

Part 5: Configure Aurora Monitor Settings

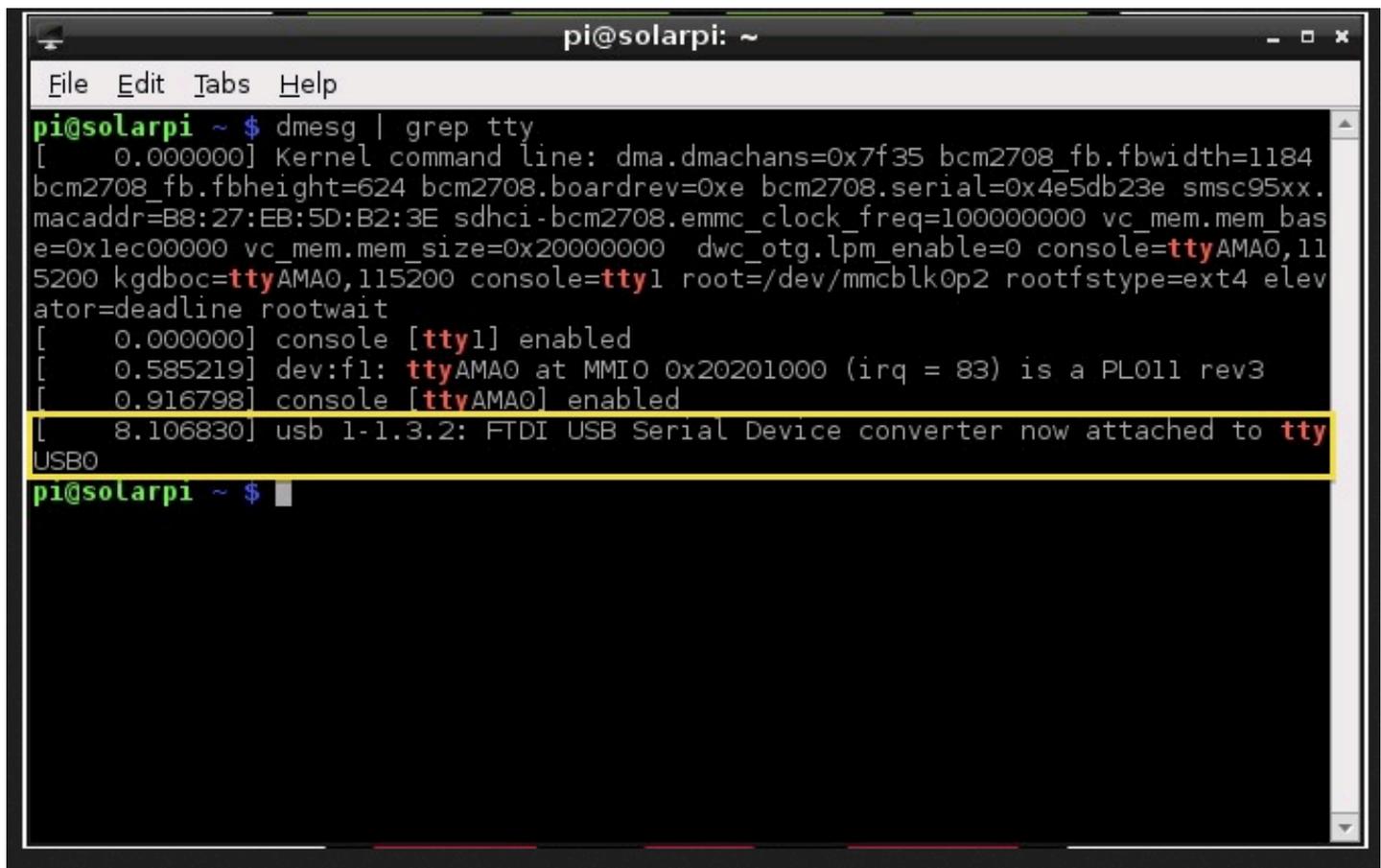
If Aurora Monitor is not running when you reconnect with VNC Viewer, you will need to go back and review the previous steps and try to find out where the error is.

