

Installing HamClock on Raspberry Pi Zero 2W

You will need the following items:

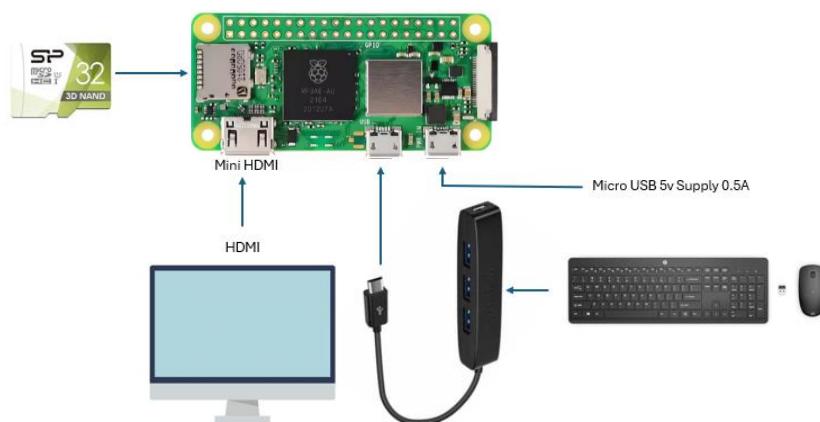
- Raspberry Pi 2 Zero W
- Micro SD Card (32Gb U1 rated)
- Micro USB Cable for Power Supply

To be used during setup:

- Micro HDMI to HDMI Cable for Monitor
- Keyboard / Mouse connected via micro USB port to the Pi Zero (best to use a USB Hub with micro USB connector and attach keyboard via standard USB port)

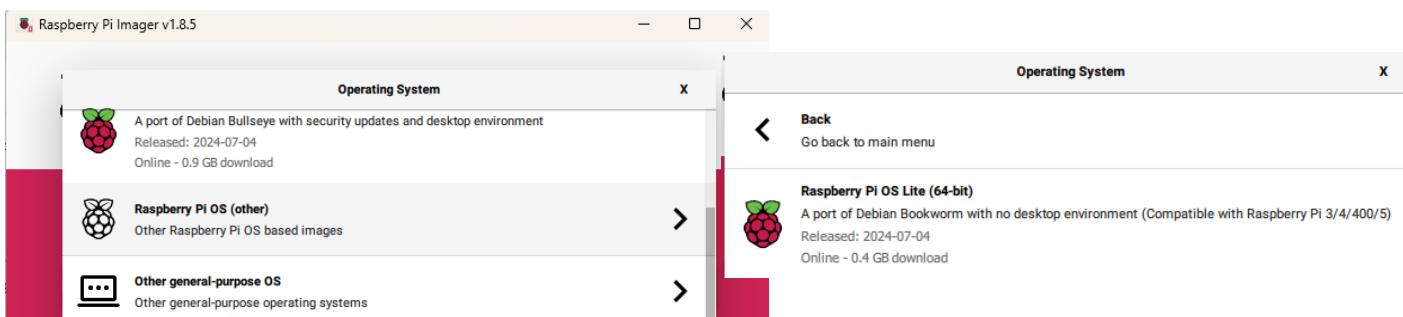
The Hamclock Manual can be found here: <https://clearskyinstitute.com/ham/HamClock/>

The initial connections to be used during the setup are shown below:

