

BUYING A CAMERA

It's not so difficult to find the right one for your needs

by Sue & Jack Drafa

If you are anything like us, it usually takes you a long time deciding to make a major equipment purchase. We analyze, compare, argue (or we guess you call it discuss) before we finally come to a mutual decision. Inevitably, the moment we walk away from the store with product in hand, there is always someone ready to tell us that we could have bought it cheaper, or that there is already a new model out. Don't you just hate that? We are going to try to help take the buyer's remorse out of purchasing a new camera.

The decision to purchase a new camera really boils down to money and the direction of your avocation. Cameras can range from the simple single-use ones to extremely complex professional systems. Obviously prices vary greatly depending upon the bells and whistles you demand. Often people buying a camera for the first time are lost, and even those only wanting to upgrade are not really sure how to take the next step.



timer or whatever. List everything you feel is important. That doesn't mean that you will get them all, but it never hurts to try. Next, list the types of subjects you plan on photographing. Your list might include children, vacations, birthday parties, or weddings. Or you may be into nature and want to capture wildflowers, eagles, or bears. These lists are very important when you get to the camera store as they will help you and the salesperson find that perfect camera for you.

SINGLE-USE CAMERAS

The simplest form of compact camera is the single-use or recyclable camera. Take a roll of film, build a box around it, add a shutter and flash, and you have a single-use camera. Even at this basic level of simplicity, there are wide variety of models. Some take panoramas, others work underwater, and there is even a wedding package that is handed out to guests. When your roll is finished, the entire camera is then sent to a lab, where they take it apart, process your film, and return your negatives and prints. The camera pieces are then returned to the manufacturer, where they are recycled. These cameras generally contain medium-speed color-print film. This film has a wide exposure latitude, so exposures are almost automatic. Many single-use cameras offer a built-in flash, so you can take pictures indoors, too.

These cameras are great for emergencies, or when your normal camera breaks down on vacation. You can



find them at most stores so you never have an excuse for missing those special moments. We find they are a great thing to put in your child's luggage when you send the kid to



camp. You never worry about the camera being lost or damaged. Best of all, your child has mementos to cherish.

COMPACT CAMERAS

The next step up is the fixed-focus compact camera. Over the years these cameras have become very sophisticated

When we are deciding what we want to spend our hard-earned money on, we sit down and write a "wish list." This list includes some of the features we want on our new camera, such as a built-in flash, interchangeable lenses, autofocus, macro functions, manual override, self-

Above left: The Agfa Easy is an Advanced Photo System single-use camera that comes in standard and flash versions, each loaded with 25 exposures of Agfa Futura 400 APS color-print film.

Top right: This single-use camera from Konica contains 27 exposures of chromogenic black-and-white film, which can be processed in standard C-41 chemicals by any one-hour lab like color-print film.

Above right: Canon's new Snappy QT is a fixed-focus 35mm compact camera that's really simple to use and costs little.



Portrait Mode: This camera mode selects a wide aperture, extends the zoom to a short telephoto focal length and activates the flash, so you can concentrate on your subject's pose and expression.

lects a high shutter speed to "freeze" the action.

Slow-Sync Flash: This function activates the flash during a long exposure. This is a great feature if you are taking pictures at dusk and need to balance the exposure between flash and daylight.

Self-Timer: This control delays the exposure for 10 seconds or so after you push the shutter button, so you, too, can be a part of the picture.

Automatic Exposure Bracketing: Some camera models allow you to take several exposures in succession with slight exposure compensation at the push of button.

The main advantages to compact cameras are their size and convenience. They are small enough to fit in your pocket, purse or palm of your hand. They are great for quickly capturing the moment before it slips away. You don't have to mess with a lot of dials or switches. You just point and shoot.

and keep improving in quality. The fixed-focus camera is very much like the single-use camera, except you load the film yourself, and you keep the camera. It usually has a moderately wide-angle lens with the focus fixed at a point that produces sharp results from around five feet to infinity (thanks to depth of field), an ISO film reader, built-in flash, and in most cases, an automatic film winder. Because the lens is fixed focus, this camera has distance limitations. It is designed for scenics and people pictures. If you stay within its recommended distances, this type of camera works great. The problem is that people often try to exceed its focus limitations and try to photograph things too close.

If you want more accuracy with focus, there are many compact cameras with autofocus capabilities. These cameras are simple to use—load the film and point and shoot. The camera senses the ISO film speed, autofocuses the lens, and activates the flash if necessary. How much easier can it get?

