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Canon

Shooting Product Photographs with Digital

PART I

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Introduction

Product photography is probably one of the most important aspects of commercial photography. Products can be shot in many ways but if you want to have professional quality results there are some important aspects which must be followed to ensure results suitable for publication in top catalogues, brochures, and similar print media. Also, in the age of the web and on-line sales presenting products in the best possible way can be crucial in making a successful sale.

Equipment

Other than camera and lens selection, which will be covered in part 2 of this tutorial, lighting equipment is the most important factor for a successful product shoot. Unfortunately, not just the most important, it's often also the most expensive too. A lot of photographers, especially those who work mostly in the field, with existing lights and especially with on-camera flash, don't have too much opportunity to see how different flash light sources and lighting control accessories affect the light.

In this part, we will mostly cover shooting of simple objects. We'll limit the lighting to no more than three light sources, and in part 2 we will cover some more challenging objects like perfume bottles, wet beer bottles, glass and reflex surfaces.

Equipment in depth

An essential lighting tool for almost any photographer and probably the most important part of equipment in every studio is flash. Most modern studio flash lights are generator driven or monoblocs but there are no big differences between them. In this article, we will mostly use monoblocs, because of their low price and efficiency of use compared to generators. They are also a very flexible all-in-one solution and only one AC cord is needed. Now there are new portable monoblocs, like the Bowens Esprit Gemini series, which can be used both as a studio light connected to AC power, or used outside connected to battery powered pack.

Typical monobloc Flash light with pilot light bulb. On the side, there are precision power control and pilot light intensity knobs. The test button with green light above can be seen between the knobs. On the back, there are buttons for lamp control, beep sound and photo cell activation. Also, there is a sync cable socket, power plug socket and battery power connector. These units can be triggered with sync cable but we prefer a safer way, so we use and strongly recommend using an IR or radio trigger.

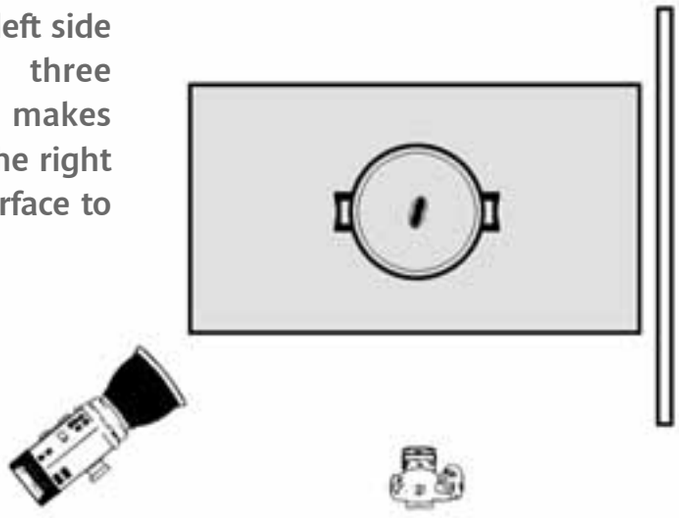
Infra Red triggering is the safest way to sync your camera with the studio light, and is also a cheap method. All you have to do is to put a trigger in the flash hot shoe and set the camera so that it does not fire its own built in flash if so fitted.
We should mention that the Gemini flash units used in this article are safe for use with any camera because of their low 5V sync voltage. Not all flash units, especially the older types, are made to this new, 'digital' low voltage standard.

Common light sources and simple light examples with some basic Light Modifiers

Many years ago only simple, classic reflectors were used for shooting. But bare reflectors don't give a very pleasant light so there are a lot of light control accessories produced to make a photographer's life easier.

To demonstrate how different light modifiers affect lighting we prepared one basic lighting setup. Our demo product was a big glossy round bowl - very useful in that we can easily see highlights, reflections, shadows and specular lights.

