NOAA Satellite

Tracking and Decoding

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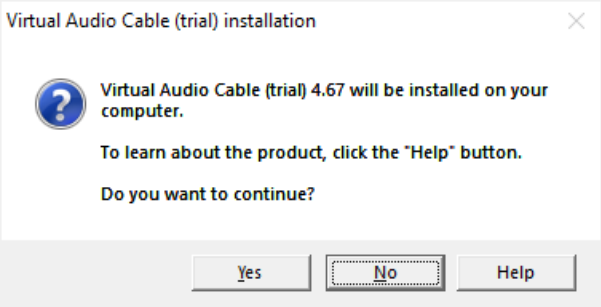
Virtual Audio Cable Setup

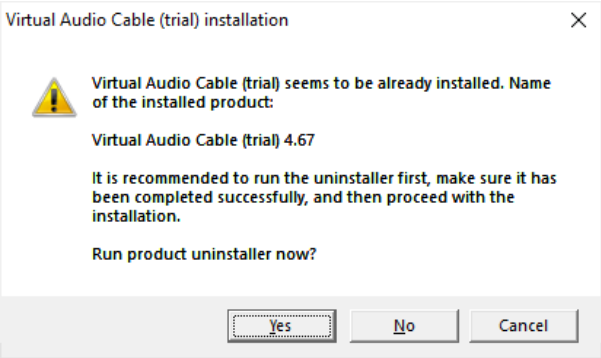
There are two virtual audio cables to choose from that I have found and have tested both. They both seem to have no differences so I have included them in this guide.

VAC 4.67 Installation

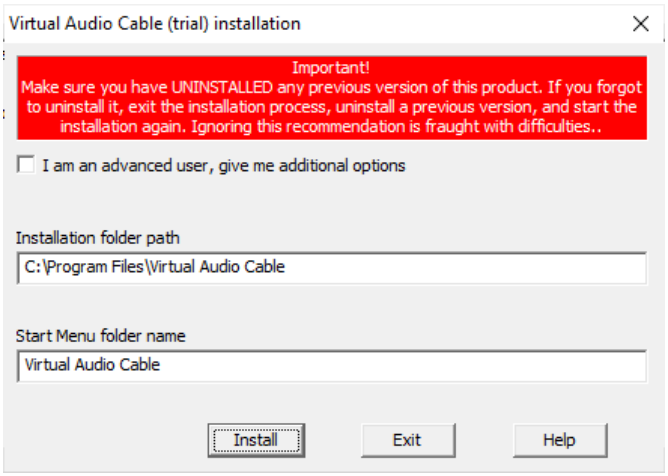
- Open vac467.exe to Install the Virtual Audio Cable
- Click **Yes** to continue



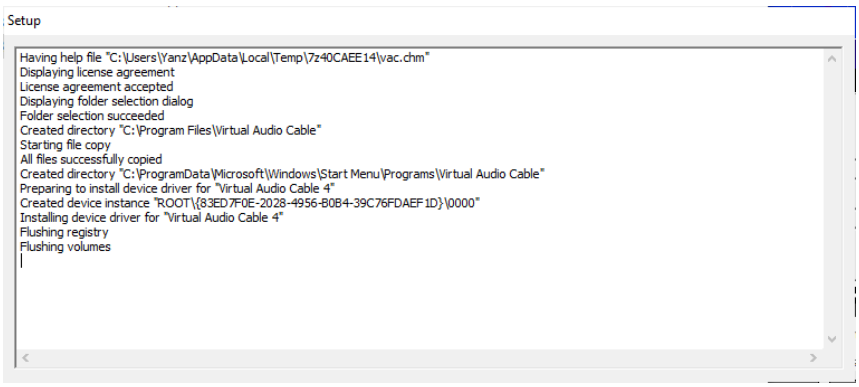
- Click **Yes** to Run the installer now



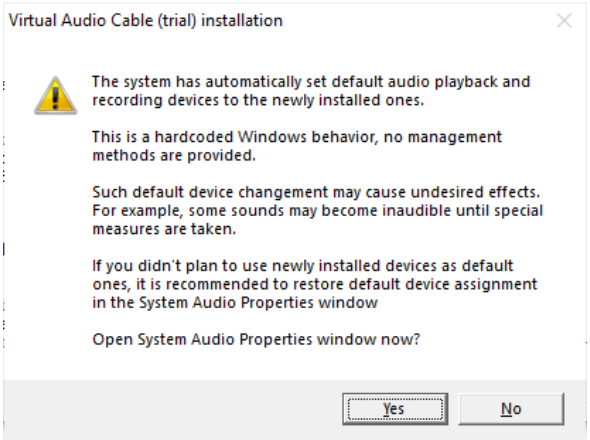
- Click **Install** to continue



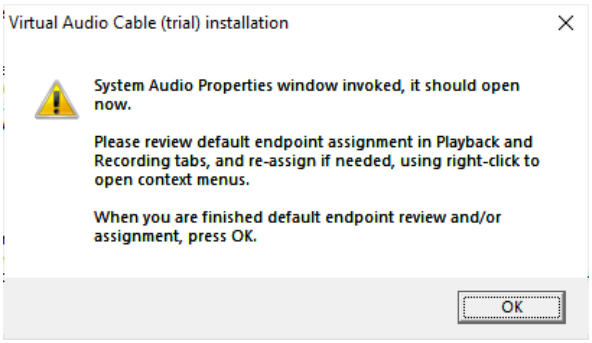
- The installation will start and you should have some information scrolling in the window



