

PORTRAITS...

because everybody's beautiful!

Nearly any picture can be called a portrait. Generally, this is reserved for pictures that are *intended* to be portraits. A portrait does not have to be of a person, or any living creature. For the sake of simplicity, this discussion will be aimed at portraits of people.

In the studio, a photographer has control over the environment and, most importantly, the lighting.

The source of the light in a studio can be anything that produces enough light to get an exposure.

Light Sources

Studio photography has evolved through seven distinctive standards of lighting:

1. A very organic arrangement involving large windows, curtains, and reflectors
2. A large white-walled room with huge bright lamps
3. A large black-walled room with big electronic flashes
4. A large heavily decorated room with large windows, curtains, reflectors and big electronic flashes
5. A very organic arrangement involving large windows, curtains, and reflectors
6. Any available space with a few speedlites with improvised diffusers and modifiers
7. A very organic arrangement involving large windows, curtains, reflectors and a few speedlites with fancy specialized diffusers and modifiers

Light Sources

With any lighting arrangement, the names of the lights remains the same:

1. Main or Key Light to provide primary illumination of the subject.
2. Fill Light to control shadows where the Main Light doesn't reach
3. Background Light to illuminate the background or backdrop
4. Hair Light to create separation between the subject and the background

Light Sources-Main Light

The main light is used to illuminate the subject and generally sets the bias for exposure. All other lights are set to expose based on a ratio to the main light. The aperture on the lens is usually set to match the exposure for the Main Light.

Light Sources-Fill Light

The Fill Light can be any light that isn't the main, background or hair lights. In really complex sets, there can be multiple fill lights. In sets with one fill, it is usually placed on the side of the subject opposite the main light and is often (but not always) set to be a slightly lower exposure than the Main Light.

Light Sources-Background Light

As with Fill, there can be multiple Background Lights. In some situations, with a black backdrop, a Background Light may not even be used, or may be used to create a spot on the backdrop behind the subject. The Background Light is exposed based on how bright you want the background to be in relation to the subject.

Light Sources-Hair Light

The Hair Light is used to define or outline the top of the subject's head and to create a separation from the background. Usually, the Hair Light is set to expose equal to or slightly brighter than the Main Light.

Light Modifiers

Light modifiers are devices that can be attached to studio flashes and used to control the effect the flash produces. There are two categories of light modifier:

Diffusers and Directors

Diffusers

Diffusers are used to soften or spread a nice low contrast light either onto the subject or across a background.

**The two basic diffusers are
Umbrellas and Soft Boxes**

Soft Box

A Soft Box provides the greatest amount of softening. They come in many shapes and sizes but generally look something like this...



Umbrellas

Much like soft boxes, Umbrellas come in various shapes and sizes: round, oval, square, and rectangular. They still retain the basic design of the rain protection to which most people are accustomed...



Umbrellas

Shooting through an umbrella provides good diffusion of light and spreads and softens the light to make it more manageable.

Using an umbrella as a bounce reflector gives a slight diffusion while still maintaining direction of light and can be used to manage contrast.

Umbrella Box?

There are even a few combinations of the umbrella-as-a-bounce-reflector, and the soft box...



Directors

Directors are used to “Direct” light to a specific spot. Where Diffusers soften light to produce low contrast, Directors harden light to increase contrast.

Directors come in many forms: reflectors, grids, barn doors, snoots, and a host of others. Sometimes combinations of multiple types of Directors can be used to achieve a specified effect.

Reflectors

Reflectors are used to gather the light and reflect it onto the subject or background. They are usually parabolic with a highly reflective surface. Some are colored for effect, some are white. Umbrellas can also be used as reflectors.



Grids

Grids, as their name suggests, are light modifiers with baffles arranged in a grid pattern, usually square or honeycomb, to constrain light from dispersing thus creating a concentrated beam of high contrast light. They are sometimes used independently, but they are more commonly teamed up with reflectors, barn doors and snoots.

Grids



Barn Doors

Barn doors are two or more hinged baffles that are generally attached to the front of a reflector. They are very useful for roughly directing and containing light, but they do allow for a lot of “spillage.”



Snoots

Snoots are light funnels. They concentrate light into one tight spot. They are typically mounted in front of a reflector and a grid is often placed within the snoot.



Arranging the Lights

When laying out your lights, think in terms of the direction the subject will face, the color and lightness of the background, and the mood the picture is meant to convey.

