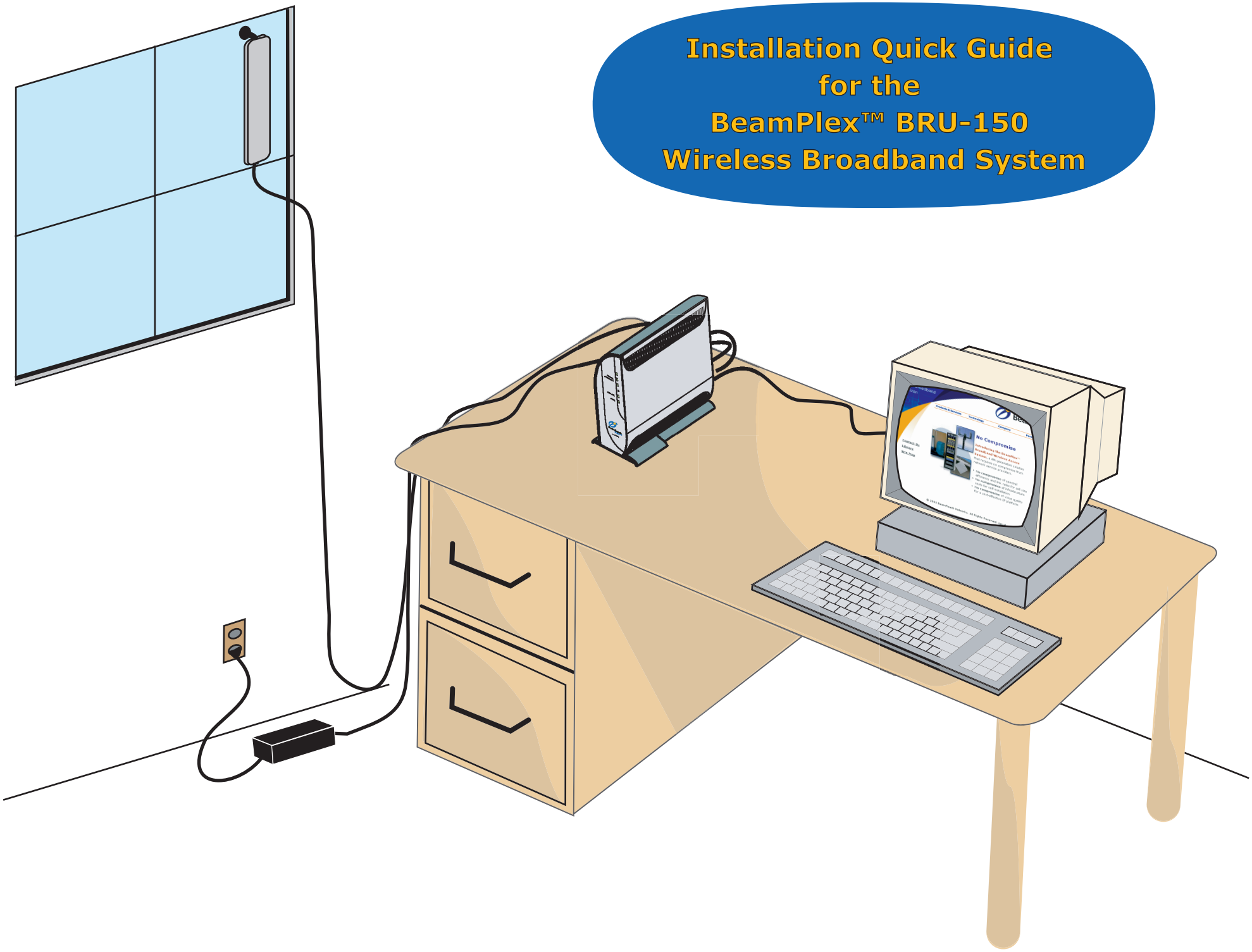
Installation Quick Guide for the BeamPlex™ BRU-150 Wireless Broadband System

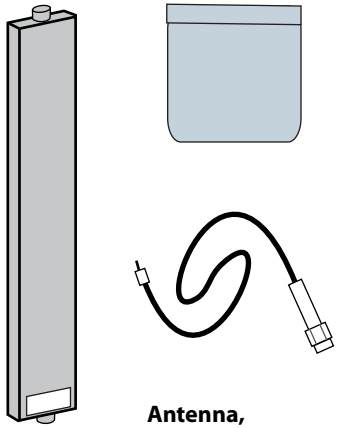


Before you begin ...

