VPC

Worldwide Leader-
Interconnect Solutions

About VPC

VPC designs, manufactures, and markets interconnect solutions for all types of industries in the field of test and measurement. Some of these industries include aerospace, automotive, commercial, defense, telecommunications and medical. VPC has a highly-skilled team of engineers who have developed cutting-edge products that have revolutionized the industry for over sixty years.

VPC's engineers also work together with customers to help fulfill their specific design and application requirements. They offer extensive experience designing a variety of specialized wire product solutions, including everything from complex cable assemblies to wired interface boxes.

Training and Certification

VPC is committed to uncompromising quality, continuous improvement and exceptional value. VPC is an ISO 9001:2015 certified business, reinforcing their dedication to operating a Quality Management System. All manufacturing and engineering personnel undergo in-house training programs, including blueprint reading, GD&T, crimping, assembly and more. VPC is an IPC member in good standing and complies with IPC/WHMA-A-620 by having certified IPC trainers in-house and all assemblers are certified as IPC-620A application specialists. VPC is capable of producing to all IPC classes (1, 2 and 3) depending on customer's requirements.

VPC is ITAR registered and is a member of GIDEP. All current regulatory, compliance and certification documents can be found online at vpc.com/resources.

bsi. ISO 9001 Quality Management

ISO 9001: 2015 FM 91006

IPC Member

Wiring Capabilities

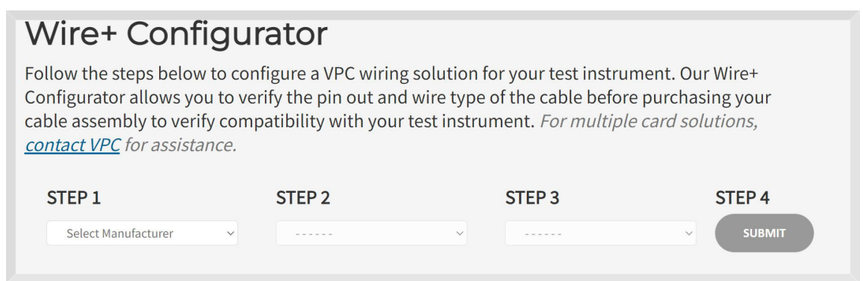
Cable Assemblies

VPC's Wire Products Team consists of experienced wire assemblers who build and test patchcords, cable assemblies and wired interface boxes. The finished product is delivered complete and quality-tested. The end result for the customer is effortless integration of their interconnect solution with virtually any type of test and measurement instrumentation. From patchcords, cable assemblies, interconnect adapters, to wired enclosures; VPC can provide a wired solution to meet the need of virtually any test system.

High Speed VTAC Patchcord

Online Wiring Tools

VPC's offers a series of powerful online customer tools on their website to assist with many wiring needs, including the Patchcord Designer, Wire+ Configurator and Wirelist Template. These tools provide the customer with the opportunity to be self-sufficient, to the extent that they feel comfortable, and offer technologically advanced tools to make their purchasing experience more efficient, less costly and more accurate.



