

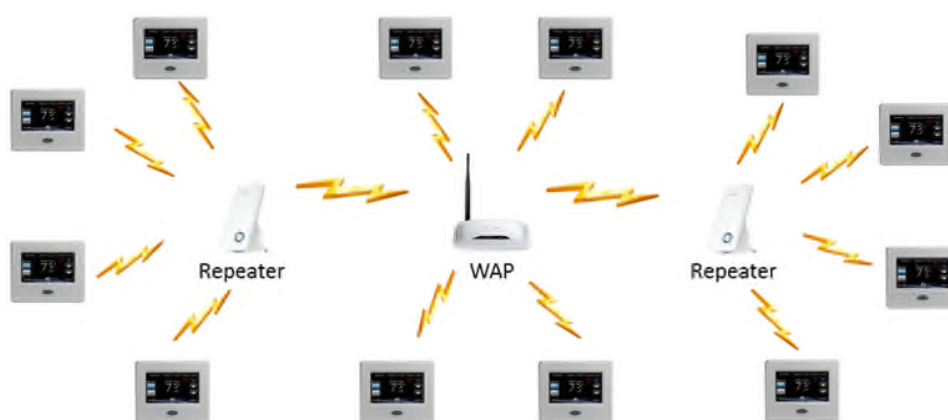
Enabling Carrier® Infinity® Networks in Large Applications

rev. 20140418 rwp

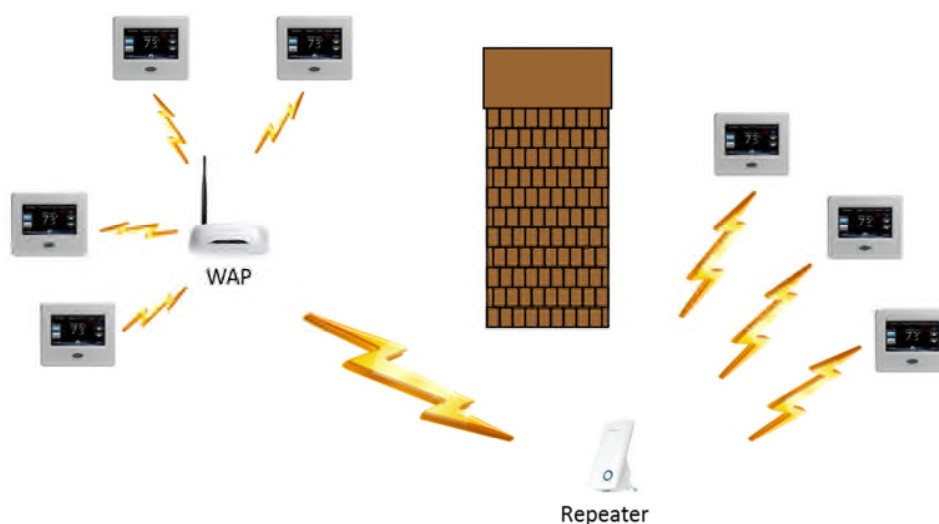
Wireless Access Point Range Extension

Applications and locations that require a large number of Carrier® Infinity® systems in a large physical space may benefit from repeaters or Wi-Fi® range extenders to provide or improve wireless coverage across the entire space.

This general guideline is designed to help extend the range of coverage of the Infinity® wireless network for locations and applications that cover more than 50-80 feet (15-25 meters) of lateral distance between the Infinity wireless access point (WAP) and any of the wall controls to be connected to that access point. Extended coverage is accomplished using Wi-Fi range extenders, also known as bridges or repeaters.



This information may be useful if you are having trouble with signal strength due to obstructions between the WAP and a wall control. A repeater may be placed in a way that allows the wireless signal to be directed around an obstruction. See the figure, below.



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Range Extending Options

There are a number of Wi-Fi® range extenders on the market. We have tried several of these devices to assess their interoperability with Infinity systems. These assessments are not extensive nor exhaustive, and ***Carrier Corporation makes no claims as to the suitability for use of any range extender. For your reference, only***, the following models, in the versions and configurations tested, were found to provide a suitable Wi-Fi connection between the Infinity Wireless Access Points and the Infinity® Touch wall controls:

<u>Manufacturer</u>	<u>Model Number</u>	<u>Wired Bridging?</u>	<u>Comments</u>
ASUS	RT-N53	Yes	All models
On Networks	N300RE	No	All models
NETGEAR	WN1000RP	No	All models
TP-Link	TL-WA850RE	No	-A models, only
D-Link	DAP-1320	No	-A models, only

Note that not all devices support the previous version (before –A) Infinity Touch wall controls. And not all of these devices support wired bridging, often referred to as “access point mode”. These devices were only tested with the Infinity Wireless Access Point (SYSTXXXGWR01), and may not work properly with other routers that may be installed in a home.

Other devices may also operate satisfactorily; and the above-listed models of devices may discontinue operating satisfactorily, as the respective manufacturers make changes to the products. Specification and use of these products is at the user’s risk.

Positioning the Wireless Access Point and Range Extenders

Network delays can be caused if messages on the network must “hop” from one device to another before ever reaching the Internet. It is best to limit the number of hops that a message from the Infinity® wall control must make before getting to the Internet.

For best results:

- Connect the Infinity® Wireless Access Point (WAP) directly to a LAN port of the home network router, and not through a network switch. This eliminates one or more hops. It is acceptable if the WAP is located away from the home network router, but still directly connected to the home network router via an Ethernet cable.
- Position the WAP close to the center of the Infinity Wi-Fi network so that range extenders can link directly to the WAP, and not to each other. This eliminates one or more hops. See the first system illustration, above.
- If it becomes necessary for a range extender to link to the WAP through another range extender, keep the number of hops to a minimum.
- If possible, connect the range extenders to the WAP using Ethernet cable, instead of wirelessly. This will help to avoid delays and corrupted messages caused by radio noise that interferes with Wi-Fi signals. It will also allow each range extender to find an open channel/frequency to