bigleaf
networks

Installation Guide

Standard High Availability

For use with BLR-112

Thank you for choosing Bigleaf!

Your Internet optimization service is only a few steps away! This booklet will walk you through the setup process to get your Bigleaf service up and running. The equipment shipped to you is pre-configured and ready for use, so you can install it right away.

Tech Support: (888) 244-3133

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. For a routine request like a DNS change, feel free to email us.

Bigleaf Dashboard: app.bigleaf.net

PREP

Begin here when you are ready to get started. Before proceeding, verify that your Configuration Details card is included with your shipment.

1 Prepare Equipment

Gather network cables

Gather the needed number of CAT5e or CAT6 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 5 to 11 cables, depending on your specific setup.

Plan your power source

During the setup process, you will plug the Bigleaf routers into a power source. We strongly recommend using two Uninterruptible Power Supplies (UPS), connecting one router to each. This will protect the routers from power surges and brownouts.

Verify access to your firewall or router

Before you start the setup process, verify that you have access to edit your firewall or router configuration. You will update firewall settings with your new Bigleaf IP addresses in Step 9.

2 Consider IP-related Changes

If none of these apply, you may proceed to the Install section.

DNS records

Do you have DNS records pointing at your existing ISP IP addresses? If so, you will need to plan to update those to your new Bigleaf IP addresses during the router install. A day or two before the install, you should lower the TTL for those records to a small value like 10 minutes 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@bigleaf.net** 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, prepare to update these during Step 10 of the Install section.

INSTALL

Once you have completed all necessary prep steps, follow these steps to get your Bigleaf service up and running.

3 Get to know the Bigleaf Router

Use this overview to familiarize yourself with the general connection topology for the Bigleaf router. Steps 4 - 7 will provide a step-by-step breakdown of all hardware connections.

The Bigleaf Routers

Each port on a Bigleaf router is designated for a specific device, as displayed below. Both Router 1 and Router 2 use this configuration.
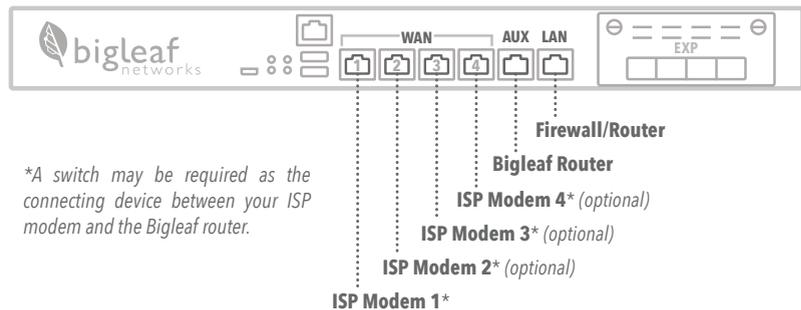
A switch may be required as the connecting device between your ISP modem and the Bigleaf router.

Firewall/Router
Bigleaf Router
ISP Modem 4* *(optional)*
ISP Modem 3* *(optional)*
ISP Modem 2* *(optional)*
ISP Modem 1*

⚠️ **DO NOT PLUG IN POWER SUPPLY YET**

Do not plug in the Bigleaf power supply (Step 8) until you have completed all connections as outlined in Steps 4 - 7. Doing so may result in errors.

4 Select a setup option for each ISP modem

Identify the case that applies to your modem(s) and follow the corresponding option in Step 5:

Option ① Connect ISP modem directly	Option ② Connect ISP modem via a switch
2 ports available	**1 port available**
ETHERNET	ETHERNET
ISP modem	*ISP modem*
For each ISP modem that has at least 2 ports, follow **Option 1** in Step 5 when connecting ISP modems to the Bigleaf router.	For each ISP modem that has only 1 port, follow **Option 2** in Step 5 when connecting ISP modems to the Bigleaf router. This requires using a simple switch as an indirect connection to the Bigleaf router.

5 Connect ISP modem(s) to Bigleaf Routers

Connect the following devices together with Ethernet cables, referring to your Configuration Details card for specific port assignments. Repeat this process for each circuit (up to 4).

Option ① Connect ISP modems directly

Plug each ISP circuit into the correct WAN port on Bigleaf Router 1, as assigned on your Configuration Details card. Then plug each ISP circuit into the correct WAN port on Bigleaf Router 2, as assigned on your Configuration Details card.