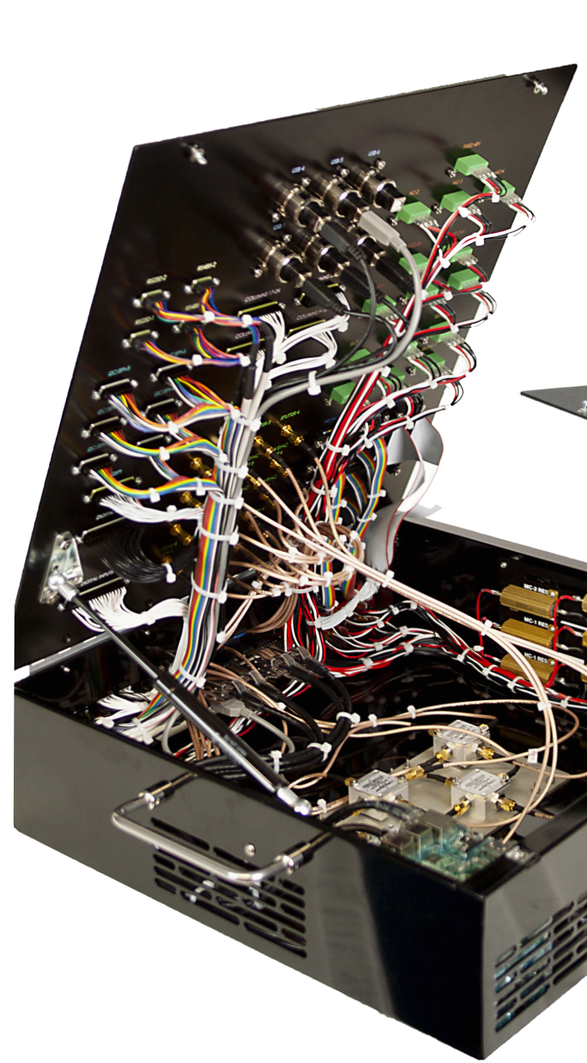
VPC's Wire+ Configurator at VPC.com

Wiring Capabilities

Wired ITAs

VPC's wiring capabilities expand beyond patchcords and wiring harnesses. This includes building and assembling complete discrete-wired ITA enclosures. VPC offers a variety of standard enclosures for discrete-wiring, but also supports custom builds. Standard enclosures are available for VPC ITAs ranging from low I/O ITAs such as the G2, G6 and G10, to high I/O ITAs such as the 9025 and 9050.

VPC Application Engineers work together with the customer to build a custom enclosure specific to a system's wiring needs. Some customization options include cut-outs, screening/ UV printing and specialty hinges and covers.



Custom G12 ITA Built for a 5G Testing Application

Custom 9025 ITA with VPC iCon Secondary Connectors

PCB Capabilities

ITA Enclosures with PCBs

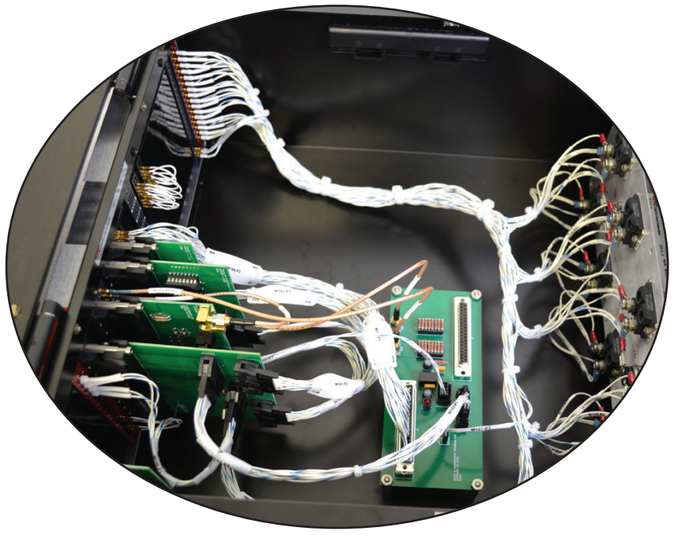
VPC's highly reliable ITAs mount directly to an enclosure to house wiring and other components like PCBs. VPC offers custom cut-outs to accommodate secondary connectors and custom labeling to guarantee the quick and fail-safe identification of test lines. Hinged or removable covers can be added to any side of an enclosure to provide quick and easy internal access.

Popular ITA enclosure designs include wired connections to a PCB using standard industry connectors. Connections are also made from the PCB to VPC ITA modules or receiver modules.

VPC is able to build custom enclosures for board-to-board and board-to-wire designs to accommodate a variety of application needs.

Enclosure with Secondary Connectors

VPC 9050
50 Module ITA Enclosure with PCBs



ITA Enclosure with Multiple PCB Connections

High Speed Capabilities

High Speed Data Insert

VPC set the standard for high speed testing interfaces with the introduction of the VTAC high speed data insert. These insert contain gold plated, self-aligning contacts designed to reduce crosstalk and increase signal integrity during high speed data transfers. Each insert has a data transfer rate of more than 12.5 Gbps per differential pair and a cycle life of over 150,000 without signal degradation.

High Speed and PCBs

VPC's line of high speed data inserts also includes vertical header and right angle inserts. These inserts are designed to mount to custom PCBs and can be configured as a backplane connector and daughterboard connector. They make pass through connections easy to use and allow for the replacements of inserts instead of circuit boards.

