

RealityCoder V1

User Guide



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About Us

3D Impact Media is the leading provider of glasses-free 3D content technologies. The company has developed a broad range of products and solutions in the areas of 3D conversion, post-production, content management and playback.

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About RealityCoder

The RealityCoder is a 3D media transcoder that supports the encoding and decoding of 3D stereo and multi-view video and picture files using the most popular codecs in order to ease and accelerate common post-processing steps. It thereby produces output files (and file names) that are optimised for both the RealityPlayer and RealityMapper applications.

The application processes most common multimedia files that do not contain any kind of copy protection, and outputs standard h.264 MP4 movie files as well as most common picture formats.

The RealityCoder currently facilitates the following workflows:

- Individual 3D views can be encoded into a single 3D picture file, based on custom encoding parameters.
- Frame series of stereo 3D and multi-view movies can be encoded into a single movie file, based on custom encoding parameters.
- Stereo 3D and multi-view movie files can be decoded into frame series.

If you find a bug, please send a report to realitycoder@3dimpactmedia.com. Don't assume we already know about it! Tell us

1. what version you are using and on which operating system/platform,
2. how we can reproduce the problem, and if possible send us
3. a system crash and/or activity log for the transcoding process that failed.

If you are facing an issue with a particular file or format, a short small sample that reproduces the problem is extremely helpful.

And if you have a new idea or suggestion, get in touch with us as well!

Getting Started

This section contains detailed information about installing and licensing the RealityCoder software.

1.1 System Requirements

Before you install RealityCoder, please make sure that your system meets the following minimum requirements:

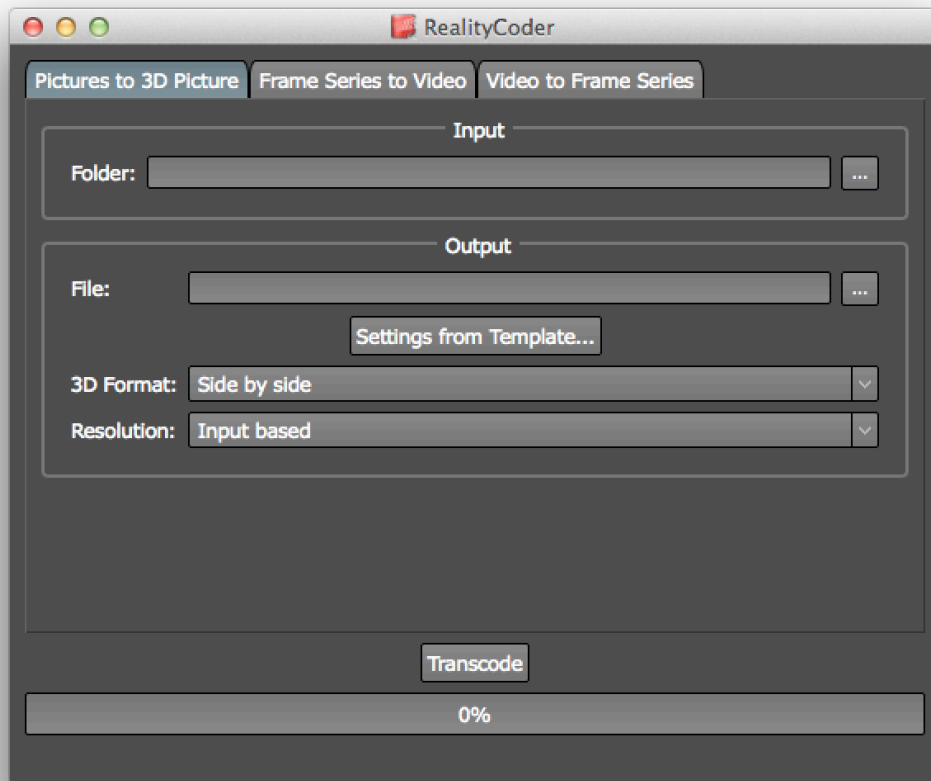
- A PC running Microsoft Windows 7/8 (64bit only)
- A x86_64 compatible CPU supporting Intel SSE2 instructions
- 1 GB of RAM, or more

1.2 Installation and Licensing

1. Download the installer from <http://www.3dimpactmedia.com>
2. Double click the installer and follow the instructions.
3. Request an activation code by sending us your Machine ID via email.
4. We will send you the code, paste it into the activation code field in the license panel and activate the license.
5. Ready to go.

3D-Picture Encoding

The 3D-picture encoding workflow expects a series of individual views and converts them into a single picture file using a set of custom encoding parameters, such as the output resolution and the 3D format.

