



Quick Start Guide

Universal WiFi

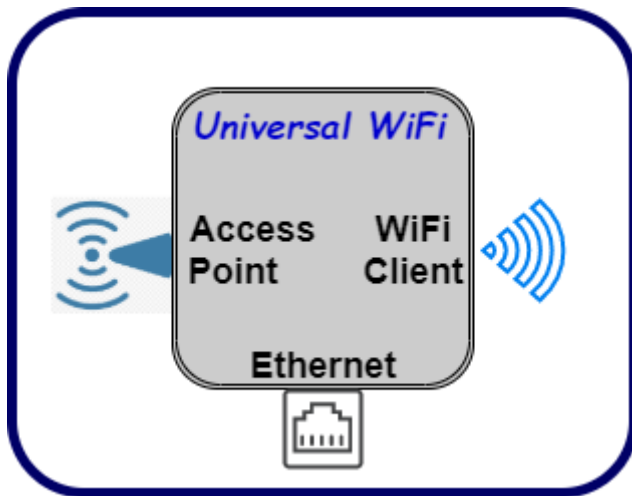


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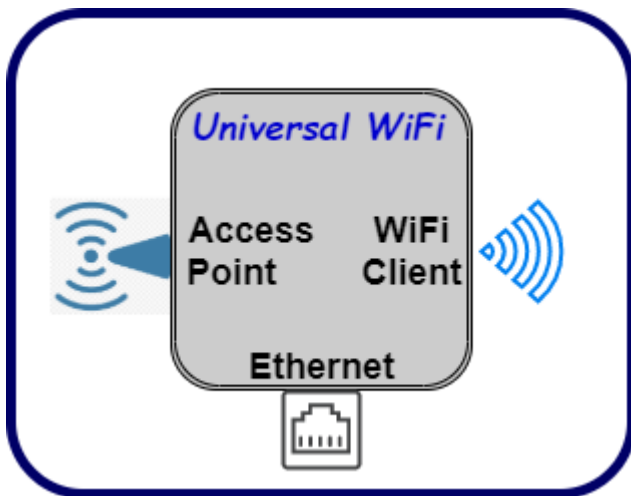
1. Introduction

Universal WiFi devices:

- are built on Ubiquiti¹ hardware;
- have a customised version of OpenWrt² software installed; and
- have 3 network interfaces.

1.1 Network Interfaces

1. **WiFi Client Interface:** Can connect to an existing WiFi Access Point (AP).
2. **WiFi Access Point (AP) Interface:** Allows connections from standard WiFi clients, such as laptops, mobile phones, tablets, ...
3. **Ethernet Interface:** Allows cabled connections to (e.g.) desktop PCs.



¹ <https://ui.com>

² <https://openwrt.org/>

2. Specifications

2.1 Hardware

Download the respective Datasheet or Quick Start guide for the underlying hardware from <https://www.ui.com/download/>

For example: For the **UNI-UAP**, download the Ubiquiti **UAP** product information.

2.2 Software

For complete OpenWrt documentation, see <https://openwrt.org/docs/start>

Parameter	Product
	UNI-UAP
WiFi Band(s)	2.4 GHz
WiFi Standards	b/g/n
Networking	IP V4 Unicast
Default management IP	192.168.199.1
Default Username	root
Default Password	(not set/blank)
WiFi Range	
No Obstructions	100 m
Typical through internal walls	30 m
Recommended if streaming video	15 m

3. Software Download

Universal WiFi firmware files can be downloaded from:

<https://github.com/UBWH/Universal-WiFi/>

4. System Requirements

To configure the **Universal WiFi** device:

- A computer (PC, Mac, ..) with an Ethernet LAN interface, and a Web Browser: e.g. Mozilla Firefox, Google Chrome, Safari, Microsoft Edge, or Microsoft Internet Explorer.

5. Management Access

Access to the configuration web pages depends on whether the **Universal WiFi** device is connected to the local WiFi network, or not.

