



**4G LTE Router + WiFi + VPN**

# Quick Start Guide



## The REALLY QUICK Start Guide

1. Attach the external antennas
2. Insert an activated SIM
3. Connect power to the EtherLINQ
4. Wait 90 sec. for the OS and LTE LEDs to stop flashing
5. Connect a DHCP-enabled PC to the LAN port or scan for a WiFi network named *EtherLINQ-xxxx* and enter the 8 digit password printed on the EtherLINQ's label

The EtherLINQ automatically attempts to connect to the default APN for your 4G carrier. If you are using a different APN or the modem fails to connect to the Internet:

- Browse to <http://192.168.1.1:8080> Username/Password: admin/1234
- Select the **LTE** tab
- Enter the correct APN for your SIM
- Click the **Save & Apply** button
- The EtherLINQ will reboot and connect to the Internet

**Click the "Check For Updates" button to install the latest firmware**

# Introducing the EtherLINQ

The EtherLINQ can be used to provide access to remote equipment, gather telemetry or other M2M data, establish Internet service in temporary locations, or back-up wired Internet service with a 4G/LTE cellular connection.

## Key Features

- Integrated 4G LTE Modem
- NAT Router Mode with NAT/PAT
- Bridge Mode (WAN IP Pass-Through)
- Virtual Cable Mode
- WAN Fail-Over / Fall-Back
- 1 LAN + 1 WAN or 2 LAN Port Options
- WiFi b/g/n Access Point (300 Mbps)
- IPsec VPN Client & Server
- Integrated GPS (select models)
- USB Webcam Server
- Serial Device Server
- Metal Chassis & Wide Voltage Range

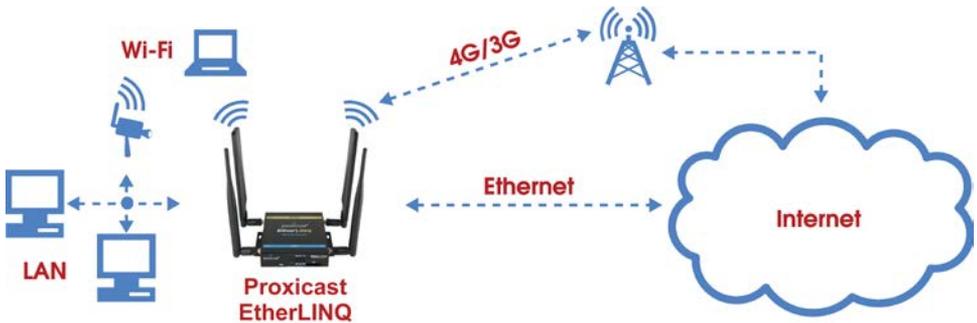


Figure 1: Typical EtherLINQ Network Configuration

See the *EtherLINQ User's Guide* for a complete list of features and configuration settings. Also refer to Proxicast's Support Web Site (<http://support.proxicast.com>) for technical notes, application configuration examples and knowledgebase articles.

## Package Contents

- EtherLINQ
- 120/240 VAC to 12 VDC Locking Power Adapter
- 2x 5 dBi LTE Antennas (Flat)
- 2x 5 dBi WiFi Antennas (Round)
- SIM Size Adapter Kit
- 8 GB microSD Card (installed)
- CAT5e Cable
- Mounting Hardware Kit
- Quick Start Guide

# Indicators & Connections



Figure 2: EtherLINQ Front Panel

LABEL	LED	DESCRIPTION
MicroSD		Slot for microSD cards. Must be formatted with the FAT32 file system.
RESET		Press & hold for 2 seconds until the OS LED begins to flash. This places the EtherLINQ in <u>CONFIGURATION MODE</u> and forces the LAN IP = 192.168.1.1:8080  Press & hold for 10 seconds until the top row of LEDs flash in sequence. This returns the EtherLINQ to its <u>factory default</u> settings: LAN IP = 192.168.1.1:8080 Username/Password = admin/1234
WAN	Solid	The wired WAN Ethernet port is the active WAN
	Flashing	The wired WAN Ethernet port is attempting to connect
LTE	Solid	The LTE Modem is the active WAN
	Flashing	The LTE Modem is attempting to connect
Bars	Off	The LTE Modem is not receiving a cellular signal
	1 Hz	The LTE signal is POOR
	10 Hz	The LTE signal is GOOD
	Solid	The LTE signal is EXCELLENT
PWR	Solid	Power is on
OS	Flashing	The EtherLINQ is booting
	Solid	The EtherLINQ is operating normally
WiFi	Solid	The EtherLINQ's internal WiFi radio is enabled
SIM		Press yellow button on the lower right to eject. The EtherLINQ uses "mini" (2FF) sized SIMs



