



BEC MX-221P
Triple-SIM 4G/LTE Router

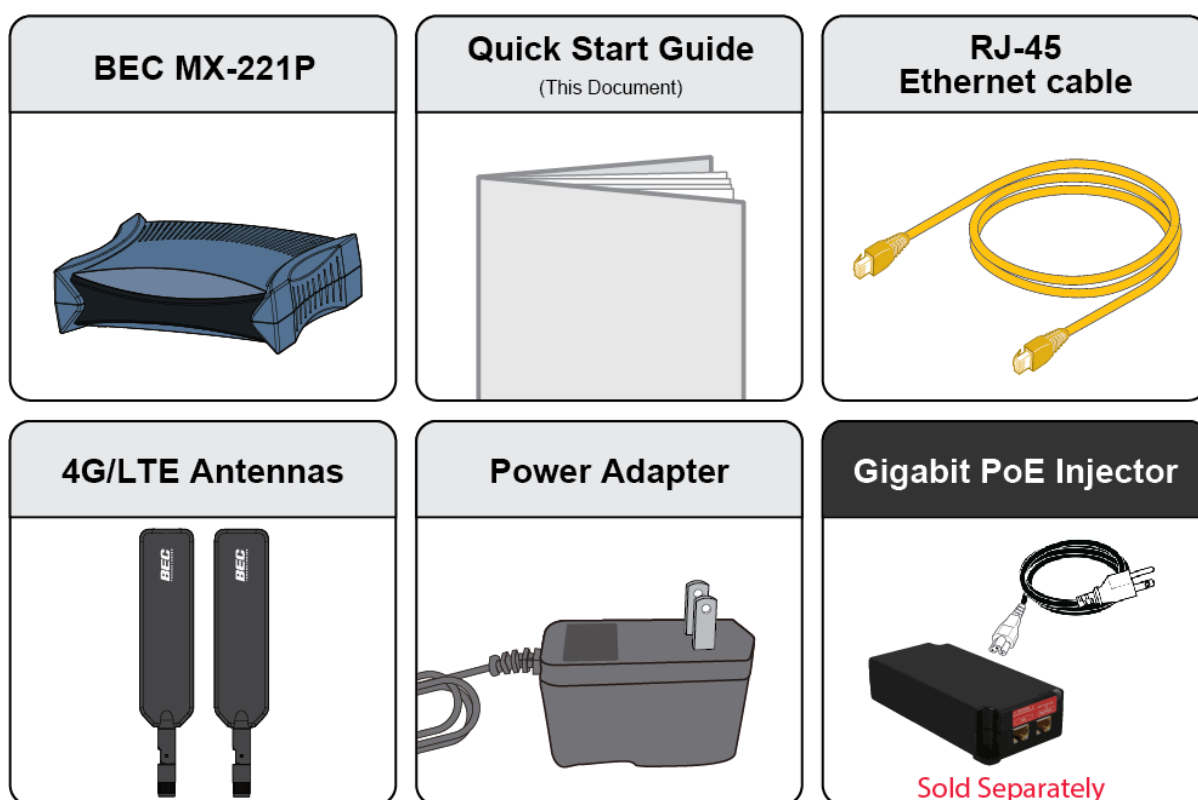
Quick Start Guide



PLEASE READ THE QUICK START GUIDE AND FOLLOW THE STEPS CAREFULLY. THIS QUICK START GUIDE WILL HELP YOU INSTALL THE DEVICE PROPERLY AND AVOID IMPROPER USAGE. IF YOU NEED MORE INFORMATION ON THIS SOFTWARE CONFIGURATION, PLEASE REFER TO THE ONLINE USER MANUAL.

Package Contents

- ✓ BEC MX-221P 4G/LTE Router * 1
- ✓ This Quick Start Guide * 1
- ✓ RJ-45 Ethernet Cable * 1
- ✓ 4G/LTE Antenna * 2
- ✓ DC Power Adapter * 1



NOTE: ALL IMAGES SHOWN ARE FOR ILLUSTRATION PURPOSE ONLY.
PACKAGE CONTENTS MAY DIFFER FROM ACTUAL PRODUCTS.






- Do not use the router in high humidity or at high temperature.
- Do not use the same power source for the router as other equipment.
- Do not open or repair the case yourself. If the router is too hot, turn off the power immediately and have it repaired at a qualified service center.
- Avoid using this product and all accessories outdoors.



