



BiPAC 9900VA

Dual-Band Wireless
Active Ethernet Point-to-Point
VoIP VPN Gateway

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The 9900VA is a point-to-point (P2P) Active Ethernet Fiber Gateway – featuring a combo WAN, 3-port Gigabit Ethernet Switch, VoIP, Firewall and Wi-Fi 802.11ac access point. Combo WAN interface enable 9900VA can be used for fiber or copper network. An optical Small Form Factor Pluggable (SFP) fiber interface supports fiber-to-the-home (FTTH) applications, or use traditional RJ-45 Gigabit Ethernet interface for up-linking any other kind of broadband connectivity. Furthermore, the 9900VA supports remote management on end-user devices, which is available upon request for Telcos/ISPs projects to tightly manage the FTTH service delivery. The router is also equipped with a built-in 3-port Gigabit Switch which enables amazingly fast LAN transmissions for bandwidth-consuming applications such as video streaming and file sharing. The integrated 802.11ac Wireless Access Point ensures that the 9900VA offers faster wireless speeds (up to 2.1 Gbps) while its 6 external antennas maximizes wireless signals. It also has two RJ-11 FXS ports for connecting to regular telephones, allowing users to make economical VoIP calls. The 9900VA automatically adopts the optimal connection to deliver smooth and constant signal reception even if obstacles are present. Users can easily enjoy high bandwidth applications such as High Definition IPTV services without changing their home network. The built-in robust firewall provides protection against intrusion attacks while the Quality of Service feature allows traffic prioritization and bandwidth management for downloads and online gaming.

FTTH and Wired Broadband Services Ready

The 9900VA can be used for a point-to-point fiber access network. Since the Fiber WAN interface allows faster rates over even longer distances, it can support Telcom operators or ISPs to provide high quality and reliable Internet broadband services to either business users or home users. The 3-port Gigabit Switch incorporated into the 9900VA enables users to easily connect to multiple computers or wired-Ethernet devices and enjoy blistering LAN transfer rates for multimedia applications such as interactive gaming, IPTV video streaming and real-time audio.

New Experience with Wi-Fi Speed and Coverage

With an integrated dual-band Wireless Access Point, 9900VA runs both 2.4GHz and 5GHz simultaneously that the combined throughput can reach 2.1 Gbps(1733Mbps at 5GHz, 300Mbps at 2.4GHz). The Wireless Protected Access (WPA-PSK/WPA2-PSK) feature enhance the level of transmission security and access control over Wireless LAN. Multiple SSIDs with Client Isolation to enhance the level of transmission security and access control over the Wireless LAN. The network manager can assign different policies and functions for each SSID, increasing the flexibility and efficiency of the network infrastructure.

Integrated SIP VoIP and Advanced Telephony Features

9900VA is compliant with SIP standard (RFC3261) and supports SIP registrar. This device integrates with two FXS ports by connecting with two standard analog telephones to receive or place calls over VoIP accounts. The router offers much more great features, Call Waiting, Conference Call, Return Call, etc. The unique Speed Dial Plan provides custom hotkeys of frequently used phone numbers. This state-of-the-art feature is ideal for users who do not need a landline service, delivering high quality, free communication between offices and customers. Making online call is just as easy as dialing an extension number.

High Performance and Network Resilience

- Offers Combo 1000BASE SFP & GbE WAN
- Automatic Failover/Failback (SFP & EWAN) for network resilience and reliable connectivity
- 3-Port Gigabit Auto-MDI/MDI-X Switch

Superior Wireless Technology

- Simultaneous Dual Band Wi-Fi (2.4GHz & 5GHz) with high-power design
- Wi-Fi Hotspot with Captive Portal
- Carrier-Grade Wi-Fi, WPA2/AES and MSSSID with isolation

VoIP and Supplemental Services

- SIP standard: RFC3261
- Supports Phone Services via SIP up to 2 separate accounts
- Hot-line/ Warm-line, Call Forwarding, Call Transfer, Call Waiting, Conference call, etc...
- FAX Transmission: T.38 fax relay & G.711 pass-through

Firewall

- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- Prevents DoS attacks including Land Attack, Ping of Death, etc.
- VPN pass-through

Enterprise Class Routing and Secured VPN

- BGP and OSPF Dynamic Routing Protocols
- Secured VPN : IPSec, GRE, L2TP, PPTP and OpenVPN

