



Capabilities Statement

From a US Manufacturer

Patton is a multi-national organization that designs, develops, and manufactures network access, connectivity, voice-over-IP, high availability, triple play, and video surveillance equipment for carrier, enterprise, and industrial networks worldwide.

Network Design Solutions

Network designs that leverage Patton products as well as other equipment. Custom network design solutions based on customer requirements.

System Integration Projects

Integrate new technologies into existing network infrastructures. Integration of Patton products with other systems. Building networks.

Patton's Capabilities

Custom manufacturing, private labeling, product customization, microphonics testing and eradication, software development, hardware development (including COTS and open source platforms), database solutions, IMS migration support, embedded Linux, real-time embedded systems, "big data" solutions.

Custom Hardware Platforms

- Many hardware platforms to choose from: Ethernet routing, video streaming, Ethernet, T1/E1, and VoIP platforms
- Customized hardware based on customer specification
- Custom embedded Linux platforms
- Full routing & firewall capabilities
- Streaming video platforms
- Software development support
- Software driver development

Patton is all about connections. It is our joy and mission to connect real-world customer challenges with high-quality, right-priced solutions—complemented by unrivaled customer service and technical support.

Patton has built everything from micro-sized interface converters to carrier-grade telecom gear for connecting subscribers to service providers. Our specialty is interconnecting legacy TDM and serial systems with new-generation IP-based voice, data, and multimedia technologies. Most Patton products are manufactured in the USA.

Embedded System Capabilities Complete Project Solutions

Scope, schedule, design, and develop complete embedded solutions including:

- Feasibility and cost analysis
- Project planning and resource management
- Hardware definition and development
- Software architecture
- Software development
- Verification, commissioning and acceptance



Project Management/Program Management Solutions

- Feasibility analysis/cost analysis
- Budget development

- Schedule generation
- Team/resource task assignments
- Project management and oversight
- Go-To-Market strategy consultancy and support

High Volume Capacity and Low Volume Capability

- Design, manufacturing and distribution
- Long, complex sales cycles
- Low volume ODMD
- Estimated annual usage in the 100s
- Minimum order quantity as low as 1
- Level 1/2/3 support
- Ramp to large-volume production

ODMD: Original Design, Manufacturing and Distribution

- Design and manufacture of products that carry your brand.
- World-wide distribution
- Support and service
- Network of global offices and partners

Patton's Product Lines

SmartNode™

VoIP Gateways & Routers

SmartNode™ VoIP devices integrate IP and TDM communications for enterprise and carrier access networks, offers VoIP gateways combined with IP access routing, WAN transmission, and VoIP border router functionality. SmartNode scales to 2,048 VoIP or fax calls with telephony interfaces including analog FXS/FXO and digital ISDN BRI, PRI, DS3 and STM-1.

BODi rS™

High Availability Fixed & Mobile Routers

BODi rS routers offer unique bonding, load balancing and failover technology that ensures bandwidth robustness and network survivability that, combined with IPsec VPNs and WiFi mesh capability, makes BODi rS the ideal fixed or mobile solution for secure, seamless network connectivity and backup.

CopperLink™

Ethernet Extender Solutions Extend Long-Range Ethernet.

CopperLink™ Ethernet extenders provide Ethernet services to users located far beyond Ethernet's maximum distance of 328 feet (100 meters). With CopperLink solutions, you can extend Ethernet over voice-grade, twisted-pair copper wiring up to 5 miles (8 km).

ForeFront™ AIS

Multi-Service Access, Transport & Aggregation Platform

ForeFront™ brings next generation network (NGN) evolution to legacy access networks delivering bundled broadband and multimedia services to carriers. ForeFront products include CompactPCI 2U, 4U and 9U systems, digital cross connects, flex access nodes, and remote access servers.

OnSite™ CPE

Low-Cost IP Routers, DSL CPE, & NTU/CSU/DSU Solutions

OnSite™ broadband router solutions connect your LAN to any IP WAN via T1/E1, X.21 or V.35 service. OnSite routers pack powerful IP-router protocol & security features (NAT, NAPT, firewall/IDS, DNS & DHCP, VPN, PPP, Frame Relay) into an easy-to-use, and surprisingly compact design.

Visuality™

Real-Time Situational Awareness

Visuality™ is an integrated and fully mobile surveillance, collection, and intelligence distribution solution. Visuality ingests audio, video and sensor data; transports awareness from the surveillance zone to command centers; distributes awareness to agents, responders and/or reaction forces; and records forensic quality images, sounds, and data.