Universal WiFi device wirelessly connected to local WiFi network	No	Yes
LED (Default setting) <div>UNI-UAP</div>	Orange	Green
Can access configuration pages via Management IP address?	Ethernet: Yes WiFi: No	Ethernet: Yes ³ WiFi: Yes
Can access configuration pages via the IP address assigned by DHCP to the Universal WiFi device?	No	Ethernet: Yes WiFi: Yes

³ May require a PC reboot if **Universal WiFi** device config recently modified.

6. Getting Started

The steps are:

1. Power up.
2. Reset to Factory Default
3. Login to the **Universal WiFi** device.
4. Check the Management IP does not conflict with the local LAN
5. Configure the WiFi interfaces (Access Point and/or Client)
6. Revert Ethernet Interface

6.1 Power up

1. Connect AC power to supplied PoE adapter with supplied AC cable.
2. Connect an Ethernet cable between the PoE socket on the PoE adapter, and the Ethernet port on the **Universal WiFi** device.
3. Connect an Ethernet cable between the LAN port on the PoE adapter, and the LAN/Ethernet port on your computer.

6.2 Reset to Factory Default

New units are delivered in Factory Default mode.

If you get locked-out of the **Universal WiFi** device, or want to start configuration from a known state:

1. Power up the **Universal WiFi** device.
2. Press and hold the Reset button for 10 seconds. The Reset button is normally next to the Ethernet port on the device.
3. Release the Reset button.
4. Wait about 2 minutes for the **Universal WiFi** device to reboot.

6.3 Login to the Universal WiFi Device

1. Set your computer's Ethernet port to have a static IP address of 192.168.199.10⁴
2. Use your browser (e.g. Chrome, Firefox, Safari, ...) to go to this URL: <http://192.168.199.1>
3. Login as follows:

Username: **root**
Password: *leave blank*

Click



4. Click **Go to password configuration**

No password set!

There is no password set on this router. Please configure a root password to protect the web interface and enable SSH.

[Go to password configuration...](#)

5. Enter a password (twice). Do not forget!

Router Password

Changes the administrator password for accessing the device

Password

Confirmation

[Save](#)

6. Click



⁴ Windows: <https://www.google.com/search?q=set+a+static+ip+windows>
MacOS: <https://www.google.com/search?q=set+a+static+ip+macos>

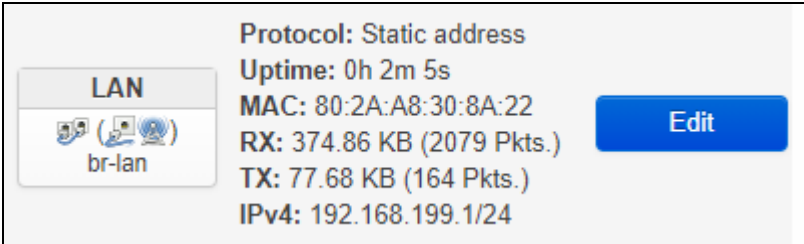
6.4 Check the Management IP does not conflict with Local LAN

It is important that the management IP address assigned to the **Universal WiFi** device does not clash with the IP addresses used on the local LAN.

If your local LAN does **NOT** use addresses in the range 192.168.199.1 ~ 192.168.199.254, then skip to section 6.5.

