



Real HDR User Manual

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System Requirements

Real HDR runs on MacOS (from 10.12) and Windows 7 SP1+ or higher, Graphics card with DX10 (SM 4.0) capabilities and a CPU with SSE2 instruction set support, more than 16Gb of RAM may be required when exporting in the experimental resolution of 8k.

Getting Started

About Real HDR

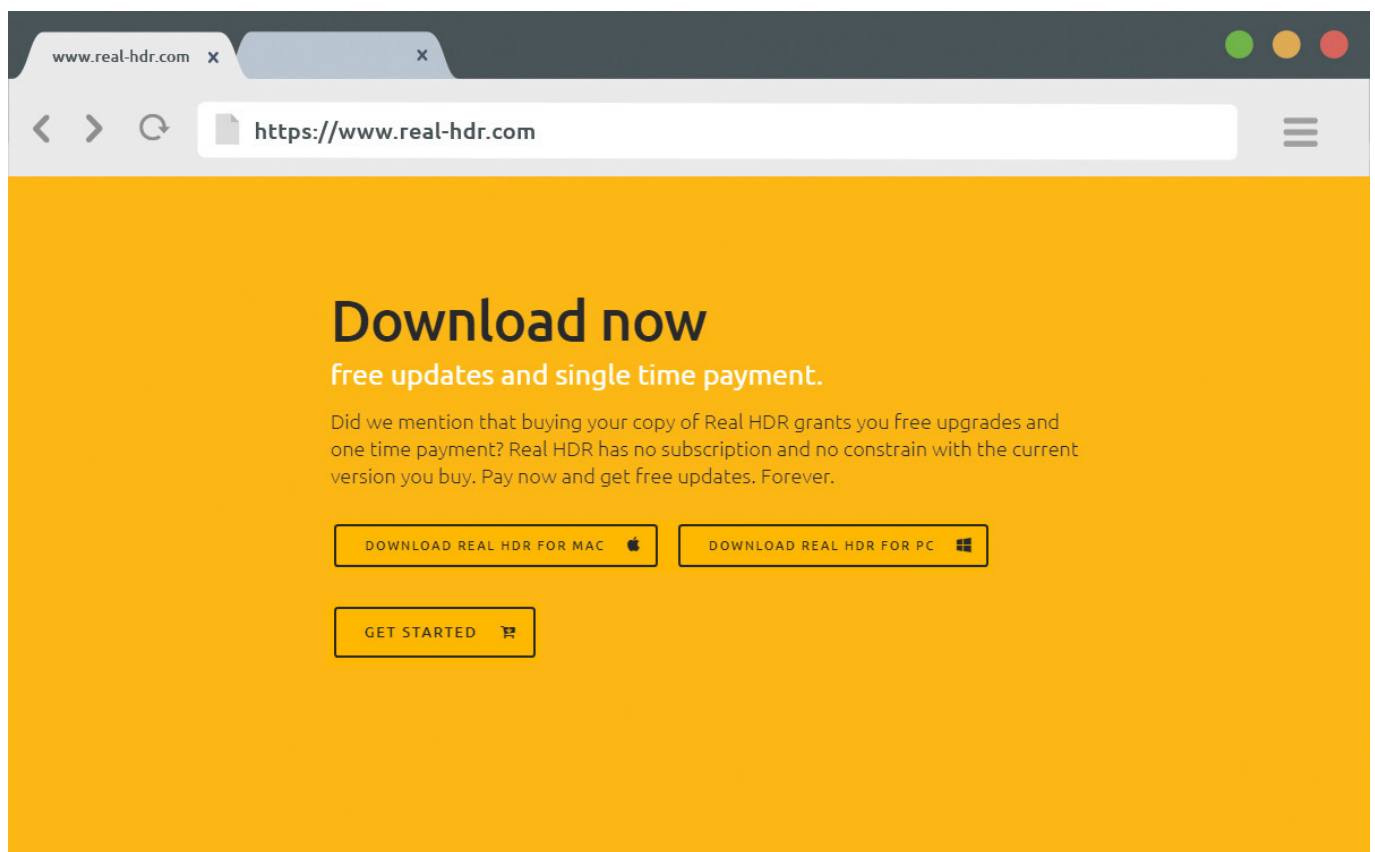
Real HDR allows you to create and edit 32-bit files easily and in a few seconds generating .exr files compatible with a wide range of 3D rendering and video editing software. Real HDR can be installed both on Windows and Mac OS.

Real HDR has been developed by CGI artists for CGI artists, in fact, we do use this application primarily for our pre-viz necessities.

Download Real HDR

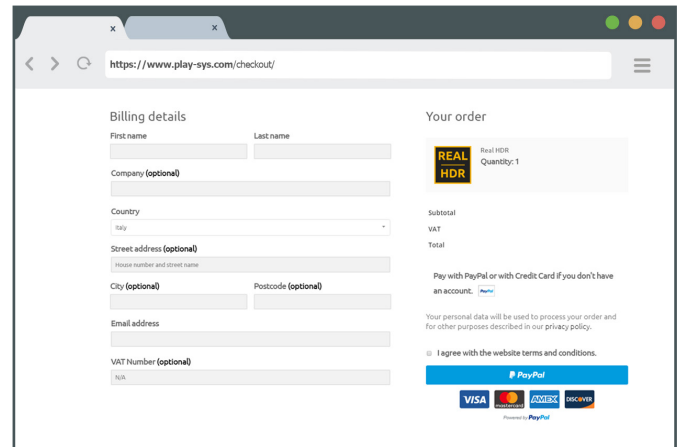
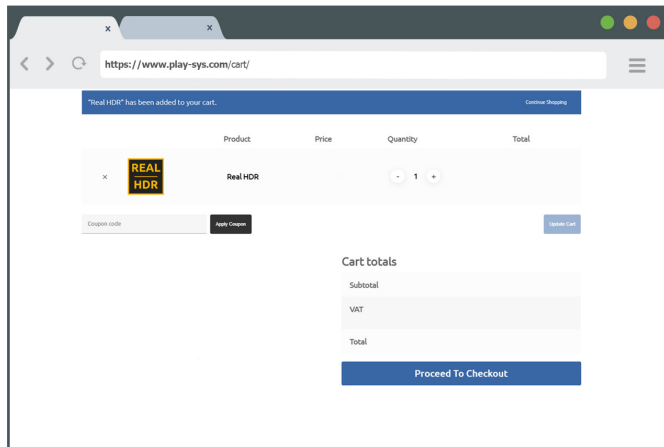
You can download the latest release of Real HDR directly from www.real-hdr.com/download/Real_HDR_latest.zip and www.real-hdr.com/download/Real_HDR_latest_mac.zip or you can download previous releases from www.real-hdr.com/releases We strongly suggest not to download installers of Real HDR online elsewhere.

If you encounter a crack, serial, regkey or keygen version of Real HDR please report these URL's and/or download link to support@renderacademy.com



How to purchase a license

You can purchase Real HDR directly from our e-store and insert during the checkout your data necessary for the invoice and license activation.

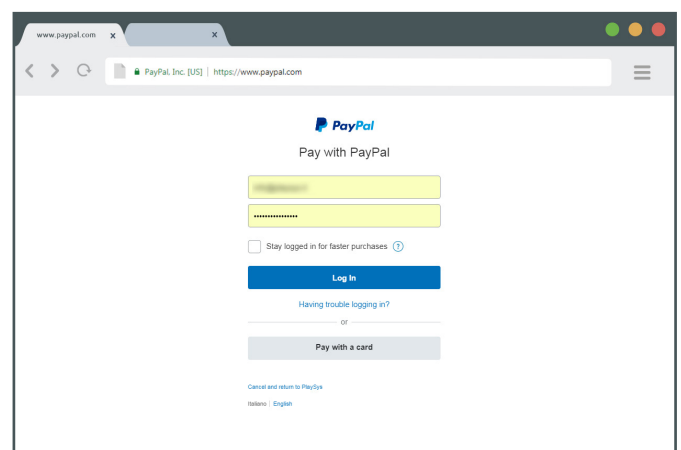


All transactions for Real HDR are managed directly by PayPal on their secure servers. You can buy your license with your PayPal found, use a credit card or associate a bank account to it. Please note that Real HDR never obtains nor stores sensible data about your payments, credit card or private information.

If you don't have a PayPal account and you don't want to create it or if you simply prefer to pay with credit card you can do so.

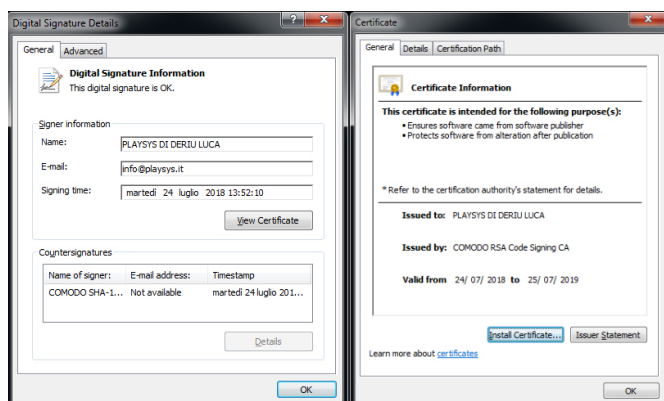
At the moment of writing this manual, PayPal also accepts Visa, MasterCard, Maestro, American Express, Discover and Carte Aurore in their secure payment system.

Also, in this case, no information will be sent to us.



Install Real HDR on Windows

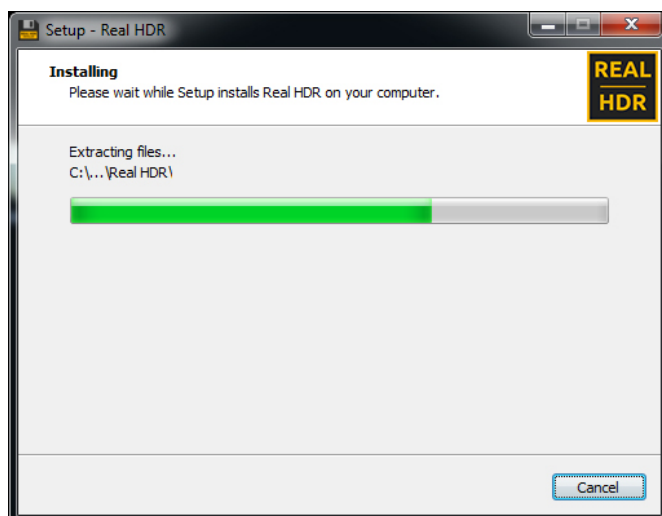
Once you download the archive from our website you have to decompress it in a temporary location, such as your desktop, to access the **Install Real HDR.exe**



Real HDR software and Real HDR Installer are digitally signed with a valid certificate. If you want to check it to verify the authenticity of the downloaded program you need to right click on the **Install Real HDR.exe** icon and open the **Properties** window.

Once opened, navigate to the **Digital Signatures** tab, select the signature from the list and click on **Details**. You can inspect further the certificate in the new windows.

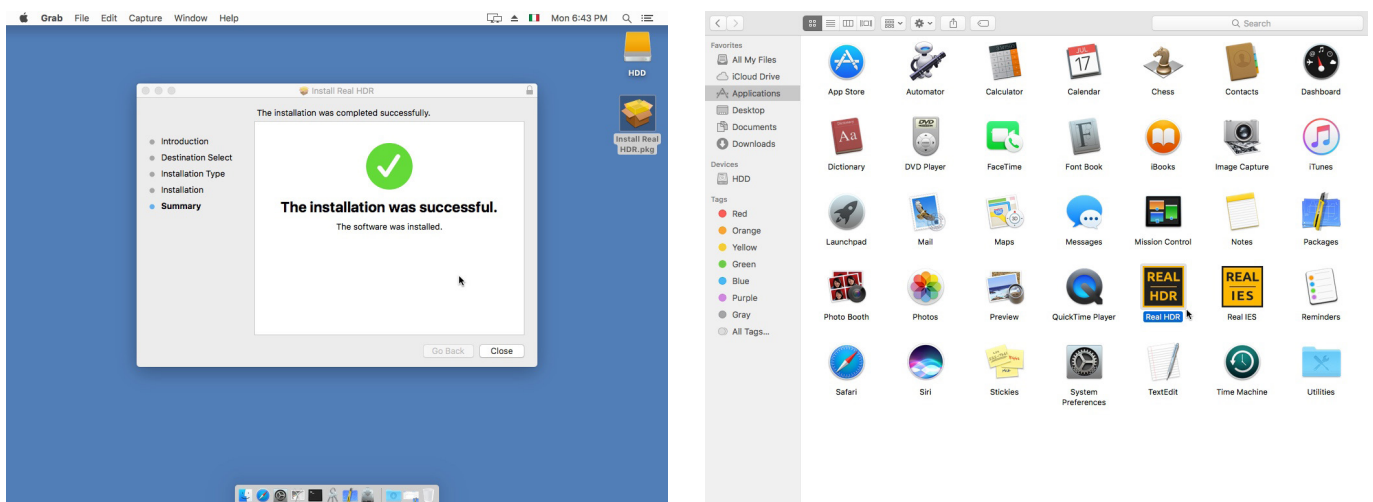
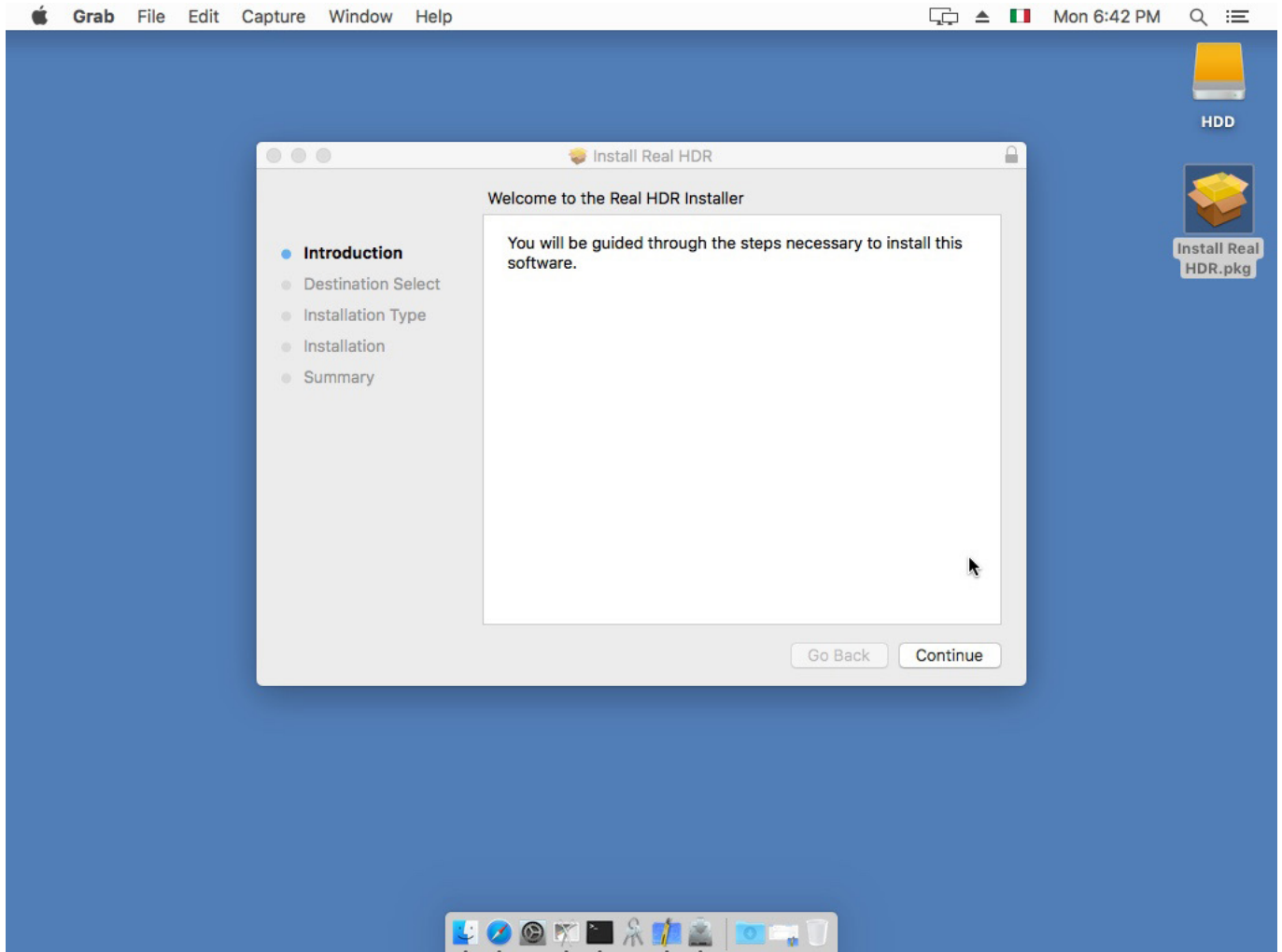
Double click on Install real HDR to start the usual process that will take care of placing the proper files in your computer's Hard Drive, create a desktop icon and associate the .rhd files in your system.



Our installer is made possible thanks to Inno Setup developed and maintained by Jordan Russell and Martijn Laan.

Install Real HDR on MacOS

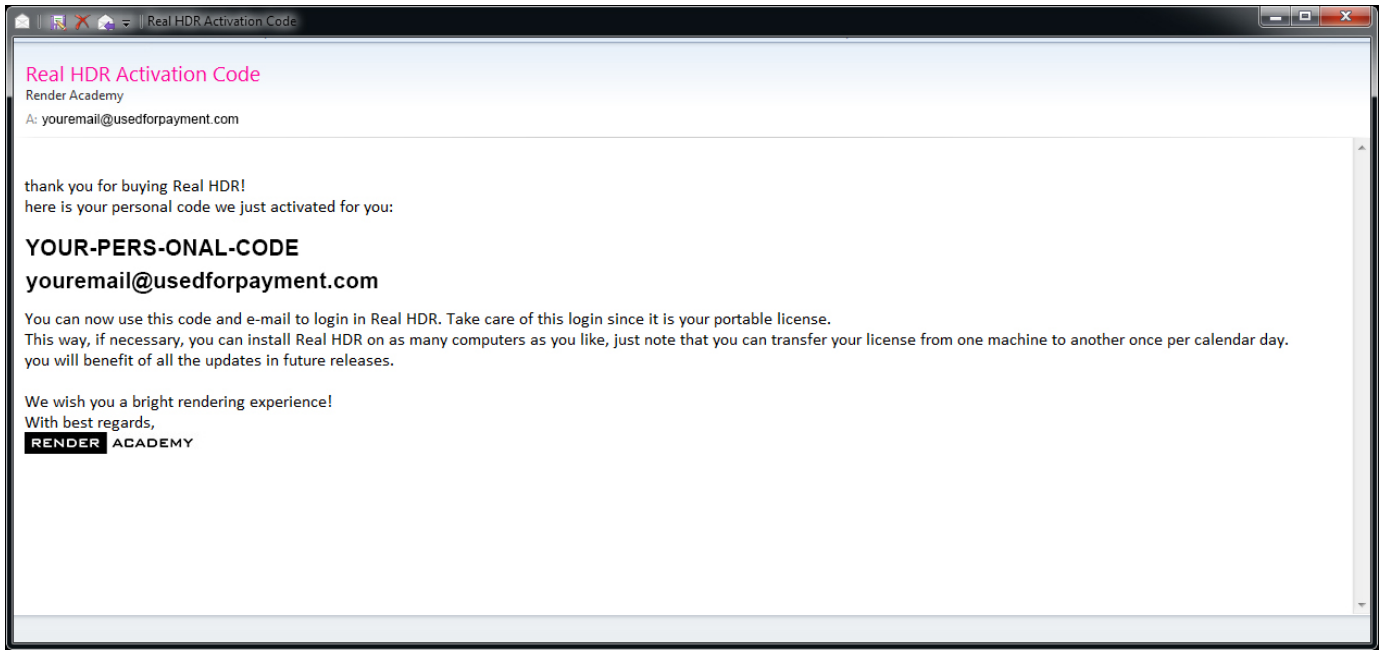
Once you download the archive from our website, double click on **Install Real HDR.pkg** to start the usual process that will take care of placing the proper files in your computer's Hard Drive, create an icon in your Applications folder and associate the .rhd files in your system.



Activate your license

After your successful transaction on PayPal secure server, we'll receive a notification. Please give us some time to confirm it and activate your account. Real HDR uses a remote activation system that requires final approval by our support team.

Get your personal request code that will be sent to you via the email address you used to process the payment.



We have our licensing system that keeps care of your purchase. With one license you can activate your copy of Real HDR everywhere and use it on one machine per calendar day.

Should you want to update your email address, drop us a line at support@renderacademy.com

What is an HDR?

- by Luca Deriu

During my class lectures - before starting a topic - I usually ask students what they think an acronym could mean and for sure HDR is one that gave them the widest combination of meaningful words during the years.

