



WiVibConfig User's Manual

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CHAPTER 1 - Overview

1.1 WiVibConfig Features

WiVibConfig is a configuration utility that is used to set up and modify the network settings of the WiVib and WiVib Pro series of wireless data acquisition devices from Icon Research (for example, the WiVib-4/4 Pro).

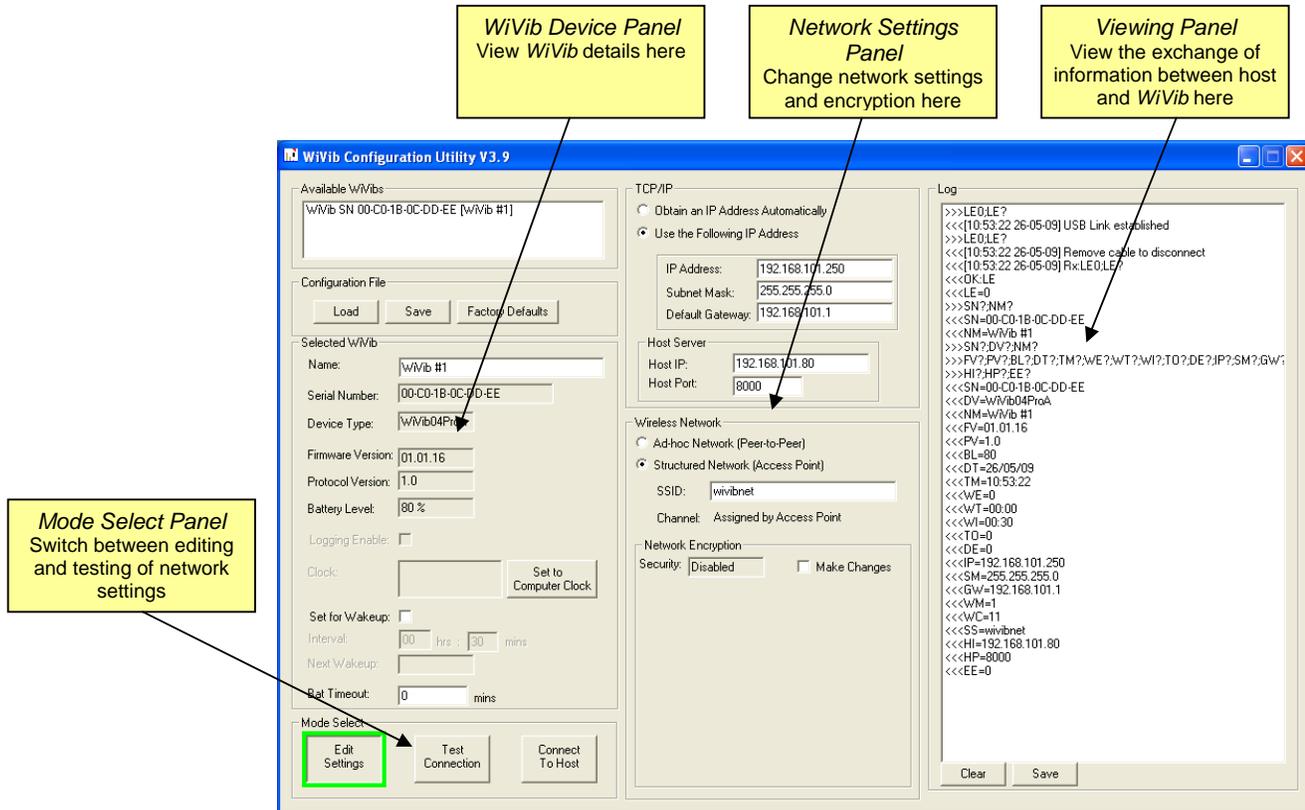
Access to a WiVib to change its network settings is possible in a number of ways. For example, a USB cable can be attached or, if the WiVib is already present on the network, settings can be modified over the network.

This manual explains how to set up and operate WiVibConfig.

1.2 Main Screen Features

WiVibConfig has one main screen that enables all setup and viewing to be carried out.

The main areas of the screen are shown below.



Chapter 1 – Overview

WiVib Device Panel: this shows the details of the *WiVib* that you have selected, and enables you to change the wakeup mode.

Network Settings Panel: this panel enables you to change the internal network settings of the *WiVib*, and to match it to the particular network that you wish it to communicate over.

