WIFI REPEATER CONFIGURATION INSTRUCTIONS

Thank you for purchasing this repeater unit from JEFA Tech http://www.jefatech.com
This instruction manual applies to JEFA Tech Repeater Firmware 2.63

INCLUDED IN THE BOX

- Repeater Unit with one Rubber Duck Antenna Attached
- Power Supply
- Additional Rubber Duck Antenna (may be used if external antenna is not needed)
- Blue Ethernet Cable (only required if you wish to connect a computer via Ethernet, or may be needed by tech support).

Understanding How the JEFA Tech Repeater Works

Your JEFA Tech Repeater works in a similar fashion to a standard home router, with the main difference being that its Internet connection is a WiFi source rather than a Cable or DSL source. You can connect any WiFi device to the JEFA Tech Repeater including laptops, tablets, printers, gaming consoles, or media extenders.

JEFA Tech Repeater Setup Overview

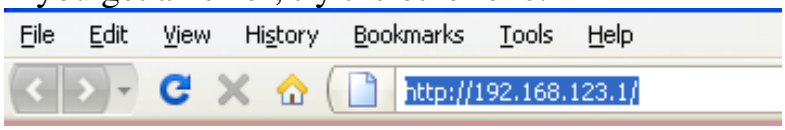
Setting up and configuring the repeater involves the following general steps. This is to familiarize you with the concept of operation. More detailed steps are contained later in this document:

1. If you purchased an outside antenna and cable, connect your antenna cable to the antenna port on the back of the repeater which is closest to the power connector. Connect the other end of the antenna cable to your outside antenna. Place the outside antenna outside at a height that is clear of obstructions.
2. Initial configuration of the repeater: Using your web browser, you will connect to the repeater's control panel at http://192.168.123.1 and configure it to connect to the WiFi Network that you will use as your Internet source.
3. After successful configuration and confirmation that the Internet connection is working, you can connect your other devices to the repeater's WiFi network to get online. No special configuration is required for the additional devices. Just connect and go online!
4. After moving to a new location, you will repeat step #2 to scan and connect to a WiFi Network which is available in the new area.

Initial Repeater Setup

These steps only need be performed when you first receive the repeater, or after doing a hard reset procedure to return it to factory defaults. After moving to a new area, to connect to a new WiFi Internet source, use the "Scanning and Choosing a WiFi Network to Repeat" instructions starting on Page 3.

1. Using your computer or tablet, connect to the WiFi network named "jefatech-repeater-setup". Your computer may indicate it is an unsecured network, click "connect anyway" if prompted.
2. After you are connected to "jefatech-repeater-setup", you may receive an indication that you do not have an Internet connection. This is normal. You will not have an Internet connection until completing the initial setup procedure.
3. Open your web browser (Internet Explorer, Firefox, Chrome, Safari, etc). You may receive an error about not being able to open the website because you are not yet connected to the Internet. This is normal. Please proceed to the next step.
4. Enter this address in your web browser's address bar: **http://192.168.123.1** Make sure to enter this address in the address box (where you would type a website address) and not the search box (where you would type something to search for). If in doubt which box is correct, try one, and if you get an error, try the other one.



5. You will be prompted to enter your activation code. The code is located on the top of your repeater and is case sensitive. If the same activation page keeps coming back after pressing the Activate button, then the code is incorrect. Double check that you are entering it correctly.
6. Next you will be prompted to complete the initial setup of your repeater. This includes setting your repeater's WiFi name and password. Follow the prompts on screen. They will guide you through the setup process. If for some reason you get stuck, you can always start again by going back to http://192.168.123.1 in your web browser.
7. Once your initial setup is complete, you will be asked to log in. The username is "root". The password is what you set up in step 6.
8. You are now connected to the Repeater Control Panel.

Scanning and Choosing a WiFi Network to Repeat

In order to connect to the Internet, you must configure the repeater to find and connect to a WiFi network that can provide you with Internet access. The repeater does not do this automatically. Once you have configured the repeater to connect to a WiFi network, it will continue to connect to that network until you configure it to do otherwise. The repeater will also keep its settings if you power it down and power it back up again later. If you move to a new area, or if you want to change to a different WiFi Internet source network, you will need to repeat this procedure.

