

# VEN501

## VIDEO BRIDGE SOLUTION



The Cisco® VEN501 Video Bridge Solution is a next-generation solution that is optimized to connect video devices wirelessly within the connected home. It lets customers place TVs and video devices almost anywhere in the home, in a way that complements their lifestyles and living environments.

The small shape and unique design of the Cisco VEN501 device (Figure 1) provides a stylish solution without pulling wires through walls or along floorboards, and saves significant operating expenses for service providers. The VEN501 can be used interchangeably as an access point or a client by toggling the switch on the rear panel of the unit. By pairing two VEN501 devices in the 5-GHz band, the video stream can pass between the two devices at a frequency minimally used by other devices.

**Figure 1.** Cisco VEN501 Video Bridge Solution



In an IPTV environment, the Cisco VEN501 as an access point can be deployed with one or more VEN501 devices as clients and used with existing set-top boxes (STBs). This quick, customer-friendly solution can be used where Ethernet or coaxial wiring is not available.

The Cisco VEN501 can also be deployed with Cisco Wi-Fi-enabled STBs, eliminating the need for the VEN501 as a client device. This further streamlines the installation and reduces the number of devices in the home.

The Cisco VEN501 Video Bridge Solution uses the Broadband Forum's remote management standards (TR-069 and TR-111). These specifications help service providers provision equipment, remotely manage network devices, and upgrade in-service software.

Cisco understands that security is fundamental for solid, carrier-grade service. These devices support secure methods for remote communication, provisioning, and servicing. When a service provider has to update configurations globally for mass deployments, provisioning with a secure profile saves time and expense.

To facilitate in-home customization and troubleshooting, the Cisco VEN501 Video Bridge Solution includes a web-based user interface. This interface allows customers to customize their Wi-Fi security and access other configurable features.

In addition, the LED status indicators on the device's front panel provide an informative and easy-to-understand display that indicates status and real-time data transmission activity. The LED indicators include:

- Signal strength indicator
- Power
- Wi-Fi/paired
- Ethernet link

## Features

- Enables 802.11n network connectivity between the customer's display devices (STBs, DVRs, and Digital Media Adapters [DMAs]) and the broadband residential gateway (RGW)
- Complies with IEEE 802.11n (5 GHz) standards
- Is optimized for use with Cisco Wi-Fi-enabled STBs
- Supports carrier-quality remote management through TR-069 and TR-111
- Provides interoperability through certification in the Wi-Fi Certified program
- Uses industrial-strength WPA2 wireless encryption to help ensure security
- Provides fast, simple, and secured setup with easy-to-use Wi-Fi Protected Setup
- Comes equipped with one 10/100BASE-T auto-crossover (MDI/MDI-X) port
- Works without drivers on devices based on Windows, Macintosh, or Linux platforms; to connect, it just needs an Ethernet port

Table 1 summarizes hardware features of the Cisco VEN501.

**Table 1.** Hardware Features

Feature	Description
Wi-Fi standard	IEEE 802.11n 5 GHz
Wi-Fi antenna	4 x 4 internal omnidirectional antennas
Ethernet interfaces	1 x 10/100BASE-T Ethernet

## Panel Overview

Figure 2 shows the front panel, and Table 2 describes front panel features. Figure 3 shows the back panel, and Table 3 lists back panel features.

**Figure 2.** Front Panel



**Table 2.** Front Panel

Feature	Description
<b>Controls</b>	WPS Wi-Fi Security
<b>Indicators</b>	Signal Strength Indicator, Power, Wi-Fi/Paired, and Ethernet Link
<b>WPS button</b>	Press this button to search for a WPS-supported wireless device. The Wi-Fi/Paired LED flashes orange while attempting pairing. When the devices are paired, the Wi-Fi/Paired LED starts blinking green to suggest Wi-Fi traffic. (Note: The LED changes from orange to solid green when paired, and then to blinking green to suggest Wi-Fi traffic, but the transition from green to blinking green happens so quickly that it isn't noticeable.)