Viewing Panel: all communication between the *WiVib* and its host is logged here.

Mode Select Panel: this enables you to switch between editing mode and testing mode ie. you can edit your settings and check if you entered them correctly by testing to see if the *WiVib* will connect with your chosen network.

CHAPTER 2 – Getting Started

2.1 Installation

Installation is from either CD or USB memory stick.

Installation from CD

If AutoRun is enabled on your computer drive, the installation menu will be displayed. Click on **Install Software** and select *WiVibConfig*. If installation does not run automatically, then use Windows Explorer to select the drive with the label *WiVib Suite*, and run the application called *WiVibSuite.exe* which will be in the root folder.

Installation from USB Stick

When a USB drive is inserted, the Windows Autoplay dialogue box will appear. Select *WiVib Suite Installation* and click **OK**. Click on **Install Software** and select *WiVibConfig*. If the Autoplay box does not appear, then use Windows Explorer to select the drive with the label *WiVib Suite*, and run the application called *WiVibSuite.exe* which will be in the root folder.

Note that, if you wish to copy the files from the CD or USB stick to your computer and install from your computer, then ensure that all the files are kept in their original folders, otherwise installation may fail.

In either case, a shortcut will be placed on your desktop. Click on the shortcut to launch *WiVibConfig*. If you wish to print a copy of this manual, it is available on the CD/USB stick.

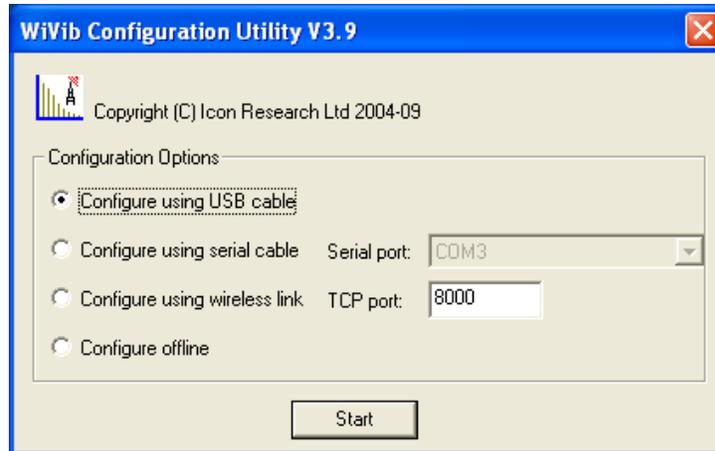
2.2 Installing the USB Driver

If you intend to use a USB connection to configure your *WiVib*, then you will have to load the corresponding driver. To do this, connect the USB cable between your computer and the *WiVib* and switch on the *WiVib*. Windows will display the Found New Hardware Wizard, and will state it will help you install software for *WiVib Configuration Port*. Select the option **Install the software automatically**, and it should search the CD/USB stick and find and install the driver. If it does not find the driver, it will return you to the initial question, in which case you should select the option **Install from a list or specified location** and browse to the folder *WiVibPro USB Driver* on the CD/USB stick. After the driver has been installed the wizard will display a message indicating that it has finished the installation and you can then click the **Finish** button to continue.

Note that if you subsequently use a different USB port on your computer, Windows will prompt that it has found new hardware, but it will automatically use the driver that it previously installed.

2.3 Connecting to a *WiVib*

When *WiVibConfig* is launched, the dialogue box below will appear. Select which configuration option you wish to use by clicking on the appropriate radio button.



Configure using USB cable: in this case, you are going to use a cable connection between the *WiVib* and your computer. Remove the lid from the enclosure on the *WiVib* and connect a suitable cable (type A to Mini-B) between the computer and the USB port on the *WiVib*. This is the most popular set-up method for new *WiVibs*. Note that you will require to load the driver to use this option.

Configure using serial cable: this is similar to the USB configuration method, but applies to older *WiVib* units with a serial interface. Connect the serial cable (type SC-2) between your computer and the *WiVib*. No driver is required.

Configure using wireless link: in this case, your *WiVib* is already present on the network and you are needing to change its configuration in order to, for example, move it to another network. Note that encryption options can only be changed if the *WiVib* is already on a secure wireless link.

Configure offline: you can set up and save a configuration file without having a *WiVib* present. This option is useful if you are preparing for the arrival of some *WiVibs*. You can store your configuration and recall it later.

Once you have selected your configuration method, click **Start**.