- Click **No** in the following window that pops up



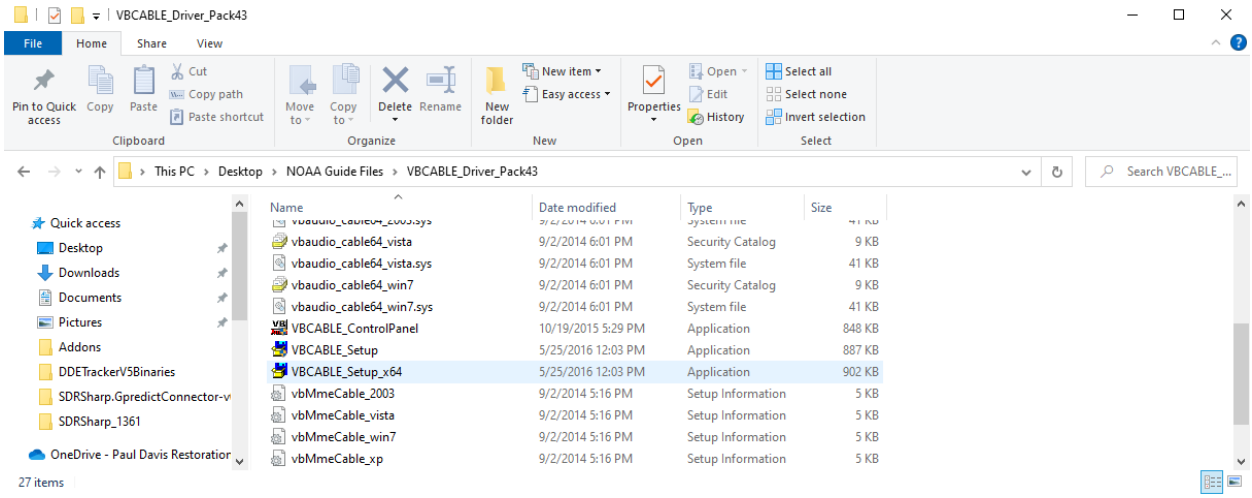
- Click **OK** to continue



- Click **OK** once again to complete the Virtual Audio Cable Installation
- You may have to reboot your computer to complete the installation

Virtual Audio Cable Installation

- Launch in Administrative mode - VBCable_Setup.exe or VBCable_Setup_x64.exe depending on the OS you are running



- Reboot your computer to complete installation of Virtual Audio Cable

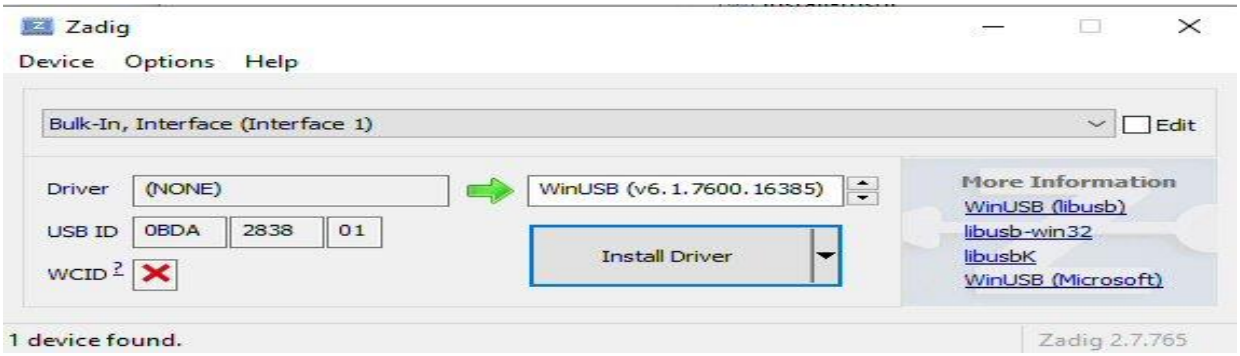
AirSpy SDR# Sharp Studio

AirSpy Studio Installation

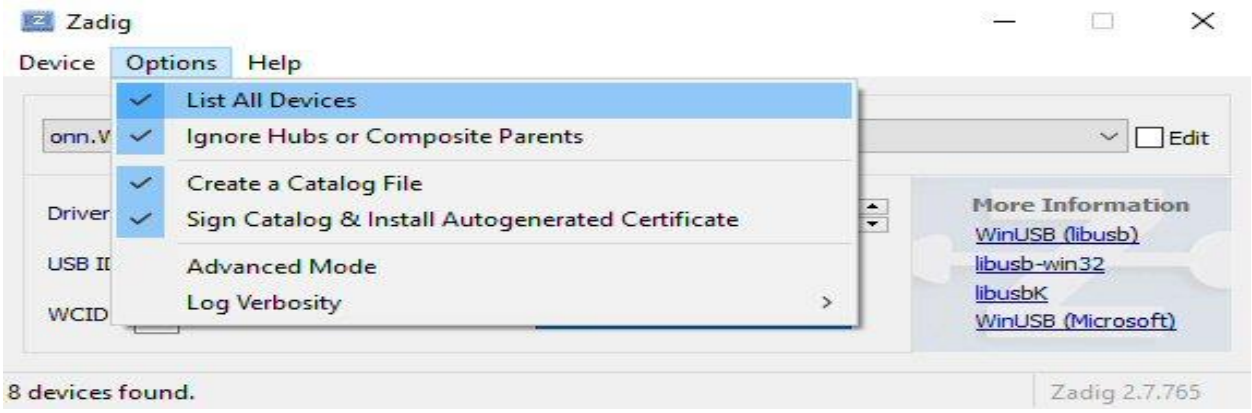
- Install AirSpy SDR# Studio v1.0.0.1888
- Choose a Directory and Folder for this installation and Install
- When installation completed, close the window
- Navigate to the SDR Sharp folder you just created where SDR Sharp was installed

