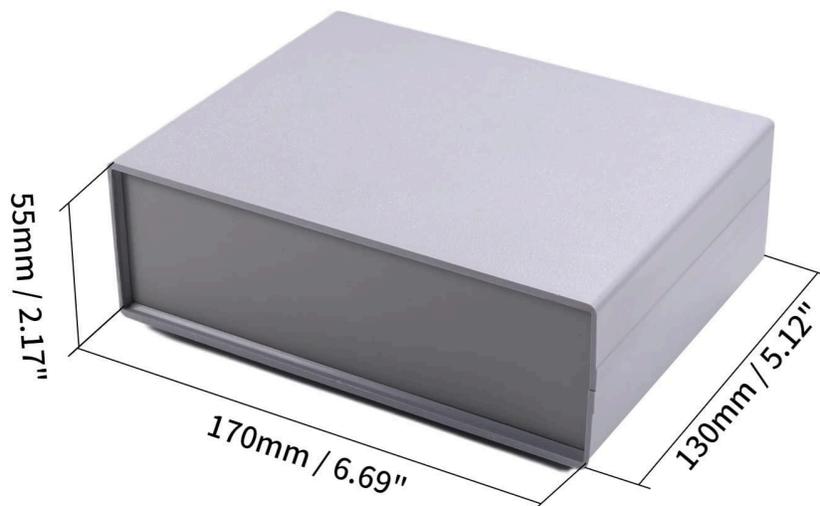


ASL BlaberBox



All-in-one AllStarLink Node with UHF Radio

Document version control

Mark Phillips	2025-01-16	Initial release V1.0

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ErinsHorn LLC

<http://erinshornllc.com/hamradio/blaberbox.html>



Contents:

[Hardware description:](#)

[Initial setup:](#)

[Preprogrammed:](#)

[Program Yourself:](#)

[Install rpi-imager:](#)

[Install ALS3 to the MicoSD card:](#)

[Troubleshooting:](#)

[Configure the HotSpot:](#)

[Change the radio channel or PL tone:](#)

Thank you for purchasing the ErinsHorn LLC ASL BlaberBox. Following these instructions should give you many hours of enjoyment from your purchase. Your HotSpot is supplied with a 30 day repair or replace warranty.

Hardware description:

Raspberry Pi3 based AllStarLink node.

20mW Baofeng BF-888s UHF transceiver.

CM108 based USB sound interface modified for ASL use.

LM2956 5V 3A power supply.

55x170x130mm Enclosure.

2.5mm barrel adapter and cable.

MicroSD card with software.

Initial setup:

The ASL BlaberBox is available in 2 variations; pre-programmed with your node number, callsign, UHF RF channel and WiFi information or “program yourself” blank SDCard.

Preprogrammed:

For the pre-programmed variant, simply connect the supplied power cable to a source of 12V/3A DC. The ASL BlaberBox will boot up, connect to your WiFi and announce itself on your UHF RF channel. This is all the setup you need to do. Refer to the “Basic Node Instructions” section further down this document for advice on how to make/break connections etc.

ASL BlaberBox

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Program Yourself:

The Program Yourself variant is a little more complicated. Insert the supplied MicroSD card into your computer and copy the contents to a temporary directory. The card contains the ASL3 AIStarLink operating system image for the Raspberry Pi, rpi-imager software for Windows/Mac/Linux and this document. Keep all of this software for later use. You will be re-formatting the MicroSD card shortly.

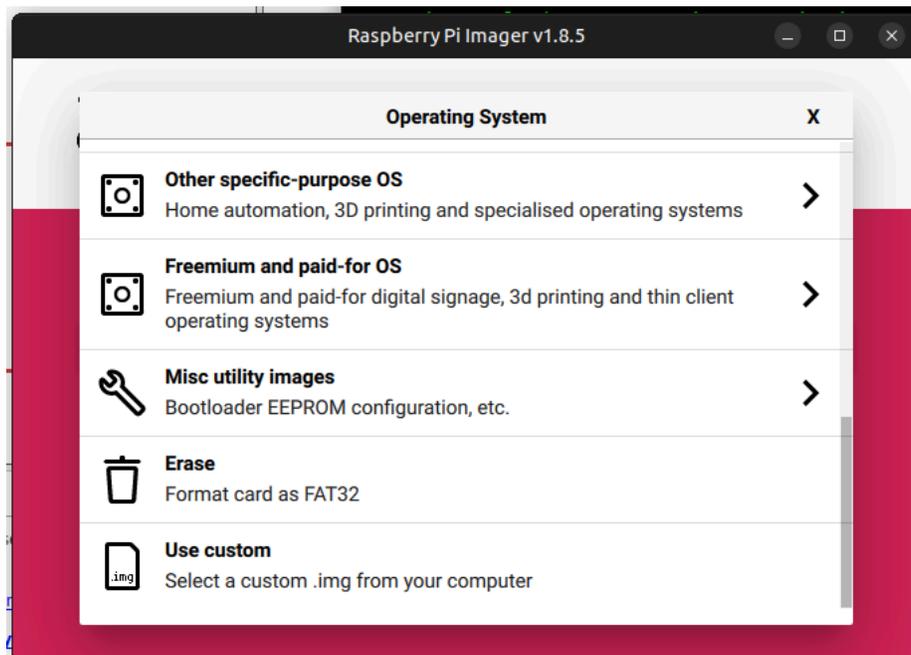
Install rpi-imager:

It is beyond the scope of this document to instruct you how to install the rpi-imager software for your particular platform. You know how to do this. Simply install the relevant file as supplied on the MicroSD.

Install ALS3 to the MicoSD card:

Firstly let's watch a video. Point your browser here to get a very basic idea of how the rpi-imager application works. <https://www.youtube.com/watch?v=ntaXWS8Lk34&t=45s>
Now that we know how the software works, make sure that you have copied the supplied software from the MicroSD card to your computer. We will be overwriting the card with the ASL software. Now is your last chance!

Execute the rpi-imager software. Select "Raspberry Pi 3" as the device, "Use custom" as the Operating System and select the allstar3-arm64-3.0.16.img.xz file as supplied on the MicroSD. Finally, choose the previously inserted MicroSD card for storage.

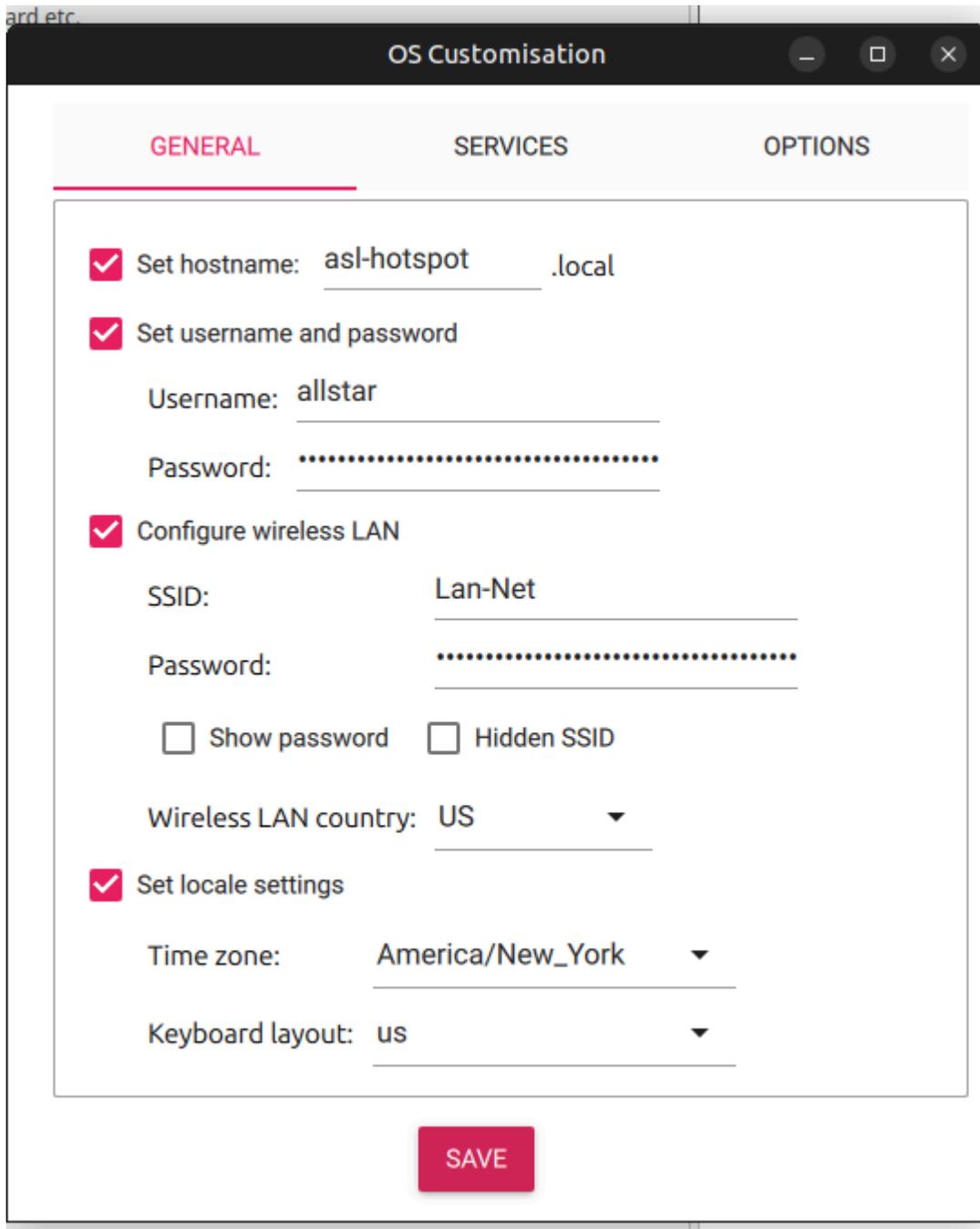


ASL BlaberBox
ErinsHorn LLC

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Select "NEXT" and then "EDIT SETTINGS". Edit the settings here including your WiFi details as well as a username and password for the RPi3 (required later). If you use SSL keys in your environment then insert your public key in the services tab. Click "SAVE".



The screenshot shows a window titled "OS Customisation" with three tabs: "GENERAL", "SERVICES", and "OPTIONS". The "GENERAL" tab is selected and contains the following settings:

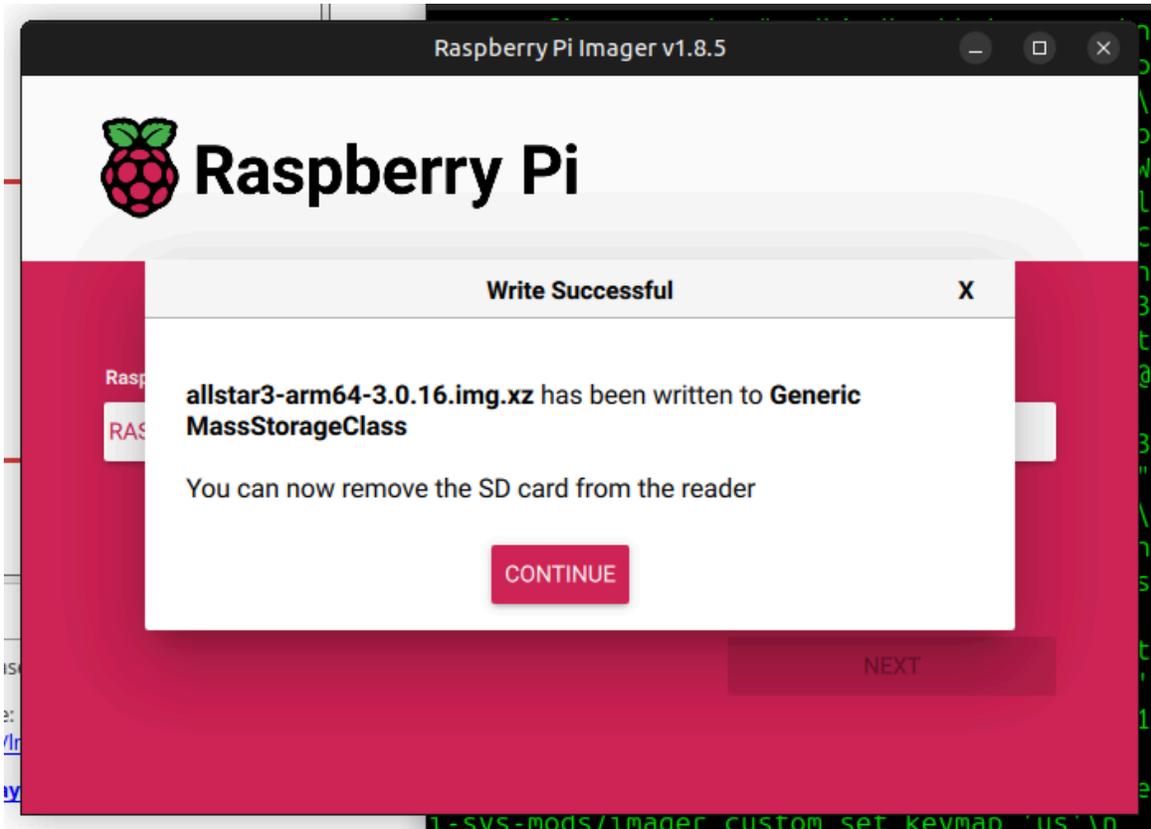
- Set hostname: .local
- Set username and password
 - Username:
 - Password:
- Configure wireless LAN
 - SSID:
 - Password:
 - Show password Hidden SSID
 - Wireless LAN country: ▼
- Set locale settings
 - Time zone: ▼
 - Keyboard layout: ▼

A red "SAVE" button is located at the bottom center of the window.



