



# OrthoMaster

OrthoMaster, advanced software for rigorous orthorectification, mastering the challenge to meet the demands of modern orthophoto projects.



"...The orthophoto products from inpho helped us in processing a block of 650 oriented aerial images into complete high-quality orthomaps within four days only, and without spending more than one hour for interactive work...."

Bavarian State Survey Authority, Munich  
(processing 24.000 km<sup>2</sup> per year)

## It was never easier to bring aerial photographs to the ground

**OrthoMaster is inpho's professional software for rigorous orthorectification of digital imagery. It offers high degree of processing automation and is optimized for high performance orthophoto production. OrthoMaster is part of inpho's digital photogrammetric system.**

**OrthoMaster** generates high quality orthophotos, i.e. digital images with constant scale, using digital aerial images, their exterior orientations and digital terrain models (DTMs) as the source data. **OrthoMaster** is versatile and handles both, single images and complete image blocks.

The rigorous differential rectification process is performed fully automatically. In case there is no DTM available, rectification onto a plane is possible, too.

**OrthoMaster** comes with a built-in "gridding" module, for generating DTMs on-demand, from a set of arbitrarily distributed XYZ points and break lines.

In combination with OrthoVista, **OrthoMaster** is able to generate true orthophotos and true orthomosaics, in which all man-made 3D objects (e.g. buildings and bridges) are presented in their true locations, without disturbing relief displacements.

**OrthoMaster** effectively eliminates the relief displacements by intersecting the given 3D object data with the basic DTM, and utilizing advanced computation algorithms for generating true orthophotos.

The seamless, color-balanced true-ortho mosaics provide users with highest radiometric and geometric quality. True-orthos are perfect backdrop images in all GIS, CAD and mapping systems, and an excellent source of geocoded information in a wide variety of applications.

**OrthoMaster** and OrthoVista are bundled in Ortho Box offering unique performance.

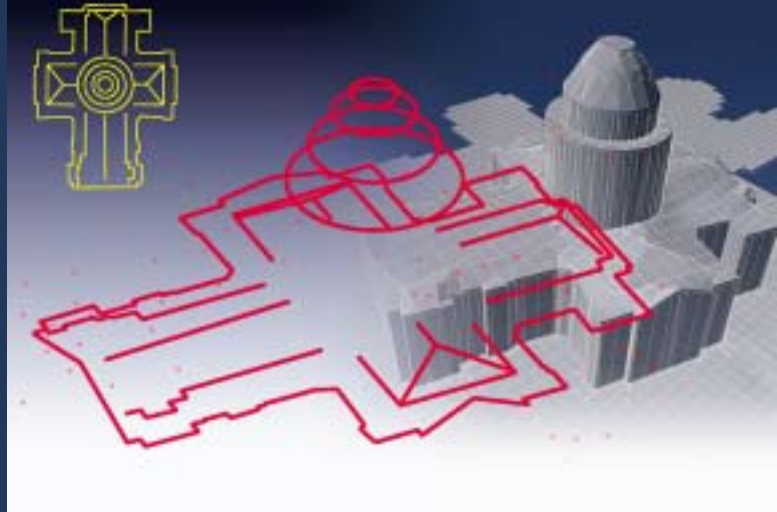
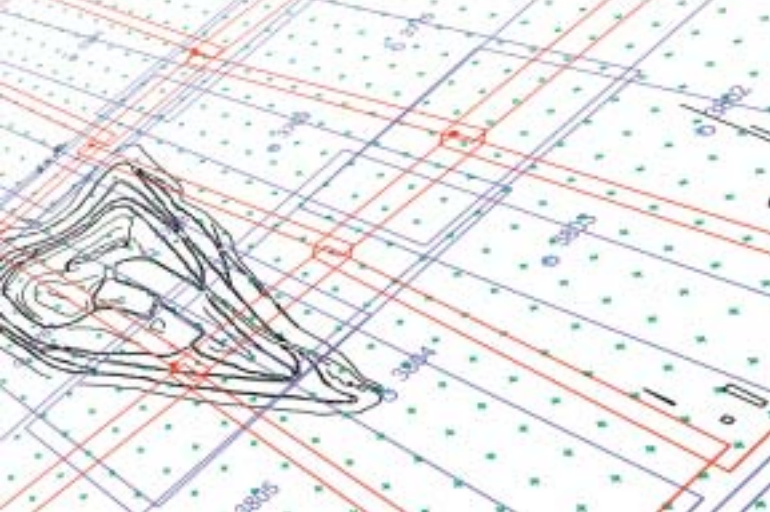
Image Capture

Aerial Triangulation

Data Capture

Terrain Modeling

Orthophoto Processing



## Features

- Automated processing of single images.
- Automated one-step batch processing of complete aerial image blocks; also in batch mode.
- Orthophoto generation in pre-set area-of-interest; flexible definition/import of optimal ortho areas.
- Automatic ortho area generation:
  - For excluding fiducial marks from orthophotos
  - By defining the overlap percentage of adjacent orthophotos
- Unique true-ortho capability in combination with OrthoVista; advanced modeling of bridges, buildings and other man-made objects.
- On-the-fly DTM generation.
- DTM data import:
  - SCOP, GeoTIFF, TiffWorld (tfw)
  - ERS, ECW (ER Mapper)
  - XYZ mass points, break/form lines
  - DXF files
  - Import of multiple raw data files, merged with SCOP functionality
- Input image formats:
  - TIFF, TIFF JPEG
  - 8-12-16 bit
  - ERS, ECW (ER Mapper)
- Output georeference formats:
  - GeoTIFF, TiffWorld (tfw)
  - ERS (ER Mapper)
- Support of analogue and digital frame sensors:
  - Flexible custom sensor definition
  - Predefined DMC and UltraCamD sensors
  - Prepared for line sensors (e.g. ADS40)

- Flexible import of interior and exterior orientation data, or complete project files from many photogrammetric systems:
  - MATCH-AT, inBLOCK, PATB, DAT/EM Summit, PHOREX2, Z/I project, Aerosys, Bingo, BLUH, MMH850, ISM/DIAP and more...
- Automatic interior orientation implemented.

## Benefits

- Increases the efficiency, profitability and quality of orthophoto production.
- High productivity through:
  - High processing speed
  - High level of automation
  - Minimum level of user interaction
- Excellent geometric precision by precise integrated DTM generation with rigorous consideration of break lines and man-made structures (buildings, bridges).
- Excellent radiometric quality by advanced processing algorithms.
- Unique true-ortho capability.
- Powerful handling of very large DTMs.
- Easy integration into any third-party workflow.

## Recommendation

- High-end PC workstation
- 512 Mbyte RAM or more
- High capacity disk system
- Windows XP/2000

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*OrthoMaster provides automatic ortho area definition, including overlap definition and border clipping. Imported shape lines of man-made objects can be introduced into the integrated DTM computation for easy and low-cost surface model generation.*



*True-ortho generation with OrthoMaster: Regular orthos show relief displacements at objects not part of the DTM. In combination with OrthoVista, occluded areas marked by OrthoMaster are automatically replaced by valid image contents from overlapping orthophotos.*

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