Well, not all photographers want simple; some desire more creativeness. In that case there are compact cameras with dual-lens capability (you can switch between wide-angle and normal focal lengths with the flick of a lever), and many with built-in power-zoom lenses. The focal lengths vary from model to model, but many offer wide-angle to telephoto with the flip of a switch. Here are a few special features offered on some the compact cameras that you might consider when purchasing.

Red-Eye Reduction: This features activates a pre-flash just before the actual photo is taken. This forces your subject's pupils to close slightly so that the chances of red-eye are reduced.

Macro Mode: This extends the focusing range of the zoom lens to include the focus area of about 18 inches away. Now you can take those close-up pictures of your prize flowers! This function also generally activates the internal flash and utilizes the smallest aperture available to help ensure sharp pictures.



"Not all photographers want simple; some desire more creative capabilities. So some compact cameras offer "advanced" creative shooting modes."

ADVANCED PHOTO SYSTEM

In 1996 a new player joined the camera team. Multiple manufacturers have banded together to develop the technology of the Advanced Photo System (APS). Thanks to technological advances, the film and camera "talk" to each other. They communicate the film speed, exposure data, and format chosen. With some APS cameras, you can even change film mid-roll and the camera knows which frame it should be on. All this data is recorded on a magnetic layer on the film,

Flash-Fill: This function notifies the camera that you will need flash, but that you don't want it to overpower the scene. So, it helps balance the light in the scene.

Sports Mode: This camera mode se-



Top: The Rollei Prego 90 is an autofocus 35mm compact camera with a high-quality Schneider 28-90mm power-zoom lens.

Middle: The new Pentax Efina is a truly teeny autofocus APS camera with built-in 24-48mm zoom lens.

Bottom: Nikon's Pronea is an APS SLR that offers a full range of pro features and accepts the wide range of AF-Nikkor lenses for Nikon's AF 35mm SLRs.



can switch from an extreme wide-angle lens to a long zoom with just a push of the lens-release button and a twist of the wrist. Each camera manufacturer offers its own brand of lenses, but there are also third-party manufacturers that make the lens possibilities endless. Once you purchase your SLR camera you will quickly realize that you will never have all the lenses you need.

Due to some of the new autofocus technologies, several manufacturers have had to make a lens mount change. This means that the lenses for their older manual-focus cameras can't be used on newer AF models sporting the same brand name. If you have an older system and want to upgrade, you may have to upgrade everything. This also means that if a lens does not seem to fit on your camera, don't force it. There may be a reason that it does not fit. (Nikon, Pentax and Contax retained their lens mounts, so their older manual-focus lenses can be used on their latest AF SLRs.)

Metering Systems: The metering systems on 35mm cameras today are pretty incredible. The problem is that they are only as good as the person behind the eyepiece. It is very important that you understand exactly what the camera is doing when selecting a particular metering system. Get out the manual and closely read about each meter system and how it works. Take the same subject and use each meter system to make an exposure. Evaluate the processed film and learn exactly how to effectively use each metering system. The best photographers are those who can use all metering systems efficiently.

Multi-Segment Metering: Multi-segment metering uses a grid system for measuring the entire scene. When



era has no internal mirror, so there is no mirror slap. This means there is less vibration, so your images are sharper. The down side is that you do not see exactly what the lens does in the viewfinder, so parallax is a problem. Rangefinder cameras are generally smaller than

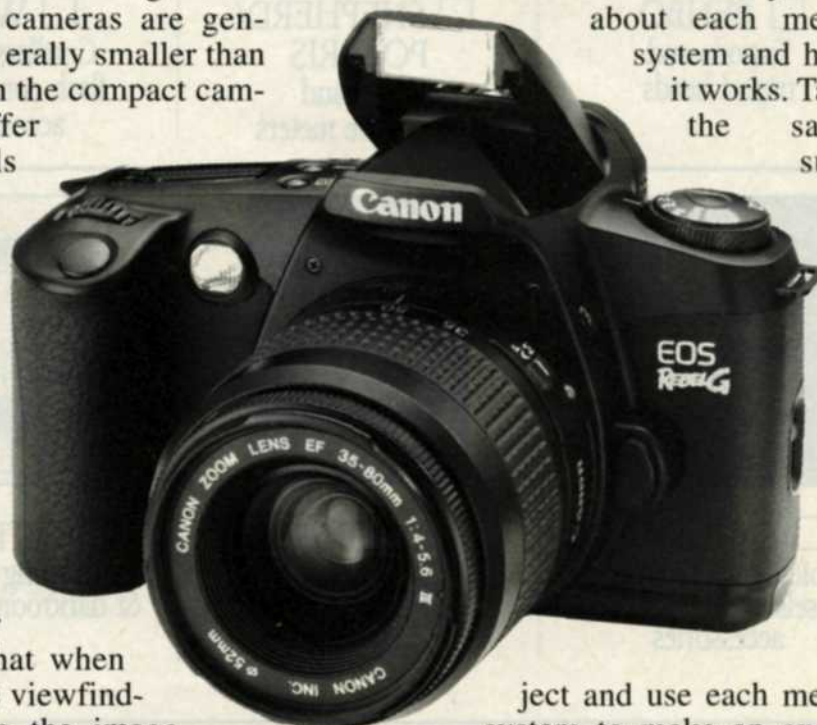
which can be read by the processing lab's equipment. The data can then be transferred to the back of the prints. The film is returned to the original cassette after processing along with an Index Print showing every shot on the roll. This makes ordering reprints easier, and simplifies film storage and indexing. See the chapter on the Advanced Photo System for complete details on APS.

SLRs, yet larger than the compact cameras. Some offer rangefinder models offer interchangeable lenses, but the selection is limited compared to 35mm SLRs.

SINGLE-LENS REFLEX CAMERAS

The biggest advantage the SLR has over all other 35mm cameras is that when you look through the viewfinder, you are viewing the image formed by the lens, so what you see is what you get. The single-lens reflex camera also has a variety of other features that make it one of the most popular types of camera on the market today.

Interchangeable Lenses: The SLR camera system offers the flexibility of using a wide variety of lenses. You



INSTANT CAMERAS

"Instant" cameras allow you to see your photos in seconds. The film has a unique capability that allows it to develop right before your eyes. Polaroid Corporation is the sole manufacturer of this product that provides instant gratification. Professional photographers often use instant film to preview lighting and composition, and to show the client the final product before the conventional film is even exposed.

RANGEFINDER CAMERAS

This camera type is not new; it's old-school. Rangefinder cameras have been around a long time, but still have some loyal followers. The rangefinder cam-

Top left: Polaroid's One-Step Express is powered by the battery built into each pack of instant Polaroid 600 film.

Above left: Leica's M6 is a 35mm rangefinder camera of legendary quality.

Above right: Canon's EOS Rebel G is a full-featured entry-level AF 35mm SLR.

light and dark subjects appear in specific grids, it adjusts the exposure accordingly. Let's say you want to take a scenic with the sun in the upper right corner. The camera has been programmed to know that there might be a bright spot in one of the upper quadrants, and prevents the camera from making an underexposure. The same happens when a black object is located in only one quadrant.

Spot Metering: This type of metering is for those who have a good grasp of metering systems. It is one of the most accurate systems, because it allows the photographer to target a specific area in determining a correct exposure. The key is knowing that the spot meter reading will reproduce the metered area as a middle (18%) gray. For example, if you use the spot meter and point it at a white sky, it will try to make the white sky 18% gray which gives you an underexposure. The opposite result occurs if you meter a black car—the meter reading will overexpose it to make it middle gray. Blue skies and green grass are two of the best subjects to meter. Their readings will almost always produce an 18% gray tone.

Center-Weighted Metering: This type of metering is the easiest to use, but is not always the most accurate. The exposure is based on the entire scene, but the center has more effect on the reading than the edges. The proportion of center



to outside effect varies from one manufacture to the next. General scenes that have no bright or dark areas work the best with this meter function.

Exposure Compensation: When you want to add or subtract exposure from the metered one, you can use the compensation settings. Not every photographer likes to use a specific

“Spot meters are very accurate, because they allow you to read a specific portion of a subject or scene. But you have to understand how reflected meters work.”

film ISO to the new setting with cameras that permit manual film-speed setting. The compensation dial also works well when you have a TTL flash that does not provide accurate exposures at the rated settings.

Exposure Modes: Every photographer develops a style and technique that makes photography easy for him or her. Two exposure functions control how an image is going to expose onto the film. The f-stop controls depth of field, and the shutter speed controls motion. Together they control exposure.

Manual Exposure: When 35mm first came into being, manual exposure was the only way to get a good exposure. Hand-held light meters eventually found themselves integrated into cameras. To get a good exposure, you had to line up a circle and bar, or make the setting indicated inside the viewer. Today, the correct exposure values are indicated inside the camera viewfinder as a specific shutter speed and f-stop. When you change one or the other, the camera makes a new recommendation for correct exposure, but does not set it. You have to do because this is a “manual” system.

