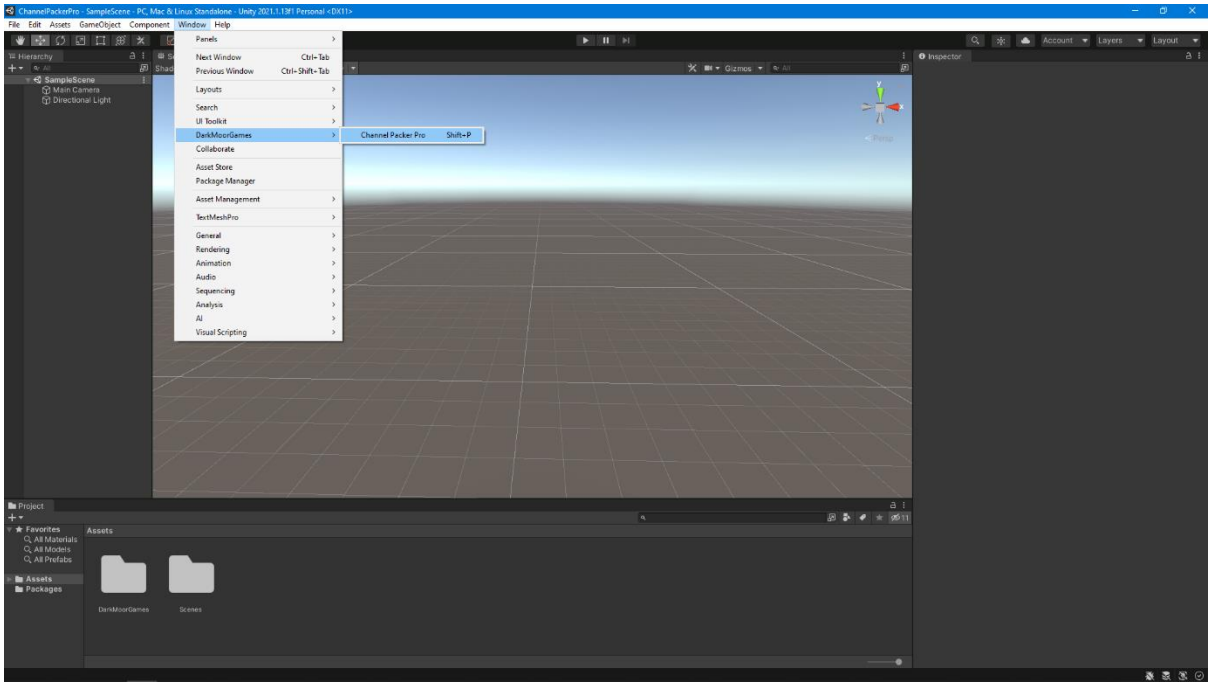
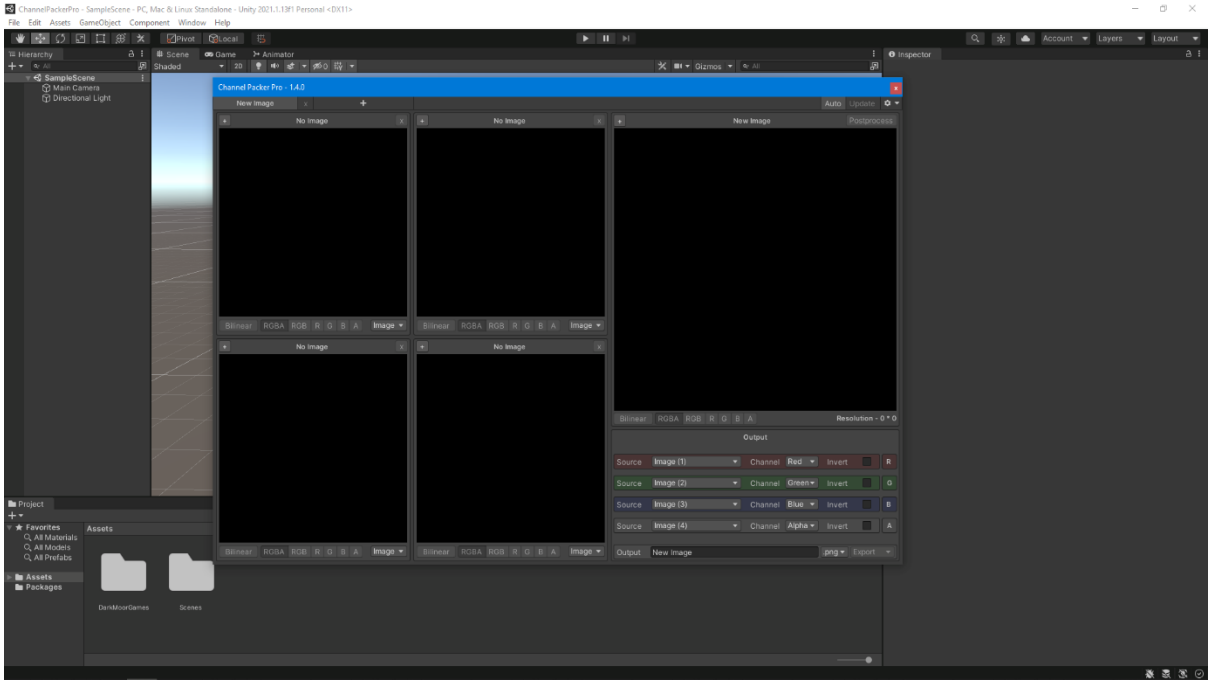
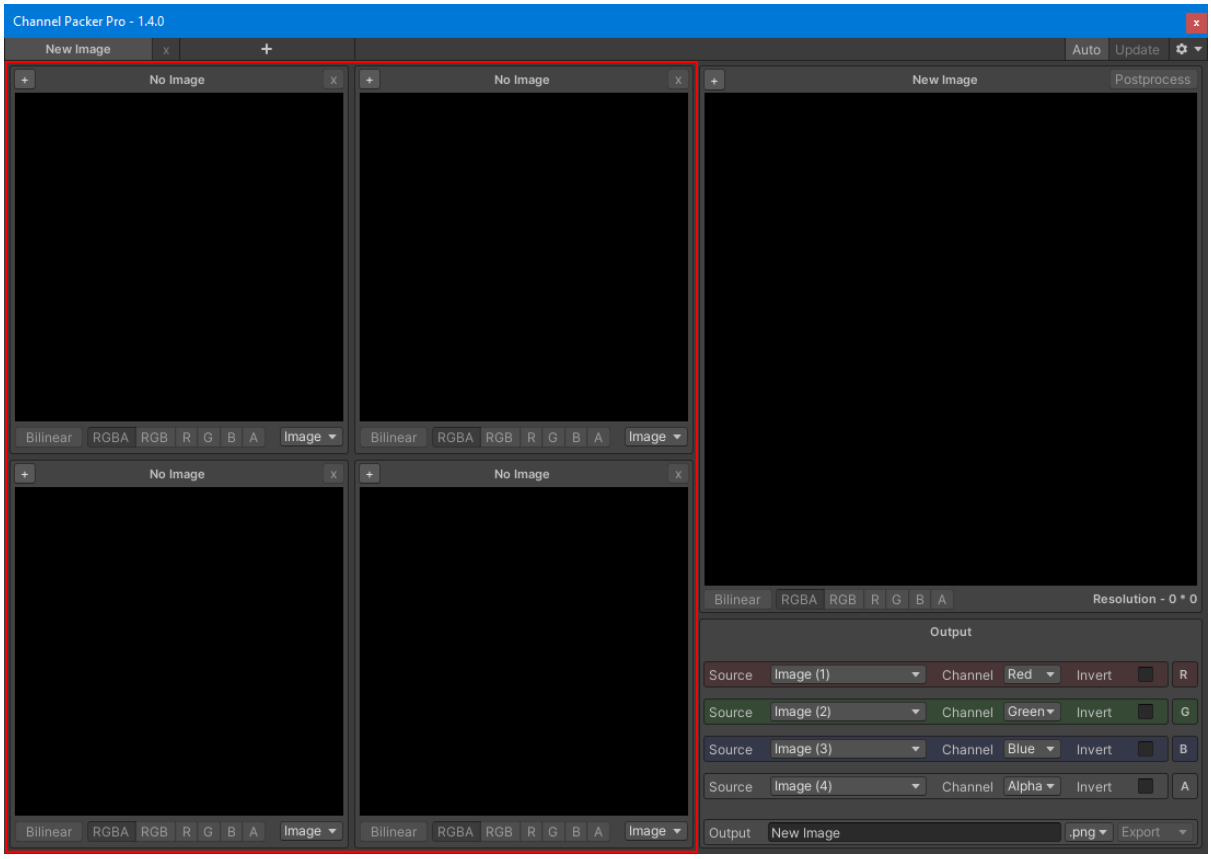


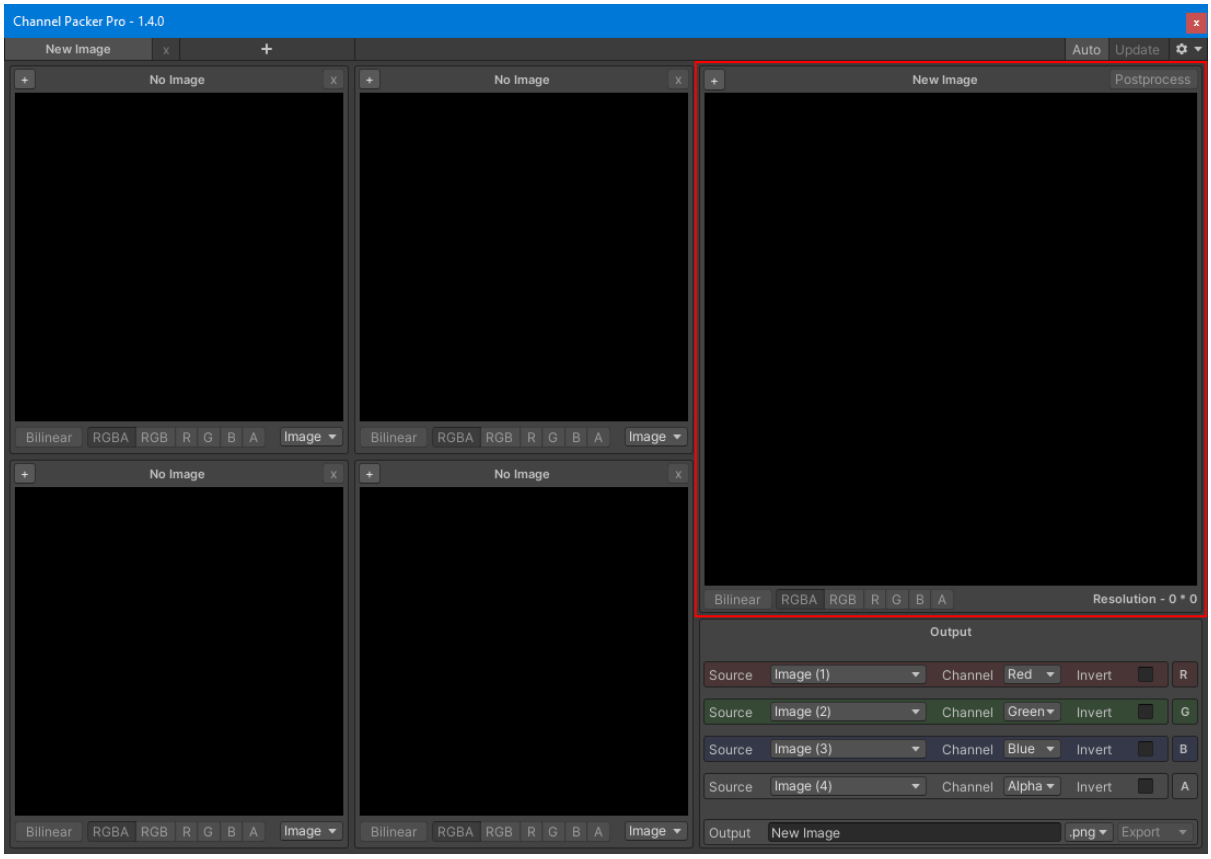
To open Channel Packer Pro go to **Window/Dark Moor Games/Channel Packer Pro** in the dropdown menu or use the shortcut **SHIFT + P**. Shortcuts can be changed in the **Unity shortcut manager** window.



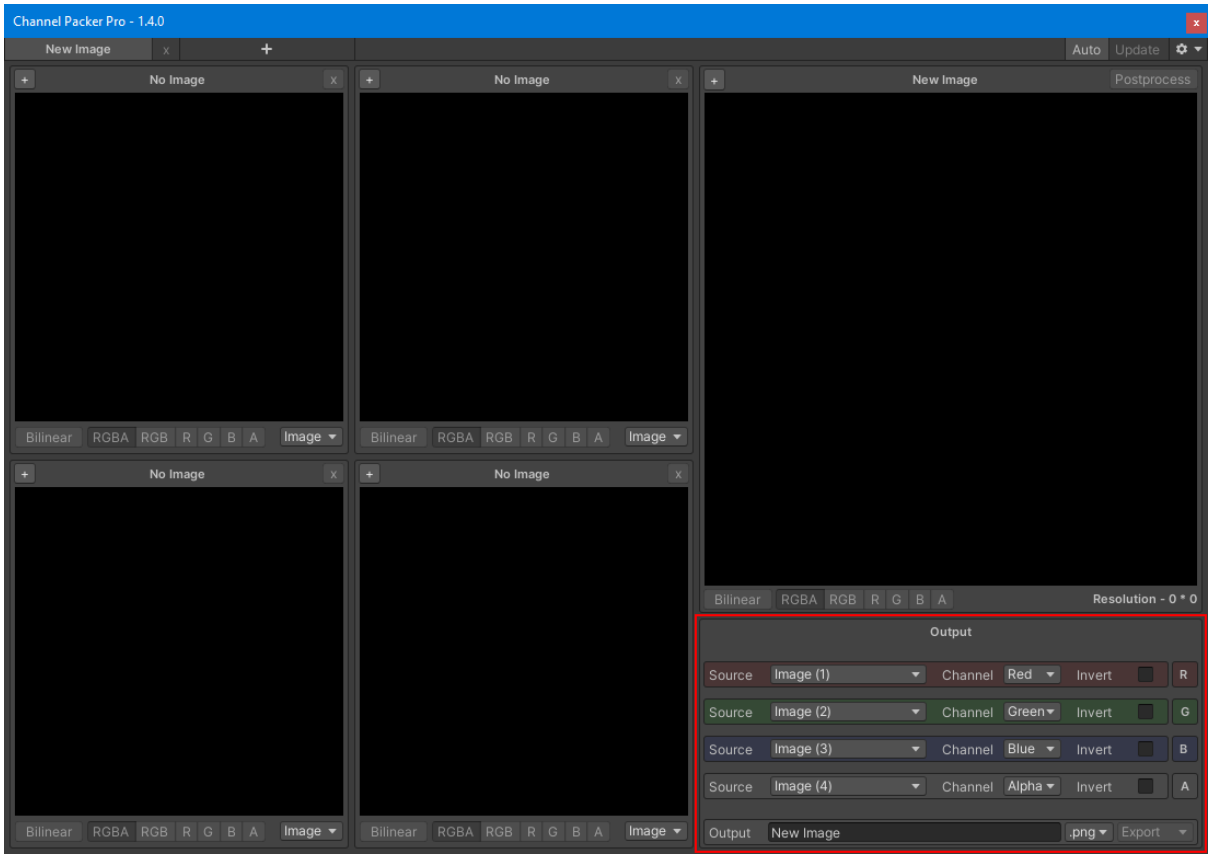
The Channel Packer Pro utility window will open with its default settings.



