

## Tech Tips

2006

*by Chuck Westfall*



**In your October 2005 column, you gave an expected total duration for time exposures for a Canon 1DMkII. Could you let us know what we can expect with a 20D and the BP511A? And - I've experienced the camera running low on juice during a long exposure; it wrote the file to the card just before shutting down. However, what if I had been using long exposure noise reduction and the camera runs out of juice during the second, dark-frame subtraction exposure? Does it (1) lose the image, (2) write the first exposure, (3) subtract the partial dark-frame from the first exposure and write the result, or (4) do something I'm not creative enough to imagine?**

Canon Inc. has not published a comparable figure for maximum bulb exposure time on a single BP-511A with the EOS 20D. However, according to the Product Development Center, the correct specification is approximately 3 hours at room temperature (68F/20C). This duration can be doubled by using two fully-charged BP-511A battery packs with optional Battery Grip BG-E2, and it can be extended indefinitely by using AC Adapter ACK-E2. At 32F/0C, battery life is reduced by approximately 25 percent.

In the scenario you describe (power loss during long exposure noise reduction processing), the image is lost. This is because the data is not released from the camera's buffer memory (which requires power) until the long exposure noise reduction processing is complete.

Generally speaking, shorter exposures result in fewer problems with noise reduction. This is one of the reasons for the popularity of multiple consecutive exposures for astrophotography, together with increased dynamic range. For more info, check this [Canon article on the Web](#).

**I seem to have lost the product information or manual that came with my battery charger or the battery, I can no longer remember which. I have been all over your Web site, but have had trouble locating an owner's manual or other product information to download. I would greatly appreciate a url to any site where I can download the information. Also, I would be hugely appreciative of advice on how to store my three batteries (NP-E3) when not in use to maintain maximize life. Should they be stored charged or discharged, and should they be periodically recharged, even if not used? Thank you for any help you can give.**

Canon posts electronic versions of its camera and software manuals, but not for accessories like Ni-MH Charger NC-E2 and Ni-MH Battery Pack NP-E3. If you are a USA resident, I would suggest that you contact our Customer Support Center at 1-800-828-4040 for further assistance. They should be able to help you obtain printed copies of the instructions for these products.

For maximum battery life, the NP-E3, like most other rechargeable battery packs, should be discharged prior to long-term storage. This can be done safely with the Refresh button on the NC-E2 charger, but it can also be done by using the NP-E3 with your compatible EOS SLR until the battery pack can no longer power the camera. If you are not planning to use your NP-E3 battery packs for a long time, they should be charged and discharged at least once every six months.

**Are you able to say what Canon's reasoning is behind putting mirror lock-up in so deep in the menu system? In the old days all we did was push a lever. My FTb couldn't have been easier. And I know that my Canon New F-1 didn't need it due to their good engineering of the mirror. I never missed having it. But if a camera needs it, and my 5D clearly does, what's their reason for not making it a simple switch on the body like in the old days?**

There are two separate issues here: (1) Physical differences between older and newer cameras; (2) control layout and menu design.

On point 1, cameras like the FTb were mechanically controlled, and as a result, mirror lock was mechanical. By way of comparison, today's digital cameras are electronically controlled, as we all know. Overall, this is clearly a good thing for many reasons, relating not only to digital capture but also to camera functions such as shutter speed and aperture control in terms of the ability to select and control intermediate settings precisely. But along with all the technological advances come a few trade-offs, including the loss of mechanical mirror control. There are a lot of technical reasons why this had to happen, and I don't have the time to get into the subject deeply, but the gist of it is that the camera's CPU has to know what's going on with the mirror in order to control the rest of the camera properly. As a result, even though mirror movement is carried out with a mechanical spring, the whole mechanism is electronically controlled and therefore consumes power. Speaking specifically about EOS cameras, the

bottom line is that the reflex mirror cannot be locked up indefinitely using our current design. Power consumption is one of the reasons, but not the only reason, why mirror lock is limited to a maximum of 30 seconds with our cameras. Is there any possibility that our engineers will redesign this function to extend or eliminate the 30-second limit? Your guess is as good as mine, but frankly I'm not expecting any imminent changes in this regard.