Bigleaf Router 1

ISP Modem   *Simple switch*
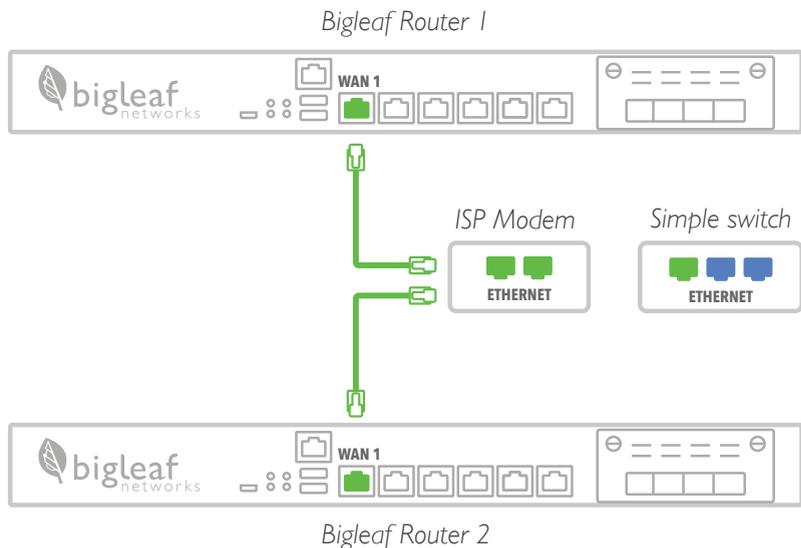
Bigleaf Router 2

Option ② Use Switch along with ISP Modems

Connect the Ethernet port on a switch to the correct WAN port on Bigleaf Router 1, as assigned on your Configuration Details Card. Then connect it to the same port on Bigleaf Router 2. Then connect your ISP modem to the switch.

Bigleaf Router 1

Simple switch   *ISP Modem*
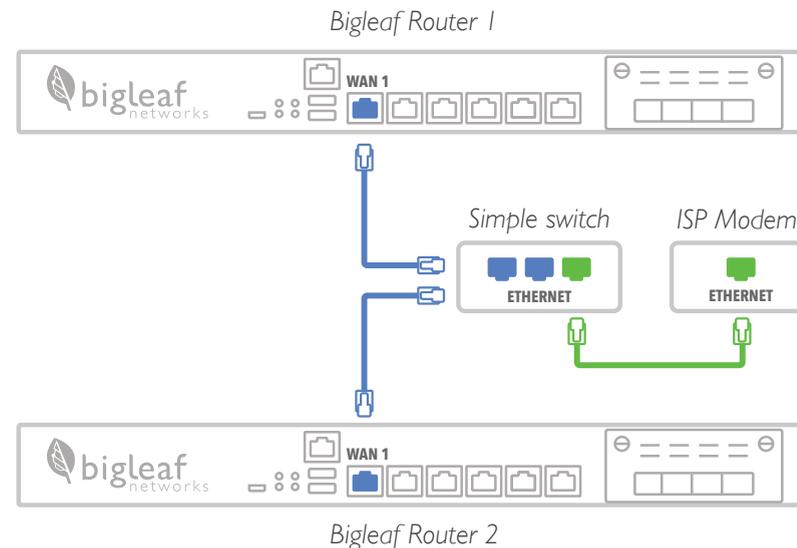
Bigleaf Router 2

6 Connect Firewalls to 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.

Bigleaf Router 1 *Firewall/Router 1*

Bigleaf Router 2 *Firewall/Router 2*
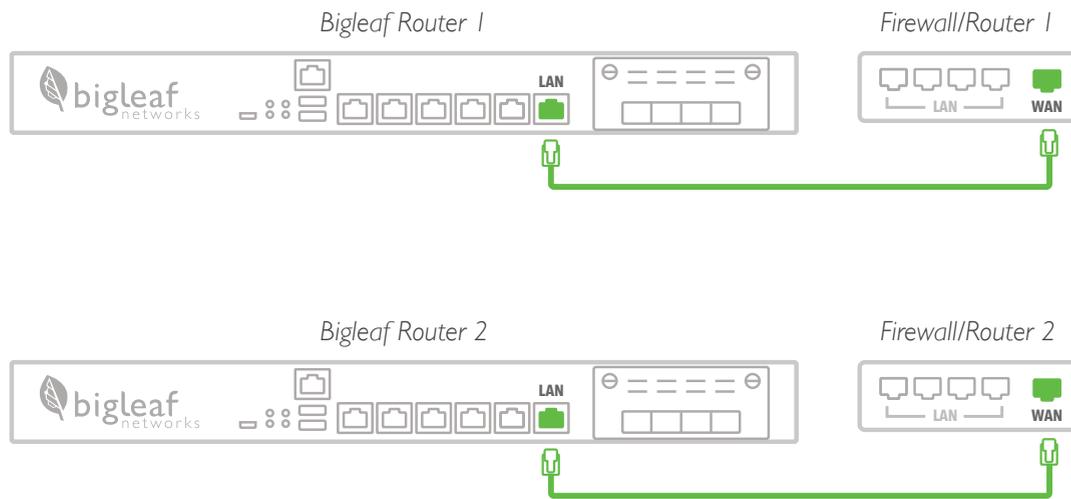
7 Connect Bigleaf Routers Together

Connect the AUX port on Bigleaf Router 1 to the AUX port on Bigleaf Router 2.