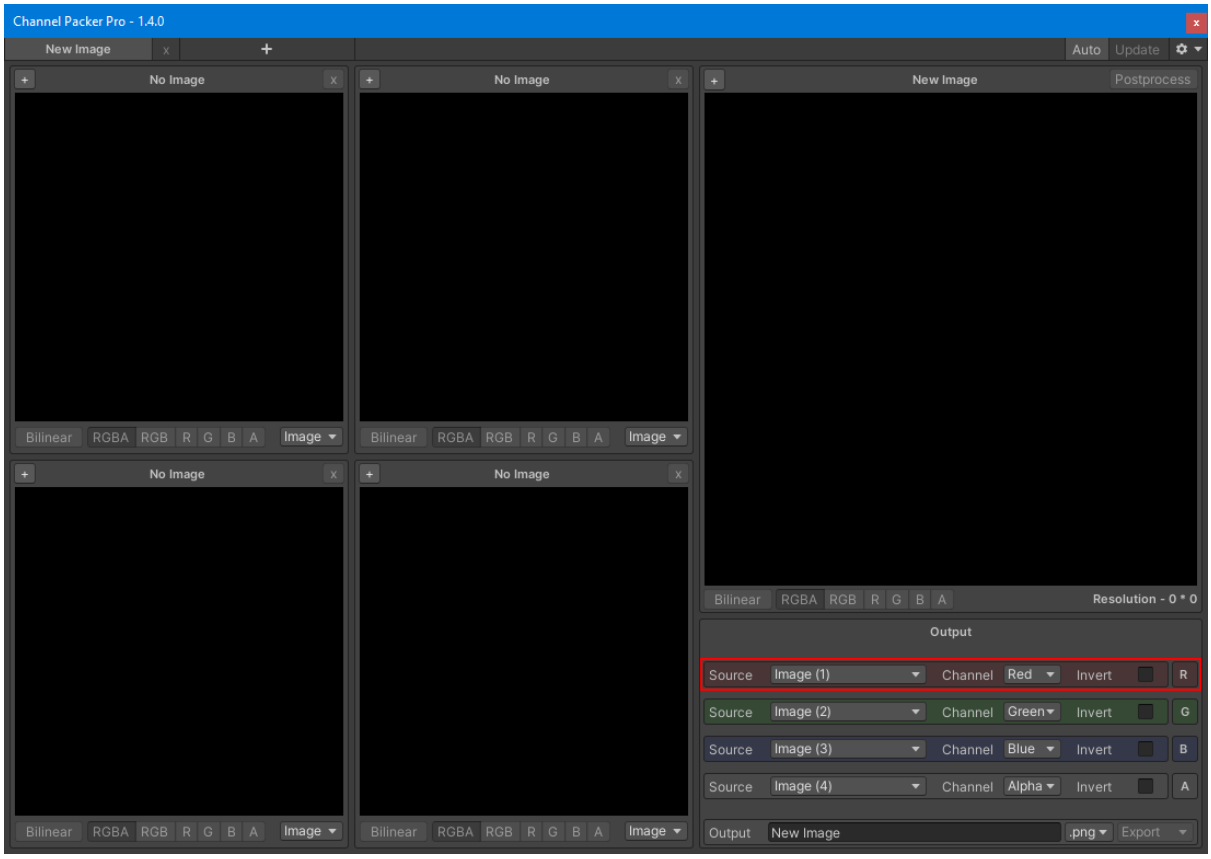
The four small windows to the left are the source images that you want to pack into the output image. You can have four images (one for each channel) per packing group, but you don't have to use them. You don't need to load or generate images in a particular order so long as they are the same resolution. Each of the source image windows have their own preview settings to see each channel of the source image and image filtering applied.



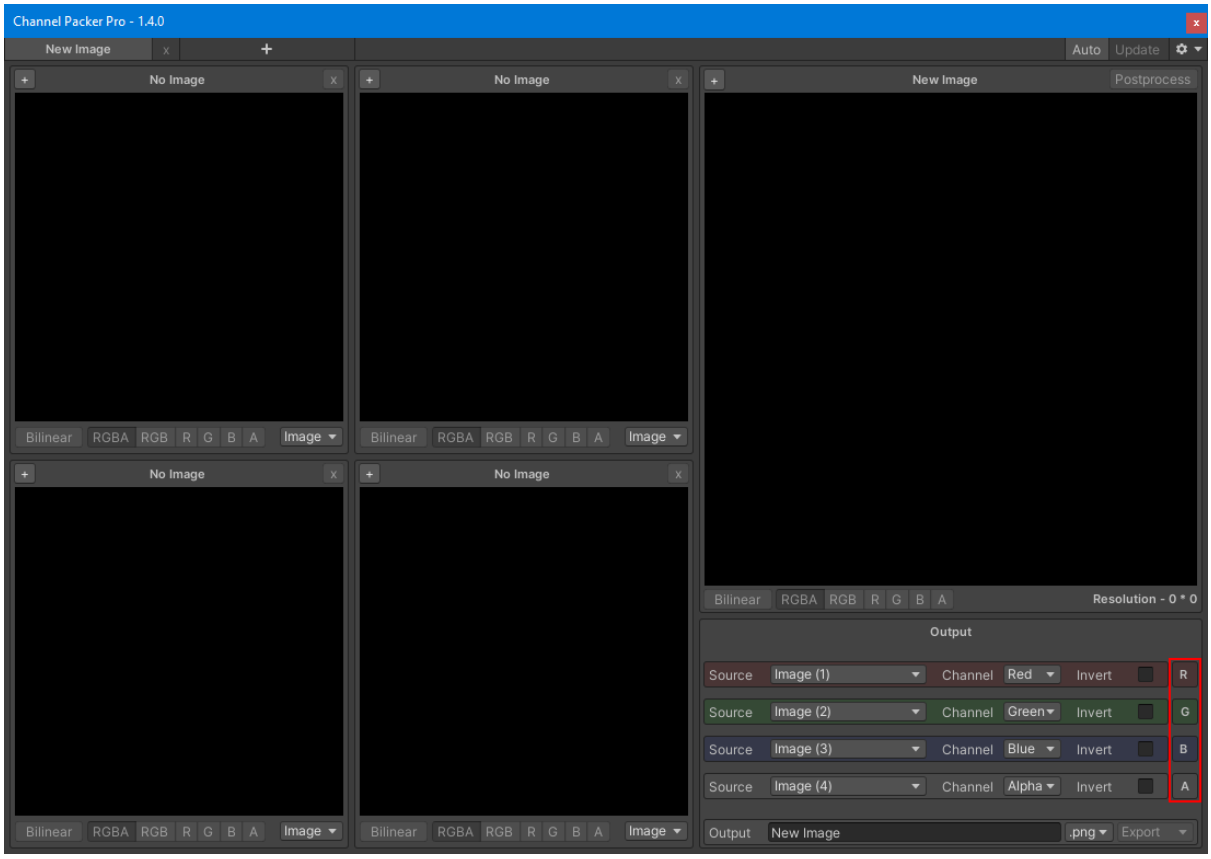
The Big window in the upper right corner is a preview of the output image. It displays the image associated with the selected packing group along with the output name and resolution of the final image. It also has buttons which allow you to view each and/or all the channels in the final image and image filter options.



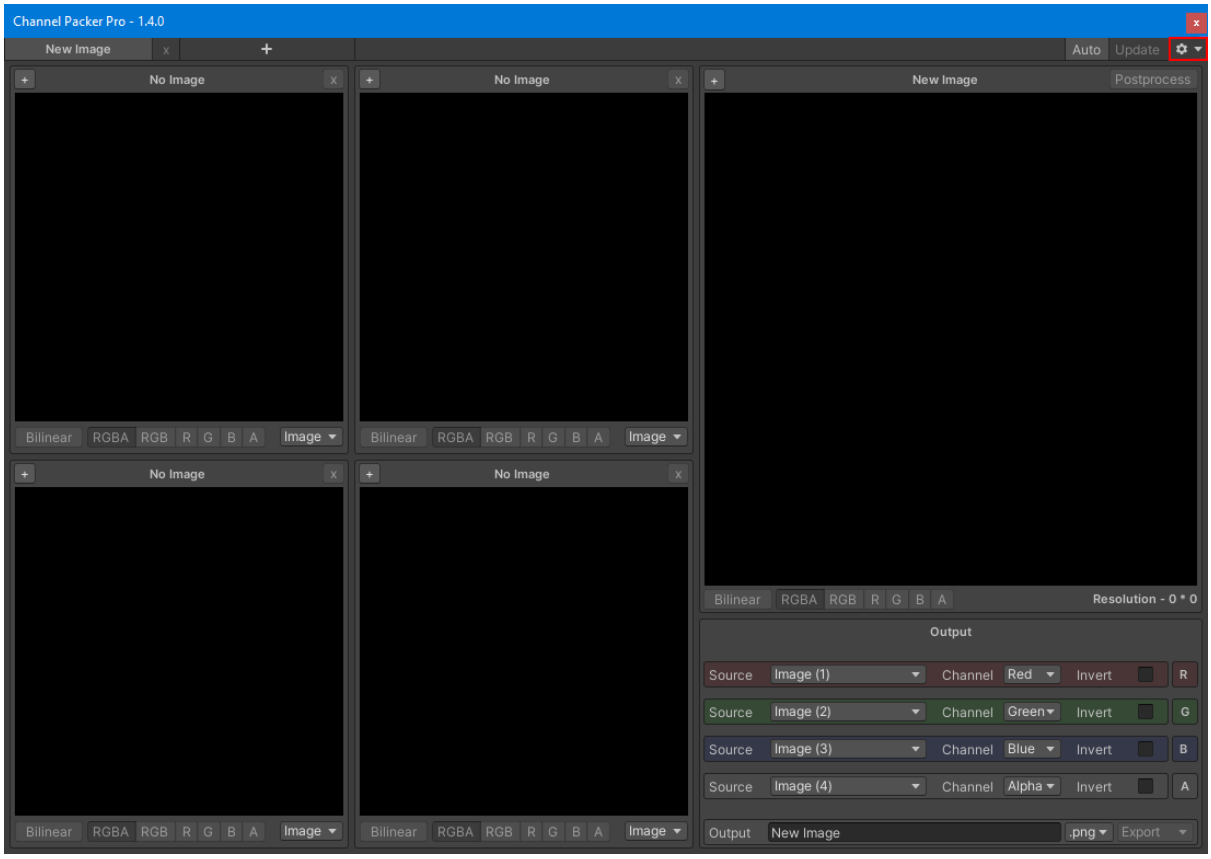
The small panel below the output image preview window to the bottom right is the output panel. The output panel is where you will have controls to pack, fill, swizzle and invert each channel as well as name, export individual images or batch export all packing groups.



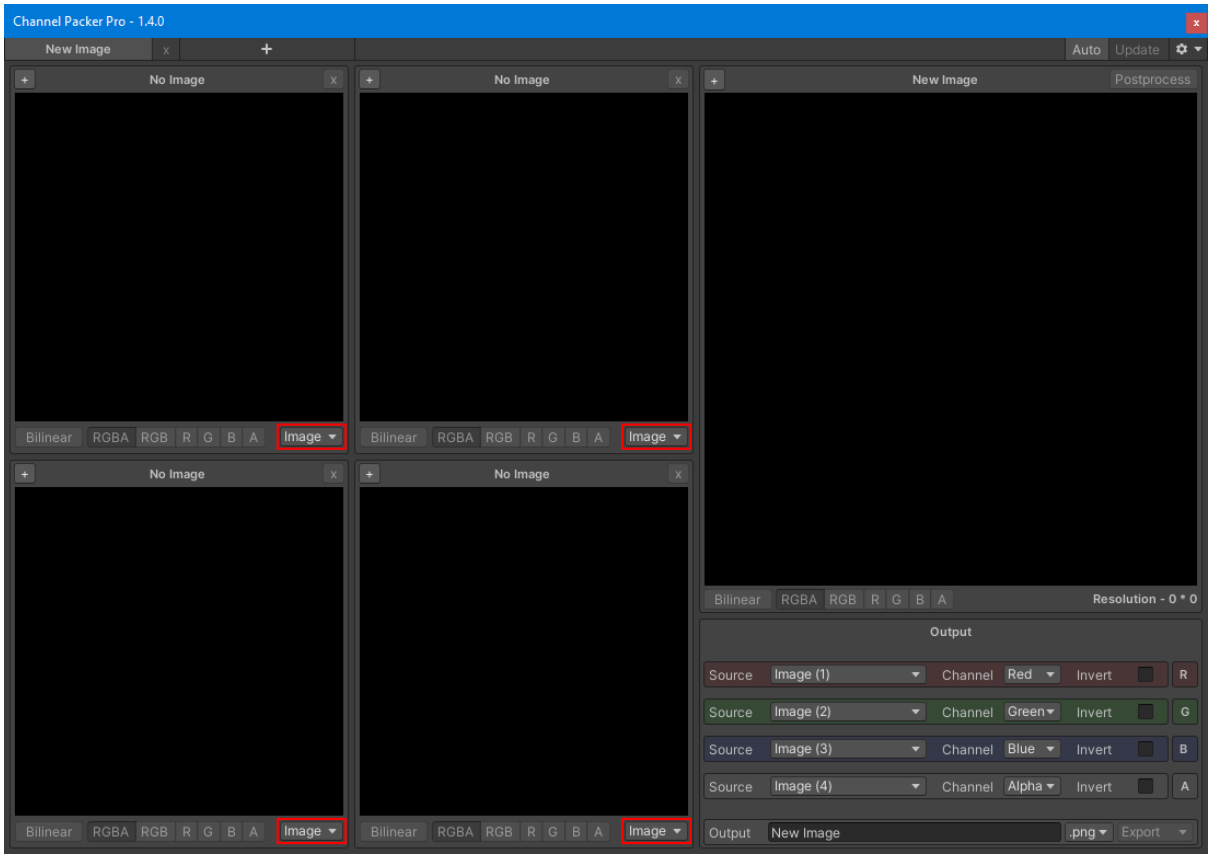
Each row in the output panel represents a channel in the output image and the source used for that channel. The source can be a value, loaded image or a generated image and each channel can be inverted or swizzled.



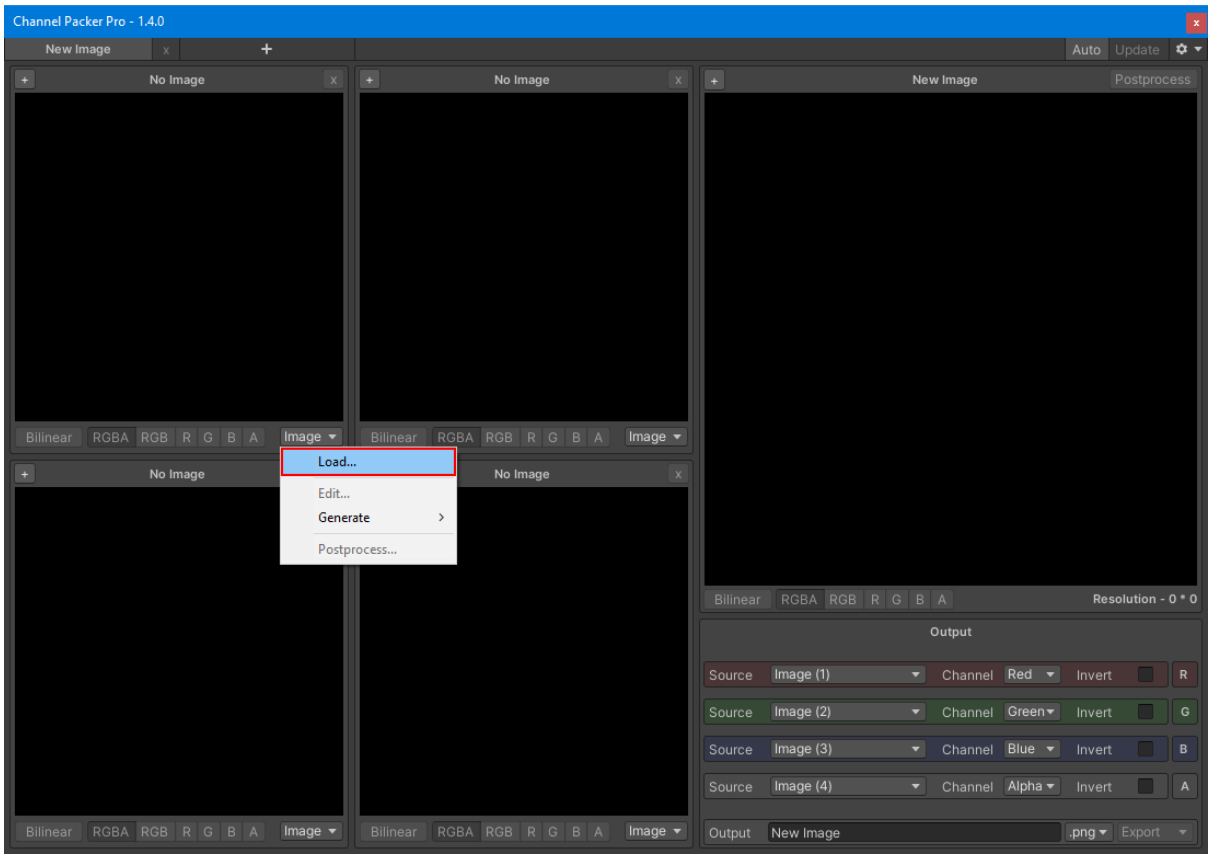
The column to the right of the source channels in the output panel are the output channels. These are the channels of the final output image that the source channels are packed into, and they can’t be reordered.



