

Tales of a Digital Virgin

by Mark Webster

As a year or so has now passed since I made a reluctant change to digital I thought readers may be interested how I have coped with the transition, the highs and lows and the digital do's and digital don'ts. As a confirmed Luddite I found the prospect of changing to digital quite intimidating and was prepared to delay even longer had it not been for the increase in digital users on my photo workshops. I realized it was a case of change now or get left behind...!

I also realized that to make the change I had to cut myself off from my addiction to film totally and so the much loved film cameras and housings were sold swiftly to prevent me turning back at any point. This is one of the first challenges you face - the change over to digital is happening so quickly that the market for second hand film equipment has shrunk rapidly and is threatening to crash. Great if you are planning to stick or start with film, but not so good if you are trying to fund your change over - so lesson number one, be prepared to spend some money on this latest affliction.

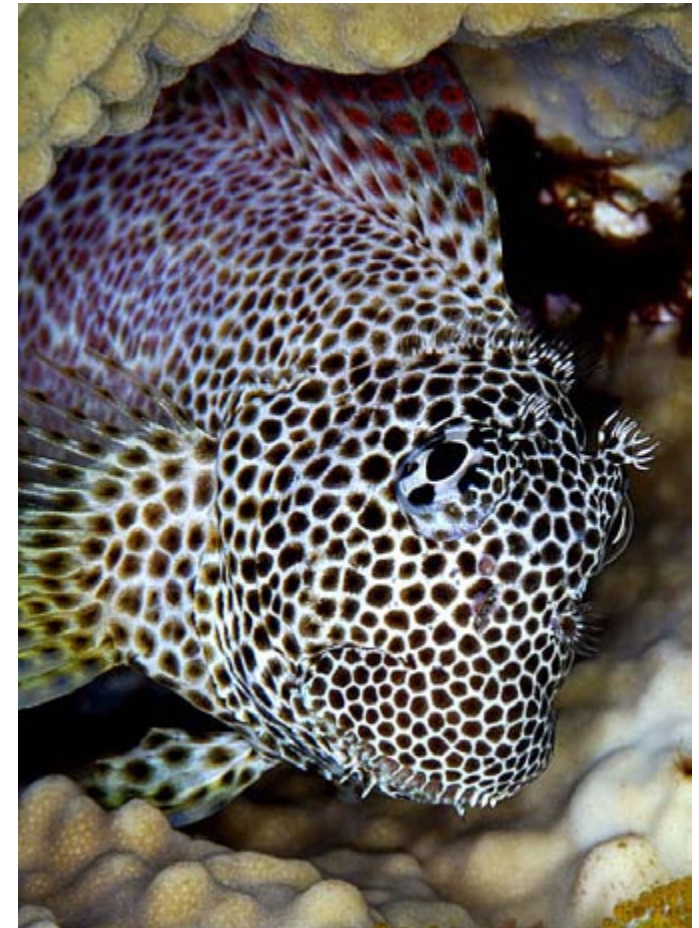
Camera Choice

There are a baffling horde of cameras to choose from and the market is in a constant state of change. For my needs only a digital SLR would do - there are numerous compact cameras which are



Compass jelly fish UK - Nikon D100, LMI Titan Housing, 18-35mm zoom, Subtronic Mini flash guns, 200 ASA, f16 @ 125th, half power.

useable but do have their limitations. Generally the compacts have a slower auto focus speed and also suffer from shutter delay, which means that your subject may have moved by the time the shutter



Leopard Blenny Red Sea - Nikon D100, LMI Titan Housing, 105mm macro, Inon Quad flash, 200 ASA, f16 @ 125th, half power.

Titan D100 housing and Inon Quad flash



fires. If you have been shooting with a film SLR you will find this very frustrating. The price of digital SLR's has come tumbling down in the last 12 months and there are now a variety of entry level cameras which most of the housing manufacturers are catering for. I took the plunge just before this proliferation and bought the Nikon D100 which was one of the first 'prosumer' digital SLR's and, whilst there are newer cheaper models now, still performs very well and has a comparable pixel count.

