



MÄK Stealth 5.3 Release Notes

This document provides the following release-specific information for MÄK Stealth 5.3:

Systems Supported and System Requirements.....	3
Stealth for Windows	3
Requirements for Creating Plug-Ins or Use the Stealth Control Toolkit.....	3
Vega Prime Compatibility	3
3D Video Boards Supported.....	3
Java Support for the Model Mapper	3
Network Compatibility	4
FOM Support.....	4
New Features and Product Updates.....	5
Exaggerated Reality (XR) Stealth	5
Terrain and Object Scaling.....	5
Dynamic Changing of Model Sets	6
Switching Between Textures.....	6
Plan View Display-Style View	6
Orthographic Pivot View Mode.....	6
Entity Height Lines and Labels	6
Joystick Support	6
Support for Loading Multiple Database Types.....	6
Support for Setting the UTM Zone from MTL and the GUI.....	6
Stealth Remote Control API.....	7
Mirroring and Multi-Channel Support.....	7
Range Volumes.....	7
LynX Prime	7

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New and Update Configuration Parameters 7

Documentation Updates..... 7

Fixed Bugs 8

Known Problems and Product Restrictions 9

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/product_version.htm.

The Stealth is available for the following operating systems:

- ♦ Microsoft Windows XP and 2000
- ♦ Red Hat Linux 8.0 running on Intel-compatible PCs.

Stealth for Windows

The Stealth for Windows requires the following:

- ♦ A Pentium-class PC (or higher) with minimum 1GHz processor
- ♦ An OpenGL 1.2-compliant graphics card.
- ♦ Windows 2000 SP2, Windows XP, or Red Hat Linux 8.0.
- ♦ 960 MB of disk space.
- ♦ 256 MB of RAM, 512 MB if you plan to use the complete dismounted infantry models.

Requirements for Creating Plug-Ins or Use the Stealth Control Toolkit

To create a Stealth plug-in or use the Stealth Control Toolkit, you must install VR-Link 3.9.3 for Windows or Linux. See the *VR-Link Release Notes* for compiler requirements for your operating system.

Vega Prime Compatibility

Stealth 5.3 was built with Vega Prime 1.2.2.

3D Video Boards Supported

In general, Stealth 5.3 should support any board that claims to support OpenGL 1.2. 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 5.3 was built against VR-Link 3.9.3 and is compliant with:

- ♦ RPR-FOM 1.0 and a subset of 2.0 (draft 6, 14, and 17)
- ♦ MÄK RTI 2.3.x
- ♦ DMSO RTI NG v6.

Stealth 5.3 is compatible with applications that use earlier versions of VR-Link if they support versions of the RPR FOM listed above.

DIS only

Stealth 5.3 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 5.3 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 5.3 uses RPR FOM 1.0.

The keywords for specifying different versions of the RPR FOM with the `-f` startup option are:

- ♦ RPR FOM 0.5: `v1RPR05`
- ♦ RPR FOM 0.7: `v1RPR07`
- ♦ RPR FOM 0.8: `v1RPR08`
- ♦ RPR FOM 1.0: `v1RPR10`
- ♦ RPR FOM 2.0 draft 6: `v1RPR20006`
- ♦ RPR FOM 2.0 draft 14: `v1RPR20014`
- ♦ RPR FOM 2.0 draft 17: `v1RPR20017`.

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

New Features and Product Updates

Stealth 5.3 has the following updates and new features:

- ♦ Introduction of Stealth XR, with the following features:
 - Terrain and object scaling
 - Dynamic changing of model sets
 - Ability to switch between textures for databases with multiple texture files
 - Easily access an overhead view of the terrain similar to that in a plan view display application
 - Orthographic pivot view mode
 - Entity height lines and labels.
- ♦ Joystick support
- ♦ Ability to load more database types, including MÄK GDB, DTED, and *.map* files
- ♦ Support for setting the UTM zone from MTL and the GUI
- ♦ Stealth Remote Control API
- ♦ Mirroring features
- ♦ Multi-channel support across different machines using mirroring
- ♦ Display of range volumes
- ♦ LynX Prime is included in the Stealth distribution
- ♦ New and updated configuration parameters.

All new features are described fully in *MÄK Stealth User's Guide*.

Exaggerated Reality (XR) Stealth

StealthXR is a separately licensed Stealth feature that provides a big-picture view of the simulated world, similar to that provided by a plan view display. However, StealthXR provides the big picture in a 3D view. Some features that are available only with a StealthXR license are also functional when you run the Stealth in regular mode.

Terrain and Object Scaling

You can scale the terrain and object icons - exaggerating their relationship to each other. Object scaling lets you see entities that would be invisible in normal Stealth mode. Terrain scaling helps you understand the relationship of the terrain to objects, particularly as they affect sight-lines and the altitude of air platforms.

Dynamic Changing of Model Sets

StealthXR allows you to change the models used to display entities. StealthXR includes a primary model set, which has 3D models, and two image sets, one which uses MILSTD 2525B icons and one which uses images that represent the entity type. Use of the image model sets can improve performance because they take up much less memory than the primary model set.