I heard about reasonable "High Definition Render", entropy attempts "Horizon Derivative Recursion" and liberal choices "High Democratic Republic". Besides the fun we had trying to match the real meaning of "High Dynamic Range", none of them ever reached the goal at the first attempt. And this makes sense, in fact, "High Dynamic Range" doesn't have an immediate explanation of what it really means. If I'd say, for example, "High Precision Values" this would give probably a better hint on what all this means.

To properly explain what an HDR is, I first have to explain how ranges are defined.

Think about a line from 0 to 1. How many subdivisions can do you have? Well, since high-school math classes we know that there are infinite numbers – read values – between two given numbers. So the mathematician answer would be "there are infinite values between 0 and 1". And it makes sense.

While in digital space, values are something precious, something we declare, we occupy, we allocate, we process and elaborate, we return and liberate. Since values are precious, we want to use less as possible or, let's say, just the necessary amount.

For sure you heard the term "boolean", defining a set of possibilities theorized by George Boole but available to be used since ever. In this set of possibilities – read values again – we have only two choices: 0 or 1. Now, this set has been used for a huge range of definitions but keeping it in digital space we can call them a bit. A bit can be or it can be not.

This way if you ask me "how many subdivisions

I can have between 0 and 1?" I'd promptly answer "zero". Basically, you have two limits of a range without gaps in between. And if I'd ask you "how many bits you have in this question of yours?" you'd promptly answer "one".

And this is true: one bit, two values: 0 and 1. This way we can, for example, paint a true black and white picture where we can have white color on pixels defined by value 1, and black in pixels defined by value 0.

But what has happened to gray? Well, in a one-bit picture, gray doesn't exist – or better – it is not supposed to exist. If you really need black, white and gray you need extra information capable to subdivide the range between 0.0 and 1.0 with a new value: 0.5.

It is possible to be done by adding a new bit digit in our set of possibilities (this will lead us to four values, not three since we can't have half digit).

So two bits and two values each for a total of four different final possibilities. You can say "oh, I got it! To know the final amount of values I simply have to multiply bits per their amount of possibilities". Well, no. It is a little more complicated than that, but once you get it, the calculus will remain a constant (and you will find it useful to calculate many other things in your life). The real formula to predict the amount of possibilities is the number of boolean possibilities (and they are always two) elevated by the power of the digits. So with one bit it is two by the power of one; for two bits it is two by the power of two; for, let's say, five digits it is two by the power of five and so on.

Even if I am not going to tell you how many possibilities you can have in an 8-bit, single channel, image, I can tell you that things are getting more interesting from now on. I am sure you already calculated the number of grayscale values in an 8-bit picture while reading this sentence and thought "what? Only?". Yes, 8-bit introduces only that small

amount of possibilities, where 0 means void, black color, and 1 means full white color. All the subdivisions in between are shades of gray, more or less bright according to their distance with the limits.

Therefore, an important characteristic of a colorful picture is the definition of values per hue. I will be short on color modes since it is another wide topic, much more complex than what one can expect. I limit myself in saying that most pictures are defined by three main colors: red, green and blue; RGB (this acronym is well known). The sum of these primary colors – read channels - is producing white, the lack of them is displaying black and the disequilibrium is generating all the shades we usually see in a digital image.

The answer to how many colors you can expect in an RGB 8-bit picture is the number of boolean possibilities (2) by the power of bits (8) everything raised at the power of the channels (3). If you did it right you ended up with 16 millions of colors and you should have whispered a "wow!".

Yes, because this is how the majority of images are made: electricity converted in data, combined in different ways and parsed with a criteria is now displaying that beautiful picture you have a screensaver on your computer, or that amazing photo you captured last weekend, or again, that image you shared a few minutes ago on the social networks. This is math, technology, progress in it's most beautiful form, readable by us in a sight.

What does this last sentence mean as far as HDR is concerned? Actually nothing, it was just a personal thought.

Now HDR, this "High Dynamic Range" means that the values between the limits are many and precisely defined by 32 bits. 32 doesn't sound so big and scary compared with 8, after all, it is just four times more, but try to calculate once again the number of color possibilities using the formula I wrote before.

Impressed now? You should be because this range contains such an amount of subdivisions that can be used in a huge variety of situations such as VFX, image manipulation, and rendering.

In the case of 3D CGI, we have a little confusion on exporting HDR pictures and lighting with HDRI.

Although the theory is the same, the workflow is different. When you export a picture in 32-bit HDR (or EXR) format, your colors are encoded within this range and you will have possibilities to fine tune the brightness of your picture in post-production. I suggest you a better color mode than RGB for that; a color mode that splits brightness from saturation and hues. Try LAB if you never did before.

Creating light with HDR means getting these brightness pieces of information from the pixels of the imported image and convert them into virtual luminous energy. You can define a range between minimum luminous power (usually 0 lumen) and maximum luminous power (the maximum value in lumen) and the HDR will modulate by consequence the overall brightness emitted by every single pixel surrounding your scene. This way your scene will benefit from (mathematically) millions of lights since you have millions of pixels (Real HDR can generate up to 8 millions of them). Of course, nobody has interest in having so many different lights, but concentrating these lights together using Real HDR's SpriteLights and modulating their color with the precision of 32 bits data can for sure produce extreme quality results. In the development of the software, we kept in mind that usability is one of the most valuable points of our daily productions and we focused on the features that can make a real difference in your usage of our tool. This helps us in keeping the development essential, the core features strong and, well, the cost contained.

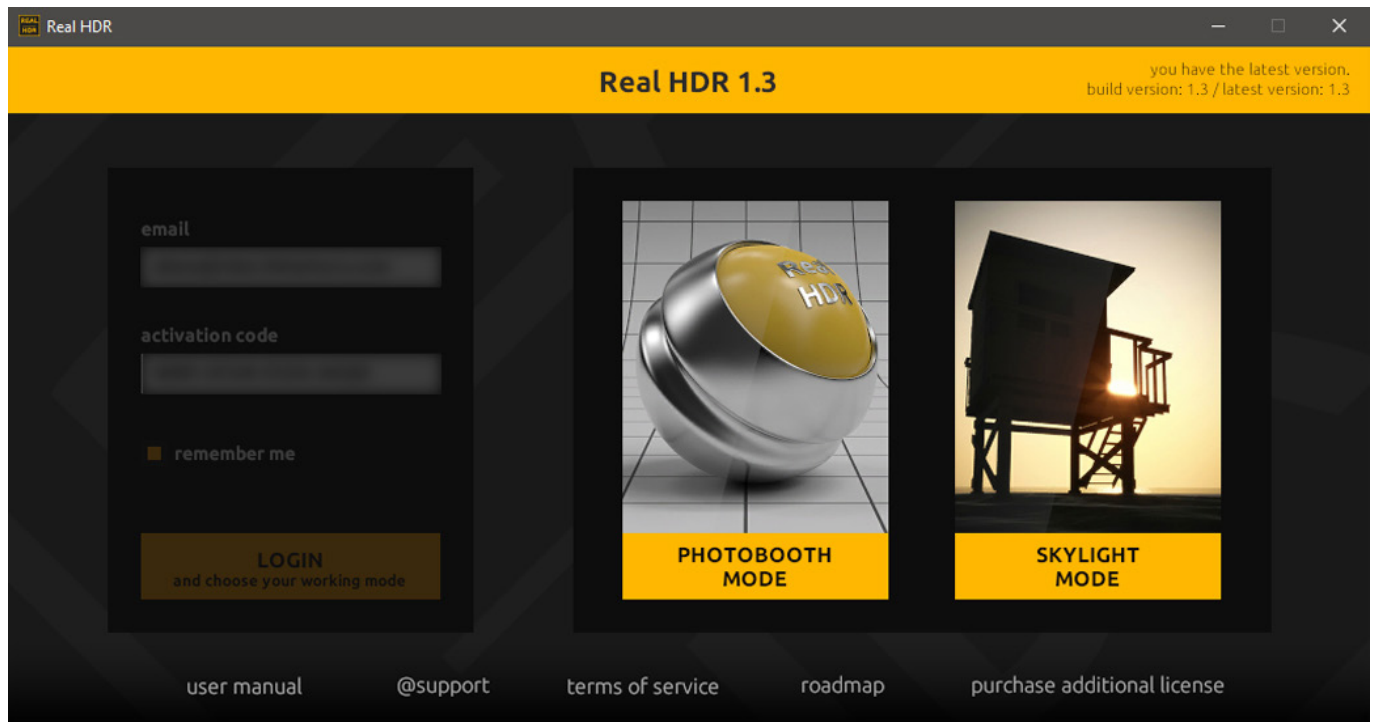
One last thing. Is your OS 64 bits, right? Ever wondered what that means? ;)

Start screen UI

Real HDR offers pretty much intuitive user interface.

In the top right corner of the start screen, you can always find information about your version number. If there is an update available, the software will suggest you to download it directly from the Release page of the website.

In the bottom of the UI, you can find links to the User Manual, Development roadmap, EULA and the Support email.



Real HDR is divided into two separate working modes - PhotoBooth (for indoor and product design lighting scenarios) and SkyLight (for outdoor environment maps).

After fulfilling the login to the software you can select and load the module of your choice. You can easily pass from one module to another by pressing the button "Close" on the side of UI.

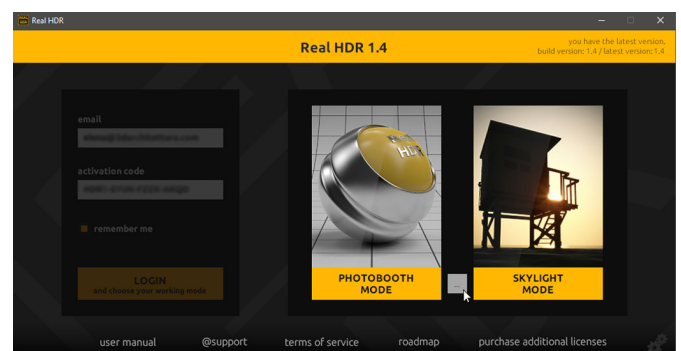
Remember to save your project before passing to another module, all unsaved progress will be lost.

File Validator

The File Validator button allows you to check the content of an .rhd file before opening it.

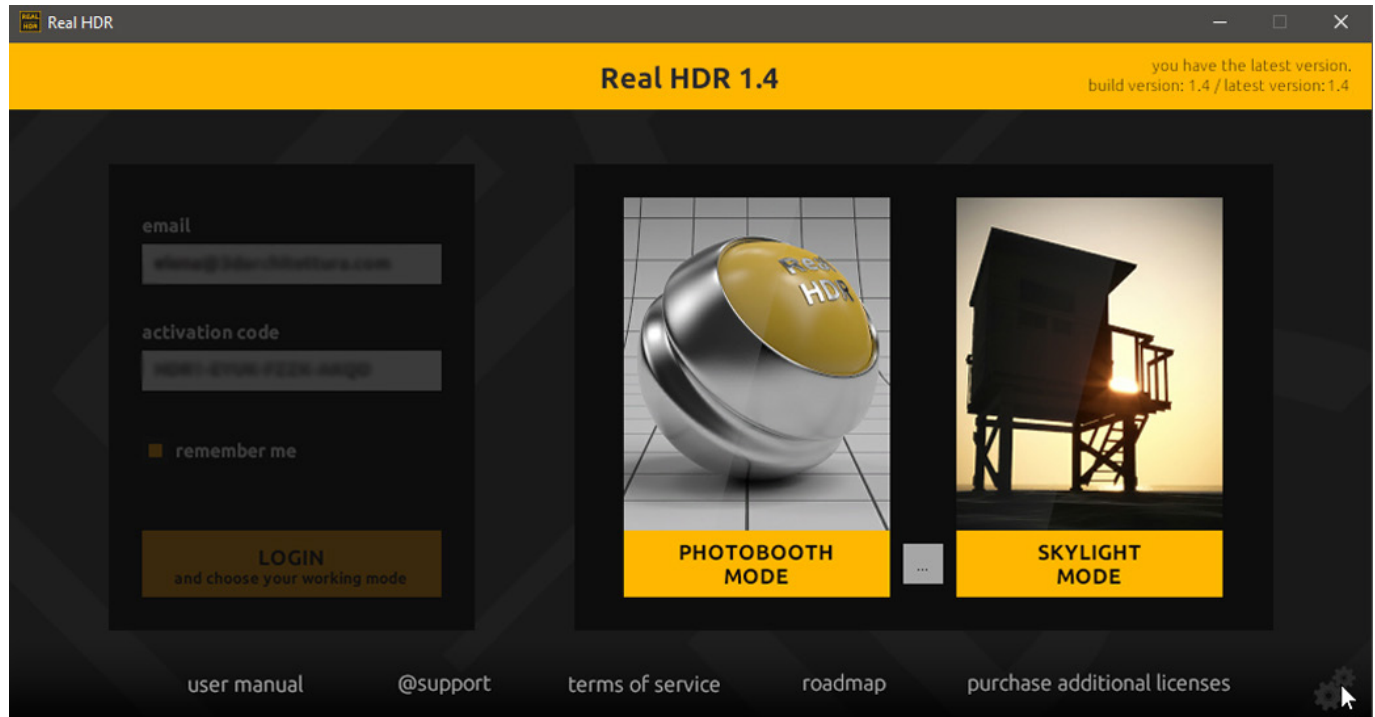
A PhotoBooth module, a SkyLight module or both will be highlighted depending on the content of the validated .rhd file.

If you launch a highlighted module, the selected .rhd file will be open immediately.



Options Panel

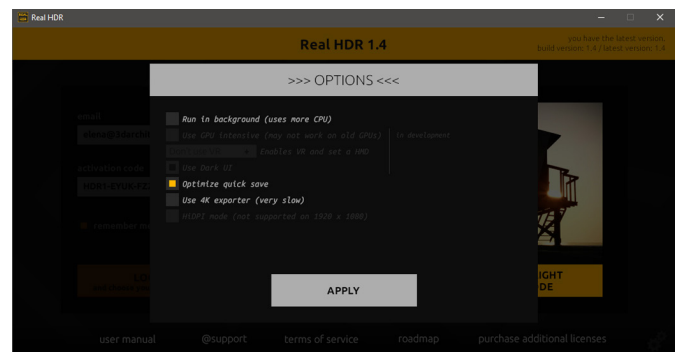
From the start screen, you can access the Options Panel by clicking the icon in the lower right corner to customize the software settings.



Optimize quick save

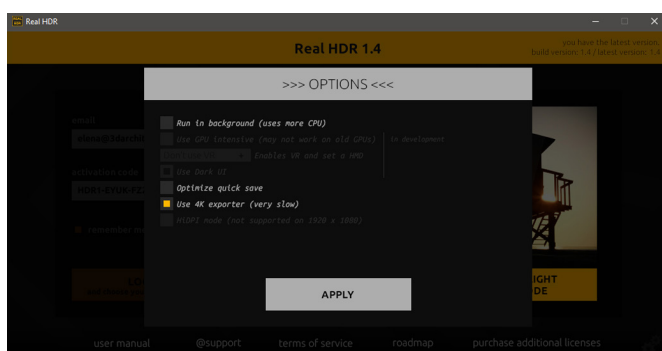
The option is enabled by default.

It allows the faster export of an .exr file in a low resolution (512x256) both in PhotoBooth and SkyLight modes by overwriting a previously saved .exr file, to quickly test it in your 3D rendering software.



Run in the background (default in Real HDR 1.5)

Since version 1.5 Real HDR runs in background while exporting .exr files and this toggle was removed from the Options panel.



4K exporter

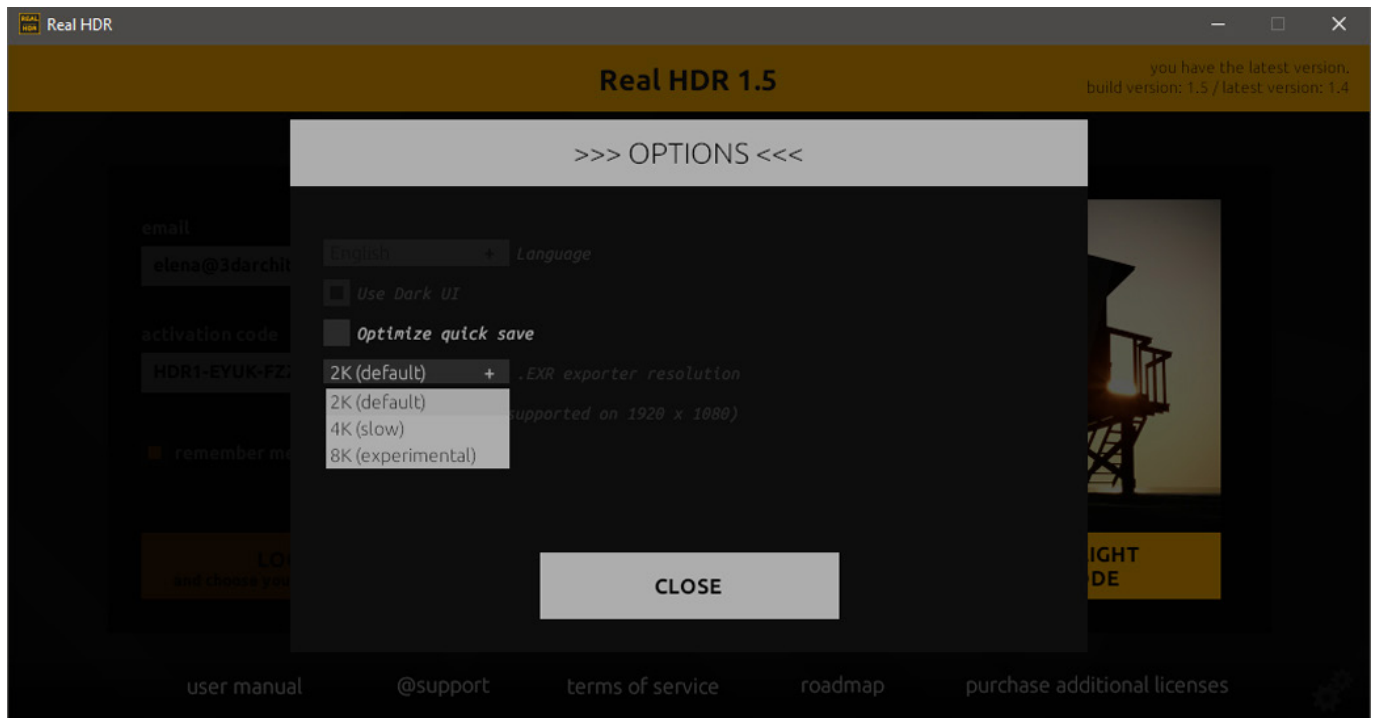
Initially Real HDR 1.0 exported .exr files in 4K resolution, but the export was quite slow, especially without running the application in background mode, and in the following releases we opted for the default 2K resolution.

4K export is back in Real HDR 1.4 as a user-requested feature.

8K exporter (experimental in Real HDR 1.5)

8k exporter is an experimental feature based on GPU rendering and conversion of the scene. This operation is technically the same as for 2k and 4k while the main difference is in the Megapixels resolution (2 megapixels for 2k, 8 megapixels for the 4k and 34 megapixels for the 8k).

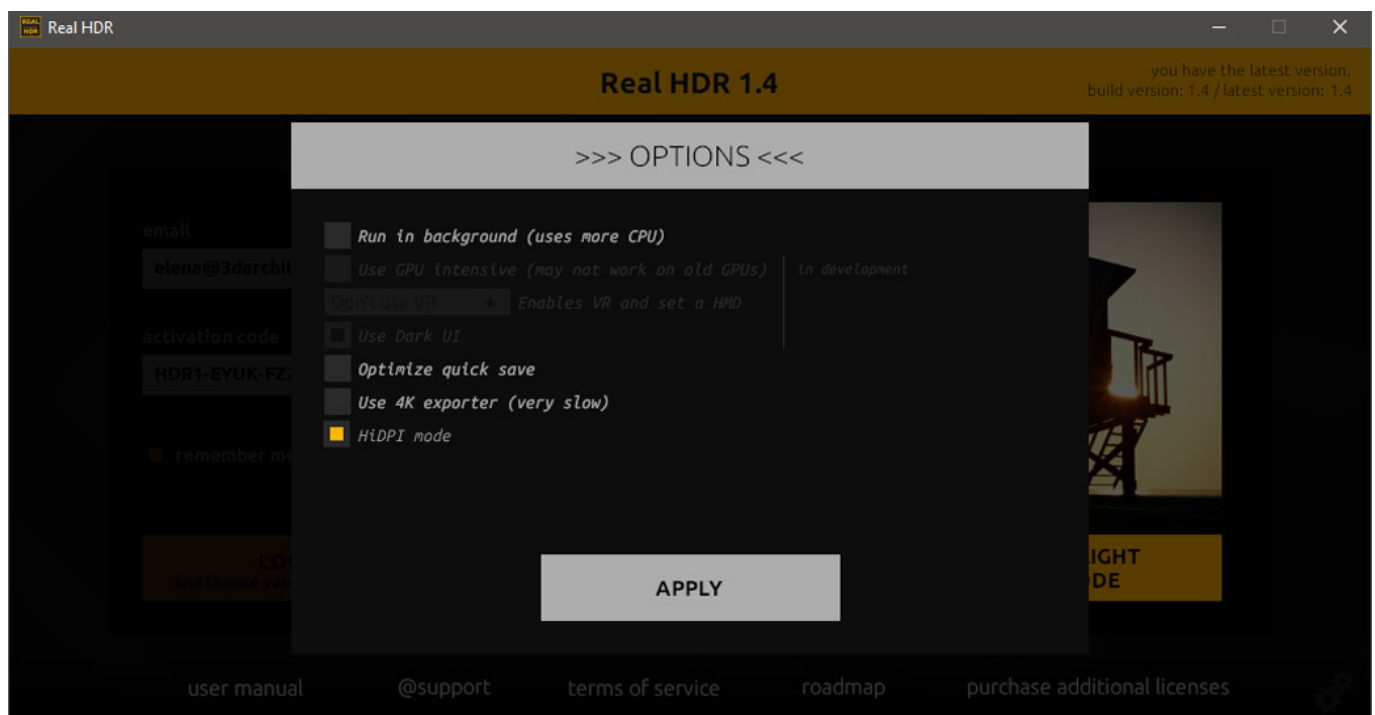
For this reason the 8k resolution export may not be able to complete if the system doesn't support 64 bit OS, has at least 16Gb of RAM and a proper amount of GPU VRAM.



