

P Mode on Digital SLR Cameras & Lens Types

It seems that some folks are determined to make photography more difficult than it has to be. You might hear some photographers say, *“I only shoot using the manual exposure mode”* while others might say, *“I only use the Aperture or Shutter Priority exposure mode”*.

That is fine and well for those who understand the basics of camera exposures. It is also great to use those shooting modes when a change of the lens aperture opening and/or shutter speed setting will give better results for an image. But, is it really necessary to fumble with exposure controls for every shot? No, not really. That is why all cameras have Automatic Shooting Modes. Pictures taken using the automatic mode will generally come out pretty good. When you use the automatic mode, the camera will choose just about every setting for you to get a proper exposure; however, there are times when changing certain camera settings will produce a better image. Unfortunately, those settings cannot be changed when you are shooting in the automatic mode.

What Is Program Mode?

Let me introduce you to the Program mode. The Program or “P” mode is similar to your camera’s automatic mode because it will automatically set a proper exposure value for your shot.

What makes using the Program mode different than shooting in automatic is that you will have control over most camera settings while the camera chooses the best exposure values. **The settings that you will be able to control in the Program mode will include the ISO, light metering, focusing, and flash settings.**

Every Digital SLR camera and Mirrorless camera has a “P” mode setting. However, most basic compact cameras won’t have a program mode

So, the Program mode is good for learning how to use different camera settings without having to worry about obtaining the proper exposure as well. You can use The Program mode for spur of the moment shots without messing up too many pictures due to bad exposure settings. You can always experiment with manual settings when getting the shot exactly “right” is not critical.

Take note that the lens aperture and shutter speed settings can be controlled to an extent in the “P” Program Shift mode. We will discuss that a little more in just a bit.

When To Use Program Mode

But first, let’s take a look at a couple of picture taking situations when the Program mode can be useful. Let’s say you are taking pictures of a scene with very bright as well as dark shaded areas. Sometimes in a situation like that, your camera’s light meter can be fooled and produce an underexposed or overexposed image.

If you are using the program mode you can set your camera to Spot Metering and read the light from a small area rather than reading the light from the overall scene. That will give you a proper exposure for the

part of the scene or subject that you think is the most important. (the camera will set the exposure values)
You would not be able to use spot metering if you were shooting in the automatic mode.

Here is another scenario in which the program mode can be useful. Let's say your camera is set to a focusing mode that covers a wide area of the scene you are viewing. If you are trying to take a picture of a flower that is close to other flowers or leaves, the camera might focus on the wrong flower.

That's not a big problem if you are in the program mode. Just change your camera's focusing mode so that it zeros in on the exact area that you want to be in focus. Once again, you would not be able to perform this function if you were using the automatic mode.

So, the point is that just about any camera setting that you may use in the manual mode can be used in the program mode. Once again, remember that the lens aperture and shutter speed are automatically set for you when you use the P mode.

Fine Tuning Program Mode

As previously mentioned, the aperture and shutter speed can also be adjusted somewhat in the P mode. For example, once you compose a picture and press the shutter half way down, you will be able to see the lens aperture and shutter speed the camera has chosen on the LCD screen. If you think the shutter speed might be too slow, there will be a dial on the camera that you can rotate or a button to press to change the shutter speed.

(This will be called using the Program Shift or Flexible mode. It is part of the regular Program mode. Check your camera's instruction manual for more precise instructions)

What will happen once you change the shutter speed is that the aperture will be changed accordingly to maintain a correct exposure. If it is the aperture setting you want to change, just move the dial or button in the opposite direction. You will be able to choose the aperture setting you want and the camera will set the shutter speed for a proper exposure.

Some will say that the same type adjustment can be done using the aperture or shutter priority modes. That is very true. But again, one of the main reasons to use the Program mode is so that you don't have to worry about setting apertures or shutter speeds. However, it is good to have the option of quickly adjusting them in the Program mode if you choose to do so.

While using the Program mode can be very useful, it is also a good idea to learn how to use the Aperture Priority, Shutter Priority, and Manual modes as well. Eventually you will figure out which one might be your first choice.

