

“Color Temperature Conversion Filter & Diffuser” Shooting Tips

~Render the Ocean Brilliant Blue~

“Color Temperature Conversion Filter & Diffuser” warm up strobe light color temperature to 4900K(kelvin) or 4600K from its native 5500K creating various effects. Here you will find how to capture background water color with richer blue.

Color Temperature Conversion Filter & Diffuser Usage

- Capture diver's skin more healthy underwater
- Enhance warm color subject
- Shoot in RAW and process at 4900K or 4600K to render background water color richer blue without changing natural color of the subject lit by strobe light

Text & Photo by Tatsumaru

After starting diving at age of 18, he was certified as instructor at 25 then photographs all over the world oceans with a camera and his certificate. He started his career as a photographer in 2000. Especially inspired with nature and culture of Papua New Guinea and visited there more than 50 times including long term stay. His works are widely distributed to diving magazines, camera magazines, government tourism sectors, airlines and diver training organizations. In 2009, he had a photo exhibition at Fujifilm Photo Salon in Tokyo Midtown under the theme of Papua New Guinea.



Z-240 strobe with Color Temperature Conversion Filter (4600K) and S-2000 strobe with -0.5 (4600K) Diffuser for S-2000



It's easy to render only color of background water seen between whips of soft coral (Location: Atami, Shizuoka, Japan)



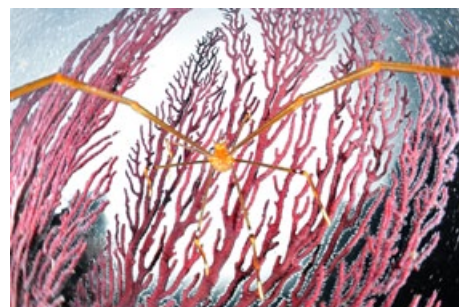
Change Murky Water Color to Standard Blue

When I shoot underwater for a magazine or guide book, the ocean does not always smile to me during my stay and often face to bad weather or poor visibility which prevents me from shooting in ideal blue water. Due to deadline, I have to use those images taken in poor condition then process them on a computer to restore standard oceanic blue on software like Adobe Photoshop.

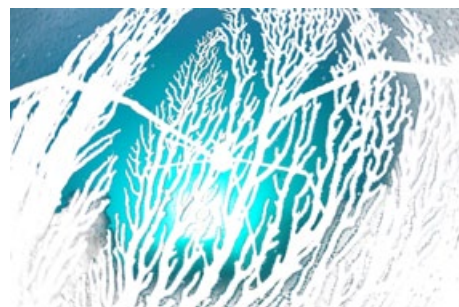
We can simply change green water color to blue by processing RAW images at desired white balance. However this will affect entire image adding more blue on a subject and coral as well. There are several ways to change background water color only without altering color of a fish and coral. One

is trimming. Prepare two images with different white balance setting; one processed RAW image based on color of soft coral (e.g. 5500K) and the other processed same RAW image to make water color pleasing blue (e.g. 4600K). Next, trim off background from the 5500K processed image and trim off the subject coral from the 4600K processed image. Then combine those two images together to have the image where the soft coral is natural color and background is pleasing blue.

Though this will be easy as long as subject outline is simple, it requires time and effort if it comes to complicated shape like soft coral. Also cutoff line could be visible if the edited image is appeared in large format.



Edited image to use subjects only trimmed off green water background



Edited image to use background with blue water

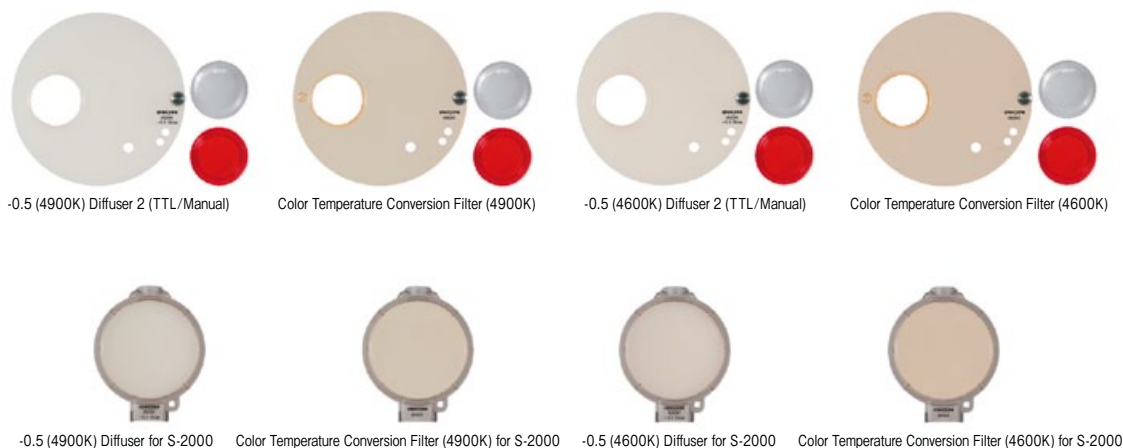


Color Temperature Conversion Filter & Diffuser to Change Strobe Light Color

An INON strobe is calibrated to deliver white light at color temperature 5500K same as sunlight in daytime. By attaching Color Temperature Conversion Filter & Diffuser, we can have warmer 4900K or 4600K strobe light. Reducing color temperature of strobe

light benefits you to have “natural subject color with pleasing blue water background” by shooting in RAW and processing at 4900K or 4600K in addition to have “underwater portrait with healthy skin color” or “rich color of warm color subject” .

The 4600K version will have greater effect to have more blue background and 4900K version will be an option if 4600K version makes warm color subject too yellowish.



