844E GigaCenter Quick Start Guide

This document provides general installation practices for the GigaCenter model 844E.

This document also provides guidance for site preparation, installation, and basic troubleshooting.
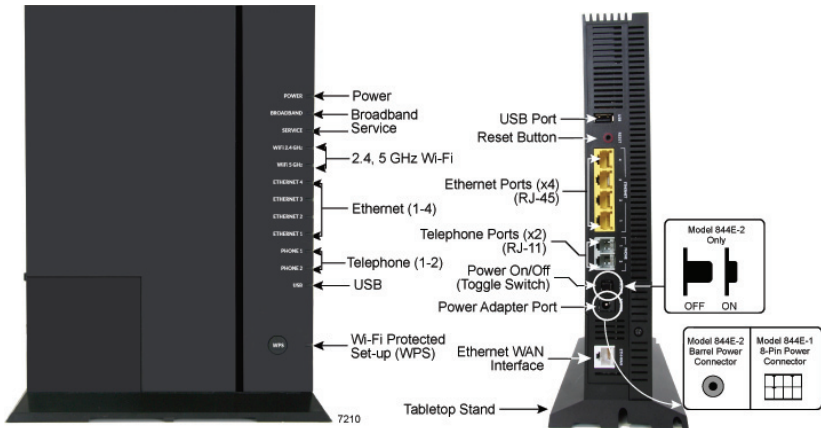
Package Contents

Scan the QR code at left to access the installation instructions for this product. All product documentation is available online from the Calix Resource Center (support.calix.com).

- ✔ GigaCenter - Model 844E
- ✔ Power Adapter (Optional - may ship separately or with UPS*)
- ✔ Wall mount bracket
- ✔ Tabletop mounting stand
- ✔ GigaCenter Quick Start Guide (this document)
- ✔ Product identification labels with login credentials (x2)

* Note: For instructions on installing the optional UPS, refer to the GigaCenter Installation Guide.

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A Quick Look

Power
Broadband
Service
2.4, 5 GHz Wi-Fi
Ethernet (1-4)
Telephone (1-2)
USB
Wi-Fi Protected Set-up (WPS)

USB Port
Reset Button
Ethernet Ports (x4) (RJ-45)
Telephone Ports (x2) (RJ-11)
Power On/Off (Toggle Switch)
Power Adapter Port
Ethernet WAN Interface
Tabletop Stand

Model 844E-2 Only
OFF   ON
Model 844E-2 Barrel Power Connector
Model 844E-1 8-Pin Power Connector
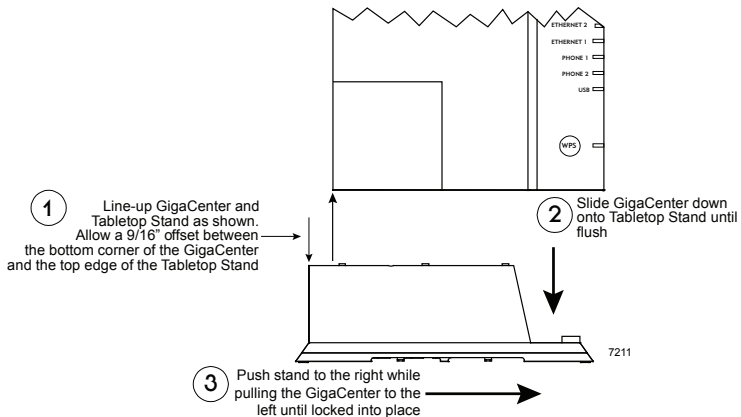
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Installation Variables

Before installing the GigaCenter, consider what additional services may be implemented. Various Ethernet and telephone ports are available on the back of the unit which may or may not be used. Prior to determining the unit's final location, you need to account for the following variables:

• Where will the telephone lines be routed?

• Where will the Ethernet cables be routed?

• What type of building material is used in the home? Make sure you have the appropriate drills, drill bits and fasteners for routing subscriber services and/or power cables as they pass through walls and the like.

