



MÄK Plan View Display 2.10 Release Notes

This release note contains the following release-specific information for MÄK Plan View Display Release 2.10:

Systems Supported	2
Building on Linux	3
Disk Space Requirements	3
Compiler Compatibility on Windows	3
MÄK Product Compatibility	4
Qt Release Compatibility	4
FLEXlm Support	4
Third-Party Library Requirements	4
Network Compatibility	5
Backwards Compatibility	5
RPR FOM Versions Supported	6
New Features and Updates	7
Redesigned TDB Tool	7
Time Management	7
Support for VMAP Files	7
Updated Raster Map Layers Dialog Boxes	8
Miscellaneous Changes	8
Documentation Updates	8
Bug Fixes	9
Known Problems	10

Copyright © 2006 MÄK Technologies, 68 Moulton St., Cambridge, MA 02138
All rights reserved. MÄK Technologies®, VR-Forces®, RTIsPy®, and VR-Link® are registered trademarks of MÄK Technologies, Inc.
Document ID: PVD-2.10-2-061213

Systems Supported

MÄK Plan View Display 2.10 is available for the platforms listed in [Table 1](#). For the availability of other platforms, contact your MÄK salesperson. For toolkit users, application code must be built with the indicated compilers in order to link to MÄK Plan View Display libraries.

Table 1: Platforms supported

Operating System	Compiler	glibc
Red Hat Enterprise Linux Workstation 3	GNU C++ (GCC) 3.2.3	2.3.2
Red Hat Enterprise Linux Workstation 4	GNU C++ (GCC) 3.4.4	2.3.4
Red Hat Fedora Core 3	GNU C++ (GCC) 3.4.4	2.3.6
Windows 2000 SP2, XP	Microsoft Visual C++ 7.1	
	Microsoft Visual C++ 8.0	

Applications running on newer AMD CPUs, without the latest CPU drivers from the manufacturer, may experience performance problems, regardless of whether those applications are provided by MÄK Technologies. It is highly recommended that the latest versions of the drivers be installed. The drivers are available from AMD at the following URL:

http://www.amd.com/us-en/Processors/TechnicalResources/0,,30_182_871,00.html

Windows 2000 Requirements

Windows 2000 has the following requirements for running VR-Forces:

- ♦ To run MÄK Plan View Display, you must install the latest version of DirectX, available from the Microsoft web site.
- ♦ If you are building MÄK Plan View Display with MSVC++ 7.1, you must install the latest version of the DirectX SDK (obtainable from Microsoft).

Libraries and Binaries Built with Visual Studio 2005

All MÄK products built with Microsoft Visual Studio require the C Runtime Library to function. The C runtime libraries have always been available from Microsoft for download, they are also installed on a user's machine when a Microsoft compiler is installed. The C runtime libraries are not part of the normal Windows installation. For customers who plan to use MÄK products on machines that do not have a compiler installed, MÄK has historically distributed a copy of the C Runtime Libraries with MÄK products. These libraries were put in the *bin* directory used by the MÄK products. MÄK products would then use the libraries in the *bin* directory and customers would not have a problem if copies of the libraries were not already installed.

Unfortunately, with the release of the new C Runtime Libraries required by Microsoft Visual Studio 2005 (MSVC++8.0), the libraries can no longer just be copied into the *bin* directory of an application. The libraries need to be installed correctly into Windows system folders. (The process is actually a little more complicated, a manifest file needs to be created to tell Windows where to find the libraries.)

To accommodate this change, MÄK is distributing the Windows installer for the C runtime libraries with all MÄK products released for MSVC++8.0. The installer is named *vcredist_x86.exe* and is in the base directory of any installed MÄK product.

Running the installer requires Administrator privileges for the machine the installer is run on. MÄK has chosen to not integrate the MÄK installer and the Microsoft installer so as not to require users to have Administrator privileges to install MÄK products. Therefore, if you who do not have a compiler installed, or get error messages like "Software has not been installed correctly, please re-install", you must apply the patch.

For more information see this Microsoft URL:

<http://msdn2.microsoft.com/en-us/library/ms235299.aspx>

Building on Linux

The example Makefiles require a patched version of gmake 3.80, which has been included for your convenience in the *.mkbin* directory. This version of gmake is based on version 3.80, but includes a memory fix that is needed to use our makefiles. The source code for the modified gmake is freely available from <http://ftp.mak.com/out/gmake3.80-patch1.tar.gz>. This patch will be included in future versions of gmake.

Before you compile the examples, go to the top level of your installation and create a symbolic link called *VR-Link* to your VR-Link installation and another called *RTI* to your RTI installation.

Disk Space Requirements

A full installation of MÄK Plan View Display requires approximately 500 MB of disk space. Terrain databases use approximately 106 MB and documentation (primarily the class reference) uses 100 MB.

Compiler Compatibility on Windows

MÄK provides versions of product releases that have been compiled with Microsoft Visual C++ 7.1 and 8.0. When you run MÄK products together on the same computer, for example, MÄK Plan View Display and the Stealth, we strongly recommend that you run versions compiled with the same compiler. Mixing products compiled with different versions of the compiler can result in program instability.

