Bigleaf Router Installation Guide

Premier Setup

Let’s get started

When setting up the Bigleaf routers, the steps you take depend on how your Internet Service Provider (ISP) hands off IP addresses and whether you provided WAN circuit settings to Bigleaf during the order process. You received **Router Configuration** details in the Order Shipped email from Bigleaf. Refer to this information to help determine your setup path:

- If your ISP uses dynamically assigned IP addresses (DHCP), you will not need to configure WAN ports. Your Router Configuration details show that your WAN ports are using DHCP.
- If your ISP uses static IP addresses and you provided those IP address details when ordering your Bigleaf service, your Router Configuration details specify which of your Bigleaf router WAN ports have already been configured with your ISP’s static IP details. No other configuration is needed.
- If your ISP uses static IP addresses and you did not provide those IP address details when ordering your Bigleaf service (those details are not shown in your Router Configuration details), you’ll need to configure the WAN ports to use those static IP addresses. You’ll add IP address information in Bigleaf Cloud Connect and on the routers as well.

We’re here to help

If you have any trouble connecting or you think there may be a problem with your Bigleaf service, please call us so we can help you immediately.

Tech Support: (888) 244-3133

General questions, helpful information, and Chat Support: Bigleaf Help Center

Email: Support@bigleaf.net

Step 1 – Prepare for setup

Have the router configuration information available

You received Router Configuration details in the Order Shipped email from Bigleaf. This includes information needed for setting up your Bigleaf router. Have this information close by when connecting your router.

Gather network cables

Gather the needed number of network cables to connect from the Bigleaf routers to each ISP modem or router, from router to router, and also to your firewall(s) or router(s). You will need 2 or 3 cables per WAN connection, depending on your specific setup, and 1 for each firewall.

Plan your power source

The Bigleaf routers should be connected to an Uninterruptible Power Supply (UPS).

Verify access to your firewall

Verify that you have access to edit your firewall configuration. You will update firewall settings with your new Bigleaf IP addresses after the Bigleaf router is connected.

Step 2 – Consider IP-related changes

DNS Records

Do you have DNS records pointing at your existing ISP IP addresses? If so, you will need to update those to your new Bigleaf IP addresses during the router install.

To-Do:
A day or two before the install, lower the TTL for those records to a small value like 10 minutes (600 seconds) to ensure a quick transition.

Mail Server

Are you hosting a mail server on-site? If so, Bigleaf will need to set up a reverse-DNS PTR record for the server. To set this up, email Support with:

- The Bigleaf IP address that you will use for your mail server
- The full hostname of the mail server

VPNs

Do you have any VPNs, or other network resources that are statically configured with WAN IP addresses? If so, you will update these after the Bigleaf router is connected.

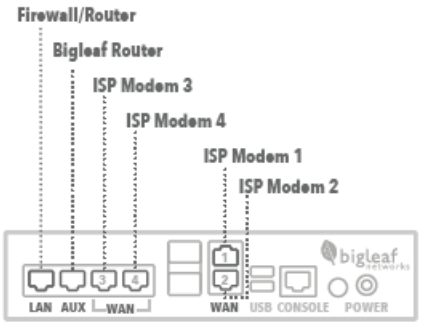
Step 3 – Get to know the Bigleaf routers

This overview shows the general connection topology for the Bigleaf router models BLR-108 and BLR-112 routers with and without an expansion card installed.

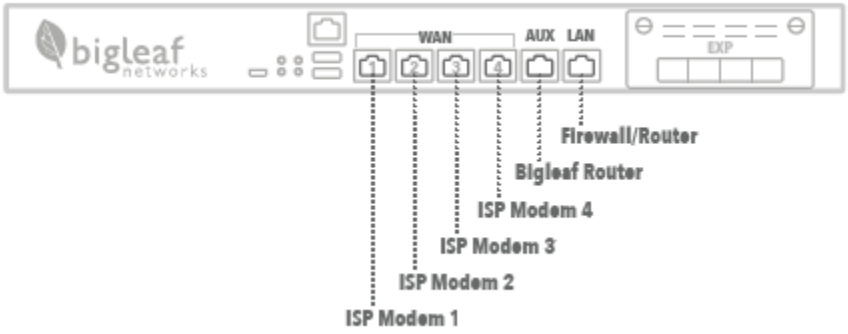
The Bigleaf router

Each port on a Bigleaf router is designated for a specific device, as displayed in the illustrations below.

