

# HP PS110 Wireless VPN Router Series



## Key features

- High-speed connectivity with four-port gigabit switch and 11n single radio dual band (5 GHz or 2.4 GHz) access point
- Advanced security features like stateful packet inspection (SPI) firewall, URL/MAC/IP/content filters, and denial of service (DoS) attack protection
- VPN initiation and termination (IPsec, L2TP, PPTP) for secure data transfers
- Built-in HP ProLiant Server Management dashboard
- Purpose-built enclosure allows for physical stacking on HP ProLiant MicroServer Gen8

## Product overview

The all-in-one HP PS110 Wireless VPN Router Series delivers secure high-performance Internet access and wired/wireless connectivity for offices and remote/mobile employees. Part of the HP OfficeConnect portfolio, the routers feature the next-generation HP Networking user interface and Easy Setup Wizard that are designed for simplicity and reliability to get your business connected quickly. The HP PS110 routers are specifically designed to work with your HP ProLiant servers with unique management integration with the iLO interface. In addition, the enclosure is custom designed to physically stack on top of the HP ProLiant MicroServer Gen8.

The router includes a SPI firewall, and enterprise-grade VPN technology, combined with wireless encryption features like WPA/WPA2 encryption for secure data transfer.

Advanced security features like IEEE 802.1x, URL filters, content filters, MAC filters, and Trusted Users Management keep your network safe from outside threats and unwanted access. Time based rules that enable scheduling rules for radios and security filters combined with email alerts simplify management tasks for users.

With a compact design featuring internal antennas, the routers are ideal for stacking on the MicroServer Gen8 Server.

## Features and benefits

### Wireless features

- IEEE 802.11 a/b/g/n compliance
  - Unit has built-in single radio dual band IEEE 802.11a/b/g/n compliant access point
- MIMO
  - Unit supports 3x3 MIMO antennas to ensure wider wireless coverage and superior throughput
- Multiple SSIDs
  - Radio supports up to four SSIDs to help segregate wireless clients and apply granular policies
- WMM (IEEE 802.11e)
  - Provides Quality of Service (QoS) to wireless clients based on access categories like voice, video, best effort, and background
- WMM-Power Save
  - WMM-Power Save mode helps reduce power consumption on wireless network
- Wireless distribution system (WDS)
  - Allows users to expand wireless coverage without the requirement for a wired connection. HP PS110 and/or HP R100 series routers can be linked together via the wireless medium (using SSIDs), while at the same time servicing clients in the vicinity of each router
- Wi-Fi protected setup (WPS v2)
  - WPS v2 protocol allows customers to easily create secure wireless link between wireless client devices that support WPS v2 and the router
- SSID to VLAN mapping
  - Allows user to segregate wireless traffic

### Security

- SPI
  - Enforces firewall policies to control traffic and filter access to network services; maintains session information for every connection passing through it, enabling the firewall to control packets based on existing sessions
- URL filtering
  - Blocks unsafe websites and protects network based on URL information
- Content filtering
  - Blocks websites and protects network based on keyword match done on the content in the webpage
- Network access control
  - MAC address and IP address based network access control

- IEEE 802.1x authentication and RADIUS login  
Authenticate wireless clients based on 802.1x protocol using RADIUS server
- DoS prevention  
Detects and blocks commonly used DoS attacks that can be initiated on the devices.  
Common attack signatures are stored in the device
- Application level gateway (SIP/H.323)  
Discovers the IP address and service port information embedded in the application data using deep packet inspection in the firewall; firewall then dynamically opens appropriate connections for specific applications
- Secure management  
MAC/IP based administrator authentication, secure WAN/LAN access to management interface, encrypt management traffic using HTTPS
- HTTPS management  
Provides secure Web management
- Management password  
Provides security so that only authorized access to the Web browser interface is allowed