A GUIDE TO SHARP PHOTO'S

Let's talk sharp photos. Here's a few of the main causes of unsharp photos:

1. Your shutter speed is too low. Depending on what your other camera settings are how low you can go without getting motion blur will vary, but it's a good rule of thumb to keep it over at least 100.
2. You have the wrong focal point selected on your camera and your camera is focusing on another area of the photo instead of where you want.
3. Your equipment. The higher quality your equipment and lenses the sharper your images will be. Unfortunately not all of us can run out and buy the best there is, and it's still easy to get a nice sharp photo with starter DSLR equipment.
4. You are shooting in RAW. Raw files tend to be a tad less sharp when they are straight out of the camera (SOOC). Jpegs are sharp when they are straight out of the camera, but that's because the camera condenses the files for you. If you want to shoot in raw and still have sharp images all you have to do is sharpen them.
5. Lighting - sometimes a low-light situation can make it harder to get your camera to focus.

Here are some solutions to help get sharper photos:

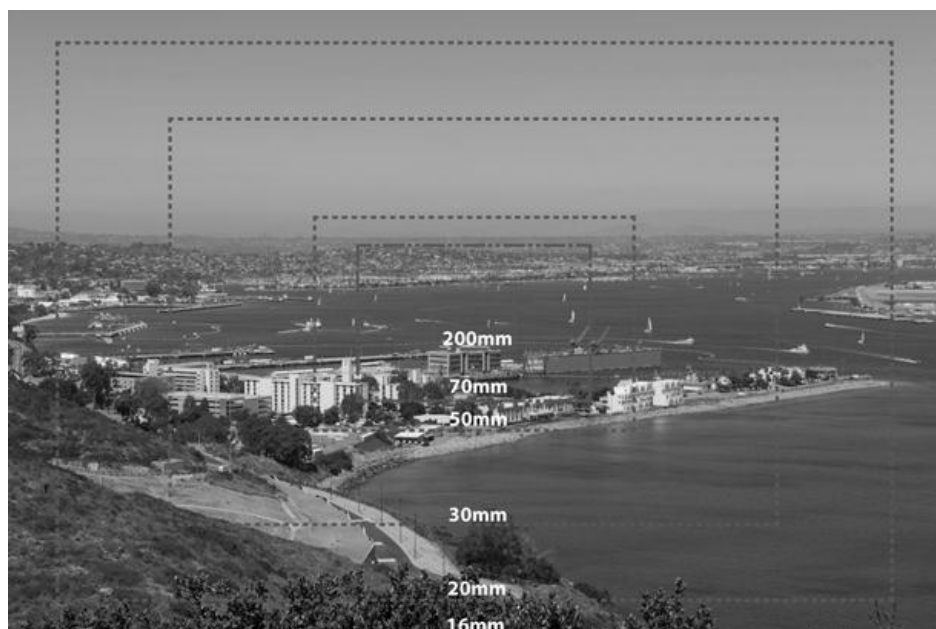
1. Use your lens' auto-focus mode instead of the manual focus ring. Although it can be beneficial to learn how to use manual focus because it'll help you truly understand how depth of field works, it's easy to miss and be slightly off.
2. Back Button Focusing. Basically you set your camera up so a button on the back is your focus button instead of holding the shutter halfway down. It helps you track fast-moving subjects and keep them in focus.
3. Boost your ISO so your shutter speed can go higher and you can still get enough light to create a beautiful photo.
4. Use a sharpening action or other tool in photoshop to give your photos that extra sharp 'oomph.'
5. Consider what lenses you are using. If you can't afford to upgrade your camera start researching lenses. Prime (or fixed) lenses that don't zoom have a tendency to focus quicker and sharper.
6. Use a tripod

Photography Begins with the Lens

Unlike the proverbial question about whether the chicken or egg came first, your first equipment choice when "graduating" from a compact to a DSLR camera is the lens. Many a new DSLR photographer has made the mistake of being mesmerized by the features and capabilities of the camera instead of concentrating on choosing the right lens. In fact, before even concerning yourself with what lens to buy (and then DSLR camera), your first task is to determine what kind of photography you plan on shooting with a DSLR set-up.

If you've been a casual photographer with your compact camera, recording events and activities with family and friends, and want to improve the quality of those types of photos, then your first digital camera lens could be quite different than what a landscape, wildlife, architectural or fashion photographer. You may also be a photography student or an aspiring professional who wants to pursue a career as a wedding, portrait, fashion, product, sports or journalism photographer. Each of these requires quite, or slightly, different lens choices to capture the best photos in these genres.