Serial Port Setup

The first thing you will want to do is determine the Serial Port that the RS-485 to USB Converter is registered under. This is required when configuring the Aurora Monitor. Type the following command in an LXTerminal window:

```
dmesg | grep tty
```

Note that the character between the dmesg and grep is the pipe symbol. It is often found on the same key as the backslash (\) character, but requires the Shift to be pressed as well. You should see something like the following output:



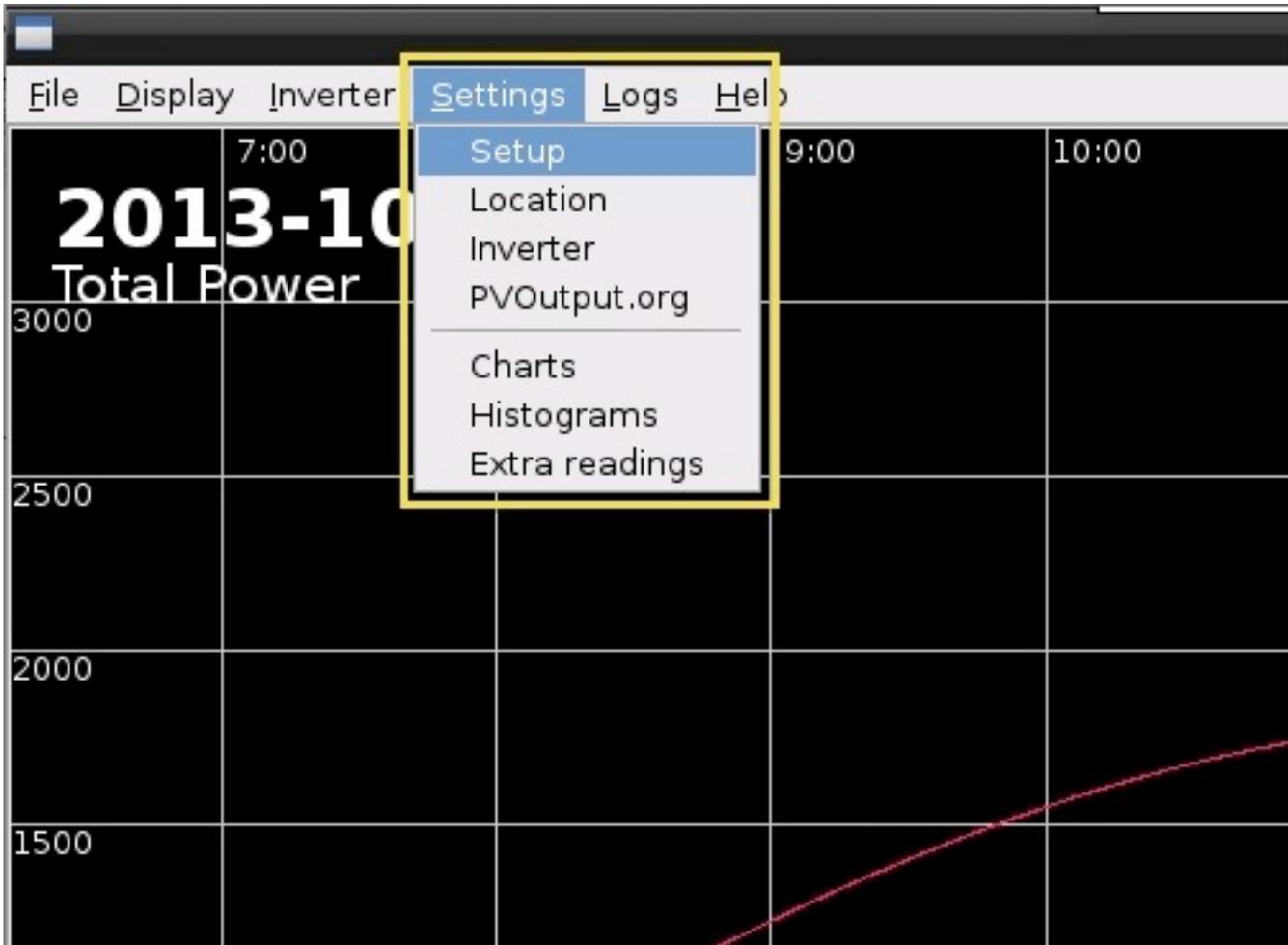
```
pi@solarpi ~ $ dmesg | grep tty
[ 0.000000] Kernel command line: dma.dmachans=0x7f35 bcm2708_fb.fbwidth=1184
bcm2708_fb.fbheight=624 bcm2708.boardrev=0xe bcm2708.serial=0x4e5db23e smsc95xx.
macaddr=B8:27:EB:5D:B2:3E sdhci-bcm2708.emmc_clock_freq=100000000 vc_mem.mem_bas
e=0x1ec00000 vc_mem.mem_size=0x20000000 dwc_otg.lpm_enable=0 console=ttyAMA0,11
5200 kgdboc=ttyAMA0,115200 console=tty1 root=/dev/mmcblk0p2 rootfstype=ext4 elev
ator=deadline rootwait
[ 0.000000] console [tty1] enabled
[ 0.585219] dev:f1: ttyAMA0 at MMIO 0x20201000 (irq = 83) is a PL011 rev3
[ 0.916798] console [ttyAMA0] enabled
[ 8.106830] usb 1-1.3.2: FTDI USB Serial Device converter now attached to tty
USB0
pi@solarpi ~ $
```

