



MÄK Stealth 6.1 Release Notes

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Systems Supported and System Requirements

This section describes platform support and system requirements for the MÄK Stealth. For the most up-to-date information about systems supported, see the Product Versions page on the MÄK web site at: <http://www.mak.com/support/productversions.php>.

The Stealth is available for the following operating systems:

Table 1-1: Platforms supported

Operating System	Compiler
Red Hat Enterprise Linux Workstation 4	GNU C + + (GCC) 3.4.4
Windows XP	Microsoft Visual C + + 7.1

Stealth for Windows

The Stealth for Windows requires the following:

- ♦ A Pentium-class PC (or higher) with minimum 2 GHz processor
- ♦ An OpenGL 2.0-compliant graphics card with 256 MB or more of memory.
- ♦ Windows XP.
- ♦ 1 GB of disk space.
- ♦ 1 GB of RAM; more is desirable depending on the size of the terrain database and the number of models to be loaded.

Use of joysticks requires *dinput.dll*, which is part of DirectX 8.1 or later.

Compiler Compatibility on Windows

The HLA versions of the Stealth must run with an RTI compiled with Visual C++ 7.1.

Requirements for Creating Plug-Ins Using the Stealth Control Toolkit

To create a Stealth plug-in or use the Stealth Control Toolkit, you must install VR-Link 3.10.1 for Visual C++ 7.1. See the *VR-Link Release Notes* for compiler requirements for your operating system.

Vega Prime Compatibility

Stealth 6.1 was built with Vega Prime 2.1.2 and vpNet 2.1.2.

Vega Prime Plug-in Support

If you want to use Blueberry3D terrains with the Stealth, set the BB3D_LOCATE_RTE environment variable to point to the Blueberry Run Time Environment directory within your Bionautics installation. You must have a Blueberry runtime and a developers license from Multigen-Paradigm.

3D Video Boards Supported

In general, Stealth 6.1 should support any board that claims to support OpenGL 2.0. The Stealth has been tested with NVidia GeForce graphics cards.

Java Support for the Model Mapper

The Model Mapper is a Java application. To use it, you must install Java 1.4.1 or later.

Network Compatibility

HLA only

Stealth 6.1 was built against VR-Link 3.10.1 and is compliant with:

- RPR-FOM 1.0 and a subset of 2.0 (draft 6, 14, and 17)
- MÄK RTI 3.x.



The Linux version of Stealth 6.1 is not compatible with MÄK RTI 3.1.1 or earlier. You must use MÄK RTI 3.1.2 or later.

DIS only

Stealth 6.1 supports DIS 2.0.4, IEEE 1278.1, 2.1.4, and IEEE 1278.1a, and can therefore interoperate with DIS applications of any of these versions.

FOM Support

Stealth 6.1 has built-in support for versions 0.5, 0.7, 0.8, 1.0, and 2.0, drafts 6, 14, and 17, of the RPR FOM. It also supports VR-Link's ability to support alternative FOMs through the FOM Mapper. By default, Stealth 6.1 uses RPR FOM 1.0.

If you want to use the Stealth with VR-Forces 3.9 or later and RPR FOM version 2, draft 17, use the *VR-Link20017-1.fed* file.

For information about FOM mapping and specifying the FOM version to use, see *MÄK Stealth User's Guide*.

MÄK Terrain Database Tool Support

The Stealth includes the MÄK Terrain Database Tool (TDB Tool), a utility that you can use to convert various database formats to MÄK Terrain Format (GDB) for loading in the Stealth. The Stealth does not support the following features in the TDB Tool:

- ♦ Feature or vector support (DFAD/DFD/Shape).
- ♦ Multiresolution paper maps or tiled paper maps. (Only single images can be displayed).
- ♦ GDB soil types and polygon colors are ignored.
- ♦ Extent MTD files.
- ♦ Qt images files from MTD files.
- ♦ RpfPaperMapRecord records.
- ♦ Geodetic or geocentric GDB databases.

New Features and Product Updates

Stealth 6.1 has the following new features:

- ♦ MetaFlight files can now be loaded from the File menu.
- ♦ The File menu now has a Recently Opened Databases command.
- ♦ The MÄK can now record AVI files of the 3D display area.
- ♦ You can open MTL, FLT, and VSB files using drag-and-drop.
- ♦ A new configuration parameter, **defaultTimeThreshold**, sets the DIS heartbeat time.
- ♦ The Location toolbar now supports geodetic coordinates in decimal value in addition to latitude/longitude.
- ♦ The new Remote Drawing API allows applications to draw in the Stealth view.
- ♦ The Stealth supports MÄK Terrain Database Tool 4.0.
- ♦ View constraints allow you to prevent entities from walking through polygons such as walls.
- ♦ You can modify the new Vega Prime 2.1 cloud model from the GUI
- ♦ Plug-in API updates.
- ♦ The *./bin5* directory has been renamed to *./binDIS*.

Video Recording

You can now capture the Stealth display to an AVI file. The Plug-in API allows you to create plug-ins that can export the Stealth display to other formats. For details about capturing video, please see [Section 4.7.2, "Capturing Video of the Stealth Display"](#), in *MÄK Stealth User's Guide*.

By default, the Stealth uses the Microsoft Video 1 codec to compress AVI files during video capture. You can disable use of compression by clearing the Use Video Compression option on the Preferences dialog box, Capture tab.



AVI files larger than 2 GB might not play back properly. File size is a function of the size of the Stealth window being captured, the length, in time, of the recording, and whether or not you use compression.

Remote Draw API

The Stealth Draw Control API allows third party applications to create, send, and manage 2D and 3D objects to be drawn by the Stealth. For details, please see Chapter 15, [Stealth Draw Control API](#), in *MÄK Stealth User's Guide*. You can configure the remote graphics that the Stealth displays. For details, please see [Section 8.3, "Displaying Remote Graphics"](#), in *MÄK Stealth User's Guide*.

