Troubleshooting guide

Heading 1

Some text.

ZUMspot RPi 1.3” OLED

MMDVM-Pi

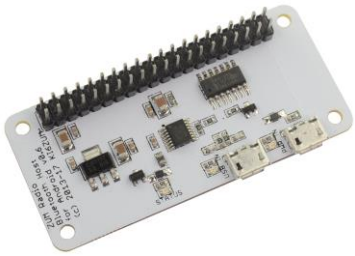
ZUMspot USB

ZUMspot Elite 3.5” LCD

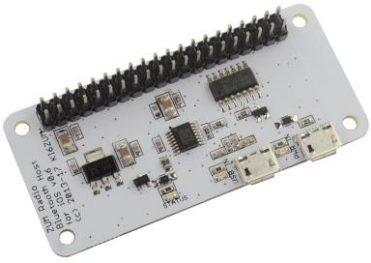
AMBE Server

ZUMspot RPi Dual Band

ZUMspot RPi Duplex



Bluetooth board for Android



Bluetooth board for iOS

ZUMspot USB specifications:

Contents

Common Issues

Note: Testing should be done with a known good Raspberry Pi with a correctly configured image.

ZUMspot RPi:

- Board not found in Pi-Star or not working in a particular mode.
  - Go to *Configuration -> Modem* and make sure that “ZUMspot RPi GPIO” has been selected.
  - Reflash modem firmware
    - Go to *Configuration -> Expert -> SSH*
    - Login
    - Run following command: *sudo pistar-zumspotflash rpi*
  - Test using MMDVMCal. More information is found under the **Using MMDVMCal** section.
    - Test Tx and Rx with the normal 433MHz frequency. If Tx and Rx work then any issues being experienced are due to a configuration problem or the Pi-Star image has been corrupted
- If the board has OLED issues go to the **OLED Display** section

ZUMspot USB:

1. No COM port found under Windows.
   a. Go to “Device Manager” and check for USB devices with an exclamation point next to it.
   b. Re-install Maple Drivers
2. Board not found in Pi-Star Suggestion 1.
   a. Go to *Configuration -> Modem* and make sure that “ZUMspot USB” has been selected.
3. Board not found in Pi-Star Suggestion 2.
   a. Go to *Expert -> SSH*
   b. Login to pi-star
   c. Type in “lsusb” in terminal
   d. If a device named “1eaf:0004” is listed, then the Pi-Star image has been corrupted
4. Board not working in a particular mode.
   a. Reflash firmware
      i. Go to *Configuration -> Expert -> SSH*
      ii. Login
      iii. Run following command: *sudo pistar-zumspotflash usb*
   b. Test using MMDVMCal. More information is found under the **Using MMDVMCal** section.
      i. Test Tx and Rx with the normal 433MHz frequency. If Tx and Rx work then any issues being experienced are due to a configuration problem or if under Pi-Star, the Pi-Star image has been corrupted.

ZUMspot RPi 3.5” LCD kit:

- Board not found in Pi-Star or not working in a particular mode.
  - Go to *Configuration -> Modem* and make sure that “ZUMspot RPi GPIO” has been selected.
  - Reflash firmware
    - Go to *Configuration -> Expert -> SSH*
    - Login
    - Run following command: *sudo pistar-zumspotflash rpi*
  - Test using MMDVMCal. More information is found under the **Using MMDVMCal** section.
    - Test Tx and Rx with the normal 433MHz frequency. If Tx and Rx work then any issues being experienced are due to a configuration problem or the Pi-Star image has been corrupted
- 3.5” LCD screen not showing any user info or just displaying “Initializing”
  - Does the green LED on the Pi board flash after power is applied?
    - If not then it is likely a SD card image problem – try to reflash the card with a new image from pistar.uk
  - Do all the LEDs on the top of the ZUMspot board flash twice after power is applied?
    - If not it is likely a power supply problem – try to use a different power supply
  - Verify *Nextion* display has been selected
    - Go to *Configuration*
    - MMDVM Display Type should be set to *Nextion*
    - Port should be set to *modem*
    - Nextion Layout should be set to *ON7LDS L3*
  - NOTE: There is a known issue in Pi-Star that the IP address sometimes does not show up when connected via Ethernet

ZUMspot Dual Band:

- Board not found in Pi-Star or not working in a particular mode.
  - Go to *Configuration -> Modem* and make sure that “ZUMspot - Dual Band Raspberry Pi Hat (GPIO)” has been selected.
    - If you can’t find “ZUMspot - Dual Band Raspberry Pi Hat (GPIO)” under the *Modem* list then you will need to reload the ZUMspot Dual Band Pi-Star image onto the SD card.
  - Test using MMDVMCal. More information is found under the **Using MMDVMCal** section.
    - Test Tx and Rx with a UHF frequency and a VHF frequency. If both work then any issues being experienced are due to a configuration problem or the Pi-Star image has been corrupted
- If the board has OLED issues go to the **OLED Display** section

