



DIGITAL GREY CARD SET

White balance card for
digital photography and video

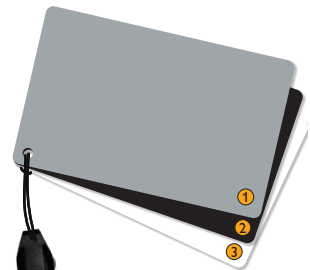
OWNER'S MANUAL

Introduction

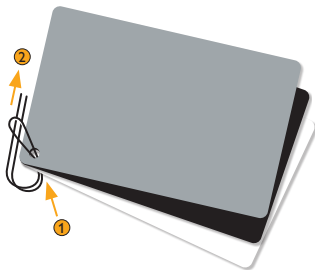
Thank you for choosing Vello, and congratulations on your new Digital Grey Card set, the most economical, portable, easy-to-use and accurate tool for perfect digital color. This product is your tool to ensure accurate white balancing in your photos and videos. As an added benefit, you will be able to set proper exposure using the 18% neutral grey card as well.

This Vello Digital Grey Card set can be used to set a custom white balance in your camera at the time of your shoot or during post-production editing using software such as Adobe Photoshop. This product is a staple among professional photographers and videographers worldwide.

Please read through this entire manual before
using the digital grey card set.



- ① Grey Card
- ② Black Card
- ③ White Card
- ④ Detachable Lanyard Strap
(not included with WB-CL)



Assemble:

Remove cards and lanyard from package.

- ① Attach the lanyard to the cards by passing the end of the string through the holes of all three cards
- ② Loop it back through itself and pull to tighten

Introduction to color balance: Why do I need this product?

Although light from the sun or a light bulb looks white to us, it actually contains a mixture of colors that affects the color of a scene it illuminates. We normally don't see the subtle differences because our brains compensate automatically. However, we do notice extremes, for example, when the rising or setting sun casts a warm red glow over everything it illuminates. The color of the light in which you shoot is specified by its color temperature in a measurement called "degrees Kelvin" (K). As Kelvin temperature increases, the color of light becomes cooler or moves to the blue end of the scale. Inversely, as Kelvin temperature decreases, the color of the light becomes warmer or more red. Tungsten light is on the warmer end of the Kelvin scale, whereas Daylight falls in the cooler end.

A digital camera will record the color of light very accurately. As noted above, the eye and brain are extremely adaptable to variations; your digital camera is not. It records the actual temperature of the light. Something that may have been perceived as perfectly white on scene due to a color cast will appear inaccurate in the digital file.

Your camera most probably has a number of white balance presets, which can be found in the White Balance (WB) menu of your camera. For many instances, choosing one of these presets will give you a good result but, for the most precise result, use a digital grey card to set a custom white balance for your shoot.



By using a grey card, you can set the camera to a true white balance, resulting in a more accurate recording of all the colors. This is particularly important when there is mixed light from different sources. There might be a mixture of daylight and tungsten and even a bit of fluorescent thrown in.

A digital grey card should be used even when lighting conditions are completely controlled, such as in a studio, to achieve perfect results. You will get the same color results throughout the shoot, which also makes it easier to fix all the images at once.

Using a digital grey card for perfect white balance:

Each of the three cards (grey, white & black) is formulated to be spectrally neutral. This means that all light that is reflected off these cards is a true and accurate representation of the qualities of the light; nothing is added, nothing is distorted, nothing is taken away. Using your camera or post-production editing software, you can use the light reflected from the grey card as a precise reference to determine the exact lighting conditions. The camera or post-production editing software can then correct and balance all the colors in the entire photograph. With this in mind, it is important to note that **you MUST make a new WB reference each time the lighting conditions change or the camera settings change.**

Using a digital grey card for “In Camera Custom White Balance”

For “In Camera Custom White Balance,” you will need to take a picture of the grey card (or white card) under the exact lighting conditions of your photo shoot. That image will serve as your reference. You should fill as much of the viewfinder as possible with the grey card. Different cameras vary.

NOTE: When taking the shot for the white balance reference, make sure all the settings (shutter speed, aperture, ISO etc.) are the same as the final shot.