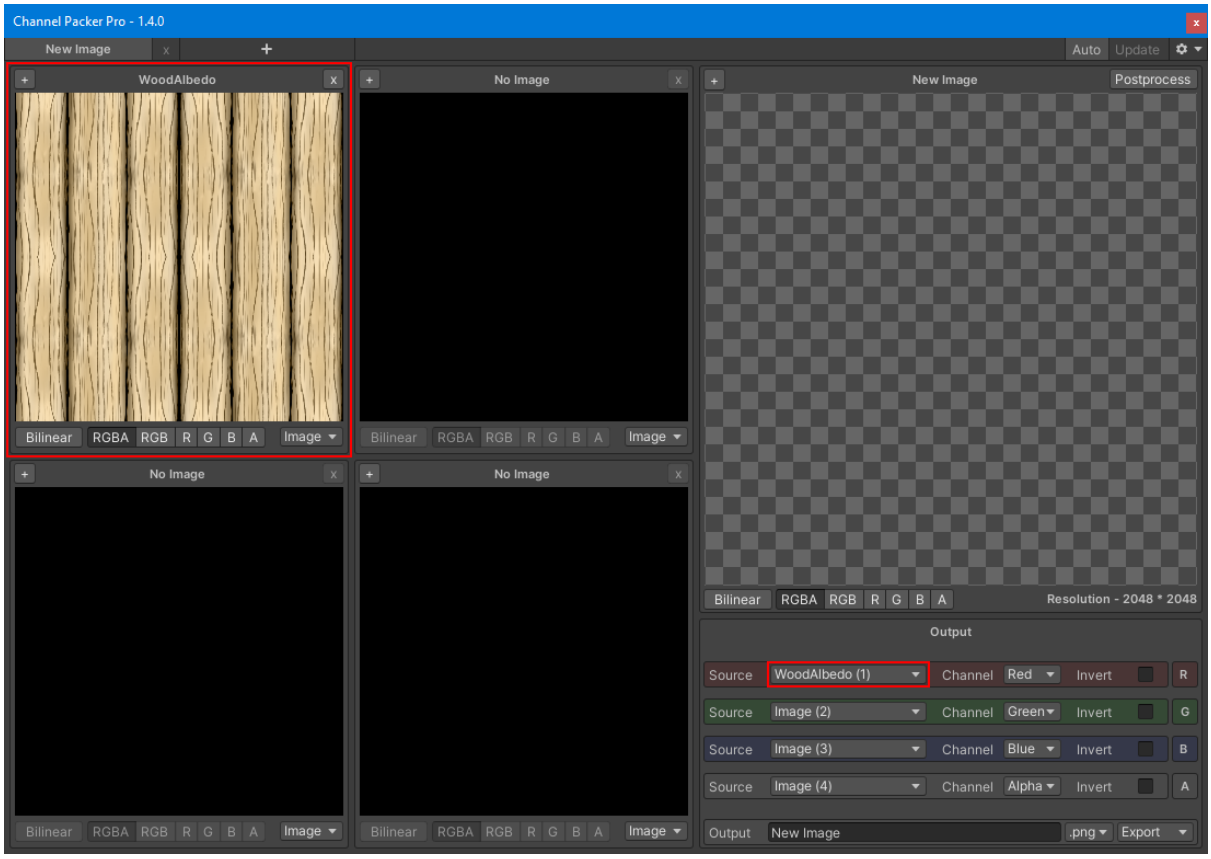
The settings button is in the farthest top right corner of the channel packer window. The settings window is where you can set a global prefix for all packing groups, save and load templates etc.



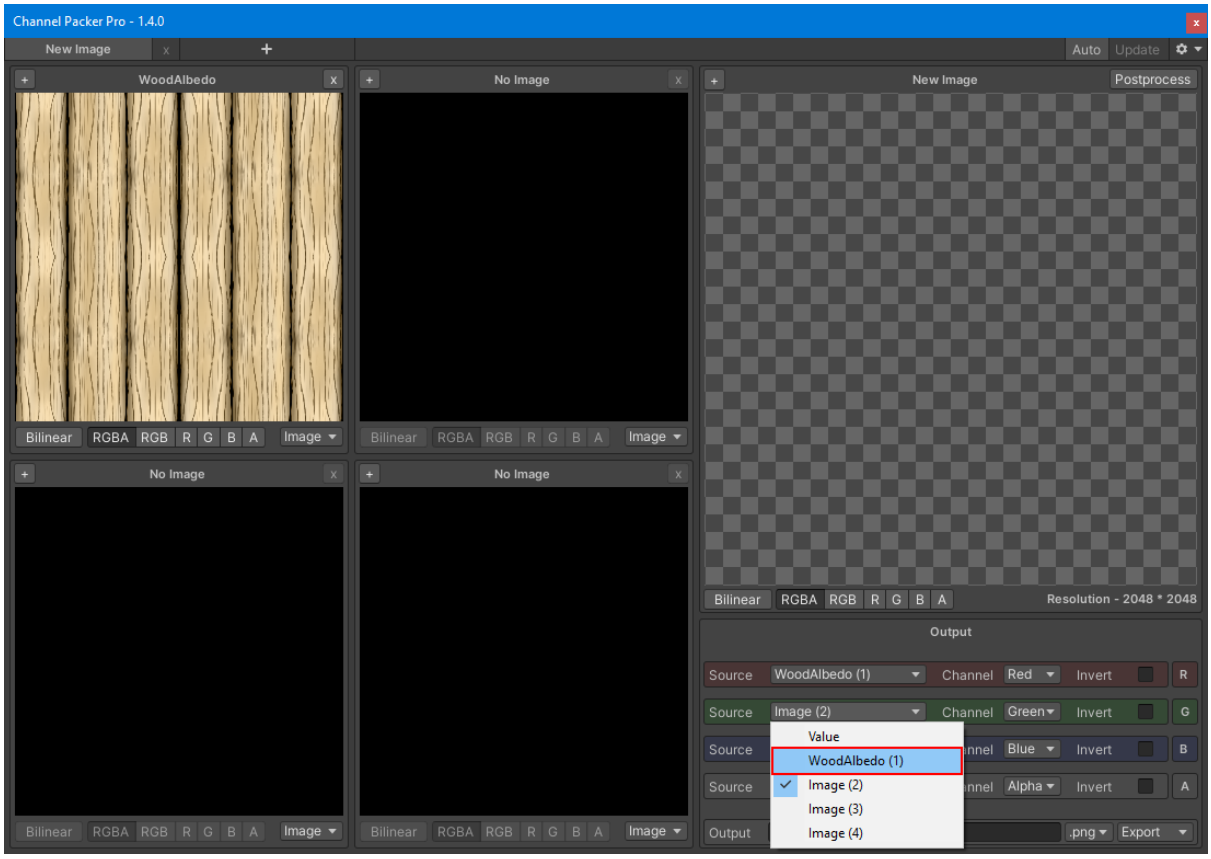
To load a source image, click on the **Image** button at the bottom right of each source image window and select **Load** from the dropdown or you can drag and drop an image from the project folder inside the Unity editor. All images must have the same resolution in their packing group and be set to **RGBA32** format in the texture importer.



You can also right click in any of the image preview windows to bring up the same context menu. The context menu is unique to each image and will show different settings for postprocessors and generators just like the image buttons do.



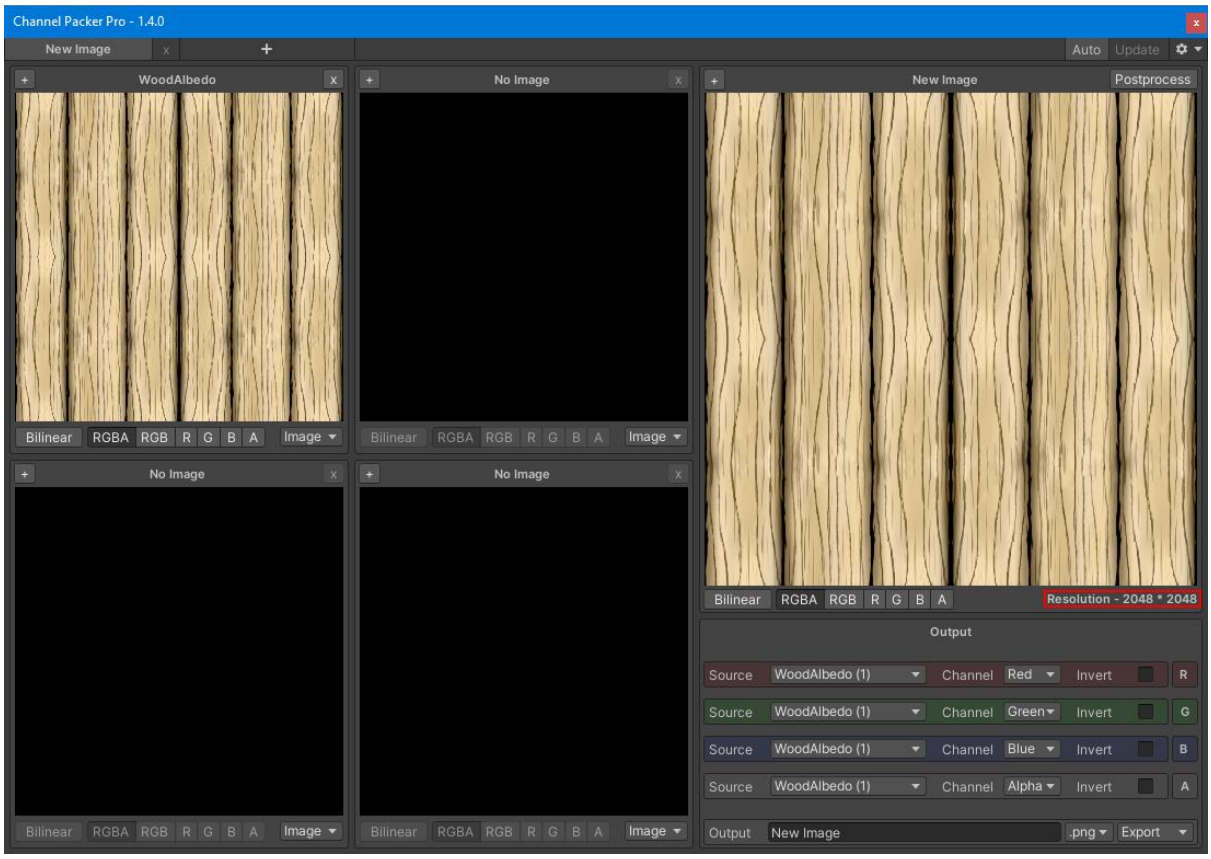
You will notice from the source type dropdown in the output panel that a number is appended in parentheses. This number represents the image slot from which the channel is referencing and will be appended to any images loaded or generated in the packing group. The numbers go from top to bottom and left to right in the image slots.



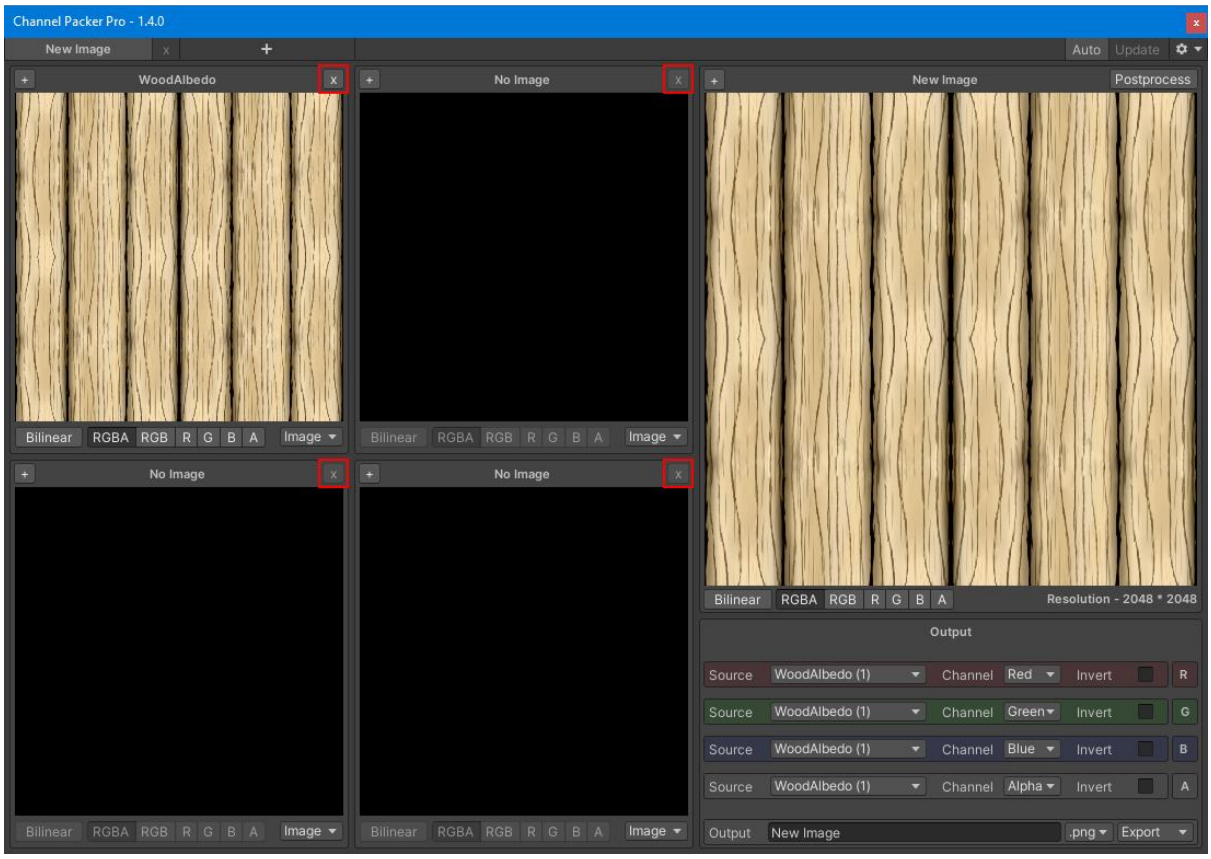
To pack an image into a channel, select the image slot with an already loaded or generated image in it from the channels source dropdown. The following channels are set to Image slots when loaded or generated by default.

Red channel – Image slot (1)
Green channel – Image slot (2)
Blue channel – Image slot (3)
Alpha channel – Image slot (4)

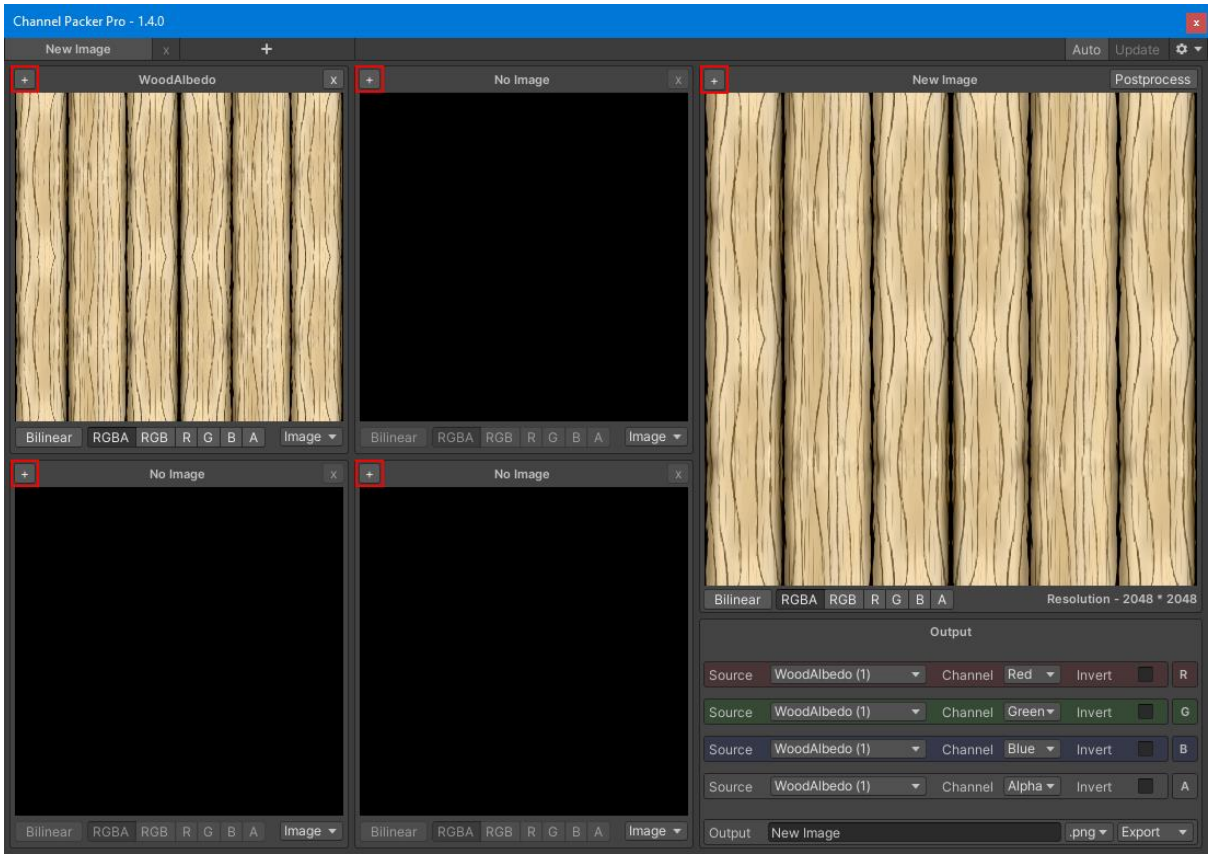
You can put any source image colour channel into any output image colour channel, and it doesn't have to be in the order which you loaded or generated the images in the packing group. This default behaviour is intended to help speed up your workflow but can be overridden using templates.