### **Virtual private network (VPN)**

- IPsec  
Provides secure tunneling over an untrusted network such as the Internet or a wireless network; offers data confidentiality, authenticity, and integrity between two network endpoints
- Layer 2 Tunneling Protocol (L2TP)  
An industry standard-based traffic encapsulation mechanism supported by many common OSs; will tunnel the point-to-point Protocol (PPP) traffic over the IP and non-IP networks; may use the IP/UDP transport mechanism in IP networks
- Network Address Translation-Traversal (NAT-T)  
Enables IPsec-protected IP datagrams to pass through a network address translator (NAT)
- Point-to-Point Tunneling Protocol  
An industry standard-based traffic encapsulation mechanism for VPN tunnels supported by many common OSs; PPTP uses a control channel over TCP and a GRE tunnel operating to encapsulate PPP packets

- Site-to-Site VPN Tunnel  
Configures VPN gateways on routers to provide secure site-to-site communication between offices, partners, or remote workers; tunnels can be set using IPsec, PPTP or L2TP over IPsec protocols
- Client Mode VPN Tunnel  
Supports native VPN client based on Windows® and MAC OS
- VPN pass through  
Supports VPN pass through of PPTP, L2TP, and IPsec tunnels

### **Management**

- HP ProLiant Server Dashboard  
Enables auto-detection of HP ProLiant servers connected on the network followed by real-time updates of Active health status for the monitored servers
- Network Time Protocol (NTP)  
Synchronizes timekeeping among distributed time servers and clients; keeps timekeeping consistent among all clock-dependent devices within the network so that the devices can provide diverse applications based on the consistent time
- Secure Web GUI  
Provides a secure, easy-to-use graphical interface for configuring the module via HTTPS
- Event logging  
Supports local logging as well as remote Syslog server
- Email alerts  
Device can be configured to send email alerts to preconfigured email address
- USB support  
Supports file transfer from compatible USB devices. Supports Samba and FTP server
- SNMP v1, v2c  
Supports limited SNMP management capability
- Firmware upgrade  
Supports firmware upgrade via HTTP/HTTPS. Also supports configuration file import/export through Web interface
- Traffic statistics  
Monitor traffic statistics on device interfaces, SSID, and client level
- Tools  
Troubleshooting tools, such as tech file generation, ping, trace-route, NSlookup, etc.
- Time-based rules  
Simplifies network management by setting time-based rules on device features, such as wireless radio, security filters, etc.

### **Layer 2 switching**

- Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD) protocol snooping  
Controls and manages the flooding of multicast packets in a Layer 2 network
- IEEE 802.1D Spanning Tree Protocol (IEEE 802.1D)  
Provides redundant links while preventing network loops
- IEEE 802.1w Rapid Convergence Spanning Tree Protocol  
Increases network uptime through faster recovery from failed links
- Auto MDI/MDI-X  
Provides automatic adjustments for straight-through or crossover cables on all 10/100/1000 ports
- VLAN (IEEE 802.1Q)  
Supports one tagged VLAN per LAN port. Helps segregate traffic on LAN ports to virtual groups

### **Layer 3 services**

- Address Resolution Protocol (ARP)  
Determines the MAC address of another IP host in the same subnet; supports static ARPs; gratuitous ARP allows detection of duplicate IP addresses; proxy ARP allows normal ARP operation between subnets or when subnets are separated by a Layer 2 network
- Dynamic Host Configuration Protocol (DHCP)  
Simplifies the management of large IP networks and supports client and server; DHCP Relay enables DHCP operation across subnets
- IPv6  
Dual stack (IPv4/IPv6): transitions from IPv4 to IPv6, supporting connectivity for both protocols-MLD snooping: forwards IPv6 multicast traffic to the appropriate interface, preventing traffic flooding-IPv6 ready: switch hardware can support IPv6 routing
- Network Address Translation (NAT) and Port Address Translation (PAT)  
Preserves a network's IP address pool or conceals the private address of network resources such as Web servers, which are made accessible to users of a guest or public wireless LAN; provides choice of dynamic or static translation
- DHCP server  
Multi-scope DHCP server hands out IPv4 and/or IPv6 addresses to client devices

- DMZ support

Allows users to open a local client for unrestricted two way access, especially if that client cannot run an Internet application properly from behind the NAT firewall

- Dynamic DNS (DDNS)

Supports DDNS feature that allows customers to access a dynamic address with a fixed domain name