Housing Choice

Choosing a housing is almost as bewildering as choosing the camera. There are at least 12 manufacturers competing in the market and most are offering housings for the same model. If you have already owned a housing for a film SLR then your choice maybe easier as it will be more economic to retain your ports and stay with the same manufacturer. If not, then your first decision will be between an aluminium housing or an injection molded housing (lexan, poly carbonate and carbon fibre). In general the injection molded housings tend to be slightly larger than aluminium as they are mostly built to accommodate more than one camera model. However, if price is the deciding factor then they will almost certainly be cheaper and most have the advantage of being transparent which could be a benefit in the event of what we all dread most - a flood.

The aluminium housings are increasingly being milled from solid blocks although at least two manufacturers are still using casting techniques. The designs are generally for one camera model and therefore they tend to be much more compact and the controls are more ergonomic than the

cheaper options. As such they represent more of an investment, so you need to consider just how hard you are going to try and keep pace with digital SLR development and what the re-sale value might be.

My choice was the Titan housing for the D100 made by Light and Motion Industries chiefly because of the control it gives me over flash power output (through the ROC system - more of this below) and the fact that they supply an adaptor which enabled me to use all my existing Subal ports.

Lens Problems

Because the sensor size of the majority of digital SLR's is smaller than a 35mm film image (Canon, Kodak and Contax do make 'full frame' sensors, but are pricey) the characteristics of the lenses you may use will change. The picture area produced by a standard film lens on a digital SLR will be cropped by an average of a third - this varies dependant on which camera you have selected as sensor sizes vary between models, although Nikon have so far stuck with one size throughout their range. So there is an apparent change in focal length as the picture area is reduced. For example a 60mm macro lens will now produce the equivalent picture area of a 90mm macro lens on film - the focusing range however does not change. This has advantages for macro lenses but is not so good for wide angle. Thankfully Nikon and the independent lens manufacturers have responded to this swiftly and there are now a number of wide angle zooms available and both Nikon and Olympus have produced fish eye lenses as well. However, the bottom line is that you are also going to have to upgrade your wide angle lens arsenal as well unless



Three Spot Goby UK - Nikon D100, LMI Titan Housing, 105mm macro + Nexus wet lens, Inon Quad flash, 200 ASA, f22 @ 125th, half power.

you choose a full frame sensor - more expense either way.

Flash Problems

Up until very recently there has been no way of using the TTL flash exposure ability of your digital SLR without housing the matched land flash. Standard 'Nikonos protocol' TTL flash guns will operate but on manual exposure only. This has not been such a huge problem as you get to see your exposure as soon as you have taken it, so you can tune aperture, shutter speed and flash output to perfect the exposure. Flash guns with multiple power settings are best for this but the flash power can also be reduced by adding diffusers or moving them back from the subject.

One driver for my choice of housing was Light

and Motion's ROC (Remote Optical Control) system which controls the flash output from the housing in twelve power settings. The system works by mimicking a TTL quench signal for a standard 'Nikonos protocol' flash gun (you programme in your gun/s of choice) and so it does not matter if your flash gun has only one or two powers in manual. Flash power is conveniently controlled from the handles of the housing and power selected is displayed on the back of the housing - a joy to use.

Inevitably independent flash gun and housing manufacturers have been working on cracking the digital TTL protocol and some options are beginning to appear on the market. Ikelite now have a system for Canon cameras built into their housings and will soon introduce a Nikon D70 system. Aquatica are working on theirs whilst a German manufacturer (Mathias Hienric) has produced retrofit circuits for the Canon and Nikon which can be installed in your housing or in the flash gun itself by the manufacturer - Subtronic are now using this circuit. These are limited so far to certain camera models, but the number supported is set to expand. Not all flash guns are compatible with these systems as they rely on pre-flash to establish the correct exposure which from accounts so far seems to

work well in macro but not so well in wide angle.

