

EN-1000™ Quick Configuration Guide

CAT-1 LTE

The EN-1000™ is a high-performance, low-cost VPN router designed for CAT-1 LTE public and private networks. This compact IP router provides IP, VPN, firewall, Ethernet and IP interworking with an embedded LTE cellular wireless module. The EN-1000 provides remote monitoring, video/alarm panel surveillance, and business continuity, as part of enterprise support.

The EN-1000 router supports cellular data and traditional broadband networks such as DSL, cable, and Ethernet.

This document provides information to configure the EN-1000 router quickly. Confer with your network administrator for specific values to use in your network.

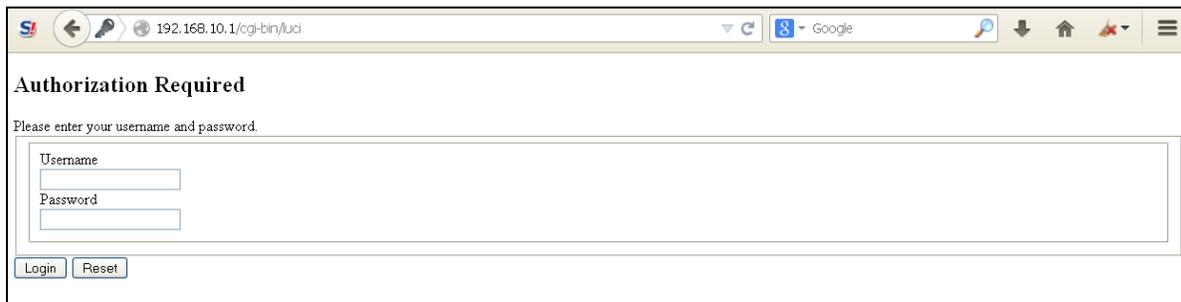
Note: The *EN-1000™ Quick Installation Guide* provides important information for setting up the EN-1000 hardware. For LED patterns, see the *Quick Guide to EN-1000™ LED Codes*. You may download those documents and other EN-1000 documentation at:

<http://encorenetworks.com/documentation/document-catalog-2-2/>

Connecting the EN-1000

- 1 Use an Ethernet cable to connect a management PC to the LAN port on the EN-1000.
- 2 Power up the EN-1000.
- 3 On the management PC, open a browser, type the IP address **http://192.168.10.1**, and press the **Enter** key.¹
 - ❖ The EN-1000 Log-In Screen is displayed.

EN-1000 Log-In Screen

A screenshot of a web browser window showing the login page for the EN-1000 router. The browser address bar shows "192.168.10.1/cgi-bin/uci". The page title is "Authorization Required". Below the title, it says "Please enter your username and password." There are two input fields: "Username" and "Password". At the bottom, there are "Login" and "Reset" buttons.

192.168.10.1/cgi-bin/uci

Authorization Required

Please enter your username and password.

Username

Password

Login Reset

1. Instead of using a direct connection to the LAN port, you can connect across a public network. In that case, type **https://** followed by the EN-1000's public IP address.

4 Log in with the user name and the router's password.

Note: For EN-4000™ routers, the default user name is **root**. For all other EN™ routers, including the EN-1000, the default user name is **admin**. In addition:

- Devices shipped before July 09, 2018, use the default password **encore!1**.
- Devices shipped from the factory on or after July 09, 2018, use a randomly generated default password. That password is listed in the lower right corner of a sticker on the bottom of the router's chassis. Retain that sticker; you will need the default password if the router must be reset. (For details, see the document [Password Policy for EN™ Routers.](#))

Encore Networks, Inc., advises users to change a router's password upon first configuration of the router.

- ❖ After successful log-in, the EN-1000 management system's Status Overview screen opens.