**Figure 3: EtherLINQ Rear Panel**

LABEL	DESCRIPTION
USB	USB 2.0 port for webcams, USB serial devices and flash drives
LAN 1	Connect equipment to this port with an Ethernet cable
WAN / LAN 2	Connect a cable/DSL modem or other Ethernet-based WAN equipment to this port. Can also be defined as a second LAN port.
PWR	Connect the included 12V DC power adapter to this jack
GPS	Connect an external GPS antenna to this SMA Female jack
LOCK	Kensington Lock port

## EtherLINQ Default Settings

LAN IP Address	192.168.1.1 / 255.255.255.0
HTTP Management Access	admin / 1234 on port 8080
Operating Mode	NAT Router
LAN DHCP Server	Enabled
WAN Priority	1. Ethernet WAN 2. LTE WAN
Ethernet WAN	DHCP Client Enabled
LTE APN	Carrier Default
WiFi Access Point	Enabled  SSID = <i>EtherLINQ-nnnn</i> where nnnn are the last 4 characters of the EtherLINQ's serial number  WPA2 Password = 8 digit number from the EtherLINQ label
Security	All TCP/UDP ports closed. Remote Management disabled

Press the RESET button for 10 seconds to return the EtherLINQ to these settings.

## External Antenna Connections

The EtherLINQ has 2 SMA Female antenna jacks for 4G LTE external antennas and 2 RP-SMA (reverse polarity) Female jacks for WiFi. Some models also have an SMA Female jack on the rear panel for GPS antennas.

# Configuring the EtherLINQ

- Step 1:** Enter **http://192.168.1.1:8080** in a web browser
- Step 2:** At the **Login** screen (Figure 4), enter the default Username: **admin** and the default Password: **1234**
- Step 3:** The EtherLINQ **Status** screen will be displayed (Figure 5)



Figure 4: Login Screen



Name: EtherLINQ-001B3910CAE9  
Serial: 001B3910CAE9

Status	Mode	LTE	WAN	WiFi	VPN	GPS	USB	Advanced	Admin	Log
<b>Device Status</b>										
<b>EtherLINQ Model</b>		EL-001 / LE910-SVG			Cellular Ethernet Modem/Router					
<b>Firmware Version</b>		5.1.0			EtherLINQ software release			<a href="#">Check for updates</a>		
<b>System Uptime</b>		1w 17:42:21			System uptime					
<b>WAN Status</b>										
<b>Connection Mode</b>		NAT Router Mode			Device operating mode					
<b>Active WAN</b>		LTE Modem			Active WAN interface					
<b>WAN Connection</b>		UP			WAN connection status					
<b>WAN Connection Time</b>		2d 04:00:30			WAN connection uptime					
<b>WAN IP Address</b>		166.246.222.80			IP address of the WAN interface					
<b>Modem Status</b>										
<b>Network Provider</b>		Verizon Wireless			Cellular network operator					
<b>Network Type</b>		LTE			Cellular network technology					
<b>Modem Signal Quality</b>		54% <a href="#">Graph</a>			0=No Signal 1-32=Weak 33-65=Good 66-100=Strong					
<b>WiFi Status</b>										
<b>WiFi Radio</b>		Enabled			WiFi radio status					
<b>WiFi SSID</b>		EtherLINQ-CAE9			WiFi Access Point ID Name					
<b>VPN Status</b>										
<b>Active Tunnels</b>					Open IPSec Tunnels					

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Figure 5: EtherLINQ Status Screen