Your BeamPlex™ BRU-150 Wireless Broadband System comes with the following items. Please verify that you have all these items before proceeding with the installation.

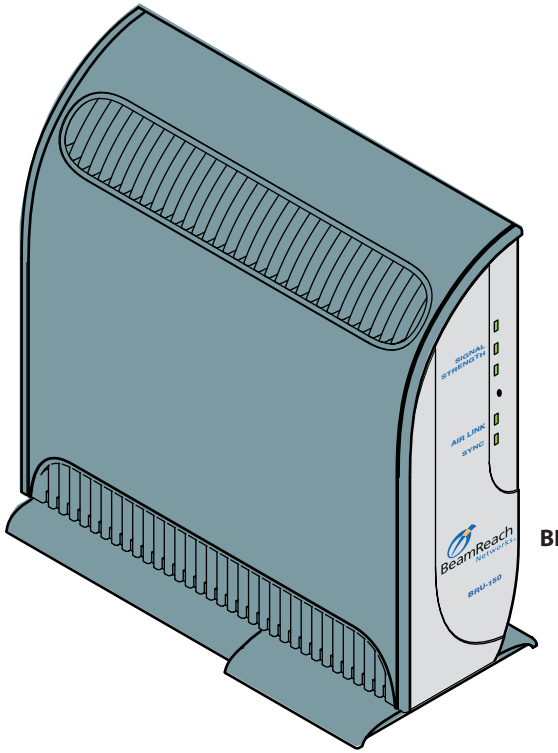
- ✔ BRU-150 Transceiver
- ✔ Power supply and cord
- ✔ Antenna, cable and parts
- ✔ Ethernet cable
- ✔ Operation Manual
- ✔ This Quick Guide

Ethernet Cable

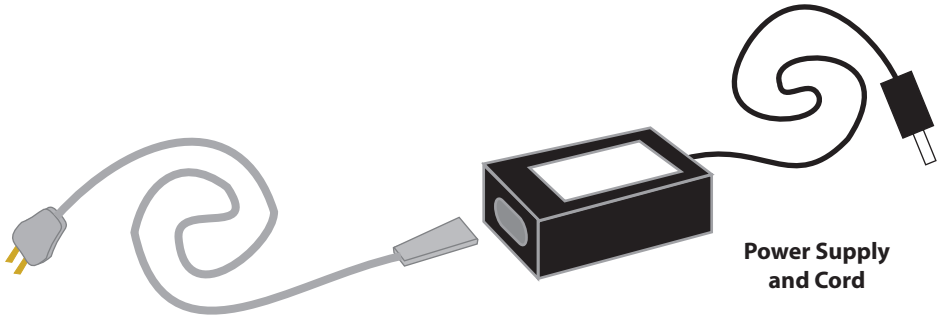


Antenna, Cable and Parts Bag

BRU-150 Operation Manual



BRU-150 Transceiver



Power Supply and Cord

Step 1 - Preparing your computer ...

Your computer must be configured with the following items to accommodate wireless broadband:

- ✔ An Ethernet (NIC) card.
- ✔ The installation CD supplied by your service provider (must include a PPPoE client).
- ✔ A compatible IP address.

Ethernet Card

Install the Ethernet card using the instructions supplied by the manufacturer.

Insert one end of the Ethernet cable that came with the BRU-150 into the RJ-45 connector in the Ethernet card.

Installation CD

Run the installation CD according to the directions supplied by your service provider.

