



VR-Vantage 3.1.1 Release Notes

This release note contains release-specific information for VR-Vantage 3.1.1.

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Systems Supported and System Requirements

For information about platform and system support, see the Product Specifications & Dependencies page on the MAK website at: <https://www.mak.com/mak-one-specs>. You can also find them in the Third-Party Licenses section of the Preface in the user guide and help.

For hardware requirements, see <https://www.mak.com/mak-one/support/help/hardware-recommendations>.

Compiler Compatibility on Windows

MAK provides versions of product releases that have been compiled with different versions of Microsoft Visual C++. MAK ONE products built with VC 14 and later are binary compatible and will work together. When you run MAK ONE products together on the same computer, for example, VR-Vantage and VR-Forces, we strongly recommend that you run versions compiled with the same compiler or binary compatible compilers.

Disk Space Requirements

A full installation of VR-Vantage requires approximately 6.6 GB of disk space and an additional 69.8 GB for the complete makData 18 package, including the supplemental data package.

The makData Package

VR-Vantage 3.1.1 is compatible with the makData 18 package. MAK applications can share the same data package. For instructions on installing the data, see "[The makData Package](#)" in the *VR-Vantage Users Guide*.

 The MAK data package contains data that VR-Vantage requires. See the *Installing VR-Vantage* chapter of the users guide.

License Manager

VR-Vantage 3.1.1 uses FLEXlm 11.17.1. You must install the license management software to run VR-Vantage.

The MAK License Manager files are not part of the VR-Vantage installer. You can download them from the MAK ONE Product Downloads page (<https://www.mak.com/mak-one-downloads>).

Installation of the license manager is covered in the *MAK ONE Installation Guide*, available online at <https://mak.com/mak-one-installation-guide>. Support is also available at <https://www.mak.com/mak-one/support/portal>.

New Features and Major Changes

VR-Vantage 3.1.1 has the following new features and updates.

- Upgraded ScalableSDK to version 10.0.
- Added a new window type, `FramelessWindow`, which creates a window with no frame that you can position and size to span multiple monitors. It is useful for a flight station that uses multiple monitors. The frameless window has a better framerate than multiple display engines because there is a single window and therefore a lower performance impact.
- When you define a fill texture for 2D areas, you can now set it to stretch the image. (The default is to repeat it.) Set the `EnableTextureFillFitToArea` model definition parameter to true, or use the `enabletexturefillfittoarea` element definition attribute or the `setIsTextureFillFittedToAreaEnabled` API. The `setIsStippleUsedForFill` parameter has been deprecated.

SensorFX

- Added support for materially classified point model replacement features provided by `osgEarth` by using the necessary EMAT files. This displays terrain features such as trees correctly in SensorFX.

Fixed Bugs

Table 1. Fixed Bugs

Key	Summary	Release Notes	Fix Version/s
DIG-893	PDB installer doesn't install PDBs to the right location	Corrected to ensure that the DI-Guy PDB files install in the ./bin directory, not the ./include directory.	DIG-13.7.1
DIG-894	Fix package naming and install location.	Updated the DI-Guy package naming conventions and default installation locations to be consistent with other MAK ONE products.	DIG-IPB20, DIG-13.7.1
VRV-4637	VR/MR: Clouds rotate with headset moving left/right	Enabled the per cloud billboard mode in SilverLining.config to improve billboarding in virtual reality mode.	VRV-3.2, VRV-3.1.1
VRV-4710	Tugboat wake is off when viewed in VR	Updated the code for Dynamic Ocean to use the different mulModelViewProjection function. Also corrected the offsetting code.	VRV-3.1.1
VRV-4836	Insufficient 3dViewCompass support in VR	Adjusted compass DPI scaling to account for virtual reality mode when enabled.	VRV-3.2, VRV-3.1.1
VRV-5045	Mixed reality user interface grays out when disabling and re-enabling VR check box	Made updates to account for changes in the Varjo SDK.	VRV-3.1.1
VRV-5233	Some light point groups for procedural airport lights are not cleaned up	Ensured that removal completes by fixing an issue that prevented lightpoint registration process in the lightgroup manager from fully completing for taxiway and distance-to-go lights.	VRV-3.2, VRV-3.1.1
VRV-5337	Help for simTreesTool references incorrect data version	Fixed to reference the correct version in the example for the --XmlOutputfile (-x) command-line option for the simTreesTool.	VRV-3.2, VRV-3.1.1
VRV-5494	Ocean horizon is jagged in VR	Fixed to ensure that the ocean's horizon displays correctly in virtual reality.	VRV-3.1.1
VRV-5523	NVG CameraFX Blur is more clear at 0.26 then 0.21	Resolved by always using Gaussian blur. Also made a fix to correctly use horizontal instead of vertical.	VRV-3.1.1
VRV-5610	indirect.log is saved to wrong location and with the wrong name	Fixed to ensure that the file is saved in the correct directory with the correct name.	VRV-3.2, VRV-3.1.1
VRV-5669	Potential crashes due to Null pointers in SpeedTree	Fixed to prevent crashes from issues with SpeedTree.	VRV-3.2, VRV-3.1.1

