



# *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* series of ethernet and wireless data acquisition devices from Icon Research.

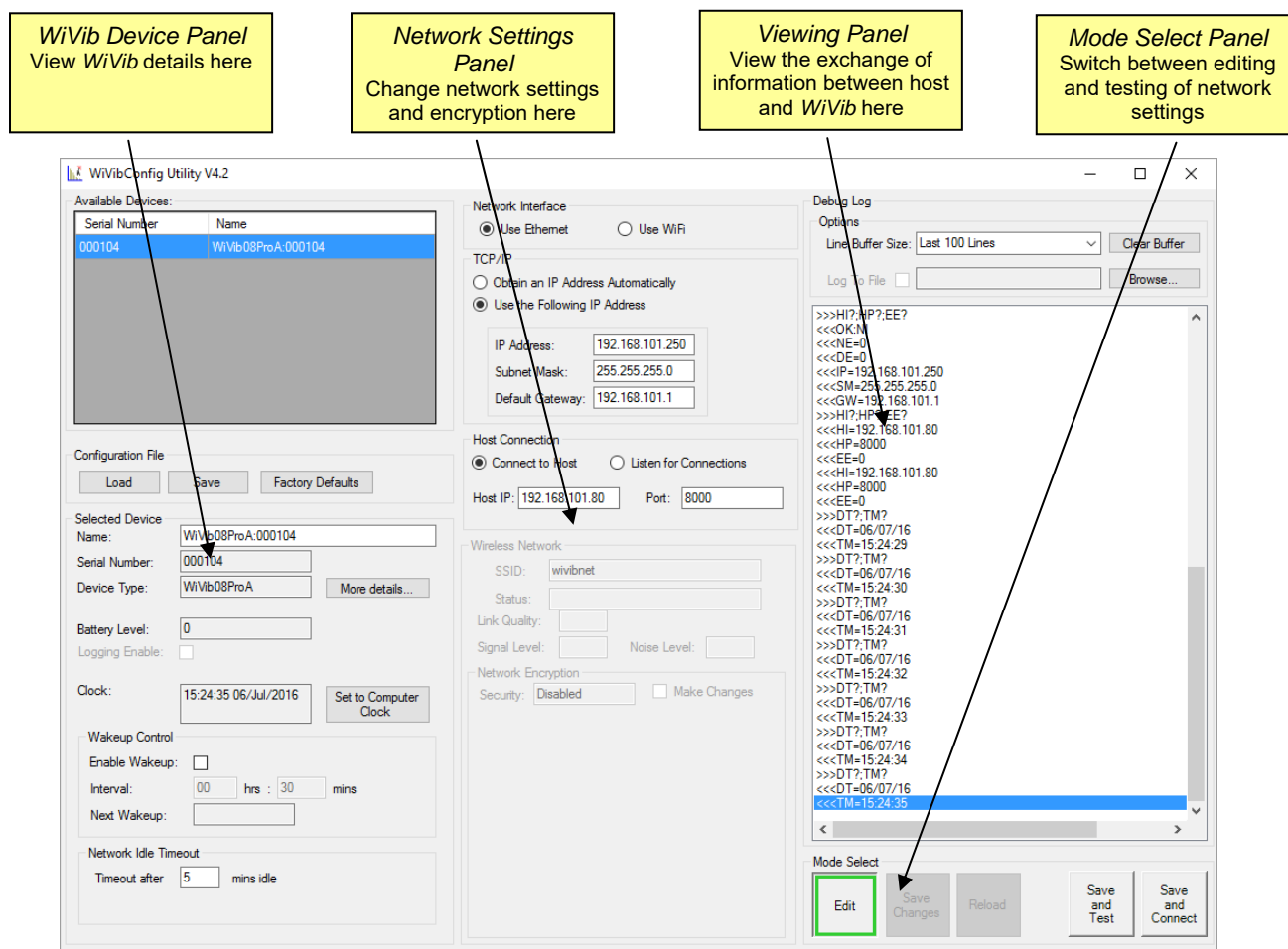
Access to a *WiVib* device to change its network settings is possible in a number of ways. For example, a USB cable can be attached or, if the *WiVib* is already present on the network, settings can be modified over the network.

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.