Use the menus on your camera to set the WB to "custom". Next, choose the image that you just took of the grey card as the reference for the custom WB. You may need to refer to your camera's manual for the specific steps to perform this task, as it varies between manufacturers and models.

Results:

Without digital grey card



With digital grey card



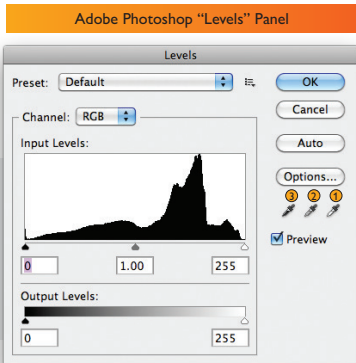
How to use the Vello digital grey card for post-processing WB: (RAW)

You will need to shoot an image with the digital grey card somewhere in the image for each lighting situation you encounter. The digital grey card does not need to take up most of the viewfinder as for in-camera white balance, as we will merely be sampling this small area as a reference. To do this, simply hold the grey card out in front of yourself in the same lighting environment as your shoot and take a picture of the card and surroundings. You'll want to take a separate image for each lighting condition you plan on shooting under.

Upon completing, you will use the reference photos of the digital grey card to set the white balance for each respective series of shoots. To use the digital grey card in your post-production workflow, select a point on the digital grey card image in your post-processing software to be the source reference point for the white balance setting. Next, select the images taken under that lighting condition and instruct the software to apply that same setting to the rest of the images in that series. The black and white cards are used to set the absolute black and absolute white points, such as in Adobe Photoshop levels controls.

You can use Adobe Photoshop together with your reference image to color correct the image using the Levels panel.

- 1 Eyedropper to set “white” point
- 2 Eyedropper to set “grey” point
- 3 Eyedropper to set “black” point



Metering using a digital grey card for perfect exposure:

Your camera's light meter can't see in color. It only sees reflected light in shades of grey. Of the entire range of reflected light that your camera meter sees, 18% grey is the middle, hence the term "middle grey". All built in camera light meters work in this way. Two stops underexposed from middle grey is close to but not quite pure black. Two stops overexposed from middle grey is close to but not quite pure white.

To meter off of a grey card, you need to hold the card in the light that is falling on your subject so that card is angled slightly toward the primary light source (this is usually the sun.) You need to fill the frame with the grey card, but it doesn't matter what type of metering you have your camera set to. If you have spot metering set, you don't need to be overly concerned with filling the frame as long as your spot meter reads the grey card.

ONE-YEAR LIMITED WARRANTY

This VELLO product is warranted to the original purchaser to be free from defects in materials and workmanship under normal consumer use for a period of one (1) year from the original purchase date or thirty (30) days after replacement, whichever occurs later. The warranty provider's responsibility with respect to this limited warranty shall be limited solely to repair or replacement, at the provider's discretion, of any product that fails during normal use of this product in its intended manner and in its intended environment. Inoperability of the product or part(s) shall be determined by the warranty provider. If the product has been discontinued, the warranty provider reserves the right to replace it with a model of equivalent quality and function.

This warranty does not cover damage or defect caused by misuse, neglect, accident, alteration, abuse, improper installation or maintenance. EXCEPT AS PROVIDED HEREIN, THE WARRANTY PROVIDER MAKES NEITHER ANY EXPRESS WARRANTIES NOR ANY IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. This warranty provides you with specific legal rights, and you may also have additional rights that vary from state to state.

To obtain warranty coverage, contact the Vello Customer Service Department to obtain a return merchandise authorization ("RMA") number; and return the defective product to Vello along with the RMA number and proof of purchase. Shipment of the defective product is at the purchaser's own risk and expense.

For more information or to arrange service, visit www.vellogear.com or call Customer Service at 212-594-2353.

Product warranty provided by the Gradus Group.

www.gradusgroup.com

VELLO is a registered trademark of the Gradus Group.

© 2014 Gradus Group LLC. All Rights Reserved.





© Copyright 2014 Gradus Group

All other trademarks are the property of their respective owners