MÄK Product Compatibility

To build MÄK Plan View Display applications, you must link with VR-Link 3.10.1. If you are building for HLA and want to link with the MÄK RTI, use MÄK RTI 3.x.

MÄK Plan View Display 2.10 is a parallel release to VR-Forces 3.10.

Qt Release Compatibility

If you want to do development using the MÄK Plan View Display API, you need to use Qt, a cross-platform GUI toolkit from Trolltech. The MÄK Plan View Display GUI was built with Qt release 3.3.5. You must purchase a VR-Link developer's license and a Qt development license.

FLEXlm Support

MÄK Plan View Display 2.10 uses FLEXlm 10.8. You must copy the files in *.flexlm10.8* to your license server directory. You do not need to change license files (unless your maintenance agreement has expired.)

Third-Party Library Requirements

DtTerrainProfileWidget is based, in part, on the work of the Qwt project (<http://qwt.sf.net>). To compile examples or user projects, you must download the QWT distribution at <ftp://ftp.mak.com/out/qwt-0.4.1.zip>. This distribution is known to work with MÄK Plan View Display. Set the MAK_QWTDIR environment variable to point to the location of the QWT library.

Network Compatibility

HLA only

MÄK Plan View Display 2.10 was built against VR-Link 3.10.1 and is compliant with:

- RPR-FOM 1.0 and a subset of 2.0 (draft 6 and 17)
- MÄK RTI 3.x.x and other RTIs that meet the HLA 1.3 or IEEE 1516 SISO DLC API specifications and are built with the same compilers as MÄK Plan View Display.

MÄK Plan View Display 2.10 is compatible with applications that use earlier versions of VR-Link if they support versions of the RPR FOM listed.

i

MÄK Plan View Display is no longer compatible with the DMSO RTI-NG v6, because that RTI was not built using any of the compilers supported by MÄK Plan View Display 2.10. MÄK Plan View Display 2.10 should be compatible with commercial successors to the DMSO RTI if they conform to the HLA 1.3 or 1516 (SISO DLC API) specifications and are built with a compiler supported by MÄK Plan View Display.

DIS only

MÄK Plan View Display 2.10 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.

Backwards Compatibility

The MÄK Plan View Display 2.10 API is not compatible with previous releases of MÄK Plan View Display.

RPR FOM Versions Supported

MÄK Plan View Display 2.10 has built-in support for versions 1.0 and 2.0 (draft 6 and 17) of the RPR FOM. It also supports VR-Link's ability to support alternative FOMs through the FOM Mapper. By default, MÄK Plan View Display 2.10 uses RPR FOM 1.0.

If you are building an application with the MÄK Plan View Display API and you want to specify a version of the RPR FOM through code, pass the version number (for example, 2.0006) to the *DtRprFomMapper* constructor and pass the resulting object to the *DtExerciseConn* constructor. Also, make sure you are using a federation execution name that corresponds to the right FED file. For example:

```
DtExerciseConn conn("VR-Link20006", "MyApp", new DtRprFomMapper(2.0006));
```

In order to support RPR FOM 1.0, we have added the following extensions (which are supported in later versions of the RPR FOM):

- ♦ EnvironmentProcess
- ♦ GriddedData
- ♦ EmbeddedSystem.IFF
- ♦ EmbeddedSystem.IFF.NatoIFF
- ♦ EmbeddedSystem.IFF.NatoIFF.NatoIFFTransponder
- ♦ EmbeddedSystem.IFF.NatoIFF.NatoIFFInterrogator
- ♦ EmbeddedSystem.IFF.SovietIFF
- ♦ EmbeddedSystem.IFF.SovietIFF.SovietIFFTransponder
- ♦ EmbeddedSystem.IFF.SovietIFF.SovietIFFInterrogator
- ♦ EmbeddedSystem.IFF.RRB
- ♦ BaseEntity.AggregateEntity
- ♦ ObjectRoot.BaseEntity.PhysicalEntity.Lifeform.

For both RPR FOM 1.0 and 2.0 MÄK Plan View Display 2.10 relies on the LgrControl and ViewControl custom MÄK extensions.

New Features and Updates

MÄK Plan View Display 2.10 has the following new application features and updates:

- ♦ Redesigned and updated Terrain Database Tool, including introduction of projects and replacement of MAP files with MAK Terrain Descriptor (MTD) files. The TDB Tool is documented in *TDB Tool User's Guide*.
- ♦ Support for HLA time management
- ♦ The Raster Map Layers dialog box has been updated
- ♦ Support for VMAP files
- ♦ Support for recently opened terrain database lists
- ♦ Support for displaying a watermark on the map.

Redesigned TDB Tool

The TDB Tool has been enhanced to add support for the new MÄK Terrain Project and MÄK Terrain Descriptor files. MÄK Terrain Descriptor files replace MAP files and serve the same function, specifying a terrain database and associated raster map images to load into MÄK Plan View Display. MÄK Terrain Projects allow you to create GDB terrain databases from supported database and vector input files. Projects can be saved so that you can repeatedly reproduce a database with a known set of parameters, as needed. The TDB Tool GUI now supports specification of the various import parameters that were previously only available from the command line or in MAP files.

