

## Bridge or DSLR Camera – What are the Pros and Cons

OK, before we look at some of the benefits of each type of camera, let's just take a moment to have a look at the different types of digital camera on the market today

### Point and Shoot

These cameras are designed for the snapper rather than the photographer, most have little in the way of controls, they do everything automatically. They are easy to use, but limited in their versatility. Such cameras typically have a separate optical viewfinder (or no viewfinder at all) and a LCD screen at the rear for composing and viewing photos. Most serious photographers will prefer a camera which allows more creative control. In their defence however they are small, light and easy to carry and some are designed to withstand abuse such as being dropped and immersed in water.



Canon IXUS 950 "Point and Shoot"

### Bridge Camera

So called because they fill they originally filled the gap between "point and shoot" and SLR cameras, bridge cameras have caught up with and in some ways surpassed the features offered by their SLR rivals. Bridge camera use an Electronic Viewfinder (EVF), used for composing the photos and an LCD screen that can be used to compose and display the pictures. Many bridge cameras incorporate a "superzoom lens" these can offer up to a true x25 the Nikon Optical zoom and often with a digital zoom on top of this . On the megapixel count, bridge cameras are challenging their SLR opposition, the



Canon Powershot SX1 IS "Bridge Camera"

higher end models offering 10-14 megapixels . Image stabilisation is also a very mature technology on bridge cameras, and very effective at counteracting camera shake (just as well with such long zoom lenses).

### DSLR Camera

DSLRs (Digital Single Lens Reflex), cameras are traditionally regarded as the tool for the professional and serious amateur. The term SLR derives from the fact that a reflex mirror is used behind the lens which allows the user to see directly through the lens (a through the Lens Optical Viewfinder or TTL OVF). The LCD on the rear of SLR cameras is used primarily for displaying pictures that have been taken, though an increasing number of SLRs are offering "live view" LCDs which can be used to frame and compose photos. While it is the through the Lens Optical Viewfinder that gives the SLR camera its name, the great versatility of a DSLR comes from the fact that it is designed to be "modular" that makes them so versatile. You can fit a wide range of lenses, microscope and telescope adapters, filters, battery packs, flash units etc to them according to your needs (and depth of pocket).



Canon 450D "Digital SLR Camera and lens"

### Hybrid Cameras

Hybrid cameras are fairly new to the market and therefore rare and expensive, but I believe they are the future of serious digital photography and the SLR as we know it will be consigned to the dustbin of history. Hybrid cameras combine the best of Digital SLRs with the best of the Bridge cameras.

They use the Electronic viewfinder of the bridge camera rather than mirror/prism but they have the large sensor, interchangeable lenses and other "bolt-ons" normally only associated with DSLRs. This allows them to combine the versatility and quality of the DSLR with the lightness size of a bridge camera.



Panasonic Lumix G1 Hybrid Camera

## Bridge or SLR?

Since most serious amateur photographers will choose between a Bridge and Digital SLR camera its worth looking at the pros and cons of each to decide which type of camera is right for you.

No one can decide to you – the final choice is yours. Keep in mind the points below and decide which is best suited to your needs, now and in the future. Once you have decided which type of camera is right for you, then you can start looking at the different models from different manufacturers. Go to a good camera shop where they will let you handle and take a few test shots and try several before you decide.

### Sensor size

Most bridge cameras use a much smaller sensor than a SLR. The reason that this matters is that images must be enlarged much more to get the same sized print and this can affect quality. Typically bridge camera sensors are 15mm diagonal or less. If you never make poster sized prints it's unlikely that you will notice.

Everything else being equal, which of course it never is, the larger SLR sensor size (typically 28mm diagonal or more) makes for higher quality images, which becomes most evident with print sizes at A3 and above. There really is no substitute for the larger sensor size if you want to produce large images and/or crop severely. So if you need to produce very large high quality images on a regular basis, then the larger the sensor the better

Sensor Sizes (Actual Size)



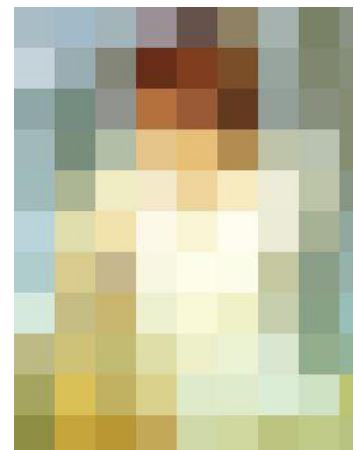
- Full Frame 35mm format
- APS-C as used in most DSLRs
- 4/3 used in Olympus & other 4-3<sup>rd</sup> DSLRs
- 1/2.3 used by better bridge cameras
- 1/3.6 used in many compact cameras

### Megapixels

The gap between the number of pixels on Bridge and DSLR camera is closing. Most bridge cameras offer at least 8Mp more than adequate for a full sized A4 print, indeed 4Mp is normally adequate, but beware the actual sensor size – see above.

Note though that because the actual sensor size is smaller, the pixel density on a Bridge Camera is much higher which can compensate to some degree for the smaller sensor size, the penalty though is greater noise in low light conditions as each pixel collects less light and the signal needs to be amplified more.

Most DSLR cameras offer at least 10Mp, some as many as 20Mp (or even more for full frame models). Since the sensor on a DSLR is larger than a bridge camera, the pixels are larger on a DSLR than on a bridge camera rated with the same Megapixels. In low-light this is actually a plus bigger pixels collect more light and this makes DLSR sensors less susceptible to 'noise' than bridge cameras with smaller pixels.



