

MilGeo-PCMAP

Geographic data viewer for the military user



see – understand – decide

MilGeo-PCMAP, the basic building block to conquer the challenges in military information systems

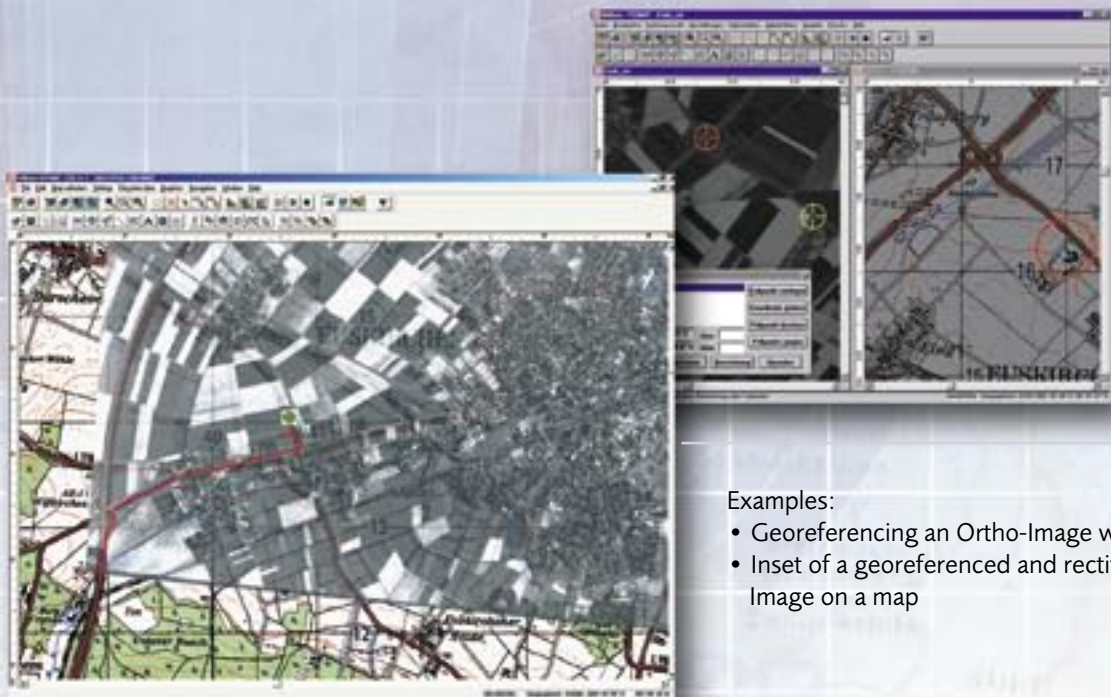
Electronic information systems make the compilation of information faster and substantially speed up the decision-making process. As a result, they are an indispensable tool for military intelligence, surveillance and reconnaissance and also for command and control systems. Graphical display of the situation plays a crucial role in this context. In mobile combat, for instance, decisions are primarily based on maps. Digital map systems from EADS satisfy the most stringent requirements in terms of clarity, offer high functionality with respect to map and situation display and provide easy user guidance.

Digital maps in national and international use

With an increasing use of PCs in the armed forces, there is an active demand for digital map display even outside the complex weapon systems. To satisfy this demand with the same software tool as in complex systems, EADS chose its Geogrid® for Windows technology and developed MilGeo-PCMAP under contract with the Bundeswehr Geoinformation Office (BGIO), which is the general licence holder for all federal agencies and the German Armed Forces. It provides digitised maps on CD-ROM to any user in the German Armed Forces. NATO agencies also make use of MilGeo-PCMAP within the frame of tasks carried out in co-operation with the German Armed Forces.

Other NATO and PfP countries have decided to introduce MilGeo-PCMAP, such as the Netherlands, Switzerland and Portugal. The military mapping agencies of these nations and BGIO installed an international PCMAP-User-Group (PUG) to maintain the software and keep it on track with the requirements of a modern military information system.