Tabletop Mounting

Calix GigaCenters can be mounted on a tabletop in a "tower" configuration using the tabletop stand shipped with the product.
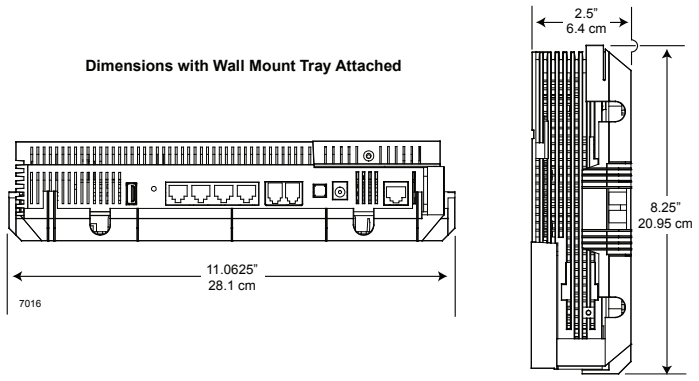
Assemble the tabletop stand and the GigaCenter as shown in the following diagram.

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1 Line-up GigaCenter and Tabletop Stand as shown. Allow a 9/16" offset between the bottom corner of the GigaCenter and the top edge of the Tabletop Stand

2 Slide GigaCenter down onto Tabletop Stand until flush

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3 Push stand to the right while pulling the GigaCenter to the left until locked into place
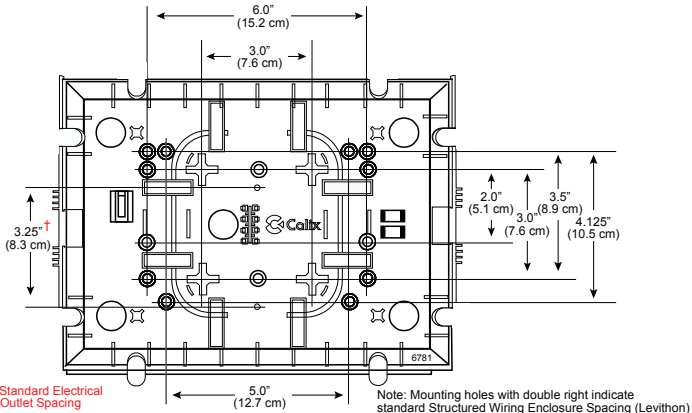
Wall Mounting

In order to facilitate wall mounting of the GigaCenter, a Wall Mount Bracket is required (included with the GigaCenter).

Dimensions with Wall Mount Tray Attached

2.5"
6.4 cm

8.25"
20.95 cm

11.0625"
28.1 cm

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Wall Mounting Dimensions

The GigaCenter can be mounted to a wall or a Structured Wiring Enclosure.

† = Standard Electrical Outlet Spacing

Note: Mounting holes with double right indicate standard Structured Wiring Enclosure Spacing (Levithon)

Default Device Settings

Inserted inside the shipping carton of each GigaCenter, the inventory label (x2) provides necessary product information. This information may be attached to a work order or applied to the exterior of the device for future reference.
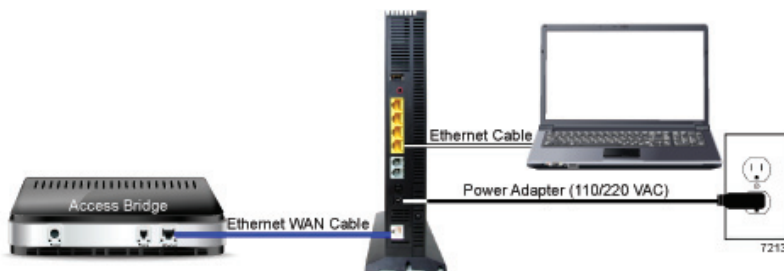

Default Settings
SSID: CXNK001870CD
ONU MAC: 000631B41844
Security Type: WPA2.AES
WPA Key: 84f1415608b2cb13
IP Address: 192.168.1.1
User/Password: admin/3f7b1e66
6870

- Serial Number of the 844E GigaCenter

- ONU MAC address

- Default Wi-Fi security type

- Wi-Fi security key (WPA Key)

- Default IP address of the home gateway router (needed at initial turn-up)

- Default login credentials (User Name/Password)

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Connecting the Equipment

1. Remove the GigaCenter from its packaging and inventory all parts.

2. Connect a CAT5 or CAT6 Ethernet cable from an Ethernet LAN port on the data/video source device to the white Ethernet WAN (Eth-WAN) interface on the back of the GigaCenter 844E.

