

ImageMaster

Imaging Station Control and 3D Image Modeler Software



IS Control, Measurement, and 3D Modeling Solution

- WLAN CONTROL OF IMAGING STATION
- GENERATE TRUE 3D MODELS FOR MEASURING, MAPPING AND INTERPRETATION
- PRODUCE MODELS FROM THE GPT-7000i TOTAL STATION (LITE ONLY)
- CALCULATE VOLUMES AND CROSS SECTIONS (STANDARD ONLY)
- STEREOPAIR PHOTOGRAMMETRY (PRO ONLY)

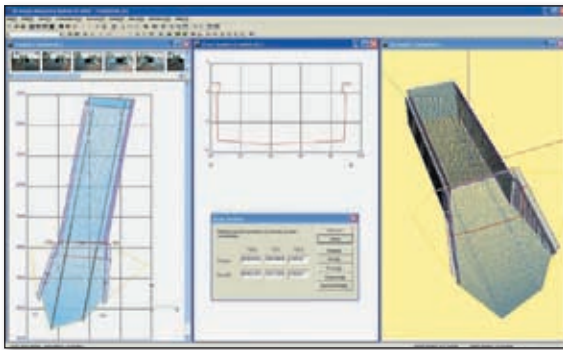
A Powerful Combination

ImageMaster software is available in four editions, IS, Lite, Standard and PRO. This powerful combination of functionality allows you to accomplish everything from Imaging Station wireless control of measurements to 3D module generation using stereopair photographs.

Advanced Features

In addition to the unique data capturing and 3D modeling functions, ImageMaster has several advanced features for manipulating and handling the models and model data. Advanced features include:

- Calculation and display of model cross sections
- Calculation and display of contour lines
- Area calculations
- Distance measurements, either point to point
- TIN model generation
- Rendering models
- Ortho-images
- A variety of export formats (DXF, ASCII, VRML etc.)



Applications

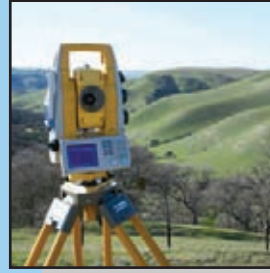
Topcon's ImageMaster PRO has modeling, measurement, mapping and interpretation functionality for a wide variety of applications:

- Close Range Photogrammetric Applications
- Aerial Photogrammetry
- Architecture
- Archeology
- Disaster Monitoring/Mapping
- Mining
- As Built Civil and Industrial Applications
- Accident Investigation
- 3D Modeling and Visualization Applications

Hardware Requirements

- Digital Camera with preferred minimum of 5 megapixel
- Personal Computer with:
 - CPU Pentium 4, 2.0 Ghz
 - Memory 512 MB
 - Graphical solution Open GL
 - OS Windows® 98, ME, 2000, XP
 - USB or printer port for hardware lock

Four ImageMaster Editions Available!



ImageMaster IS

Controls the IS (Imaging Station) via WLAN connection and makes 3D TINs and photo textured surfaces of IS collected data only. Distance can be measured from points and surfaces.



ImageMaster Lite

Intended for GPT-7000i packages with Field Orientation software. Easy mode orientation projects can be modeled. The surface is generated from measured points and photos taken with the GPT-7000i integrated camera.



ImageMaster Standard

Includes all IS edition features plus additional editing of IS scanned data with full Survey Tools such as volume and cross section calculations. Outside CAD data can be used as well.

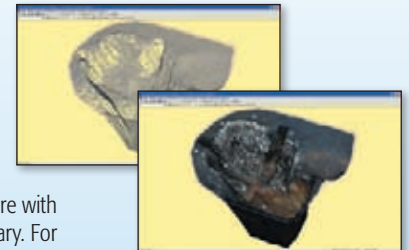


ImageMaster PRO

Includes all of the above features plus Topcon's advanced photogrammetry solution previously distributed as PI-3000 Photo Modeler software.

Several Model Formats

ImageMaster PRO can create any number of model formats, solid or contour line. Selectable TIN Model interval creates a TIN model structure with as much or as little detail as necessary. For the ultimate presentation and interpretation, ImageMaster PRO can superimpose the original photo over the model.



Simply Accurate

ImageMaster PRO software produces models with up to 0.4 mm accuracy for photos taken at a 10 meter distance to the object. The conditions of use are special targets for adjustment points, and optimal camera standpoints. To achieve 0.4 mm accuracy, a camera calibration is required.

Choose the Edition that Suits Your Measurement and 3D Modeling Needs.

ImageMaster IS compliments the Topcon Imaging Station (IS). The functionality includes WLAN control of the IS. Measurements can be taken as individual points or grid scan areas defined by user resolution. The advantage of this edition is the ability to have a Live Video feed over WLAN to the IS. Controlling the IS with a large color screen from a PC or laptop is revolutionary. An entire survey can be completed from the comfort of your vehicle or remotely via internet connection.

The IS edition can collect points and point cloud points from the IS and prepare TINs with photo texturing. Points and surfaces can be used to measure distances and be exported to the Standard edition or DXF format for further analysis.



WLAN Laptop from the Car

ImageMaster Lite imports and processes Field Orientation files from the GPT-7000i series total station. Projects collected with easy mode can be processed in this powerful combination of surfacing and photogrammetry. The advanced functions of Topcon's Photogrammetry solution is only available in the PRO edition.