HiDPI mode

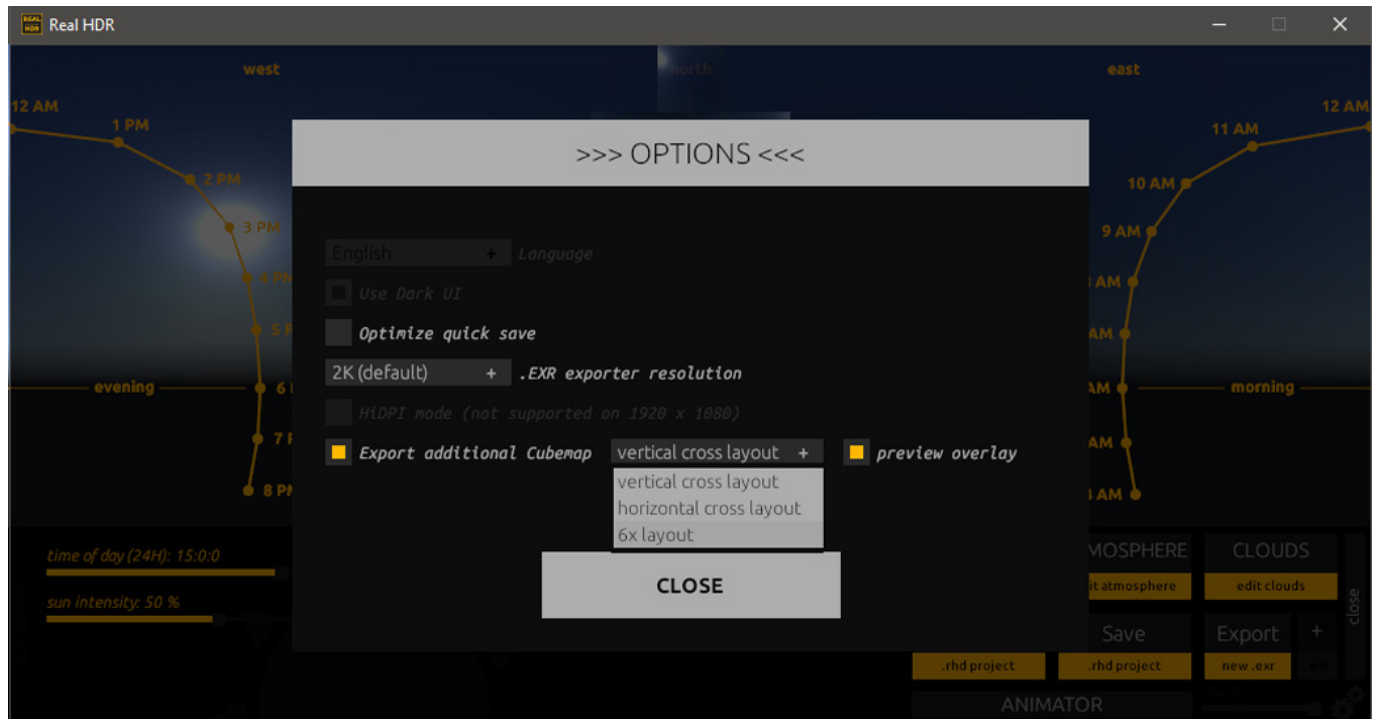
This option is available only for Retina and other HiDPI displays.

By enabling it you can increase the resolution of the Real HDR user interface and save it as your user preferences.

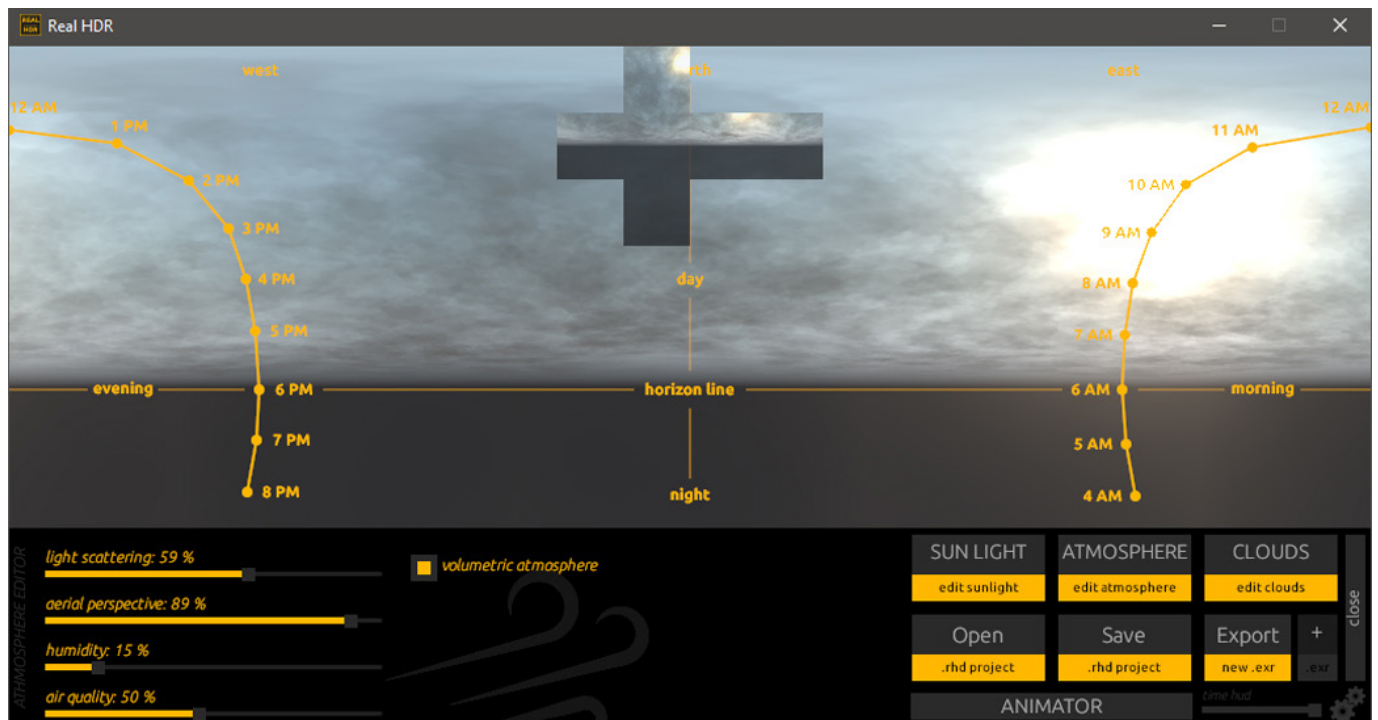


Cubemap Exporter

A possibility to export an additional cubemap was added in Real HDR 1.6. You can choose a preferred layout - vertical cross, horizontal cross or 6 faces and the extra 32-bit .exr file will be saved when you export your project.



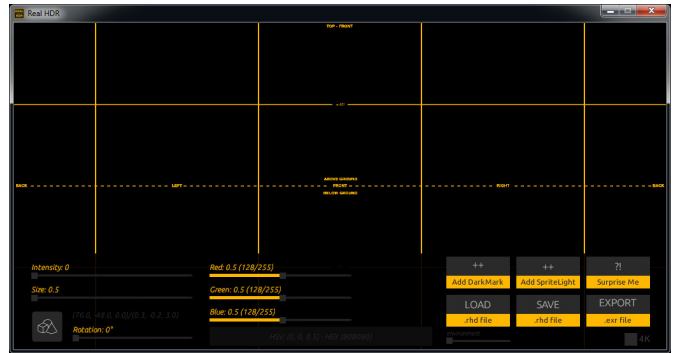
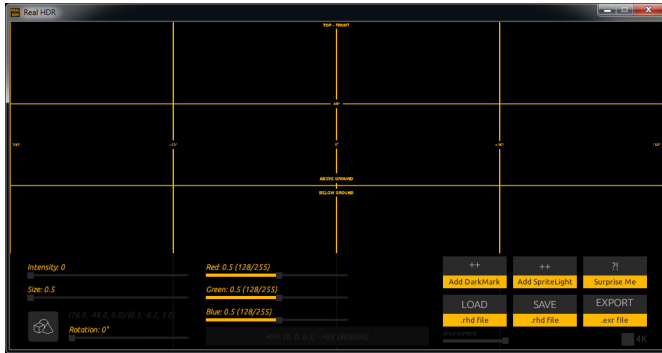
Moreover, you can set the Preview Overlay toggle on if you want to see an overlay of your cubemap in the top part of the screen, while working, and turn it off, should you prefer a disturbance-free mode.



Starting from 1.6 version the Options panel can be also accessed from each of the working modes by clicking the icon in the lowest right corner.

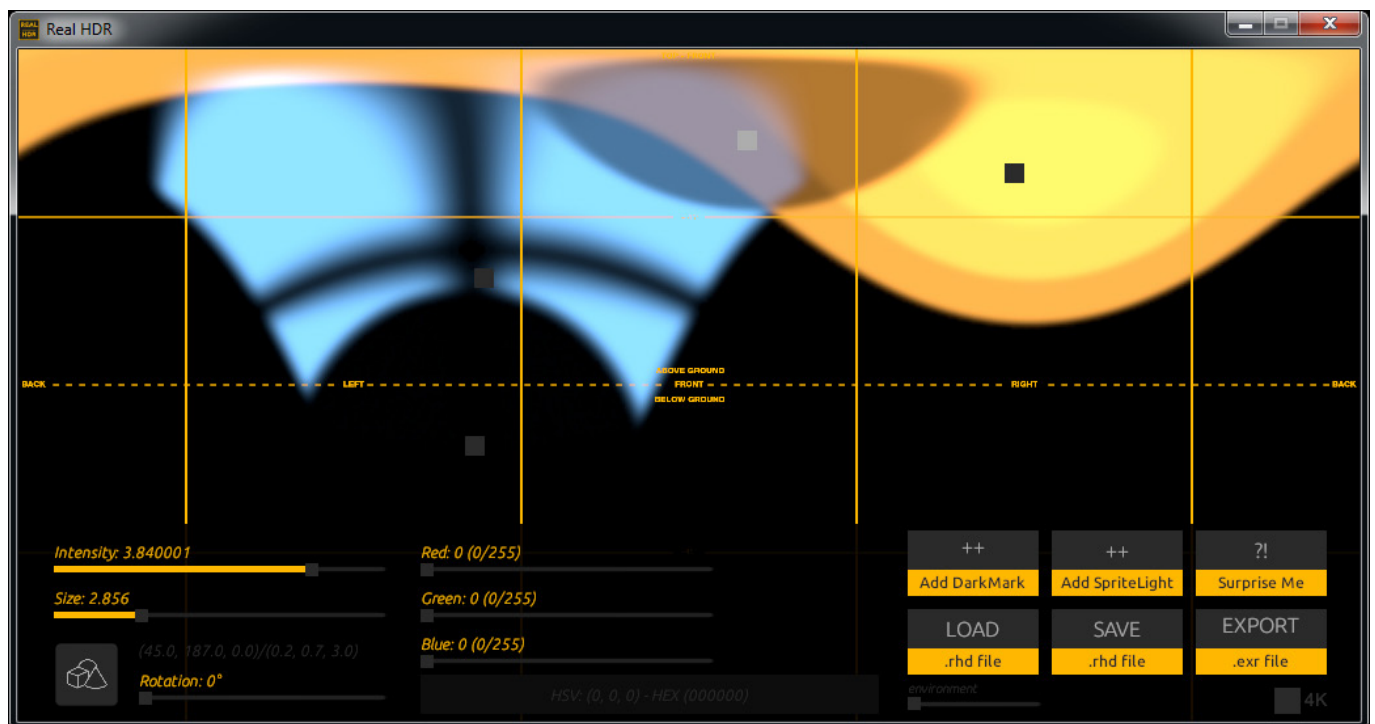
PhotoBooth Mode UI

The preview screen has a grid that helps you to position your lights more precisely. You can manipulate the grid with the slider and choose between the cube (back/front/side) and cardinal (-90/0/90) directions.



Spherical mapping

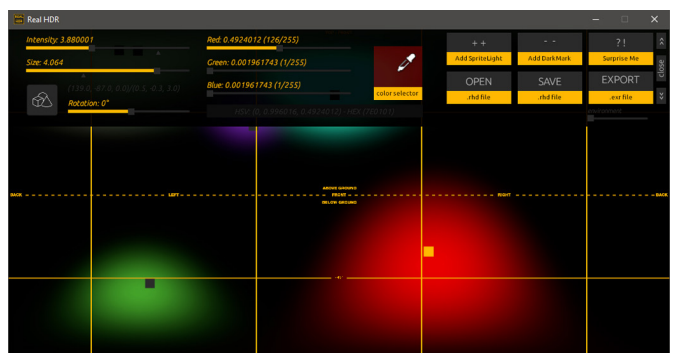
Real HDR preview screen represents an equirectangular projection of a spherical map. In other words, it correctly represents in a rectangular space the deformations of the shapes mapped on a sphere. Moreover, the .exr file you export from Real HDR keeps the same polar distortion. This is crucially important for an exact and seamless application of an .exr file on a dome light.



UI docking

Although by default the lights are placed above the horizon, you can access the below the horizon area as well.

Click the arrow icons on the side part of the UI panel to move it up and down, docking it either on the top or on the bottom of the screen.



A keyboard input - a possibility to insert and edit values of the sliders from the keyboard - was added in Real HDR 1.6.

SkyLight Mode UI

The preview screen of the SkyLight module offers a similar layout as the PhotoBooth module with the UI panel in the bottom of the screen.

The grid demonstrates generic coordinates - with the horizon line, the sunrise in the east and the sunset in the west (you can later rotate your HDRI map in your rendering software to obtain the desired position).

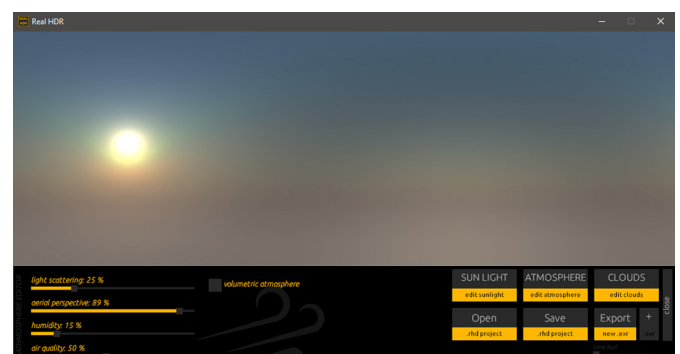
The hours line corresponds to a generic half day of sun. At the startup, the sun appears in the position corresponding to your system time. SkyLight module is in a preview phase and more features, including time zone, latitude, and longitude, will be implemented in the next releases.



The SkyLight Module opens with Sunlight editor settings, while the parameters of Atmosphere and Clouds can be accessed with the corresponding buttons.

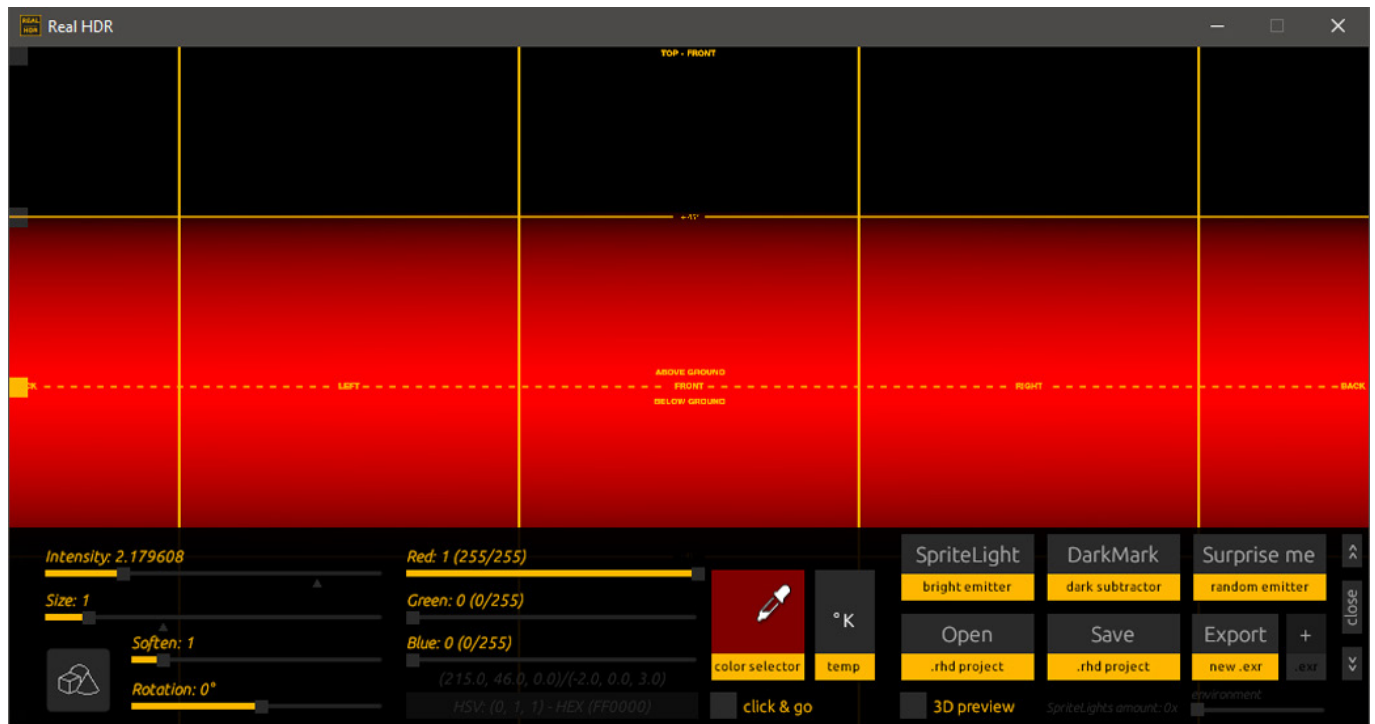
HUD transparency

You can regulate the grid transparency by manipulating the “Time HUD” slider in the bottom right. The Time HUD is a part of UI and is excluded from the export renderer.

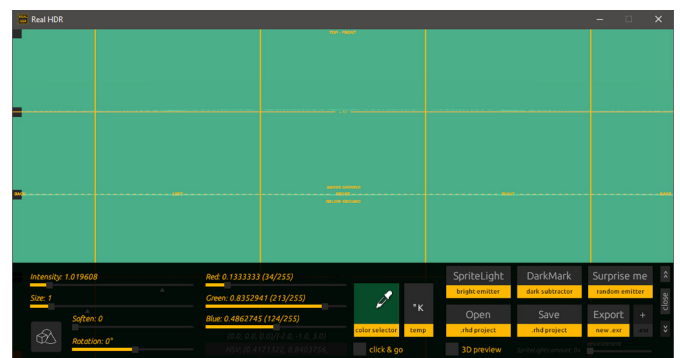
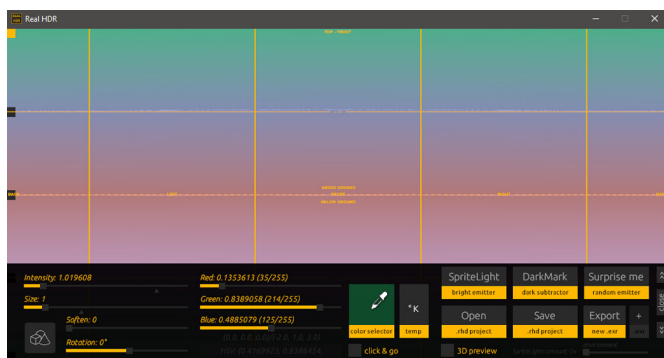


PhotoBooth: background color

Starting from Real HDR 1.5 it is possible to change the default black color of the background. Selecting each of the five square markers on the left side of the UI one can change the color in the corresponding anchor points.