3. Plug in the power adapter shipped with the GigaCenter to an available wall socket and attach the other end to the GigaCenter's power port.

4. Push the ON/OFF switch to ON and allow the GigaCenter to boot-up (about four minutes).

Connecting Outside Services

Subscriber voice, IP video and data services are attached to the rear of the GigaCenter.

1. Locate the telephone, video, and data cables coming from the home.

2. Connect the incoming telephone lines to the RJ-11 connectors on the rear of the GigaCenter.

3. Connect CAT5 or better cabling to the LAN Ethernet (RJ-45) ports for direct-attached devices.

4. Secure all subscriber service wiring as appropriate.

Getting Started with Home Gateway Settings

1. With the 844E GigaCenter connected to your PC, open a browser and enter the following URL into the address bar and then press enter:

    http://192.168.1.1

2. At the login prompt, enter the User Name and Password provided on the 844E label shipped inside the shipping carton (also affixed to the GigaCenter itself).

Status   Quick Start   Wireless   Utilities   Advanced

3. From the GigaCenter's Embedded Web Interface (EWI), complete the following three steps included in the online Quick Start menu:
    a. Connect to Internet
    b. Configure Wireless Network (2.4 GHz and 5 GHz)
    c. Set Time Zone (set to local time)

4. Click apply upon completion.

5. Check the Connection under the EWI's Status menu. The Service LED should be on (solid green). Refer to the LED Status indicator section below for trouble-shooting unexpected behavior.

LED Status Indicators

Power - If solid **GREEN**, unit is powered up and operational. If solid **AMBER** or **RED**, please contact your service provider. If flashing **AMBER**, device is undergoing a software update - do not power off if in this state.

Broadband - If solid **GREEN**, a broadband connection has been established.

Service - If solid **GREEN**, Internet service has been established. If solid **AMBER** , the device is in "Walled Garden" mode (your browser may be redirected to a service provider's website). If solid **RED**, the device has failed to receive an IP address or a PPPoE session has not been established.

WiFi 2.4 GHz, WiFi 5 GHz, Ethernet 1-4, Phone 1-2, USB - If solid **GREEN** or flashing **GREEN**, services are provisioned or devices are connected and active.

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Wireless Access Point (WAP)

The 844E GigaCenter supports services when connected behind another router or gateway. To support this feature, the GigaCenter is configured as a Layer-2 Bridged Wireless Access Point (WAP). WAP mode is useful for:

- Maintaining an existing router or service (DSL or cable) while improving the wireless service with the 844E GigaCenter
- Expanding wireless coverage with additional access points while only having to maintain a single router

To configure WAP mode, navigate to the GigaCenter's EWI Quick Start menu. Once WAP mode is enabled, the GigaCenter is configured as a bridged device with all Ethernet LAN and Wi-Fi network services residing behind the router. Since the router is now performing Network Access Translation (NAT), the IP address it receives is a local IP address (issued by the router that the 844E is connected to).

Note: Once connected to the router IP address, Home Gateway settings will no longer be accessible via the EWI. If changes to the Home Gateway settings are required, disconnect the 844E GigaCenter Ethernet WAN cable from the router, restoring access to the EWI.

To connect the 844E GigaCenter behind another router or gateway and enable Layer-2 Bridged WAP mode, complete the following steps:
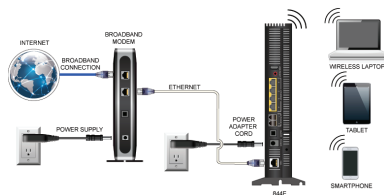
1. With the 844E GigaCenter connected to the upstream legacy router using an Ethernet LAN port or via Wi-Fi, open a browser and enter the following URL into the address bar and then press enter:

    http://192.168.1.1

2. At the login prompt, enter the User Name and Password provided on the 844E label.

3. Using the GigaCenter's EWI, navigate to **Quick Start > Configure Wireless Network**.

Note: Calix recommends changing the 2.4 GHz and 5 GHz SSID settings and any customized security settings prior to enabling WAP mode.