ZUMspot Duplex:

- Board not found in Pi-Star or not working in a particular mode.
  - Go to *Configuration -> Modem* and make sure that “ZUMspot - Duplex Raspberry Pi Hat (GPIO)” has been selected.
    - If you can’t find “ZUMspot - Duplex Raspberry Pi Hat (GPIO)” under the *Modem* list then you will need to reload the ZUMspot Duplex Pi-Star image onto the SD card.
  - Test using MMDVMCal. More information is found under the **Using MMDVMCal** section.
    - Test Tx and Rx with the normal 433MHz frequency. If Tx and Rx work then any issues being experienced are due to a configuration problem or the Pi-Star image has been corrupted
- If the board has OLED issues go to the **OLED Display** section

MMDVM-Pi:

1. Board not found in Pi-Star or not working in a particular mode
   a. Go to *Configuration -> Modem* and make sure that “ZUM Radio-MMDVM for Pi (GPIO)” has been selected.
   b. Reflash firmware
      i. Follow instructions in the MMDVM-Pi Configuration Guide: https://www.hamradio.com/images_managed/misc/H0-016486_MMDVM-Pi_Configuration.pdf
   c. Test using MMDVMCal. More information is found under the **Using MMDVMCal** section.

ZUM AMBE Server:

Troubleshooting the AMBE Server board is easier when using it with a 1.3" OLED

2. Device is not working with a Wi-Fi/Ethernet connection
    a. Remove SD card from AMBE board, and connect AMBE board via USB cable to a computer.
        i. Go to "Device Manager" to obtain the COM port number of the ZUM AMBE server.
        ii. Open BlueDV and change settings in order to use the COM port of the ZUM AMBE server.
            1. NOTE: Make sure checkbox next to "Use AMBEServer" is unchecked
        iii. Exit settings
        iv. Turn ON *Serial* and then turn ON D-Star or DMR and connect to a reflector/talk group with activity on it.
        v. If the audio starts coming through the speakers then the problem is a configuration issue.
    b. Go to http://ambeboard.zumradio.com/configurator/ to download a new configuration file
        i. NOTE: When connecting via Wi-Fi or Ethernet it is easier to select a *Static* IP address so that there is no confusion as to what the IP address will be. Make sure to use an IP address with a high number (EX:192.168.1.80) so that it won't clash with any currently connected devices.
3. Device is not working under Wi-Fi
    a. Double check the zum.ini file loaded onto the SD card.
        i. Verify that *wifi=1*
        ii. Double check the Wi-Fi SSID is correct in the *ssid*= section
        iii. Double check the Wi-Fi password is correct int the *ssidpassword*= section

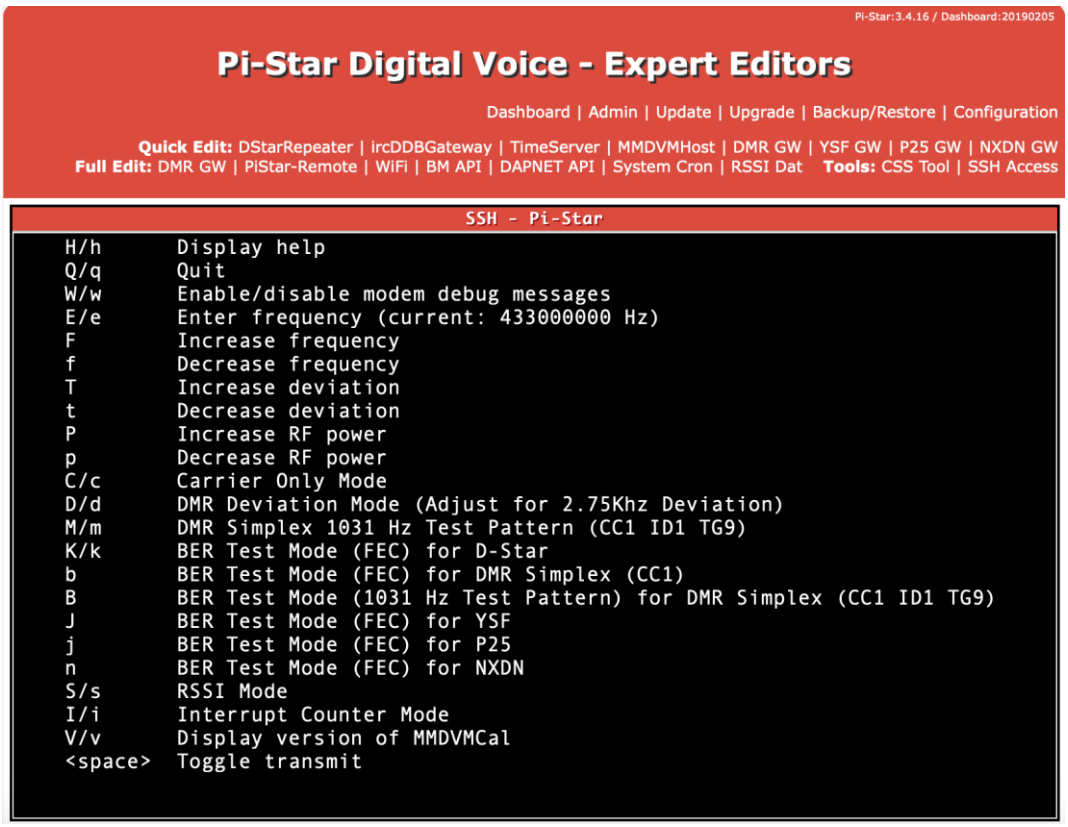
Bluetooth Boards:

1. BlueDV can't connect to ZUMspot after Bluetooth pairing.
   a. Connect ZUMspot to known good working Pi-Star setup. Then follow the steps in *ZUMspot RPi* section.
   b. If the ZUMspot board works under Pi-Star but not on the ZUM Bluetooth board, then an RMA should be requested for the ZUM Bluetooth board.

Using MMDVMCal

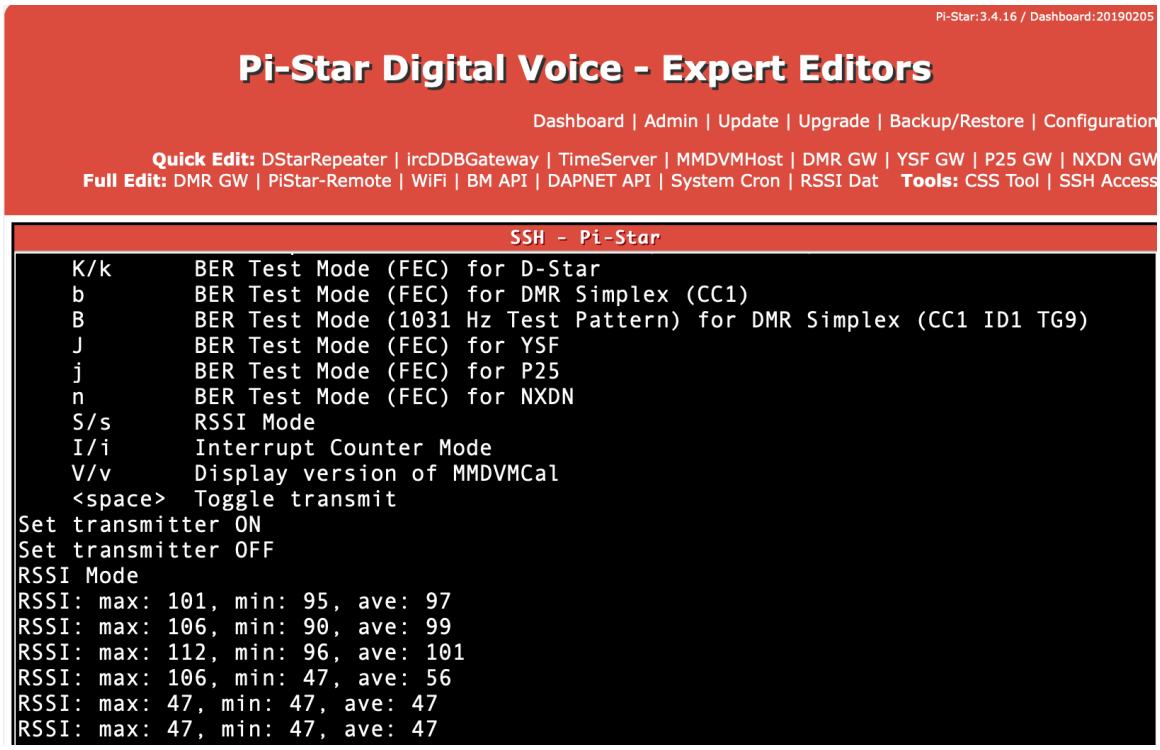
NOTE: MMDVMCal will test Tx/Rx on ZUMspot boards and the MMDVM-Pi boards. The ZUM AMBE Server board is not supported.