This allows to create smooth background gradients of various intensity, as well as a solid background coloring. One can adjust the intensity and the tint for each anchor point using both sliders and the color and the Kelvin temperature selectors.



PhotoBooth: adding lights

Create a new light

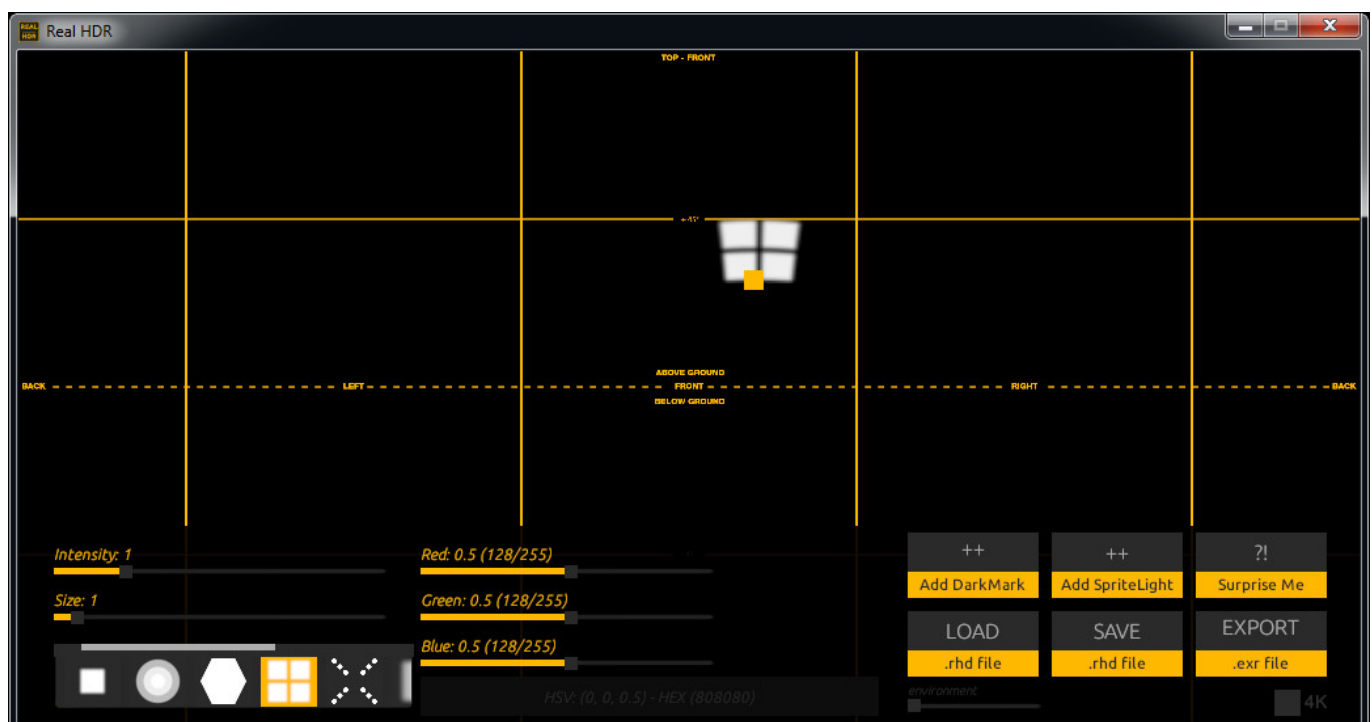
To create a new light (called SpriteLight) you need to click the "add SpriteLight" button. You can create as many lights as you need, there are no limits. The last SpriteLight you have added is selected (and highlighted with yellow color). You can select other lights in the scene just by clicking on each of them.

To delete the light you need to select it and press "delete" from your keyboard. You can change the position of the selected light by moving it in the scene.



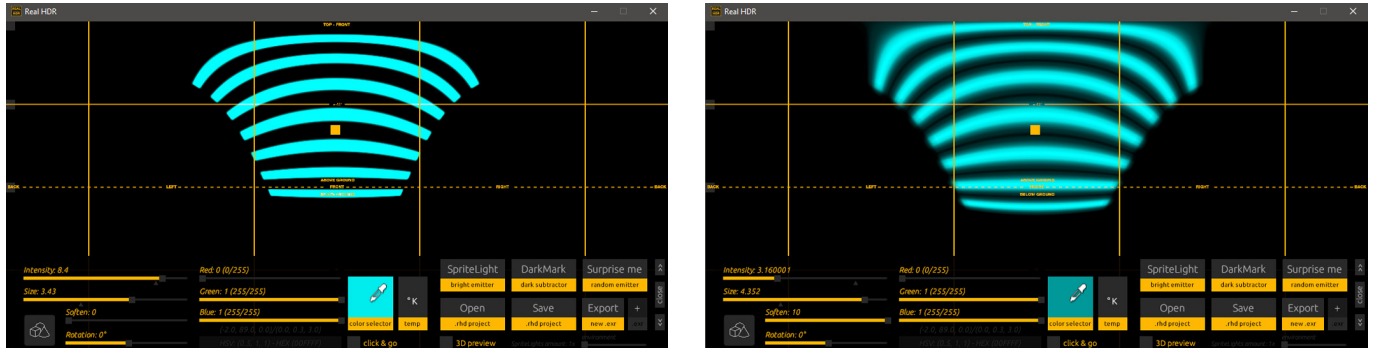
Change light shape

To change the shape of the light you can apply one of the stencils that can be found in the drop-down in the left corner. Just select the light in the light and click on the stencil of your choice.



Change softness

In Real HDR 1.5 we have introduced GPU smoothing for the SpriteLights with the corresponding slider on the scale from 0 to 10. By default all the stencils have now sharper borders and can be softened manually by the user to a desired value for creating smoother lighting/shadows scenarios.

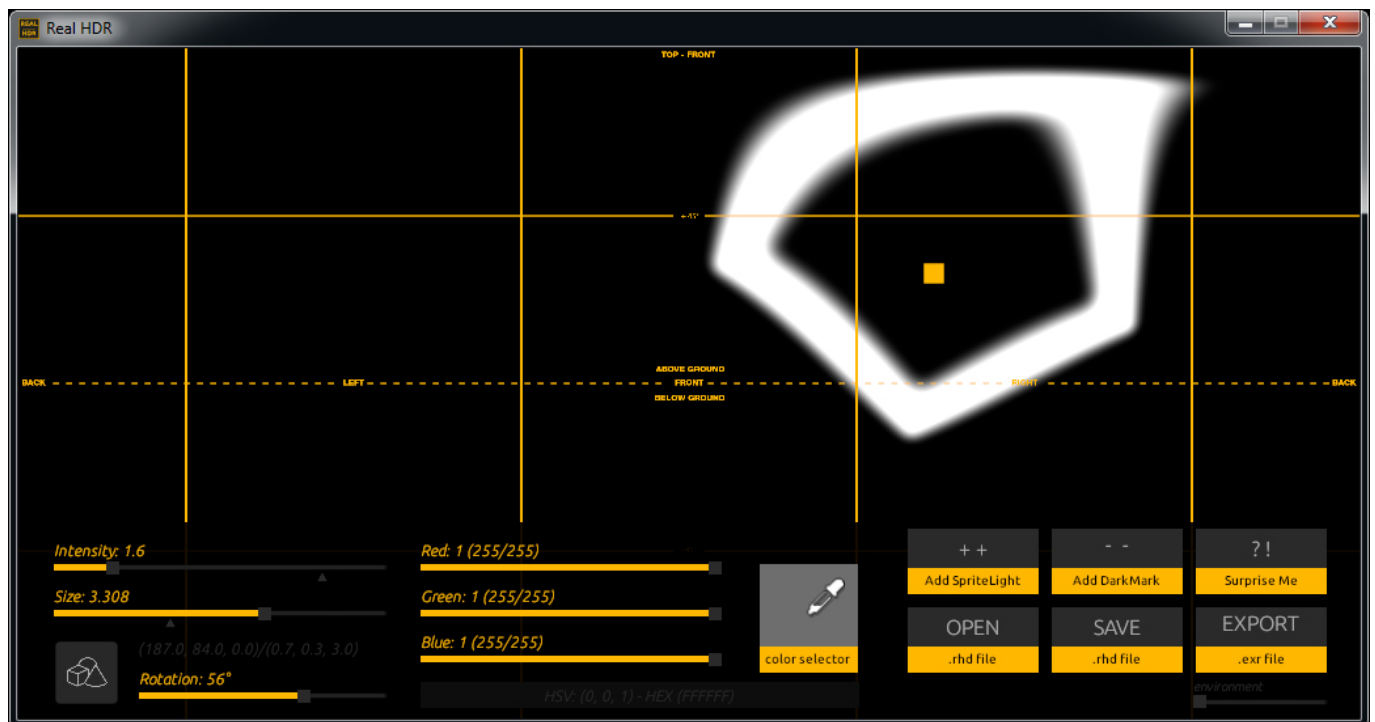


Change size, intensity, and rotation

In an intuitive way, the sliders of Intensity and Size on the left side of the panel allow manipulating the dimensions and brightness of the selected light.

The size is measured on the scale from 1 to 5. The intensity is measured on the scale from 0 to 10. You can change the size and the intensity both of the “basic” SpriteLights and of the stencils.

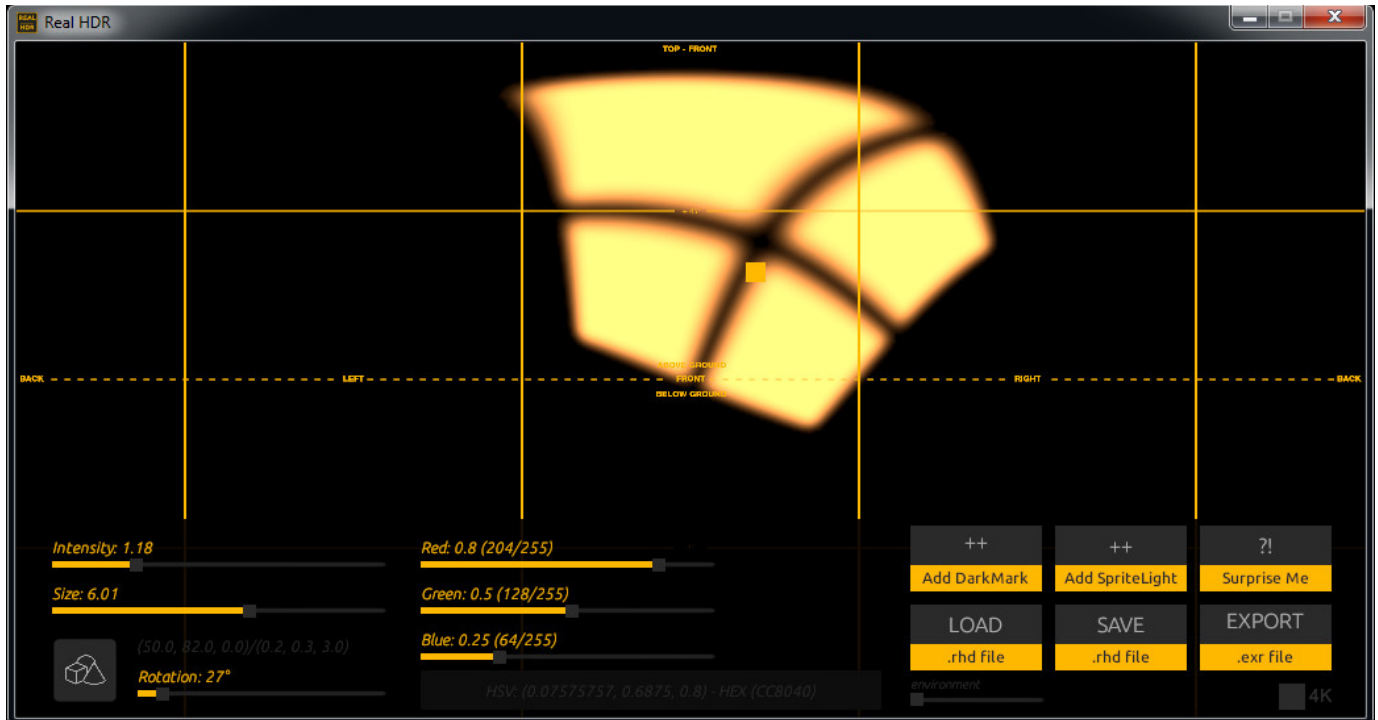
You can opt for CW and CCW rotation both of 180° instead of the single CW rotation of 360°. Please note that if you load a .rhd project created with a Real HDR 1.1 you may experience a wrong rotation in your elements.



In update 1.2 we added two maximum suggested values both for the intensity and for the size. Users can push beyond our suggestions but must be aware that in CGI usage, this may result in too bright or too wide lighting situations.

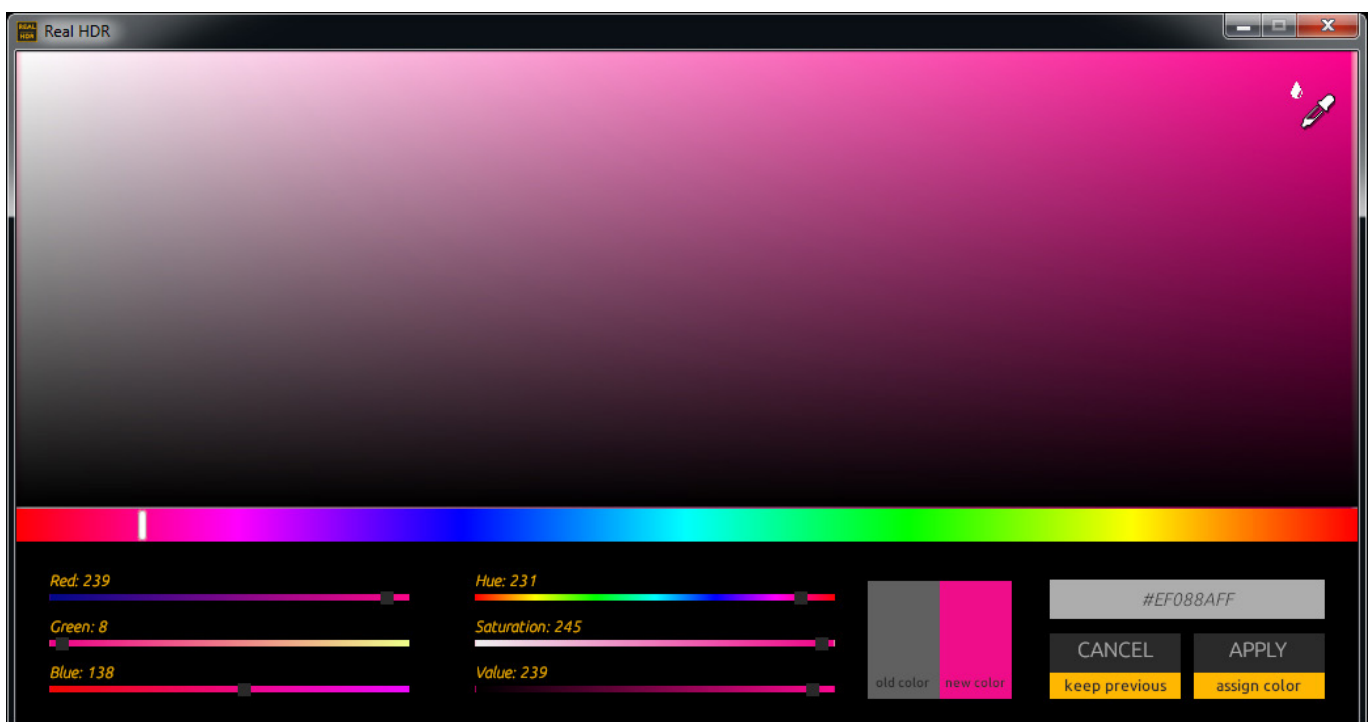
Change color

Red, Green and Blue sliders allow you to create SpriteLights of different colors. Select a SpriteLight or create a new one and adjust its hue. The values of the sliders are demonstrated in both the normalized float range (0 to1) and 8-bit color conversion (0-255). Moreover, for your reference, we have placed the HSV and HEX values under the sliders. The HEX value can be copied to your clipboard by clicking on it.



Color Selector

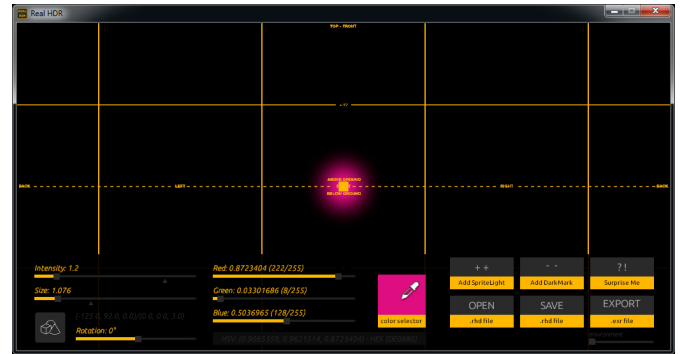
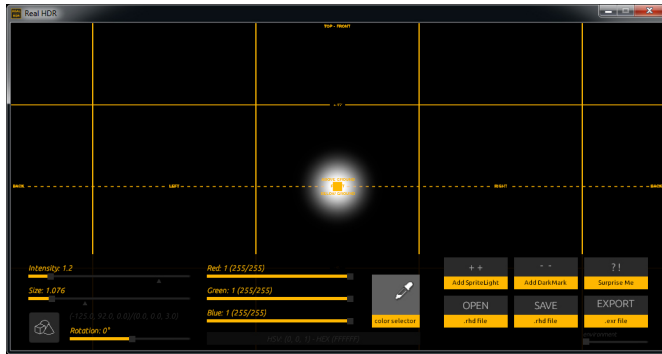
Precise Color Selector may speed up the phase of choosing an appropriate color for your lights. By clicking on the Color Selector icon, the user interface of Real HDR will adapt to host a full gradient per chosen Hue value. In this user interface, you may use the classical RGB sliders in a 0-255 range, click on the gradient or use directly the HSV sliders.



Below the clickable main gradient, you can find a narrow stripe containing every hue at maximum saturation and brightness. When opening the Color Selector, this will represent the actual color of the SpriteLight.

Note that if your SpriteLight is the default one, then the default color is represented in grayscale. Besides these classical inputs, you can find a HEX value that can be copied/pasted to quickly transfer colors from one SpriteLight to another.

After choosing a color and clicking the “apply” button, it will be synchronized to the regular sliders available in the main interface of the program and you can continue working as usual.

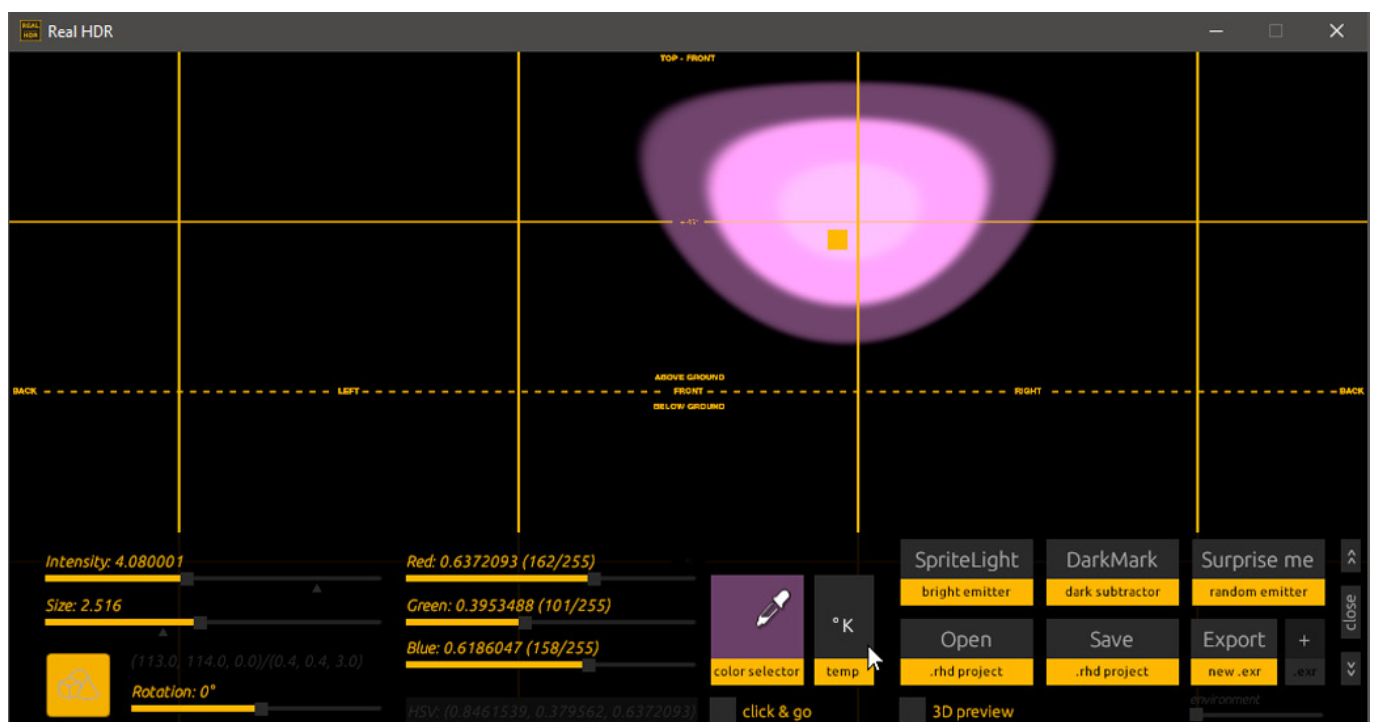


This HEX color displayed in the color selector tab may differ from the one you find in other image editing software such as Adobe Photoshop, due to the last two letter representing the alpha value of the color.