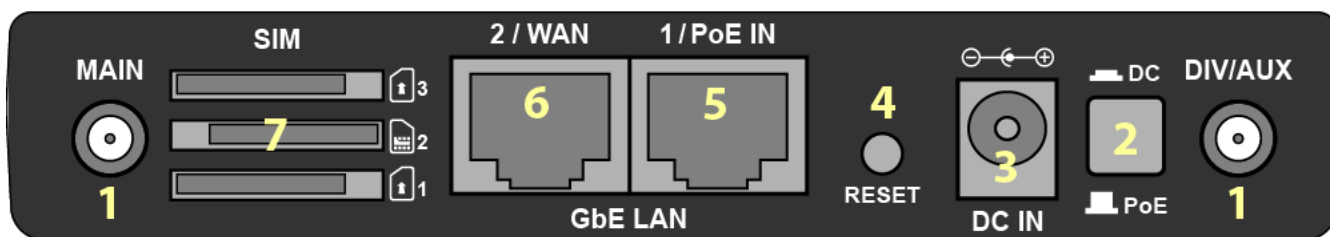
- Place the router on a stable surface.
- Only use the power adapter that comes with the package. Using a different voltage rating power adapter may damage the router.




Front Panel LEDs



| LED | STATUS | DESCRIPTION |
|--|-------------------------------|--|
| Power  | Green | System is up and ready |
| | Red | Boot failure |
| Ethernet Port LAN 1 - 2 | Green | Transmission speed is at Gigabit speed (1000Mbps) |
| | Orange | Transmission speed is at 10/100Mbps |
| | Blinking | Data being transmitted/received |
| LTE (Received Signal Strength Indicator)  | Green | RSSI greater than -69 dBm. Excellent signal condition |
| | Green Flashing quickly | RSSI from -81 to -69 dBm. Good signal condition |
| | Orange Flashing quickly | RSSI from -99 to -81 dBm. Fair signal condition |
| | Orange Flashing slowly | RSSI less than -99 dBm. Poor signal condition |
| | Orange | No signal. The cellular module is in service |
| | Off | No LTE module or LTE module fails |
| | Green & Orange | MX-221P is either in debug mode or in upgrading firmware process |
| Internet  | Green | IP address has received, and traffic is passing thru the device |
| | Red | IP address request has failed |
| | Off | MX-221P is either in bridged mode or WAN connection is not ready |

