

Deployment Prep

1. Download BalenaEtcher from [balenaEtcher - Flash OS images to SD cards & USB drives](#)
2. Download the latest stable 64-bit version of Rescuezilla [Download | Rescuezilla \(Clonezilla GUI\)](#)
3. Download Linux Mint Distribution (latest Cinnamon edition) [Linux Mint 21.2 "Victoria" - Linux Mint](#)
4. Install the BalenaEtcher on any available PC
5. Use BalenaEtcher to write Rescuezilla to a USB stick and label it Rescuezilla
6. Use BalenaEtcher to write Linux Mint Distribution to USB stick and label it Linux Mint
7. Consider using Rescuezilla and a new USB stick to create a backup image of your target system as a recovery point

Install Linux Mint

[Install Linux on the Evolve Maestro Ebook Laptop - Bing video](#)
[WoWe Computer Build - YouTube](#)

1. If you are installing on a Evolve Maestro laptop, insert a wired USB Ethernet adaptor
2. Boot target PC from Linux Mint USB stick
3. Double-click Install Linux Mint icon on desktop
 - a. Take the default responses until you get to the Who are you? dialog
 - b. Complete the dialog, be sure to use a strong password
 - c. When the installation is complete, remove the USB stick and reboot
4. Login to your PC
 - a. If you are using a laptop with a touchpad, use the Mouse utility to enable the tap to click option
 - b. Use the Update Manager to apply all available updates. Repeat this action until the Update Manager indicates that no new updates are available. Reboot the computer when indicated. If the Update Manager reports download errors, use the edit software sources option to select mirror sites closer to you

Install improved wireless network driver

[Evolve III Maestro Update - Persistent WiFi Drivers For Linux! - Bing video](#) skip 1:50 in timeline

1. Ensure Secure Boot option is disabled in laptop bios Security tab
2. Open a terminal window and issue the following commands
 - a. `sudo add-apt-repository ppa:kelebek333/kablosuz`
 - b. `sudo apt update`
 - c. `sudo apt install rtl8723du-dkms`

Install 73Linux with all options selected

[km4ack/73Linux \(github.com\)](#)

1. Open a terminal window
2. Execute the command
`sudo apt install git -y`
3. Execute the command
`git clone https://github.com/km4ack/73Linux.git $HOME/73Linux && bash $HOME/73Linux/73.sh`
4. When prompted by PAT Menu, select all options (the logging application in particular) will meet the eHaW SQL server requirement

Configure the eHaW Wi-Fi Hotspot

1. Open the **Advanced** Networking tool (not, the network tool)
2. Click the Plus button to create a new connection
3. Select Wi-Fi
4. Set the Connection name to **eHaW**
5. On the Wi-Fi tab
6. Set the SID to **ehaw** (yes, lower case)
7. Select Hspot as the Mode
8. On the Wi-Fi Security tab
9. Set the Security option to WPA & WPA2 Personal
10. Set the Password to **ehaw1234**
11. (yes, I know this is pretty light weight security, and it is intentional. Remember that eHaW is by design OPEN to the Public. We can't just set the security to None, because most Wi-Fi devices [phones, iPads...] will not connect to an entirely open network anymore)
12. On the IPv4 Settings tab
13. Verify the Method is set to Shared to other computers
14. Click Add and enter the following information on the new Address line

192.168.223.1	24	192.168.223.1
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- a. The first address is where your hotspot network will start. The 3rd quartet (223 in my example) needs to be unique within your Wi-Fi operating range. Any number between 1 and 255 will work, but most off the shelf devices (wireless routers...) tend to use 1 or a single digit, so I avoid them. This address is also going to be the IP address for your system on the Hotspot network.
 - b. The second number should almost always be 24, which limits the number of concurrent devices on your hotspot to a bit over 250.
 - c. The 3rd address is the default route for your Hotspot network. We set it to match your system because this is where we want the "Public" to connect. And the plan to off eHaW (and nothing but eHaW) as the only service on this network. Do NOT make any other change that would allow the Public to connect to any other network through your system.
15. Check the box for Require IPv4 addressing
 16. Click Save then Close the Advanced Networking dialog

