

Sierra Radio Systems



WiFly Configuration

Quick Reference



Version 1.0

Hardware Connections

SERIAL PORT CONNECTIONS FOR WIFLY DEVICE PROGRAMMING

The serial port on the WiFly device provides a 3.3v logic level interface. You will need a way to connect your computers RS-232 port these 3.3v logic pins on the device. There are several ways to do this as follows...

1. You can use a USB / RF base station such as the Sierra Radio (#417) base station. You plug the WiFly into the base station board which in turn plugs into the PC with a USB cable. The Sierra Radio base station will appear as a com port device on your PC. Map your dumb terminal program to that com port, set the port for 9600 baud and you are ready to go.
2. On board programming using the Sierra Radio GPIO-2 or Station Controller (with GPIO-2) board. The GPIO-2 board has a jumper block that brings out all serial device Tx and Rx signals to one convenient location on the PCB. You can use wire jumpers to cross couple any devices Tx output to any devices Rx input all at 5v TTL logic levels. There are four devices supported on the board including
 - 20 pin socket used by the WiFly (or other Xbee compatible RF devices)
 - Lantronix ethernet module
 - RS-485 serial interface
 - MAX232 TTL to RS232 interface and DB9 connector

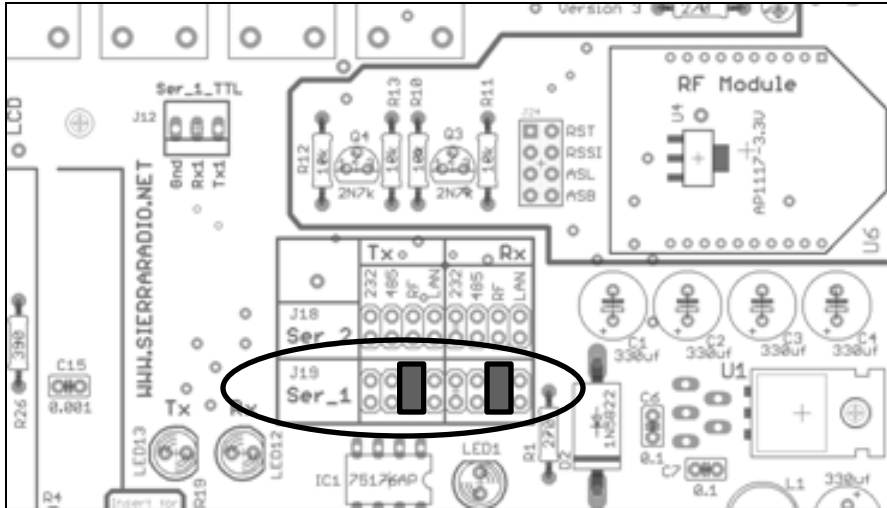
For example, you can jumper between the DB9's MAX232 interface labeled "232" on the jumper block and the WiFly socket, labeled "RF" on the PCB. In this case you install 2 jumpers, one from 232 Tx to RF Rx and the other jumper from RF Tx to 232 Rx. In this configuration all ASCII data that goes from the PC into the DB9 will be routed to the serial input of the WiFly and all data from the WiFly output will be routed to the DB9 and on to the computer.

3. You can also write your own HamStack program that will send command strings from the HamStack CPU to the WiFly module. Just send \$\$\$ followed by the command string to set the device's operating parameters. Make sure you pace the transmission to give the WiFly time to act. You can also look for the positive reply from the device.

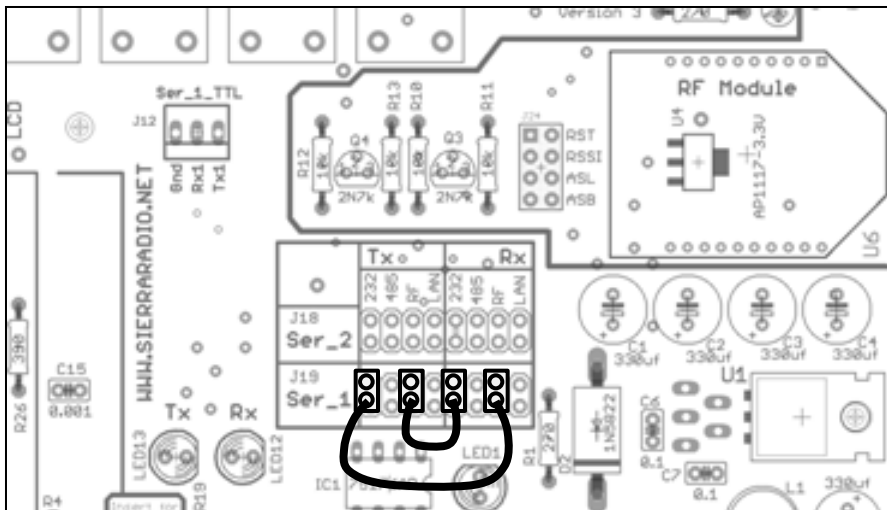
Any dumb terminal program like Hyper Term would work. If you need a good program, Tera Term is available is available on the Sierra Radio web site free.