The TDB Tool now allows you to add point, linear, and areal vector features to a GDB database.

TDB Tool documentation has been removed from *MÄK Plan View Display User's Guide* and is now provided in *MÄK Terrain Database Users Guide*. Please refer to this manual for complete details about how to use the TDB Tool.

Time Management

MÄK Plan View Display now supports time management for HLA federations. You can specify that federates be time constrained, time regulating, or both. For details, please see Chapter 3, *Plan View Display Concepts* and Chapter 4, *Starting the Plan View Display*, in *MÄK Plan View Display User's Guide*.

Support for VMAP Files

You can now load vector data from the VMAP standard into VR-Forces. You can import based on a region of interest (defined by lat/long) and by a thematic layer as well as an optional specific element within that thematic layer. For details, please see Chapter 6, *Metafile Records* in *MÄK Terrain Database Tool User's Guide*.

Updated Raster Map Layers Dialog Boxes

The Raster Map Layers dialog box has the following changes:

- You can change the transparency value using the up and down arrow keys
- When you select a layer, the dialog box displays a thumbnail version of the raster image.

Miscellaneous Changes

- The File menu now lists the most recently opened terrain databases so that you can quickly select them.
- You can enable and disable display of a splash screen on startup. To configure this option, edit the **showSplashScreen** parameter in *pvd.mtl*.
- When you edit graphical objects you can move them a small amount (nudge them) from the keyboard. To nudge a graphics, hold down the **Ctrl** key while pressing the arrow or number keys normally used for movement.
- You can preserve empty overlay layers when you close a database or in the overlay file. To enable this option, set the **preserveEmptyOverlayLayers** to 1 in *pvd.mtl*.
- A new command line option, **--outputLogFile**, lets you specify the name of the log file to write console output to.
- You can now draw contour lines on the mini-map.

Documentation Updates

MÄK Plan View Display User's Guide manual has been reprinted for this release.

Bug Fixes

This release fixes the following problems:

- ♦ Could not load OpenFlight files in geocentric coordinates OpenFlight versions earlier 16.1.
- ♦ Could not translate soil type text in the GUI.
- ♦ Could not configure Beam Type for Emitter Systems.
- ♦ The terrain profile widget did not display correct terrain height for units other than meters.
- ♦ The Overlay palette dialog box and create control objects dialog box did not show translated text correctly.
- ♦ A rotated ellipse with a fill pattern did not draw correctly.
- ♦ Shapefiles containing geodetic coordinates did not load correctly.
- ♦ Could not rotate or resize ellipse overlay objects.
- ♦ Local overlay objects were not saved with sufficient precision, resulting in a slight shift in position upon reload.
- ♦ Soil types were not mapped according to *surfChar.map*.
- ♦ Terrain databases in Lambert projection were not saved correctly.
- ♦ Not all articulated part types were supported.
- ♦ Range ring center lines (associated with the direction of the turret) were off by 180 degrees.
- ♦ Radio transmitters were not always displayed in HLA.
- ♦ Raster map layers did not work under Linux.
- ♦ Not all objects were deleted in an overlay layer when the layer got deleted.
- ♦ IFF information was not always correctly displayed in an entity's information dialog box in HLA.
- ♦ The entity list in the GUI did not display entity types with kinds other than 1 or 11 (for example sensors with kind 9 did not show up in list).

Known Problems

MÄK Plan View Display Release 2.10 has the following known problems:

- ♦ The intervisibility display does not always reflect what simulated entities perceive in the back-end. For example, the intervisibility does not ignore water surface polygons while entity models do.
- ♦ Intersection lines in intervisibility fans sometime change colors as you change the zoom level.
- ♦ Entity intervisibility with point features does not work correctly.
- ♦ Vector feature orientation is not displayed correctly in the GUI. Features are always displayed with an orientation of 0.
- ♦ Geometry files referenced by a MetaFlight file must be in OpenFlight format, and not in Vega Prime's binary format (*.vsb*). MÄK's terrain libraries do not support *.vsb* files.
- ♦ File paths that are used within a MetaFlight file to designate the OpenFlight data files must be fully qualified absolute paths. Relative paths, and paths that include environment variable expansions are not supported.
- ♦ Terrain databases processed with the balance option may display incorrectly.
- ♦ You cannot load vector data on geocentric terrain.
- ♦ Loading *.c4b* files may cause application to hang on Linux.
- ♦ CADRГ files cannot be configured through the TDB Tool GUI. You must manually edit MTD files to include them.
- ♦ Do not play the *maklanddemoHLA1516_vrlink_xml.lgr* file (included with MÄK Logger 4.0 release) while running MÄK Plan View Display using draft 17 of the RPR FOM. Running this file in this particular configuration produces memory leaks. Run MÄK Plan View Display using RPR FOM 1.0 when working with this Logger recording.