# AVend Smart Vending Kit Setup Guide

## Contents

# 1. Overview

Congratulations on your purchase of the AAEON SmartVending Kit! This guide provides hardware and networking setup instructions for proper usage of the Kit.

# 2. Included Parts

Below is a list of the components that are included in the AVend SmartVending Kit.

1x **AVend Smart Vending kit, with AVend Local Dispense API middleware**

1x **Power Supply**

# 3. Optional Parts

Below is a list of the components that can be purchased separately for the Avend Smart Vending Kit.

1x **Custom harness** (The harness may look different depending on which vending machine to interact with)

**Patent Notice: AVend Smart Vending kits are covered by US Patent No. 11296721**

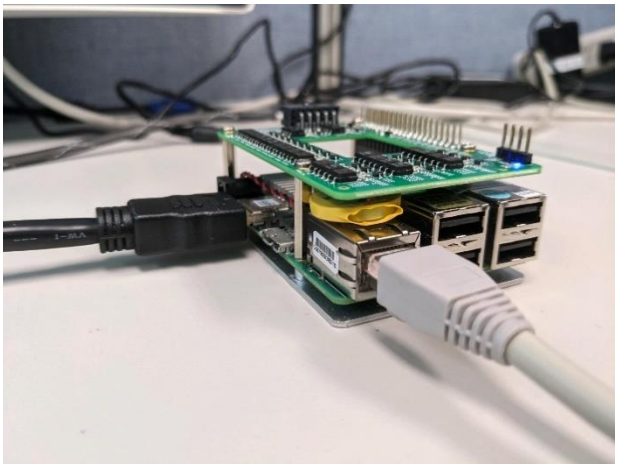
# 4. Hardware Setup

## 4.1 Basic setup

1. The AVend kit provides the following I/O ports:
    - Gigabit LAN x 1,
    - USB 2.0 x 4,
    - USB 3.0 x 1,
    - HDMI x 1.

    For initial setup, connect a display via the HDMI port and keyboard/mouse via any available USB port(s) on the board.

2. Plug in an Ethernet cable to the Ethernet port on board. You can also plug in a USB Wi-Fi adapter into any available USB port for network access.



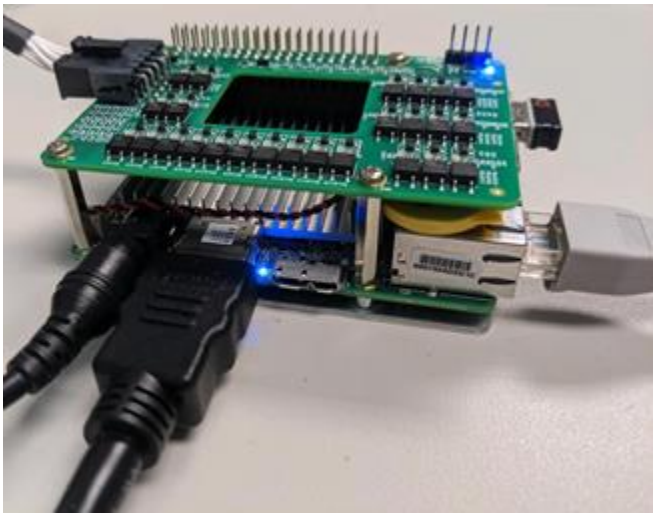
## 4.2 Power Up

1. Plug in the barrel connector end of the 5V DC power supply included to the board's power input jack.

2. Now plug in the 5V DC power supply's AC connector end to an AC outlet.

3. The Kit will automatically power on, and boot up. The blue LEDs on the bottom and top boards will light up.

4. It is recommended to perform a self-test to ensure the hardware is functioning as expected out of the box. Please refer to the Self-Test & Troubleshooting section for more details.



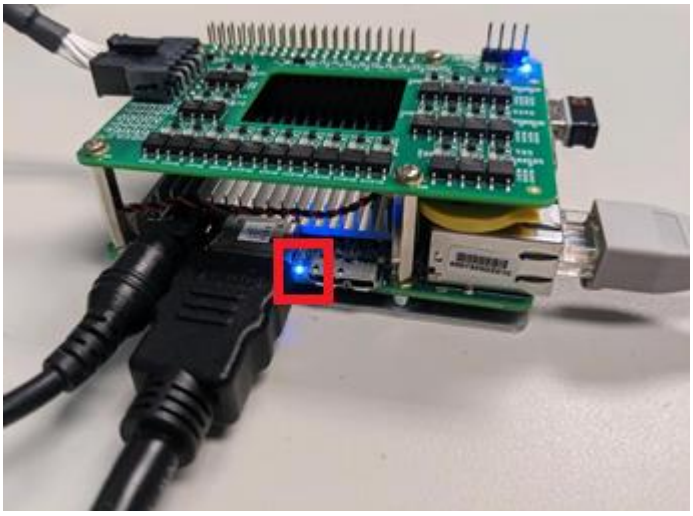
## 4.3 Power Down

1. When there is a need for powering down the machine, make sure to gracefully shutdown the computer first by following below steps.

    a. For Windows, click the Start button -> Power -> Shut Down to properly shutdown the computer

    b. For Linux, issue the command in the terminal: sudo systemctl poweroff

2. Wait for the LED on the bottom board goes off



## 4.4 App Integration

Based on your requirements, choose the proper one of the following two options for integration.