While each picture is, hopefully, an individual unto itself, there are some conventions from which you can build.

Match the lighting to the subject and the mood.

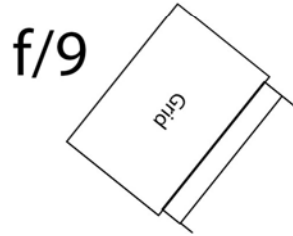
A business portrait for an executive will not usually call for a harsh, moody, side-lit set.

A mother with a child will not call for an angry, contrasty, dark set.

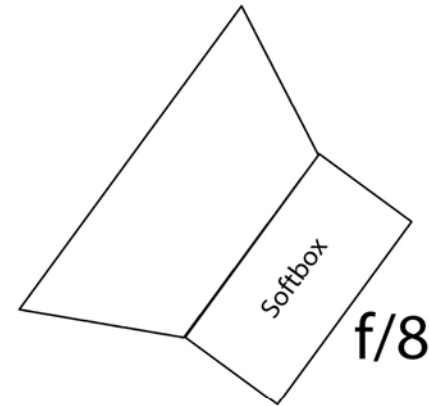
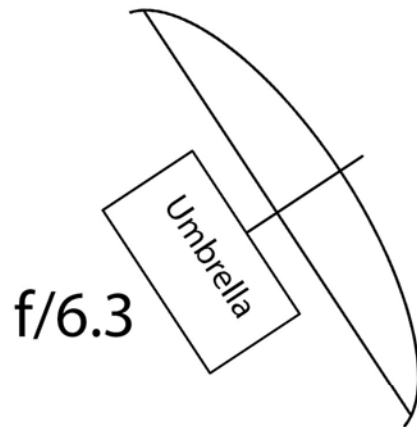
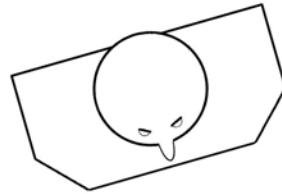
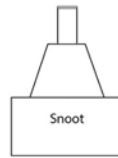
A heavy metal band will not call for a cheery white high-key portrait.

Here are some good starting points for lighting various portraits...

Typical Layout for Black Background



f/16



f/8



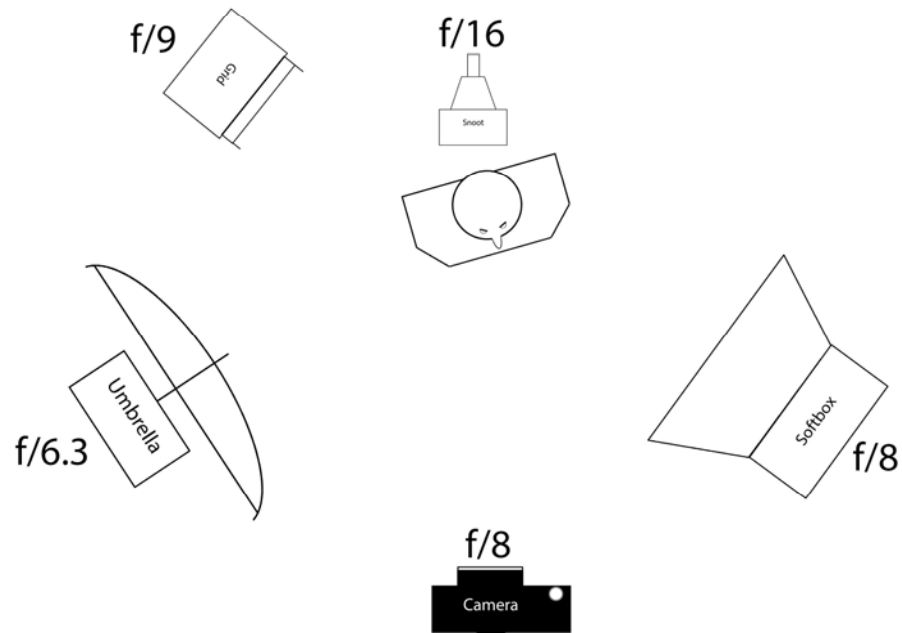
With this layout, the center of the main and fill lights should be just above the subject's eyes.

The hair light should be as high as possible to create rim-lighting on the subject's head and shoulders. This subject is facing camera right, so the hair light is on the

left. If the subject were facing left, the hair light would be moved to the other side.