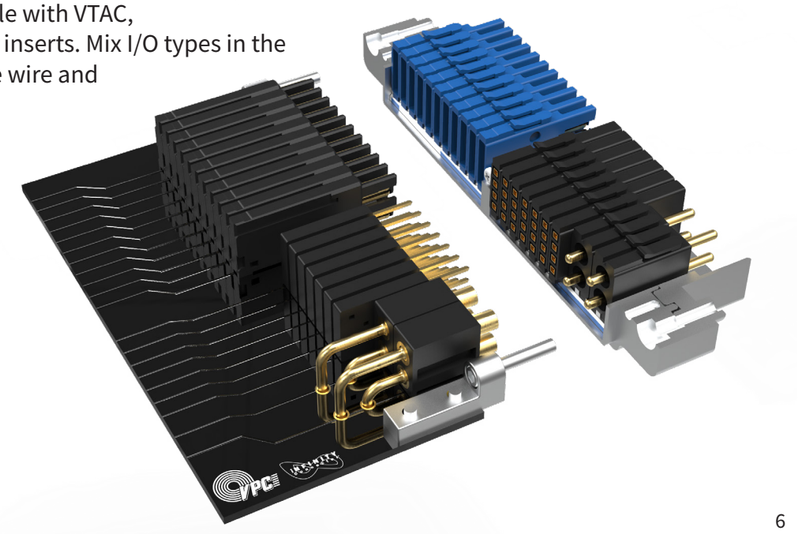
Infinite Connections

VPC's latest high speed technology allows for concerns about cycle life and lost time due to PCB soldering and change out, to be a thing of the past.

Experience "infinite" cycle life with this uniquely designed line of high speed connectors and pass-thru inserts, while preserving right angle connections to the PCB.

The Infinity Connector is available with VTAC, QuadraPaddle, and Micro Power inserts. Mix I/O types in the same module and even combine wire and PCB terminations.

Infinity Connector Cutaway Model-
Inside SIM module loaded with
high speed Infinity Connector inserts



Manufacturing Capabilities

VPC's success is due in part to its capability to execute manufacturing processes with technical precision and accuracy. Machining, assembly and plating are all conducted in a single facility, which means faster turnaround times for the customer. VPC also sponsors an apprenticeship program for its manufacturing employees as part of its succession plan.

Machining Capabilities

Each manufacturing employee is either a state-certified machinist or working to be certified. The certification process requires each employee to complete an apprenticeship with 8,000 hours of on-the-job training (provided by VPC) and classes on safety, blueprint reading, metallurgy, computer-aided design (CAD) and CNC programming. Whether the machinist is beginning their career or has years of experience, VPC is committed to cross-training its employees and ensuring the same level of competence among all team members.

Star CNC Screw Machine

VPC standardizes on MAZAK and HAAS vertical and horizontal machining centers to CNC process steel and aluminum parts. Automated machining centers allow for better quality control, consistent parts and faster turnaround times than competitors can offer.

VPC is also capable of producing prototypes, captive hardware, temporary stock, drive contacts, and tool and dies using Kondia Clausing mills, Harrison AA lathes, and Star CNC screw machines.

These resources help to reduce the costs of limited runs by producing the necessary hardware in-house rather than purchasing limited quantities from a supplier.

MAZAK Horizontal Center Nexus 5000-II

Manufacturing Capabilities

Plating Process

VPC maintains a competitive advantage by being able to perform most VPC product surface finishing processes in-house. This capability decreases product turnaround time, decreases costs and allows for greater control over quality.

In-house processes include plating, chromating, anodizing and passivation. These processes are applied to VPC products such as contacts, ITA and Receiver frames, ITA Enclosures and many individual product components.

The Plating Team is certified for knowledge and chemical access. Each employee is trained in accordance to standards set by the National Association for Surface Finishing (NASF). They are provided the education and training necessary to become a Certified Electroplater-Finisher (CEF).

VPC uses a PLC-driven plating and surface finishing system using Technic, Inc electronics. This user-guided system allows for automated and batch control for each plating and surfacing requirement. This automated process, provides consistent plating and helps to ensure a high quality product.

VPC's PLC-Driven Plating and Surface Finishing System.

Plating Audits

Audits and controls are performed for a number of tolerances including: thickness, hardness, pH, total material used and plating bath effectiveness.

VPC standardizes on Fischer brand x-ray machines to measure and verify the thickness of plating per contact. Each contact is plated in a range of 30-60µ".

The team is also responsible for measuring the effectiveness of a plating bath and conducts Hull Cell Tests to control plating characteristics for each unit being plated.

