
HP ProCurve
RSVLC-0501

Installation and Getting Started Guide

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Publication Number

J8986A-90001
January 2006

Applicable Products

HP RSVLC-0501 NA	(J8986A)
HP RSVLC-0501 WW	(J8987A)

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Before installing and operating these products, please read the "Installation Precautions" in chapter 2, "Installing the Access Point RSVLC-0501", and the safety statements in appendix C, "Safety and Regulatory Statements".

Contents

1 Introducing the HP ProCurve RSVLC-0501

Top of the Access Point	1-3
LEDs	1-4
Back of the Access Point	1-5
Back Panel Covers	1-5
Antennas	1-5
Console Port	1-6
Network Port	1-6
Power Connector	1-6
Reset Button	1-7
Clear Button	1-8
Auxiliary Port	1-8
Access Point Features	1-9

2 Installing the RSVLC-0501

Included Parts	2-1
Installation Procedures	2-2
Summary	2-2
Installation Precautions:	2-3
1. Prepare the Installation Site	2-4
2. Verify the Access Point Passes the Self Test	2-5
LED Behavior:	2-6
3. Mount the Access Point	2-7
Wall Mounting	2-7
Suspended Ceiling Mounting	2-9
Horizontal Surface Mounting	2-11
4. Connect the Access Point to a Power Source	2-11
5. Connect the Network Cable	2-12
Using the RJ-45 Connectors	2-12
6. (Optional) Connect External Antennas to the Access Point	2-12

7. (Optional) Connect a Console to the RSVLC-0501	2-13
Terminal Configuration	2-13
Direct Console Access	2-14
Sample Network Topologies	2-16
Ad Hoc Wireless LAN (no access point)	2-16
Infrastructure Wireless LAN	2-17
Infrastructure Wireless LAN for Roaming Wireless PCs	2-18
3 Getting Started With Access Point Configuration	
Recommended Minimal Configuration	3-1
Using the Command Line Interface	3-2
To Set the Manager User Name and Password	3-2
To Set the Access Point's IP Address	3-3
To Set the Access Point's Country Code	3-4
To Configure Radio Settings	3-4
Where to Go From Here	3-7
Using the IP Address for Remote Access Point Management	3-8
Starting a Telnet Session	3-8
Starting an SSH Session	3-9
Starting a Web Browser Session	3-9
4 Using an External Antenna with the RSVLC-0501	
External Antenna Options	4-2
Installation Procedures	4-3
1. Plan the Installation	4-3
2. Mount the Antenna	4-4
3. Connect Pigtail Cables to the Access Point	4-4
4. Configure the Antenna Mode and Type	4-6
Setting the Antenna Mode and Type Using the CLI	4-6
Setting the Antenna Mode and Type Using the Web Interface ...	4-6

5 Troubleshooting

Basic Troubleshooting Tips	5-1
Diagnosing with the LEDs	5-3
Proactive Networking	5-5
Hardware Diagnostic Tests	5-6
Testing the Access Point by Resetting It	5-6
Checking the Access Point's LEDs	5-6
Checking Event Messages	5-6
Testing Twisted-Pair Cabling	5-7
Testing Access Point-to-Device Network Communications	5-7
Testing End-to-End Network Communications	5-7
Restoring Custom and Factory Default Configurations	5-8
Downloading New Access Point Software	5-10
HP Customer Support Services	5-10
Before Calling Support	5-10

A Specifications

Physical	A-1
Electrical	A-1
Environmental	A-1
Connectors	A-2
Safety	A-2
EMC Compliance (Class B)	A-2
Radio Signal Certification	A-2
Immunity	A-2
Wireless	A-3
Receiver Sensitivity	A-4

B Access Point Port and Network Cables

Access Point Ports	B-1
Twisted-Pair Cables	B-1

Twisted-Pair Cable/Connector Pin-Outs	B-2
Straight-Through Twisted-Pair Cable for 10 Mbps or 100 Mbps Network Connections	B-3
Cable Diagram	B-3
Pin Assignments	B-3
Crossover Twisted-Pair Cable for 10 Mbps or 100 Mbps Network Connection	B-4
Cable Diagram	B-4
Pin Assignments	B-4

C Safety and EMC Regulatory Statements

Safety Information	C-1
EMC Regulatory Statements	C-9

D Recycle Statements

Waste Electrical and Electronic Equipment (WEEE) Statements	D-1
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Index

Introducing the HP ProCurve RSVLC-0501

The HP ProCurve RSVLC-0501 is an enterprise-class, dual-radio 802.11b/g and 802.11a/b/g access point that offers maximum flexibility in deployment and optimum throughput for high-density usage areas.

