



The MSM320 is a Wi-Fi Alliance authorized Wi-Fi CERTIFIED 802.11a/b/g product. The Wi-Fi CERTIFIED Logo is a certification mark of the Wi-Fi Alliance. The MSM320 is certified under the SpectraLink Voice Interoperability for Enterprise Wireless (VIEW) Certification Program when it operates in autonomous mode or in controlled mode in conjunction with an MSM7xx Controller.

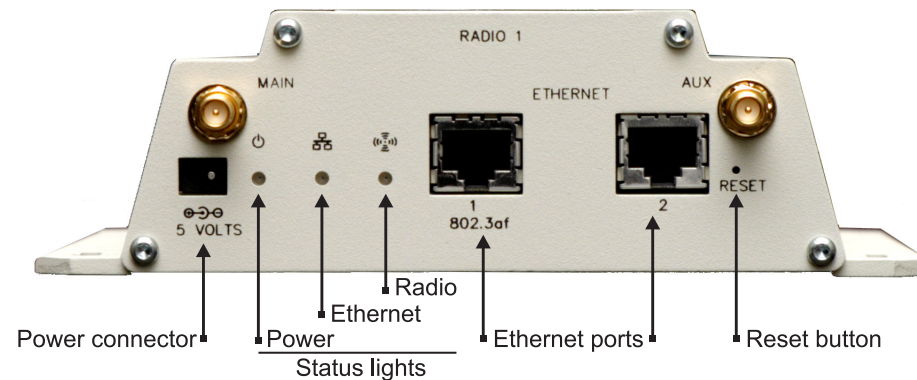


MSM320 Access Point Quickstart

This Quickstart shows you how to get started using the MSM320 Access Point (US J9360A/B, WW J9364A/B). This Quickstart also applies to the MSM325 (US J9369A/B, WW J9373A/B) Access Point with integrated sensor.

After reading this Quickstart, you can visit www.hp.com/go/procurve/manuals and download documents of particular interest such as the *MSM3xx / MSM4xx Access Points Management and Configuration Guide* and the *MSM7xx Controllers Management and Configuration Guide*. For information on the Integrated Sensor, see the RF Manager documentation.

Hardware overview



Package contents

MSM320, documentation, four 2.4-GHz (2-dBi) / 5-GHz (2-dBi) dual-mode omnidirectional antennas.

Reset button

Press and quickly release the button to reset the MSM320. To reset to factory default settings, press and hold the reset button until the status lights flash three times, then release. For details, see *Resetting to factory defaults* in the *MSM3xx / MSM4xx Access Points Management and Configuration Guide*.

Note: To reconnect to the management tool after a factory reset, your computer must be connected to Ethernet Port 1.

Radios and antennas

The MSM320 has two radios, each with two antennas for diversity.

The antenna connectors are reverse-polarity SMA jacks. Antennas or cable connectors must use RP-SMA plugs. Antennas can be mounted directly on the MSM320. When a single antenna is used, it is recommended to connect it to the Main antenna connector.

Optional external antennas are available from HP ProCurve. On the HP ProCurve Website, see the *Accessories* section for the MSM320.

Ethernet ports

The MSM320 has two 10/100 Mbps Ethernet ports with RJ-45 connectors. Port 1 supports Power over Ethernet (PoE) 802.3af. In controlled mode, Port 1 should be used. In autonomous mode, Port 1 or Port 2 can be used.

About controlled mode and autonomous mode

The MSM320 can operate in one of two modes: controlled (the default) or autonomous. Switching modes resets all configuration settings to factory defaults.

- **Controlled mode:** To become operational, the MSM320 must establish a management tunnel with an MSM7xx Controller via Ethernet Port 1 (do not use Port 2 in controlled mode). The controller manages the MSM320 and provides all configuration settings. Discovery of the service controller is automatic if default settings are used on the MSM320 and the controller, and both devices are on the same subnet. See *Working with controlled APs* in the *MSM7xx Controllers Management and Configuration Guide*.
- **Autonomous mode:** Once switched to autonomous mode, the MSM320 operates as a stand-alone AP. An autonomous MSM320 is configured and managed via its web-based management tool as described in *Initial configuration (autonomous mode)* on page 3.