Zadig Setup

- Run Zadig.exe in the bin folder

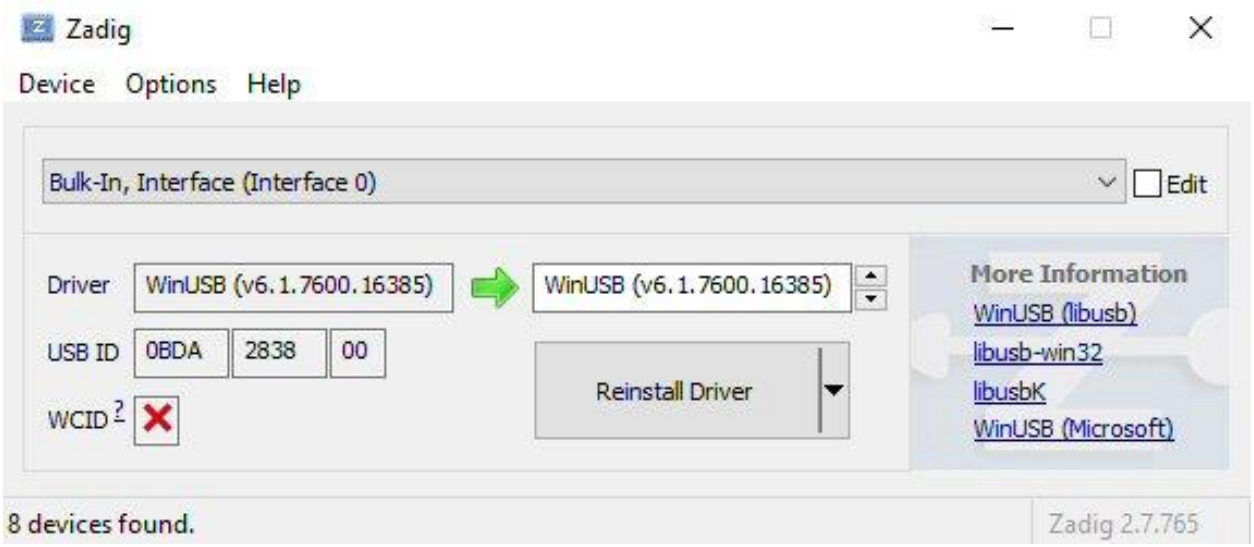


- Click Options and then List all Devices



- Select **Bulk-In, Interface (Interface 0)** from the drop down box
  Make sure the USB ID shows **OBDA 2838 00** and click Install Driver

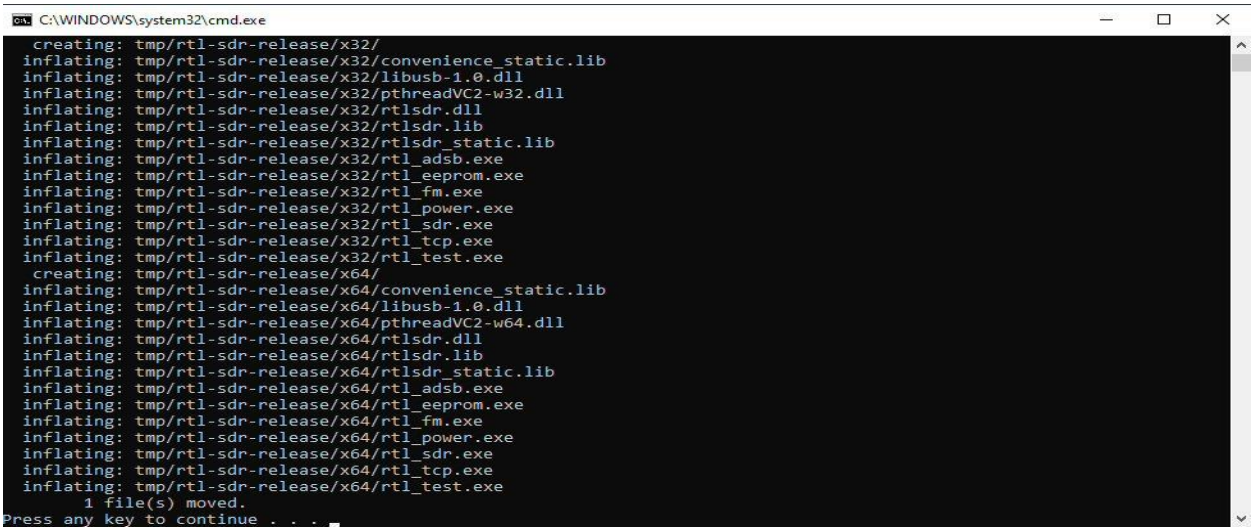
- You should see the WinUSB driver in both boxes as shown below



- Close Zadig.exe

AirSpy Studio Settings

- Navigate to the SDRSharp folder you created and run the install-rtlsdr.bat file

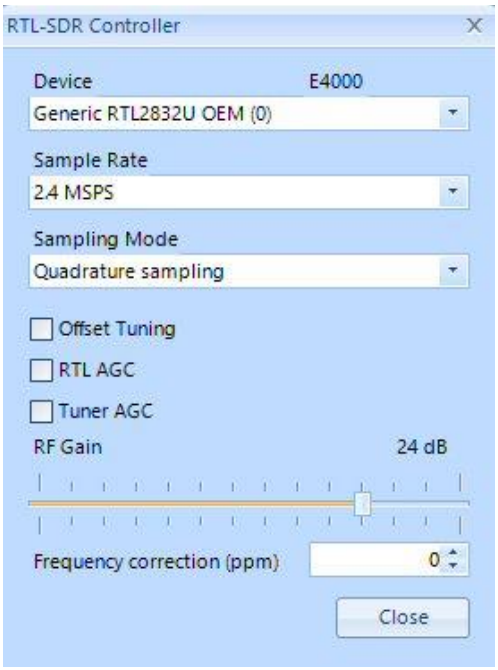


- Press any key to close the command window
- Launch the SDRSharp.exe file in the bin folder