A further alternative is to select an 'auto' flash gun or one which is triggered optically by the camera's on board flash. The latter are best suited to compact digital cameras, whilst the auto guns will work with most cameras.

Digital Advantages

Of course the initial great advantage of digital is that you see the result of your shot immediately and to begin with you will look at every shot taken. Once you are over that seduction it is useful to check the screen every time you say change subject, orientation or move flash guns, but otherwise it is best to concentrate on taking pictures rather than reviewing them. You have many more images available to you on a dive (dependant on card size) but bottom time is still limited unless you are also into re-breathers. For those of us old enough to remember the days before reliable TTL, you know that you soon get a 'feel' for the right exposure when shooting in manual.

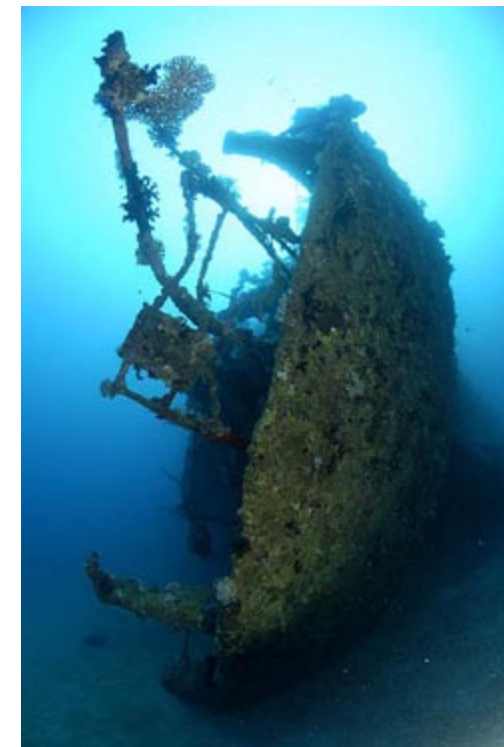
Shooting with natural light is easier with digital as well. You can adjust the white balance (colour temperature) during a dive using an 18% gray or white card and get very



Anthias Red Sea - Nikon D100, LMI Titan Housing, 12-24mm zoom, Subtronic Mini flash guns, 200 ASA, f16 @ 125th, half power.

good results. There are also a number of filters available to correct colour absorption - these have initially been developed for the digital video market but are quickly crossing over to digital stills. You can use these or standard colour correction filters, shoot in RAW and make your final white balance adjustments after the dive.

If you choose to shoot in a RAW



Wreck, Ras Banas, Red Sea - Nikon D100, LMI Titan Housing, 10.5mm FE, Subtronic Mini flash guns, 200 ASA, f16 @ 125th, half power.

file format then digital can be very forgiving when you get the exposure wrong - more so for under exposure. It is more like shooting on negative film which gives you at least a 1-2 stop latitude in the final printing process. However, it is always best to strive to get the exposure just right and minimize the number of adjustments you need to make.

Some see the potential for adjustment and/or manipulation of digital images as a bonus as well. It can certainly save a marginal image and gives huge flexibility for cropping and recomposing shots after the event, but this does add time to the post processing workflow. If you enjoy time in front of your computer then this is an advantage.

Waiting for film processing is now a thing of the past - now there is a mad scramble to download your images if you have had a successful dive and review them immediately on the laptop. So of course you could view the change to digital as saving you money eventually - if you make a couple of trips a year and shoot regularly in your home waters you could easily 150-200 rolls a year. When you look at the accumulative costs of film and processing you will knock a big whole in your digital budget in only a couple of years.

