



# **MP01 Quick Start Guide**

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## MP01 Quick Start Guide

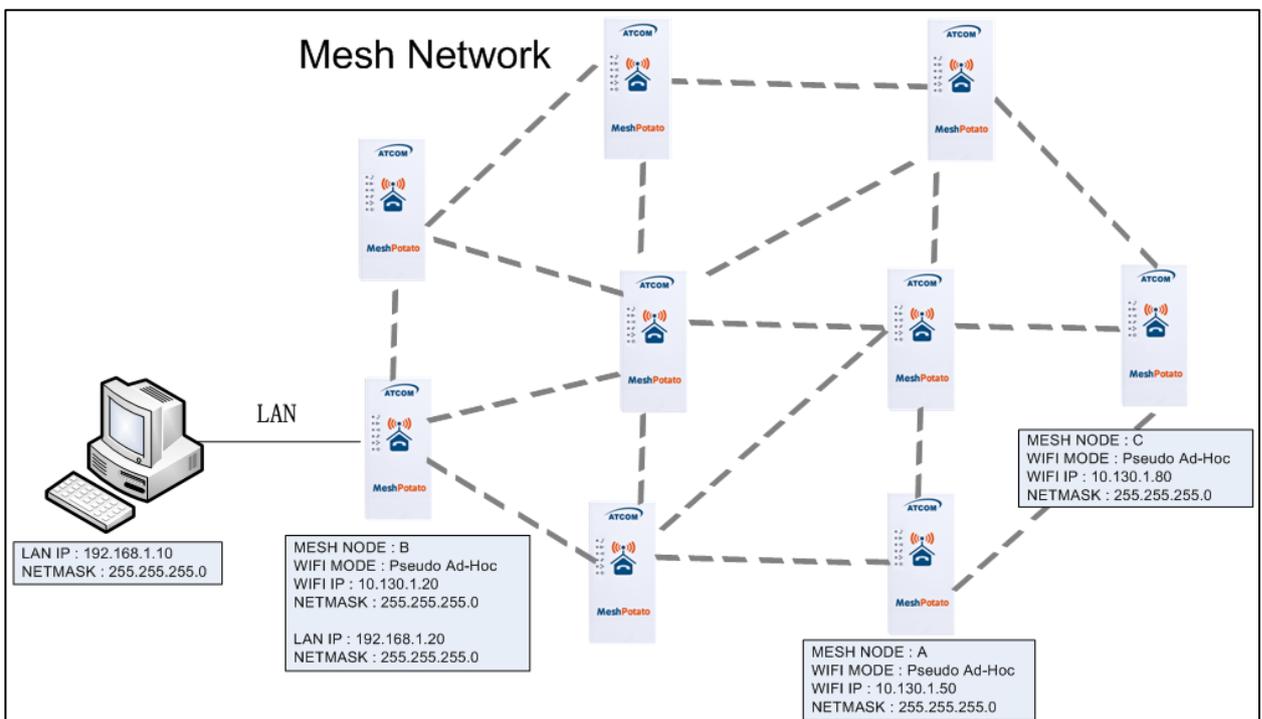
Instructions:

The MP01 is a WiFi ATA running in mesh protocol. You can use MP01s to set up a simple telephony network quickly. This Quick Start Guide describes how to set up a WiFi telephony network with MP01s. After this Quick Start Guide, you should be able to use MP01s to set up the telephony network in 1 hour.

For the detailed about the setup, configuration instructions and more applications, please refer to [ATCOM MP01 Administrator Manual V1.0.pdf](#).

### 1. Use MP01 to set up a WiFi telephony network and make internal phone calls

The network topology is shown as below.



In this mesh network, every MP01 is an extension and act as mesh node also.

The feature of this WiFi mesh telephony network is:

1/ Every MP01 has a WiFi IP and a phone number, the phone number is the same as the last digit of the WiFi IP, for example, the Mesh node A has a WiFi IP 10.130.1.50 and a phone number 50.