4. In the Wireless Access Point (bridged mode) section, click the Wireless Access Point radio button to **Enable** and then click **Apply**. The GigaCenter reboots and is now running in WAP mode.

5. Connect one end of a CAT5 or CAT6 Ethernet cable to any router Ethernet LAN ports (RJ-45). Connect the other end to the 844E GigaCenter white Ethernet WAN (Eth-WAN) port (RJ-45).

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Wireless Access Point Home Gateway Settings

As mentioned previously, when the 844E is configured as a Wireless Access Point (WAP), the web based Home Gateway settings are no longer accessible using the IP address http://192.168.1.1. When in WAP mode, it may be necessary to change the SSID network name, security passwords or login settings to match the upstream router. There are two options available to regain access to the Home Gateway settings.

1. Access the web base setup page of the router and lookup the IP address assigned to the 844E GigaCenter. Connect your PC to an Ethernet LAN port of the router, open a browser and enter that IP address as a URL into the address bar.

2. Disconnect the 844E GigaCenter Ethernet WAN cable from the router, connect your PC to an Ethernet LAN port of the GigaCenter and enter the following URL into the address bar: http://192.168.1.1. Press **Enter**.

Frequently Asked Questions

Q: How do I reset the device without having to unplug the unit?

A: If the RESET button is depressed for less than 5 seconds, it resets the unit using the current configuration settings.

Q: How do I reset the device back to factory settings?

A: Pressing the RESET button on the back of the unit for at least 5 seconds, or access the "Restore Defaults" reset radio button located in the "Utilities" section of the Embedded Web Interface.

Q: How does the WPS button work?

A: Pressing the WPS button broadcasts the GigaCenters credentials (network password) to other WPS capable devices for a period of 2 minutes, allowing these devices to gain access to the wireless network.

Q: Are the Wireless radios on by Default?

A: Yes.

Q: Is Wireless Security on by Default?

A: Yes, the unit is set up with "WPA2 Key" Wi-Fi security. Login/password credentials are printed on the inventory label and the product label affixed to the device.

Q: What if the User Name or login keys are forgotten?

A: Try setting up the wired connection and configuring the wireless encryption again.
- Press the reset button of the wireless router for at least five seconds.
- Device reverts to factory default settings
- Custom configuration options (such as SSID names) are reset as well.

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Q: My Wi-Fi signal strength is lower than I expected?

A: A wireless signal degrades with distance and obstructions. Common signal impairments include walls, ceilings, metal, concrete, cinder blocks, fluorescent lights, microwaves, furniture, etc. While the GigaCenter has been optimized to provide wireless coverage for most applications, there may be dependencies based on the location where the device is installed. Please contact your service provider for troubleshooting assistance.

Q: What mounting options are available for installing the 844E GigaCenter?

A: The 844E should be installed using the tabletop stand or wall mount bracket to ensure best Wi-Fi performance and proper fiber optic cable management. Ensure the Ethernet cable can be properly routed to the device without excessive bends or pinching of the cable.

Q: What do I do if I cannot log on to the GigaCenter gateway?

A: Contact your service provider.

Q: Who do I contact for service and support?

A: Contact your service provider.

Q: I configured the 844E for WAP mode and now cannot access the Embedded Web Interface or Home Gateway settings.

A: Disconnect the Ethernet WAN cable between the router and the 844E running in WAP mode. Once disconnected, the IP address http://192.168.1.1 can again be accessed using the Ethernet LAN port.

Q: My wireless network name (SSID name) and security password of my 844E configured for WAP mode are different than the settings in my wireless gateway. Can I change these to be the same?

A: Follow the online Quick Start menu Configure Wireless Network and change the Network Name and WPA/WPA2 Password to be the same as the wireless gateway. Note that changes will apply to both the 2.4 GHz and 5 GHz radios. To change each radio separate, use the Wireless menu SSID Setup and Security tabs.

Q: If the 844E GigaCenter is running in WAP mode, can the device be reset back to normal gateway mode?

A: From the online Quick Start menu, navigate to Configure Wireless Network. In the Wireless Access Point (bridged mode) section, click the Wireless Access Point radio button to Disabled and click Apply. The 844E will reboot and return to gateway mode.

Q: If the 844E GigaCenter is in WAP mode can the device be reset to factory settings?