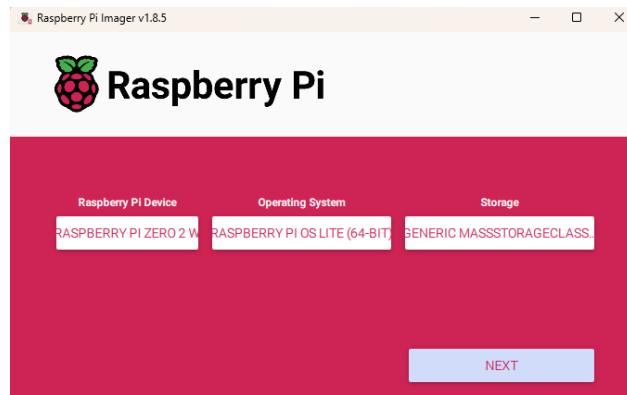


1. Download a copy of the Raspberry Pi Imager software from [Raspberry Pi OS – Raspberry Pi](#)
2. Start the Raspberry Pi Imager software and insert the micro SD card into a micro SD card reader and insert into your PC.
3. Download and install the Raspberry PI OS LITE(64-BIT) onto a micro SD card using Raspberry Pi Imager.
Note – this version does not include the desktop.

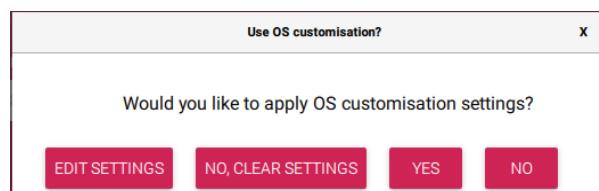
This version is found under the Raspberry Pi OS (other section):



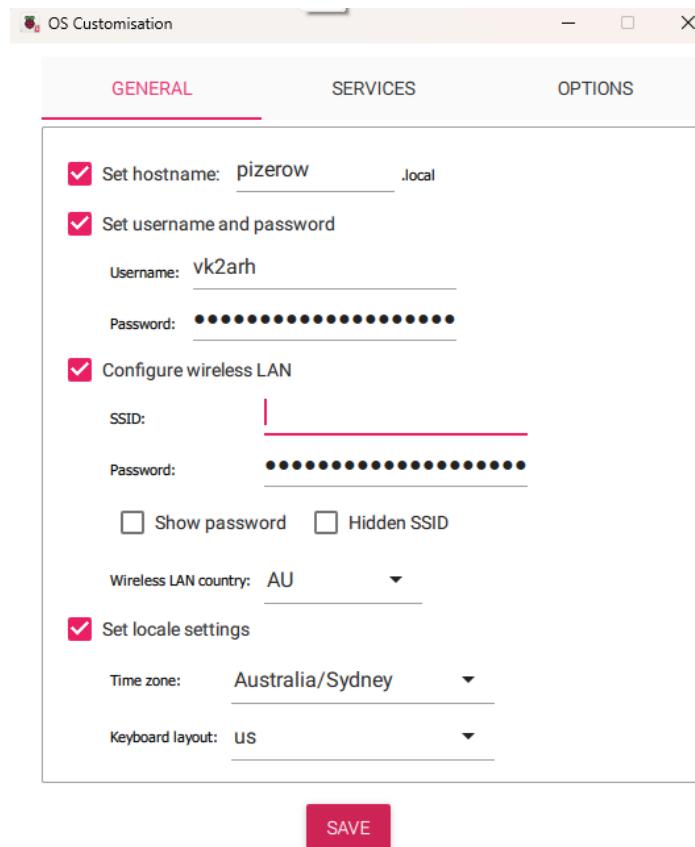
4. After selecting the PI Device, Operation System and Storage (your SD Card), click next:



5. You will then be asked if you wish to apply OS customisation settings. This enable your Raspberry Pi to be configured the hostname, wifi and login details. :