**Figure 3.** Back Panel



**Table 3.** Back Panel

Feature	Description
<b>Power</b>	External 12-VDC power supply
<b>Controls</b>	Reset
<b>Connectors</b>	RJ-45 for 10/100BASE-T Ethernet
<b>Client/AP switch</b>	Switch to toggle between AP and client mode

## Product Specifications

Table 4 lists specifications for the Cisco VEN501. Table 5 lists accessories and installation requirements.

**Table 4.** Product Specifications

Feature	Description
<b>Interfaces</b>	
<b>Wi-Fi</b>	<ul style="list-style-type: none"> <li>• IEEE 802.11n 5-GHz only</li> <li>• 802.1x authentication</li> <li>• WPA and WPA2 protected access</li> <li>• 64- and 128-bit WEP encryption</li> <li>• AES and TKIP encryption</li> <li>• Wi-Fi multimedia support: WMM and WMM-PS</li> <li>• Multiple SSID profiles</li> <li>• Integrated MAC address filtering</li> <li>• WPS (pushbutton and PIN entry)</li> <li>• Modulations: OFDM/BPSK, QPSK, 16-QAM, 64-QAM</li> <li>• Supports 40-Mhz channel mode in 5-GHz frequency range</li> </ul>

Feature	Description
<b>Networking</b>	
<b>Bridging</b>	<ul style="list-style-type: none"> <li>• Transparent bridging between LAN devices</li> <li>• VLAN bridging: 802.1p, 802.1q</li> <li>• MAC address filtering</li> <li>• IGMPv3 snooping</li> <li>• IP multicast forwarding</li> <li>• DHCP client</li> </ul>
<b>Quality of service (QoS)</b>	<ul style="list-style-type: none"> <li>• IEEE 802.1p - Priority Bits</li> <li>• IEEE 802.1q - VLAN Tagging</li> <li>• 802.11e wireless QoS</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>• DSL Forum TR-069 plus TR-111 remote management</li> <li>• Supports TR-098 data model and Cisco extension</li> <li>• Integrated gateway-based diagnostics</li> <li>• DNS/IP ping and traceroute</li> <li>• Web-based configuration and diagnostics</li> <li>• Statistics reporting</li> </ul>
<b>Bridging</b>	<ul style="list-style-type: none"> <li>• IPv6, UDP, TCP</li> <li>• Port forwarding</li> </ul>
<b>Security</b>	<ul style="list-style-type: none"> <li>• WPA, WPA2, and MAC filtering security features</li> <li>• MAC filtering blacklist</li> </ul>
<b>Device Characteristics</b>	
<b>Power</b>	US and Canada 120V 60 Hz; Europe 220V 50 Hz; 12 VDC, 1 A output
<b>Mounting</b>	Desktop
<b>Dimensions (H x W x D)</b>	6.67 in. x 4.33 in. x 2.17 in. (169.5 mm x 110 mm x 55 mm)
<b>Weight</b>	8.01 oz (227 g)
<b>Safety and Emissions</b>	
<b>Certification</b>	As required per country where the product will be used
<b>Operating Conditions</b>	
<b>Operating temperature</b>	32° to 104° F (0° to 40° C)
<b>Storage temperature</b>	-4° to 140° F (-20° to 60° C)
<b>Operating humidity</b>	10 to 90% noncondensing
<b>Storage humidity</b>	10 to 90% noncondensing

**Table 5.** Accessories and Installation Requirements

Item	Description
<b>In carton</b>	Video Bridge Access Point (connects to a residential gateway device or an STB, DVR, etc.); includes: <ul style="list-style-type: none"> <li>• 1 power adaptor</li> <li>• 1 Ethernet network cable</li> <li>• Quick Install Guide</li> </ul>
<b>Minimum installation requirements</b>	<ul style="list-style-type: none"> <li>• Residential gateway device with a spare Ethernet port</li> <li>• STB with an open Ethernet port</li> </ul>


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## Disclaimer

The maximum performance for wireless is derived from IEEE Standard 802.11 specifications. Actual performance can vary, including lower wireless network capacity, data throughput rate, range and coverage. Performance depends on many factors, conditions and variables, including distance from the access point, volume of network traffic, building materials and construction, operating system used, mix of wireless products used, interference, and other adverse conditions.

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