In order to keep the black background black, the only light on the background is a spot behind the subject's head.

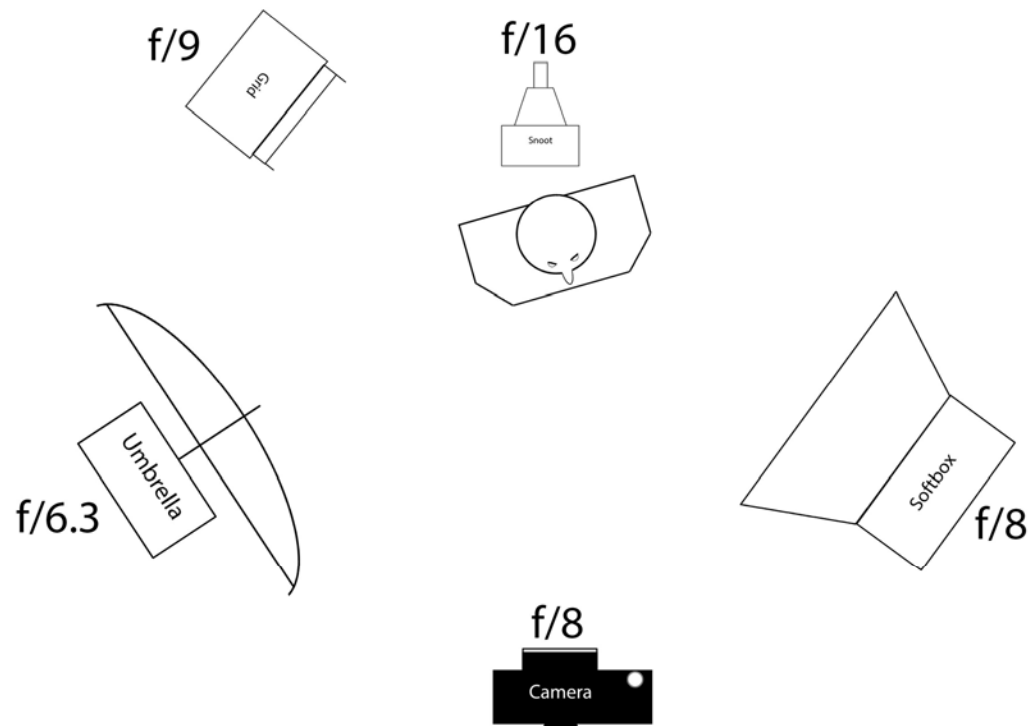
The snoot is hidden behind the subject's body and is kept as high as possible but still hidden.