1. Turn on a radio and set it to 433.000 MHz and set it to analog mode.
   a. If you want to test VHF (for ZUMspot Dual Band only) try using 145.615MHZ
2. Boot up pi-star
3. Go to *Configuration -> Expert -> SSH Access*
4. Login to pi-star
5. Type in the following command: *sudo pistar-mmdvmcal*



6. You will see this menu
7. Press the spacebar on your keyboard to do the transmit test
8. The red PTT LED should turn on. You should hear a tone on the radio. This shows that the transmit function of the board is working
9. Press the spacebar to stop the transmit test.
10. Press the “s” key on your keyboard for the RSSI test (RX test)
    a. RSSI test will not work on MMDVM-Pi board
11. Press the PTT button on the radio.

12. You should see the RSSI drop to around 47-48. This shows that the receive function of the board is working.

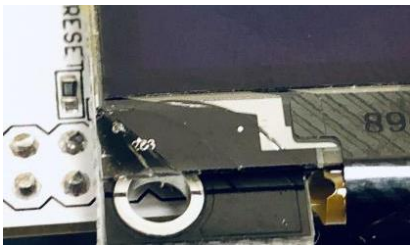


13. Press the “q” key on your keyboard to exit out of MMDVMCal.

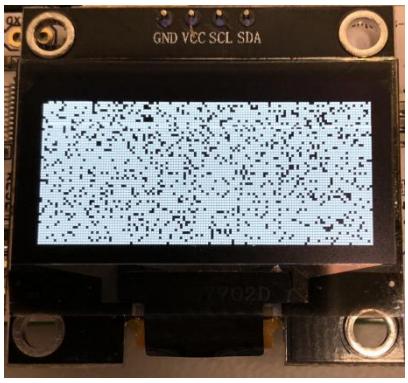
OLED Display

1. If you see **lines in the display**, then the OLED glass is broken. The image on the left has broken glass while the image on the right is working correctly.

Here is a close up example of broken glass:



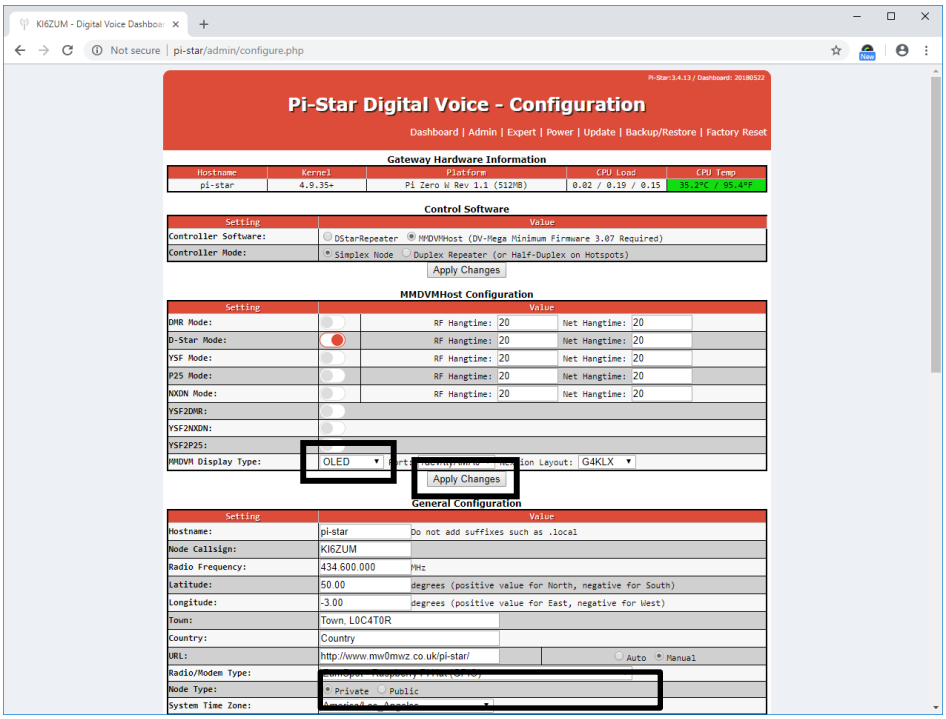
1. If you see many dots on the display, then the settings in PiStar have not been configured correctly. Follow the directions below to correct the setup.



