

MMM + CB is the workhorse color enhancement method for most users of the Picture Postcard Workflow. It combines into a single interactive tool two different approaches, the Modern Man from Mars and the Color Boost actions. Each of these have their own separate documentation PDFs and I recommend that you go over them before delving into this one.

The quick overview: MMM requires that we make a rough selection representing the tones and colors of most interest to us. The selection is used only to form a strategy; the subsequent correction is global. It drives everything apart in the ranges suggested by the selection, creating variation in both color and contrast, which are then presented to us on separate layers for individual adjustment.

MMM creates its color variation by changing hues. Inadvertently this always causes some parts of the picture to become more colorful and others less so, but MMM is not deliberately trying to intensify anything, just to create more interest.

The Color Boost also creates variation, but it does so by intensifying all color, especially colors that were fairly saturated originally. Like MMM, it also delivers a color and a contrast layer, but the contrast layer does nothing, at least not at the time the action runs; it's simply a curves adjustment layer with no change from the default setting. The Color Boost layer makes no use of the selection that is crucial to MMM's operation. It deliberately produces too much color, inviting us to find an appropriate layer mask to hold the colors we want and diminish the ones we don't.

Combining the two therefore presents us with three layers that have immediate effect and one that awaits our attention. In practice there may be a fifth layer that affects color in yet another way, plus a layer group that lets us toggle the entire action effect, or reduce its effect, or mask it, or whatever.

As if managing these six items weren't enough, there's also a powerful options dialog that opens up various other possibilities.

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There are plenty of examples of how to use each action in the PDF that pertains to each separately. So in this file we will work with only one. And since MMM

+ CB is a creative tool, we'll study one that definitely needs creativity.

In 1912, the mayor of Tokyo gave a present to the city of Washington, a selection of several species of Japanese cherry trees. These were planted around Washington's Tidal Basin, where they thrived and reproduced. Each spring they explode into bloom, with delicate white and pink blossoms. The peak bloom only lasts three days, and during that time tourists flock into the city and hotel rooms become astronomically expensive.

Figure 1, therefore, is supposed to represent one of the most magnificently beautiful sights on the planet.

Of course, it does nothing of the kind. It couldn't, because brilliant light pinks are nearly impossible to reproduce, because we can't get a sense of the enormity of the bloom because we can't see that a vast area is buried in these blossoms, because in real life we distinguish between white blossoms and light pink ones much better than any camera can, and because in real life we are stimulated by the fragrance, which we can't reproduce in this PDF.

Therefore, something along the lines of Figure 2 is in order. You don't have to like my specific interpretation, because you have infinite flexibility with this action to make something that you do like. But certainly you can't leave Figure 1 the way it is, and the most powerful tool to fix it is MMM + CB.

The Layer Structure

The action doesn't get applied to the original. Various other PPW steps come first. We need not go into them. Also, we need a selection for MMM to chew on. I thought there were two likely possibilities: first, a loose lasso selection of the pink blossoms, and second a similar selection of almost the entire picture except the sky, which is unimportant. Later on, I'll show you what each one produced as a default result, and also how I used the options window to make the comparison easy.

For now, suffice it to say that I decided to go with the selection of everything but the sky. When I then clicked MMM + CB in the panel, the action delivered up its layers. Starting from the bottom (see Figure 3



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Figures 1 and 2. The original and a PPW version that depends heavily on MMM + CB.



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for an illustration), they are:

- The Background layer, the file as it stood prior to the action being played.
- The MMM Luminosity layer, set to 30% opacity. This is the action's attempt to allocate contrast, without altering color. It is the one most likely to fail. My first step, therefore, is always to toggle its visibility off to see whether it's doing anything useful. I'd say that I keep this layer on around three-quarters of the time, and sometimes even raise its opacity.
- The MMM Color layer. 30% opacity default, 15% if the MMM Saturation option is chosen. It spreads color apart, normally creating interesting variation, sometimes causing problems with hue shift. It is masked, however, to prevent neutrals from shifting excessively. It is set to Color mode to avoid changing contrast.
- The MMM Saturation layer is an option, suggested by beta reader Adriano Esteves during the preparation of *Modern Photoshop Color Workflow*. It doesn't exist unless you have chosen to have it in the options window. You can choose it for a single image, or as a permanent preference, making it appear in all subsequent images. That's my choice. I don't mind the added complexity because I find the layer often useful. It is a copy of the MMM Color layer, including its mask, except that layer mode is set to Saturation. This makes it the most conservative of the three color-adjusting layers. It cannot change hue, but it does create variation by altering the saturation—intensity, purity—of some colors. Opacity is at 20%.
- The Color Boost layer intensifies everything, without changing hue. Neutrals, therefore, don't change. The layer mask is blank, inviting us to put in something to allow discriminating against colors we don't like. Default opacity is 30% without the MMM Saturation and 20% with.
- Endpoint Adjustment is a curves adjustment layer, set to 100% opacity, in which no change has been made to the default curves. Consequently the layer does nothing unless we intervene. It's there in case we want to set highlight, shadow, or change overall weight of the image.
- MMM + CB is a layer group in which all four (or five) of the layers beneath are included. Toggling it off restores the original. Reducing its opacity is a quick and dirty way of reducing the overall effect. We can also add a layer mask. As a rule, adjusting this group is not as flexible as playing with the individual layers, but it is faster.