Be that as it may, point 2 is another issue for Canon's R&D to consider. All I can tell you is that customer feedback requesting the accessibility of mirror lock to be improved has definitely been forwarded to our engineers. Now the ball is in their court, so to speak. In the meantime, there are some workarounds, such as the ability to register and quickly recall groups of custom function settings with the EOS-1 class DSLRs, and the C mode on the EOS 5D.

**I am getting very confusing information from your tech support people on the maximum capacity SD card which will work in my 1Ds Mark II. I have a 4GB Transcend SD card formatted for FAT32, which works perfectly in my two computers, reading and writing. Yet when I try to format it my 1Ds Mark II, I get a message that says try another SD card, cannot format. The camera formats 1GB SD cards fine. Your tech support people said in their e-mail to me that "Any card with a capacity up to 2048GB that adheres to the Type I or Type II CompactFlash and SD card standards, and is formatted with either a 16 bit (cards up to 2GB) or 32 bit (for cards larger than 2GB) file addressing system, should work in your camera." That appears impossible to me, since it would mean an SD card of over 2 trillion bytes would work, but my 4GB card does not. I note that the recent firmware for this camera suggests that you can use a CF card of 8GB and an SD 2GB card to install the firmware update. Am I to understand from this that an SD card over 2GB capacity will not work in my camera? I am thoroughly confused and frustrated because the manual says nothing about limits on capacity and I fully understand that I must have a Fat32 format to use over 2gb. Can you please help me? Thanks.**

The e-mail response you received from Canon U.S.A., Inc.'s Tech Support Center was correct. The fact that your particular SD card is not working with your EOS-1Ds Mark II is most likely due to a firmware issue between the camera and that card. My suggestion is that you try other brands of SD cards, although the Transcend brand appears to be the only option currently available with a capacity higher than 2GB in SD format.

On your other point, it's important to understand that the maximum capacity of the FAT32 standard (i.e., 2048GB) is not the same as the maximum capacity for either CF or SD cards. Those specifications are determined by the organizations that govern the standards for those cards:

<http://www.sdcard.org/>

<http://www.compactflash.org/>

Currently, the SD Card Association says that 8GB SD cards are "on the way," and the CFA says the CompactFlash specification can support capacities up to 137GB, even though the maximum capacity of currently available CF cards is approximately 16GB.

**I've never understood why Canon has placed the seven cross-sensors vertically down the center of the frame of the 1D series cameras. This design doesn't really ever help me. I've noticed another manufacturer has placed their cross-sensors horizontally and vertically across the frame. Why did Canon position the sensors this way and how is it supposed to benefit photographers seeking the highest possible AF performance?**

The EOS-1V professional 35mm SLR and its digital descendants, the EOS-1D series, all feature a 45-point Area AF system that was designed primarily for photojournalists and professional sports photographers. As a group, these photographers are often required to shoot verticals in order to fit the layouts of traditional print media such as magazines and newspapers. Canon's idea was to optimize the AF system for this purpose. The first step involved expanding the coverage area from 5 points to 45 points in an oval shape that provided greater continuous coverage than any other AF system ever released. The next step involved increasing the precision of the central area AF points by increasing the baselength of certain rangefinding portions of the AF sensor, with the limitation that the high-precision functionality could only be accessed with lenses featuring maximum apertures of f/4 and larger. This decision was based on the theory that professional photographers use large-aperture lenses more often than not, in which case the enhanced precision is effective in attaining the highest possible AF performance. In the process of designing the new AF system, Canon was able to increase the number of high-precision cross-type focusing points from 1 to 7, with the limitation that they had to be in the central portion of the picture in order to maintain their high-precision capabilities. When the camera is positioned vertically, the 7 high-precision cross-type focusing points are spread across the picture area from left to right, thus providing maximum coverage for a vertical subject, such as an athlete. To support this feature even further, the camera bodies are designed to permit rapid scrolling of the high-precision central AF points via the camera's input dials, thus allowing photographers to select the optimum AF points without taking their eye away from the viewfinder.

