

UW Technics External TTL converters

by Phil Rudin

UW Technics is a group of companies which develop and produce electronic devices for underwater housings and underwater flashes. The companies home offices are headquartered in Tainan City, Taiwan. UW Technics TTL flash converters can trigger a verity of flashes via sync cords or fiber optic cables. The internal TTL converters are compatible with many DSLR and Mirrorless cameras from Canon, Nikon, Olympus and Sony. The TTL converters are also designed for a verity of different housings. Canon converters are made for Aquatica, Hugyfot, Ikelite, Isotta, Marelux, Nauticam, Nexus, Seacam and Sea & Sea. Nikon TTL converters are made for Aquatica, Hugyfot, Isotta, Marelux, Nauticam, Nexus, Seacam and Sea & Sea. Olympus converters are made for Nauticam and Isotta housings. Sony converters are made for Isotta, Marelux, Nauticam, Seacam, Sea & Sea and. Also within these housing manufactures different housings may require different flash converters.

The subject of this review are the new EXTERNAL TTL converters which come in M16 and M24 also for Canon, Nikon, Olympus and Sony

cameras. I will describe the features of external converters later in the review. External converters for Canon are designed for Aquatica, Ikelite, Isotta, Marelux, Nauticam, Seacam, Seafrogs, and Sea & Sea. External converters for Nikon are designed for Aquatica, Ikelite, Isotta, Marelux, Nauticam, Seacam, Seafrogs, and Sea & Sea. Converters for Olympus are designed for Aquatica, Ikelite, Isotta, Marelux, Nauticam, Seacam, Seafrogs, and Sea & Sea. Converters for Sony are designed for Aquatica, Ikelite, Isotta, Marelux, Nauticam, Seacam, Seafrogs, and Sea & Sea.

Compatible underwater strobes: Inon Z-240/ Z-330/ S-220/ D-200, Sea&Sea YS-D1 / YS-D3 Mark II / YS-D3 DUO / YS-250, Ikelite DS-232 / DS-230 / DS-162 / DS161 /, DS160 / DS-125, Subtronic Pro-270 / Pro-160, Retra Pro MAX (including HSS) and Marelux APOLLO III V2.0 (including HSS), Marelux APOLLO-S (including HSS).

Make sure that you consult your authorized UW Technics dealer or the manufacture (UWTechnics.com) for the correct TTL converter for your camera and housing. Each unit comes with a helpful instruction manual which is easy to understand and is



available through authorized dealers or direct from UWT.

I have used internal flash triggers from several manufactures including Marelux, Nauticam, Turtle, UW Technics and more. What I like about the external trigger is a completely enclosed system that does not expose any of the electronics to possible damage from water droplets or flooding other than the wiring harness which can easily be replaced. It leaves extra space in the housing for things like an additional battery or other accessory. You can have a backup internal trigger already installed in the

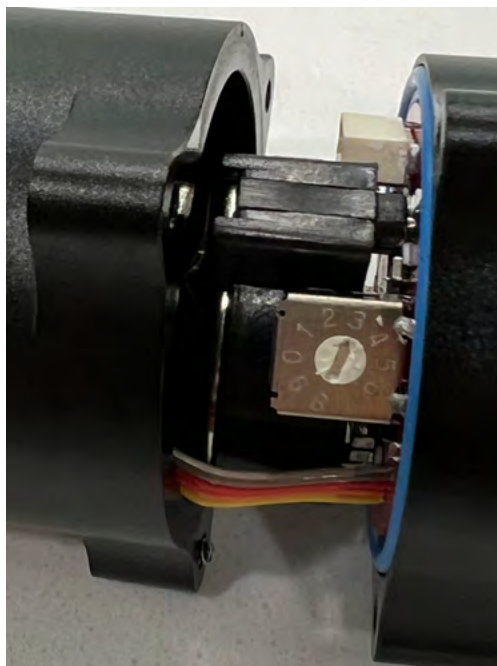


housing and more.

For my review I have been testing the UW Technics external TTL 18023-M24 converter for Marelux housing's using Sony A-1, A7C II and A7CR cameras. Currently this converter is compatible in TTL with all of the strobes listed above and will allow high speed shutter sync using the Marelux Apollo III, Apollo S and Retra Pro Max strobes allowing shutter sync up to 1/8000th sec. Not all of the converter models support the same strobes so be sure to check the uwtechnics.com web site to see which flashes are supported for your camera and housing type

Since the external flash triggers come with both M16 and M24 threads the first thing you will want to consider is where to install the trigger on your housing. Some housings will have more choices than others and the trigger size may interfere with accessories on your housing. The size of the flash trigger is about 5.4cm tall to 6cm tall with the plastic caps for 45 degree fiber cords and 4cm in diameter at its widest point.

Prior to installing the flash trigger you first need to open it up with the provided tools and chose the setting for your type of strobe on the little white dial with the arrow that moves from 0 to 9. I set my test unit on number 3 to sync with the Marelux



Apollo S strobes that I own. The unit ships with two CR2032 batteries pre-installed which are reported to last up to 65,000 flashes or one year in standby.