Status light behavior in controlled mode

During startup/discovery in controlled mode, the MSM320 status lights provide the following information:

Status light behavior	Description
Power light blinks once every two seconds.	The MSM320 is starting up.
Power light blinks once per second.	The MSM320 is looking for an IP address, or building the list of VLANs on which to perform discovery. The management tool is available until discovery occurs.
Power light, Ethernet light, and Radio light blink in sequence from left to right.	The MSM320 has obtained an IP address and is attempting to discover a controller.
Power light is on. Radio and Ethernet lights blink alternately until the secure management tunnel is established.	The MSM320 has found a controller and is attempting to establish a secure management tunnel with it.
Power light and Radio light blink alternately and quickly. Ethernet light is off.	The MSM320 has received a discovery reply from two or more controllers with the same priority setting. The MSM320 is unable to connect with either controller until the priority conflict is resolved.
Power light and Radio light blink slowly.	The MSM320 is attempting to establish a local mesh link to a master node.
Power light and Ethernet light blink slowly.	The MSM320 is attempting to establish wired connectivity.

Once the discovery process is complete, and the MSM320 has established a secure management tunnel to a controller, the Power light remains on and the Ethernet and Radio lights blink to indicate the presence of traffic.

Status light behavior in autonomous mode

In autonomous mode, the status lights provide the following information:

Light	State	Description
Power	Off	The MSM320 has no power.
	Blinking	The MSM320 is starting up. If the Power light continues to blink after several minutes, it indicates that the software failed to load. Reset or power cycle the MSM320. If this condition persists, contact HP ProCurve Customer Care.
	On	The MSM320 is fully operational.
Ethernet	Off	The port is not connected or there is no activity.
	Blinking	The port is transmitting or receiving data.
Radio	Blinking	Either or both radios are transmitting or receiving data.

Important information to read before installing

Warning: PROFESSIONAL INSTALLATION REQUIRED. For indoor installation only.

Prior to installing or using the MSM320, consult with a professional installer trained in RF installation and knowledgeable in local regulations including building and wiring codes, safety, channel, power, indoor/outdoor restrictions, and license requirements for the intended country. It is the responsibility of the end user to ensure that installation and use comply with local safety and radio regulations.

Surge protection and grounding: If you plan on connecting an outdoor antenna to the MSM320, make sure that proper lightning surge protection and grounding precautions are taken according to local electrical code. Failure to do so may result in personal injury, fire, equipment damage, or a voided warranty. The HP ProCurve hardware warranty provides no protection against damage caused by static discharge or a lightning strike.

Cabling: You must use the appropriate cables, and where applicable, surge protection, for your given region. For compliance with EN55022 Class-B emissions requirements, use shielded Ethernet cables.

Plenum installation: The MSM320 can be installed in a plenum (UL2043 rating). It should be installed in a similar orientation as in a ceiling installation. However, it is left to a qualified installer to determine how to install/secure the MSM320 in a plenum in an appropriate and safe manner. Plenum-rated cables and attachment hardware must be used.

Country of use: In some regions, you are prompted to select the country of use during setup. Once the country has been set, the MSM320 will automatically limit the available wireless channels, ensuring compliant operation in the selected country. Entering the incorrect country may result in illegal operation and may cause harmful interference to other systems. See *Regulatory Notice for European Union and EFTA member countries* on page 5.

Caution: **External Antennas:** When using an external antenna, depending on the country of use, the antenna selected, and your radio settings, it may be mandatory to reduce the radio transmission power level to maintain regulatory compliance. For specific power limits for your country, consult the *Antenna Power-Level Setting Guide* available on the HP ProCurve manuals page for the MSM3xx/4xx Access Points at www.hp.com/go/procurve/manuals.

To set the radio power transmission level, for controlled access points see *Transmit power control* in the *MSM7xx Controllers Management and Configuration Guide*. For autonomous access points, see *Transmit power control* in the *MSM3xx / MSM4xx Access Points Management and Configuration Guide*.

Safety: Take note of the following safety information during installation:

- If your network covers an area served by more than one power distribution system, be sure all safety grounds are securely interconnected.
- Network cables may occasionally be subject to hazardous transient voltages (caused by lightning or disturbances in the electrical power grid).
- Handle exposed metal components of the network with caution.
- The MSM320 is powered-on when Ethernet Port 1 is plugged into a PoE power source or when an external power supply is connected.
- The MSM320 and all interconnected equipment must be installed indoors within the same building (except for outdoor models / antennas), including all PoE-powered network connections as described by Environment A of the IEEE 802.3af standard.

Installation

When mounting the MSM320 on a wall or ceiling, ensure that the surface to which you attach the MSM320 and the fasteners you use can support at least .9 kg (2 pounds). Allow extra weight for cables.

If you intend to install the MSM320 in a plenum, see *Plenum installation* under *Important information to read before installing* on page 2.