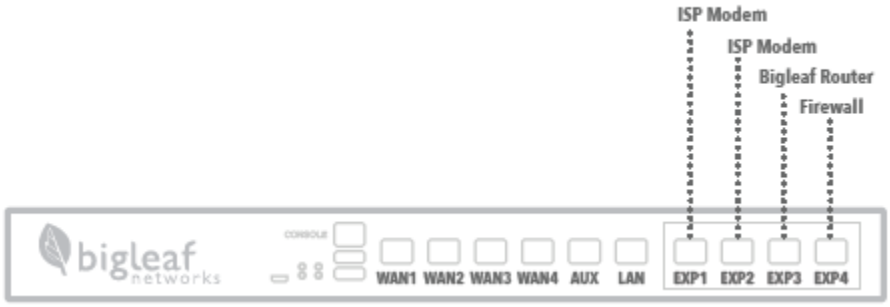
BLR-108 router



BLR-112 router



BLR-112 router with an expansion card



Step 4 – Configure the WAN ports for the Bigleaf routers if needed

Important: This step is needed only if you are using static IP addresses and you did not provide your WAN circuit details for your internet connection(s) to Bigleaf during the order process. Routers are shipped using DHCP by default, so the WAN circuit settings need to be updated to use your static IP addresses.

If you're unsure whether the information was sent to Bigleaf, refer to the Router Configuration details included in the Order Shipped email that you received from Bigleaf. If it specifies that at least one of your WAN ports has already been configured with your ISP's circuit details, you can skip this step.

Add WAN circuit information in Bigleaf Cloud Connect

1. Log in to Cloud Connect with **Super Admin** credentials. If you're not sure who has these credentials at your site, contact Bigleaf Support at (888) 244-3133 or via the Bigleaf Help Center.
2. Select the site for which you want to add a WAN circuit, and then select **Site configuration**.
3. On the Site configuration page, select **Edit**.
4. Scroll down to the **Circuits** settings.
5. Select **Add new** and enter the information for your circuit.
6. When you're finished entering circuit information, select **Save**.

For more details about how to add or edit WAN circuit information, see this Help Center article.

Update the WAN ports on the Bigleaf router

Update the router ports to match the information you entered in Cloud Connect **before connecting the routers. Do these steps on each Bigleaf router.**

1. Connect a laptop into the LAN port of the Bigleaf router. There is a LAN-side only network 198.19.8.0/23 with the IP address 198.19.8.1 assigned to the router LAN bridge. Assign your laptop to use an IP address from this network, with the subnet mask 255.255.252.0.
2. On the laptop, open a web browser and browse to **http://198.19.8.1**
3. Enter **admin** for the username, and **admin** for the password.
4. The Router Configuration page lists ports with their associated IP configuration.
5. Configure the WAN port settings the same as you did in Cloud Connect above.
6. When finished making changes, select **Apply Networking Changes** and then select **Submit**.

Step 5 – Connect the Bigleaf equipment

Follow these steps to connect your Bigleaf routers. Connection steps are shown for Bigleaf router models BLR-108 and BLR-112 (with and without an expansion card installed).

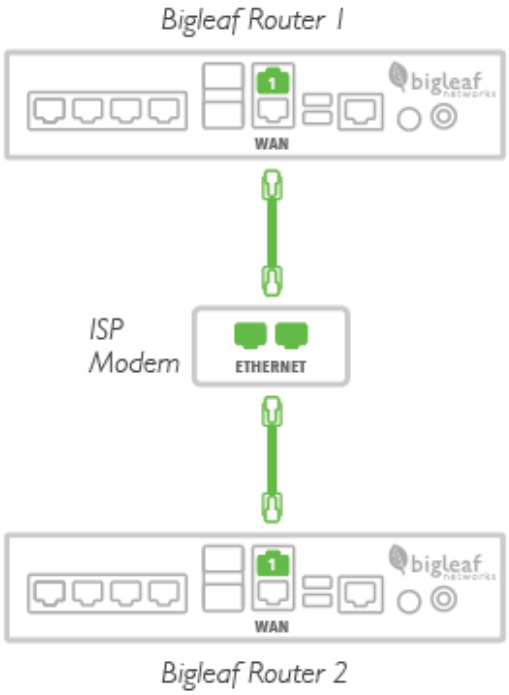
Note: Details about which specific port to use with each router is shown in the Router Configuration details included in the Order Shipped email that you received from Bigleaf.