### **Layer 3 routing**

- Static routes

Ability to manually configure IPv4 and IPv6 routes

- RIP v1, v2, ng

Dynamically routes IPv4 and IPv6 packet between different subnets using RIP protocol

### **QoS**

- Traffic Prioritization (DSCP)

Prioritizes traffic based on Layer 3 header in IP packets. Helps prioritize time-sensitive traffic like voice and video

- Traffic Prioritization (IEEE 802.1p)

Traffic prioritization based on Layer 2 packet headers. Allows real time traffic like voice and video to be prioritized

- IEEE 802.11e

IEEE 802.11e Wi-Fi Multimedia (WMM) wireless QoS standard—when combined with wired QoS policies—provides end-to-end QoS, delivering different wireless channel competitiveness for different services

- Queue

Device capable of segregating traffic into four priority queue to enable more granular traffic prioritization. This enables consistent performance for high priority traffic, even during periods of network congestion

- Traffic shaping

Enable configuration of bandwidth limit to traffic per queue

- Traffic remarking

Allows remarking of 802.1p and DSCP traffic priority

- Queue mapping

Allows mapping of traffic to queue based on MAC address, IP address, traffic type, and certain commonly used services

### **Ease of use**

- MicroServer mounting  
Purpose-built enclosure allows for physical stacking on HP ProLiant MicroServer Gen8
- Aesthetics  
Embedded antennas expand installation options and increase aesthetics
- Easy to use  
GUI-driven central management and configuration
- Fanless design  
Enables quiet operation for deployment in open spaces
- Flexible mounting  
Supports desktop as well as wall mount operation

### **Warranty and support**

- 3-year Warranty 2.0  
Advance hardware replacement with next-business-day delivery (available in most countries).
- Electronic and telephone support (for Warranty 2.0)  
Limited electronic and 24x7 telephone support is available from HP for the entire warranty period; to reach our support centers, refer to [hp.com/networking/contact-support](http://hp.com/networking/contact-support); for details on the duration of support provided with your product purchase, refer to [hp.com/networking/warrantysummary](http://hp.com/networking/warrantysummary).
- Software releases  
To find software for your product, refer to [hp.com/networking/support](http://hp.com/networking/support); for details on the software releases available with your product purchase, refer to [hp.com/networking/warrantysummary](http://hp.com/networking/warrantysummary).

## HP PS110 Wireless VPN Router Series

### Specifications

	HP PS110 Wireless 802.11n VPN AM Router (JL065A)	HP PS110 Wireless 802.11n VPN WW Router (JL066A)
<b>I/O ports and slots</b>	1 RJ-45 autosensing 10/100/1000 WAN port 4 RJ-45 autosensing 10/100/1000 LAN ports	1 RJ-45 autosensing 10/100/1000 WAN port 4 RJ-45 autosensing 10/100/1000 LAN ports
<b>AP characteristics</b>		
Radios (built-in)	802.11a/b/g/n	802.11a/b/g/n
Radio operation modes	Client access, Client bridge	Client access, Client bridge
AP operation modes	Autonomous	Autonomous
Wi-Fi Alliance Certification	a/b/g/n Wi-Fi Certified	a/b/g/n Wi-Fi Certified
<b>Physical characteristics</b>		
Dimensions	9.06(w) x 9.33(d) x 1.67(h) in (23 x 23.7 x 4.25 cm)	9.06(w) x 9.33(d) x 1.67(h) in (23 x 23.7 x 4.25 cm)
Weight	2.2 lb (1 kg)	2.2 lb (1 kg)
<b>Memory and processor</b>	MIPS @ 700 MHz, 128 MB NAND flash	MIPS @ 700 MHz, 128 MB NAND flash
<b>Mounting and enclosure</b>	MicroServer Gen8 mount/Desktop/wall-mount	Desktop/wall-mount
<b>Performance</b>		
MAC address table size	2048 entries	2048 entries
VPN throughput	up to 30 Mbps	up to 30 Mbps
Dedicated IPsec VPN tunnels	5	5
Network throughput	920 Mbps (NAT)	920 Mbps (NAT)
Concurrent sessions	5	5
Number of VLANs	4	4
<b>Environment</b>		
Operating temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Operating relative humidity	5% to 95%, noncondensing	5% to 95%, noncondensing
Nonoperating/Storage temperature	-40°F to 158°F (-40°C to 70°C)	-40°F to 158°F (-40°C to 70°C)
Altitude	up to 10,000 ft (3 km)	up to 10,000 ft (3 km)
Notes	No Fan	No Fan
<b>Electrical characteristics</b>		
AC voltage	100 - 240 VAC	100 - 240 VAC
Maximum power rating	9.5 W	9.5 W
Notes	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 12 VDC power adapter	Maximum power rating and maximum heat dissipation are the worst-case theoretical maximum numbers provided for planning the infrastructure with fully loaded PoE (if equipped), 100% traffic, all ports plugged in, and all modules populated. 12 VDC power adapter
<b>Reliability</b>		
MTBF (years)	51.54	51.54
<b>Safety</b>	UL 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1	UL 60950-1; CAN/CSA 22.2 No. 60950-1; EN 60950-1