### 4.4.1 Access AVend API locally

Your app issues HTTP calls to access the API endpoint locally. The default API endpoint is at 127.0.0.1:8080.

### 4.4.2 Access AVend API across network

1. Connect AVend kit to a network where your app will have access, via Ethernet or Wi-Fi.
2. Identify the static IP address you want the AVend API endpoint to be at.
3. Configure the AVend kit to use the static IP identified in Step #2.
4. Optionally change the TCP port for the API endpoint, see Customizing API Endpoint.

## 4.5 AVend OS access

Depending on your Kit's operating system:

1. Windows 10:
   Windows will boot into the Desktop automatically.
2. Linux:

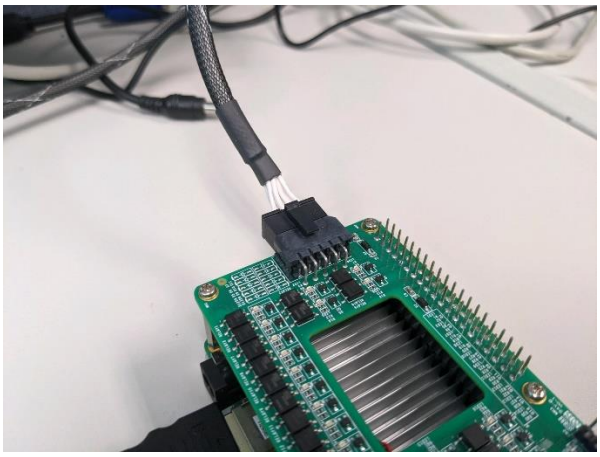
   User: user

   Password: user

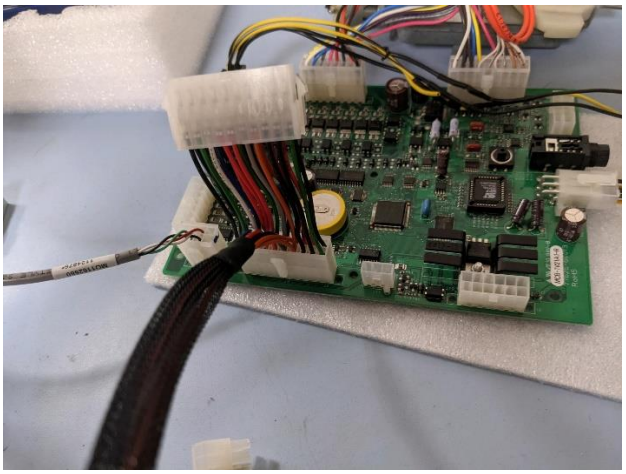
## 4.6 Custom Harness Attachment

This is an optional purchasable part. The custom cable provided in the kit may look slightly different from kit to kit. This custom cable is designed with a specific vending machine model in mind, and will vary from machine to machine.

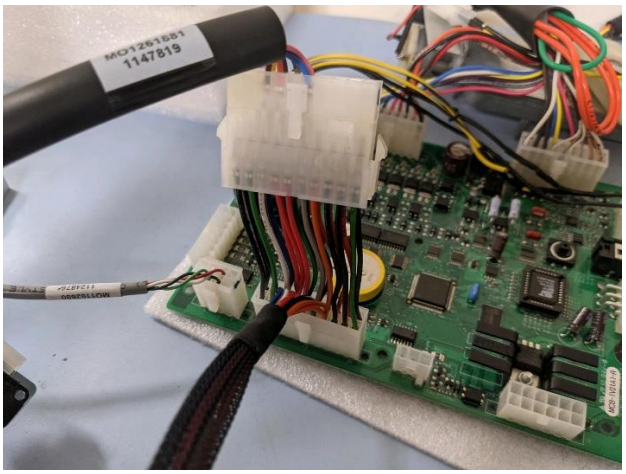
1. Plug the 10-pin black Molex micro-fit connector end of the custom harness into the kit's connector.



2. Plug the other end of the custom harness into the corresponding slot on the vending machines VMC board. Note the plug may look different based on the specific vending machine model that is be interfaced with.