- Make sure the Radio settings are as follows
  Modulation mode – **WFM**
  Shift – **Off**
  Filter – **Blackmand-Harris 4**
  Squelch – **Off**
  Stereo – **Off**
  Snap to Grid – **Off**
  Correct IQ – **Off**
  Invert Spectrum – **Off**

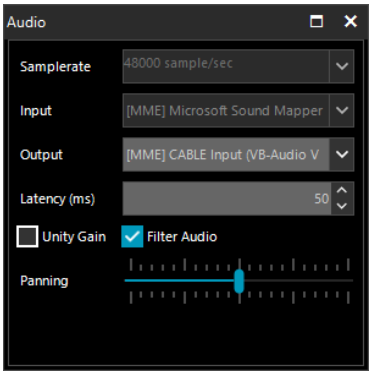
- Make sure the Source settings are as follows
- In the dropdown box, select your source
  (This guide is based on the **RTL-SDR USB** Dongle)

- Now click on the Cog in the upper left area
- If all went well thus far, you should have your dongle or source listed in the first drop down box



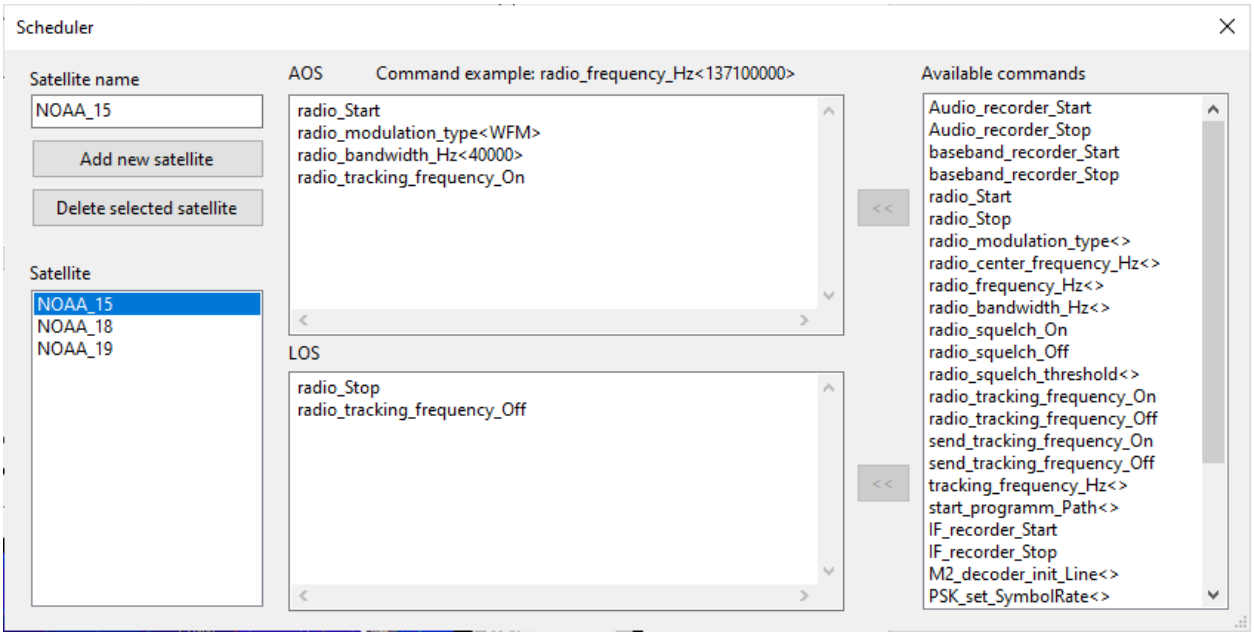
- Make sure the following settings are as follows
  Sample Rate – **2.4 MSPS**
  Sampling Mode – **Quadrature sampling**
  Offset Tuning – **Off**
  RTL AGC – **Off**
  Tuner AGC – **Off**
  RF Gain – **24 dB**

- Open SDR# Sharp and in the upper left menu control, select Audio
- Depending on which VAC you installed, Change the Output audio to:
  - **[MME] CABLE Input (VB Audio Cable) or [MME] Line 1 (Virtual Audio Cable)**
- Remove checkmark from Filter Audio



- In the upper left menu control, select Tracking DDE Client v1.2
- Change the minimum elevation to 10.0
- Click Config
- In the Scheduler window add the 3 satellites and make sure to label them as follows
    - NOAA_15
    - NOAA_18
    - NOAA_19

- Add the following to each AOS and LOS boxes like below



- Close the scheduler window and put a check mark in Scheduler in the SDR# Sharp window/ Tracking DDE Client Box to enable

Orbitron 3.71

Orbitron 3.71 Installation

- Install Orbitron 3.71
- Choose a Directory and Folder for this installation and Install
- When installation completed, close the window

SDRSharpDDE Plugin Installation

- Navigate to the Orbitron folder you just created where Orbitron was installed
- Navigate to the config folder
- Open Setup.cfg using notepad
- Scroll to the bottom of the file and insert the following lines as is

  [Drivers]

  SDRSharp = SDRSharpDriverDDE.exe
- Change the location of SDRSharpDriverDDE.exe to the location of yours.