A: Press the RESET button on the back of the unit for at least 5 seconds, or access the "Restore Defaults" reset button located in the "Utilities" section of the Embedded Web Interface. The 844E reboots and returns to the default gateway mode.

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Safety Information

The 844E GigaCenter is a highly sophisticated electronic device. To get the most out of it, be sure to read the following text about product care, safety and efficient use.

• Treat the product with care, keep it in a clean and dust free environment.

• **Do not** expose the GigaCenter to liquid, moisture or humidity.

• **Do not** expose the GigaCenter to extreme high or low temperatures; refer to the topic Environmental Conditions for more detailed information.

• **Do not** expose the GigaCenter to open flames or lit tobacco products.

• **Do not** drop, throw, or try to bend the product, since rough treatment could damage it.

• **Do not** use this product near water, for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

• **Do not** attempt to disassemble the GigaCenter. A broken warranty seal will void the warranty. The product does not contain consumer-serviceable components. Only Certified Service Centers should perform service.

• **Do not** use any accessories other than those approved by the manufacturer or your service provider. Use of non-original or non-approved accessories may result in loss of performance, damage to the product, fire, electric shock or injury, and may violate regulations. The warranty does not cover product failures that have been caused by use of non-original or non-approved accessories.

Potentially Explosive Atmosphere

Do not use the GigaCenter in an area where a potentially explosive atmosphere exists.

Intended Use

Approved for use in an indoor location only.

| ⚠ | **CAUTION!** Use of any controls, adjustments, or procedures other than those specified herein may result in hazardous radiation exposure. |

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Power Supply

- Ensure that a suitable AC power outlet is located near the GigaCenter and easily accessible.

- Connect the power supply cord only to the AC power outlet that meets the specifications marked next to the appliance AC power inlet on the GigaCenter.

- Never alter the AC power cord. If necessary have the correct outlet installed by a qualified electrician or call your service provider for assistance.

- To reduce risk of damage to the electric cord, remove it from the outlet by holding onto the AC power adapter rather than the cord. Make sure the cord is positioned so that it will not be stepped on, tripped over or otherwise subjected to damage or stress.

Children

Do not allow children to play with the GigaCenter. It contains small parts that could become detached and create a choking hazard.

Regulatory Information

Declaration of Conformity

Hereby, the manufacturer declares that this product (844E GigaCenter) is in conformity with the requirements and other relevant provisions of the following European directives for the CE mark:
- 1999/5/EC: R&TTE Directive
- 2006/95/EC: Low Voltage Directive
- 2004/108/EC: Electromagnetic Compatibility Directive (EMC)

Hereby, the manufacturer declares that this product (GigaCenter) is in conformity with the following standards of the CB Test Certificates:

- IEC 60950-1

The manufacturer declares that this product (844E GigaCenter) is in conformity with the requirements and other relevant provisions of the following Wi-Fi standards:

- IEEE 802.11b/g/n and WPS

The manufacturer declares that this product (844E GigaCenter) is in conformity with the requirements and other relevant provisions of the following Canadian standards:

- CAN ICES-3 (B)/NMB-3(B)

CAUTION! Changes or modifications to this product not expressly approved by the party responsible for compliance could void your authority to operate the equipment and invalidate approvals.

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Environmental Conditions

Maximum environmental values during use:
Temperature: 0° C to +40° C (32° to 104° F), Humidity: 5% to 95% RH, non-condensing

RoHS Compliance

This 844E GigaCenter meets the requirements detailed in the European RoHS Directive (2002/95/EC).

WEEE Directive

Requirements according to WEEE directive (2002/96/EC)

Disposal of old electrical and electronic equipment (Applicable in the European countries with separate collection systems).

This symbol on the product indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. Calix offers take-back and recycling services for products in many locations around the world. The customers are advised to contact the local Calix representative for further information.

License Information

Open Source Software Utilization Notice

The 844E GigaCenter uses Open Source Software Programs. Such software programs are made available subject to certain third party terms and conditions.

The fact that you are about to begin using or have purchased this product requires that you be informed of the use of these software packages and or libraries and in some cases, the third party terms and conditions applicable to such software. This information can be found on the manufacturer's support portal. Refer to the appropriate software release notes for additional information on Open Source Software Programs used by this product.

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