Patton's Special Projects Group

The Special Projects Group offers full life-cycle support in implementing your product, technology or environmental vision. Starting with go/no-go assessments at a reasonable cost, and continuing all the way to manufacturing and distribution through a global sales force.



The graphic features a blue background with a white wavy line on the left. At the top, the text 'Patton Special Projects Group' is written in large, bold, white letters. Below this, in smaller white text, it says 'A US-based manufacturer and commercial partner supporting PARI's STEM mission'. In the center, there is a collection of electronic equipment including a rack-mounted server, a printer, a network switch, a power supply, and a wireless router. Below the equipment, the 'PATTON' logo is displayed in a stylized, blocky font with a registered trademark symbol, and the slogan 'Let's Connect!' is written in a cursive font below it. The bottom half of the graphic shows a scenic view of a mountain range with a large white satellite dish antenna in the foreground, set against a backdrop of green trees and a winding road. A small text credit 'Image courtesy of Justin Ritchie' is visible in the bottom left corner.

Patton's Special Projects Group represents Patton's commitment to extending its expertise to its customers with unique product and environmental needs. Ideation and brainstorming. Feasibility studies. Requirements definition. Custom engineering. Secondary contractor support on awarded grants.

Research Facilities

The Pisgah Astronomical Research Institute (PARI) is located in western North Carolina. It is both a research and an educational center. Though its mission is concerned with all areas of science, technology, engineering and math (STEM), PARI's focus is astronomy.

Patton's Special Projects Group has teamed with PARI as a commercialization partner. The campus of PARI's facility offers an ideal location for groups with specialized research and training needs.

PARI's Special Features

- Centrally located near Asheville, NC and Greenville/Spartanburg, SC
- 200+ acres in a mountain area
- Secluded; low profile; radio quiet
- UPS with diesel power generation
- High-speed, fiber-based Internet with three independent ingress/egress pathways

Our Technologies

Core Technology	Service/Opportunity	Competency
Transmission	Local-loop, last-mile service transport and connection	T1/E1 • DDS • SONET/SDH (STM-x/OC-x) • iDSL • SDSL • MDSL HDSL • G.SHDSL.bis • EFM (bonded) • ADSL2+ • VDSL • fiber • WiFi • ISDN • DoVBS • V.92/V.90 & space-based (Ku and C band) communications interface technologies
WAN protocols and Interfaces	Service termination and data connectivity	HDLC • Frame Relay • PPP • MLPPP • VPN • PPPoE • L2TP • PPTP • PAP/CHAP • ATM AAL1 • AAL2 • AAL5 • IPoA • PPPoA • PPPoEoA • V.35 • RS-530 • X.21 • T1 • E1 • RJ-48c • RJ-48s
LAN interfaces	Standards based connectivity to PCs, servers, and hosts	Ethernet • Fast Ethernet • Gigabit Ethernet • 10 Gig Ethernet
LAN switching	Traffic management for the local area	Layer 3 Switching • VLAN • 802.1p • 802.1Q • Spanning Tree • ISL
Internet protocols	Connection to the worlds largest network of networks	IPv4/IPv6,TCP • UDP • ICMP • IGMP • NAT • NAPT • DHCP • ARP • TELNET • Reverse TELNET • FTP • TFTP,DNS • TCP Clear • RTP • RTCP • RIP • OSPF • BGPv4 • IS-IS • IGMP • MPLS LER/LSR
IP switching and routing	Reachability and reliability for edge, border, and core services	TDM • Digital Cross-Connect • Frame Relay • ATM • SONET/SDH • WDM/DWDM
Telephony switching and muxing	Unrestricted data, packet and circuit switched data access	VoIP • ToIP • H.323v4 • H.225 • H.235 • H.450 • H.248 (Megaco) • MGCP/SIGTRAN • SGCP • SIP • FXS • FXO • SS7 • DSS-1 • Q.931 • Q.921,Q.SIG • R2 • CAS • E&M • CAS • CCS • R2 • PRI • BRI • Q.SIG • FAX • FoIP • T.38/T.37
Telephony features	Call routing and termination	CLIP • CLIR • COLP • COLR • CFU • CFNR • CFB • Call Distribution • Call Hunting • LCR • AOC • Hold • Transfer
Voice, video and QoS	Toll quality voice, video, fax, and data for multimedia applications	RSVP • WFQ • WRED • DiffServ/ToS • Flow Scheduling • Traffic Shaping • Policing
Security, acceleration, compression	Confidentiality services and protection for the network	IPsec • DES • 3DES • AES • Blowfish • MD5 • IKE • ACL • IDS • IADS • Scanning • Firewall • TLS • SRTP • SSH • HTTPS
Network and user management	Network, element, service, and revenue management	SNMP • SYSLOG • RMON • RADIUS CMIP • OSS • OAM&P HTML • XML • Java • Windows • X-Windows,CLI • HP OpenView • protocol tracing
Integrated applications	Edge and border applications for enhanced customer and network services	Caching • instant messaging • email • SMTP • IMAP • POP3 • X.400 • X.500 • Billing • MySQL • Compression Servers