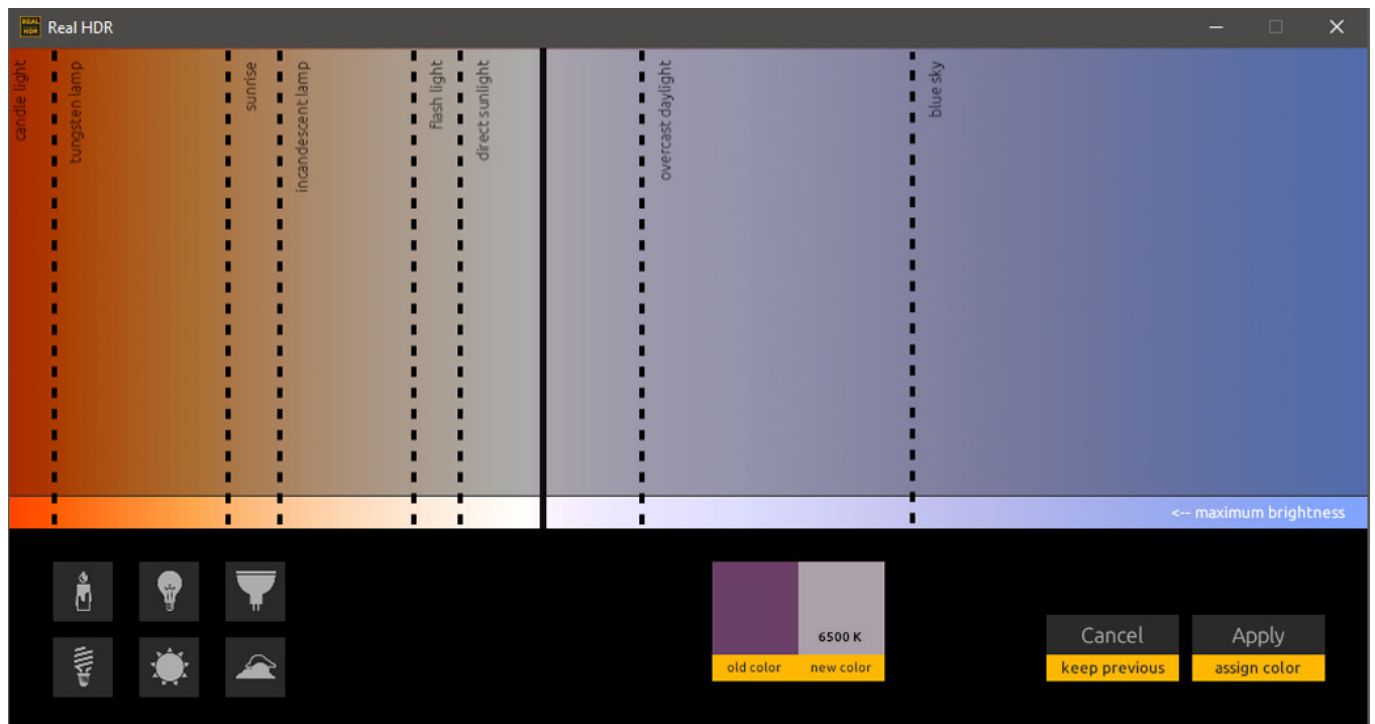
The HEX value is #RRGGBBAA. This is important to be noted since the alpha value in the Color Selector is related to the intensity value of your SpriteLight. This is a convenient way used by Real HDR to keep stored color information and extra 32-bit brightness.

Kelvin Temperature

Kelvin Temperature selector may serve as an alternative method for choosing the color of your light, especially when designing natural lighting scenarios.



By clicking on the °K button, the user interface of Real HDR will adapt to host a full gradient of Kelvin temperature scale in visible light.



By moving the slider you can select the color that will be demonstrated in a “new color” box close to the actual color of your light. The bottom stripe of the selector represents the maximum possible brightness of the Kelvin temperature gradient, while the selector itself is influenced by the current intensity value of your light.

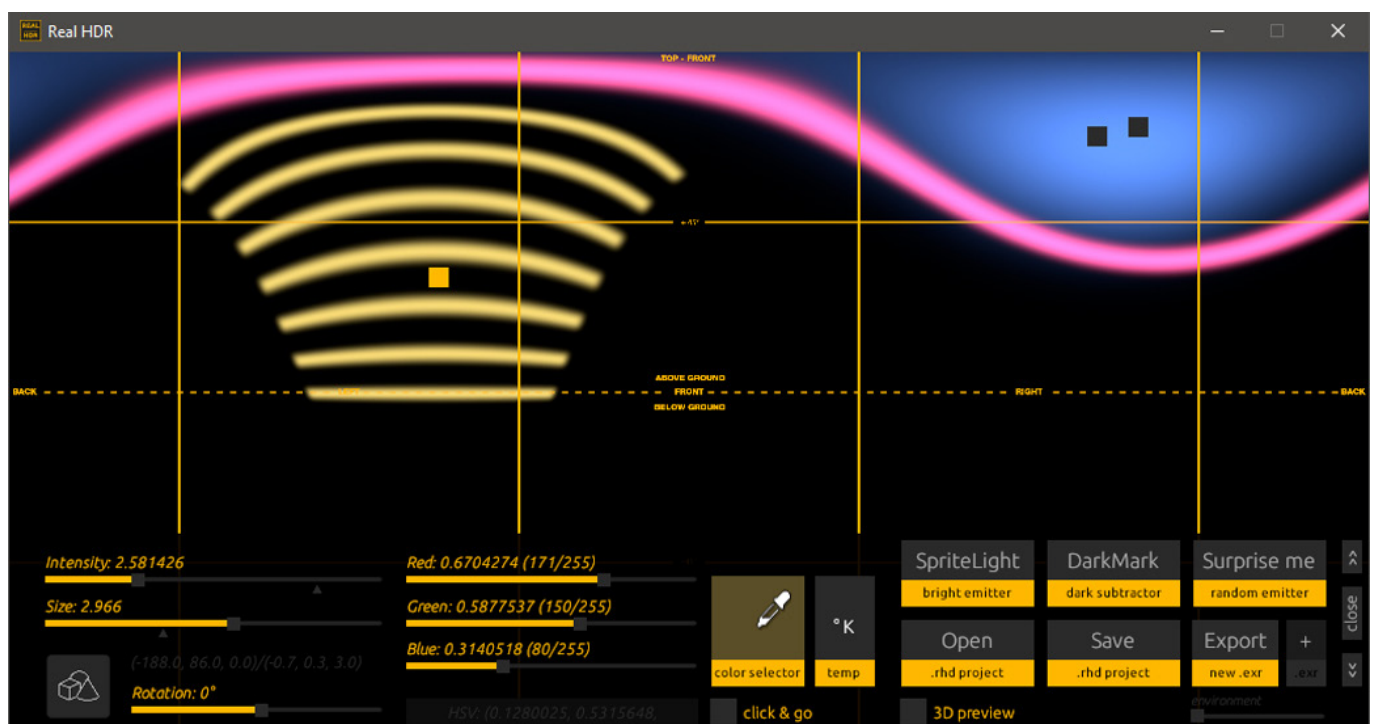
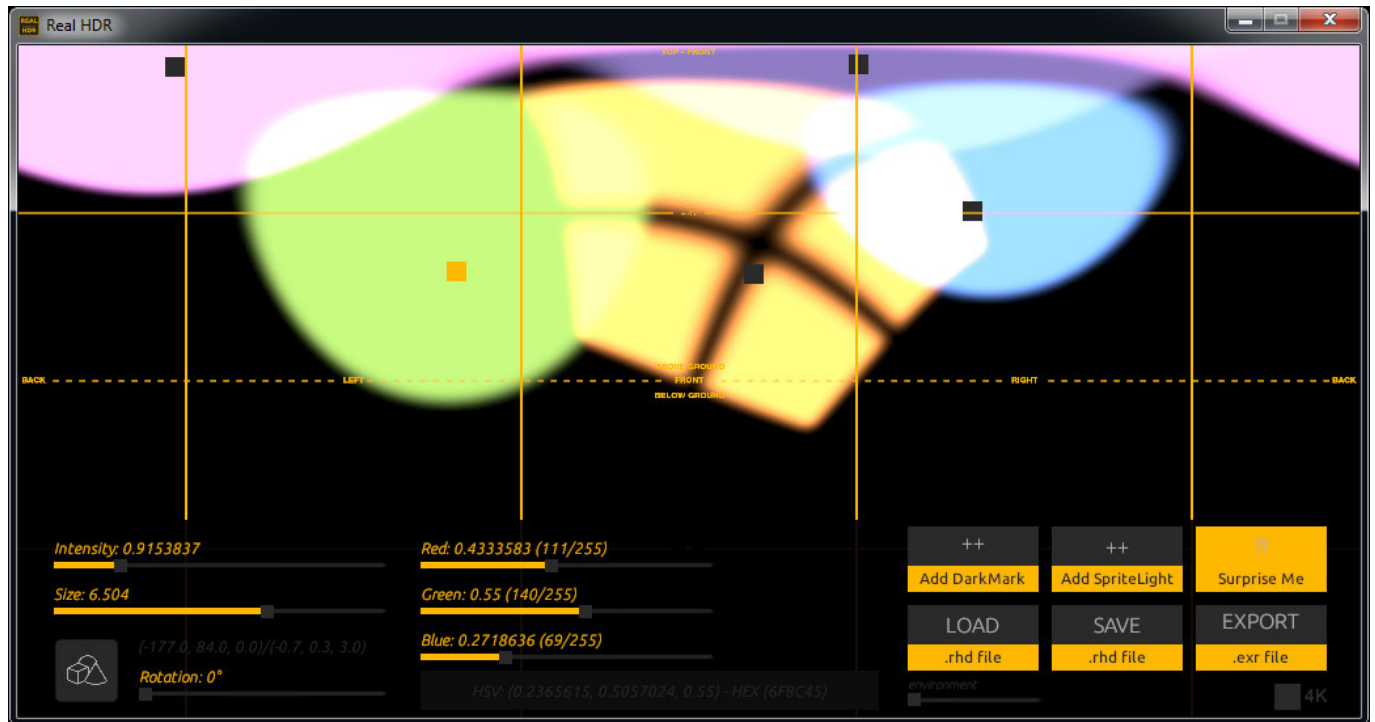
In the bottom left corner of the UI you can find six commonly used presets - candle light, incandescent lamp, halogen lamp, fluorescent lamp, sunlight and an overcast that could be useful to speed up your workflow.

You can apply the chosen color or discard the changes and keep the current one by clicking the corresponding buttons, the same way as you do in Color Selector UI.

Surprise me mode

The surprise me mode adds a random light into the above-horizon space with completely random intensity, size, and color.

If you need some inspiration, you can rely on an AI SpriteLight generator.

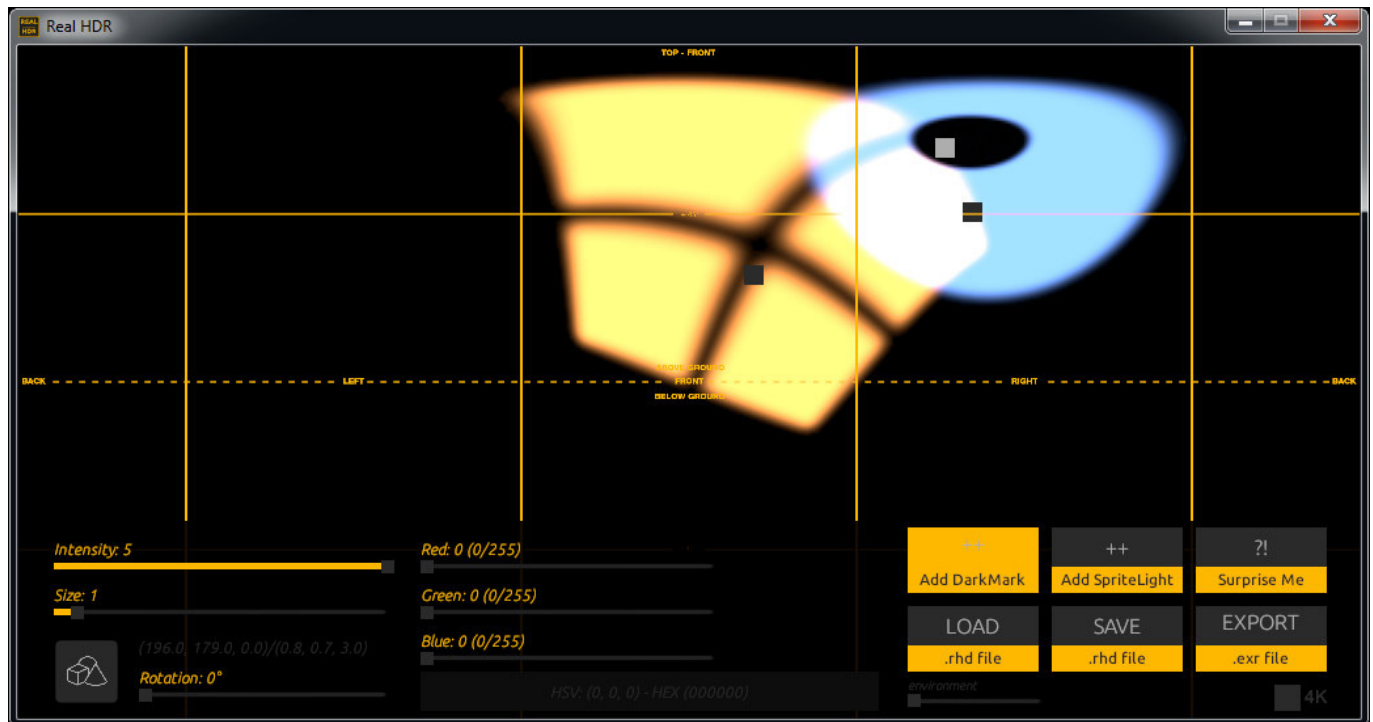


PhotoBooth: adding masks

Create a new mask

To create masks over the lights you can add DarkMarks to your scene by clicking the corresponding button. The same way as the SpriteLights, the DarkMarks can be of different shape and size and do not have any limit in quantity.

When you select the DarkMark in the scene, it is highlighted with the gray color. To delete the selected DarkMark, you can press the delete button on the keyboard.



Change mask color

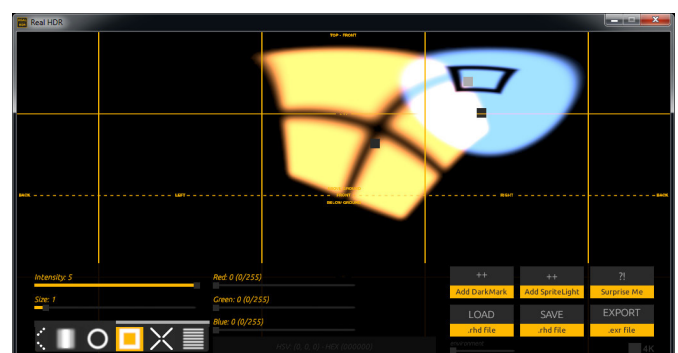
DarkMarks are not influenced by color. Even if it is possible to assign to them a color when working, they will still remain clamped to black thanks to the new blending mode.

This way we avoid the inconsistent workflow where DarkMarks could be emitting lights instead of subtracting as they are expected to.

Change mask shape

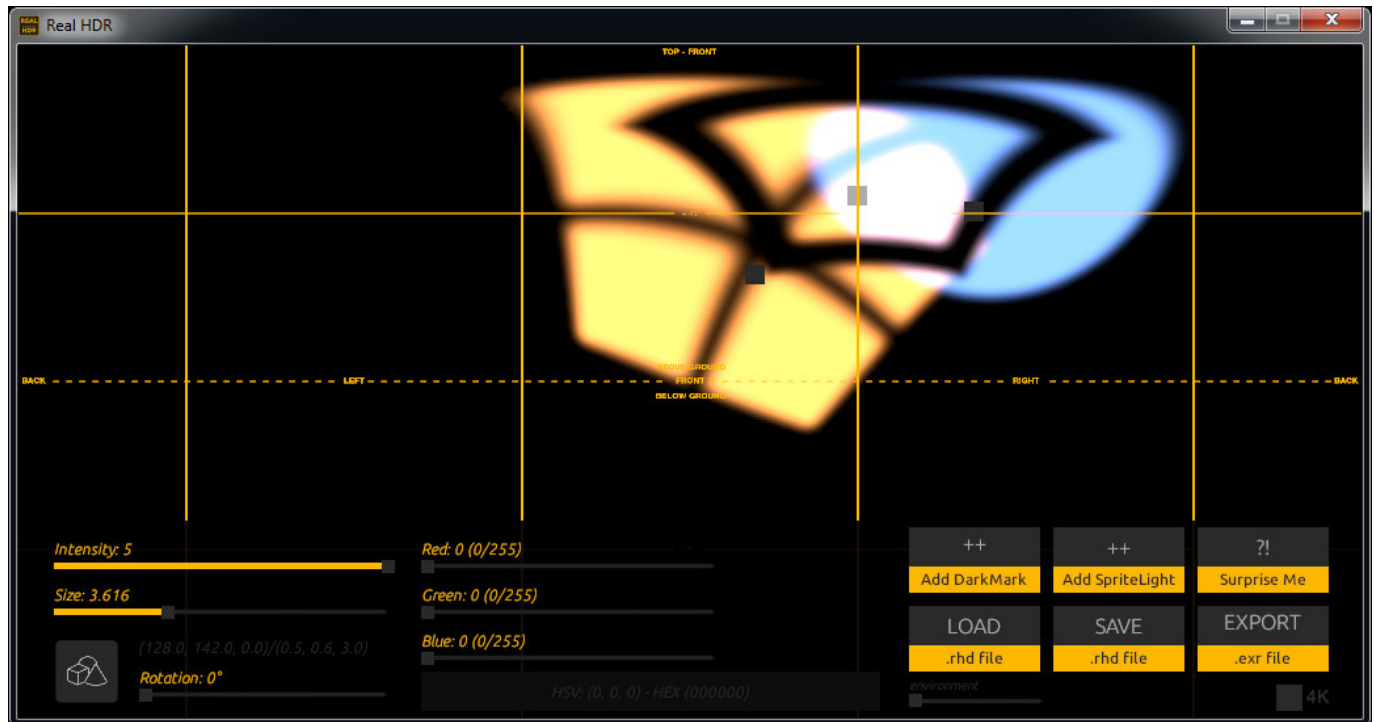
The stencil drop-down allows you to apply various shapes over the selected DarkMark.

You can adjust the size of it with the corresponding slider and choose the proper position and rotation in the scene.



Change mask intensity

The Intensity slider allows you to manipulate the "darkness" of the mask the same way you change the brightness of the light.



In update 1.2 we changed the blending mode of both SpriteLights and DarkMarks.