Switching Between Textures

If you load a *.map* file that has multiple textures, you can switch between the textures.

Plan View Display-Style View

Using two preset views, you can quickly change the view of the terrain to an overhead view, or a view of the database at a 20° angle. These views allow you to view the entire database as you might in a plan view display, but with all the 3D effects of StealthXR.

Orthographic Pivot View Mode

In orthographic pivot mode, all lines remain parallel and you cannot zoom in or out. This contrasts to the typical perspective view of the Stealth display.

Entity Height Lines and Labels

To help you understand the relationship of air platforms to the terrain, you can display vertical lines pinning the entities to their X,Y location and labels with the entity height.

Joystick Support

The Stealth now supports game controllers such as joysticks, game pads, and spaceballs.

Support for Loading Multiple Database Types

The Stealth can load terrain databases in GDB,CTDB, and DTED formats. It can also load files using the MÄK *.map* format. Multiresolution MAP files are not supported. Databases that have been converted from OpenFlight format to GDB may not load correctly in the Stealth.

Support for Setting the UTM Zone from MTL and the GUI

You can now set the UTM zone for a database in the configuration file or in the Database Information dialog box.

Stealth Remote Control API

The libraries and header files for creating view control messages were formerly integrated into the VR-Link toolkit. Effective with this release, they are a separate set of libraries. New remote control PDUs have been added for requesting the Stealth's view state, relative movement, setting the step size, and setting the time of day. There is a new high level class for sending PDUs or interactions that hides some of the implementation details of specific PDUs. Use of the remote control API continues to require VR-Link and a VR-Link license. The HTML class reference provided with the Stealth includes the remote control API.

Mirroring and Multi-Channel Support

When mirroring is enabled, a Stealth sends Stealth view control messages that can control the eyepoint and view modes settings in other Stealths that have enabled view control messages. If you configure the Stealth view in Lynx Prime to offset the image, you can use this mirroring capability to create multi-channel views.

Range Volumes

Range volumes are translucent volumes that identify the area within which an entity's armaments are effective. It is configured in the Stealth and does not rely on information coming in over the network.

LynX Prime

The LynX Prime application is included with the Stealth and is installed in the *stealthx.x/bin* directory. You can use LynX Prime to edit *.acf* files and configure aspects of the Stealth that are not accessible in MTL file parameters.

New and Update Configuration Parameters

The Stealth has many new parameters to support StealthXR and other new features. See the *MÄK Stealth User's Guide* for details. The **PreloadModels** parameter is now off (0) by default. This means that models will be loaded dynamically. The Stealth may freeze while loading a large model. You can configure the Stealth to load all models at startup by changing this parameter in *params.mtl*.

Documentation Updates

The printed version of *MÄK Stealth User's Guide* has been updated for this release. Online help now uses the Qt Assistant help browser rather than the default web browser on a computer. The *.doc* directory includes the *MÄK Products Interoperability Guide*.

Fixed Bugs

This release fixes the following bugs or restrictions that were present in Stealth 5.2:

- ♦ Right-clicking an undocked window no longer crashes the Stealth.
- ♦ The Smoking/Flaming appearance attribute is no longer ignored for lifeform entities.
- ♦ Dynamically loading models on Linux now works.
- ♦ Entities now appear on the entity locator.
- ♦ Error boxes for RTI problems now work.
- ♦ Stealth no longer crashes on exit when loading the RTI Spy GUI.
- ♦ Inset views now show the ground clamped view.
- ♦ Stealth no longer crashes in tether track mode and mimic track mode.
- ♦ In the Plug-in API, removeModel() now works.
- ♦ Renaming a view in the Save Views widget now works correctly.
- ♦ Turning smoothing off in the GUI no longer turns off dead reckoning.
- ♦ Stealth now supports CTS UTM databases.
- ♦ Ground cultural features are now ground clamped.
- ♦ Lambert coordinate system info is now read in correctly from OpenFlight files.

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.
- ♦ Tracked billboard models sometimes do not load.
- ♦ Undocking a window from an undocked window freezes the Stealth.
- ♦ Inset views must be disabled to load LADBM. If the Stealth detects a MetaFlight database in its ACF file, it disables inset windows for entities.
- ♦ The option to only smooth attached entities does not work.
- ♦ If you try to use *vaportrail.flt* or *dusttrail.flt*, they do not rotate properly. Entity trails configured in the ACF file work correctly.
- ♦ If you use a Blueberry 3D database, the Stealth crashes on exit.
- ♦ The Model Mapper does not support rotation and scale.
- ♦ You cannot select an emitter system from the 3D view.
- ♦ Clouds and the sky dome are not supported in geocentric mode.
- ♦ Sound is not supported on Linux.
- ♦ You cannot load OpenFlight files directly on Linux. You must load them through an MTL file.
- ♦ 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.