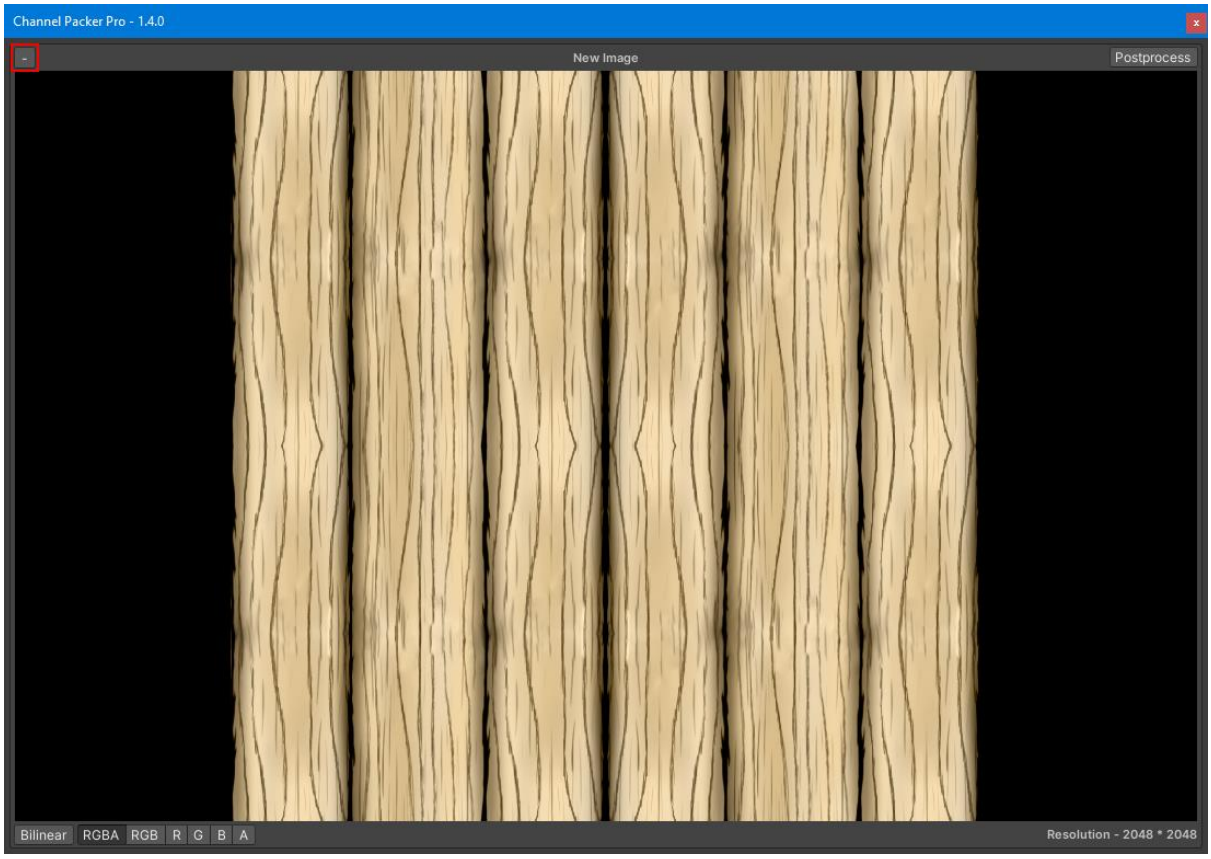
The resolution of the output image will show in the bottom right corner of the output preview window. It will automatically take the resolution of the first image that is loaded or generated, and this will be the resolution for the packing group and the final image when exported. Each output image in its packing group can have a different resolution.



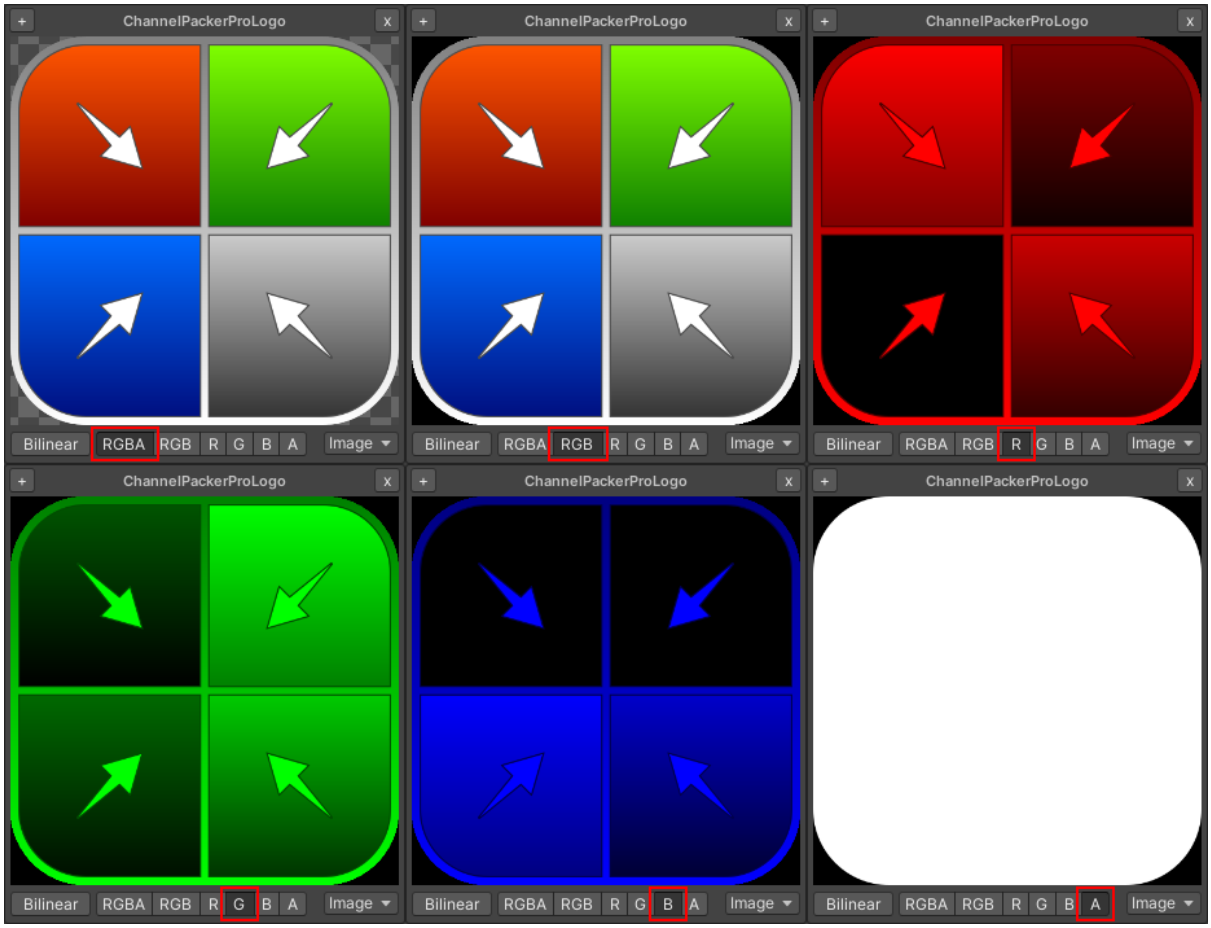
To remove a source image from a packing group, click the cross button in the top right corner of a source image.



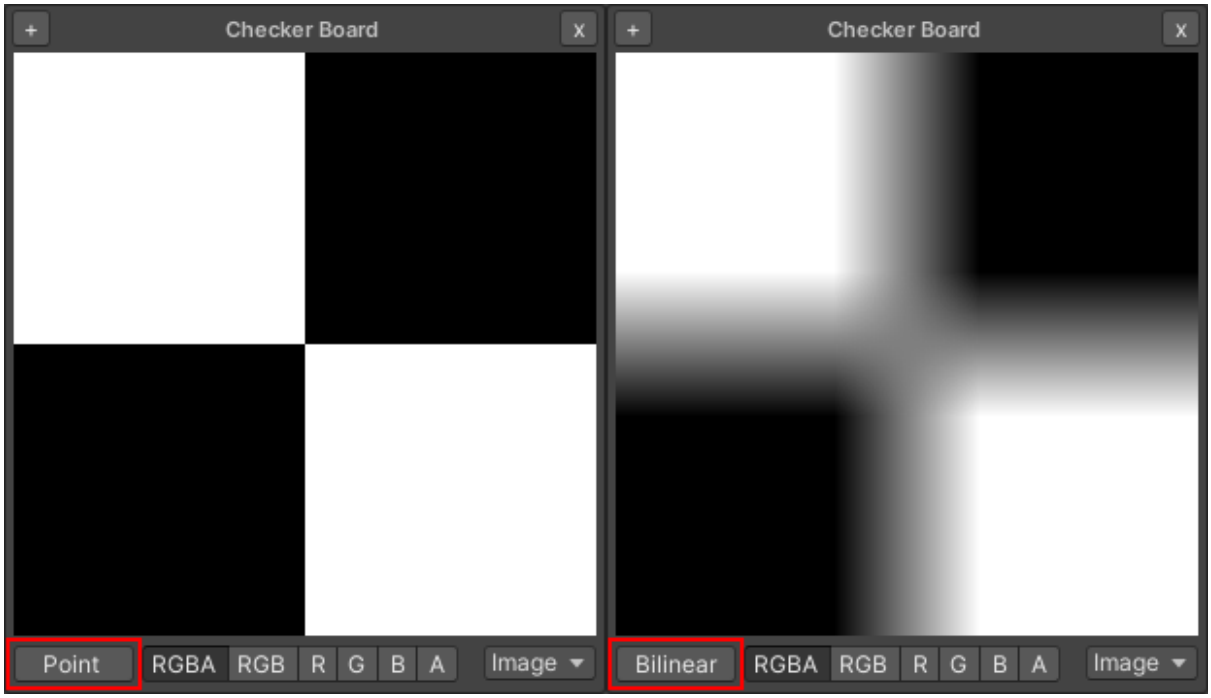
To the top left of each image window is the zoom button. Clicking it will fit the image window to the whole Channel Packer Pro image window so you can get a better look at what you're doing.



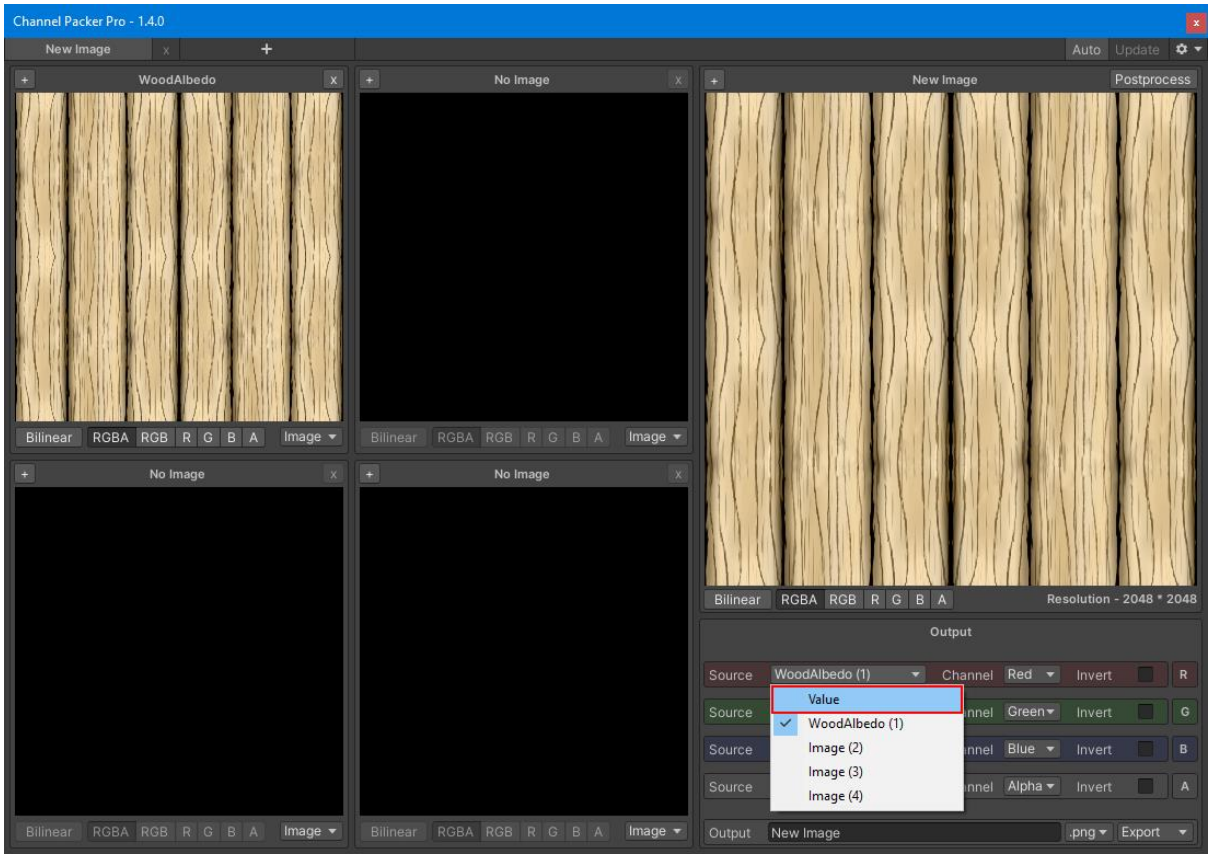
In the maximized view you can still preview the channels and filtering in the same way as before and the image resolution will be displayed at the bottom right for all image windows. To zoom back out click the minus button in the top left corner of the window.



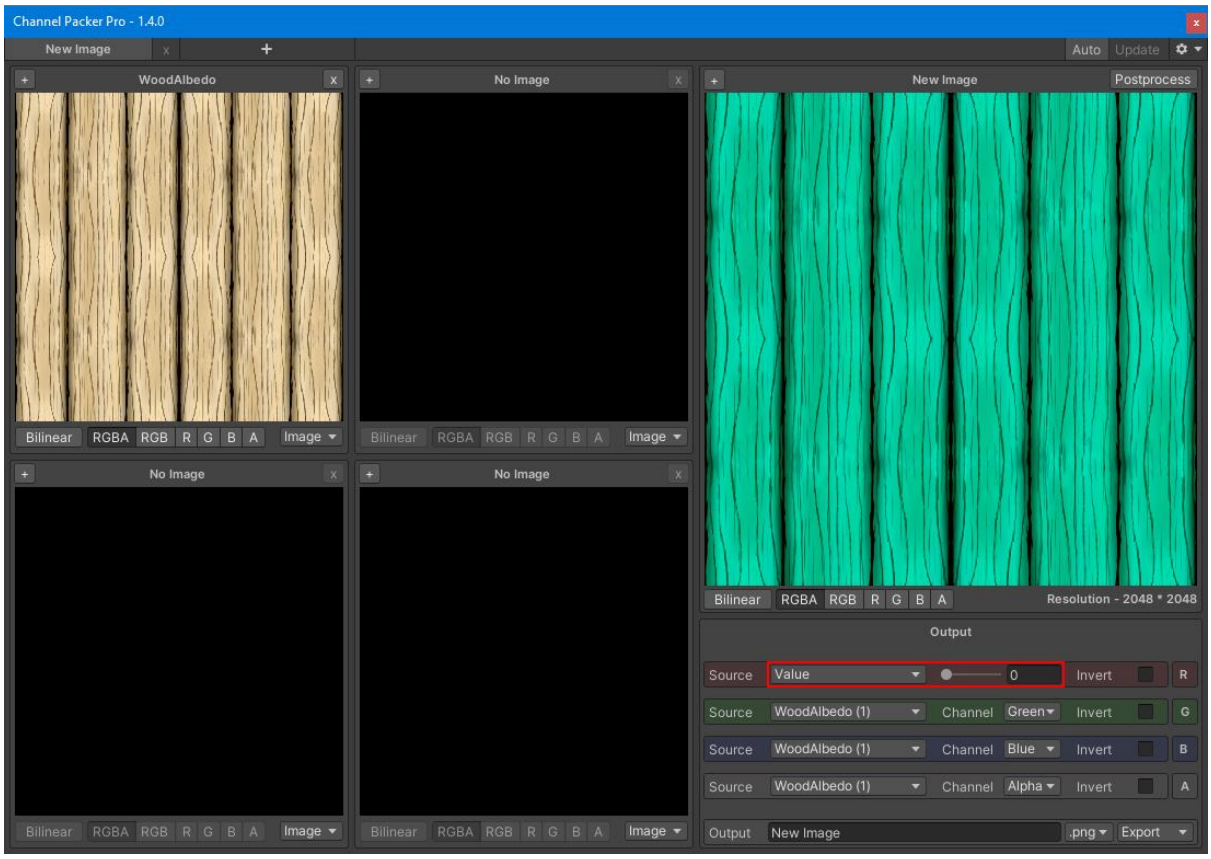
Under every preview image window in the centre are the channel preview buttons. These are laid out and work in the same way as the texture preview window built into Unity.



