



## **Technical Support**

Thank you for choosing the WiFi Pineapple Mark V. After device installation, locate the serial number on the label of your product for registration. You must register your product before you can use WiFi Pineapple Mark V technical support. <http://www.wifipineapple.com>

## **Trademarks**

HAK5, WiFi Pineapple and all trademarks or registered trademarks are property of their respective owners.

## **Statement of Conditions**

This product contains software under GPL license agreement. The product displayed on the packaging is for illustrative purposes only and may differ from the actual product. This product is packaged with a limited warranty, the acceptance of which is a condition of sale. Product warranty does not cover any data stored on the device. Please see WiFi Pineapple website for additional warranty details and limitations. A certain portion of the storage capacity may be reserved for firmware and maintenance use.

Availability and performance of certain features, services and applications are device and network dependent and may not be available in all areas; additional terms, conditions and/or charges may apply. All features, functionality and other product specifications are subject to change without notice or obligation.

HAK5 LLC reserves the right to make changes to the products description in this document without notice. HAK5 LLC does not assume any liability that may occur due to the use or application of the product(s) described herein. Use only where permitted. Subject to local and international laws where applicable. Users are solely responsible for compliance with all laws of their locality.

Made in China. Designed in San Francisco, California, USA.

## **Compliance**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## Compliance (continued)

### Warning ( Part 15.21 )

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### RF Exposure ( OET Bulletin 65 )

To comply with FCC RF exposure requirements for mobile transmitting devices, this transmitter should only be used or installed at locations where there is at least 20cm separation distance between the antenna and all persons.

### Information to the User - Part 15.105 (b)

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## In the box



WIFI Pineapple  
Mark V



International  
Power Adapter



Ethernet  
Cable



Instruction  
Booklet



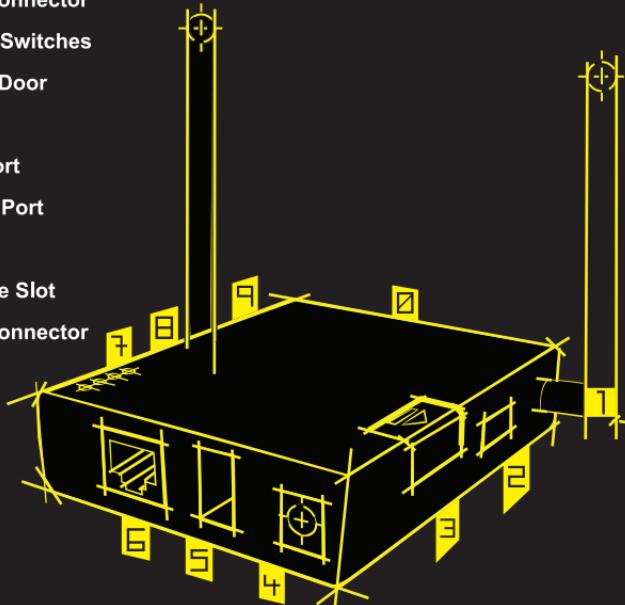
Micro SD  
Memory Card



(2) 6 dBi SMA  
Antennas

# Specifications

- 1 Serial Console Headers
- 1 SMA Antenna Connector
- 2 Mode Selection Switches
- 1 Expansion Bus Door
- 1 DC Power Port
- 1 USB 2.0 Host Port
- 1 10/100 Ethernet Port
- 1 Indicator LEDs
- 1 MicroSD Storage Slot
- 1 SMA Antenna Connector