In co-ordination with BGIO, EADS grants licences to foreign military organisations and public users. Future extensions will include web access, comfortable vector map display, perspective situation visualisation and extended route planning.



Examples:

- Georeferencing an Ortho-Image with a map
- Inset of a georeferenced and rectified Ortho-Image on a map

Simultaneous access to all files

For military users, seamless raster maps, vector maps, elevation data, gazetteer data and images of defined areas are available on CD.

These files are linked via geographic coordinates in order to provide the following functions:

- Comfortable display of raster and vector data true to coordinates
- Geo-referencing of aerial and satellite images
- Graphical display of elevation data
- Preparation of graphical and situation overlays by means of editors
- Positioning and displaying of annotations on a specific location via database (pre-filled or user-defined MS-Access database)
- Zooming with and without change of scale
- Measurement of distances and areas
- Display of the coordinate grid in different coordinate systems with various geodetic datums.



The continuous development of Mil-Geo-PCMAP up to the actual version 4.1 is based on specifications defined within the international PCMAP User-Group (PUG).

Dynamic Perspective View

The highlight of version 4.1 is the Dynamic Perspective View with the following functionality:

Flight mode

In the flight mode, the user can "fly" freely over the terrain with automatic map-reload, controlling

- aircraft speed,

- aircraft altitude,
- aircraft flight path,
- observer's azimuth and elevation.

Flight planning

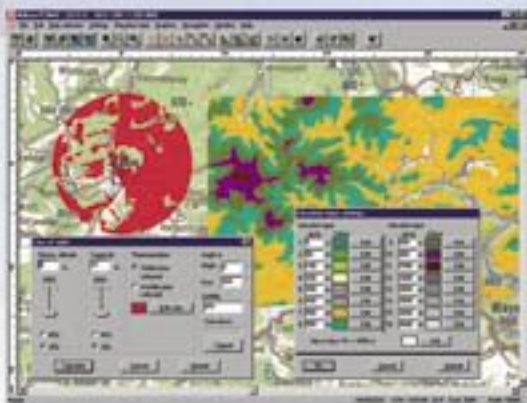
Flight paths can be planned in the 2D view and then displayed in perspective view.

Flight recording

Flight paths can be recorded and played back.

Orientation map

The orientation map can be selected from all available maps.



MilGeo-PCMAP functions

Other programme features of MilGeo-PCMAP:

- Static perspective map view
- Vector maps on VPF database
- GPS functionality, including
 - Administration of waypoint lists
 - Exchange of waypoint lists with receiver
- Situation display (limited)
- Multi-Windows with synchronisation of all drawings
- Administration of multiple annotation data for graphical objects
- Data import of the following formats: ADRG, CADRG, GeoTIFF, BMP, CRP, ASRP, USRP (option)
- Simultaneous display of images/maps to ease geo-referencing
- Insertion of image insets into a map
- Line of sight (observer/target-height, radius and angle as parameters)
- Client/server functionality
- Overlay export as Windows metafile (WMF)
- OLE functionality
- Help functions with assistant

The following upgrades are available as licenced software packages:

- Full military situation display (Geogrid®-SitView)
- Interface with military command and control systems
- Integration of a basic functionality for mission planning
- Application interface (Geogrid®-Interface PlugIn)

Outlook for further development:

- Enhanced vector map functionality
- New military route planner based on commercial route-network data
- W-Geogrid®: for full 3D functionality including perspective visualisation of situation symbology
- J-Geogrid®: based on Java for Web-solutions and PDA applications with functional subset

System requirements (for Dynamic Perspective View):

Hardware

- Processor: min. Pentium III
- CPU: min. 500 MHz
- Memory: > 64 MB
- 3D-Graphicsboard, min. 64 MB Video-RAM

Software

- OpenGL 1.3
- Operating systems
 - Windows 2000, NT, XP



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