If you're using Bigleaf Wireless Connect, you'll also connect the Teltonika device to your Bigleaf router. This device provides a cellular circuit.

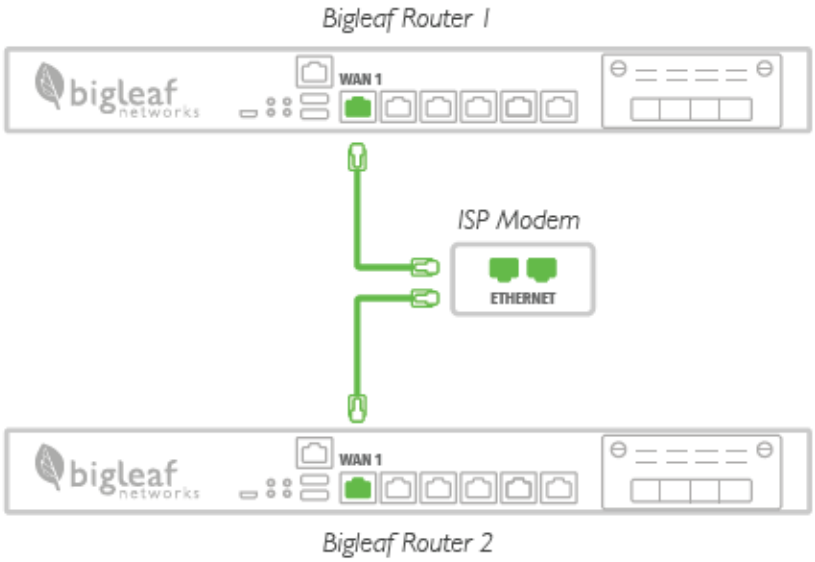
High Availability BLR-108 and BLR-112

1. Plug each ISP circuit into the correct WAN port on Bigleaf Router 1, as detailed in the Router Configuration details information you received from Bigleaf.
2. Plug each ISP circuit into the correct WAN port on Bigleaf Router 2.

