TK7

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NOTE: Button names are underlined in the sections that follow.

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Thank you for respecting the time and effort it takes to develop these techniques and for showing the appropriate consideration for the intellectual property of others. As always, please feel free to contact me if you have questions, comments, or suggestions.

ACKNOWLEDGEMENT

The TK7 panel owes much to the many photographers who have contributed suggestions and feedback. Thank you. Sean Bagshaw, André Distel, Luca Libralato, Antonio Prado, Roy Yuan, Isabella Tabacchi, and Rafael Coutinho were the alpha-testers and have provided valuable recommendations. Bruce Bartholomew did in-depth testing on the Go module, provided many ideas for the different modules, and edited the Go modules instructions. Gerald Vincent provided ideas to improve Infinity Color masks. The panel has also drawn on the work of Alex Nail (web-sharpening) and Chris Tarantino (saturation masks). In addition, numerous websites and videos have continued to influence and inspire my own workflow and panel-coding. I have included their names in the pertinent sections when I remember them.

OVERVIEW

Since the publication of the original tutorial in 2006, luminosity masks have become widespread and widely-accepted in the digital photographic community. From initially intersecting selections, to 16-bit calculations, to the Infinity Mask and Zone-Picker, to the Rapid Mask engine, to Infinity Color masks, TK panels have been the leading innovator in integrating luminosity masks into the Photoshop workflow. The panel continues to grow and evolve, and while luminosity masks are the primary masks used by most photographers, the spectrums of masks created by the panel are no longer limited to just luminosity. Component channels, color, saturation, and vibrance can now be accessed in a similar manner. And unlike masks with hard or mathematically feathered edges, pixel-based masks generated by the TK7 panel are always self-feathering because they are generated from data encoded into image's pixels. There is wide agreement that pixel-based masks provide some of the most natural selections for blending and adjusting images.

Workflow efficiency has taken on new importance in TK7. The compact, modular design of previous versions is maintained. TK7 keeps its familiar, small footprint and fits conveniently in any workspace. The Combo/Cx modules still pretty much run Photoshop and RapidMask and Go modules makes all the masks. There's no need to open multiple modules or to be constantly shifting to a different interface or tab. Smart menus provide quick access to extra features and these menus know when to close once they've served their purpose.

For those already using TKActions V6, TK7 will be a smooth transition to an even easier workflow for luminosity and other masks. For those new to these advanced masks, the panel's layout will help guide them through the process of building and deploying masks in order to quickly start using them with their images. TK7 is designed to make luminosity masks easy for everyone, and to make sure there is plenty of room to keep growing once you see what these masks can do.

NEW FEATURES (Original release April 2019)

Updated Rapid Mask engine. The scripts that create masks in the MASK section of the RapidMask module have been improved. Mask generation is about 20% faster, though, this may be hard to actually notice since new masks already appeared at near real-time speeds in the V6 panel. This feature is best appreciated in masks that traditionally required multiple calculations, like Lights-5 and -6 or the extreme ends of the Zone masks.

Single-slider modify. The RapidMask module's MODIFY section has been completely redesigned. The most prominent new feature is a triple-handle slider for making a Levels adjustment to any mask directly from the module. This brings the infinity mask concept pioneered in the V4 panel directly to the module's interface instead of having to open a separate window to perform the adjustment. The handles on the slider are the same as Photoshop's Levels adjustment—shadows, midtones (expressed as gamma), and highlights—and they even move the same way, with the gamma handle automatically adjusting on the slider when either the shadows or highlights are changed. Single-slider modify is the easiest way yet to modify almost any mask. It's fast and efficient and is available in Layer Mask Mode as well as the Rapid Mask Mode. In Layer Mask Mode the adjustment affects the layer mask on the active layer. In Rapid Mask Mode, it affects the current Rapid Mask being created on the Channels panel and viewed on-screen. It's an obvious and intuitive addition to the module and will be easy for anyone to use.

MODIFY options. In addition to single-slider modify, the MODIFY section of the RapidMask module has several other changes that allow more precision control of Rapid Mask modification. Burn and Dodge brushes have been added. These are Photoshop tools that can now be easily accessed from the module. Dodging the highlights is a great way to make light gray areas of the mask lighter or white without affecting the midtones and shadows. Similarly, burning the shadows

makes dark gray areas of the mask black without affecting highlights and midtones. So Burn and Dodge can be useful for making the mask more pure black and white in those situations where a mask with more contrast would be helpful.

   The MODIFY section also now has its own black and white brushes for painting black and white directly on the Rapid Mask. This makes it easy to create conceal and reveal in the mask in large areas with a few brushstrokes. Burn/Dodge and the Black/White paintbrushes allow highly customizable masks since users are able to apply these effects exactly where they want.

   Another new feature in MODIFY is the Mask the Rapid Mask button. This allows users to better create a mask of just those parts of the image that should be affected by the mask, for example, the sky and clouds in a landscape image. The selection can be made using a selection tool, like the Lasso or Marquee, or it can be made by loading a saved selection from the Channels panel. Once there's an active selection, click the Mask the Rapid Mask button. The non-selected areas turn black in the mask effectively concealing that entire part of the mask from affecting the image when the mask is deployed.

   There is a new Brightness/Contrast button in the MODIFY section that allows this type of adjustment to directly affect the Rapid Mask, like Curves and Single Slider Modify, which are also present in the MODIFY section. Finally, there is a new ACR button in the MODIFY section that brings the full power of Photoshop's ACR filter to be used to adjust the Rapid Mask.

Web-sharpening. In response to user requests, web-sharpening has been expanded. There are now separate input fields for vertical and horizontal dimensions, and users can choose which to use with any image. They can also use the "Fit" button to size their image to fit in the dimensions defined by these vertical and horizontal inputs. These new features are available in both the Combo/Cx modules and Batch module.

Color-zones. There are also new masks on the SOURCE > Color menu on the RapidMask module. These six new "color-zones" stretch the color selections across wider ranges of color in the image. At first this might seem counterintuitive. Usually the goal is to make masks more specific and less general. However, the new color-zones are always adjacent colors on the color spectrum, and some of the new groupings are particularly useful. The Yellow-Red color zone, for example, is an easy way to select the warm tones in the image. And the Blue-Cyan color zone selects the cool colors. But all the zones are worth a bit of experimentation. It's often surprising which works. For example, Cyan-Green might be a good choice for ocean water in some lighting situations, and Green-Yellow is good for foliage, which often contains a considerable amount of yellow. It's important to note that these new color zones are NOT merely combinations of the previous Color Range masks. They are separate calculations that are highly specific for the colors in that particular range. The new color zones provide a great starting point for making masks if color is the primary criterion for making a selection. Unlike luminosity masks which only have two options, Lights and Darks, color zones have six. So the initial mask already has a more exact choice than the binary options with luminosity masks. And once the initial color zone mask is made, the full spectrum of Lights, Darks, and Zone masks can be made using the data locked in for that mask. So in

terms of precision and options, the new color zones have a lot to offer. My own experience in using them indicates they work best when selecting more saturated colors in the image. They can easily be used to adjust color brightness and contrast, and, when added as a layer mask on a Selective Color adjustment layer, provide precision control over subtle color modification.

The previous Color Range masks are still present in the TK7 panel.

Keep Channels panel clean. This is a new checkbox option in the settings for the RapidMask module. The Rapid Mask process creates two new channels on the Channels panel ("Lum Lock" and "Rapid Mask") as a "memory" for creating luminosity and other masks. In previous versions of the panel, these memory channels persisted until the user intentionally deleted them.   In some situations this can be helpful since the Rapid Mask could be reused for multiple output options without having to recreate it. However, some users always wanted to start with a fresh mask anyway. The "Keep Channels panel clean" option lets users choose which they prefer. The default is to have this option unchecked so that the memory channels are NOT automatically deleted. This mirrors the behavior of these channels in the V6 panel. Checking this option will delete these channels anytime an output (except for the Save option) is invoked or when turning off Layer Mask Mode by un-checking the "Layer Mask" checkbox and returning to Rapid Mask Mode. These are the times when it's most likely that the user would prefer to have the Channels panel cleaned of masks generated by the panel. *NOTE: The Save output button does NOT clean the Channels panel because when saving the mask, the user often still wants to immediately use the mask for some other output purpose with one of the other buttons in the OUTPUT section.*

Auto-hide selection edges. Because the RapidMask module provides an integrated 16-bit workflow, selections from luminosity masks are less necessary than in previous versions of the panel. The most common use for them is to paint through them so that the active selection guides where paint lands on a layer mask (mask painting) or on a pixel layer (luminosity painting). In both these cases it's advantageous to have the selection edges (marching ants) turned off so they don't interfere with user's evaluation of how the painting is affecting the image. As such, there is now a setting in the settings window called "Auto-hide selection edges" that, when checked, automatically hides the selection edges for selections created using the Selection output option. It's recommended to leave this settings checkbox checked unless you prefer to see the selection edges and to turn them off manually if you if don't want them. Even without the selection edges appearing, the active selection indicator still turns on to provide an indication that the Rapid Mask has successfully been loaded as a selection and that the selection is active and ready to be painted through.

Quick Paint buttons. As mentioned above, one of the most common uses of luminosity masks is to make a selection from a mask and then paint through that selection onto a layer mask to either reveal or conceal the contents of that layer. The new Quick Paint buttons on the RapidMask module significantly improve the efficiency of preparing for mask painting. There are two Quick Paint buttons: a White Mask/Black Brush button and a Black Mask/White Brush button. If mask

painting is the goal, one of them can be clicked AFTER using the Selection button to load the current Rapid Mask as a selection (that's why they're located next to the Selection button). Both buttons do five tasks in a single click:

1) Creates a layer mask on the active layer that matches the background color of the button. A white background on the button means the layer mask is also white, indicating that it is a Reveal All mask, revealing all contents of the layer. The black background button creates a black, Hide All layer mask to completely hide all contents of the layer.

2) Activates the Paintbrush tool.

3) Sets the brush color to the opposite color of the mask (the color of the brush icon on the button). This allows painting through the active selection to counter what the mask is doing, which is the primary purpose of mask painting.

4) Makes the layer mask the active painting canvas. This insures the paint goes on the mask on not on the image.

5) Makes sure the active layer's visibility is turned on. It's important to be able to see the layer in order to evaluate the mask painting on the overall image.

Now all that's left to do is choose the brush size and opacity and start painting on the on-screen image. Everything else has been taken care of by the Quick Paint button.

Filter mask. The Apply output button now has a small secondary option designated "FM" to make filter masks instead of layer masks. Filter masks are only available on Smart Object layers where there are smart filters already present. A filter mask filters the smart filters according to the mask. The rest of the Smart Object is unchanged. So a filter mask on a smart object layer can actually take the place of two or more pixel layers depending on the filters that are applied. It's a somewhat advanced application and will be most useful to users already familiar with Smart Object layers.

Multi-dimension web-sharpening. Several users requested independent dimensions for vertical and horizontal images for web-sharpening. This is now available in the Combo/Cx and Batch modules with separate input boxes for the two dimensions. It allows users to enter both vertical and horizontal dimensions and then resize and sharpen their image to correspond to the dimension of their choosing. The "Fit" button is also still available. It now resizes and sharpens the image to fit in a box defined by the Vertical and Horizontal input values. This should be a useful addition for users who sharpen landscape and portrait images to different dimensions when preparing them for the web.

New/Updated Actions. There are several new actions in the TK▶ menu:

1) Freehand vignette. After creating an outline of the desired vignette using the Lasso tool, this action turns it into an actual vignette for the image. The action stops at the Gaussian Blur to allow setting the blur radius of the vignette that best matches the image.

2) Spotlight. This action is sort of the opposite of the freehand vignette. The user again first uses the Lasso tool to select part of the image. Then, clicking this menu item creates a spotlight affect within the selection. The Gaussian Blur dialog again opens to allow for adjusting the size of the blur radius.

3) RBG ↔ Lab. For those who like to use LAB Color mode for some adjustments, this action creates the LAB workspace as a smart object and then can also save the LAB adjustments back to the smart object in the original document.

4) Dehaze. This is an action [Sean Bagshaw](#) contributed to the panel that sort of works like the dehaze feature in ACR/LR. It increases saturation and contrast in a manner that cuts through atmospheric haze but without the color shift that sometimes accompanies the ACR/LR slider. It's also adjustable after the action runs.

5) Add Color. While this action has been available in the previous version, it now uses a new method that allows previewing the effect the color will have on the image and even the ability to change the color later on.

Updates on all modules. Several features have been upgraded that affect the interface on all modules. These are meant to improve the user experience when using the panel.

1) Buttons are 20% larger. Easier to see, easier to click.
2) Rollover help. This is now accessed by holding down the ALT key (Mac: option key) and rolling the mouse over a button or feature on the panel. The help message for that button will then appear at the top or bottom of the module. *NOTE: Do NOT click on the button when the ALT/option key is depressed. Simply roll the mouse over the button to see the help message.*
3) More icons. Icons have replaced written button names in many places to create a cleaner look and to provide a more universal interface since TKActions users speak many different languages. If you're not sure what an icon means, roll the mouse over the button while depressing the ALT/option key. The help message that appears will tell you what the button does.
4) Settings access. There are two ways to access the settings for a module.
    a) Click the "TK" icon on the module
    b) Click "Settings..." from the fly-out menu in the upper right corner of the module.
Settings are where the module's language, color, and active selection indicator can be customized to the user's preference.
5) Easy update. Settings from the previous V6 panel are automatically imported when the TK7 modules are installed.   Language choice and personal action names transfer from the previous version.

NEW FEATURES (September 2019 update).

1. Image/Mask (I/M) toggle button. Instead of two different buttons to switch between the image view and the mask view, the updated version now has just one I/M button that does both. If the mask is being viewed, the I/M button switches to a view of the image, and if the image is displayed on–screen, the I/M button

switches to a view of the mask. This makes it easy to quickly switch between the mask and the image by pressing the same button repeatedly.

2. My Channels. The SOURCE > Channel menu in the RapidMask module has a new item at the bottom called "My Channels." Clicking it opens a new window on the module that lists the user's alpha channels by name that have been saved on the Channels panels. An <u>Active Selection</u> button and a <u>Current Layer Mask</u> button are also displayed in the new window if these items are present in the current state of the image. When one of these buttons is clicked, that channel (or active selection) becomes the new Rapid Mask in the Rapid Mask engine. Once this occurs, then all the buttons in the MASK, MODIFY, and OUTPUT section of the module can be used with it. <u>My Channels</u> is a great way to bring the user's personal masks into the Rapid Mask process for calculations using the mask calculator or for outputting using the buttons in the OUTPUT section.

3. Infinity Color Masks. The <u>Choose</u> item in the SOURCE > Color menu has been repurposed to allow users to create highly accurate and infinitely adjustable masks based on color. These masks are essentially a "Magic Wand" tool specifically for color. They are very much like luminosity masks except they are based on color instead of pixel brightness. Like luminosity masks, these new color masks feather seamlessly into the surrounding colors. Luminosity masks opened a whole new way to adjust images based on tonal brightness, and these infinity color masks will do the same thing for color.

<u>NEW FEATURES (June 2020 update)</u>

1. The Go module. An entirely new module for making pixel-based masks using mask previews is now available. It still provides real-time, 16-bit masks, but it organizes the most common ways of generating, modifying, and outputting them into a single interface. The Go module also upgrades Infinity Color masks and provides an entirely new method for making Zone masks. There is a separate section of this instructions document that goes over all the features of the new Go module.

2. Right-click color-tagging. This feature was added to help organize the buttons and menus. On the Combo/Cx module, users can right-click on the buttons to toggle between solid-color and edge-shadow color. The user's favorite buttons can now be made solid to make them easier to find. Several menus now also have the right-click color-tagging feature. These include the <u>TK►</u> actions and <u>User►</u> actions on the Combo/Cx modules, the <u>Output</u> menu on the Go module, and the <u>Layer</u> menu on the RapidMask module. In the case of these menus, right-click opens a selection of different colors that can be assigned as the background color for that menu item.

3. Improved User actions. There is a new Instant Action (►) button on the Combo/Cx module to allow playing a favorite action directly from the main interface without opening the <u>User ►</u> actions menu. The <u>User ►</u> actions process has also

been complete redesigned. Now, recording or dragging an action into the new TK_USER_ACTIONS action set triggers the action showing up automatically the next time the User ▶ actions menu is opened. However, probably the most significant change with regard to user actions is the ability for users to directly code their actions into the main buttons on the panel itself. Twenty-three different buttons on the Combo and Cx modules can now be easily re-coded to run user actions. The names of the buttons even change to match that of the action.

4. New Combo/Cx items.
a) Live-Clipping button. Toggles a live-clipping preview on and off.
b) I/M button. Toggles between viewing the composite image and the mask on the current layer. No need to ALT/option+click on the layer mask to view it. I/M now toggles this for you.
c) Apply button. This is essentially a Channels panel on the Combo/Cx module. Clicking the Apply button opens a menu of user-created channels on the Channels panel. Clicking one applies that channel as the layer mask to the active layer. No calculations or intervening selection is required. The module does all the work in 16-bit mode. In addition, CTRL/command+click on one of the menu items loads that channel as a selection (just like on the Channels panel without having to go there).
d) Paint Contrast menu item. This action is found in the Color section of the TK▶ actions menu. It allows you to paint with black, white, gray, or different colors to affect the contrast AND color of the image at the same time.
e) Soft Pop action. This action, also found in the Color section of the TK▶ actions menu, subtly enhances contrast, saturation, and sharpness to quickly add a bit of pop to any image.

VERY IMPORTANT INFORMATION

1. The TK7 modules only work in Photoshop CC and Photoshop 2020. The advanced features cannot be programmed into panels that work in Photoshop CS6

2. Properly set up the working color space. There is a PDF called "*Setting Up the Color Working Space*" in the download folder. It explains how to properly set the color and gray working spaces in Photoshop. Be sure to read it and implement its recommendations to get the best results when using luminosity masks.

3. The actions in the panel are meant to be used in RGB and Lab color modes. While some actions will work in Grayscale and CYMK, the buttons have only been tested in RGB and Lab. Not all buttons will work in Lab because Photoshop doesn't allow that particular function. For example, it's not possible to create a Black and White adjustment layer in Lab. As such, the menu item to create a masked Black and White adjustment layer only works in RGB color mode. Nothing will happen if you click it in Lab Color mode. *NOTE: The Go module only works when images are in RGB Color mode.*

4. Mask speeds will vary. The Rapid Mask engine significantly speeds up the process of generating pixel-based masks, but speeds will vary depending on factors such as computer speed, image size, and available memory. SOURCE masks take longer to generate than the spectrum masks in the MASK section. Once a SOURCE has been selected, though, spectrum masks are generated up to 90% faster than previous methods. The Rapid Mask engine also makes deploying the mask very fast since all the calculations have been completed for the mask when the mask is generated.

6. Give the actions time to complete their steps. While the panel increases speed and efficiency of many functions, it's important to keep in mind that Photoshop is still executing numerous steps in the background each time a button is clicked. Some of the multistep actions called by the panel are memory-intensive and still take considerable time to execute. At other times, buttons will not work because there is a condition, like an open dialog window, that precludes any Photoshop function from running, including buttons and actions in the panel. While the panel itself is nearly impossible to break, it is possible to push buttons too rapidly or at the wrong time and end up creating error states in Photoshop. It should be infrequent, but it's not impossible. If you do notice a predictable and repetitive error, please contact me so I can fix it.

INSTALLATION

There are installer files in the download folder as well as instructions on how to use these installers. Please be sure to read the installation PDF before installing.

NOTE: The June 2020 update to the TK7 panel contains a major change to the user actions accessed via the User ▶ actions menu. You can continue using the same actions in the most recent update, but you'll need to drag your actions from the "TK-User-Actions" action set to the new "TK_USER_ACTIONS" action set that gets installed the first time you open the modules.

FEATURES COMMON TO ALL MODLES

Settings—All modules have settings specific to that module. To access them, click the "TK" icon on the module or click "Settings..." from the fly-out menu in the upper right corner of the module. The settings window is the place to set the module's language, color, and active selection indicator.

Rollover Help—Most buttons and functions on the modules have instant rollover help available (image at right). Simply hold down the ALT key (Mac: option key) and roll the mouse over a button. A pop-up help message will appear either at the top or the bottom of the module that describes what it does or how to use it. *NOTE: Do*

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not click on the button to access the help message. Simply roll the mouse over the button's edge while holding down the ALT/option key.

Active Selection Indicator—Each module has a built-in active selection indicator. This indicator turns on whenever there is an active selection. Its purpose is to remind the user that an active selection is present even if the marching ants have been purposely turned off or if the degree of selection is not sufficient to generate marching ants, such as the Midtones-1 selection.

The settings window for each module, accessed by clicking the "TK" icon or via the module's fly-out menu, includes four options for displaying the active selection indicator: Fixed, Pulse, Animated, and Off (image at right).

"Fixed" is the default setting (image at left). In this mode, the active selection indicator displays as a series of red dashes across the top of the module when there is an active selection. The "Fixed" setting is a good choice to start. It generally does not require additional CPU resouces when it displays on a module.

The "Pulse" option is the same graphic as the "Fixed" option, but it blinks on and off every second to provide a more visible reminder that there is an active selection.

The "Animated" option (right) displays as a scrolling series of small black and white dashes similar to the marching ants that surround selections in Photoshop. The continuous movement associated with this option makes it a more obvious reminder that there is an active selection. However, the Adobe architecture for extension panels requires more CPU resources to display the moving gif image of the "Animated" option. While one animated gif on one module won't make a noticeable difference in computer performance, multiple gif images on multiple open modules might.

My basic strategy for selection indicators is to use "Pulse" on all modules. "Animated" is a bit more visual, but can take up extra computer resources. If you want to use "Animated" for the selection indictor, just use it on one module and set the other modules to "Fixed," "Pulse," or "Off."
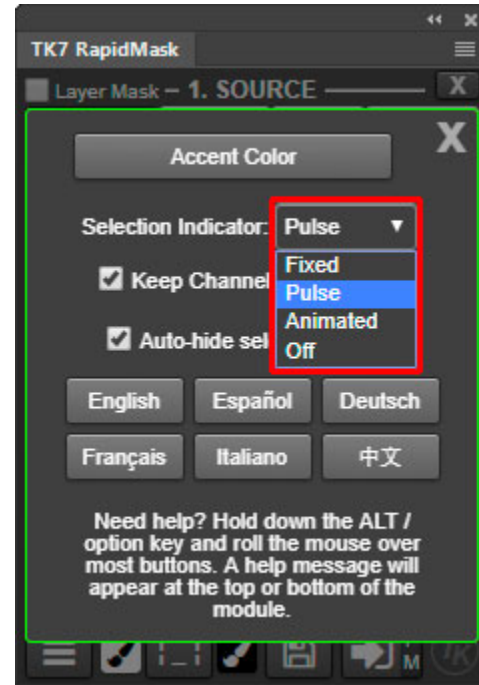
Right-click color-tagging—Color-tagging allow users to customize their modules to give added importance to features they use most. On the Combo/Cx module, right clicking any button toggles between a solid-color button and edge-shadow-color button. The following menus also have at right-click feature:

1) TK▶ actions on the Combo/Cx module.
2) User ▶ actions on the Combo/Cx module.
3) Output menus on the Go module and RapidMask module.

In the case of these menus, right-clicking opens another menu where you can select the menu item's background color can be changed.

COMBO/CX MODULES

The Combo and Cx modules perform identical functions. They just have different layouts so the user can choose a workspace configuration that works best for them.

The Combo module (left) is the same width as the RapidMask, Go, and Batch modules. This makes for aligned stacking in a dedicated panel dock in Photoshop

The Cx module (right) is tall and skinny and is meant to be used in a different fashion. This "toolbar" layout is similar to the Photoshop Tools panel. It can be conveniently tucked to the side of the workspace so that it's functions are always available but with a minumum horizonital footprint to allow maximum space for working on the image. While it's still best to put the Cx module in a dedicated dock to insure proper interaction with the image workspace, it will take up less than half the width of the stacked Combo/RapidMask module. When using the Cx module, stacking it in the same dock as the RapidMask module is usually not recommended. They are different widths and will not align properly resulting in wasted space. Instead, when using the Cx module, it's usually best to dock the RapidMask module ABOVE Photoshop's Layers panel. Since it's not needed all the time, RapidMask can be minimized to just its tab by double-clicking on the tab. Whenever RapidMask is need, single-clicking its tab will instantly maximize it. This makes Cx available all the time while still having RapidMask quickly available when it's needed. This video by Sean Bagshaw provides a detailed

and excellent overview on how to create a custom workspace with these different modules.

The Combo/Cx modules have buttons for menu commands, keyboard shorcuts, and pop-up menus from various other standard Photoshop panels. In addition to running many common Photoshop functions, the modules have menus for creative actions. The purpose of the Combo/Cx modules is to provide quick-click access to these different functions.

The Combo/Cx modules use a variety of icon buttons for different commands. The image below provides details for what each icon and abbreviated button means.
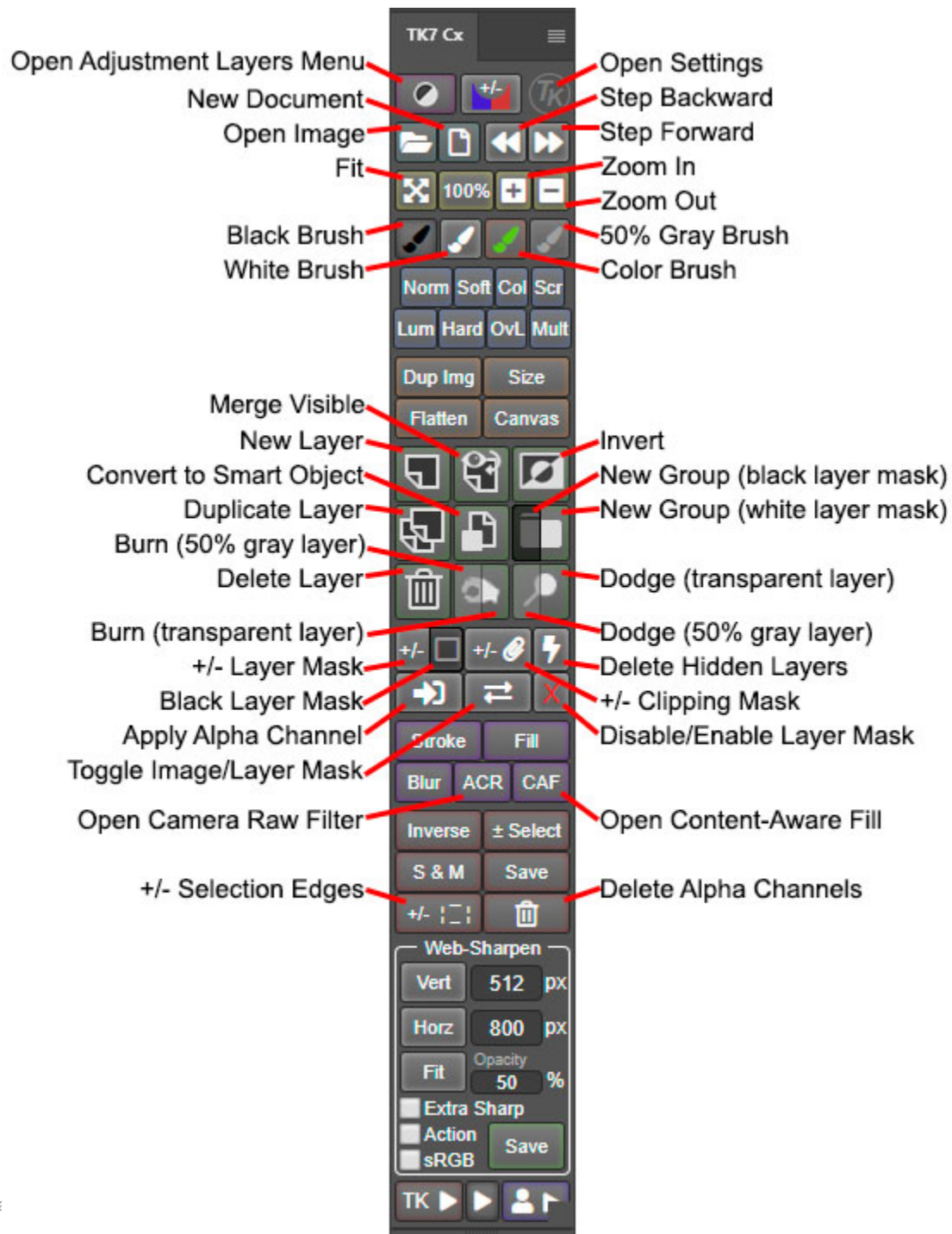
The color of the border shadow for each button helps group buttons with similar function together. It can be dimmed or brightened using the slider in the module's settngs. Many of the buttons are self-explanatory, but rolling the mouse over any button while holding down the ALT key (Mac: option key) displays its function in a pop-up help window. These help tips are especially useful when first starting to use this module in order to learn the functions of the icon buttons. When there is an active selection, an active selecton indicator displays at the top of the module.

There is information on each button below (the color refers to the button's border shadow color). Images of the Cx module are shown here, but there are corresponding buttons and menus on the Combo module.

The one magenta button at the top left of the module opens a menu of adjustment layer buttons. Click on this button to open the menu. The icons on the buttons match Photoshop's adjustment layer icons. These adjustment layers will be created with a white, Reveal All layer mask unless there is an active selection. If there is an active selection (like a luminosity selection) when one of these buttons is clicked, that selection is incorporated into the layer mask for the adjustment layer created. Only adjustment layers permitted by Photoshop in the current color mode of the image can be created. For example, an image in Lab color mode cannot have a Selective Color adjustment layer created for it because Photoshop does not allow this. Once an adjustment layer is created, the Properties panel automatically opens so the user can make the desired adjustment. New in the TK7 module is the ability to somewhat choose where the new adjustment layer is inserted in the layer stack. The default placement for the new adjustment layer is directly above the current active layer. However, sometimes, like when working INSIDE a group of layers, the goal is to make a new adjustment layer OUTSIDE the group, and the default won't do that. Simply clicking one of the adjustment layer buttons always places the new layer INSIDE the group if the current active layer is inside group or if the group layer itself is active. To change this default behavior, CTRL/command+click on the adjustment layer button instead. Doing this automatically inserts the new adjustment layer at the TOP of the layer stack OUTSIDE any groups that may exist on the Layers panel.

Cyan buttons make documents available.
Open—Opens the dialog for opening an existing image.
New document—Opens a dialog for creating a new document.

White buttons
Near the top on Cx, in the middle on Combo:
Live Clipping—Toggles a layer that creates a clipping preview for the current document. Clipped highlights turn red and clipped shadows turn blue.
Undo—Steps back sequentially through the Photoshop history
Redo—Steps forward through the Photoshop history.
In the center on both Cx and Combo:
+/- Layer Mask—Removes a layer mask if one is present on the active layer and adds a layer mask if there is none. If there is an active selection when a layer mask is created, the selection is incorporated into the layer mask.
Half of this button has a translucent black overlay. If this part of the button is clicked, a black mask (Hide All) is added to the current active layer.
+/- Clip—Turns the previous layer into a clipping mask for the active layer. Clicking the button a second time releases the clip.
Delete Hidden Layers (lightning bolt)—Removes all layers from the Layers panel whose visibility (the eyeball) has been turned off.
Apply—Opens a menu with button for each user-created channel on the Channels panel. Click one to apply that channel as the layer mask on the current active layer. An 8-bit selection is not part of this process. It's all done using the current bit depth of your image, which is likely 16-bit. Additional, users can CTRL/command+click on one of the buttons in the menu to load that channel as an active selection.
I/M—Toggles between viewing the composite image and the layer mask of the active layer. This button makes it so you don't have to ALT/option+click on the layer mask to view it.
Red X—Toggles disable/enable for the layer mask on the active layer. Makes it possible to quickly see if the mask is having the intended effect on control the overall effect of the layer.

Yellow buttons determine how the image is displayed by Photoshop.
Fit—Fits the image in the existing image window space.
100%—Displays the image so one pixel in the image is displayed as one pixel on the monitor.
Plus sign (+)—Zooms-in
Minus sign(-)— Zooms out

BRUSH ICON BUTTONS:
Black brush/white brush buttons—These buttons select the Brush tool and set the foreground to that button's color—black or white. The background color is set to the opposite color. There is a lot of mask-painting that happens with either black or white paint when developing an image in Photoshop. These buttons provide a quick way to choose the desired paint color without clicking back and forth using the "D" and "X" keys.
Color brush—This button selects the Brush tool and opens the Photoshop Color Picker so the user can select their desired color, usually by clicking somewhere on the image. The foreground and background colors are set to the selected color. The Color brush can be used to paint color on different layers.

Gray brush—This button selects the Brush tool and sets the foreground and background colors to 50% gray. The gray brush is a precision eraser for pixel layers set to Soft Light, Hard Light, or Overlay blending modes. For layers with these blending modes, 50% gray is transparent. So painting this "color" on such a layer essentially creates transparency and reveals the contents of the layers below. The Gray brush can be used to undo or refine layer painting procedures, like burning and dodging.

Blue buttons change the blending mode of the active layer. The button name determines the blending mode. If more than one layer is selected, only the blending mode of the topmost layer is changed. In order to save space, these buttons collapse to an abbreviated name on the module. Rolling the mouse pointer over one of these buttons instantly expands it to a more complete name. The expansion and contraction of these buttons can make them jump around a bit. It's best to roll over these buttons approaching from either above or below. Sliding the mouse along the row sometimes means they can jump in and out from under the mouse pointer. Approaching and rolling over from above or below expands the correct button so it can be appropriately clicked.

Orange buttons affect the dimensions or resolution of the image. These are useful in preparing an image for printing.
Dup Img—Creates a duplicate of the current image.
Size—Opens the Image Size dialog so the image can be resized to the desired output size and resolution.
Flatten—Flattens the layers of the active image, often to facilitate resizing and sharpening.
Canvas—Opens the Canvas Size dialog window.

Green buttons are generally associated with operations performed on layers in the Layers panel. These are all icons, so it may take a bit to learn all their functions. Use rollover help function by holding down the ALT key (Mac: options key) to quickly see what each button does
New Layer—Creates a new, empty pixel layer. The default insertion point for the new layer is directly above the current active layer. To insert the new layer at the top of the layer stack, hold down CTRL/command when clicking this button.
Merge Visible—Merges the current active layers into a new pixel layer. It's often a good idea to use the New Layer button first to make a blank pixel layer at the top of the layer stack to insure that the Merge Visible button creates the merged layer in a position where it will not be affected by any adjustment layers above it.
Invert—Inverts the contents of the layer. On adjustment layers and group layers, the contents of the layer mask are inverted. On pixel layers without a layer mask, the pixels are inverted. On pixel layers with a layer mask, the element contained within the layer's framing brackets is inverted.
Duplicate Layer—Duplicates the active layer. If the active layer is a smart object, the duplication process runs the "New Smart Object via Copy" so that the

embedded object in the new duplicate smart object layer is independent of the original smart object.

Smart Object—Creates a smart object of the current active layer. CTRL/command+click creates a new layer at the top of the layer stack merges the contents of the active layers into this new layer (merge visible), and then turns the layer into a smart object.

Group—Puts the selected layer or layers into a group. More than one layer can be selected to be included in the group. If there is an active selection, it is turned into a mask for the group. If there is no active selection, then the group is given a white (reveal-all) layer mask. The left half of this button has a black overlay. Clicking this part of the button creates the group layer with a black (Hide All) layer mask. The Group button is particularly useful for the masking-the-mask technique described in Sean Bagshaw's videos.

Delete Layer—Deletes the active layer. This is a particularly useful button for experimentation. If an experiment doesn't work, click the Delete Layer button and try something else. If multiple layers are selected they are all deleted.

Burn—Creates a "Burn" pixel layer set to Soft Light blending mode for painting black to darken image contents below the layer. Once the layer is created this action also selects the Brush tool and changes the foreground color to black in preparation for burning. A transparent layer is created by the right half of the button. A transparent burn layer makes it easy to Ctrl+click (Mac: command+click) on the layer thumbnail to create a selection of its contents, which can be useful for additional adjustments and masks. The left half of this button has a gray overlay. Clicking the gray half of the button fills the layer created with 50% gray. This can be useful when turning off the visibility of other layers to see what has been painted on the Burn layer. While the user can choose between a transparent and 50% gray Burn layer, the actual results of painting on this layer will be the same.

Dodge—Creates a "Dodge" pixel layer set to Overlay blending mode for painting white to lighten the contents below the layer. Once the layer is created this action also selects the Brush tool and changes the foreground color to white in anticipation of dodging. The button can create two different types of layers: transparent and gray-filled.   A transparent layer is created by the right side of the button. Transparency makes it easy to Ctrl+click (Mac: command+click) on the layer thumbnail to create a selection of its contents, which can be useful for additional adjustments and masks. The left half of this button has a gray overlay. Clicking the gray half of the button fills the layer created with 50% gray. This can be useful for turning off the visibility of other layers to see what has been painted on the Dodge layer. While the user can choose between a transparent and 50% gray Dodge layer, the actual results of painting on this layer will be the same.

Purple buttons are some miscellaneous functions. These actions need to be allowed by Photoshop in order for the buttons to work. If nothing happens when a button is clicked it means that Photoshop cannot perform the action. Example: A Gaussian Blur is not possible on an adjusment layer without a layer mask.

Stroke—Opens the Stroke dialog window. There are lots of rules in Photoshop as to when it's possible to use the stroke function. If this function doesn't work, it's possible that you've violated one of Photoshop's rules which make the stroke function unavailable. If that happens, a message is displayed that reviews some of the rules. One of the safest things to do before using the stroke function is to make an active selection of the edge that you want to stroke.

Fill—Opens the Fill dialog window.

Blur—Opens the Gaussian blur dialog window.

ACR—Opens the dialog for the Camera Raw filter. This filter only works on a pixel layer or smart object layer. If the button is clicked when another type of layer is active, a pixel layer is automatically created at the top of the layer stack and the contents of the other layers are merged into the new layer (merge visible) so that the filter can be opened. If the ACR button is clicked on a smart object layer, the results become a smart filter within that smart object.

CAF—Opens the Content-Aware Fill dialog window normally found in the menu Edit > Content-Aware Fill… This function was introduced in Photoshop CC 2019, so it only works in this and later versions of the application. Content-Aware Fill requires an active selection of the area to be filled. Use a selection tool, like Lasso or Marquee, to create that selection before clicking the CAF button. Normally, Content-Aware Fill also requires that the active layer be a normal pixel layer. However, the panel checks the current layer type and creates a new pixel layer with a merged composite image if need be. So an active selection is the only requirement to use the CAF button since the action can automatically generates the normal pixel layer if the current active layer is a different type.

Red buttons are associated with selections, masks, and the Channels panel.

Inverse—Inverts the current selection.

+/- Select—This button toggles between Photoshop's Deselect and Reselect commands.

S&M (Select & Mask)—In Photoshop CC 2015.5 and later, this button opens the "Select and Mask" dialog. In Photoshop CC 2015 and earlier, this button opens the Refine Edge dialog box if there is an active selection, or opens the Refine Mask dialog if there is a layer mask on the active layer.

Save—Opens the Save Selection dialog window so the active selection can be saved as a channel mask on the Channels panel.

+/- selection borders—A toggle button to turn the selection borders (marching ants) off and on.
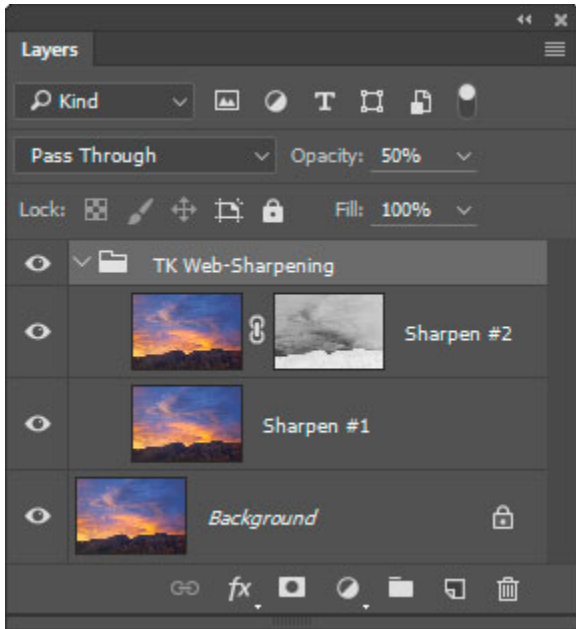
Red X—Toggles disable and enable of the layer mask on the active layer. Allows seeing the effect the mask is having on filtering the adjustment created by the layer.

Clear channels (trashcan icon)—Removes non-color channel masks (alpha channels) from the Channels panel.

Web-Sharpen section

The Web-Sharpen section of the Combo/Cx modules is a quick way to prepare any full-size image for presentation in a web browser. It uses an algorithm that has its origin in this post by Alex Nail: http://www.alexnail.com/blog/tutorials/resize-and-sharpen-for-web/. The module includes several modifications that appear to be beneficial for most images and that allow the user to further customize how their images are sharpened for the web.

In the Web-Sharpen section, the user enters values the algorithm uses for sharpening. The sharpening action then duplicates the current image and sharpens it according to these parameters. The image to the left shows the Layers panel for the sharpened image. The module remembers what the user enters as parameter values and these become the default the next time that web-sharpening is used.

The TK7 panel now allows separate input values for the vertical and horizontal dimensions of the final sharpened image. Simply click in the input box next to the Vert or Horz button to enter a value, in pixels, that corresponds to that dimension.

The Opacity parameter is the opacity, in percent (1 to 100), of the "TK Web-Sharpening" group that actually sharpens the image. A higher value causes the final web-sharpened image to be sharper. This value can vary depending on the image. An Opacity setting of 50% is a good starting point. Images with lots of detail or large output size can often handle a higher Opacity setting. Images that are grainy or with soft, smooth features might benefit from a lower value. The user's workflow can also affect the Opacity setting. If significant sharpening has already been added during RAW file conversion, for example, then a lower Opacity setting might work better.

The Extra Sharp parameter provides a checkbox that, when checked, disables the layer mask on the Sharpen #2 layer. This mask has the effect of confining sharpening to darker values in the image in order to prevent light halos from appearing in the sharpened image. For highly detailed images, though, these halos might not be a problem, and disabling the mask by checking Extra Sharp might look OK. However, disabling this mask can cause the web-sharpened image to look a bit crispy sometimes. The mask can be re-enabled with a Shift+click on the mask (or by using the red X button) in the sharpened version.

The Action checkbox makes it possible to automatically play an action after the image has been sharpened and resized. Checking this box causes the "Post-Sharpen Action" in the "TK-User-Actions" action set on Photoshop's regular Actions panel to be played at the end of the sharpening process. The "TK-User-Actions" action set installs automatically when the Combo/Cx modules are first opened in Photoshop CC. The "Post-Sharpen Action" is blank when the action set installs. It is up to the user to record their own steps into the action. Whatever is recorded will be played after the image is resized and sharpened if the Action checkbox is checked. As an example, adding a watermark to the image is a common task that works when recorded as the "Post-Sharpening Action." Sean Bagshaw demonstrates how to create a watermark in this YouTube video: https://www.youtube.com/watch?v=-GLKpfnW8Q4. He also shows how to assign a user created action to one of the personal actions in the "TK-User-Actions" action set in this video: https://www.youtube.com/watch?v=_XIWCOefqXk.

The sRGB parameter is also a checkbox. Checking it means the web-sharpened image is converted to the sRGB color profile as part of the action. The sRGB profile is often preferred for images posted on the internet.

Once the parameters are set, the user clicks the Vert, Horz or Fit button to run the web-sharpen action. If Vert is clicked, the input value next to the Vert button becomes the final vertical dimension of the web-sharpened image. Clicking the Horz button makes it so the dimension entered in the input box next to the Horz button becomes the final horizontal dimension of the web-sharpened image. The Fit button downsizes and sharpens the full-size image so that it fits within a box created by the vertical and horizontal dimensions in corresponding input boxes.   *NOTE: The orientation (portrait or landscape) and aspect ratio of the image is NOT changed during the downsizing and sharpening process. Even with the Fit button, the ratio of the sides of the sharpened image are the same as original image.*

After the web-sharpen action completes, the user can adjust layer opacity or add a layer mask to restrict the sharpening to specific areas if desired. The Combo/Cx modules can also be used to add adjustment layers if there is need to adjust things like brightness, contrast, color, or saturation.

Once satisfied with the web-sharpened image, clicking the Save button opens Photoshop's (now legacy) Save for Web dialog window in order to save the image on the computer's hard drive.

NOTE: Web-sharpening is not intended for print output. Web-sharpening and print-sharpening are two very different processes. Web-sharpening, because it involves

significant down-sizing of most images and display on a single medium (computer monitor), can be programmed as a series of steps that work for all images. Print-sharpening, on the other hand, may involve enlarging or down-sizing the image with output on a variety of different media each requiring a different sharpening algorithm. While everyone seems to have their own preferred print-sharpening method, my personal recommendation is Nik Sharpener Pro. It provides a nice variety of sharpening options, and, once the user finds what works for them on their preferred paper, the same settings can be used repeatedly with good results. Nik Sharpener Pro was free for a period of time, but is now available from DxO: https://nikcollection.dxo.com

The TK▶ button

The TK▶ button opens a menu of actions useful in working with or enhancing images. It usually will not need to be accessed as frequently as the some of the other buttons on the Combo/Cx modules, but in the right situation, the actions accessed here can create some nice effects in the image or can speed up processing. It is divided into three submenus—Actions, Color, and Blend. The individual menu items are discussed below. This is a smart menu. It closes automatically after running the action that was clicked. Color-tagging is also an option for all items listed. To access it, just right-click on any menu item and then choose a color from the pop-up list of choice. The background color for the menu item turns that color. Color-tagging lets you organize this list by color-coding actions that you use most frequently.

The TK▶ button—ACTIONS menu

Vignette—This action creates an oval/circular vignette for the image. The action stops to allow the user to choose the blur radius for the vignette to facilitate the best blending of the vignette into the image. The module makes a best guess as to what might work for the image as a starting point, but you're free to increase or decrease the blur. The resulting vignette will likely be a bit stronger than what is desired. Lowering the Vignette layer opacity or painting black on the white part of the mask will dial back the vignette to what works best for the image.

Freehand Vignette—This action is new to the TK7 panel. In order to use it, the user first makes a freehand selection with the Lasso tool around those parts of the image where they want the vignette. Then clicking this menu item creates a vignette using the selection as a guide. The action stops at Gaussian Blur so the blur radius of the vignette can be adjusted to what works best for the image. The module makes a guess at an
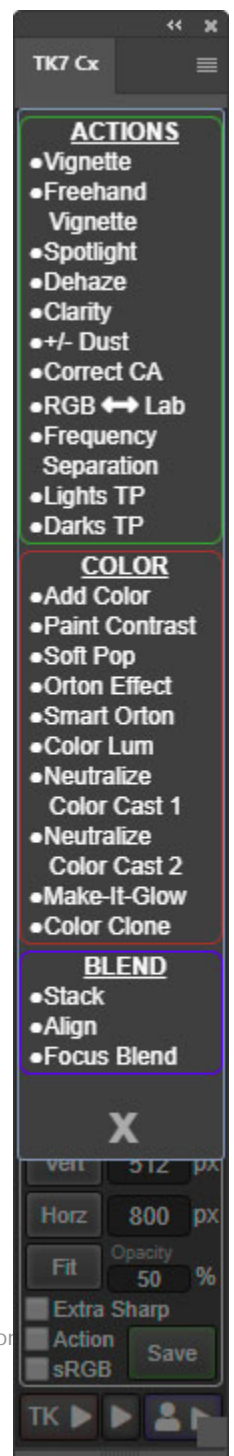
appropriate amount of blur for the vignette based on the size of the image, but this can be adjusted in the final step. After the action is finished, use the layer's opacity setting to strengthen or dial back the effect.

Spotlight—This action is also new to the TK7 panel and is a way to add a lightening effect to parts of the image, often to help move the viewer's eye to that location. It works by the user again using the Lasso tool to create a selection that will be spotlighted. Then clicking the Spotlight menu item runs an action to subtly lighten that part of the image. The action stops at the Gaussian Blur so the spotlight can be adjusted to best blend into the image. (The starting blur value is the module's best guess at what might work.) Once the action finishes, use the Layer's opacity setting to adjust the brightness of the spotlight.

Dehaze—I was introduced to this action by Sean Bagshaw. It creates an effect similar to the "Dehaze" slider in Lightroom/Adobe Camera Raw when it's pulled to the right. Clarity and contrast are added to a wide range of midtone values so that it effectively removes the sense of atmospheric haze in nature photographs. It's also worth trying this action on non-nature images since the effect is quite pleasing sometimes. After the action finishes running, there is a new "Dehaze Group" group on the Layers panel that contains the results. There are several ways the effect can be modulated:
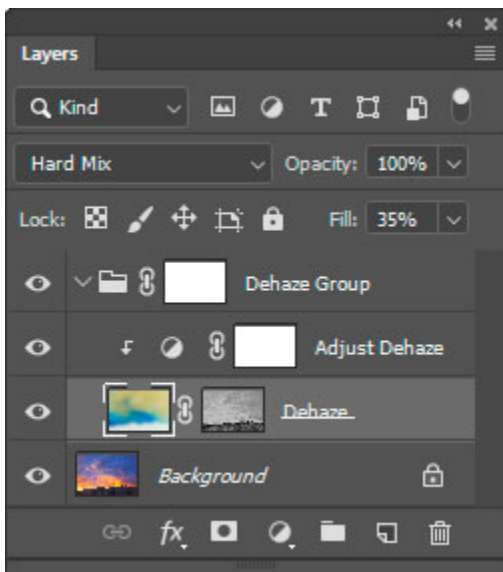
1) The "Fill" slider for the "Dehaze" layer in the group can be used to increase or decrease the effect.
2) There is an "Adjust Dehaze" layer that is a clipped Brightness/Contrast layer with a preset adjustment added as part of the action. The Properties panel for this layer can be used to adjust the brightness of the effect. (The Contrast slider has little effect).
3) The layer mask on the "Dehaze Group" layer can also be painted with a black brush to mask the effect out of various parts of the image if that's needed.
4) The layer mask created for the "Dehaze" layer as part of the action is somewhat important to getting the best results. You can try replacing it if you'd like, however, it's hard to return to the original mask if you do, and you might just want to delete the entire group and start over if alternative masks aren't working.

The dehaze effect is modulated by the action to look good on any size image. Usually you can just click the Dehaze menu item and then adjust the results with the "Fill" slider on the "Dehaze" layer as needed.
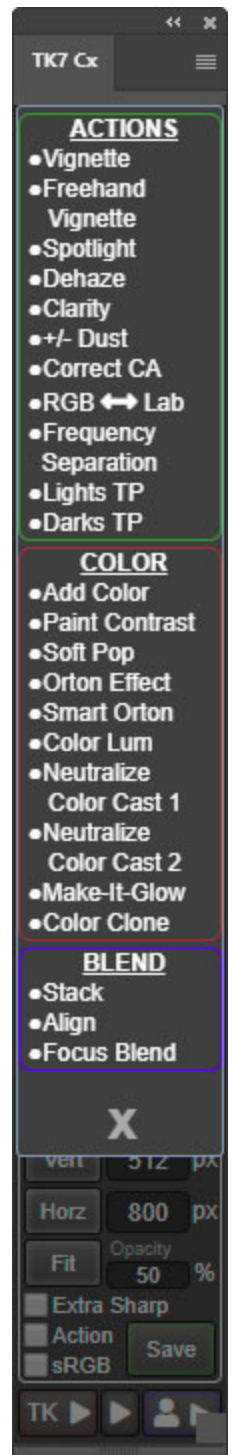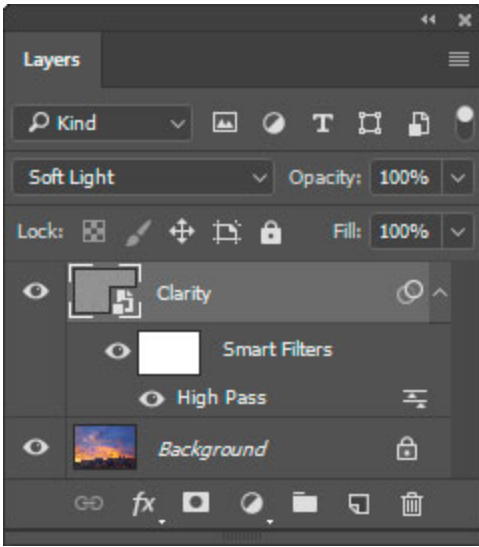
Clarity (via smart object)—This option uses Photoshop's High Pass filter to increase edge contrast in the image. However, it does so in a way that does not change color saturation. The Clarity action stops to allow the user to select a radius value. Choose a lower radius value (5 to 15 pixels) if the effect is going to target light tones in the image or to enhance fine detail. Choose a higher radius value (30 to 60 pixels) if the effect is going to be constrained to darker tones or for a more artistic effect. As always, some experimentation is useful in deciding how much clarity to add. It is often helpful to constrain clarity to specific tonal ranges in the image—Lights, Midtones, or Darks. The Layer Mask Mode of the RapidMask module makes it easy to experiment with different masks as layer masks on the Clarity layer. In additions, since added clarity was accomplished using s smart object, it's possible to adjust the final result by double-clicking "High Pass" under the "Smart Filters." This will reopen the "High Pass" dialog where a new radius can be chosen.

+/- Dust—This menu item helps find sensor dust. It is actually a toggle that does two different things. Clicking the menu item the first time creates several layers at the top of the Layers panel. The image is changed to black and white via the "Desaturate For Dust" layer. This monochrome view has its contrast enhanced via the "Amplify Dust" Levels adjustment layer above it to better show dust spots. Below these two layers is a blank pixel layer called "Heal/Clone" where the actual dust removal occurs. The image is zoomed to 100% magnification to better see the dust spots and the Spot Healing Brush is activated. It's only necessary to click on the sensor dust spots on the image to remove them. *(NOTE: Make sure that "Sample All Layers" is checked in the Spot Healing Brush's options.)* Each image is different and it may be necessary to adjust the sliders in the Properties panel of the "Amplify Dust" layer to better see sensor dust. Once the dust has been removed, click the +/- Dust menu option again to remove the "Amplify Dust" and "Desaturate For Dust" layers since they are no longer needed. The image will return to a size where it fits on the screen. This will also close the TK ▶ button menu. The "Heal/Clone" layer can also be used for cloning instead of healing. To do this, just change the tool to the Clone Stamp and make sure the tool's "Samples:" option is set to "Current & Below."

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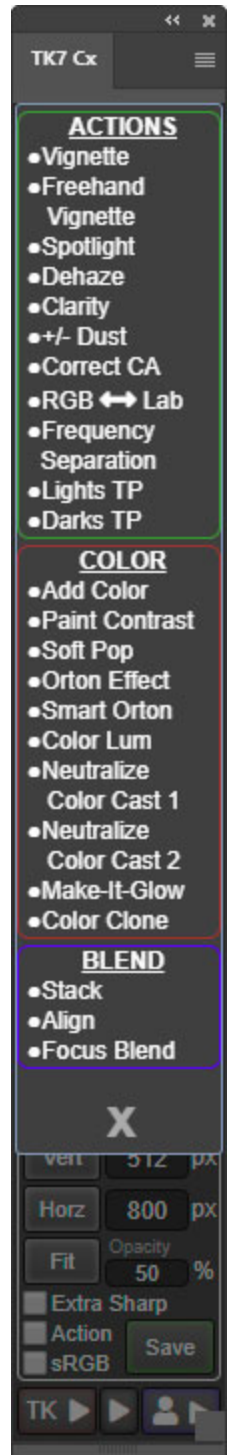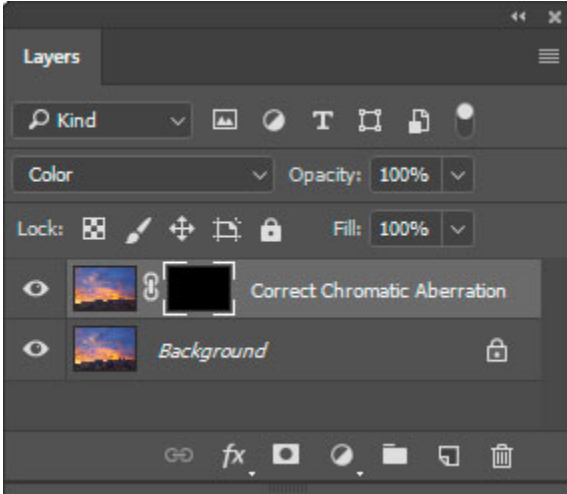
Correct CA—Chromatic aberration (CA) is most often seen along high contrast edges in the image and is usually best removed by the RAW convertor initially. Light Room and Adobe Camera RAW generally do a good job of eliminating it. The Correct CA option could be useful in situations where obvious chromatic aberration remains despite attempts to optimize its removal during conversion of the RAW file. The Correct CA option works simply by creating a Gaussian Blur that blurs away the unwanted colored edges. The action creates a new layer in Color blending mode and stops so the user can zoom in and choose the optimum pixel radius to create a CA-removing blur. The blur necessary to remove chromatic aberration almost always produces undesirable color changes in the rest of the image. So the action finishes by creating a black Hide All mask on the new layer and selecting the Paintbrush tool set to white. When the action is finished, the user zooms in to the areas with chromatic aberration and paints white on the mask to selectively reveal the blurred layer without the chromatic aberration.

RBG ↔ Lab—This is another action suggested to me by Sean Bagshaw. It allows edits in Lab Color mode to be incorporated into an image being processed in RGB Color mode. Clicking this menu item the first time creates a smart object of the current state of the RGB image, opens the smart object as a new document in Photoshop, and converts the document to Lab Color mode. From here, the user can make edits in Lab Color Mode. Some photographers, for example, prefer using Lab Color mode for certain color adjustments or print sharpening. Once these edits are completed, clicking the RBG ↔ Lab menu item a second time saves the edits in the original smart object in the RGB document. It also closes the Lab document. If it's necessary to revisit the Lab edits, simply double click the smart object's thumbnail image to reopen the Lab document. It will again open as a second document with any of the adjustment layers previously added still intact.

Frequency Separation—This is an interesting option most often associated with portrait photography to even out skin tone and texture. But it can also produce useful and artistic effects with landscape and other types of photography. This video shows how it's created and used with portraits: https://phlearn.com/amazing-power-frequency-separation-retouching-photoshop
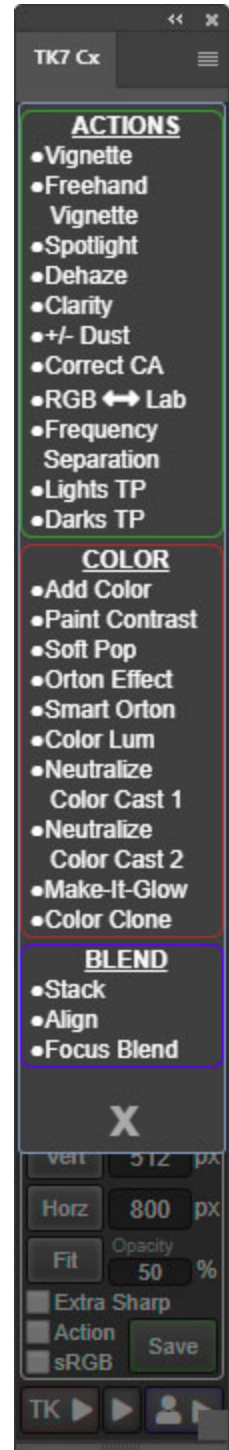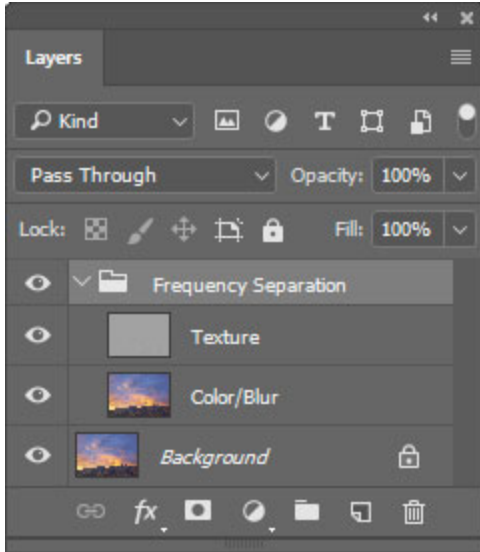
The Frequency Separation option creates a "Frequency Separation" group on the Layers panel containing two layers. The bottom layer, called "Color/Blur," contains a Gaussian blurred version of the image. The action stops to allow the user to enter a blur radius. Choose a radius that blurs away some distracting tonal difference in the image, such as a too-bright highlight, color transition, or even a distracting element. After clicking OK in the Gaussian Blur dialog, the action continues and updates the "Texture" layer so that it perfectly counteracts the blur resulting in no noticeable change to the image when the action finishes.   But this is where the fun begins. Frequency separation effectively separates color and texture so they can be managed independently. Guassian Blur and the Clone Stamp tool are most common methods for doing this. Below are a few suggestions, but there are no doubt many more practical and artistic applications for Frequency Separation.

1) To create more even color transitions, make the "Color/Blur" layer active and using the Lasso tool with a generous feathering radius select areas with uneven color. Then Guassian Blur these areas to create the degree of color evenness desired. The "Texture" layer above maintains texture in these areas; only the image's color changes.

2) Use the same technique, but use the Lasso to draw around areas of the image where a bit of Orton-like glow would look good. Again, Gaussian Blur the selected area, being sure to select the same blur radius that was used when the Frequency Separation group was created. This creates a subtle color-glow in the selected area with the original texture being maintained.

3) To make a more dramatic color change, use the Clone Stamp tool. On the "Color/Blur" layer, ALT+click (Mac: option+click) on the area whose color is to be sampled. Then use the Clone Stamp tool to paint this color on the area where the color change is desired. The color changes to the sampled color (and can be aligned to the sampled area via the options bar), but the texture remains the same because it's controlled by the "Texture" layer. Using the Clone Stamp tool at lower opacity allows the color change to be built up gradually using multiple mouse clicks (or click-and-drags). This technique can be used to help manage lens flare.

4) To change the texture of an area, use the Clone Stamp tool on the "Texture" layer with the "Sample:" option set to "Current Layer." This is a particularly effective technique if the blur radius selected when creating the Frequency
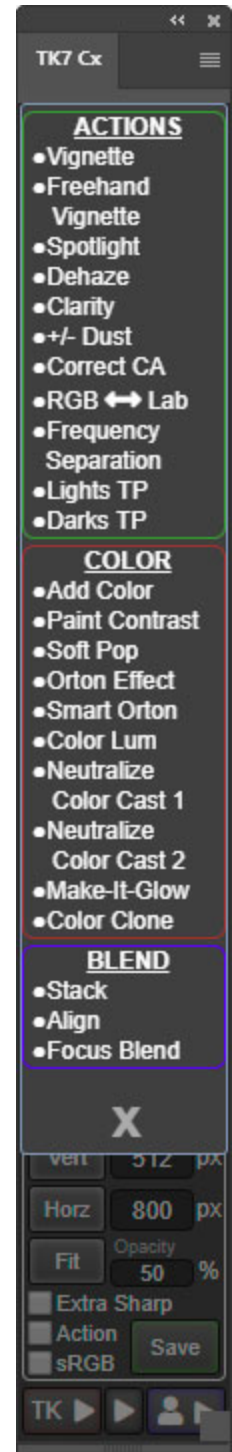
Separation group is sufficiently large to blur away a particularly distracting element in the image. Then, cloning in new texture similar to the texture surrounding that item on the "Texture" layer effectively eliminates the element from the image. The blurred color from the "Color/Blur" layer comes through, and the texture, if sampled correctly from an adjacent area, matches the surrounding texture.

Lights TP/Darks TP—The Triple Play (TP) is a technique that uses luminosity masks on adjustment layers to simultaneously affect brightness, contrast, and detail in an image. It uses multiple layers, and the user controls the effect by choosing which layers to make visible. The Triple Play was originally released in 2011 in Version 1 of the TKActions panel. It survived in the panel through Version 3 as a series of 36 buttons so that the different variables (Lights/Darks, Curves/Levels, and pixel blur) could be controlled by the user. The Version 4 panel did not include the Triple Play technique. I was personally using it less as I learned new ways to use luminosity masks. Additionally, coding those 36 buttons into the V4 panel would have been a Herculean task. However, the absence of the TP in the V4 panel prompted emails of dismay from several users who had developed their own way of using this technique in their workflow. I said I would try to bring it back and am glad to say it's present again starting in the V6 panel. It's been reduced to just two menu options, Lights TP and Darks TP. The user is prompted for their preferred blur radius at the start, and then the masked layers are generated as Curves adjustment layers. There is a 39-page PDF that fully explains how to use the Triple Play included in the tutorials associated with the panel. To access this tutorial, click the TK button in the settings window of either the Combo or Cx module. This will open a browser window where you can download this PDF tutorial plus several others.

The TK▶ button—COLOR menu

The options in this sub-menu are a collection of actions that can alter, enhance, and correct image color.

Add Color—This action is a technique I learned from a [Ryan Dyar](#) video. Ryan's method was essentially to burn and dodge with color instead of just using black and white paint. The TK7 panel improves on this by using a Solid Color adjustment layer instead. The way it works is to first click the Add Color menu item. It creates the Solid Color adjustment layer and sets the blending mode to Soft Light. When the Color Picker opens, choose a color that you want to add to the image, maybe only in a certain part. The preview will show the color across the entire image at full strength, but you'll be able to actually paint it in as you like later. The preview just lets you pick a good starting color. After the color is chosen, the adjustment layer's layer mask is inverted so that it becomes a Hide All layer mask. The action finishes by choosing a white brush at 20% opacity. At this point, simply adjust brush size and start painting on the image. White paint will be slowly applied to the layer mask

revealing the adjustment layer's underlying color in just those parts of the image where you paint. Use multiple brush strokes to gradually build up the effect in a realistic manner. After the color starts to show in the image, it's also possible to fine-tune it by double-clicking the layer icon and choosing a different color when the Color Picker opens. It's also possible to clip additional adjustment layers to this layer to further refine the painted area, like making it darker or lighter with a Curves or Levels adjustment.

Soft Pop—This is a technique originally created by Bruce Bartholomew. It's a one-click method to subtly boost contrast, saturation, and sharpness throughout the image. It works fine on many images but the opacity of the final layer can be lowered if it's too strong.

Paint Contrast—This is another technique I learned from Bruce Bartholomew. The action creates a layer where you can paint in contrast and color at the same time. Paint with 50% gray to add contrast to all tones. Paint with black to primarily darken shadows. Paint with white to primarily brighten highlights. Or paint with varying shades of gray to affect varying zones of the image. Adding color to the paint adds that color to the image predominantly in the tones being affected by the simultaneous lightening/darkening effect.
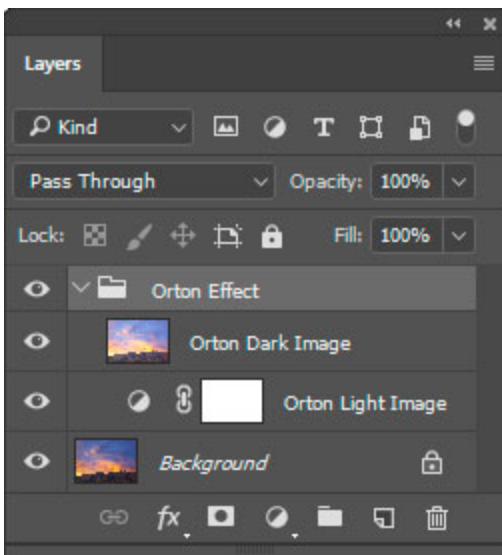
Orton Effect—The Orton Effect was originally an in-camera technique developed by Michael Orton using transparency film to make photographs look more like paintings. You can read more about on Michael Orton's website. Photoshop makes it easy to create a similar effect during post-processing, and the Orton Effect option offers a starting point. It creates a degree of blur and color intensification for the image that provides a nice glow in many situations. The action stops at the blur step so the user can enter a Guassian Blur radius that best suits their image. Photoshop-produced Orton Effects are generally too strong unless starting with a dull image. So lowering the Orton Effect group opacity can help moderate the effect produced by the action. However, a better alternative is to add a Lights- or Midtones-series luminosity mask to the Orton Effect group layer. The Orton Effect can over-saturate dark colors sometimes, so targeting the effect to lighter tones or midtones is often beneficial. The Layer Mask Mode in the RapidMask module makes it easy to try different luminosity masks on this final group layer to see what works best. By using a luminosity mask, layer opacity needs to be adjusted less and the tone-targeted effect will have greater impact.
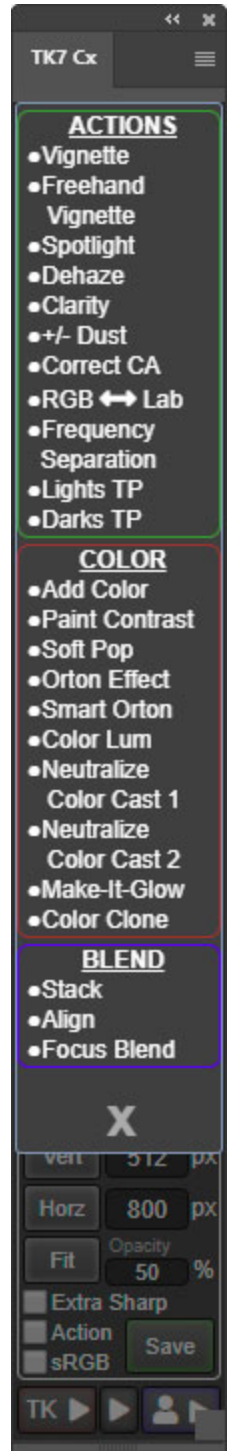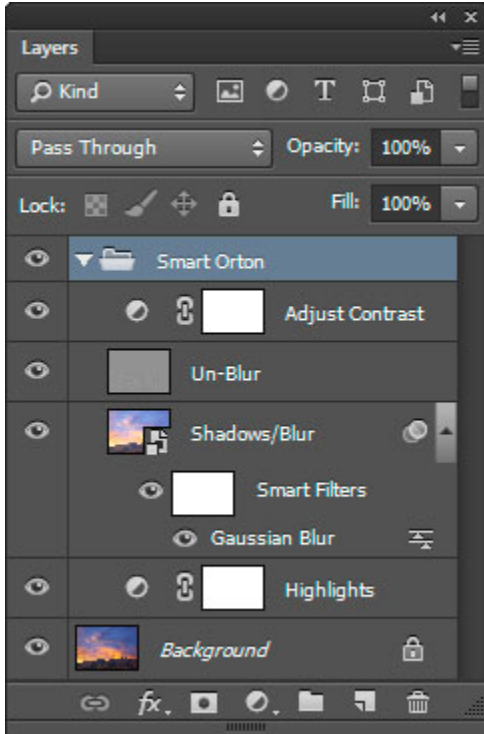
Smart Orton—This action attempts to give photographers more control over the different aspects of the Orton Effect. It's loosely based on a soft glow technique that Sean Bagshaw shared with me. Shadow darkening, highlight lightening, blur radius, un-blurring, and contrast can all be addressed in the layers created in the Smart Orton group that this action creates. Shadows and Highlights can be adjusted by changing the opacity of the correspondingly named layers. Gaussian Blur can be changed by double-clicking "Gaussian Blur" in the "Smart Filters" of the "Shadows/Blur" layer. The "Un-Blur" layer offers a unique method to moderate or completely remove the spatial pixel blur introduced as part of creating the Orton Effect while leaving the color blur intact. The image's original sharpness and contrast are maintained even as the Orton Effect's color-enhancement-via-blur is added. Setting this layer's opacity to 0% provides the standard Orton Effect. As the layer's opacity is increased, the blurriness of the Orton Effect is decreased but the color blur is still visible. Opacity of 40% is the default setting for this layer. At this setting the image generally still has some Orton Effect spatial blur and plenty of color blur. But every image is different, so it's worth experimenting with this layer's opacity to see what works best. The "Adjust Contrast" layer is simply a Curve adjustment layer to allow a contrast adjustment as part of this action. As with many of the actions in these menus, adding a luminosity mask to the "Smart Orton" group layer is a good way to confine the effect to specific tones.

Color Lum—This is an action for adjusting brightness of different colors and is based on a tip in this YouTube video by Jesús Ramirez: https://www.youtube.com/watch?v=PyPMM3HFSzg. Clicking this option creates a Black and White adjustment layer set to Luminosity blending mode. The color sliders in the layer's Properties are initially set so that there is no change to the image. When the action completes, the Properties panel is opened so the user can move the sliders to adjust the brightness of the various color ranges lighter or darker. Even better, the targeted-adjustment tool can be used to click and drag on the image itself to change the brightness of the chosen colors. While a Black and White adjustment layer is used for this action, the image is NOT converted to black and white. The Luminosity blending mode makes it so that only color luminosity is affected. *NOTE: Color Lum only works in RGB Color mode; it does not work in Lab.*

Neutralize Cast 1—This menu option uses the "Neutralize" option in Photoshop's Match Color dialog window to create a best guess at the correct color balance for the image. Since this is a one-click action, the
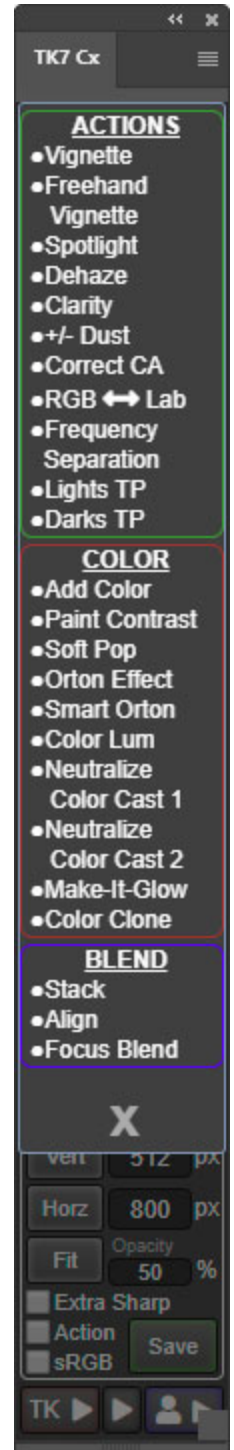
results won't automatically be good or even expected. Often, however, there is something useful in the outcome, so lowering layer opacity or applying a luminosity mask using the Layer Mask Mode in the RapidMask module can provide a degree of control as to how this action ultimately affects the image. *NOTE: Neutralize Cast 1 only works in RGB Color mode; it does not work in Lab.*
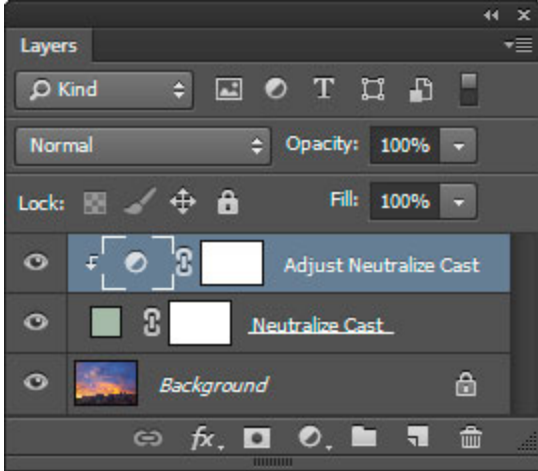
Neutralize Cast 2—This action provides another method to counterbalance a color cast in the image with more control than the previous option. It's a variation on a technique described by Blake Rudis. Neutralize Cast 2 creates a Solid Color adjustment layer whose color is a negative of the Blur Average for all pixels in the image. It is set to Soft Light blend mode and provides a neutralization effect of the images image's "average" color. Beyond that, though, a Hue/Saturation adjustment layer is clipped to the Solid Color layer. This allows additional control over the neutralizing color. The Saturation and Lightness sliders are particularly useful. The Saturation slider increases or decreases the strength of the neutralizing color depending on the direction it is moved. The Lightness slider increases or decreases the brightness of the neutralizing color. These two adjustments allow such fine control of the images color cast that it's worth experimenting with this action at least once on most images since it can help impart a very natural look when done right. In addition, a luminosity mask can be added to the Solid Color adjustment layer or the layer mask can be painted appropriately to confine the effect to specific parts of the image.
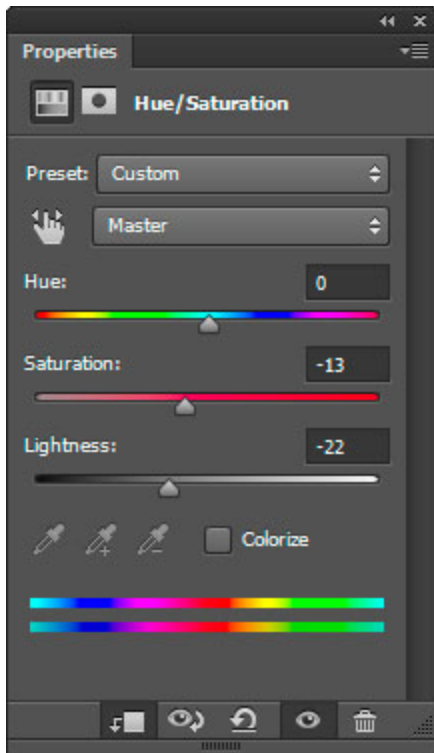
Make-It-Glow—This action imparts a glowing quality to the image. It is like a mild Orton Effect except that only the color is blurred; the underlying texture is not. It is described in the Make-It-Glow tutorial included in the tutorials that can be downloaded using the TK button in the settings window for the Combo/Cx modules. The action stops to allow the user to input a pixel radius for the Gaussian Blur step. A good starting point is the megapixel count of the image's original capture, i.e. a 24-pixel radius Gaussian Blur for an image from a camera with a 24-megapixel sensor. The module now has a feature to make a best-guess calculation as to what this initial blur radius should be.
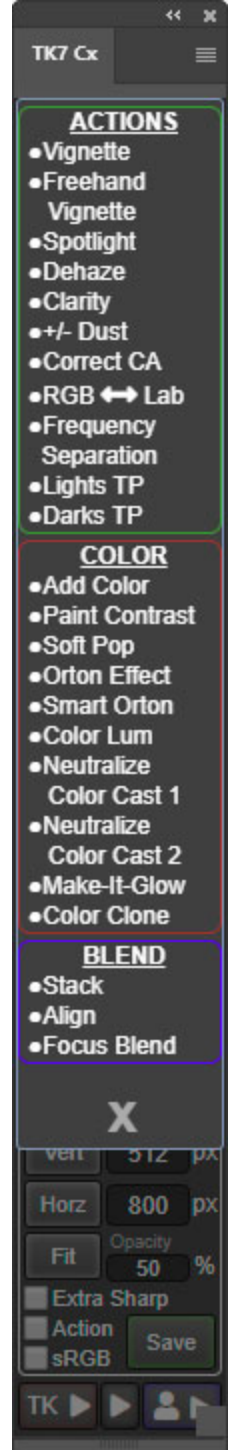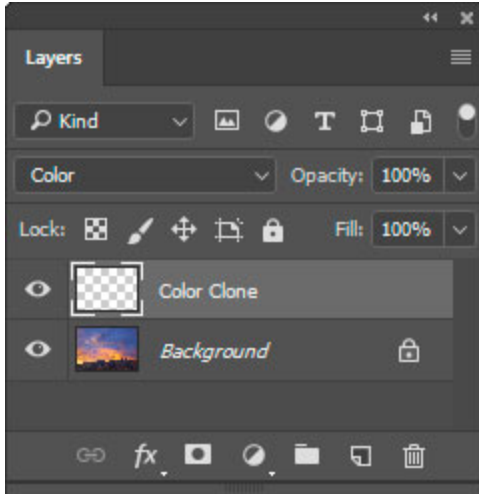
Color Clone—This action creates a pixel layer set to "Color" blending mode. It is used for changing color in the image while maintaining the underlying texture. This is described in detail in the [Cloning Color, Retaining Texture tutorial](#). The basic technique is to first make the necessary layer by clicking the Color Clone menu item. Then select an appropriately sized and feathered brush to match the area to be painted. Next, Alt+click (Mac: option+click) on a color to paint with from another part of the image. This selects the desired color that will be cloned into the mis-colored area. Painting the new color on the "Color Clone" layer changes the area's color, but not the underlying texture. It's usually best to start with a low-opacity brush and slowly build up the effect using multiple brush strokes and multiple color samples.

The TK► button—BLEND menu

Stack—This action stacks all images open in Photshop into one document with each image becoming a layer in the document. The layers are given names that match the name of the original image and each is given a layer mask. The original images are closed as part of the stacking process. The Stack action is useful for images that will be composited from multiple exposures. Exposure-blending and focus-blending are examples of situations where the Stack action might be useful if there are separate images open in Photoshop that need to be stacked into one document.

Align—The action executes Photoshop's Edit > Auto-Align Layers... menu command. It is intended to be used after the Stack action to insure that the image layers stacked in the Layers panel are properly aligned with each other in case the camera shifted between exposures or if resizing occurred as a result of focus shift. *NOTE: This action does NOT work on smart object layers since Photoshop's Auto-Align Layer... command only aligns non-smart object layers.*

Focus Blend—This action executes Photoshop's Edit > Auto-Blend Layers... menu command with the "Stack Images" and "Seamless Tones and Colors" options turned on. This action is the final step in what is frequently referred to as "focus stacking." It should be use AFTER the Stack and Align actions. Photoshop does a pretty good job focus-blending multiple images, but it's always a good idea to examine the output at high magnification and paint black or white appropriately on the layer masks in case Photoshop didn't quite get it right. *NOTE: Again, this action does NOT work on smart object layers since Photoshop's Auto-Blend Layer... command only works on non-smart object layers.*
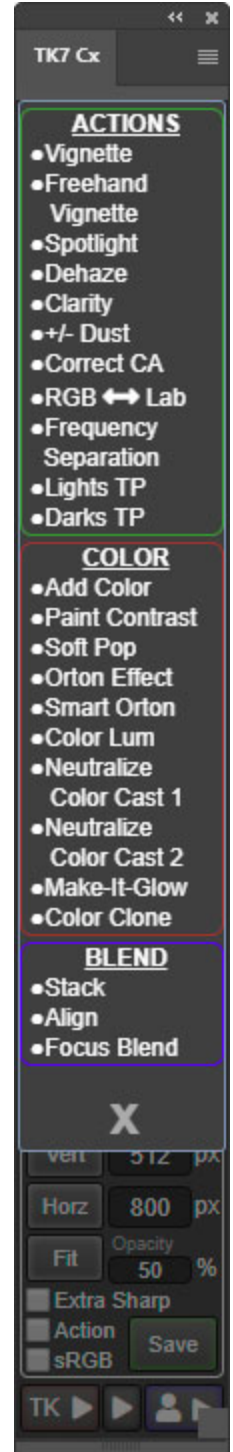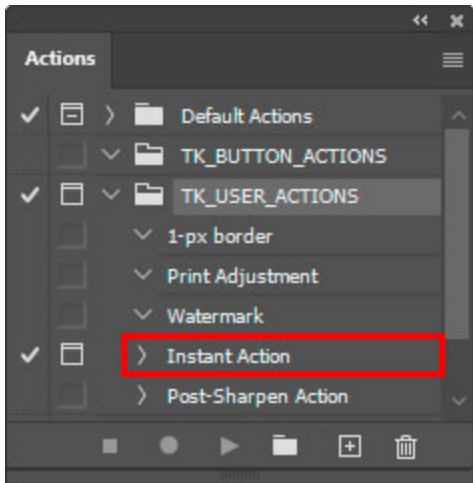
The User▶ button
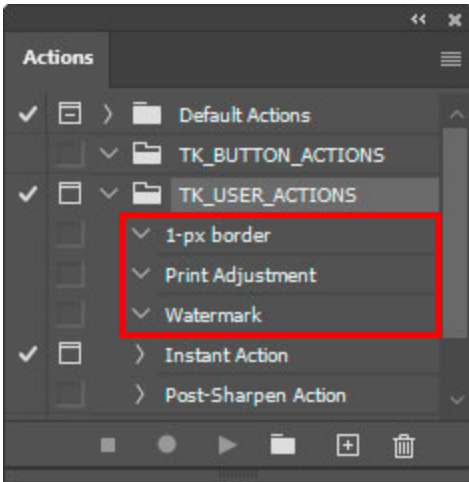
The User ▶ button opens a menu that provides access to your personal actions located in the "TK_USER_ACTIONS" action set on Photoshop's regular Actions panel. This action set is automatically installed on Photoshop's regular Actions panel the first time you open the Combo, Cx, or Batch modules. Fifteen (15) different actions can be displayed in this menu. You can record actions in this action set or drag them in from other actions sets on your Actions panel. Once they are inside the "TK_USER_ACTIONS" action set, they will automatically be displayed in the menu when the User ▶ button is clicked using the name you have assigned to the action in the action set. To play the action, simply click the name on the menu. After running the action the menu automatically closes.

NOTE #1: If you want to use actions from a previous TK panel, go to Photoshop's regular Action panel and simply drag those actions from the "TK-User-Actions" action set to the new "TK_USER_ACTIONS" action set. They will then be automatically displayed when you click the User ▶ button.

NOTE #2: Only letters and numbers should be used for naming actions added to the "TK_USER_ACTIONS" action set. Special characters, like &, >, and <, are not accepted and will cause an error when trying to play the action from the panel.

Instant Action (▶) button

Between the TK▶ and User ▶ buttons on the main interface, there is now a single right-pointing arrow button (▶). This is the new Instant Action button that runs the "Instant Action" action in the "TK_USER_ACTIONS" action set on Photoshop's regular Actions panel. Once you record an action into the "Instant Action" action, it can be played directly from the main interface of the Combo/Cx panel without opening the User ▶ actions menu. The Instant Action is one that you use all the time where having it readily available would be most efficient.

NOTE #1: The name of this action in the "TK_USER_ACTIONS" action set should not be changed. When you click the Instant Action (▶) button, it specifically looks for the "Instant Action" action within this action set. So record or your preferred action directly into

this "Instant Action" action to insure the Instant Action (▶) button can properly find it.

NOTE #2: Only letters and numbers should be used for naming actions added to the "TK_USER_ACTIONS" action set. Special characters, like &, >, and <, are not accepted and will cause an error when trying to play the action from the panel.

User-programmable buttons

Twenty-three buttons on the Combo and Cx modules can now be reprogrammed by the user to play actions from Photoshop's regular Actions panel. This is a new feature in the June 2020 update and is available in all the blend mode buttons and all the buttons with orange, purple and red edge shadows. To use them, first drag an actions or record some into the "TK_BUTTON_ACTIONS" action set on Photoshop's regular Actions panel. This action set was added to the Actions panel the first time you opened the Combo or Cx modules. Then, CTRL/command+click on one of the available buttons that can be used for this (blend mode, orange, purple and red buttons). This opens a new menu listing the actions in "TK_BUTTON_ACTIONS" action set. Click on the one you'd like to be associated with this button going forward. The action's name now appears on the button and each time you click it, it runs the matching action in the "TK_BUTTON_ACTIONS" action set.

NOTE #1: It's best to give the actions in the "TK_BUTTON_ACTIONS" action set names that contain five to nine characters to make sure the name fits on the button that will be playing the action.

NOTE #2: Only letters and numbers should be used for naming actions added to the "TK_BUTTON_ACTIONS" action set. Special characters, like &, >, and <, are not accepted and will cause an error when trying to play the action from the panel.

NOTE #3: To return the button to its original function, CTRL/command+click on the button and click the Reset Default button in the menu.

NOTE #4: If there are no actions in the "TK_BUTTON_ACTIONS" action set, the menu to choose an action to associate with a button will NOT be available. So be sure to add at least one action to the "TK_BUTTON_ACTIONS" action set before using this feature.
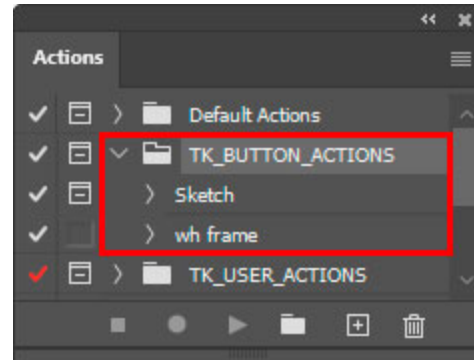
NOTE #5: If you change the name of an action in the "TK_BUTTON_ACTIONS" action set after associating it with a particular button on the Combo or Cx module, you will have to CTRL/command+click on the button again an associate the new action name with that button.

Right-click color-tagging

All buttons on the Combo and Cx modules can now be made more prominent by right-clicking on them. Doing so changes the colored border shadow at the edge of the button into a solid color that spreads across the entire button. Color-tagging can be useful for highlighting buttons that are frequently used or those that have been reprogrammed with the user's personal actions.

Color-tagging is also an option in the TK▶ button and User ▶ button menus. Simply right-click any menu item and choose a new background color for that item. Color-tagging can make it easier to find your favorite actions when you open these menus.
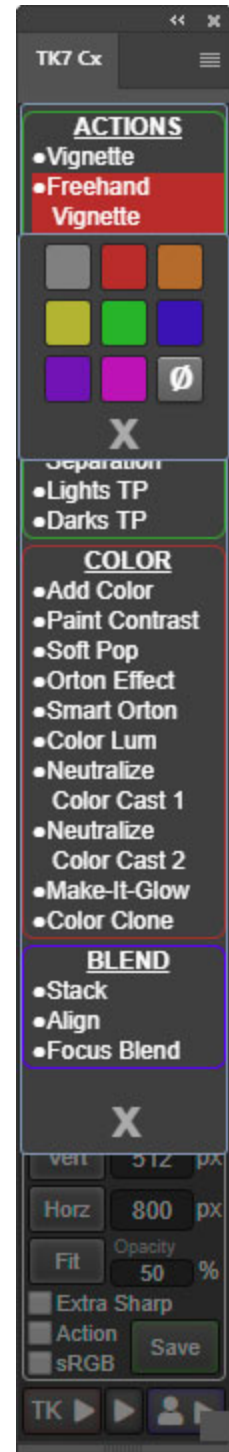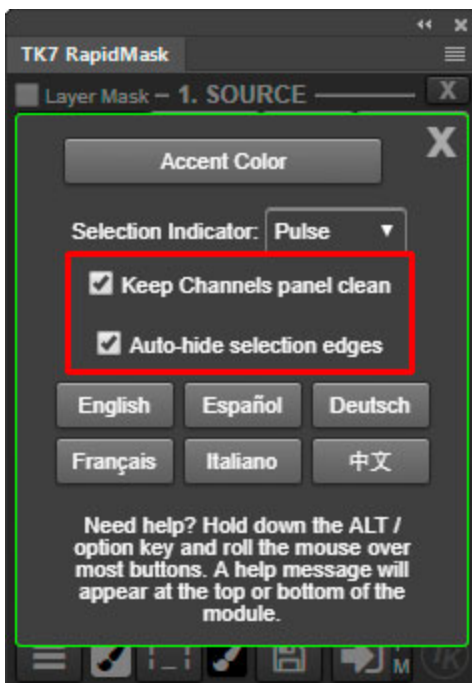
RapidMask module

The TK7 RapidMask module is the control center for making, modifying, and deploying an infinite number of pixel-based masks. While luminosity masks are the primary masks generated by most users, they're really only the beginning of what the RapidMask module can do. Channel masks, color masks, and saturation/vibrance masks can all be created just as easily with this module. The RapidMask module can easily access a wide range of pixel data and turn it into 16-bit masks that target tone, color, or saturatation at the pixel level. These pixel-based masks perfectly reflect fine differences across the entire image so that each mask insures a perfect blend when it's used on layers that alter the image.

While there are lots of buttons and options within the RapidMask module, the interface is designed to create a logical workflow. The module is partitioned into sections where the function of each section is stated at the top—SOURCE, MASK, MODIFY, and OUTPUT. In addition, the sections are numbered. The normal process for creating and using a mask, especially for people new to luminosity masks, is from top-to-bottom. The 1-2-3-4 process is meant to help beginners learn to use these techniques. More experienced users will be able to jump around the panel a bit to access different features based on what the image needs, but they will still be moving generally from top-to-bottom as they create the right mask for their image.

The TK7 version of the RapidMask module also brings a number of improvements over previous versions. Single-slider modify, quick-paint buttons, color-zone masks, channel cleaning, selection edges that are automatically hidden, and new MODIFY and OUTPUT options are discussed below.

Settings—There are two new settings options in the TK7 RapidMask module:

- Keep Channels panel clean
- Auto-hide selection edges

Keep channels panel clean makes it so the channels used to generate Rapid Masks are deleted whenever the user deploys a Rapid Mask using the OUTPUT section of the panel. So clicking any of the menu items displayed by the Layer button, or clicking the Selection button or Apply button removes the "Lum Lock" and "Rapid Mask" channels from the Channels panel once the deployment of the Rapid Mask is complete. This

essentially makes the Rapid Mask channel one-time-use since it is deleted if the
Keep Channels panel clean checkbox is checked. There are some advantages in
doing this. The Channels panel is kept free of extra masks, image file size and
scratch memory requirements are reduced, and the RapidMask module
automatically uses fresh pixel data from the current state of the image the next
time it creates a mask (there's no risk of using older pixel data when making a new
Rapid Mask). The disadvantage of checking the Keep Channels panel clean
checkbox is that the Rapid Mask cannot be reused for different OUTPUT options.
The Rapid Mask is deleted with the first deployment and is therefore no longer
available for the OUTPUT buttons to use again. If you like to use the Rapid Mask
multiple times, then it's best to leave the Keep Channels panel clean checkbox
unchecked and clean the Channels panel yourself with the X button when you want
to do that. The Keep Channels panel clean option is also invoked when the user
unchecks the Layer Mask check box when leaving Layer Mask mode since this is
also a time when tasks with the current Rapid Mask are generally complete and it's
time to move on and use fresh pixel data for the next mask. The Keep Channels
panel clean option is NOT invoked when first checking the Layer Mask checkbox to
enter Layer Mask mode (since the current Rapid Mask
might still be needed to modify the layer mask) or when
clicking the Save button in the OUTPUT section (since
the mask might still need to be deployed after saving
it). The default when first opening the RapidMask
module is that the Keep Channels panel clean option is
checked. Users need to uncheck it to turn it off.
Personally, I very much like leaving the Keep Channels
panel clean checkbox checked thereby letting the
module keep my Channels panel free of the background
masks used to create and modify the Rapid Mask. The
masks deleted pretty much operate in the background
and it's easy to forget that they're present. So letting
the module automatically delete them once they've
been used makes a lot of sense. It's also important to
note that masks saved and named by the user are not
deleted when the Keep Channels panel clean checkbox
is checked. Only masks that have been created by the
module get removed.
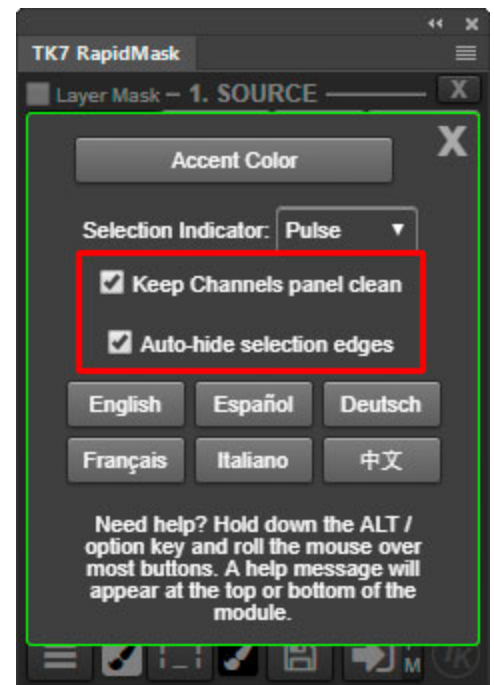
The Auto-hide selection edges checkbox only comes into play when the Selection
OUTPUT button is clicked. Clicking the Selection OUTPUT button is often the step
right before painting through the now active selection for things like painting a
mask or luminosity painting. For these situations, the selection edges are usually
turned off anyway since they make evaluating the painting difficult. Having Auto-
hide selection edges checkbox checked simply makes it so the module hides the
edges (also know as marching ants) by default, thereby saving a step in the
painting process. The module's active selection indicator still turns on to show that
there is an active selection, but there are no marching ants cluttering the on-screen
view of image. In this way, the Auto-hide selection edges checkbox option provides
a quicker and cleaner approach to mask painting and luminosity painting.

1. SOURCE

The SOURCE section of the module refers to the data source for masks. Early versions of the TKActions panels made just luminosity masks, which are based on the luminance values for each pixel. However, there are many pixel-based values that can be accessed in Photoshop and turned into self-feathering masks. The SOURCE section provides access to many of these different datasets.

The Composite button reads the luminance value for each pixel and is the starting point for making classic luminosity masks. Clicking this button stores the luminance data for the entire image in a newly created "Lum Lock" channel on the Channels panel. It also creates a "Rapid Mask" channel equivalent to the Lights-1 mask of that data. The "Rapid Mask" channel is displayed on-screen. So clicking the Composite button creates an updated storage channel for image luminance and calculates a Lights-1 mask from this data that is shown to the user. *NOTE: The Composite button is the only actual button in the SOURCE section. The other options (Channel, Color, and SAT) are rollover menus that automatically expand when the mouse is rolled over them. No mouse click is needed to open these menus.*

The Channel menu offers a method for accessing component channel data in the same way that the Composite button accesses pixel luminance values. Red, Green, and Blue are the component channels in RGB Color mode. Clicking one of these choices from the Channel menu stores the image's pixel values for that channel in the "Lum Lock" channel and creates a Lights-1 equivalent Rapid Mask of that data, which is displayed on-screen. If the image is in Lab Color mode, the Channel menu choices gather and use the L, a, and b channel data to make the "Lum Lock" and "Rapid Mask" channels. New to the TK7 panel is the ability to make CMYK (cyan, magenta, yellow, and black) masks. CMYK is a subtractive color model, which means its masks are essentially negatives of the corresponding colors. However, the TK7 inverts them when they are generated, so they are like the RGB masks in that lighter pixels in the mask show where that color is more concentrated in the image. Of the new CMYK masks, I'm finding the Black mask the most useful. I've tried it with exposure blending with surprisingly good results.

An update to the Channel menu now has a My Channels menu item at the bottom that allows masks the user has saved as alpha channels on the Channels panel to

be accessed from the module. Clicking My Channels brings up a list of the user's saved masks as a new window on the module. An Active Selection and Current Layer Mask button are also included in the list if these exist at the time that the My Channels menu item is clicked. Clicking one of the buttons in this window turns that item into the Rapid Mask. Then, the buttons in the MASK, MODIFY, and OUTPUT sections of the module can be used to modify or deploy it. The real advantage of the My Channels option is that the user's masks and selections can now be incorporated into calculations done with the mask calculator. Previously, the mask calculator was limited to calculations involving masks generated by the RapidMask module. Now the user's own masks can be fed into the Rapid Mask engine so they can be added, subtracted and intersected along with module-generated masks.

The Color menu makes masks based on color and has been significantly improved in TK7. Clicking one of the single-color options on the left side of the Color menu stores the Color Range data for that choice in the "Lum Lock" channel and displays a Light-1 equivalent mask of the that data on-screen. The Create option in the Color menu provides the option to create a custom color mask. This is discussed in more detail in a later section in this guide. The right side of the Color menu is new in TK7 and contains new color zones, which are calculated color combinations of adjacent hues in the color spectrum. Some of these color zones will be more useful than others. For example, the Blue-Cyan color zone is a great way to target cool tones in the image. Likewise, the Yellow-Red color zone targets warm colors. Green-Yellow could be useful for foliage in some images and Cyan-Green for water. It all depends on the image and what needs to be selected. Color zone masks can be used to target brightness/contrast changes to the specific colors selected by the mask, and, when applied as a layer mask on a Selective Color adjustment layer, can be used to shift the color hue in a very precise and pleasing manner. The color-zones add new options for selecting and making adjustments to the image, and are more precise than luminosity masks if color is the main selection criterion. Definitely take some time to experiment with color-zone masks to see what they can do for your images.

While the above color options can all be useful, they are, for the most part, preset color masks. They are calculated using defined equations for specific colors or color ranges in the image.

A better way to build a color mask would be to allow the user to select a color from the image and then build a mask around that specific color. This is now possible with the latest addition to the SOURCE > Color menu and is available via the Choose menu item at the bottom of the left column of color options. Clicking Choose first opens Photoshop's Color Picker so that a color can be selected from the open image. Clicking "OK" on the Color Picker creates an on-screen mask preview specific for the chosen color and also opens an "infinity color mask" window on the RapidMask module. The new window has three sliders to allow the mask to be fully customized (though in many cases, the mask initially generated will be a nearly perfect match for chosen color):
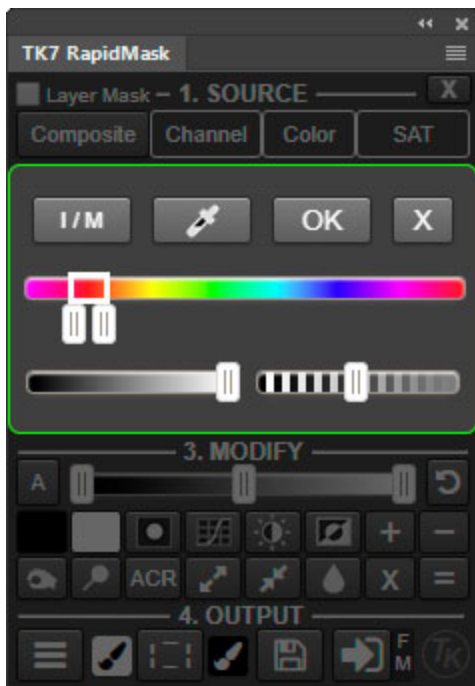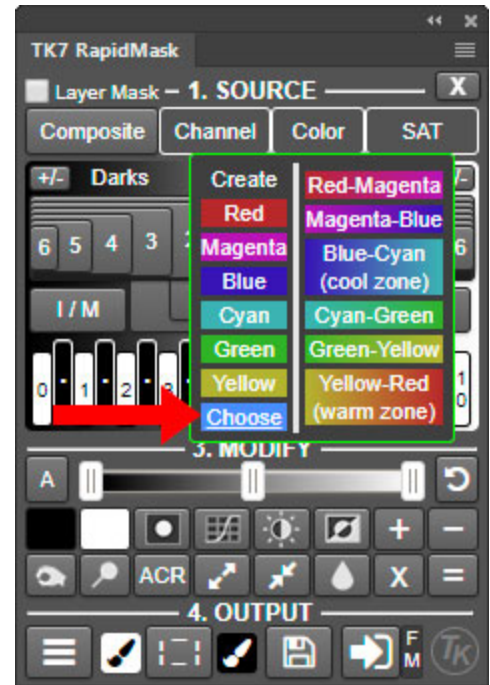
1. The Hue Range slider (top color spectrum slider) allows the color range to be manually adjusted based on hue. Normally, a narrow range, like that automatically generated and shown in the image at the left, will produce a mask focused on a specific color.

2. The Brightness slider (bottom left) determines the amount of white in the mask based on the degree of color saturation. As the chosen color gets more saturated in the image, it appears whiter in the mask. The slider is initially set at its maximum value since most colors in photographs aren't all that saturated. If the mask has a lot of white in it, though (indicating that color is quite saturated in the image), decreasing the brightness using the slider can create better separation in the mask of the different saturation levels of the color. *NOTE: White, black and gray (and colors with very low saturation) appear black in the mask. Remember, this is a "color" mask, and if there is no color, then there is nothing to be selected by the mask. Luminosity masks would be the way to make masks and selections based on the brightness of colorless pixels.*

3. The Feather slider (bottom right) determines how the mask bleeds into adjacent colors outside the range defined by the Hue Range slider. It's worth noting that this feathering is hue-based. It is NOT based on similar tonal brightness (like luminosity masks) nor is it a spatial feathering, like a blur. Since the feathering is color-specific, it means that the color mask perfectly feathers into adjacent colors just like luminosity masks perfectly feather into adjacent tones. So any adjustments through these infinity color masks seamlessly feather into the surrounding colors. There are no harsh or obvious selection edges because color feathering provides a smooth transition.

The I/M button toggles between viewing the mask preview and viewing the image.

The Eye Dropper button allows the user to select a new color from the image.

The X button closes the infinity color mask window and deletes the mask preview.

The OK button turns the mask preview into a Rapid Mask. When the infinity color mask window is open, it is actually displaying a preview of the mask using different layers on the Layers panel. There is no mask yet. The mask is only generated once the user clicks OK. Clicking OK generates a Rapid Mask on the Channels panel, closes the mask preview, closes the infinity color mask window, and displays the matching Rapid Mask on screen. (The user won't notice any change in the on-screen view, but a lot has happened in the background.) Once the Rapid Mask is generated, the MASK, MODIFY, and OUTPUT sections of the module can be used to modify it and to deploy it into the processing workflow.

For color images, infinity color masks can provide a useful alternative to luminosity masks if color is the main criteria for selecting an area for adjustment. They are highly specific for a given color, completely customizable, and they blend adjustments perfectly into the surrounding pixels. Definitely give these masks a try if you're looking to make a color-based mask.
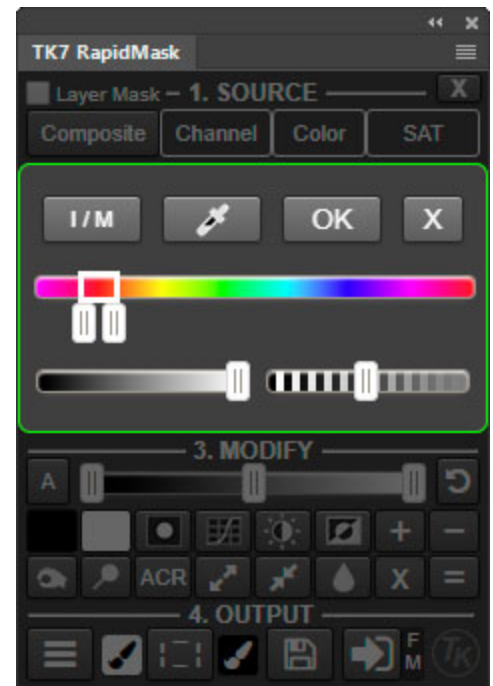
SAT is the final choice in the SOURCE section. "SAT" stands for "saturation," and the pixel-level dataset accessed in this menu can be used to make Saturation and Vibrance masks. For Saturation masks (SAT), the more saturated a pixel's color, the brighter its value in the mask. The opposite is true in Vibrance masks (VIB) where the least saturated colors have the brightest values. The SAT menu choices work like the other SOURCE options. The saturation or vibrance pixel data is stored in the "Lum Lock" channel. A Lights-1 equivalent Rapid Mask is calculated using this data and displayed on the monitor for evaluation. (The Paint button in the SAT menu provides access to saturation painting features, which are discussed later in this guide.)

While Composite is probably the most common SOURCE choice since it makes classic luminosity masks, the other SOURCE options provide additional opportunities to experiment with different pixel-level datasets to see what works best.
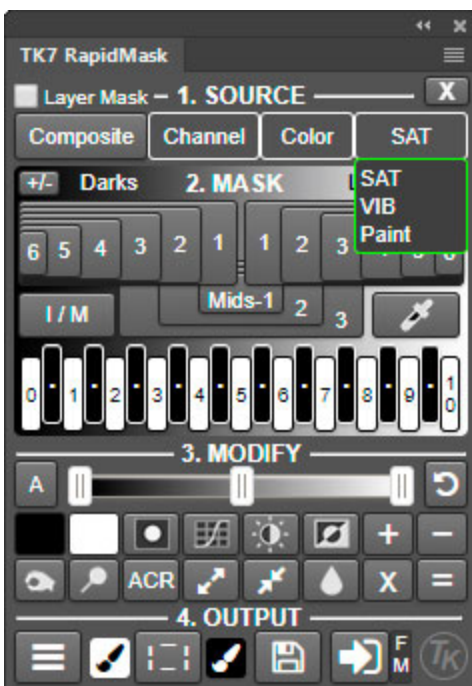
2. MASK

The MASK section is the next stop in creating a mask. While the SOURCE section locks pixel data into the "Lum Lock" channel, it's the MASK section that uses it most. The MASK section calculates all sorts of different 16-bit masks starting with the data saved in the "Lum Lock" channel. Lights, Darks, Midtones, and Zone masks can all be quickly generated. This section is also where the power of the Rapid Mask engine is on full display. Luminosity-locking pixel data in the "Lum Lock" channel significantly reduces the time needed to calculate a new mask. As a result, the different masks in this section are updated and displayed at near real-time speeds. The "Rapid Mask" channel updates each time a MASK button is clicked, but this all happens in the background. The user just sees new masks on their screen so they can quickly find and choose the one they want to use in their image.
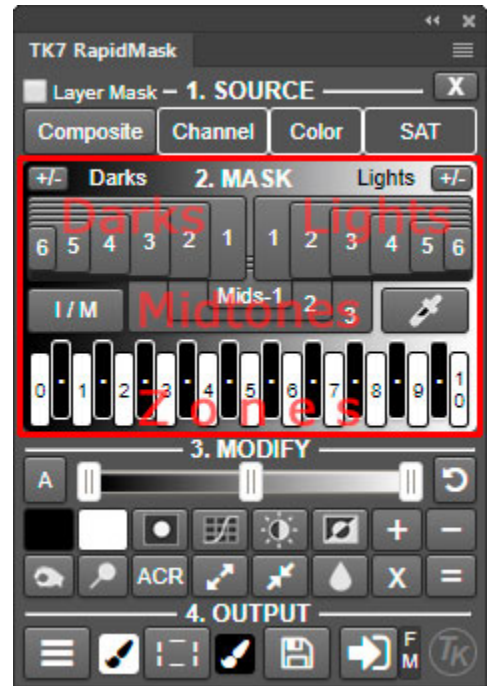
The MASK section is a way to create entire spectrums of masks from any pixel based data source. While the terms "Lights" and "Darks" originally referred to luminosity masks, the concept in these names applies equally well to any mask. A "Lights-1" mask is simply the mask based on the original data encoded into each pixel. A "Lights-2" mask is the "Lights-1" mask multiplied by itself. Multiplication always narrows what is revealed by the mask, so a "Lights-2" mask is always darker than a "Lights-1" mask. And masks continue to get dark and more restricted when moving to higher-numbered "Lights" masks.

A "Darks-1" mask is always the inverse of a "Lights-1" mask. In other words, if "Lights-1" is the positive, then "Darks-1" is the negative. The Darks-series masks work just like the Lights-series masks in that each higher number mask is the previous mask multiplied by itself. So Darks-series masks also get darker and more restricted as they progress to higher numbers.

Midtone and Zone masks are a little different. Midtone masks are calculated by subtracting off a Lights- and Darks-series mask leaving midtone values as being selected. Midtones-1, for example, is what's left when a Lights-1 and Dark-1 are subtracted from the entire image.

Zone masks are small segments of the pixel-based spectrum created by subtracting masks from within the same series. A Zone 6 mask, for example, is a Lights-1 mask minus a Lights-2 mask. Zone masks tend to be darker masks overall since they select a smaller range of pixel-based values.

To read more about how Lights, Darks, and Midtone masks are made, please review the original luminosity mask tutorial. To read about making Zone masks, read this blog post. *NOTE: The steps in these older tutorials have been continually updated*

over the years. The current calculation method used in the TK7 panel insures that the resultant 16-bit masks are the best possible masks for every image.

The main point to keep in mind when using the MASK section of the RapidMask module is that whatever the source of the pixel based data (luminance, channel, color, or saturation), the MASK section can make an entire spectrum of masks from that data. So it's possible to have a Zone 8 Saturation mask. Or a Lights-3 Yellow-Red color zone mask. Or a Darks-2 Blue channel mask. It simply depends on what data was initially selected in the SOURCE section to be locked into the "Lum Lock" channel. The MASK section of the panel simply takes that locked data and uses it to create a corresponding mask depending on which MASK button is clicked. The panel is even smart enough to know that if no SOURCE is chosen initially that it will automatically default to making standard luminosity masks using pixel luminance as the starting point for the buttons in the MASK section.

While the theory behind these masks might sound a bit complicated, the practical applications are much simpler. The TK7's mask-based interface means the masks show up instantly on-screen as different MASK buttons are clicked. So the user can make mask choices based on the masks presented on the monitor while the background calculations happen silently in the background. For example, if one mask seems too broad (too light), choose a different one in the series that narrows the selected pixels. Seeing the actual masks makes it easy to find the right one, and the speed of the RapidMask module makes it possible to quickly explore many different possibilities.

The <u>Pick</u> button (eyedropper icon) in the MASK section is one of the smartest buttons in the panel. It chooses a Zone mask that matches where the user clicks in the image. The corresponding Zone button on the module then shows the accent-colored shadow so the user knows which Zone was picked. The <u>Pick</u> button also keeps track of the SOURCE the user has chosen. So, for example, if "Blue channel" data has been saved in the "Lum Lock" channel, then a Zone mask matching the "Blue channel" value at the point chosen in the image is generated. The "Pick" mask is always making its choice specific to the saved pixel dataset as long as Photoshop's Color Picker can access it. And this points out again how the RapidMask module moves beyond standard luminosity masks. It is not confined to using only pixel luminance for its calculations. A Zone 9 Saturation mask is just as easy to calculate for the RapidMask module as a Zone 9 luminosity mask. So while the spectrum of masks available in the MASK section (Lights, Darks, Midtones, Zones) have their origins in luminosity masks, the RapidMask module makes this same spectrum of masks available for color, channel, saturation, and vibrance data.

There are few important things to keep in mind when using the MASK section.

1. If a SOURCE has not been chosen prior to clicking one of the MASK buttons, the button assumes the user wants a luminosity mask and will save pixel luminance data in the "Lum Lock" channel and proceed to make standard luminosity masks based on that data.

2. The "Lum Lock" channel saves pixel data as it appears when the SOURCE button is first clicked. If the image has changed significantly from the point where the luminosity lock occurred, the saved "Lum Lock" data might be outdated. Clicking one of the SOURCE buttons is an easy way to refresh the "Lum Lock" channel with the latest image data. The TK7 RapidMask module now also has a "Keep Channels panel clean" option in the settings that automatically removes the current data once the mask is deployed. It is recommended to keep this option checked to force the panel to always luminosity lock the freshest image data each time a mask is created using the module.

3. The Pick button reads data from Photoshop's Color Picker in order to determine which Zone mask to make. There is no readily available "color" value generated by the Color Picker, so the Pick button doesn't work if one of the options in the SOURCE > Color menu has been luminosity locked. Also, the pick button doesn't work if a CMYK channel is the SOURCE. CMYK masks are made from a duplicate image where pixel values have changed relative to the original image. However, for both Color and CMYK masks, Zone masks can still be generated for these masks using the Zone buttons on the module.

There are a few other buttons in the MASK section. The I/M button stand for "Image/Mask." It allows the user to switch back and forth between viewing the Rapid Mask and viewing the image.

The +/- buttons at the top corners of the MASK section toggle the creation and removal of the respective Darks-series or Lights-series of masks on the Channels panel. Some photographers still like to see the entire series of masks on the Channels panel and work from there. However, this really isn't necessary with the RapidMask module since the individual masks can be viewed just about as quickly by using the regular MASK buttons. In addition, the Rapid Mask created when using the MASK buttons offers a lot more options in terms of modification and output possibilities.

3. MODIFY

While the MASK section can make a large variety of masks, there are times when the user will want even more control over which pixels are selected. The MODIFY section offers a variety of different ways to adjust the current Rapid Mask to better match the intended use in the image. In the TK7 panel, this section has many new features to make it even better at quickly modifying masks to meet the user's needs.

NOTE: With the exception of the buttons for the mask calculator, the MODIFY buttons do NOT change the dataset that was locked into the "Lum Lock" channel. This means that you can return to the MASK section of the module to make a new mask using the same dataset at any time. So if the modification process gets out of hand, simply click the "Lights-1" button in the MASK section to see your original dataset as a mask and the start over at finding the best mask and modification.

Single-slider modify. The most obvious change in the MODIFY section with TK7 is the three-handle slider with the black-to-white background gradient. This slider is an on-module Levels adjustment. *(NOTE: If you want a full dialog window for a Levels adjustment of the Rapid Mask, CTRL/command+click on the slider instead of dragging the handles.)* The slider handles are the same as in the Levels dialog: shadows, midtones (expressed as gamma), and highlights. They also move like the Levels sliders with even the midtones slider automatically adjusting to maintain the same gamma when either the shadow or highlights slider is moved. Moving the shadows slider right turns darker gray tones in the mask black. Moving the highlights slider left turns lighter gray tones white. Moving the midtones slider right resets the midtone point to expand dark tones in the mask and compresses light tones (the on-screen mask gets darker). Moving the midtones slider left expands light tones and compresses dark tones (the on-screen mask gets lighter). Just release the slider handle to update the mask. Multiple positions of the different slider
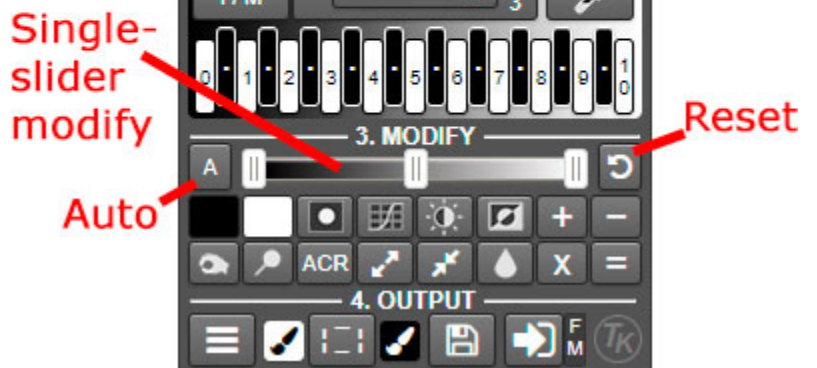
handles can be tried to achieve the best mask. *NOTE: The Levels modification of the mask happens AFTER releasing the slider handle. The panel cannot produce the same real-time effect as the Levels adjustment in a Levels window. However, the visual update to the mask after releasing a handle should be very fast. So one way to use this slider is to make several small adjustments, each one being a quick drag-and-release of one of the handles. An even better method, though, is to click to the right or the left of a handle, directly on the slider. This will move the handle to this position on the slider and instantly initiate the Levels update on the mask. No handle dragging and releasing is required in this second method.*

Single-slider modify has its origins in the "infinity mask" concept first introduced in TKActions V4. The on-module TK7 version makes this feature easier to access. There are a few situations where it is particularly useful.

1. *Inter-series masks.* Sometimes, for example, a Lights-1 mask selects too much of the image but Lights-2 selects too little. In this case, generate the Lights-1 mask and then just move the midtones slider to the right for modification. This has the effect of making a mask where the selection is intermediate to the Lights-1 and Lights-2 masks.
2. *Mask contrast.* To increase contrast in the mask, move the highlights slider left and the midtones slider right. To decrease mask contrast, move the midtones slider left.
3. *Enhance black to decrease reveal.* Pixel-based masks often bleed more widely throughout the image since even partially selected pixels are revealed to some degree. Moving the shadows slider right adds more black to the mask and completely conceals some of the pixels where unintended bleed might otherwise occur.
4.

The counterclockwise arrow to the right of the slider resets the slider handles and the mask. The <u>A</u> button to the left of the slider executes an "auto" Levels adjustment on the mask making the brightest pixel white and the darkest pixel black with no clipping. It works independently of the slider, so additional adjustments of the mask are still possible using the slider.

Black Brush/White Brush. The black button and the white button in the MODIFY section activate the black and white Paintbrush tools respectively. They provide an easy way to paint directly on the Rapid Mask. Users still need to set their brush size and feathering in the Options bar. Generally, an "Opacity" value of 100% will be the best choice to completely conceal (black paint) or reveal (white paint) parts of the mask, and the panel chooses this value as the starting point.

Burn/Dodge. The Burn and Dodge buttons activate the matching Photoshop tool so that burning and dodging can occur directly on the Rapid Mask displayed on screen. The Burn/Dodge options modify the mask in order to increase contrast in specific parts of the mask to make it more precise for specific parts of the image. This is best accomplished by matching the tool's "Range" in the Options bar to the tool. For BURN, it's generally best to set the "Range" to "Shadows" and the module does this automatically along with setting the "Exposure" option to 50%. Burning the "Shadows" means that darker gray tones are preferentially burned darker. This increases contrast in the mask and increases the concealment of darker parts of the mask. For Dodge, setting the "Range" to "Highlights" works best. In this way, dodging preferentially lightens light gray tones in the mask resulting in more reveal of these areas through the mask. The module again chooses "Highlights" as the "Range" for the Dodge button and sets "Exposure" to 50%.
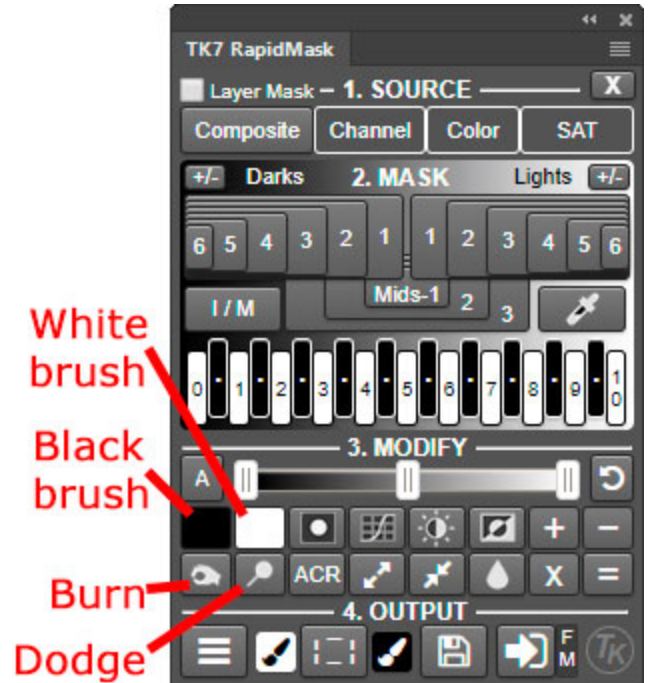
Mask the Rapid Mask. Sometimes users only want a luminosity mask to affect certain parts of the image, like the clouds in a landscape photograph or the face in a portrait. Areas outside the designated element, however, may have similar tones and be included as selected tones in the initial version of the mask. To quickly remove them, create a selection of just those elements to be included in the mask. This can be done with a selection tool, like the Lasso or Marquee tool. A saved selection can also be loaded to define the desired area where the luminosity mask should be applied. Then click the Mask the Rapid Mask button to turn any areas outside the selection black in the Rapid Mask. This effectively conceals these areas when the mask is deployed as a layer mask or active selection. While luminosity masks are

naturally self-feathering, combining them with a hard-edged selection can still produce a hard-edged mask. Feathering helps to insure smooth blending at the selection edges so the panel calculates an appropriate amount of feathering based on the size of the image. The module will calculate and display the recommended a feather radius in a "Feather Selection" window. Unfortunately, there is no preview possible to see how the feathering will actually look. If you prefer no feathering at all, click the Cancel button in the "Feather Selection" window. The Mask the Rapid Mask option is one way to combine luminosity masks with Photoshop's regular selection tools to target luminosity masks to specific elements in the image.
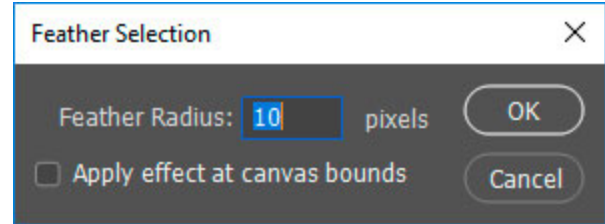
When making a Rapid Mask, the Mask the Rapid Mask button works on the evolving Rapid mask. Users will see the black concealed areas appear on the Rapid Mask when the button is clicked. In Layer Mask mode, the Mask the Rapid Mask button is actually a Mask the Layer Mask button since it masks the layer mask. In this case, users will see the effect on the image when black is added to the layer mask which conceals the corresponding parts of the image.

The Mask the Rapid Mask button should not be confused with the "Mask-the-Mask" technique, which involves putting an adjustment layer inside a group and then using a mask on the group to control which parts of the mask layer are visible in the image. They can achieve the same end result, but there are differences. The Mask-the-Mask technique is non-destructive of the underlying luminosity mask. The Mask the Rapid Mask button, on the other hand, makes a permanent change to the luminosity mask (or layer mask when in Layer Mask mode) when the non-selected parts of the mask are filled with black. However, in situations where the element needs to be further isolated from other similar tones in the image, the Mask the Rapid Mask button can provide a quicker method for making the appropriate mask.

NOTE: Black Brush, White Brush, Burn, Dodge, and Mask the Rapid Mask are local, precision modification tools. The other MODIFY options, including the slider, produce global changes to the mask. The Black Brush/White Brush, Burn/Dodge, and Mask the Rapid Mask options provide a way to make more precise modifications to the mask by purposely changing specific parts of the mask.

Curves. This MODIFY button uses Photoshop's Curves adjustments to modify the mask. The Curves button opens a dialog window to manually adjust the mask.

Brightness/Contrast. This button opens a Brightness/Contrast dialog that can be used to modify the current Rapid Mask.

Invert. The Invert button inverts the current mask, essentially creating a negative of it. This is sometimes useful for inverting a narrower mask, like Darks-3, to create a very broad Lights mask.

ACR. The ACR option is new to the TK7 panel. It opens the current Rapid Mask in Photoshop's Camera Raw Filter. This allows the features in this filter that affect monochrome images (like a mask) to be used to adjust the mask. Clicking the OK button in the filter updates the Rapid Mask with the filter's changes.
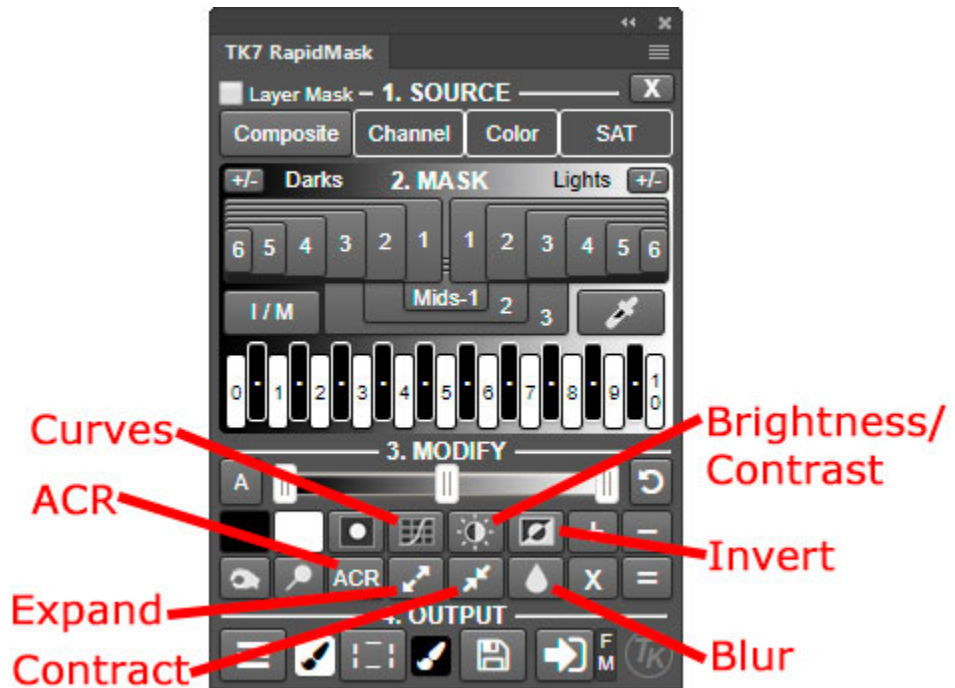
Contract and Expand buttons. These buttons do what would be expected. Expand increases the selected areas in the mask by adding the mask to itself. The mask gets lighter as a result. Expansion is useful if the mask is selecting too little, like with some Zone masks and Color masks. Contract shrinks the pixel area selected by the mask by intersecting the mask with itself. The mask gets darker. Contraction is helpful if the mask is selecting too much.

Blur. The Blur button opens the Gaussian Blur dialog window in order to add the desired level of blur to the on-screen Rapid mask. Occasionally blurring the mask can be helpful for even better blending of the layer where the mask is applied. However, since it is a spatial blur of the existing mask, it can also counteract some of the perfect feathering that comes from using pixel-based mask.

**Mask Calculator.** These MODIFY buttons allow different masks created using the RapidMask module to be:
1) Added – Plus(+) button,
2) Subtracted – Minus(-) button, or
3) Intersected– Multiply(x) button.

The mask calculator works just like a regular calculator except that it uses masks instead of numbers. The way to use it is to first make a mask using the SOURCE, MASK, or MODIFY buttons. Then click one of the operators, Plus(+), Minus(-), or Multiply(x). Then create a second mask using the SOURCE, MASK, or MODIFY buttons. Finally, click Equal(=) to complete the operation and display the new mask on-screen

The calculator was designed to handle all masks that could be created using the RapidMask module, including modified masks. So not only can masks produced by the module be combined, but they can also be modified during and before completing the calculation process.

The calculator is also quite smart in other ways. If you click the wrong operator, no problem. Simply click the correct one you want and the calculator will switch to the operation. Or, if you change your mind and decide you don't want to do a calculation after all, just click the same operator button again to turn the calculator off. The accent-colored shadow on the button will help keep you informed as to what's active in the calculation proces. Try it and see.

The calculator is an advanced tool and can be extremely useful for creating masks that combine things like color and luminosity.
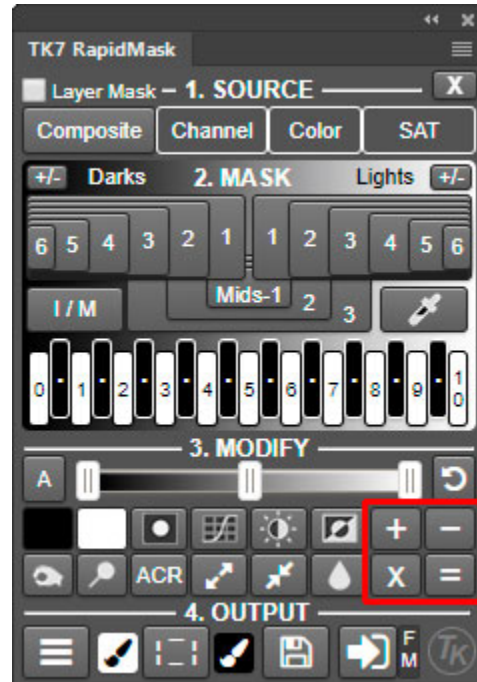
4. OUTPUT

Once the user has created the Rapid Mask that targets the tones they want to adjust, the OUTPUT section offers a variety of options for actually using the mask. There is no "right" output choice. It all depends on the development goal the user has in mind for the mask. The OUTPUT section makes different alternatives easily available.

It's worth noting that the OUTPUT section is the best way to maintain the bit-depth of masks. The RapidMask module always makes masks whose bit-depth matches the image. 16-bit images will always have 16-bit masks because all the masks are made with calculations. Older methods for making masks involved successively intersecting selections. But selections are always 8-bit by default, so using them permanently introduces an 8-bit quality to the output mask, which can accumulate and is generally undesirable. With the exception of the Selection output option, the OUTPUT section of the RapidMask module maintains the 16-bit character of the Rapid Mask straight through to its ultimate deployment destination.
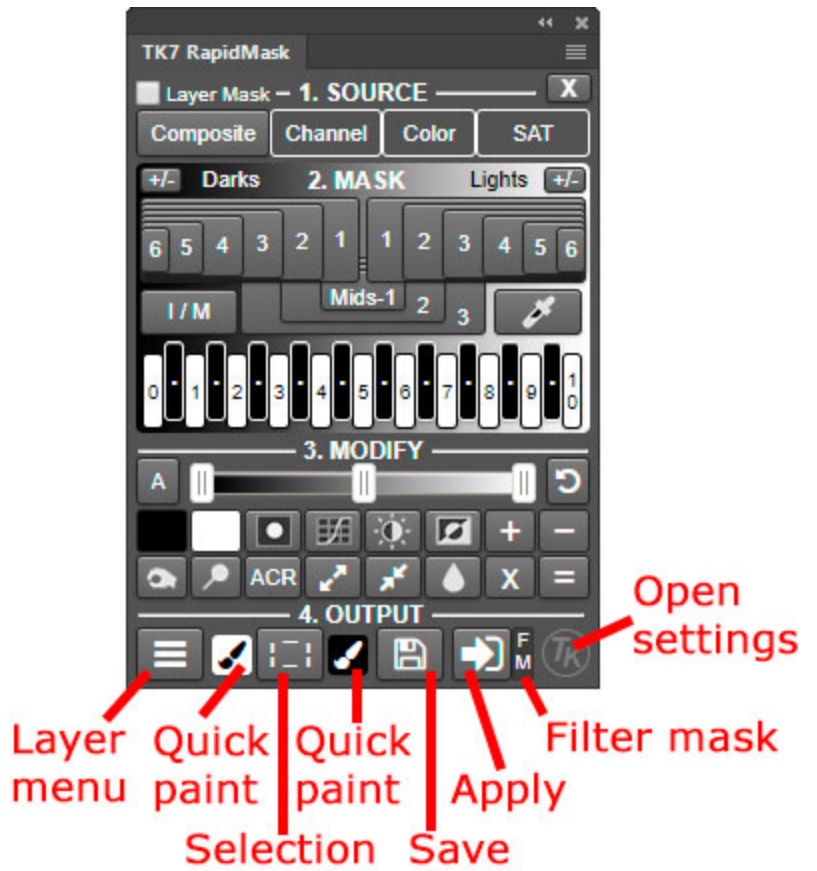
Layer menu button

The Layer menu button offers a lot of different choices. It opens a menu where the user is presented many options for deploying the Rapid Mask on the Layers panel. The left side of the menu is adjustment layers. Clicking one of these creates the corresponding adjustment layer on the Layers panel with the Rapid Mask as the layer mask. The user still needs to use the Properties panel to actually make an adjustment to the new layer, so the Properties panel is automatically opened as part of the action that creates the adjustment layer. The mask will be in place to control how this adjustment affects the image. The default placement where the adjustment layer is inserted into the layer stack on the Layers panel is directly above the current active layer. If the group layer is active, the new adjustment layer is inserted into that group.
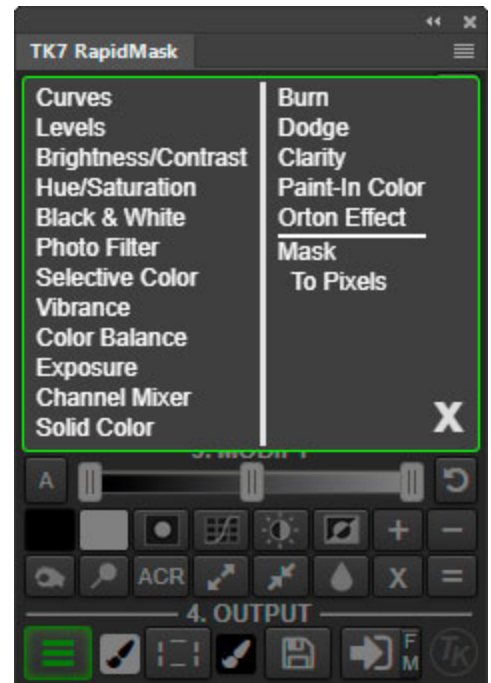
A new option with the TK7 RapidMask module is to hold down the CTRL/command key when clicking these adjustment layer options to insert the new layer at the TOP of the layer stack. This is especially useful to avoid having to drag the new layer out of a group if placement within the group is not intended.

On the right side of the layers menu are some pixel layer choices. These make pixel layers on the Layers panel, again with the Rapid Mask as the layer mask for the new layer. Burn and Dodge create transparent layers for burning and dodging. The blend mode for the layers is set appropriately, the Paintbrush tool activated, and the proper paint color chosen (black for burning, white for dodging). The user just needs to choose their brush opacity and size and then paint on the layer to burn or dodge. The layer mask confines painting to the parts of the image revealed by the mask.

Clarity creates a layer that adds edge contrast to the image with the Rapid Mask as the layer mask. This action uses Photoshop's High Pass filter and stops to allow the user to select a radius value. Use small radius numbers to enhance fine, local detail. Large numbers have a more global impact and can create some interesting effects depending on the image. The Rapid Mask as the layer mask controls which tones are affected by the Clarity action.
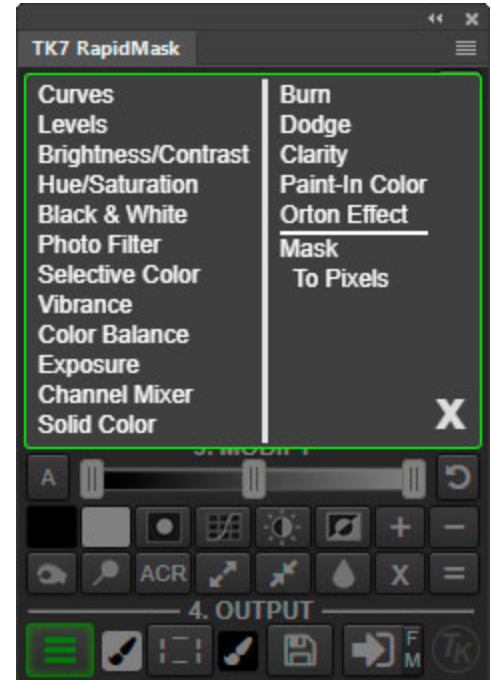
Paint-In Color creates a transparent pixel layer set to Soft Light blend mode with the Rapid Mask as the layer mask. The Color Picker then opens and the user can choose a color for painting. The action makes the Brush tool active and as the color is painted on the new layer, the layer mask confines it to the pixels revealed by the mask. Soft Light blend mode makes the effect subtle and transparent. The color and its brightness (or darkness) comes through, but the background details are preserved. Paint-In Color is a great way to enhance the warm hues of sunset by painting them into various parts of the image.

Orton Effect creates the Orton effect on the image. The Rapid Mask is again added as a layer mask to control in which tones in the image reveal the effect.

The Mask To Pixels option is the last Layer menu button option. It creates a pixel layer that matches the Rapid Mask. This is useful for those times that the mask being created could be used as an actual black and white image. The Color > Create menu option in the SOURCE section offers an additional method for making black and white images from masks. This is discussed in the "User-Created Color Mask" section of this PDF. *NOTE: The Mask To Pixels option is the only option in the Layer menu button menu that does NOT create a layer mask of the Rapid Mask. It just creates a pixel layer of the Rapid Mask with no layer mask.* This blog post has more information on how to use masks as a method for converting color images to monochrome.

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Selection button

The Selection button turns the Rapid Mask into an active selection. As mentioned above, the Selection button is the only instance where the 16-bit masks calculated by the RapidMask panel become 8-bit. Selections are always 8-bit by default in Photoshop, even on 16-bit images. Since RapidMask strictly avoids selections when creating Rapid Masks, the selections produced by the Selection button are "first-generation" 8-bit selections. There has been no cumulative degradation as a result of using selections elsewhere in the mask-generation process. A first-generation selection is essentially indistinguishable from what is selected by the 16-bit mask. This means that the quality of the selections created here are as high as possible, and there are times when selections definitely have a role in developing the image. Luminosity painting and mask painting are the two most important situations where painting through selections definitely has advantages over using a masked layer. *NOTE: The RapidMask module has an option to "Auto-hide selection edges" in the settings window for this module that automatically turns off the selection edges when the Selection button in the RapidMask module is clicked. It is recommended to leave this checkbox checked (or to check it if it's not checked) to avoid having to deal with selection edges when painting through selections created from luminosity masks.*

Quick Paint buttons

On both sides of the Selection button is a Quick Paint button. These are used to quickly set up mask painting, which is a common process after loading a luminosity masks as a selection. The two buttons offer two different painting options: a white mask with a black brush and a black mask with a white brush. If you're planning on doing some mask painting, click a Quick Paint button immediately after clicking the Selection button. Doing so completes five different processes:

1) A mask is created on the active layer whose color matches the background color of the button. Black background makes a "Hide All" layer mask and white background creates a "Reveal All" layer mask.
2) The Paintbrush tool is activated.
3) The brush color is set to match the brush icon on the button. A white brush is selected for the black background layer mask and a black brush for the white layer mask. This makes it so painting through the

active selection deposits paint on the layer mask that is the opposite color of the mask itself.

4) The active layer visibility is evaluated and turned on if it has been turned off.

5) The layer mask is selected as the painting canvas.

After clicking a Quick Paint button, it's just necessary to choose the brush size and opacity and start painting. The active layer has been completely set up to accept the paint in a way to make the desired change to the image by painting on the layer's layer mask. *NOTE: Don't forget that the module's preferences can be set to automatically hide the selection edges as discussed on the previous page.*

Save button

The Save button in the OUTPUT section creates a new channel on the Channels panel of the current Rapid Mask. The "Rapid Mask" channel updates frequently. Every time a SOURCE, MASK, or MODIFY button is clicked, the old "Rapid Mask" channel is deleted and a new one created. The Save button provides a method to save a Rapid Mask in case it is needed again at some point in the future. The Save button simply duplicates the current "Rapid Mask" channel and then provides the user the opportunity to give that channel a new name.

Apply button

The Apply button applies the current Rapid Mask as a layer mask to the active layer on the Layers panel. This is similar to what many of the options do with the Layer button menu except that no new layer is created with the Apply button. This button simply applies the Rapid Mask to whichever layer is currently active.

This button can also be used to apply any channel mask on the Channels panel as a layer mask. First click on the channel mask you want to apply and then CTRL/command+click the Apply button. This feature is useful for applying a saved mask as a layer mask.

Apply FM button

Clicking the FM part of the Apply button creates a
filter mask instead of a layer mask. Filter masks
can be added to smart object layers that have
smart filters. The filter mask will only mask the
effects produced by the smart filters, not the layer
itself. Filter effects with filter masks is an
advanced way to use smart object layers. There
are a number of YouTube videos that can give you
more information. If you accidentally click FM
when the active layer is not a smart object layer
that has smart filters, the button is smart enough
to know that a smart filter is not an option at this
point, and so it will simply apply the Rapid Mask as
a layer mask to the active layer since that is the
only "Apply" option available.

Important OUTPUT notes
*1) It is not necessary to actually be viewing the Rapid Mask on-screen to use the
buttons in the OUTPUT section. As long as there is a "Rapid Mask" channel on the
Channels panel, the OUTPUT option will find it and use it to complete the chosen
OUTPUT operation.*
*2) New to the TK7 panel is the "Keep Channels panel clean" option in the settings
window. If this is checked, the "Lum Lock" and "Rapid Mask" channels are
automatically deleted at the end of all output actions except Save. This is usually
desirable in order to decrease file size and to make sure stale image data in the
Lum Lock channel is not being used to generate masks in the future. Un-checking
the "Keep Channels panel clean" option allows the Rapid Mask to be used multiple
times in multiple output processes, but the user needs to remember to manually
delete the "Lum Lock" and "Rapid Mask" channels using the X button in the upper
right of the corner of the module, and to refresh the "Lum Lock" channel using a
SOURCE button when creating a new mask.*

Layer Mask Mode

In addition to creating a large variety of masks that the
user can actually see up front in real time, the RapidMask
module also has "Layer Mask mode." It is turned on by
checking the "Layer Mask" box in the upper left of the
module. Doing so changes the interface slightly and places
an accent-colored border around the buttons.

In Layer Mask mode, the SOURCE, MASK, and MODIFY
buttons work very much like in "Rapid Mask mode," but
instead of the user actually seeing the mask, it is
automatically applied as a layer mask on the active layer.

TK7 Panel
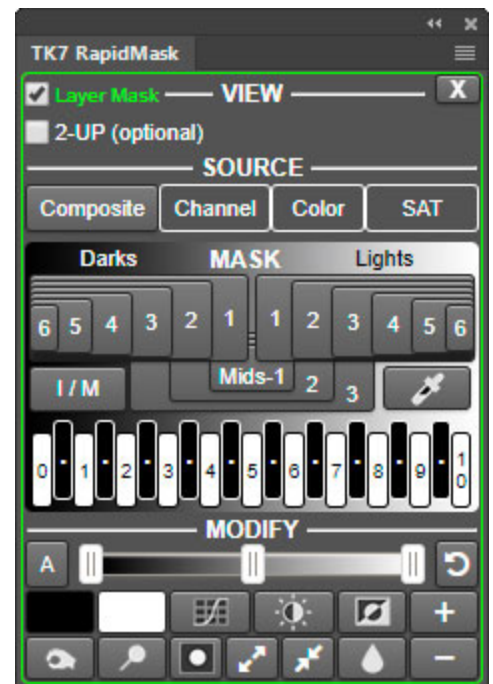
The user continues to look at the image when in Layer Mask mode. Instead of deciding which mask to use by looking at the different masks on-screen, they instead decide which mask works best by looking at how the image changes as different layer masks are automatically applied.

NOTE: Layer Mask mode should be used on layers that have been set to actually produce some change to the image. The different masks that are applied or modified then help fine-tune this layer's contribution to the image. The user determines when the mask is right by when the image looks right.

The Rapid Mask engine is still running in the background in Layer Mask mode. The "Lum Lock" and "Rapid Masks" channels are still updating as appropriate. The user, though, will be less aware of this since they won't actually being seeing different Rapid Masks with each button click or mask modification. However, the actual image will be changing at near real-time speeds as the updated masks are automatically applied as layer masks. In this way, Layer Mask mode provides an image-based method for choosing the best mask for a particular situation.

Incorporated into Layer Mask mode is an optional "2-UP" view which shows the layer mask and the image at the same time but in separate windows. It is turned on by clicking the 2-UP (optional) checkbox. The Vertical and Horizontal buttons that appear then allow a choice of the preferred 2-UP orientation. Once the 2-UP view has been established, the user can use the SOURCE, MASK, and MODIFY buttons of Layer Mask mode. As they do, they will see both the mask and image updated in the two different windows. 2-UP view is particularly useful in those cases where the user wants to paint on the mask directly instead of using the module's buttons to change the mask. The user can see what they paint and how it affects the image at the same time. The double-square button (□ □) is for those situations where one of the 2-UP windows has been zoomed-in. Clicking the □ □ button synchronizes the two different views so they are both zoomed to the same part of the image.
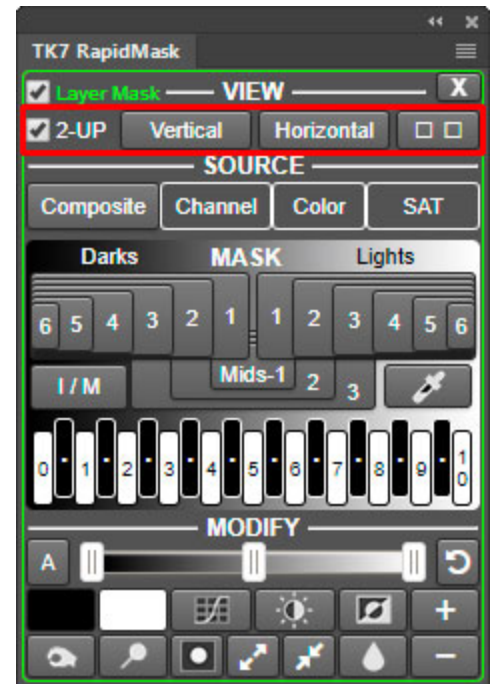

NOTE #1: 2-UP view cannot be closed using the RapidMask module. Un-checking "2-UP" in the module turns off the function, but the user also needs to manually close one of the windows when they are through using it. Also, 2-UP view is programmed to work when only one image is open in Photoshop since multiple open images can make 2-UP viewing somewhat confusing.

NOTE #2: The mask calculator in Layer Mask mode is a simple Plus(+) or Minus(-) operation whereby the next mask generated instantly undergoes that operation with the previous mask. There is no option to modify the mask before the operation completes due to the complexity of the 2-UP view.

User-Created Color Masks
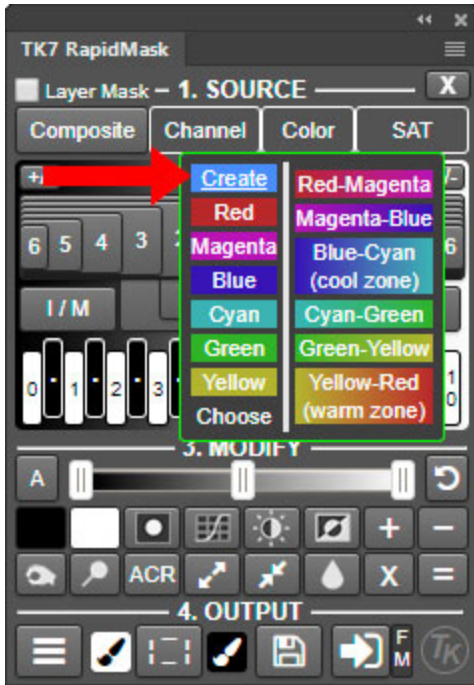
The Rapid Mask engine uses calculations to generate and modify all the masks in the RapidMask module with one exception, and that is the user-created color mask. This option is accessed in the SOURCE section using the Color > Create menu item. It is available in both Rapid Mask mode and Layer Mask mode. Clicking this option creates a temporary state with new adjustment layers added to the Layers panel in a "Create Color Mask" group. A Black & White adjustment layer is part of the temporary group and its presence makes it possible to use the group to produce a monochrome image that can eventually be turned into a matching mask. In other words, by converting the actual image to black and white with adjustment layers, the image itself becomes a mask preview. Before getting turned into a mask, though, the adjustment layers can be used to fine-tune the preview to make a custom mask for the image.
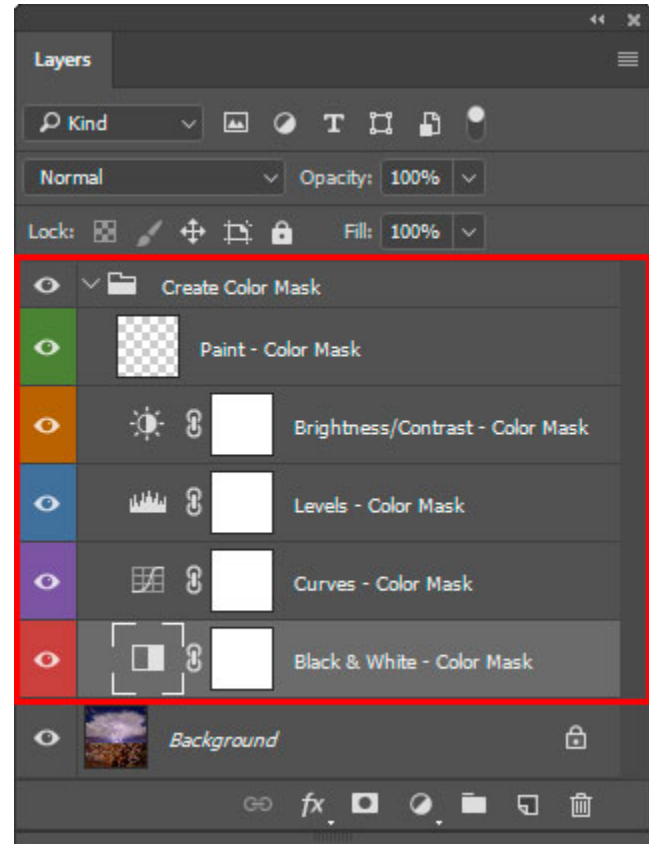
The Properties panel for the B&W adjustment layer automatically opens when generating a user-created color mask. The color sliders in the Properties panel are used for customizing the mask preview based on image color. There are six different sliders and they can be used to make the corresponding image colors either lighter or darker in the mask preview depending what needs to be emphasized in the final mask. The presets in the drop-down menu can also be used as can the panel's targeted-adjustment tool. The goal is to make specific colors in the image that will be targeted by the mask lighter and to make colors that should not be targeted by the mask darker. The Black & White adjustment provides a unique opportunity to work with specific colors in real time to generate the ideal mask.

TK7 Panel
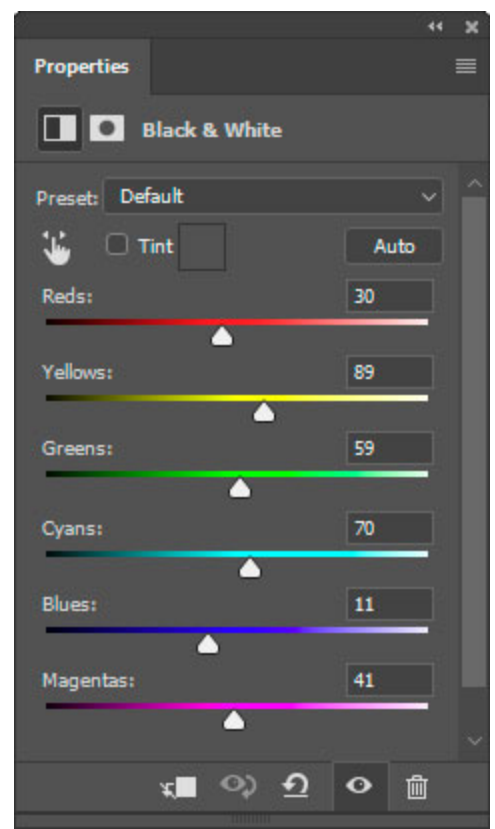
Beyond the Black & White adjustment layer, it's also possible to use the other adjustment layers in the temporary "Create Color Mask" group (Curves, Levels, and Brightness/Contrast) to modify the mask preview. There's even a blank pixel layer that can be painted black, white, or gray depending on what is needed for the mask.
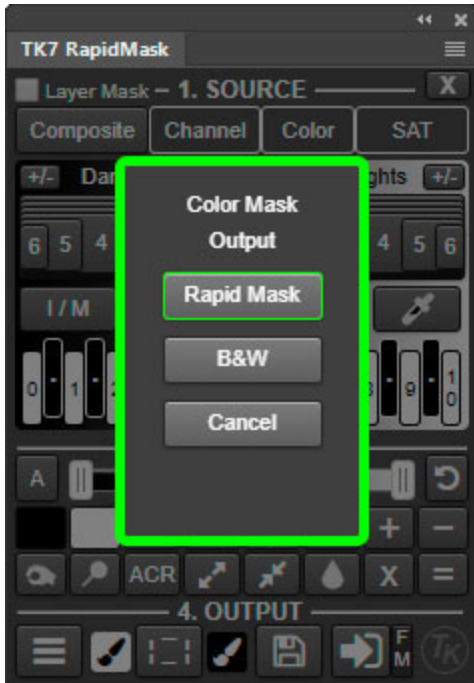

As the temporary "Create Color Mask" group is generated on the Layers panel, some temporary buttons also appear on the RapidMask module. Once the mask preview has been adjusted to the user's satisfaction, clicking the Rapid Mask button in the new buttons on the RapidMask module moves it into the normal Rapid Mask process. That is to say, it is luminosity-locked on the Channels panel in the "Lum Lock" channel and a Lights-1 "Rapid Mask" channel is generated and displayed on-screen. The temporary adjustment layers are deleted in the process. So by clicking the Rapid Mask button, the mask preview converts to an actual Rapid Mask. The on-screen image goes from being a mask preview generated by the temporary adjustment layers to being an actual mask that is stored in the "Rapid Mask" channel. The user actually sees no change in the on-screen image, but a lot of things have happened in the background to convert the mask preview to a Rapid Mask.

Once the mask preview has been luminosity-locked on the Channels panel, all the MASK, MODIFY, and OUTPUT buttons can be used with it. The user-created color mask is now fully accessible within the Rapid Mask engine. The calculations that can be performed on other masks generated by the RapidMask module can now be carried out on the user-created color mask as well.

The user-created color mask in Layer Mask mode works the same as in Rapid Mask mode except it uses an Apply button instead of a Rapid Mask button. In Layer Mask mode, the mask preview is automatically applied to the active layer on the Layers panel. It is also fed into the Rapid Mask engine, so it is fully compatible with the MASK and MODIFY buttons of Layer Mask mode.

Because they become part of the Rapid Mask engine, user-created color masks can be added and subtracted using the Plus(+) and Minus(-) buttons on the RapidMask module.

IMPORTANT NOTE: User-created color masks are only available for images in RGB Color mode since the Black & White adjustment layer necessary for generating the mask preview requires this mode.
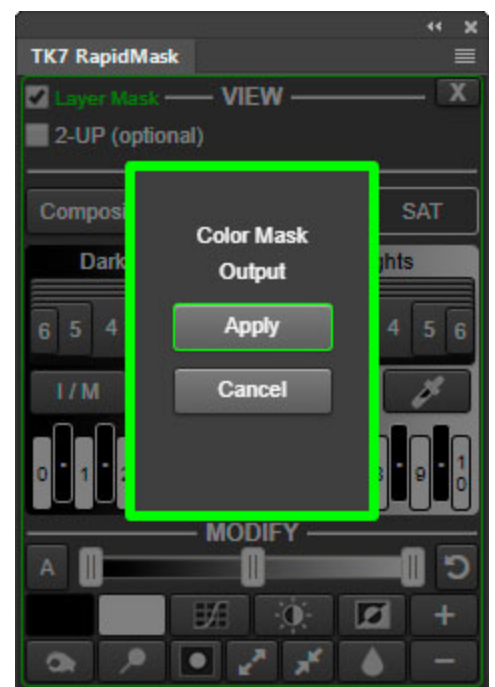
Converting Color Images to Black and White
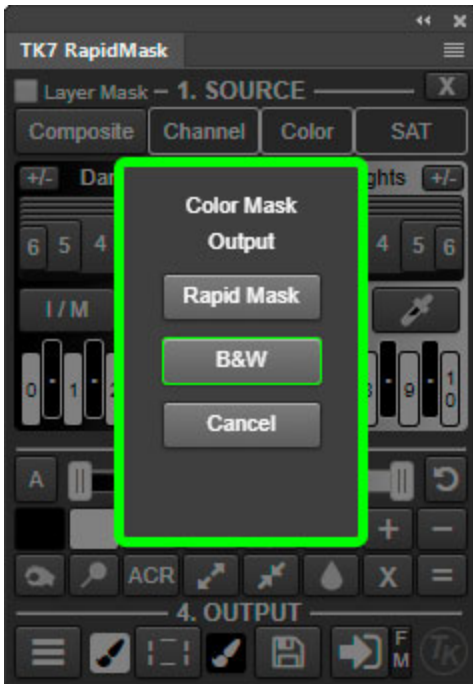
As I was developing the user-created color mask, it quickly became obvious that the temporary group of layers used to create the mask preview were also ideal for converting color images to black and white. As such, an option was added to the buttons that appear when the temporary adjustment layers are created. The B&W button preserves the temporary group of layers by renaming the group "Convert to B&W." In this case, the mask preview is NOT converted to a Rapid Mask. The temporary group becomes permanent and the user can further modify the adjustment layers in the group if necessary. Below is a color image that was easily converted to monochrome using this process.

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The "X" Button

There is an X button in the upper right corner of the SOURCE section. Its purpose is to clean the Channels panel of any masks created by the RapidMask module. User-created masks are not removed. Only the various masks calculated by the module ("Lum Lock," "Rapid Mask," etc.) are deleted. *NOTE: In the TK7 panel, there should be much less need to use the X button if the "Keep Channels panel clean" option is checked in the settings for the RapidMask module. This option will automatically delete the module-generated masks during most OUTPUT processes.*

Go module

The Go module is the newest addition to the TK7 panel. It's an effort to rethink the masking workflow based on feedback I've received on how the RapidMask module is used and which features are most important. Over the years, more and more functions have been incorporated into the RapidMask module, and overall it's done a great job of accommodating them. But based on the comments from other users and the way I use the panel myself, it's worth asking if there are alternatives that could be simpler and more efficient. The Go module provides this new level of functionality. It takes the most frequently used features of the RapidMask module and puts them on the main interface. It also guides the user through the masking process. There are familiar sections from the RapidMask module and some new ones. There are familiar buttons from the RapidMask module and some new ones. There are familiar masks from the RapidMask module and some new ones. Anyone who has used the RapidMask module will understand much of what the Go module does, but the layout and flow will make the process of creating and using custom pixel-based masks even better, both for experienced users and for people starting to work with these masks for the first time.

NOTE: The term "pixel-based masks" refers to masks based on specific data sets common to all pixels. Luminance, hue, and saturation are the primary data types that serve as the source for pixel-based masks. Pixel-based masks are able to take one set of data and generate a variety of different masks based on that data. Luminosity masks, for example, use pixel luminance as the data source and use this data set to make Lights masks, Darks masks, Midtones masks and Zone masks. Using pixel data to generate masks is what gives them their self-feathering character and insures seamless blending when they are used to adjust an image.

There are three main sections to the Go module:

1. MASK
2. MODIFY
3. OUTPUT

These sections correspond to the steps needed to make and deploy pixel-based masks. Each has its own section on the Go module with a slightly different shade of background brightness to better separate the three sections. The workflow for making and using the module's masks matches the arrangement of the sections: top-to-bottom.

The main interface for the module is meant to cover the majority of masking processes most users will need, but there are also some secondary menus for specialized purposes.

- Enhanced OUTPUT menu.
- Layer Mask mode for layer mask modification.
- Rapid Mask mode for mask modification.

These specialized menus will be discussed later. As you get more skilled at using these masks, some of these alternate menus might be helpful. However, they are not required for most mask applications and, for some users, may never be necessary or used at all. To quickly start using the panel, just focus on the main interface and the MASK/MODIFY/OUTPUT process. These three stages are designed to meet the needs of most users. The whole point of the Go module is to simplify masking, making it more approachable for first-time users and also highly efficient for the those already familiar with pixel-based masking. At the same time the Go module retains the critical features of the RapidMask module—mask previews that generate rapidly, 16-bit masks, channel masks, zone masks, infinity color masks and saturation/vibrance masks.

NOTE #1:   The Go module only works in RGB Color mode (8-bits and 16-bits per channel).

NOTE #2:   The Go module and the RapidMask module should not be used in combination. While the Go module has a Rapid Mask mode, it's not meant to be used with the buttons on the RapidMask module.

1. MASK

One of the most important things to know about the Go module is that it's using an entirely new method to generate masks. The RapidMask module used a Rapid Mask engine that relied on actual masks being saved to the Channels panel as they were generated. The Go module uses mask previews instead. Like with the Rapid Mask engine, you still see the mask preview on-screen as it's being generated and modified in the Go module, but it's all happening inside the "_TK_Mask_Preview" group that's created on the Layers panel. There are no actual masks on the Channels panel like with the Rapid Mask engine. Everything is happening in real-time on the Layers panel instead.

The top part of the MASK section has six buttons that allow you to choose a source for the mask. Masks can be generated based on:

1) The luminance values in the image (Luminosity masks and Zone masks),
2) The colors in the image (Infinity Color masks and Adjustment Layer Color masks),
3) Color saturation (Saturation and Vibrance masks), or
4) User data in the form of user-created and user-saved selections, channel masks, and layer masks (My Channels masks).
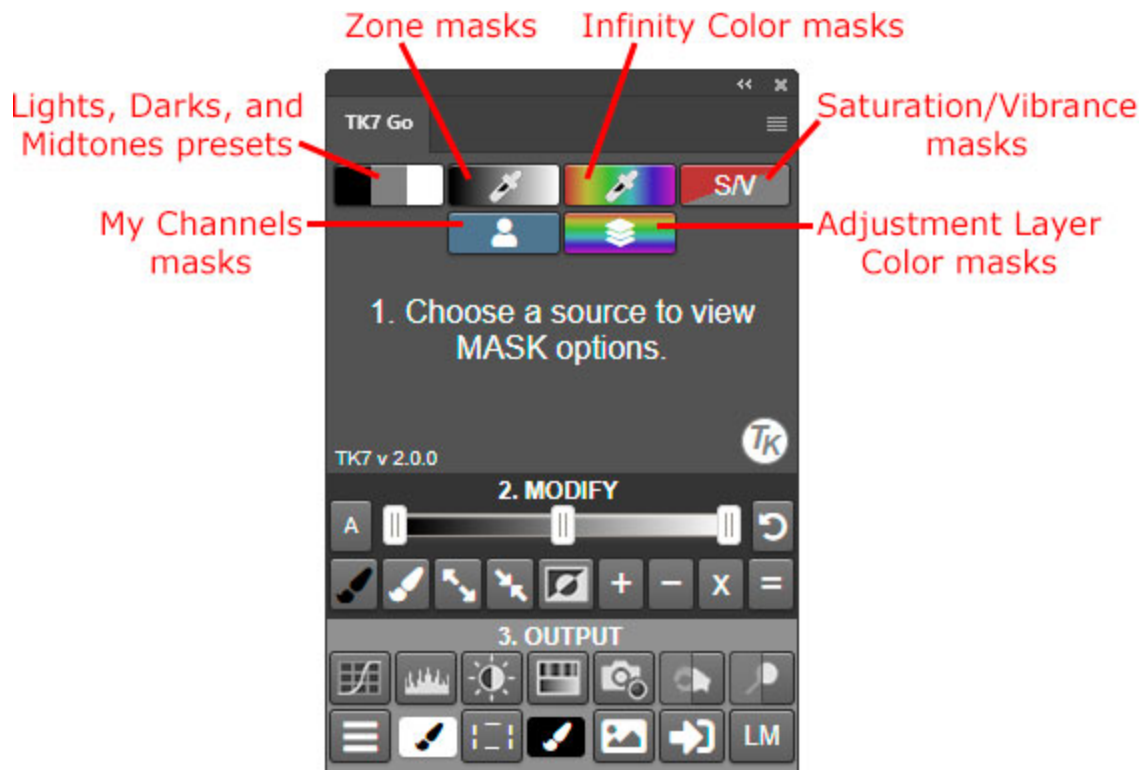
The six buttons are used to select pixels based on these different parameters, and then the different pixel-based values get mapped into grayscale masks. Clicking one of the buttons updates the module's interface with mask options specific to that type of mask. There's a different interface for each button. Many of these are similar to the single interface found in the RapidMask module, but there are labels in the Go module that better describe exactly what type of mask is being made. In addition, the Go module keeps track of the type of mask being generated by using the module's accent color to highlight the entire path to the current mask.

NOTE #1: You can change your MASK source at any time. Simply click a different button and the Go module updates its interface and the on-screen preview to match the new mask source.

NOTE #2: When the mask interface appears, so will an Image/Mask toggle button and an X button. The Image/Mask toggle button toggles between seeing the mask preview and the actual image the mask is based on. The X button cancels the mask creation process.

NOTE #3: For the fastest response when making masks with the Go module, keep Photoshop's Properties panel closed.

Lights, Darks, and Midtones presets

The buttons in this interface are similar to those found in the RapidMask module. They are used to generate the standard Lights-, Darks-, and Midtones-series luminosity masks. However, there are seven buttons near the top that now provide the different channels that can be used to generate masks:

Lum – This channel option is the default for this section and makes traditional luminosity masks like those described in the original tutorial. The masks generated correspond to the Lights, Darks, and Midtones masks that use luminance of the Composite RGB image as the data source.
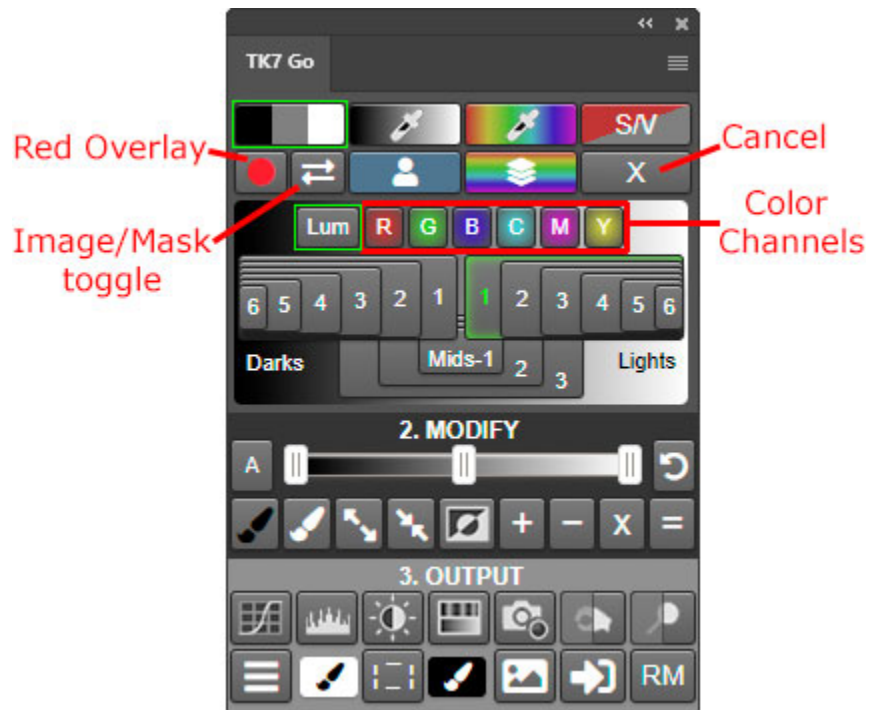
Red (R), Green (G), Blue (B), Cyan(C), Magenta (M), and Yellow (Y) buttons – These are the channel buttons in the Go module. The Red (R), Green (G), and Blue (B) buttons produce masks corresponding to the Red, Green and, Blue channels that make up the composite image. The Cyan(C), Magenta (M), and Yellow (Y) buttons make masks for the corresponding "channels" via an analogous method for creating the Red, Green, and Blue channels masks. While there is no matching channel for these colors in RGB Color mode, the Go module can simulate them based on its method for producing masks.

NOTE 1: The Go module allows you to flip between the seven different channels at any time when generating and modifying a mask. This ability flip-on-the-fly provides a quick and efficient way to determine if different channels might yield a more useful mask.

NOTE 2: In the different interfaces, the buttons leading to the chosen mask will either be outlined in the module's accent color or have an accent-colored inner shadow. For example, in the image shown there is a green outline on the Lights, Darks, and Midtones presets button and around the Lum button. The Lights-1 button also has a green inner shadow. This indicates that a Lights-1 traditional luminosity mask is currently being displayed on screen. Green is the default accent color, but this can be changed in the module's settings.

The <u>Red Overlay</u>, <u>Image/Mask toggle</u>, and Cancel (<u>X</u>) buttons are present in all interfaces that provide different mask source options.

The <u>Red Overlay</u> button changes the revealed areas in the mask preview to colors that range from bright red to faint pink depending on the degree to which the pixels are selected. Pixels that are 100% selected will show as 100% saturated red color when the overlay is active. As the degree of selection falls, so does the intensity of the color. Once pixels turn a texture-less gray color with the overlay turned on, pixels are 0% selected. The color sometimes helps to better see weakly selected pixels that would otherwise be nearly black in the mask preview. If you like this red overlay, you can leave it turned on. The MASK, MODIFY, and OUTPUT sections continue to work properly with this option active.

The <u>Image/Mask toggle</u> button toggles between viewing the mask preview and viewing the actual image on which the mask preview is based. Quickly toggling back and forth can help determine if the mask being created is properly targeting the desired parts of the image.

The Cancel (<u>X</u>) button exits the process of generating a mask. The active interface is hidden and the layers on the Layers panel that were used to create the mask preview are deleted.

(Infinity) Zone masks

The Zone masks in the Go panel are completely new and are so flexible that they can rightly be referred to as "Infinity" Zone masks now. The RapidMask module only had a series of 21 preset zones and even the Pick option would end up choosing one of these preset masks. With the Go module, Zone masks have been infinitized, meaning the restriction for using presets has been eliminated. Presets for the major zones are still available, but there are now sliders and sampling options so that completely customized Zone masks are now possible.

Because these new Zone masks are so precise, the first step in making one is to choose a tone from the image around which you wish to build the mask. To do this, Photoshop's Color Picker opens when you click the button to create Zone masks. Use it to select a tone from the image as the basis for making a mask. Click the
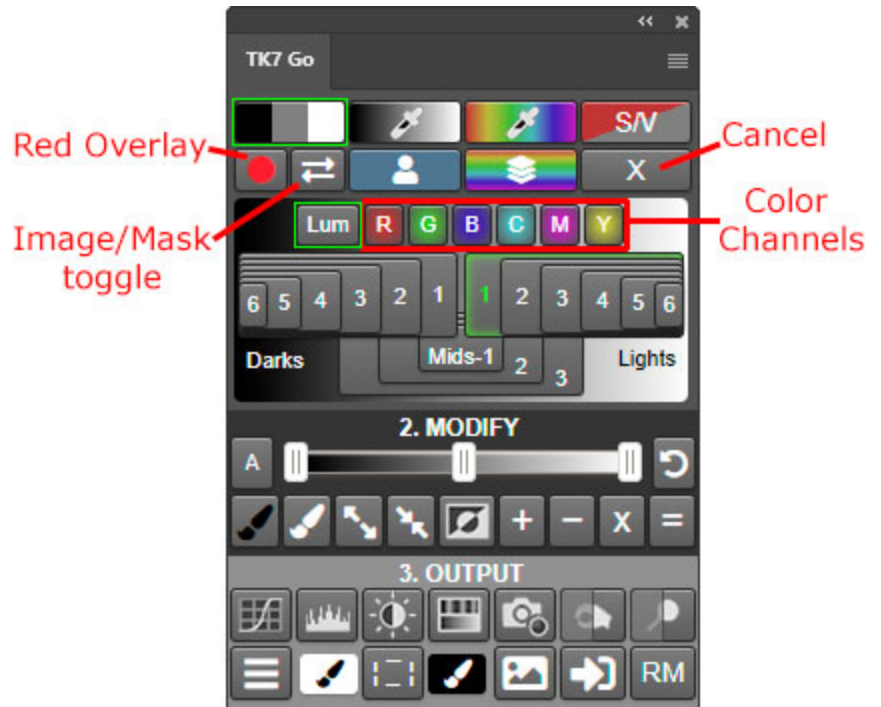
Color Picker's <u>OK</u> button to generate an initial Zone mask centered on that tone. The mask preview displays on screen and the sliders are set to the values that create that mask. You can refine the mask in a number of ways using the controls described below.
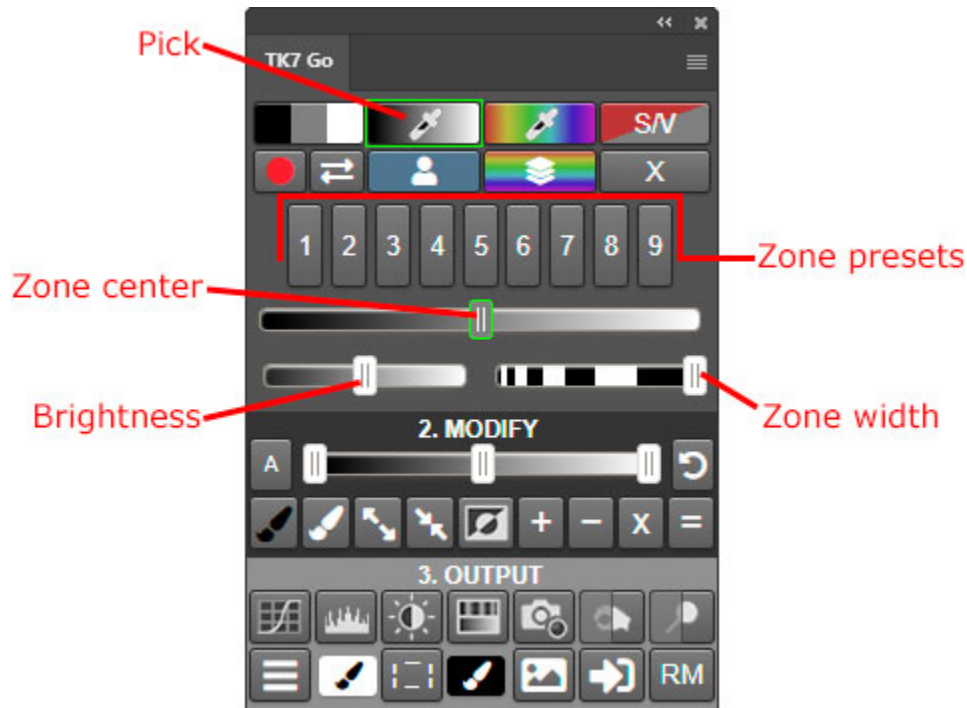
<u>Zone center</u>—Shows the tone that will be brightest in the mask. This handle can be moved along the slider to choose a Zone center that roughly matches the gray value on the slider. In the above image, the slider handle is centered on middle gray and so would be generating a Zone 5 mask on-screen. *NOTE: If you have your Eye Dropper tool set to "3 by 3 Average" or "5 by 5 Average" the image tone you selected means the initial Zone center should already be quite accurate at making your selected tone the lightest tone in the mask and there may be very little need to adjust the Zone center afterwards.*

<u>Brightness</u>—Determines how bright the lightest gray value will be in the mask. *NOTE: Zone masks generally work better when there is no pure white in the mask.*

<u>Zone width</u>—Adjust the Zone mask's tonal width. By default the Zone width slider is set to generate the widest possible Zone mask. As the slider handle is moved to the left the selected zone becomes narrower while remaining centered at the position of the Zone center slider handle. Extremely narrow Zone masks, especially for midtones, can sometimes lack sufficient pixels for smooth blending, so be a little cautious in adjusting the Zone width in order to assure well-feathered edges.

<u>Pick</u>—The top-level button for Zone masks allows you to change your selected tone at any time. Simply click it to open the Color Picker to choose a new tone from the image as a starting point for making a Zone mask

Zone presets (1 through 9)—Makes preset Zone masks based on specific tones. Pressing one of the Zone preset buttons positions the Zone center slider handle under that button and resets the Brightness and Feathering sliders to their default positions. The Brightness and Feathering sliders can, of course, still be used to further fine-tune the preset Zone mask.

NOTE: Zone masks can be generated for any tone, however, to create a Zone 0 mask (100% black), consider using a Darks luminosity mask, like Darks-5 or Darks-6; and to create a Zone 10 mask (100% white), consider using a Lights luminosity mask like Lights-5 or Lights-6. Lights- and Darks-series masks already emphasize the pure white and pure black tones at the two ends of the tonal spectrum, and there are more options, like color channels, in the interface that creates the Lights, Darks, and Midtones masks.

Infinity Color masks

Infinity Color masks were originally introduced in the RapidMask module in September 2019. The interface is used to generate masks based on color hue. The Go module adds a few new features.

- It's no longer necessary to convert the mask preview to a Rapid Mask in order to deploy it. The OUTPUT section of the Go module allows the mask preview to be immediately deployed once you're satisfied with it.
- The Go module also offers a series of 12 preset color zones that can provide a quick method for creating a mask based on a particular color.
- There is an improved brightness slider. It offers more control and it's now possible to make brighter masks even for low-saturation colors.

To create an Infinity Color mask, click on the multi-colored button in the top row of the Go module. The Photoshop Color Picker opens. Use its eyedropper to select a color from the image around which the mask will be built. Clicking OK on the Color Picker opens the Infinity Color mask interface. You can then use sliders and buttons in the figure below to further adjust the mask.
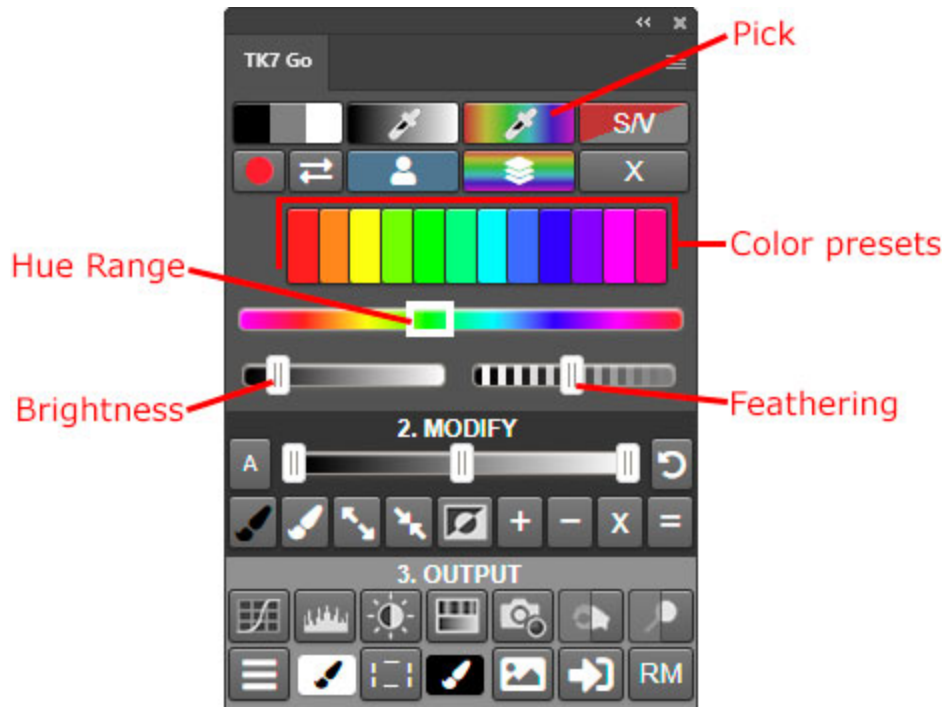
Hue Range—Selects the range of hues around which the Infinity Color mask is built. Click and grab either side of the box to expand or contract the hue range. To move the entire box keeping the width of the Hue range constant, CTRL/command+click on one side of the box and then while holding down the mouse button, slide the entire box left or right.

Brightness—Adjusts the brightness of the Infinity Color mask. Masks that attempt to target weak colors (those with low levels of color saturation) will usually benefit from an increase in brightness.

Feathering—Adjusts the color feathering into surrounding colors. This is feathering based on color hue, not on brightness and not on the physical proximity to the selected color. This color feathering allows excellent blending of adjustments through Infinity Color masks into the rest of the image.

Color presets—Makes preset infinity color masks based on the color of the button clicked.

Pick— The top-level button that initiates Infinity Color masks also serves as a pick button. Clicking it opens the Color Picker to select a new color from the image as a starting point for making an Infinity Color mask.

Note: Sean Bagshaw has an excellent video on Infinity Color masks that shows some of the many ways they can be used.

Adjustment Layer Color masks

While Infinity Color masks are probably an easier way to create a mask based on color, Adjustment Layer Color masks also have some special utility when it comes to making a color mask. Specifically, this type of color mask can include neutral colors, like white and gray, as source pixels for the mask. Neutrals are colors with zero saturation. They display as black and are concealed in an Infinity Color mask. With Adjustment Layer Color masks, though, neutrals are present in the mask based on how bright they are in the image. Gray and white clouds, for example, will be present in an Adjustment Layer Color mask in proportion to how bright they are in the image regardless of the color chosen to be brightest in the mask. This characteristic can be either positive or negative. Sometimes, for example, it's helpful to include the clouds when selecting a blue sky. In this case, an Adjustment Layer Color mask will work better than an Infinity Color mask.
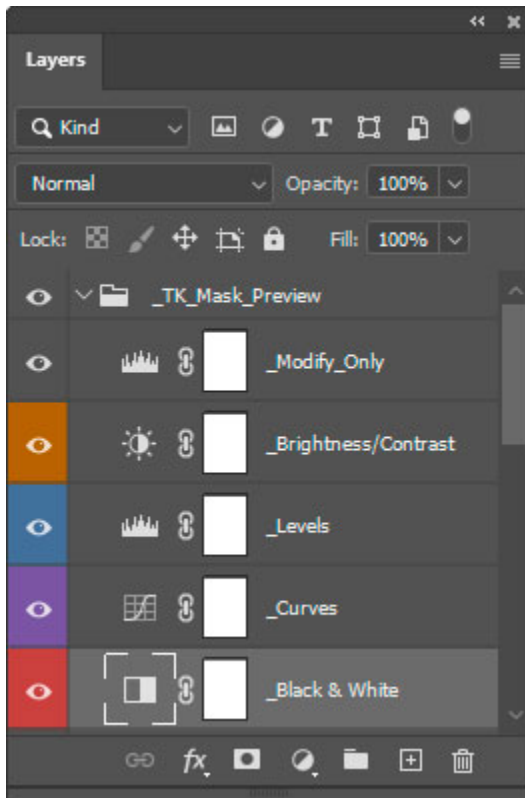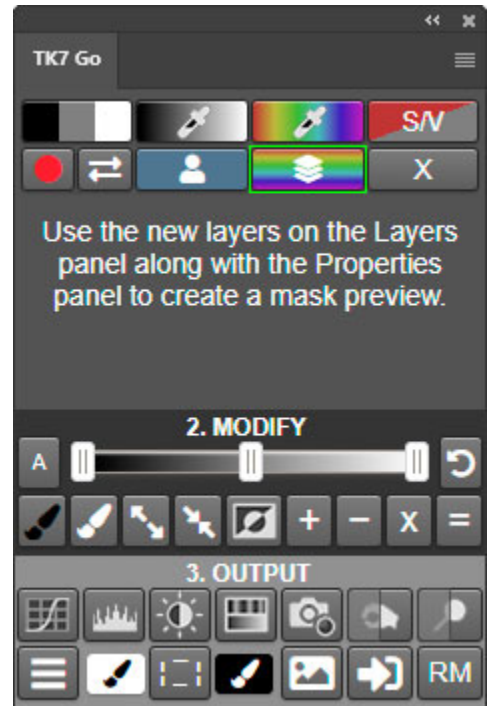
Another reason to consider using Adjustment Layer Color masks is that they offer a high degree of customization that is easy to control. Adjustment Layer Color masks use familiar adjustment layers to create a mask preview. The primary one is the Black and White adjustment layer. Moving a slider in the Properties panel either darkens or lightens the mask preview for the specific color associated with that slider. The targeted adjustment tool in the Properties panel can also be used to select which color gets adjusted. In addition to the Black and White adjustment layer, Curves, Levels, and Brightness/Contrast adjustment layers are also present and can be used to help fine-tune the mask preview. Adjustment Layer Color masks were also present in the RapidMask module. The video in this blog post compares and contrasts Adjustment Layer Color masks and Infinity Color masks using the RapidMask module.

Saturation/Vibrance masks

Saturation and Vibrance masks have been discussed in detail elsewhere in this document (see SATURATION/VIBRANCE section) and there's more information and a video in this tutorial. The Go module's interface for these masks makes it more obvious as to the type of mask (Saturation or Vibrance) that is being generated. Global and local adjustments with these masks open a new world of precision saturation control that isn't normally part of the workflow. The Go module interface simplifies the generation of Saturation/Vibrance masks so that purposefully addressing saturation becomes a new creative tool for developing images.

My Channels masks
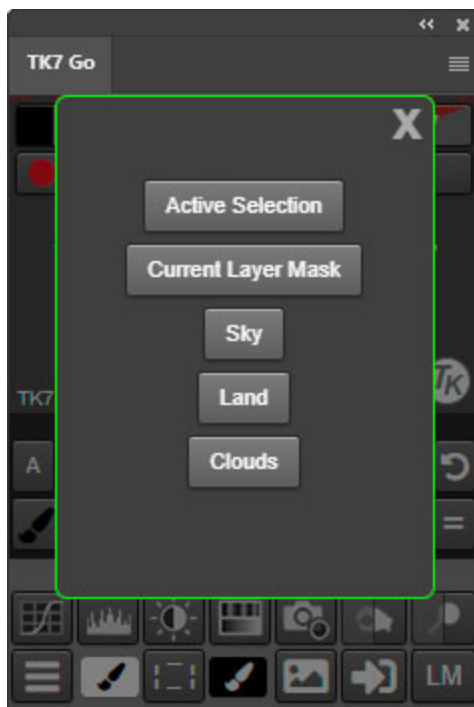
My Channels masks are a way to quickly bring existing selections and masks into the mask-making process. Click the My Channels button to open a button menu of available options. Depending on the current state of the image, the following items will appear on the list:

- The current active selection (if one exists)
- The current layer mask of the active layer (if one exists)
- User-saved alpha channels on the Channels panel (if they exist)

Clicking the top-level My Channels button scans the current image document for all these options. Those found will be displayed as buttons in a new window that opens on the Go module. Clicking one of the buttons loads that option as a new mask preview, and from there, all the buttons in the Go module's MASK, MODIFY, and OUTPUT sections can be used to refine and deploy it. My Channels masks are particularly useful for calculations using the mask calculator in the MODIFY

section. Highly specific masks can be created by combining pixel-based masks generated by the Go module with an active selection or with masks previously saved by the user that target specific elements in the image.

This video by Sean Bagshaw shows several ways to use My Channels masks. It uses the RapidMask module, but the same concepts apply with the Go module.

Calculated masks

The final MASK interface window only appears after completing a calculation using the mask calculator in the MODIFY section. There is no top-level button for the Calculated interface. It is only activated after clicking the Equal (=) button to finish a mask calculation. It's very similar to the Lights, Darks and Midtones presets interface except it lacks the different channel options (Lum, R, G, B, C, M, and Y), which aren't applicable since this interface is for making different masks from a calculated mask source and NOT directly from the image. Calculated masks can themselves be used for additional calculations with the mask calculator. Simply click one of the calculator buttons (+, -, or x), choose or generate a second mask, and click the Equal (=) button to create a new calculated mask, which also updates the source mask for the Calculated interface.

The mask calculator is explained in greater detail under the MODIFY section below.

2. MODIFY

The top part of the Go module is used to select a mask type (Lights, Darks, Midtones, Zone mask, Infinity Color mask, etc.) and to create an initial mask based on the buttons and sliders available in that particular interface. However, modification of this initial mask is sometimes necessary to better target specific parts of the image. The MODIFY section of the module allows several modification procedures to be accomplished quickly and accurately. The figure below labels the different buttons and is followed by a description of each button and how it is used.
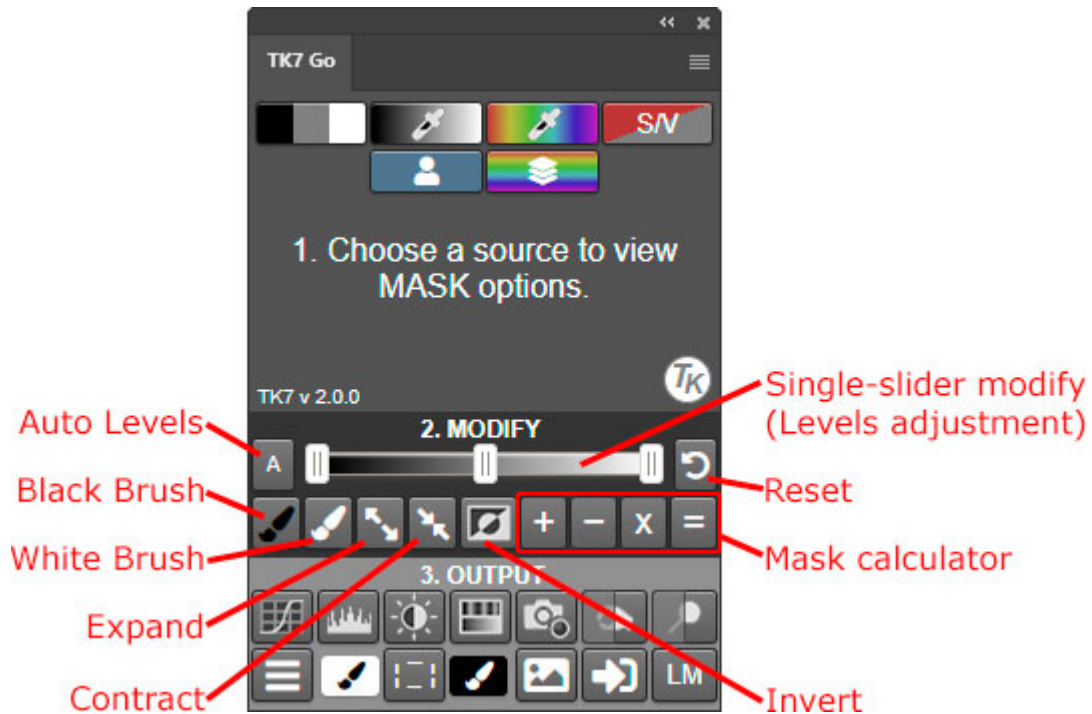
Auto Levels button. This button performs an auto-Levels adjustment on the mask so that the tones in the mask extend from pure black to pure white (0 to 255). This adjustment is useful for adding contrast to a mask that might only have gray tones. The increased contrast helps to better visualize what will be selected by the mask. However, for some masks, like Zone masks, slightly grayed-down masks tend to work fine. Grayer masks allow adjustments and painting through the mask to occur more gradually, which expands the fine control possible with these masks. Having a full range mask (0-255) is not always necessary or even worthwhile. Use the Auto button judiciously to optimize the mask for the intended application. Like with many things in the panel, experiment to see what works best.

Levels slider (single-slider modify). This slider works like a regular Levels adjustment layer slider with the exception that you need to release the slider handles to initiate the Levels adjustment. While the update to the mask is very quick, it's not real-time when moving a slider handle with the mouse. To get faster, near real-time response from this slider, click to the left or right of a slider handle. The handle then jumps to this new position and instantly updates the mask with the

Levels adjustment corresponding to the new slider position. When clicking on the slider bar, the handle closest to the clicked position moves.

Reset button. Resets all modifications so that the mask returns to what it was before any modification occurred.

Black Brush and White Brush buttons. These two buttons activate the corresponding brush color (black or white) so that you can paint that color directly on the on-screen mask preview. Black paint conceals what is selected by the mask and white paint reveals what is selected by the mask. Brush opacity is automatically set to 100%. Select brush size and hardness as required to achieve the desired modification to the mask.

Expand and Contract buttons. These buttons move the Levels slider in small increments to either reveal pixels to a greater degree in the mask (Expand) or to conceal pixels more (Contract). You can watch the Levels slider move as you click these buttons. The Expand and Contract buttons can affect different handles on the Levels slider. So clicking Contract after clicking Expand won't necessarily undo the original Contract action. The Reset button undoes all the previous Expand and Contract actions that have occurred and that are showing on the Levels slider.

Invert button. Inverts the mask. This is useful for making a mask that conceals parts of the image that were originally selected.

Mask calculator. The mask calculator works pretty much like a regular calculator. Start by creating a mask preview. Then click an operator. Plus (+) for addition. Minus (-) for subtraction. Multiply (x) for intersection. Then make another mask preview. Finally click the Equal (=) button to perform the chosen operation on the two mask previews. The two mask previews used in a calculation are the one present immediately before an operator (+, -, x) is pressed, and the one immediately before the Equal (=) button is pressed. Any mask previews involved in the calculation can be refined using the MODIFY buttons before including it in a calculation. Here are some examples of useful calculations:

Subtracted masks. One example is to subtract a more restrictive mask from a less restrictive mask. Lights-1 minus Lights-3, for example, creates a calculated mask that removes the much lighter tones of Lights-3 from those selected by Lights-1. Another example is to subtract a color mask (like an Infinity Color mask targeting blue) from a Lights-1 luminosity mask. Such a mask makes it possible to remove pixels based on color from those originally selected based on luminosity (luminance).

Mask addition. Combines two masks into a new calculated mask. A My Channels mask targeting one element in the image could be added to another My Channels mask targeting another element to create a single mask that targets both elements.

Intersected masks. These are useful when combining a selection saved as a mask on the Channels panel, like that of the land or sky, with a pixel-based mask. First

create a pixel-based mask (a luminosity mask, for example) using the module's MASK section, which would target tones throughout the image. Then intersect it with the saved selection using the My Channels option in the MASK section. In this way a pixel-based mask can be confined very accurately to selected areas previously saved for the image.

NOTE #1: Clicking a mask calculation button a second time turns off the mask calculator. If a calculation button was clicked in error, simply click the same button again and the mask calculator will no longer be active.

NOTE #2: The mask calculation is performed using the last calculation button clicked. If the incorrect calculation button is clicked simply click the correct button. When you click the Equal (=) button, the calculation using the operator highlighted with the module's accent color is carried out.

3. OUTPUT

The OUTPUT section of the Go module is where the mask preview that is being generated, viewed, and modified on-screen is actually turned into a mask or selection and put to use to alter the image. The most common output options are available in the two rows of buttons in the OUTPUT section. The figure below identifies each button, and the paragraphs that follow describe the operation of the buttons and provide additional information regarding their use.

NOTE #1: With the exception of the Save Mask option in the Output menu, the mask preview is removed from the Layers panel when output occurs. It's not possible to reuse mask previews because generally the Layers panel will be needed to further adjust the image once the mask preview is deployed.

NOTE #2: Many OUTPUT buttons work even if there is no mask preview. If an OUTPUT button is clicked with no mask preview visible, the type of layer identified by the button will be created with a standard white (Reveal All) layer mask. If a selection is active that selection will be applied as a layer mask. A warning message will be displayed when a mask preview is required for the button to work.
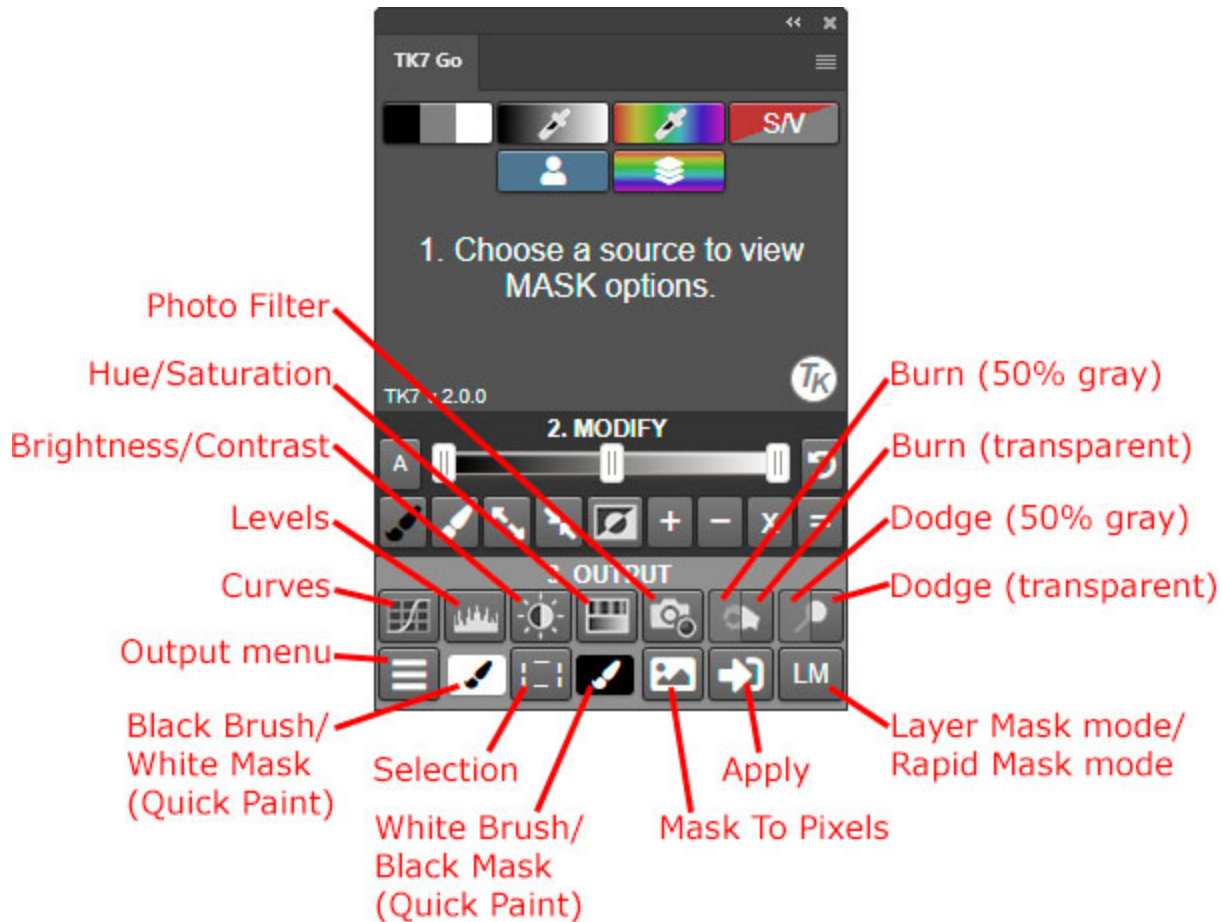
Curves, Levels, Brightness/Contrast, Hue/Saturation, and Photo Filter buttons. These buttons create the corresponding type of adjustment layer with the mask preview as the layer mask on the layer. The Properties panel opens to facilitate making the appropriate adjustment. The layer mask filters the adjustment to the pixels selected by the mask.

Burn/Dodge buttons. Both these buttons have two sides. A "gray" side on the left and a "transparent" side on the right. Clicking the "gray" side creates that type of layer (Burn or Dodge) with the layer filled with 50% gray. The advantage of using a 50% gray layer for burning and dodging is that it's easier to see where you've burned and dodged on the image since the black and white paint is more obvious against the 50% gray background. The transparent sides of these buttons (the right side) create a Burn or Dodge layer that is completely transparent. The advantage to using transparent layers for burning and dodging is that the paint applied to the layer can easily be loaded as a selection by CTRL/command+clicking on the layer itself. This selection can then be used as a layer mask for additional adjustment layers that affect the painted pixels. In addition to making the chosen type of Burn/Dodge layer (50% gray or transparent), these buttons also load the current mask preview as a selection, activate the Brush tool, and choose the appropriate paint color (black for burning and white for dodging). After clicking the

button, adjust brush size, hardness and opacity and start painting on the image. The active selection of your mask controls which areas of the image receive paint and which don't.

Selection button. This button loads the mask preview as an active selection. This is usually done in order to paint on a layer mask (mask painting) or for burning and dodging on Burn/Dodge layers.

Quick Paint buttons. The Black Brush/White Mask and White Brush/Black Mask buttons are intended to be used to quickly set up mask painting. These buttons do several things:

1) A layer mask is generated on the current active layer that matches the background color of the button. A "Hide All" mask is black and a "Reveal All" mask is white.
2) The Brush tool is activated.
3) The foreground color is set to match the button's brush color (black or white), which is the opposite of the mask color.
4) The visibility of the active layer is turned on if it's been turned off.
5) The layer mask is selected as the painting canvas.
6) The current mask preview, if present, is loaded as a selection.
7) The mask preview, if present, is deleted after being turned into a selection.

NOTE #1 If there is an active selection but no mask preview, the selection will remain active.

NOTE #2 If there is both a mask preview and an active selection, the active selection is first deselected and the mask preview is loaded as a new selection.

Once the Quick Paint button actions finish, adjust brush size, hardness and opacity and start painting. The active selection now controls where paint gets deposited on the layer mask.

Mask To Pixels button. While layer masks and selections are the common uses for the pixel-based masks generated by the Go module, there are also uses for these masks as actual pixel layers. This button converts the mask preview to a pixel layer and places it at the top of the layer stack. This pixel layer offers one possibility for converting color images into monochrome (black and white) images. Other applications for these Mask-to-Pixel layers involve changing the layer's blend mode or opacity, or adding layer effects.

Apply button. This button provides a couple of different options for applying the mask preview as a layer mask to an active layer. To choose the layer that gets the mask, click on it to make it active BEFORE clicking the Apply button. Then when you click the Apply button, the mask preview gets added as a layer mask to that chosen layer. If you don't specifically choose an active layer before clicking this button, the layer that was active before generating the mask preview receives a new layer mask matching the mask preview.

NOTE: If there is an active selection but no mask preview, the active selection gets added as the new layer mask.

Layer Mask LM mode (<u>LM</u>) and Rapid Mask mode (<u>RM</u>) button. This one button activates the Go module's Layer Mask Mode or Rapid Mask Mode. The option to use Layer Mask mode or Rapid Mask mode depends on various factors. The panel will show the option available by displaying the button either as <u>LM</u> or <u>RM</u>. These are two of the more advanced features of the module and are discussed in their own sections below.

<u>Output menu</u> button—This button opens a menu of even more output options and is shown at the right. The left-hand column is mostly adjustment layers where the mask preview gets added as a layer mask. The other items in the menu are described below.

NOTE: Right-clicking on an item in the Output menu brings up seven color swatches. Clicking on a swatch adds that color as a background highlight to the item's name.

<u>Sat Painting</u>—This option sets up the necessary elements to begin saturation painting immediately. 1) Creates a blank pixel layer set to Saturation blend mode. 2) Sets foreground color to gray (saturation = 0%) and background color to red (saturation = 100%). 3) Activates the Brush tool. 4) If there is a mask preview (generally a Saturation or Vibrance mask for this process), it is loaded as an active selection.
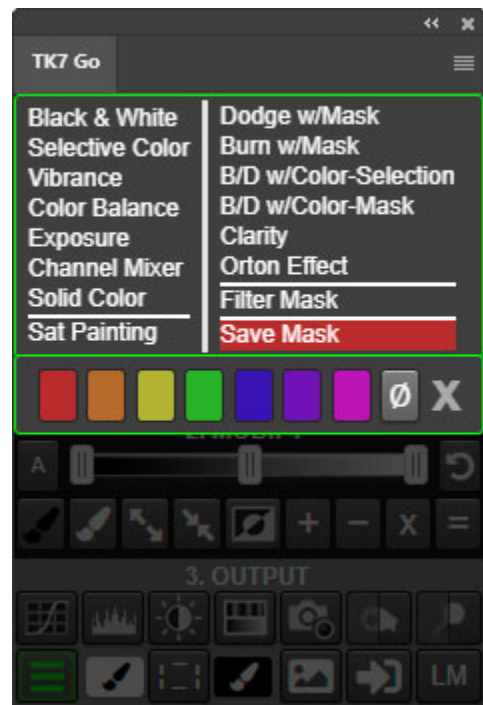
When the action finishes, adjust brush size, hardness, and opacity; and pick either gray or red as the foreground color. Gray decreases saturation and red increases saturation. The selection, if present, limits where the effect is applied. A detailed description of saturation painting is found elsewhere in this document. There is also a <u>video demonstration</u> on my website.

<u>Dodge w/Mask</u>—1) Creates a transparent Dodge layer set to Overlay blend mode. 2) Adds the mask preview as a layer mask. 3) Activates the brush tool. 4) Sets the foreground color to white. After clicking this item adjust the brush size, hardness, and opacity and paint on the image. The LAYER MASK controls where the brush strokes are revealed on the Dodge layer.

<u>Burn w/Mask</u>—1) Creates a transparent Burn layer set to Soft Light blend mode. 2) Adds the mask preview as a layer mask. 3) Activates the brush tool. 4) Sets the foreground color to black. After clicking this item adjust the brush size, hardness,

and opacity and paint on the image. The LAYER MASK controls where the brush strokes are revealed on the Burn layer.

B/D w/Color-Select—This somewhat cryptic menu item is short for: Burn/Dodge with Colored paint through an active Selection. This action does the following: 1) Creates a blank pixel layer set to Soft Light blend mode. 2) Opens the Photoshop Color Picker to allow the user to select a color, which becomes the foreground color. 3) Activates the brush tool. 4) Loads the mask preview, if present, as an active selection. Then choose brush size, hardness, and opacity and paint on the image. The SELECTION, controls where colored paint is deposited on the new layer.

B/D w/Color-Mask—This menu item is short for: Burn/Dodge with Colored paint with a Mask on the painting layer. It does the following: 1) Creates a blank pixel layer set to Soft Light blend mode. 2) Opens the Photoshop Color Picker to allow the user to select a color, which becomes the foreground color. 3) Activates the brush tool. 4) Creates a layer mask from the mask preview. Then choose brush size, hardness and opacity and paint on the image. The LAYER MASK controls where colored paint is revealed on the new layer.

Clarity—This menu item creates a Clarity layer with the mask preview, if present, as a layer mask. This option is sometimes useful if you routinely add clarity to certain tones in the image, like the midtones. The Clarity layer is a Smart Object. This allows the radius of the High Pass smart filter to be adjusted (by double-clicking the "High Pass" name) to fine-tune the result.

Orton Effect—This menu item creates the Orton Effect with the mask preview, if present, added as a layer to the Orton Effect group to control where the effect is revealed in the image.

Filter Mask—This menu item creates a filter mask of the mask preview on a Smart Object layer that has smart filters. If there is no mask preview or no smart filters, this menu option does nothing.

Save Mask—Saves the mask preview as an alpha channel on the channels panel. A dialog window opens to allow you to give the mask a new name. *NOTE: Unlike the other output options, saving the mask preview does not delete it. The mask preview can still be deployed using other OUTPUT options after saving it as a channel mask.*

4. Rapid Mask mode

Rapid Mask mode is an advanced feature of the Go module provided to support two specialized cases:

- To access additional modification options for the mask being created.
- To deploy the same mask repeatedly, like on different types of adjustment layers, in quick succession without actually saving the mask on the Channels panel.

To enter Rapid Mask mode, first create a mask preview using the Go module's main interface. When a mask preview is present, the button in the lower right corner of the OUTPUT section will say "RM" instead of "LM." Clicking the <u>RM</u> button starts the Rapid Mask engine, which takes the Go module's mask preview and turns it into two new channels on the channels panel: "_Lum_Lock" and "_Rapid_Mask." These channels are needed to run the Rapid Mask engine.   You won't notice any change in your on-screen view, but a lot has happened in the background. In Rapid Mask mode, you are viewing the "_Rapid_Mask" channel on the Channels panel instead of the mask preview on the Layers panel. The mask preview was deleted when the Rapid Mask engine took over. While in Rapid Mask mode, you'll primarily be viewing the "_Rapid_Mask" channel. I'll be referring to this view as "the Rapid Mask" in the following discussion.

Entering Rapid Mask mode generates a new interface on the Go module. There are only two main sections: MODIFY and OUTPUT. The image below labels the buttons in the MODIFY section and they are described in more detail below the image.
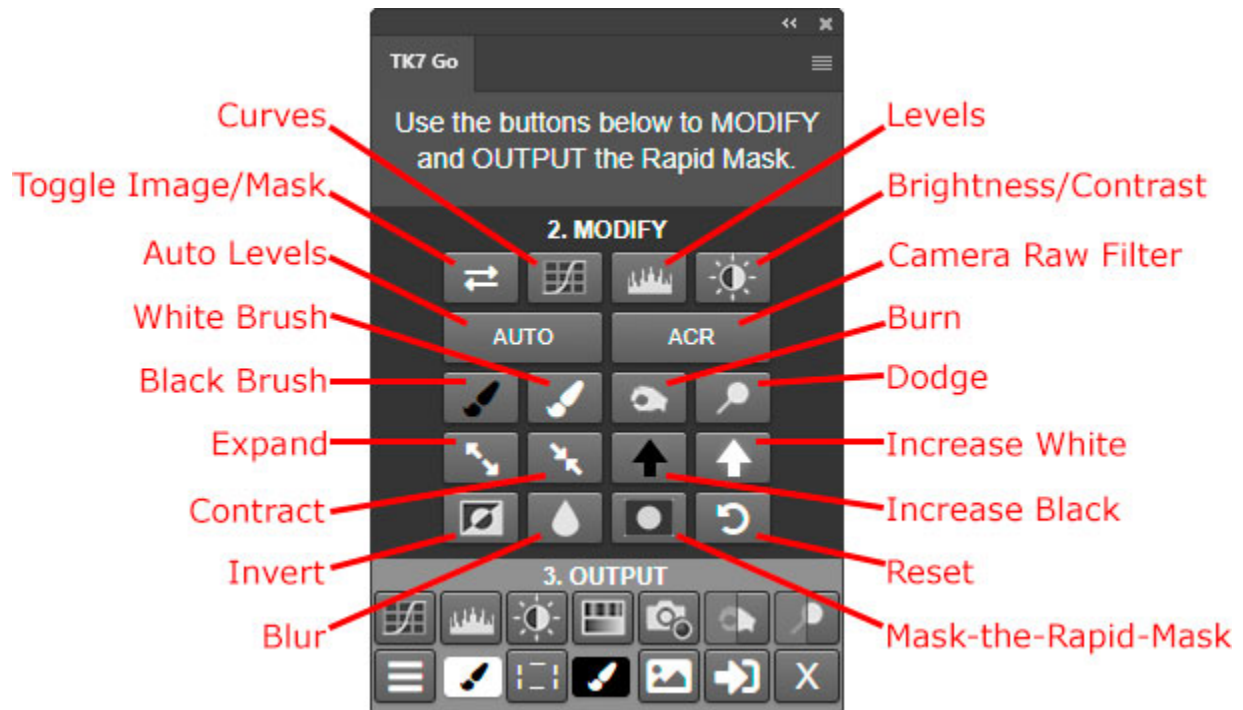
Curves, Levels, Brightness/Contrast—These buttons open a window to perform the designated type of adjustment on the Rapid Mask.

<u>Auto</u>—Executes an auto-Levels command on the Rapid Mask so that the mask's tonal range extends from pure black to pure white (0 to 255).

<u>ACR</u>—Opens the Rapid Mask in the Camera Raw filter. Clicking "OK" in the Camera Raw dialog saves the Rapid Mask in the "_Rapid_Mask" channel with the Camera Raw adjustments applied.

Black Brush / White Brush—Paint with black or white on the Rapid Mask. The brush opacity is automatically set to 100%. Adjust the other brush parameters (hardness and size) and paint directly on the mask to reveal (white paint) or conceal (black paint) parts of the mask.

Burn—Selects Photoshop's Burn tool. Sets the tool's "Range" to "Shadows" and the tool's opacity to 50%. This tool is useful for turning dark gray pixels in the Rapid Mask black without affecting the whites in the mask.

Dodge—Select Photoshop's Dodge tool. Sets the tool's "Range" to "Highlights" and the tool's opacity to 50%. This tool is useful for turning light gray pixels in the Rapid Mask white without affecting the blacks in the mask.

Expand / Contract—Uses Photoshop calculations to either expand or contract the selected areas in the Rapid Mask in small increments. Each of these buttons uses its own calculation method, so it's not possible to completely reverse what one button does by clicking the opposite button. To accurately undo what has happened, use the History panel to go back to a previous state.

Increase Black—Incrementally increase the amount of black in the Rapid Mask by turning darker grays black.

Increase White—Incrementally increase the amount of white in the Rapid Mask by turning lighter grays white.

Invert—Inverts the Rapid Mask.

Blur—Opens the Gaussian Blur dialog in order to blur the Rapid Mask as desired.

Mask-the-Rapid-Mask—Allows restricting the selected areas of the Rapid Mask to the parts of the image defined by another selection. To use this function, first make a selection using a selection tool, like Lasso or Marquee. Then click this button to turn the non-selected areas of the Rapid Mask black. The action stops to allow feathering of the selection. If no feathering is desired, click Cancel in the Feather Selection dialog window.

Reset—Resets all adjustments and returns the Rapid Mask to the state it was in when the Go module mask preview was converted to a Rapid Mask.

The buttons in the OUTPUT section in Rapid Mask mode are identical to those in the OUTPUT section of the Go module's main interface. They deploy the mask stored in the "_Rapid_Mask" channel instead of deploying the mask preview. The "_Rapid_Mask" channel is NOT deleted once the mask has been deployed. So the Rapid Mask can be deployed multiple times as long as the panel is still in Rapid Mask mode.

To exit Rapid Mask mode click the <u>X</u> button in the lower right corner of the OUTPUT section. Doing this deletes the _Lum_Lock" and "_Rapid_Mask" channels on the Channels panel and returns the panel to the Go module's main interface.

5. Layer Mask mode

Sometimes, after applying a mask to a layer as a layer mask and making adjustments through the mask, the results in the image aren't quite what was expected. The on-screen mask preview is always a best guess for what will work, but sometimes it's not quite perfect once it's deployed. Layer Mask mode provides one way to continue to refine a layer mask to help it produce better results. To activate Layer Mask mode, make sure the layer with the layer mask you want to adjust is active, and then click the <u>LM</u> button in the lower right corner of the Go module.

NOTE: The <u>LM</u> button is only available when there is NO mask preview.

Clicking the <u>LM</u> button opens the Layer Mask mode interface. The buttons can then be used to modify the layer mask of the current active layer. Initially the image appears on the screen, not the layer mask. Clicking one of the adjustment buttons opens the appropriate Properties panel or interface so the mask can be modified. The image remains visible so that as changes are made to the mask, the effect on the image can be viewed directly. To see the mask while adjusting it, click the <u>Image/Mask toggle</u> button to toggle between viewing the layer mask and viewing the image.

The figure below identifies the adjustment tools available in LM mode.
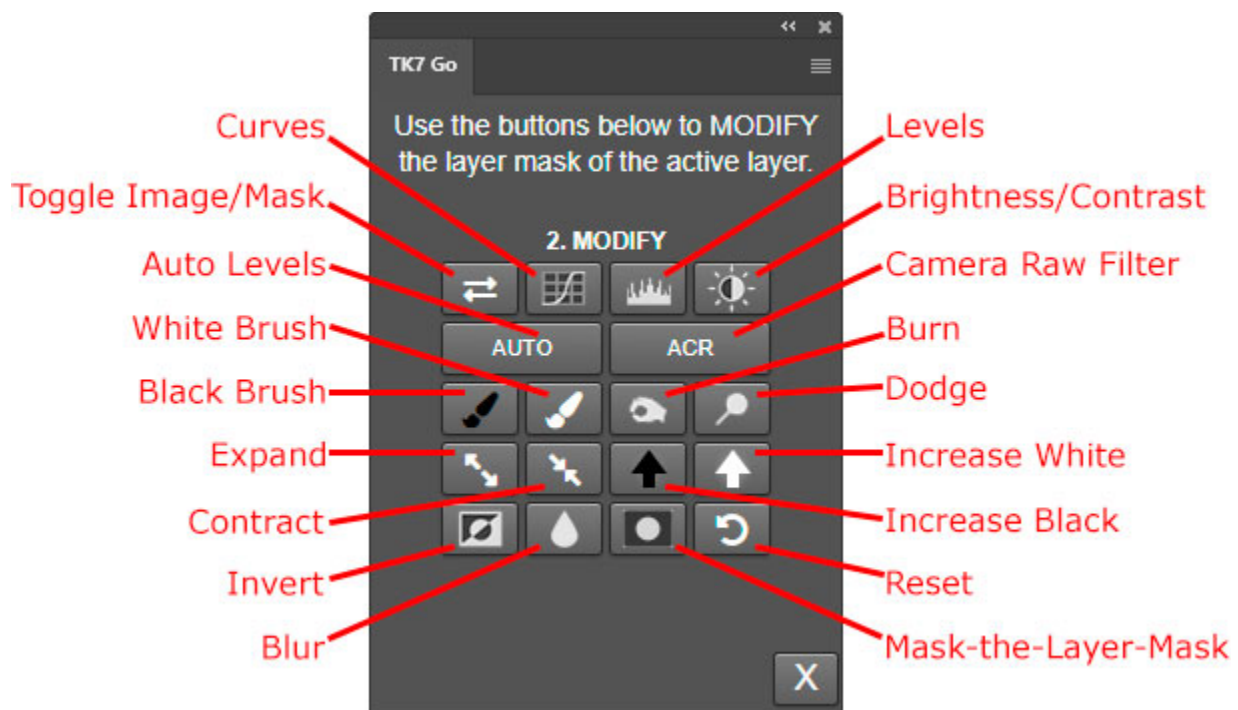
<u>Curves, Levels, Brightness/Contrast</u>—Opens a window to perform the designated type of adjustment on the layer mask.

<u>Auto</u>—Executes an auto-Levels command on the layer mask so that the mask's tonal range extends from pure black to pure white (0 to 255).

<u>ACR</u>—Opens the Adobe Camera Raw filter so that the layer mask can be modified using the controls in this filter.

<u>Black Brush / White Brush</u>—Paint with black or white on the layer mask. The brush opacity is automatically set to 100%. Adjust the brush parameters (hardness and opacity) and, while painting on the mask, watch the result on the image.

<u>Burn</u>—Selects Photoshop's Burn tool. Sets the tool's "Range" to "Shadows" and the tool's opacity to 50%. This tool is useful for turning dark gray pixels in the layer mask black without affecting the whites in the mask.

<u>Dodge</u>—Selects Photoshop's Dodge tool. Sets the tool's "Range" to "Highlights" and the tool's opacity to 50%. This tool is useful for turning light gray pixels in the layer mask white without affecting the blacks in the mask.

<u>Expand / Contract</u>—Uses Photoshop calculations to either expand or contract the selected areas in the layer mask in small increments. Each of these buttons uses its own calculation method, so it's not possible to completely reverse what one button does by clicking the opposite button. To accurately undo what has happened, use the History panel to go back to a previous state.

<u>Increase Black</u>—Incrementally increase the amount of black in the layer mask by turning darker grays black.

<u>Increase White</u>—Incrementally increase the amount of white in the layer mask by turning lighter grays white.

<u>Invert</u>—Inverts the layer mask.

<u>Blur</u>—Opens the Gaussian Blur dialog in order to blur the layer mask as desired.

<u>Mask-the-Layer-Mask</u>—Allows restricting what is revealed by the layer mask to the parts of the image defined by another selection. To use this features, first make a selection using a selection tool, like Lasso or Marquee. Then click this button to turn the non-selected areas of the layer mask black. The action stops to allow feathering the selection. If no feathering is desired, click Cancel in the Feather Selection dialog window. *(NOTE: One alternative to using this Mask-the-Layer-Mask feature is to place the layer in a group, and then paint black on the group's layer mask to conceal the parts of the layer that you don't want affected. This approach has the advantage of preserving the original layer mask.)*

<u>Reset</u>—Resets all adjustments and returns the layer mask to the state it was in when entering Layer Mask mode.

When finished adjusting the layer mask, click the <u>X</u> button in the lower right corner of the module to return to viewing the Go module's primary interface.

NOTE #1: Unlike the RapidMask module, it is NOT possible to exchange the layer mask in Layer Mask mode with a completely different pixel-based mask generated using the Go module. For example, switching out a Lights-1 mask with a Midtones-2 mask can't be done directly in Layer Mask mode. In Layer Mask mode, it's only possible to adjust the current layer mask using the MODIFY buttons.

NOTE #2: Layer Mask mode is an advanced feature in the Go module. Generally the initial mask is adequate because the Go module offers effective mask preview and modification tools. However, in those cases where the deployed mask does not perform as intended, Layer Mask mode is available to further refine the mask once it's in place as a layer mask.

6. Settings

The settings for the Go module are accessed by clicking the "TK" icon on the panel's main interface. From this window you can set the following options:

Accent Color—Opens the Color Picker to choose a new accent color for the panel. The default is green (0, 255, 0).

Selection Indicator—A selection indicator turns on at the top of the module whenever there is an active selection. Even if the selection edges are hidden, the selection indicator serves as a reminder that an active selection exists. There are four choices: Fixed, Pulse, Animated, and Off. The Fixed option is the default and uses fewer system resources.

Auto-hide selection edges—When this option is checked, the selection edges (marching ants) are automatically hidden when the module outputs a selection. This is generally desirable since the effectiveness of painting through the selection is better judged without the edges. Having this option turned on means the module automatically hides the edges and you can just start painting on your image.

Language—Click a button to translate the module to that language.

© button—Opens a message with a brief description of copyright information, summary of the end-user license agreement, and contact information for Tony Kuyper.
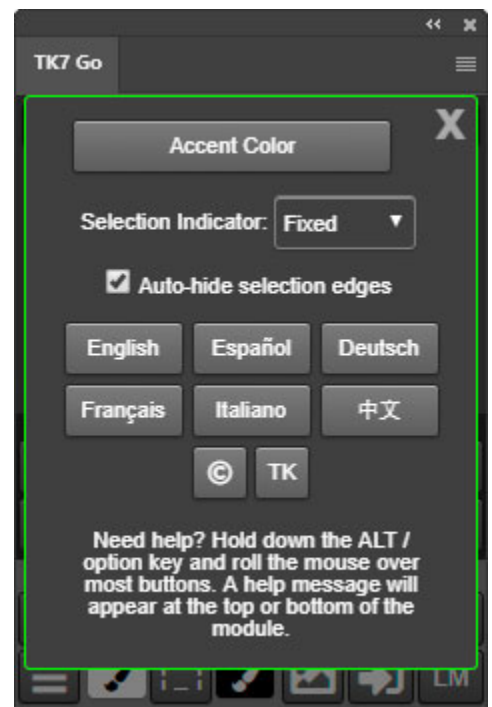
<u>TK</u> button—Opens a window in the computer's default web browser with additional resources for using the panel.

Reminder for rollover help—Most items on the panel have rollover help programmed into the buttons. Simply hold down the ALT/option key and roll over a button. The help message will then appear at either the top or the bottom of the module.
NOTE: You need to actually roll over a button's edge and onto the button with the ALT/option key depressed in order for rollover help to appear. You cannot roll the mouse pointer onto a button and then depress the ALT/option key to access the help message. Rolling over the button's edge while holding down on the ALT/option key is the trigger that opens the help message window.

SATURATION/VIBRANCE

The TK7 RapidMask module treats saturation and vibrance like any other pixel-level dataset it can access. Photoshop can read the saturation of any pixel and display it as a corresponding grayscale value in a mask. This means it can be luminosity-locked into the "Lum Lock" channel and from there spectrum-ized using the MASK buttons. The resulting Rapid Masks can be further modified using the MODIFY buttons. More information on saturation masks can be found in [this blog post](#).

NOTE: The Go module also makes Saturation and Vibrance mask and has "Saturation Painting" available from the OUTPUT menu button.

While saturation is very different than luminosity, it's also similar in that there are positive and negative masks associated with both properties. For luminosity, positive masks are the Lights-series and negative masks are the Darks-series. For saturation, the positive mask is the Saturation mask. This is a mask where the more saturated the color, the lighter the grayscale tone in the mask. The negative of saturation is vibrance. So in the same way that a Darks-1 mask is a negative of a Lights-1 mask, a Vibrance-1 mask is the negative of a Satuartion-1 mask. In a Vibrance mask, the less saturated the color is in the image, the lighter its gray value in the mask, and the more saturated the pixel color, the darker the grayscale tone in the mask. So luminosity has Lights and Darks masks, and saturation has Saturation and Vibrance masks (see images below).

Original Image | Saturation Mask | Vibrance Mask

(NOTE: RapidMask does NOT use Photoshop's HSB/HSL filter to create Saturation and Vibrance masks.   The HSB/HSL filter assigns a value of 100% Saturation to any pixel that has a Brightness value less than 100%. This means that many colors which aren't at all dark are treated as being 100% saturated in Saturation masks generated using the HSB/HSL filter. Adobe surely has a reason for doing this, but it makes it impossible to separate out saturation in many slightly dark colors where saturation differences can still be important. RapidMask uses a different calculation that creates symmetrical saturation masks in both light and dark colors. By doing this, dark colors still have a range of Saturation values regardless of the pixel's Brightness value. In other words, the calculation does NOT assign a blanket Saturation value of 100% to pixels with Brightness less than 100% the way the HSB/HSL filter does, and more useful masks, especially for darker colors, are the result. More information on saturation masks can be found in [this blog post](#).)

There are two main ways to use the saturation features in the RapidMask module to adjust image saturation. The first is through Hue/Saturation adjustment layers. Click the SAT option (SAT > SAT in the SOURCE section) to luminosity-lock the image's saturation into the "Lum Lock" channel. This also creates the initial "Lights-1" Saturation mask. Once saturation has been luminosity-locked, any of the MASK or MODIFY buttons can be used to customize the saturation Rapid Mask the user is viewing.

Saturation masks can be used to control over-saturated colors in the image. To do this, find a Rapid Mask using the Lights-series buttons that shows white or light gray in the over-saturated colors that need to be desaturated. Usually one of the Lights-series buttons is adequate to make an appropriate saturation mask. However, saturation in most images is generally less than expected, so saturation masks tend to be quite dark. It might be necessary to use the slider or A button in the MODIFY section to create a mask with the needed light gray values. Once a Rapid Mask targeting the image's over-saturated colors is available, use the Layer output button to generate a Hue/Saturation adjustment layer with that mask applied as a

layer mask. Then go to the Properties panel for this Hue/Sat layer and move the Saturation slider to the left to decrease saturation in either the Master channel or in one of the color channels in the drop-down menu. The image's over-saturated colors, now targeted by the layer mask, will have their saturation decreased as a result, and, because the layer mask is pixel-based, the adjustment will blend perfectly into the rest of the image.

Vibrance can be addressed in a similar manner. Start by making a "Lights-1" Vibrance mask using the SAT > VIB option in the SOURCE section. Most photographic images have a lot of low-saturation colors, so the initial mask for vibrance usually has a lot of light gray and white tones and is not generally useful for accurately targeting perceptually unsaturated colors. However, it's easy to try different Lights-series masks to further restrict the Vibrance mask to progressively less-saturated colors thereby producing a more functional mask. Lights-3, -4, or -5 are usually more appropriate. Even Zone masks, like Zone-8 or Zone-9 can work. Once an adequate mask targeting vibrance is generated, use the Layer output button to generate a Hue/Saturation adjustment layer with the Rapid Mask as the layer mask. Then use the Properties panel to make the necessary adjustment. For vibrance, the goal is almost always to boost the saturation of the low-saturated colors, so drag the Saturation slider to the right to add saturation. The Vibrance layer mask will insure that the adjustment targets unsaturated colors and that the adjustment blends well into the image. It's often surprising how far the Saturation slider can be pushed to the right when a vibrance mask is filtering the effect.

By using Saturation and Vibrance masks on separate Hue/Saturation adjustment layers, it's usually possible to bring a better saturation balance to the image and often to creatively improve it.

NOTE: Using Hue/Saturation layers with saturation and vibrance masks has two advantages over using Photoshop's Vibrance adjustment, which also has sliders for Saturation and Vibrance. The first is that Photoshop's Vibrance adjustment layer does not treat all colors equally. It tries to prevent oversaturation of flesh tones, which means reds are treated differently than greens. For some images, like portraits, that's ideal, but for others (fall foliage) it might not be. Not only does a Hue/Saturation adjustment layer NOT make this distinction for red colors, it actually lets the user select the color channel they want to adjust. And this is the second important difference. There are no color channel options with Photoshop's Vibrance adjustment layer. Saturation and vibrance of different colors, like blue and magenta, can only be addressed independently using a Hue/Saturation adjustment layer.

Saturation Painting

A second method to add or remove color saturation is with saturation painting. This is very similar to luminosity painting. However, instead of painting with black and white through a luminosity selection to affect image brightness in specific tones, saturation painting paints with a saturated or unsaturated color through a Saturation or Vibrance selection to affect saturation in specific colors.

To start saturation painting, first create the "Saturation Painting" layer by clicking the Paint button (SAT > Paint in the SOURCE section of the RapidMask module). This creates a blank pixel layer set to Saturation blend mode. It also resets the default foreground and background colors to gray and red. Gray painted onto the "Saturation Painting" layer removes color saturation. Red increases it. Brush opacity is varied to control the effect.

Saturation and Vibrance masks are used to precisely target where the paint is applied. A Saturation mask only allows the selected paint color to be brushed onto the saturated colors in the image and the Vibrance mask only allows application to the under-saturated colors.

Generally, the goal of saturation painting is to better balance saturation in the image. This is done by removing excess saturation from over-saturated colors (painting with gray onto the "Saturation Painting" layer) or adding saturation to under-saturated colors (painting red on the "Saturation Painting" layer).

Once the Saturation Painting layer is in place, the next step is to generate an appropriate Saturation or Vibrance selection to paint through. Luminosity-lock the image's saturation or vibrance using the corresponding button in the SAT menu. Then choose an appropriate mask from the MASK section (usually Lights 1 through 6). The masks created by these MASK buttons can be further modified using the MODIFY buttons. Finally, load the mask as a selection using the Selection button in the OUTPUT section. Paint through the selection with the appropriate brush color to affect the desired saturation change. The +/- selection edges button in the Combo/Cx modules can be used to turn off the marching-ant selection borders to better see the effect as paint is applied (the marching ants are hidden, but the selection is still active). Because saturation painting can have dramatic effects when brush opacity is high, it's best to start with low opacity (around 10%) and slowly build up the desired saturation change with multiple brushstrokes.

In practice, saturation painting often works best to reduce over-saturation which is often a local problem confined to small and specific areas of the image. Saturation painting through a saturation mask selection allows the gray paint to be brushed on precisely where it's needed to pull back on the over-saturated colors. To adjust

vibrance, on the other hand, a Hue/Saturation adjustment layer with a Vibrance mask often works better. Most images can handle a global increase in saturation in the under-saturated colors. These global saturation increases through a Vibrance mask often look completely natural since additional saturation of more saturated colors is prevented by the Vibrance mask, which appropriately restricts the saturation change to unsaturated colors.

In summary, proper saturation balance can usually be achieved using a combination of (a) saturation painting through a Saturation selection to decrease oversaturation and (b) a Hue/Saturation adjustment through a Vibrance layer mask to increase saturation of under-saturated colors. This combination often allows more saturation to be incorporated into the image without the image looking over-saturated. The key is to use Saturation and Vibrance masks in a way that insures that both global and local saturation are properly addressed.

NOTE: In case users need to come back to the Saturation Painting layer to touch-up saturation as the image progresses, they can CTRL/command+click on the Paint button to reset the brush colors for saturation painting only (without creating a new Saturation Painting layer)

BATCH MODULE

The Batch module allows you to resize and sharpen an entire folder of images and then save these images to a different folder. Similar parameters as those found in the WEB-SHARPEN section of the Combo/Cx modules can be selected, plus some additional ones for choosing the output file format (more than one can be selected) and whether to add a prefix of suffix to the output file names. The Vertical, Horizontal, and Fit buttons initiate the action to sharpen and resize the selected folder of images.

One thing that has been a problem with Batch sharpening for Mac owners is the use of prohibited characters in folder and file names that Photoshop can't recognize. Mac allows them, but Photoshop rejects them, and their use stops the batch sharpening process. The following characters are not allowed: < > : " | ? * \ / %
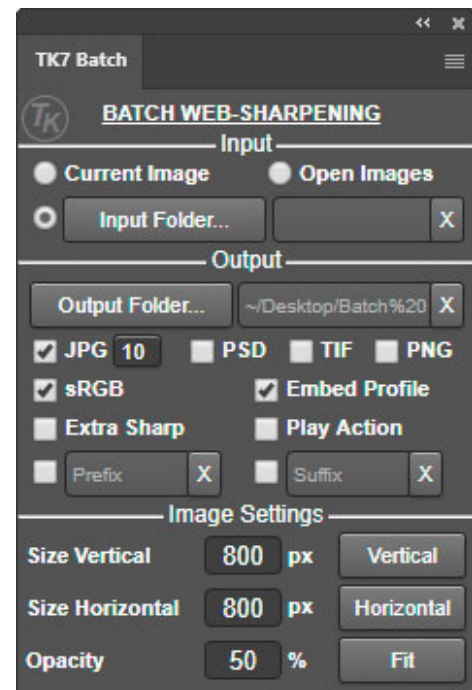
The TK7 panel's Batch module now looks for these prohibited characters and alerts the user if they are found. This might take a few seconds after clicking the Vertical, Horizontal, and Fit buttons depending on the number of images in the Input folder, so please give it time to complete. If you receive a message that your file or folder names contain these prohibited characters, you will need to change the names before the batch sharpening can proceed.

WORKFLOW CONSIDERATIONS

There are many ways to develop images in Photoshop. I prefer a "free-form" approach where the image determines the next step instead of some predetermined process that uses the same steps each time. This requires the photographer to engage with the image and ask, "OK, what does this image need most right now?" and then figure out a way to meet that need. Contrast, color, saturation, and brightness are the four big items to think about. Getting these four elements balanced across the entire frame usually results in an image where the viewer doesn't even realize there has been manipulation. When everything looks natural, the viewer can accept that it is.

The TK7 panel is meant to be a tool to help photographers achieve their desired balance in the image. Contrast, brightness, saturation, and color are easily targeted using the masks that can be generated by the panel. Making adjustments through these masks to target specific pixel-level properties is one way to achieve proper balance. The adjustments are confined to tones defined by the mask but the masks also blend the adjustment seamlessly into the image. These self-feathering masks make it possible to achieve the right balance in the image in a proportional way where pixels that need the adjustment get adjusted most and those that don't need it get adjusted least.

It takes some practice to get a feel for how these masks work. Masking for brightness usually makes a lot of sense. This is the fundamental idea behind using luminosity masks for exposure blending. But color channel masks, saturation masks, and color masks are new territory for many photographers. The only way to really understand these alternatives to standard luminosity masks is to try them. The RapidMask module quickly makes entire spectrums of these alternate masks that the user can see on-screen and try out. The visual, mask-based nature of the TK7 panel helps the user know up front if they're on the right track for finding a mask that meets their image-development goals.

By using perfectly feathered masks and selections of specific tones, imbalances that could easily draw the eye of the viewer and look unnatural are instead easily removed with an adjustment layer or a paint brush. Saturation, contrast, color, and brightness can be addressed individually or in combination; locally or globally. It's just necessary to decide what needs to be done and find a way to do it.

The question "What does the image need right now?" might have answers like:

"More overall contrast."
"More saturation in the light tones."
"Better mid-tone contrast."
"The sky (blue/cyan) is a little too red."
"The image is too dark."
"That corner is too light."
"The shadows feel heavy and lack detail."
"The light tones lack detail."

"The colors feel weak."

These are things the viewer will see too . . . and quickly pick up on as looking out of place. It's the photographer's job to spot these things first and correct them before presenting the image to the viewer.

When image development is approached in this way, there is actually a four-step workflow that can be implemented:

1. Evaluate the image.
2. Identify what it needs.
3. Find a way to fix it.
4. Repeat.

While the panel can help correct many problems identified by the photographer, it's still up to the photographer to decide what's needed, and this comes with practice and experience. Initially there will be some trial-and-error out of necessity, but, very soon, deciding on which mask to use becomes more intuitive. In fact, knowing that there is a good way to target brightness, contrast, saturation, vibrance, and color often makes it easier to start thinking about these important properties in the image and how they can be improved.

Beyond helping to bring proper balance to the image, the TK7 panel should also be seen as a creative tool. It's great to end up with a perfectly developed image, but is that enough? Digital development opens all kinds of possibilities. What happens when we push beyond a well-balanced image to one that also speaks of our creative interaction with the light? What else can our images show if we don't restrict ourselves to a literal interpretation of what the camera captured? And is there a way to spark our creativity when an image is looking to find its direction?

The answer to these questions is that we'll never know if we don't at least try. The TK7 panel makes it easy to try enhancements like glow, Orton effect, clarity, vignettes, spotlights, color alternatives, and monochrome. Can these lead to a new path for an image? Can they improve the image further? Maybe. Click a button and find out. If it doesn't work, delete the layer and try something else. If something looks like it has potential but is too strong, add a luminosity mask to the layer and see if that helps. Proportionally revealing many effects through pixel-based masks frequently looks much better than the full-on effect without a mask. Layer Mask Mode in the RapidMask module allows different masks to be inserted as layer masks quickly and easily.

While getting the fundamentals of the image correct is important, creativity is also a necessary part of photography and frequently involves pushing the light in new ways. This is a much less obvious pathway than evaluating and correcting noticeable imbalances in the image. But most photographers will want to explore this territory eventually and the TK7 panel will hopefully help start this process and provide new ideas for creative exploration.

TROUBLESHOOTING

The panel has been tested on Mac and Windows. There are occasionally unexpected problems when using the panel. A few of the most common problems and possible solutions are listed on the following pages. If you have other problems, please contact me and I'll try to help.

1. Error message: "The <module name> extension could not be loaded because it was not properly signed."
This error means that the contents of the module's installation folder have been altered. The panel has indeed been properly signed, but the signature chain, which guarantees unaltered code, is broken. This can happen if the user accidentally or on purpose opens the installation folder, but it also appears to happen spontaneously sometimes during routine installation or periodic Photoshop updates by Adobe. The solution is to use the download link to get a NEW download folder and then simply run the installer and let it replace the different modules.
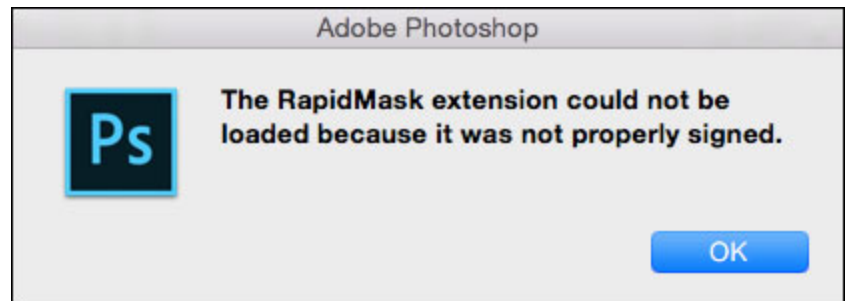

2. The modules have been installed but don't show up in Photoshop. There are a several possibilities to consider here.

a) Make sure to click through the menu command Window > Extensions to actually open the modules in Photoshop. Installation is not enough to actually have modules appear in Photoshop. The menu command needs to be used to open the modules. Once the modules are open, they will stay open and can be docked to a panel docking bar.

b) Try rebooting the computer.

c) There is a Photoshop preference setting that needs to be checked in order for extension panels to be loaded. Make sure the checkbox "Load Extensions Panels" under the "Plug-Ins" preferences is checked (red box, image on next page).

(Continued on next page.)
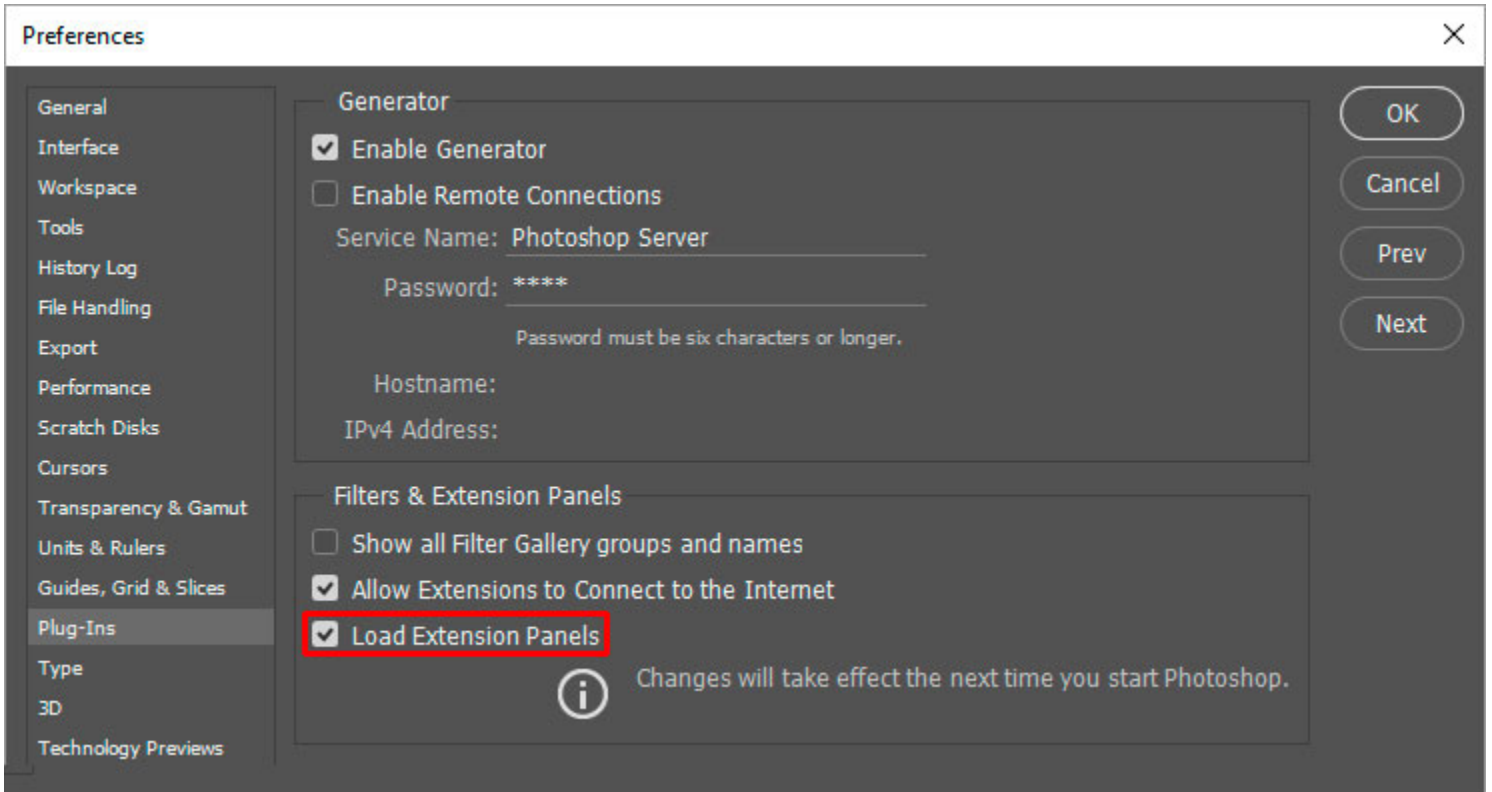
3. The masks generated by the panel are inverted (the "Lights" masks are negatives and the "Dark" masks are positives).

This is NOT a problem caused by the panel. If you create a selection using one of the Photoshop's other selection tools and then save the selection as a mask, it will also be inverted. So this is a Photoshop problem. There are two possible solutions.

a) Double-click the Edit in Quick Mask Mode button (rectangle with a circle inside) near the bottom of the Tools panel. From the pop-up window, make sure the radio button for "Masked Areas" is selected. If the "Selected Areas" radio button is selected, masks will be inverted.

b) If the first solution doesn't work, it's possible the Photoshop
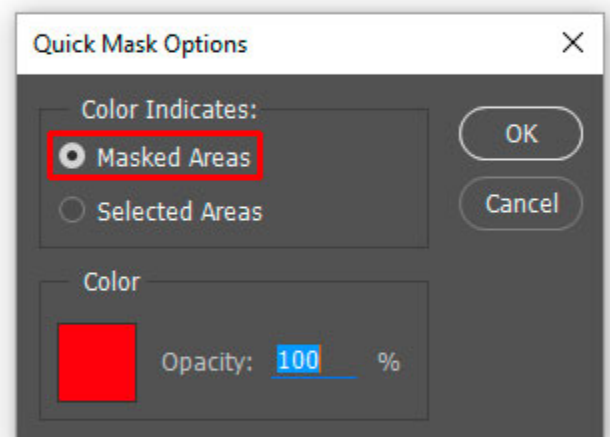
"Preferences" file is corrupted and needs to be reset. An online video to help do this can be found here.

4. The Wacom tablet doesn't work properly when tapping some menu items. (NOTE: This problem appears to be fixed in CC 2019.) Starting with Photoshop CC 2018, there have been reports of the Wacom tablet stylus not being able to click on items in drop-down menus on Windows computers. This is likely an Adobe bug as previous versions of Photoshop are unaffected. However, it's easy to fix.

a) Open the "Wacom Tablet Properties" using the Windows button or Control Panel.
b) Go to the "Mapping" tab.
c) Uncheck the "Use Windows Ink" checkbox (see image below).

Then:

a) Open a text editor such as Notepad. Type (or copy) the following two lines:

 # Use WinTab
UseSystemStylus 0

b) Save the file as a plain text file named: **PSUserConfig.txt**
c) Save or copy the file into the following Photoshop settings folder:

C:\Users\<Your User Name>\AppData\Roaming\Adobe\Adobe Photoshop CC 2018\Adobe Photoshop CC 2018 Settings

d) Restart Photoshop and check the pen pressure and overall performance.

I've reported this issue to Adobe, but do not know if it will be fixed and it appears to be fixed in CC 2019.
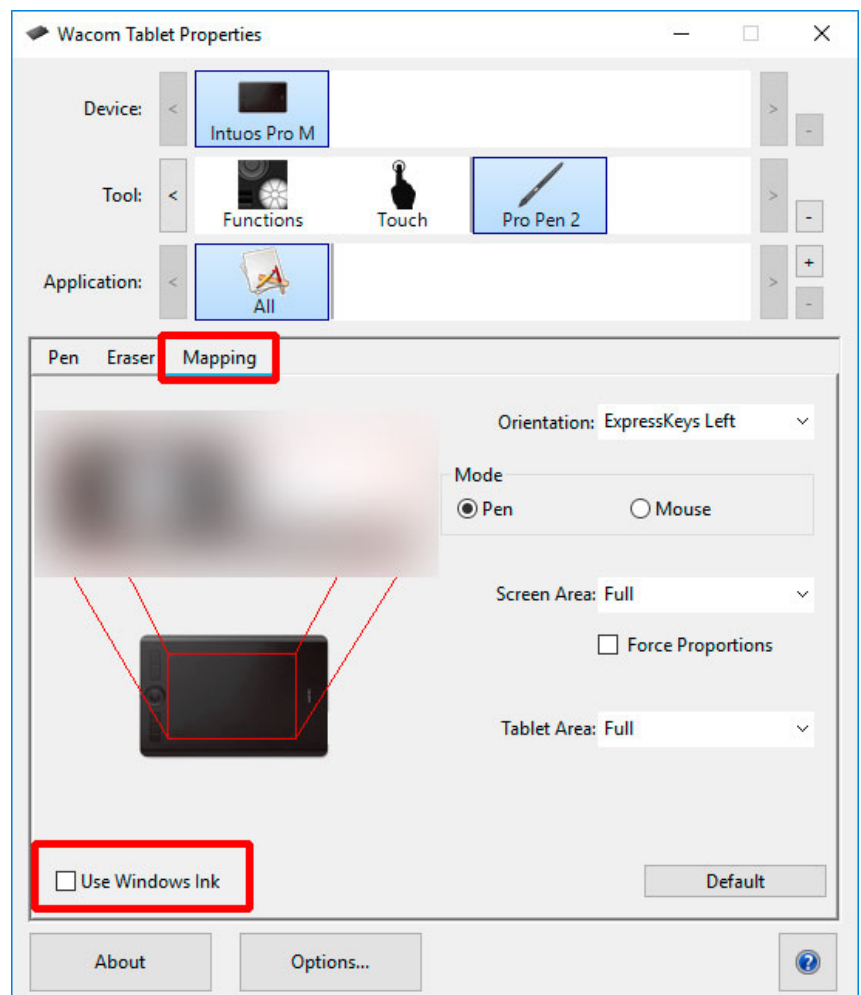
5. Go module masks don't look right. The masks generated by the Go module should be nearly identical to the corresponding masks generated by the RapidMask module. There are couple of reasons they might not.

a) The RGB and Gray Working Spaces are not properly set to match your image. Please see the "Setting Up the Color Working Space" PDF in the "2 - Instructions and Other Documents" folder in your download folder to make sure you have your RGB and Gray Working Spaces properly configured

b) The June 2020 update to Photoshop 2020 introduced a new bug. In the Preferences > Performance menu, the "Legacy Compositing" option needs to be UNCHECKED. If it is checked, you will get masks that don't make sense. So be sure this option is unchecked before using the Go module to make masks.
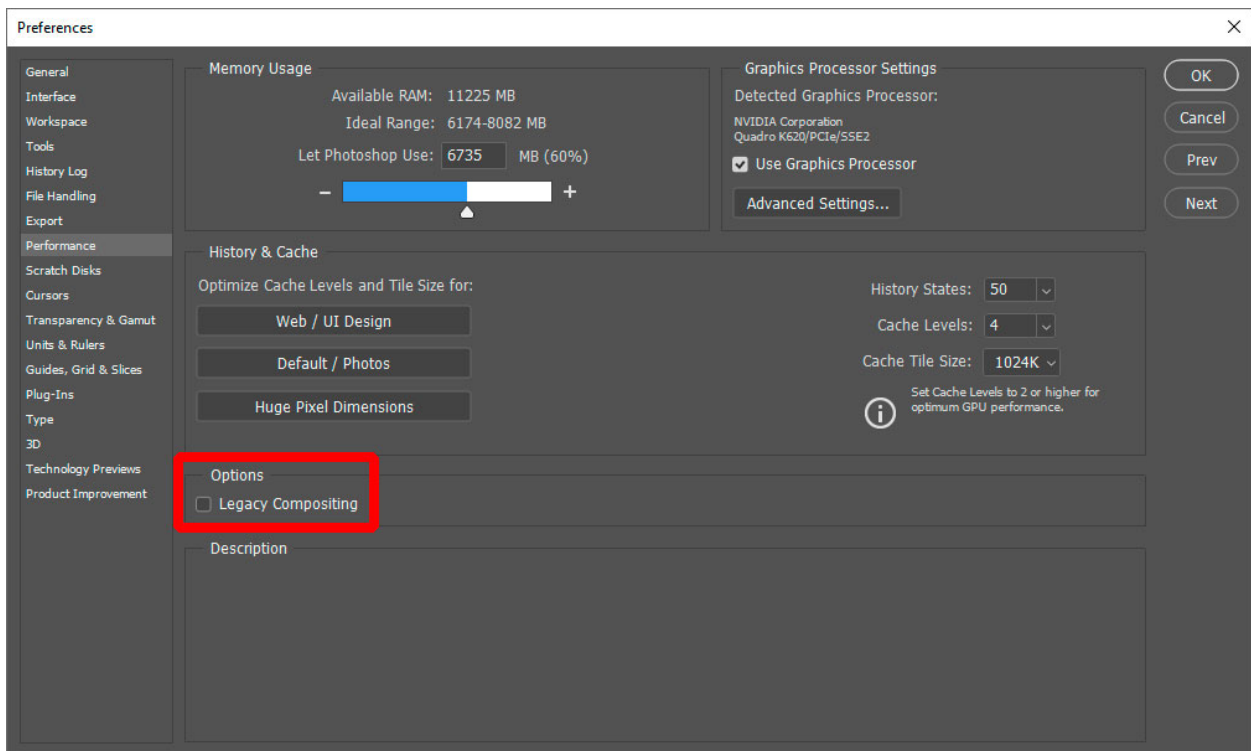
6. A recommendation to properly manage adjustment layers and layer masks.

As mentioned earlier in this PDF, it's generally a good idea to make sure Photoshop is adding a layer mask automatically when it creates a new adjustment layer. To check for this, first open the Adjustments panel (Window > Adjustments).

Then open the fly-out menu (four bars in upper right corner) and make sure the "Add Mask by Default" is checked. If not, click on it to toggle the check mark on.

Also make sure that "Clip to Layer" is NOT checked. If it is checked, click it to turn off the check mark.
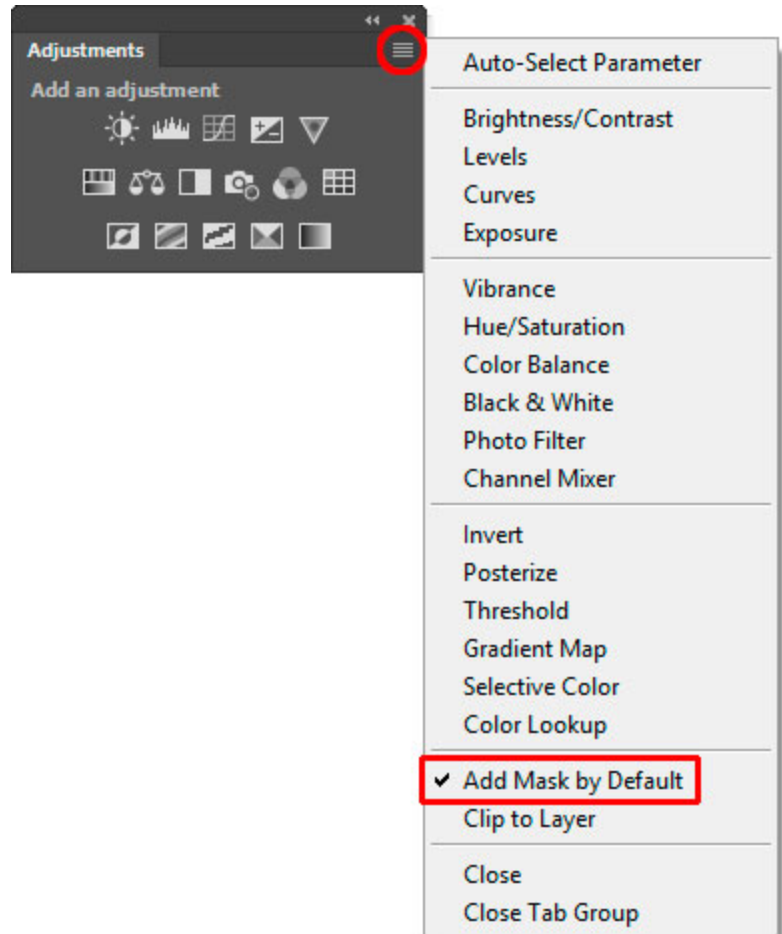
I hope the panel is useful to you and that it helps you achieve your artistic goals in Photoshop. Please feel free to contact me if you have any questions, problems, or suggestions.