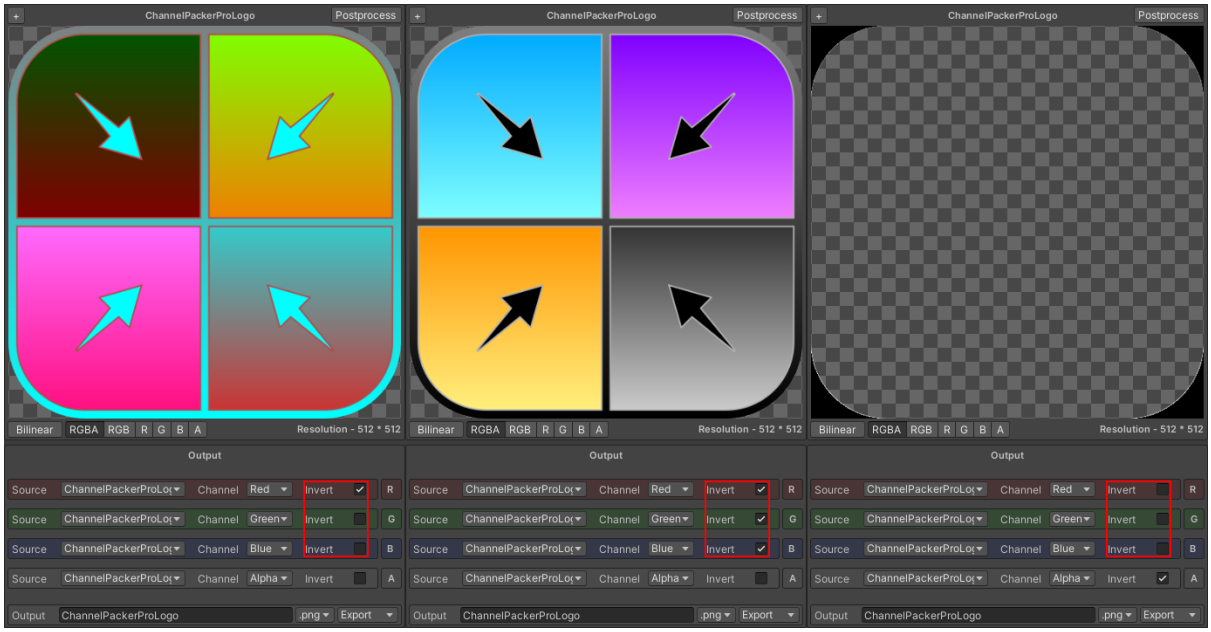
At the bottom left of the image preview windows is the image filter button which has two modes bilinear and point. Bilinear mode is useful for previewing high resolution images and point mode is useful for previewing low resolution images such as pixel art. The image and channel filters are only previewers and do not apply to the final image.



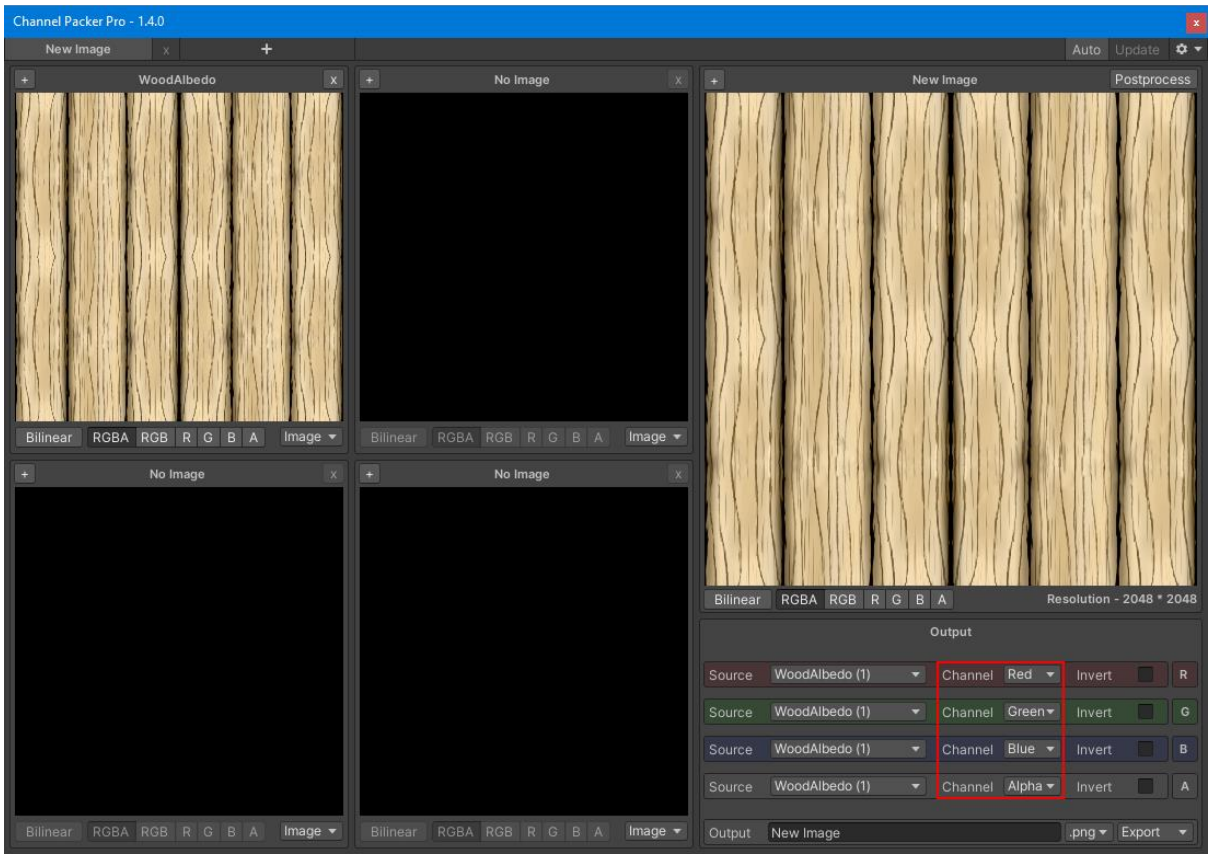
To switch a channel to a value type, click the dropdown next to source in the output panel and select **Value**.



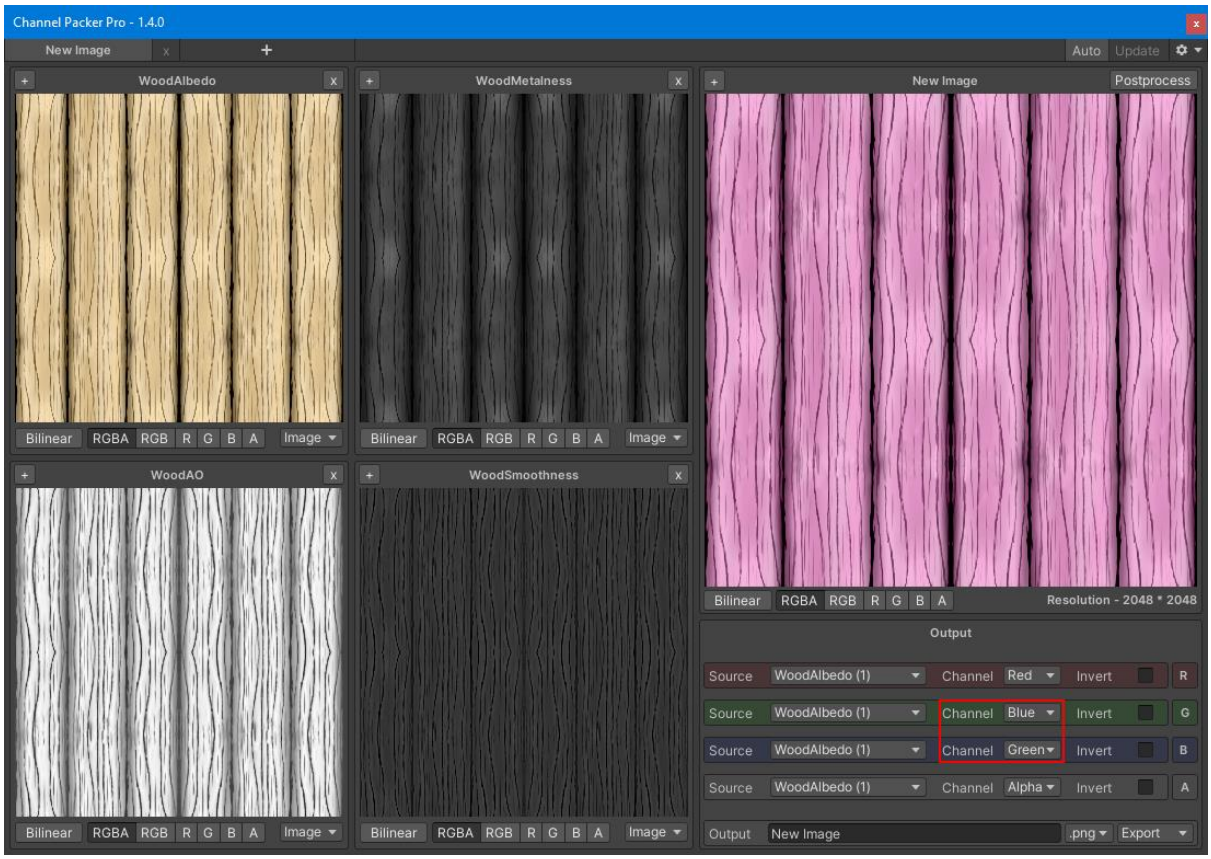
The value source type can be used to fill a uniform value in a channel. You can use the box to type in a value or you can use the slider. The value type requires at least one image to be loaded or generated in the selected packing group. If you want a solid colour, you can generate one with the **Solid Colour** image generator.



Each and all channels can be inverted by checking the invert box. This can be done with value, loaded and generated image types. It is common in a PBR workflow to invert a roughness map to a smoothness map and vice versa.

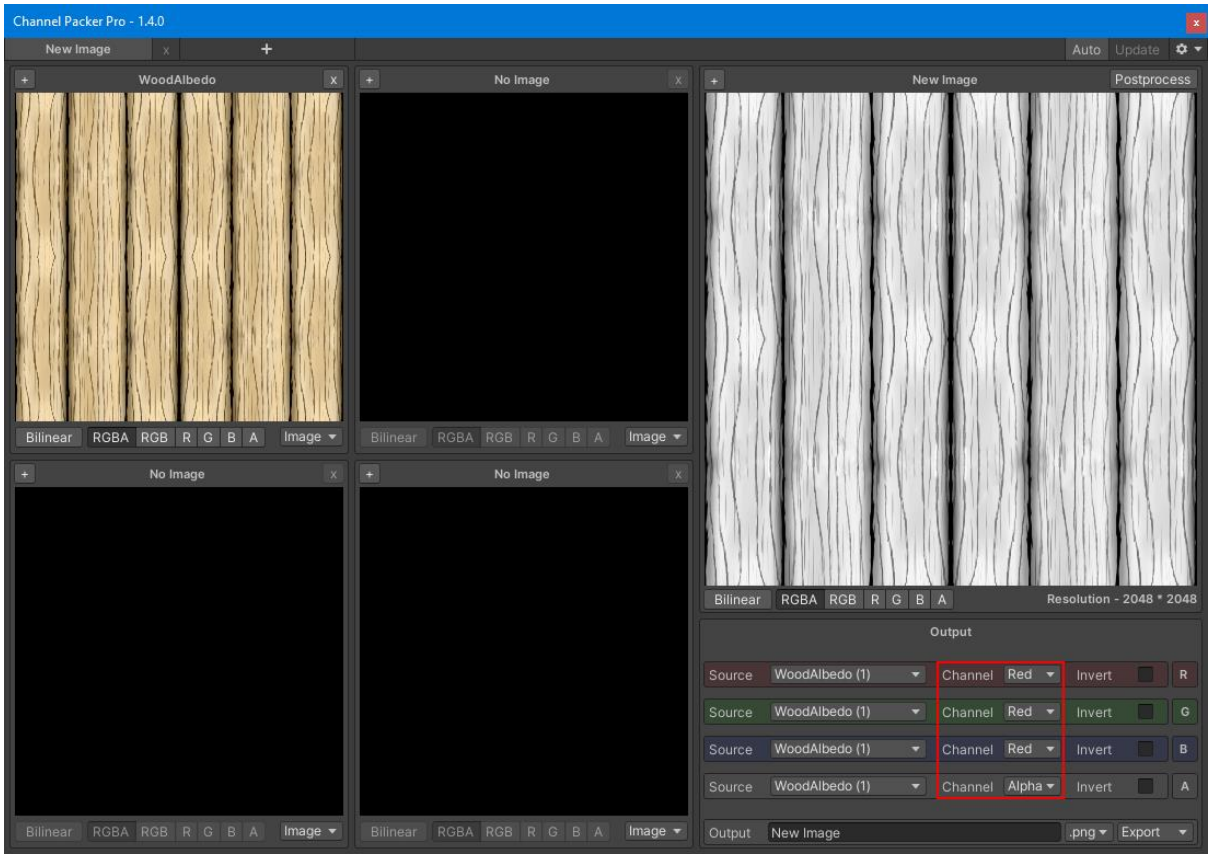


With the source image channels, you can easily switch the channels around, unpack an existing mask back to a greyscale image and extract channels from multiple images and pack them into a new image.



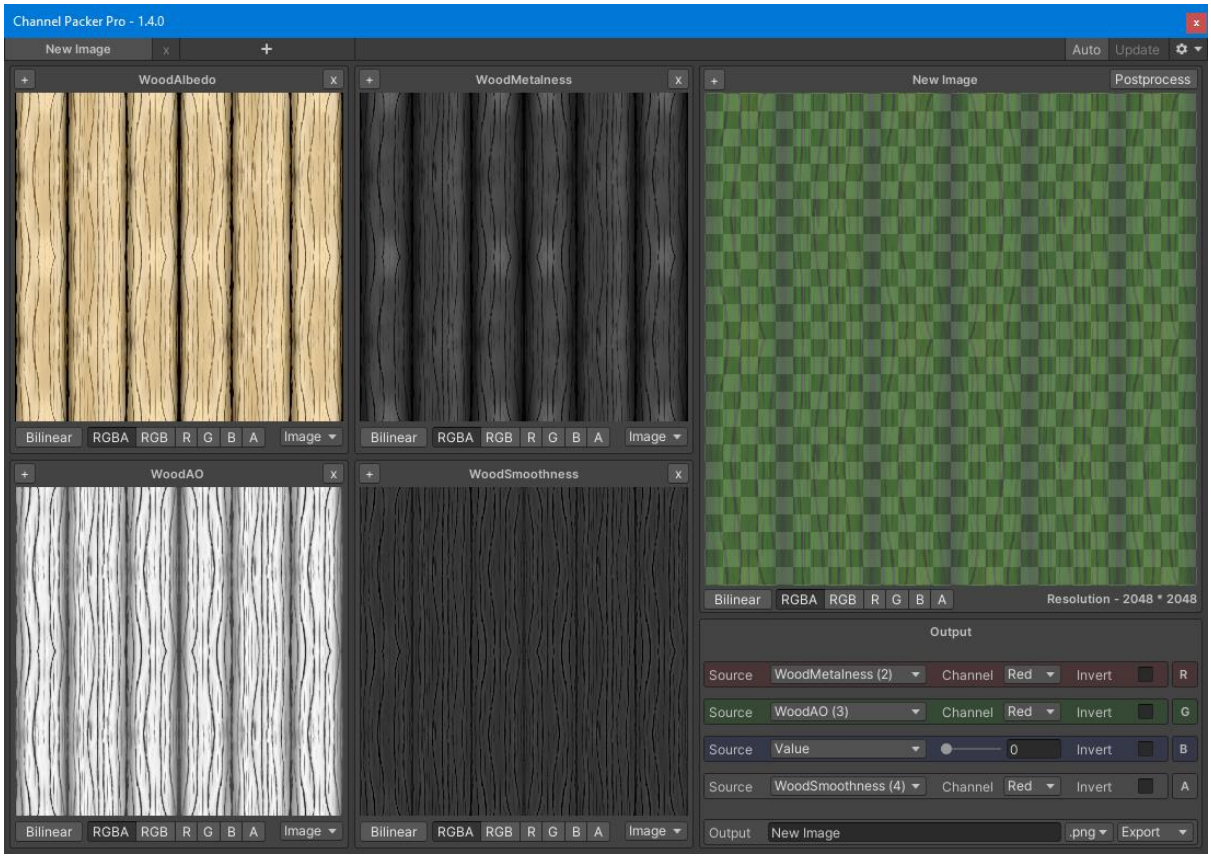
It’s possible to switch any channel with another by using the channel dropdown menus and selecting the channel. This can be useful if you have an already packed image, but they are in the wrong channels.

Notice in this example there’s four images loaded but only the first one in image slot one is used in all four of the image output channels. This is to further demonstrate that it doesn’t matter which order you load your images into a packing group.