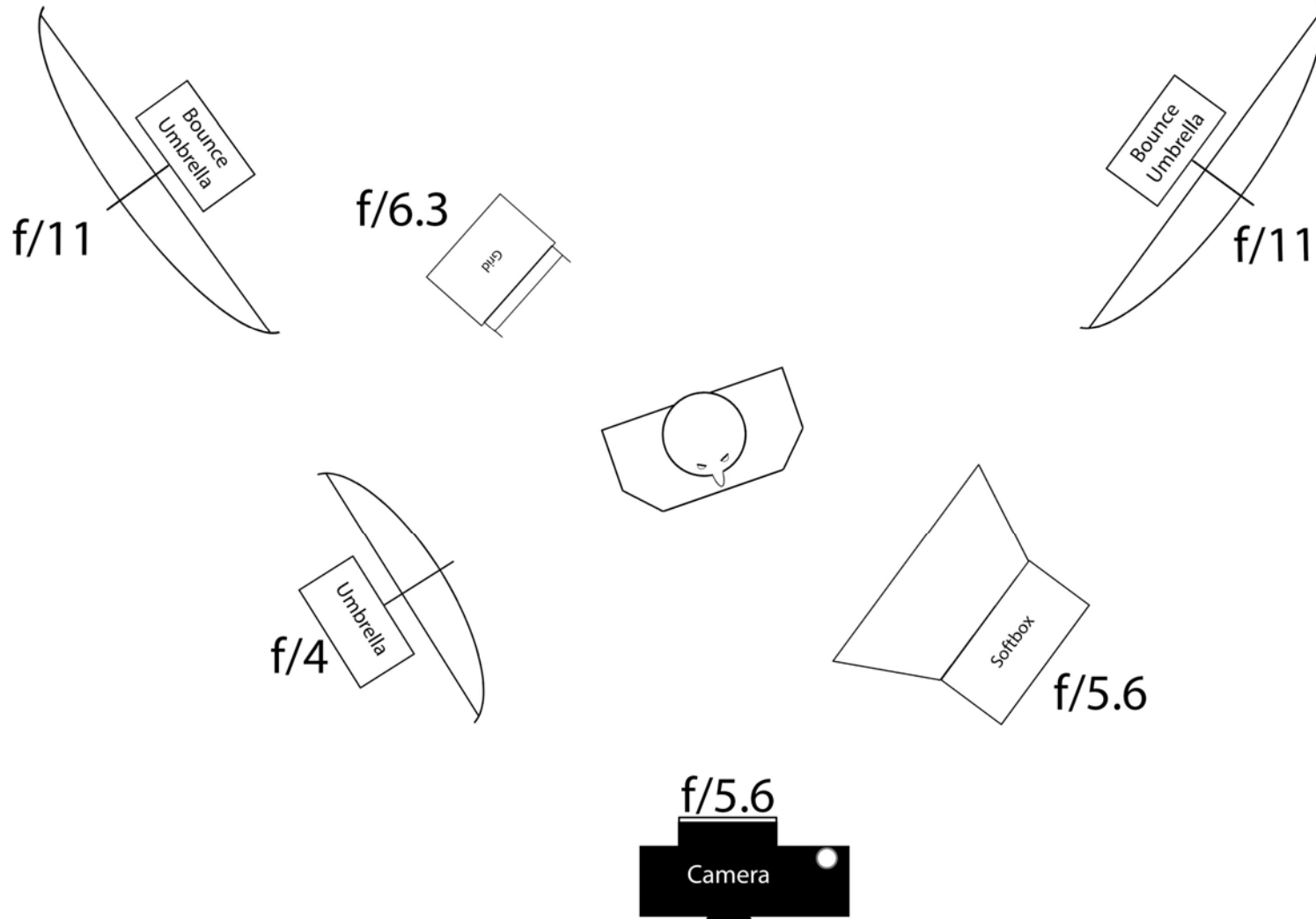
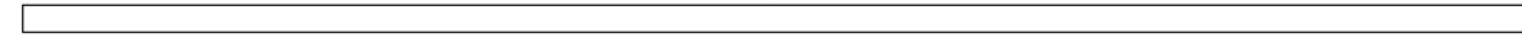
The main light is set to expose at f/8. This sets the stage for the exposure of the other lights. The fill light is set to f/6.3 to give the shadows 2/3 stop less light than the main light gives the subject.

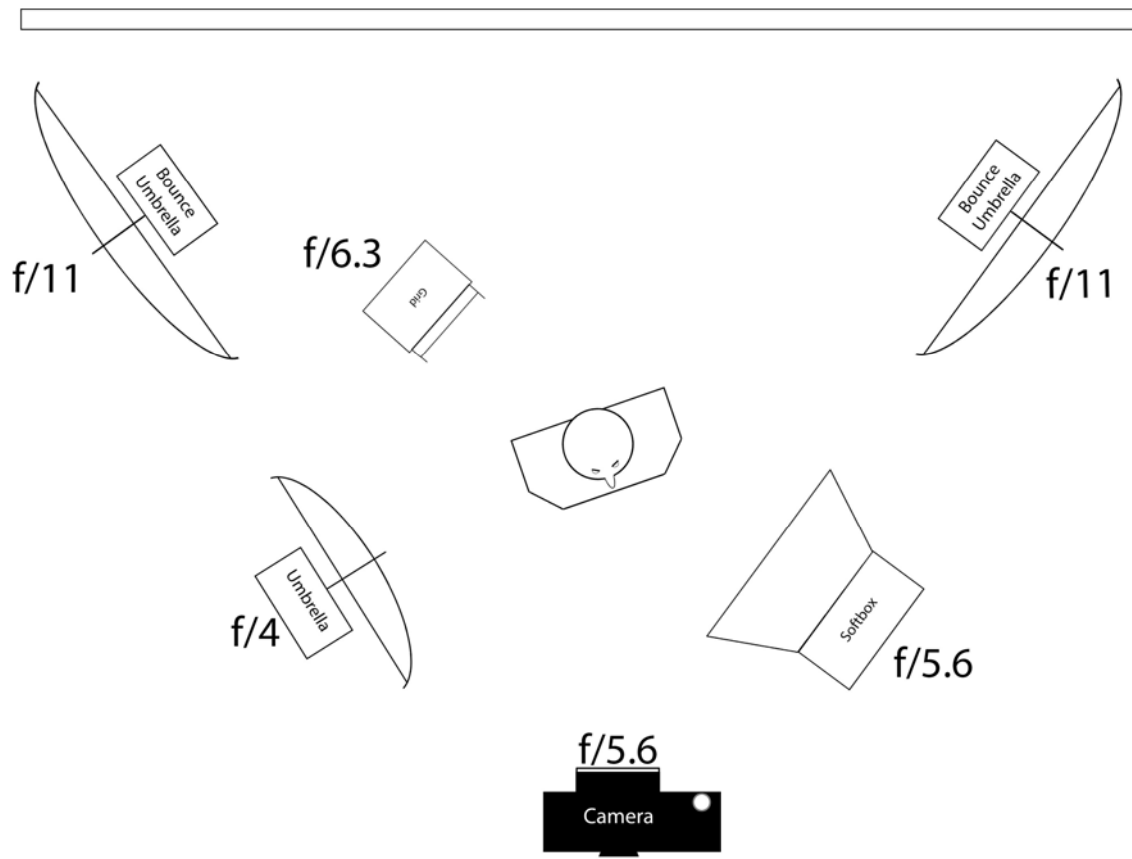
With the hair light at f/9, a slight rim-lighting should be evident on the subject's shoulders and hair.