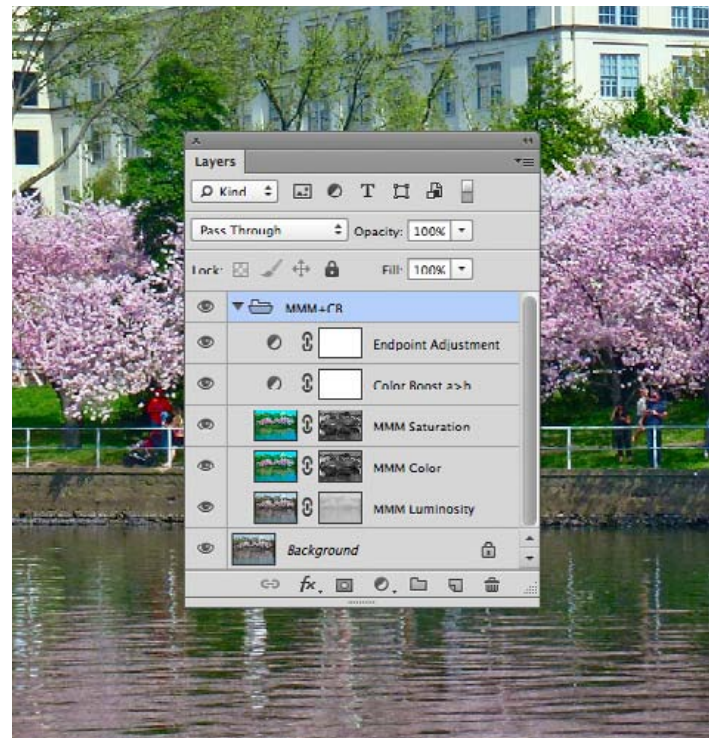


Figure 3. The layer structure immediately after the MMM + CB action is played.

The Layers in Action

Let's have a look at how we might use these layers in attacking the cherry blossom image.

Figure 4 is another copy of the original for easy comparison. Figure 5 shows the results of all the steps of the PPW through the conversion into LAB. Unusually, it seems lower in contrast than the original, but this is because I felt it was a priority to darken the blossoms, as otherwise they wouldn't be able to retain color.

I'll discuss the MMM selection process later, when I'll also show the default result of playing the action. For now, I've made the selection and now click the MMM + CB button in the PPW panel to begin assessing how to combine these layers into something attractive. You can choose any order of adjusting things at this point; here is the way I currently do things.

- The first question is whether the file is worth spending time on. If it isn't, we just operate with the top layer group. The default settings are designed to produce something too colorful in most cases. Reducing group opacity will bring things back within reason and normally will produce a major improvement over the original in no time flat.
- But if the decision is to take a bit more time, I leave the group setting alone. I start by toggling the MMM Luminosity layer off and on to see whether it is useful. This time, I saw a slight but distinct improve-

ment, it added pop to the flowers. I don't think it's worth showing individually, but all of the next three Figures include it.

- Before moving on to the color adjustments, I consider doing something with the Endpoint Adjustment layer, which is the logical partner of MMM Luminosity in that both are intended to affect contrast only. Doing this saves time, because we can misjudge color if the contrast isn't in its final state. The reverse is not true. In this particular picture it didn't matter: according to me, the endpoints are already correct and so is the image weight, so nothing gets done here.

Now that the contrast has been more or less finalized, we can turn our attention to color. By default two layers affect it; if you've chosen the MMM Saturation option, as I have, there are three. It's usually hard to tell which one is contributing what. The easiest way to figure it out is to radically increase the opacity of each one in turn. Invariably each one has certain strengths and certain weaknesses. Once we discover what they are we can make a final decision of what percentage of each to use.

- Figure 6 shows MMM Color at 100% opacity, with MMM Saturation and Color Boost turned off.
- Figure 7 shows MMM Saturation at 100% opacity, with MMM Color and Color Boost turned off.
- Figure 8 shows Color Boost at 100% opacity, with MMM Color and MMM Saturation turned off.

What do we make of these alternatives?

