ORUXMAPSDESKTOP
v.2.0

FIRST: ORUXMAPSDESKTOP IS A JAVA APPLICATION, YOU NEED A JAVA VIRTUAL MACHINE IN YOUR DESKTOP PC.
SECOND: IF YOU HAVE OZI MAPS WITH FORMATS OZF2, OZFX3, YOU HAVE TO EXTRACT FROM THEM THE IMAGE IN PNG FORMAT, WITH DEMAPPER: (http://www.terraperfecta.com/download.php)
FINALLY: IF YOU HAVE YOUR IMAGES IN TIF FORMAT, YOU NEED TO INSTALL JAI-TOOLS IN YOUR JAVA VIRTUAL MACHINE:
https://jai-imageio.dev.java.net/binary-builds.html

What can you do with this application?

1.-Generate calibrated maps for OruxMaps, based on:

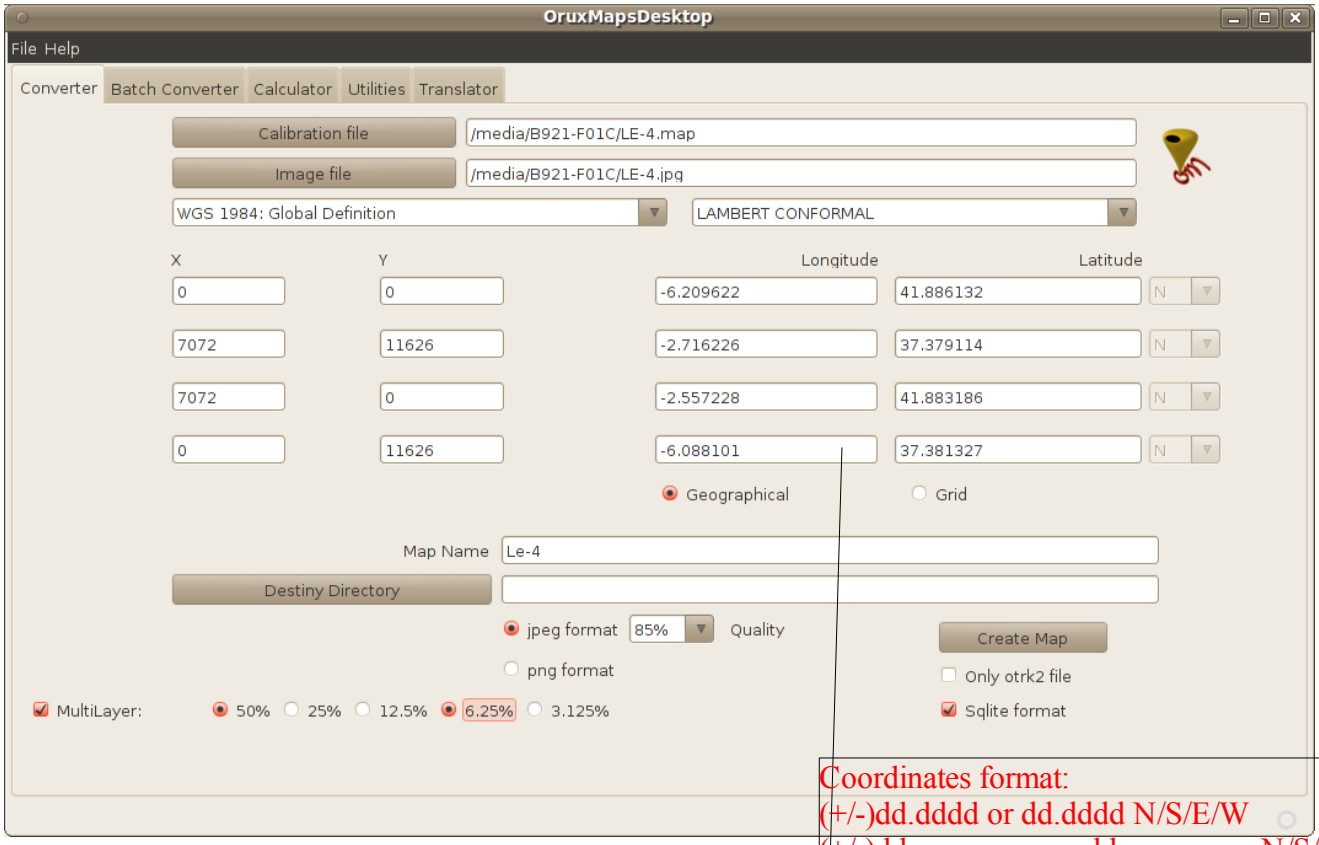
•An image + the coordinates of 2/3/4 points of the image. It is better than the points are close to corners, and in a diagonal.
•A calibrated map for OziExplorer, tfw, jpw, kap, geotiff.