2.4 Default Settings

On leaving the factory, the *WiVib* is configured with default settings. These are detailed in the table below.

Chapter 2 – Getting Started

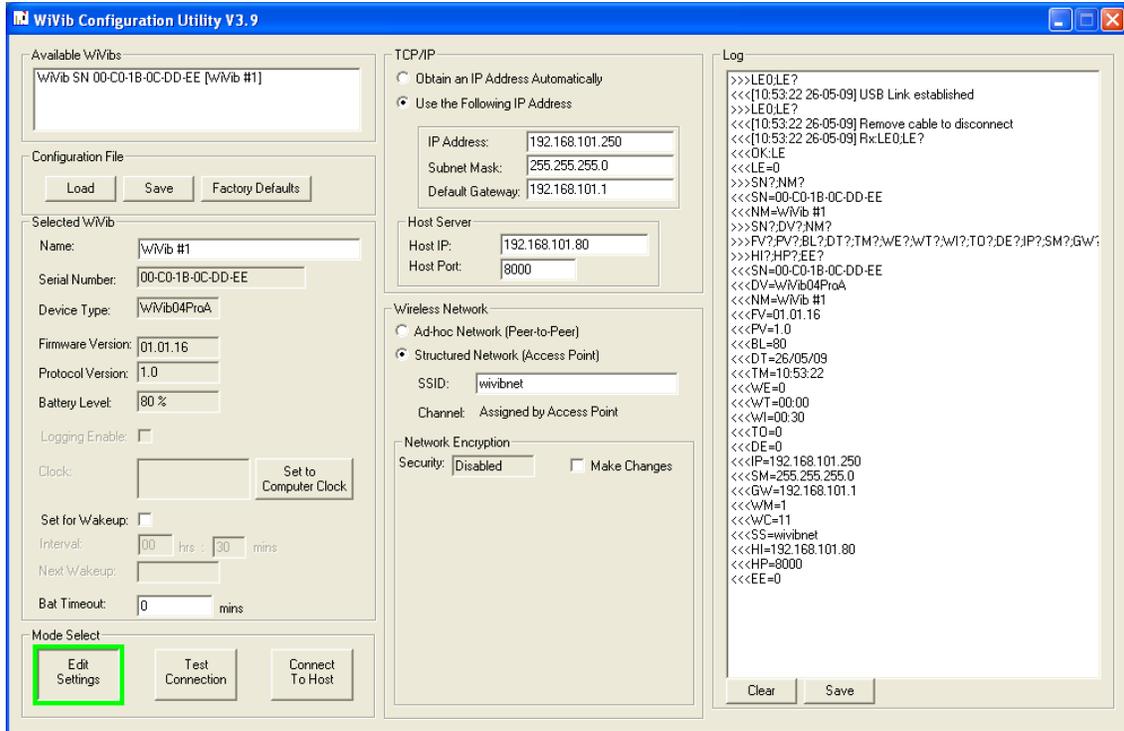
Item	Setting
Name	<i>WiVibProA:<serial no></i>
IP Address	192.168.101.250
Subnet Mask	255.255.255.0
Default Gateway	192.168.101.1
DHCP Enable	Off
Mode	Infrastructure
Wireless SSID	<i>wivibnet</i>
Wireless Channel	11
WEP Enable	Off
Host IP Address	192.168.101.80
Host Port Number	8000
Timeout	5 minutes

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CHAPTER 3 – Configuring a WiVib

3.1 Step-by-Step Configuration

By clicking **Start** on the *Configuration Options* dialogue box, the screen below will appear.



First of all, a list of devices will appear in the *Available WiVibs* field. When configuring on a wireless network, more than one *WiVib* may appear in the list. For cable configurations, only one will appear. Double-click on the *WiVib* that you wish to configure. A green border will appear on the **Edit Settings** button to indicate that the *WiVib* has connected via the USB port, and its details will appear in the *Selected WiVib* panel. You can check on the details of the here, or change some parameters such as its internal time and its wakeup settings. *Logging Enable* refers to the first generation *WiVib* only and allows messages passing to and from the *WiVib* to be viewed

At this point the **Edit Settings** button will be depressed in the *Mode Select* panel.

We will now look at the steps involved in a typical editing session.