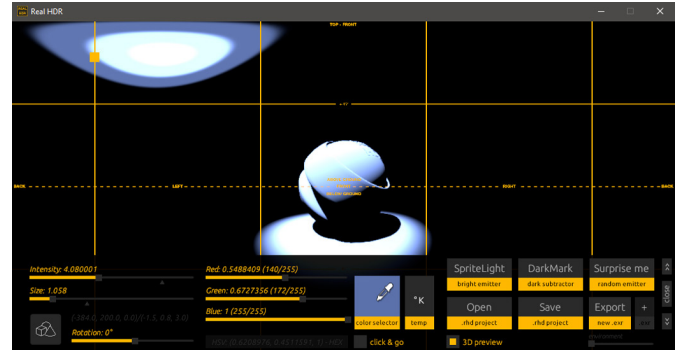
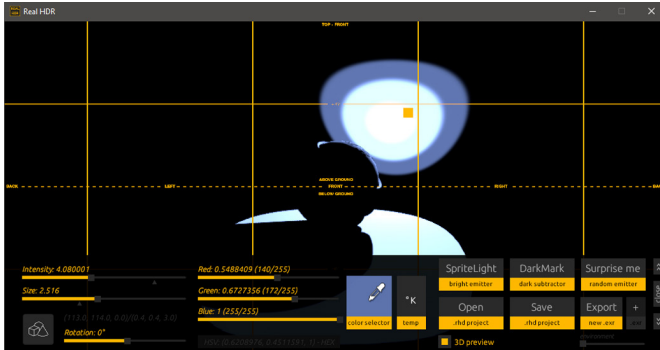
If for some artistic reasons one needs to use DarkMarks we suggest not to exaggerate with their size and intensity. The best way to shape your light is by adding multiple overlapping DarkMarks that subtracts each other, instead of a very intense one. In this way, it is possible to decrease linearly the SpriteLights' intensity instead of creating a black hole.

Progressive rendering mode

The drag-and-drop positioning of the SpriteLights can speed up the work process, to make the visual feedback more immediate the SpriteLights are rendered progressively, obtaining their HD quality in a few seconds.

3D Preview

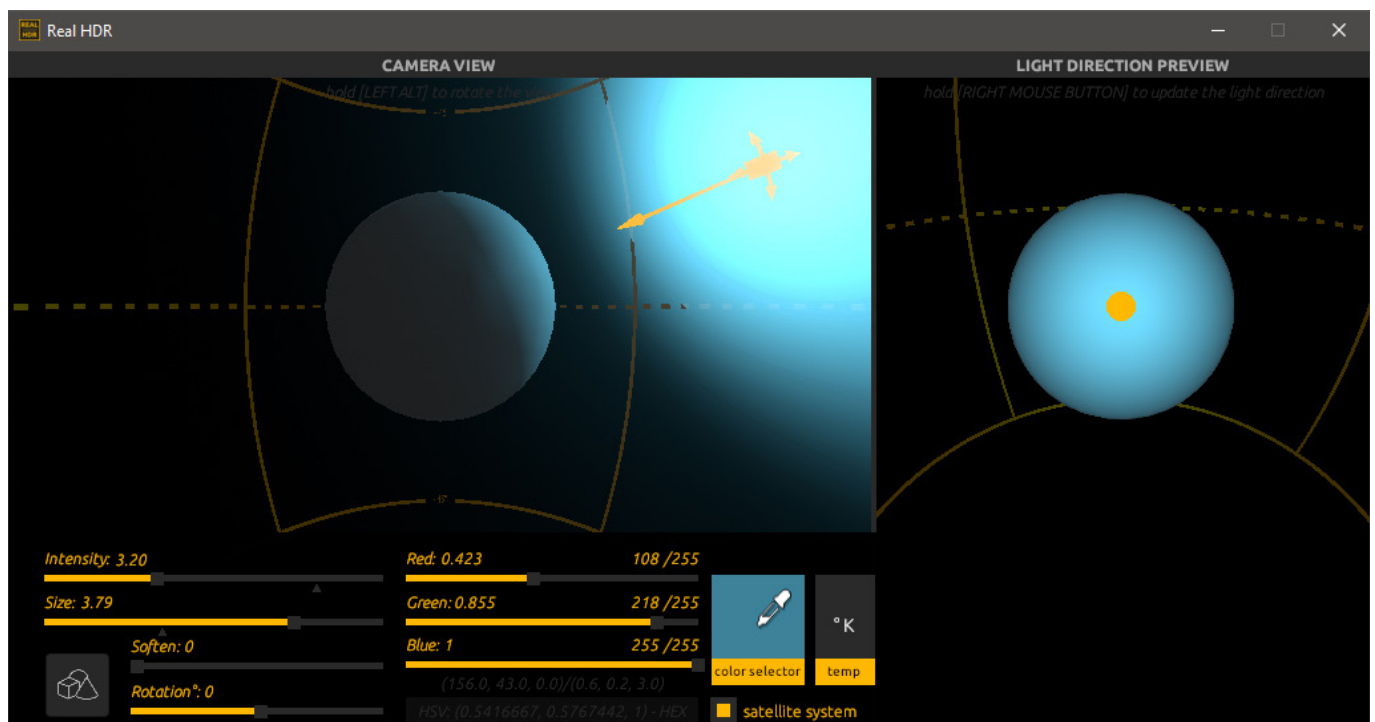
By activating the 3D Preview option you can test your lights, their colors, brightness, position, size, shadows and highlights on an Lambertian shader ball while continuing your usual workflow in the familiar UI of PhotoBooth module.



Satellite System

Click&Go option for light preview and placement introduced first in Real HDR 1.4 was deprecated in Real HDR 1.7 and substituted with more precise and advanced Satellite System providing an orbital preview of the light direction all around the 3D mesh combined with a static rendering viewport.

Choose the light in the main screen, activate Satellite System toggle and adjust the selected light's position and other parameters. You can move the light with the right mouse button and move the camera holding ALT, both views are stored in the memory for every time you close/open the Satellite System preview.

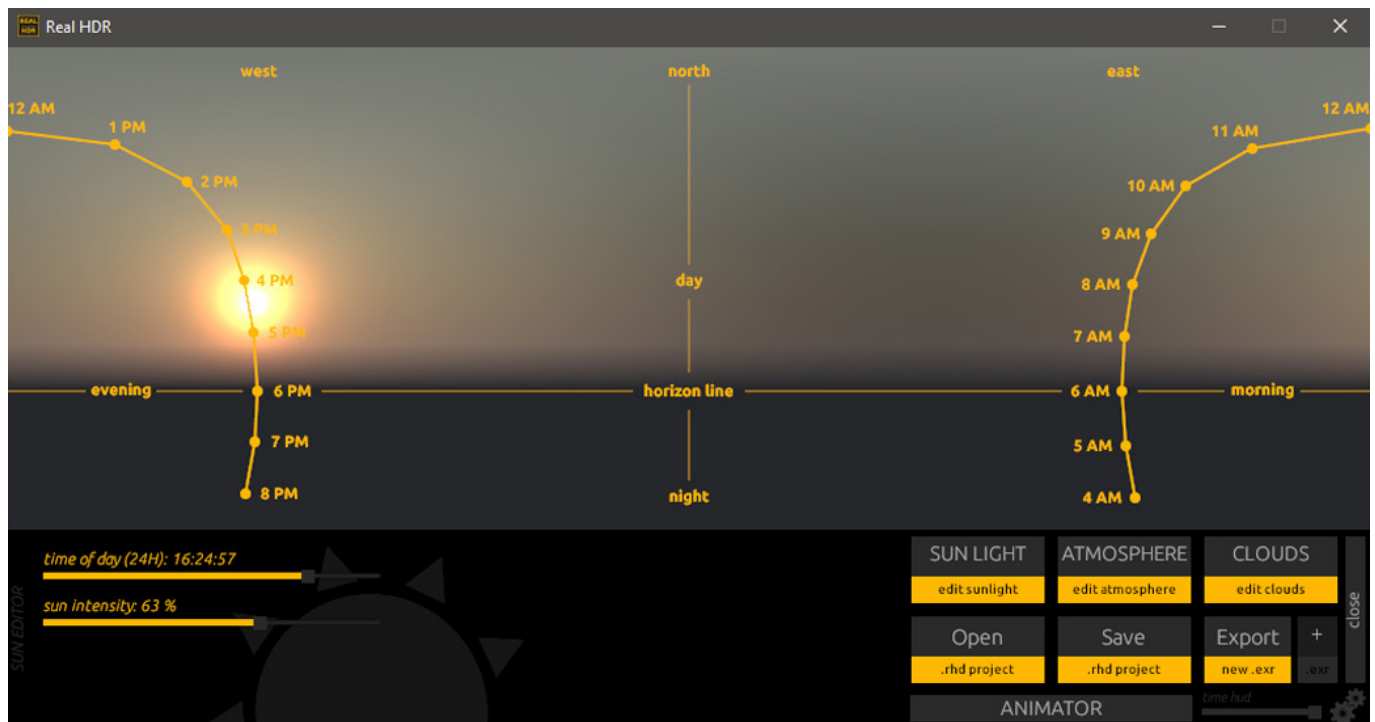


SkyLight Mode: Sun Light

Real HDR 1.3 is released with a preview version of the SkyLight module that is currently in development. For Real HDR 1.5 we continued our development of the advanced features, such as atmospheric parameters and clouds, as well as worked on the users' feedback for the preview version. Specifically, the shadow softening and the dynamic range have been significantly improves to be proportional with the sun, atmosphere and clouds total evaluation.

Choose the sun position

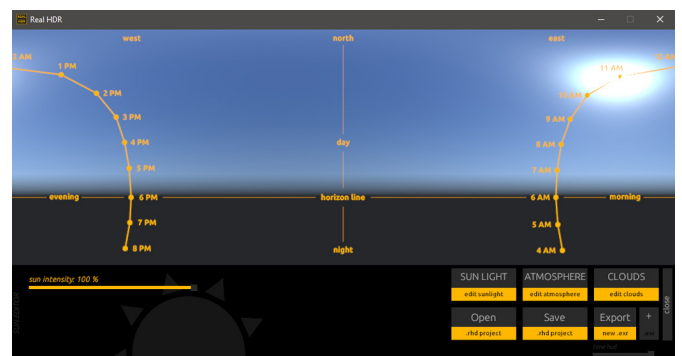
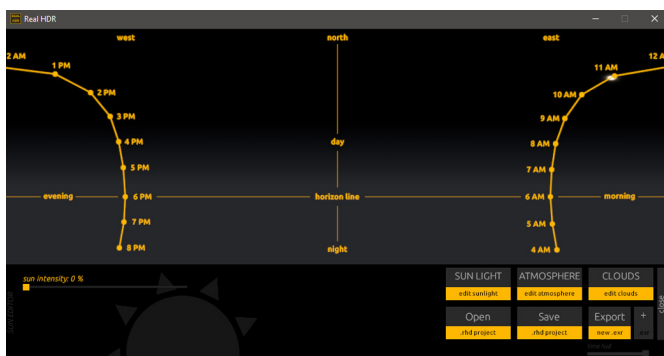
By clicking on the desired hour you can move the sun disk from sunrise to sunset. The feature does not support the intermediate positions yet. The SkyLight module starts with the local time.



Since Real HDR 1.6 you can choose the time of the day more precisely with a corresponding slider (in hours, minutes, seconds based on a 24 hours circle)

Change sun intensity

The Sun intensity slider goes in the range from 0% (that allows you practically to create a moon) to 100% (that is totally white and can be overexposed).



The Sun size diameter is influenced by the parameters of the Atmosphere.

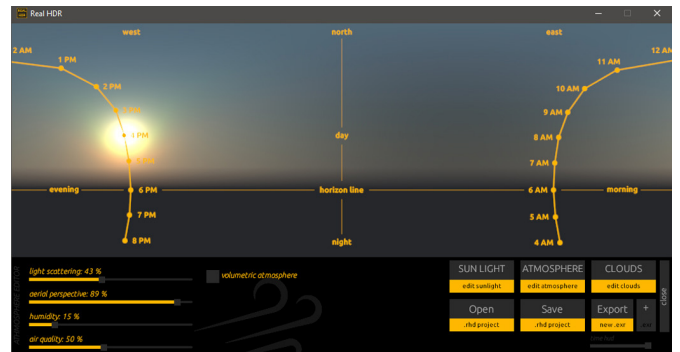
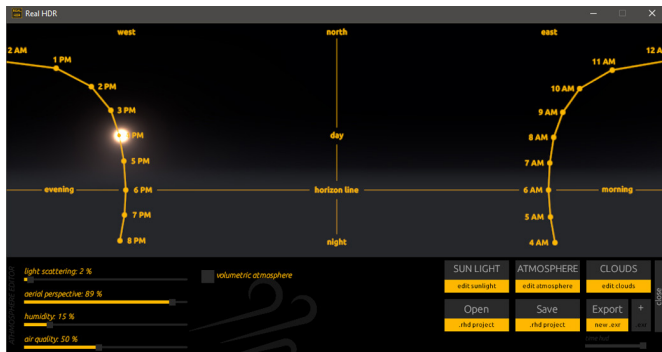
SkyLight Mode: Atmosphere

Four sliders in the Atmosphere tab are responsible for the overall color of the sky and the sunlight distribution.

Light scattering

Light scattering in the range of 0-100% defines the shade and darkness of the blue of the sky, as well as the sun size and brightness and permits for example to create day, night and space scenarios.

In general, the lower is the value, the darker is the sky and the less is the glow of the sun.



Aerial perspective

Aerial refraction in the range of 0-100% is the intensity of the natural deviation of the light rays from the emitter to the destination. The lower values give the impression of haze and fog on the horizon, while greater values create a glow around the sun.



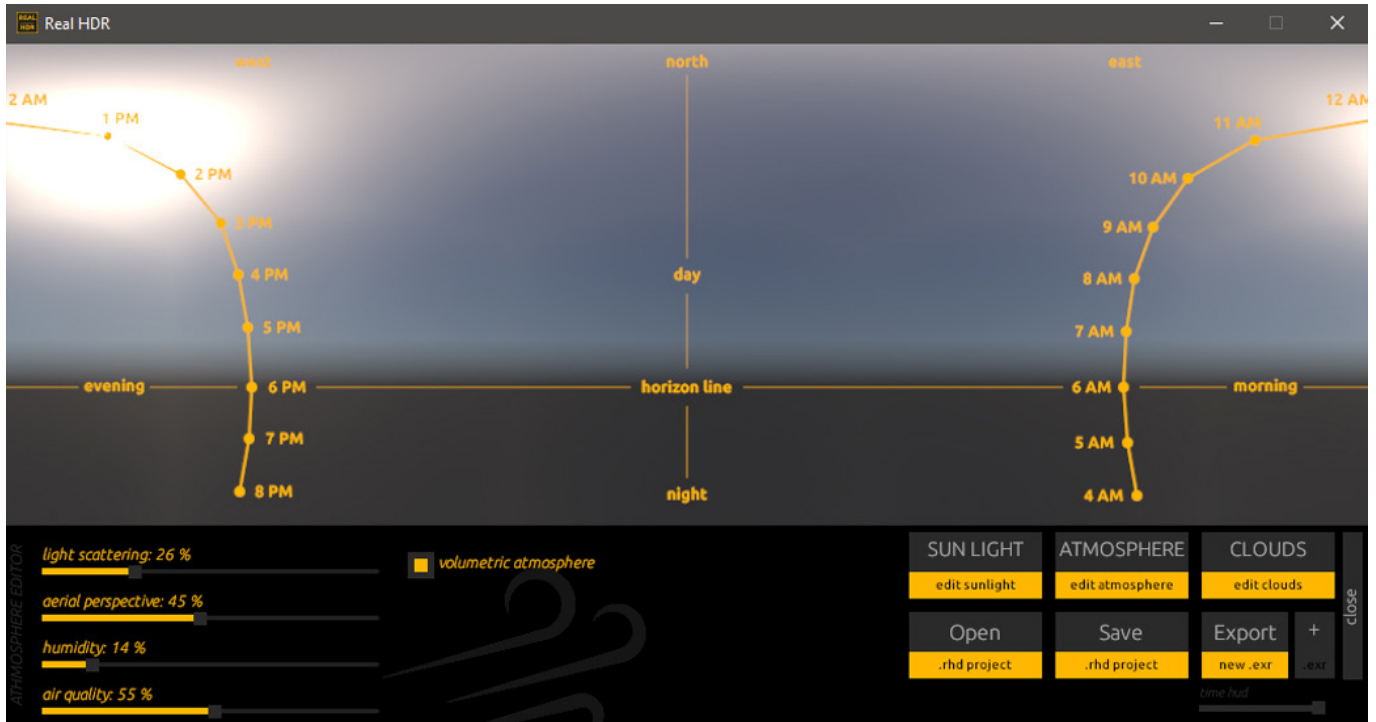
Humidity

As in the real world, there is a certain percentage of water particles in the atmosphere. These particles act similar to Light Scattering, but on a macro size. Clouds are usually a good example of humidity cumulus. Humidity parameter in the range of 0-100% helps to spread the light in the atmosphere, creating diffusion and, as a consequence, smoother shadows.



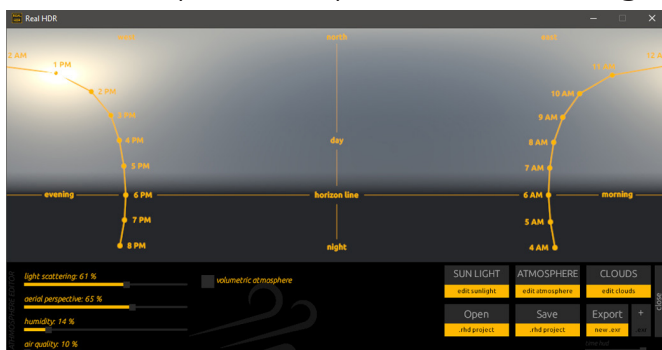
Volumetric Scattering

Volumetric scattering toggle is added in the Real HDR 1.5 for a better atmospheric composition and an opportunity to create softer and more diffused lighting.



Air Quality

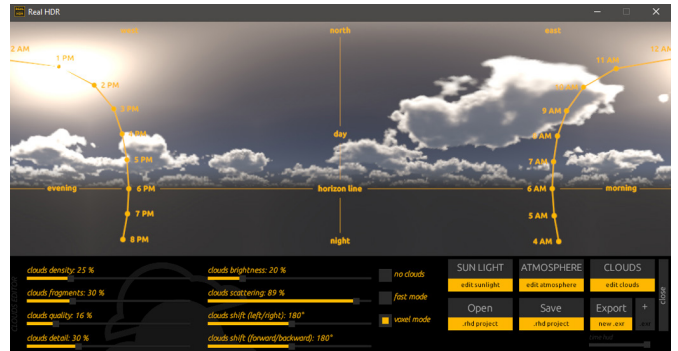
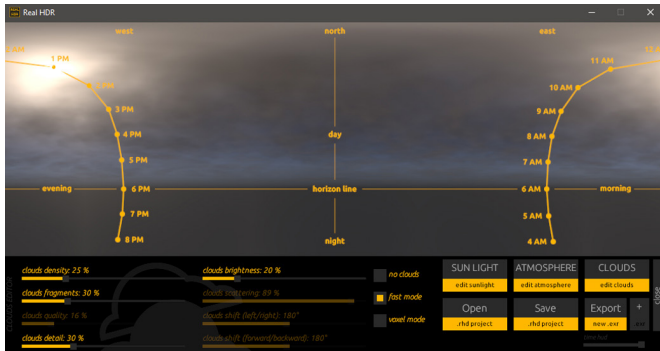
Air quality slider in the range of 10-100% defines the lack of polluting particles of unpredictably micro-size. These particles are responsible for an even bigger diffuse reflection of light. A low value corresponds to a polluted air, while high value defines clean (mountain as an example) air.