Management

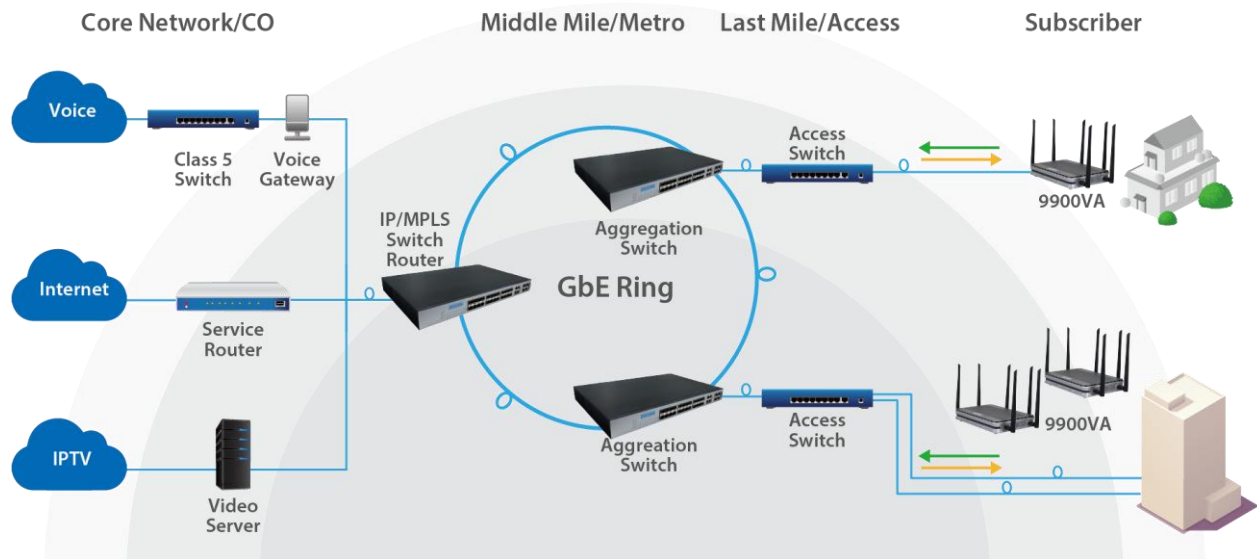
- Web-based GUI for remote and local management
- TR-069(CWMP) remote management^{*1}

Ideal for

- Home, SOHO environments
- Self-Installation Service Offerings



Application Diagram



Features & Specifications

■ Availability and Resilience

- Dual-WAN ports (SFP & GbE WAN)
- Load balancing - Maximizing bandwidth of outbound traffic
- Auto failover between SFP and GbE WAN

■ SFP Specifications

- 1000Base-T/1000Base-X IEEE 802.3ab Compliant

■ Network Protocols and Features

- IPv4, IPv6, IPv4/IPv6 dual stack¹
- NAT, Virtual Server and DMZ
- Static Routing, Dynamic Routing (RIP v1/v2, OSPF, BGP)
- SNTP, DNS relay and DDNS
- Universal Plug and Play (UPnP) compliant
- Supports DHCP server/ client/ relay

■ VoIP

- Compliant with SIP standard (RFC3261)
- Audio Codec: G.729, G.726, G.711 A-Law, G.711μ-Law
- DTMF Method: In-band, RFC 2833, SIP Info
- Caller ID Generation: DTMF, FSK
- T.38 Fax Relay
- Silence Suppression, Echo Cancellation, Packet Loss Concealment
- Hot-line/ Warm-line
- Call Forwarding, Call Transfer
- Call Waiting, 3-way Conference Call
- Anonymous Call, Block Anonymous Call
- Speed Dial, Return Call, Redial
- Dial Plan
- Don't Disturb Function
- Call Detailed Records(CDR)
- VoIP NAT Traversal

■ Firewall

- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- Prevents DoS attacks including Land Attack, Ping of Death, etc.
- Access Control
- IP Filtering, MAC Filtering, URL Filtering
- VPN pass-through

■ Virtual Private Network

- IPSec
- PPTP
- L2TP
- GRE
- OpenVPN

■ Carrier Grade Wireless LAN

- Compliant with IEEE 802.11 a/b/g/n/ac standards
- Concurrent dual-band 802.11a/n/ac(5GHz) and 802.11b/g/n(2.4GHz)
- Up to 300Mbps wireless operation rate at 2.4GHz
- Up to 1733Mbps wireless operation rate at 5GHz
- 64/128 bits WEP supported for encryption
- Wireless security with WPA-PSK, WPA2-PSK, Mixed WPA/WAP2-PSK
- Multiple SSID (4 SSIDs), BSSID
- Wireless MAC filtering
- Wireless Client Isolation
- Wi-Fi Hotspot with Captive Portal

■ Quality of Service Control

- Traffic prioritization based-on IP protocol, port number, and IP address

■ USB Application Server

- Storage: FTP server and Samba server

■ Management

- Password protection for system management
- Quick Installation Wizard
- Web-based GUI for remote and local management
- Firmware upgrade and configuration data upload and download via web-based GUI
- TR-069(CWMP)¹, SNMP
- SNMP v1, v2, v3, MIB-I and MIB-II support
- Syslog monitoring
- Physical layer/protocol diagnostic test tool
- Scheduling Auto-Reboot

■ Hardware Specifications

Physical Interface

- Six (6) female RP-SMA connectors
- One (1) Optical SFP 1000BASE auto-sensing port
- Three (3) Gigabit Ethernet auto-crossover (MDI/MDI-X) ports
- Two (2) RJ-11 FXS telephone ports
- One (1) USB 2.0 host port
- Power On/Off Button
- Power Jack
- Reset Button
- Wireless On/Off and WPS Push Button
- LED Indicators

Physical Specifications

- Dimensions: 9.04"(W) x 6.10" (D4) x 1.27"(H) (229.5 mm x 155 mm x 32.24 mm)

Power Requirements

- Input: 15V DC, 2A

■ Operation Environment

- Operating temperature: 0 to 40°C (32 to 104°F)
- Storage temperature: - 20 to 70°C (- 4 to 158°F)
- Humidity: 20 ~ 95% non-condensing

Notes:

1. Only upon request for Telco/ ISP tender projects.
2. Specifications in this datasheet are subject to change without prior notice.

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