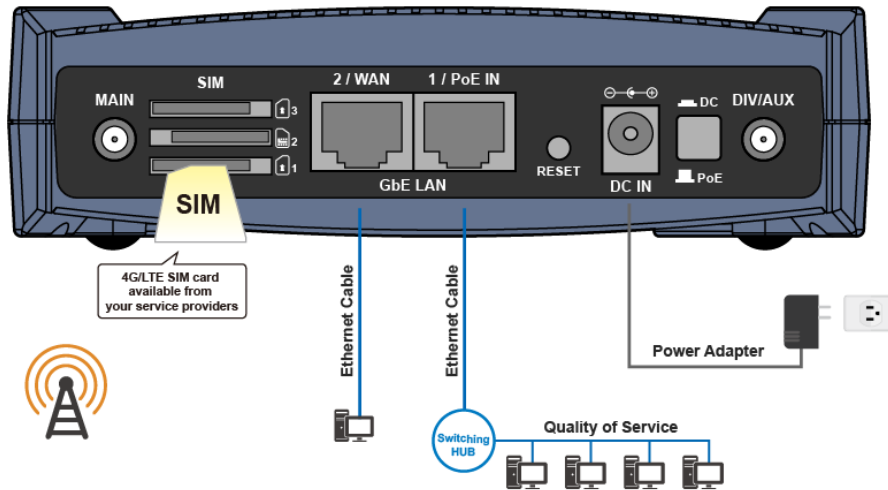
Rear Panel Connectors



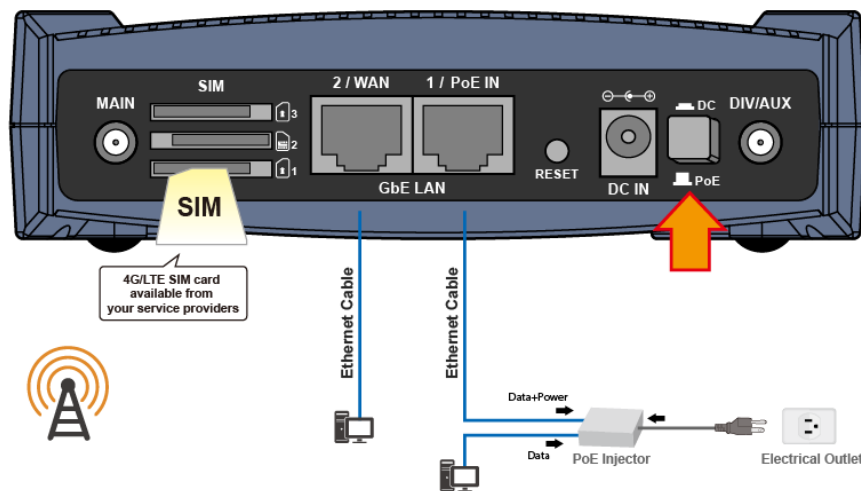
| INTERFACE | | MEANING | |
|-----------|--------------------------------------|---|--|
| 1 | 4G/LTE Antenna Connectors (Main/Aux) | SMA female connectors. Manually screw the cellular antennas tight to the female connectors Connect to Main if decide to use single antenna instead of two | |
| 2 | Power Source | Power ON/OFF switch (1) Power Switch ON: if want to power up by the supplied DC power adapter (2) Power Switch OFF: if want to power up by a PoE injector | |
| 3 | Power Jack (DC IN) | Connect the supplied Power Adapter to this jack | |
| 4 | RESET | After the device is powered on, press it 6 seconds or above: to restore to factory default settings (this is used when you cannot login to the router, e.g. forgot your password) | |
| 5 | Gigabit Ethernet (LAN 1 / PoE) | Ethernet LAN: Connect to a 10/100/1000Mbps Ethernet device Ethernet PoE: Connect to an 802.3at Gb PoE injector to provide power to the MX-221P. | |
| 6 | Gigabit Ethernet (LAN 2 / WAN) | Ethernet LAN: Connect to a 10/100/1000Mbps Ethernet device Ethernet WAN: Software configurable in the GUI. Connect to a broadband device such as a cable modem, ADSL/VDSL modem or fiber modem | |
| 7 | SIM Card Slots | SIM <u>1</u> : Insert the mini SIM card (2FF) with the gold contact facing <u>down</u>  SIM <u>2</u> : Insert the mini SIM card (2FF) with the gold contact facing <u>up</u>  SIM <u>3</u> : Insert the mini SIM card (2FF) with the gold contact facing <u>down</u>  Push the mini SIM card (2FF) inwards to eject it * Power off the MX-221P before inserting or removing the SIM card(s) | |

Application Diagrams

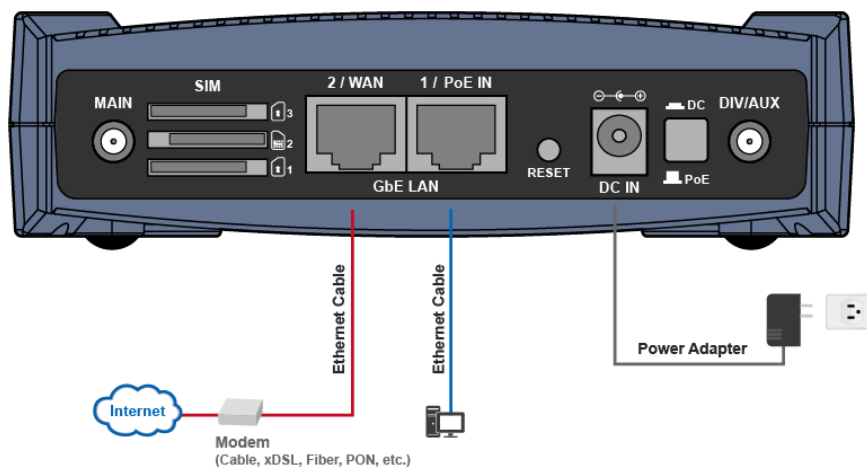
I. WAN: 4G/LTE | Power Source: DC Power (ON) | LAN: Ethernet Devices



II. WAN: 4G/LTE | Power Source: PoE Injector (OFF).
LAN1: Connect to the PoE injector | LAN2: Ethernet Device (notebook, switch, etc.)