The access point provides comprehensive security and management features and is capable of supporting all types of wireless clients in the same coverage area. The unit includes internal diversity antennas for both radios and also connectors for attaching a variety of external antenna options. Mounting options for the unit include horizontal surface, wall, suspended ceiling Trail, and plenum space.

HP ProCurve RSVLC-0501 NA (J8986A)
HP ProCurve RSVLC-0501 WW (J8987A)



Throughout this manual, this access point will be abbreviated as the RSVLC-0501.

The RSVLC-0501 has one 10/100Base-TX RJ-45 port. This port also supports Power over Ethernet (PoE) based on the IEEE 802.3af standard. The access point supports wireless connectivity at speeds up to 54 Mbps based on the IEEE 802.11g and IEEE 802.11a standards.

Introducing the HP ProCurve RSVLC-0501

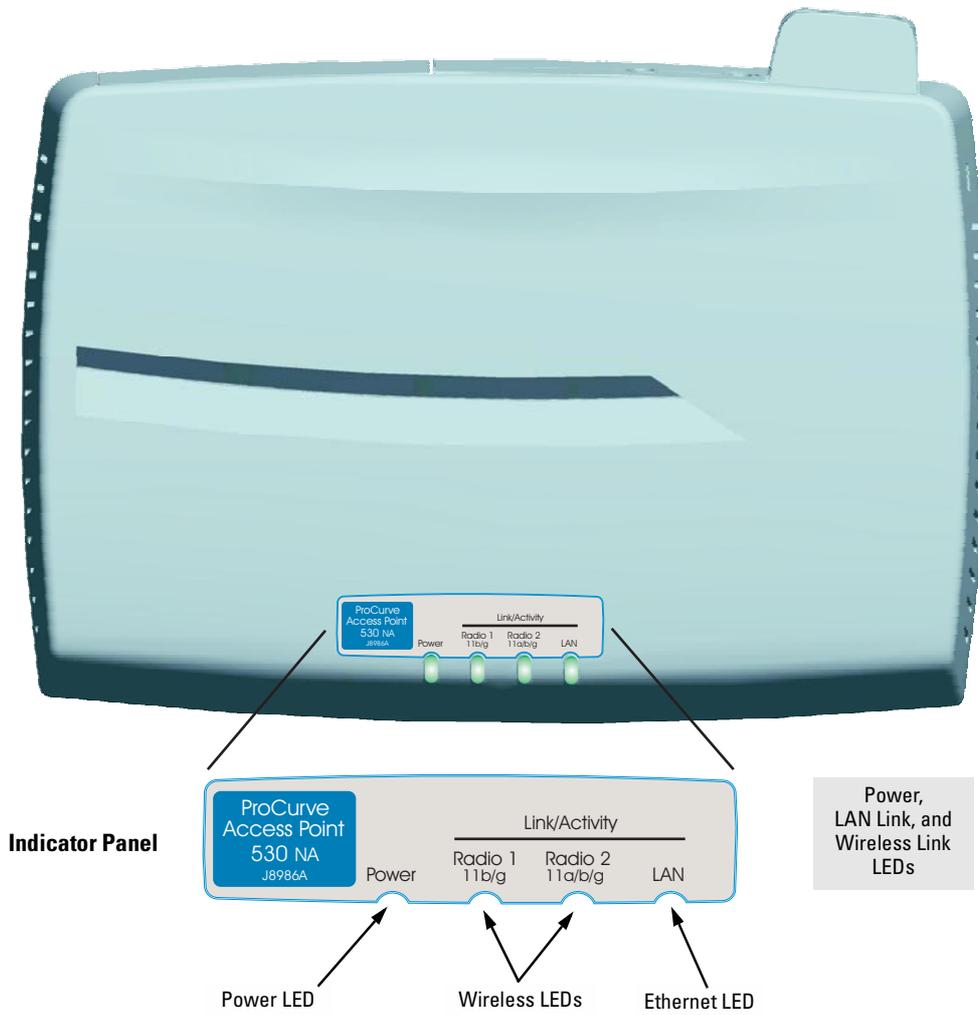
This access point is designed to be used primarily for connecting wireless clients to an enterprise network. This access point allows wireless clients to connect directly to each other, or to connect to other computers or network resources located on the wired network.