Configure SQL Accounts

1. Open a terminal window and execute the following commands
 - a. `sudo mysql`
 - b. `create user ko2f@localhost identified by 'passwd';`
 - c. `grant all privileges on *.* to ko2f@localhost with grant option;`
 - d. `create user ehawuser@localhost identified by 'passwd';`
 - e. `create user moderator@localhost identified by 'passwd';`

Where

- ko2f is your password in lowercase
- passwd is a strong password unique to each of the 3 SQL accounts you are creating
 - DO NOT use the same password for all 3 accounts

Install NPM

1. Open a terminal window and execute the following commands
 - a. `sudo apt install -y npm`
 - b. `sudo apt-get install libcap2-bin`
 - c. `sudo setcap cap_net_bind_service=+ep /bin/node`

Configure Flrig

You need an amateur radio transceiver with CAT and audio computer interfaces. If you are using a later model transceiver like the Icom 7100, Kenwood 590 or Yeasu FT-891, your rig may provide both CAT and audio interfaces through a simple USB cable. If this is the case, you may need to install a USB driver on your laptop. Check your rig user manual for details.

Pat Winlink uses flrig to control your radio. To configure it you need to know the com port assigned to your rig's CAT interface, the baud rate for the CAT interface and the system name for the audio interface. For example, my Icom 7100 has a USB port that provides both the CAT serial interface and audio interface. On my linux system the serial interface is named `usb-Silicon_Labs_CP2102_USB_to_UART_Bridge_ControllerA_IC-7100_02016131_A-if00-port0` the baud rate I set for the USB CAT serial interface in my radio is 19200 and the audio interface is listed in linux as `USB Audio CODEC – USB Audio`.

The first time you start flrig, you need to pull down the Config | Transceiver menu and select the Rig, CTL interface, and CTL baud rate on the Xcvr page. Note that if you start flrig with the rig turned off or the USB cable disconnected, you will have select these settings again after turning your rig on and connecting it correctly.

Configure VARA HF Modem

You need to configure VARA HF before you can use it.

1. Double-click the VARA icon on your desktop to start VARA HF
2. Select the Settings | VARA Setup option and
 - a. Enter your callsign in the top VARA Licenses field
 - b. If you have a VARA license, enter your license number in the Registration Key field
 - c. Click the Close button to save your settings
3. Select the Settings | Soundcard option and
 - a. Select your rig audio device from the Device Input and Device Output menus
 - b. Do the following to ensure you are not overdriving your rig
 - i. Connect the rig to a dummy load
 - ii. Reduce your transmit power to a low power setting (~5 watts)
 - iii. Push the Tune button on the VARA screen and adjust the drive level to ensure your transmit ALC is between 1 and 3
4. Click the Close button to save your settings
5. Close the VARA HF Modem window

Install eHaW Linux Kit

[BobSegrest/eHaW \(github.com\)](https://github.com/BobSegrest/eHaW)

1. Select the current eHaW Linux Kit tar.gz file on the github Code page
2. Download the kit from the eHaW Linux Kit page
3. Open a Files window

4. Open the Downloads folder
5. Right-click the eHaW Linux Kit tar.gz file and select the Extract Here option
6. Move the eHaW folder from Downloads to the user bin folder (/home/ko2f/bin)
7. Open a Terminal window and execute the following commands
 - a. `cd ~/bin/eHaW`
 - b. eHaWconfig (run the eHaW configuration utility)
 - c. `cd ~/bin/eHaW/Node`
 - d. `mysql -u root -p`
 - e. enter password [passwd]
 - f. `source Setup_eHaW_support_database.sql`
 - g. `exit`

A deployment demo can be downloaded from [BobSegrest/eHaW-Moderator \(github.com\)](https://github.com/BobSegrest/eHaW-Moderator/blob/main/eHaW%20Linux%20Deployment.mp4)
<https://github.com/BobSegrest/eHaW-Moderator/blob/main/eHaW%20Linux%20Deployment.mp4>