III. WAN: Ethernet WAN (LAN2) | Power Source: DC Power Adapter (ON).
LAN1: Ethernet Device (notebook, switch, etc.) | LAN2: Wireline Modem



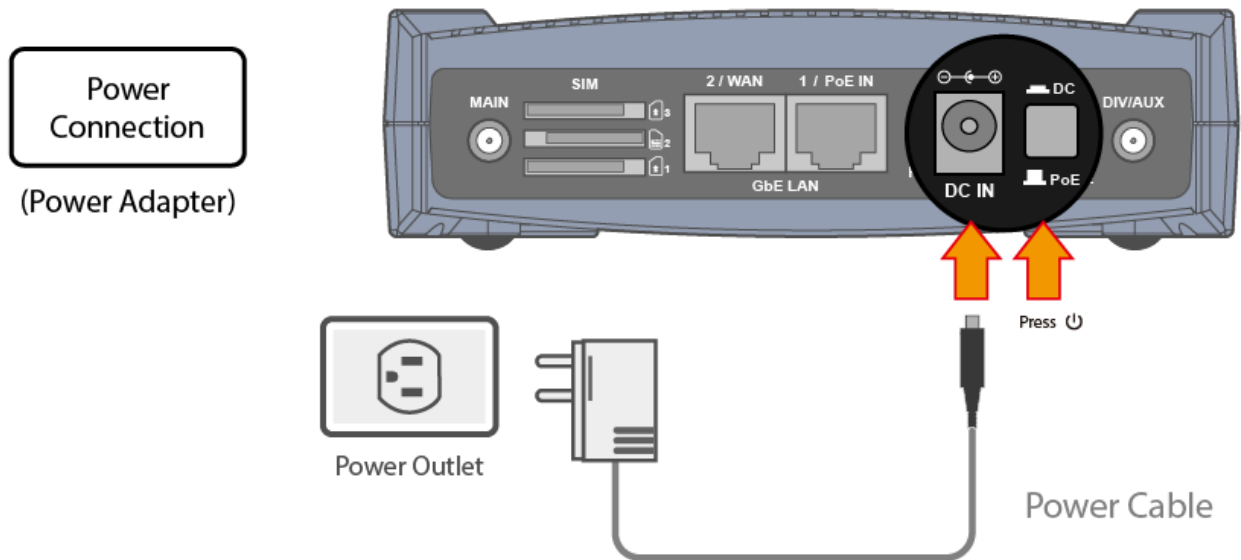
Hardware Installation

1. Power Connection

Select power source from using a (1) DC power adapter or (2) PoE Injector

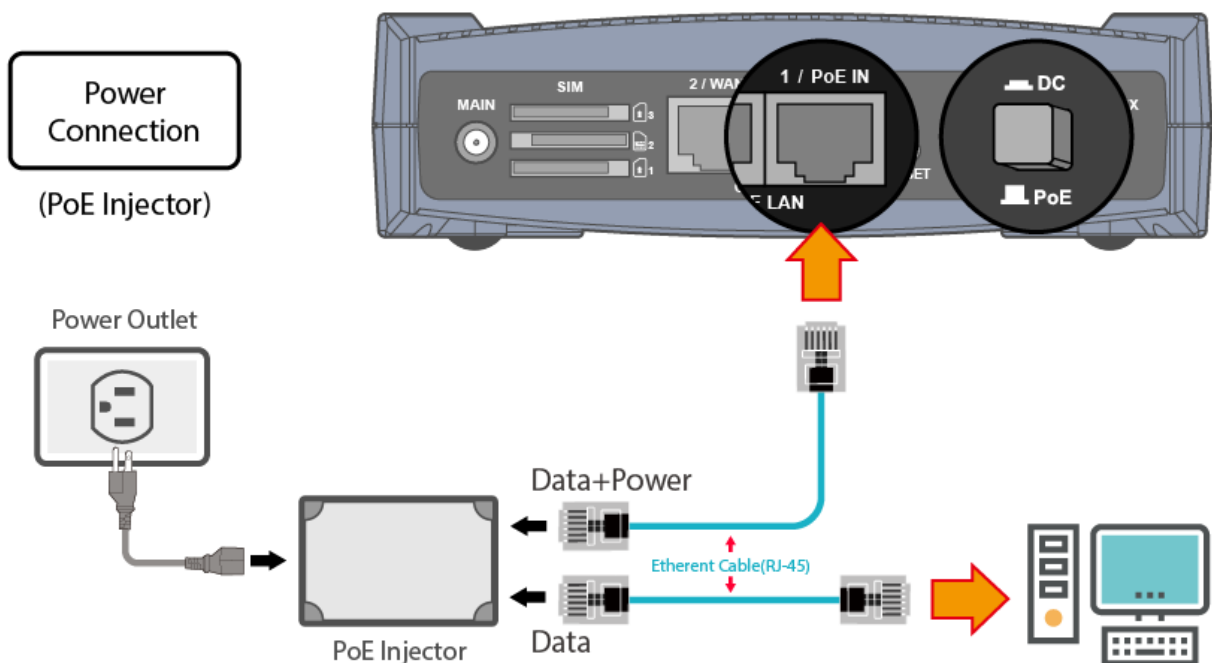
1.1 Using the Supplied DC Power Adapter

Plug in the supplied power adapter to the wall jack, the other side to the