This chapter describes your HP RSVLC-0501 including:

- Top and back of the access point
- Access point features

Top of the Access Point

HP ProCurve RSVLC-0501



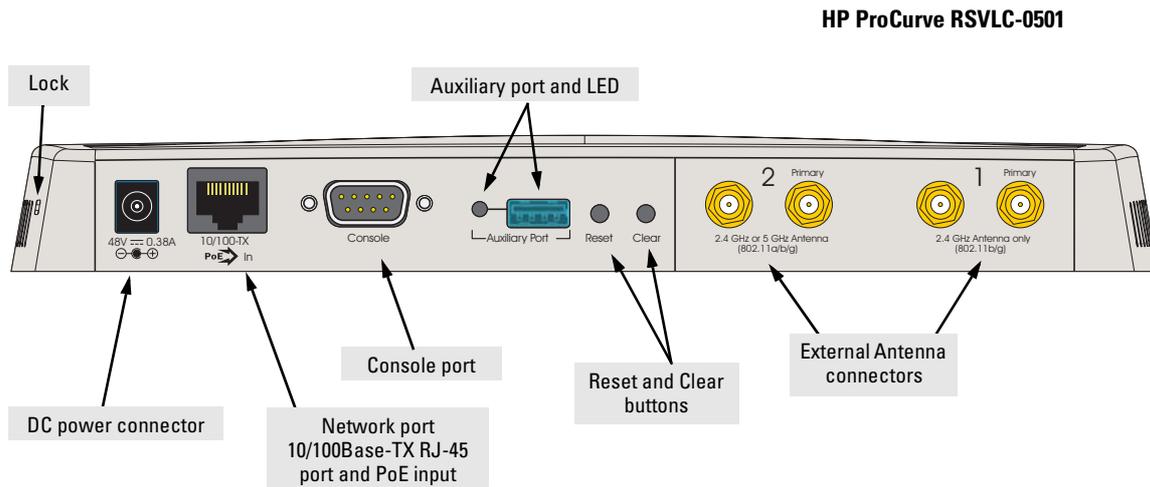
Introducing the HP ProCurve RSVLC-0501
Top of the Access Point

LEDs

Table 1-1. Access Point LEDs

Access Point LEDs	State	Meaning
Power	On (green)	The access point is receiving power.
	Off	The access point is NOT receiving power.
	Blinking* (green)	The access point is undergoing self test or downloading software. The self test and initialization are in progress after you have power cycled or reset the access point. The access point is not operational until this LED stops blinking.
	On (amber)	A system component of the access point has failed.
	Blinking* (amber)	A hardware component of the access point has failed.
LAN (green)	Off	The RJ-45 port has no active network cable connected, or is not receiving a signal. Otherwise, the port may have been disabled through the access point console, or the Web browser interface.
	Blinking or On	The RJ-45 port has a link indication from a 10 Mbps or 100 Mbps device and is transmitting or receiving traffic. The LED blinking rate is proportional to the traffic rate. If there is no traffic, the blinking rate will be once every five seconds. As the traffic rate increases, the blinking rate also increases until the LED is solid on, which indicates there no available bandwidth on the port.
Radio 1 (11b/g) Radio 2 (11a/b/g) (green)	Off	The wireless interface is disabled, either through the access point console or the Web browser interface.
	Blinking or On	The wireless interface is enabled and transmitting or receiving traffic. The LED blinking rate is proportional to the traffic rate. If there is no traffic, the blinking rate will be once every five seconds. As the traffic rate increases, the blinking rate also increases until the LED is solid on, which indicates there no available bandwidth on the interface.
* The blinking behavior is an on/off cycle once every 1.6 seconds, approximately.		

Back of the Access Point



Back Panel Covers

The access point's ports and connectors on the back of the unit are protected by two removable plastic covers. One covers the Console port, Clear and Reset buttons, RJ-45 port, and DC power connector, while allowing twisted-pair and power cables to pass through. The other cover protects the external antenna connectors when they are not in use.

Antennas

The access point includes internal diversity antennas for wireless communications. A diversity antenna system uses two identical antennas to receive and transmit signals, helping to avoid multipath fading effects. When receiving, the access point checks both antennas and selects the one with the strongest signal. When transmitting, it will continue to use the antenna previously selected for receiving. The access point never transmits from both antennas at the same time.

Introducing the HP ProCurve RSVLC-0501

Back of the Access Point

The access point also supports connectors for various external antenna options that offer extended radio range and specific radio coverage patterns. For further information, see chapter 4, “Using an External Antenna with the RSVLC-0501”.