Powering the MSM320

The MSM320 can be powered by:

- A PoE-enabled switch. Various PoE-enabled switches are available from HP ProCurve.
- An HP ProCurve 1-Port Power Injector (J9407A)
- An HP ProCurve MSM32x Power Supply (J9405A).

Initial configuration (autonomous mode)

This procedure describes how to switch a factory-default MSM320 to autonomous mode and then perform its initial configuration that enables you to establish a wireless connection through the MSM320 to the Internet.

Note: For controlled mode configuration, instead see *Working with controlled APs* in the *MSM7xx Controllers Management and Configuration Guide*.

In autonomous mode, the MSM320 is managed via its web-based management tool using at least Microsoft Internet Explorer 7/8 or Firefox 3.x.

Caution: Wireless Security

For initial configuration convenience, a factory-default MSM320 that has been switched to autonomous mode has all wireless security options disabled. It is strongly recommended that after performing this procedure, you enable a wireless security option to properly safeguard the wireless network from intruders. See *Wireless protection* in the *MSM3xx / MSM4xx Access Points Management and Configuration Guide*.

Note: Do not power on the MSM320 until directed.

A. Configure your computer

1. Disconnect your computer LAN port and configure it to use a static IP address in the range **192.168.1.2** to **192.168.1.254**, and a subnet mask of **255.255.255.0**. Set the default gateway to **192.168.1.1**, and DNS server to **192.168.1.1**. For example to do this in Windows Vista, use **Control Panel > Network and Sharing Center > Manage Network Connections > Local Area Connection**, right-click **Properties** then select **Internet Protocol Version 4 (TCP/IPv4) > Properties**.
2. Disable any wireless connection on your computer.

B. Connect the cables and power on the MSM320

1. Connect the cables:
 - If using a PoE switch, use standard Ethernet cables to connect your computer and the MSM320 to an unused factory-default PoE switch.
 - If using a PoE injector, use a crossover Ethernet cable to connect your computer to the data in port of the PoE injector and a standard Ethernet cable to connect the MSM320 to the data and power out port of the PoE injector.
 - If you are using a power supply, use a crossover Ethernet cable to connect your computer to the MSM320 Ethernet port.
2. Power on the MSM320:
 - If using a PoE switch or injector, power it on.
 - If using a power supply, connect it to the MSM320 then power on the supply.

Initially, the MSM320 power light will blink once every two seconds. Wait approximately a minute until it begins blinking once per second before proceeding to the next step.

C. Switch the MSM320 to autonomous mode

Note: A factory-default MSM320 is assumed.

1. In a web browser, enter the address: **https://192.168.1.1**.
2. A security certificate warning is displayed the first time you connect to the management tool. This is normal. Select whatever option is needed in your Web browser to continue

to the management tool. The security warning will not appear again unless you change the IP address of the MSM320.

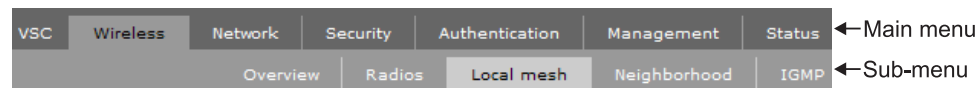
3. On the Login page, specify **admin** for both **Username** and **Password** and then select **Login**. The MSM320 management tool home page opens.
4. Select **Switch to Autonomous Mode** and confirm the change. The MSM320 restarts in autonomous mode.

Note: To avoid a delay after switching modes, clear the ARP (address resolution protocol) cache on your computer. In Windows for example, from the **Windows Start** menu, select **Run** and enter “arp -d” (without the quotes). Select **OK**.

D. Log in

1. Wait until the Power light stops blinking and remains on.
2. On the Login page, specify **admin** for both **Username** and **Password** and then select **Login**.
3. On the License Agreement page, read the agreement and select **Accept License Agreement**.
4. The registration page appears. It is recommended that you register later by selecting **Maintenance > Registration**.
5. If a **Country** prompt appears, select the country in which the MSM320 will operate.
Caution: The correct country must be selected. See *Country of use* on page 3.
6. At the password prompt it is recommended that you change the default password and select **Save**. Passwords must be at least six characters long and include four different characters.

The management tool is organized with menus and sub-menus. Instructions for making menu selections, such as “select **Wireless > Local mesh**” instruct you to select the **Wireless** menu and then the **Local mesh** sub-menu, as follows:



E. Assigning an IP address to the MSM320

By default the MSM320 operates as a DHCP client. This means that if the network has a DHCP server, the MSM320 will automatically receive a new IP address in place of its default address of 192.168.1.1 upon connecting to the network. Use one of the following methods to assign an IP address to the MSM320:

- **Pre-configure the DHCP server** to assign a specific IP address to the MSM320. To do this you need to specify the MSM320 Ethernet MAC address and a reserved IP address on the DHCP server. The MSM320 Ethernet MAC address is printed on the MSM320 label identified as **Ethernet Base MAC**, and listed on the management tool **Home** page as **Ethernet base MAC address**.