List Serial Ports

You want to take note of the port name for the USB connected FTDI Converter. On my computer the port is:

```
ttyUSB0 (Note: the last character is a zero)
```

In Aurora Monitor click on the “Settings | Setup” menu item.



Aurora Monitor Setup Menu

This will open the Setup dialog box:



Aurora Monitor Setup Dialog

Change the Serial Port to the correct one that was displayed in the 'dmesg' output. eg: `/dev/ttyUSB0`. The Inverter address is 2 by default on Aurora Solar inverters. Click OK to save the settings.

Location Setup

Click the "Settings | Location" menu item. The Location dialog will open.

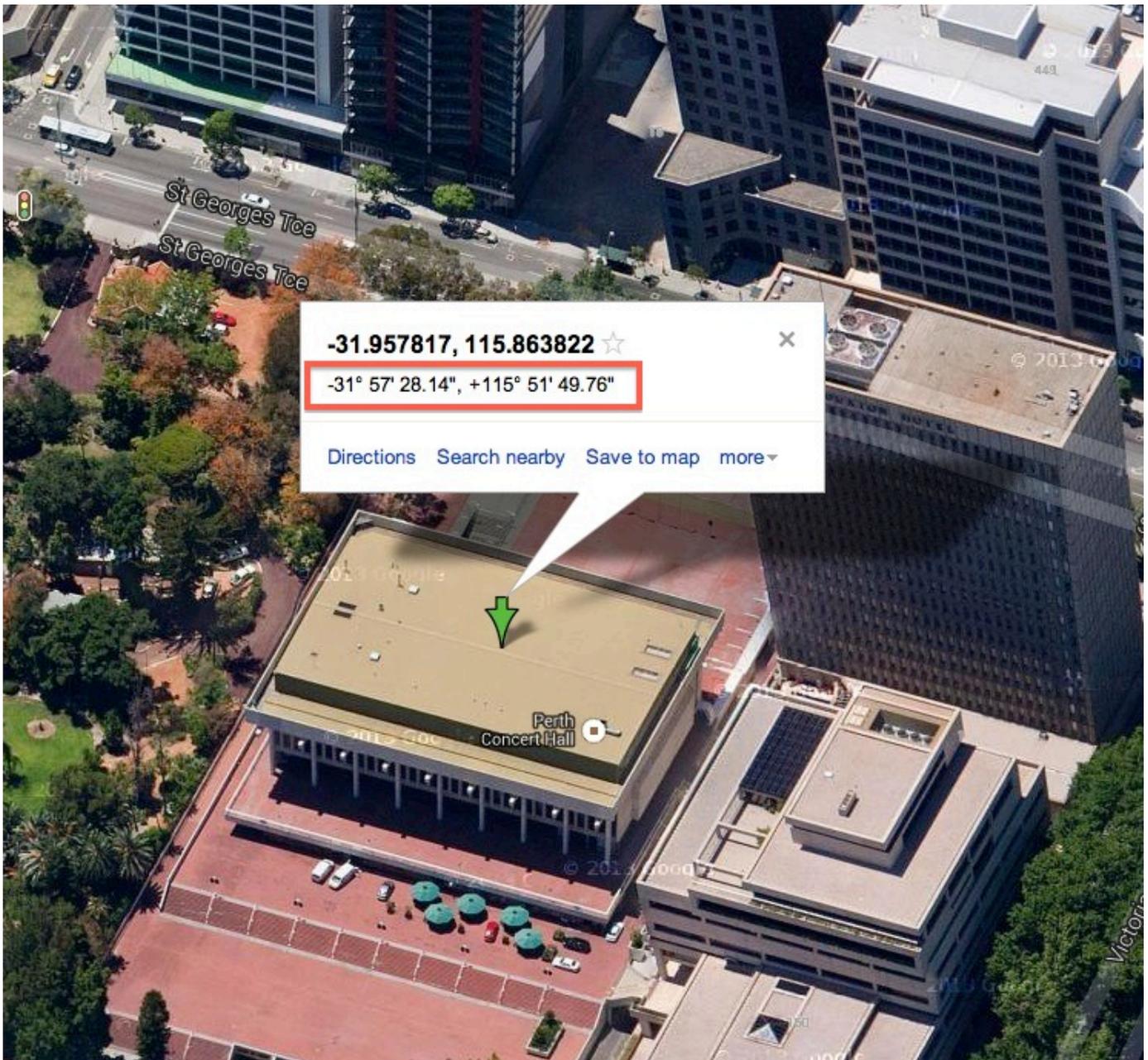
Panel Group	A	B
Tilt	0.0	0.0
Facing CW from N	0.0	0.0