The light was moved off the camera to the left side which almost always improves the three dimensional look of the shot because it makes highlights and shadows easily visible. On the right side on some shots we place a reflective surface to bounce back some light.



Basic, one flash, lighting setup



Simple, one flash monobloc with one 60 degree reflector and a flat panel bounce surface on one side.



Same as above, one flash monobloc with 60 degree reflector but this time we used a honeycomb to be able to get tighter light and again a flat panel bounce surface on one side.



One flash monobloc again but this time we added a snout to create a simple (and inexpensive) spot light effect, often used in product photography, to emphasis a particular part of the product. (We will cover use of the snout in an example later in this article)

Soft box

Probably the most important lighting equipment invention in the last few decades is the Soft Box.

Photographers who worked a few decades ago noticed that many objects looked more pleasing and natural in a soft, diffused light environment. There are a lot of ways to modify the light reaching the subject but the soft box is probably one of the most useful.

Generally light coming from a point source makes specular light and bright spots on objects together with shadows that are deep and unsubtle. All of this is not too attractive photographically, except in some rare conditions.

A typical bare flash tube without any accessories is largely a useless light source.

Soft boxes come in a variety of sizes for different lighting situations. Soft boxes were created to soften the contrast light from very small flash bulb light sources and to eliminate hot spots and also to uniformly distribute the light.

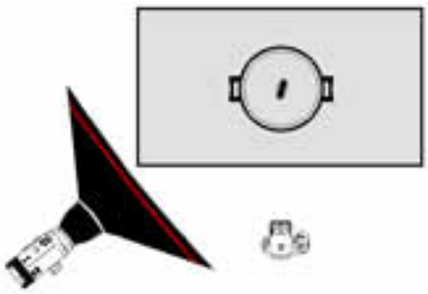
The light that comes from a soft box is therefore both diffused and directional and that light is very easy to control, especially with accessories like grids or honeycombs which can be attached in front of the soft box to keep light from shining on un-required areas of the set (or to prevent light spill).

The general 'rule of thumb' for using those modifiers is: The larger the soft box is, the softer light will be. This also stands for distance. The closer an object is to the front diffuser, the softer the light will be. Therefore, we can tell that the best distance for positioning objects from the soft box surface is about one half of the box's diagonal length. If moved too far, the shadow becomes more noticeable. And if moved too close you can lose any contrast and surface definition or texture, which isn't good either.

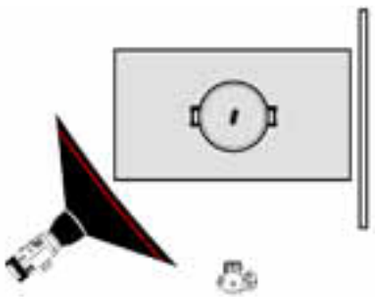
But very big soft boxes are extremely useful for shooting very shiny and reflective objects, but we will cover that in the next article.

Left Classis soft box setup. Flash monobloc on tripod with soft box attached with ring adapter to flash head mount.

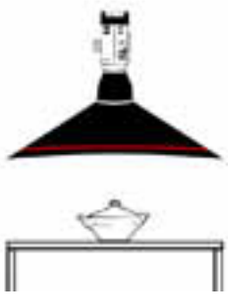
Right Construction of simple Soft Box. Front diffuser is opened for us to be able to see its construction and inner diffuser, which is often called the interior baffle and serves to preserve hot spot appearance on the front diffusing surface.

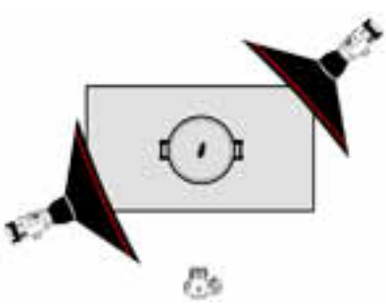

Simple, one flash monobloc with soft box reflector.


Same as above, but with reflective bounce surface at the camera's right side. Shadows are almost invisible, but bowl still maintains its round appearance.