MX-221P then power it **ON** the by pressing the Power On/Off button.



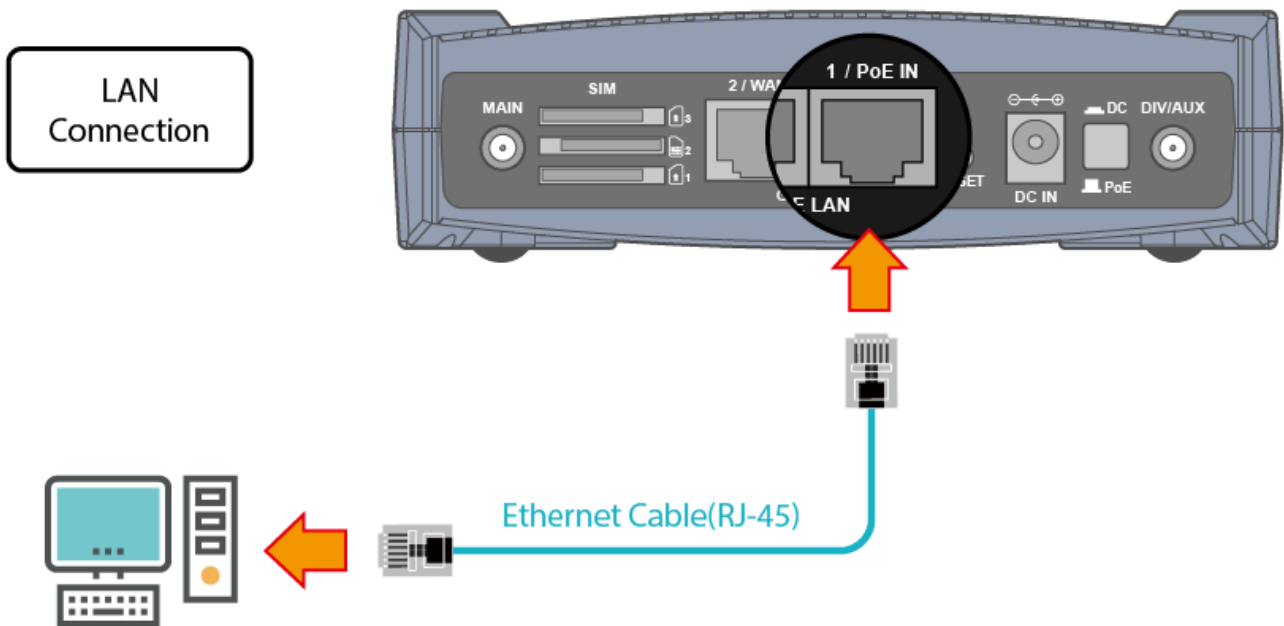
1.2 Using a PoE Injector

Power **OFF** the power source button then plug an Ethernet cable (RJ-45) to the **LAN 1/PoE IN** port and the other end of the cable directly to the **Data+Power** of a PoE injector.



2. LAN Connection

Plug the RJ-45 Ethernet cable to one of the Ethernet ports, and the other side to the PC's Ethernet interface.



