GeoTiff Importer Manual

1. Installation of a (K|X)Ubuntu VM in Windows

The GeoTiff Importer Tool runs on the Linux command line. Therefore, we recommend to either run it directly on a Linux Operating System or to alternatively run Linux in a virtual machine (e.g. Virtual Box). To do so, you need to download the virtual box (you can get it here: https://www.virtualbox.org/wiki/Downloads) and also a Linux distribution (we recommend Ubuntu: https://ubuntu.com/download/desktop). After installing the virtual box and having downloaded a Linux iso file you can set up a new virtual machine in the virtual box by clicking "Machine" - "New" and then entering the parameters for your virtual machine (it is recommended to give the virtual machine at least 4GB of RAM). During setting up the virtual machine you need to choose the downloaded Linux iso file to be used by the virtual machine. Once you installed and set up the virtual machine you can run it by clicking "Run".
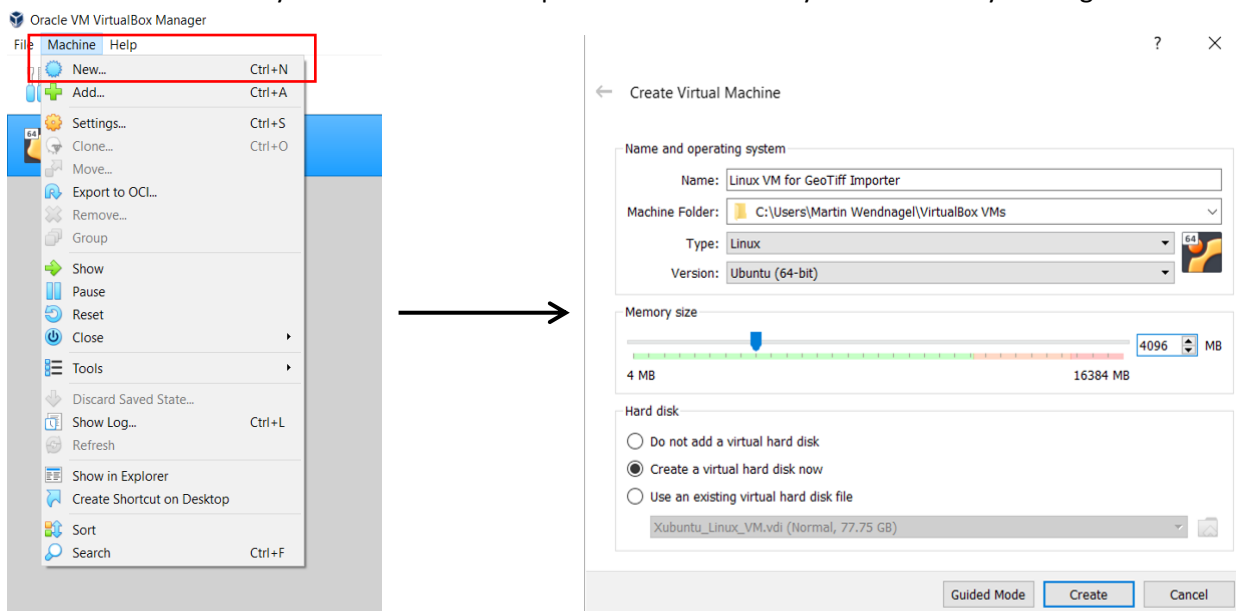