**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.

The *WiVibConfig* utility supports the *WiVib Pro* series and so can be used for example, with the *WiVib-4/4 Pro* and the *WiVib-8x8pro-EW*. The type of device that you wish to configure is selected when the program is launched. In this manual, the word “*WiVib*” is used to describe any *WiVib* device.

## CHAPTER 2 – Getting Started

### 2.1 Installation

Installation is from USB flashdrive.

The USB flashdrive contains three folders, the contents of which are applications, documentation and drivers. To load the *WiVibConfig* utility, browse to **applications...WiVibConfig** and run **setup.exe**. A shortcut will be placed on your desktop. Click on the shortcut to launch *WiVibConfig*.

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

If you wish to print a copy of this manual, it is available in the *documents* folder.

### 2.2 Installing the USB Driver

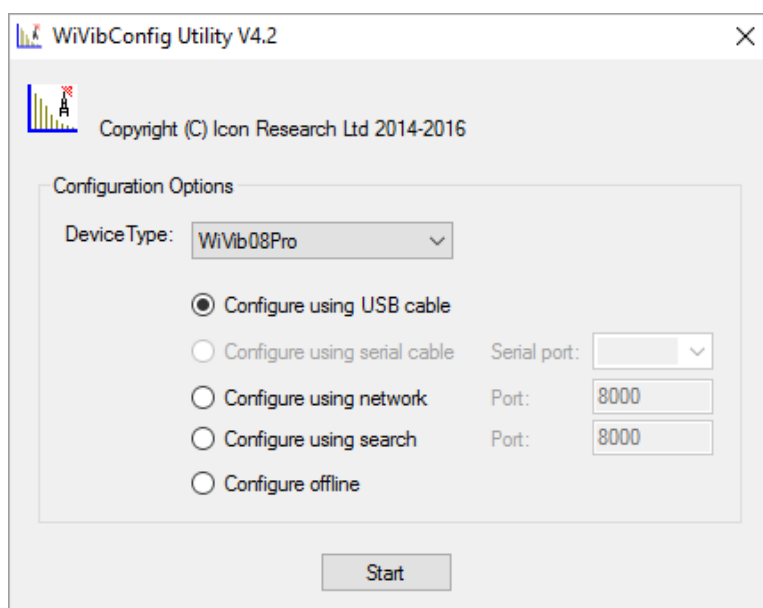
If you intend to use a USB connection to configure your *WiVib*, then you will have to load the corresponding driver. To do this, connect the USB cable between your computer and the *WiVib* and switch on the *WiVib*. Windows will display the *Found New Hardware* wizard, and will state it will help you install software for *WiVib Configuration Port*. Select the option **Install the software automatically**, and it should search the USB flashdrive 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 USB flashdrive. 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.

First select which type of *WiVib* device you wish to configure from the *Device Type* dropdown list. Then 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 network:** 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. To use this configuration option, the *WiVibConfig* utility must be resident on the computer identified as the host in the *WiVib*. This option allows configuration via routers. Note that wifi encryption options can only be changed if the *WiVib* is already on a secure link.

**Configure using search:** this applies to the *WiVib-8x8pro* only. In this option, the *WiVibConfig* utility searches for available *WiVib* devices. The *WiVibConfig* utility does not need to be resident on the host computer but must be on the same local network as the device (ie. not via a router).

**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.

#### WiVib-4/4Pro

Item	Setting
Name	<i>WiVib04ProA:&lt;serial no&gt;</i>
IP Address	192.168.101.250
Subnet Mask	255.255.255.0
Default Gateway	192.168.101.1
DHCP Enable	Off
Network Connection	WiFi (only available)
Wireless SSID	<i>wivibnet</i>
WEP Enable	Off
Host IP Address	192.168.101.80
Host Port Number	8000
Timeout	5 minutes