Installation is simple, just remove the bulkhead cover for the port you are using, grease the O-ring, put the wiring harness through the bulkhead and thread the main unit into place. I covered the unit with a cloth and used channel-lock pliers to gently tighten the unit into place. Once in place the wiring harness with the hot shoe can be attached to the harness from the trigger.

My UW Technics external trigger is designed for use with fiber optic



Yellow Damselfish eating eggs off a dead whip, Sidam, Bali Indonesia, Sony A1, Sony FE 70-200mm F/4 macro at 166mm, Marelux housing and port, two Marelux Apollo S strobes TTL using UWT flash trigger, ISO-100, F/11, 1/100th sec

cables and has threaded bulkheads for the two red LED triggering lights. You can chose a fiber optic cable with a threaded cap on the end or a straight or 45 degree cable end that pushes directly into the provided port caps. The choice for my strobes was optical cords with 45 degree mounts on both ends. Be aware that for TTL, HSS and MTL (multi frame shooting) you should be using 613 optic cords which I purchased new from Amazon for around \$35.00US each. I had several other cords which work great when shooting manual but not at all

for TTL with my Marelux strobes. Also make sure that the wired hot shoe is pushed as far forward in the shoe on the camera as possible so that all contacts connect properly. This proprietary connection is needed for proper TTL performance with each flash type and to take advantage of the highest sync speeds possible for your camera brand. My Sony A1 will sync to 1/400th of a second in full frame and 1/500th second in APS-C natively and I occasionally sync as high as 1/800th but rarely above. With the A7C II & A7CR cameras I use the

HSS a bit more because both cameras have a top sync of 1/160th sec.

Once the trigger is connected to the camera while mounted in the housing you can test fire the trigger. One of the things I really like about the UW Technics trigger is that it turns on when you turn the camera on and off when you turn the camera off. On more than one occasion I have had to release the vacuum on my housing because I forgot to turn on an older style trigger or on board flash controlling TTL. Once the camera is turned on you can trigger the camera and you should see the bright red LED's flash through the fiber optic ports. I always test fire my strobes prior to a dive to be sure that everything is on and functioning properly.

Be aware that the wiring is long enough to stick out of the housing when the camera is mounted or when it is removed. Always check to make sure that the wiring is fully pushed inside the housing before sealing the rear cover. Pinching the wiring can damage the unit and prevent a properly sealed housing.

What is TTL?

When your camera directly controls the output of your flash by metering the light output through-the-Lens it is referred to as TTL. TTL +/- flash exposure compensation is controlled in the camera menu and works using TTL enabled flashes like the many listed strobe brands above. TTL works by firing one or more pre-flashes when the shutter is half pressed. The camera's metering system then measures the pre-flash(s) along with the ambient light level to calculate the power needed from the flash to make a proper exposure. The pre-flash is metered in a few micro-seconds before the



Hard coral and anomy, Paradise House Reef, Bali Indonesia, Sony A7RC, StrHori 6mm F/2.8 circular fisheye, Marelux housing and 140mm glass port, two Marelux Apollo S strobes TTL using UWT flash trigger, ISO-160, F/11, 1/160th sec

shutter is released triggering the main flash. The duration of the main flash exposure is determined by metering based on ISO, aperture, TTL exposure compensation values and the selected metering mode, I.E. spot, center weighted and so on. Shutter speed will have little noticeable effect on the flashes TTL output because the flash occurs within 1000's of a second while the shutter moves much more slowly in most cases. Each camera manufacture has a different propriety TTL protocol hence the need for different UW Technics triggers for each camera brand. The UW Technics triggers have the same hot-shoe design as the camera brand being used and



White-eyed Moray Eel, Scuba Seraya Resort House Reef, Bali Indonesia, Sony A7RC, Sigma 105mm F/2.8 macro art, Marelux housing and macro port, two Marelux Apollo S strobes TTL using UWT flash trigger, Marelux +10 C/U lens, ISO-50, F/22, 1/160th sec

they mimic each brands dedicated flash protocol.

I have used TTL flashes underwater since the film days and have found TTL to be most effective for macro and close focus wide angle photography since it relies on accurate metering by the camera for proper exposure. The larger the primary subject is in the frame the better the TTL will work because the metering will be more accurate. With wide-angle if the foreground in an image being lighted by the flash only takes up say the lower third of the frame while the area lighted by ambient light takes up two-thirds of the frame the TTL exposure may be much less accurate. In this situation flash exposure compensation will need to be applied for TTL to work correctly. While +/-flash exposure compensation can resolve some TTL exposure issues not all strobes work as well as others. In some cases shooting in manual and changing the flash



Tiny Shrimp riding on a starfish, Paradise House Reef, Bali Indonesia, Sony A7RC, Tamron 90mm F/2.8 macro, Marelux housing and port, two Marelux Apollo S strobes TTL using UWT flash trigger, Marelux +10 C/U lens, ISO-100, F/16, 1/125th sec

power level, aperture, ISO or shutter speed can be just as accurate. I have also found that some photographers reject TTL completely as a non-professional tool and only take advantage of the strobes HSS features if it has them.