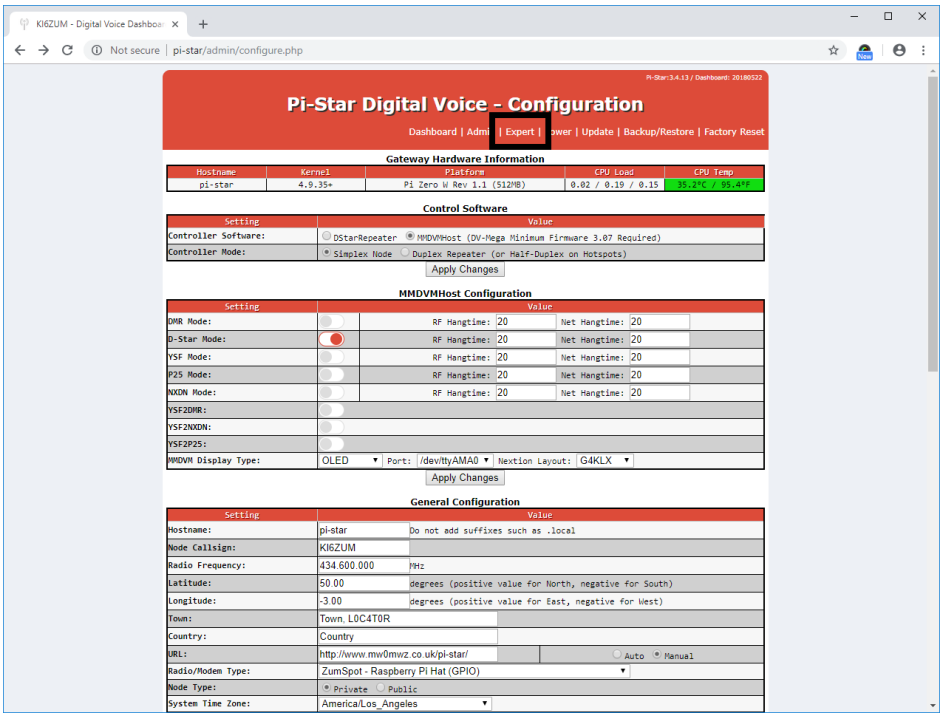
2. If the display comes up **blank**:
   a. The settings in Pi-Star may have been configured incorrectly. Follow the directions below to correct the setup.
   b. Make sure correct ZUMspot modem was selected under ***Configuration -> Modem***

Configure OLED:

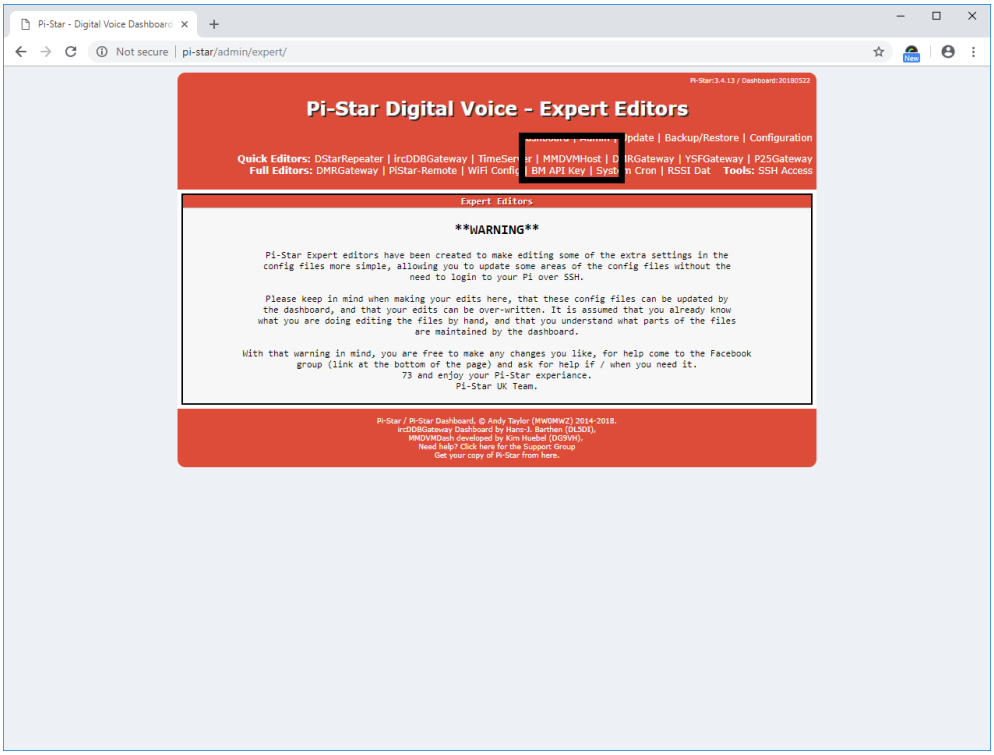
On the “Configuration” screen of Pi-Star, set the “MMDVM Display Type” to “OLED”. Make sure the “Radio/Modem Type” is set to “ZumSpot – Raspberry Pi Hat (GPIO)”. Next, click “Apply Changes”.