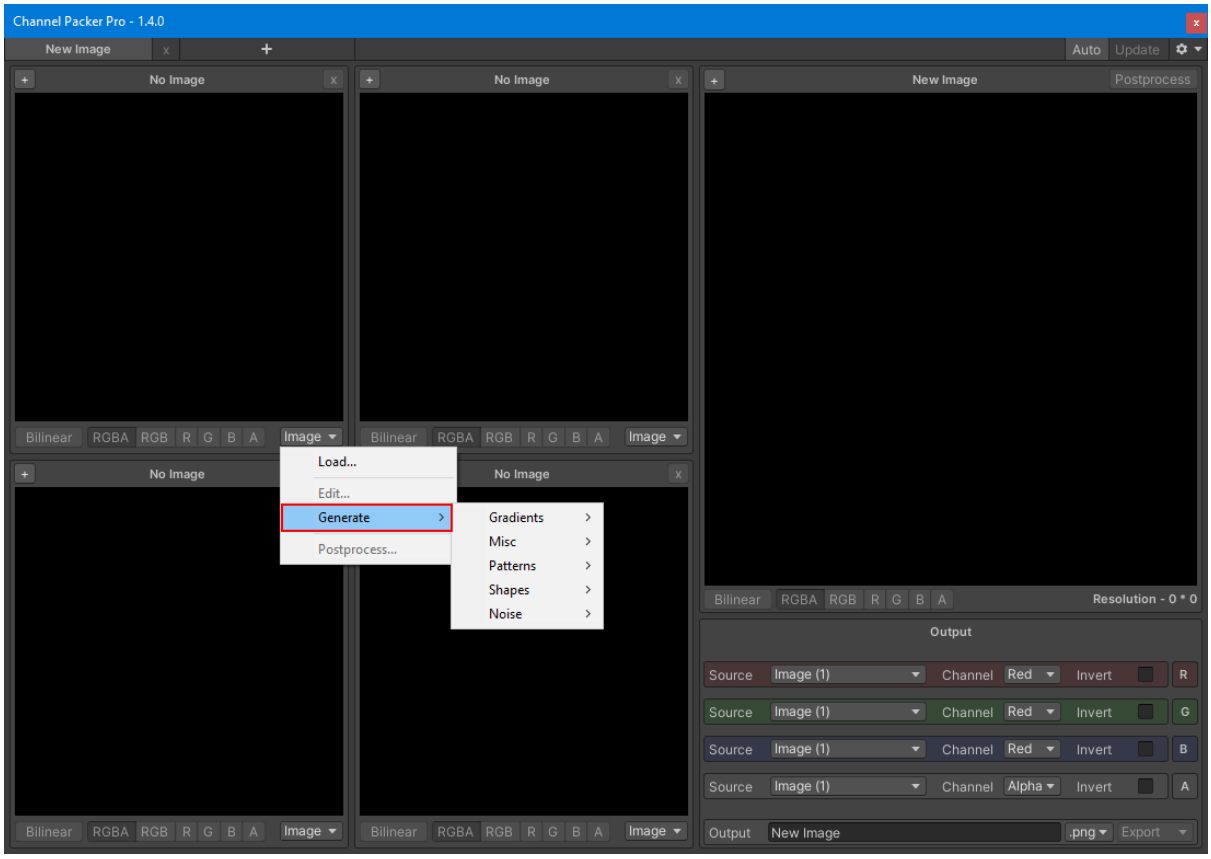
To create a greyscale mask or extract one from an already packed image you can just set all the source channels to the same channel that you are trying to extract and set the output alpha channel to a value type set to 1.

In the example above a greyscale was created from the albedo texture and because the original source image alpha was already filled the value type was not needed here. Swizzling or extracting channels will be most useful when there is a difference in shaders and how the image is packed.

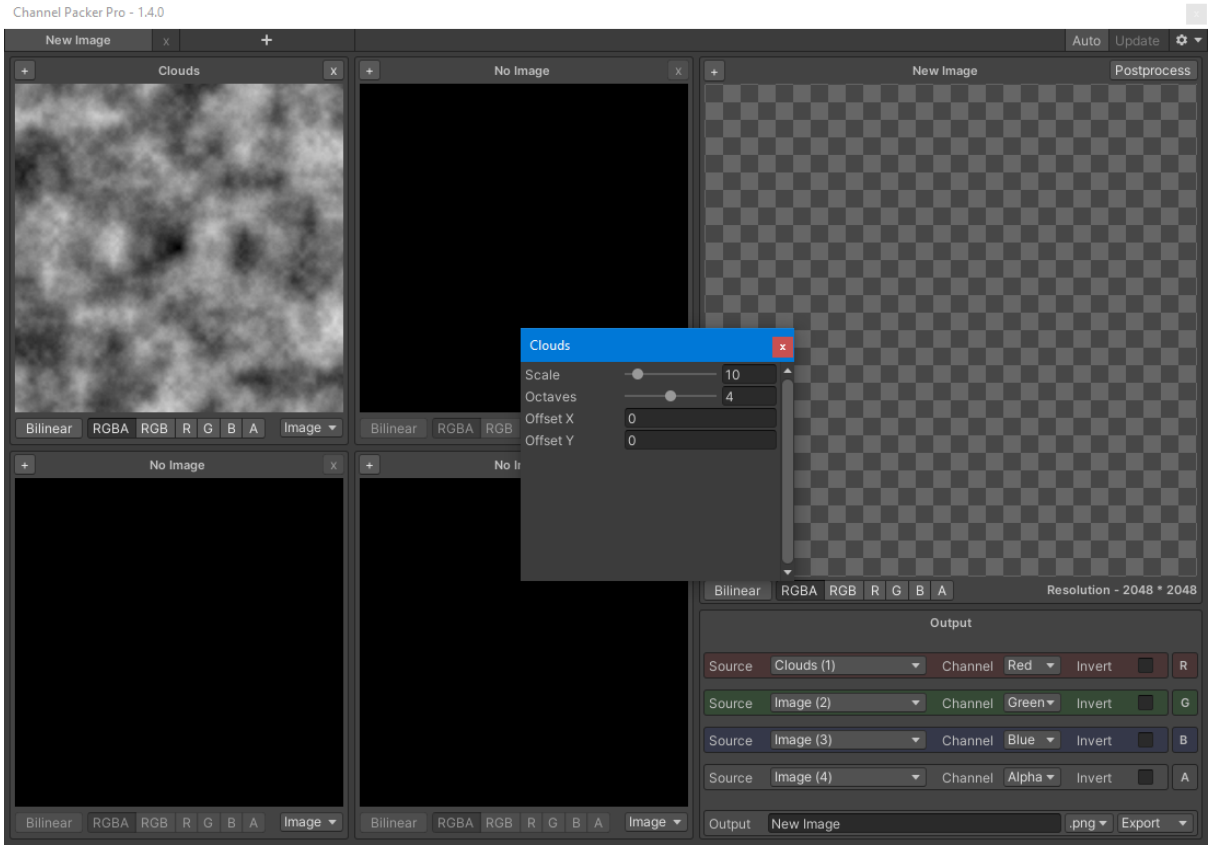


Here is an example of how you would pack a texture for the URP lit shader in Unity. The Metallic red channel is packed into the output image red channel. The AO red channel is packed into the output image green channel. The blue channel isn't used in the URP lit shader, so it is set to a value type of 0. And the Smoothness red channel is packed into the output image alpha channel.

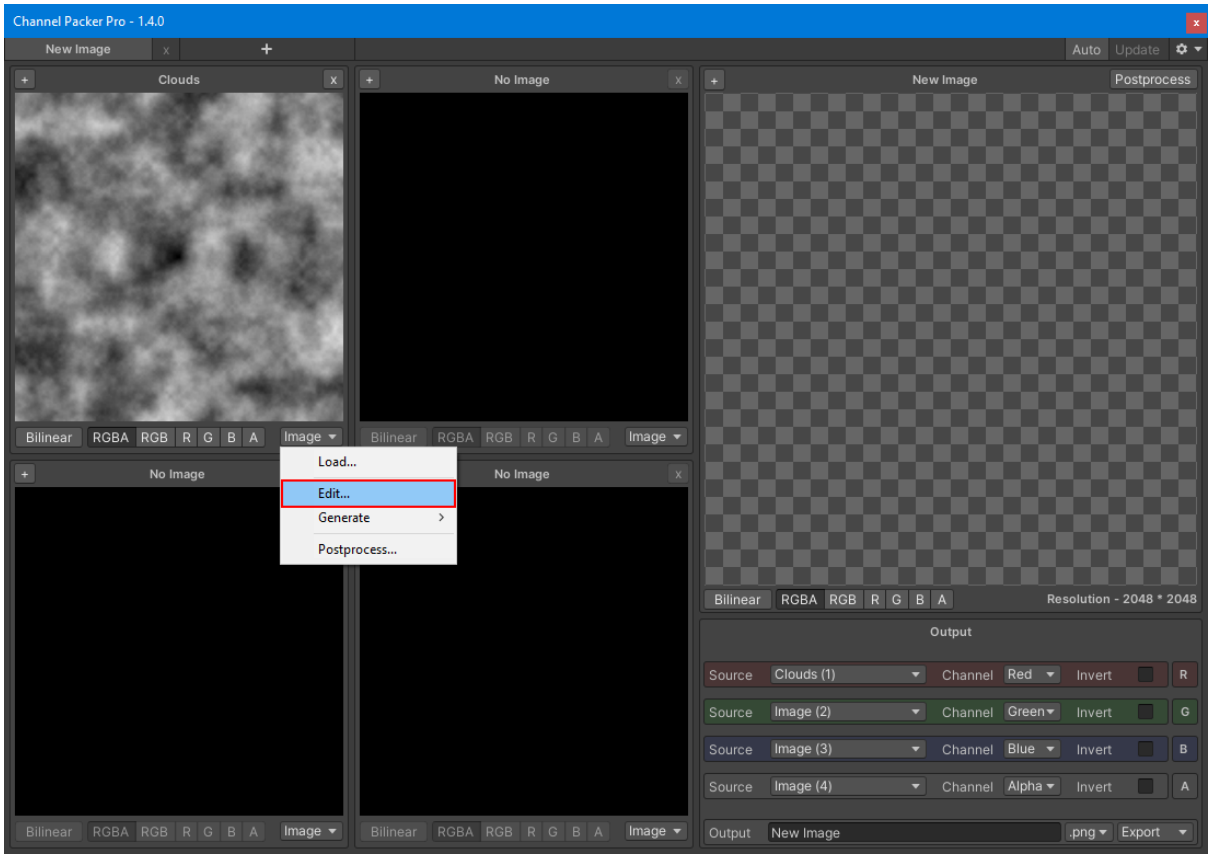
Because they are all greyscale images you could use any of the red, green or blue channels and you would get the same results. If you had a roughness map you would need to click the invert box to get your smoothness.



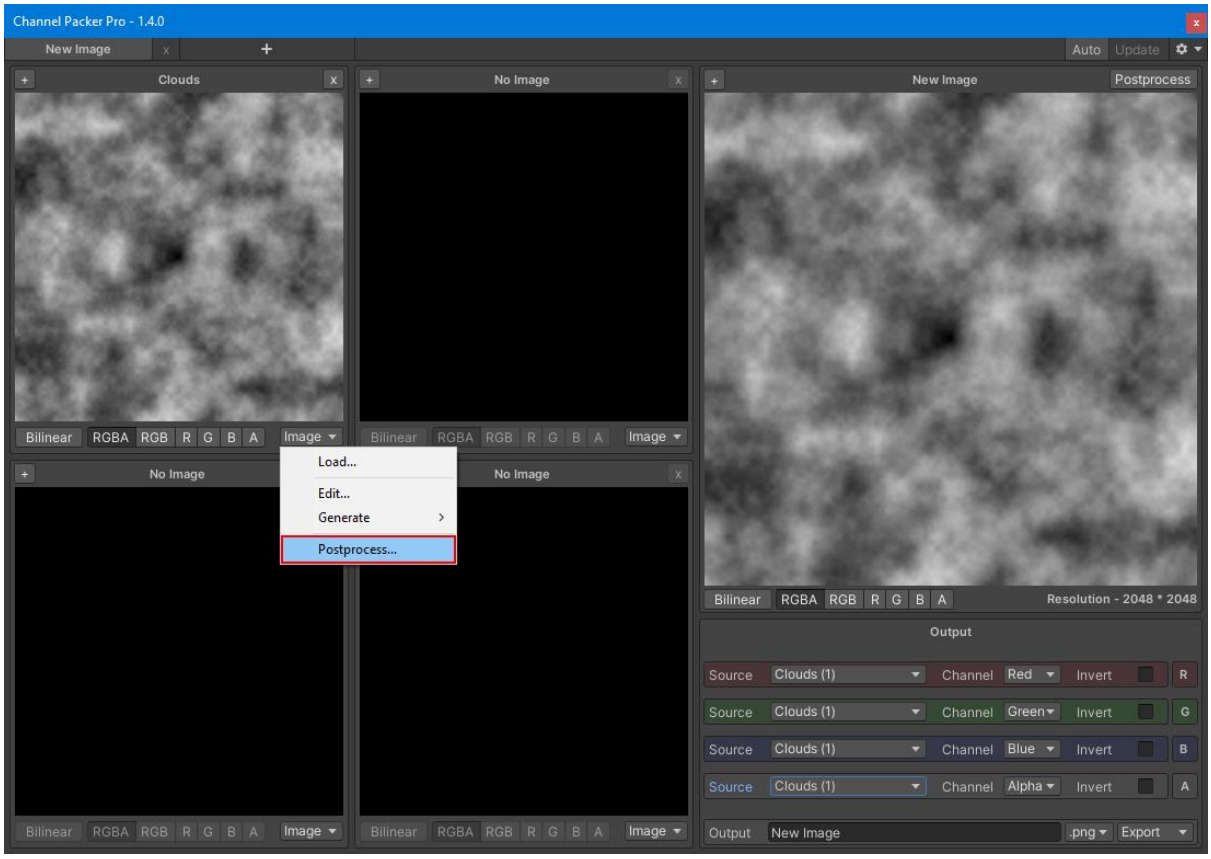
You can also create procedurally generated images by selecting generate in the image dropdown menu and selecting an image generator. Custom image generators can be created by overriding the **Image Generator** class in code. Refer to the **Image Generator** documentation for more details.



Once you have selected a generator a window will popup with controls to edit the generators parameters.

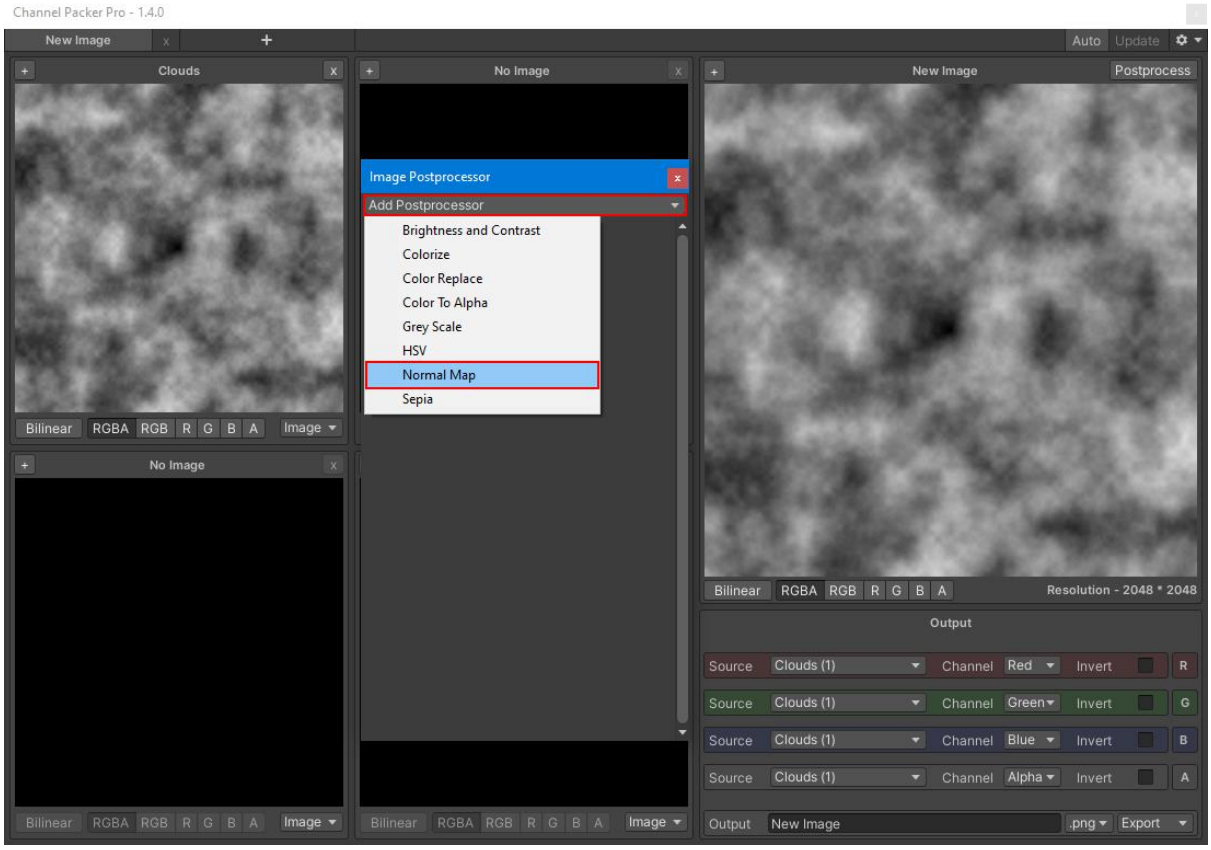


You can change a generators parameter at any time by clicking edit in the image menu the generator window will popup again. You can also use right click to bring up the image menu for the image that the mouse is over. The edit button is for generators only, but images can still be postprocessed.