Step 1 - Modify Name:

Modify the name of the *WiVib-4/4 Pro* to something appropriate (eg. the sample screen shows the name as *WiVib #1*, though you may wish to call it after what it is measuring eg. *Pump Set #1*). You must not leave the name blank as some packages (such as *WiVibTrend Lite*) use the device name to identify the unit. The

Chapter 3 – Configuring a WiVib

default is the device model number and its serial number (which is the same as the MAC address).

Step 2 - Set Time and Date:

Click on **Set to Computer Clock** to write the correct time to the device.

Step 3 - Modify Network Settings:

It is now time to configure the *WiVib-4/4 Pro* with the network settings for the wireless network that you wish to communicate via. All these settings are in the centre panel and are largely self-explanatory. Ensure that the SSID of your network is entered together with the static IP address of the *WiVib-4/4 Pro*, and the address of the host computer (ie. the computer running *WiVibScope*, for example). Ensure that the subnet mask is appropriate.

Rather than entering a static IP as described above, you can get your computer to allocate an IP. This is called DHCP. In this case, check **Obtain an IP Address Automatically**.

Step 4 – Set Security (optional):

If you do not wish to use security encryption, you can miss out this step. Security configuration is explained in the section *Using Encryption*.

Step 5 – Save Configuration (optional):

Once you have entered your settings, you can save these to a file of your choice by clicking the **Save** button. Refer to the section on *Saving and Loading Configurations* for details.

Step 6 – Connect to Network:

You are now ready to connect to the network. Refer to the next section. Select the **Test Connection** or **Connect to Host** buttons - the settings that you have made will be transferred to the *WiVib-4/4 Pro* and it will be instructed to connect to the network using those settings. **Test Connection** instructs the *WiVib-4/4 Pro* to connect to *WiVibConfig* for test purposes. Ensure that no other applications are running that could try to use the port (eg. *WiVibScope*) as this will cause a conflict. **Connect to Host** instructs the *WiVib-4/4 Pro* to connect to an external application (eg. *WiVibScope*), in which case it must already be running. If the connection is successful, you will see data appearing on the host application. Refer to the section *Testing Your Configuration* for further details.

Note that, if you want to revert back to the *WiVib-4/4 Pro* defaults, you can click on **Factory Defaults** at any time.

3.2 Testing Your Configuration

Once you have finished entering your settings, you can carry out some test connections in two ways. It is important to realise that the *WiVib* requires an application to communicate with - that application must be resident on a computer that is accessible on the network and matches the host configuration you have entered.

Test Connection: In this case, the *WiVib* will attempt to communicate with the *WiVibConfig* application. So you must ensure that your computer matches the configuration settings you have entered (eg. the host IP of your computer must be

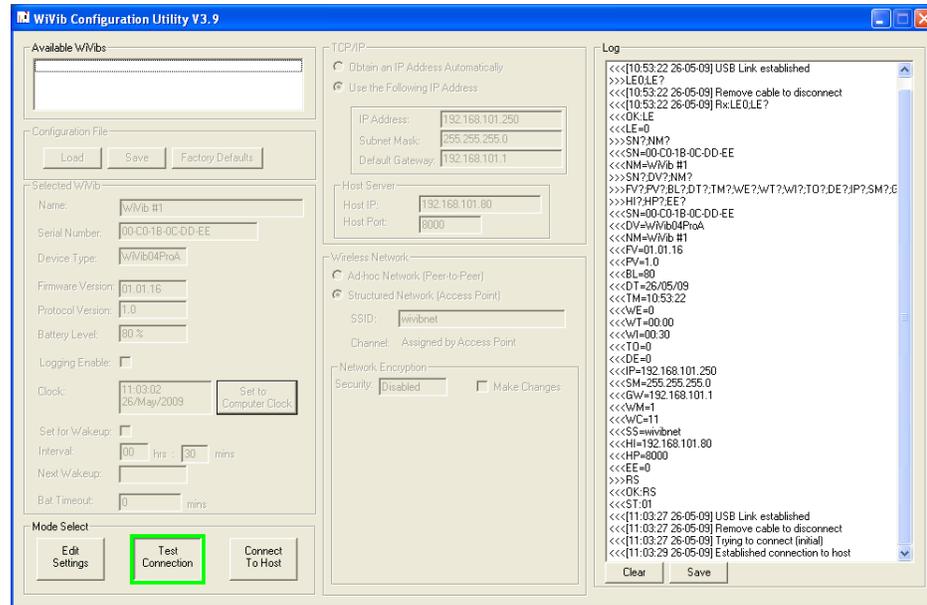
Chapter 3 – Configuring a WiVib

the same as the *Host IP* setting). Click on the **Test Connection** button. While the *WiVib* is trying to connect, the border around the button will appear yellow and it will go green when the connection is successful. See the sample screens below.