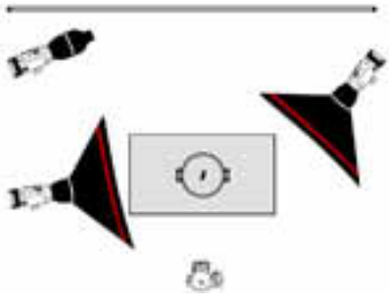




Just one soft box again, but this time the flash is mounted on a boom and positioned head down, parallel with the desk surface. This is the classic car photography setup, but it works very nicely on antique, glass, jewelry and similar expensive, stylish or classy looking objects.


Two soft box setup. Very nice in a lot of situations, but can be a little difficult if shooting large objects. Here there is a flat grey background which helps make the object stand out.

Advanced Studio setup



Now we add a third background light which adds some nice dramatic interest to our background. On this shot it could be interesting, but it's not essential, to add one more small soft box on the boom above the dish under the small negative angle to the vertical axis of the object. This way, we can add a little back light to the dish cover and make the object a little more three-dimensional.

Backlite Reflector

Elliptical shaped, this accessory produces a radial pool of light that is useful to make a vignette on a dull monochrome background, or to emphasis texture and color of some other background. Also there are two spring fitted clips on the opposite sides of the reflector where color gels can be fitted. Those gels can easily colour any surface or objects we shoot.

Speaker setup

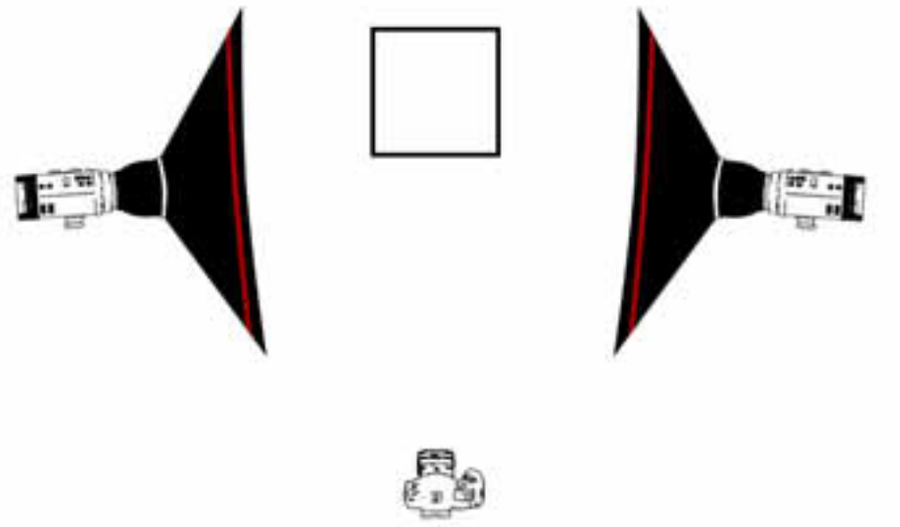
We made one demo setup, but actually the pictured speaker was use for a cover page of an audio magazine.

This is a typical two soft box setup, but because of the nature of this product, the right soft box is an extra large size one. Why? We can see that the speaker box has two deep, concave speaker units, and both units reflect light from the soft box very well (actually too well) so we have to do something to make the almost totally black hole have a more interesting appearance.