Our Services and Support

Patton's **free lifetime technical support** sets the standard for customer service, providing web-based resources, software upgrades, and support from Patton's support staff. But if your organization requires guaranteed response and resolution times, or evening and weekend service, Patton's **Premium Support** and **platinum-plus Premium 24/7 Support** are also available, designed to address your needs—worldwide and around-the-clock.

Free Support Services



Every Patton product purchased comes with Patton's **free gold-standard customer support**. There are no costly contracts, fee-based service agreements, or high hourly rates. Free technical support services are available to

every Patton customer for the life of the product.

Unique within the industry, Patton's free-support proposition sets the company apart from most industry players. Free lifetime support with downloadable software updates substantially reduces total-cost-of-ownership for Patton products. Patton's free support gives our channels, resellers and end-user customers a serious competitive advantage.

Unique within the electronic-communications industry, Patton's free-support proposition drives down total cost of ownership, delivering significant competitive advantage for Patton channel partners and end customers.

Premium Support Services



Patton's **platinum-level Premium Support** and **platinum-plus Premium 24/7 Support** address the high-end service requirements of Telecom carriers, Internet service providers, and other organizations that need guaranteed response and resolution times or evening and weekend service.

Platinum Premium Support guarantees a 2-hour response time and 8-hour remedy time during regular business hours for any critical incident.

Platinum-Plus Premium 24/7 Support offers worldwide, around-the-clock service anytime, day or night. Courteous and competent support staff are available 24 hours a day, 7 days a week to address major or critical incidents anywhere in the world.



Patton guarantees a response time, of 2 hours or less and a remedy time of 8 hours or less for any critical or major incident.

Five Year Enhanced Warranty

Patton's Enhanced Warranty extends the standard Patton warranty to five years at a very aggressive price and includes the following features:

- **Advance Replacements**—Patton provides FREE advance replacements, shipped next-day priority, should you have a hardware failure. Patton pays shipping both ways!
- **Guaranteed availability**—Patton holds Advance Replacements for you! We guarantee we will always have a replacement unit for you.
- **Extend your warranty**—With Enhanced Warranty you eliminate paying for shipping and repairs. You can extend your warranty up to a 5-year warranty. In the event of a hardware failure, Patton pays for the shipping of the replacement unit and pre-pays the return shipping to Patton for the defective unit
- **Reduce your costs**—Customers can reduce their costs by not buying their own on-hand spares. Very few customers actually buy a hot spare, but everyone needs them.

Manufacturing

Patton products are manufactured in Gaithersburg, Maryland, USA.

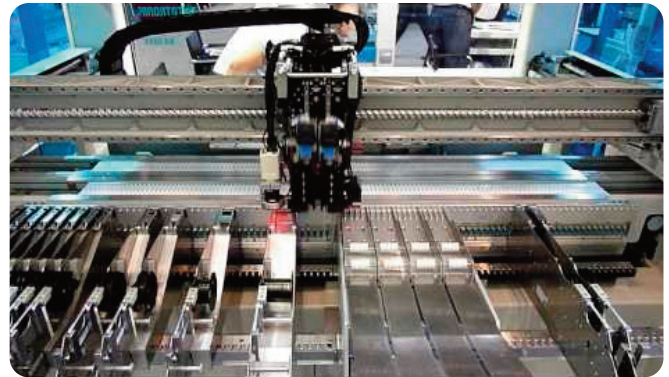
Manufacturing operations include all disciplines of production planning, control and logistics including integrated ERP systems, global component sourcing through mature relationships with distributors and major component manufacturers.

Patton employs **Lean Manufacturing** principles in all production and planning processes, and makes extensive use of automation in assembly and test processes, including automated optical inspection.