It is better if the map or image coordinates are obtained from a Datum WGS 84 (which gps uses), since the location accuracy will be higher. If the coordinates are taken on another datum (European 1950 ....) the conversion with OruxMapsDesktop to WGS 84 datum can introduce a small positioning error, depending on the datum origin and the specific location of the map. This error may be negligible (1-2 meters), or significant, (up to 25 mts.). There are specific calculation systems for each Datum, which are more accurate (for Spain, on its website IGN has a converter). Those methods must be used if OruxMapsDesktop data obtained are not accurate enough.

The map must also come from some specific projections:
•UTM: most maps.
•Mercator: Google maps, general maps, covering large areas.
•Swiss Grid: Which is an Oblique Mercator projection.
•Irish Grid: A Transverse Mercator projection.
•Latitude/longitude: A linear interpolation, not a real projection.
•Transverse Mercator: You have to know some additional parameters.
•Lambert.

If you have a map from another projection and does not include a large area (15-20 km on each side approx) an approach to "flat earth" can be more than sufficient, and the location error negligible.

If you begin the conversion from an image, you must introduce by hand:
•datum origin of the coordinates.
•projection that was used in generating that map.
•select the image with the button “image file”.
•Coordinates and x/y position of the 2/3/4 points of the map.
•name of the map (IMPORTANT, it will be the name of the directory with the images that should be copied to the sdcard in android).
•destination-directory: directory where you originally will create this map, which should be copied after to the card.