It is not important what IP address is assigned for management of the **Universal WiFi** device so long as it does not clash with the addresses on the local LAN. If your local LAN uses the subnet 192.168.199.0/24, then change the management IP address to 192.168.198.1 as below:

1. Choose menu option **Network → Interfaces**
2. Click the LAN edit button



LAN

Protocol: Static address
Uptime: 0h 2m 5s
MAC: 80:2A:A8:30:8A:22
RX: 374.86 KB (2079 Pkts.)
TX: 77.68 KB (164 Pkts.)
IPv4: 192.168.199.1/24

Edit

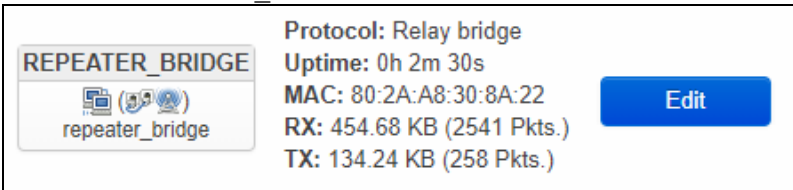
3. Change the IPv4 address to 192.168.198.1

IPv4 address

4. Click

Save

5. Click the REPEATER_BRIDGE edit button



REPEATER_BRIDGE


Protocol: Relay bridge
Uptime: 0h 2m 30s
MAC: 80:2A:A8:30:8A:22
RX: 454.68 KB (2541 Pkts.)
TX: 134.24 KB (258 Pkts.)

Edit

6. Change the Local IPv4 address to 192.168.198.1

Local IPv4 address

192.168.198.1

 Address to access local relay bridge

7. Click

Save

Save & Apply

8. Change the static IP address of the Ethernet interface on your PC to 192.168.198.10
9. Use your browser to login to: <http://192.168.198.1>

6.5 Usage Scenarios

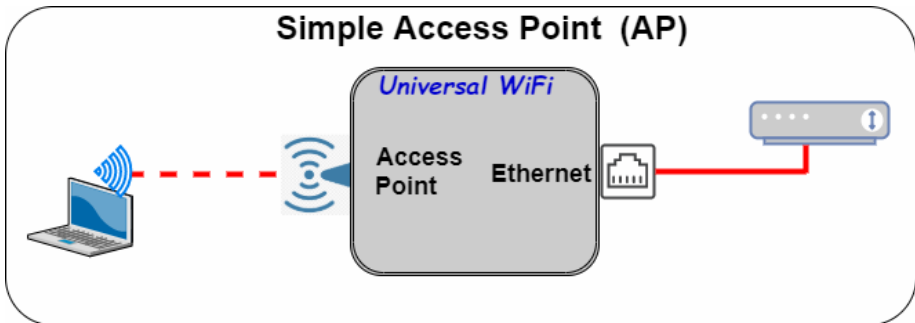
This section gives instructions on setup of the **Universal WiFi** device for common usage scenarios.


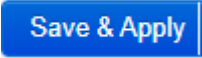
The instructions that follow assume you are starting with a **Universal WiFi** device in Factory Default state (see section 6.2).

In each case you must first login to the **Universal WiFi** device; see

- Default Login/Password: section 2.2
- Management Access: section 5.
- Login to the Universal WiFi Device: section 6.3

6.5.1. Simple Access Point

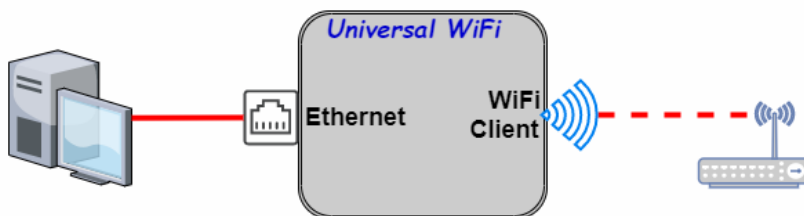



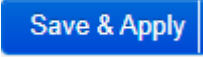
Management Page	Instructions
Network / Wireless	<p>Disable the wireless interface with SSID: ChangeMe Mode: Client</p> <p>Edit the wireless interface with SSID: UBWH-AP Mode: Master</p> <p>Change Interface Configuration / General Setup ESSID to the SSID (WiFi network name) you want.</p> <p>Change Interface Configuration / Wireless Security Key to the WiFi password you want. HINT: Click the [*] icon to see the password.</p> <p>Click </p> <p>Click </p>

Connect a wireless device (e.g. laptop or smart phone) to the ESSID set above, and confirm you can surf the Internet.