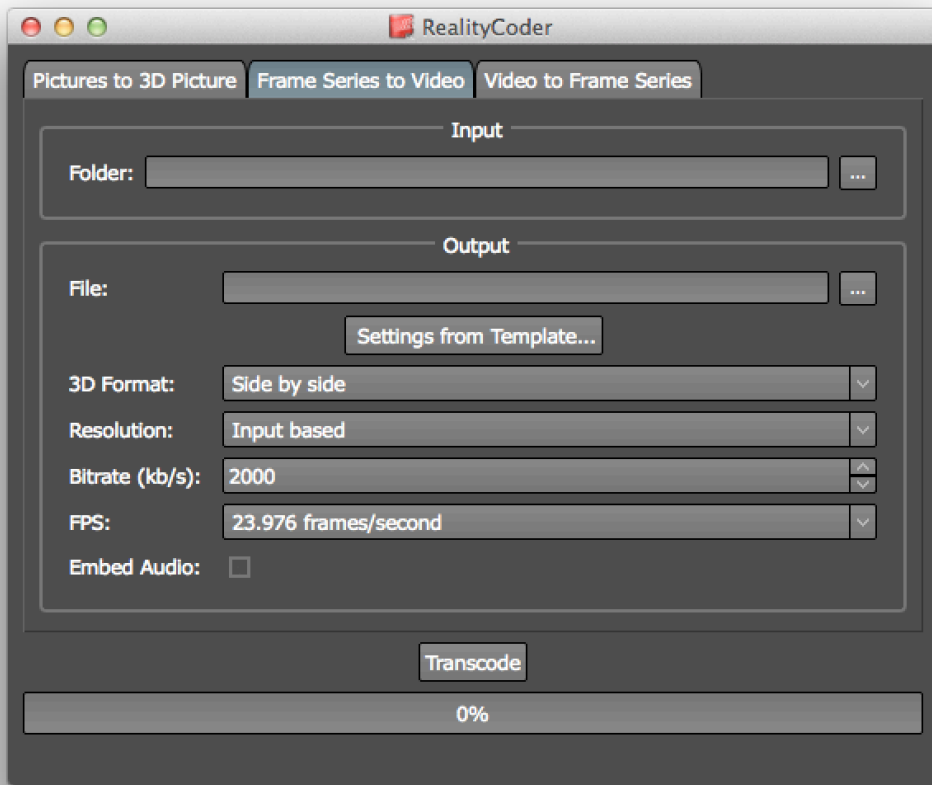


When encoding a 3D-picture file the application expects the correct number of input views based on the 3D format parameter. The files are read from the specified input folder; the RealityCoder uses the first n files for the conversion. Other files will be ignored. Furthermore, the application offers a set of predefined target device templates for the conversion. Please contact us if you would like us to integrate your device settings.

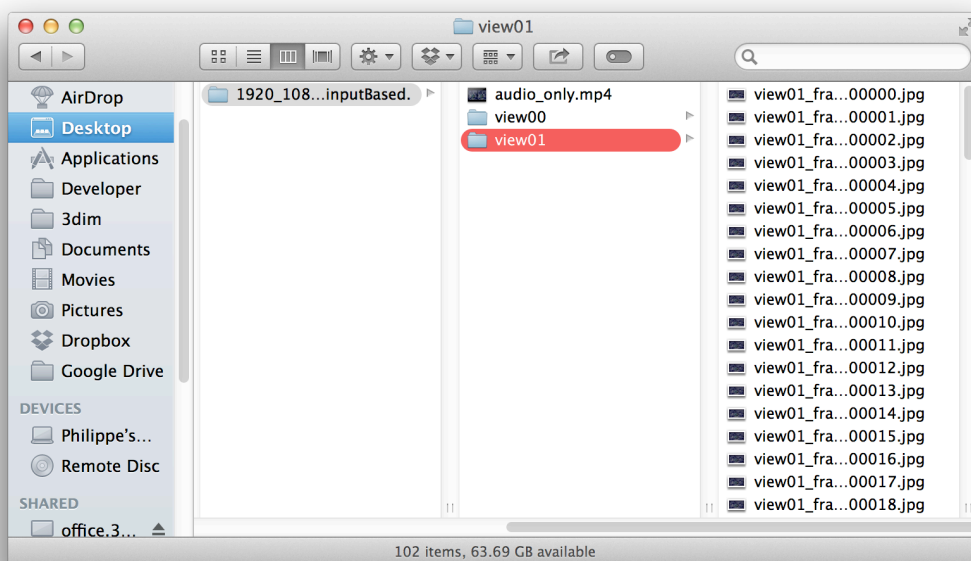
3D-Video Encoding

The 3D-movie encoding workflow expects a set of input frames and converts them into a single movie file using custom encoding parameters, such as the 3D format, the output resolution, the frames per second (FPS) and bitmap settings.