Lock

The access point includes a Kensington security slot on the side panel, marked with the lock symbol (). You can prevent unauthorized removal of the access point by wrapping the Kensington security cable (not provided) around an unmovable object, inserting the lock into the slot, and turning the key.

Console Port

This port connects a console to the access point using a serial cable. This connection is described under “Connect a Console to the Access Point” in chapter 2, “Installing the RSVLC-0501”. The console can be a PC or workstation running a VT-100 terminal emulator, or a VT-100 terminal.

Network Port

The access point includes one 10/100Base-TX port. This port uses the “HP Auto MDIX” feature, which means that you can use either straight-through or crossover twisted-pair cables to connect the access point to a switch or workstation.

Refer to the following section for information on supplying power to the access point through its RJ-45 port from a network device, such as a switch, that provides Power over Ethernet (PoE).

Power Connector

The RSVLC-0501 does not have a power switch; it is powered on when connected to the AC power adapter, and the power adapter is connected to an active AC power source. The access point's power adapter automatically adjusts to any voltage between 100–240 volts and either 50 or 60 Hz. There are no voltage range settings required.

Caution

Use only the AC power adapter supplied with the access point. Use of other adapters, including adapters that came with other HP network products, may result in damage to the equipment.

The access point may also receive Power over Ethernet (PoE) from a switch or other network device that supplies power over the network cable based on the IEEE 802.3af standard.

Note that if the access point is connected to a PoE source device and also connected to a local power source through the AC power adapter, PoE will be disabled.

Reset Button

This button is used to reset the hardware or restore the factory defaults:

- **To Reset the Access Point While it is Powered On** – When the Reset button is pressed for about one second all the LEDs turn off, then after another second the LEDs start to blink rapidly. Releasing the button when the LEDs are blining rapidly clears any temporary error conditions that may have occurred and executes the access point self test.
- **To Restore Custom Default Configuration** – When pressed with the Clear button in a specific pattern, any configuration changes you may have made through the access point console or the Web browser interface are removed, and the customer-specified default configuration is restored to the access point. For the specific method to restore the customer default configuration, see “Restoring Custom and Factory Default Configurations” in chapter 5, “Troubleshooting” of this guide.
- **To Restore Factory Default Configuration** – When pressed with the Clear button in a specific pattern, any configuration changes you may have made through the access point console or the web browser interface are removed, and the factory default configuration is restored to the access point. For the specific method to restore the factory default configuration, see “Restoring Custom and Factory Default Configurations” in chapter 5, “Troubleshooting” of this guide.

Note

The system, password, custom default, and factory default reset functions can be disabled by the access point’s software. For more information, see the *Management and Configuration Guide*, which is on the Documentation CD-ROM that came with your access point.

Introducing the HP ProCurve RSVLC-0501

Back of the Access Point

Clear Button

This button is used for these purposes:

- **Deleting Passwords** - When pressed by itself for at least one second, the button deletes any access point console access passwords that you may have configured. Use this feature if you have misplaced the password and need console access.
- **To Restore Custom Default Configuration** – When pressed with the Reset button in a specific pattern, any configuration changes you may have made through the access point console or the Web browser interface are removed, and the customer-specified default configuration is restored to the access point. For the specific method to restore the customer default configuration, see “Restoring Custom and Factory Default Configurations” in chapter 5, “Troubleshooting” of this guide.
- **Restoring Factory Default Configuration** - When pressed with the Reset button in a specific pattern, any configuration changes you may have made through the console, the Web browser interface, and SNMP management are removed, and the factory default configuration is restored to the access point. For the specific method to restore the factory default configuration, see “Restoring Custom and Factory Default Configurations” in chapter 5, “Troubleshooting” of this guide.

Auxiliary Port

The Auxiliary port is reserved for future use.