#### WiVib-8x8pro-E and -EW

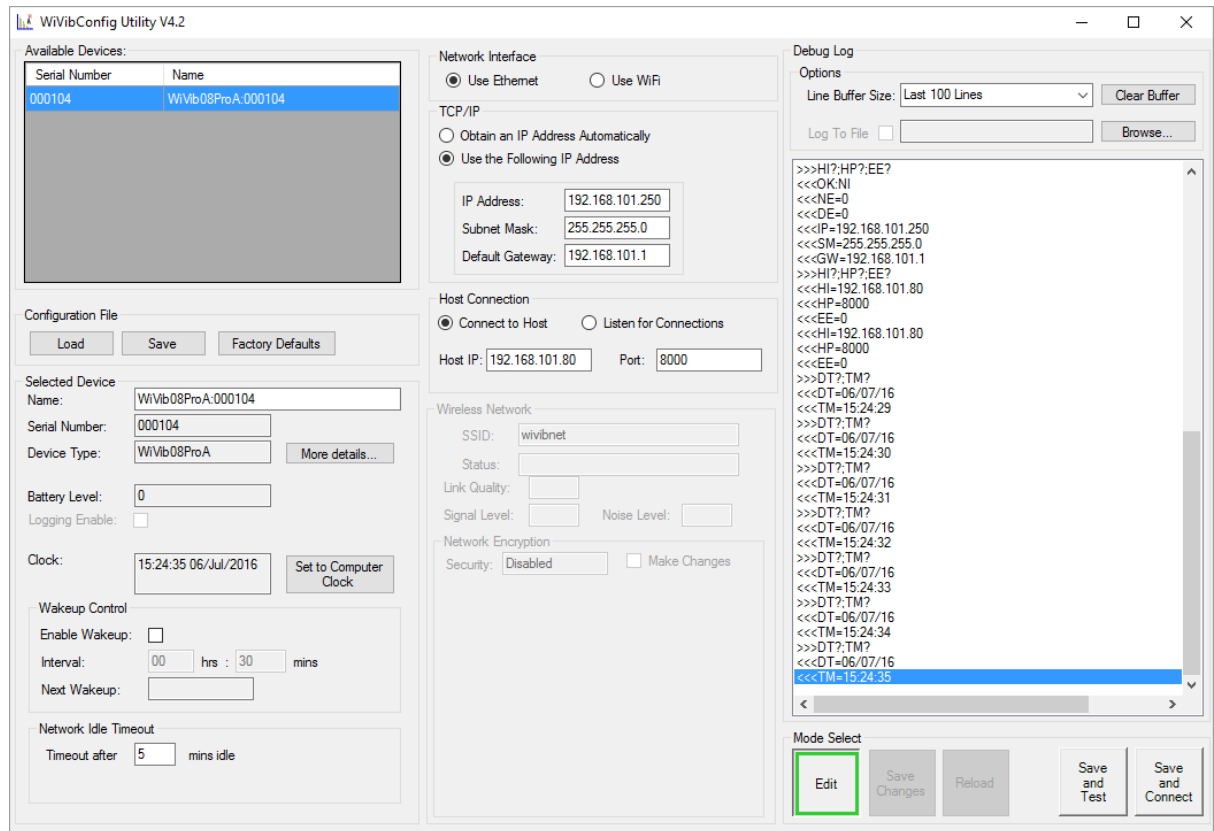
Item	Setting
Name	<i>WiVib08ProA:&lt;serial no&gt;</i>
IP Address	192.168.101.250
Subnet Mask	255.255.255.0
Default Gateway	192.168.101.1
DHCP Enable	Off
Network Connection	LAN (ethernet)
Wireless SSID	<i>wivibnet</i>
WEP Enable	Off
Host IP Address	192.168.101.80
Host Port Number	8000
Timeout	5 minutes

Factory defaults can be reset on a *WiVib* device by pressing and holding the ON/OFF pushbutton on the unit (start with unit turned off) or clicking on **Factory Defaults** on the main *WiVibConfig* screen.

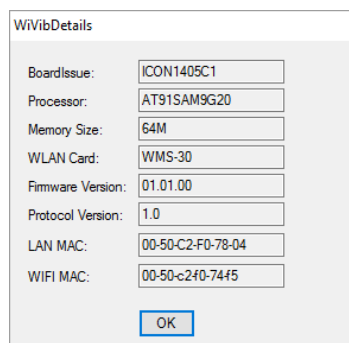
## CHAPTER 3 – Configuring a WiVib

### 3.1 Step-by-Step Configuration

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



For cable configurations (usb and serial), only one device will appear in the *Available Devices* box. When using a network connection (Ethernet or wifi), multiple devices may appear depending on how many are on the network. Double-click on the *WiVib* that you wish to configure. A green border will appear on the **Edit** button to indicate that the *WiVib* has connected, and its details will appear in the *Selected Device* panel. You can check on the details of the device by clicking **More details** and a box similar to the one below will appear.