EN-1000 Status Overview Screen

The screenshot shows the EN-1000 Status Overview screen. At the top, there is a navigation bar with tabs for Status, System, Network, Logout, and Quickstart. The main content area is divided into several sections:

- System:**
 - Device Name: EN1000
 - Device Model: EN1000
 - Firmware Version: 17229 01 10
 - Local Time: Mon Sep 22 23:36:56 2014
- Cellular Information:**
 - Cell Signal: -125 dBm
 - IMEI: 359692051010438
 - SIM ID:
- Network:**
 - CELL (eth2):** Status: Uptime: 0h 0m 0s, MAC-Address: 94:B9:B4:09:B2:4A, Protocol: dhcp, RX: 9.57 KB (184 Pkts.), TX: 1.50 MB (3819 Pkts.)
 - LAN (eth0):** Status: Uptime: 3h 10m 43s, MAC-Address: 04:F0:21:11:86:44, Protocol: static, RX: 5.56 MB (24617 Pkts.), TX: 34.78 MB (37421 Pkts.), IPv4: 192.168.10.1/24
 - WAN (eth1):** Status: Uptime: 3h 8m 23s, MAC-Address: 04:F0:21:11:86:45, Protocol: dhcp, RX: 35.54 MB (49551 Pkts.), TX: 5.72 MB (34362 Pkts.), IPv4: 192.168.1.151/24
- DHCP Leases:**

Hostname	IPv4-Address	MAC-Address	Leasetime remaining
HP-p6-2016	192.168.10.198	38:60:77:82:55:1a	11h 28m 6s

5 On the Status Overview screen, select the **Quickstart** tab.

- ❖ The Application Configuration screen opens.

EN-1000 Application Configuration Screen

The screenshot shows the 'Application Configuration' screen for an EN-1000 LTE Router. The 'Parameters' section is active, displaying various network settings. The 'Device Mode' is set to 'Cell Failover'. Other settings include LAN IP (192.168.10.1), LAN Netmask (255.255.255.0), WAN IP (1.1.1.2), WAN Netmask (255.255.255.0), WAN Gateway (1.1.1.1), DNS Server (8.8.8.8), and Failover Ping IP (8.8.8.8). The 'Device Password' section is also visible at the bottom, with fields for Password and Confirmation.

Note: The lower part of the Application Configuration screen might provide a **Device Password** configuration area. Change the password only if your network administrator provides a new password.

Selecting the EN-1000's Device Mode

Make sure you have performed [step 1](#) through [step 5](#) on pages 1 and 2.

- 6 In the upper part of the Application Configuration screen, under the heading **Parameters**, select the **Device Mode**:

Note: When you select the **Device Mode**, the screen displays the parameters to configure for that mode.

- a Select **Cell Failover** for automatic connection via a cellular wireless connection when the wired connection fails.

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 for Cell Failover](#), on page 4.

Note: Cell Failover is the default configuration for the EN-1000 router. If that is your organization's preferred configuration for the EN-1000, no further configuration is necessary. The router may begin its functions in your organization's network.

- b Select **Cell Router** when cellular wireless will be the principal method of connection to a network.

Note: Configuring the EN-1000 as a cell router also configures the WAN port as a second LAN port. (The EN-1000 management system's Status screen may not show IP information for the WAN port the same way as it does for the LAN port.)

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 as a Cell Router](#) on page 5.

c Select **IP Passthrough** to provide connection between an existing non-wireless router and a network. Connect the non-wireless router to the EN-1000's LAN port.

Note: The device connected to the EN-1000's LAN port will see the IP address of the cellular port or of the WAN port.

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 for IP Passthrough](#) on page 6.

d Select **VRRP Backup** to use the EN-1000 as a backup router in a VRRP set.

- ❖ The screen displays parameters for this device mode. See [Configuring the EN-1000 for VRRP Backup](#) on page 6.

Configuring the EN-1000 for Cell Failover

Make sure you have performed [step 6a](#) on page 3.

*Application Configuration Screen to use EN-1000 in Cell Failover Mode
(WAN Protocol Displayed as Static)*

The screenshot shows the 'Application Configuration' screen for the EN-1000 LTE Router. The device mode is set to 'Cell Failover'. The configuration parameters are as follows:

Parameter	Value
Device Mode	Cell Failover
Device Name	HomeOfficeDevice
LAN IP	192.168.10.1
LAN Netmask	255.255.255.0
LAN DHCP Server	Enabled
WAN Protocol	Static
WAN IP	1.1.1.2
WAN Netmask	255.255.255.0
WAN Gateway	1.1.1.1
DNS Server	8.8.8.8
Failover Ping IP	8.8.8.8
Failover Ping Timeout (seconds)	1
Failover Ping Retries	5
WiFi Mode	None
Enable WiFi Mode	<input type="checkbox"/>

Below the configuration fields is the 'Device Password' section, which includes fields for 'Password' and 'Confirmation'.