To Scan and Choose a WiFi Network to Repeat:

1. Make sure the WiFi on your computer or tablet is connected to the Repeater's WiFi network.
2. Access the repeater's control panel by going to http://192.168.123.1 using your web browser
3. Log in using the username "root" and your password
4. Click "Scan and Choose a WiFi Network to Repeat"

5. The repeater will scan to detect WiFi signals in the area. The signals will be presented as Open (no password required) or Closed (password required). You should choose a WiFi network which has been made available to you by the WiFi network's owner.
6. Regarding signal strengths: A signal of 20 or higher is ideal. A signal of 12 or better is usable. A signal from 10 to 12 is marginal. Any signal less than 10 is unusable – in this case you can still attempt to connect, but it is likely the connection will fail or will be unstable.
7. Click the "Connect to" button located under the WiFi network's name for which you wish to connect.
8. The repeater will detect the encryption type of the remote WiFi's signal. One of two things will occur depending on if the network is open or closed:
    a. If it is an open network, the repeater will inform you that no further information is needed. You will need to click "Connect" to proceed.

b. If the network is closed with encryption, you will be prompted to enter the network's Pre-shared Key (PSK). Note that the repeater will auto detect the encryption type. You should not change this setting.

   i. In the case of any variant of WPA or WPA2 encryption: Enter the key provided to you by the WiFi network's owner and click Connect. If you do not have this key, you will not be able to connect to this network. It is not possible to "crack" or bypass this key requirement.

   ii. In the case of WEP encryption: WEP encryption is a bit more complex to configure as it has several variations which can not be auto detected. You may have to try a connection a few different ways until you find the correct combination.

      1. If the code given to you is exactly 10 characters long and consists of only numbers and/or the letters A through G, then this is referred to as a "40 bit key". In this case you should first make sure all boxes on the page are empty, select the WEP Key 1 button, and enter your "key" into the "Key 1" box. There should be nothing in any of the other boxes. DO NOT click any of the "Generate" buttons. Click "Connect".

      2. If the code given to you is exactly 26 characters long and consists of only numbers and/or the letters A through G, then this is referred to as a "128 bit key". In this case you should first make sure all boxes on the page are empty, select the WEP Key 1 button, and enter your "key" into the "Key 1" box. There should be nothing in any of the other boxes. DO NOT click any of the "Generate" buttons. Click "Connect".

      3. If the code given to you does not meet the above criteria, then it is a passphrase. In this case enter the passphrase into the passphrase box and click "Generate 40bit key". You will see the other boxes fill in. Now click Connect. If the connection is unsuccessful, try again, but this time click the "Generate 128bit key" button.

9. After clicking "Connect", the repeater will let you know it is attempting the connection. This can take up to 60 seconds.

10. If everything went smoothly, the repeater should inform you that you are now connected, or provide you with a message if it was unable to connect and provide you with some suggestions.

11. If at any time you seem to get stuck during the connection process, go back to your address bar and go to **http://192.168.123.1** (without anything else behind it) once again. This will bring you back to the main repeater control panel status page.

    a. On the status page, if the WAN IP indicates anything other than being blank, then all is well and the connection was successful. A visual indicator that the connection was successful is that the large rectangular status light on the front left of the repeater will be lit with a solid white light. You may click the "Continue To The Internet" link to proceed.

b. If the WAN IP is blank, it indicates the connection was unsuccessful. A visual indicator that the connection was unsuccessful is that the large rectangular status light on the front left of the repeater will be off (not lit). In this case, you should repeat the scan and connect process again. If the network was closed and required a password, you should double-check the password is correct and that you are entering it correctly.

Changing your SSID / Securing your Repeater

1. From the main status page at http://192.168.123.1 , click on the "Change Your Repeater's WiFi Name and Password" link.
2. Follow the prompts provided. All details about the settings available are described in detail on that page.

FREQUENTLY ASKED QUESTIONS AND TROUBLESHOOTING ON THE NEXT PAGE

FREQUENTLY ASKED QUESTIONS and TROUBLESHOOTING:

Do I have to install any software to configured or use the repeater?
No software is required. The repeater is configured entirely over WiFi using your web browser. You do not have to plug a computer into the repeater to configure it. You can use a Tablet or Smartphone to configure the repeater.

Does it matter which antenna port I use?
The antenna port nearest to the power connector is the preferred port for the external antenna.

Can I connect a computer or other device to one of the network ports on the back of the repeater?
Yes. The Ethernet ports marked 1 through 4 will connect devices the same as a standard router would.

The Internet provider requires me to login with a username and password via a web page before I can get on the Internet. Will the repeater work in this case?
Yes, the repeater will pass through the login web page to your computer so you can log in. If you have difficulty getting this to work, first complete the repeater setup, then close your web browser, open it again, and try to go to any website. This should bring up the Internet provider's login page. You will only need to log in once as the Internet provider will be authorizing the repeater's connection. It does not see all of the individual connections from any other devices connected to the repeater.

Can I plug my cable modem or DSL router into the Internet port of the repeater?
No. The repeater firmware disables the use of the "Internet" port. The repeater no longer functions as a traditional router.

