



## Data Sheet | 5168NV

# Triple-Play, Bonded ADSL2+/VDSL2 Gateway

The Pace 5168NV delivers triple-play with best-in-class 802.11n MIMO wireless performance, built-in VoIP, and HomePNA over coax for in-home network distribution of IP video.

Pace's 5168NV intelligent gateway is the optimum solution for today's service provider. It enables superior double and triple-play service delivery via its flexible xDSL interfaces. The 5168NV terminates single-pair or pair-bonded ADSL2+/VDSL2 and automatically detects the configured profile. It can even receive a gigabit Ethernet handoff from an optical network terminal (ONT). The 5168NV allows service providers to use one SKU to serve all areas of their delivery network.

## ADSL/VDSL Pair Bonding

The 5168NV residential gateway features bonded ADSL2+/VDSL2 modem technology, allowing service providers to increase rate and reach with their existing broadband infrastructure.

## Gigabit Speeds

Enable Gigabit service offerings utilizing the integrated Gigabit Ethernet switch.

## Superior Wireless Performance

High-powered 802.11n 2x2 MIMO wireless technology from Pace virtually eliminates wireless "cold spots" in the home. Pace intelligent gateways provide more than four times the maximum transmit power of competitive products that traditionally transmit at less than 100mW.

Pace's 5168NV gateway has superior transmit power and receiver sensitivity, in conjunction with an optimized antenna design, and boosts performance compared to typical 802.11n wireless designs. Better range throughout the home means higher customer satisfaction with wireless coverage.

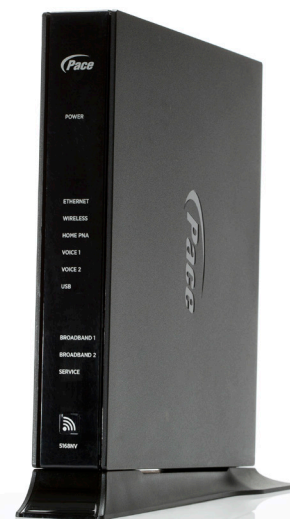
## Integrated Voice over IP

The 5168NV provides built-in VoIP capabilities to support today's voice needs. Additional VoIP capabilities include a full SIP ALG, and back-to-back IP user agent (proxy) to support additional ATA adapters.

## Streamlined Management

The Pace 5168NV intelligent gateway drastically simplifies both gateway and application management; remote management is supported with any TR-069-compliant auto-configuration server, such as Pace's industry-leading ECO Manage device management system.

ECO Manage gives providers a valuable insight into the customer's network, enabling them to remotely configure, manage and troubleshoot deployed gateway devices, eliminating costly truck rolls and lengthy customer care calls. Additionally, IP-based services can be remotely managed using the web-based ECO Service Management tools. ECO Service Management can reduce operational expenses, shorten time-to-market for next-generation services, and increase customer satisfaction.



## Key Features and Benefits

- Dual-core processor with hardware accelerated routing for exceptional performance
- ADSL/VDSL Pair Bonding
- Advanced Quality of Service for Managing Voice, IPTV, and Data Traffic
- Best-in-class wireless performance with Pace's high-power wireless design
- HomePNA interface for video distribution throughout the home
- Intelligent service delivery platform
- Carrier-Quality TR-069, TR-098 and TR-104 Network Management
- Professional-Grade Firewall
- Low Total Cost of Ownership

## Main Interfaces

- Bonded ADSL2+/VDSL2
- Gigabit Ethernet WAN
- HomePNA 3.1 coax port
- 4 x Gigabit Ethernet LAN ports
- 802.11n 2x2 MIMO Wi-Fi
- 2 x FXS (VoIP) Lines
- Optional USB Host Ports

# 5168NV

## Technical Specifications

### Broadband Network Interfaces

Integrated Bonded ADSL2+/VDSL2 Modems (1 RJ-14)  
Gigabit Ethernet (1 RJ-45)  
Broadband interface auto detection feature

### DSL Modem

ADSL 1, ADSL 2, ADSL 2+  
VDSL2  
T1.413 Issue 2, G.992.1, G.992.3, G.992.5, G.HS/G.994.1  
VDSL-DMT per G.993.2 standard  
Ethernet Bonding G.998.2  
TR-067- and TR-100-compliant  
ANSI and ETSI loops  
Annex A, L and M support  
Extended frames support  
Cabinet mode support