## Chapter 3 – Configuring a WiVib

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In the *Selected Device* panel, you can reset the unit to its ex-factory settings by clicking on **Factory defaults**. You can also set the internal time in the device by clicking on **Set to Computer Clock**. *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** 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* to something appropriate (eg. the sample screen shows the default name as *WiVib08proA:000104*. 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 device serial number and device type cannot be changed.

### 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* with the network settings for the network that you wish to communicate via. All these settings are in the centre panel and are largely self-explanatory.

First, click on *Use Ethernet* or *Use WiFi* to connect to a LAN or WLAN network. Then, in the *TCP/IP panel*, enter the *IP address*, *Subnet Mask* and *Default Gateway* (if required) for the *WiVib* device. Rather than entering a static IP, you can get your computer to allocate an IP via DHCP. In this case, check *Obtain an IP Address Automatically*.

Now, in the *Host Connection* panel, decide whether you wish the *WiVib* to connect to a pre-defined host (*Connect to Host* selection), or whether it should listen for a host to connect to it (*Listen for Connections* selection). Note that the *Listen for Connections* option is only supported by the *WiVib-8x8pro*. If you have selected *Connect to Host*, enter the IP address of the host computer that you wish the *WiVib* to communicate with. A host IP address is not required with the *Listen for Connections* option, but an IP address may be displayed, though it is not used. A port number is required for both options (default 8000).

If you are using ethernet connectivity, the *Wireless Network* panel is greyed out. If you are using wifi, ensure that the SSID of you network is entered.

### Step 4 – Set Security (optional, and for wifi connection only):

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 Changes** button. Refer to the section on *Saving and Loading Configurations* for details.

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### Step 6 – Connect to Network:

You are now ready to connect to the network. Select the **Save and Test** or **Save and Connect** buttons - the settings that you have made will be transferred to the *WiVib* and it will be instructed to connect to the network using those settings. **Save and Test** instructs the *WiVib* 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. **Save and Connect** instructs the *WiVib* 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.

The **Save Changes** and **Reload** buttons transfer settings without leaving edit mode. **Save Changes** writes the configuration you have defined to the *WiVib* while **Reload** will load the settings back from the *WiVib* for checking.

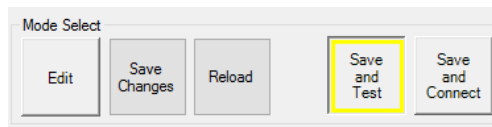
Note that, if you want to revert back to the *WiVib* defaults, you can click on **Factory Defaults** at any time.

### 3.2 Testing Your Configuration

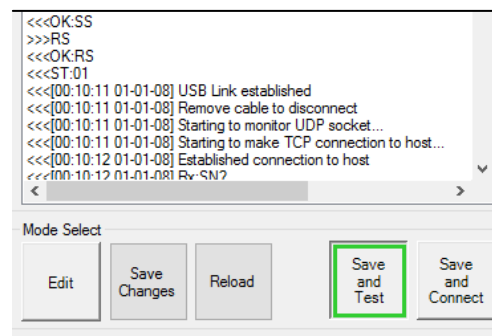
Once you have finished entering your settings, you can carry out some test connections in two ways. It is important to realise that the *WiVib* requires an application to communicate with - that application must be resident on a computer that is accessible on the network and matches the host configuration 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 the same as the *Host IP* setting). Click on the **Save and Test** 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 example 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 **Save and Connect** 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** 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.

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.

Wireless Network

SSID:

Status:

Link Quality:

Signal Level:  Noise Level:

Network Encryption

Security:   Make Changes

Key 1:

Key 2:

Key 3:

Key 4:

Transmit Key:

Authentication

Open  Shared

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 only 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* is connected to the network. To configure the *WiVib* 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* 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 *WiVibConfig* will not run due to a conflict on port 8000.

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 is 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.