We are now ready to start the install. Click “YES”.

You will be presented with a warning about the MicroSD card being erased. This is your last chance. You did back it up to a safe place, right? Click “YES”. At this point the rpi-imager will start writing to the MicroSD card. It'll be a while. Go and make some coffee.



Hopefully, when you return from making your coffee you will be presented with a screen like this? You can now remove the MicroSD card from your computer.

Now we will install the MicroSD card into the ASL BlaberBox. For this you will need a Philips screwdriver, and a steady hand. Remove the 4 screws on the bottom of the enclosure and then remove the top cover. Remove the Raspberry Pi 3 from the lower jig and insert the card into its slot. Restore the Raspberry Pi 3 to its original location. Do not replace the top cover just yet.

Apply power to the ASL BlaberBox and tune your radio to 431.825MHz/PL123 FM. Assuming all has gone well you should hear the ASL BlaberBox identify itself on your radio. Alternatively, point your browser to <http://asl-hotspot.local> (or whatever name you



gave it in the settings above). Assuming all went well you should see a web page. If all is good, replace the cover back onto the ASL BlaberBox.

AllStarLink 3

Web Admin Portal
Manage your node from your browser using Cockpit

Node Links
View and manage connections to and from the node with AllStarLink3

ASL Manual
Get help using AllStarLink from the online comprehensive manual

Prefer SSH?
As always, use of SSH is available by SSHing to asl-hotspot.local using your favorite terminal or SSH client. A web-based SSH client is available within the Web Admin Portal.

AllStarLink Site

AllStarLink Forum

AllStarLink @ GitHub

Love using AllStarLink?
The implementation and upkeep of this system is very costly. All software used by AllStarLink is open source and developed by volunteers to be freely available and used by the amateur radio community. Any monetary help you give will be much appreciated.

Allstarlink Inc. is a US 501(c)(3) non-profit organization.

Securely Donate

AllStarLink 3 Appliance - All source code is available under terms of various open source licenses including the GPL, AGPLV3, and BSD licenses.

Troubleshooting:

So nothing happened. Your ASL BlaberBox did not appear on your network or you cannot connect to its web page. Now what? Hardcore Linux users can SSH in and fix the problem themselves. It's a Debian system. 'Nuff said.

For the rest of us the first port of call is the WiFi. Most issues are related to incorrect entering of the WiFi information. Check with your router to see if it knows a device called "asl-hotspot" (or whatever you called it). If it does then simply point your browser at that device. If not, find a network cable and plug it into the Raspberry Pi 3's network port. Now look in your router again for "asl-hotspot". Assuming you can see it, use the "Web Admin Portal" to fix your WiFi. You will need the username and password you set up earlier. Refer to the ASL3 guide here <https://allstarlink.github.io/user-guide/>.

Your issues could also be due to a bad MicroSD card write. This happens far more often than you would think. Remove the card and insert it into your computer. On Windows you should see a new drive appear called "boot" and also a complaint about how Windows cannot mount a disk (this is because it's a Linux disk). Mac users may see two

ASL BlaberBox
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new disks appear. Assuming you can see at least one of these drives then your card should be good. Replace it into the Raspberry Pi 3, apply power and then wait a little longer. It takes about 3 minutes to boot up fully.

If the MicroSD card does not appear then you have either a bad image or a bad card. Try to reimage the card and then try booting the HotSpot again. If it fails a second time you likely have a bad MicroSD card. Replace it with a known good one and start again.

Configure the HotSpot:

Configure the ASL BlaberBox AllStarLink settings via the HotSpot web page above. Refer to the ALS3 guide found here <https://allstarlink.github.io/user-guide/> for further information. You can now configure the device per the AllStarLink instructions from your computer.

Change the radio channel or PL tone:

The radio supplied with the ASL3 BlaberBox V1 is a Baofeng BF-888s. It can be programmed with any number of Kenwood style programming cables that connect to the mic/ear sockets on an HT radio. Use [CHiRP](#) to program the new frequency and/or PL tones.

The PL (or DCS etc) tone you may require to condition access to your ASL3 BlaberBox is managed by the radio portion of the HotSpot. The ASL3 software is unable to decode or generate sub audio tones due to the sound card interface used. Should you wish to change the tone use the CHiRP programming software and cables outlined above.



Technical specifications:

Power supply:	8-24VDC @ 3A (13.8VDC shack supply OK)
UHF power output:	~20mW
Operating System:	Debian Bookworm
AllStarLink software:	ASL3 https://allstarlink.github.io/user-guide/
Dimensions:	55mm x 170mm x 130mm