GPIO 2 Jumper Settings

Normal Configuration with the WiFly device mapped to Serial Port 1



Configuration mode that will cross couple the serial port 1 DB9 directly to the WiFly device. This bypasses the CPU chip and allows you to program the WiFly with a dumb terminal program.



HamStack WiFly Configuration

This document describes how to configure your WiFly WiFi module to connect to with an ad-hoc device or a WiFi access point.

CONFIGURING YOUR ROUTER

To configure your network for external / remote communications from outside of your local area network.

First start with your router / access point configuration

1. Get the IP address assigned by your ISP
Something like 34.234.543.11

Point your web browser to Google, www.google.com, and type in “what is my ip” into the search field. Google will respond with the IP address of your home router assigned by your service provider.

2. Change port forwarding configuration on your router.

Your WiFly device will come preprogrammed with a default IP address on your internal local area network. This address is usually 192.168.1.210. Check the box to see if there is a sticker or paper that tells you the IP address. If you don't see one it should be 192.168.1.210.

In this step you need to log into your router and add an entry into your port forwarding table to send all traffic that comes to your home router to port 7373 on to the WiFly device with the address of 192.168.1.210.

CONFIGURING YOUR WIFLY DEVICE

For this example, we will assume your home network configuration parameters are as follows...

You have a home WiFi network with an SSID of myhouse

The security is WPA with a pass phrase of mickeymouse

The router's IP address is 192.168.1.1

With your WiFly device connected to a dumb serial terminal set for 9600 baud, enter \$\$\$ and you will be put into command mode. At this point you can enter configuration commands. Those commands are listed on the next page.

HamStack WiFly Configuration

For a WiFly device where the WiFi access point / router will serve up a LAN address (DHCP mode) set the following parameters in your WiFly device...

```
set wlan channel 0
set wlan join 1
set wlan ssid myhouse
set wlan auth 3
set wlan phrase mickeymouse
set ip local 7373
set ip dhcp 1
set wlan mask 255.255.255.0
set broadcast port 7373
set wlan linkmon 5
save
reboot
```

For a WiFly device with a static IP address, set the following parameters in your WiFly device...

```
set ip address 192.168.1.210
set ip gateway 192.168.1.1
set wlan channel 0
set wlan join 1
set wlan ssid myhouse
set wlan auth 3
set wlan phrase mickeymouse
set ip local 7373
set ip dhcp 0
set wlan mask 255.255.255.0
set broadcast port 7373
set wlan linkmon 5
save
reboot
```

COMMON COMMAND OPTIONS

set wlan channel 0

0 Scan for SSID

1...13 use that channel

set wlan join 1

0 Manual. do not try to join automatically

1 Try to join the AP that matches the SSID, passkey and channel

2 Join any AP with security matching the stored mode, ignores the SSID

3 Reserved

4 Create an adhoc network using SSID, IP address and netmask

set wlan ssid myhouse

set wlan auth 3

0 Open

1 WEB 128

2 WPA1

3 Mixed WPA1 and WPA2

4 WPA2

5 Not used

6 Adhoc

8 WPE-64

set wlan phrase mickeymouse

This is the passphrase for WPA and WPA2 networks

set ip local 7373

Set the port number that we will listen to

set ip dhcp 1

0 DHCP off, use static IP address

1 DHCP on get IP address and gateway from AP

2 Auto IP generally with adhoc networks

3 DHCP cache mode, use previous IP address

set wlan mask 255.255.255.0

set broadcast port 7373

set wlan linkmon 5

Sets the number of seconds to reconnect after AP connection fails

save

reboot

IPHONE / IPAD CONFIGURATION

On the mobile device, configure your HamStack app with the following information...

1. In the HamLog or HamStack app, go into the config screen and set the IP address to match your ISPs assigned IP address.
2. Set port number to 7373
3. Save and you are ready to go.