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Photography

Digital Camera Basics ... Again!

September 8, 2018 | Charles T. Low, Photographer

Introduction - Again - to Digital Cameras

I wish to apologize for my past behaviour.

Over the past decades, when asked about making the transition from film to digital photography, I have answered the question I wanted to answer, not the one which was asked. This includes a live presentation which I give, and which, happily, has been well-received. It also includes a recent blog of mine on this topic.



It still might not be what many photographers actually *need* to know, but nonetheless, enough photographers have asked me the question that I think that it behooves me to answer it more forthrightly. So kindly forgive my past transgressions, and let me have another run at this.

I will likely discuss various digital camera features separately in future blogs (it will take more than one), so this will be more like a list, based largely on camera functions accessible directly from the LCD screen. If it all seems too basic, sorry. If it seems overwhelming, sorry. If I seem to apologize too much, get over it.

What Do Digital Cameras Offer Over Film Cameras?



This is the rear LCD screen on my camera. The company calls is the Super Control Panel, and I cannot tell you how relieved I am that it isn't just a plain old Control Panel. Whew!

You may wish to refer back to this diagram as you read on, so I have also posted it <u>here</u>, if you wish to open it for reference in a different browser window.

Most of the frequently-needed digital camera functions can be adjusted right from this screen. That's lucky because this particular manufacturer (never mind which) has a reputation for complicated menu systems, but know that there is indeed an extensive menus system as well, offering much more than you can get at than from just the LCD screen.

How you get at this screen varies a bit by camera, but is never hard. Learn the button, and learn how to navigate the options (with arrow keys or a dial), press the button again to open up a dialog of the highlighted item, and presto! You're adjusting something! Experiment with it for five minutes, at a time when you're not actually trying to make nice pictures. Nothing will break.

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The Nitty and the Gritty

Let me run through it all with illustrations:

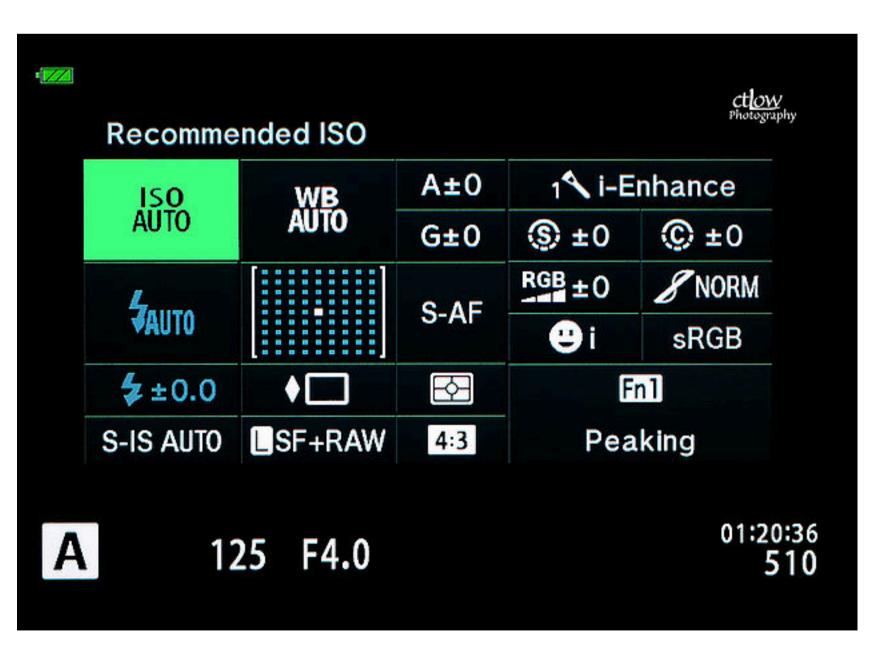


The rear of my camera, LCD Control Panel displayed. Note the two areas circled in red.

This is my camera: yours will vary, but not by much. The OK button is surrounded by what this company calls an arrow pad. Higher up is also a thumb dial. Some of the things that you can move with the arrow keys you can also move with the dial, and vice versa, and some you cannot, and there may be other dials. I saw a friend's camera recently which had a dial around the OK button. But you get the idea.