Table 1. Fixed Bugs (continued)

Key	Summary	Release Notes	Fix Version/s
VRV-5692	Crash on MAK Earth (online) using main view plus one inset	Fixed in osgEarth.	VRV-3.1.1
VRV-5697	Crash on exit (HLA, GUI)	Added more error checks to prevent crashes.	VRV-3.2, VRV-3.1.1
VRV-5715	Ship wakes are broken	Updated the code for Dynamic Ocean to get the shader change that addresses an issue with bright lights on the ocean surface while preserving ship wakes.	VRV-3.2, VRV-3.1.1
VRV-5717	Buoyancy is broken on Linux	Fixed to ensure that watercraft move with the waves in Linux environments.	VRV-3.2, VRV-3.1.1
VRV-5721	Insets broken with UTM	Fixed in osgEarth.	VRV-3.2, VRV-3.1.1
VRV-5723	The same GL Studio HUD on two different windows do not function independently	Fixed to ensure that the application does not handle an event unless it is performed on the same channel where the HUD is rendered.	VRV-3.2, VRV-3.1.1
VRV-5730	SensorFX: AGC causes a performance issue	Performance improved when using AGC (automatic gain control).	VRV-3.2, VRV-3.1.1
VRV-5736	SensorFX: Screen turns black viewing destroyed vehicle	Made improvements, including how sensors handle particle systems, to ensure that the MWIR or NVG view modes work correctly when simulation objects are destroyed.	VRV-3.2, VRV-3.1.1
VRV-5744	Magnification doesn't pull in high resolution procedural trees	Fixed to ensure that procedural trees load when the observer view zooms in on terrain with trees.	VRV-3.2, VRV-3.1.1
VRV-5754	SensorFX: Performance issue when using more than one sensor type	Removed a check that forced the recompilation of shaders when certain sensor properties changed. Changing sensor properties did not necessitate a shader recompilation each time.	VRV-3.2, VRV-3.1.1
VRV-5760	SensorFX: Blur effect performance issue	Improved performance of Gaussian blur to ensure that its effects display more quickly.	VRV-3.2, VRV-3.1.1
VRV-5769	VR/MR: OpenVR using different texture format causing preview to look incorrect	Added support for sRGB format explicitly to OpenVR.	VRV-3.2, VRV-3.1.1

Table 1. Fixed Bugs (continued)

