# Manual for Epipolar Rectification 9 (ER9)

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ER9 is an implementation of the epipolar rectification method described in [1] and given in [2]. To be perfectly clear, the code used here was written by Pascal Monasse. At some point, I may implement my own version and this text will be updated.

Proper epipolar rectification of a stereo pair is crucial prior to applying any depth map automatic generator that assumes that stereo matches occur along the same horizontal line (matching pixels have the same ordinate). Most two view (left and right) automatic depth map generators make that assumption.

Assuming you have a stereo pair (left and right image) stored in a directory somewhere on your computer, the files `er9.bat` and `er9_input.txt` must be copied to that directory. These two files are provided in the directory `er9_test` along with a set of sample input files. The file `er9.bat` must be modified so that the path to `er9.exe` is the correct one for your computer.

The format of `er9_input.txt` is as follows:

```
Name of left image (input)
Name of right image (input)
Name of rectified left image (output)
Name of rectified right image (output)
```

The file names cannot have spaces in them. I would not use a full path format like `C:\this_dir\that_dir\image.png` but simply `image.png`. I also wouldn't use a point in the body of the name (`image_ref.png` is ok but `image.ref.png` is not).

The only supported image file format is png.

At this point in time (this may change as the code is improved upon), it is not recommended to use images that are too big. I personally recommend images that are in the one to two megapixels range although one can certainly try with larger images and see what happens.

If you cannot scroll to the beginning of the command window (ER9 prints out useful info as it runs), you need to increase the screen buffer size of the command window by doing the following: Right-click on the icon in the upper left and then click on Properties; Click on the Layout tab; Increase the Screen Buffer Size Height to the maximum, which is 9999; Click OK. You should now be able to get to the beginning of the printouts next time you run ER9.

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# References

[1] Andrea Fusiello and Luca Irsara. Quasi-euclidean uncalibrated epipolar rectification. In *Pattern Recognition, 2008. ICPR 2008. 19th International Conference on*, pages 1–4. IEEE, 2008.

[2] Pascal Monasse. Quasi-Euclidean Epipolar Rectification. *Image Processing On Line*, 1, 2011. `http://dx.doi.org/10.5201/ipol.2011.m_qer`.