

NetBurner, Inc.

Development Kit

NBWIFIUG Quick Start Guide

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Network Development Kit Quick Start Guide

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Introduction

The NetBurner NBWIFIUG-100CR Wifi Development Kit (WDK) is an add-on module to enable wireless communications on the following development kits (purchased separately):

NNDK-MOD5234-KIT

NNDK-MOD5270-KIT

NNDK-MOD5270LC-KIT (additional J2 header required)

NNDK-MOD5272-KIT

NNDK-MOD5282-KIT

With the WDK installed, your NetBurner core module will can have both Ethernet and Wifi communication active at the same time. The software programming is minimal; once you add the second network interface, you network and web server communication will be routed automatically.

Kit Contents

- NBWIFIUG-100CR Wifi Module
- NBWIFI-ADPT-100CR Adapter/Interface Board
- Software and documentation via [NNDK Red Card](#)
- Antenna

Documentation

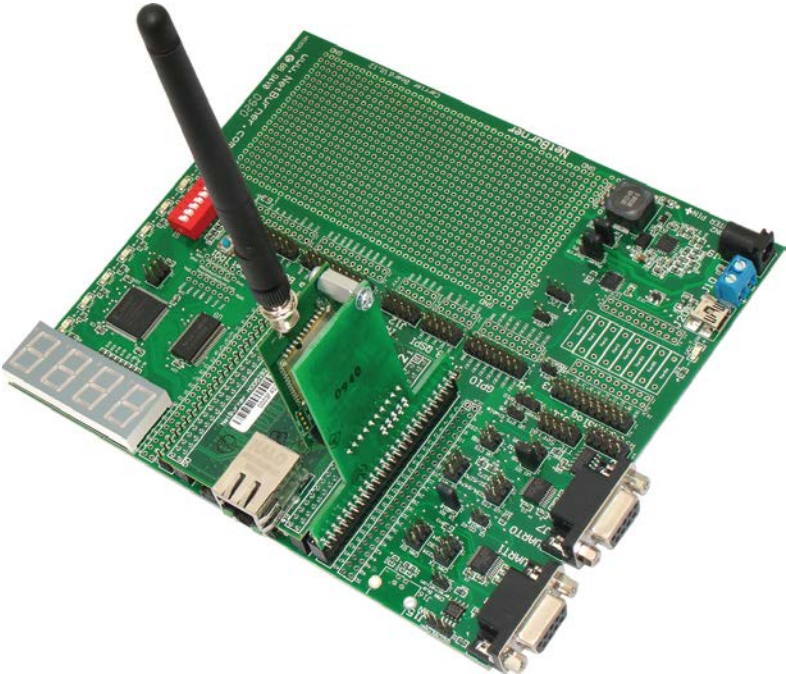
The WDK is primarily a hardware addition. All the documentation included with your NNDK is applicable to the Wifi interface, including the RTOS, TCP/IP Stack, and Web Server. The Users Guide API calls specific to the Wifi interface are described in the Wifi Programmers Guide, located in the \nburn\docs\wireless directory of your NNDK tools installation.

Hardware

The WDK consists of an NBWIFI-ADPT-100CR adapter board, NBWIFIUG-100CR Wifi module (mounted on the adapter board), and an antenna. The adapter board mates with the J2 header on the MOD-DEV-100CR development board. If you have a MOD-DEV-70CR development board, you will need to solder in the 50-pin dual row 0.1" header in the J2_C location.

The adapter board should be inserted as shown below, with the NBWIFIUG-100CR module facing the Ethernet module.

Figure 1. Adapter board (inserted on MOD-DEV-100CR)



Software and Drivers

The Wifi library is pre-installed installed in development tool releases 2.4 or later.

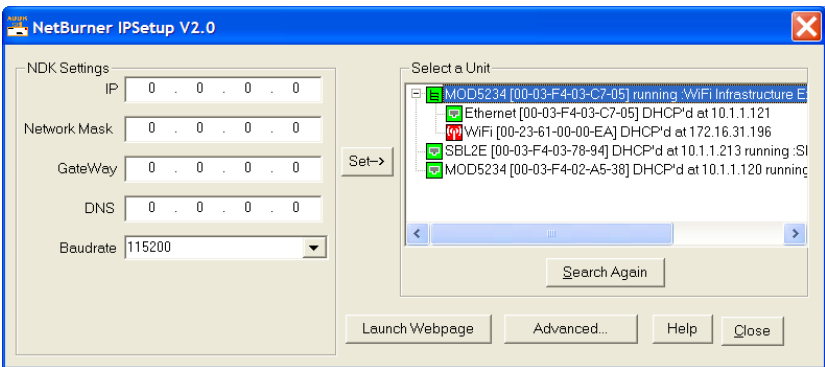
Configuring an IP Address

The IPSetup utility will recognize that there are both Ethernet and Wifi network interfaces available to your NetBurner module. You can configure either interface from the other. The IPSetup device selection box will display a tree structure with a '+' character. If you click on the '+' it will enable you to view/edit each interface. In this way you can configure the Wifi interface through a network connection, which may be easier the first time you use the WDK.

In the screen capture below you can see both interfaces for the Mod5234. The Wifi icon is red because IPSetup was run on a PC on the Ethernet network and the 172.x.x.x address range is not visible to it. However, both interfaces are completely functional and configured correctly.

IMPORTANT: Your NetBurner Ethernet module must have a Wifi-enabled application running before the Wifi interface will appear in IPSetup.

Figure 2. NetBurner IP Setup Application



Running the Wifi Example Program

Prerequisites

- The NBEclipse development tools have been installed and are running properly.
- The Wifi hardware has been installed on your NNDK development board.
- The Wifi module is in a location with access to a 802.11 b/g access point.

Procedure

- In NBEclipse, create an empty project. Then, import the source code files located in C:\nburn\examples\wifi_infrastructure. This procedure is described in the NBEclipse Getting Started Guide.
- Build the project and download it to your Ethernet module.
- Optional: You can view application status messages with MTTTY connected to the debug serial port.
- Run IPSetup and verify you can see both the Ethernet and Wifi interfaces.
- Use IPSetup to select the Wifi interface. Then, specify the SSID and optional WEP key if enabled. After you click on the Set button, the display will take a few seconds to update, and if the Wifi connection was successful the IP address information should appear.
- Use a web browser and type the Ethernet IP address in the URL field. The web page should display the configuration information for both interfaces, and identify that the request came from the Ethernet interface.
- Use a web browser and type the Wifi IP address in the URL field. The web page should display the configuration information for both interfaces, and identify that the request came from the Wifi interface.

Troubleshooting

- Run MTTTY and connect to the debug serial port, either through USB or the DB9 connector. Press the reset button on the development board and look for status information and error messages.
- Try pinging the IP address of each interface.

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Hardware Design

Firmware Design

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Turnkey add-on boards to your specifications

Consulting on product design definition

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