Location Config Dialog

You need to enter the Latitude and Longitude for your current location to allow for correct plotting of the solar insolation graph.

How do you find out your latitude and longitude? That's a good question! I used [this blog post](#) as a guide.

- Go to Google Maps (<http://maps.google.com.au>)
- Type in your address and then zoom in to a decent level so you can see your house or building nice and easily in the center of the screen.
- Right click on your house and choose the option "What's Here?"
- A green arrow should appear where you right clicked. Click it!!
- The latitude and longitude will be displayed above the arrow



Latitude & Longitude

Note: Aurora Monitor lists the longitude first and then the latitude, but in Google Maps they are listed with latitude first, then longitude.

You want to use the values in the red square. These are measurements in Degrees, Minutes and Seconds. So using the values above, I would set my location as follows:

- Latitude: -31:57:28
- Longitude: 115:51:49

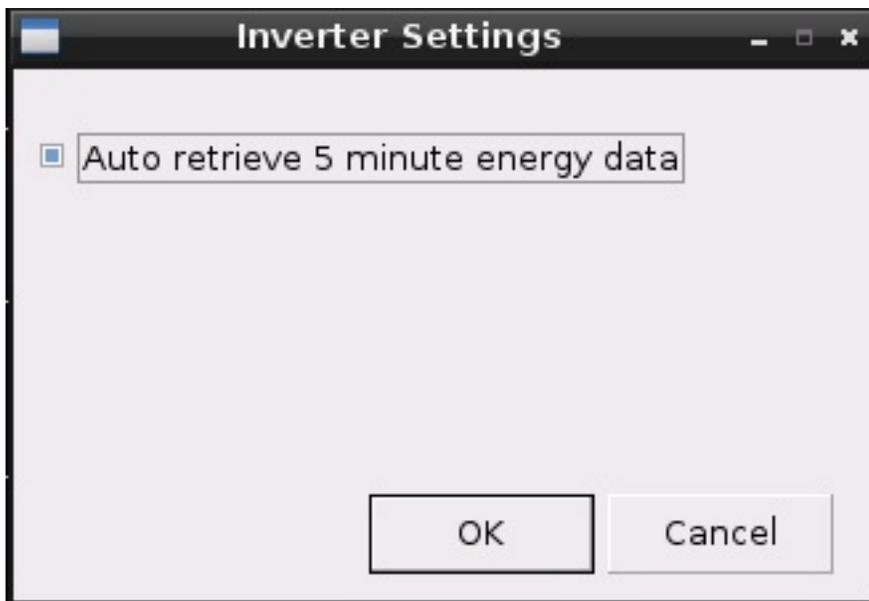
Enter your values and click OK to save them.



Latitude & Longitude Values

Inverter Setup

Click the “Settings | Inverter” menu item. The Inverter dialog will open.