It's easy to get the order of button-pushes and dial/arrow controls out of order. Usually, a half-press on the shutter button will cancel everything and you can start again.

What one generally does next is press the OK button, and something will highlight. Move the highlight around with navigation controls until you're at the one you want. Press OK again.



Once you learn how to navigate your LCD screen, this is how a function might look as it's ready to be opened - in this case, it's the ISO function which is highlighted.

AUTO LOW 200 400 800 1600 3200

Press the appropriate button on your camera to open it, and a scale of some type will pop up, which might

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ISO adjustment

ISO means "International Standards Organization", I believe, which is irrelevant, and I'm sorry I wrote it. What it means in practice is that you can alter the sensitivity of the camera's light sensor. It will have a "native" sensitivity at which it works best, often ISO 100 or 200, but it can be pushed higher, the cost being: degrading image quality. In general, more expensive cameras can provide useful images at higher ISOs, such as 10,000 or 100,000, which is so far ahead of film as to barely warrant discussion, except to say that it allows impressive versatility for low-light photography.

You'll have to experiment and compare to see how your camera performs as the ISO rises.

In the LCD screen shown above, the setting is AUTO. Although my camera will go up into the tens of thousands, I set a limit (deeper in the menu system) on AUTO of about 6,400. On the rare occasions when I need more, I can still set it manually by pressing the button and opening up the ISO box, as shown.

When to use which could be a topic for a future blog!

WB adjustment

The next box over says WB and that means "white balance". I have discussed this in a bit more detail previously. The short version is that film came formulated for one colour temperature (is the more technical term), usually "Daylight" (as if that's always the same!), although you could for example also get "Tungsten" for incandescent lights, or use filters on your lenses to convert the ambient light to daylight. None of that is necessary with digital cameras. They can adjust to the light's colour ... digitally.



Part of the WB Scale

If you with to use a setting other than AUTO, then it will be a list which includes most of daylight, shade, cloudy, tungsten ... and on and on.

When to use which could be a topic for a future blog!

I don't always feel clear about when I mean, strictly-speaking, "digital", and when I just mean "electronic". It's a matter of definitions. I only say this because someone might pounce on me for blurring the lines.

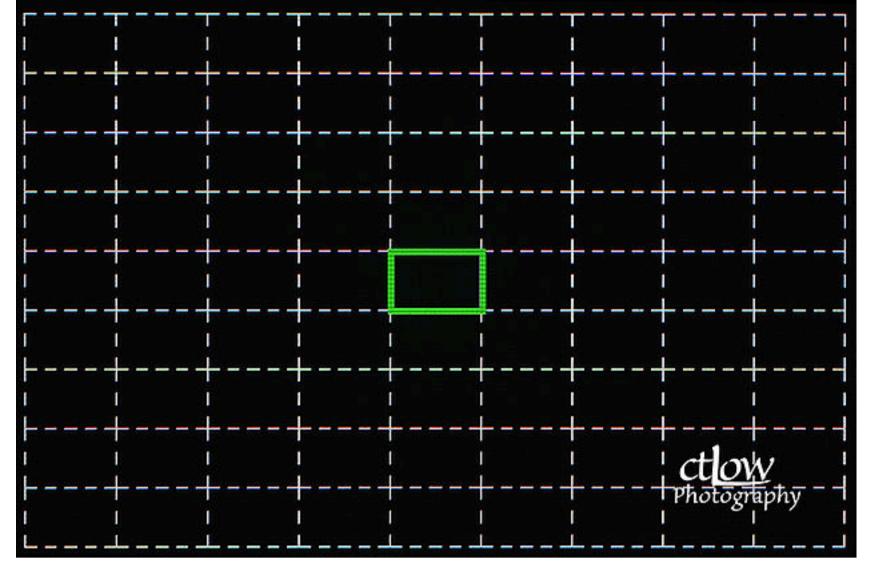
Go ahead. I'm ready.

And I don't really care. I will just forge ahead.