SkyLight Mode: Clouds

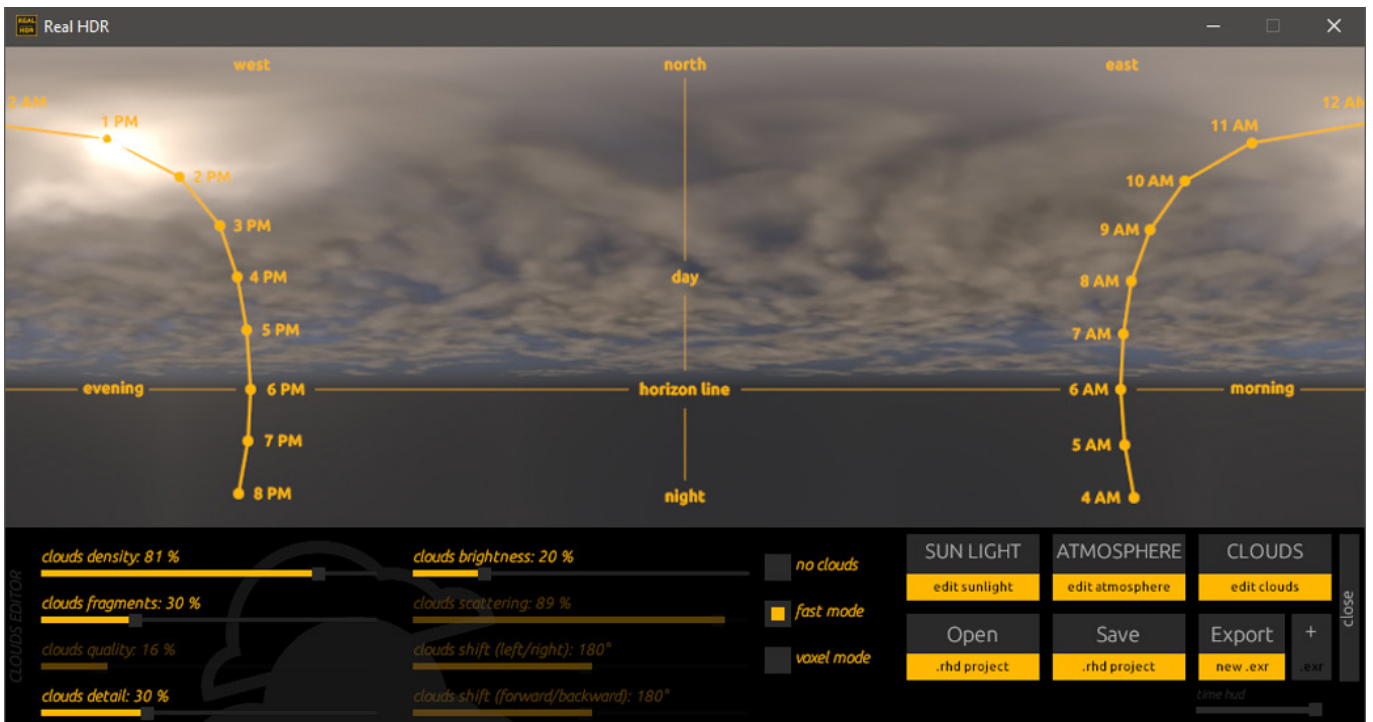
Clouds were introduced in Real HDR 1.5. By default the toggle is set to none (no clouds) and can be changed to the Fast Mode or Voxel Mode creating different weather scenarios.

In general *Fast Mode* represents more flat and solid clouds that can have also darker shades for storm, evening and nocturne situations, while *Voxel Mode* can provide more voluminous photorealistic and even cartoon-style clouds.

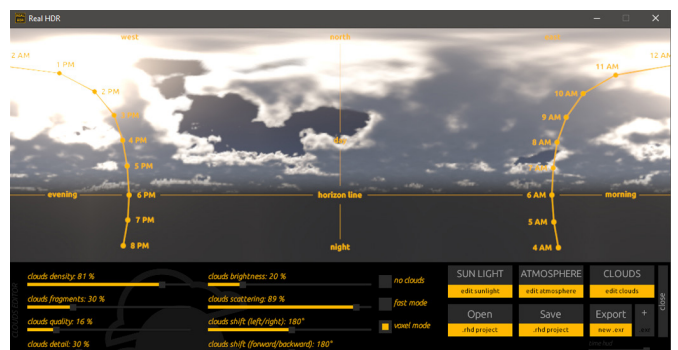


Clouds Density

Clouds density parameter, both in Fast Mode and Voxel Node, is related to overall sky coverage and shadows' softness.

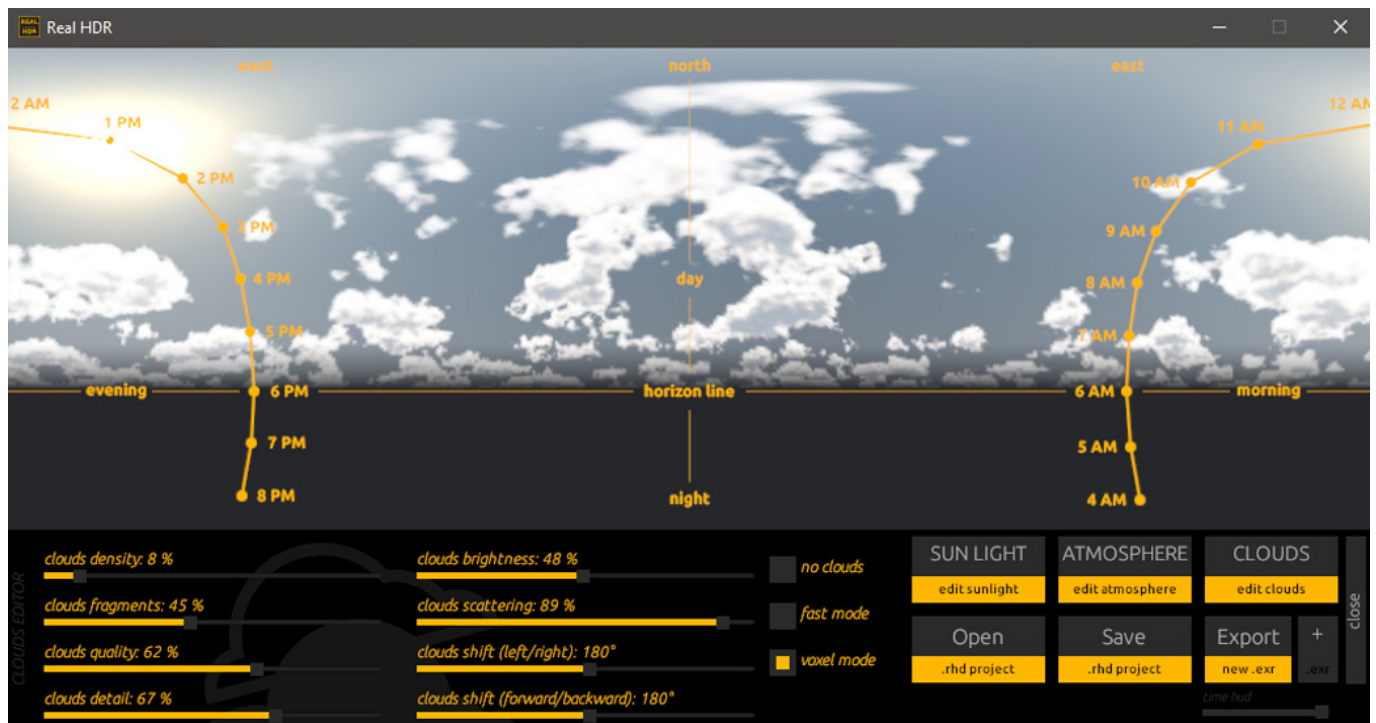


Moreover, real voxel clouds are softening the shadows, when they are directly occluding the sun.



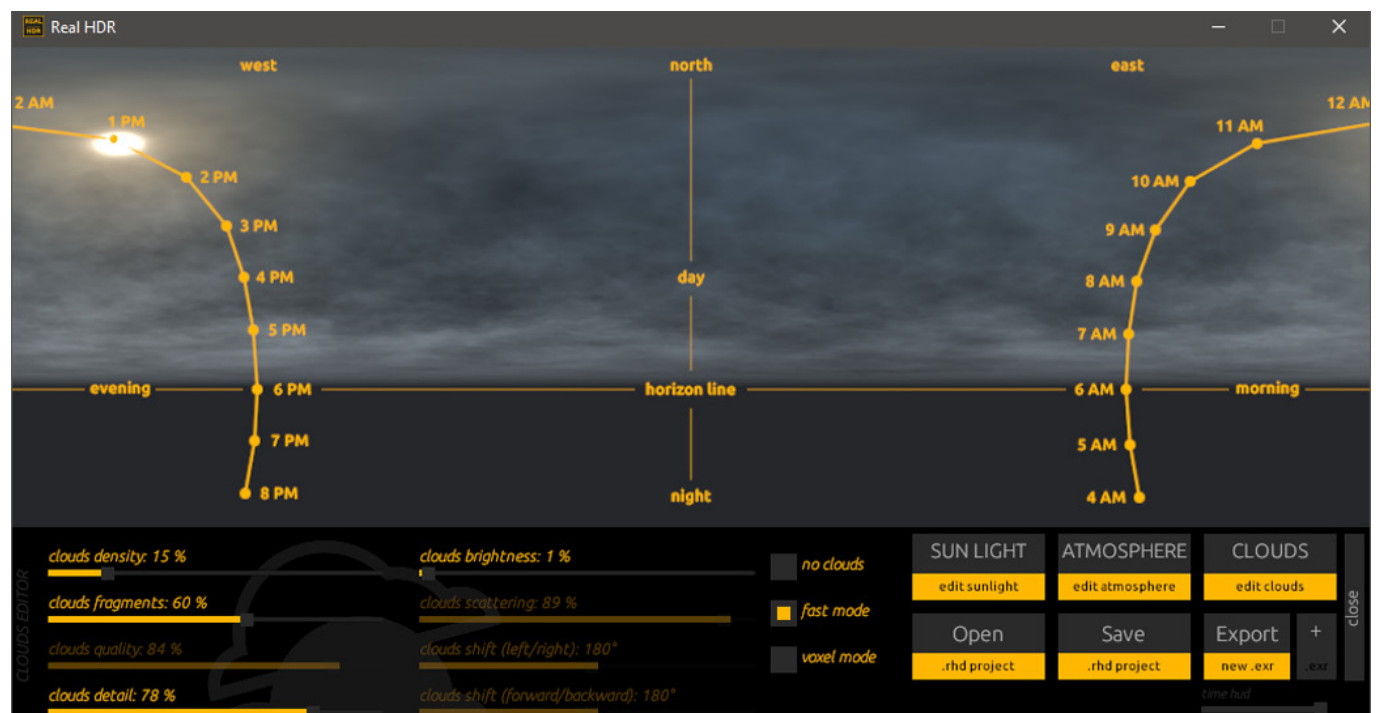
Clouds Fragments and Detail

These two parameters represent how solid are the clouds - if they are divided in numerous clusters or are more uniform, and if how detailed is each cluster.



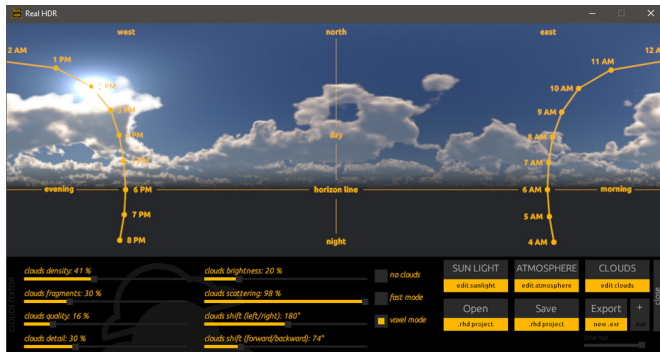
Clouds Brightness

The Brightness slider allows to adjust the clouds' color - the higher values create brighter tones, while the lower values provide darker colors, suitable for night and storm environments.



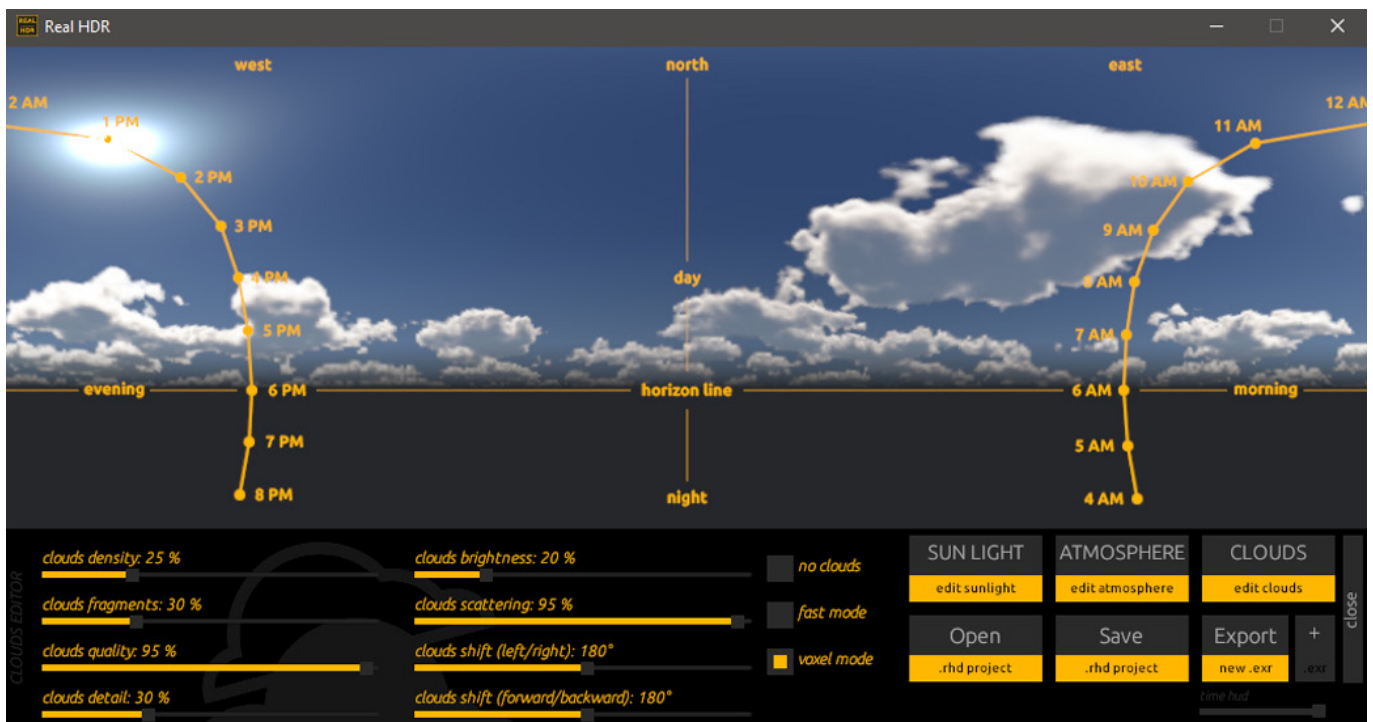
Clouds Scattering

Clouds Scattering slider regulates the glow of the voxel clouds. 0% scattering creates a uniform glow of the sunlight on the contour of the clouds, while 99% scattering limits the glow to the sun area only.



Clouds Quality

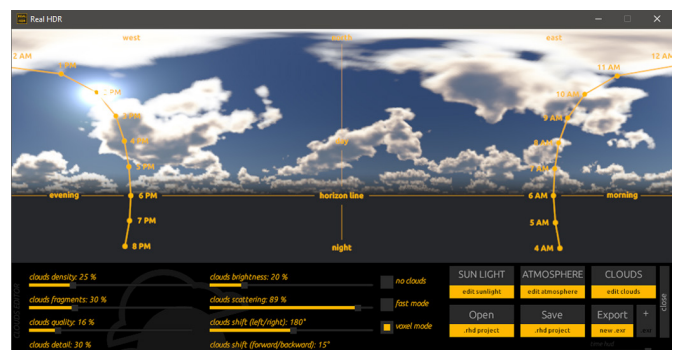
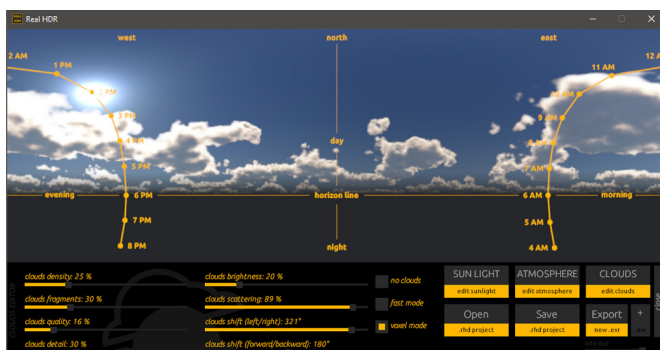
Clouds quality settings are responsible for the way Voxel Clouds are rendered: the higher values create softer and more photorealistic clouds.



Lower clouds quality can speed up the workflow: it can be set temporary while adjusting other parameters and be changed later for the final export.

Clouds Shift

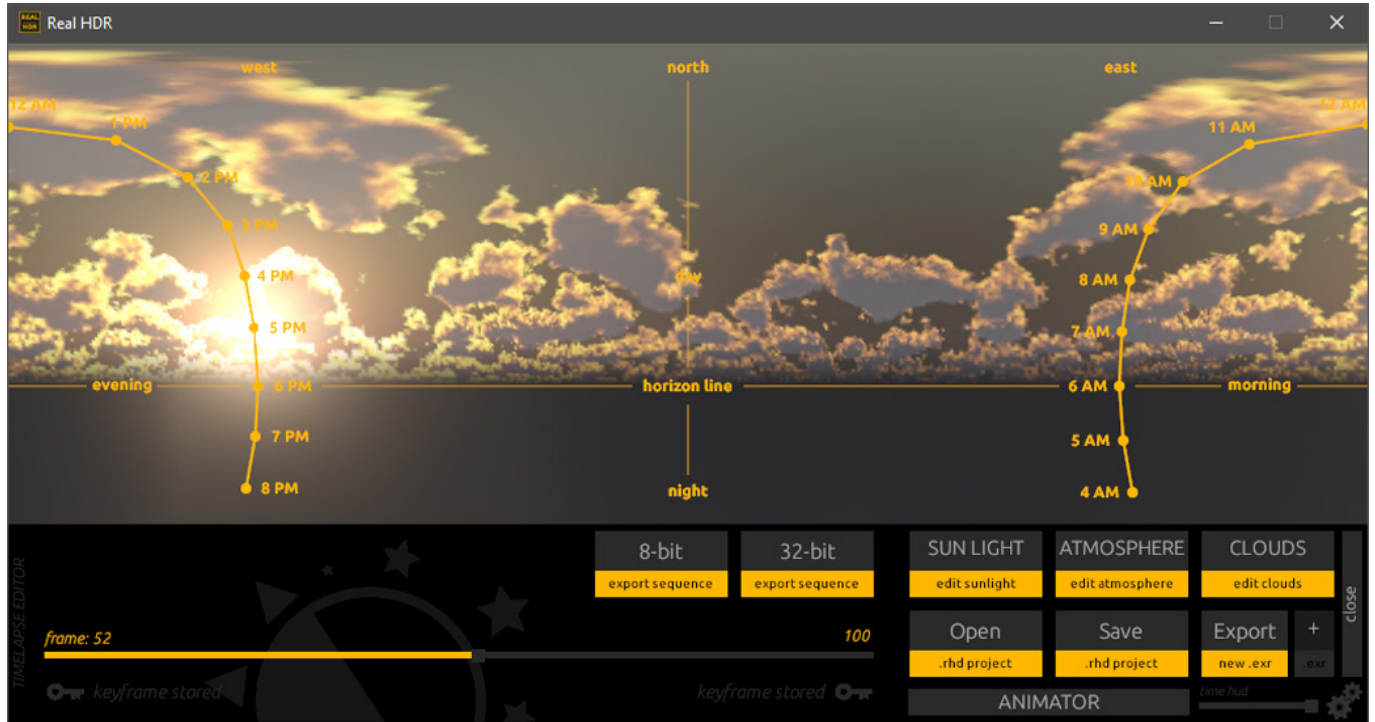
Two sliders allow to adjust the desired Voxel Clouds' position moving them left-right and backward-forward.



SkyLight Mode: Animator

The Animator button added in Real HDR 1.6 opens a settings panel for the procedural sky animations with a timeline and starting and ending keyframes.

Set the values of time, sun, atmosphere and clouds and press on of the keys; set again the values as you like for the destination of the transition and click on the other key. Every time you click on a key, its data is overwritten.



The timeline is defining the interpolation between the two states and if while sliding you find a more appropriate sky condition for your creations, just press one of the keys to trim the transition. There is also an editable timeline range and this may be used to refine the “resolution of time”, meaning you can have a higher or lower frame rate.

When you are satisfied with the result, you can export the sequence either as in PNG or EXR format (both are linear, so PNG should be gamma converted later to see the appropriate colors). The sequence exporter exports the frames from the selected one so if you have, let’s say, an animation of 30 frames total and you are on frame 15, it will export only the remaining 15 frames to reach the end. The process can be resumed later on.

The Timeline can be used to find a proper blending between two Skylight states.