The snoot is set to spotlight the background at f/16 which should render a white halo behind the subject.



Typical Layout for White Background





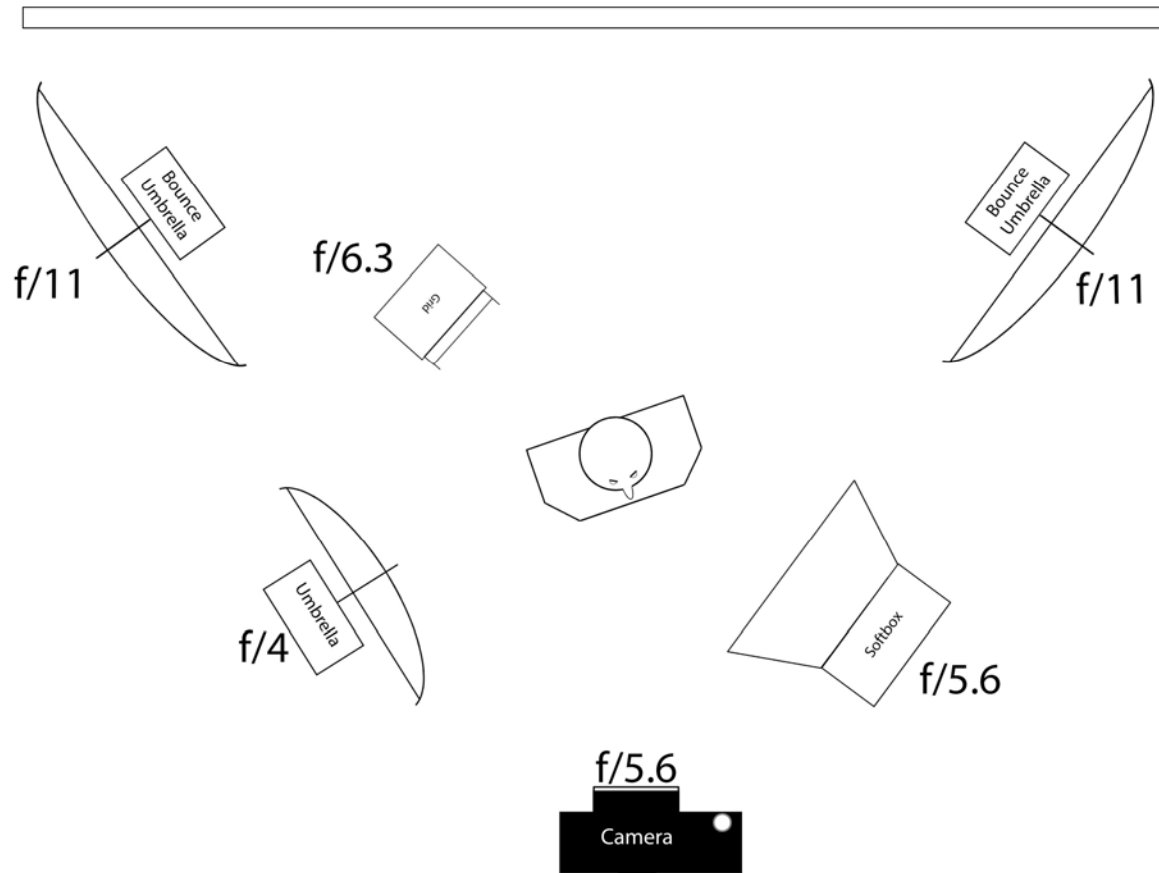
With this layout, the center of the main and fill lights should still be just above the subject's eyes.