  It will be located in the **SDRSharp\Plugins\DDETrackerRtlSDRu** folder

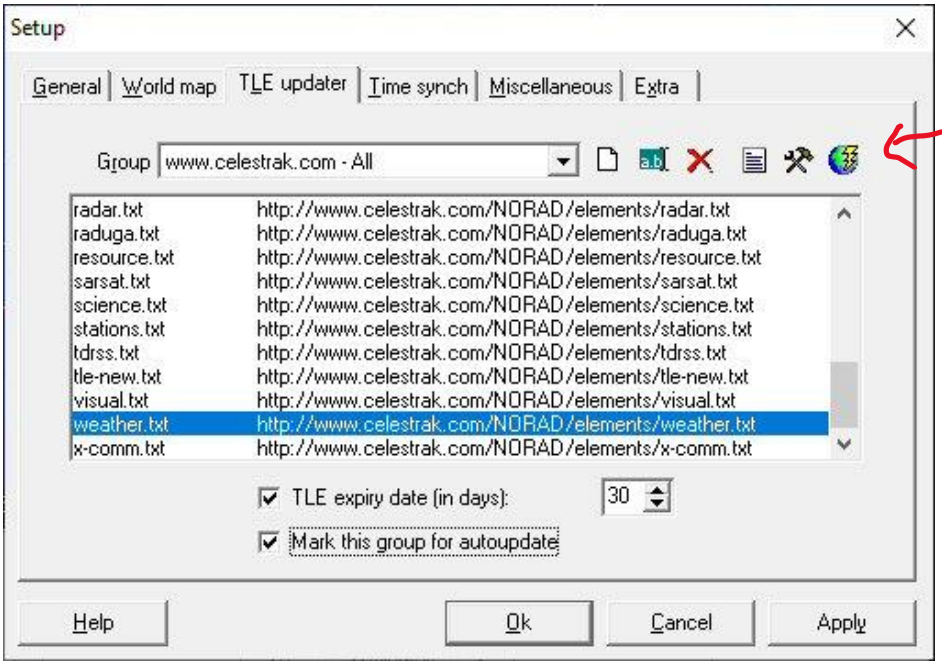
Mine will be the following for example:

[Drivers]

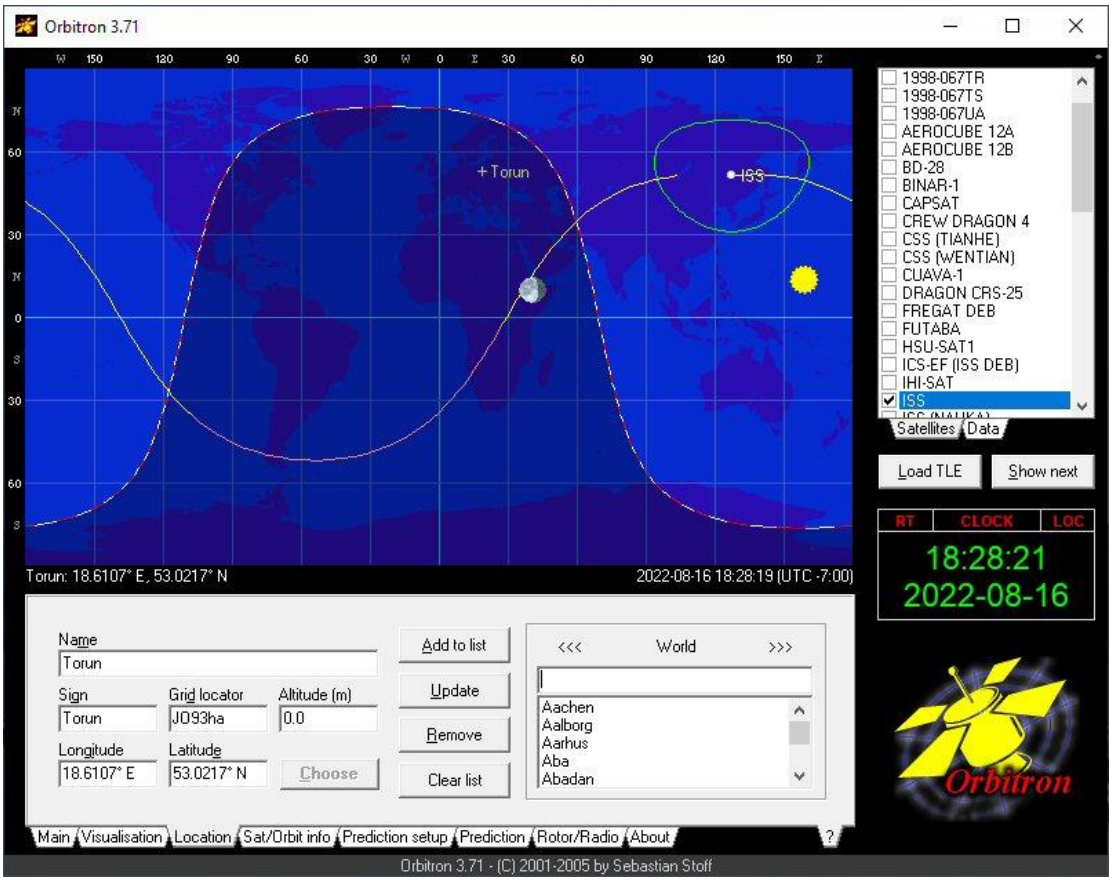
SDRSharp = D:\Program Files (x86)\WX\SDRSharp\Plugins\DDETrackerRtlSDRru\SDRSharpDriverDDE.exe