Key	Summary	Release Notes	Fix Version/s
VRV-5771	Replace deprecated function calls after updating Scalable SDK to version 10.0	Updated the Scalable SDK function calls to the correct alternatives.	VRV-3.2, VRV-3.1.1
VRV-5778	SensorFX: VR/MR causes observer view to become black	VR mode now disables SensorFX's auto gain to allow VR/MR to function.	VRV-3.2, VRV-3.1.1
VRV-5798	Crash in VR-Forces GUI when starting with Stealth view and using multiple channels	Fixed an uninitialized variable to prevent the crash.	VRV-3.2, VRV-3.1.1, VRV-3.0.3j
VRV-5799	CIGI entities remain visible when entity alpha is set to 0	Fixed an initialization error to ensure that entities are invisible when the alpha parameter is zero.	VRV-3.2, VRV-3.1.1
VRV-5801	Vegetation floating above terrain even after elevation completely pages in	Fixed in osgEarth.	VRV-3.1.1
VRV-5803	Make DtOsgChannel member functions stopUsingModelSet() and startUsingModelSet() public	In the API, changed the startUsingModelSet and stopUsingModelSet member functions to public instead of protected. Added more developer documentation about these functions.	VRV-3.2, VRV-3.1.1
VRV-5804	SpeedTree ocean reflections missing when using zoom magnification	Improved reflection code to ensure zoom magnification is passed correctly to the reflection scatchpad view.	VRV-3.2, VRV-3.1.1
VRV-5805	SpeedTree shadows missing on distant trees when using zoom magnification	Improved shadow code to ensure zoom magnification is passed correctly to the shadow scatchpad view.	VRV-3.2, VRV-3.1.1
VRV-5809	Packaged developer documentation should be pulled from the Doxygen build machine	To ensure that the class documentation includes everything that it needs, changed how the product pulls the files into the package.	VRV-3.1.1
VRV-5810	Models or parts of models sometimes fail to show when using indirect	Fixed an issue where model parts such as tank treads would not render.	VRV-3.2, VRV-3.1.1

Table 1. Fixed Bugs (continued)

Key	Summary	Release Notes	Fix Version/s
VRV-5815	SensorFX: Material classification does not work for prop models	Fixed to respect material classification of objects placed from the Props Palette.	VRV-3.2, VRV-3.1.1
VRV-5819	SensorFX: Improve all AGC modes	Made significant improvements to AGC (automatic gain control) functionality.	VRV-3.2, VRV-3.1.1
VRV-5825	SensorFX: Enable Halo Effects checkbox does nothing	Fixed to ensure that halos display correctly when users select the check box in the Sensor Settings, and that they do not when users clear it.	VRV-3.1.1
VRV-5833	SensorFX: Pseudo-color not working with manual gain	Fixed an issue that caused the scene to render without red when automatic gain control was disabled and color mapping was enabled, using the pseudo-color map.	VRV-3.1.1
VRV-5836	Marking a GPU-Based Video Stream as an Autostart Video Stream causes issues with CUDA	Fixed to allow streams to autostart.	VRV-3.2, VRV-3.1.1
VRV-5840	SensorFX: Typo in Color Mapping Type	Corrected the spelling of "Pseudo-Color Map" in the Advanced tab of the Sensor Settings page of Display Settings.	VRV-3.2, VRV-3.1.1
VRV-5841	Change the DtElementDefinitionManager to allow root nodes from multiple files	Updated to allow for .hier files not rooted to nodes in the core hierarchy file.	VRV-3.2, VRV-3.1.1
VRV-5842	Not sending CIGI SOF in Async mode	Removed the 'readyToSendCigiMessages' method to comply with CIGI standards when sending Start of Frame messages.	VRV-3.2, VRV-3.1.1
VRV-5856	Crash when flying around Switzerland and reloading the terrain	Improved the code to prevent issues that could cause software crashes.	VRV-3.2, VRV-3.1.1
VRV-5857	RadarFX: Potential crash when zooming into Ala Moana inset and switching to a SensorFX observer mode	Improved the code to prevent issues that could cause crashes.	VRV-3.2, VRV-3.1.1
VRV-5860	OpenFlight models can render incorrectly when using Gouraud shading modes.	Updated to prevent the use of Gouraud drawing modes in OpenFlight models. Those are now forced to Lit mode.	VRV-3.2, VRV-3.1.1

Table 1. Fixed Bugs (continued)