3. WAN Link Interface and Connection

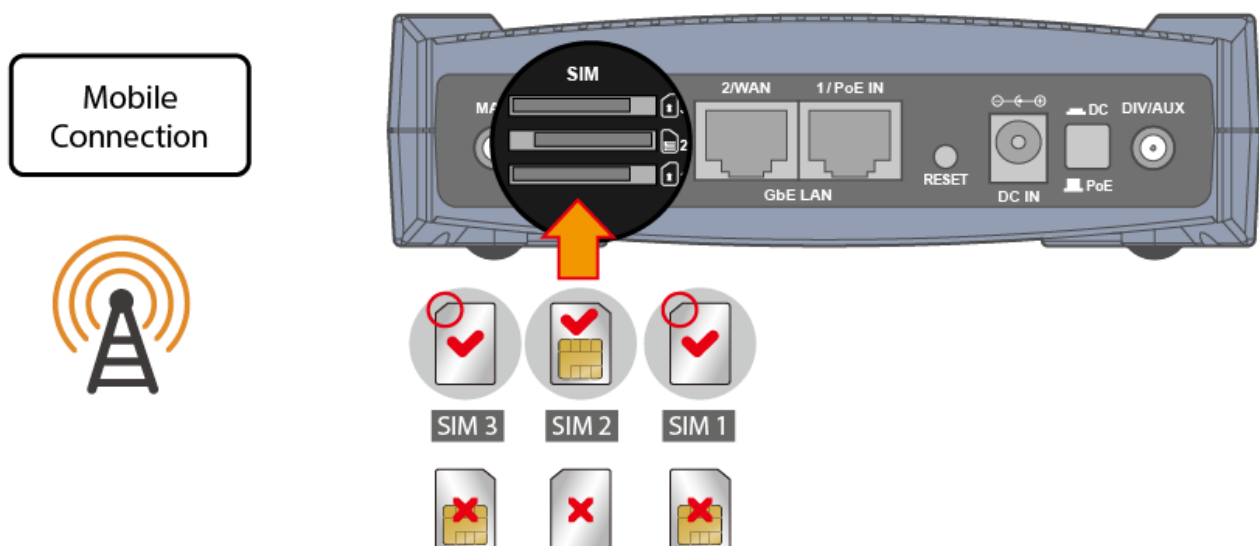
BEC MX-221P supports failover and failback to another WAN interface, 4G/LTE or Ethernet WAN. <Please refer to user manual for detailed setup>

3.1 Mobile 4G/LTE Connection

Slide SIM card(s) into SIM tray starting with (default) **SIM1 / SIM2 / SIM3**. Make sure that the SIM card is inserted correctly and slid into the bottom of the slot with a click sound. When removing the SIM card, press the SIM card again it will be ejected from the card slot.

SIM 1 & SIM 3: Gold part of the SIM faces down on the tray.

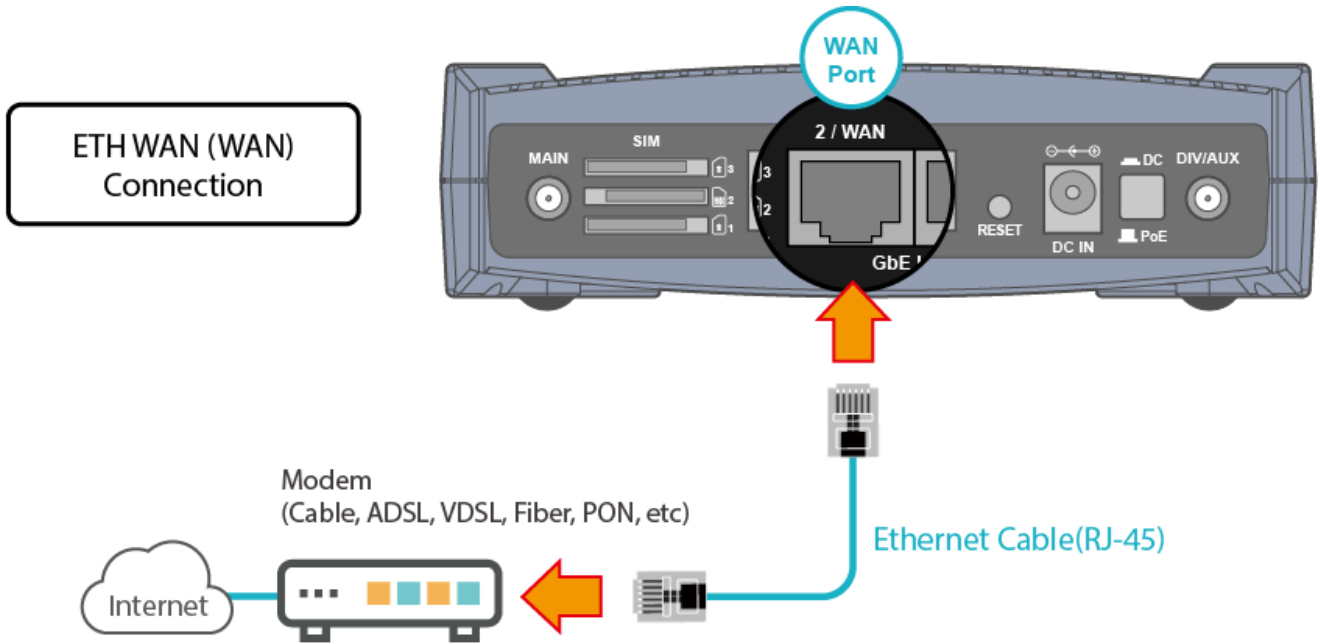
SIM 2: Gold part of the SIM faces up on the tray.



