

External-Antenna OmniAccess AP Quick Installation Guide

System Release 2.0

This Guide contains several sections allowing you to install an OAW-1200BGE or OAW-1200ABGE Alcatel OmniAccess Wireless Access Point or an OAW-1200ABGR Alcatel OmniAccess Remote Edge Access Point (OmniAccess AP 1200R). These models contain internal 802.11a and 802.11b/g antennas and connectors for optional external 802.11a and 802.11b/g antennas.

If you are installing an OAW-1200BG or OAW-1200ABG Alcatel OmniAccess Wireless Access Point with internal 802.11a and 802.11b/g antennas and no connectors for optional external antennas, please refer to the [Internal-Antenna Alcatel OmniAccess Wireless Access Point Quick Installation Guide](#).

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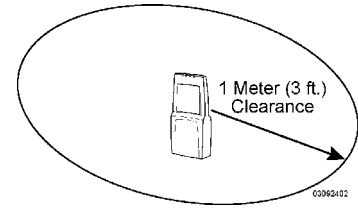
ATTENTION!

While Alcatel OmniAccess Wireless Access Points have been engineered for easy installation, there are some guidelines that are very important to the end users:

- PLACE Alcatel OmniAccess Wireless Access Points NO MORE THAN 140 FEET APART FROM EACH OTHER. Placing OmniAccess APs further apart almost always results in poor coverage.
- DO NOT MOUNT OmniAccess APs OUTSIDE BUILDINGS.
- DO NOT MOUNT OmniAccess APs ON BUILDING PERIMETER WALLS UNLESS THE OPERATOR WANTS TO PROVIDE COVERAGE OUTSIDE THE BUILDING.
- MAKE SURE THAT THE Alcatel OmniAccess Wireless Access Points ARE INSTALLED VERTICALLY. Alcatel OmniAccess Wireless Access Points ARE DESIGNED TO BE INSTALLED VERTICALLY, hanging from a ceiling, to create the largest coverage area per OmniAccess AP. Hanging the OmniAccess AP from the ceiling provides the best RF coverage.



- DO NOT MOUNT Alcatel OmniAccess Wireless Access Point ANTENNAS WITHIN ONE METER (3 FT.) OF ANY METAL OBSTRUCTIONS. THE RF WAVES FROM Alcatel OmniAccess Wireless Access Points ARE BLOCKED AND/OR REFLECTED BY METAL OBJECTS, such as metal HVAC ducts, conduit, pipes, bookcases, elevator shafts, stairwells, and metal walls. REFER TO THE [Alcatel OmniAccess Wireless Access Point Deployment Guide](#) BEFORE MOUNTING OmniAccess APs NEAR METAL OBSTRUCTIONS.



- WHEN MOUNTING OmniAccess APs IN THE CORNER OF A RIGHT-ANGLE HALLWAY INTERSECTION, MOUNT THE OmniAccess AP AT A 45-DEGREE ANGLE TO THE TWO HALLWAYS. The OmniAccess AP internal antennas are not omnidirectional, and will cover a larger area if mounted this way.



Overview

This guide is designed to provide you with the information needed to mount OAW-1200BGE and OAW-1200ABGE Alcatel OmniAccess Wireless Access Points and OAW-1200ABGR Alcatel OmniAccess Remote Edge Access Points (OmniAccess 1200R APs). OmniAccess APs and OmniAccess 1200R APs are part of the innovative Alcatel OmniAccess Wireless Enterprise Platform (Alcatel OmniAccess Wireless System), and require no manual configuration after they are mounted.

This document assumes that a site survey has been performed as described in the [Alcatel OmniAccess Wireless Access Point Deployment Guide](#) section in the [Alcatel OmniAccess Wireless Product Guide](#), that OmniAccess AP and OmniAccess AP 1200R locations and mounting options have been selected, and that you have one OmniAccess AP or OmniAccess AP 1200R per indicated location.

After the site survey is done, you should have a map indicating the following:

- AP and OmniAccess AP 1200R locations.
- AP and OmniAccess AP 1200R mounting options: in the middle of a ceiling/hallway, projecting away from the wall, or flat against the wall.
- AP and OmniAccess AP 1200R power options: power supplied by the AC-to-DC power supply orderable from the factory, or Power over Ethernet (PoE) from the OmniAccess Wireless Switch, another network device, or a PoE injector/hub (usually located in a wiring closet).

If you do not have a map, make one so you can record the MAC addresses from each location and return them to the person who is planning or managing this wireless network.

Refer to the following sections to install the OmniAccess APs.



Note: When mounting OmniAccess APs and OmniAccess 1200R APs, make sure to maintain a 20 cm (8 in.) separation between the OmniAccess APs or OmniAccess 1200R APs and bystanders to comply with FCC RF exposure regulations. Refer to the [FCC Statements for OmniAccess APs](#) section for more information.

For more details about OmniAccess AP and OmniAccess AP 1200R installations, refer to the [Planning Notes](#) section at the end of this document.

Step 1: Collecting Required Tools and Supplies

- One OmniAccess AP or OmniAccess AP 1200R per location.
 - OmniAccess AP and OmniAccess AP 1200R Mounting Kits, factory-supplied with each OmniAccess AP.
 - Optional OmniAccess AP and OmniAccess AP 1200R Mounting Kits, factory-orderable.
 - Optional external AC-to-DC power supplies, factory-orderable.
 - Optional external 802.11b/g antennas.
-  **Note:** Refer to the [Alcatel OmniAccess Wireless System Release Notes](#) for 802.11a external antenna information. Contact Alcatel Internetworking, Inc. for a list of approved 802.11a and 802.11b/g external antennas.
- Map showing OmniAccess AP and OmniAccess AP 1200R locations, and mounting and power options.
 - Screwdrivers, drills, and ladder.
 - An assortment of sheet metal and drywall screws and toggle bolts.
 - CAT-5 (or higher) cables to connect the OmniAccess AP and OmniAccess AP 1200R locations and the OmniAccess Wireless Switch or other network device.
 - Optional Kensington MicroSaver Security Cable to secure each OmniAccess AP and OmniAccess AP 1200R.

Continue with [Step 2: Configuring the OmniAccess AP or OmniAccess AP 1200R Before Installation](#).

Step 2: Configuring the OmniAccess AP or OmniAccess AP 1200R Before Installation

The following procedures are designed to make sure that your OmniAccess AP physical installation goes smoothly and that initial operation is as expected. If you are unable to prepare your OmniAccess AP for deployment, this Step also describes RMA (Return Material Authorization) procedures.