IP Address

Configure the IP address in your computer to the following settings:

Address 192.168.1.X

Where X = any number between 2 and 255

Subnet 255.255.255.0

See the Operation Manual for specific instructions.

If you are connecting to a network though a hub or router, see the Operation Manual.

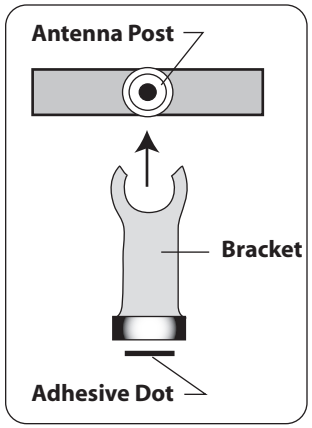
Step 2 - Installing the antenna ...

The antenna is designed to mount in a window. Select a window that has a view in the direction of the closest base station, based on the base station locations supplied by your service provider.

The antenna comes with adhesive dots to stick to the glass. As an option, the antenna can be attached to the window frame with the supplied screws.

Assemble the antenna

In the package that contains the antenna you will find a bag with brackets, adhesive dots, and screws.



Snap the brackets onto the posts at the top and bottom of the antenna. The brackets are designed to rotate freely on the posts.

Affix an adhesive dot to both brackets.

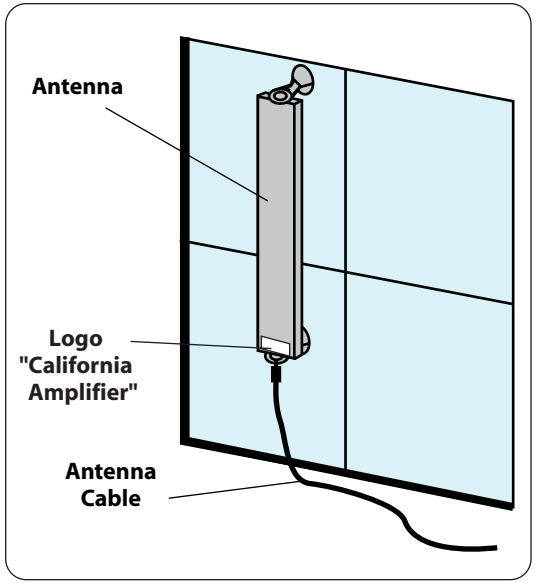
Insert the antenna cable into the connector inside the bottom post of the antenna. There is a "California Amplifier" logo near the bottom end of the antenna. Push firmly until you feel the connector snap into place.

Attach the antenna

Clean the window before attaching the antenna to it.

Hold the antenna straight up and down. The logo should be at the bottom and facing inward, away from the window.

Align the brackets so that the adhesive dots will contact the window, then press the assembly against the glass.



For best reception:

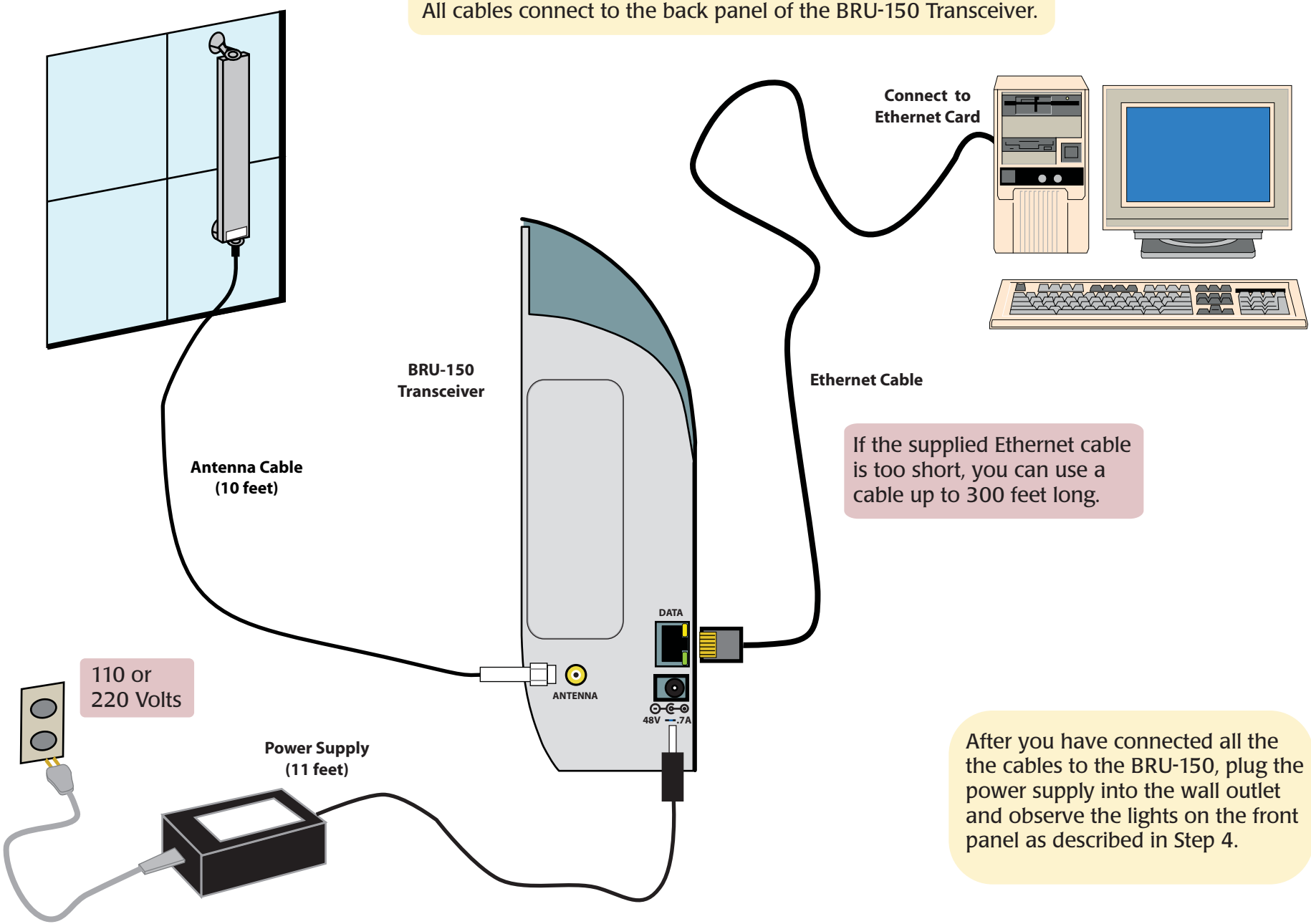
- Position the antenna high in the window.
- Select a window with no obstructions such as trees or buildings close to it.
- Avoid a window that has a metal screen.
- Avoid being near other sources of emissions, such as computer monitors, televisions, microwave ovens, or wireless telephones.

Step 3 - Connecting the cables ...

There are three cables for you to connect:

- Antenna cable
- Power supply cable
- Ethernet cable

All cables connect to the back panel of the BRU-150 Transceiver.



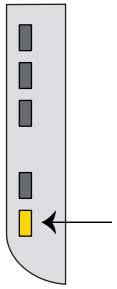
If the supplied Ethernet cable is too short, you can use a cable up to 300 feet long.

After you have connected all the the cables to the BRU-150, plug the power supply into the wall outlet and observe the lights on the front panel as described in Step 4.

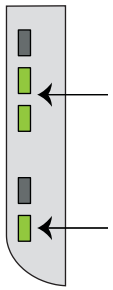
Step 4 - Linking with a base station ...

When power is first applied to the BRU-150, the lights on the front panel of the Transceiver will blink randomly for a few seconds.

Then, the SYNC light will turn amber and flash slowly while the Transceiver searches for a signal from a base station.

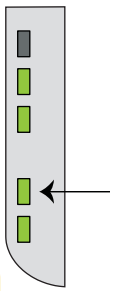


When BRU-150 makes an initial link with a base station, the SYNC light turns green and some or all of the SIGNAL STRENGTH lights turn on.