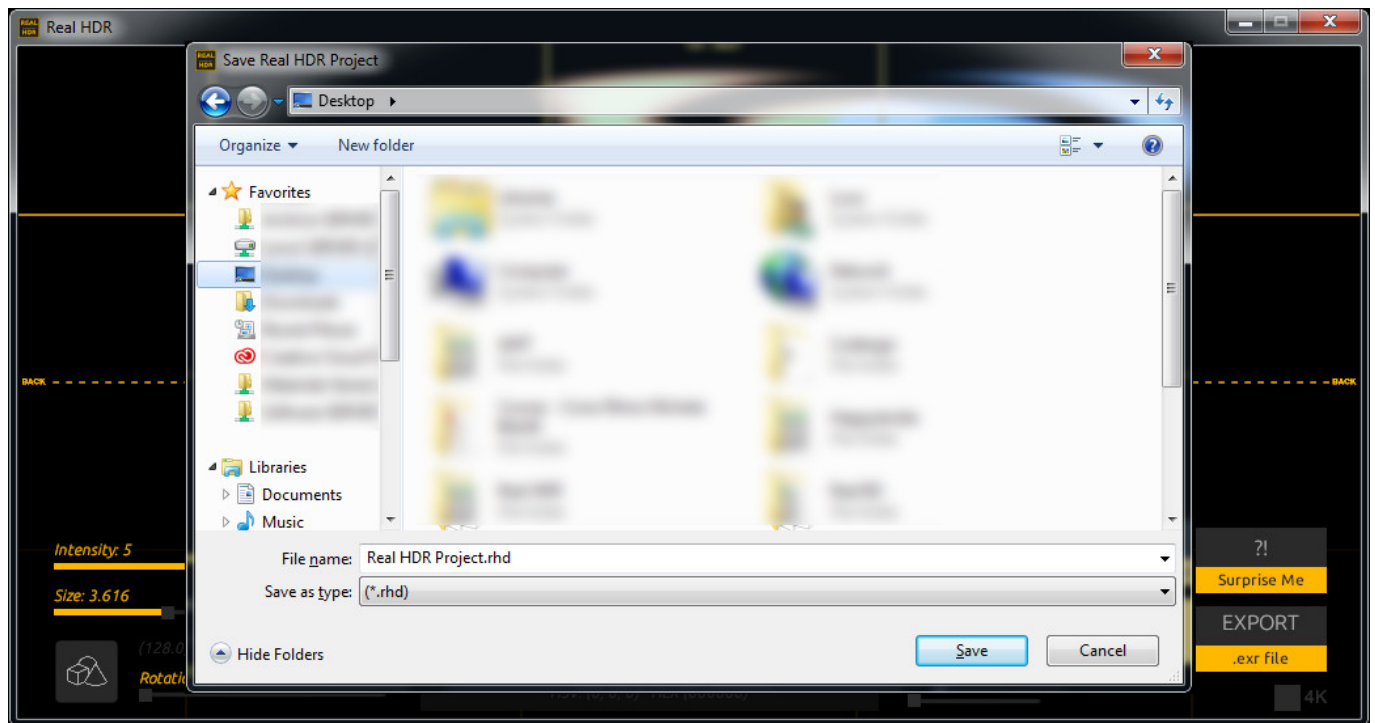
Open/Save of .rhd project

Save your project

By clicking the SAVE button you can save your Real HDR project. The software will open the OS browser for you to choose the file name and the saving path.

Real HDR project is saved as a proprietary .rhd file.

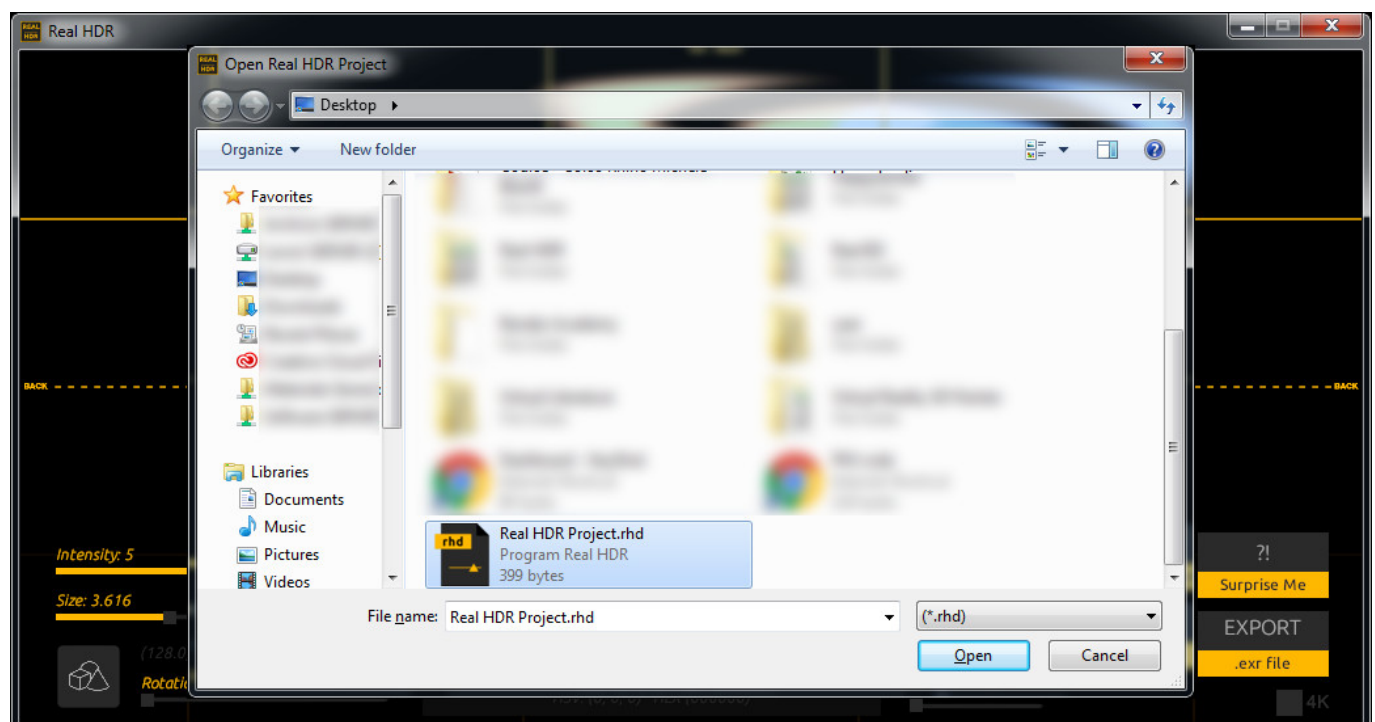
The colored progress bar indicates the saving progress.



Open the previous project

To open your previously created Real HDR project you need to open the Real HDR software and click the OPEN button that will open the OS browser to choose the .rhd file that you want to load into your scene.

The color progress bar demonstrates the loading progress.



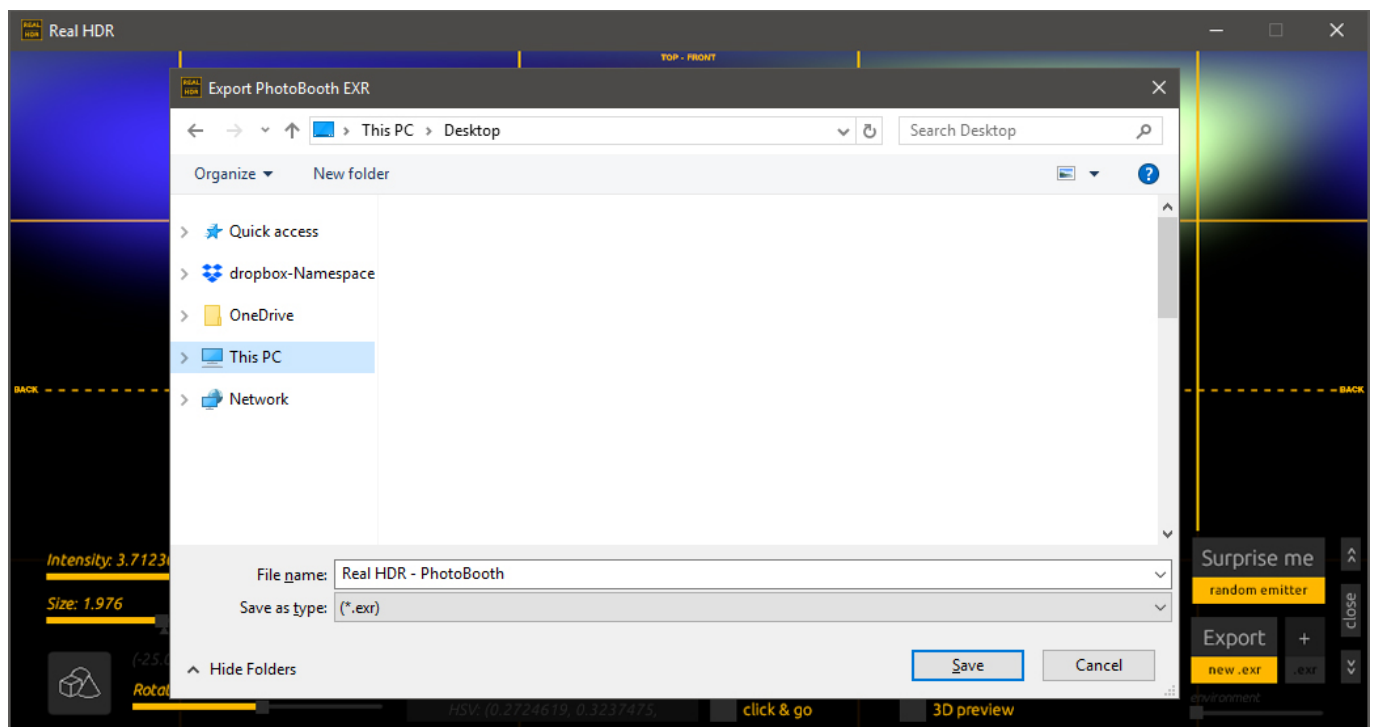
Export .exr file

To export your Real HDR scenes as an .exr file, you need to click the EXPORT button.

Since version 1.2, after many tests on different offline render engines, we unified the default output resolution of Real HDR .exr files to 2048x1024 pixels. The reason behind this choice is that having 8 Megapixels of soft lights didn't make any sense and the data were simply occupying more RAM memory and more space on our user's hard drive. On the other hand, the 1 Mega Pixel size wasn't enough for rich details, making the default option useless as well.

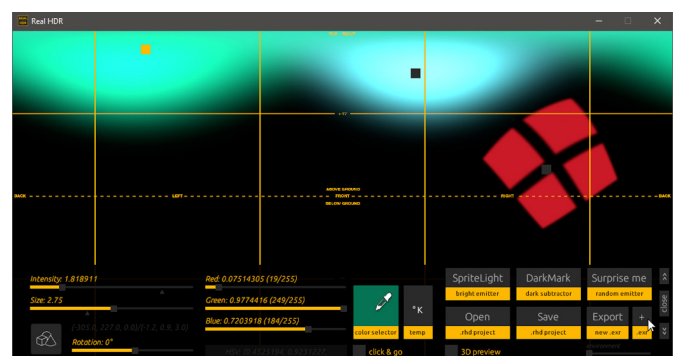
With this simple but effective solution, we dramatically boosted export times and we increased the compatibility with other programs.

Although when the 4K option is enabled in the Options Panel the .exr is exported in 4096x2048 pixels. The 4K (and 8K) resolution may require more time.

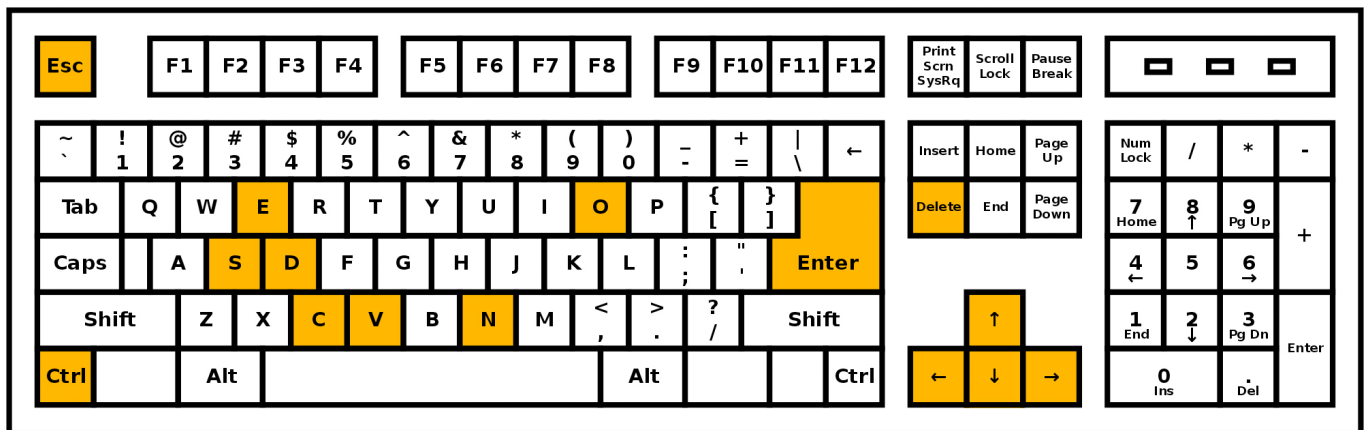


If you have enabled the Optimize Quick Save option in the Options Panel, after the .exr file is saved, the + button will be active. By clicking it you can overwrite your .exr file in a lower resolution to test it quickly in your rendering software.

When you are satisfied with the result do not forget to export your final .exr in 2K (4K or 8K).



Keyboard shortcuts



QWERTY keyboard diagram courtesy of Offinopt for WIKIMEDIA COMMONS: https://commons.wikimedia.org/wiki/File:QWERTY_keyboard_diagram.svg

ESC in the PhotoBooth module: deselect

ESC in Color selector and Kelvin temperature selector: close without applying new color

ESC in the Click&Go or 3D Preview: return to the main PhotoBooth UI

ENTER in the PhotoBooth module: confirm actual transformation

ENTER in Color selector and Kelvin temperature selector: apply new color, sync sliders and return to the main interface

ENTER in the Click&Go or 3D Preview: return to the main PhotoBooth UI

DEL in the PhotoBooth module: delete the selected element

CTRL + N in the PhotoBooth module: create a new project. A warning window is displayed to confirm this choice. All unsaved changes will be lost

CTRL + S in the PhotoBooth module: save the project in a .rhd file

CTR + O in the PhotoBooth module: open a previously saved .rhd file

CTRL + E in the PhotoBooth module: export the .exr in 32-bit 2048x1024 pixels size

CTRL + D in PhotoBooth module: deselect the current element

CTRL + C / CTRL + V in the PhotoBooth module: transfer parameters from one SpriteLight to another. Copy the SpriteLight parameters - Select the destination SpriteLight - Set the copied parameters. Note: DarkMarks cannot be copy/pasted

ARROWS in PhotoBooth module: move the SpriteLight/DarkMark

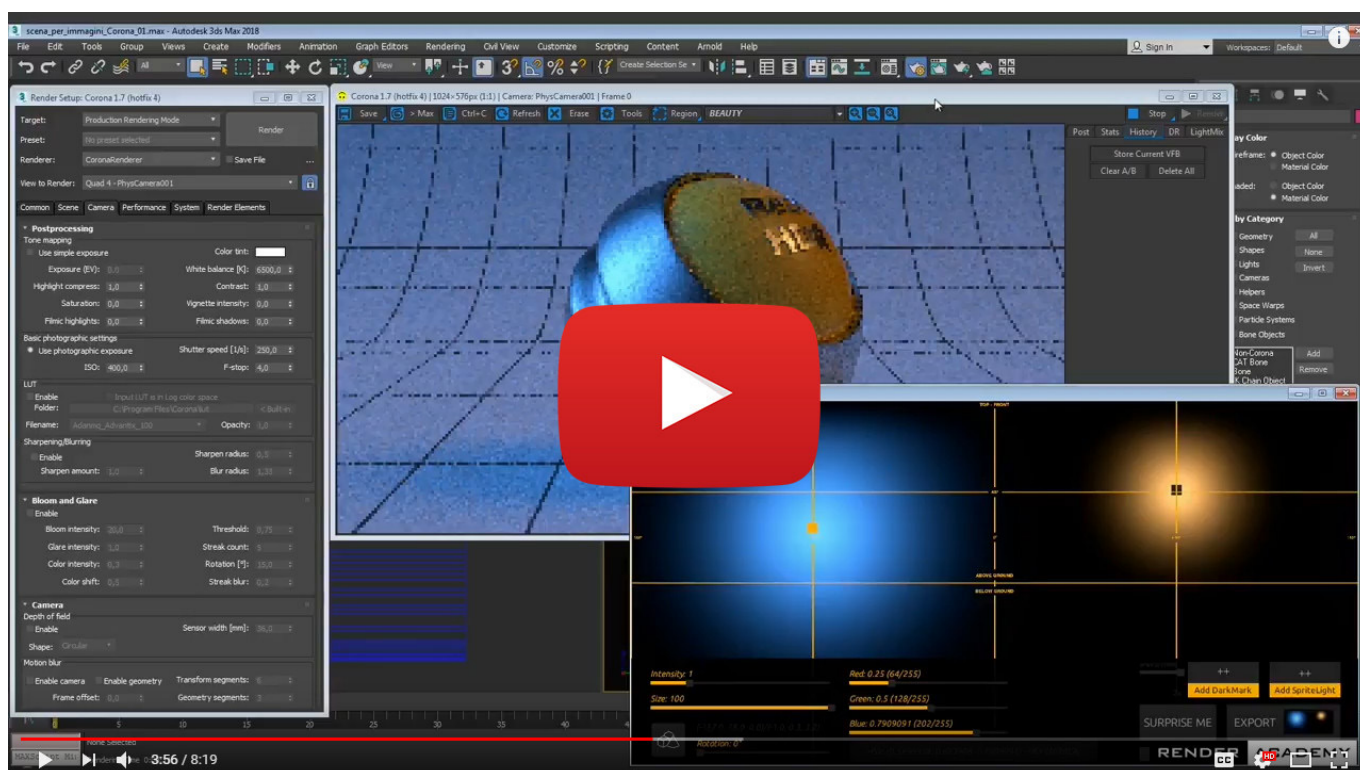
Suggest new shortcuts to us at support@renderacademy.com

Tutorials

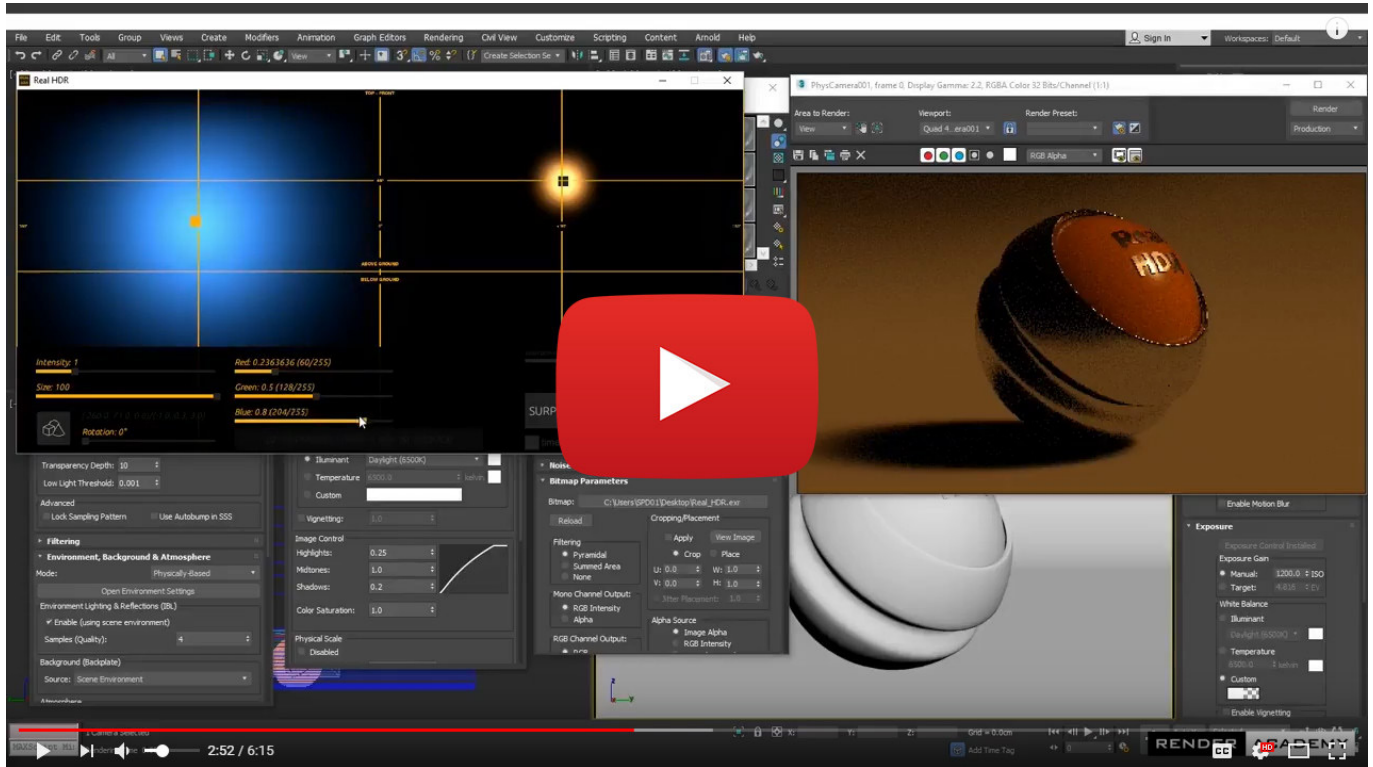
How to use EXR in V-Ray



How to use EXR in Corona Renderer



How to use EXR in Arnold



How to use EXR in UnrealEngine 4