The following photo shows the angle of view for a selection of focal lengths, using a camera with an APS-C size sensor.



The following chart lists four lens categories and their equivalent angle of view in the three primary cameras, by sensor size.

Lens Type/Sensor Type	Full-frame (35mm)	APS-C	Four Thirds
Ultra wide angle	24mm and wider	16mm and wider	12mm and wider
Wide angle	28mm	18mm	14mm
Normal	50mm	30mm	25mm
Telephoto	80mm and longer	55mm and longer	42mm and longer

Image Stabilization

In the name of the Nikon example lens, "VR," signifies the lens has an image stabilization (IS) system built into the lens. For its lenses, Nikon calls this Vibration Reduction. Some manufacturers, Pentax and Olympus, put the IS system in the camera body instead of their lenses. All Canon, Nikon, Panasonic and Samsung lenses include an IS system. Sony Alpha DSLR cameras, which are its APS-C and full-frame

sensor cameras, are built with the company's "Super Steady Shot." Sony's NEX line is its Micro Four Thirds cameras. Sony places its "Optical Steady Shot" in the lenses for these cameras.

As mentioned above, image stabilization helps to steady your camera when you are shooting handheld at slow shutter speeds. Typically, trying to hold a long, telephoto lens at a slow shutter speed causes more shake, so whenever buying a telephoto lens, make sure it has an IS system.

Standard Lens Categories

Moderate Zoom Lenses These are good general-purpose lenses if you are new to DSLR photography, or a hobbyist or enthusiast looking for a range of focal lengths from wide angle to just the beginning of telephoto focal lengths. Many entry-level, APS-C DSLRs cameras are bundled with an 18–55mm f/3.5–5.6 lens, a good starter lens. Some manufacturers' bundle deals will offer the option of upgrading to a larger zoom lens, such as a 16–105mm, for just a few more dollars.

Selected Canon lenses in this category:

- EF-S 18–55mm f/3.5–5.6 IS II (Hobbyist)
- EF-S 18–135mm f/3.5–5.6 IS STM (Hobbyist)
- EF-S 24–70mm f/2.8L II USM (Professional)
- EF-S 24–105mm f/4L IS USM (Professional)

Selected Nikon lenses in this category:

- AF-S DX NIKKOR 18–55mm f/3.5–5.6 VR (Hobbyist)
- AF-S DX Zoom-NIKKOR 55–200mm f/4–5.6G IF-ED (Hobbyist)
- AF-S NIKKOR 18–35mm f/4G ED VR (Professional)
- AF-S NIKKOR 24–70mm f/2.8G ED (Professional)

Selected Sony lenses in this category:

- DT 18–55mm f/3.5–5.6 (Hobbyist)
- 18–135mm f/3.5–5.6 (Hobbyist)
- Carl Zeiss 24–70mm f/2.8 (Professional)
- 16–105mm f/3.5–5.6 (Professional)

Telephoto Zoom Lenses

The longest focal lengths on telephoto zoom lenses are typically 200mm to 300mm. Their aperture range typically starts at slightly more than normal, such as 55 or 70mm.

Selected Canon lenses in this category:

- EF-S 55–250mm f/4–5.6 IS II (Hobbyist)
- EF-S 75–300mm f/4–5.6 III USM (Hobbyist)
- EF 70–200mm f/2.8L IS II USM (Professional)
- EF 70–300mm f/4–5.6L IS USM (Professional)

Selected Nikon lenses in this category:

- AF-S DX VR Zoom-NIKKOR 55–200mm f/4–5.6G IF-ED (Hobbyist)
- AF-S VR Zoom-NIKKOR 70–300mm f/4.5–5.6G IF ED (Hobbyist)
- AF-S NIKKOR 70–200mm f/2.8G ED VR II (Professional)
- AF VR Zoom-NIKKOR 80–400mm f/4.5–5.6D ED (Professional)

Selected Sigma lens in this category:

- 70–300mm f/4.5–5.6 DG OS (Hobbyist)
- 70–200mm f/2.8 EX DG OS HSM (Professional)

Selected Tamron lens in this category:

- AF 70–200mm f/2.8 Di LD IF (Professional)

Super Zoom Lenses

Marketed as the one of the best options for hobbyists and enthusiasts, super zoom lenses provide a large focal length range, from wide-angle to long telephoto.