**I have an EOS 5D and am having difficulty connecting to the camera to manipulate in-camera parameters. One of the things I do with all my Canon DSLRs is, in the Owners Field, I put my name followed by (c) 2006. It's a new year and it is time to change the owner/copyright info in my 5D and I cannot connect to the camera. I have tried ZoomBrowser 5.5 on a WinXP box as well as EOS Viewer Utility 1.2.0 on both WinXP and Mac OSX 10.4. --**

**all using known good USB cables. For some reason I had a dickens of a time doing this with my 1Ds2 as well. I finally got it updated using EVU on my Mac via a Firewire cable. For some reason my computers are having trouble "seeing" the EOS cameras. Most times in EVU, under the Options menu Camera Settings is grayed out. I am not sure which app I should be using to manage my 5D. ZoomBrowser 5.5 is, for me, unintuitive (to be honest, I just don't get it). Is this what I should use to adjust camera settings, or is there a version of EOS Viewer Utility I should be using? My version of EVU came with my 1Ds2, so I am assuming it is too old to recognize the 5D.**

Whether you are using Windows XP or Mac OS X, the application you need to update the Owner's Name field on your EOS 5D and other EOS digital SLRs is called Camera Window. This software is included when you install ZoomBrowser EX 5.5 (for Windows) or ImageBrowser 5.5 (Mac) from EOS Solution Disk 11 that was provided with your EOS 5D. The next key point is making sure that a memory card is loaded in the camera when you connect it to the computer. If the camera is empty, you won't be able to update the Owner's Name. Assuming that the software has been installed correctly, Camera Window will appear shortly after you connect the camera to the computer via the interface cable. At default settings in XP, you will get an Event Window asking which program you want to use to download images, and Camera Window is usually at the top of the list. In OS X, Camera Window shows up automatically. Once Camera Window is running, click on the 'Set to Camera' tab and then on the 'Confirms/changes camera settings' button to access the Camera Settings screen. This screen allows you to update the Owner's Name, set the camera's internal date and time, and format the memory card if desired. The current versions of Camera Window are fully compatible with Windows XP and Mac OS X 10.2 through 10.4.

**I've recently started using a 5D. I love its image quality and its diminutive form factor but there is one thing about this body that has me puzzled. When I remove it from my holster pack with the power switch in the "off" position (I realize that there are two "on" positions), the red activity light on the back of the 5D almost always flickers. I can't figure out why. I only notice this happening after I've carried it around in the bag for awhile. If I re-insert it and remove it a second time I cannot reproduce the behavior. Further, there is no button I can press or panel I can push on to cause activity when the power switch is off. The only thing I've found that will cause the red light to flicker with the camera off is opening and closing the CF door. But I have been checking to make sure this door is tightly closed before initially pulling the 5D from the bag. The door IS closed; but the light still flickers when I pull the camera out. Any thoughts? Is this normal behaviour?**

Closing the CF card door while the camera is off is one thing that will cause a 5D to check the memory card and run the card-busy light for a fraction of a second.

Changing a lens will do the same thing, as will opening and then closing the battery compartment cover. I suspect that you might be twisting the lens and/or flexing the battery compartment cover when you use your camera holster. Whatever the reason, it's nothing to worry about.

**With all the excitement and interest centered on digital photography, what about the possibility of Canon upgrading the Canon EOS-1v with a Mark II model. In your opinion, will this upgrade ever happen ? If so, how long from now should we expect it to happen ? The Canon EOS-1v is now almost 6 years old. Thanks!**

There is no point in ruling out the possibility of an updated EOS 35mm professional camera, but if you're interested in my opinion, I would say that it is very, very unlikely to occur. Sales of the 1V are virtually nonexistent at this point, and we very rarely get any requests from our professional or advanced amateur customers for an updated version.

**I'm a longtime user of 1.6x crop cameras (currently 20D); as of today I now own a brand new 5D and this camera is simply the most outstanding camera I've ever used. It literally brought my 24-70 f/2.8L (which is a perfect copy) to a whole new level. The pictures are just amazing. I do notice however that I have a hot pixel that shows up at about 1-second exposure, and gets brighter as the ISO is increased. Actually at ISO 1600 there is the bright white pixel and a blue dot in photos. Is this to be expected with the full-frame sensor bodies?**

Glad to hear you are pleased with your EOS gear! Hot pixels are not a chronic problem with full-frame cameras, but they do occur occasionally. The good news is that they can be fixed (mapped out) by our Service Department, so it is unnecessary either to live with the problem or to replace the entire camera.