Do I need to repeat the Repeater configuration steps on every computer that uses the repeater?
No. The initial setup of the repeater only has to be done once. Other computers that want to use the repeater can just connect to the Repeater's WiFi network to get online.

Can I repeat a network that has encryption enabled?
Yes, the repeater will repeat encrypted (WEP, WPA, WPA2, etc.) WiFi networks. The Passphrase for the network must be known in order to repeat a secured network. The Passphrase can be obtained from the WiFi network's owner.

How do I change the Repeater's Wireless Network Name (SSID)?
See the instructions **Changing your SSID / Securing your Repeater** on Page 5.

How do encrypt my repeater's WiFi signal to make it closed so that only I can use it?
See the instructions **Changing your SSID / Securing your Repeater** on Page 5.

I forgot my password to log into the repeater control panel. What do I do?
Keep in mind the username is always "root". If you find you are locked out of the repeater or wish to go back to the default settings, hold down the "reset" button on the back of the unit for 5 seconds and release. The large status light will flash Orange and White as it resets. A full reset takes about two minutes. After that, the repeater will be back to the default settings like when you received it originally.

Can I get the repeater to auto-connect to any open WiFi network?
Although this feature is technically possible and would be very convenient, the legality of doing such a thing is questionable. Therefore, we are unable to provide this type of feature. You must choose which WiFi network you want to repeat and use.

The Internet Source WiFi network operator requires me to give them a MAC address in order to connect to them. Is this supported?
Yes. Connect to the repeater status page at http://192.168.123.1 and there you will see a WAN MAC Address. This is the MAC Address to give to the Internet provider in order for them to activate you on their network. You do not need to give them the MAC address of each individual device that connects to the repeater. Alternatively, if you have already provided a MAC address of one of your devices to the provider, click the "Clone MAC" link on the Repeater Status page and follow the prompts.

Can I use a directional antenna with the Repeater?
No, this is not recommended or supported. The repeater uses the external antenna as its primary antenna for both receiving and repeating signals. We have done extensive testing with different antenna types and have found that directional antennas yield very poor performance. The best way to explain this is that with a directional antenna, the signal is repeated back in the same direction. Please do not use a directional antenna with the repeater. You will not be happy with the performance.

Can I use just the two rubber duck antennas on the repeater and no external antenna?
Yes, this is perfectly fine, and actually is recommended in the case of repeating a very strong WiFi signal. If you only have one rubber duck (maybe you lost the second one), then put it on the primary antenna port, the one next to the power connector when you are not using the outside antenna.

Should I leave the secondary rubber duck antenna attached or should I remove it?
You can try it both ways. We have had situations where removing the secondary antenna and leaving the port with nothing attached has improved signal strength and quality. In other cases, just the opposite was true. Feel free to experiment with this.

Can I run the repeater off of DC power?
Yes! We have DC power options for the Repeater including a cigarette lighter plug adapter and options for direct wiring. See http://www.jefatech.com for details.

Can I mount the antenna to my "batwing" TV antenna on my RV so I can crank it up and down?
Yes. We do not provide specific instructions or hardware to do this, but many of our customers have done this with great success.

I can't get the repeater working. Can I call you for support?
Absolutely! We are here to help and want nothing more than to get you up and running. Call us at 888-467-2258 or if you prefer e-mail, it is support@jefatech.com

Can I connect my wireless printer to the repeater so I can print?
Yes, just connect your printer to the Repeater's WiFi network and go through the Printer's setup in the same manner as if it were your home WiFi network.

When a WiFi Internet Hotspot charges for Internet Access, will I be charged for each device that uses the repeater?
No, The repeater creates a personal wireless network for your computers and it only makes one connection to the WiFi hotspot on their behalf, so as far as the Hotspot Operator knows, you only have one "device" connected. All of your computers connecting to your repeater will share that single Internet connection. From the Hotspot Operator side, they only see one device - your repeater. Please note we have not specifically designed our repeater for this purpose. It just happens to work in this way due to the technology and the network design that is used.

About the firmware:
The firmware which has been loaded on your Repeater Unit was developed by JEFA Tech, Inc. It is custom developed firmware. It is not DD-WRT!

About the Linksys hardware:
Our repeater unit looks like a standard Linksys router because it uses the same hardware. The Linksys WRT54GL router is actually a miniature solid state Linux computer. We have removed the Linksys programming and loaded custom developed firmware (software) that allows it to act as an easy to use repeater. By using "off the shelf" hardware, this helps keep our costs down so we can pass the savings on to our customers. We have found the hardware to be well built and reliable, as well as having a nice exterior design.

JEFA Tech is a Linksys partner and authorized distributor. Linksys approves and encourages our modifications of their WRT54GL hardware.

For further assistance contact JEFA Tech:
888-467-2258 support@jefatech.com http://support.jefatech.com