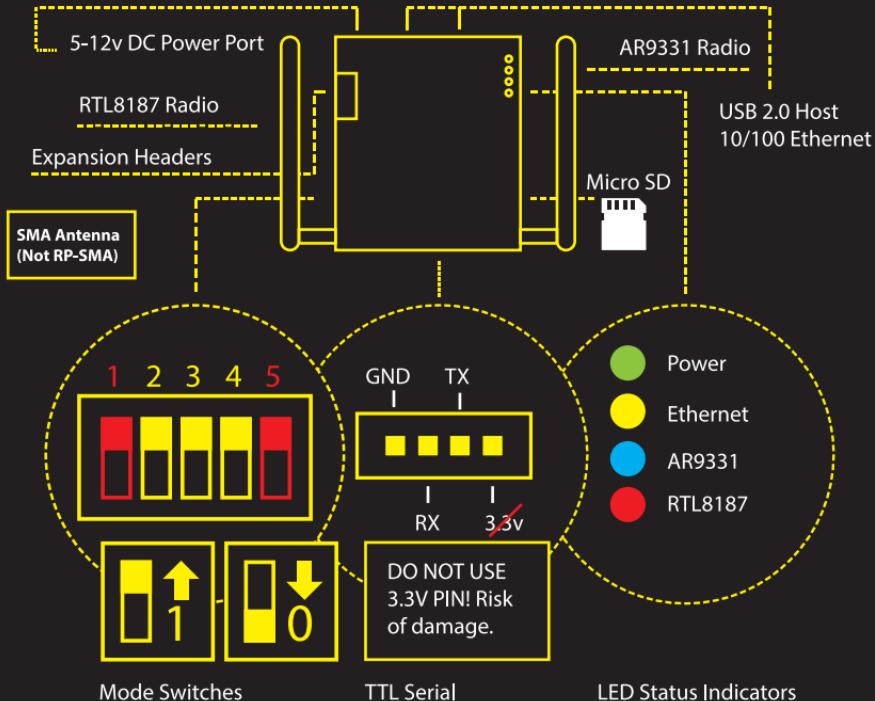
# Features

- 1x IEEE 802.11b/g/n Radio, AR9331
- 1x IEEE 802.11b/g Radio, RTL8187
- 400 MHz MIPS Processor
- 64 MB DDR2 Memory
- 16 MB Onboard Flash
- Master, Managed, Monitor Modes
- Micro SD Memory Expansion
- Mode Selection Switches
- Expansion Module Support
- Configurable Indicator LEDs
- WiFi Pineapple Software

# System Requirements

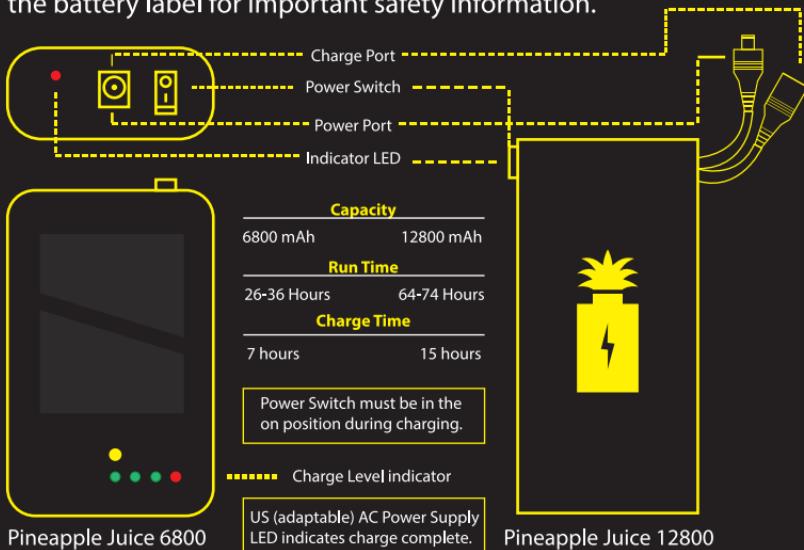
- Computer with Ethernet and Wireless Interface
- Broadband Internet Connection
- Modern Web Browser

# The Mark V Hardware



# Pineapple Juice Battery [optional]

Depending on configuration your WiFi Pineapple kit may include an optional Pineapple Juice battery pack. These 12 volt Li-Ion batteries require proper care for normal operation. Please refer to the battery label for important safety information.



# First Boot Setup

The WiFi Pineapple Mark V ships with the latest firmware version on the included Micro SD card and must be installed on first boot. Please follow these instructions.



## Insert Card

Insert the supplied MicroSD card into the card reader slot on the WiFi Pineapple.



## Power On

Plug one end of the supplied AC power adapter into a wall outlet and other end into the WiFi Pineapple.



## Wait 5 Minutes

Wait approximately 5 minutes while the firmware is installed.