**An often asked question, but I've never seen a full answer: Is it technically possible to produce a pellicle mirrored version of, say, the Canon 20D or similar? I can understand that it might not be feasible 'demand'-wise but I would love to see one amongst the lineup. I have used both the EOS RT and the 1NRs and sorely miss the quietness of the shutter operation. However , I do love the immediacy of digital. Kind of caught in a quandary at the moment!**

Pellicle mirror versions of any EOS Digital SLR are technically possible, but as you say, customer demand for them has not been overwhelming so far. I'm sure that Canon Inc. would consider them more seriously if more photographers started requesting them.

**I often use both mirror lockup and auto exposure bracketing together as do many landscape photographers. It seems to me that a major improvement**

would be to offer a combined mode where the mirror would flip up, all three bracketed exposures would be taken in sequence, and then only after the last exposure would the mirror flip down. Currently the mirror goes up and down with each shot. This would allow much less time to elapse between exposures and insure that the mirror slap is not moving the camera between frames. I don't think any further switches or settings would be required as this behavior could be specified by the drive mode, i.e., have the mirror go up and down for each frame if in single-shot mode or have the mirror stay up for all three shots in continuous shooting mode (as per 20D/350D controls). For later digital blending this would be a vast improvement over the current scheme where the mirror goes up and down between every exposure as there is too much time elapsing in many situations allowing the scene to change.

Thanks very much for the suggestion! I will be happy to forward it to Canon Inc. for their consideration.

One thing I miss about shooting medium-format film is the square format. Square was better for me because cropping was easier after the fact. I didn't need as wide a lens either, because more information was captured on both the horizontal and vertical. A camera lens creates a round image circle, so it makes sense to use a square format to capture as much information as possible in a single shot. Now that I'm shooting digital SLRs, I have to put up with the shortcomings of the 35mm format again; too long and narrow for portrait framing, and constantly switching from horizontal to vertical to get a variety of compositions. I'm always wishing for a wider lens in a bag already full of lenses, because the 35mm format just isn't efficient. Remember how frustrating it was making an 8X10 print with a 35mm negative? So I'm curious why SLR manufacturers overlook the magic of the square when they embarked on the digital path. A "square" SLR would be simpler to build and use since it doesn't need to be flipped on its side. Easier flash on-camera flash usage too. Bumping up megapixel resolution would be easily accommodated by square sensors. Less time would be wasted from having to flip the camera back and forth, and unique photo opportunities could be captured without regret of original camera orientation. What is the fascination with the 35mm format? It's neither panoramic nor "perfect." It forces a photographer to accept the limitations of its dimensions. I wish camera manufacturers would realize the benefit and power of the square, or at least the "golden" rectangle, which offers probably some of the most interesting compositions due to its mathematical intrigue. And forget trying to sell me a digital back for medium format. It's overkill for publication work, and too expensive. I am thankful, however, for the quality of the images coming from today's digital SLRs.

It's hindsight now, but clearly a big reason for sticking with the 35mm format in digital SLRs is the wide range of lenses made for that format. One could argue that these lenses project a circular image, and could therefore be accommodated by a square format SLR design, but it turns out that many lenses like the EF14mm f/2.8L, EF20-35mm f/3.5-4.5, EF 28mm f/1.8, etc. feature built-in rectangular baffles to reduce flare. Using these lenses on a square format camera would result in harsh vignetting. However, your points about the desirability of square format and 8x10 aspect ratio are certainly valid, so other options are being explored, including modified focusing screens that crop or mask the 35mm format to square or 8x10 ratios. This is not the perfect solution, but as new cameras with higher resolutions are developed, there is at least the possibility of providing built-in cropping options that could be reflected in software for easier post-processing. Thanks for the feedback!