Next, select “Expert”

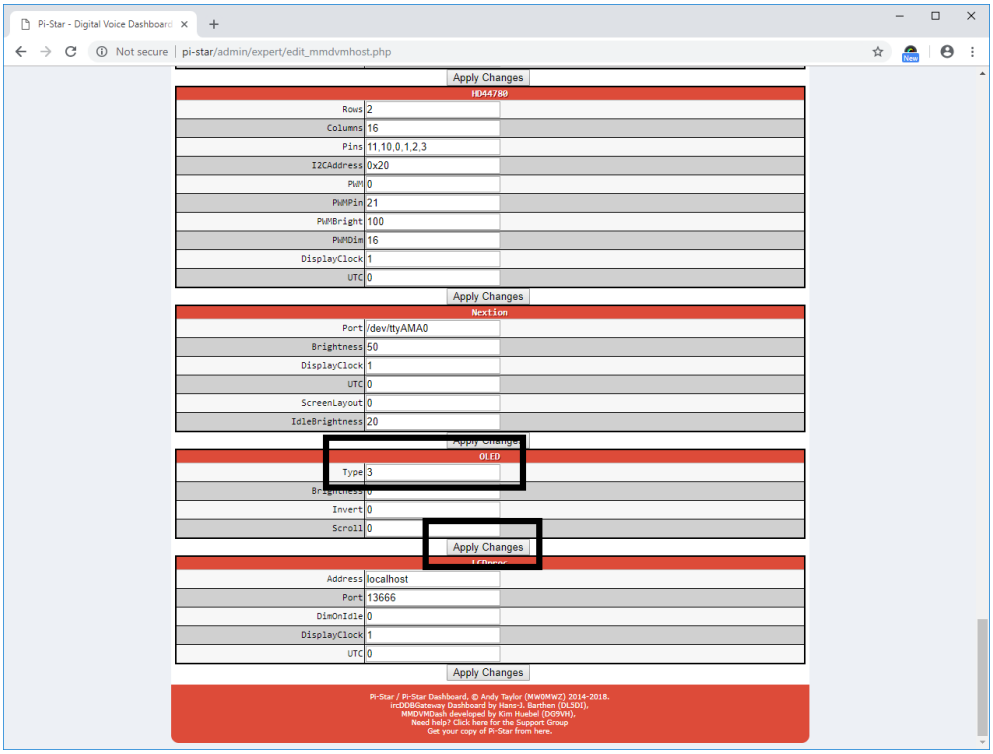


Next, select “MMDVMHost”

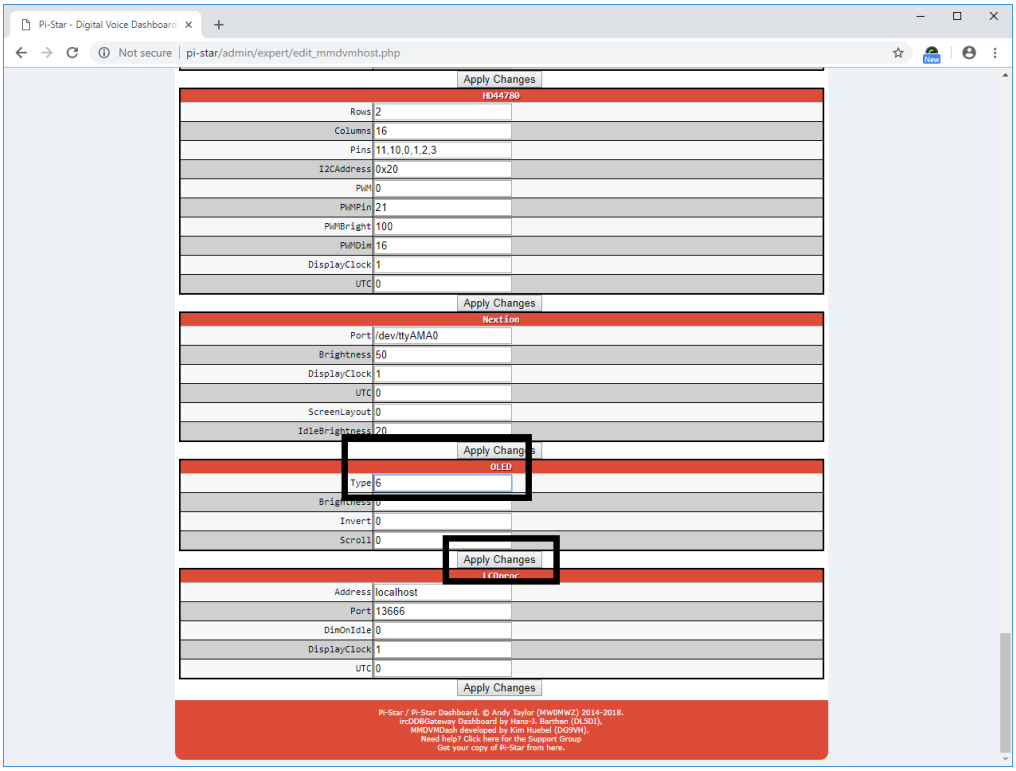


Scroll to the bottom of the page to the “OLED” section.