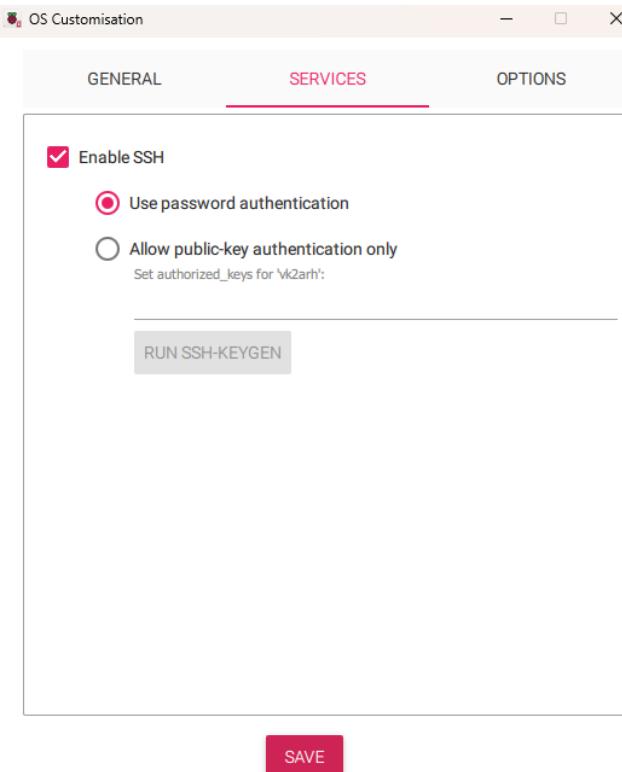


Select EDIT SETTINGS:

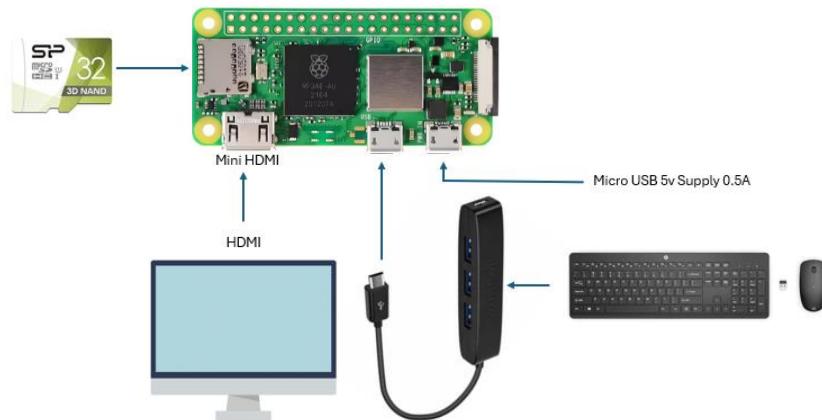


6. Enter the hostname (the name you wish to use for your device), **your** username and password that you want to use for your Pi Login, and your Wireless LAN details – SSID and password. You should also enter your location details.

- On the services tab enable SSH should you wish to connect to the Pi at a later stage from a terminal window – but this type of connection is not covered here. Click save.



- You will be then returned to the customisation dialog box where you can now select YES and after you accept the warning about all data being destroyed on your SD card, the Raspberry Pi Operating System with your customisation will be written to the SD card. The progress will be shown on the screen and when completed you can remove your micro SD card.
- Temporarily connect a screen, keyboard and mouse to the Pi Zero using the mini HDMI connection and the pi as shown below:



- Insert the micro SD card you have just created and then apply power to the Pi Zero 2w and after it has booted up, login using the terminal window using the credentials you established with the Pi Imager software. (ie: the username and password). This process will take some time, but your monitor should show the progress being made. Eventually you will get a Login prompt – type the username that you entered in your settings earlier and hit return where you will be prompted for your password. You will then be logged into the Pi command line and will receive a prompt.

11. Type and use the following scripts to install the hamclock software onto your SD card:

```
cd
```

```
curl -O https://www.clearskyinstitute.com/ham/HamClock/install-hc-rpi
```

```
chmod u+x install-hc-rpi
```

```
./install-hc-rpi
```

Note in the second command line -O is “dash capital letter O”.

The ./install-hc-rpi command takes several minutes to execute so be patient.

Type y to proceed when prompted

12. When the terminal returns after several minutes it will ask:

Build for web access only (no hardware display?) [y/n] : **Select y**

For display size select 2400 x 1440 (**option 3**)

The program will then start to build HamClock – this is a slow process and takes several minutes to execute, but at least there is a progress % shown which increments slowly.