BLR-108 connection example

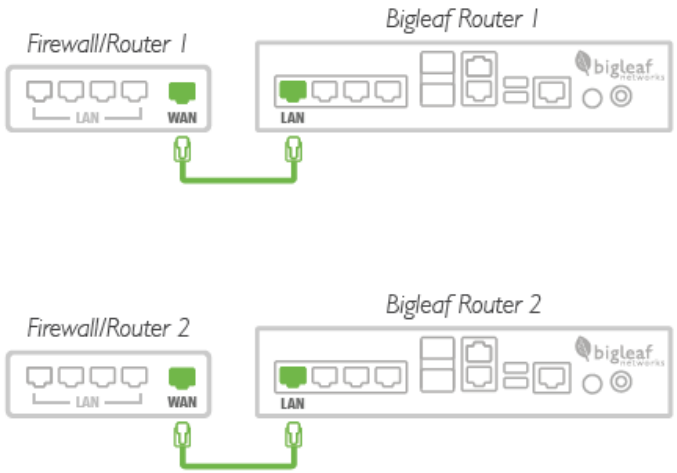


BLR-112 connection example

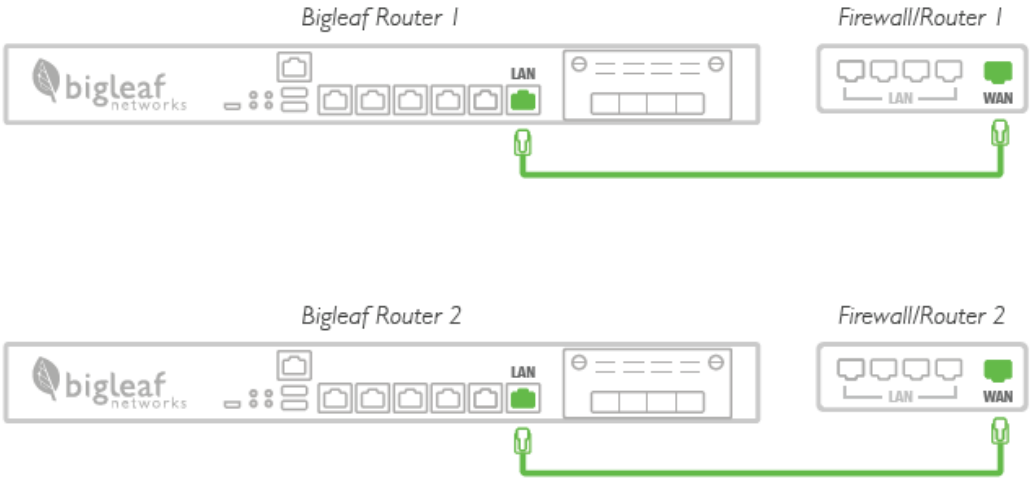


3. To connect the firewalls to the Bigleaf routers, connect the LAN port on Bigleaf Router 1 to the WAN port on Firewall/Router 1. Then connect the LAN port on Bigleaf Router 2 to the WAN port on Firewall/Router 2.

BLR-108 connection example

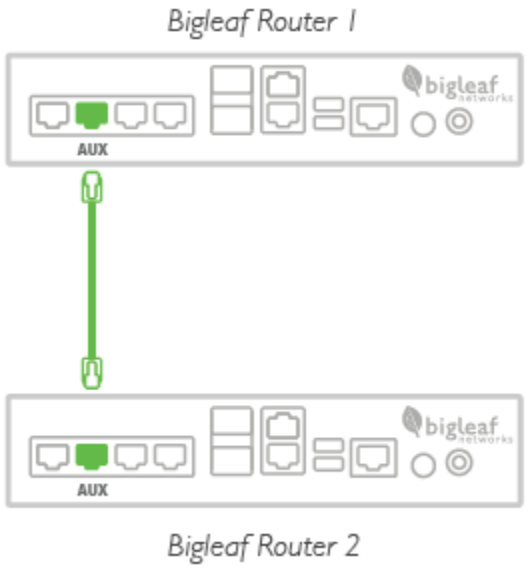


BLR-112 connection example

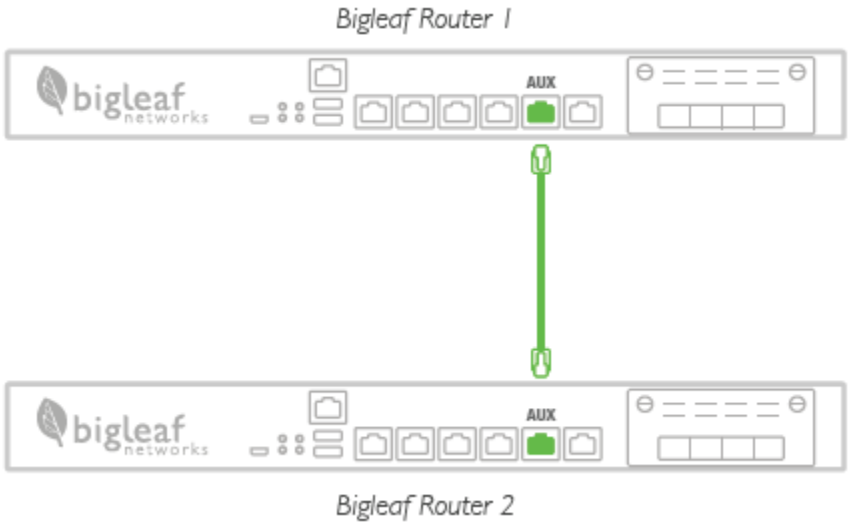


4. To connect the Bigleaf routers together, connect the AUX port on Bigleaf Router 1 to the AUX port on Bigleaf Router 2.