The hair light, if you use it, should be as high as possible to create rim-lighting on the subject's head and shoulders.

A boom-arm is a wonderful tool when using a hair light. It helps keep the light stand out of the picture.

In order to keep the white background white, two bounce umbrellas are used to slightly overexpose the white into being really white.

The main light is set to $f/5.6$ because it may be difficult to get enough light out of the background lights if the main light were set any higher. Because this will be a very bright set, the fill light is set to $f/4$, a full stop below the main light. The background lights are set to $f/11$ to expose the background a full two stops above the main. This will blow out the background to the point of being an empty white void.



The hair light is optional. If the subject's head does not separate from the background without it, at $f/6.3$ it should create a detail line along the subject's shoulders and hair.

Adding a Little Color

It is very near impossible to guess what color backdrop is right for every single subject, client, or idea you shoot in the studio. That's why most studios have very little more than black and white paper backdrops. It's just too expensive to keep a vast array of colors on hand, so the problem must be solved by lighting. Color gel filters are fairly inexpensive and come in a sufficient array to meet nearly any color need.

Color Gels

Color Gels are just plastic or glass filters that can be inserted into carriers on the front of studio lights to create a color effect on the background.

Sometimes, they are used in the hair light to give hair a golden glow or just to add an unusual color.

When using a gel on the background, a black backdrop usually makes the gel show with good, rich saturation.

It can be rather difficult to cover an entire background with a color, so most photographers prefer to use the gels for a spot or splash of color.

Color Gels



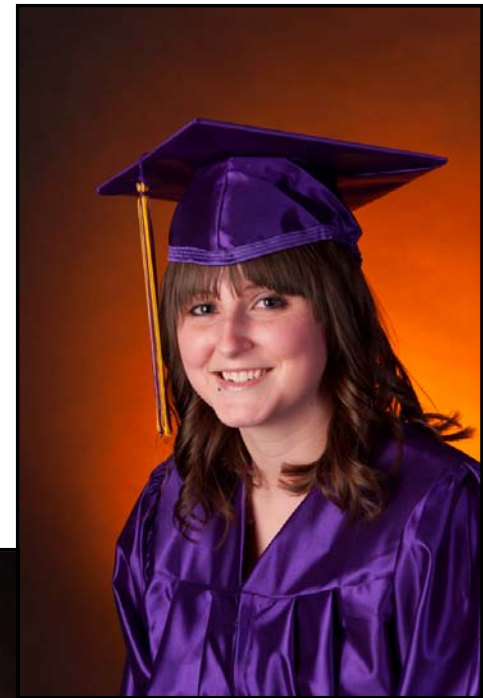
Blue gel on a black background

Color gels show somewhat better when used on a dark backdrop. Since white is the presence of all color, it's hard to add to it. Black is the absence of color, so it readily accepts any color you try to give it.

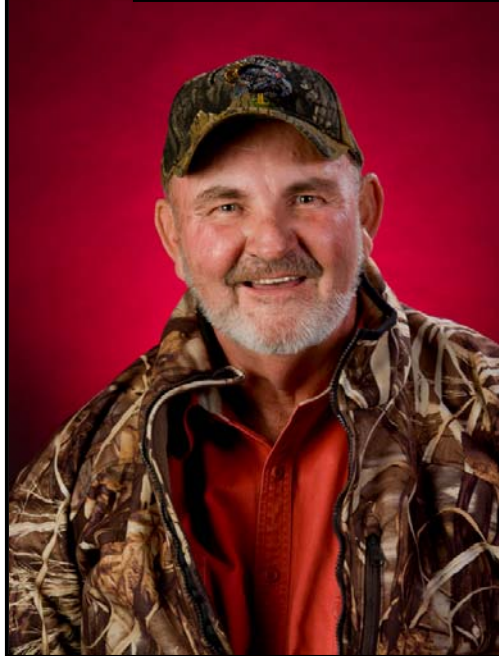
Red gel on a white background



Blue on marbled gray muslin



Orange on
black paper



Red on black paper





Red on marbled gray muslin 



Red on white paper 

 Red on black paper

That's cute, but how do I do this at home?