- ▶ **Note:** Perform either of the following two procedures on each OmniAccess AP or OmniAccess AP 1200R BEFORE deploying the OmniAccess AP or OmniAccess AP 1200R in its final location.
- [Preparing a Version 1.2 OmniAccess AP](#) for installation in a Version 2.0 Alcatel OmniAccess Wireless System
- [Preparing a Version 2.0 OmniAccess AP or OmniAccess AP 1200R](#) or [Alternate Preparing a Version 2.0 OmniAccess AP or OmniAccess AP 1200R](#) for installation in a Version 2.0 Alcatel OmniAccess Wireless System

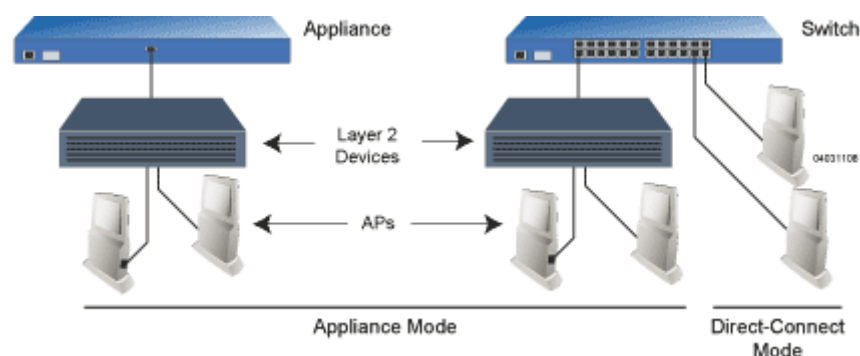
If you are unable to perform either of previous procedures, refer to the [RMA Procedures](#) section in the [Alcatel OmniAccess Wireless Product Guide](#).

Preparing a Version 1.2 OmniAccess AP

If your OmniAccess AP has Alcatel Wireless Operating System 1.2 or an earlier version loaded on it, or if you do not know what version the AP has loaded on it, use this procedure. If your AP is a OmniAccess AP 1200R or has Alcatel Wireless Operating System 2.0 or later loaded on it, use the [Preparing a Version 2.0 OmniAccess AP or OmniAccess AP 1200R](#) procedure below.

- ▶ **Note:** This procedure assumes that you are preparing a version 1.2 OmniAccess AP to interoperate with a version 2.0 Alcatel OmniAccess Switch or Appliance. When you are preparing a version 1.2 OmniAccess AP to interoperate with a version 1.2 Alcatel OmniAccess Switch or Appliance, use the procedure found in the version 1.2 [Alcatel OmniAccess Wireless Access Point Quick Installation Guide](#).

Configuration Setup



Does My Configuration Qualify for this Procedure?

- You must have a version 2.0 Alcatel OmniAccess Wireless Switch or Appliance on its own subnet that can be reconfigured back and forth between Layer 2 and Layer 3 LWAPP operation. If you do not have a spare or depot Alcatel OmniAccess Switch or Appliance that can be reconfigured back and forth between Layer 2 and Layer 3 operation, refer to RMA Procedures later in this document to RMA your version 1.2 OmniAccess APs.

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- Alternatively, you may have a version 2.0 Alcatel OmniAccess Wireless Switch or Appliance that is part of a mobility group that can be reconfigured back and forth between Layer 2 and Layer 3 operation. If you do not have a mobility group of Alcatel OmniAccess Switches and Appliances that can be reconfigured back and forth between Layer 2 and Layer 3 operation, refer to RMA Procedures later in this document to RMA your version 1.2 OmniAccess APs.
 - If your version 1.2 OmniAccess AP(s) cannot be configured for any other reason using the following procedure, refer to [RMA Procedures](#) in the [Alcatel OmniAccess Wireless Product Guide](#).

Configuration Steps for an OmniAccess AP

1. Configure the Alcatel OmniAccess Switch or Appliance in **LWAPP Layer 2 Mode** and make sure its DS Port is connected to the network. Use CLI, Web Browser and/or ACS procedures as described in the [Alcatel OmniAccess Switch and Appliance Quick Installation Guide](#) and the [Alcatel OmniAccess Wireless Product Guide](#).
 - Make sure AP ports are available (either [Direct-Connect Mode](#) or [Appliance Mode](#)).
 - Set the Alcatel OmniAccess Switch or Appliance as the Master, so new OmniAccess APs always associate with it.
 - Refer to the [Alcatel OmniAccess Wireless Product Guide](#) for other settings.

(Note that Layer 3 and Layer 2 LWAPP operation can be switched back and forth as described in the Solutions section of the [Alcatel OmniAccess Wireless Product Guide](#).)
2. Take the AP out of the box and plug it into a front-panel 10Base-T connector on the Master Switch ([Direct-Connect mode](#)), or through the same subnet that Alcatel OmniAccess Switch or Appliance is on ([Appliance Mode](#)).
3. Apply power to the AP:
 - Use 802.3af-compliant Power Over Ethernet (PoE) from the OmniAccess Wireless Switch or from an orderable inline power injector. If you do not have PoE available, use an orderable external AC-to-48 VDC Power Supply plugged into the side of the AP.
 - After powering up the AP, the RED Alarm LED comes on for a short period (about 15-20 seconds) and then all the LEDs blink sequentially back and forth, indicating that the AP is trying to find an Alcatel OmniAccess Switch or Appliance to connect to. This can continue for up to five minutes. If the AP remains in this mode for more than five minutes, the AP is unable to find the Master Alcatel OmniAccess Switch or Appliance. Check the connection between the AP and the Alcatel OmniAccess Switch or Appliance and make sure the AP and the Alcatel OmniAccess Switch or Appliance are on the same subnet.
 - If the power light does not come on, check the power (it can be powered either with Power over Ethernet or a from an orderable AP External Power Supply).
 - Make sure that a DHCP server is configured in the Alcatel OmniAccess Switch or Appliance for the Management Interface using the CLI, Web Browser, or ACS interface, and that the DHCP server is operating correctly.
 - Once the AP finds the Alcatel OmniAccess Switch or Appliance, it attempts to download the new Alcatel Wireless Operating System code if the AP code version differs from the Alcatel OmniAccess Switch or Appliance code version. While this is happening, the LEDs on the top of the AP blink on and off together.
4. Once the Alcatel Wireless Operating System code download is successful, the AP reboots. The GREEN LED turns on and the two YELLOW/AMBER/ORANGE LEDs indicate the states of the 802.11a and 802.11b/g networks. If any part of the network is disabled in the Alcatel OmniAccess Switch or Appliance, the corresponding YELLOW/AMBER/ORANGE LED remains off.