The Gaithersburg manufacturing line incorporates a fully automated **no-clean double-sided mixed technology surface mount assembly line, wave solder, and manual assembly, and functional test and burn-in capabilities.**

Patton has been an **ISO 9001 Certified Manufacturer** since 1996. All of our assembly employees are trained to **IPC-A-610** workmanship standards.

Our products carry the **CE mark** and other certifications as required.



Contract Manufacturing and Design for Manufacturability (CM/DFM)

Patton offers RoHS Compliant Contract Manufacturing (**CM**), Design for Manufacturability (**DFM**), Logistics services and mechanical and electrical design CAD services from our **ESD protected** Gaithersburg, MD facility.

In addition to DFM, land pattern design, **Cost Reduction and Yield Improvement** services, our capabilities include **AOI, electro-mechanical assembly and box-build** as well as global sourcing, process development, equipment programming and maintenance, fixture and stencil design, and logistics services.

Our processes and associated chemistries are **environmentally friendly** and well controlled to ensure all excess and/or residual materials resulting from our processes are disposed of by licensed and bonded recycling firms.

Patton is also equipped to print **perfect-bound** or **saddle-stitched** full-color or black/white marketing documents, brochures, user manuals, post-cards, and datasheets.

Manufacturing: Quick Facts

ISO Certification

ISO 9001:2008 certified (ISO 9001 certified since 1996)

Facility

- 15,000 sq. ft of manufacturing space expandable to over 25,000 sq. ft.
- 1½ shift, 5-day operation expandable to 3-shift, 7-day operation
- Onsite warehouse and storage space
- IPC-A-610 workmanship standards

Production Planning, Control, and Logistics

- Infor SyteLine ERP system
- Worldwide sourcing and logistics experience
- Mature relationships with both component distributors and major manufacturers
- Industry standard (off-the-shelf) as well as custom fabricated parts purchasing capability
- Local sourcing and control of custom fabricated parts
- Shipping to > 120 countries annually

Automated Surface Mount Assembly Line

- MPM momentum automated stencil printing with 2D vision inspection
- Siemens D2, S-23 & F5 pick & place machines (50,000+ components per hour capability)
- Electrovert forced convection reflow
- SRT hot-air rework station
- MirTec automated optical inspection

- Teknomatix-Unicam assembly expert computer-aided manufacturing software
- BGA, fine-pitch, 0402 capability. Single-sided or double-sided SMT
- Lead-free processing

Wave Solder Equipment

Vitronics Soltec Model 6622CC lead-free wave solder with ultrasonic sprax fluxer

Manual Assembly

- Through-hole assembly
- Mechanical, box-build and cable assembly
- EPT pneumatic press
- Automated wire cutting/stripping
- Trained assemblers

Lean Manufacturing

- Assemble/Test/Pack in workcell
- Build to order
- Point of use material storage
- Test automation
- Bar Code Verification

Automated functional test and burn-in capability

Custom developed test fixture and automation software.

Inspection

- Vision Engineering Mantis Inspection
- MirTech Automated Optical Inspection

About Us

Patton was founded by Bobby and Burt in 1984, while students in college with the help of their moonlighting older brother, Bruce. Within two years their father, Robert, who had invested in the start-up, joined them in leading the company.

Patton's niche was making modems and connectivity products for the telecommunications industry. Over the succeeding years, Patton has taken those simple beginnings and expanded into a manufacturing company that employs more than 110 people.

Today, Patton is a multi-national organization that designs, develops, and manufactures electronic communications equipment for network access, connectivity, voice-over-IP, high availability, triple play, and video surveillance gear.

Deployed across the world in **carrier**, **enterprise**, and **industrial** networks, most Patton products are manufactured in the USA.

Patton is **ISO 9001:2008** certified and publishes a catalog of over 1000 products including:

- **SmartNode™** VoIP solutions (SIP and H.323) for analog and ISDN telephony
- **CopperLink™** Ethernet Extenders
- **BODi rS™** high availability fixed and mobile routers
- **Visuality™** mobile-video surveillance, collection, and intelligence distribution solution
- **ForeFront™** multi-service access infrastructure solutions for TDM and IP service delivery (T1/E1, G.SHDSL, xDSL, dial-up)
- **OnSite™** CPE solutions for last-mile/local-loop access (WAN routers, modems, remote access servers, NTUs, CSU/DSUs)
- **EtherBITS** device servers
- **EnviroNET™** NEMA4-compliant hardened networking equipment
- **SerialComm** (interface converters, short-range modems, multiplexers, surge protectors).



Products made with pride in the USA



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