BLR-108 connection example

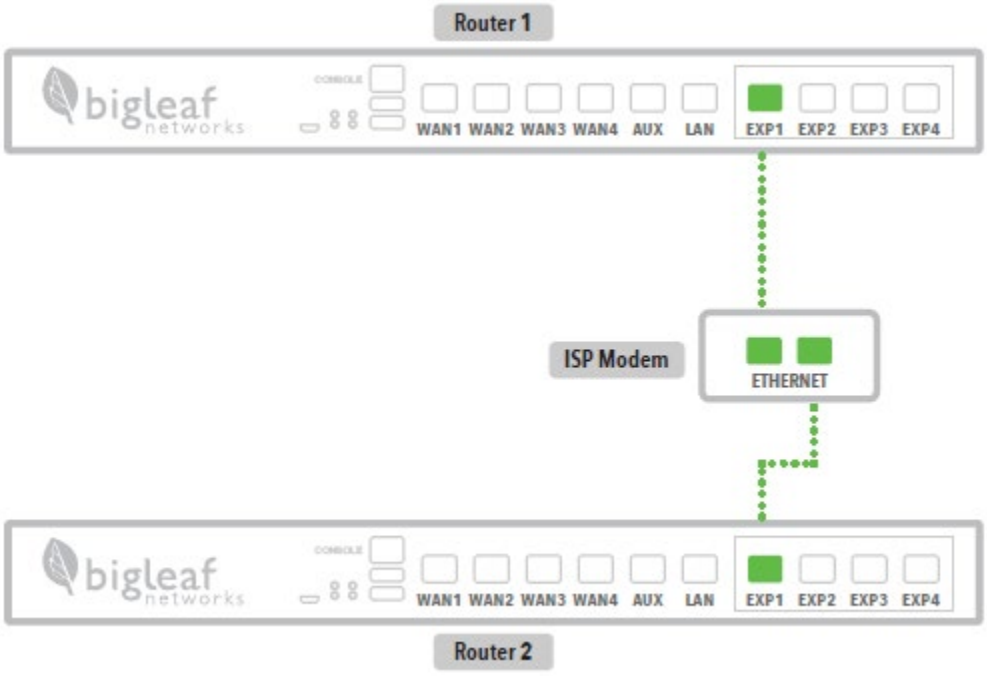


BLR-112 connection example

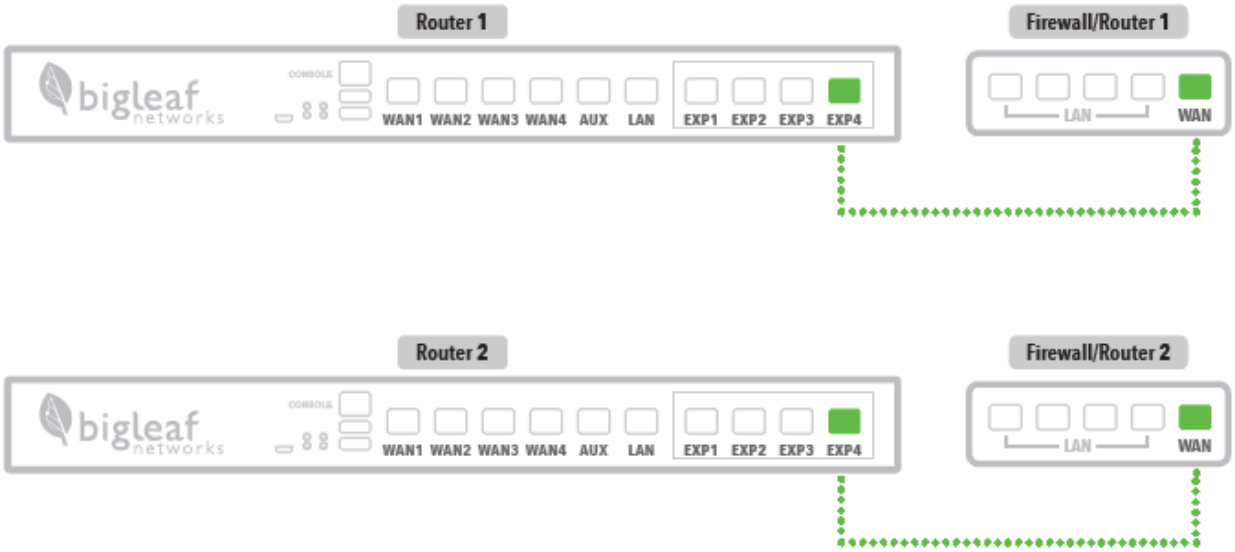


High Availability BLR-112 with expansion card

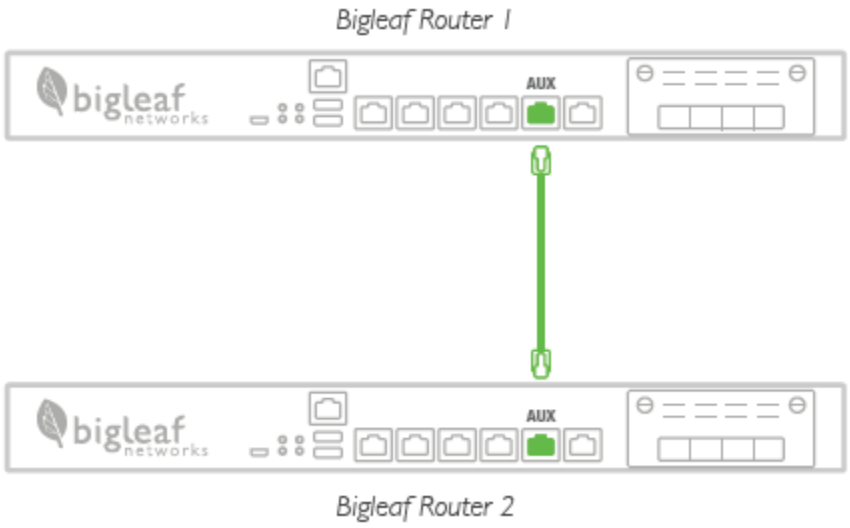
1. To connect the ISP modems to the Bigleaf routers, plug each ISP circuit into the correct WAN or EXP port on Bigleaf Router 1, as detailed in the Router Configuration details you received from Bigleaf.
   Then, plug each ISP circuit into the correct WAN or EXP port on Bigleaf Router 2, as detailed in the Router Configuration details.



2. To connect the firewalls to the Bigleaf routers, connect the LAN port on Bigleaf Router 1 to the WAN or EXP port on Firewall/Router 1.
   Then connect the LAN port on Bigleaf Router 2 to the WAN or EXP port on Firewall/Router 2.



3. To connect the routers together, connect the AUX port on Bigleaf Router 1 to the AUX port on Bigleaf Router 2.



Connecting the Teltonika device for Wireless Connect

If you're using Wireless Connect, you also received a Teltonika device from Bigleaf with the following accessories:

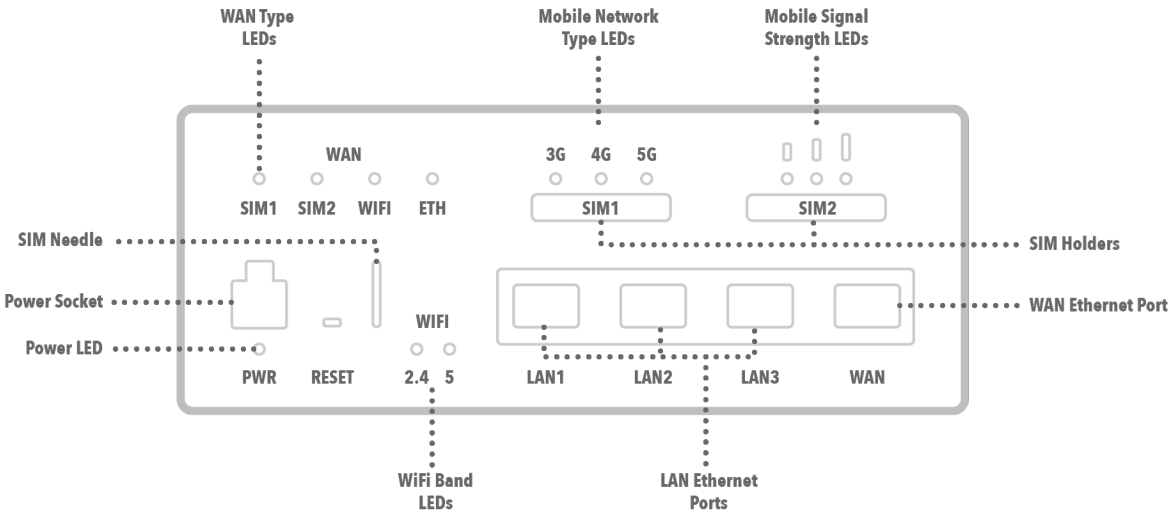
- Power cable and power supply
- Mobile antennas
- Ethernet cable

Follow these steps to connect the Teltonika device to your Bigleaf routers to enable the wireless connection.

Note: Because the device uses cellular service, be sure to place it in an area where it can access a cellular signal, such as an elevated location close to window and away from metal structures and thick (concrete) walls.

1. Have the Router Configuration details information close by. This information is part of the Order Shipped email from Bigleaf.
2. Connect the Mobile antennas to the back of the device to the Mobile MAIN and Mobile AUX connectors.
3. Connect the 4-pin connector to the power socket on the front of the device. Then plug the power adapter into a power source (with UPS protection).
4. Connect the Teltonika device to the Bigleaf router(s):
5. Connect an Ethernet cable to the LAN 1 port of the Teltonika device, and the other end of the cable to the Bigleaf WAN interface indicated in your Router Configuration details.
6. For added redundancy if the primary Bigleaf router is offline, connect a second Ethernet cable to the LAN 2 port of the Teltonika device, and the other end of the cable to the secondary Bigleaf WAN interface indicated in your Router Configuration details (this step is optional).

   Note: This diagram shows the Teltonika RUTM50 device. If you're using the RUTX11 4G LTE device, the steps are the same.



Front

7. Contact Bigleaf Support after installing the Teltonika device so that we can test available wireless speeds at your location and adjust the circuit speeds settings if needed. For Bigleaf's QoS prioritization, intelligent load-balancing, and seamless failover functions to work properly, the site circuit speeds in Cloud Connect should be set as close as possible to actual wireless speeds available at your location.

Important: If for some reason the Teltonika router is not working or is having issues with configuration, DO NOT factory reset the router. Contact Bigleaf Support for assistance.

For more details about using Wireless Connect, see Using Bigleaf Wireless Connect.

Step 6 – Connect the routers to a power source

Using the ports on the back of the devices, connect the Bigleaf routers to a power source. For redundancy we recommend using two separate power sources with UPS protection.

Note: The BLR-108 router ships with a rack mount kit if you want to add the router to a rack.

Step 7 – Configure the firewall or router

1. To connect your network to the Bigleaf service, re-configure your firewall or router with your new Bigleaf IP address information.
2. Log in to your firewall or router interface and navigate to the page where you set the WAN or internet IP address information.
3. Input the information for the internet connection as shown in the Router Configuration details:

   IP address
   Subnet Mask
   Default Gateway/Route
   DNS1
   DNS2

4. Update any firewall policies, such as firewall or NAT rules, to use the new IP address information.
5. Save and apply the new configuration. You may need to reboot the device.

Test connection and make final updates

The installation is complete. Open a web browser and browse to some pages to make sure everything is connected and working properly.

To-Do:
If things look good, make any IP-related updates identified in Step 2, such as DNS, Mail Server, or VPN settings based on your new Bigleaf IP addresses.

If you have any issues or questions, contact Bigleaf support for help:

Tech Support: (888) 244-3133

General questions, helpful information, and Chat Support: Bigleaf Help Center

Email: Support@bigleaf.net