

# App Note

## EtherRain to WiFi Wireless



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Wireless Bridge



EtherRain™ 8

This note provides general instructions for configuring a wireless bridge for use in extending an ethernet network connection to the install location of an EtherRain controller.

A number of devices are available that will provide a connection between a wireless (WiFi) network and EtherRain. The Linksys/Cisco WET-54g is recommended for this application. The WET-54g is widely available, connects easily, and has an excellent reputation for long term reliability. Once the WET-54g is configured it can be directly connected to an EtherRain controller using a CAT5 patch cable as shown in the diagram below. The WET-54g Wireless Bridge version 3.1 has been tested with EtherRain.

Note on Reliability: A wired connection is the most reliable method of connecting EtherRain into your network. While WiFi bridging devices generally provide high reliability, they are subject to outages due to the dynamic nature of wireless communication (interference, network traffic, signal strength, and occasional unexplained glitches). You should test your installation by monitoring signal strength and checking power outage response to ensure your installation will be as reliable as possible.



### Step 1 Prepare the Wireless Bridge

Before configuring the WET54g it is a good idea to reset the device to factory settings. This will ensure that the device's WiFi connectivity is initially disabled. For initial configuration, connect the WET54g to your network using a patch cable. Before connecting the device to your network, make sure that the default IP address and net mask of the WET54g match those of your network. The factory network settings for the Version 3 of the WET54g are:

Static IP address: 192.168.1.226      Netmask: 255.255.255.0

Most home networks in the US use this address range. If the initial IP address of the WET54g does not match that of your network, you'll need to construct a temporary network to configure the network address for your WET54g. Refer to the setup guide that comes with the WET54g for instructions on how to do this. Once the network address of WET54g matches that of your network use a CAT5 patch cable to attach the WET54g to your network. Apply power to the WET54g. Using a computer on your network point a browser to the WET54g by entering the default IP address (192.168.1.226). Enter the default username and password (admin and admin) and the Setup page will be displayed.

### Step 2 Setup the Wireless Parameters

From the Setup page there are two main actions that must be taken to allow the WET54g to connect to your wireless router:

1. select the wireless network
2. select the network security method (if any)

To select the wireless network, click "Site Survey" then select a network from the list provided. Next, if security is being used on your wireless network you must configure the WET54g with the same security settings. Click the "edit security setting" button to enter security settings. You may need access to the administration function of your wireless router to obtain this security information.

If you are using MAC address filtering to limit access to your wireless network, you must enter both the MAC address of the WET54g plus the MAC address of the EtherRain device that you are using. (You should enter these addresses into your router at this point.)

Once the wireless network has been selected and the security method has been selected, click the apply button.

**IMPORTANT:** Unplug the patch cable immediately after clicking the "apply" button. Failure to unplug the patch cable may result in addressing problems.

Power cycle the WET54g. Point your browser to the WET54g's default address (192.168.1.226). The browser should now connect to the bridge using the wireless network for connectivity. If no connection is established, repeat the procedure starting with step 1. Ensure that your configuration entries are correct.

### Step 3 Confirm Connectivity and Install

Locate the newly configured wireless bridge at the desired install location, and power the device up. Use a browser to connect to the WET54g. If the Setup page displays, then you have connectivity. If not, you may need to add a repeater or experiment with different antennas. For best range, mount both wireless router and wireless bridge as high as possible, and away from large metal objects. Once the connection is established, click "Site Survey" and locate your network. The signal strength should be above 50% to ensure a reliable connection. Using a CAT5 patch cable, attach the unpowered EtherRain controller to the wireless bridge and then apply power to EtherRain. Securely mount the EtherRain controller, the bridge, and the power transformers to ensure reliable operation.