

Summit Evolution



Summit Evolution - advanced digital stereo plotter for 3D feature collection into ArcGIS, AutoCAD or Microstation.



Production of geospatial data with precision, power and user-friendliness.

Summit Evolution from DAT/EM Systems International, is a user-friendly digital photogrammetric stereo workstation and allows a 3D feature collection directly into ArcGIS, AutoCAD or MicroStation. Summit Evolution is part of inpho's digital photogrammetric system.

A wide range of efficient feature collection functions is offered via DAT/EM Capture and Stereo Capture for ArcGIS, which are integral parts of Summit Evolution.

Vector data collected by **Summit Evolution**, or imported from GIS or CAD systems, are superimposed directly onto the stereo models, making it an excellent solution for mapping, change detection and updating GIS data.

Automatic batch map-editing of collected data can be applied for best mapping performance. Routines for data generalization, checking and automatic line editing among various other functions are included.

Summit Evolution is not restricted to aerial imagery, but also offers feature collection from close-range, satellite, IFSAR and orthophoto imagery.

Summit Evolution works in a project-based environment, using triangulated photo blocks generated by MATCH-AT or other software packages. The user can roam seamlessly throughout an entire project of any size.

The product Summit Evolution & MATCH-T bundles the digital stereo plotter with MATCH-T Evolution, inpho's product for automatic DTM generation from aerial or satellite imagery, and with Capture Contour, an on-line contouring package based on inpho's SCOP technology. Both, MATCH-T and Capture Contour are fully integrated into **Summit Evolution**, extending it to a powerful photogrammetric DTM station. Functionality of MATCH-T Evolution is described in the MATCH-T data sheet.

Image Capture

Aerial Triangulation

Data Capture

Terrain Modeling

Orthophoto Processing



DAT/EM is a team member of





Stand-alone stereo view, various connections to CAD/GIS packages, together with an ergonomical design in a dual monitor setup, passive or active stereo hardware, handwheels or 3D cursor, make Summit Evolution the most flexible project-based (not model-based) stereo plotter.

Features

- Summit Evolution comes with a variety of software components:
 - Summit Evolution – digital photogrammetric software including orientation tools and project management
 - DAT/EM Capture – data collection program for collecting 3D features directly into AutoCAD or MicroStation
 - Stereo Capture for ArcGIS - turns our Summit Evolution photogrammetric stereoplotter into a 3D ground coordinate digitizer for ArcGIS. 3D features are collected directly into ESRI's ArcView 8.x, ArcEditor, and ArcInfo
 - Map/Editor - software for automatic batch and vector editing in AutoCAD or MicroStation
 - Super/Imposition - software allowing stereoscopic viewing of 3D vector data, superimposed onto the stereo imagery
- With its flexible orientation tools, Summit Evolution fits into any production workflow:
 - Automatic interior orientation
 - Automatic or manual relative orientation
 - Absolute orientation
 - Orientation data import from inBLOCK, PATB, Albany, Bingo, AeroSys
 - Project data import from MATCH-AT, BAE Socet Set, Z/I Image Station, Phorex
 - Project transformation from/into new coordinate systems
- Advanced imaging features make Summit Evolution a precise and easy-to-use stereo plotter:
 - Handling of 8-bit and 16-bit imagery
 - Measurement with subpixel accuracy
 - Quick frame sequential imaging
 - Smooth real-time panning and zooming
 - On-the-fly epipolar resampling
 - OpenGL for image rendering
 - User-definable cursors
 - Customizable GUI elements

- Summit Evolution supports all types of source image:
 - Digitized aerial photographs (TIFF, TIFF JPEG, ECW, BMP and others)
 - ADS 40 digital aerial camera TIFF
 - DMC digital aerial camera TIFF
 - Digital Globe QuickBird
 - Space Imaging IKONOS RPC
 - IFSAR Stereo
 - Close-range imagery
 - Orthophoto images (GeoTIFF)
- The standard hardware configuration consists of:
 - Immersion 3D mouse
 - Stereographics ZScreen 2000 with passive stereo glasses
 - DAT/EM Keypad

Options

- CAD/GIS interfaces:
 - DAT/EM Capture for AutoCAD
 - DAT/EM Capture for Microstation
 - Stereo Capture for ArcGIS
- Optional alternative hardware components are:
 - DAT/EM handwheels and footdisk
 - ABC Stealth 3D optical mouse
 - Stereographics Crystal Eyes with active stereo glasses

Summit Evolution is available with three different functional extensions:

- SUMMIT Evolution "Professional"
 - Unlimited functionality of Summit Evolution
- SUMMIT Evolution "Feature Collection"
 - Full 3D feature collection, but no orientation capabilities
- SUMMIT Evolution "Viewer"
 - Stereo viewer for Summit Evolutions projects

Benefits

- Produces digital topographic and engineering quality maps and geospatial data directly into ArcGIS, AutoCAD or Microstation.
- Easy API integration of other CAD or GIS packages.
- Sophisticated yet straight forward mapping functionality.
- Developed for comfortable ease-of-use by photogrammetric professionals.
- Applies cutting-edge technology.

Recommendations

- High-end PC workstation
- Dual Intel Xeon processors
- 512 Mbyte RAM or more
- 3DLabs Wildcat II, III, or IV graphics card
- High-capacity disk system
- Dual 21" monitor with 120 Hz for stereo
- Windows XP/2000
- Supported CAD and GIS:
 - AutoCAD 14 or 2000 or later
 - MicroStation SE, J, V8
 - ArcGIS Desktop Products ArcView 8.x, ArcEditor or ArcInfo

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