Field testing

My equipment for this review was the Sony A1, A7C II and A7CR cameras, using Marelux MA-A1 and MA-A7CR housings with Sony FE

70-200mm F/4 macro lens, Sony FE 28-60mm zoom with Marelux Aquista 120 wet lens, Tamron 90mm F/2.8 macro, Sigma 105mm F/2.8 macro and the all manual AstrHori 6mm F/2.8 circular fisheye. I used a variety of Marelux ports and extensions for these lenses and two Marelux Apollo S strobes. The flashes were set to TTL (called auto sync on Apollo strobes) using the exposure compensation settings in the camera menu. For TTL I used the cameras color histogram when reviewing images to judge



Concrete Sculpture, Paradise House Reef, Bali Indonesia, Sony A7RC, StrHori 6mm F/2.8 circular fisheye, Marelux housing and 140mm glass port, two Marelux Apollo S strobes TTL using UWT flash trigger, ISO-50, F/11, 1/160th sec

exposure not the LCD image. All of the images for this review were taken in Bali Indonesia using TTL, HSS and MTL. I also tried rear-curtain shutter with slow shutter speeds and a variety of +/-flash compensation to control light output. For most images I was shooting in AF-C and center weighted metering.

The combination of the UW Technics trigger and the Apollo S strobes in TTL surprised me producing accurate and pleasing exposures with limited need for added +/-flash compensation. Very dark subjects had a tendency to overexpose while bright

white subjects would under expose. This is a result of the camera's 18% gray metering system trying to make very dark subjects lighter and very light subjects darker. Adding from +/-0.3 to +/-1.0 stops flash compensation usually resolves the over/under exposure issue. If you find yourself needing to add more than +/-one stop of light chances are the flashes are not aimed correctly, the flashes are too far away from the subject or in the case of shooting wide open (F/2.8) may be too close to the subject.

The high speed sync features of the Marelux Apollo and Retra Pro Max are also worth a look especially if your cameras highest flash sync speed is 1/250th or lower. Faster sync speeds can help control ambient light while shooting near the surface in bright sunlight, shooting splits or shooting wide open with bright backgrounds. I like using HSS on night and blackwater dives where you want to freeze camera motion and get really pitch black backgrounds.

The UWT trigger also works well when shooting multi-frames per second at up to 20FPS.

I would be the first to admit that I am old school coming from a film background before auto anything and have not really embraced TTL over the years. On this four week trip to Bali I resolved to shoot in TTL for the entire trip to see if I could be dragged



Nudibranch, Paradise House Reef, Bali Indonesia, Sony A7RC, Tamron 90mm F/2.8 macro, Marelux housing and port, two Marelux Apollo S strobes TTL using UWT flash trigger, Marelux +10 C/U lens, ISO-100, F/14, 1/60th sec

into the twenty-first century and to my surprise after a short learning curve I have become a TTL convert. The combination of the UWT trigger and the advanced TTL features of the Marelux Apollo S strobes was very compelling even when shooting with very wide lenses. Gone were the issues of trying to balance the TTL light with the ambient light the combination just worked rendering more keepers and more time to concentrate on composition. While I still believe newer photographers should master manual lighting to understand the relation between camera settings and manually controlled lighting it is clear that some have neither the time or inclination to learn. For these folks TTL can help them produce some stunning results.

If you are interested in shooting in TTL, HSS or MTL you need a quality flash trigger and the UWT external

trigger works brilliantly for all of these features in one unit with strobes that have the complete feature set. The UWT external flash triggers retail for around \$650.00 USD. Contact UWT at uwtechnics.com for information and product manual downloads.

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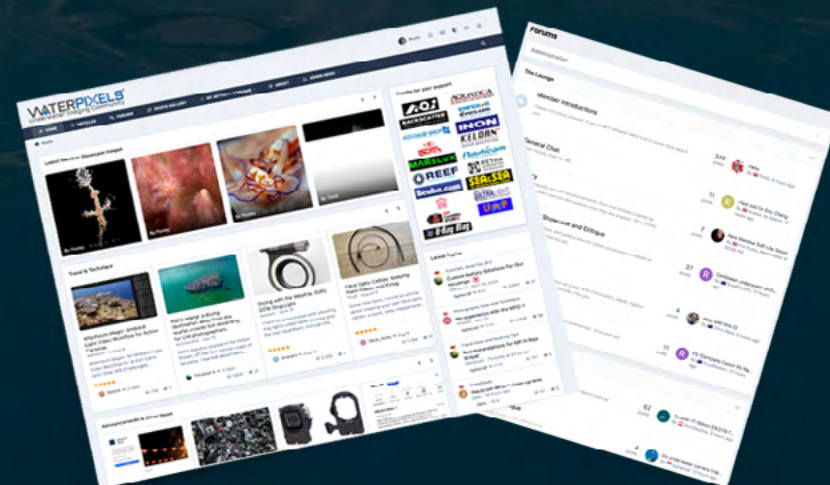
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