**I would appreciate an explanation of custom function 14 on the 5D. I have read many explanations but am still not sure when I would use evaluative and when I would use average. Is this function only related to flash metering?**

Custom Function 14 on the EOS 5D as well as the Mark II versions of the EOS-1 class digital SLRs controls the flash metering pattern only. It has no effect on ambient metering. At its default setting, C.Fn 14-0 allows the flash meter reading to be based on the size and location of the subject, as determined by preflash information that's registered a fraction of a second before the real exposure. C.Fn 14-1, the optional setting, causes the camera to average the flash meter reading across the entire metering area. We recommend C.Fn 14-0 for the majority of typical flash photography applications, but C.Fn 14-1 can be more effective for specialized applications such as wedding photography, with its high-contrast subject matter such as white dresses and black tuxedos.

**I would like to use the remote capability of my EOS 20D (via Zoombrowser EX) in my studio. However, I am always shooting verticals and the thumbnail display on the bottom means the picture is vertically shrunk more than I would like. Can I get rid of the thumbnails or move them. I looked in the help and saw no reference to this.**

The best way to solve this particular problem is to launch EOS Capture from within Digital Photo Professional rather than ZoomBrowser EX. This will allow much greater control of the size and orientation of the thumbnails, the tool palette and the image display.

**This may sound trivial to most digital users but, I am just beginning with the medium hence this question...what is Firmware and how does it get into the camera? I have bookmarked a site that shows an updated version and thought it important to put into my 5D, but do not know how to even begin ... can you guide me or send me to a site that can?**

Try this site as a starting point:

### EOS 5D Firmware

This is the home page for the newest currently available firmware update for the EOS 5D. It explains what the firmware update will do, and then contains a Q&A section followed by detailed installation instructions. There is also a downloadable PDF installation instructions file that you can access after agreeing to the Software License Agreement at the bottom of the Web page, together with downloads of the firmware update for Mac and Windows users.

Firmware itself is actually software that can be loaded into your digital camera. Canon typically issues firmware updates to correct operational glitches that are determined after a product has been shipped to the market. It would be a wonderful thing if firmware updates weren't necessary, but the reality of modern product design and manufacturing is that various glitches cannot be known until a product actually ships to customers. Although Canon does its best to solve as many problems as possible with each firmware update, history shows that often there may be as many as 3 or 4 firmware updates offered during the market life of the product involved. Thus, firmware version 1.0.3 may be the first update for the EOS 5D, but chances are good it won't be the last.

This is one of those "is the glass half empty or half full?" scenarios: One could always ask why all potential firmware issues could not have been resolved prior to shipment, but on the other hand, the fact that Canon continues to improve the performance of its products is laudable, and it certainly beats the alternatives.

**On the subject of Canon warranties: Do they apply worldwide or just in the country of purchase? I am talking about top end digital bodies and lenses.**

Canon provides EF Lenses with worldwide warranties, but the warranties for both PowerShot and EOS Digital cameras are valid only in the country where the equipment was purchased.

**Your Tech Tip discusses an exposure metering issue with non-EOS lenses and the 20D ... [I] was told that the 20D included a feature to compensate for this problem. Can you tell me if the same problem is to be experienced with other EOS bodies such as the 5D, 30D or Digital Rebel XT/350D? I use and enjoy a 16mm Zenitar, microscope and bellows lenses so I would consider this a serious problem worth avoiding.**

All EOS cameras have one or more exposure compensation programs built-in to handle focusing screen brightness issues with coupled lenses, i.e., Canon EF lenses. As I tried to explain in the earlier Tech Tips article, there can be no such compensation program with non-coupled lenses, mainly because the camera has no way of knowing what the working aperture is. Consequently, it becomes the user's responsibility to apply exposure compensation as required based on the particular shooting conditions involved. To repeat, none of the EOS cameras, film or digital, have any special magic when it comes to providing exposure compensation values with non-coupled lenses. The best we can say is that standard focusing screens for the EOS-1 class cameras are likely to require less exposure compensation than the screens for other current EOS digital models, simply because the standard screens for EOS-1 do not have as much of a brightening effect as the non-interchangeable focusing screens for other models like the 20D, etc. But even the standard focusing screens for the 1D class cameras may require exposure compensation with non-coupled lenses. For best results, we recommend making test shots with the equipment you plan to use, at the working distances and apertures that are appropriate for the results you are attempting to achieve.

