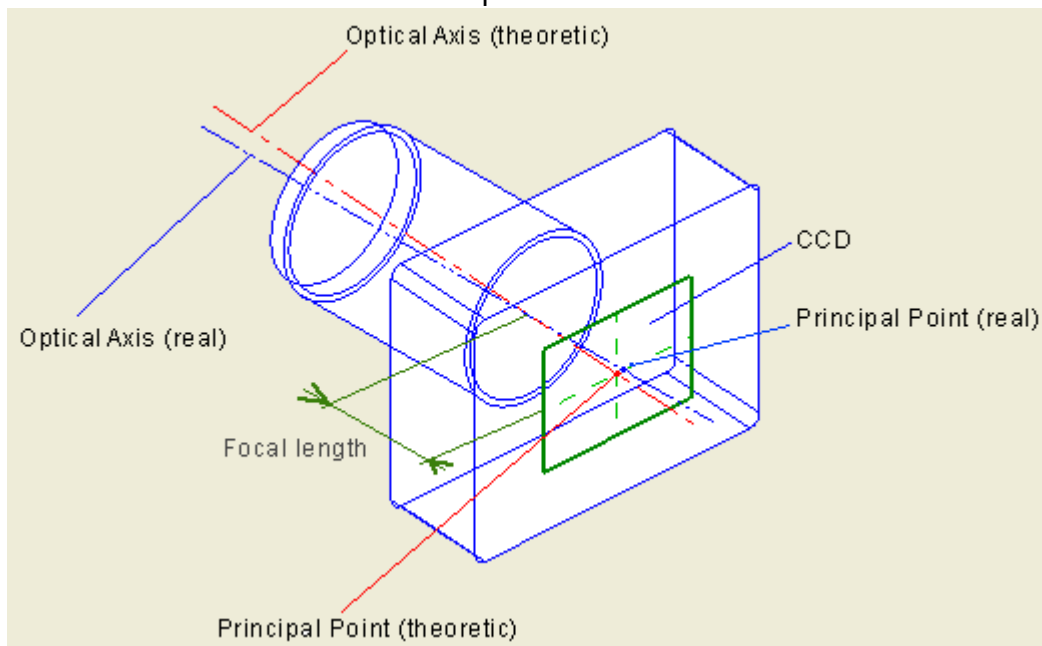


Camera Calibration

1. First of all, you have to calibrate your digital camera.

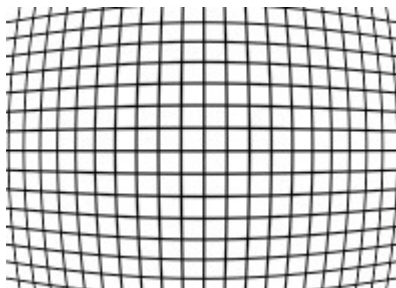
Calibrating your digital camera - a very important phase in digitalization by photogrammetry - is completely automated in **Rhinophoto**.

Geometric lens and **mechanical assembly tolerances** result in the fact that the real "focal length" of the camera is not exactly the same as the focal length indicated by the manufacturer. The "**Principal Point**" of the CCD sensor is not systematically in the center of the sensor. Determining the real position of this "**Principal Point**" is essential in order to calculate the exact 3D positions of the camera.

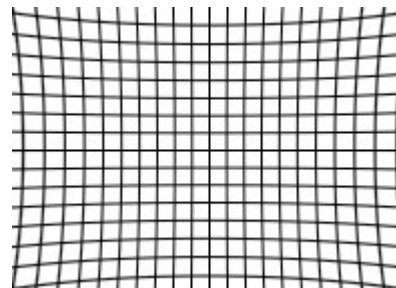


2. It is necessary to precisely determine the "Lens Distortion".

Lens distortion can be "**Barrel distortion**", "**Pincushion distortion**", or a mixture of both.

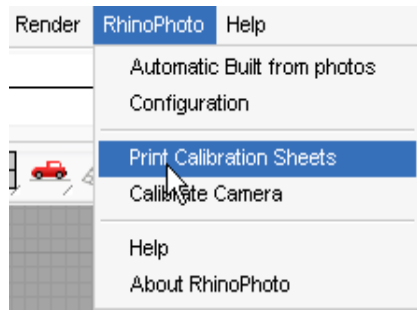
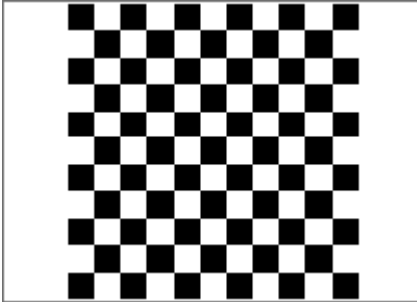


Barrel Distortion

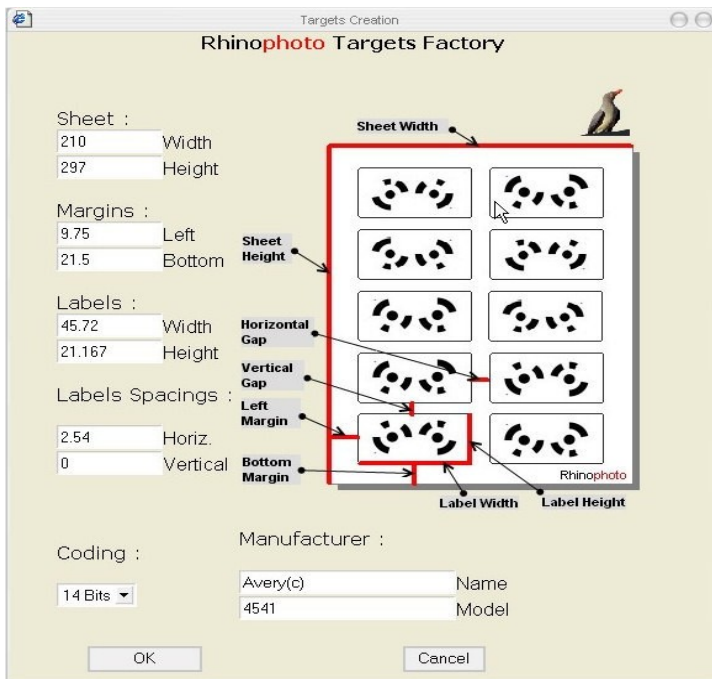


Pincushion Distortion

Then **Rhinophoto** will automatically compensate for this error.



1. Print the calibration sheet from the attached PDF file (A4, A3, A0 formats). Run the "Print calibration sheet" command from **RhinoPhoto** menu.
2. Take a series of photos of this grid and copy them into a sub folder on your hard disk.
3. Run the "Calibrate Camera" command from the **RhinoPhoto** menu and select a photo from the calibration folder and validate.
4. **Note** : Calibration is only performed once for each camera. If you have several cameras you must carry out the calibration procedure for each camera. If you have a SLR cameras with several lens you must carry out the calibration procedure for each lens at each focal length.



3. Print Coded targets sheet.

RhinoPhoto includes a full featured **RhinoScript** for generating **Customized Target Sheets**.

You can design your own **coded targets**, adapted to your job, in just a few clicks. Choose your label size, enter the dimensions, **RhinoPhoto** create the entities... Print it on removable labels.

