

Automatic Registration ProPack

AUTOMATIC REGISTRATION PROPACK

Extend the functionality of the PCI ProSDK through the Automatic Image Registration ProPack. The Automatic Image Registration ProPack enables flexible use and automation of PCI Geomatics' robust automatic registration technology.

The Automatic Registration ProPack allows you to automatically compute geometric control for an image from an orthorectified image, georeference image chips, or vector maps.

- Uses advanced feature matching to identify the locations of image features in a reference image, chip database, vector map
- Allows for repeat mapping or compositing
- Lets you define the number of GCPs you want collected over each image
- Collects points in an evenly spaced pattern over an entire image
- Uses a DEM to automatically supply elevation values of GCPs
- Supports scripted or automated workflows
- Lets you set threshold values that are used to distinguish questionable matches

The Automatic Registration ProPack consists of core PCI Pluggable Functions (PPFs) for collecting control points from a reference image (AUTOGCP) or using image chips (AUTOCHIP), extracting image chips from georectified or geocoded images (CHIPEXT and RAW2CHIP, respectively), and collecting control points from georeference line or polygon map data (FFTMVEC and FFTMPOLY, respectively). Other PPFs are included to provide complementary operations, as described below.

SOME OF THE INCLUDED COMPLEMENTARY PPFs

Ground Control Point (GCP) and Tie Point (TP) Management

- GCPIMPORT
 - Imports GCP data from a GCP segment in a PCIDSK file into an OrthoEngine project file.
- GCPREAD
 - Imports ground control point data from a text file into a GCP segment in a PCIDSK file.
- GCPWRIT
 - Exports ground control point data from a GCP segment in a PCIDSK file to a text file.
- GCPPRO
 - Converts input ground control points (GCPs) to the specified output units.
- GCPEXPORT
 - Exports GCP data from an OrthoEngine project file into a GCP segment in a PCIDSK file.
- GCPELEV
 - Obtains elevations for GCPs from a DEM.
- TPIMPORT
 - Imports tie point data from a text file into an OrthoEngine project file.
- TPEXPORT
 - Exports tie point data from an OrthoEngine project file to a text file.

Digital Elevation Model (DEM) Creation

- VDEMINT
 - Generates a raster DEM from elevation data in vector layers

and observes 2D breakline constraints.

- NNINT
 - Generates a raster DEM from spot elevations read from a raster, using natural neighbour interpolation.

DEM and Vector Elevation Reference Transfer

- DEMZREF
 - Transforms raster DEM elevation values from mean sea level to ellipsoidal.
- VECZREF
 - Transforms 3D vector elevation values from mean sea level to ellipsoidal.

Image Management

- IMERGE
 - Merges multiple geocoded rasters into a single file.
- REPROJ
 - Reprojects images, bitmap segments and vector layers to a specified projection.
- CLIP
 - Clips layers based on a user defined clip region.
- TILE
 - Creates multiple subset tiles from a single file.
- PYRAMID
 - Builds an image pyramid for each of one or more image channels in a file

For more information, contact

PCI Geomatics
50 West Wilmot Street
Richmond Hill, ON L4B 1M5
Canada

Phone: 1 905 764 0614
Fax: 1 905 764 9604
Email: info@pcigeomatics.com
Web: www.pcigeomatics.com