Ficherscope X-Ray XDL

Quality Assurance Capabilities

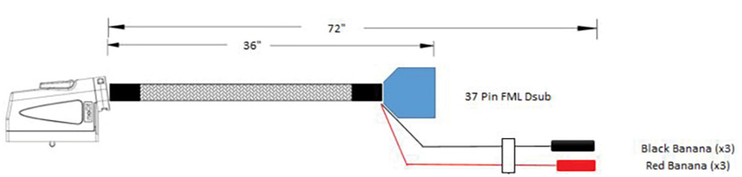
CableTest Capabilities

VPC uses a CableTest ATE Multi-Point Tester (MPT) 1000T, a 5100 point hi-pot tester capable of testing for hi-pot, dielectric withstanding voltage, and continuity resistance measurements. CableTest uses the latest mass hi-pot testing technology to ensure the highest quality while increasing throughput and maintaining cost. It is controlled by CableTest's powerful Discovery software and fitted with a VPC 9050 interface to allow fixtures and adapters in two tiers.

CableTest Performing a Pass/Fail Test

CableTest's Compare Test: Cable assemblies are connected to the CableTest to document all contacts and patchcords. The compare test will reject the cable assembly if it does not match the wirelist.

Run #	From Location (Conn-Pin)	Wire AWG/Type/Spec	Signal Description	Wire Color	Wire Group	To Location (Conn-Pin)	Notes
1	P1-A1	22 T/P	-	WHT	1	J1-1	
2	P1-B1	"	-	BLK	1	J1-2	
3	P1-C1	22	-	WHT	-	J1-3	
4	P1-D1	22	-	WHT	-	J1-4	
5	P1-E1	22	-	WHT	-	J1-5	
6	P1-F1	22	-	WHT	-	J1-6	
7	P1-G1	22	-	WHT	-	J1-7	
8	P1-H1	22 T/P	-	WHT	2	J1-8	
9	P1-J1	22	-	WHT	-	J1-9	
10	P1-K1	22	-	WHT	-	J1-10	
11	P1-A2	22	-	WHT	-	J1-11	
12	P1-B2	22	-	WHT	-	J1-12	
13	P1-C2	22	-	WHT	-	J1-13	
14	P1-D2	22	-	WHT	-	J1-14	
15	P1-E2	22	-	WHT	-	J1-15	
16	P1-F2	22	-	WHT	-	J1-16	
17	P1-G2	22	-	WHT	-	J1-17	
18	P1-H2	22 T/P	-	BLK	2	J1-18	
19	P1-J2	26	-	WHT	-	J1-19	



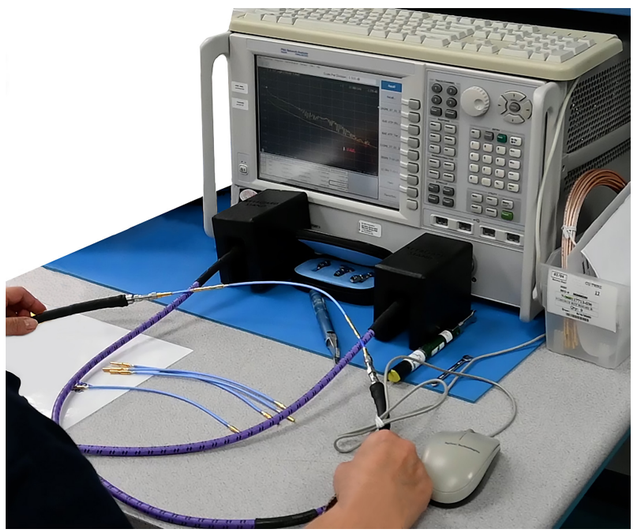
Quality Assurance Capabilities

Quality Assurance Labs

VPC's Quality Assurance labs can provide product test reports for point-to-point continuity, shorts, insulation resistance and high voltage. This report provides final verification that the assembly was built and tested per VPC quality standards. The final routing inspection requires visual and electrical inspection for all critical characteristics including, but not limited to labels, dimensions, special notes and point-to-point continuity.

VPC's automated quality-testing equipment includes OGP, Keyence IM, Keyence XM, CableTest and Cirris cable testers. VPC's network analyzer tests the electrical response of RF cables to a specified frequency range.

VPC's Keyence IM Inspecting Incoming Parts



VPC Patchcords being tested on a Network Analyzer

VPC's Scalable Interconnect Solutions

Handheld ITAs & Mountable Receivers

i1

i2 Micro iCon

i2MX

iCon

Rack Mount Receivers & ITAs

G12

G12X

G18

G20

9025TR

G40X

9050

*To view all of VPC's scalable receivers and ITAs, visit vpc.com

VPC Headquarters | 1400 New Hope Rd., Waynesboro, VA 22980 USA | (540) 932-3300 | vpc.com

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