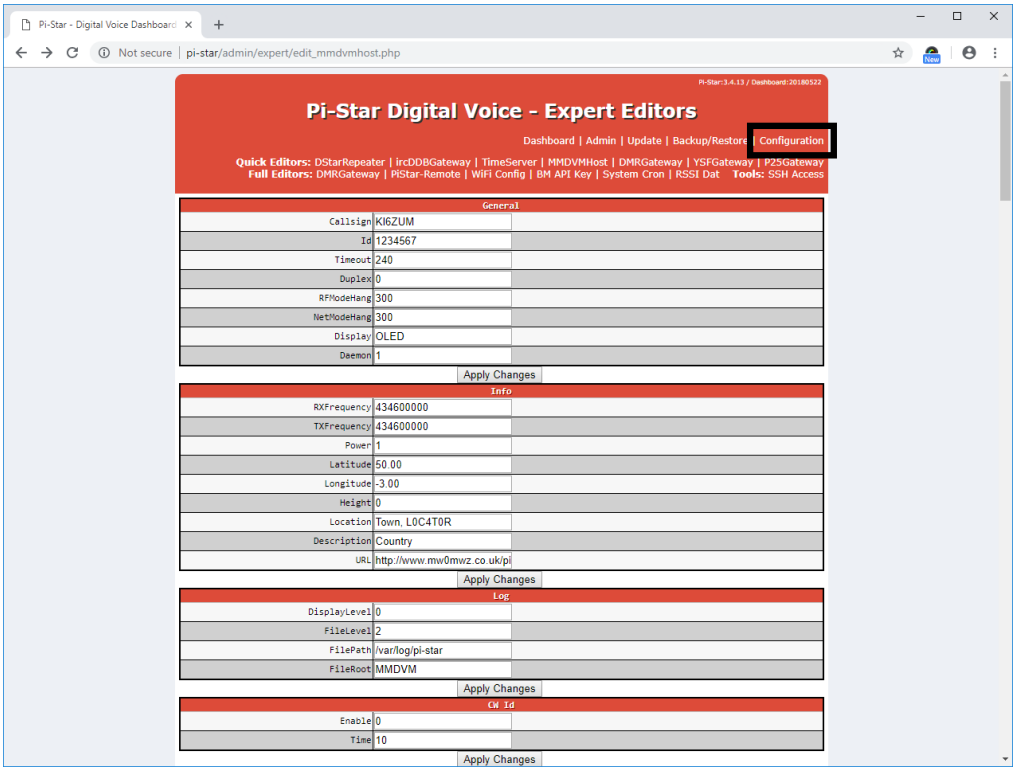
For 0.96” OLED screen, select “Type” “3”. Next, click on “Apply Changes”.



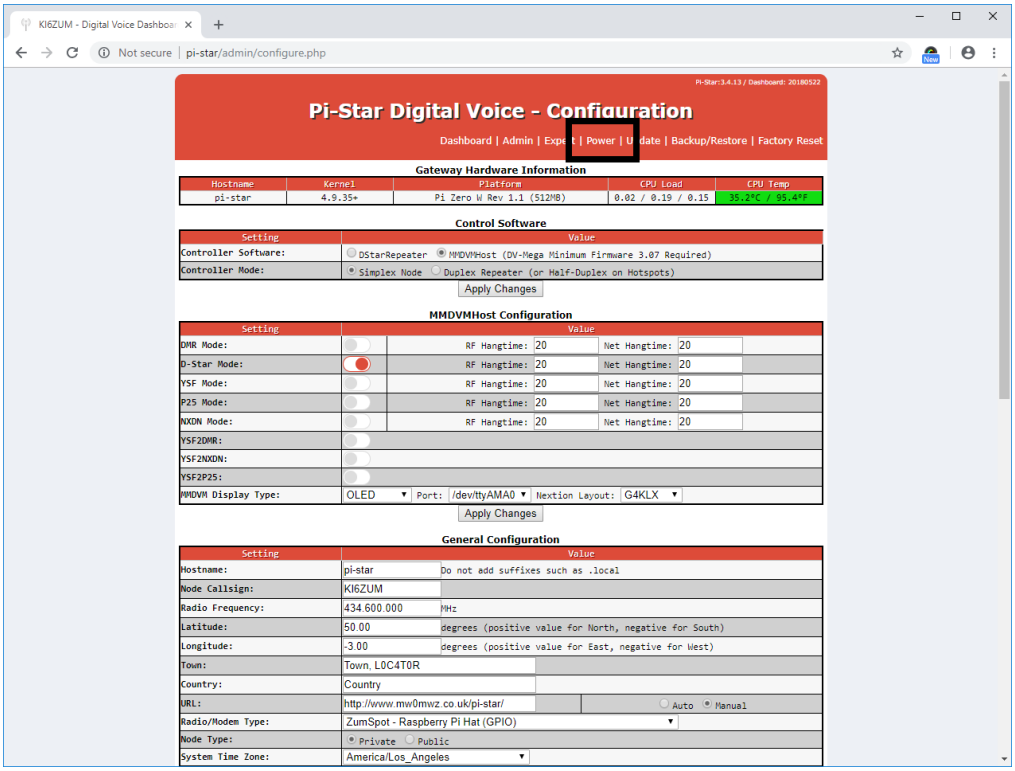
For 1.3” OLED screen, select “Type” “6”. Next, click on “Apply Changes”