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- Note that the Red LED can light for a short period (10-20 seconds) when the AP reboots. If the RED LED comes on AND STAYS ON for more than a minute, disconnect the AP and call Alcatel Technical Support.
 - From the CLI, Web Browser or ACS interface, configure the AP with its Primary Alcatel OmniAccess Switch or Appliance name as described in the [Alcatel OmniAccess Wireless Product Guide](#).
 - If you will be using the AP in a mobility group, set the mobility group name using the CLI, Web Browser or ACS interface.
 - If required, use the CLI, Web Browser or ACS interface to customize the AP-specific 802.11a, 802.11b and 802.11g network settings. Once again, the two YELLOW/AMBER/ORANGE LEDs indicate the states of the 802.11a and 802.11b/g networks. If any part of the network is disabled, the corresponding YELLOW/AMBER/ORANGE LED remains off.
5. If everything works (the GREEN LED is on and the RED LED is off), disconnect the AP and take it to its final destination and install it as described in this document. If your OmniAccess AP fails this visual test, refer to [RMA Procedures](#) in the [Alcatel OmniAccess Wireless Product Guide](#) to return your OmniAccess APs.
6. When you have installed and powered up the AP in its final destination, verify that the LEDs are in the same state they were in at the end of Step 4. If no LEDs are on, the AP is most likely not receiving power. If the LEDs blink sequentially back and forth for more than five minutes, the AP is unable to find its Primary Alcatel OmniAccess Switch or Appliance. Check the connection between the AP and the Alcatel OmniAccess Switch or Appliance, and make sure the AP and the Alcatel OmniAccess Switch or Appliance are either on the same subnet or that the AP has a route back to its Primary Alcatel OmniAccess Switch or Appliance. If the OmniAccess AP or OmniAccess AP 1200R is not on the same subnet as the Alcatel OmniAccess Switch or Appliance, make sure there is a DHCP server on the same subnet as the OmniAccess AP or OmniAccess AP 1200R. Also, make sure that the route between the OmniAccess AP or OmniAccess AP 1200R and the Alcatel OmniAccess Switch or Appliance can process IP fragmented packets.

After you have prepared all OmniAccess APs, reconfigure the Alcatel OmniAccess Switch or Appliance so it is not the Master. A Master Alcatel OmniAccess Switch or Appliance should only be used for configuring OmniAccess APs and not in a working network.

After completing [Step 2: Configuring the OmniAccess AP or OmniAccess AP 1200R Before Installation](#) for all OmniAccess APs and OmniAccess 1200R APs, continue with [Step 3: Preparing Mounting Locations](#).

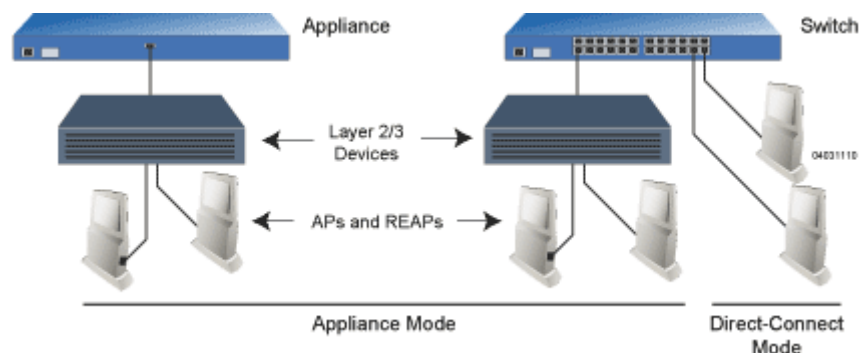
Preparing a Version 2.0 OmniAccess AP or OmniAccess AP 1200R

If your OmniAccess AP has Alcatel Wireless Operating System 2.0 or a later version (which includes all OmniAccess 1200R APs) loaded on it, continue with this procedure. If your AP has Alcatel Wireless Operating System 1.2 or earlier loaded on it, or if you do not know what version the AP has loaded, use the [Preparing a Version 1.2 OmniAccess AP](#) procedure above.



Note: This procedure assumes that you are preparing a version 2.0 OmniAccess AP or OmniAccess AP 1200R to interoperate with a version 2.0 Alcatel OmniAccess Switch or Appliance. When you are preparing a version 1.2 OmniAccess AP to interoperate with a version 1.2 Alcatel OmniAccess Switch or Appliance, use the procedure found in the version 1.2 [Alcatel OmniAccess Wireless Access Point Quick Installation Guide](#).

Configuration Setup



Does My AP Qualify for this Procedure?

- If your 2.0 or later version later OmniAccess AP(s) or OmniAccess AP 1200R(s) cannot be configured for any reason using the following procedure, refer to [RMA Procedures](#) in the [Alcatel OmniAccess Wireless Product Guide](#).

Configuration Steps for an OmniAccess AP or OmniAccess AP 1200R

1. Configure the Alcatel OmniAccess Switch or Appliance in **LWAPP Layer 3 Mode** and make sure its DS Port is connected to the network. Use CLI, Web Browser and/or ACS procedures as described in the [Alcatel OmniAccess Switch and Appliance Quick Installation Guide](#) and the [Alcatel OmniAccess Wireless Product Guide](#).



Note: When you are installing a OmniAccess AP 1200R or an OmniAccess AP, a DHCP server must be accessible by the OmniAccess AP 1200R or an OmniAccess AP.

- Make sure AP ports are available (either Direct-Connect Mode through the Switch physical ports, or in Appliance Mode through the Alcatel OmniAccess Switch or Appliance Management/AP-Manager Interface).
 - Set the Alcatel OmniAccess Switch or Appliance as the Master, so new OmniAccess APs always associate with it.
 - Refer to the [Alcatel OmniAccess Wireless Product Guide](#) for other settings.
2. Take the AP or OmniAccess AP 1200R out of the box and plug it into the front panel of the Master Switch (Direct-Connect Mode), or through the same subnet that Alcatel OmniAccess Switch or Appliance is on (Appliance Mode).
 3. Apply power to the AP:
 - Use 802.3af-compliant Power Over Ethernet (PoE) from the Alcatel OmniAccess Switch or Appliance or from an orderable inline power injector. If you do not have PoE available, use an orderable external AC-to-48 VDC Power Supply plugged into the side of the AP.
 - After powering up the AP, the RED Alarm LED comes on for a short period (about 15-20 seconds) and then all the LEDs blink sequentially back and forth, indicating that the AP is trying to find an Alcatel OmniAccess Switch or Appliance to connect to. This can continue for up to five minutes. If the AP remains in this mode for more than five minutes, the AP is unable to find the Master Alcatel OmniAccess Switch or Appliance. Check the connection between the AP and the Alcatel OmniAccess Switch or Appliance and make sure the AP and the Alcatel OmniAccess Switch or Appliance are on the same subnet.