Trying to connect:



Connected:



Note that a message appears in the Log display indicating that a successful connection has been made.

Connect To Host: In this case, the *WiVib* tries to connect with a compatible application (such as *WiVibScope*) residing on a host computer. The computer's network settings must match the configuration settings in the *WiVib*. The difference is that this computer can be resident anywhere as long as it is accessible by the *WiVib*. In this case, click on the **Connect To Host** button. If the connection is successful, you will see data appearing on the host application.

If you wish to return to edit mode, click on **Edit Settings** and wait until the border turns from yellow to green.

As the *WiVib* receives instructions, these are displayed on the *Log* screen. You can use the **Clear** and **Save** buttons to delete and save the message trail.

3.3 Using Encryption

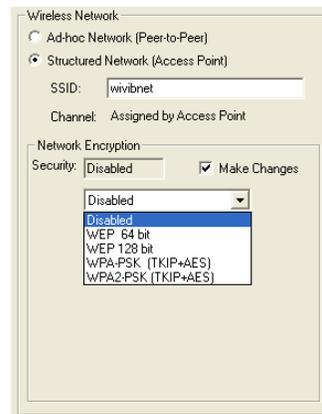
The Network Encryption panel enables WEP and WPA encryption to be set. The options are shown in the table below.

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Encryption Type	Options	Entry
WEP	64-bit	10 hexadecimal digits
	128-bit	26 hexadecimal digits
WPA		8 to 63 ASCII characters, no quotes allowed
WPA2		8 to 63 ASCII characters, no quotes allowed

It is important to understand that encryption keys are never read back from a *WiVib* and displayed. This is to prevent unauthorised personnel from viewing the encryption settings. Security settings can only be written to a *WiVib* and cannot be read back, in other words encryption is **WRITE-ONLY**.

To enter security settings, click the **Make Changes** check box and click on the drop-down menu as shown below. Select the type of security you require and enter the keys (for WEP) or phrase (for WPA). For WEP, select the required **Transmit Key** from the drop-down menu and **Authentication** by clicking on the appropriate radio button.



The settings you have entered will be written to the *WiVib* when you click **Test Connection** or **Connect to Host**.

If you are checking the settings on a *WiVib* that already has security settings entered, then the encryption type will be shown in the *Security* field.

3.4 Saving and Loading Configurations

You can save any configuration into a file by clicking on the **Save** button. Configurations can be recalled by clicking the **Load** button.

You can password protect the file to avoid unauthorised access to your encryption settings by entering a password when prompted during the save process. If a password was set when the configuration was saved, then the same password must be entered to allow the user to view the security settings when the file is loaded. If

an incorrect password is entered on loading the file, then the security settings will be loaded but they cannot be viewed or modified (and the word *Locked* appears on the *Network Encryption* panel). The purpose of this is to enable an IT manager, for example, to give a configuration file to subcontract installers to enable them to install *WiVibs* on a network without them being able to see the security settings.

Factory defaults can be set at any time by clicking the **Factory Defaults** button.

3.5 Configuration Using a Wireless Link

The procedures above can be carried out over a wireless network provided that the basic network settings are already established and the *WiVib-4/4 Pro* is connected to the network. To configure the *WiVib-4/4 Pro* in wireless mode, launch *WiVibConfig* and check **Configure using wireless link**. This feature is useful when configuring units that are already installed in the field.

There are some points to note when configuring in wireless mode:

1. If you change the network settings and the *WiVib-4/4 Pro* cannot connect to its existing network or a new network, then communication will be lost and you will have to configure the unit using a USB cable.
2. Do not run *WiVibScope*, *WivibTrend Lite* or any package that attempts to communicate with the *WiVib* as a conflict will occur ie. two host applications will be trying to communicate with one *WiVib*.

Note that, for security reasons, security settings cannot be modified when using wireless configuration unless encryption is already in use ie. it is already a secure network.

3.6 Off-Line Configuration

Files that contain configuration settings can be originated and saved without a *WiVib* being present. This called offline configuration. Launch *WiVibConfig* and check **Configure offline** to enter this mode. Stored settings can be viewed and modified using the **Load** function, and saved to file using the **Save** function.

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