The optimal bitrate depends on many different factors, ranging from the movie content to the available bandwidth and the final target display (device). There is no universal rule how to compute the optimal bitrate, but you can use the [Kush Gauge equation](#) as a starting point. We therefore recommend that you always run a few experiments before rendering the final production content.



Please note that the input files have to be stored in a folder structure, otherwise RealityCoder cannot process the views; i.e., the view files have to be stored in separate view folders, and all files and folders must named alphabetically. See below for an example showing the layout of a side-by-side movie:



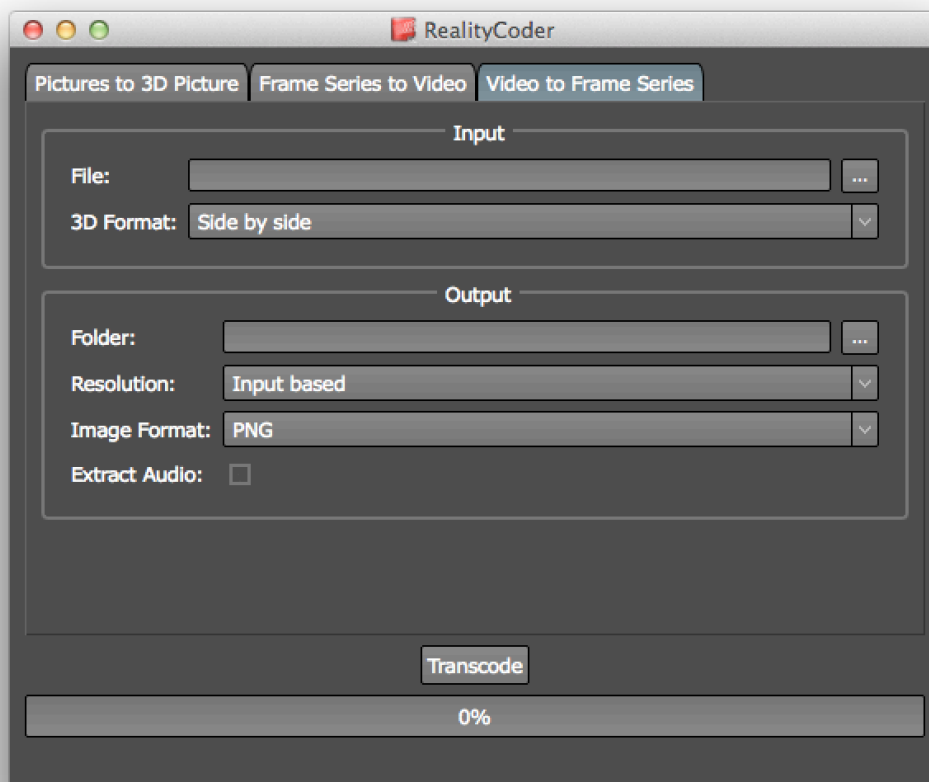
An audio stream can optionally be embedded into the final movie file. Such a file normally exists if the audio information was extracted from the original movie in a previous decoding process. It does not make sense to add audio data from another source, even though it can be done. In this case, simply add a suitable audio file called „audio_only.mp4“ to the input folder; i.e., it must be placed on the same folder hierarchy as the individual view folders.

Again, the application offers a set of predefined target device templates for the encoding process. Please contact us if you would like us to integrate your device.

Frame Series Decoding

The 3D-video decoding workflow decodes a video file and writes the individual views to disk. If the input video contains an audio track it can also be extracted for a subsequent encoding process.

Be aware that the output resolution parameter refers to the resolution of the individual output frames. However, the option „input based“ relates to the resolution of the entire video, not the embedded views. For example, each view of a side-by-side half 1080p video has a resolution of 960x1080 pixels, however, the output files will be scaled to 1920x1080p if the option „input based“ is selected.



Moreover, please note that writing PNG files takes much longer than JPEG on most systems. Therefore, make sure to always use optimal parameters depending on your needs, especially when working with large video files.

Appendix

1.3 Supported Formats

The following image formats are supported:

- PNG
- JPEG
- BPM
- PPM
- TIFF

The following movie containers are supported (as input sources):

- MPG/MP4
- MKV
- AVI
- MOV
- WMV

The following 3D formats are supported:

- Stereo side-by-side (half)
- Stereo top-bottom (half)
- Sivel 3D
- 5-tile
- 8-tile
- 9-tile
- Multistream

1.4 Known Limitations

1.4.1 Version 1.0

1. The 3D-picture and -movie encoding depends on a well defined file and folder layout on the file system which cannot be modified by the user.
2. The views (and files) are processed in alphabetical order. Therefore, make sure to use a correct naming scheme when setting up the files manually.
3. Movies are always encoded as h.264 using a MP4 container.