### High-Powered Wireless Functionality

IEEE 802.11n 2x2 2.4 GHz wireless access point, backwards compatible with 802.11b/g  
10 power settings available through gateway user interface, up to 25 +/- 1dBm, for 802.11b, 802.11g, and 802.11n.  
Settings also configurable via CWMP  
WEP64, WEP128, WPA, WPA2  
Automatic channel selection with interference detection  
Multiple SSID support  
Wi-Fi Multimedia (WMM) and Multimedia Power Save (WMM-PS)  
MAC-based filtering  
Wi-Fi Protected Setup (WPS)

### Local Network Interfaces

Gigabit (10/100/1000 Mbps) Ethernet (4 ports RJ-45)  
Wireless 802.11b/g/n access point  
HomePNA 3.1 interface over coax, utilizing Sigma CG3210 chipset  
1 x USB 2.0 Host interface (2 option)

### VoIP Functionality

Two (2) voice lines via RJ-14 port  
SIP user agent interoperability, including Alcatel-Lucent IMS  
Audio codecs: G.711 (a-law and u-law) and G.729, software upgradeable to support G.726  
Software upgradeable to support back-to-back SIP user agent (Proxy function)  
Echo Cancellation  
T.38 Fax Relay capable  
Advanced statistics gathering and reporting support

### Software Tools and Diagnostics

Zero-touch subscriber activation including Captive Portal  
Simple Web-based user interface for easy configuration and diagnostics  
Quick summary page with shortcuts to most commonly used features  
Standard and advanced DSL Diagnostics provided as TR-098 vendor extensions

### Network Protocol Support

ATM UNI, UBR, VBRnrt, VBRrt, CBR  
IPv4, IPv6 6RD, TCP, UDP, ARP, ICMP  
DHCP client/server, DNS client/server, HTTP client/server  
Single IP and multi-IP support  
PPPoE, PPPoA, PAP, CHAP, RFC 2684/1483 Ethernet

### Diagnostics and Management Tools

Remote management and provisioning via SSL connection from Pace ECO Manage or other TR-069-compliant ACS  
Supports TR-069, TR-098, and TR-104  
Integrated gateway-based diagnostics automatically intervene during error conditions, such as Missing Filter Detection, intercept subscriber Web requests, and provide self-guided resolutions  
ICMP Ping, Traceroute  
Web-based remote gateway technician view and remote management  
Multicolor indicator lights monitor the connection and assist with troubleshooting

### Software Upgrade

Secure TR-069 software updates procedure via Pace ECO Manage system

### Security

Integrated firewall includes stateful packet inspection (Layer 4) and local IP spoofing verification  
Supports stealth mode operation  
Unique signed security certificate manufactured into each gateway for TR-069 management authentication

### NAT/PAT Support

Standard NAT/PAT between LAN and WAN  
Automated NAT pass-through for LAN client-initiated VPN tunnels (IPSec, PPTP, L2TP), SIP, H.323, RTP  
Easy-to-configure NAT pass-through (pinholes) for common applications (games, servers, etc.)  
DMZplus for automatic WAN IP assignment to a local computer  
Supports most popular ALGs: HTTP, FTP, H.323, IPSEC-IKE/ESP, PPTP, RTP, RTSP, and SIP

### Standard Hardware Features

TR-068-compliant industrial design and LED indicators  
Vertical placement via provided stand or horizontal desktop placement  
Wall mount capable (with optional bracket)

### Physical Specifications

With stand: 3.1" x 9.6" x 9.7"  
(7.8 cm x 24.3 cm x 24.5 cm);  
Without stand: 1.6" x 8.7" x 8.9"  
(4.0 cm x 22.1 cm x 24.6 cm)  
1.6 lbs (.70 kg)

### Power Supply

External PSU: 12V, 3A  
2-prong ungrounded non-polarized AC plug

### Memory

Up to 128 MB Flash (64 MB standard)  
Up to 256 MB RAM (128 MB standard)

### Operating Environment

Temperature: 32° to 104° F (0° to 40° C)  
Humidity: 5% to 95%, non-condensing  
Altitude: -197' – 6,000' MSL

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