If you don't have an accessory flash, you should have a built-in flash on your camera. Here's the inventory for a basic home studio:

1. Camera with built-in flash, and preferably, manual exposure capability.
2. A large white surface (Curtain, bed sheet, tee-shirt, poster paper); not for a backdrop, but for a reflector
3. Window, preferably with a thin white curtain
4. An un-cluttered or un-clutter-able background
5. A human or creature that needs to be shot

The Sophisticated Home Studio

Add an accessory flash to the previous list, preferably one with bounce, and especially, swivel capability. This one item makes life so much easier. If you have more than one, you have a leg up on a lot of pros.

The Ideal Home Studio

For many years, the good old Vivitar 285HV was the flash of choice for most pros on the go. It was cheap, reliable, portable, and versatile.



They've been around for many years, and they've been revived by the newly revived Vivitar label. Brand new, they're about \$100. They can be found used as cheap as \$50. If you plan to mount it on your digital camera, get a new one; the old ones are not digital-friendly and can damage the hot shoe on your camera.

This isn't the only great old flash, but it's cheap and fairly easy to find, and has excellent manual controls built in along with some automatic exposure ability as well.

The Ideal Home Studio

My personal favorite flash of all time is the Metz 60CT-4. It has a little brother, the 45CT-4. The entire Metz 60 and 45 series flashes are superior flashes, but the CT-4 was the last generation of this great series of lights and the pinnacle of reliability and performance in a long line of the best portable lights ever made. (That's my opinion, anyway.)

The Metz 45CT-4 (right) is an excellent flash on and off of the camera. Along with its big brother, the 60CT-4 (below), it is a proven workhorse; reliable, versatile and very powerful.



The big box beside the 60CT-4 to the left, is the rechargeable battery pack. It's a touch heavy, almost 5 pounds; but it provides a steady power source and is not terribly expensive.

To use the 60 or 45 Series flashes, you will need a synch outlet on your camera. If your camera lacks one, and most do these days, you will need to invest in a “hot shoe to PC adapter.” The term “PC” does not refer to a computer, it refers to a socket on the camera that will accept a cord that connects to the flash to fire it. The letters “PC” actually mean “Prontor/Compur.” Please Google that one after class. These flashes have a tripod mount conveniently built into their handles which makes them even more ideal for a portable studio.

The 285HV and the Metz 45 and 60 Series flashes aren't the only good flashes out there, but they are my favorites. Except for the new 285's, these flashes are made for film cameras, not digital; this means they may damage your hot shoe without a special attachment to protect it. None of them, including the current 285's, are compatible with the automatic flash control on digital cameras, in the vernacular,

“They won't TTL!”

It's up to you to set the flash to the proper exposure, and it's up to you to set your camera's shutter speed to your synch speed or slower to make it work correctly with these flashes.

The Ideal Home Studio

Now that you've run out and spent lots of money on these dusty old flashes, you'll need to be able to fire them off-camera.



My favorite toy in this category is the Vivitar SL-2. I am a firm believer in the used equipment market, and if you buy one of these, you'll be buying a very used product. They haven't been made for a number of years.

The general term for a remote flash trigger is "slave." The SL-2 is a light sensitive switch that fires the flash attached to its shoe when it sees another flash go off. Don't worry, the speed of light is faster than your shutter.

There are plenty of remote flash triggers available.

A search of just about any photo supplier's web site will land you a host of options from a simple line-of-sight trigger like the SL-2 on through fairly sophisticated infra-red and radio slaves.

I like the SL-2 because it's small, cheap, reliable, versatile, simple, and has a tripod mount on the bottom so I don't have to make my flash stand on its head.