7 Do the following when the EN-1000 will provide cell failover:

a Modify the following parameters, if required:

- Device Name
- LAN IP
- LAN Netmask
- LAN DHCP Server
- enCloud Enabled

b Pull down the menu at the right of the **WAN Protocol** field, and select the EN-1000's WAN protocol (**DHCP Client**, **PPPoE**, or **Static**).

- ❖ Parameters are displayed for the selected **WAN Protocol** (as indicated in the following table).

Parameters Displayed	WAN Protocol		
	DHCP Client	PPPoE	Static
PPPoE Username		•	
PPPoE Password		•	
WAN IP			•
WAN Netmask			•
WAN Gateway			•
DNS Server			•
Failover Ping IP	•	•	•
Failover Ping Timeout	•	•	•
Failover Ping Retries	•	•	•
VPN Mode	•	•	•

c Configure the parameters for the WAN protocol you selected.

d When you are satisfied with the parameters, select the **Save & Apply** button (in the lower right corner of the screen).

- ❖ The configuration is saved and the EN-1000 reboots. After rebooting, the log-in screen is displayed.

e Go to [Using the EN-1000's Configuration](#), on page 7.

Configuring the EN-1000 as a Cell Router

Make sure you have performed [step 6b](#) on page 3.

Application Configuration Screen to use EN-1000 in Cell Router Mode

The screenshot shows the 'Application Configuration' screen for the EN-1000 in Cell Router Mode. The 'Parameters' section includes:

- Device Mode:** Cell Router
- Device Name:** NameOfTheDevice
- LAN IP:** 192.168.10.1
- LAN Netmask:** 255.255.255.0
- LAN DHCP Server:** Enabled
- VPN Mode:** None
- Enable WPA Mode:** (Shaping this activates WPA)

The 'Device Password' section has fields for 'Password' and 'Confirmation', both currently empty.

8 Do the following when the EN-1000 will perform as a cell router:

a Modify the following parameters, if required:

- Device Name
- LAN IP
- LAN Netmask
- LAN DHCP Server
- VPN Mode
- enCloud Enabled

b When you are satisfied with the parameters, select the **Save & Apply** button (in the lower right corner of the screen).

- ❖ The configuration is saved and the EN-1000 reboots. After rebooting, the log-in screen is displayed.

c Go to [Using the EN-1000's Configuration](#), on page 7.

Configuring the EN-1000 for IP Passthrough

Make sure you have performed [step 6c](#) on page 3.

Application Configuration Screen to use EN-1000 in IP Passthrough Mode

The screenshot shows the 'Application Configuration' screen for IP Passthrough Mode. The interface includes a navigation bar with 'Status', 'System', 'Network', 'Logout', and 'Quickstart'. The main content area is titled 'Application Configuration' and contains a form with the following parameters:

Parameter	Value
Device Mode	IP Passthrough
Device Name	IP_Bridge_Device
Passthrough Mode	Dynamic
Management HTTPS Port	14443
Management IP	192.168.10.1
EnCloud Enabled	Yes

At the bottom right of the form, there are three buttons: 'Reset', 'Save', and 'Save & Apply'.

9 Do the following if the EN-1000 will send all traffic from the cellular network or the WAN network directly to the LAN port:

a Modify the following parameters, if required:

- Device Name
- Management IP
- Passthrough Mode
- enCloud Enabled
- Management HTTPS Port

b When you are satisfied with the parameters, select the **Save & Apply** button (in the lower right corner of the screen).

- ❖ The configuration is saved and the EN-1000 reboots. After rebooting, the log-in screen is displayed.

c Go to [Using the EN-1000's Configuration](#) on page 7.

Configuring the EN-1000 for VRRP Backup

Make sure you have performed [step 6d](#) on page 3.

Application Configuration Screen to use EN-1000 in VRRP Backup Mode

The screenshot shows the 'Application Configuration' screen for VRRP Backup Mode. The interface includes a navigation bar with 'Status', 'System', 'Network', 'Logout', and 'Quickstart'. The main content area is titled 'Application Configuration' and contains a form with the following parameters:

Parameter	Value
Device Mode	VRRP Backup
Device Name	NameOfThisDevice
LAN IP	192.168.10.1
LAN Mask	255.255.255.0
VRRP ID	1
VRRP IP	192.168.10.3
VRRP Mode	None
Enable VRRP Mode	<input type="checkbox"/>

Below the main configuration form is a section titled 'Device Password' with two input fields for 'Password' and 'Confirmation'.