Illustration 1: Setting up the Virtual Box for Ubuntu Linux

2. Installation and Dependencies

You need to be running either a Linux OS directly or a Linux virtual machine for the following steps.
The GeoTiff Importer can be downloaded via: https://helios-avionics.com/downloads/
Once you downloaded the archive, open it and extract it. Then go into the extracted folder and proceed to the folder "bin" and open the terminal there. Execute "./setup.sh" to install "Horizon – Your Portable Glass Cockpit" on your Linux OS and choose whether you a desktop icon, use OpenGL ES (recommended), run "Horizon" in full screen mode, and use mipmaps (recommended): You can confirm these by clicking "y".
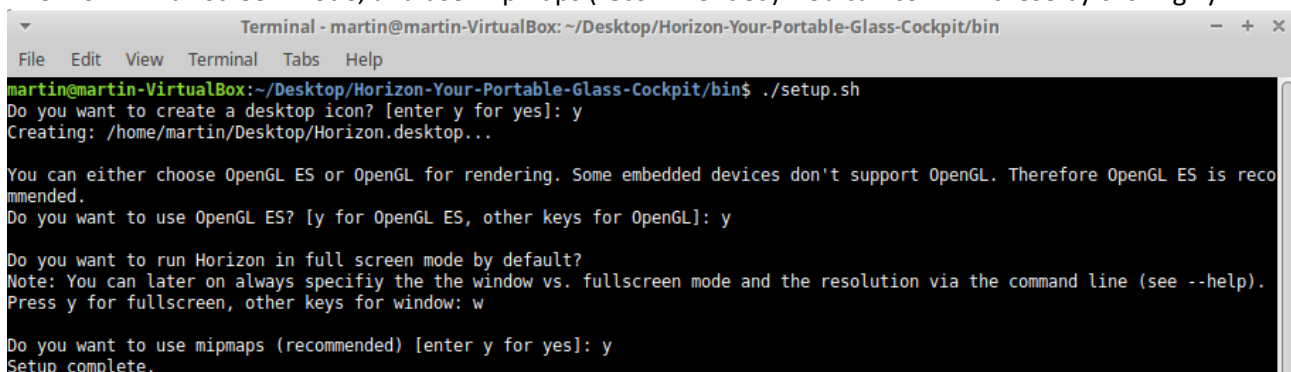

Illustration 2: Installing "Horizon" on the Linux OS

3. Usage of the GeoTiff Importer

Open the Folder "GeoTiffImporter" on your Linux OS and open the terminal there. You can start the tool by executing the command "./GeoTiffImporter" with the following parameters:

```
martin@martin-VirtualBox:~/Desktop/Horizon-Your-Portable-Glass-Cockpit/GeoTiffIm
porter$ ./GeoTiffImporter
Import geotiff with given parameters:
Usage ./GeoTiffImporter <path-to-geotiff-file> <vendor-name-e.g.-your-nickname>
vfr|ifr|ifrh <path-to-output-folder> <antialiasing-iterations-(usually-4)> <west
Border>|- <eastBorder>|- <northBorder>|- <southBorder>|- [optional border in pix
els: <minX> <minY> <maxY> <maxY>]
```

- Path to GeoTiff file, e.g.: /home/user/Desktop/Horizon/GeoTiffImporter/map.tif
- Vendor name - random name that states where file comes from, e.g. your nickname: pilotX
- Vfr|ifr|ifrh: state whether the depicted chart is a vfr, ifr, or high ifr chart
- Path to output folder, e.g.: /home/user/Desktop/Horizon/GeoTiffImporter/ConvertFolder/
- Antialiasing iterations: we recommend to use the value 4
- Borders:
  - Either via longitude & latitude coordinates (west border, east border, north border, south border), e.g.: -88 -82 36 32
    - Longitude is indicated with respect to the Prime Meridian (Greenwich), i.e. a negative longitude means West of the Prime Meridian, a positive one means East of it.
    - Latitude indicates North and South of the Equator, i.e. a negative latitude means South of the Equator, a positive one means North of it.
      - ➔ They all have to be entered as decimal numbers (and not for instance as arc minutes or seconds)
  - Or via pixels stating minX minY maxX maxY (you can open your tif file in an image editor and copy the pixel values representing the borders of the map there)
- ➔ Example:

```
martin@martin-VirtualBox:~/Desktop/Horizon-Your-Portable-Glass-Cockpit/GeoTiffImporter$ ./GeoTiffImporter /home/martin/Desktop/
Horizon-Your-Portable-Glass-Cockpit/GeoTiffImporter/Atlanta.tif ATLRaster vfr /home/martin/Desktop/Horizon-Your-Portable-Glass-
Cockpit/GeoTiffImporter/Converted/ 4 -88.0 -82 36 32
```

It takes some time then until the data is converted into the stated folder. Once it is finished you should proceed with step 4 or step 5 depending on whether you are using Android or iOS.