**I use the ST-E2 a lot in my work, both as a mobile solution to off-camera flash and as well as an autofocus assist in low-light conditions, which actually is where I do the bulk of what I shoot. It is a wonderful device, but like anything, there's room for improvement. I'd like to see a few things:**

1. A screw-type locking mechanism for the foot, much like the foot of a 550EX or 580EX. The clip is decent, but I've knocked the ST off a few times even with the clip in.
2. A different power source than the 2CR5 type cell. Preferably something rechargeable. Those 2CR5 cells add up over time.
3. Radio? I know this would entail an entire overhaul of the EOS flash system, but one can hope.
4. Eventually integrate ST-like functionality into the bodies of cameras themselves.

Otherwise, this little box has been a great purchase!

Thanks for these constructive suggestions. I'm happy to pass them along to Canon Inc. for consideration towards future products.

**A big thank-you to Canon for finally putting mirror lock in the drive control menu on the 30D, and I assume future DSLRs from Canon. A question - why did such a simple solution take so long to implement? Is it technically possible via a firmware update to extend this feature to older cameras such**

**as the 5D? I ask "technically" because commercially I think the reply will be no! Also I find that as a photographer I try to avoid putting the subject in the dead center of my viewfinder, rather preferring to work with the outer AF points. I think it would be nice if Canon (and other manufacturers) placed the AF points in a more spaced out fashion, with perhaps the option of ONLY using the outer focus points. Even when all the AF points are selected, the central ones being more sensitive are more likely to pick up a subject to lock on, but that's exactly what I want to avoid. I therefore think it would be a good idea to add the choice of only outer AF point selection. What do you think? Focus-recompose is not always practical with fast-moving subjects.**

If you are talking about the 30D's ability to lock the mirror for 2 seconds prior to shutter release when the camera is set to its self-timer release mode, it's nothing new. All EOS Digital SLRs have had this feature since the EOS-1D in 2001. However, we are still hoping that Canon Inc. will improve the accessibility of the mirror lock function for standard operation even when the self-timer is not being used.

The 45-point Area AF system on the EOS-1-class digital SLRs increases the coverage of the AF system. In fact, the focusing points cover almost the entire picture area on an EOS-1D Mark II N when the camera is equipped with one of the new focusing screens that shows the crop lines for 4x5 or square aspect ratios. Custom Function 13-3 on an EOS-1 class digital camera lets you select only the peripheral focusing points via the Quick Control Dial on the rear of the camera.

**Love my 5D cameras -- one question I have and can't find any answers online or in the instruction book: In setting the Picture Style -- sharpness, etc. -- in the multiple modes (Neutral, Faithful, Monochrome) do these settings apply to both JPEGs and RAW? I've been told that they have no effect on RAW images.**

Picture Style settings for sharpening, contrast, saturation and color tone provide a starting point for editing compatible RAW images when they are opened in Canon software such as Digital Photo Professional or RAW Image Task, but they do not affect the RAW image data. However, Picture Style settings in the camera are applied to in-camera JPEGs, and should be chosen with care according to the effects you are trying to achieve.

**What's the best way of storing a 600mm f4 lens? I hear conflicting tips all the time. Should I close the trunk that came with the lens and use some silica gel in it (the room is air conditioned), or keep the trunk open to let the air flow?**

There is nothing wrong with storing an EF600mm lens in the supplied trunk with the lid closed, but many professional photographers find it more convenient to use independentl made trunks or cases that are designed to hold additional equipment. I can't endorse products made by other manufacturers, but you may find it worthwhile to seek the opinions of other professional photographers on Web forums like:

Rob Galbraith

Sports Shooter

Working photojournalists who use professional equipment, including our 600mm lenses, regularly frequent these Web sites.