Key	Summary	Release Notes	Fix Version/s
VRV-5861	medfTool is not properly converting FBX model when using optimizations	Fixed issues with the nodes for FBX models that are converted to MEDF.	VRV-3.2, VRV-3.1.1
VRV-5866	Plan View should not show night textures	Fixed to ensure that night textures are not used when the sky is disabled, such as in plan view (2D).	VRV-3.2, VRV-3.1.1
VRV-5875	Offset visualizer parameter does not work for the Image Symbol Visualizer	Made a number of fixes to allow the Offset visualizer parameter to be used correctly.	VRV-3.2, VRV-3.1.1
VRV-5891	Entity Label location doesn't support Unit Display Settings' decimal places	Fixed to display the latitude and longitude in an entity's label information with the number of decimal places specified in the Display Units Settings (previously was limited to 3 decimal places). This applies when the entity's label is set to display the location and the coordinate system is set to Lat/Lon (Dec).	VRV-3.2, VRV-3.1.1
VRV-5896	Rename Documentation Installer-VRV	Some security programs, such as virus protection software, block executables from running if the file name is something like *.doc.exe. Changed the extension to *.docu.exe to allow users to install the product documentation without manually changing the name.	VRV-3.2, VRV-3.1.1
VRV-5899	SensorFX: Improve UI consistency for SensorFX setting	To clarify the purpose of the options, changed some labels in the Sensor Settings page of Display Settings for VR-Vantage with SensorFX.	VRV-3.2, VRV-3.1.1
VRV-5912	Scene object updater crash on entity reinitialization	Fixed issues with logic in the kinematic state objects.	VRV-3.2, VRV-3.1.1
VRV-5914	VR-Vantage decimal lat/lon gridlines do not persist	Updated the code to validate the grid line type to use only when a terrain is loaded. Previously, it would not always respect the user settings and instead display undesired grid lines.	VRV-3.2, VRV-3.1.1
VRV-5919	RDE Video streaming with metadata crashes	Fixed the problem where the metadata publisher was trying to access drivers, which the Remote Display Engine does not have.	VRV-3.2, VRV-3.1.1
VRV-5922	VR-Vantage with SensorFX sometimes crashes on load	Changed thread allocation strategy to prevent crashes.	VRV-3.2, VRV-3.1.1
VRV-5928	View magnification can cause non-indirect entities to disappear	Fixed an issue that caused non-indirect entities to disappear from the observer view when changing the magnification.	VRV-3.2, VRV-3.1.1

Table 1. Fixed Bugs (continued)

Key	Summary	Release Notes	Fix Version/s
VRV-5930	Wheels on vehicles do not steer or turn correctly	Fixed to ensure that wheels turn correctly, regardless of the vehicle's location in the world.	VRV-3.2, VRV-3.1.1
VRV-5932	Add updated Microsoft Visual C++ redistributable to product installer	Updated to the latest Microsoft Visual C++ 2015-2022 redistributable, which is backward compatible. Including the redistributable allows the application to run when it is the only MAK ONE product on a clean installation.	VRV-3.2, VRV-3.1.1
VRV-5933	Obscurant isn't being read in correctly for a default environment of clear	Obscurant wasn't correctly read for a default environment of Clear. Updated so that the application doesn't directly set the visibility distance; first, it goes through checks based on the type of obscurant.	VRV-3.2, VRV-3.1.1, VRV-3.0.3k
VRV-5938	Threading crash loading some unicode characters	Added a mapping that can find the index of the cached glyph from the font glyph index. (The application already loaded any required glyphs for the unicode string.)	VRV-3.2, VRV-3.1.1
VRV-5939	Earth file with multiple CDB elevation/imagery does not seem to work anymore	Fixed the CDB extent calculation to allow earth files with multiple CDB elevation/imagery to work correctly.	VRV-3.2, VRV-3.1.1
VRV-5945	Tracers are not visible	Corrected mappings in fire mapping file to be consistent with numbers that are on the munition entity.	VRV-3.1.1
VRV-5950	Remove option to use old icons	Removed the Use Retro Icons check box from the General Application Settings page of Application Settings.	VRV-3.2, VRV-3.1.1
VRV-5952	Cannot embark aggregates onto entities and vice versa	The application now supports aggregates that are embarked on entities.	VRV-3.2, VRV-3.1.1
VRV-5955	Some local weather effects are not synchronized when systems utilize hasNTPSync	Updated the syncing to allow users to override it.	VRV-3.2, VRV-3.1.1
VRV-5961	Loading a display configuration from the command line fails	Fixed to ensure the application correctly loads embedded Qt windows based on the desired display configuration.	VRV-3.2, VRV-3.1.1
VRV-5973	SensorFX: AGC does not account for bad pixel values	Made improvements to how the application handles bad pixel values.	VRV-3.1.1
VRV-5982	CIGI channel resize policy forced to Fixed	Removed hard-coded behavior setting CIGI channel Projection Resize Policy to Fixed. CIGI channel will not retain existing Resize Policy. Default Resize Policy is Horizontal. If Fixed is desired for a CIGI channel, you can set the CIGI channel to Fixed in the Display Engine Configuration panel. Refer to the Windows, Channels, and Display Engines chapter in either the help or the VR-Vantage Users Guide.	VRV-3.2, VRV-3.1.1