View Constraints

View constraints control how the eyepoint behaves when it approaches solid objects in the view, such as the ground, buildings, and vegetation. In previous versions of the Stealth, you could set the view floor, which kept the eyepoint from going below the ground. Now you can set view constraints that prevent the eyepoint from moving too close to terrain polygons such as walls. For details, please see [Section 5.4, "Specifying View Constraints"](#), in *MÄK Stealth User's Guide*.

Cloud Model

The Stealth now uses an improved cloud model. You can configure use of clouds and the percentage of the sky that is covered by clouds. For details, please see [Section 8.8.4, "Enabling and Disabling the Display of Clouds"](#), in *MÄK Stealth User's Guide*.

MÄK Terrain Database Tool

The Stealth includes MÄK Terrain Database Tool version 4.0. This version of the TDB Tool has some significant changes in how it creates projects and output files. Of immediate note is that the MAP file has been replaced with the MÄK Terrain Descriptor (MTD) file. Stealth support for TDB Tool features is listed in [MÄK Terrain Database Tool Support](#), on page 4. Please see MÄK Terrain Database Tool User's Guide for details about how to use the applicaiton.

Plug-in API Update

A new member function, void `keyEvent(DtPluginKey key, int mod)`, was added to the *DtPluginAppInterface* class to provide Stealth plug-ins access to keyboard events.

Documentation Updates

MÄK Stealth User's Guide has been updated and reprinted. It describes all new features.

- ♦ In the print and PDF versions of *MÄK Stealth User's Guide*, screen captures of the Preferences dialog box, Capture tab in the manual and online help do not show the Use Video Compression option. Screen captures of the Texture toolbar show obsolete label text.
- ♦ In the PDF version of *MÄK Stealth User's Guide*, the second bullet item in section A.2 and the second example in section A.2.1 are incorrect.

Fixed Bugs

This release fixes the following bugs or restrictions that were present in Stealth 6.1:

- ♦ Setting `overlayLogoFile` in *params.mtl* now controls the logo
- ♦ Multitexturing now works
- ♦ BMP is supported again
- ♦ Command line `-l a=b` now works correctly.
- ♦ Inset views now work with MetaFlight databases.

Known Problems and Product Restrictions

- ♦ If you have sound enabled and your PC does not have a sound card, the Stealth may crash. Under some circumstances, even with a sound card, enabling sound may cause instability.
- ♦ By default, the Stealth loads terrains in a separate thread (asynchronous loading.) Sometimes, this load fails, even though the terrain paths are correct. To work around this problem, load terrains synchronously. Add the following line to the terrain's configuration file:

```
(setq loadAsynchronous 0)
```

Synchronous loading is often faster than asynchronous loading. However, during synchronous loading, the Stealth interface freezes until the terrain finishes loading.
- ♦ Tracked billboard models sometimes do not load.
- ♦ If you try to use *vaportrail.flt* or *dusttrail.flt*, they do not rotate properly. Entity trails configured in the ACF file work correctly.
- ♦ You cannot select an emitter system from the 3D view.
- ♦ Sound is not supported on Linux.
- ♦ You cannot load OpenFlight files directly on Linux. You must load them through ACF, MTD or MTL files.
- ♦ In the Plug-in API, RotOffset() is not supported in *DtModel*.
- ♦ If saved views become invalid, no errors are reported. Saved views may become invalid if the view's attached entities do not exist.
- ♦ Terrain may disappear when selecting a preset view. There are two possible causes for this problem: either the terrain's lowest LOD has no geometry or the terrain does not fit in the current viewing frustum. To work around the problem, try setting the LOD scale to something small (for example, 0.1) and try increasing the far clipping plane. Clouds and fog effects may hide the terrain when zoomed far out.
- ♦ Game controllers, such as joysticks, are not supported on Linux.
- ♦ Stealth licensing does not work in some cases. When running Stealth it is possible to encounter an error regarding a missing vsg_rtl license. This error occurs when Stealth is installed as one user, but run as another user having different file permissions (for example, users belonging to different domains or having insufficient file privileges will not be able to run).
- ♦ Stealth crashes on close when using vpDiGuy with an invalid DI-Guy license.
- ♦ DI-Guy characters do not display color correctly for selection and XR mode. Selecting one DI-Guy character will color all DI-Guy characters having the same model. In XR mode, if the same model is used to represent friendly, opposing, or neutral entities, all entities will share the same color.
- ♦ With delayed model loading on, models may not always be visible in inset views.
- ♦ Stealth cannot load MTD files with tiled image sets.
- ♦ Stealth cannot load PNG images as part of a MAP file.

- ♦ In XR mode, the time of day may switch to night when loading a terrain. The time of day can be reset from the preferences dialog (under environment).
- ♦ If the Stealth is displaying a Logger file that contains remote draw API calls, and you skip to different time points in the Logger file, and you enable or disable Templates or Objects in the Layers dialog box, the Stealth may crash.
- ♦ If you have a Vega Prime development environment installed and you run the Stealth, Vega Prime will try to check out a Stealth run-time license (mak_rtl), which is included with Vega Prime. This has no effect on your ability to run the Stealth or on use of Stealth licenses supplied by MÄK. If you want to prevent Vega Prime from checking out the run-time license, disable the `MPI_INSTALL_DEFAULT` environment variable.
- ♦ Some keyboard commands to open and close the dockable toolbars do not work correctly under Linux. You can open windows through the View menu, which is on the main menu bar or on the middle mouse button.
- ♦ The Linux version of Stealth may crash on exit. This happens very late in the shut-down process, while closing the connection to the X server.