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- If the power light does not come on, check the power (it can be powered either with Power over Ethernet or a from an orderable AP External Power Supply).
 - Make sure that a DHCP server is configured in the Alcatel OmniAccess Switch or Appliance for both the Management Interface and AP-Manager Interface using the CLI, Web Browser, or ACS interface, and that the DHCP server is operating correctly.
 - Once the AP finds the Alcatel OmniAccess Switch or Appliance, it attempts to download the new Alcatel Wireless Operating System code if the AP code version differs from the Alcatel OmniAccess Switch or Appliance code version. While this is happening, the LEDs on the top of the AP blink on and off together.
4. Once the Alcatel Wireless Operating System code download is successful, the AP reboots. The GREEN LED turns on and the two YELLOW/AMBER/ORANGE LEDs indicate the states of the 802.11a and 802.11b/g networks. If any part of the network is disabled in the Alcatel OmniAccess Switch or Appliance, the corresponding YELLOW/AMBER/ORANGE LED remains off.
- Note that the Red LED can light for a short period (10-20 seconds) when the AP reboots. If the RED LED comes on AND STAYS ON for more than a minute, disconnect the AP and call Alcatel Technical Support.
 - From the CLI, Web Browser or ACS interface, configure the AP with its Primary Alcatel OmniAccess Switch or Appliance name as described in the [Alcatel OmniAccess Wireless Product Guide](#).
 - If required, use the CLI, Web Browser or ACS interface to customize the AP-specific 802.11a, 802.11b and 802.11g network settings. Once again, the two YELLOW/AMBER/ORANGE LEDs indicate the states of the 802.11a and 802.11b/g networks. If any part of the network is disabled, the corresponding YELLOW/AMBER/ORANGE LED remains off.
5. If everything works (the GREEN LED is on and the RED LED is off), disconnect the AP and take it to its final destination and install it as described in this document. If your OmniAccess AP fails this visual test, refer to [RMA Procedures](#) in the [Alcatel OmniAccess Wireless Product Guide](#) to return your OmniAccess APs.
-  **Note:** When you are installing a OmniAccess AP 1200R or a Layer 3 OmniAccess AP on a different subnet than the Alcatel OmniAccess Switch or Appliance, MAKE SURE that a DHCP server is available on the subnet where you will be installing the AP or OmniAccess AP 1200R, and that the subnet has a route back to the Alcatel OmniAccess Switch or Appliance. Also make sure that the route back to the Alcatel OmniAccess Wireless Switch or Appliance has destination UDP ports 12222 and 12223 open for LWAPP communications. Ensure the route back to the Primary Alcatel OmniAccess Switch or Appliance allows IP packet fragments. Finally, make sure that if address translation is used, that the AP and the Alcatel OmniAccess Switch or Appliance have a static 1-to-1 NAT to an outside address. (Port Address Translation is not supported.)
6. When you have installed and powered up the AP or OmniAccess AP 1200R in its final destination, verify that the LEDs are in the same state they were in at the end of Step 4. If no LEDs are on, the AP or OmniAccess AP 1200R is most likely not receiving power. If all the LEDs blink sequentially back and forth for more than five minutes, the AP is unable to find its Primary Alcatel OmniAccess Switch or Appliance. Check the connection between the AP and the Alcatel OmniAccess Switch or Appliance, and make sure the AP and the Alcatel OmniAccess Switch or Appliance are either on the same subnet or that the AP has a route back to its Primary Alcatel OmniAccess Switch or Appliance. Note that the OmniAccess 1200R APs at each remote location must be on the same subnet to allow client roaming. Also, if the OmniAccess AP or OmniAccess AP 1200R is not on the same subnet as the Alcatel OmniAccess Switch or Appliance, make sure there is a DHCP server on the same subnet as the OmniAccess AP or OmniAccess AP 1200R.

After you have prepared all OmniAccess APs, reconfigure the Alcatel OmniAccess Switch or Appliance so it is not the Master. A Master Alcatel OmniAccess Switch or Appliance should only be used for configuring OmniAccess APs and not in a working network.

After completing [Step 2: Configuring the OmniAccess AP or OmniAccess AP 1200R Before Installation](#) for all OmniAccess APs and OmniAccess 1200R APs, continue with [Step 3: Preparing Mounting Locations](#).

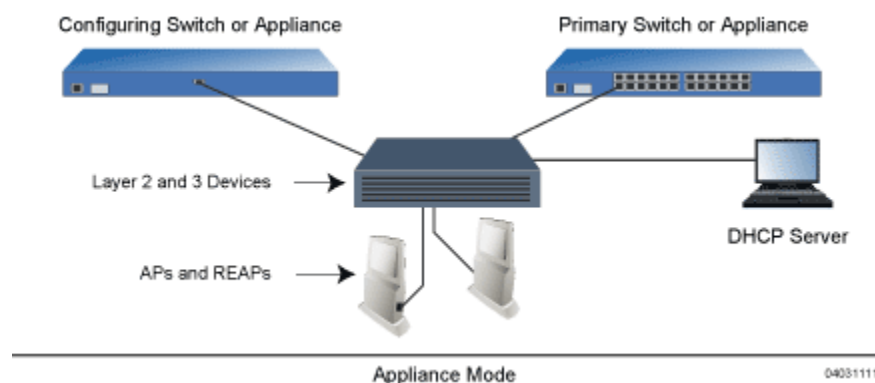
Alternate Preparing a Version 2.0 OmniAccess AP or OmniAccess AP 1200R

If your OmniAccess AP has Alcatel Wireless Operating System 2.0 or a later version (which includes all OmniAccess 1200R APs) loaded on it, you may choose to use this procedure. If your AP has Alcatel Wireless Operating System 1.2 or earlier loaded on it, or if you do not know what version the AP has loaded, use the [Preparing a Version 1.2 OmniAccess AP](#) procedure above.