Feature List

Table 2. Feature List

Key	Summary	Release Notes	Fix Version/s
VRV-15	'Point Replacement' Models loaded in through the .earth file require EMAT support	Added support for materially classified point model replacement features provided by osgEarth by using the necessary EMAT files. This displays terrain features such as trees correctly in SensorFX.	VRV-3.2, VRV-3.1.1
VRV-3502	Create frameless window type	Added a new window type, FramelessWindow, which creates a window with no frame that you can position and size to span multiple monitors. For example, it is useful for a flight station that uses multiple monitors. The frameless window has a better framerate than multiple display engines because there is a single window and therefore a lower performance impact.	VRV-2.7j, VRV-3.2, VRV-3.1.1, VRV-3.0.3k
VRV-5056	Upgrade ScalableSDK to version 10.0	Updated SDK to version 10.0. This addresses compatibility issues with dynamic eyepoint mesh files (POL) produced by newer versions of Scalable Display Manager.	VRV-3.2, VRV-3.1.1
VRV-5746	Support separate spacing values for GARS and MGRS	Gridlines now have separate fixed-spacing values for MGRS and GARS. All degree systems only use spacing that is appropriate for those coordinate systems.	VRV-3.2, VRV-3.1.1
VRV-5812	osgEarth - support MVT (Mapbox Vector Tiles) FeatureSource	Added support for osgEarth's MVTFeatureSource for terrains. Refer to Pelican Mapping's osgEarth documentation on layers for more information.	VRV-3.1.1
VRV-5824	Allow Decal Projector Polygons to be completely filled with a texture	When you define a fill texture for 2D areas, you can now set it to stretch the image. (The default is to repeat it.) Set the EnableTextureFillFitToArea model definition parameter to true, or use the enabletexturefillfittoarea element definition attribute or the setIsTextureFillFittedToAreaEnabled API. The setIsStippleUsedForFill parameter has been deprecated.	VRV-3.2, VRV-3.1.1
VRV-5829	Show CUDA Runtime information in console along with GPU information	When running VR-Vantage applications with the console, users can now see the CUDA information in the console.	VRV-3.2, VRV-3.1.1
VRV-5864	Upgrade GStreamer to the latest version	Updated to 1.24.5 for Windows. (Red Hat uses system libraries.)	VRV-3.2, VRV-3.1.1
VRV-5974	Disable publishing observers by default	Observers are no longer published by default. You must select the Publish Observers check box in the Simulation Connections dialog box.	VRV-3.2, VRV-3.1.1

Known Problems

Problems can arise with any product. MAK has a knowledge base of the problems that we know about, which is always changing as new problems are identified and new solutions are found. To learn how to address known problems with VR-Vantage and other MAK ONE products, access the MAK ONE Product Support Knowledge Base:

<https://www.mak.com/knowledge>.

If the problem you are experiencing is not addressed in the knowledge base, contact support for assistance: <https://www.mak.com/support>.

For information about other issues that you might encounter while using the VR-Vantage, see the [Troubleshooting](#) appendix in the *VR-Vantage Users Guide*.