4. Copy the results to Horizon on Android

First of all you should install "Horizon – Your Portable Glass Cockpit" on your Android device. When opening it for the first time you need to select the storage location of your data. For images it is recommended to select the documents directory of your device as it is perfectly accessible:
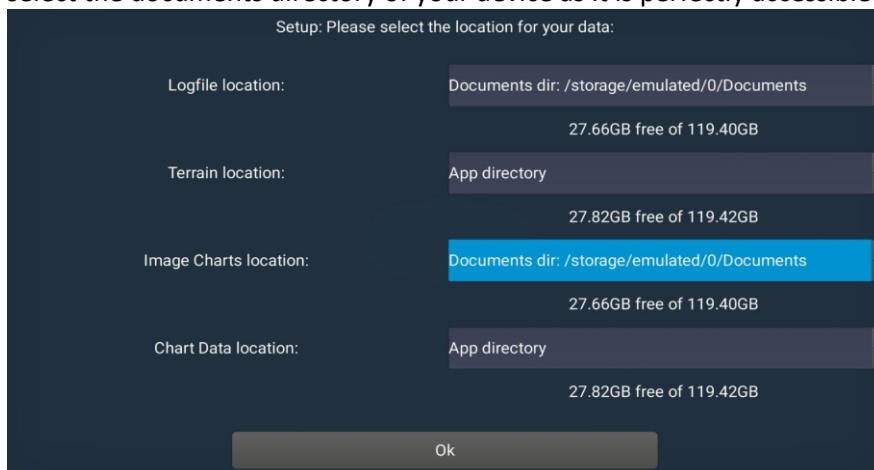
Setup: Please select the location for your data:	
Logfile location:	Documents dir: /storage/emulated/0/Documents
	27.66GB free of 119.40GB
Terrain location:	App directory
	27.82GB free of 119.42GB
Image Charts location:	Documents dir: /storage/emulated/0/Documents
	27.66GB free of 119.40GB
Chart Data location:	App directory
	27.82GB free of 119.42GB
Ok	

Illustration 3: Choosing the documents folder as image charts location (for Android devices)

After finishing with setting up "Horizon" (setting up an account, downloading the corresponding data packages, etc.) you can further on proceed with copying the results of the conversion onto your Android device in the *Documents/.Horizon/Images/* folder. To do so, you need to connect your device to your Linux distribution and directly copy all files into the *Documents/.Horizon/Images/* folder of your Android device:
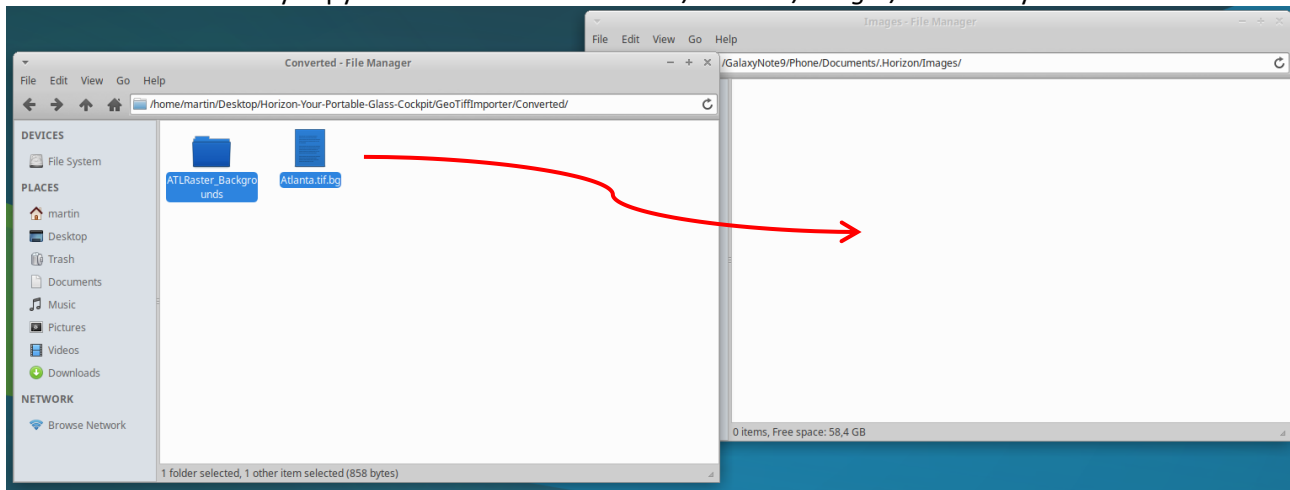

