Part 38: HyperSync 2

Back in the late 90s (1990s not 1890s), I received my first digital camera, which was a prototype worth $65,000, created by Foveon. It sported four megapixels and had not one but three imaging sensors set behind a light-separation prism. I was one of the few lucky North American photographers asked to beta-test the system – I didn't have to buy the thing:). Now the really cool deal about this camera other than the fact that it created true colour instead of interpolated colour, was the fact that it did not have a physical shutter. This allowed me to light subjects with strobe or flash and sync my camera shutter to any shutter-speed, even 1/8000th of a second. Wow! With this I could shoot in any environment and have complete independent control over strobe/flash lighting and existing available light. It was amazing, I was able to shoot straight into the sun, even at f2.8, use my shutter up to its fastest speed, 1/8000th, to control the brightness of the sky for a deep blue, while frontal-lighting my subject with strobe/flash for f2.8 and no shutter clipping or vignetting of the frame! I thought I had died and gone to heaven! Shooting at wide-open apertures with super high shutter speeds while using studio lighting on subjects outdoors was not a dream but a reality. A few years later after the beta program was done, I got into hi-end digital camera backs and DSLRs. In terms of shutter sync-speeds with strobe and flash, these systems paled by comparison; the digital back I used could only sync up to 1/500th and my DSLR could barely sync at 1/200th. How sad. But things got better, just a few short years ago PocketWizard, the manufacturer of wireless triggering systems for strobe/flash and camera, introduced the programmable Flex TT5 transmitter/receiver and the Mini TT1 transmitter which can be connected via USB to your computer so you can alter its functionality. One of those functions is an offset that allows your DSLR to capture strobe/flash bursts using any of your DSLR's high-speed shutter settings (above X-Sync). Wow, now that is exciting! It does come at a price though; you can only effectively do it with your strobe unit set to full power and depending on what shutter-speed you select you will lose between 2 to 6 f-stops of light (2 stops at 1/500th and 6 stops at 1/8000th – according to my tests). Also it won't work with just any studio strobe unit; this technique works best on strobes that take longer to dump their charge of light (flash duration) onto the subject, the lights I used in my tests and on Image 001, had a flash duration of 1/300th of a second at full power. The most suitable strobes are typically older and/or more powerful models; older is often better because newer designs tend to use more capacitors and so dump energy faster which is perfect for freezing action but not a good thing for HyperSync. HyperSync craves slower, but not too slow, bursts of light. Also, powerful units generate more light energy and so need more time to dump this light onto the subject, and since they are more powerful, losing 2–6 stops of light with HyperSync isn't as much of a problem. In addition to this, usually the reason you are using HyperSync is to allow you to shoot with shallow DoF in full-on sunlight, which works to your advantage because big aperture openings don't need a ton of light, but you do need a more powerful strobe to beat the sun in the first place. In a nutshell, slower (within reason) is better! So dust off your old strobes, they may have a new lease on life. But keep in mind that these units are designed for studio; if used on location outdoors you will need lots and lots and lots of cable or you will need an energy source to plug into making a generator or a battery unit to power them a necessity, unless of course there are some GMO AC trees nearby.

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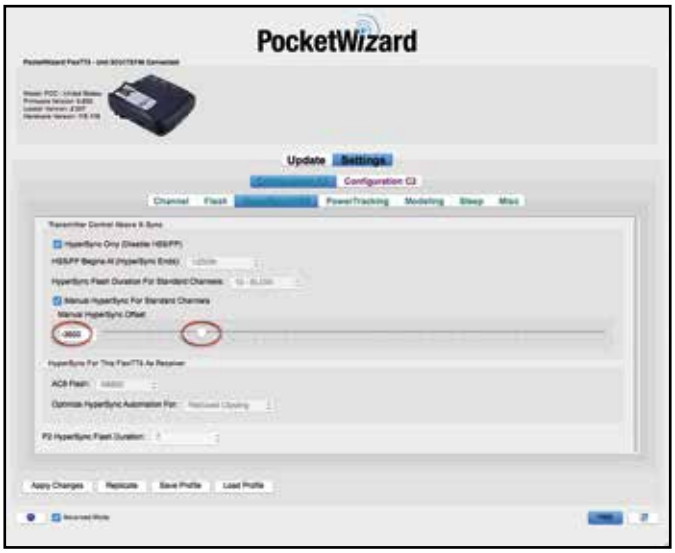
If you want a more in-depth look at HyperSync I will be releasing a new video tutorial on my "Dave On Demand" page of my web page on this topic July/August this year, so follow my webpage blog and social media:
Web: www.montizambert.com
Twitter: https://twitter.com/montizambert
Facebook: Dave Montizambert www.facebook.com/MontizambertPhotography?ref=hl