## Interchangeable lenses

Any camera is only as good as the lens. The beauty of an SLR is that if you don't like the lens then you can change it. Bridge cameras have fixed lenses which cannot be removed, so then lens that you've got is what you've got. That said many higher end bridge cameras have very good lenses and often with a very good zoom range. Commonly bridge cameras offer a x20 optical zoom offering a range of focal lengths from <28mm to >500mm, and often there is additional digital zoom as well. Many bridge camera lenses also have an excellent macro facility. As the lens is always attached there is no problem of having to change lens to get a particular shot. On the down side, the aperture range on Bridge camera lenses is normally less then on SLR lenses. F3.5 – f11 is typical.

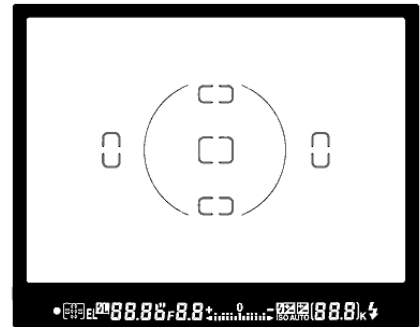


With a DSLR, to get as good a range of focal lengths as a top-end bridge camera you'll need a selection of lenses, which can make your camera bag very heavy and your pocket much lighter. There is also the problem of missing out on your photo opportunity while you struggle to change your lens. Specialist "fast" lenses, macro, very wide angle (fish-eye), extreme telephoto (>1000mm) and even tilt and shift lenses are available at a price.



## Viewfinder

Bridge cameras use an electronic viewfinder. The EVF shows the photographer the image that is falling on the sensor. When you take a picture, the same image is recorded to the memory card. DSLRs use mirrors and sometimes a prism is used to intercept the light coming through the lens and direct it through the viewfinder. Electronic viewfinders are improving all the time but the low resolution of some EVFs can sometimes make manual focusing difficult. Some have the facility to magnify the central section of the image to make this easier. Image lag can be an issue, especially with fast moving subjects with "streaking" occurring. As the EVFs in bridge cameras are essentially display screens, additional information, such as exposure histograms, artificial horizons etc can be overlaid on the image. Of course being electronic the EVF uses battery power



When you take a picture the mirror has to flip up out of the way, the image is temporarily lost and the rapid movement and "slam" of the mirror can result in camera shake at low shutter speeds. Some DSLRs have a mirror lock-up facility to prevent this. Optical Viewfinders are bright and clear and there are no resolution issues – you see the actual image, and of course being optical it requires no battery power. Some DSLRs have interchangeable focussing screens. You can change the glass screen in the viewfinder on which the image is focussed. Matt, Split Screen and Fresnel screens are commonly available.



### Size, weight and handling

The very nature of DSLR cameras makes them heavy. This is compounded if a number of lenses, battery packs and other accessories need to be carried around. However, the size of a DSLR camera normally means it is easily held and there is space on the camera body to put various buttons to allow convenient access to the camera functions without having to work your way through complex menus each time you want to change a setting

Because they do not have a bulky mirror/prism and because the sensor is smaller, bridge cameras can be kept lighter and more compact than an SLR. This can be important if you intend to carry your camera around for a long time. The extensive use of plastic in some cheaper bridge camera can make them less robust though. and very light cameras can also be harder to hold steady at slow shutter speeds.



### Sensor Dust

Since dust can only get on the sensor when the lens is removed, and bridge cameras do not have removable lenses, bridge cameras cannot suffer from sensor dust. This is a huge advantage. Conversely, because the lenses of SLR cameras are routinely removed, dust can get into SLR cameras and onto the sensors very easily. Any dust on the sensor will show up as dark marks on all the photos.

While some DSLR cameras have sensor cleaning and dust reduction systems some additional sensor cleaning is inevitably going to be needed from time to time. This can range from a quick squirt with a blower, to a full professional clean.

To see if a sensor has dust on it that needs to be removed, point your SLR at a distant object, preferably mid-tone – the sky is ideal – set the camera to the smallest possible aperture (this will show the dust up more), and shoot. Don't worry about the a slow shutter speed, it does not matter if the subject is blurred a little, the dust on the sensor will move with the camera. Take several shots

Look at the resulting photo enlarged on your computer; if you can see black/grey spots – on the same place in each photo, then you are suffering from dust.



### External Flash Units

Most Bridge and DSLR cameras have a built in flash many also have a hot-shoe. Typically the hot-shoe is more sophisticated of a DSLR than that found in most bridge cameras and it offers full functionality when used with dedicated flash units. Most, but not all, DSLR cameras have a PC flash sync for studio flash



### Other Accessories

As the lens cannot be removed on a Bridge camera then any accessories that fit between the camera body and lens cannot be used with a camera. This means that traditional teleconverters (used for increasing the focal length of the lens), and extension tubes (used for macro work), cannot be used. With accessories that fit in front of the lens, such as filters, and close-up lenses etc, then it very much depends on the camera. Some bridge cameras have a bayonet fitting for a lens hood which can also be used for such accessories. Some bridge cameras have a standard filter thread, some require the use of a special adapter and a few simply cannot be used with filters and other such accessories. Other accessories such as remote shutter release also vary from model to model



All DSLR cameras can be used with traditional teleconverters and extension tubes, microscope/telescope adapters, and such like (you need to make sure you get the correct mount to fit your camera of course).

A screw thread on the front of the lens has long been a standard feature of SLR/DSLR lenses allowing threaded filters and Cokin filter adapters to be fitted. Many DSLRs support an huge range of other accessories such as remote shutter releases, angle finders, battery packs and grips.



### Price

As bridge cameras have become more sophisticated they have become more expensive to the point where a top-end bridge camera is not much different in price to a budget DSLR. That said, once you have bought a bridge camera you don't have to buy a load of lenses so all-in-all a bridge camera system still works out much cheaper.