Orbitron Settings and Config

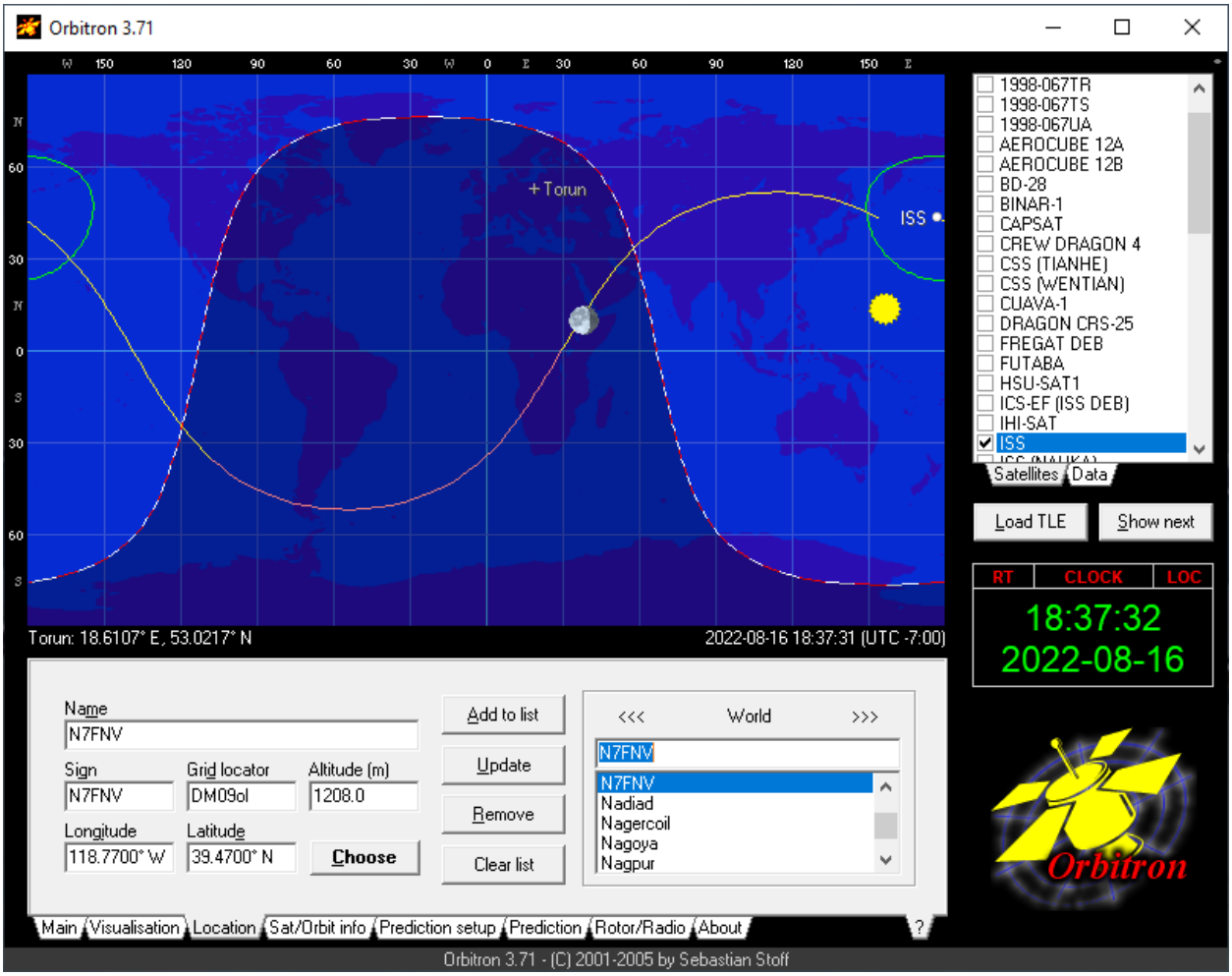
- Launch Orbitron 3.71
- Select the Main tab in the Orbitron Window
- Make sure Real time and Local is selected
- Click on the hammer/wrench or press (ALT-F5) to open the settings window
- Select the TLE Updater tab
- Scroll down to weather.txt and select the Mark this group for autoupdate
- Click on the Lightning Globe in upper right to update the TLE files as shown below



- Click on Apply and then OK
- Switch to the Location tab in the Orbitron window

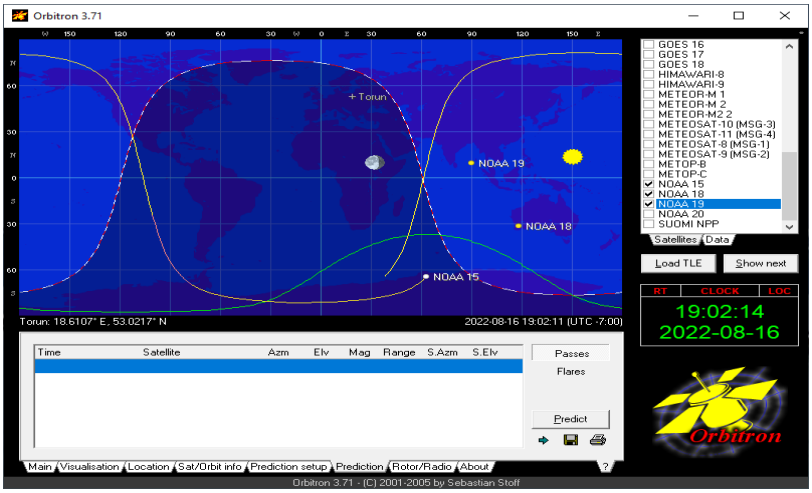


- Edit the following information:
  - Name – Whatever you want to call your station
  - Sign – What you want to appear on the global map
  - If you know your Grid Locator you can enter it or skip if you know the Lat/Long
  - Altitude – Enter your altitude in meters