GPT-7000i Series Imaging Total Station

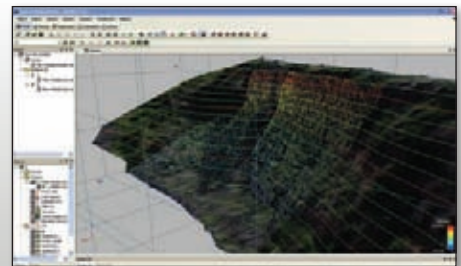
Topcon revolutionizes surveying with another World's First Technology. Capture jobsite images with the built-in digital camera. The GPT-7000i provides:

- The Best Performance
- Efficient Surveying
- Long Range EDM
- TFT Color Graphic Display
- Windows® CE technology
- Add Information to the Image



ImageMaster Standard offers full functionality of surveying tools such as polyline creation, contouring, cross sections, TIN generation and editing. Additional functions such as area and volume calculations, ortho-image, and field scan file processing make this module a powerful addition to any Imaging Station system. The only functionality not included in this edition is that of stereopair photogrammetry.

Compare two surfaces to see volume changes. This can be used in construction applications or even monitoring projects. Surfaces can be created from IS data and outside source files, such as project design files.



Cliffside Scan and Texture Mapping

ImageMaster PRO uses stereoscopy to create three-dimensional images. Stereoscopy combines two offset and overlapping images known as stereopairs, to create a stereomodel. Until recently, stereoscopes created the illusion of dimension. Today, stereoscopes combine images using digital algorithms, providing a digital, rotational image suitable for survey and engineering purposes.

Based on a minimum of 6 points, the software calculates an adjustment and displays accuracy of the individual points. Add or change points to get the maximum result.



Sterepair

Stereomodel

Align the photos using the object's recognizable features, or by placing control points prior to capturing the photos. Once ImageMaster PRO creates a stereomodel, any background or unwanted areas in the image may be deleted. The stereomodel can be viewed as a stereoscopic image, or exported to any number of formats for further study, or incorporated into other engineering/design/layout programs.

Fast and Easy Bundle Adjustment

To create a 3D model, calculate different photos together via the software's bundle adjustment option. Identify and measure common points in both photographs using simple measurement procedures. The process takes minutes.

Quick and Accurate DSM Calculation

For ImageMaster PRO to automatically calculate Digital Surface Models (DSMs), define the boundaries and breaklines around the model. By drawing critical lines of the object and surrounding surface into the picture, the software separates the model from "background noise." With the press of a button it calculates a true 3D surface model suitable for direct measurement. Or for further manipulation, mapping etc., export into any third party handling or CAD software.



* A minimum 5 megapixel camera recommended.

The Leader in Positioning Technology...

Topcon's positioning products deliver unparalleled site-wide performance and integration. Our history of technological advances and reputation for superior reliability means no other company is positioned to provide a better Total Positioning Solution.

From survey to inspection, with more than 170 dealers worldwide, we provide innovative technology, giving surveyors, civil engineers, contractors, equipment owners, and operators a competitive edge by addressing critical issues: increasing profits, quality craftsmanship, improving productivity, lowering operating costs, and enhancing jobsite safety.

Our goal is full positioning integration from field-to-finish. If you are ready for the next level, it's time to turn to Topcon.

The Leader in Customer Satisfaction...

To ensure that your Topcon product maintains its peak performance, the local Topcon dealer has factory trained and certified service technicians available. If service is not available in your area, we offer a repair and return policy that is second to none.

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ImageMaster Packages

Package #1:

Topcon Imaging Station + ImageMaster IS

Control the IS (Imaging Station) from a wireless connection while sitting in the comfort of your vehicle or remote office. Measure points, conduct scans, and collect 360 degree panoramic photo fieldbooks.



ImageMaster IS Edition

Package #2:

Topcon GPT-7000i + Camera + ImageMaster PRO

The GPT-7000i total station with on-board Field Orientation software can be used to collect the reflectorless measurements that will be used for scaling of the 3D model.



ImageMaster PRO Edition

Package #3:

Topcon Imaging Station + ImageMaster STD

This advance IS package allows full use of ImageMaster Survey Tools and also calculates, volumes, areas, cross sections and prepares ortho-photos.



ImageMaster STD Edition

Package #4:

Topcon GPT-9000A + Camera + ImageMaster PRO

"Image-based Robotic Reflectorless Scanning" the GPT-9000A, with the longest (2000m) reflectorless EDM in the market today, can be used to collect control points reflectorlessly and with motorized control.



ImageMaster PRO Edition

Package #5:

Camera + ImageMaster PRO

Create 3D models using a digital camera and ImageMaster PRO software. Measurements and scaling of the object can be done with conventional measurements such as tape measuring, or use an assumed scaled distance.



ImageMaster PRO Edition

Package #6:

Topcon Imaging Station + Camera + ImageMaster PRO

The ultimate in imaging technologies package! The Topcon IS can be used to collect measurements that will be used as control data in ImageMaster PRO software. The IS using Intelligent Scan and motorized reflectorless measurements can collect large amounts of data automatically. The live camera image on the PC gives you imaging control while in the field.



ImageMaster PRO Edition

Your local Authorized Topcon dealer is: