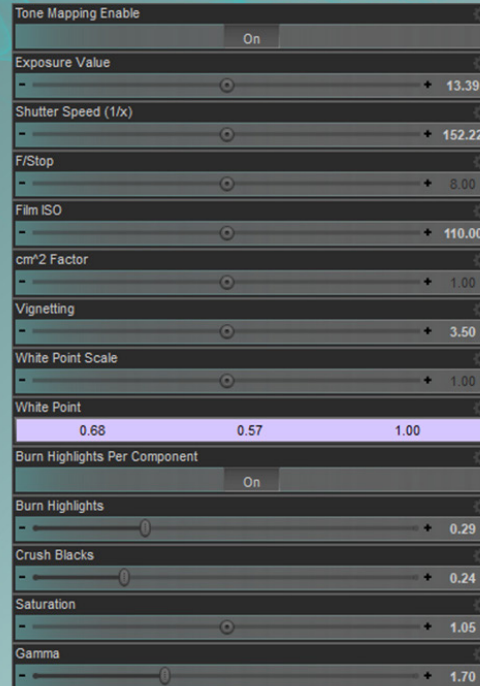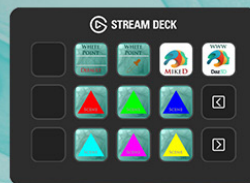# Tone Mapping Console Suite

scripts for DAZ Studio

by MikeD

Interaction with:

Table Of Contents

Introduction

Welcome to the Tone Mapping Console by MikeD!

The suite includes 38 scripts that add functionality to any Elgato Stream Deck device or any other console you own with programmable keys. You can also use the suite as standalone applications even without any of the above devices, in order to get the main functions of tone mapping tab into a toolbar for easy access. The package also includes 2 profile files for interaction with Elgato Stream Deck classic (15 keys) and/or Elgato Stream Deck Plus devices!

The first script of the package adds/removes the other scripts of the product into/from the menu and into/from a toolbar for easy access.

There are seven groups of scripts controlling the "Burn Highlights", the "Crush Blacks", the "Exposure", the "Film ISO", the "Gamma", the "Saturation" and the "Vignetting" properties of the Tone Mapping tab. Each of these groups consists of four scripts. One that displays the property current value on the status bar, a second one that resets the property value to default and two that increase or decrease the value by one step, for each one of the previously mentioned properties.

The "White Point" property is controlled by eight scripts. One of these scripts resets the default values. The second script allows you to pick the "white point" in the scene from the viewport (having the Iray preview on) choosing the color that should normally be white in your render. The remaining six scripts increase or decrease the value of the red, green and blue color of the "White Point" property, allowing you to manually adjust the color balance.

The last script is used to adjust the settings for some of the above scripts, in order to meet your own needs.

The suite also includes a detailed manual describing the function of each script, to help you achieve the optimal use of your lights and create outstanding renders!

Before Starting

Beware that some functions require the scripts to interact with each other, so don't rename any of them and don't change their original location. The folder "Dynamic Script Libraries" is a library including some scripts that are used by the main ones. Don't change the name of any script or move them into another folder. This will break the functionality of the main scripts. If you need to relocate the scripts, move their parent folder ("Tonemapper Options Console") with the included folders to the new location without renaming any of them.

The best way to use these scripts is having the NVIDIA Iray preview into the active viewport. The active viewport is designated as the one with the yellow border around its frame. If you have many viewports visible in Daz Studio, you can change the active viewport by clicking on it.

The Tonemapper Options will be present in your scene as a node if you have already used the NVIDIA Iray preview. If you have not used the NVIDIA Iray preview so far and you try to execute any of the scripts of the package, they will automatically create the "Tonemapper Options" node in the scene.

It is mandatory that you execute the "Add to menu and to toolbar" script first, in order to add the other scripts into the "Scripts" menu and into a toolbar for easy access.

The scripts use some shortcuts that are not used, by default, from any other function of Daz Studio. These shortcuts are used by the Elgato Stream Deck devices, or any other device with programmable buttons that you can use as a shortcut console! If you own any of these devices and you want the scripts to interact with them, don't change their shortcuts. If you do, assign manually the same new shortcuts at the corresponding functions of the Stream Deck device as well. (See Index A: "Interacting with Elgato Stream Deck").

Most scripts give you the option of an undo action after their use. In this way you can revert their outcome if you are not happy with the results.

Always keep an eye on the Daz Studio's status bar. All non-critical messages will be shown there. When a script changes the value of a parameter, the new value will be displayed on the status bar, staying visible for 5 sec.

Add to menu and to toolbar

Use this script to add/remove the scripts of this suite into/from the menu and into/from a toolbar for easy access. You can see the shortcuts for each script in a parenthesis next to its name.

Use the checkboxes of the first column ("Menu") to add a script into the menu. Check the respective box in the second column ("Toolbar") to add a script into the toolbar. In order to have a script in the toolbar, it needs to exist in the menu first, so if you check a box in the "Toolbar" column and it is not checked in the "Menu" column, the script will automatically check it in the first column as well. The third column ("Remove") will be enabled only for the scripts that already exist in the menu. You can select any of these if you want to remove the respective scripts from the toolbar and the menu.

Most of the scripts are checked by default, but you have the option to uncheck any of them if you feel you don't want to use them. Of course, removing any of them from the installation means that you won't have access to its function from your Stream Deck device (the key will be there, but it won't do anything).

At the lower part of this script's dialog, you can find the button "Select all". It adds all the scripts that don't already exist in the menu. This option gives access to all the functions of the suite as it adds all the scripts into the menu and into the toolbar. If a script already exists in the menu but not in the toolbar, it will not be added into the toolbar by checking this checkbox.

Clicking the "Add to Menu" button, the selected scripts are going to be added into the "Scripts/ MikeD Tonemapper Options for Stream Deck Plus" menu and a new toolbar "MikeD_Tonemapper_Options_for_ Stream_Deck_Plus" will be created. If the program finds out that a shortcut for a script is used by another function it will notify you through a message, waiting for your choice to replace the shortcut or not. It is recommended to use the default shortcuts for the scripts of this suite if you want Daz Studio to interact with the Elgato Stream Deck devices, without having to readjust the shortcuts in the device's settings.

Clicking the "Remove from Menu" button, the selected scripts are going to be removed from the "Scripts/ MikeD Tonemapper Options for Stream Deck Plus" menu and from the "MikeD_Tonemapper_Options_for_ Stream_Deck_Plus" toolbar.

Clicking the "Add to Menu" or the "Remove from Menu" button will close the dialog box. It is not possible to add and remove scripts simultaneously. You need to restart Daz Studio before continuing.

Burn Highlights - Crush Blacks – Exposure - Film ISO – Gamma – Saturation - Vignetting

Conditions of Use: You must have already used the NVIDIA Iray preview in your viewport, in order for the "Tonemapper Option" node to exist in the scene. Otherwise, the first time you use any of the scripts, it will automatically create this node.

The package contains seven groups of scripts, with each group controlling the current value of one of the properties mentioned above. Each group consists of four scripts. One that displays the property current value on the status bar for 5 seconds. A second one that resets the property value to default. The last two scripts increase or decrease the value by one step. You can change the step value using the "Tonemapper Settings" script which is, by default, loaded on the toolbar from the initial installation, for easy access.

Using the Stream Deck classic (15 keys) included profile, if you press the "Show/Default" icon the current value will be despayed on the status bar. If you press the same icon for extended time, the default value is applied instead.
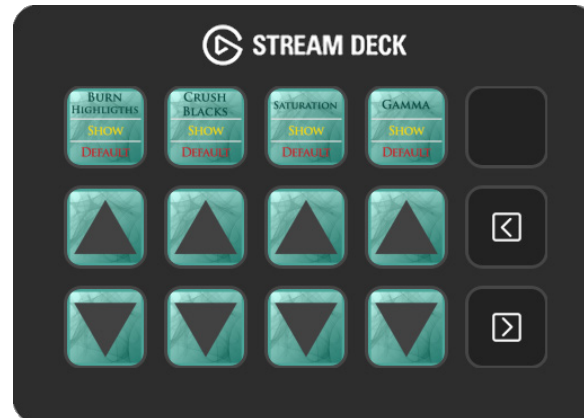
In the Stream Deck Plus, each "Show current value" button (with a green question mark icon) and each "Set Default" button (with an orange icon having a forbidden sign), controls the property that is shown in the screen, on the same column. Each "Set default" script has an undo action. If you accidentally press this button, you can always return to the previous value of the property. On the bottom of each column, there is a knob. If you turn it clockwise (CW), it increases the value of the controlled property by one step at a time. If you turn it counterclockwise (CCW), it decreases it. If you push the knob, it will display the property current value. Any of the above actions will display the property current value on the status bar.

Exposure: The exposure property controls the overall brightness of the render. Decreasing Exposure value will increase the brightness. We tend to lower this value (brighten the scene) in interiors where the light is insufficient.

Film ISO: This is another way to control the overall brightness. Increasing the Film ISO property will also increase the overall brightness. The Film ISO value of 100 is ideal for most cases. We can slightly increase or decrease this value for fine tuning of the brightness. In real life, setting the Film ISO of a camera in high values will result to noise (grain) into the final photo.

Burn Highlights: Increasing the value of this property will cause your highlights (the bright areas) of your render to become even brighter.

Crush Blacks: Increasing the value of this property will cause your shadows (the dark areas) of your render to become even darker.

Beware: Increasing both the Highlights and the Blacks will also increase your overall contrast (and slightly increase the saturation) of your render.

Saturation: Increasing the saturation will make the colors more vivid. Be careful as over-saturation will result to unnatural colors in your renders. Lowering the saturation will wash the colors out and at very low values the render will be almost B/W. Increasing the saturation will also cause a slight raise in the contrast, and decreasing the saturation will cause a slight reduction in the contrast.

Vignetting: The vignetting property will create a dark (positive values) or bright (negative values) oval frame to the borders of your image. Higher absolute values will make the effect stronger.

Gamma: The Gamma property controls the contrast of the final render. This is also affected by the monitor of your PC and some other factors. For color images the gamma value is 2.20. Lowering this value will increase the contrast of our image. Increasing the gamma value will decrease the contrast of the image.

You can find all the default shortcuts for these scripts in Index B: "Scripts Shortcuts".
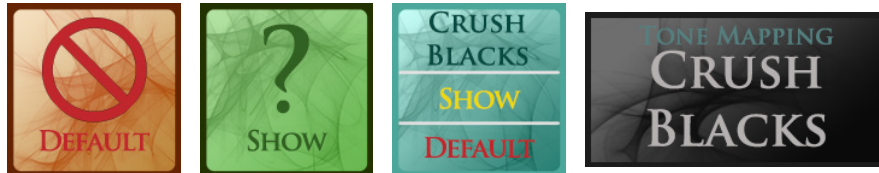
Script: **Burn Highlights**

Stream Deck icons:
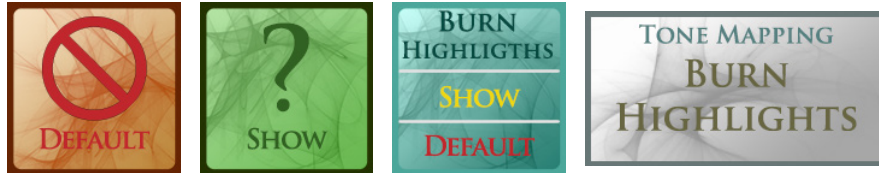
Increasing / Decreasing default step: 0.01

Script: **Crush Blacks**

Stream Deck icons:

Increasing / Decreasing default step: 0.01

Script: **Exposure**

Stream Deck icons:

Increasing / Decreasing default step: 0.25

Script: **Film ISO**

Stream Deck icons:

Increasing / Decreasing default step: 10

Script: **Gamma**

Stream Deck icons:

Increasing / Decreasing default step: 0.1

Script: **Saturation**

Stream Deck icons:

Increasing / Decreasing default step: 0.01

Script: **Vignetting**

Stream Deck icons:

Increasing / Decreasing default step: 0.5

White Point

Conditions of Use: You must have already used the NVIDIA Iray preview in your viewport, in order for the "Tonemapper Option" node to exist in the scene. Otherwise, the first time you use any of the scripts, it will automatically create this node.

This group consists of eight scripts. The first one resets the "White Point" value to default. The second one allows you to pick the "white point" in the scene from the viewport (having the Iray preview on) choosing the color that should normally be white in your render. The remaining six scripts increase or decrease the value of the red, green and blue color of the "White Point" property, so you can manually adjust the color balance.


In order to use the scripts controlling the White Point property, you need to fully understand what the White Point is and how it effects your images/renders.

The white point is a color that normally should appear totally white into the final image/render. For example, if you have a white sphere in your scene and you have set a color different than white into your environment tab, let's say orange like the following image, the sphere will be affected by the environmental color, and have this light orange hue.
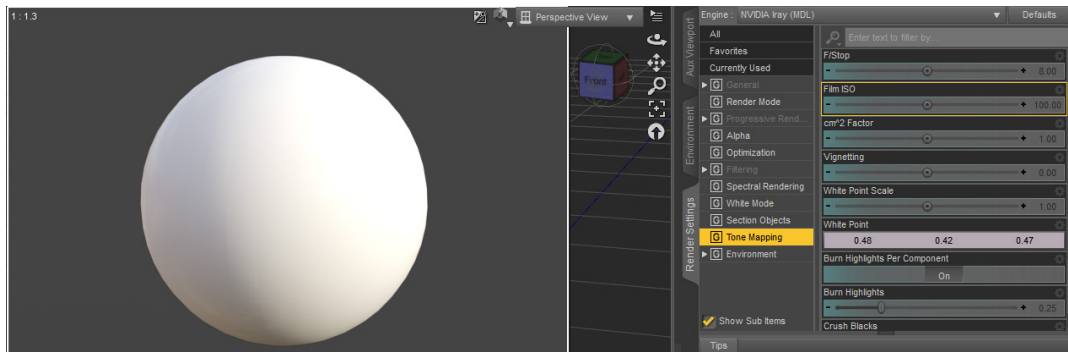
If this did not happen intentionally, you need to neutralize the environment's color contribution. You have to go into the Tone mapping menu in Daz Studio and let the program knows that your sphere should be white and that the light orange color must be subtracted from the image/render. Setting a color into the White Point, you actually say to Daz Studio that this color should appear as white in your scene and the program will make the necessary adjustments to correct it. Remember that the white color, the black color and all the intermediate greys have no effect in the White Point property as they have no color information.

For our example with the sphere, if you set a light orange color to the White Point property, the image/render will be balanced to an extend, but it will not be precise.
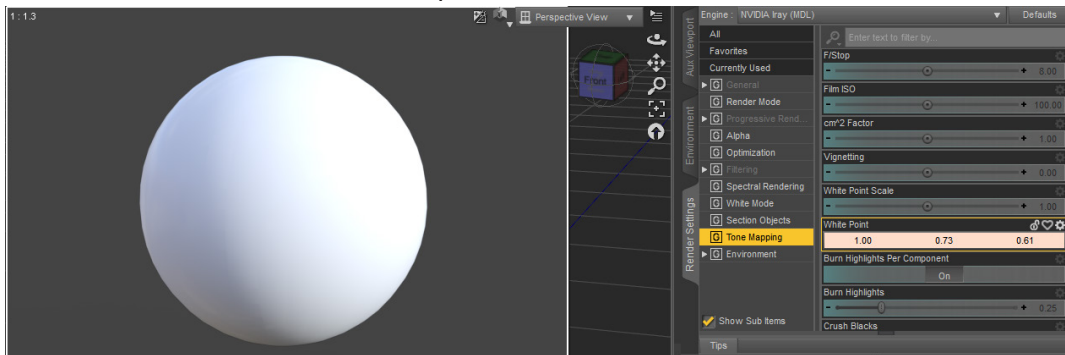

As you can see, setting a random light orange color into the White Point property, it actually removes the yellowish hue from the sphere, but now the sphere has a light blue hue instead. If the White Point is totally white (you can set it back to white for our example), you can press the "Shift" key on your keyboard and click anywhere on the white color of the property (not on the numbers). Holding the Shift key, you can drag the mouse into your scene and pick the color you want to neutralize. The problem is that dragging the mouse over the Daz's User Interface, the cursor will instantly pick the interface's color, instead of the sphere color. At the same time the sphere color will change because the White Point is updated automatically and the new color will alter the scene. As a result of all these, you will never be able to pick the color you want from the scene. Here comes the script to help you.

Executing the "White Point Select" script, a dialog will pop up. This dialog has a color widget in the middle, displaying the current color of the White Color property and a row with buttons at the bottom. The script works as an intermediate, choosing a color from the scene and setting it into the White Point property. There are three ways to use this script:

- Pick the white point from a scene color. You can do the same procedure mentioned at the previous paragraph, using the color of your widget instead of the White Point property. If the color is not white in your script widget, set it to white first or press the "Set Middle Grey" (Remember that all greys have the same effect as white. They don't alter the White Point). Press the "Shift" key on your keyboard and click anywhere on the color of the dialog's widget (not on the numbers). Holding the Shift key, drag the mouse into your scene and pick the color you want to appear as white. Press the accept button on the dialog to set the new color to the White Point Property. Remember that using the script that works as intermediate you can safely choose the color you want as the White Point is not automatically updated this way.

- Manually set the white point. Press the "Set Middle Grey" button into the script's dialog box, and then the "Accept" button. The Middle Grey (127, 127, 127), as all greys, does not affect the White Point and at the same time it gives you enough room to change the red (the first number in the color widgets), the green (the second number in the color widgets) and the blue (the third color in the color widgets) up or down. The white color (255, 255, 255) is the maximum amount of red, green, and blue and you cannot set values higher than these. Now you can adjust the values of each one of the red, green, and blue, in the White Point property, by clicking on the numbers (1, 1, 1) of the color widget and dragging them left or right to decrease or increase their values. Alternatively, you can use the scripts to increase or decrease each one of the Red, Green, and Blue colors. The numbers in the White Point property are limited from 0 to 1, where 1 represents the maximum amount of 255 in RGB format.

- A combination of the previous methods. Choose a White point color with the first method. Press the "Normalize" button into the script. It will find the current color equivalent that is closer to the middle grey. Accept the dialog. Now you can use the second method to adjust the values of red, green and blue, clicking on each number and dragging them left or right.
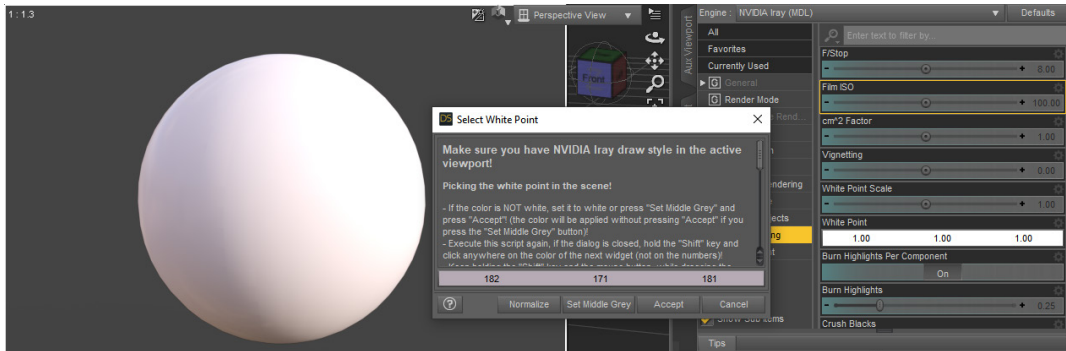
A little more theory about the White Point. Having a color as White Point makes Daz Studio to add the complementary color in the scene, for the total tone to be as close as possible to white.

First conclusion: Adding (increasing) a color to the White Point will cause this color to be SUBTRACTED (decreased) from the scene. Subtracting (decreasing) a color from the White Point will cause this color to be ADDED (increased) into the scene.

The complementary color of Red is Cyan. The complementary color of Green is Magenta. The complementary color of Blue is Yellow.

Second conclusion:

- Increasing the Red color value into the White Point property will add Cyan into the scene.

- Increasing the Green color value into the White Point property will add Magenta into the scene.

- Increasing the Blue color value into the White Point property will add Yellow into the scene.

- Decreasing the Red color value into the White Point property will add Red into the scene.

- Decreasing the Green color value into the White Point property will add Green into the scene.

- Decreasing the Blue color value into the White Point property will add Blue into the scene.

I think that the White Point theory makes sense now.

In the Stream Deck Plus, each "Show current value" button (with a green question mark icon) and each "Set Default" button (with an orange icon having a forbidden sign), controls the property that is shown in the screen, on the same column.

The "Set default" script has an undo action. If you accidentally press this button, you can always return to the previous value of the property.

In the Stream Deck Plus, on the screen of each column that controls the "White Point" colors, the colors appear in pairs with their complementary colors (at the right bottom of the icon). At the bottom of each column there is a knob. Rotate the knobs in the direction you want to ADD a color into the SCENE. If you turn the knob clockwise (CW), it increases the value of the complementary color in the scene (the color on the right side of the icon) by one (color limits: 0-255). If you turn the knob counterclockwise (CCW), it increases the color of the color on the left side of the icon by one.

Sometimes we deliberately want the White Point to be altered. For example, you can choose a light blue color into the White Point property to make the scene more yellow for some portraits and when you want to give the impression of warmth to your render. Conversely, you can choose a light yellow – orange color into the White Point property to give the impression of cold to your render.

You can find all the default shortcuts for these scripts in Index B: "Scripts Shortcuts".

Stream Deck classic icons (all of them increase the color on their buttons **on the scene**):
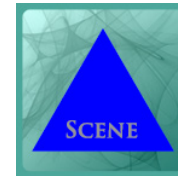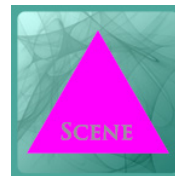
Increasing / Decreasing step for each color: 1

Index A: Interacting with Elgato Stream Deck devices or any other device having programmable keys.

Importing the profile files for Daz Studio connectivity

This suite can interact with the Elgato Stream Deck classic (15 keys) and/or the Elgato Stream Deck Plus device, in order to accelerate your workflow. If you own any of these devices and you want to add interaction with Daz Studio, you can do it using the profile files for the Elgato Stream Deck and the Elgato Stream Deck Plus device included in your "Library Folder/General/MikeD/Tonemapper Options Console" folder. The profile file name for the Stream Deck classic (15 keys) is "MikeD Tone Mapping Options for Daz Studio 15 Keys.streamDeckProfile". The profile file name for the Stream Deck Plus is "MikeD Tone Mapping for Daz Studio Plus.streamDeckProfile".

At this point it is an obvious requirement to have already set up the Elgato Stream Deck device (or devices) to your PC and installed the appropriate drivers.

The communication between Daz Studio and any Stream Deck device relies on the shortcuts of the scripts. The device calls the suitable shortcut and Daz Studio executes the corresponding script. As you can understand, the first move is to add the scripts to the menu so the suitable shortcuts can be created.

First of all, make sure that you have already executed the "Add to menu and to toolbar" script of the suite, and you have clicked the "Add to Menu" button, so the necessary scripts already exist in the "Scripts" menu of Daz Studio, with their default shortcuts. In case you have changed the default shortcuts during the scripts' installation, you have to manually assign the changed shortcuts using the Elgato Stream Deck classic and/or the Elgato Stream Deck Plus settings application.

Open your Windows Explorer and navigate to the folder "Daz Library Folder/General/MikeD/Tonemapper Options Console". Double click on the file "MikeD Tone Mapping Options for Daz Studio 15 Keys. streamDeckProfile" to load the profile for the Stream Deck Classic (15 keys) and/or double click on the "MikeD Tone Mapping for Daz Studio Plus.streamDeckProfile" to load the profile for the Stream Deck Plus device In case you have both devices connected into your computer you have to open Elgato Stream Deck settings application in your computer and then select the Stream Deck device in the drop-down menu at the top, before double clicking on the profile for the Stream Deck classic. After installing the profile for the Stream Deck classic, you have to select the option "Stream Deck +" in the drop-down menu at the top of the application, before double clicking on the profile for the Stream Deck plus.

Beware that the profile for the Stream Deck Classic device uses a custom free plugin called "SuperMacro" by BarRaider. You need to have installed this plugin into your Stream Deck before installing the "MikeD Tone Mapping Options for Daz Studio 15 Keys" profile. You can install this plugin by clicking on the icon with the keyboard at the top of your Stream Deck settings dialog, choose the "PLUGINS" tab at the left of the dialog and navigate to find the "SuperMacro" plugin by BarRaider. Click the install button to download it.

Both the Elgato Stream Deck classic (15 keys) and the Elgato Stream Deck Plus devices use three pages of shortcuts. You can access each page by clicking the next page arrow (in Elgato Stream Deck classic device) or by sliding its touch screen left or right (in Elgato Stream Deck Plus device).

Additionally, in the included profiles there are shortcut keys for the Daz's Store and for my store in Daz. Also, there are shortcuts keys for the Lights Console profile (if you own this product), for the Mapping Options Console profile (if you own this product), and for any Daz main profile you have. You have to set those last keys to point to the right profile, after installation.

Index B: Scripts Shortcuts

If you use any other device with programmable keys, use the (default) shortcuts of the following table as reference.

Script	Shortcut
!Tonemapper Settings	Nothing
Burn Highlights Value Decrease	Ctrl+Alt+Shift+|
Burn Highlights Value Increase	Alt+Shift+>
Burn Highlights Value Set Default	Alt+Shift+X
Burn Highlights Value Show	Alt+Shift+W
Crush Blacks Value Decrease	Ctrl+Alt+Shift+*
Crush Blacks Value Increase	Ctrl+Shift+|
Crush Blacks Value Set Default	Ctrl+Alt+Shift+X
Crush Blacks Value Show	Ctrl+Alt+Shift+Q
Exposure Value Decrease	Ctrl+Shift+<
Exposure Value Increase	Alt+Shift+<
Exposure Value Set Default	Ctrl+Shift+Home
Exposure Value Show	Alt+Shift+Q
Film ISO Value Decrease	Ctrl+T
Film ISO Value Increase	Ctrl+Shift+>
Film ISO Value Set Default	Alt+Shift+R
Film ISO Value Show	Ctrl+B
Gamma Value Decrease	Ctrl+Alt+Shift+>
Gamma Value Increase	Alt+Shift+|
Gamma Value Set Default	Alt+Shift+H
Gamma Value Show	Alt+Shift+T

|	
Saturation Value Decrease	Alt+Shift+?
Saturation Value Increase	Ctrl+Alt+Shift+?
Saturation Value Set Default	Alt+Shift+S
Saturation Value Show	Alt+Shift+B
Vignetting Value Decrease	Ctrl+Shift+G
Vignetting Value Increase	Alt+Shift+G
Vignetting Value Set Default	Ctrl+Alt+Shift+G
Vignetting Value Show	Alt+Shift+L
White Point Blue Value Decrease	Ctrl+Shift+?
White Point Blue Value Increase	Ctrl+J
White Point Green Value Decrease	Ctrl+Shift+J
White Point Green Value Increase	Alt+Shift+J
White Point Red Value Decrease	Alt+Shift+K
White Point Red Value Increase	Ctrl+Alt+Shift+K
White Point Reset	Ctrl+Alt+Shift+Y
White Point Select	Alt+Shift+Y

Index C: Changing or adding Scripts Shortcuts in Daz Studio

If you do not use the default shortcuts for the scripts or you need to change a shortcut of the package, do the followings.