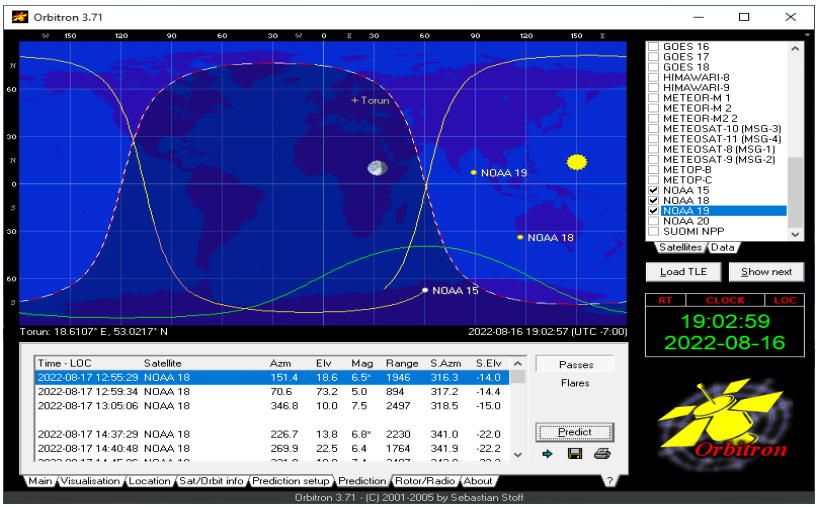


- Click add to list and Click Choose to set you location on the map for Sat passes

- Select the Load TLE button on the right below the current satellite list
- Select weather.txt in the list and click open
- Scroll down in the list and select the following
  - NOAA 15
  - NOAA 18
  - NOAA 19
- You should see the three satellite being tracked on the map now
- Click on the Prediction tab in Orbitron



- Click on Predict



- It will populate the NOAA Satellite Pass list in Orbitron
- Click on the Rotor/Radio tab in Orbitron
- Double click on NOAA 15 in the right hand satellite list

Make the following changes to each of the three satellite:

NOAA 15

Change the DnLink/MHz to **137.620000**

Change the DnLink mode to **FM-W**

Change the Driver to **SDRSharp**

NOAA 18

Change the DnLink/MHz to **137.912500**

Change the DnLink mode to **FM-W**

Change the Driver to **SDRSharp**

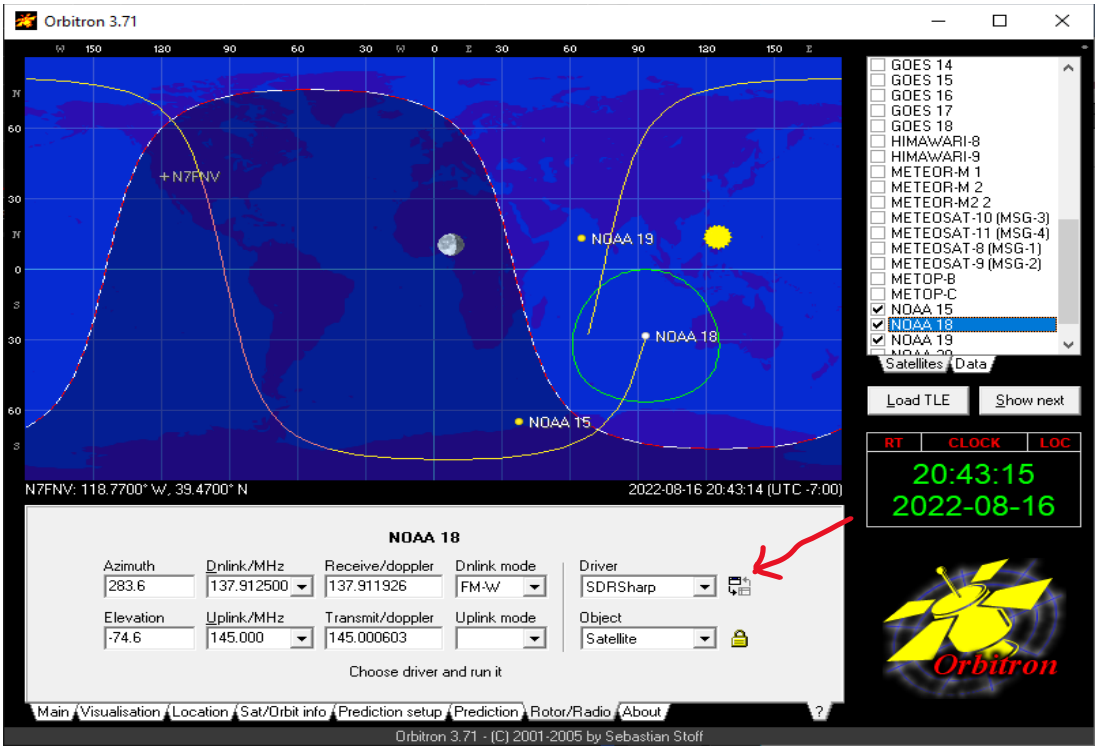
NOAA 19

Change the DnLink/MHz to **137.100000**

Change the DnLink mode to **FM-W**

Change the Driver to **SDRSharp**

- To send data to SDR# Sharp, click on the enable button like the image below



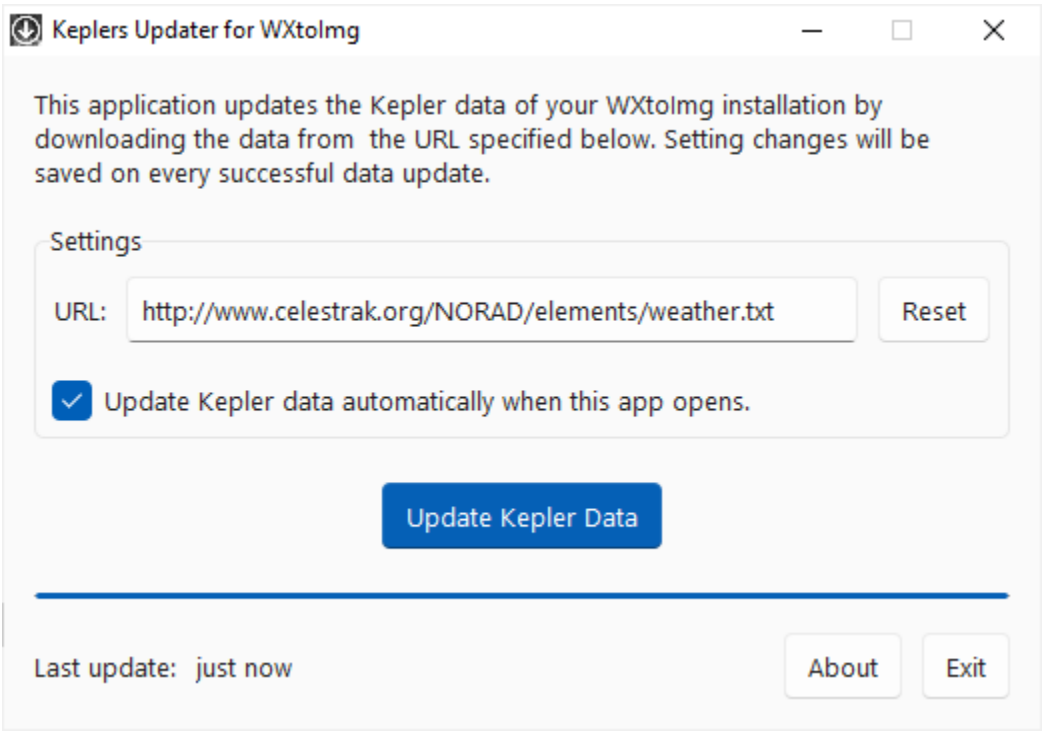
WXtoImg 2.1.1.02

Installation

- Install **wxinst21102-beta.exe**

Keplers-Updater

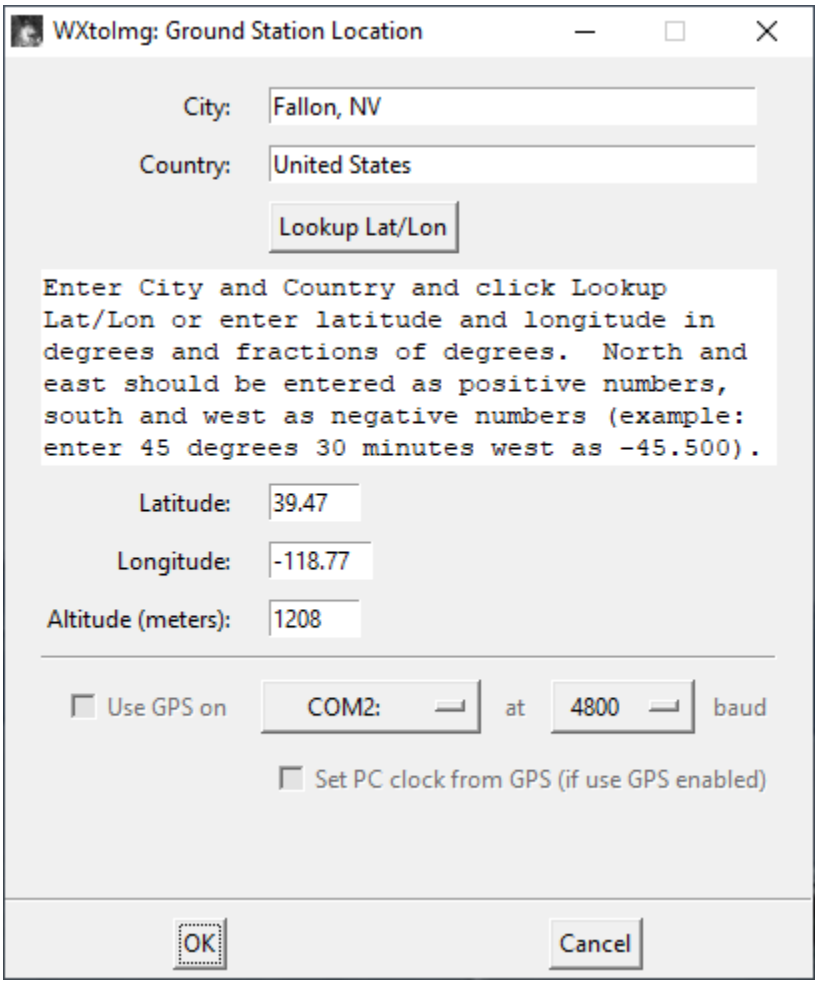
- Copy Keplers-Updater.exe into your WXtoImg installation folder
- Launch Keplers-Updater



- Put the check mark in Update Kepler data automatically and click up Kepler Data
- Close Keplers-Updater

WXtoImg Setup and Config

- Launch WXtoImg
- Edit the Station Location settings to your location and Lat/Long



- Close the Calibration Window

Additional Information

WxtoImg Upgrade Key Info

2018 Professional Edition Upgrade Key

Full Name: Kevin Schuchmann

Email Address: Enter your email address

Upgrade Key: CGHZ-PP9G-EAJZ-AWKK-NDNX