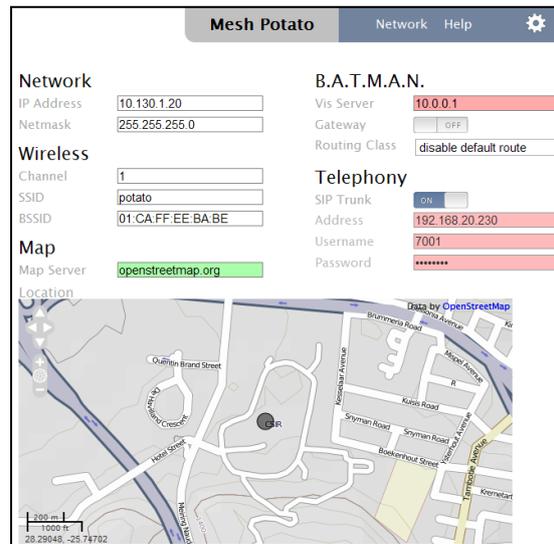
2/ Every MP01 can be a reply for other MP01. It means even MP01 B can't reach MP01 C directly, it can be still possible to reach MP01 C via MP01 A.

**Note:** The PC is only use for configuring, you don't need it after the network is set up.

The following steps will guide you how to configure the MP01 in this case.

## 1.1 Step 1-Login to the MP01 configuration GUI

Power MP01 and wait for about 2 minutes until the WiFi LED is blinking. Connect your PC to MP01's LAN port and then open the Firefox web browser and type the default IP address of the MP01 192.168.1.20 into the browser address field. You will be prompted to enter the default administrator login password. By default there is no password for the MP01. Leave the Password field blank to



login. After successfully log on you will see the Mesh Potato configuration page.

**Note:** Verify host machine is physically connected to MP01 device to avoid IP conflict. Your PC should have the pre-configured static IP address from the 192.168.1.0 subnet (with netmask 255.255.255.0) in order to establish the connection with the MP01 on the same physical network segment.

## 1.2 Step 2-Configure the wireless IP address

Change the wireless IP Address to 10.130.1.X/24(X stands for 1-254) on Mesh Potato configuration page. And click  button to apply the changes. Make sure that all the MP01 has different wireless IP address. Then reboot the MP01. You should be able to make calls with the new WiFi IP.

## 1.3 Make phone calls between MP01s

Connect a normal phone to the TEL port of MP01s and you will be able to make calls between them. For example, if you are using mesh node A to call mesh node B, just dial 20 on the phone. Because mesh node B has wireless IP address 10.130.1.20/24. After finishing these two steps, the MP01 will be added into the mesh network automatically. Configure the other MP01 to set up your own mesh network.

**Note:** The wireless IP address is 10.130.1.20/24 by default.

## 2. Basic LAN/WiFi settings for MP01

### 2.1 Configure the basic LAN port settings

On the Mesh Potato configuration page, under the gear icon, click LuCI to enter the OpenWrt web page. Under **Network->Interfaces->LAN**, you will enter the LAN interface configuration page.



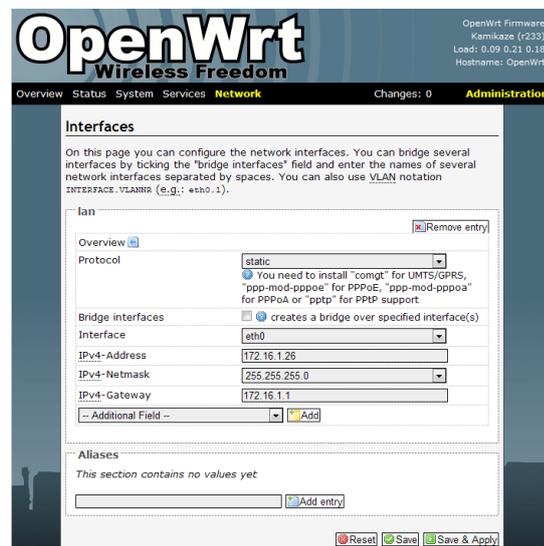
The IP configuration is required for device management purposes.