3. The custom harness may have optional connector piggybacked to the end to the VMC board. This connector allows the vending machine's original keypad cable to connect to it and retaining the keypad function.



## 5. Customizing API Endpoint

The default port that the Avend SmartVending API Middleware uses is 8080. This can be customized through the configuration file for Linux at /usr/local/bin/plankton/tower.ini or for Windows at C:\Larry\tower.ini.

**tower.ini** 371 Bytes

```
[listener]
;host=192.168.0.100
port=8080
minThreads=4
maxThreads=100
cleanupInterval=60000
readTimeout=60000
maxRequestSize=16000
maxMultiPartSize=10000000
[sessions]
expirationTime=300000
cookieName=sessionid
;cookieDomain=mydomain.com
cookiePath=/
cookieComment=Identifies the user
[dispenseTimer]
nextDispenseInterval=8000
[dispense]
keypress=500
pauseBtwKeypress=500
```

## 6. Customizing next Multi-item Dispense

The default multi-item dispense interval is 8 seconds. This can be customized by changing the "nextDispenseInterval" value (milliseconds) in the configuration file for Linux at /usr/local/bin/plankton/tower.ini or for Windows at C:\Larry\tower.ini.

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```
[listener]
;host=192.168.0.100
port=8080
minThreads=4
maxThreads=100
cleanupInterval=60000
readTimeout=60000
maxRequestSize=16000
maxMultiPartSize=10000000
[sessions]
expirationTime=300000
cookieName=sessionid
;cookieDomain=mydomain.com
cookiePath=/
cookieComment=Identifies the user
[dispenseTimer]
nextDispenseInterval=8000
[dispense]
keypress=500
pauseBtwKeypress=500
```

## 7. Customizing keypress duration and pause between keypress

The default keypress and pause between keypress duration is 500 milliseconds. This can be customized by changing the “keypress” and “pauseBtwKeypress” values (milliseconds) in the configuration file for Linux at /usr/local/bin/plankton/tower.ini or for Windows at C:\Larry\tower.ini.

**tower.ini** 371 Bytes