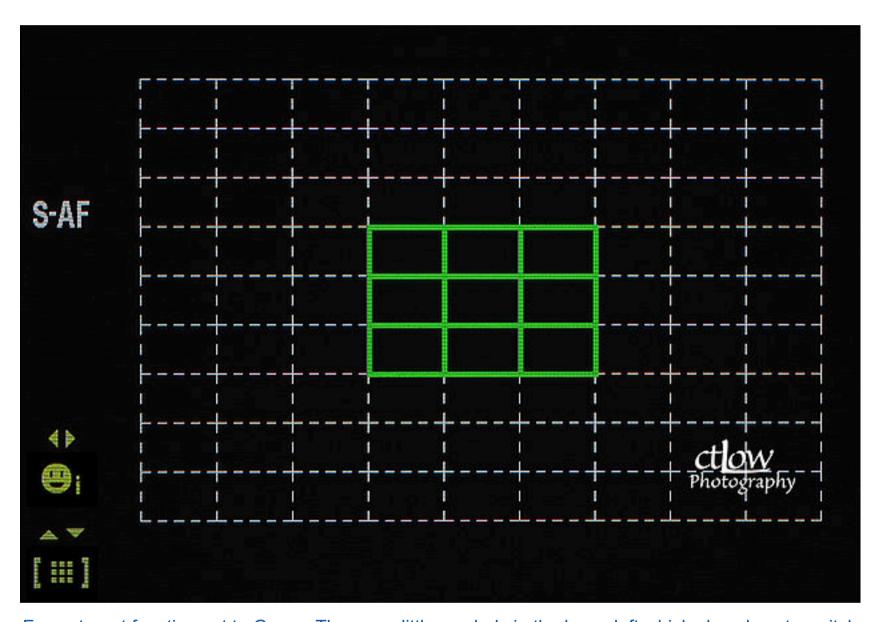
Focus targets and modes

The focus **target** box below WB is a grid of many dots. The one shown above is set for Single (one focussing spot in the middle), but most people will give the camera more autonomy. (Not me! I'm in charge, not the camera. It's features are there to serve me, not me to serve them! End-of-rant.) You can choose among Group (bigger than single), All, or Spot (even smaller than single). In Group or All, the camera will make some intelligent decision about where to focus, and is usually correct.

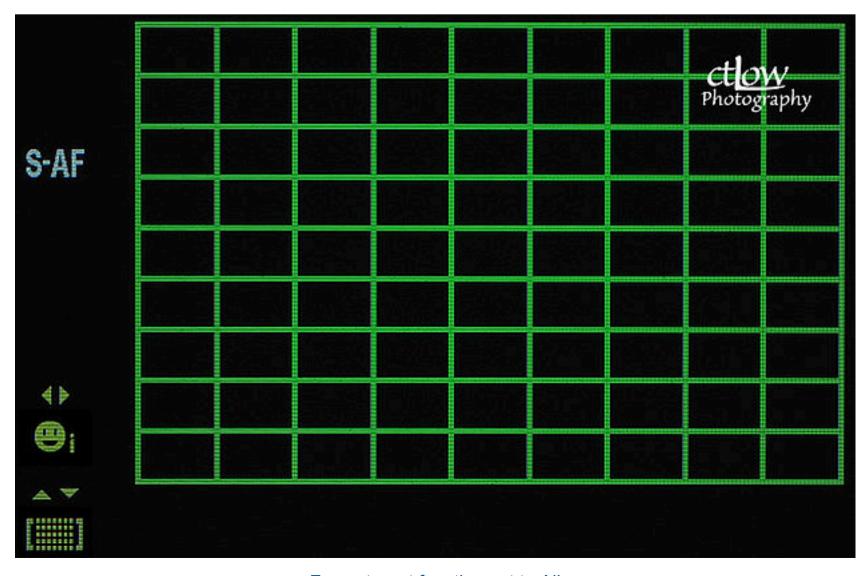
It's the "usually" which gets me, which is why I have gradually converted to Single; I will half-press the shutter button to use auto-focus in the middle of the image, then recompose the scene while leaving the shutter-release half-pressed.



Focus target function set to Single



Focus target function set to Group. There are little symbols in the lower left which show how to switch modes, on my camera, which does require knowing about one extra button ... and your camera will be different in execution, but about the same in concept.