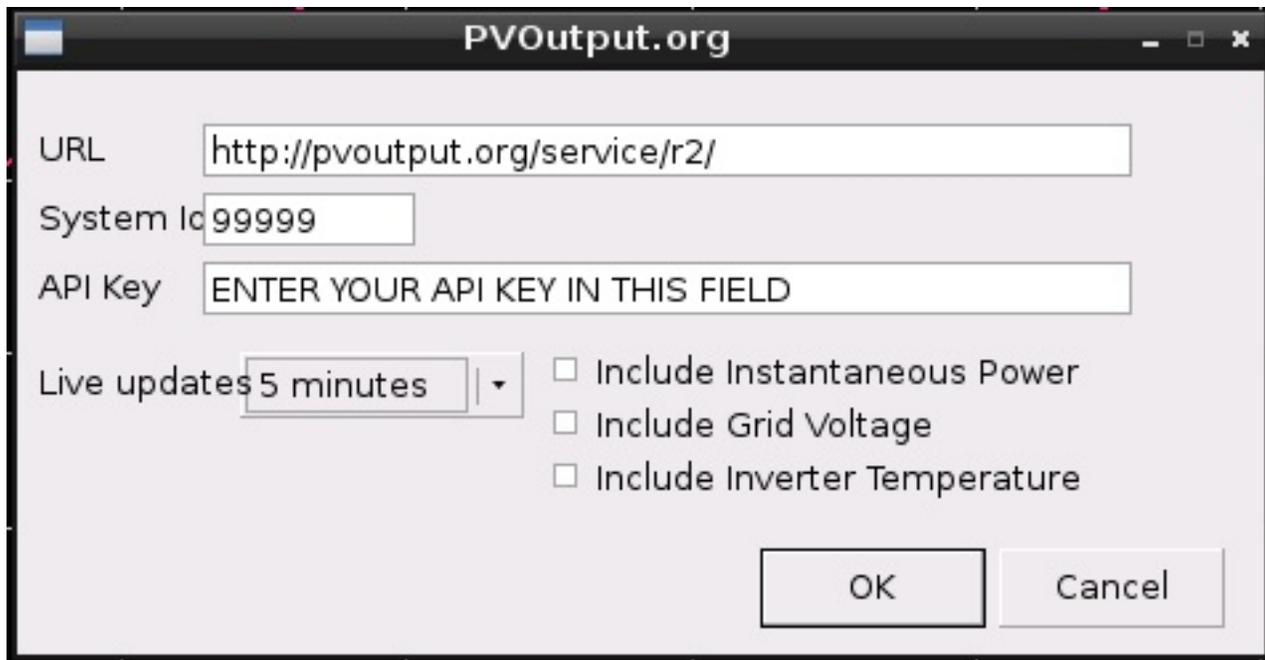


Inverter Settings

Clicking the checkbox will auto retrieve energy data from the inverter in 5 minute intervals.

PVOutput.org Setup

Click the “Settings | PVOutput.org” menu item. The PVOutput dialog will open.



The image shows a screenshot of a dialog box titled "PVOutput.org". It contains several input fields and checkboxes. The "URL" field is filled with "http://pvoutput.org/service/r2/". The "System Id" field is filled with "99999". The "API Key" field contains the text "ENTER YOUR API KEY IN THIS FIELD". The "Live updates" dropdown menu is set to "5 minutes". There are three checkboxes: "Include Instantaneous Power", "Include Grid Voltage", and "Include Inverter Temperature", all of which are currently unchecked. At the bottom right, there are "OK" and "Cancel" buttons.

PVOutput.org Configuration

Once you have configured your own [PVOutput](#) account from the website, then you can enter your account ID and API key. Aurora Monitor will automatically upload your data to your website account every 5 mins while the inverter is working during daylight hours. Please [donate to PVOutput.org](#) to show your support for this [currently] free service.

As for the remaining settings – Charts, Histograms & Extra Readings – feel free to investigate them and play around with these settings.

The above instructions are open-source materials produced and provided by Stuart Clement. They were uploaded to the following website on Oct. 24, 2013.

<http://www.monkeysandgorillas.com/index.php/2013/10/24/raspberry-pi-setup-to-monitor-aurora-pvi-5000-solar-inverter-part-3/>

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