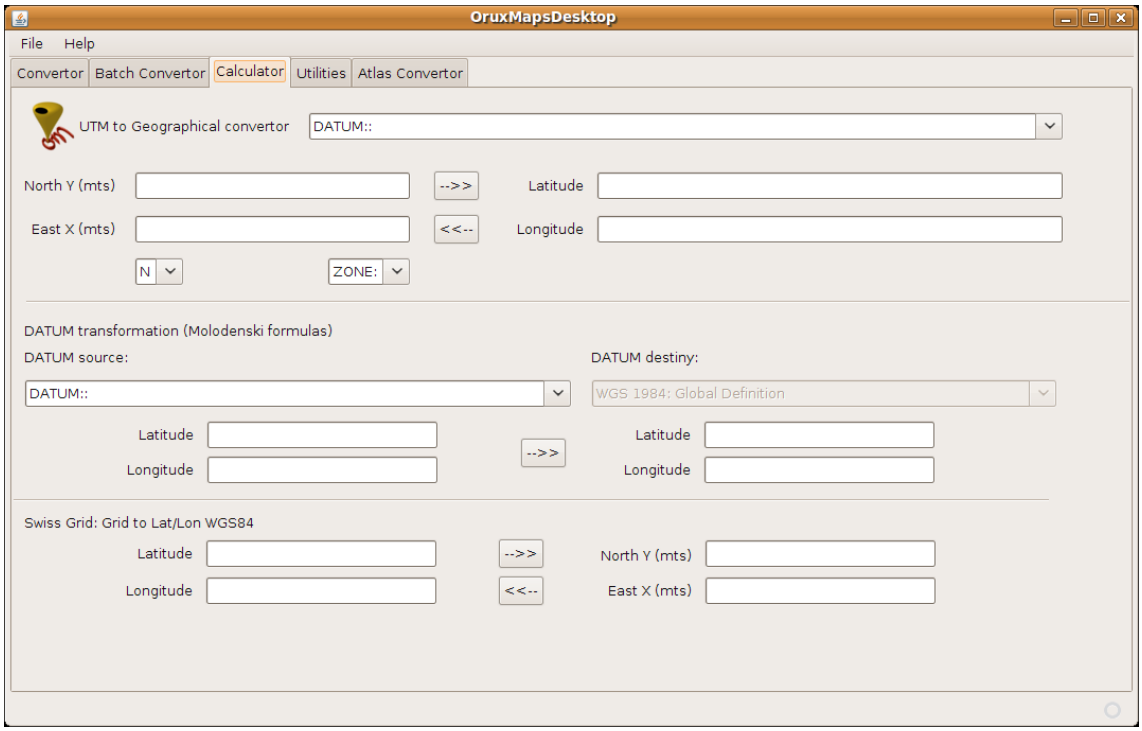


Now you can also choose the output format:
-> jpg (very good compression, small maps, some loss of quality, but almost negligible). Recommended value.
-> png (bad compression, large maps, but better quality). THE DEFAULT JAVA MACHINE INSTALLED we tend to have, does not support PNG compression. If you want to change the default value, must be installed on your JAVA Virtual Machine the JAI-TOOLS:
https://jai-imageio.dev.java.net/binary-builds.html

If you begin with a map calibrated, it must be found using the button "calibration file". If we are lucky and the application finds inside what it is expected, all the fields will be completed automatically. If not, they must be completed manually. The only field you should revise is the name given to the map, and choose the destination directory.

Finally press the button "Create map".
IMPORTANT: If you already have the map created, but you want to "recreate" only the calibration file, then select the "only otrk2" check button. It is important that you put the same name that had pre-existing map, because if we do not so, OruxMaps will not be able to find the images.

2.-Calculation of coordinates and datum transformation:

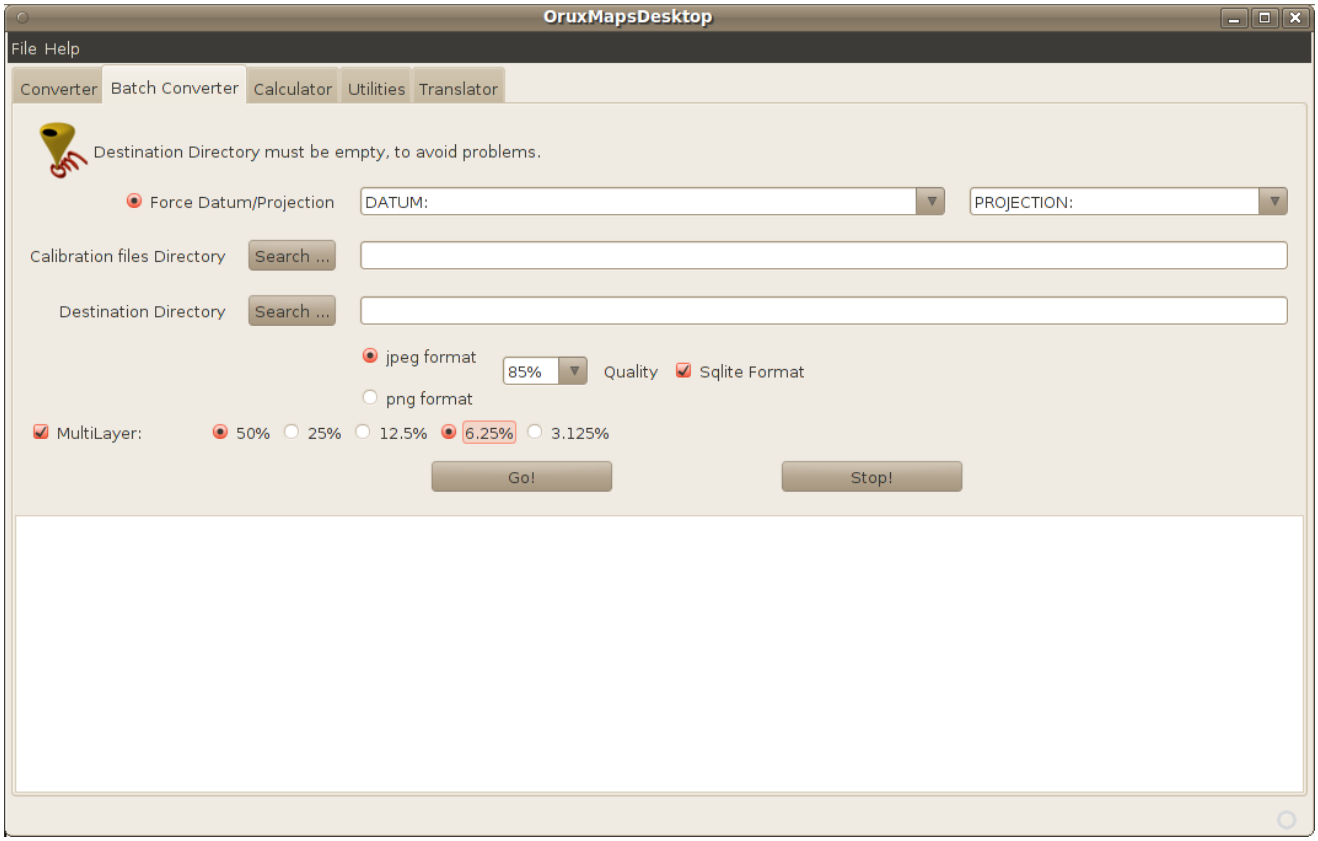


You can:

•Transform UTM grid coordinates (meters) to Longitude and Latitude. Many calibration systems only provide the UTM coordinates.
•Transform from a XX datum to WGS 84 datum. This calculator uses formulas generally sufficiently accurate for the type of application that is OruxMaps. As discussed above, if the accuracy is not enough, you have to find another specific conversion system.
•Transform from coordinates in the Swiss Grid system to Latitude/Longitude in WGS 84 datum. This calculator uses the formulas published in the website of swiss topo.

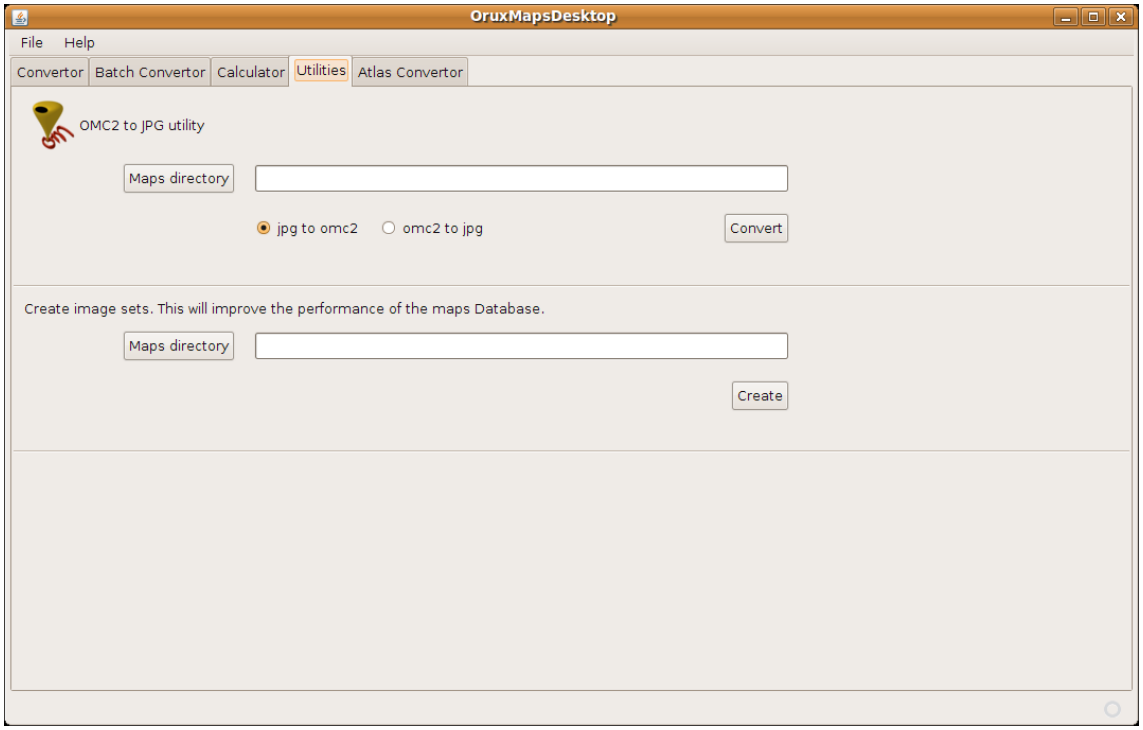
3.-Batch converter:
Used to batch convert calibrated maps (available only for Ozi maps).
Requisites:
•The calibration files must be in the directory you select (Directory calibration files).
•The destination directory must be empty (to avoid problems with overwriting).