Processing RAW Image at Same Color Temperature as Diffuser

Both images on the right were shot in RAW and processed by retouch software on a computer. The day I took these images was rough condition due to typhoon making water color green which had been blue couple of days ago. The upper image was taken in RAW without any diffuser and processed at white balance 5500K. This gives you same effect when shooting with a strobe and in-camera white balance setting [Daylight] resulting in green water as you see through your eyes. The lower image was shot in RAW with an INON S-2000 strobe as well but with “-0.5 (4600K) Diffuser for S-2000” and processed at same 4600K as the diffuser. You can see natural color of a soft coral and rock as like lit by 5500K white strobe light thanks to white balance adjustment. On the other hand, background water and rocks behind originally captured as green have been adjusted in blue. By using warmer strobe light intentionally and adjusting white balance to cool down the color in post-processing

stage, subject gets back to natural color as like lit by white strobe light while background water color not affected by warmer strobe light remaining green, is rendered to blue water color. Conventional technique to cut out and superimpose by Adobe Photoshop takes time and skill but using INON “Color Temperature Conversion Filter & Diffuser” makes it easy to change back ground water color only simply by adjusting white balance when processing RAW files. Furthermore you do not have to buy expensive software as packaged software supplied with a camera offers such a function to adjust white balance for RAW development.

RAW processing software packaged with a camera

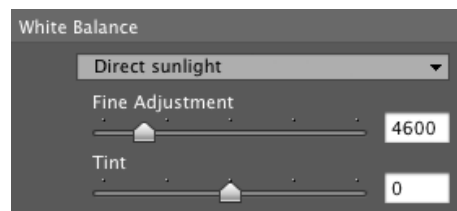
Canon Digital Photo Professional
Nikon ViewNX 2
Olympus OLYMPUS Viewer 2
Panasonic SILKY PIX
Sony Image Data Converter



Taken without a diffuser and processed RAW image at white balance 5500K. Color of water is green as it is. (Location: Kitagawa, Shizuoka, Japan)



Taken with a 4600K diffuser and processed RAW image at white balance 4600K. Color of water is now in blue without changing natural color of the soft coral



Select 4600K when processing RAW image on Nikon ViewNX2 packaged with a Nikon camera.



Set Same White Balance Setting As Diffuser

Though shooting RAW may sound bit hard for those who normally shoot in JPEG, here you can see how to change background water color even JPEG shooting by using “Color Temperature Conversion Filter & Diffuser”.

Normally a digital camera offers various white balance selections beside [Auto] such as [Daylight], [Cloudy], [Fluorescent], [Tungsten]. Digital SLR cameras and high end compact digital cameras offer to set white balance in Kelvin value. Shooting JPEG with white balance setting at 4600K or 4900K provides same effect as processed RAW file at 4600K or 4900K.

It is not necessary to select exactly same Kelvin value as combined diffuser since it would be effective to make fine tune white balance to suit to personal

preference. However you need to adjust white balance on site by checking result on camera LCD as JPEG does not allow changing white balance after shooting. Therefore shooting RAW is much easier as you can enjoy fuss-free shooting thanks to availability of white balance adjustment at post processing stage. Even you do not handle images on a computer, you can still convert RAW to JPEG with in-camera processing which is available for Canon EOS60D or Nikon D7000. Check what your camera offers and utilize them according to your shooting style.



Set in-camera white balance 4600K. Canon EOS 60D



Processing RAW image in camera at white balance 4600K. Canon EOS 60D



Trick to Have Desired White Balance on Compact Digital Camera

Many of the compact digital cameras do not record images in RAW nor set white balance in Kelvin value. They can still have pleasing blue background by using “Color Temperature Conversion Filter & Diffuser”.

Like Panasonic LUMIX FT4 and TZ30, they offer white balance fine adjustment in each default setting such as [Daylight], [Incandescent]. Selecting [Daylight] with +6 blue compensation seems to be about 4900K to accommodate when using a 4900K filter or diffuser, and [Daylight] with +9 blue compensation seems to be about 4600K to use a 4600K filter or diffuser. It would annoy you to change white balance setting whenever to attach or remove Color Temperature Conversion Filter & Diffuser. Do not worry. You can avoid this if your camera has custom mode where you can store those custom white balance settings and recall them only selecting camera's mode dial like Panasonic LUMIX TZ30.

There are compact digital cameras from other brands supporting same white balance fine adjustment feature and it is possible to find 4900K or 4600K setting by comparing images taken with and without Color Temperature Conversion Filter & Diffuser. First take a shot at white balance [Daylight] without diffuser then take several shots with a color temperature conversion filter/diffuser 4900K (or 4600K) at white balance [Daylight] with different fine adjustment settings. You will see more pleasing blue on background but same subject color on one of the image taken with color temperature conversion filter/diffuser, which is the setting to shoot at white balance 4900K (or 4600K).



Selecting [Clear sky] with +6 blue compensation is equivalent to 4900K. LUMIX TZ30



Selecting [Clear sky] with +9 blue compensation is equivalent to 4600K. LUMIX TZ30

Registering 4900K or 4600K equivalent white balance setting to Custom Set Memory





Sample Images with Color Temperature Conversion Filter (4600K)

[Proceed at white balance 4600K]



[Proceed at white balance 5500K]



Gathered soft corals entwined with a gradation of sunburst from white to blue. Shooting with a Color Temperature Conversion Filter (4600K) and processing the RAW file at 4600K, background water color can be highlighted without changing color of soft corals. (Location: Takooki, Shimane, Japan)

[Processed RAW file at white balance 4600K]



[Processed RAW file at white balance 5500K]



Using Color Temperature Conversion Filter (4600K) delivered clear sea without dullness and highlighted color of fishes. (Location: Takooki, Shimane, Japan)