Illustration 4: Copying the converted data onto the documents folder of the Android device

5. Copy the results to Horizon on iOS

Open Finder (MacOS Catalina or later) or iTunes (Windows, MacOS Mojave or earlier) and navigate to your iPad's Files.
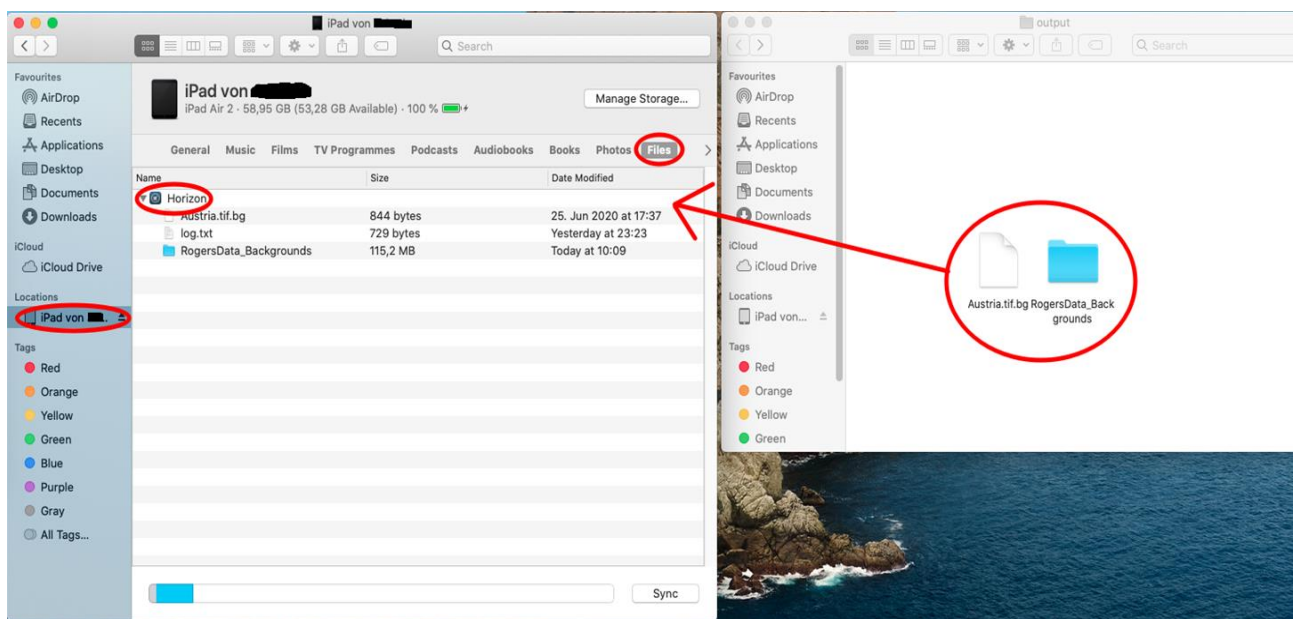Select the Horizon application and drop the files (conversion result) there.