Open the Daz Studio menu path: Window/Workspace/Customize… or press F3 on your keyboard (default shortcut).
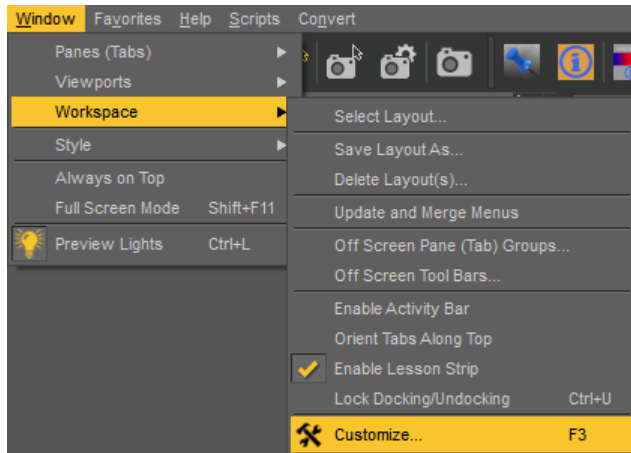
In the popup dialog click the "plus" (+) sign, on the "Custom" group, in the left column "Actions". The group will expand, and you can see all the custom actions names in the first column and their assigned shortcut in the second column (if there is a shortcut for this action). Scroll down to find the script you want and click on it to select it.
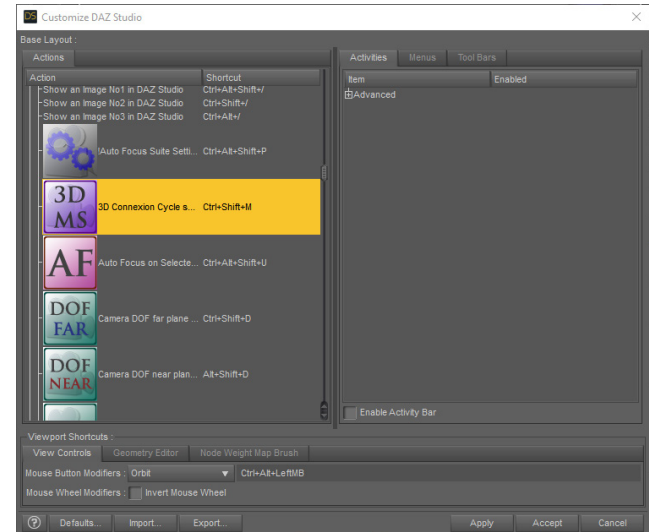
Right click on the right side of its name, in the shortcut column and choose "Change Keyboard Shortcut". If this shortcut is already in use by another action a popup message will inform you about it.

Edit Custom Action...
Delete Custom Action
Change Keyboard Shortcut
Clear Keyboard Shortcut
Change Icon...
Clear Icon
Show Text and Icon
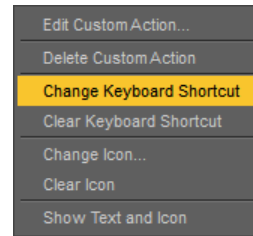
Repeat for any actions you want. If you successfully change the shortcut of any action, don't forget to press "Accept" on the dialog to confirm it. The Daz Studio's UI will be repainted in this case.

If you change any of the package's scripts shortcuts, go into your controller device menu (3D Connexion Mouse, Stream Deck device, or any console with programmable keys) and assign the new shortcuts to the respective actions so you don't break the device's interaction with the Daz Studio.

Credits

The following DAZ Scripts have been modified and used for the creation of this product:

- Simple Input Dialog

http://docs.daz3d.com/doku.php/public/software/dazstudio/4/referenceguide/scripting/api_reference/samples/general_ui/simple_dialog/start

-Create Custom Action

http://docs.daz3d.com/doku.php/public/software/dazstudio/4/referenceguide/scripting/api_reference/samples/actions/action_custom_create/start

-File Find

http://docs.daz3d.com/doku.php/public/software/dazstudio/4/referenceguide/scripting/api_reference/samples/file_io/file_find/start

- Simple Composite Image Dialog

http://docs.daz3d.com/doku.php/public/software/dazstudio/4/referenceguide/scripting/api_reference/samples/general_ui/simple_composite_image_dialog/start

History Logs

Version 1.0 February 2023

//---

- !Tonemapper Settings
- Burn Highlights Value Decrease
- Burn Highlights Value Increase
- Burn Highlights Value Set Default
- Burn Highlights Value Show
- Crush Blacks Value Decrease
- Crush Blacks Value Increase
- Crush Blacks Value Set Default
- Crush Blacks Value Show
- Exposure Value Decrease
- Exposure Value Increase
- Exposure Value Set Default
- Exposure Value Show
- Film ISO Value Decrease
- Film ISO Value Increase
- Film ISO Value Set Default
- Film ISO Value Show

- Gamma Value Decrease

- Gamma Value Increase

- Gamma Value Set Default

- Gamma Value Show

- Saturation Value Decrease

- Saturation Value Increase

- Saturation Value Set Default

- Saturation Value Show

- Vignetting Value Decrease

- Vignetting Value Increase

- Vignetting Value Set Default

- Vignetting Value Show

- White Point Blue Value Decrease

- White Point Blue Value Increase

- White Point Green Value Decrease

- White Point Green Value Increase

- White Point Red Value Decrease

- White Point Red Value Increase

- White Point Reset

- White Point Select

MIKED
2023