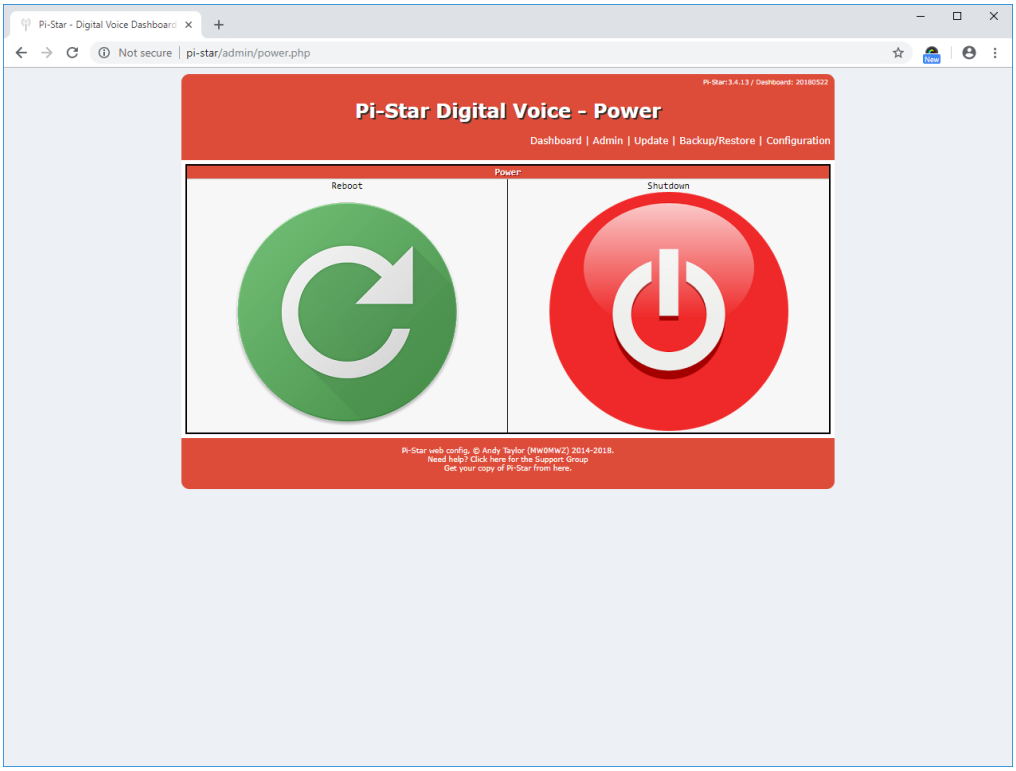
Scroll back up to the top of the page and select “Configuration”.



Next, select “Power”



Next, select “Reboot”



OLED/Shim Kit:

2. Lines on the display.
    a. See section for OLED display on ZUMspot RPi
3. Dots on the display:
    a. See section for OLED display on ZUMspot RPi
4. If the display comes up **blank**:
    a. The settings in Pi-Star have been configured incorrectly. Follow steps for “dots on the display”
    b. A wire has come loose on the back of the OLED or on the shim board

Customer Support

There are a number of ways for customers to get support in addition to HRO staff:

MMDVM Yahoo group: https://groups.yahoo.com/neo/groups/mmdvm/info

ZUM Radio Facebook page: https://www.facebook.com/groups/249802742395450/

PiStar support forum: https://forum.pistar.uk/

PiStar Facebook page: https://www.facebook.com/groups/pistarusergroup/

Hardware support email: support@zumradio.com