► **Note:** This procedure assumes that you are preparing a version 2.0 OmniAccess AP or OmniAccess AP 1200R to interoperate with a version 2.0 Alcatel OmniAccess Switch or Appliance. It also assumes that your Alcatel OmniAccess Switch or Appliance is already operating in **LWAPP Layer 3 Mode**. It also assumes that you are using the Internet Software Consortium (ISC) DHCP Server V3.0p1. Finally, it assumes that if you have deployed multiple Alcatel OmniAccess Switches and Appliances, that the Alcatel OmniAccess Switch or Appliance you use to initialize the OmniAccess AP is in an [Alcatel Mobility Group](#) with the [Primary Alcatel OmniAccess Switch or Appliance](#) you want to assign to the new OmniAccess AP or OmniAccess AP 1200R.

When you are preparing a version 1.2 OmniAccess AP to interoperate with a version 1.2 Alcatel OmniAccess Switch or Appliance, use the procedure found in the version 1.2 [Alcatel OmniAccess Wireless Access Point Quick Installation Guide](#).

Configuration Setup



Does My AP Qualify for this Procedure?

- If your 2.0 or later version later OmniAccess AP(s) or OmniAccess AP 1200R(s) cannot be configured for any reason using the following procedure, refer to [RMA Procedures](#) in the [Alcatel OmniAccess Wireless Product Guide](#).

Configuration Steps for an OmniAccess AP or OmniAccess AP 1200R

1. Configure the Internet Software Consortium (ISC) V3.0p1 DHCP Server to provide the vendor-specific Option 43 using the following entries:

```
option controller code 43 = text;  
option controller "<Switch IP Address>;
```

in which **<Switch IP Address>** is the IP address of the Alcatel OmniAccess Switch or Appliance you are going to use to prepare the OmniAccess AP or OmniAccess AP 1200R, or which can be a comma-delimited string of Alcatel OmniAccess Switch or Appliance IP addresses.

(These commands direct all unconfigured OmniAccess APs and OmniAccess 1200R APs discovery messages to the configuring Alcatel OmniAccess Switch or Appliance.)

2. Make sure the configuring Alcatel OmniAccess Switch or Appliance is in **LWAPP Layer 3 Mode**, that if the configuring Alcatel OmniAccess Switch or Appliance is in the same mobility group as the planned [Primary Alcatel OmniAccess Switch or Appliance](#), and that the configuring Alcatel OmniAccess Switch or Appliance's DS Port is connected to the network. Use CLI, Web Browser and/or ACS procedures as described in the [Alcatel OmniAccess Switch and Appliance Quick Installation Guide](#) and the [Alcatel OmniAccess Wireless Product Guide](#).
3. Also make sure that the DHCP server is configured in the Alcatel OmniAccess Switch or Appliance for both the Management Interface and AP-Manager Interface using the CLI, Web Browser, or ACS user interface.



Note: When you are installing a OmniAccess AP 1200R or an OmniAccess AP, a DHCP server must be accessible by the OmniAccess AP 1200R or an OmniAccess AP.

4. Take the AP or OmniAccess AP 1200R out of the box and plug it into the network so that it can request an IP address from the DHCP server.
5. Apply power to the AP:
 - Use 802.3af-compliant Power Over Ethernet (PoE) from the Alcatel OmniAccess Switch or Appliance or from an orderable inline power injector. If you do not have PoE available, use an orderable external AC-to-48 VDC Power Supply plugged into the side of the AP.
 - After powering up the AP, the RED Alarm LED comes on for a short period (about 15-20 seconds) and then all the LEDs blink sequentially back and forth, indicating that the AP is trying to find an Alcatel OmniAccess Switch or Appliance to connect to. This can continue for up to five minutes. If the AP remains in this mode for more than five minutes, the AP is unable to find the Master Alcatel OmniAccess Switch or Appliance. Check the connection between the AP and the Alcatel OmniAccess Switch or Appliance and make sure the AP and the Alcatel OmniAccess Switch or Appliance are on the same subnet.
 - If the power light does not come on, check the power (it can be powered either with Power over Ethernet or a from an orderable AP External Power Supply).
6. The AP or OmniAccess AP 1200R requests an IP address from the DHCP server, and the DHCP server returns an IP address for the AP or OmniAccess AP 1200R, and also returns the **<Switch IP Address>** of the configuring Alcatel OmniAccess Switch or Appliance.

Once the AP or OmniAccess AP 1200R finds the configuring Alcatel OmniAccess Switch or Appliance, it attempts to download the new Alcatel Wireless Operating System code if the AP code version differs from the configuring Alcatel OmniAccess Switch or Appliance code version. While this is happening, the LEDs on the top of the AP or OmniAccess AP 1200R blink on and off together.
7. Once the Alcatel Wireless Operating System code download is successful, the AP or OmniAccess AP 1200R reboots. The GREEN LED turns on and the two YELLOW/AMBER/ORANGE LEDs indicate the states of the 802.11a and 802.11b/g networks. If any part of the network is disabled in the configuring Alcatel OmniAccess Switch or Appliance, the corresponding YELLOW/AMBER/ORANGE LED remains off.

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- Note that the Red LED can light for a short period (10-20 seconds) when the AP or OmniAccess AP 1200R reboots. If the RED LED comes on AND STAYS ON for more than a minute, disconnect the AP or OmniAccess AP 1200R and call Alcatel Technical Support.
 - From the CLI, Web Browser or ACS interface, configure the AP with its Primary Alcatel OmniAccess Switch or Appliance name (which can be the name of the configuring Alcatel OmniAccess Switch or Appliance) as described in the [Alcatel OmniAccess Wireless Product Guide](#).
 - If required, use the CLI, Web Browser or ACS interface to customize the AP- or OmniAccess AP 1200R-specific 802.11a, 802.11b and 802.11g network settings. Once again, the two YELLOW/AMBER/ORANGE LEDs indicate the states of the 802.11a and 802.11b/g networks. If any part of the network is disabled, the corresponding YELLOW/AMBER/ORANGE LED remains off.
8. If everything works (the GREEN LED is on and the RED LED is off), reboot the AP or OmniAccess AP 1200R and install it as described in this document. If your OmniAccess AP or OmniAccess AP 1200R fails this visual test, refer to [RMA Procedures](#) in the [Alcatel OmniAccess Wireless Product Guide](#) to return your OmniAccess APs.