- **Let the DHCP server automatically assign an IP address.** By default, the DHCP server will assign an IP address once the MSM320 connects to the network. Once the DHCP server has assigned the MSM320 an IP address, you can then find the IP address of the MSM320 by looking for its Ethernet base MAC address in the DHCP server log. For example after Step F.4 below, you could go to the DHCP server log to retrieve the IP address assigned to the MSM320.
- **Assign a static IP address to the MSM320.** The address must be on the same subnet as the network to which the MSM320 will connect.
 1. Select **Network > DNS**, and set the DNS server address. Select **Save**.
 2. Select **Network > Ports > Bridge port**.
 3. Select **Static** and then **Configure**. Configure settings as follows:
 - **IP address:** Set an address that is on the same subnet as the network to which the MSM320 will connect once installed. Respect any DHCP server-mandated static address ranges.
 - **Mask:** Set the corresponding mask for the IP address.
 - **Default gateway:** Set the IP address of the gateway on the network.
 4. Select **Save**. Connection to the management tool is lost.

F. Test the wireless network

For the purposes of this procedure, the network must have a DHCP server and an Internet connection. Broadband routers typically include a DHCP server.

1. Disconnect your computer from the PoE switch or injector or the MSM320.
2. Power off the MSM320:
 - If using a PoE switch or injector, disconnect the Ethernet cable from the MSM320.
 - If using a power supply, disconnect it.
3. Use a standard Ethernet cable to connect the switch or the data in port of the injector to the network.
4. Reconnect and power on the MSM320:
 - If using a PoE switch or injector, use a standard Ethernet cable to reconnect the MSM320 to the PoE switch or the data and power out port of the injector.
 - If using a power supply, use a standard Ethernet cable to connect the MSM320 to the network, and reconnect the MSM320 power supply.
5. Enable the wireless network interface of your computer, and verify that it is set to obtain an IP address automatically.

For example, to do this in Windows Vista, use **Control Panel > Network and Sharing Center > Manage Network Connections > Wireless Network Connection**, right-click **Properties** and select **Internet Protocol Version 4 (TCP/IPv4) > Properties**, and make sure that **Obtain an IP address automatically** and **Obtain a DNS server address automatically** are both enabled.

6. By default, the MSM320 creates a wireless network named *HP ProCurve*. Connect your computer to this wireless network. For example, in Windows Vista from the **Start** menu, select **Connect to**, and then *HP ProCurve* from the list of available wireless networks. You may have to wait a short time for this wireless network name to appear in the wireless networks list.
7. Confirm that you can browse the Internet using the wireless network.

G. Performing additional configuration

Configure your computer LAN port and connect it to the same network as the MSM320. Re-launch the MSM320 management tool at <https://<IP address>> where *<IP address>* is the MSM320 IP address from Step E above.

Note: See the Caution regarding WIRELESS SECURITY on page 3.

Enabling access to other resources

By default, the MSM320 only permits traffic that is addressed to the default gateway on the network (which enables you to connect to the Internet). To enable access to other resources:

1. Select **VSC > Profiles** and then select the **HP ProCurve** profile.
2. On the **Add/Edit Virtual Service Community** page clear the **Wireless security filters** checkbox.
3. Select **Save**.

Regulatory Notice for European Union and EFTA member countries

As of July 1st 2010, all wireless devices sold in EU countries and any countries that participate in the EU free market must meet stringent Dynamic Frequency Selection (DFS) requirements for radar detection and avoidance (EN 301.893 v1.5.1). The MSM320 is compliant.

Compliance notes

- Software version 5.3.5 is released for both rev A and rev B MSM320 APs.
- On both radios of a rev A MSM320, the 5 GHz DFS channels are enabled and can be used.
- On both radios of a rev B MSM320, the following additional 5 GHz DFS channels are disabled and cannot be used:
 - Channels 52, 56, 60 and 64 in the 5250-5350 MHz band
 - Channels 100, 104, 108, 112, 116, 132, 136 and 140 in the 5470-5725 MHz band.

Note: Customers will not have to disable these 5 GHz DFS channels on rev A MSM320 APs received prior to July 1st, 2010.

For non-EU/EFTA customers using the WW version of the MSM320, there is no change to the availability of DFS channels.