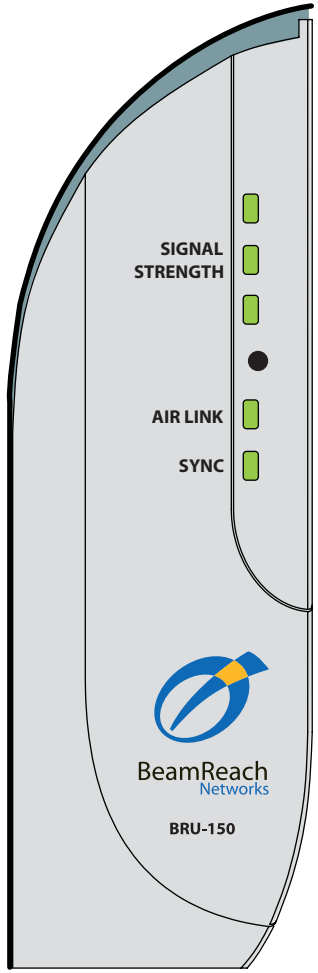


If the SYNC light does not turn green in about 60 seconds, you will have to adjust the antenna. This is explained in the panels on the right of this page.

When the BRU-150 has completed linking to a base station, the AIR LINK light will turn green.



After the AIR LINK light turns green, proceed to Step 5.



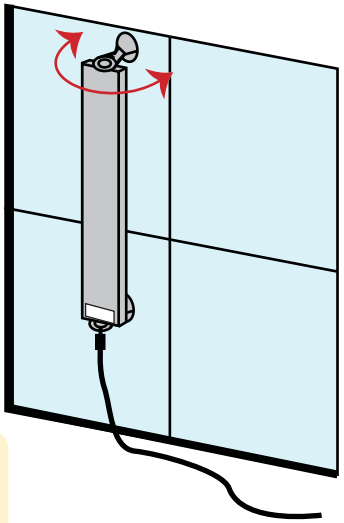
If you did not link with a base station ...
You were left with a SYNC light flashing amber.

First, try pointing the antenna in different directions.

The antenna can rotate inside the brackets that are attached to the window.

Rotate the antenna about 1/4 of a turn in one direction. Then wait 60 seconds to see if the SYNC light turns green.

If the SYNC light stays flashing amber, rotate the antenna 1/4 of a turn in the other direction and wait 60 seconds.



If you still did not link with a base station ...

Then you will have to move the antenna to a different window.

First, to remove the antenna from the current window, use a plastic scrapper to wedge between the bracket and the window. Pull gently on the backet. DO NOT pull on the antenna.

Next, refer to base station location information supplied by your service provider and select another window in the direction of a base station. Attach the antenna as described in Step 2.

You may need to move the Transceiver when you move the antenna. If so, you can safely disconnect and connect any of the cables with power applied.

However, you must unplug the power supply (either from the wall outlet or the Transceiver connector) and then reconnect to cycle the power. This causes the BRU-150 to restart the base station search.

Step 5 - Optimizing signal quality ...

Linking is now complete, but you may be able to improve signal quality by adjusting the antenna.

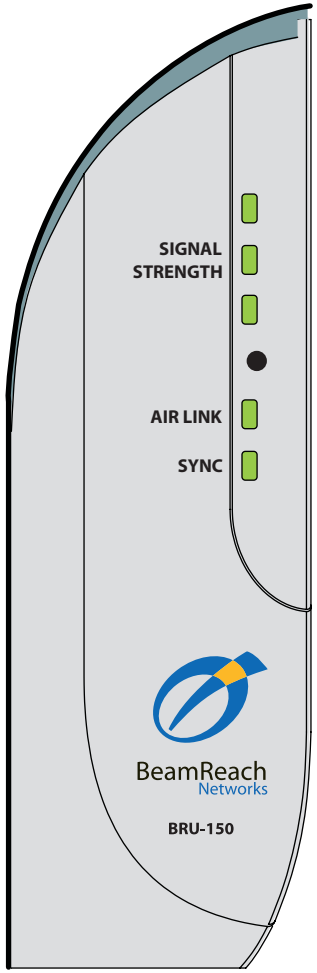
What the SIGNAL STRENGTH lights mean

There are three SIGNAL STRENGTH lights on the front panel of the Transceiver. They work together as a signal strength meter. A low level signal will illuminate the bottom light. Then, as the signal gets higher, the middle light illuminates, then the top light illuminates.

