# V-Ray Image to EXR Converter

This is a V-Ray application that is common across all V-Ray installations.

Overview

The VRImg to OpenEXR converter is both a command-line utility and a simple GUI application that can be used to convert *.vrimg* image files to *.exr* files in OpenEXR format. The *.vrimg* file format stores the rendered image with all available render elements. The V-Ray Image to EXR Converter converts *.vrimg* files to EXR format so the render elements may be loaded into compositing software, where they can be used for Back-to-Beauty compositing or for other adjustments and fine-tuning at the render element level.
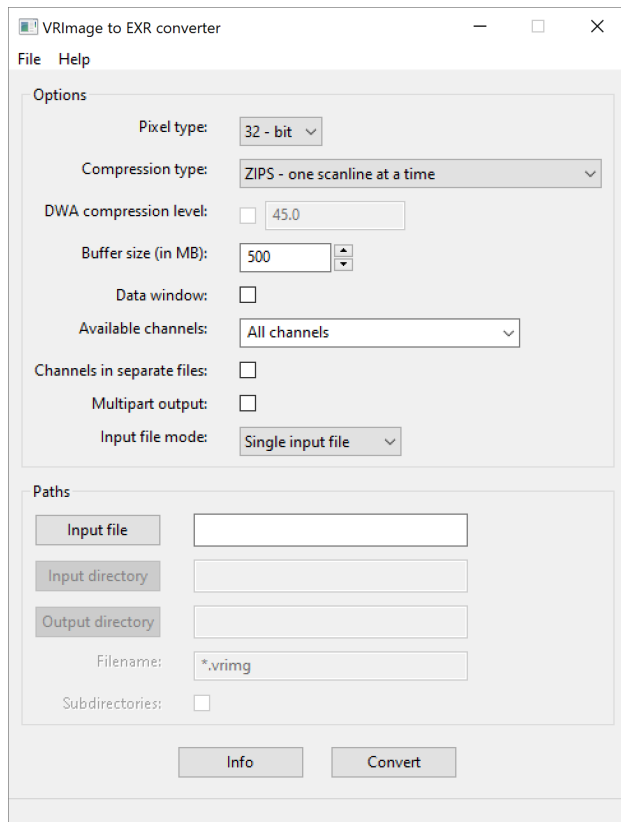
Location

Currently, on all operational systems the **vrimg2exr.exe** is located in V-Ray's folder (where the V-Ray files are extracted) > **appsdk** > **bin**.

VRIMG File Format

VRIMG is a Chaos proprietary file format used by the V-Ray Frame Buffer (VFB) to store the rendered image incrementally (bucket by bucket) while rendering in full floating-point format, with all available render elements. It is used as a render output, but it is not recommended for use as a texture file format. VRIMG contains metadata, i.e., render statistics. It supports dynamic bucket size.

VRIMG can be saved just as any other image format – it can either be the render output format, or it can be saved from the VFB.

GUI Usage

Running vrimg2exr without any parameters or from the Start menu opens the GUI version of the tool, as seen in the Overview section of this page. The GUI allows you to convert one or a number of *.vrimg* files to OpenEXR files. You can also get information about the data stored in a *.vrimg* file.

Pixel type – Specifies whether the data in the .exr file is saved as 16-bit or 32-bit floating point numbers.

Compression type – Sets the compression type, choosing between the several available methods. If not specified, the **ZIP** method is used.

- **None**
- **RLE - run length encoding**
- **ZIPS - one scanline at a time**
- **ZIP - in blocks of 16 scanlines**
- **PIZ - piz-bazed wavelet compression**
- **PXR24 - lossy 24-bit float compression**
- **B44 - lossy 4x4 pixel compression, fixed rate**
- **B44A - lossy 4x4 pixel compression**
- **DWAA - lossy DCT-based, blocks of 32 scanlines**
- **DWAB - lossy DCT-based, blocks of 256 scanlines**

DWA compression level – A floating-point value that controls the compression level when using the lossy **DWA** compression methods.

Buffer size (in MB) – Sets the maximum allocated buffer size. By default, this value is set to 500 MB. If the image does not fit into the max buffer size, it is converted in several passes.

Data window – Tries to find the valid data window from the .vrimg file. This requires that the file can be read in **one pass**. The non-zero pixels in the alpha channel are used to determine the data window.

Available channels – Specifies which channels of the .vrimg file are written into the .exr file. Provides a list of all available channels found in the .vrimg file (s) once an input file or directory is selected.