IP addresses can either be retrieved from a DHCP server or configured manually.

Use the **Interfaces** page for the IP settings configuration:

**Protocol:** specify the IP mode Static or DHCP

*DHCP – choose this option to assign the dynamic IP address, Gateway and DNS address by the local DHCP server.*



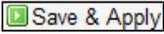
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*Static – choose this option to assign the static IP address for the device management.*

**IPv4-Address:** IP address for the device.

**IPv4-Netmask:** Subnet mask for the device.

**IPv4-Gateway:** Gateway IP address for the device

Click  button to save and apply the changes.

## 2.2 Configure the basic WiFi settings

On OpenWrt web page, under **Network->wifi->WIFI0**, you will enter the WiFi configuration page.

**Channel:** There are 11 channels for you to choose.

**IEEE 802.11 Mode:** Select the IEEE 802.11 mode for your wireless network.

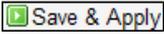
**ESSID:** Specify the ESSID for your wireless network.

**Wireless Mode:** Specify the wireless mode (Pseudo Ad-Hoc by default) for the network.

**BSSID:** Used for Ad-hoc only. It is 01:CA:FF:EE:BA:BE by default.

**Encryption:** Support WEP by default. WPA-Encryption requires wpa\_supplicant (for client mode) or hostapd (for AP and ad-hoc mode) to be installed.

**Note:** All MP01 in the same mesh network should use the same channel. By default, you don't need to change channel. Except the channel is congest with other WiFi network.

Click  button to save and apply the changes.

## Networks

You can run several wifi networks with one device. Be aware that there are certain hardware and driverspecific restrictions. Normally you can operate 1 Ad-Hoc or up to 3 Master-Mode and 1 Client-Mode network simultaneously.

### Device wifi0

#### Overview

enable	<input checked="" type="checkbox"/>
Type	atheros
Channel	1 (2.412 GHz)
Transmit Power	<input type="text"/>
	<input checked="" type="radio"/> dBm
Mode	auto
Diversity	<input type="checkbox"/>
-- Additional Field --	<input type="text"/> <input type="button" value="Add"/>

### Interfaces

<input type="button" value="Remove entry"/>	
ESSID	potato
Network	<input type="text"/>
	<input checked="" type="radio"/> Add the Wifi network to physical network
Mode	Ad-Hoc
BSSID	01:CA:FF:EE:BA:BE
Encryption	No Encryption
	<input checked="" type="radio"/> WPA-Encryption requires wpa_supplicant (for client mode) or hostapd (for AP and ad-hoc mode) to be installed.
-- Additional Field --	<input type="text"/> <input type="button" value="Add"/>

Powered by LuCI 0.8 Branch (v0.8+svn5662)

### 3. Change administrator password

On OpenWrt web page, under **System->Admin Password**, you will enter the related page for you to change the password.

Click  button to change the password.



The screenshot shows the OpenWrt web interface with the 'System' menu item highlighted. The 'Admin Password' page is displayed, featuring a title 'Admin Password' and a subtitle 'Change the password of the system administrator (User root)'. Below this, there are two input fields: 'Password' and 'Confirmation', each with a password icon on the left. At the bottom right, there are two buttons: 'Reset' (with a red 'x' icon) and 'Submit' (with a green checkmark icon).

## 4. Upgrade Firmware

### 4.1 Installing with the LUCI Web interface.

The .img file will be used to install via the web interface. Download the MP device firmware from ATCOM website: <http://www.atcom.cn/download.html>.