Aperture-Priority AE: When you want to control depth of field and enjoy the speed and convenience of having the camera set the corresponding shutter speed, this is the exposure mode to use. Macro photographers can use this mode to set a small aperture to make sure that all the insects, flowers, and leaves are in focus. When a flash is used, the camera will sense the flash and automatically use the flash-sync shutter speed. In the flash mode, you will also have a bar chart display that tells you how close you are to perfect flash-fill.

Shutter-Priority AE: Sports, nature, and action photographers use shutter-priority to control the degree of blur in shots of action subjects. If they are using a 500mm lens, they know that shutter speeds over $\frac{1}{500}$ works better, so they select the shutter speed they want, and let the camera set the appropriate f-stop. The exception is mirror lenses that have a fixed f-stop. In this case, you will have to use aperture-priority AE.

Program AE: This is the fully automatic mode—it lets you change your system into a point-and-shoot camera. The meter system analyzes your lens, film and lighting, and sets what it



film at the rated setting, so they change it with the compensation settings. For example, we like to shoot Fujichrome Velvia at EI 40, so we dial in $+\frac{1}{2}$ on the compensation dial. This can also be accomplished by manually changing the

Top: The Olympus IS-3 DLX is a ZLR—a zoom-lens reflex, with built-in 35–180mm power-zoom lens and through-the-lens viewing.

Left: Nikon's F5 is a very rugged AF 35mm SLR that offers every feature a working pro could want.



may not be accurately read by the autofocus system. High-magnification macro photographers will find themselves using manual focusing because they find the autofocus system "hunting" too much. If you wear glasses and have trouble getting sharp pictures with manual focus, you may want to use one of the autofocus methods.

function that fires the camera when a subject arrives at a pre-focused point. Trap focus is handy for action and nature photographers. They can set up their tripod and camera, and pre-focus the lens on a specific point. When a subject passes through that point, the shutter fires, and the camera advances the film and then waits for the next subject. As fast as the trap function is, it cannot always capture really fast subjects passing through the focus point. This function is also handy for photographers who enjoy panning action. As they pan the subject coming into the scene, they do not press the shutter. When the subject is in the desired focus range, the camera automatically fires as the subject passes through that point in space.

thinks is the best shutter speed and f-stop combination. This setting works best for general scenes where the shutter speed and f-stop are not critical. If you need extreme depth of field or action-stopping shutter speeds, do not use this setting. (With some cameras, program mode is shiftable, meaning you can change to a desired shutter speed or aperture, and the camera will automatically adjust the other control to maintain proper exposure.)

Focusing Options: The type of focus system you use will depend mainly on the subject you are photographing. If you have trouble getting sharp pictures, it may be because you are using the wrong focus mode, or don't totally understand the modes.

Single-Shot AF: When you depress the shutter button halfway, the lens will start to focus on the subject in the focus grid. When proper focus is achieved, the focus will stay locked in that position until you let go of the button, or take a picture. This type of focus is handy when the subject is way off center. You simply point the focus area at the subject, depress the shutter halfway, reframe the scene, and take the picture.

Continuous AF: If your subject is constantly on the move, then you should use the continuous-focus function. When the shutter button is depressed halfway, the focus will track the subject and keep it in focus. Some focus systems are smart enough to calculate a moving subject's speed and direction, and set focus for its predicted position at the instant of exposure, thus compensating for the distance it travels during the brief lag between the time you press the shutter button and the time the exposure is actually made.

Manual Focus: Manual focus is pretty straightforward. You focus the lens by turning its focusing ring. Subjects that have little contrast may have to be manually focused because they

"If you have trouble getting sharp pictures, it may be because you are using the wrong focusing mode. Single-shot AF, continuous AF and manual all have their place."

Focusing Screens: Some of the more sophisticated cameras allow you to change the focusing screen inside the camera. If you do a lot of copy work or architectural photography, a focusing screen with a pattern of grid lines will help you line up the copy and buildings. Some telephoto lenses work better when you have a special focusing screen designed for long lenses. Some screens are clear except for a center spot, and others have a full focus grid.

Trap Focus: Trap focus (also known as snap-in or freeze-focus) is a useful

Electronic Flash: Electronic flashes today have evolved into very sophisticated photo tools. If you doubt this, just look at their instruction manuals. Today's flash units will do just about anything. Automatic flash-fill, TTL, direct flash, auto, manual, and slave are just a few of the functions available on today's flash units. They can work on top of your camera, via TTL flash cord, and with some cameras in TTL slave (wireless) mode. Most now have full communication with the camera, so some of its data can even be seen inside the camera viewfinder.

