable assemblies capable of performing in the most hostile and environmentally challenging environments. HSI's armored coaxial cable assemblies can be specified for low-loss, phase-stable operation at frequencies through 70 GHz and in any number of multi-conductor, hybrid, signal/power constructions. Manufactured with abrasion-resistant, chemical-resistant, and temperature-resistant materials, HSI's armored coaxial cable assemblies are not only available for military use, but also as micro coaxial and coaxial solutions for exploration, industrial and medical applications.

HSI's high-performance, ruggedized coaxial cable assemblies are constructed with RFX™ crush-resistant cable. It features typical electrical performance of 0.93 dB/ft. insertion loss and 1.10:1 VSWR at 18 GHz. These cable assemblies exhibit excellent recovery after high-crush forces have been applied and removed.

Features:

- Bend radius as small as 0.50 in.
- Multi-conductor constructions exceeding 500+ individual micro coaxial cables, up to 48 AWG
- Crush strengths in excess of 300 lbs/in.
- Phase stability of ±2°
- Amplitude stability of ±0.05 dB



Hand-formable Coaxial Cable Assemblies

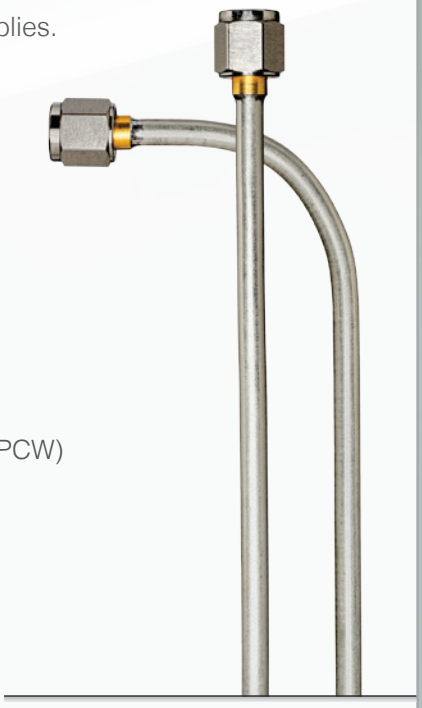
These low-loss cable assemblies are based on HSI's TB Series conformable coaxial cables and are ideal for high-frequency communication systems and inside box test equipment and measurement systems. With solid center conductors, PTFE dielectric material, and tin-filled braid composite outer conductors, HSI's hand-formable coaxial cable assemblies maintain excellent electrical performance even with a tight bend radius. The solid center conductor, which maintains its shape after bending, can be formed and reformed numerous times. These cable assemblies can be supplied in standard and custom lengths with a variety of jacket types, including tin-filled and PVC jackets, and with bare copper, silver-plated-copper wire (SPCW), and nonmagnetic, silver-plated-copper (SPC) center conductors.

Features:

- Hand-bendable and formable with tight bend radius
- M17/151 type conformable cables
- Greater than 100 dB shielding effectiveness (SE)
- Jacketed versions available
- Cables available with 0.127, 0.141, 0.047 and 0.086 in. outer diameters

Semi-rigid Coaxial Cable Assemblies

HSI offers highly reliable, high-performance, semi-rigid, low-loss coaxial cable assemblies. Semi-rigid coaxial cable assemblies are suitable for communication systems and test equipment set-ups and are available in standard and custom lengths, and phase-matched for demanding commercial, industrial, and military requirements. All of HSI's semi-rigid coaxial cable assemblies are constructed with solid center conductors, PTFE dielectric, and tin-plated or silver-plated jacket materials. Based on a number of different cable diameters, including 0.047, 0.086, 0.118, and 0.141 in. cables, these affordable, semi-rigid cable assemblies are formed to precise requirements using state-of-the-art manufacturing equipment.



Features:

- MIL-DTL-17 compliant
- Built with bare copper, silver-plated copper (SPC), and silver-plated-copper wire (SPCW)
- Power levels to 450 W through 1 GHz and 70 W through 20 GHz
- Standard and non-magnetic versions
- Low insertion loss (<3 dB through 20 GHz)
- Excellent velocity of propagation (>90%)

Watch our videos and see how incredible our assemblies really are.

www.highspeedint.com/videos

Phase Stability

In this video we demonstrate how incredibly stable HSI cables with VP90 ePTFE truly are. First we wrap a cable around a mandrel and demonstrate zero degradation in insertion loss. Next, we compare our cable assembly against a competitor's and demonstrate how the competitor fluctuates under duress while ours is rock steady.

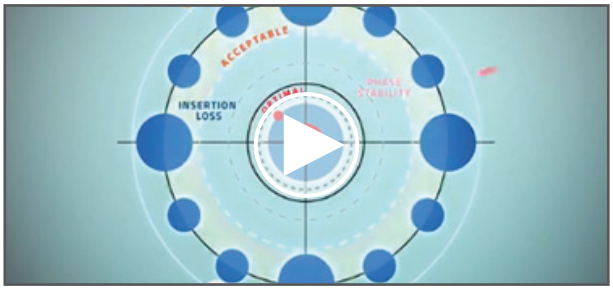
Low Insertion Loss

Needing to go longer distances but can't withstand any further insertion loss? In this video we demonstrate how assemblies with our low-loss VP90 ePTFE allow you to go distances of up to 20% more with the same loss performance.

Low Capacitance

How can you cut the capacitance in your cable assemblies nearly in half? With HSI's low-loss VP90 ePTFE. In this video we quickly switch from a micro coax with solid PTFE to one with ePTFE and demonstrate a drop from approximately 30 pF to 16 pF.

Accuracy Is Everything



Pinpointing one spec in an assembly is one thing, but nailing every spec that is of critical importance to you is another. In this video you'll get an inside look at HSI. You'll see our facility and learn how our commitment to excellence—and our approach to achieving all your specs—will have you thinking you'll never have to make a tradeoff again.

HIGH SPEED INTERCONNECTS

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