Access Point Features

The wireless features of the RSVLC-0501 include:

- dual-radio design with IEEE 802.11b/g and IEEE 802.11a/b/g radios
- supports up to 16 Service Set Identifier (SSID) interfaces per radio interface
- security and VLAN settings per SSID interface
- supports up to 256 wireless clients per radio interface
- IEEE 802.11a/b/g Compliant – interoperable with multiple vendors
- precise control over signal transmission power and data rate
- advanced security through 64/128/152-bit WEP encryption, Wi-Fi Protected Access (WPA and WPA2), IEEE 802.1X, remote authentication via a RADIUS server, and MAC address filtering features to protect your sensitive data and authenticate only authorized users to your network
- remote logging of system messages
- time synchronization via SNTP server for message logs
- wireless bridging between access points
- neighbor access point detection
- Quality of Service (QoS) support through Wi-Fi Multimedia (WMM) and Spectralink Voice Priority
- auto channel selection – simplifies deployment by testing all available channels and selecting the best channel based on signal-to-noise ratio
- international country configuration – select the appropriate country and the access point automatically configures radio operation to match regulatory requirements (model J8987A only)

The other basic features of the RSVLC-0501 include:

- one 10/100Base-TX RJ-45 port
- supports Power over Ethernet based on the IEEE 802.3af standard
- full-duplex operation for the 10/100 RJ-45 port
- easy management of the access point through several available interfaces:
 - **console interface**—a full featured, easy to use, VT-100 terminal interface that is especially good for out-of-band access point management and for Telnet or Secure Shell access to the access point
 - **Web browser interface**—an easy to use built-in graphical interface that can be accessed from common Web browsers (includes support for secure HTTP connections)

Introducing the HP ProCurve RSVLC-0501 Access Point Features

- **SNMP**—a network management application such as HP ProCurve Manager can manage the access point via the Simple Network Management Protocol (SNMP) from a network management station (supports SNMP versions 1, 2c, and 3)
 - support for group-based access point configuration
 - support for IEEE 802.1Q-compliant VLANs (as specified for each client in the RADIUS server) so that wireless clients can join the appropriate logical grouping for the network user's needs
 - RADIUS Accounting for logging user activity on the network
 - support for many advanced features to enhance network performance—for a description, see the *Management and Configuration Guide*, which is on the Documentation CD-ROM that is included with your access point.
 - download of new access point software for product enhancements or software updates
 - upload and download of access point configuration files

Installing the RSVLC-0501

The HP RSVLC-0501 is easy to install. It comes with an accessory kit that includes a bracket for mounting the access point on a wall or to a suspended ceiling T-rail. The bracket is designed to allow mounting the access point in a variety of locations and orientations.

This chapter shows you how to install your RSVLC-0501.

Included Parts

The RSVLC-0501 has the following components shipped with it:

- *HP ProCurve RSVLC-0501 Installation and Getting Started Guide* (J8986A-90001), this manual
- *HP ProCurve Product Documentation CD-ROM* (contains PDF file copies of the documentation for the RSVLC-0501, including the *Management and Configuration Guide*)
- Customer Support/Warranty booklet
- Accessory kit (5069-5700)
 - four 5/8-inch number 12 wood screws to attach the access point to a wall
 - four plastic wall plugs for mounting on a brick or concrete wall
 - four rubber feet
- Mounting bracket (5092-0711)
- AC power adapter (5092-0728)
- AC power cord, one of the following:

United States/Canada/Mexico	8120-0740
Continental Europe	8121-0731
United Kingdom/Hong Kong/Singapore	8121-0739
Australia/New Zealand	8121-0730
Japan	8121-0736
China	8121-0742
Denmark	8121-0733
Switzerland	8121-0738

Installation Procedures

Summary

Follow these easy steps to install your access point. The rest of this chapter provides details on these steps.

1. **Prepare the installation site (page 2-4).** Make sure that the physical environment into which you will be installing the access point is properly prepared, including having the correct network cabling ready to connect to the access point and having an appropriate location for the access point. *Please see page 2-2 for some installation precautions.*
2. **Verify that the access point passes self test (page 2-5).** This is a simple process of plugging the access point into a power source, or connecting it to a switch that provides Power over Ethernet, and observing that the LEDs on the access point's top panel indicate correct access point operation.
3. **Mount the access point (page 2-7).** The RSVLC-0501 can be mounted on a wall, on a suspended ceiling T-rail, or on a horizontal surface.
4. **Connect power to the access point (page 2-11).** Once the access point is mounted, plug it into a nearby main power source, or connect it to a switch that provides Power over Ethernet.
5. **Connect to the network (page 2-12).** Using the appropriate network cable, connect the access point to a network connection point, such as a switch. The network connection can also be used to provide power to the access point through its PoE feature.
6. **Connect a console to the access point (optional—page 2-13).** You may wish to modify the access point's configuration, for example, to configure an IP address so it can be managed using a web browser or through a Telnet session. Configuration changes can be made easily by using a console cable to connect a PC to the access point's console port.

At this point, your access point is fully installed. See the rest of this chapter if you need more detailed information on any of these installation steps.