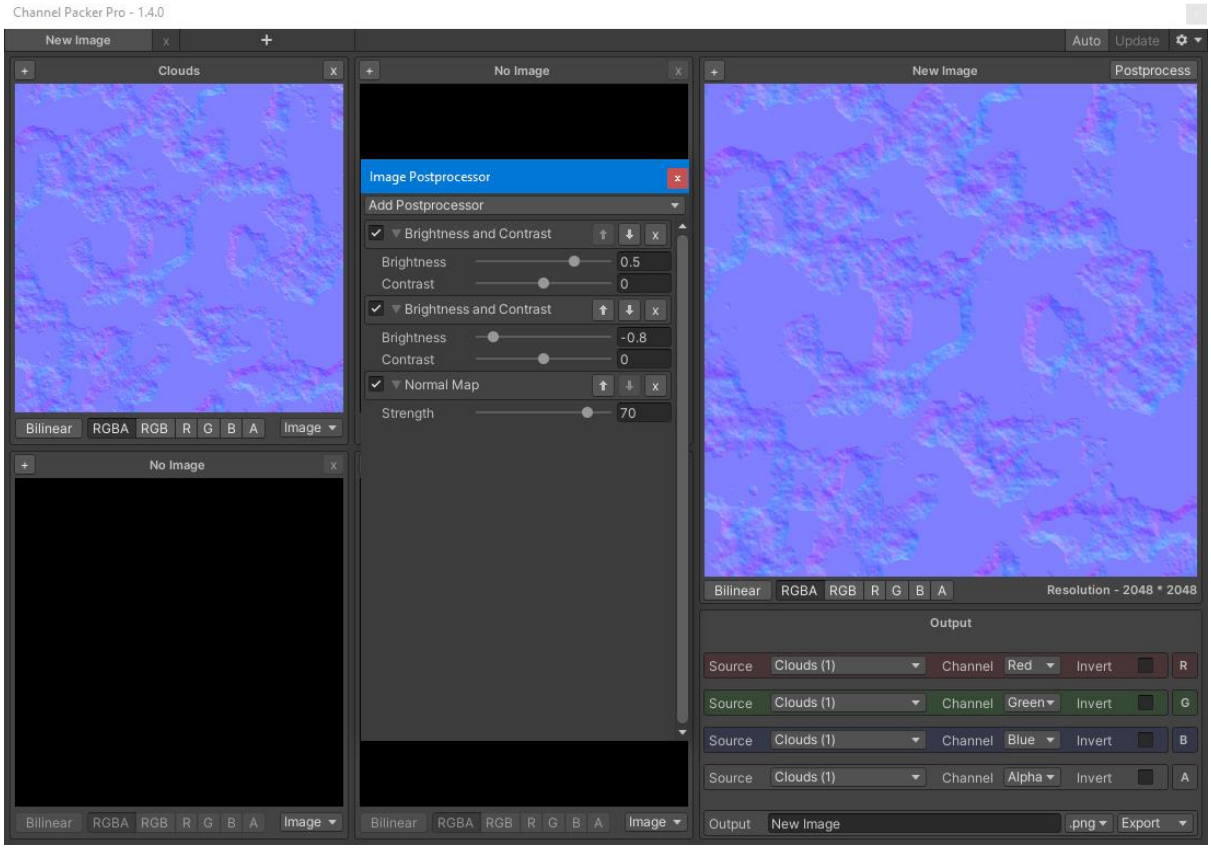


Source images that have been loaded or generated and the output image can all be postprocessed. Postprocessors are managed in the postprocessor window and work in a stack ordered from top to bottom and are processed in that order.

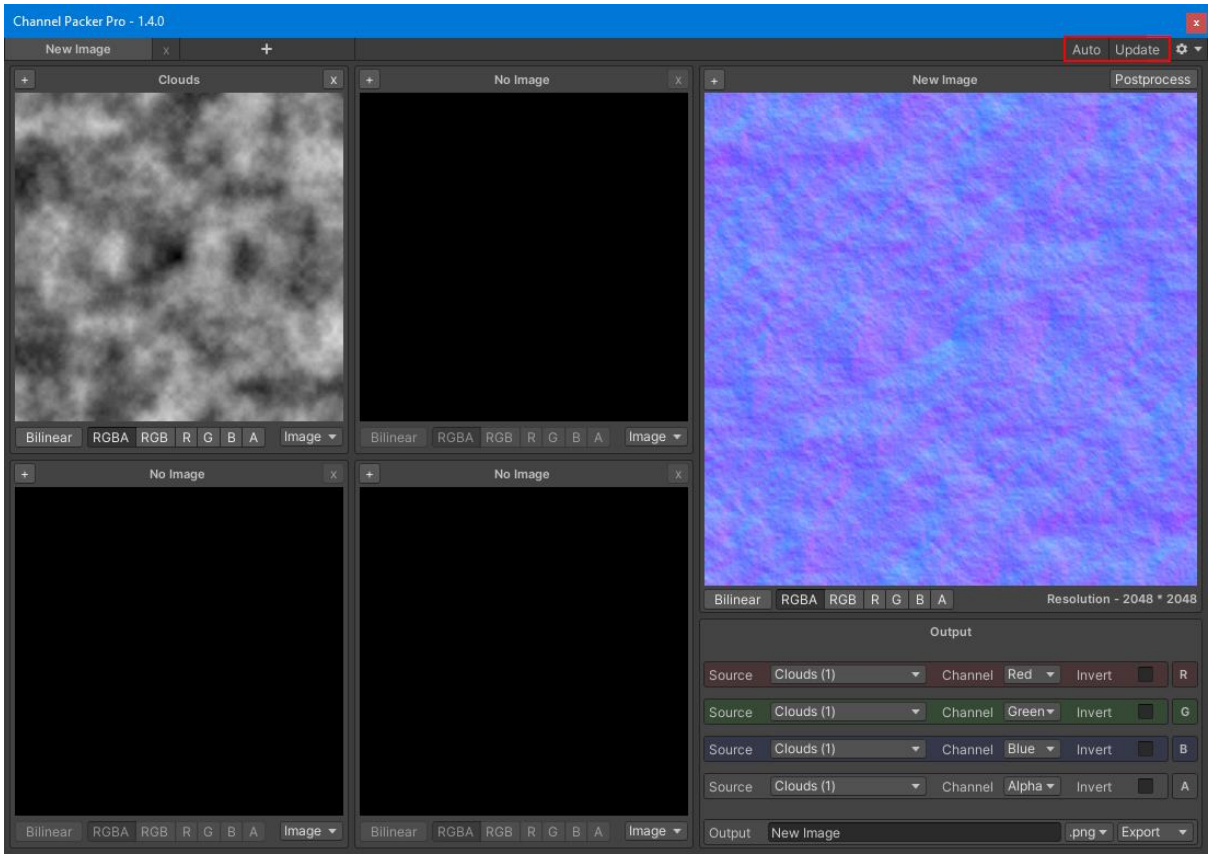
To postprocess an image, you first need to open the postprocessor window for the image you're postprocessing. To open the postprocessor window for a source image, select **Postprocess** from the dropdown after pressing the **Image** button. To open the postprocessor window for the output image, press the **Postprocess** button in the top right corner of the output image window. You can also right click over the image you want to postprocess to get the image dropdown and selecting **Postprocess**.



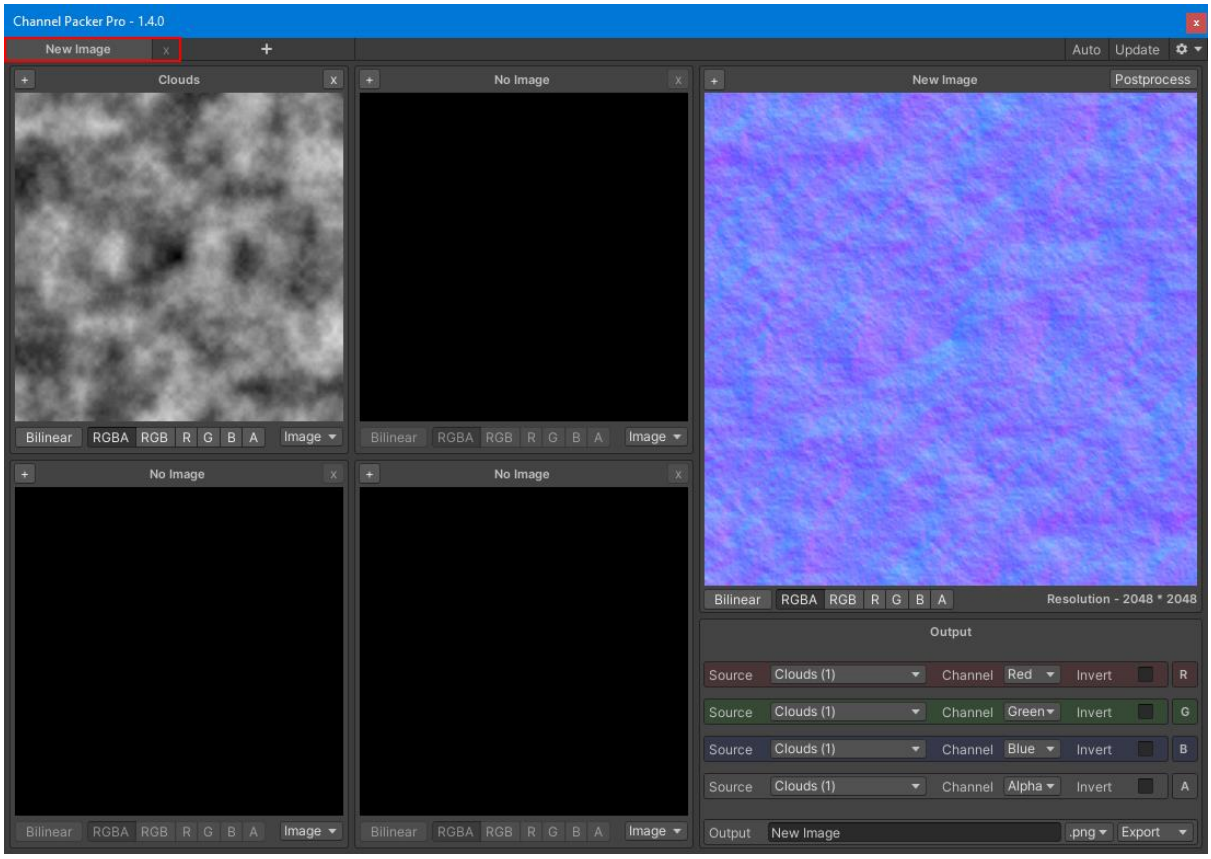
In the postprocessor window you can add postprocessors by pressing the **Add Postprocessor** button and selecting a postprocessor from the dropdown. You can add as many as you like and add multiple of the same one with different settings.



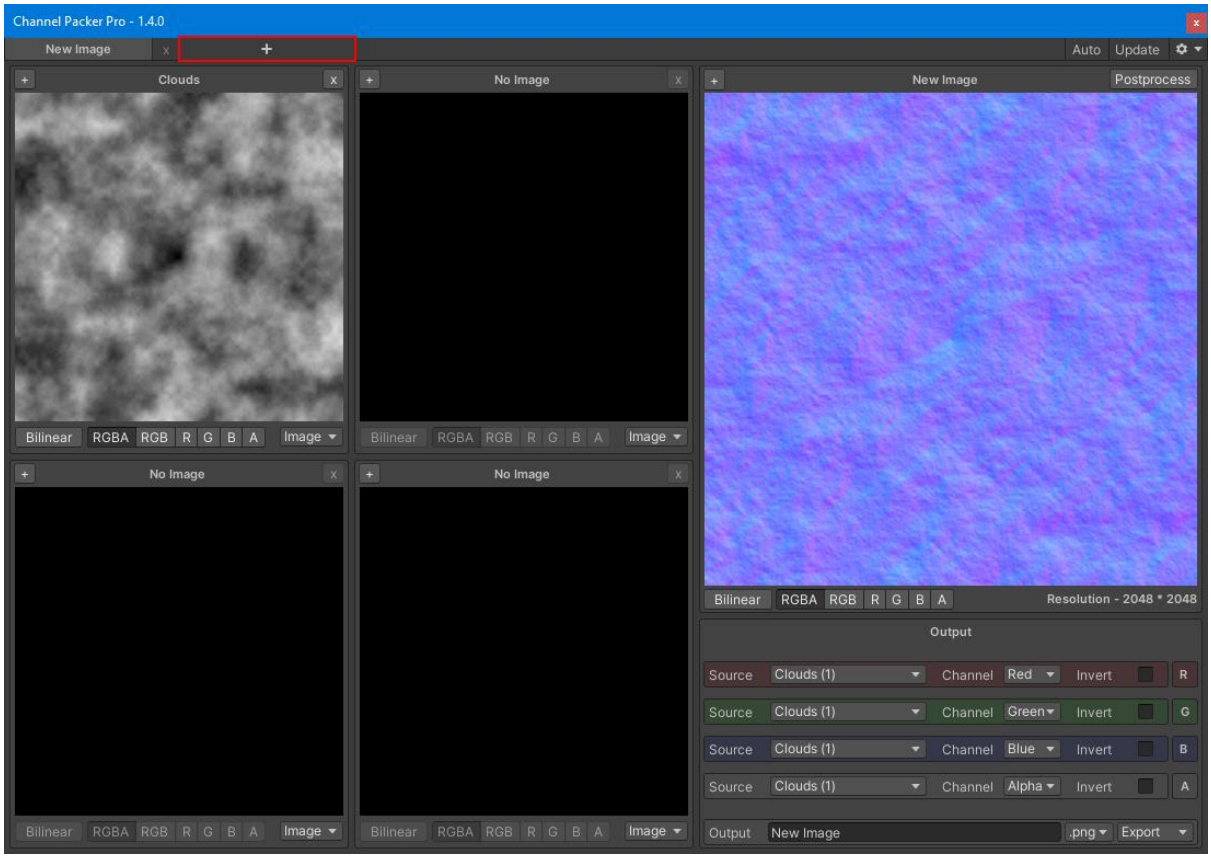
Postprocessors can be reordered in the stack by using the up and down arrows to the right. Postprocessors can be enabled and disabled with the checkbox to the left, if a postprocessor is disabled then it will be ignored. To remove a postprocessor, press the cross to the right and to collapse or expand a postprocessor click on its name.



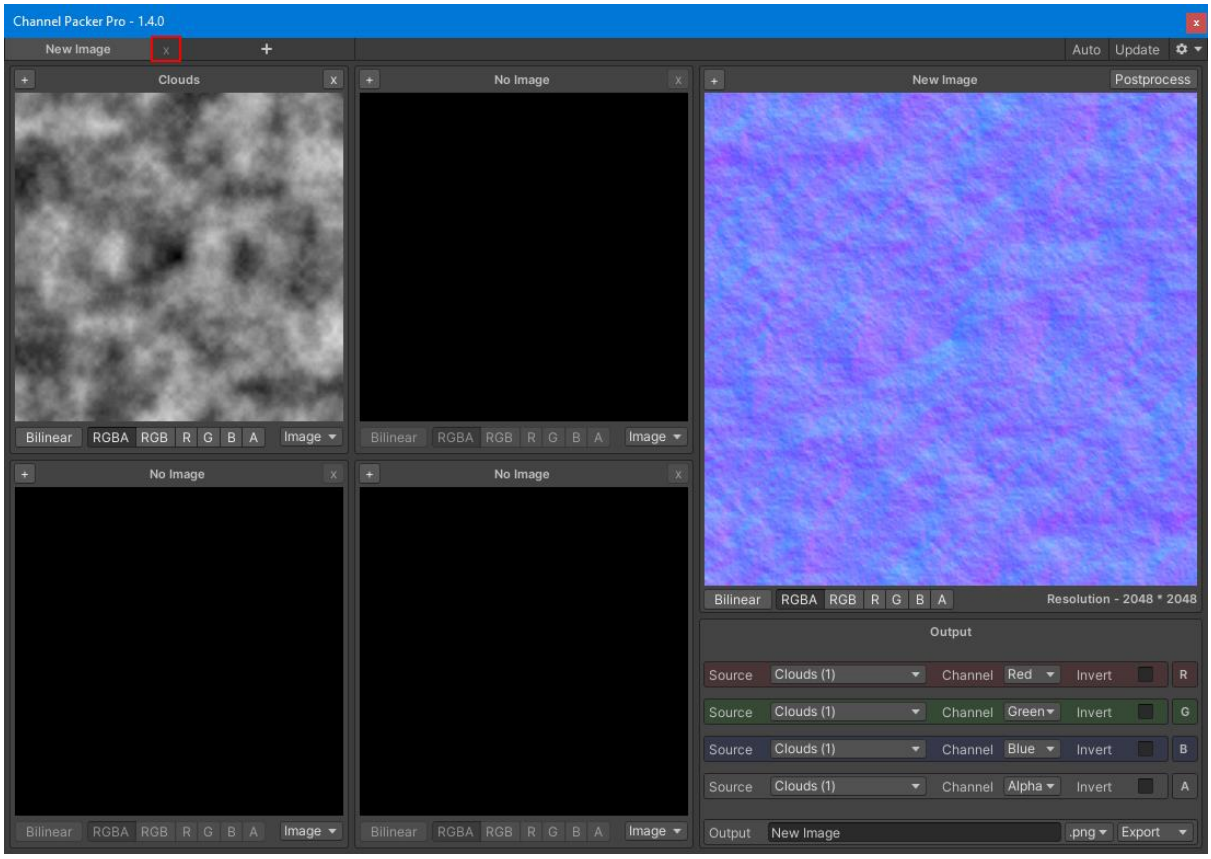
The **Auto** and **Update** buttons above the output image window are for the output images. If Auto is enabled, then Channel Packer will automatically update the output image when changes are made. If Auto is disabled, then no packing or postprocessing will happen and they will only update if you press the update button. If you're experiencing lag, you can disable Auto and update the output manually with the Update button after making changes. Just make sure that you update the output image in each packing group before you export.



