



RaspiNOAA V2 Buster. June-2021
Vince VE3ELB
<http://qsl.net/ve3elb/RaspiNOAA>

Raspberry NOAA V2
<https://github.com/jekhokie/raspberry-noaa-v2>
Thanks to Jekhokie for the great software.
<https://www.facebook.com/groups/sdreverywhere>
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I recommend using a 16GB SD Card or higher.
Burn RaspiNOAA V2 Buster Image to your SD card using one of the following software.

Raspberry Pi Imager:
<https://www.raspberrypi.org/software/>

Etcher:
<https://www.balena.io/etcher/>

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Start by configuring the raspberry pi.

Step 1: Open Terminal and type the following command.

- sudo raspi-config
- Select option 6: Advanced Options
- Select A1: Expand Filesystem

Reboot.

Step 2: Open the Application Menu

- Preferences
- Raspberry Pi Configuration
- Go to the Localisation Tab
- **Set Localisation, Timezone and Keyboard (Must match settings.yml file)**

Reboot.

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Setup RaspiNOAA V2 Buster Instructions:

Step 3: Go to folder.

- /home/pi/raspberry-noaa-v2/config

Step 4: Right click on, and edit settings.yml file in text editor. Save file once done.

- settings.yml

Change the following settings to get you up and running:

Station Long/Lat:

- latitude: 43.7
- longitude: -79.42

TimeZone Offset:

- timezone_offset: -4

NTP Configurations:

- ntp_server: DO NOT ADD ANY LEAVE BLANK

##Test Setting:

- test_gain: 44.5
- test_sdr_device_id: 0
- test_enable_bias_tee: false
- test_freq_offset: 0

Satellite Setting:

- noaa_15_enable_bias_tee: false
- noaa_15_gain: 44.5
- noaa_18_enable_bias_tee: false
- noaa_18_gain: 44.5
- noaa_19_enable_bias_tee: false
- noaa_19_gain: 44.5
- meteor_m2_enable_bias_tee: false
- meteor_m2_gain: 44.5

USER Info: Please fill in your information

- ground_station_location: 'USER Location'
- antenna_info: 'USER Antenna'

TimeZone Location: (Must match system localisation and timezone)

- timezone: America/New_York
- lang_setting: en

Note:

Make sure to set your location/timezone information correctly, if not your TLE information will be wrong.
Location/Timezone examples: https://en.wikipedia.org/wiki/List_of_tz_database_time_zones

Discord Link:

- discord_webhook_url: 'USER Discord Webhook'

Note:

To view images online you must have a Discord account and input your webhook into the settings.yml file.
Create an account at: <https://discord.com/login>

Save the file and exit.

Step 5: Open terminal and type the following commands.

- cd \$HOME
- cd raspberry-noaa-v2/
- ./install_and_upgrade.sh
- ./scripts/schedule.sh -x
- exit

Done. You are set.

Any and every other changes made to the settings.yml file you will have to run the following commands for them to take effect.

- cd raspberry-noaa-v2/
- ./install_and_upgrade.sh

Any changes made to the satellite elevation setting you have to run the following commands for them to take effect.

- cd raspberry-noaa-v2/
- ./install_and_upgrade.sh
- ./scripts/schedule.sh -x

Fix your pass conflicts via the web browser in the "admin" Tab. Just click on the X of unwanted pass conflicts to delete them.

Web: 127.0.0.1

The webpage can be viewed on any computer or device within the same network via the raspberry pi network ip address. Exp: 192.168.13.xx

To get the raspberry pi network ip address open terminal and input this command.

- ifconfig

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Raspberry NOAA works with RTL Dongles ONLY.

To test the RTL Dongle:

Open terminal type the following command.

- rtl_test -t

If RTL is found and working you should get a message like this.

Found 1 device(s):

0: Realtek, RTL2838UHIDIR, SN: 00000001

Using device 0: Generic RTL2832U OEM

Found Rafael Micro R820T tuner

Supported gain values (29): 0.0 0.9 1.4 2.7 3.7 7.7 8.7 12.5 14.4 15.7 16.6 19.7
20.7 22.9 25.4 28.0 29.7 32.8 33.8 36.4 37.2 38.6 40.2 42.1 43.4 43.9 44.5 48.0 49.6

[R82XX] PLL not locked!

Sampling at 2048000 S/s.

Note the supported gain values for the RTL Dongle listed above or in terminal when you run rtl_test -t
DO NOT exceed these gain values as you may damage the RTL Dongle.

In testing I found these RTL gain settings worked best for me. However everyone's setup is different so you will have to adjust gain a few times to get the right setting for you..

NO LNA - Gain set between 40.2 - 44.5

With LNA - Gain set between 7.7 – 12.5

To delete images, audio files and video files manually. Go to "/srv" folder to free up storage space. RaspiNOAA V2 Buster has been setup to automatically delete audio files after each pass and image files older than two days everyday at midnight.

- /srv

Last thing you can run the raspberry pi headless. Setup VNC or Teamviewer to view and control the pi remotely.

You can now reboot the raspberry pi one last time. All done now you wait for the image captures.

RaspiNOAA V2 Buster. Was Built, Tested and worked 100% on a Raspberry Pi 3B+

I take no credit for any of the software,

This image was compiled to help others who wanted to try Raspberry NOAA V2.

I am not responsible for any damages caused to your equipment.

Enjoy,

Vince VE3ELB

Discord: <https://discord.gg/5wgwAF3KdF>

Web: <http://ve3elb.ham-radio.ch/>

Thanks to Jochen DC9DD for his help and assistance.

Discord: <https://discord.gg/aUuRG3TnSz>

Web: <https://www.qsl.net/dc9dd/>

APT Discord:

<https://discord.gg/MWceuQfYam>

I recommend that all users join the 3 discord groups as you can get help and support for RaspiNOAA V2 - Raspberry NOAA V2 from the users.

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Disclaimer:

This RaspiNOAA V2 Buster automatically uploads images to the following Discord servers.

VE3ELB, DC9DD and APT discord servers for sharing purposes only.

Please be kind and keep sharing as we do.

Thank You, 73.