	<b>HP PS110 Wireless 802.11n VPN AM Router (JL065A)</b>	<b>HP PS110 Wireless 802.11n VPN WW Router (JL066A)</b>
<b>Management</b>	IMC—Intelligent Management Center; Web browser; HTTPS	IMC—Intelligent Management Center; Web browser; HTTPS
<b>Notes</b>	<p>Frequency Bands and Operating Channels FCC:</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.462 GHz (1 - 11 channels)</li> <li>• 5.180 - 5.240 GHz (36 - 48 channels)</li> <li>• 5.745 - 5.825 GHz (149 - 165 channels)</li> </ul> <p>European Union</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.472 GHz (1 - 13 channels)</li> <li>• 5.180 - 5.240 GHz (36 - 48 channels)</li> <li>• 5.260 - 5.320 GHz (52 - 64 channels)</li> <li>• 5.500 - 5.700 GHz (100 - 140 channels); excluding 5600-5650 MHz</li> </ul> <p>Rest of World (Actual channels designated by selecting country in UI)</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.472 GHz (1 - 13 channels)</li> <li>• 5.180 - 5.320 GHz (36 - 64 channels)</li> <li>• 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz</li> <li>• 5.745 - 5.825 GHz (149 - 165 channels)</li> </ul> <p>Taiwan</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.462 GHz (1 - 11 channels)</li> <li>• 5.280 - 5.320 GHz (56 - 64 channels)</li> <li>• 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz</li> <li>• 5.745 - 5.825 GHz (149 - 165 channels)</li> </ul> <p>Emissions: ICES-003 Class B; FCC Part 15; Class B Radio: FCC Part 15.247; FCC Part 15.407; RSS-210 RF Exposure: FCC Bulletin OET-65C; RSS-102 Regulatory Model Number: MRLBB-1405 Transmit Power:</p> <ul style="list-style-type: none"> <li>• 2.4 GHz: 802.11b 19 dBm +/- 2 dBm, 802.11g 22 dBm +/- 2 dBm, 802.11n HT20 23 dBm +/- 2 dBm, 802.11n HT40 19 dBm +/- 2 dBm</li> <li>• Maximum transmit power varies by country</li> </ul> <p>Receiver Sensitivity:</p> <ul style="list-style-type: none"> <li>• 802.11b: -78 dBm @ 11 Mbps, 802.11g: -73 dBm @ 54 Mbps, 802.11n (2.4 GHz): -66 dBm @ 450 Mbps, 802.11a: -72 dBm @ 54 Mbps, 802.11n (5 GHz): -65 dBm @ 450 Mbps</li> </ul>	<p>Frequency Bands and Operating Channels FCC:</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.462 GHz (1 - 11 channels)</li> <li>• 5.180 - 5.240 GHz (36 - 48 channels)</li> <li>• 5.745 - 5.825 GHz (149 - 165 channels)</li> </ul> <p>European Union</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.472 GHz (1 - 13 channels)</li> <li>• 5.180 - 5.240 GHz (36 - 48 channels)</li> <li>• 5.260 - 5.320 GHz (52 - 64 channels)</li> <li>• 5.500 - 5.700 GHz (100 - 140 channels); excluding 5600-5650 MHz</li> </ul> <p>Rest of World (Actual channels designated by selecting country in UI)</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.472 GHz (1 - 13 channels)</li> <li>• 5.180 - 5.320 GHz (36 - 64 channels)</li> <li>• 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz</li> <li>• 5.745 - 5.825 GHz (149 - 165 channels)</li> </ul> <p>Taiwan</p> <ul style="list-style-type: none"> <li>• 2.412 - 2.462 GHz (1 - 11 channels)</li> <li>• 5.280 - 5.320 GHz (56 - 64 channels)</li> <li>• 5.500 - 5.700 GHz (100 - 144 channels); excluding 5600-5650 MHz</li> <li>• 5.745 - 5.825 GHz (149 - 165 channels)</li> </ul> <p>Emissions: EN 55022 Class B; EN 301 489-1; EN 301 489-17 Radio: EN 300 328; EN 301 893 RF exposure: EN 62311 Regulatory Model Number: MRLBB-1405 Transmit Power:</p> <ul style="list-style-type: none"> <li>• 2.4 GHz: 802.11b 11 dBm +/- 2 dBm, 802.11g 13 dBm +/- 2 dBm, 802.11n HT20 13 dBm +/- 2 dBm, 802.11n HT40 13 dBm +/- 2 dBm</li> <li>• 5 GHz: 802.11a 22 dBm +/- 2 dBm, 802.11n HT20 21 dBm +/- 2 dBm, 802.11n HT40 20 dBm +/- 2 dBm</li> <li>• Maximum transmit power varies by country</li> </ul> <p>Receiver Sensitivity:</p> <ul style="list-style-type: none"> <li>• 802.11b: -78 dBm @ 11 Mbps, 802.11g: -73 dBm @ 54 Mbps, 802.11n (2.4 GHz): -66 dBm @ 450 Mbps, 802.11a: -72 dBm @ 54 Mbps, 802.11n (5 GHz): -65 dBm @ 450 Mbps</li> </ul>
<b>Services</b>	Refer to the HP website at <a href="http://hp.com/networking/services">hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.	Refer to the HP website at <a href="http://hp.com/networking/services">hp.com/networking/services</a> for details on the service-level descriptions and product numbers. For details about services and response times in your area, please contact your local HP sales office.