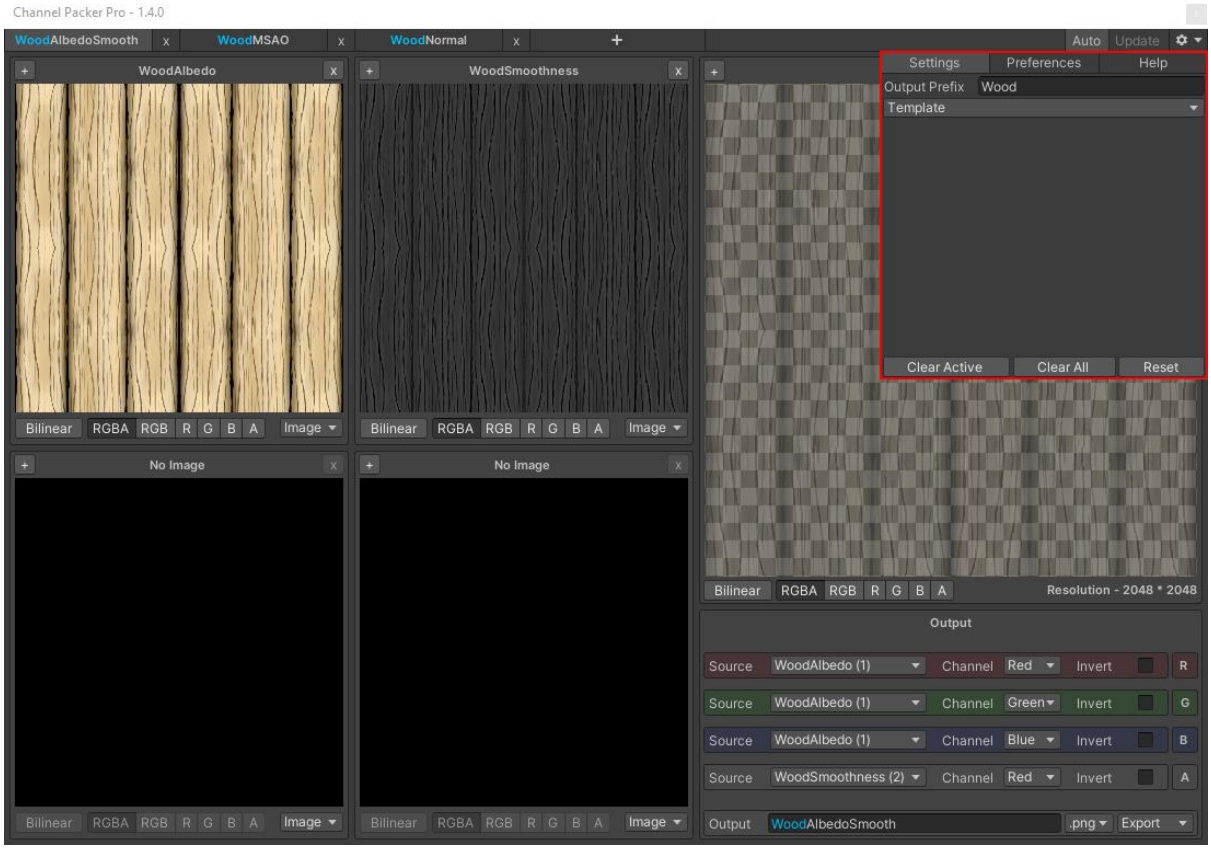
Along the top row under the title bar are the packing groups. The packing group contains all the source images, generated images, postprocessors, channel packing data, the name and format of the final output image.



You can have multiple packing groups in a project each with their own images, postprocessors and packing settings. To add a new packing group, press the add button in the packing group tab.

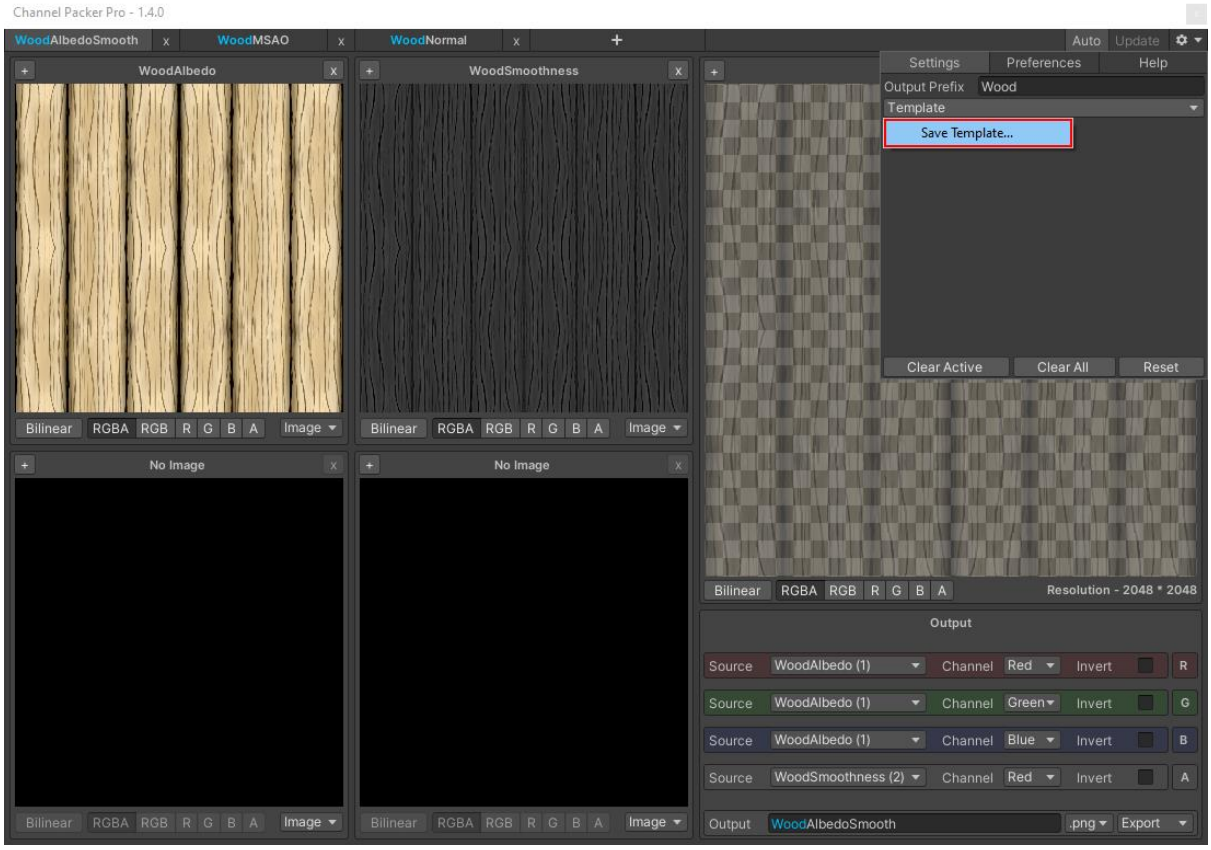


To remove a packing group, press the cross button next to the packing group you want to remove. If you remove a packing group all the settings and images will be removed with it. The first packing group can't be removed as there needs to be at least one. You can reset everything in the settings window or by closing Channel Packer and reopening it.



In the settings window you can set a global prefix for all packing groups with the **Output Prefix** field. In the example you will notice that all the packing group names have a prefix **Wood** which is highlighted in blue. This feature is useful when you have multiple textures that map to the same object as you would in a PBR workflow. If you find the blue text to be distracting you can change it in the preferences tab to white.

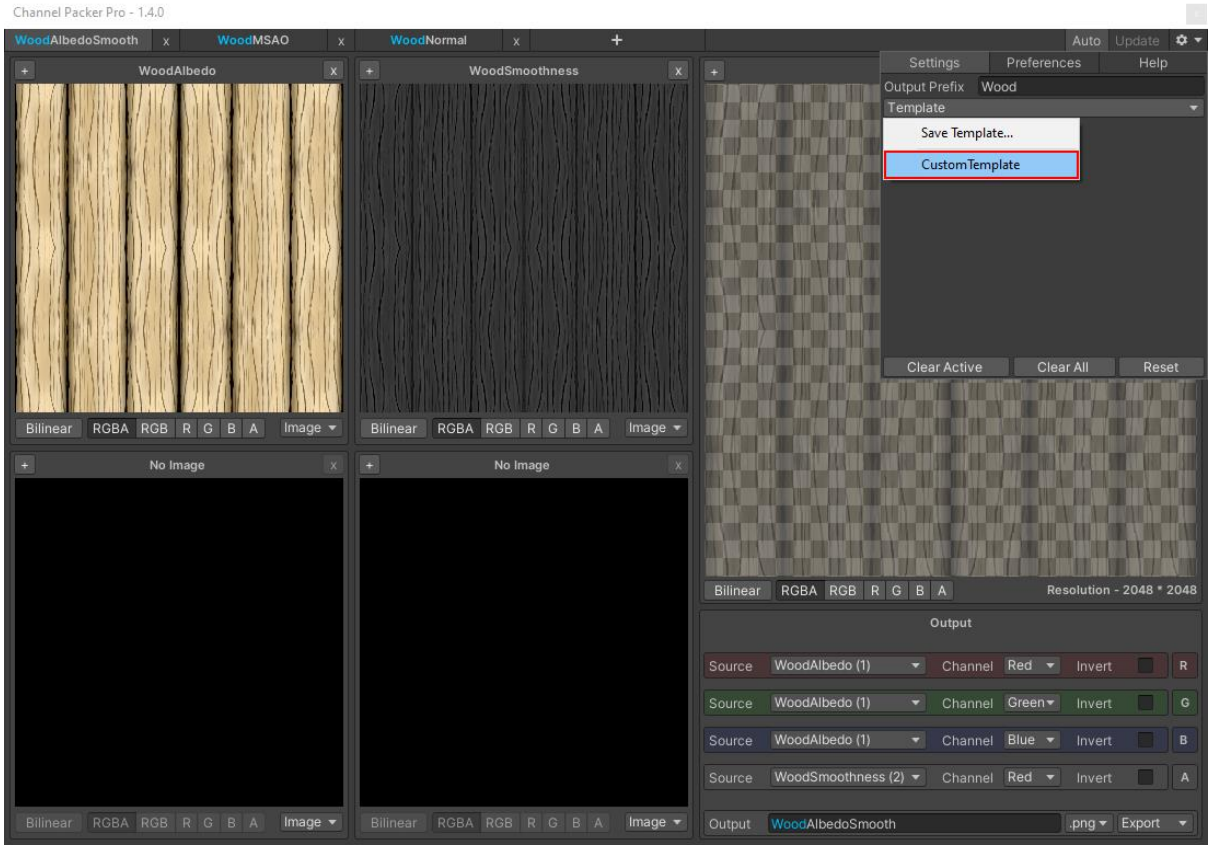
The **Clear Active**, **Clear All** and **Reset** buttons along the bottom of the settings window are for the packing groups. **Clear Active** will remove all the loaded and generated images from the active packing group but keeps the output settings and prefix name. **Clear All** will remove all loaded and generated images from all packing groups but keeps the output settings and prefix name. **Reset** will remove everything and reset all settings back to default as if you just opened Channel Packer Pro. You will have the option to keep the prefix name or clear it on reset.



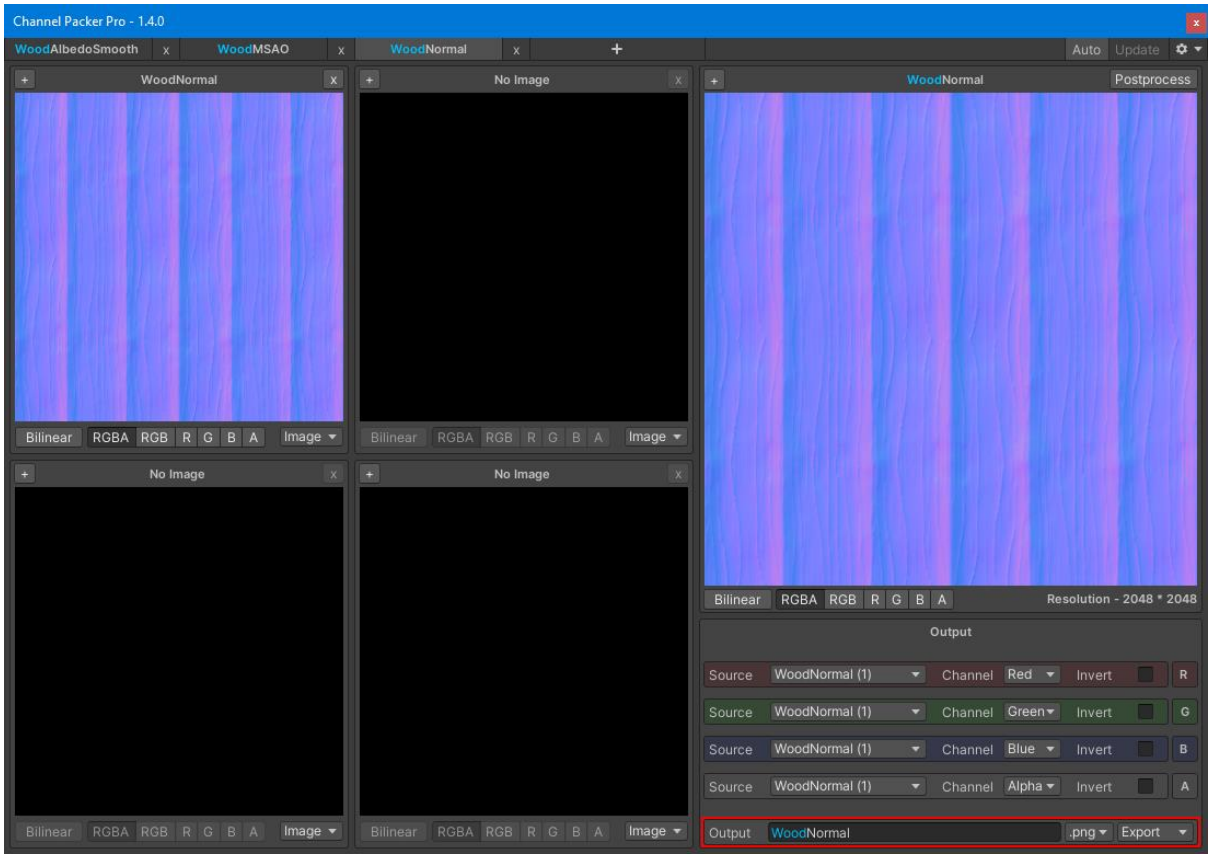
Under the Output Prefix in the settings window are **Templates** which replace the old presets. Templates store all the packing group settings and can be customised, named, saved and loaded for use in any Channel Packer Pro project. They store the output name and format, the source image slot, channel and invert options for every packing group. They do not store the loaded images, generators, postprocessors or the prefix name.

Templates were designed to help with packing lots of images repeatedly so that you don't have to keep messing with the output settings every time you need to pack something. A good example of using templates is if you had to pack lots of textures for the URP lit shader. You can create a template called **URP Lit Template** that has the metalness in the red channel, AO in the green channel, value type at 0 for the blue channel and smoothness in the alpha channel which could also be inverted if you have a roughness.

To create a template just create your packing groups, name your packing groups, set their formats and set the image slots, values, channels and invert as needed. When you're done go to the settings window, open the **Template** dropdown, select **Save Template…** and choose a file location.



To load a template, you can find and select it in the template dropdown, or you can find the template in the asset folder and press the **Open With Channel Packer Pro** button in the Inspector window. A template needs to be in the Unity project for it to be loaded, you could create a package containing all your templates, so you don't have to keep remaking them.



Finally, when you're finished editing the output image you can save it by clicking the **Export** button and selecting **Export** for the active packing group only or **Export Batch** and choose a folder for all packing groups to be exported to. The output image will take the prefix name and the packing group name **(Prefix name + Packing group name)** set in the **Output** field with the format set in the extensions dropdown.