

Wireless Network

Motion Version 2.2

www.motionnode.com

www.motionshadow.com

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1 Quick Start

For general installation instructions, refer to the **Getting Started** guide. Once you have the software installed you are ready to connect a MotionNode Bus.

Step 1: Power up the MotionNode Bus

Plug in the battery to start up the bus and initialize its wireless network. The bus usually requires less than thirty seconds to start. The indicator light on the bus will stop flashing after start up is complete.

Step 2: Start the network connection

The bus will either initiate an ad-hoc network or connect to your preferred access point. Refer to the **Wi-Fi Connection** section for more details.

The first time you use the bus, it will create an ad-hoc network named **Bus**. Connect to this network with the key 2062012708.

[Note] **Windows 8** users will need to connect using our monitor tray application.

Step 3: Connect to the MotionNode Bus

Open the **Motion User Interface**, scan for the bus, and start reading. The **Motion Monitor** application detects device arrival on the network.

Step 4: Configure wireless network

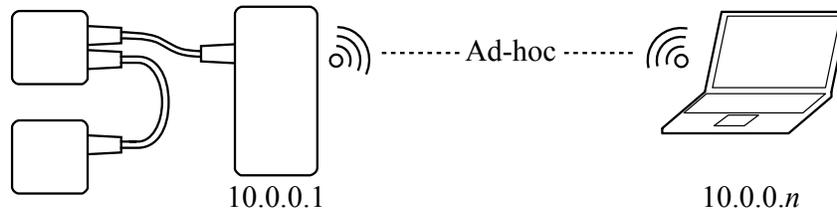
[Optional] The bus will connect to a Wi-Fi access point or router if you specify one. Select your preferred access point using the bus **User Interface**.

2 Wi-Fi Connection

The MotionNode Bus has two wireless modes. The bus is configurable to use a computer-to-computer connection or join your preferred access point at start up.

Default Settings

The MotionNode Bus starts in ad-hoc mode by default. An ad-hoc network is a wireless network between two computers without a dedicated access point. Ad-hoc is also referred to as a *computer-to-computer* network.



To connect to the MotionNode Bus simply join its ad-hoc network. Use any Wi-Fi 802.11g compatible adapter. Note that you will have to disconnect from other networks on that adapter.

Ad-hoc Network

The following table shows the default settings of the ad-hoc MotionNode Bus network. Browse for the bus from your computer by its *SSID*.

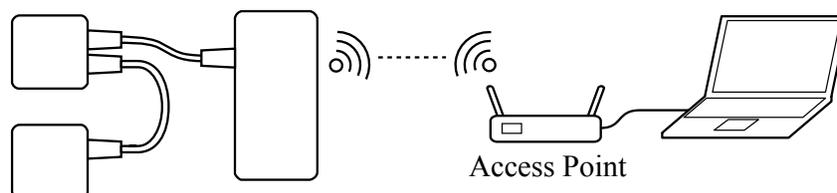
SSID	Bus
WEP KEY	2062012708

The MotionNode Bus will assign your computer an IP address on its network. The bus itself has a fixed address. The following table shows the default network names of the bus.

IP ADDRESS	10.0.0.1
USER INTERFACE	http://Bus.local:32080/
NETWORK DRIVE	\\Bus

Access Point

The MotionNode Bus is configurable to automatically join your existing wireless network. When the system starts it will scan for your access point or wireless router.



If the access point is available, the bus will connect to your network. If the access point is not found, the bus system will revert to ad-hoc mode with the **default settings**.

Wi-Fi Selector

To select your preferred access point first connect to the bus in **ad-hoc mode**. Access the bus User Interface at its default address, <http://Bus.local:32080/wifi.lua>.

The bus will scan for compatible Wi-Fi access points. Select your access point by its *SSID* from the list of available networks.

Note that the bus will only connect to an access point during start up. After selecting your preferred access point, restart the bus to join the network.

Dynamic Settings

When operating in access point mode the bus settings will vary. The access point will assign the bus an IP address dynamically.

To support device discovery and enumeration the bus reports its services using the Zeroconf protocol. The bus has a fixed name that is used rather its dynamic address.

```
HOST NAME      Bus.local
MULTICAST DNS SERVICE  _MotionNode._tcp
```

Even when the IP address of the bus changes the network name remains the same. This is the same as an internet address for a web site except limited to the local network.

Network Setup

The bus will show a list of compatible access points in the **Wi-Fi selector**. To enable your access point verify that it supports 802.11g mode with WPA, WEP, or Open security. The access point must also broadcast its *SSID* so that the bus can find the network.

For best network performance, configure your access point to use a channel (1-13) that is not used in your environment. Many wireless routers include functionality to find the best channel based on other active networks.

Default Network

The bus will also search for a default named access point at start up. This mode supports the use of one or more dedicated access points for the bus.

This mode can also be used as a fallback if the ad-hoc connection is not supported on a particular device. Configure a WPA or WEP access point with the following settings and the bus will join it at start up.

SSID	BusAP
PASSWORD	2062012708

3 Monitor

The Motion Monitor is a utility application that runs on the Windows task bar. The monitor appears as an **M** notification icon.

The monitor application detects device arrival and allows for quick access to many features of the Motion Service. Refer to the **Motion Monitor** guide for general usage instructions.

Wireless Options

The monitor application includes some options specific to the wireless bus.

Synchronize Files

Keep a copy of the take files stored on the MotionNode Bus on the local computer. Check for changes when a bus arrives on the network.

The copy is stored inside the take folder on the local computer. The files are organized in a sub-folder named after the bus, **Bus** by default.

The two folders are synchronized. If you delete a file on your local computer, the next synchronize will delete the corresponding file from the wireless bus.

Maintain Wireless

Remember the last ad-hoc wireless network name of the bus. Connect to the **ad-hoc** network when it becomes available.

This option requires that you save the ad-hoc network as a profile. This option is not used when operating in **access point** mode.

Access Point

Share your wireless and internet connection with the MotionNode Bus. This option creates a virtual access point the MotionNode Bus will automatically connect to.

The **default network settings** are the same as the MotionNode Bus named access point. You can enter any network name and key but then you will need to manually pair the bus with your virtual access point.

4 Windows 8

Windows 8 does not display ad-hoc networks in its list of network connections. When you start the MotionNode Bus in ad-hoc mode it will not be visible in the list of networks. Windows 8 can, however, manually connect to an ad-hoc network.

Use the Motion Monitor application to set up networking for you. Select either the **Maintain Wireless** or **Access Point** option in the monitor utility application.

5 Discovery

The MotionNode Bus supports automatic network discovery. When the bus joins a network it publishes its name and address so that your computer can find it.

The bus uses the Multicast DNS (mDNS) protocol to publish its named services. For best performance we recommend that you install third party mDNS software for your system.

WINDOWS <http://support.apple.com/kb/DL999>

MAC Bonjour

LINUX Avahi