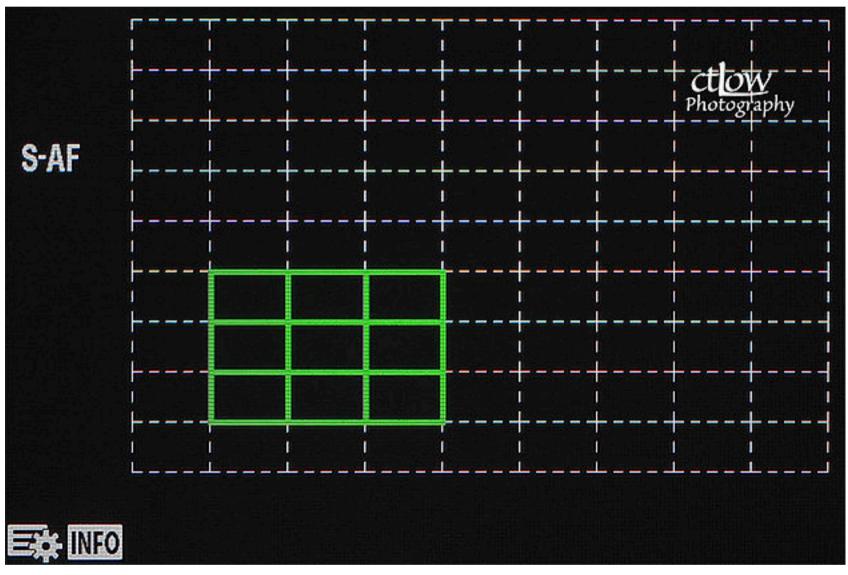
Focus target function set to All

Or, if using a tripod and not wanting to move the camera, then in any focussing target mode other

than All, the zone can also be moved around. When I was photographing this church the other day, using a tripod, I moved the focus onto the wall of the church, so that the foreground objects wouldn't interfere with how I wanted it.



This image is cropped from the original, in which the centre of the frame sat *below* the church (<u>St. James</u> Anglican, Maitland). I wanted maximal, sharp focus on the church itself, so stayed in Single Target focussing, but moved the target to where I wanted it. This is all just buttons and navigation wheels and arrows on your camera - not rocket surgery, but does require a few minutes of familiarization at least once. We all learned how to start a car, turn on the headlights and wipers - this is about that hard. (Well ... we might have had someone show us, the first time.)



I can move the focus target around - it does not have to remain centred.

The focus **mode** box is one again to the right, in the diagram of my camera's LCD screen currently indicating S-AF. That means "single auto-focus", and means that the camera will focus on a half-press of the shutter-release button (using auto-focus as set in focus-target), and stay focussed at that distance until I either take the picture or stop half-pressing the button.



Focus modes: Single, Continuous, Manual (and then Combo, and Tracking)

The other mode most commonly used is C-AF, "continuous auto-focus", in which the camera will continue to focus constantly during the half-press. (It can get more complicated that that, but this is essentially correct for most cameras most of the time.) The drawback can be that focus is less controllable and won't be where you want it when you want it, but the advantage is that you have a better chance of good focus with a moving subject.

When to use which could be a topic for a future blog! (I'm going to stop saying that now.)

There are other modes, specifically "tracking", which can be very cool, but is too much to get into right now.

Also of critical utility is **eye-focus**. See my <u>Portraiture</u> and <u>Tools</u> blogs for why. The auto-focus system can (usually) recognize an eye, and will preferentially focus on that. The basic settings are On or Off, although there are more powerful options than that; notice for example that the little smiley face - the symbol for eye-focus - on the LCD screen has the letter "i" beside it: "intelligent"! (And it is!) Apparently, eye-focus is important enough that the LCD screen has the symbol for it displayed in two locations!



Eye focus modes: Off, On, Intelligent (and then intelligent-right-eye and intelligent-left-eye)

And of course many cameras will still allow you to focus manually - MF; I find that distincly handy on occasion.

Exposure modes

You can set the camera to adjust the exposure in different ways. This is the little box below the focus mode box, and the symbol as shown is for an intelligent exposure system in which the camera evaluates the scene for, among the simpler items, backlighting or spotlighting, and makes the appropriate adjustments.



Exposure modes: Intelligent, Center, Spot, and others of more esoteric interest.