Once completed the build you will then be asked if you want to start HamClock automatically each time the Pi is booted – **Select y**

Hamclock installation is complete, leave the screen and keyboard/mouse connected for now.

13. Determine and write down the IP address that has been assigned to the Pi Zero 2w by typing the following command at the command prompt:

```
lfcponfig
```

The inet parameter on the second line displays the IP address of the pi Zero 2w. Make a note of the address as you will need it to connect your browser to Hamclock. Eg: 192.168.1.122

14. Shutdown the Raspberry Pi Zero 2W by typing the following command at the command prompt:

```
sudo shutdown -h now
```

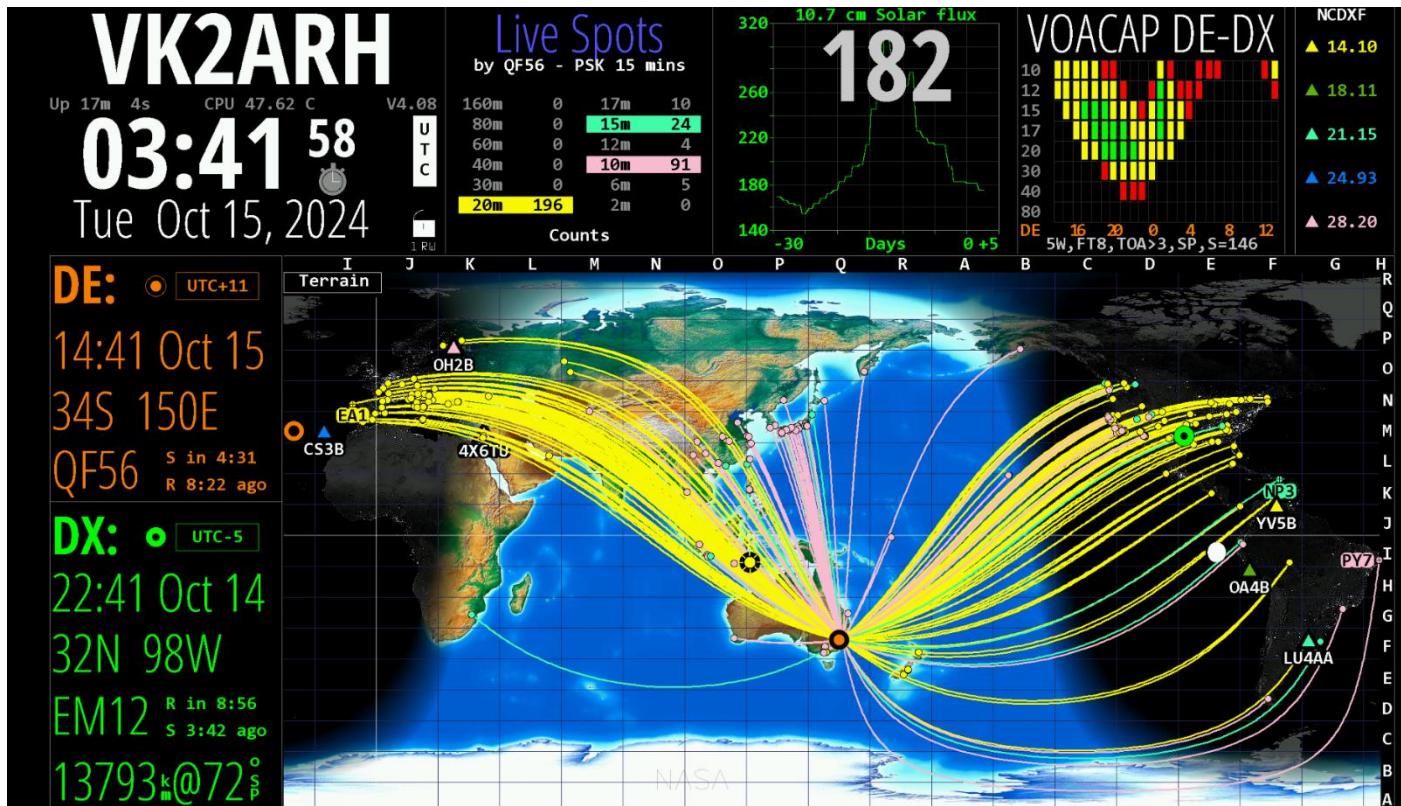
15. Once the shutdown is completed, restart the Pi Zero by removing and then reconnecting the power.