**Standards and Protocols**

(applies to all products in series)

<b>Denial of service protection</b>		Automatic Filtering of well-known Denial of Service Packets	
<b>Device management</b>	RFC 1157 SNMP v1, v2c	Web UI	
<b>General protocols</b>	IEEE 802.11a/b/g/n Wireless Protocol IEEE 802.1D Spanning Tree Protocol IEEE 802.1p Priority IEEE 802.1Q VLANs	IEEE 802.1W Rapid Spanning Tree Protocol IEEE 802.3 Type 10BASE-T IEEE 802.3ab 1000BASE-T RFC 1631 NAT RFC 1723 RIP v2	RFC 2131 DHCP RFC 2236 IGMP Snooping RFC 2637 Point-to-Point Tunneling Protocol (PPTP) RFC 2661 L2TP
<b>IPv6</b>		RFC 2080 RIPng for IPv6	
<b>Mobility</b>	IEEE 802.11a High Speed Physical Layer in the 5 GHz Band	IEEE 802.11b Higher-Speed Physical Layer Extension in the 2.4 GHz Band IEEE 802.11e QoS enhancements	IEEE 802.11g Further Higher Data Rate Extension in the 2.4 GHz Band IEEE 802.11n WLAN Enhancements for Higher Throughput
<b>QoS/CoS</b>	IEEE 802.1P (CoS)	RFC 2474 DSCP DiffServ	RFC 2474, with 4 queues per port Wi-Fi Multimedia (WMM), IEEE 802.11e
<b>Security</b>	WPA (Wi-Fi Protected Access)	WPA (Wi-Fi Protected Access)/WPA2	

**Learn more at**  
[hp.com/networking](http://hp.com/networking)





HP access points and access devices are Wi-Fi Certified, providing our customers with the assurance that these products have met and passed the rigorous interoperability testing performed by the Wi-Fi Alliance Organization. See the Specifications section of this series for more information.

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