Bigleaf Router 1

Bigleaf Router 2
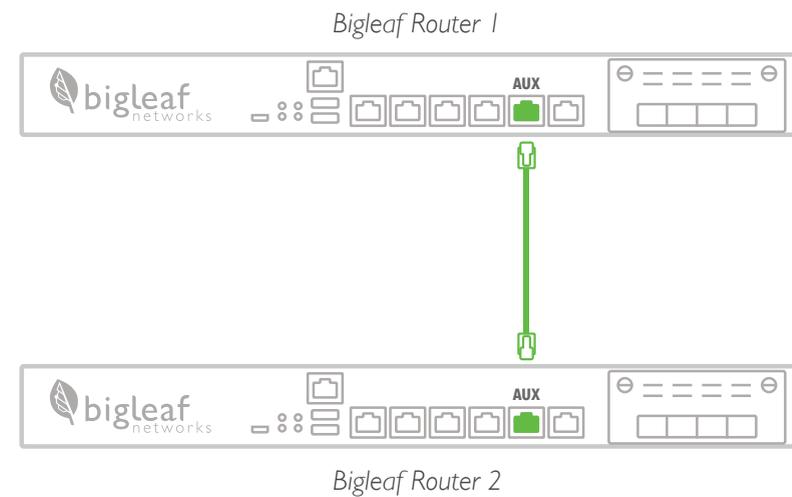
8 Plug Hardware into a Power Source

Before proceeding, you may want to refer to the router connection steps outlined in Step 3 to verify that all cables have been connected to the routers correctly. The enclosed power cables may vary depending on the router models.

Using the ports on the back of the devices, plug the Bigleaf routers into a power source. To keep redundancy, we recommend using two separate power sources with UPS protection.

Bigleaf Router 1 (back)

UPS

Bigleaf Router 2 (back)

UPS
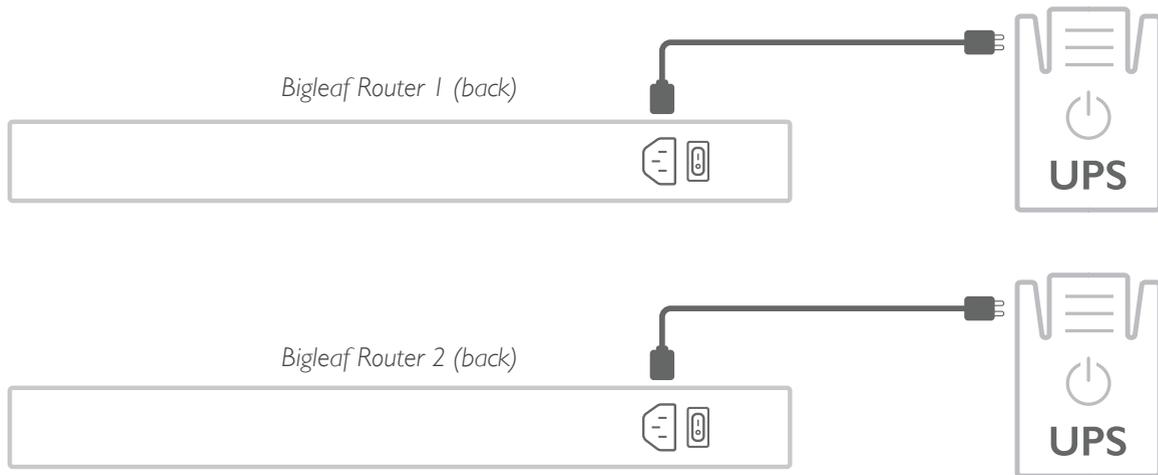
9 Configure Your Equipment

To connect your network to the Bigleaf service, re-configure your firewall(s) or router(s) that are connected to the Bigleaf routers.

Log in to your firewall or router interface and enable auto-negotiation.

Navigate to the page where you set the WAN or Internet IP address. Input the information for the fields listed on your Configuration Details card.

Save and apply the new configuration. You may need to reboot your device(s).

Internet Connection

IP ADDRESS

SUBNET MASK

DEFAULT GATEWAY

DNS1

DNS2

10 Test Connection and Make Final Updates

You should now be up and running on your Bigleaf service. If you identified any IP-related changes in Step 2, make those changes now.

Run a test or two, like browsing to a website, to make sure connectivity is working properly.

If things look good, proceed by changing any DNS records or IP-specific network resources that you identified in Step 2.
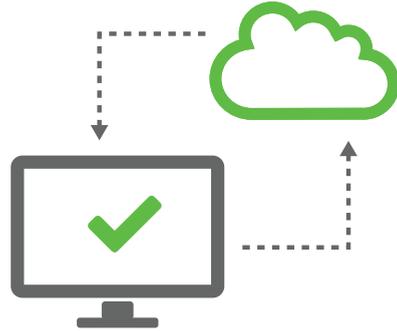
CONGRATS

Your setup should now be complete.

About Bigleaf Networks

Bigleaf Networks improves Cloud connectivity and Internet performance. We are a team of telecom and network software professionals who built our SD-WAN optimization and redundancy service based on the natural architecture of leaves. We are dedicated to providing a better Internet experience with simple implementation, friendly support, and powerful technology. Founded in 2013, Bigleaf Networks is investor-backed, offering nationwide service.

Simply Stay Connected.