16. Go to your ‘external’ PC – either Windows, Mac, Ipad, tablet etc. and start a web browser. Enter the ip address of your raspberry Pi Zero 2W that you determined in step 13 together with 8081/live.html URL

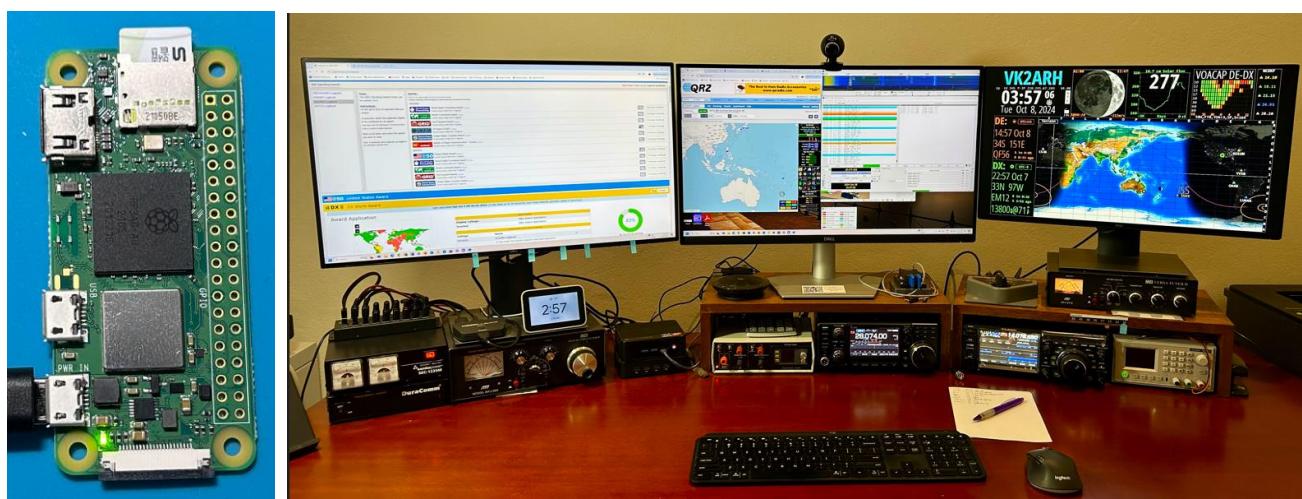
eg: 192.168.1.122:8081/live.html

17. You should now see your HamClock in your browser window and using your computers mouse and keyboard you will be able to interact with HamClock. Pressing F11 (on a Windows PC will put the browser into full screen mode and the screen will scale accordingly. On the first startup of HamClock you need to configure HamClock from the screen as per the HamClock manual. Once configured Hamclock will now be running on your screen – don’t worry about the screen size at this point.

18. The monitor, keyboard and mouse connections to your Raspberry Pi Zero 2 are no longer required and can be removed from the Pi – you will only need the USB power cable for the HamClock to operate. Anytime the power is connected, the Pi Zero 2 W will boot up and run HamClock. If you choose you can mount the Pi in an inexpensive housing, but it doesn't need any heatsinks to operate and can just as easily be stuck to the back of a monitor with double sided tape and left running continuously.



Here is a picture of the Pi Zero 2w standalone operating the HamClock and how I use it in the shack:



Hope this helps 😊