At the bottom right of the form, there are three buttons: 'Reset', 'Save', and 'Save & Apply'.

10 Do the following when the EN-1000 will act as a backup router in a VRRP set:

a Modify the following parameters, if required:

- Device Name
- LAN IP
- LAN Netmask
- VRRP ID
- VRRP IP
- VPN Mode
- enCloud Enabled

b When you are satisfied with the parameters, select the **Save & Apply** button (in the lower right corner of the screen).

- ❖ The configuration is saved and the EN-1000 reboots. After rebooting, the log-in screen is displayed.

c Go to [Using the EN-1000's Configuration](#) on page 7.

Using the EN-1000's Configuration

Make sure you have selected the **Save & Apply** button (in the lower right corner of the screen). That saves the configuration, reboots the EN-1000, and displays the log-in screen (recall the EN-1000 Log-In Screen shown on page 1).

Note: The EN-1000 reboots when the **Save & Apply** button is selected only after the initial configuration. Later configurations also use the **Save & Apply** button, but they do not require reboot.

11 When the log-in screen is displayed, log in again. (If you changed the password, use the new password.)

- ❖ The Status Overview screen is displayed. This screen provides quick information about the connections in the EN-1000.

EN-1000 Status Overview Screen

The screenshot shows the EN-1000 Status Overview Screen. At the top, the Encore Networks logo is on the left, and system information is on the right: EN1000 LTE Router Phone/MTN#, Device Mode: Cell Failover, Cell Signal: -125dBm, and Operation Status: Online using WAN. Below this is a navigation bar with tabs for Status, System, Network, Logout, and Quickstart. The main content area is titled 'Status Overview' and includes sub-tabs for Overview, Routes, System Log, and Realtime Graphs. The 'Status' section shows 'Uptime: 3h 11m 5s'. It is divided into three main sections: System, Cellular Information, and Network. The System section lists Device Name (EN1000), Device Model (EN1000), Firmware Version (17229 01 10), and Local Time (Mon Sep 22 23:36:56 2014). Cellular Information shows Cell Signal (-125 dBm), IMEI (359692051010438), and SIM ID. The Network section shows three interfaces: CELL (eth2), LAN (eth0), and WAN (eth1). Each interface has a status bar and detailed information including Uptime, MAC Address, Protocol, RX/TX statistics, and IP Address. At the bottom, there is a DHCP Leases table.

Hostname	IPv4-Address	MAC-Address	Leasetime remaining
HP-p6-2016	192.168.10.198	38:60:77:82:55:1a	11h 28m 6s

12 If you need to reconfigure the device mode (for example, to change the DHCP Server setting), select the **Quickstart** tab.

- ❖ The Application Configuration screen is displayed. The screen shows the current configuration parameters.

Returning to the Default Configuration

! **Caution:** If your EN-1000's configuration is not correct, try to reconfigure the EN-1000 before returning to the default configuration. Do not perform the action described here unless there is no other way to resolve problems with the EN-1000 configuration.

- 1 Power up the unit and wait for 2.5 minutes.
- 2 On the front of the chassis, insert the end of a paper clip into the hole marked **Reset**.
Note: The paper clip will stop when it reaches the **Reset** button.
- 3 Press the paper clip in slightly and hold the button in, while watching the **Sys Status** LED (also on the front of the chassis).
Note: As you hold the **Reset** button in, the **Sys Status** LED will flash slowly one time, then again a second time, then (possibly) a third time. Then it will flash fast.
- 4 When the **Sys Status** LED starts to flash fast, release the **Reset** button.
 - ❖ At this point, the **Cell** LED and **Net Status** LED should flash at the same time. This indicates that the unit is resetting back to factory defaults.
- 5 Wait one (1) full minute; then log into the EN™ router's management system (the GUI menu) via a web browser.
- 6 When the Status Overview screen is displayed, select the **Quickstart** tab (returning to [step 5](#) on page 2) and proceed again with the EN-1000's quick configuration.