Note: When you are installing a OmniAccess AP 1200R or a Layer 3 OmniAccess AP on a different subnet than the Alcatel OmniAccess Switch or Appliance, MAKE SURE that a DHCP server is available on the subnet where you will be installing the AP or OmniAccess AP 1200R, and that the subnet has a route back to the Primary Alcatel OmniAccess Switch or Appliance. Also make sure that the route back to the Alcatel OmniAccess Wireless Switch or Appliance has destination UDP ports 12222 and 12223 open for LWAPP communications. Ensure the route back to the Primary Alcatel OmniAccess Switch or Appliance allows IP packet fragments. Finally, make sure that if address translation is used, that the AP and the Alcatel OmniAccess Switch or Appliance have a static 1-to-1 NAT to an outside address. (Port Address Translation is not supported.)

9. When you have installed and powered up the AP or OmniAccess AP 1200R in its final destination, verify that the LEDs are in the same state they were in at the end of Step 7. If no LEDs are on, the AP or OmniAccess AP 1200R is most likely not receiving power. If all the LEDs blink sequentially back and forth for more than five minutes, the AP is unable to find its Primary Alcatel OmniAccess Switch or Appliance. Check the connection between the AP and the Alcatel OmniAccess Switch or Appliance, and make sure the AP and the Alcatel OmniAccess Switch or Appliance are either on the same subnet or that the AP has a route back to its Primary Alcatel OmniAccess Switch or Appliance. Note that the OmniAccess 1200R APs at each remote location must be on the same subnet to allow client roaming. Also, if the OmniAccess AP or OmniAccess AP 1200R is not on the same subnet as the Alcatel OmniAccess Switch or Appliance, make sure that a DHCP server is accessible on the same subnet as the OmniAccess AP or OmniAccess AP 1200R.

After completing [Step 2: Configuring the OmniAccess AP or OmniAccess AP 1200R Before Installation](#) for all OmniAccess APs and OmniAccess 1200R APs, continue with [Step 3: Preparing Mounting Locations](#).

Step 3: Preparing Mounting Locations

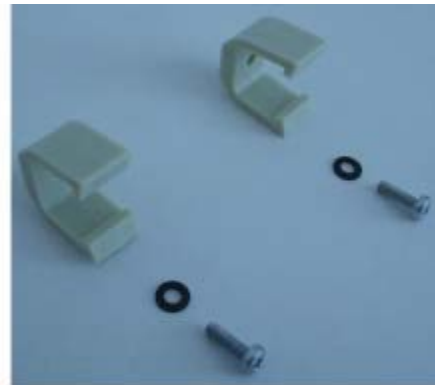
On your map, you should have the OmniAccess AP locations, mounting options, and power options.

- Find the required mounting locations.
- Use the ceiling-mount base to mark the wall or ceiling locations for sheet metal, drywall, or other screws. Make sure you leave enough space around the OmniAccess AP and base to plug the CAT-5 cable, optional external antenna cable(s), optional power supply cable, and optional Kensington MicroSaver Security Cable into the sides of the OmniAccess AP.

Figure - Factory-Supplied Mounting Options



A. Ceiling-Mount Base



B. Hanging-Ceiling Clips

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- Alternatively, attach the hanging ceiling clips to the OmniAccess AP. Make sure you leave enough space around the OmniAccess AP to plug the CAT-5 cable, optional external antenna cable(s), optional power supply cable, and optional Kensington MicroSaver Security Cable into the sides of the OmniAccess AP.
- Alternatively, use the optional mounting bases and/or brackets to mark the wall or ceiling locations for sheet metal, drywall, or other screws. Make sure you leave enough space around the OmniAccess AP and brackets to plug the CAT-5 cable, optional external antenna cable(s), optional power supply cable, and optional Kensington MicroSaver Security Cable into the sides of the OmniAccess AP.

Figure - Factory-Orderable Mounting Brackets



A. Projection-Mount Bracket



B. Flush-Mount Bracket

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- If necessary, drill holes for the various cables where they can be mostly hidden from casual view. When you are mounting the OmniAccess AP using an optional separately-orderable projection-mount L-bracket (the one with two long legs), the cables can be routed through the 5/8-inch (15.9 mm) holes in the bracket.
- Route the CAT-5, optional power supply, optional external antenna cable(s), and optional Kensington MicroSaver Security cables to where they can plug into the OmniAccess AP. Make sure to leave about 6 inches (15 cm) of slack in the cables for future modifications.
- Attach the brackets to the wall or ceiling, or install screws for ceiling-mount base:
 - Where you are going to use the projection-mount or flush-mount bracket, use customer-supplied sheet metal, drywall, or other screws to attach the bracket to the ceiling or wall.
 - Where you are going to use the ceiling-mount base, install customer-supplied sheet metal, drywall, or other screws with 1/4 inch (6.35 mm) or smaller heads protruding from the ceiling about 0.1 inch (2.5 mm).

You are now ready to install the OmniAccess APs. Continue with [Step 4: Mounting the OmniAccess APs](#).

Step 4: Mounting the OmniAccess APs

Using the supplied or optional separately-orderable OmniAccess AP mounting kits, mount each OmniAccess AP in its indicated location, oriented as shown on the map. Note that you can mount the OmniAccess APs below the ceiling, but the OmniAccess APs perform best when mounted below the ceiling.

Note that the Alcatel OmniAccess Wireless System supports Antenna Sectorization, which can be used to increase the number of clients and/or client throughput in a given air space. Installers can mount two OmniAccess APs back-to-back and the Alcatel OmniAccess Wireless System operator can disable the second antenna in both OmniAccess APs to create a 360-degree coverage area with two sectors.

The OmniAccess APs can be mounted in one of three configurations:

- [*Ceiling Mount Base*](#)
- [*Ceiling-Mount Clips*](#)
- [*Projection Wall Mount*](#)
- [*Flush Wall Mount*](#)

Ceiling Mount Base

When you are mounting the OmniAccess AP in the middle of a ceiling (flat sides toward the room or hallway), use the ceiling-mount base to mount the OmniAccess AP as shown in the following figure and as described below:

Figure - Assembling the OmniAccess AP and Ceiling-Mount Base



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- Copy the MAC address(es) from the label(s) on the OmniAccess AP onto the corresponding location on the map. MAC addresses have the format 000B85xxxxxx.
- Attach the ceiling-mount base to the bottom of the OmniAccess AP using the factory-supplied machine screws and washers.
- Position the ceiling-mount base so its keyhole slots are partly on the drywall, sheet metal, or other screw heads installed in [Step 3: Preparing Mounting Locations](#).
- ▶ **Note:** If the screws do not securely hold the ceiling-mount base, remove the OmniAccess AP and adjust the screws until they hold the ceiling-mount base securely.
- Attach the cables to the sides of the OmniAccess AP.
- ▶ **Note:** When the OmniAccess AP is powered up and is associated with an Alcatel OmniAccess Wireless Switch or Appliance (Green/Power and Yellow/802.11b/g and/or Yellow or Amber/802.11a LEDs lit), the OmniAccess AP is broadcasting its beacon signal(s). When this happens, complete the installation as quickly as possible to remove yourself from within 8 inches (20 cm) of the OmniAccess AP to comply with FCC RF radiation exposure guidelines.
- Slide the ceiling-mount base onto the drywall, sheet metal, or other screw heads until it snugs into place.