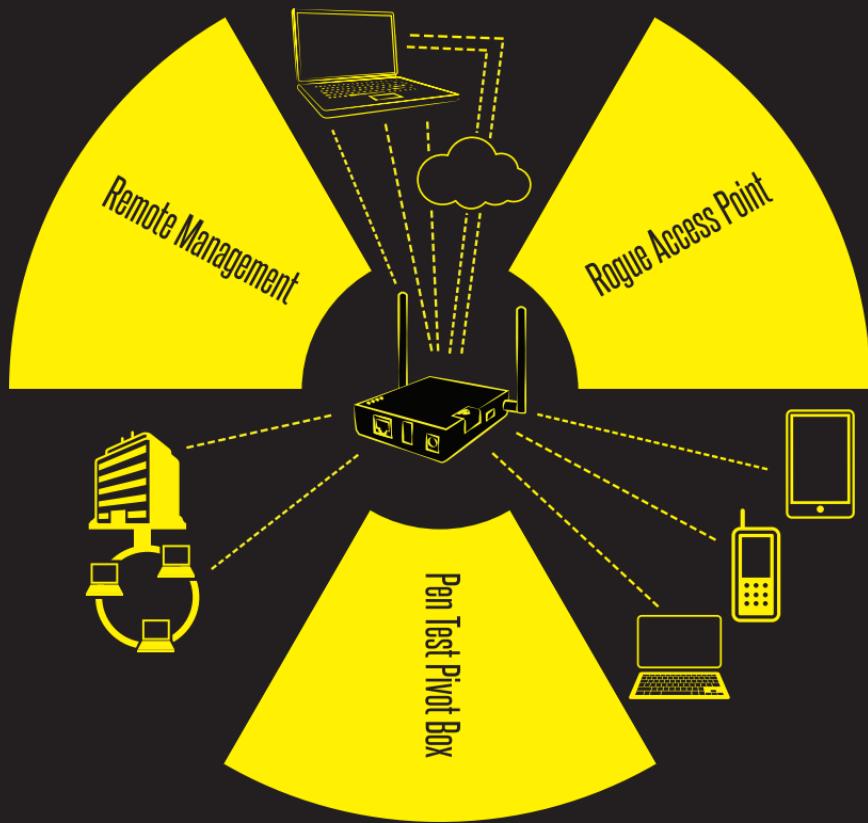
## Browse to <http://172.16.42.1:1471>

Connect one end of the supplied Ethernet cable into your computer and other into the WiFi Pineapple. Open a modern web browser and navigate to <http://172.16.42.1:1471>. Follow the on-screen setup.

# First Boot Setup

Please be advised: The supplied MicroSD card contains the latest upgrade.bin and md5 firmware files. Do not perform the firmware flashing process using battery power. When connecting via Ethernet the DHCP server on the WiFi Pineapple Mark V will automatically assign the computer an IP address in the 172.16.42.0/24 range. Alternatively you may assign the computer a static IP address of 172.16.42.42 with netmask 255.255.255.0. A modern web browser with Javascript enabled is required to complete the setup process. Internet Explorer is not supported.

Green	 Solid	Powered.
Amber	 Blinking	Searching for upgrade files.
Red	 Solid	md5sum mismatch. Bad upgrade files.
Blue	 Solid	Flash in progress. DO NOT UNPLUG.
Blue	 Blinking	Booting up.
Red Blue Amber	 Pattern	Firmware flash completed successfully.



# Deploying

The WiFi Pineapple Mark V supports various deployment and management scenarios.

## Remote Management

1. Direct Wireless connection to Management Computer
2. Direct Ethernet connection to Management Computer
3. Mobile Broadband (3G/4G Modem) + Internet Tunnel
4. Wireless connection to nearby Access Point + Internet Tunnel
5. Android Tether + Internet Tunnel

## Rogue Access Point

1. Probe Response Spoofing
2. Beacon Spoofing
3. Deauthentication

## Pen Test Drop Box

1. Ethernet connection to client network
2. Wireless connection to client network

# Connection Setup

## Internet Connection Sharing

Sharing an Internet connection from a management computer is a simple way to both provide Internet access to rogue AP clients and analyze traffic with tools such as tcpdump or wireshark. Connect one end of the supplied Ethernet cable to the Mark V and the other into a computer with Internet access running Windows or Linux.