Selected Canon lens in this category:

- EF 28–300mm f/3.5–5.6L IS USM (Professional)

Selected Nikon lenses in this category:

- AF-S DX NIKKOR 18–300mm f/3.5–5.6G ED VR (Hobbyist)
- AF-S NIKKOR 28–300mm f/3.5–5.6G ED VR (Hobbyist)

Selected Sony lens in this category:

- 18–250mm f/3.5–6.3 High (Hobbyist)

Selected Sigma lens in this category:

- 18–250mm f/3.5–6.3 DC OS HSM (Hobbyist)

Selected Tamron lenses in this category:

- AF 18–270mm f/3.5–5.6 Di II VC PZD (Piezo Drive) (Hobbyist)
- AF 28–300mm f/3.5–5.6 XR Di II LD VC (Professional)

Wide-angle Zoom Lenses

Providing an extreme wide-angle view, these lenses are designed for landscape, exterior and interior architecture and other very large subject matter that must be entirely captured within a single image.

Selected Canon lens in this category:

- EF-S 10–22mm f/3.5–4.5 USM (Hobbyist or Professional)

Selected Nikon lens in this category:

- AF-S DX NIKKOR 10–24mm f/3.5–4.5G ED (Hobbyist or Professional)
- AF-S NIKKOR 14–24mm f/2.8G ED (Professional)

Selected Sony lens in this category:

- DT 11–18mm f/4.5–5.6 (Hobbyist or Professional)

Macro Lenses

A macro lens is designed for extreme close-up photography of objects, such as insects and flowers. Most of these lenses can achieve a life-size, or 1:1 ratio, or magnification.

Selected Canon lenses in this category:

- EF 50mm f/2.5 Compact Macro (Hobbyist)
- EF 100mm f/2.8L Macro IS USM (Professional)

Selected Nikon lenses in this category:

- AF-S DX Micro-NIKKOR 40mm f/2.8G (Hobbyist)
- PC-E Micro-NIKKOR 45mm F/2.8D ED (Professional)

("PC," or Perspective Control," designates this as a tilt-and-shift lens)

Selected Sony lenses in this category:

- DT 30mm f/2.8 Macro (Hobbyist)
- 100mm f/2.8 Macro (Professional)

Fast Prime Lenses

As noted above, the Canon example for this guide, the Canon EF 50mm f/1.2L USM is a fast, prime lens. There are many prime lenses available from wide angle to ultra-telephoto. The term, "fast," refers to their capability to gather the most light of any lens, so more highly acceptable photos can be taken in low-light situations. Professional wedding photographers often use fast lenses, so they don't have to use a flash during a ceremony or reception.

Selected Canon lenses in this category:

- EF 20mm f/2.8 USM (Hobbyist)
- EF 50mm f1.8 II (Hobbyist)
- EF 100mm f2 USM (Hobbyist)
- EF 400mm f/5.6L USM (Hobbyist)
- EF 24mm f/1.4L II USM (Professional)
- EF 50mm f/1.2L USM (Professional)
- EF 300mm f/2.8L IS USM (Professional)
- EF 800mm f/5.6L IS USM (Professional)

Selected Nikon lenses in this category:

- AF-S DX NIKKOR 35mm f/1.8G (Hobbyist)
- AF NIKKOR 50mm f/1.8D (Hobbyist)
- AF-S NIKKOR 85mm f.1/8G (Hobbyist)
- AF-S NIKKOR 200mm f/4D IF-ED (Hobbyist)
- AF-S NIKKOR 24mm f/1.4G ED (Professional)
- AF-S NIKKOR 50mm f/1.4G (Professional)
- AF-S NIKKOR 200mm f/2G ED VR II (Professional)
- AF-S NIKKOR 500mm f/4G ED VR (Professional)

A Final Word of Advice

Remember, the smart lens-buying strategy: determine the kind of photography you will be shooting, choose a lens to match that genre, and then choose the camera with which that lens is compatible. It's also important to remember that lenses typically have a longer life than cameras; the models are updated or changed faster than lenses. That's another reason to choose your lens first and be willing to invest a bit more because you'll receive many more years of quality use.