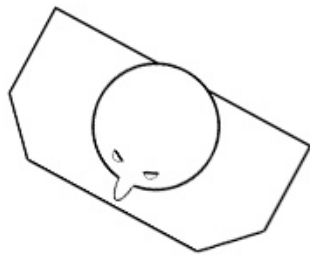
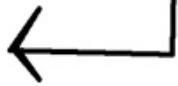
If you don't feel the need to go "wireless," and you only plan to use one flash off-camera, a long synch cord (for the Metz flashes, a synch extension cord) will do the job. Of course, you'll still need a synch outlet on the camera or an adapter to attach a synch cord.

The Ideal Home Studio

So, we need:

1. Two or three flashes with manual control
2. A remote trigger for any that we want to use off-camera.
3. A synch cord for at least one flash if you want them all off-camera, or just prefer a corded attachment to one flash; and the appropriate adapter if your camera does not have a synch outlet.
4. A tripod or some form of lightstand for each flash we want to use off-camera.
5. A reflector. I'm fond of big pieces of poster board and tee shirts stretched over hula hoops.
6. A camera with manual exposure controls and a built-in flash (or a hot shoe to take an accessory flash)
7. A subject...

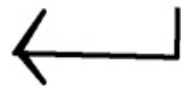
Window



Keep the center of your reflector a little above eye-level to your subject.



Reflector

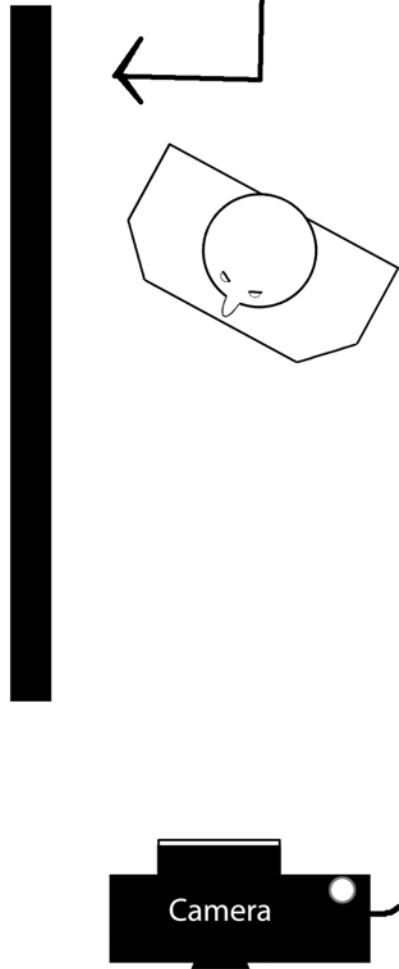


This wonderfully simple arrangement eliminates the need for flash altogether.

Just position your subject in front of a window, as long as sufficient light is coming through to get a good exposure. A reflector will soften the shadows on the side away from the window.

All you need for correct exposure is a meter reading off the side of your subject that is facing the window, which you will over-expose about 1/3 stop.

Window



To take the window-as-main-light a bit further, you can replace the reflector with a flash. This gives you the option of making the window side the brighter side by using the flash for a little fill, or make the window side the fill and set your camera

to expose for the flash.

You could even simplify this a bit by mounting the flash on the camera and holding the camera vertically with the flash to the shadowed side and use that to knock down the shadows.

If you want to achieve a really moody look, use the window as the only source of light. Just make sure the subject is facing more toward the window.

The Ideal Home Studio

If you have multiple lights, you can use the arrangements detailed for regular studio lights. I recommend cording one light to the camera and using remote triggers on the others.

To take that idea to the next level, there are diffusers and directors for shoe-mount flashes commercially available if you don't want to make your own. You can have soft boxes and umbrellas for your Vivitars and Metz's and Nikons and Canons and Pentaxes and Sonies and Olympuses (Olympi?) if you want.

There are slave flash fixtures that can be screwed into regular table lamps to convert them into studio lights. You'd just need another flash to go off to trigger them.

Homework

Here is your golden opportunity to really annoy your family, friends, pets, and maybe even a few strangers!

Go take portraits.

Work inside. At work, (Annoy anyone you like, but the boss!) at home, at church. Try to get good, controlled, flattering shots of people. Use flash, or use existing light, or use both. Remember portraits are not candid!

Get someone close to a window and use the light from the window for one light and your flash for another. If the light from the window is too strong, thin white curtains make great diffusers.

Don't take it too seriously. Have fun with it. Better portraits come from people who are enjoying it.