Shutter Speeds: For many years the shutter-speed limits were from a few seconds to $1/1000$. New designs in shutter technology and electronic control have now expanded the range from hours to $1/8000$, and with far more accuracy. This allows sports and nature photographers to produce even sharper images with the new super high speeds, and the long exposures give creative photographers a new edge.

Film Transport: Almost all newer 35mm SLR cameras have automatic film advancement. This makes it easy to move from frame to frame without having to move your eye from the eyepiece. Depending on camera model, drive rates range from one frame per second to 2, 3 and up to 10 fps.

Accessories: If you want to go broke quickly, buy every accessory made for your camera. You will find filters, tripods, cases, lenses, flashes, motor drives, databacks, and the list goes on and on. As you develop a shooting style, your photo needs will become obvious. Pick those accessories that make it easier to produce the types of photographs that you want to produce.

Top left: Samsung's new SR4000 is proof that they still make manual-focus 35mm SLRs—but everything else is automatic (along with full manual control when you want it).

DIGITAL CAMERAS

Technology is great isn't it? Just think how fast things change. Less than 20 years ago, home computers had never even been considered. Now you have computers operating almost everything you touch. Computers are used to design cameras and lenses and now there are even cameras without film! Digital cameras are becoming more and more popular, especially the lower-priced, low-resolution ones.

Low-Resolution Digital: The low-resolution digital cameras are taking the market by storm. With the increased popularity of the Internet, everyone is looking for an easy way to share images online. These cameras resemble the point-and-shoots and produce images with screen resolution (around 640x480 pixels, that of a computer monitor). Although this resolution is on the low side for paper output, it is a perfectly acceptable resolution for sharing images on the Internet. The price of these cameras is becoming more and more affordable and the image quality keeps improving.

Medium-Resolution Digital: The mid-range digital cameras resemble SLR film cameras and take interchangeable lenses, but have a computer chip to replace the film. The resolution of these is much higher and therefore yields acceptable paper output. The problem is that they still sport a hefty price tag.

High-End Digital: The price of the high-resolution digital cameras hasn't dropped much. They are still out of the reach of most photographers. Just like the medium-resolution cameras, these use modified SLR bodies offering lens interchangeability. The image quality of these files is good enough give film a run for its money. See the chapter on digital imaging for more complete information about digital cameras and equipment, including scanners that let you use your film images in your computer digitally.

WHERE TO BUY

Just where do you go to make your purchase? We have mentioned work-

ing with the salespeople at your local camera store. These folks can be of great assistance in your buying time. The added advantage to camera stores is that they offer you the opportunity to actually touch the cameras and get the feel. The camera store will be there if you need additional accessories or have repair problems.

Mail-order companies have cheaper prices, but you'd better know just

then try to talk you into more expensive or lower-quality merchandise when you call to order. If the dealer tries this on you, hang up and call another dealer.

Quite often you can find deals at camera swap meets or in the local paper. Keep in mind that there is probably a reason the person is selling the equipment. Buyer beware!

FINAL THOUGHTS

We have shown you the gamut of cameras from disposable ones to those that don't even use film. The SLR cameras have so many interchangeable lenses to offer that you will never run out of ideas for your Christmas list. The variety of point-and-shoot cameras available guarantees that you never miss that photo of a lifetime. Now you just have to figure out which one is right for you. Or maybe you really need two cameras to accommodate your photographic style. Use your SLR for your serious artistic endeavors and grab the point-and-shoot for the family outings. You might even keep it as your back-up camera in case of equipment failure. (And, of course, the point-and-shoot camera is great for family members who aren't into serious photography, and kids who aren't quite ready for an SLR.)

Once you have made your purchase, you need to stay current on what is happening in the photo industry. Of course, the best source for up-to-the-minute information is in your monthly copy of Petersen's *PHOTOgraphic Magazine*. Timely articles will provide you additional tips and techniques for making your camera perform well, along with how-to articles on all aspects of photography. Now get busy and make your wish list so you can go purchase your camera and experience the photographic world. □



what you want when you call. Make sure that the cameras you purchase have a U.S. warranty. Often the lower prices are because they are "gray market" cameras. This means that they were not imported through the manufacturer's official U.S. distributor, so they lack a U.S. warranty. You will need to pay out-of-pocket for repairs or ship the camera overseas for warranty work. Also, watch out for "bait-and-switch" tactics—some mail-order dealers advertise a great deal,

Top: Minolta's Dimage-Pic is a new entry-level digital camera with built-in 1.8-inch color LCD monitor and true point-and-shoot simplicity.

Bottom: The new Olympus D-500L digital camera offers resolution usually found in cameras costing over \$2500, yet sells for less than \$900—and it's an SLR with a 3X zoom lens.