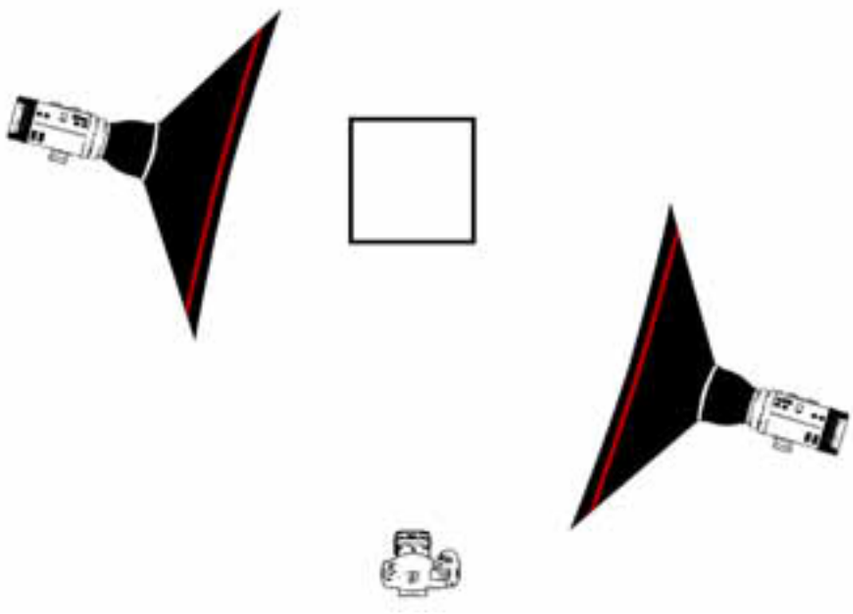
In the example below, it is easy to see what shapes each soft box produces. So, it's easy to see what the role is of the larger soft box in this setup.

The extra large box produces much more of a defined structure and shape of the speaker unit membrane surface, and at the same time, makes a very interesting graphical structure. On the left side, we intentionally put a smaller soft box. This creates a nice graduated light at the camera's left side of the speaker box, and shows how the light is beautifully diffused and graduated when it leaves the box surface on the other side. It demonstrates that a medium size soft box is not enough for this kind of subject.

On this example photo, the speaker cabinet is turned a little counter clockwise, to show better how light renders the speaker's left surface, but in the actual shot, the speaker was at a 90 degree angle to both lights.



A two Soft Box setup. The speaker was at a 90 degree angle to both lights.



A modification of above Two Soft Box setup. Both flashes are now in different positions. The main lights are positioned to give some shadow to the front surface of the speaker cabinet, and at the same time giving nice definition to speaker cone's membrane. The soft box on the left side was used to add some back light and to enhance the wood surface. This time a white paper background was used because we wanted a clear, technical, and more commercial look to the product. We placed our setup close to the paper background, so we had no need for a third background light this time

'Spot' light Speaker setup

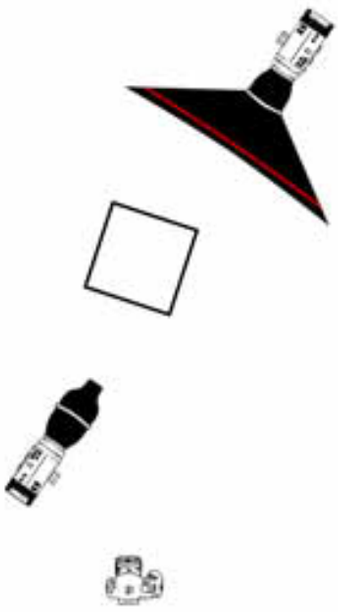
Like this Photo?... At first sight it might look like a complicated shot, but actually it isn't too complicated at all.

We used as a main light one flash with a grid inside it and a snout, and one soft box as a fill light. The soft box is perhaps a little bigger that is needed but we wanted to made a scene setup as clear as possible.

As it can be seen on our setup photo we have a white background, but that was only for demonstration purposes. The original product shot was done on a black velvet background. Velvet is great for light absorption because everything is black except for the lit speaker. We used the soft box on the camera's right hand side because the scene was too dark and uninteresting (too artistic) without the additional light.

The right side of the speaker is a dull grey so we used the Photoshop Color Balance option to add a little more life to the image giving one side a reddish - 'redwood' like appearance. The shot was done for a cover page so we allowed ourselves a little artistic freedom because there was no strict need to keep a totally accurate look to the subject. We shot at approximately 28mm (EF17-40mm f4.0L) on an EOS 10D DSLR. Exposure was made mostly for the highlights to ensure that the background stayed underexposed and dark on the final photo.

This speaker photo was a real assignment for a cover page for a Hi-Fi magazine so we used RAW format to be able to fine tune the color balance and exposure and developed it with 16bit tiff for further editing.



Advanced two flash setup This arrangement is useful for shooting otherwise simple or uninteresting objects, or products which are seen on a everyday basis where the photographer has the more difficult challenge to present the product in a more interesting way.

Real world examples

Of course good lighting alone isn't enough. Good composition and a well chosen distance from the object is very important too. Just like the angle of the shooting and the view of the field. We will shortly discuss a few real life product photo examples.

Typical product photo of a **contrasty metallic and matte surface object** with two soft box setup.

White objects are always difficult to shoot This sewing machine was shot with two soft boxes but each with a different light ratio, so the right camera side flash was almost 2 times stronger than the left one. As a result modeling of this almost white object is much improved and the shape of the machine is better defined and more able to be visualized by a potential buyer.

Another technology shot Two soft boxes are used here but if you look into the lens, you will see the very unusual colour of the multi coating of the front lens. We used a highly directed spot light to add life to the lens but we put some white cloth in front of the grid before we shot to get smoother light 'rays'. Also a small amount of colour balance was used on the area to emphasis the magenta colour making the lens attractive, especially to people who know what a Multi Coated layer is!

Bottles are always difficult to shoot We had a 3 light setup here. Two soft boxes and one light with snout for the background lighting. The studio space when shooting glass must be as dark as possible because glass reflects everything and doors, props, and other studio stuff can gather light from the scene and can be easily seen in the glass surface of the object. So use of a small aperture (e.g. F22), accompanied with high flash output is recommended to ensure that the background light is kept as low as possible. Also the use of grids or honeycombs for all lights which are not to directly reflect in the glass is recommended to minimize accidental lighting of unwanted surfaces. Also, we chose a lower angle for shooting to be able to minimize all reflections which came from the lights.

Another 'bottle' shot This one was a little more complicated. The bottle was shot on black paper. We set up a two soft box arrangement and used one additional light modifier in the shape of the bottle, hand made out of plastic behind the bottle. Below the table supporting the bottle we made a hole and positioned two wooden planks to stably support the paper. The bottle was positioned on the plank nearest the camera. We made (cut) a hole in the paper and point flashed light with a snoot in the hole. Above the hole, we put a plastic diffuse opaque glass. When fired, the glass became very bright thus making a nice bright spot in the middle of the bottle. We had to remove the back label, to allow light to better penetrate through the bottle surface. Exposure was made for the highlights.

Summary

With this tutorial even the most inexperienced photographer now has some idea about light sources, types of flash and modifiers used and some basic setups for product type shots.

Next time, we will cover some tricks, and shoot some more advanced products, and also talk a little about use of RAW format in product photography in conjunction with some very useful Photoshop techniques to achieve some pictures that were probably impossible before the advent of digital.

Also we will cover in more depth the cameras and lenses used to take these photos.

Biography Miodrag Jovic

"I'm Serbian, was born in 1973 in Belgrade and graduated in art history. My interest in photography started when I was very young, but in 1995 I went into TV as a cameraman and video editor. After a few years spent in TV stations and production studios, mostly as a freelancer, I moved back again to still photography but this time in a much more serious way. I built up my own studio and worked mostly on advertising jobs utilizing my TV experience working with still pictures.

Now I tend to work for major companies and mostly I do commercial jobs, mainly for beer and beverages. But I also do a lot of technical and product photos. Currently I'm working for few major foreign companies, producing photos for world wide campaigns and brochures and a lot of cover pages, billboards etc.

I work mostly with Canon DSLR equipment but sometimes I also use Canon's Powershot G series."

Miodrag Jovic
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