The first impression is that they are all much better than Figure 5. The second is that the three are more alike than they are different. Analyzing those differences is the key to figuring out how to combine them. And I can say that in most images the differences are more pronounced than they are here.

The Differences in Approach

I see two areas of significant differences between these three versions, one on each side. The big tree at left shows how MMM Color can alter hue. Before the action played, that tree was somewhat yellow. MMM Color made it bluer, or greener if you like, to push its color further away from the rest of the picture. MMM Saturation is not permitted to do that; it leaves the tree more or less as it was in the original. You might think that Color Boost would simply make the yellowish green more intense, but in fact it changes hue slightly as well. It doesn't move the tree as much toward blue-green as MMM Color does, but there is a subtle nudge in that direction. I'll explain why when we discuss preferences.

While you decide which treatment, or which combination, you like, most of these cherry trees produce pink blossoms, but a certain species produces white ones. Such white blossoms appear at the right of the picture. It is important that they be distinct from the pink ones. Figure 6, MMM Color, diminishes the difference. Figure 7 augments it and Figure 8 does so even more.

Then there are some minor things. The clothing of the pedestrians seems unduly bright in the Color Boost version, Figure 8. You may have a preference for the color of the building in one version or another.

If you have chosen to enable MMM Saturation, the action's defaults would give you something like equal weighting of all three of these plus the original. It now becomes up to you to decide whether to accept that, or to choose some kind of different mix. It may not just be a matter of adjusting opacities. Layer masks may be able to achieve the objectives more safely. For example, if you, like me, think that the flowers of Figure 8 are the best but you don't care for the brilliant clothing the pedestrians are wearing, it's easy enough to find a mask that restricts one and not the other.

Preferences and the Options Window

Option-clicking MMM + CB in the PPW panel accesses choices that are similar to, yet not exactly the same as, those found in the separate MMM and CB actions and described in their documentation. Much of the functionality is new in version 3. Figure 9 shows what's inside the dialog.

If you're thinking of overriding the action's defaults, start with the Color Boost. It doesn't affect neutrals, but its behavior toward colored areas is counterintuitive. Working in LAB, it applies a stronger boost to the A channel than to the B. This means that the magenta and green components of the picture intensify faster than the blues and yellows.

I don't know why this works, but I know that it does work. My recommendation in Photoshop LAB Color was that A and B should be treated equally, but after tens of thousands of images I concluded that for whatever reason, it wasn't so. Or at least not for typical images. Certainly it works well in the current photo. It emphasizes the pink flowers, and makes a small but pleasing shift toward green in the trees.

Of course, sometimes you might get a better result by making the treatment equal, or even emphasizing the B more than the A. When might this happen? If you think that your file is marginally too pink, perhaps. A more common example is that in fashion

work with blond models and others of particularly light skin, a more golden skintone is sometimes preferred. In that case, in the top left corner of the options dialog, choose what you prefer. Or, if you find that your work consistently needs this tweak, you can change the action's preference so that your choice will be the new norm.

You have a similar choice with respect to the MMM Saturation layer. The action's default is not to generate one. You can decide to override that permanently, or file by file. Personally, I have changed the preference so that I always get one, and I don't see the point of

going file by file. The downside of MMM Saturation is that it adds another level of complexity. If you're accustomed to working with it, though, it's hard not to want it in every file.

Checking Out the Selection

The MMM part of this action requires a selection, which will be used to map strategy. We are supposed to be indicating important tonal ranges, normally by rough lasso selections of areas that are important to us.

If you're trying to run the action quickly, any logical

Figures 4 through 8. This page, top, the original repeated for convenience. Bottom, after all phases of the PPW that come before MMM have been completed. Next page, top, the MMM + CB action has run, the MMM Color layer has been increased to 100% opacity and the other color layers have been turned off. Middle, the MMM Saturation layer at 100% instead. Bottom, the Color Boost layer at 100% instead.





selection will do. It would not be logical, for example, to select only the sky in this example, although it might be reasonable to do a Select All, which would include the sky. The result will be positive if your selection makes any sense at all.

If a picture is important enough for experimentation, however, the options window becomes very important. The impact of changing the selection is subtle but it can be important. Figure 10 shows a selection of everything but the sky. Figure 11 selects only the blossoms. These two selections, at MMM + CB default settings, produce Figures 12 and 13, respectively.

The Figure 12 selection produced something more colorful. It was trying to differentiate the flowers from the background; making them pinker was a good way to do it. Figure 13, however, is trying for variation in the flowers themselves. Some have gotten duller, others more colorful. Before you dismiss this version because Figure 12 is currently more pleasing, remember that you can increase the opacity of its Color Boost layer, making Figure 13's flowers just as light.

Do that, and the flowers will presumably, because of their variation, be better in Figure 13 than in Figure 12. The water, however, is likely to be worse because the Figure 13 selection defined it as unimportant, so it likely lost contrast and changed color.