You may also notice that each SIGNAL STRENGTH light can appear dim or bright. This is used to display a more detailed level of signal quality.

Each light will be dim at the lowest signal level that the light can display; and it will be bright at the highest level for that light.

So, the lowest signal the Transceiver can detect will cause the bottom light to illuminate dim. As the signal becomes stronger, the brightness of the bottom light increases. Then the middle light illuminates dim, and the brightness cycle repeats, leading to the top light illuminating with the highest signal.



Obtaining the highest signal level

You may be able to improve the quality of the signal by adjusting the antenna.

If you have only the bottom SIGNAL STRENGTH light illuminated, you have established a reliable wireless connection for internet service. But you may notice improved speed if you can adjust the antenna to achieve two lights illuminated.

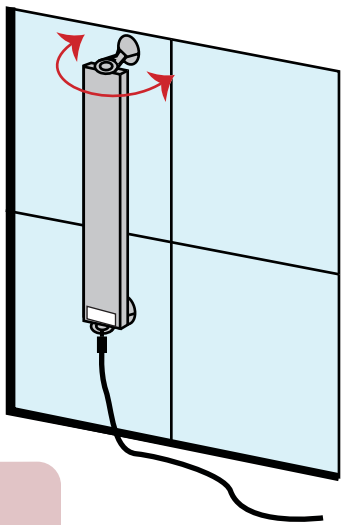
If you have two SIGNAL STRENGTH lights illuminated, adjusting the antenna will not noticeably improve your broadband service. At your option, you can adjust the antenna to try and illuminate the top light.

To adjust the antenna ...

The antenna can rotate inside the brackets that are attached to the window.

The SIGNAL STRENGTH lights respond to a change in signal within one second. Rotate the antenna slowly in one direction and then the other direction while observing the lights.