You have installed the OmniAccess AP. Repeat [Step 4: Mounting the OmniAccess APs](#) for each OmniAccess AP location, and then continue with [Step 5: Returning MAC Information](#).

Ceiling-Mount Clips

When you are mounting the OmniAccess AP on the extruded aluminium rails of a hanging ceiling, use the ceiling-mount clips to mount the OmniAccess AP as shown in the following figure and as described below:

Figure - Assembling the OmniAccess AP and Ceiling-Mount Clips



- Copy the MAC address(es) from the label(s) on the OmniAccess AP onto the corresponding location on the map. MAC addresses have the format 000B85xxxxxx.
- Attach the ceiling-mount clips to the bottom of the OmniAccess AP using the factory-supplied machine screws and washers.
- Snap the ceiling-mount clips onto a hanging ceiling rail.

Figure - Clipping the OmniAccess AP and Ceiling-Mount Clips to a Hanging-Ceiling Rail



- Attach the cables to the sides of the OmniAccess AP.

▶ **Note:** Make sure the cables are routed away from the OmniAccess AP antennas.

▶ **Note:** When the OmniAccess AP is powered up and is associated with an Alcatel OmniAccess Wireless Switch or Appliance (Green/Power and Yellow/802.11b/g and/or Yellow or Amber/802.11a LEDs lit), the OmniAccess AP is broadcasting its beacon signal(s). When this happens, complete the installation as quickly as possible to remove yourself from within 8 inches (20 cm) of the OmniAccess AP to comply with FCC RF radiation exposure guidelines.

You have installed the OmniAccess AP. Repeat [Step 4: Mounting the OmniAccess APs](#) for each OmniAccess AP location, and then continue with [Step 5: Returning MAC Information](#).

Projection Wall Mount

When you are mounting the OmniAccess AP out from a wall (flat sides along the wall or hallway), use an optional separately-orderable factory-orderable projection-mount L-bracket.

- Before proceeding, gently screw the two factory-supplied screws and spring washers into the bottom of the OmniAccess AP. Make sure the spring washers have their convex (high center sections) pointing toward the screw heads.

▶ **Note:** The OmniAccess AP threaded holes have precision-depth threads. Do not overtighten the screws, or the bracket will not fit under the screw heads.

Figure - Assembling the Mounting Screws and Spring Washers to the OmniAccess AP



A. Screws and Spring Washers



B. Completed Assembly

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- Copy the MAC address(es) from the label(s) on the OmniAccess AP onto the corresponding location on the map. MAC addresses have the format 000B85xxxxxx.
- You have already attached the projection-mount L-bracket to the wall in [Step 3: Preparing Mounting Locations](#).
- Slide the screws into the keyhole slots on the mounting bracket as shown in the following figure.



Note: If the screws do not securely hold the bracket, remove the OmniAccess AP and adjust the screws until they securely hold the bracket.

Figure - Assembling the OmniAccess AP to the Projection-Mount Bracket



- Attach the cables to the sides of the OmniAccess AP.

▶ **Note:** Make sure the cables are routed away from the OmniAccess AP antennas.

▶ **Note:** When the OmniAccess AP is powered up and is associated with an Alcatel OmniAccess Wireless Switch or Appliance (Green/Power and Yellow/802.11b/g and/or Yellow or Amber/802.11a LEDs lit), the OmniAccess AP begins broadcasting its beacon signal(s). When this happens, complete the installation as quickly as possible to remove yourself from within 8 inches (20 cm) of the OmniAccess AP to comply with FCC RF radiation exposure guidelines.

You have installed the OmniAccess AP. Repeat [Step 4: Mounting the OmniAccess APs](#) for each OmniAccess AP location, and then continue with [Step 5: Returning MAC Information](#).

Flush Wall Mount

When you are mounting the OmniAccess AP against a wall (flat side toward the inside of the building), use an optional separately-orderable factory-orderable flush-mount bracket.

- Before proceeding, gently screw the two factory-supplied screws and spring washers into the bottom of the OmniAccess AP. Make sure the spring washers have their convex (high center sections) pointing toward the screw heads.

▶ **Note:** The OmniAccess AP threaded holes have precision-depth threads. Do not overtighten the screws, or the bracket will not fit under the screw heads.

Figure - Assembling the Mounting Screws and Spring Washers to the OmniAccess AP



A. Screws and Spring Washers



B. Completed Assembly

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- Copy the MAC address(es) from the label(s) on the OmniAccess AP onto the corresponding location on the map. MAC addresses have the format 000B85xxxxxx.
 - You have already attached the flush-mount bracket to the wall in [Step 3: Preparing Mounting Locations](#).
 - Slide the screws into the keyhole slots on the mounting bracket as shown in the following figure.
- ▶ **Note:** Make sure the side of the OmniAccess AP with the door is facing away from the wall. This ensures that the correct antenna is facing the building, and makes future upgrades easier.
- ▶ **Note:** If the screws do not securely hold the bracket, remove the OmniAccess AP and adjust the screws until they securely hold the bracket.

Figure - Assembling the OmniAccess AP to the Flush-Mount Bracket



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- Attach the cables to the sides of the OmniAccess AP.



Note: Make sure the cables are routed away from the OmniAccess AP antennas.



Note: When the OmniAccess AP is powered up and is associated with an Alcatel OmniAccess Wireless Switch or Appliance (Green/Power and Yellow/802.11b/g and/or Yellow or Amber/802.11a LEDs lit), the OmniAccess AP begins broadcasting its beacon signal(s). When this happens, complete the installation as quickly as possible to remove yourself from within 8 inches (20 cm) of the OmniAccess AP to comply with FCC RF radiation exposure guidelines.