Digital Disadvantages

There are of course disadvantages to digital, particularly if like me you like to limit your time in front of a computer. If you don't own a suitable computer for picture processing then this is an additional expense to face. A laptop is the best



Nudibranch UK - Nikon D100, LMI Titan Housing, 105mm macro + Nexus wet lens, Inon Quad flash, 200 ASA, f22 @ 125th, half power.



Strawberry anemone UK - Nikon D100, LMI Titan Housing, 105mm macro, Inon Quad flash, 200 ASA, f22 @ 125th, half power.

choice as it allows you to download and process your images when traveling. Look for fast processor speeds, loads of RAM (you cannot have too much) and large hard disk size, although this can be supplemented with portable hard drives. Laptop choice is just as bewildering as digital camera choice - the most likely controlling factor will be what you can afford.

You will need to develop an image processing workflow that suits your needs and patience. There are any number of post processing software packages to choose from, but most will regard Photoshop as the best option. Most images will benefit from some tweaking, although as sensors

and on board processing improve images straight out of the camera will become more immediately acceptable. Even if you limit yourself to basic adjustments of levels, contrast and sharpening - which make a huge difference particularly to raw files - processing each shot can be very time consuming. It is important to regard your digital images much as you did your film ones - just because you shot 100 pictures on a dive doesn't mean that you should keep or process them all. Be prepared to throw some away just as you would on the initial review of a roll of film - this reduces the processing time, makes you more selective and consequently improves your results. If you

have a series of pictures with similar exposure characteristics then you can always batch process them which can save significant time and effort.

One thing you must consider, particularly when you are shooting large numbers of images on a trip, is back up. A computer crash or corrupt CF card can result in the loss of all images. Have one or two spare compact flash cards and back up your images regularly to CD, DVD or a separate drive. Portable drives with up to 100gb and more are very small and getting cheaper all the time. This caution applies at home as well and if you are shooting RAW then you will want to retain these files as well for future use. As you accumulate images you will regularly run out of space on your computer and separate hard drives - just as you did with your files for transparencies.

You need to also develop a filing system which allows you to find and retrieve images easily. There are of course software packages which help you do this but it does need some thought before you start, so that you can find that picture of the lesser spotted goby when National Geographic call and ask for it.....

Most of us own a slide projector which will now become almost redundant together with the film cameras. In order to view your images or slide shows on the big

screen means another investment. Digital projectors are another item that is steadily reducing in cost and increasing in specification as the market expands - these units can also be used for home cinema with your DVD player so the market for couch potatoes is growing all the time. However, they are still a significant investment on top of everything else, so you might consider sharing one with a fellow photographer or group.

Just like computers and video cameras, there will always be a better specified camera about to appear when you decide to go digital. It is very easy to get caught up in the pursuit of more resolution or the next sensor development and some photographers will be constantly selling equipment and moving to the next upgrade. To avoid this you have to examine what you are going to do with your images - if you don't make monster prints or sell your images for bill board posters then you most likely don't need an expensive professional level camera, unless money is no object and you must have the best.

Don't Look Back

When you make the move to digital you will most likely tell yourself that you will use your existing film kit occasionally, particularly if you have difficulty

selling it. This thought might make you feel more comfortable, but you will be kidding yourself, I still have a shelf full of film equipment gathering dust. Once you have experienced the convenience of the immediacy and the flexibility of digital processing you will not look back. There will be some film diehards and digital perfectionists that will point out there are still drawbacks in quality compared to film, or for example that digital doesn't cope with sun bursts so well, and this is true, but for most of us the images produced by say a 6-10 mega pixel DSLR will be adequate. If you can avoid, or don't need to, getting caught up with the need to chase ever

more mega pixels or the latest sensor then your choice of camera will give you several years service.

Film is not dead yet, but already the choice is narrowing and there are fewer companies offering processing. There will never be a perfect time to make the leap as there will always be the prospect of a better specified camera on the horizon, but once you make the move you are unlikely to regret it. This advice comes from a reformed Luddite!

Mark Webster

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