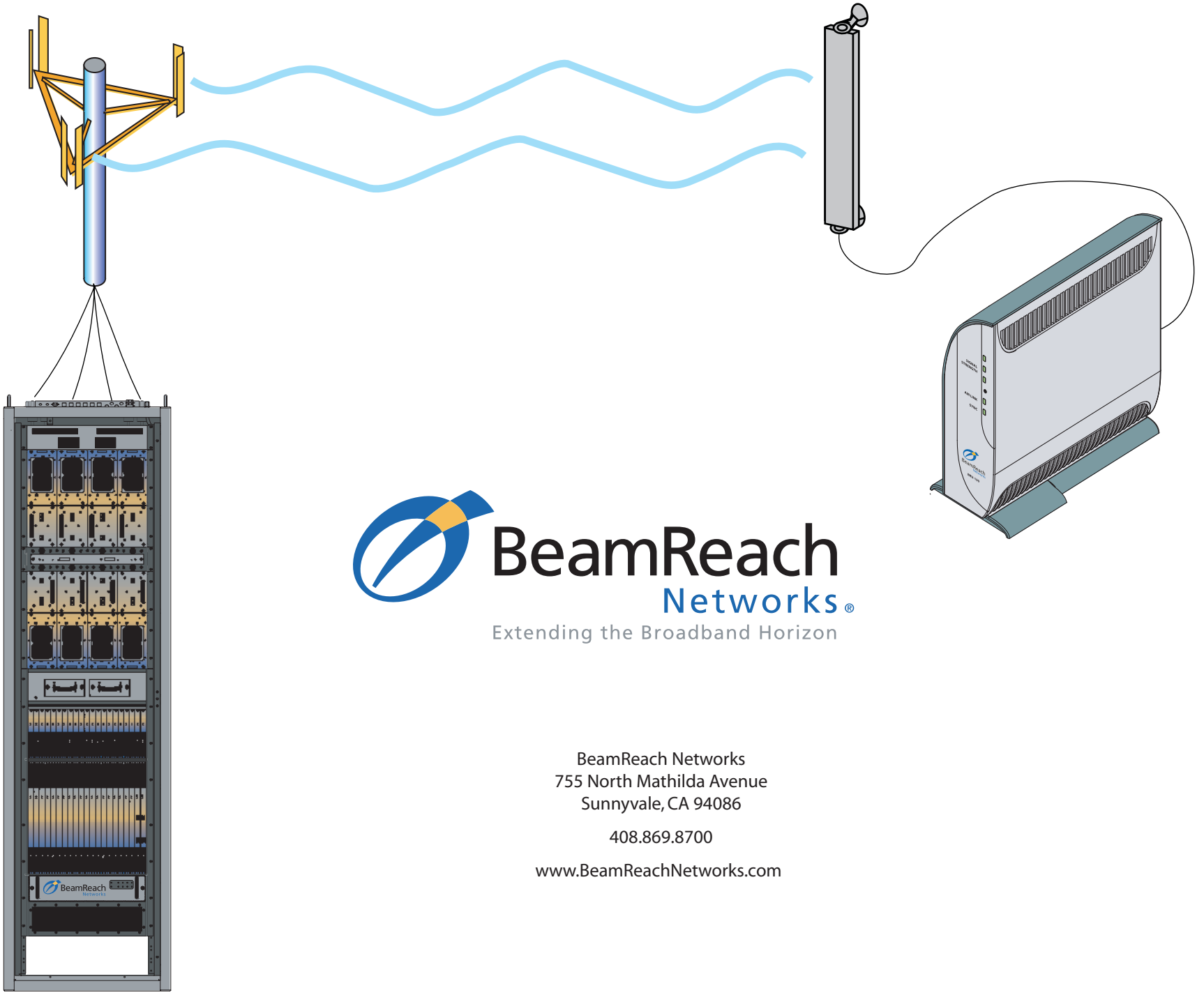
Leave the antenna in the position that illuminates the most lights.



Congratulations ...

You can now connect to your service provider's network. Follow the login instructions that they provided.

If this installation process was not successful, see the *BRU-150 Operation Manual* for instructions on solving problems.



BeamReach
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Extending the Broadband Horizon

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Revision History
Document number 1106333-02

Revision Status	Revision Level	Date	System Release
Pre-Production	Rev 1	April 2003	1.1
Production	Rev 2	Sept 2003	1.3
Production	Rev 3	Nov 2003	1.3

Compliance
FCC certification – FCC title 47: Part 15 (Class B); Part 27 (WCS bands A and B)
UL 60950

Warning

This device is a radio frequency transmitter. It is required to comply with FCC RF exposure requirements for transmitting devices. A minimum separation distance of 8 inches (20 cm) or more must be maintained between the antenna and all persons during device operations to ensure compliance with the FCC's rules for Radio Frequency Exposure. If this minimum distance cannot be maintained, exposure to RF levels that exceed the FCC's limits may result. This equipment must not be co-located with any other transmitting antenna.

Regulatory Notices for Manufacturers and Installers

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 the 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.

Any changes or modifications to this equipment that are not approved by BeamReach Networks could void your authority to operate the equipment if such changes or modifications affect the regulatory compliance specified in Appendix B of document 1106333-01.

What this Warning means ...

The Federal Communications Commission (FCC) requires this warning for electronic devices that transmit radio signals.

The transmit side of the BRU-150 antenna is that surface that faces the window. The side that faces into the room is shielded and will not transmit signals.

When selecting a window to attach the antenna, make sure it is not a location where people may be outside the window and within 8 inches of the antenna. Normally this is not a problem, but you should keep this in mind when choosing the antenna location.