Other available modes include spot and center-weighted; they all have different symbols, mainly self-explanatory. I tend personally to use intelligent mode for snapshots, and spot mode for art.

Drive modes

Move now to the left, i.e. one box below the focus-target grid. That's the drive-mode box. The symbol as shown means "single exposure anti-shock", but that's for another day. Here, however, is where you can set the camera to go into a continuous drive mode, where it will continue making exposures as long as you hold down the shutter release. You can also set the timer, to take a photo a certain number of seconds after you press the shutter release. Beyond these basics, many modern cameras have much more functionality than that, waiting for you in the drive-mode box.



Drive modes: Single, Anti-shock, Silent, Sequential-high, and so forth.

Image Stabilization

This self-explanatory feature has revolutionized hand-held photography. No matter how steady you are, little micro-motors keep the image sensor stiller than you can accomplish.

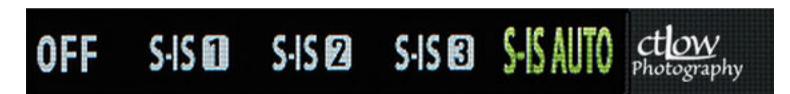


Image stabilization modes. These have to do with panning, and in my photography I can never predict panning, so use AUTO. The important thing, despite that it uses extra battery juice, is to have it ON!

There are only very limited circumstances, specifically with some older cameras when used on tripods, when it is better with it off.

Other

I have not covered and will not cover all of the boxes. Many of them quite frankly I never go near. You will see adjustments for red and green, for various JPEG-enhancement modes (e.g. i-Enhance), for sharpness (S), contrast (C), saturation (RGB), gradation (set to NORM in this case), colour space (sRGB), file type (LSF+RAW), aspect ratio (4:3), and on this screen one can change the function of Function Button Number One (set at Peaking).

I am not going to describe any of those functions. I'm not saying never! But not now.

In the very upper left, ones sees the battery status. The Wi-Fi button is another long story of its own.

Along the bottom, one sees that the camera is in A-mode, what the shutter speed and aperture are, whether and how much I have applied exposure compensation (the dotted line with minus and plus signs at the ends and a zero above it), how much video time is available currently on the memory card (about 2 hours and 42 minutes) and how many more still photographs it can hold.

Non-LCD

Furthermore, I am just always going to have things I want to adjust which are not on the LCD screen. There may be other ways to get at them than by menu-diving, but they are not on the screen.

The one I use most frequently is **presets**: I can set a whole slew of settings, and then save them. My previous camera had two, and now I have four. This is really handy, and a lot faster than having to make a dozen adjustments. I choose a preset, and I'm ready to make snapshots. I choose a different one, and I'm ready to make art. Etc.

Why I Didn't Do This Before

You by now may have some inkling of why I shied away from this question before. It is a bit complicated, and this is only a once-over-lightly; but as I recently <u>stated</u>, you really can get by very well without knowing most of it. The important thing is to develop your eye, and to release the shutter. Remember Wayne Gretzky saying: "You miss 100% of the shots you don't take."

So please, *please*, *please* don't let the technicalities either deter you, but as importantly, don't let them *distract* you. It is quite all right to put everything on AUTO, and go ahead and make some photographs.

The rest is there waiting for you, if and when you ever want it.

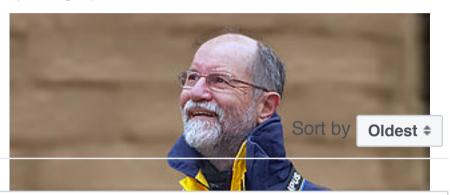
(And *do* learn exposure compensation, indicated on but not adjustable from my LCD screen - again refer to a recent blog.)

And most of the rest is art. The things I'm discussing here are great, wonderful even, and have absolutely transformed photography in amazing ways - but none of them replaces the photographer.

While you're here:

Remember that I make photographs and that I sell photographs.

Almost everything which you see on this web site is for sale. Prices at the time of writing, for example, for an 11x14" fine-art print with a generous white border would start at about \$50, and you can go up or down from there. Check the rates page. More importantly, check out my gallery.





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Thank you so much for reading.

Charles T. Low Photographer



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