Installation Precautions:

Follow these precautions when installing your HP RSVLC-0501:

Cautions

- Make sure that the power source circuits are properly grounded, then use the power adapter supplied with the access point to connect it to the power source.
 - You can alternatively power the access point through a network connection to a switch or other network connection device that provides Power over Ethernet. However, note that if the access point is connected to a power source using its AC power adapter, Power over Ethernet is disabled.
 - Use only the AC power adapter supplied with the access point. Use of other adapters, including adapters that came with other HP network products, may result in damage to the equipment.
 - When using the access point's AC power adapter, note that the AC outlet should be near the access point and should be easily accessible in case the access point must be powered off.
 - Ensure that the access point does not overload the power circuits, wiring, and over-current protection. To determine the possibility of overloading the supply circuits, add together the ampere ratings of all devices installed on the same circuit as the access point and compare the total with the rating limit for the circuit. The maximum ampere ratings are usually printed on devices near the AC power connectors.
 - Do not install the access point in an environment where the operating ambient temperature might exceed 50° C (122° F).
 - Make sure the air flow around the sides of the access point is not restricted.
-

1. Prepare the Installation Site

- **Cabling Infrastructure** - Ensure that the cabling infrastructure meets the necessary network specifications. See the following table for cable types and lengths, and see appendix B, “Access Point Port and Network Cables” for more information.

Table 2-1. Summary of Cable Types to Use With the Access Point

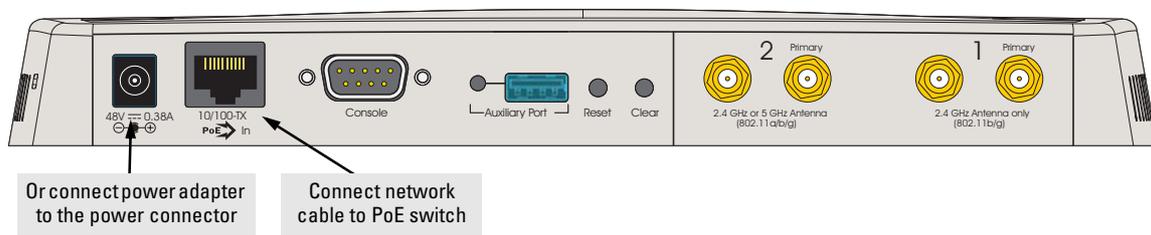
Port Type	Cable Type	Length Limits
Twisted-Pair Cables		
10/100Base-TX	<ul style="list-style-type: none"> • 10 Mbps operation: Category 3, 4, or 5, 100-ohm unshielded twisted-pair (UTP) • 100 Mbps operation: Category 5, 100-ohm UTP or shielded twisted-pair (STP) cable. 	<p>100 meters</p> <p>Note: Since the 10Base-T operation is through the 10/100Base-TX port on the access point, if you ever want to upgrade the ports on other devices to 100Base-TX, it would be best to cable the 10/100Base-TX port on the access point initially with category 5 cable.</p> <p>The 10/100-Base-TX port on the RSVLC-0501 uses the “HP Auto MDIX” feature, which means that you can use either straight-through or crossover twisted-pair cables to connect the access point to a switch or workstation.</p>

- **Installation Location** - Before installing the access point, plan its location and orientation relative to other devices and equipment:
 - Try to place the access point in the center of your wireless network. Normally, the higher you place the antennas, the better the performance. You may need to reposition the access point after testing the signal strength on several wireless clients to ensure that the access point’s location provides optimal reception throughout the service area.
 - At the back of the access point, leave at least 7.6 cm (3 inches) of space for the twisted-pair cabling and the power cord.
 - On the sides of the access point, leave at least 7.6 cm (3 inches) for cooling.

2. Verify the Access Point Passes the Self Test

Before mounting the access point in its network location, you should first verify that it is working properly by plugging it into a power source, or connecting it to a switch that provides Power over Ethernet, and verifying that it passes its self test.

1. Connect a network cable from a PoE source device (such as a switch) to the RJ-45 port on the back of the access point, or connect the supplied power adapter to the power connector on the back of the access point, and then into a properly grounded electrical outlet.