## Linux

Download and execute the wp5.sh script to simplify Internet connection process.  
`wget http://wifipineapple.com/wp5.sh; chmod +x wp5.sh; sudo ./wp5.sh`



```
Activities Terminal Sun 4:15 PM aardwolf@a12:~ aardwolf@a12:~$ sudo ./wp5.sh [sudo] password for aardwolf: OWN the Network v2.2 Pineapple Netmask [255.255.255.0]: Pineapple Network [172.16.42.0/24]: Interface between PC and Pineapple [eth0]: Interface between PC and Internet [wlan0]: wlan2 Internet Gateway [10.73.31.1]: IP Address of Host PC [172.16.42.42]: IP Address of Pineapple [172.16.42.1]: \\\|/ Internet: 10.73.31.1 - wlan2 ( _ _ ) <-> [ ] <-> '---' Computer: 172.16.42.42 ( _ _ ) <-> '---' Pineapple: 172.16.42.0/24 - eth0 Browse to http://172.16.42.1:1471 -- Happy Hacking! aardwolf@a12:~$
```

# Connection Setup

## Android Tethering

The Mark V will tether via USB to supported Android devices. To enable, connect one end of a USB cable to the WiFi Pineapple and the other to the Android device. Find the Tethering options from the Android settings screen and check the USB tethering option. This option is typically found in the Settings > Wireless and Networks > Tethering menu. Once enabled the WiFi Pineapple will automatically connect and use the usb0 network interface as the default gateway. To discontinue use of Android USB Tethering, either disconnect the USB cable or disable tethering on the Android device.

## Mobile Broadband

The WiFi Pineapple provides out-of-the-box support for over 300 3G and 4G USB mobile broadband modems. From the WiFi Pineapple Web Interface enter the Network tiles Mobile Configuration tab. Input dialing details specific for your carrier and click Submit. Plug the Mobile Broadband modem into the USB port and wait while the connection is established.

Dialing logs can be found from the Log tiles Syslog tab. When the connection has been established the log will read “Interface ‘wan2’ is now up” followed by DNS, IP and dialing details. Route information from the Network tiles Information tab will display 3g-wan2 as the default route.

Mobile Configuration

Mobile Broadband Configuration - Redial —

Interface Name:	pppo
Protocol:	3g
Service:	cdma
Device:	/dev/ttyUSB0
APN:	
Username:	internet
Password:	internet
Default Route:	1
ppp redial:	persist
Peer DNS:	0
DNS:	8.8.8
Keepalive:	1
pppd options:	noauth

Route

Kernel IP routing table	Destination	Gateway	Genmask	Flags	Metric	Ref	Use	Interface
	default	66.1.18.193	0.0.0.0	UG	0	0	0	3g-wan2
	66.1.8.193	*	255.255.255.255	UH	0	0	0	3g-wan2
	172.16.42.0	*	255.255.255.0	U	0	0	0	br-lan

# Connection Setup

## Windows

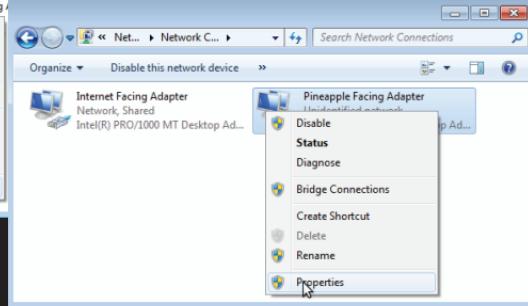
The WiFi Pineapple has a static Ethernet IP address of 172.16.42.1 and assigns clients IP addresses in the 172.16.42.0/24 range. When tethering a computer, the Mark V will use the default gateway 172.16.42.42.

1. Open Network Connections. Right-click the Internet-facing adapter and click Properties.
2. From Sharing, check Allow other network users to connect through this computer's Internet connection then click OK.
3. Right-Click the Pineapple-Facing Adapter and click Properties.
4. Select Internet Protocol Version 4 (TCP/IP) and click Properties.
5. Check Use the following IP address and specify 172.16.42.42 for the IP address and 255.255.255.0 for subnet. Check Use the following DNS server addresses and specify a Preferred DNS server, for example 8.8.8.8.
6. Click Ok then Close.

The WiFi Pineapple-facing and Internet-facing adapters have been configured and Internet Connection Sharing has been enabled.



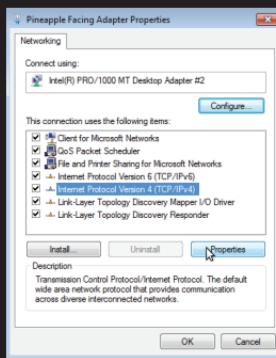
1



3



2



4



5

# Boot Modes

The WiFi Pineapple Mark V supports various boot modes. These user defined modes allow for the automated execution of a command or multiple commands separated by semicolon (;). Boot Modes can be configured by the DIP switches (DIPS) located on the side of the device. DIPS are read from left to right with 1 being first and 5 being last. Switches 1 and 5 are reserved for system functions. Switches 2-4 are user configurable.