# Common Tasks

HOW TO	WHERE	ACTION
Change the LAN IP Address	Mode Tab	Enter the IP address to be assigned to the EtherLINQ and select the subnet mask for the LAN. The DHCP Server will automatically adjust to the new subnet.
Configure the LTE APN	LTE Tab	Enter the Access Point Name (APN) assigned to your SIM. Also configure LTE Keep-Alive settings.
Change the WiFi Password	WiFi Tab	Configures the Access Point's SSID and security settings.
Forward Ports to LAN Devices	Mode Tab > NAT Router Mode	Enter up to 10 port-forward / translation rules.
Set up a VPN	VPN Tab	Enable IPsec and Add new rules for each VPN tunnel.
Configure WAN Fail-Over	WAN Tab	Set WAN priority, fail-over and connection Keep-Alive settings.
Restart Periodically	Advanced Tab > Scheduled Reboot	Select the frequency for the EtherLINQ to automatically reboot.
Change the System Name	Advanced Tab > Device Access	Enter the System Identification.
Change the EtherLINQ Password	Advanced Tab > Device Access	Passwords are <u>case sensitive</u> . The username cannot be changed from "admin" however, multiple users may log in concurrently.
Change the Administration Ports	Advanced Tab > Device Access	HTTP and HTTPS can be assigned to any port or disabled as necessary to avoid port conflicts or increase security.
Backup / Restore Settings	Admin Tab > Configuration Settings	Settings can be saved or restored; EtherLINQ can be reset to factory default settings.
Enable Bridge Mode	Mode Tab > IP Pass-Through	Passes the WAN IP address to first LAN device that requests a DHCP address.
Enable Virtual Cable Mode	Mode Tab > Virtual Cable	Bridges the EtherLINQ to other EtherLINQs and PocketPORTs through any intervening network topology.
Update Firmware	Status Tab > Check For Updates button	Requires an active WAN connection to check the Proxicast server for updates.

Consult the *EtherLINQ User's Guide* for more detailed information on how to configure all of the EtherLINQ's features.

# Troubleshooting

PROBLEM	CORRECTIVE ACTION
None of the LEDs turn on	Ensure that the correct power adapter is connected to the EtherLINQ and plugged in to an appropriate power source. If the LEDs still do not turn on, there may be a hardware failure.
Cannot access the EtherLINQ from a PC on the LAN	<p>Check the cable between the computer (or hub/switch) and the EtherLINQ. Check that the corresponding LAN port LED is ON.</p> <p>Configure the PC to receive its IP settings via DHCP (automatic assignment).</p> <p>Confirm that any other network interfaces on the PC (such as WiFi) are disabled.</p>
Cannot ping the EtherLINQ from the LAN	<p>If the LAN LEDs are off, check the cable connections.</p> <p>Verify that the IP address and subnet of the EtherLINQ is in the same range as the computers on the LAN and that the EtherLINQ is the default gateway for all LAN devices.</p>
Cannot make (or maintain) a cellular data connection (i.e. no LTE WAN IP address)	<p>Confirm that the SIM has been provisioned &amp; activated with the correct type of Internet access data service.</p> <p>Ensure that the SIM/RUIM card (if required) is properly inserted.</p> <p>Network registration may take several minutes.</p>
Cellular Signal Quality is low	<p>Connections may be unreliable if the signal quality is &lt; 33%.</p> <p>Check that the proper external antenna is securely attached.</p> <p>Use coax extension cables to locate the antennas to a more favorable location.</p> <p>Move the EtherLINQ to a location where the carrier's signal is stronger or use a higher-gain antenna or amplifier.</p>
Cannot get a WAN IP address from the Ethernet WAN ISP	<p>The WAN IP address may not be provided until after the ISP verifies the MAC address. Confirm the verification method used by the ISP.</p> <p>Check the EtherLINQ's connection to the wired WAN (cable/DSL modem). Check whether the Ethernet WAN connection requires a crossover or straight cable.</p>
After pressing RESET, cannot make a WAN connection	The <b>RESET</b> button returns the EtherLINQ to its factory default settings including clearing the LTE APN and WAN parameters.

# Common Carrier-Specific Issues

CARRIER	COMMENT
<b>Verizon Wireless 4G/LTE</b>	<p>Verizon Wireless' default APN (<i>vzwinternet</i>) provides only NAT'd IP addresses. This prevents all Internet initiated inbound (remote access) connections from reaching the EtherLINQ.</p> <p>Use the EtherLINQ's VPN features to make an outbound connection to a VPN server on another network; or</p> <p><b>Purchase a static public IP address from Verizon for an additional fee.</b></p>
<b>AT&amp;T Wireless</b>	<p>AT&amp;T's default APN (<i>broadband</i>) blocks <u>all</u> packets originating from the Internet. To access the EtherLINQ or other equipment remotely, request that AT&amp;T provide you access to the <i>i2gold</i> APN or another APN which offers <i>mobile terminated data service</i>;</p> <p>Or use the EtherLINQ's VPN features to make an outbound connection to a VPN server on another network; or</p> <p><b>Purchase a static public IP address from AT&amp;T for an additional fee.</b></p>

Also see our online Knowledge Base at <http://support.proxicast.com> for more troubleshooting tips, documentation, TechNotes and configuration examples.

Proxicast also manufactures an extensive line of cellular & WiFi antennas, coaxial extension cables and other accessories for various applications.

Visit our online store at:

**<https://shop.proxicast.com>**



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