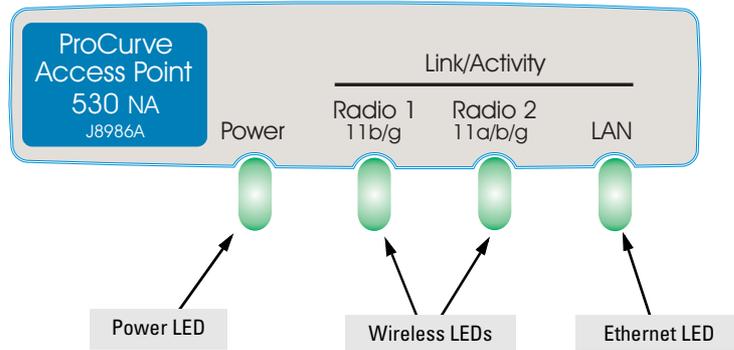
Note

The RSVLC-0501 does not have a power switch. It is powered on when the power adapter is connected to the access point and to a power source, or when a network cable is connected to the access point and to a network device that provides Power over Ethernet. For safety, when connecting to an electrical outlet, the power outlet should be located near the access point.

Use only the AC power adapter supplied with the access point. Use of other adapters, including adapters that came with other HP network products, may result in damage to the equipment.

Installing the RSVLC-0501
Installation Procedures

2. Check the LEDs on the access point as described below.



When the access point is powered on, it performs its diagnostic self test. The self test takes approximately 50 seconds to complete.

LED Behavior:

During the self test:

- The Power, LAN, Radio 1, and Radio 2 LEDs turn on and off several times during phases of the self test.

When the self test completes successfully:

- The **Power** LED remains on green.
- The **LAN** and **Radio** LEDs on the top of the access point go into their normal operational mode:
 - If the ports are connected to active network devices, the LEDs should be blinking.
 - If the ports are not connected to active network devices, the LEDs stay off.

If the LED display is different than what is described above, especially if the **Power** LED does not stop blinking or turns on amber, the self test has not completed correctly. Refer to chapter 5, “Troubleshooting” for diagnostic help.

3. Mount the Access Point

After you have verified that the access point passes the self test, you are ready to mount the access point in a stable location. The RSVLC-0501 can be mounted in these ways:

- on a wall
- on a suspended ceiling T-rail
- on a horizontal surface

Wall Mounting

You can mount the access point on a wall as shown in the illustrations on the next page.

Caution

The access point should be mounted only to a wall or wood surface that is at least 1/2-inch plywood or its equivalent.

1. Position the mounting bracket on the wall, and mark the holes. The orientation shown in the following figure is the most secure position for mounting the access point. Do not mount the access point with its ports and connectors pointing down.
2. To mount the access point on a plastered brick or concrete wall, first drill four holes 22 mm deep and 3.5 mm in diameter, and press the four included wall plugs firmly into the drilled holes until they are flush with the surface of the wall.
3. Position the mounting bracket over the drilled holes, then insert the four 5/8-inch number 12 wood screws in the holes and tighten down the screws.
4. There are four recess slots on the bottom of the access point that match up with four protrusions on the mounting bracket, as shown in the following figures.

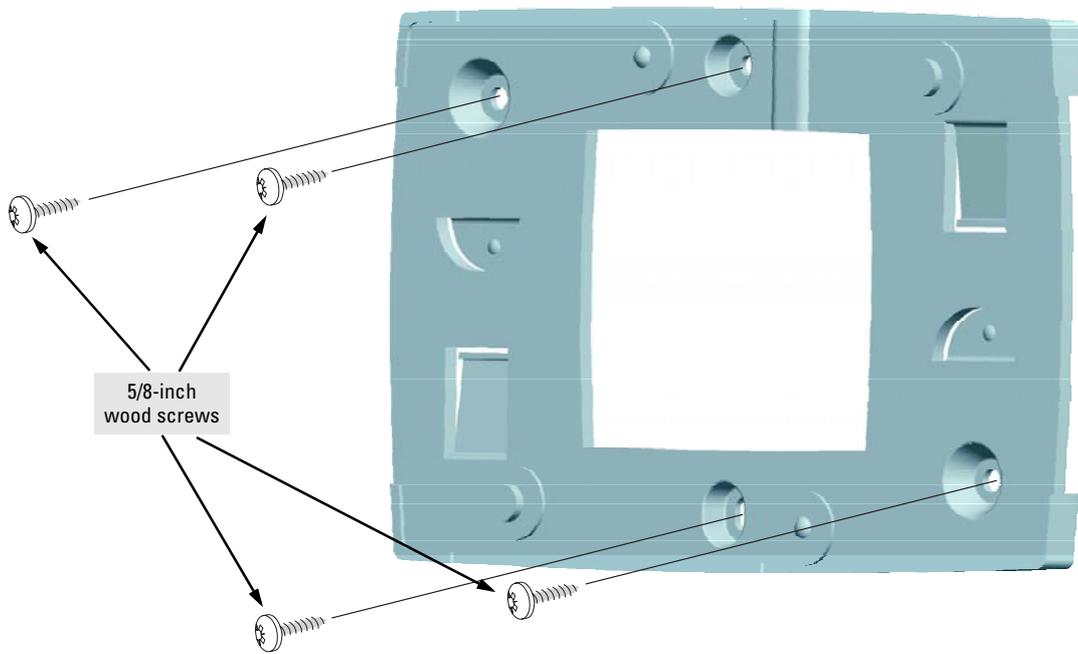
Slide the access point down onto the bracket so that the four protrusions on the bracket enter the four recess slots on the bottom of the access point. Push the access point firmly down onto the bracket until clicks into a locked position.