If you are using a new MP it will operate with IP addresses of 10.130.1.20 (LAN) and 172.31.255.254 (Fallback). To use one of these addresses, configure your PC Ethernet network profile with a static address to be able to access either of these addresses, ( eg. to use the MP Fallback IP address, set the PC to IP: 172.31.255.253 Netmask: 255.255.255.252 ) and connect directly with an Ethernet cable to the MP device. Connect to the MP address with a web browser on your PC and you should see a login screen.

After login to **LuCI** web page, select the **System** menu and the **Flash Firmware** item.



When the **Flash Firmware** page appears, click on the **Browse** button and select the required .img file from your PC file system. Then click on the **Upload image** button. The firmware will be loaded into MP via the web browser.



When the file has been uploaded, the **Checksum** and **Size** details will be displayed. Click on the **Proceed** button and the flashing process will begin. This may take several minutes and then the MP device will restart.



After the MP device has restarted and the WiFi led has started to flash, allow three minutes for the flashing process to complete. After that you should be able to connect to the MP device with web browser or telnet on the default LAN or Fallback IP addresses.

## 4.2 Installing with the Potato-Flash Utility

These instructions assume that you are running Ubuntu or other Linux

distribution on your PC.

### 1. Set up the potato-flash application on your PC

Download the potato-flash file from:

[http://chinavoipsupply.com:8080/downloads/WiFi\\_Mesh\\_ATA/Firmware/potato\\_flash.exe](http://chinavoipsupply.com:8080/downloads/WiFi_Mesh_ATA/Firmware/potato_flash.exe). Save the file into **/home/** directory and make the file executable:  
**chmod +x /home/potato\_flash.exe**

### 2. Download the firmware

Download the MP device firmware from ATCOM website: <http://www.atcom.cn/download.html>. Download the .squashfs .lzma files and save to **/home/** directory.

### 3. Set up networking on your PC

This step will ensure that potato-flash has proper access to the PC Ethernet network port. Connect the MP directly to your PC with an Ethernet cable with the MP power off.

### 4. Flash the MP

Execute potato-flash:

```
$ sudo potato_flash.exe eth0 openwrt-atheros-root-rv233.squashfs  
openwrt-atheros-vmlinuxrv233.lzma
```

Wait for the program to start looking for the MP device - a series of dots will appear on the screen. Then switch the power on to the MP. Wait for the flashing process to complete and for the MP to fully restart. This may take a couple of minutes. Wait for three minutes after the MP WiFi led starts to flash to ensure that flash is complete.

### Sample MP Flash Session

```
$ sudo potato_flash.exe eth0 openwrt-atheros-root-rv238.squashfs  
openwrt-atheros-vmlinux-rv238.lzma  
Reading rootfs file openwrt-atheros-root-rv238.squashfs with 3801088 bytes ...  
Reading kernel file openwrt-atheros-vmlinux-rv238.lzma with 720896 bytes ...  
Note: The device has to be connected directly (not via switch/hub)  
Device detection in progress.....  
<<< Turn the power to the MP device ON at this point >>>  
.....device detection: non-arp packet received..  
Peer MAC: 00:09:45:58:1c:e7  
Peer IP : 192.168.1.184  
Your MAC: 00:ba:be:ca:ff:ee  
Your IP : 192.168.1.0  
Connecting to Redboot bootloader  
WARNING: UNPLUGGING POWER WHILE FLASHING MIGHT DAMAGE THE  
BOOTLOADER  
HOWEVER: IF YOU SEE NOTHING SHOWING UP BENEATH THIS LINE
```

FOR MORE THAN A MINUTE, START AGAIN...

A flash size of 8 MB was detected.

rootfs(0x006a0000) + kernel(0x00100000) + nvram(0x00000000) sums up to  
0x007a0000 bytes

Setting IP address...

Initializing partitions...

Now uploading kernel...

Sending kernel, 1408 blocks...

Flashing kernel...

Loading rootfs...

Sending rootfs, 7424 blocks...

Flashing rootfs...

Flashing process completed...

Restarting device...