Now you can force datum/projection, if OruxMapsDesktops fails searching those parameters in the calibration files.



4.-Utilities:

A tool that allows you to convert your .jpg images in .omc2 files (only changes the extension) and vice versa.
Select a directory (default: /sdcard/orumaps/mapfiles/) and all the maps will be convert to .omc2 files, or vice versa.



The second tool “Create image sets”, allows you to group the map images into sets within the maps directory. Oruxmaps will easier access to maps, and creating a database of maps faster.

Select a directory (default: /sdcard/orumaps/mapfiles/) and all the maps will be convert to the new format.

Doubts, (sure there are many) in the forum of the application.

http://oruxmaps.foroactivo.net

An Ozi calibration file is like (in yellow, data that is extracted in calibration process):

```
OziExplorer Map Data File Version 2.2
trescantos.jpg
trescantos.jpg
1 ,Map Code,
WGS 84,, 0.0000, 0.0000,WGS 84
Reserved 1
Reserved 2
Magnetic Variation,,,E
Map Projection,(UTM) Universal Transverse Mercator,PolyCal,No,AutoCalOnly,No,BSBUseWPX,No
Point01,xy,0,0,in, deg, , ,N, , ,W, grid, 30, 436115.16561203083, 4498224.687345065,N
Point02,xy,2304,0,in, deg, , ,N, , ,W, grid, 30, 445331.15038352774, 4498224.61433114,N
Point03,xy,2304,1536,in, deg, , ,N, , ,W, grid, 30, 445331.1012434591, 4492080.624659708,N
Point04,xy,0,1536,in, deg, , ,N, , ,W, grid, 30, 436115.11665654555, 4492080.697670148,N
Point05,xy, , ,in, deg, , ,N, , ,W, grid, , , ,N
Point06,xy, , ,in, deg, , ,N, , ,W, grid, , , ,N
Point07,xy, , ,in, deg, , ,N, , ,W, grid, , , ,N
Point08,xy, , ,in, deg, , ,N, , ,W, grid, , , ,N
Point09,xy, , ,in, deg, , ,N, , ,W, grid, , , ,N
Point10,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point11,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point12,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point13,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point14,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point15,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point16,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point17,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point18,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point19,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point20,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point21,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point22,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point23,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point24,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point25,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point26,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point27,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point28,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point29,xy, , ,in, deg, , ,, , ,, grid, , , ,
Point30,xy, , ,in, deg, , ,, , ,, grid, , , ,
Projection Setup,,,,,,,,,
Map Feature = MF ; Map Comment = MC     These follow if they exist
Track File = TF      These follow if they exist
Moving Map Parameters = MM?    These follow if they exist
MM0,Yes
MMPNUM,4
MMPXY,1,0,0
MMPXY,2,2304,0
MMPXY,3,2304,1536
MMPXY,4,0,1536
MMPLL,1,-3.7554306928911965,40.6323924025379
MMPLL,2,-3.6464598964955943,40.633053168485084
MMPLL,3,-3.6459274085912634,40.57770636727578
MMPLL,4,-3.7548083651526176,40.57704688406714
MM1B,4.0
MOP,Map Open Position,0,0
IWH,Map Image Width/Height,2304,1536
```

Image file

Datum, must be wgs 84

Projection used

Map corners:
1->up left
2->up right
3->down left
4->down right

Corner coordinates