Is that a problem? It depends on your point of view. If you think it is, you might try a third selection, one that expands that of Figure 11 to include some of the water, but not as much as was selected in Figure 10. Doing this ought to produce something in between Figures 12 and 13, if that's what you want.

Figures 10 and 11. MMM + CB requires an initial selection, the choice of which greatly impacts the result. These two selections produced Figures 12 and 13 respectively.

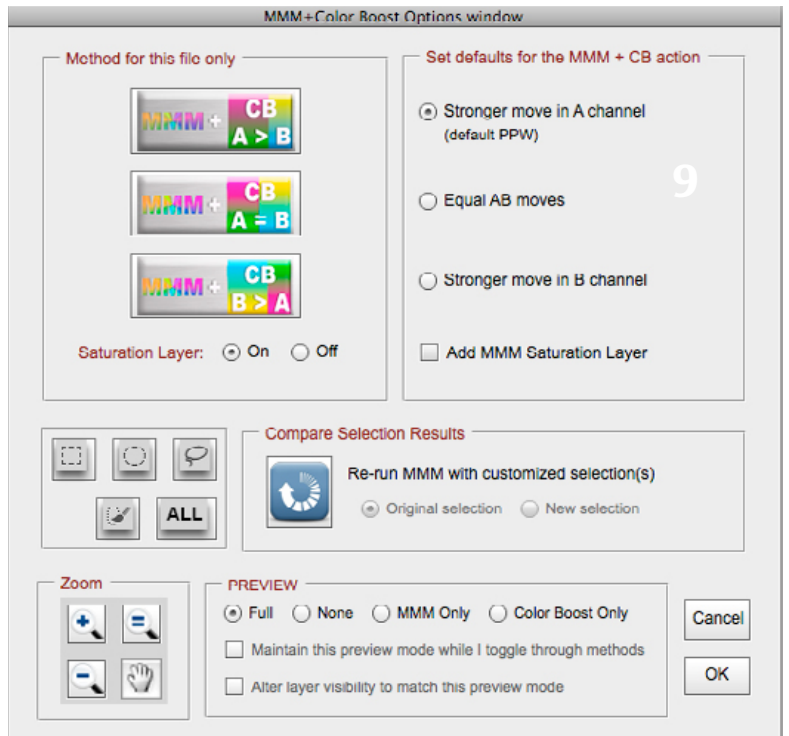


Figure 9. The MMM + CB options window, accessed by Option-clicking the MMM + CB button in the PPW panel.

Such experimentation was time-consuming before the advent of panel version 3 in 2013. Now the options window of Figure 9 lets us play. Let's say that we start with the Figure 10 selection. If we have decided that the image warrants the time, we Option-click MMM + CB in the PPW panel. Now, in the dialog of Figure 9, choose the lasso tool, make the selection of flowers as in Figure 11, and click Re-run MMM with customized selection(s). Now, you get a preview of what the new selection does—but the result of the original selection is still in memory. You can toggle between them in the buttons beneath the re-run item. When you've



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Figures 12 and 13. The default MMM + CB result of using the selections of Figure 10 (top) and Figure 11 (bottom)



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decided which you prefer, keep it displayed, and you can now make a third selection, discarding the one you didn't choose previously.

Current Impressions

MMM + CB is at the heart of the PPW. It can be used for everything from thirty-second workflows to the most demanding imaging applications. It has also become an important creative tool. The MMM component is unique and not duplicated in any other Photoshop technique I'm aware of.

If you think you're going to get a lot of mileage out of it, Chapters 5 and 6 of *Modern Photoshop Color Workflow* are for you. Also, remember that there are separate documentation files like this one for both MMM and for Color Boost, showing many more examples. Here's my current advice, some of which is duplicated in those PDFs.

- The presence of significant shadow detail is an argument in favor of using a higher opacity for the MMM Luminosity layer, or for altering the layer mask to permit more of an effect in the shadows.
- When in doubt as to what area to select, do a Select All.
- The MMM Saturation does not appear by default. As you get more experienced with the action's subtleties, I predict you will want to add it.
- The MMM Luminosity often does not work well with people's faces, as it tends to age them. Be prepared to turn it off in such portrait images.
- If you have used previous versions of this action, it may be easy to overlook the added power in the new options window as implemented by Giuliana Abbiati. It is well worth your time to study it.
- If you are using methods other than the PPW prior to playing this action, it will probably produce something way too colorful. The PPW procedure usually makes for a dull-looking picture by the time it gets to this step.
- After you've played this action, be sure to compare the result to a conservative version. Remember, you have just been exposed to some very bright colors which may have desensitized your eyes enough for you to approve things that you later find too loud.