5. To prevent unauthorized removal of the access point, you can use a Kensington Slim MicroSaver security cable (not included) to attach the access point to an immovable object.

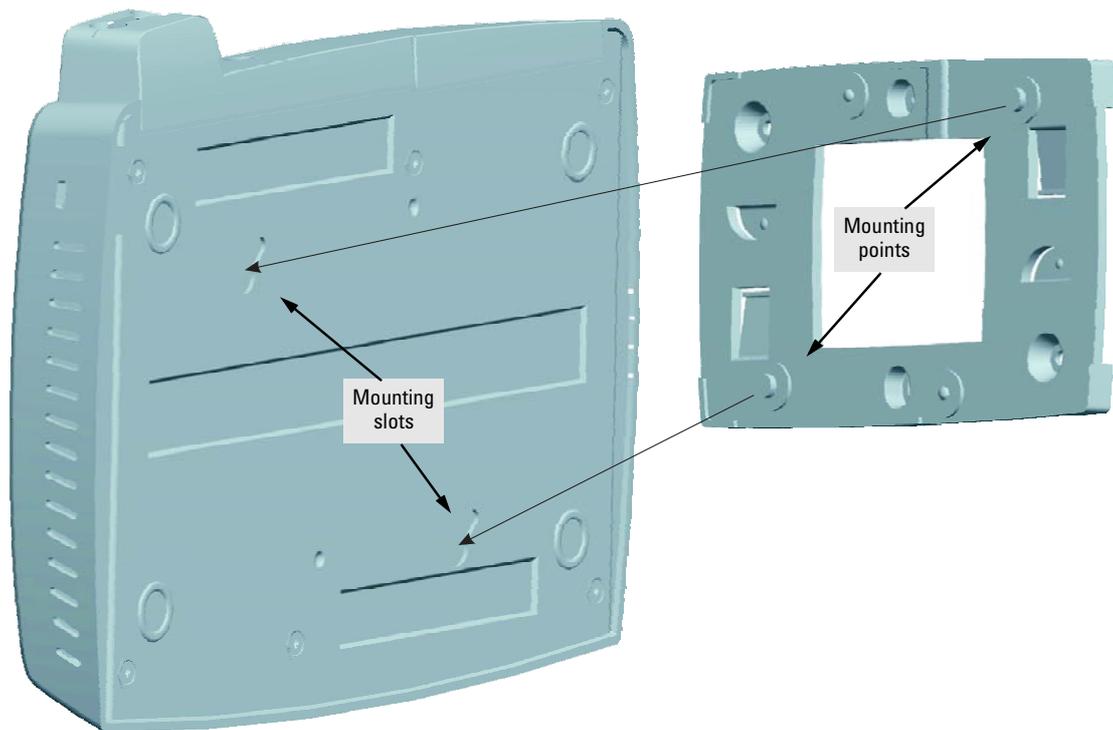
Installing the RSVLC-0501
Installation Procedures

Mounting the Bracket on a Wall

Installing the RSVLC-0501



Sliding the Access Point onto the Bracket



Suspended Ceiling Mounting

You can mount the access point on a suspended ceiling T-rail as shown in the illustrations on the next page.

1. Attach the access point to its mounting bracket by sliding the unit down onto the bracket so that the four protrusions on the bracket enter the four recess slots on the bottom of the access point. Push the access point firmly down onto the bracket until clicks into a locked position.
2. Position the access point with its mounting bracket at a slight angle to the suspended ceiling T-rail.
3. Push the access point firmly onto the T-rail, then turn anticlockwise until the rail snaps into the clips on the access point's basket.