## User Switches

User switches can be defined from the Configuration tiles Bootable DIP Configuration tab. DIP Switches are defined as either UP (1) or DOWN (0). For example if DIPS 2-4 are all in the UP position this is denoted as 111, while DIPS 2 and 3 UP with DIP 4 DOWN is 110.

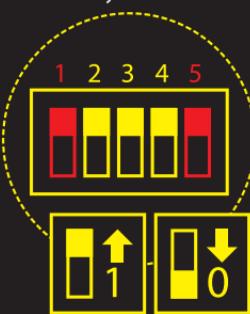
For example: `ifconfig wlan1 up; airmon-ng start wlan1; airodump-ng --write /sd/airodump.pcap -output-format pcap mon0; # Log raw 802.11 frames to packet capture file on SD card.`

## System Switches

The leftmost switch (DIP1) and rightmost switch (DIP5) are reserved for system functions.

1	2	3	4	5
↑	★	★	★	↑
↑	↓	↓	↑	↑
↑	↑	↑	↑	↓

User Boot Modes  
Reset System Defaults  
Recovery Web Interface



\*DIP1 is system reserved and must always be in the UP (1) position for standard operation.

# Expansion

## Memory Expansion

The Mark V supports memory expansion via Micro SD cards up to 32 GB using FAT and EXT file systems. Cards are mounted as /sd/ and can be used for the installation of packages, infusions and general storage such as for log files. Operation without a Micro SD card is not supported. Micro SD cards may be provisioned in EXT format from the USB tab of the Resources tile. The Micro SD card is provisioned during initial setup as described on page 8.

## Infusions

The WiFi Pineapple uses Infusions to add capabilities. Infusions are modules made up of applications and web interfaces, added as tiles to the web interface. They can be downloaded and installed over the air, deleted or updated from the Pineapple Bar tile. New infusions can be written directly on the WiFi Pineapple from the Bartender tab.

# Troubleshooting

## Resetting System Defaults

Factory defaults can be reset either from the WiFi Pineapple web interface or by using a reserved system boot mode DIP switch configuration. This procedure resets all settings to factory defaults and wipes any user data such as infusions installed to internal memory. The process can take 5 minutes, at which time the blue status LED will begin blinking when initial reboot takes place. To reset system defaults from the Web Interface enter the Configuration tile and click the Reset Pineapple link from the Advanced tab. To reset system defaults from using the boot mode switches turn off the device and configure DIP switches to 10011 (from left to right: up, down, down, up, up), then power on the device and wait 5 minutes.

## Recovery Web Interface

The Recovery Web Interface offers a convenient way to flash firmware without the need for SSH or TTL Serial console access. To enter the Recovery Web Interface, power off the device and configure boot mode DIP switches to 11110 (from left to right: up, up, up, up, down). Power on the device and connect the supplied Ethernet cable to both the WiFi Pineapple and the computer. Specify a static IP address on the computer's ethernet interface to 192.168.1.2 and navigate to <http://192.168.1.1> from a modern web browser.

Note: When resetting system defaults or entering the recovery web interface, remember to return the boot mode DIP switches back to a normal boot configuration upon restore completion.

# Support

Customer support is a top priority of the WiFi Pineapple. Whether a single user or large enterprise deployment, the right support option is at your fingertips.

## Community Support

The WiFi Pineapple has always been open-source with product growth and support driven from its active community. With an engaged forum, portal and IRC channel the WiFi Pineapple is accessible to pentesters of all skill levels.

Visit [WiFiPineapple.com](http://WiFiPineapple.com) for:

- Free Patches and Upgrades
- Access to Beta programs
- Helpful Community Support
- Online Documentation

## Commercial Support

Customers can take advantage of Commercial WiFi Pineapple Support with standardized packages to suit almost any need. Service level agreements offerings may include:

- Email and Ticket Support
- Live Phone and Remote Desktop Support
- Training and Professional Consulting Services

Contact [WiFiPineapple.com](http://WiFiPineapple.com) for a support package customized to your organizations needs.

The WiFi Pineapple is a Wireless Penetration Testing tool for authorized network auditing and security analysis purposes only where permitted subject local and international laws where applicable. Users are solely responsible for compliance with all laws of their locality. Hak5 LLC, WiFi Pineapple developers and affiliates claim no responsibility for unauthorized or unlawful use.

Visit [WiFiPineapple.com](http://WiFiPineapple.com) for Software License and End User License Agreement.  
© Hak5 LLC.