Illustration 5: Example of copying the files (conversion result) to a Horizon installation on an iPad

6. Use the raster charts in Horizon

Run Horizon after copying all files, then wait until the mipmap calculation is complete (this can take a long time):
To enable raster charts in the background go to the Moving Map options and select your background chart type (VFR, IFR or High IFR). For a permanent setup this can be done in the Panel Setup (Menu → Setup → Panel Setup) for the selected Moving Map.
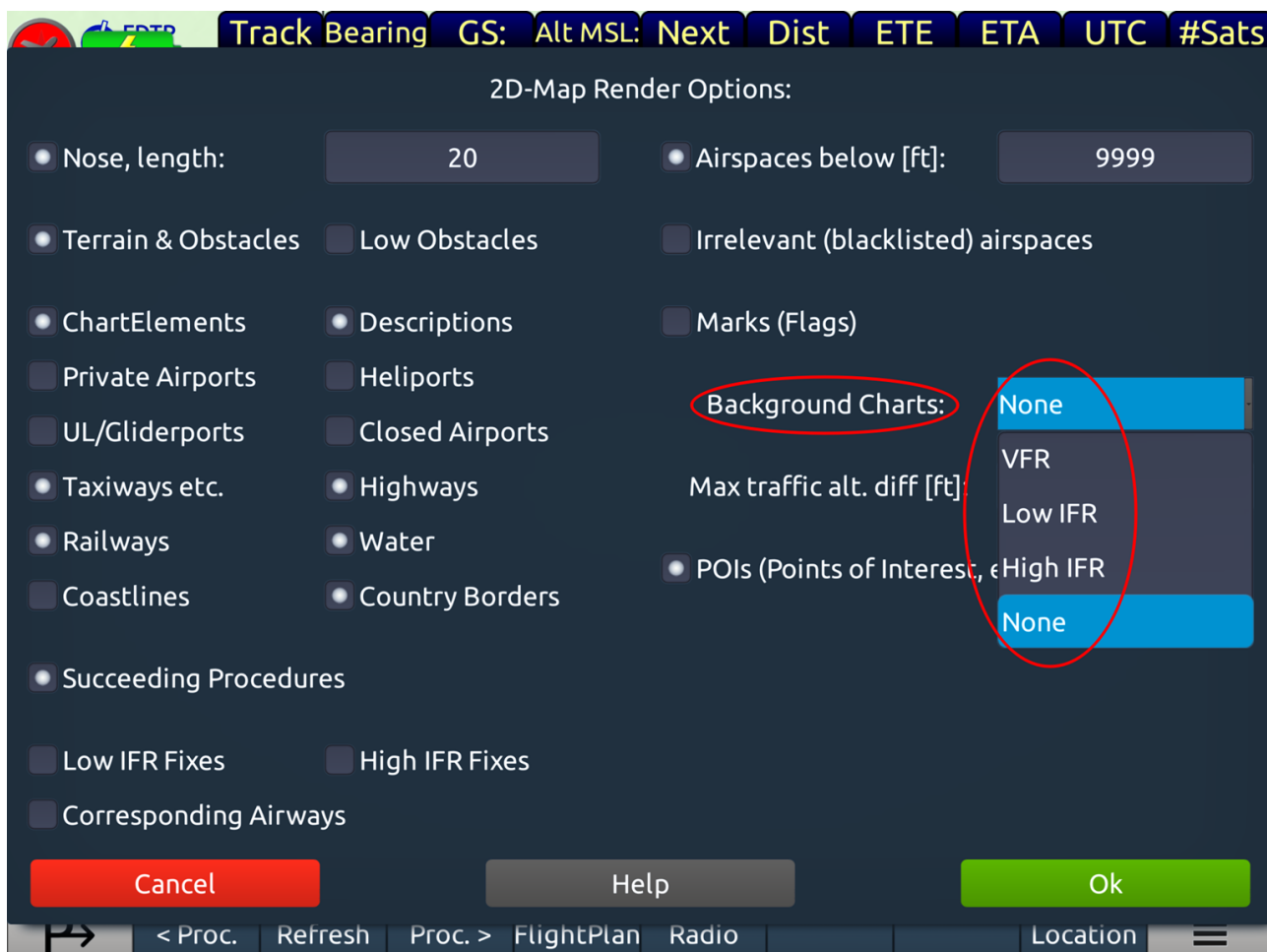

Illustration 6: Select your background chart type to show the raster charts in the background.

Illustration 7: Example of an imported raster chart (Atlanta, US area)

Illustration 8: Example of an imported raster charts. By default the vector chart elements overlay the raster chart. This behavior can be changed by disabling rendering of chart elements.