Channels in separate files – When this option is enabled, each channel is written into a separate .exr file.

Multipart output – When this option is enabled, each channel is written into a separate OpenEXR2 'part'.

Input file mode – Selects the input file mode.

- **Single input file – Only a single file is converted.**
- **Multiple input files** – Multiple files are converted at once.

Input file – Specifies the .vrimg file when **Single input file** is selected as the **Input file mode**.

Input directory – Specifies the input files' directory when **Multiple input files** is selected as the **Input file mode**.

Output directory – Specifies the output directory for the .exr files when **Multiple input files** is selected as the **Input file mode**.

Filename – Specifies a search pattern for the input file names. Wildcards (*) can be used to define the pattern.

Subdirectories – When this option is enabled, all .vrimg files contained in subdirectories of the specified input directory are also converted.

Info – Provides information about the .vrimg file(s) once an input file or directory is selected.

Convert – Starts the conversion.

Command Line Usage

There are two methods for running the vrimg2exr converter from the command line. In both cases, the original *.vrimg* file is not deleted.

Converting a single *.vrimg* file to a single *.exr* file:

```
> vrimg2exr  <vrimg _file> <exr_file> [options]
```

In this case, the <vrimg_file> cannot contain wildcards. Note that the .exr extension is not added automatically to the output file name.

Converting multiple *.vrimg* files to multiple *.exr* files:

```
> vrimg2exr  <vrimg_wildcard> [options]
```

In this case, <vrimg_wildcard> can contain the wild-card symbols '*' and '?'; the *.vrimg* files will automatically be converted to OpenEXR files with the *.exr* file extension.

Under Linux and macOS, parameters with wildcards must be placed within apostrophe symbols -'image_wildcard'. Otherwise, the command line shell automatically expands the wildcard into a file list, which forces the program to terminate.

Options

One or more of the following options may be specified:

Option	GUI equivalent	Description
-info	**Info** button	Prints information about the .vrimg file (resolution, channels present, etc.). This is only supported for .vrimg files created with V-Ray versions 1.48.xx and higher.
-half	**Pixel type** drop-down	Stores the floating-point data in the .exr file as 16-bit floating-point numbers. If this option is not specified, the data is stored as 32-bit floating-point numbers.
-sRGB	-	Converts the RGB data from the .vrimg file to the sRGB color space before writing it to the .exr file. Without this option, no color conversion is performed.
-gamma <gamma _value>	-	Applies the specified gamma value to the RGB colors before writing the .exr file. If this option is not specified, the data is stored in linear space.
-channel <name>	**Available channels** drop-down	Only reads the specified channel from the .vrimg file and writes it as the RGB channel in the output file. No other channels are written to the .exr file. This option can be used to extract the different channels in the .vrimg file to separate image files. Use the -info option for a list of available channels in the file.
-compression <method>	**Compression type** drop-down	Sets the compression type for the resulting .exr file. If not specified, ZIP compression is used. Currently supported values for <method>are: none, zips, zip, piz, pxr24
-dwaCompression Level <level>	-	A floating-point value that controls the compression level when using the lossy DWA compression methods.
-bufsize <buf_size>	**Buffer size** spinner	The maximum buffer size per channel (in megabytes) that is used for the conversion. If the image does not fit into that buffer size, the converter will process it in several passes. Larger buffer size means faster conversion, but, obviously, requires more memory. The default is 10 MB per channel, but a larger value, e.g., 100 or more, is recommended for large files. A value of **0** removes the limit for the buffer. In that case, it will try to load the image in one pass, which may result in utilizing all available memory.
-dataWindow	**Data window** checkbox	Attempts to find a rectangle in the image that stores non-zero data (based on the alpha channel) and only stores this data window in the OpenEXR file.
-separateFiles	**Channels in separate files** checkbox	Each render channel is written to its own OpenEXR file. If not specified, a single multichannel OpenEXR file is produced.
-multiPart	**Multipart output**	Each render channel is written to a separate "part" inside a single OpenEXR file. This allows applications to load each render element separately, which may speed up the work when there are many render channels.
-shortChanNames	-	Channel names will have less than 32 characters. The produced .exr file will be compatible with OpenEXR 1.x.
-threads <num>	-	Uses a specified number of computation threads. Default or 0 is equal to the number of processors.
-help	-	Print all possible command-line parameters.