HyperSync Test

How do you HyperSync a shutter? First you must have a PocketWizard Flex TT5 Transceiver or Mini TT1 Transmitter to attach to your camera's hot-shoe to act as a transmitter. Then you need a second PocketWizard to act as a receiver plugged into the strobe; this unit doesn't have to be a Flex TT5 or a Mini TT1, I used the PocketWizard Plus III. But before you even try it out, you need to shoot a couple of tests: the first to determine the best offset (electronic instructions for flash to start before shutter opens) to program into the Flex TT5 or Mini TT1 – I used the Flex TT5 – and the second to calculate exposure. To find the optimum HyperSync offset setting, I assembled a Paul C. Buff X3200 WhiteLightning mono-block strobe (which is 1320Ws and has a flash duration of 1/300th of a second at full power) to evenly illuminate a white piece of paper while being positioned off the glare-angle to the paper. I then methodically experimented with the offset settings, see Image 002, starting at the lowest negative value -4500, then working my way up towards its highest 200, I made exposures with the various offset settings with my camera set to 1/8000th of a second. For each new exposure, the camera shutter-speed and the strobe stayed locked to the same settings. For each new exposure of the test, my Flex TT5 was reprogrammed to the next whole value. I repeated this test until I found the image-file that had the least amount of dark vignetting, see Image 003, from the top down (landscape orientation) while not having any clipping of the image. I repeated this whole procedure for 1/4000th, 1/2000th, 1/1000th and 1/500th of a second. The optimum offset value for each was recorded. For example, shooting at 1/8000th of a second I got the best results at an offset setting of -3600. That was a fair bit of work, and even more so because I did it for my Paul C. Buff X2400 and my X1600 strobes too. They worked just as well for HyperSync as the X3200, however, the more powerful X3200 is a better choice when shooting at the higher shutter speeds such as 1/8000th of a second because of my observed 6-stop light loss.

Now that was just the first test so don't run off to try it out just yet, there is still another test to do – a guide-value test of sorts to figure out exposure because conventional light metering won't work correctly with HyperSync'ed strobe-light. That test will be the subject of my next installment of *Creating With Light*.



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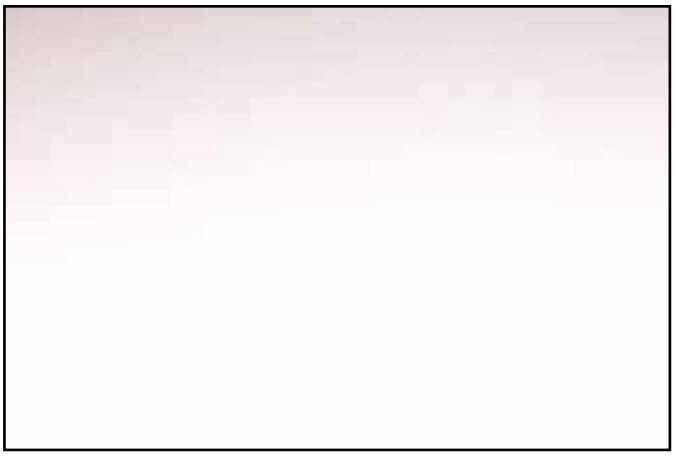

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SPEAKING AT THE CONVENTION

Let me tell you a secret! I'm not a photographer ...I'm a light sculptor – I bend the light to my will, to my vision using lots of cool geeky lighting equipment then immortalise my creation with my camera. I lecture internationally on lighting, digital photography, and Adobe Photoshop. Check out my Lighting and Photoshop tutorial DVDs for www.software-cinema.com and www.photoshopcafe.com. I'm available for lectures and workshops in your area and can be reached through *www.montizambert.com*.
Want to learn more cool lighting stuff? Follow my blog and social media:
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