6.5.2. Simple Client

Simple Client (STA)



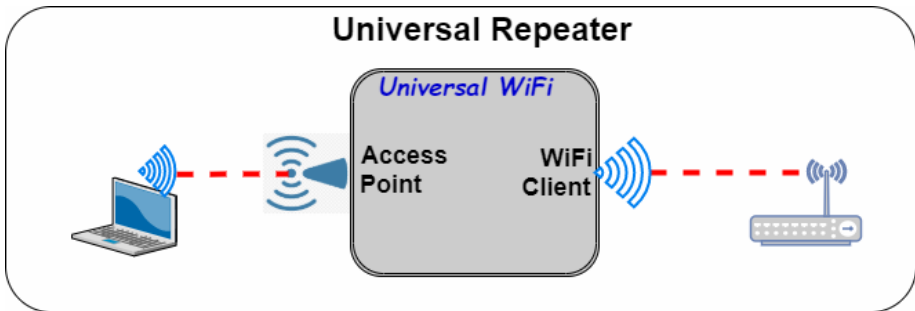
Management Page	Instructions
Network / Wireless	<p>Disable the wireless interface with SSID: UBWH-AP Mode: Master</p> <p>Edit the wireless interface with SSID: ChangeMe Mode: Client</p> <p>Change Interface Configuration / General Setup ESSID to the SSID (WiFi network name) of the local WiFi network to which the Universal WiFi device should connect.</p> <p>Change Interface Configuration / Wireless Security Key to the WiFi password of the local WiFi network. HINT: Click the [*] icon to see the password.</p> <p>Click </p> <p>Click </p>


Connect (using a LAN cable) to the Ethernet port:


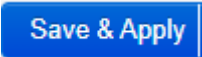
- one computer, or
- a LAN switch, and multiple computers.

The computer(s) will connect to the main network.

6.5.3. Universal Repeater



Management Page	Instructions
Network / Wireless	<p>Edit the wireless interface with SSID: ChangeMe Mode: Client</p> <p>Change Interface Configuration / General Setup ESSID to the SSID (WiFi network name) of the local WiFi network to which the Universal WiFi WiFi Client should connect.</p> <p>Change Interface Configuration / Wireless Security Key to the WiFi password of the local WiFi network. HINT: Click the [*] icon to see the password.</p> <p>Click </p> <p>Continue on next page.</p>

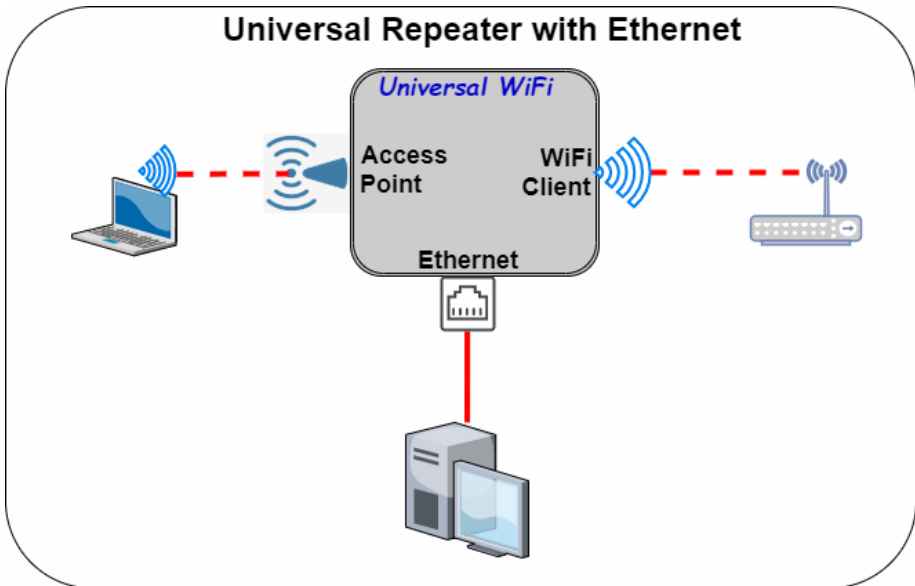
Network / Wireless	<p>Edit the wireless interface with SSID: UBWH-AP Mode: Master</p> <p>Change Interface Configuration / General Setup ESSID to the SSID (WiFi network name) you want. This is the WiFi network name advertised by the Universal WiFi Access Point (AP). HINT: This can be the same as (recommended), or different to, the local WiFi network name.</p> <p>Change Interface Configuration / Wireless Security Key to the WiFi password of Universal WiFi Access Point (AP). HINT: Click the [*] icon to see the password. HINT: If the Universal WiFi Access Point (AP) ESSID is set to be the same as the local WiFi network name, then set the Key to be the same as the local WiFi password.</p> <p>Click </p> <p>Click </p>
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NOTE:

The WiFi Access Point will NOT start up if the WiFi Client is not connected to the local WiFi network.

If you can not find the Universal Repeater AP when scanning with your mobile device, recheck the WiFi Client settings.

6.5.4. Universal Repeater with Ethernet



Follow the instructions in section 6.5.3, Universal Repeater.

Connect (using a LAN cable) to the Ethernet port:

- one computer, or
- a LAN switch, and multiple computers.

The computer(s) will connect to the main network.

6.6 *Revert Ethernet Interface*

In step 6.3 you gave the Ethernet interface on your PC a static IP address. Set it back to the previous state (usually Automatic/DHCP).

Also, unplug the Ethernet cable from the PC.

7. Optional Steps

In this section, you will learn how to:

1. Change the LED settings
2. Save your current configuration

Please review the table in section 5 to make sure you can access the configuration pages.

To perform the steps below, you will need a PC or mobile phone connected to the local LAN, or Local WiFi, or wirelessly connected to the ***Universal WiFi*** device.

You should be able to login to the ***Universal WiFi*** device using one of these URLs:

- <http://192.168.199.1> (or whatever management IP address you assigned in section 6.4.
- <http://<ip-address-assigned-by-local-DHCP-server>>. You will have to query your local DHCP server to find this.

7.1 ***Change the LED settings***

This section explains how to edit the default LED behaviour.

7.1.1. UNI-UAP

The default behaviour for the LED is: Green when the **UNI-UAP** is wirelessly connected to the local WiFi, otherwise Orange. As an exercise, you will change the behaviour to off.

1. Navigate to **System → LED Configuration**

Use the Edit buttons to change the default configuration to the new configuration shown.

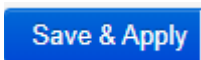
Name	LED Name	Default state	Trigger
WiFi Disconnect	ubnt:orange:dome	On	default-on
WiFi Connect	ubnt:green:dome	Off	phy0assoc

Figure 1 - Default LED Configuration

Name	LED Name	Default state	Trigger
WiFi Disconnect	ubnt:orange:dome	Off	none
WiFi Connect	ubnt:green:dome	Off	none

Figure 2 New LED Configuration

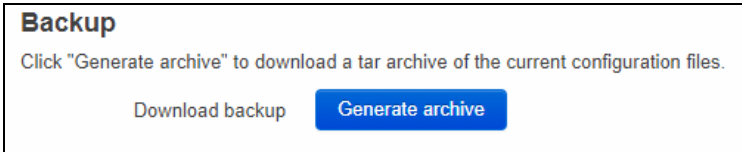
2. Click



Note: Sometimes after changing LED settings, it is necessary to reboot the **Universal WiFi** device to see the changes. Use **System → Reboot**.

7.2 *Save Current Configuration*

1. Navigate to **System → Backup / Flash Firmware**
2. Click Generate archive



3. Save the file on your local computer.