You have installed the OmniAccess AP. Repeat [Step 4: Mounting the OmniAccess APs](#) for each OmniAccess AP location, and then continue with [Step 5: Returning MAC Information](#).

Step 5: Returning MAC Information

When you have completed the installations as outlined in [Step 4: Mounting the OmniAccess APs](#), return the MAC addresses and their locations on the maps or floor plans to the network planner or manager. The OmniVista Air Control System Software (ACS Software) operators will use the MAC address and location information to create maps for precise wireless Alcatel Wireless Operating System management.

Also return any unused mounting kit hardware and external power supplies to the network planner or manager for use in future deployments.



Note: Please remind the Network Planner or Manager that now is a good time to register the OmniAccess APs at <http://www.alcatel.com/>.

Planning Notes

About Cables

- You will run one CAT-5 Ethernet cable from the OmniAccess AP to the OmniAccess Wireless Switch, another network device, or a PoE injector/hub.

When the OmniAccess AP will be mounted below the ceiling using the ceiling mount or wall mount brackets, you may have to drill a hole into the ceiling plenum to run the CAT-5 cable to the wiring closet. When the CAT-5 cable cannot be run through the ceiling plenum, find another path to route the cable from the OmniAccess AP to the wiring closet.

When the OmniAccess AP will be mounted above the ceiling using the ceiling mount or wall mount brackets, run the CAT-5 cable to the wiring closet through the ceiling plenum. When the CAT-5 cable cannot be run through the ceiling plenum, find another path to route the cable from the OmniAccess AP to the wiring closet.

- When you are powering the OmniAccess AP from AC power, route the power supply cable from the AC convenience outlet to the OmniAccess AP. Make sure you secure the AC power plug so it will be difficult for people to pull on the power cord or unplug the power supply from the AC power outlet.
- When you are powering the OmniAccess AP from a PoE source (OmniAccess Wireless Switch, another network device, or a PoE injector/hub), you do not need to route a separate power cable to the OmniAccess AP, because the OmniAccess AP will receive its power across the CAT-5 Ethernet cable. Return the power supply to the wireless network planner/manager.

About External Antennas

- Refer to the [OmniAccess AP External and Internal Antennas](#) section in the [Alcatel OmniAccess Wireless Product Guide](#) for an overview of the external 802.11a and 802.11b/g external antennas available for use with the OmniAccess APs.



Note: As described in the [Internal-Antenna Alcatel OmniAccess Wireless Access Point Quick Installation Guide](#), the OAW-1200BG and OAW-1200ABG OmniAccess APs are designed to be used exclusively with the internal high-gain antennas, and have no jacks for external antennas.



Note: Refer to the [Alcatel OmniAccess Wireless System Release Notes](#) for 802.11a external antenna information. Contact Alcatel Internetworking, Inc. for a list of FCC-approved 802.11a and 802.11b/g external antennas.

- When you are attaching external antennas to the (Part Number TBD), OAW-1200BGE, or OAW-1200ABGE OmniAccess AP, use cables with female reverse-TNC connectors to connect antennas to the ports on the side of the OmniAccess AP. See the following figure for antenna port markings.

Figure - OmniAccess AP External Antenna Port Markings



A. 2.4 GHz/802.11b Left External Antenna Port



B. 5 GHz/802.11a and 2.4 GHz/802.11b Right External Antenna Ports

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About Mounting Options

- ▶ **Note:** Because the OmniAccess AP internal antennas have been designed to reduce inter-floor interference, it is strongly recommended that you mount the OmniAccess AP standing or hanging straight up or down.
- ▶ **Note:** You can mount the OmniAccess APs below the ceiling using the ceiling mount base or wall mount brackets, but the OmniAccess APs perform best when mounted below the ceiling.
- When you are mounting the OmniAccess AP in the middle of a ceiling, or hallway, you will typically use the color-coordinated ceiling-mount base to stabilize the OmniAccess AP after it is mounted. Use the mounting base to mark the sheet metal, drywall, or other screw locations.
The mounting base attaches to the bottom of the OmniAccess AP with two supplied screws, and then the assembly slides and locks onto two sheet metal, drywall, or other screws.
- When you are mounting the OmniAccess AP out from a wall (flat sides along the room or hallway), use the projection-mount L-bracket supplied with the OmniAccess AP. Use the L-bracket to mark the sheet metal, drywall, or other screw locations.

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- When you are mounting the OmniAccess AP against a wall (flat Side A toward the inside of the building), use the flush-mount bracket supplied with the OmniAccess AP. The flush-mount L-bracket is the one with one long and one short leg. Use the L-bracket to mark the sheet metal, drywall, or other screw locations.

About Physical Security

Regardless of mounting, the OmniAccess AP can be secured with a Kensington MicroSaver Security Cable. If required, use any MicroSaver Security Cable to attach either side of your OmniAccess AP to a solid beam, pipe, or support.

FCC Statements for OmniAccess APs

This section includes the following FCC statements for the OmniAccess AP:

- [Class A Statement](#)
- [RF Radiation Hazard Warning](#)
- [Non-Modification Statement](#)
- [Deployment Statement](#)

Class A Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

RF Radiation Hazard Warning

To ensure compliance with FCC RF exposure requirements, this device must be installed in a location such that the antenna of the device will be greater than 20 cm (8 in.) from all persons. Using higher gain antennas and types of antennas not covered under the FCC certification of this product is not allowed.

Installers of the radio and end users of the Alcatel OmniAccess Wireless Enterprise Platform must adhere to the installation instructions provided in this manual.

Non-Modification Statement

Use only the supplied internal antenna, or external antennas supplied by the manufacturer. Unauthorized antennas, modifications, or attachments could damage the badge and could violate FCC regulations and void the user's authority to operate the equipment.

Deployment Statement

This product is certified for indoor deployment only. Do not install or use this product outdoors.

Safety Considerations

- The 1200 OmniAccess APs with or without external antenna ports are only intended for installation in Environment A as defined in IEEE 802.3af. All interconnected equipment must be contained within the same building including the interconnected equipment's associated LAN connections.
- For OAW-1200ABGE, OAW-1200BGE, and OAW-1200ABGR OmniAccess APs and Alcatel OmniAccess Remote Edge Access Points (OmniAccess 1200R APs) provided with optional external antenna ports, make sure that all external antennas and their associated wiring are located entirely indoors. The OmniAccess APs and OmniAccess 1200R APs and their optional external antennas are not suitable for outdoor use.