WARNING: Please power off the device before inserting or removing the SIM

3.2 Ethernet WAN Connection

Connect RJ-45 Ethernet cable to the **WAN port** and connect the other side to another alternative broadband device, such as Cable Modem, VDSL, Fiber Modem, or PON optic line.

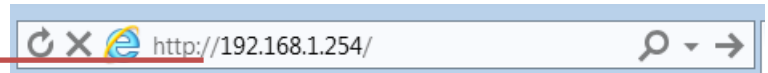


Access and Configure Your BEC MX-221P

The default IP of modem is **192.168.1.254** with subnet 255.255.255.0. Make sure the attached PC to this router is in the same subnet and has an IP address in the range between 192.168.1.1 ~ 192.168.1.253.

Open a web browser and type **http://192.168.1.254** in the URL address bar.

URL Address bar: type
http://192.168.1.254



The login prompt will appear. Input the default username and password.

*This username / password may vary by different Internet Service Providers.

Quick Setup Your Router

Wired Broadband Connection - before start configuring the MX-221P, make sure you have the LAN2/WAN connect to your Internet box or fiber line.

Step 1: Change administration password

Setup a new password for “admin” account for device management. The default password is “admin”. Click Continue to go on to the next step.

*The password may vary by different Internet Service Providers.

New Password: assign a new, **unique password**

Confirm Password: re-enter the new password again

Next Step: click **Next**

Step 2: Time Zone configuration

Enable and select your Time Zone then click Continue to go on to the next step.

Time Zone: select your **time zone**

Next Step: click **Next**

Step 3: WAN / Internet Connection Setup

Select the appropriate WAN protocol then fill out the information provided by your ISP in all relevant parameters.

(4G/LTE) If select 4G/LTE to connect to the internet

WAN Interface: select **4G/LTE**
 Next Step: click **Next**

Input all relevant parameters from your provider. Contact with your provider for further support.
 Net Step: click **Next** to continue

(WAN) If select Ethernet WAN to connect to the internet.

Protocol: select one of them
 - **Dynamic IP Address** (Obtain an IP address automatically)
 - **Static IP Address** (Manually assign an IP)
 - **PPPoE**
 - **Bridge Mode**
 Net Step: click **Next** to continue

Step 4: Save Confirmation Settings

Click "Next" to save and complete the Quick Setup. You should now be able to access to the Internet.

Please see the relevant sections of User Manual for detailed information.

Troubleshooting

1. None of the LEDs are on when you turn on the router.

Check the connection between the adapter and the router. If the error persists, you may have a hardware problem. In this case you should contact technical support.

2. You have forgotten your router login and/or password.

Try the default login and password, please refer to User Manual. If this fails, you can restore your router to its factory settings by holding the Reset button on the back of your router for 6 seconds or more.

3. Cannot ping any PCs on LAN.

Check the Ethernet LEDs on the front panel. The LED should be on for a port that has a PC connected. If it is off, check the cables between your router and the PC. Make sure you have uninstalled any software firewall for troubleshooting. Verify that the IP address and the subnet mask are consistent between the router and the workstations.

Product Support and Contact Information

Most problems can be solved by referring to the **Troubleshooting** section in the User Manual. If you have other inquiries or need further technical support, please contact with your Internet Service Provider or visit us at www.bectechnologies.net.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ♦ Reorient or relocate the receiving antenna.
- ♦ Increase the separation between the equipment and receiver.
- ♦ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ♦ Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.