```
[listener]
;host=192.168.0.100
port=8080
minThreads=4
maxThreads=100
cleanupInterval=60000
readTimeout=60000
maxRequestSize=16000
maxMultiPartSize=10000000
[sessions]
expirationTime=300000
cookieName=sessionid
;cookieDomain=mydomain.com
cookiePath=/
cookieComment=Identifies the user
[dispenseTimer]
nextDispenseInterval=8000
[dispense]
keypress=500
pauseBtwKeypress=500
```

# 8. Self-Test & Troubleshooting

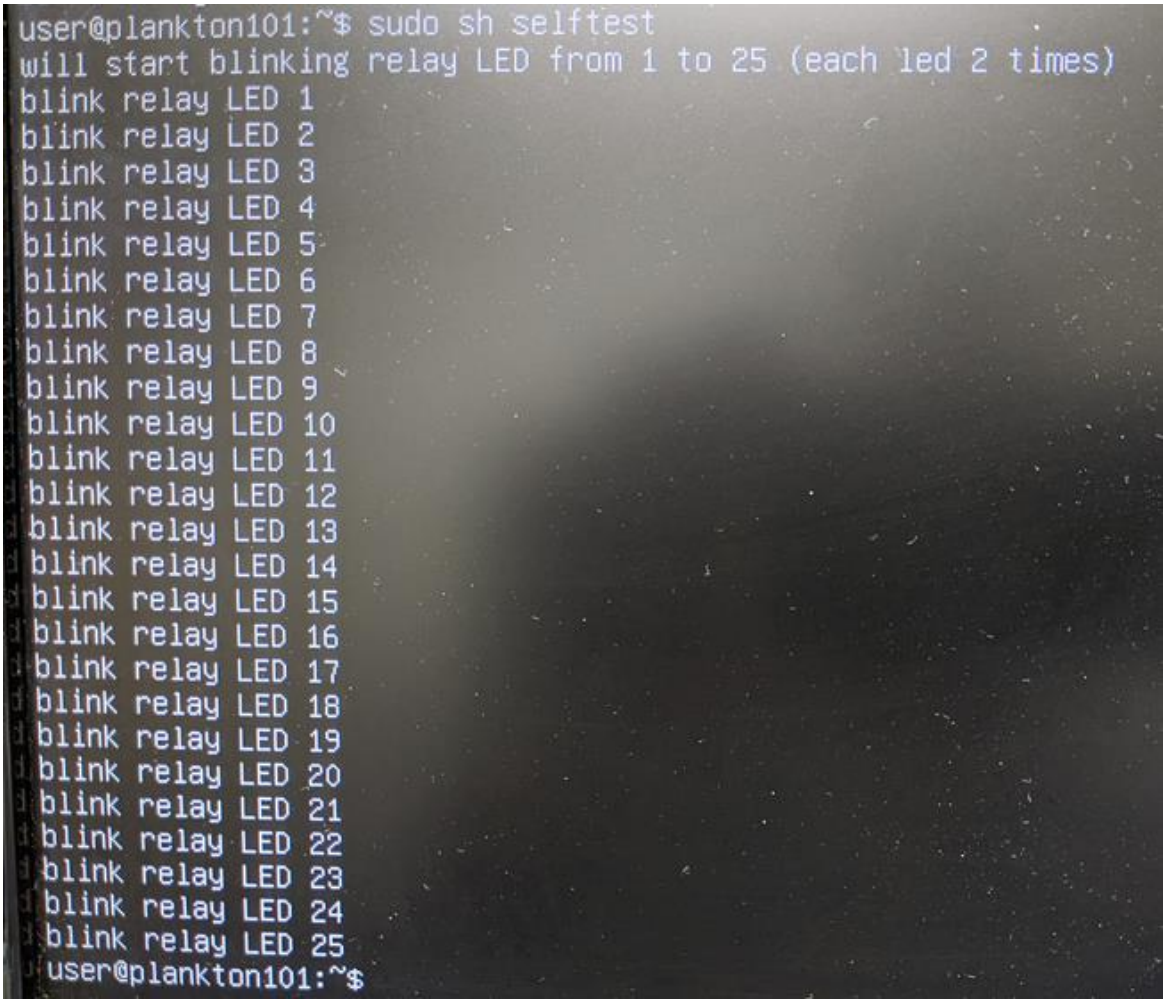
Provided with the AVend kit is a test feature for the physical hardware. If you suspect a hardware fault with the device or wish to test the hardware, please follow the following steps.

## 8.1 Windows Distribution

Run the “relayTest” shortcut on the desktop. On top of the board, you will see green lights light up for each of the relays. If this does not happen, please contact AAEON for support. If all the lights have lit up successfully, that indicates that the device hardware is functioning as intended.

## 8.2 Linux Distribution

From the user home directory, run the following command “sudo sh selftest”; on top of the board, you will see green lights light up for each of the relays. If this does not happen, please contact AAEON for support. If all the lights have lit up successfully, that indicates that the device hardware is functioning as intended. Below is the expected output,



9. Using Wi-Fi with the Kit

The SmartVending Kit does not have built-in Wi-Fi but does support using USB Wi-Fi adapters. Below is a list of USB Wi-Fi Models that work with the kit, and instructions on how to connect to a Wi-Fi network.

## 9.1 Windows Supported USB Wi-Fi Models

Windows supports most USB Wi-Fi adapters that are commercially available.

## 9.2 Linux Validated USB Wi-Fi Models

- TP-Link Archer T3U
- TP-Link TL-WN823N
- TP-Link TL-WN722N

## 9.3 Linux Supported USB Wi-Fi Models

- ASUS AC1300
- ASUS USB-AC55 B1
- Dlink - DWA-181
- Dlink – DAW-182
- Edimax EW-7822ULC
- Edimax EW-7822UTC
- NetGear A6150
- TP-Link Archer T3U Plus
- TP-Link Archer T4U V3
- TP-Link Archer T4U Plus
- TRENDnet TEW-808UBM

## 9.3 Wi-Fi Setup on Windows

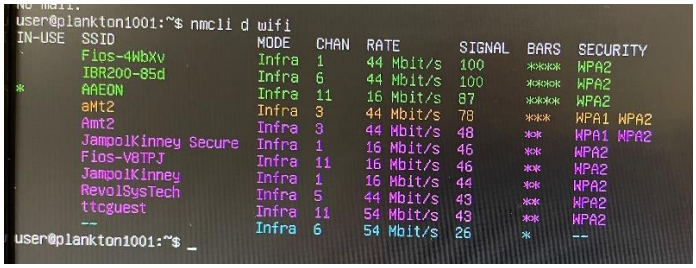
Wi-Fi setup on Windows is straightforward. After plugging in the USB Wi-Fi dongle, you can select the correct Wi-Fi network from the Wi-Fi quick setting at the bottom right of the screen.

## 9.4 Wi-Fi Setup on Linux

1. Plug in the USB Wi-Fi Dongle to any of the available USB ports and follow below steps:
    a. Issue the following command in a terminal console:

**nmcli d Wi-Fi**

i. Above will display all the available SSIDs in range




    b. Issue the following command in a terminal console:

**nmcli –ask d Wi-Fi connect *$router (change $router to your router SSID)***

i. Enter the selected SSID password when prompted and with the correct password, network setup completes.