**I can't seem to find anywhere how, or if it's even possible, to load images from my computer to a memory card that's in my camera. I have a 1D and a MkII. Here's what I'm trying to do: I have a few shots I've taken at various venues to set my custom white balances, and I've downloaded them to my computer along with the images from that particular event. When I've archived the images I format the card. But I still have the file I used for WB in my computer. My idea was to copy the white balance images on an SD card for my MkII, keep it there, and select from there when I want to set the white balance at the venue(s) I shoot most often. How do I upload/download that file back onto a card so I can have it when I head out to the same venue again and just select the file when I go through the white balance routine on the camera? If I can do this, do I copy it into the DCIM folder, or create a new folder and stick it in there? I have copied images from my computer to a card before, but when I push the display button on the camera, nothing is there. I have no idea where it went. It shows up on my device (on the computer) when I double-check it to see that it was copied, but the camera acts like it's not there. I've also read about Personal Settings, but that has me totally confused. When I look at doing that, I, again, can't figure out where to put the file. On the computer? On a memory card? And if on a card, where? If my question and situation makes sense to you, can you help me make sense of this and how I might go about it?**

Uploading images to your Canon digital SLR is part of the Camera Window software's function set. In our current software, Camera Window is the app that appears on your computer screen when the computer detects either a connected compatible camera or a card reader with a memory card that has a DCIM folder on it.

For detailed instructions on how to upload images via Camera Window, please refer to the Software User Guide for ZoomBrowser EX (if you're using Microsoft Windows) or ImageBrowser (if you're using Mac OS). Here is the URL to download PDF versions of these guides:

### BeBit Information

Here's a tip: when the software asks you if you want to upload "as is" or at a specific resolution, choose one of the specific resolutions. It doesn't make much difference which one you pick, just don't pick "as is."

**I have been investigating the possibility of triggering the shutter of the Canon 1D MkII electronically for the purpose of photographing insects in flight. I came to the conclusion that none of the Canon cameras available at present would be usable for this application due to the long shutter lag. Let me explain: The shutter lag of the Canon 1D MkII is something like 55ms. When P.Fn-26 (Minimize shutter lag) is activated the shutter lag goes down to about 40ms. This however is only when the lens is set to its maximum aperture. For smaller apertures it takes a bit longer. From the above behavior I conclude that the camera works as follows: When you press the shutter button down from the halfway position it takes 40ms for the mirror lift. Thereafter it takes between 0ms and 15ms for the aperture to stop down. The only difference P.Fn-26 makes is to allow you to choose between "consistent 55ms" and "as fast as possible (40ms to 55ms depending on aperture)."**

Assuming my understanding as explained above is correct, then:

1) Why is the shutter lag still that long when you use the mirror lockup function? If the mirror is already up and the lens already stopped down, why is the shutter lag not closer to 0ms?

2) Why does the camera wait for the mirror to lift before stopping the aperture down? If the lens is stopped down at the same time as the mirror is lifted it will always take 40ms and the shutter lag will never be longer than this.

If the EOS-1D Mark II were a 35mm SLR, your requests would be reasonable. In fact, we did get release time lag down to 6 milliseconds with the EOS-1N RS, and release time lag for the EOS-1v with the mirror locked was also quite short. However, the EOS-1D Mark II is a digital SLR, and it therefore has a different set of requirements to prepare for exposure. The most significant requirement in this context is the initialization of the image sensor for noise processing. Initialization takes place during the 40-millisecond interval after the shutter button is fully depressed, and this step can neither be reduced nor eliminated. The answer to your second question involves the sequence control that's burned into the CPU

that controls camera operation. I will be happy to relay your request for this specification to be changed.

**I'm a member of the Canon Professional Services (CPS) program in the U.S.A., but will be working in France for a month or so. What if I need service or a loaner in France?**

Canon Professional Services programs are run by individual Canon sales companies. Canon U.S.A.'s program is independent from (and has different policies than) for instance, Canon Canada or Canon U.K., or Canon France, etc. In practice, on-site support consisting of repair service as well as equipment loans at major media events like the Olympics, the Super Bowl, the World Cup, etc., is offered to all professional photographers accredited for that event, regardless of their CPS status, although CPS members in good standing usually have priority when it comes to borrowing equipment at such events.

When a Canon U.S.A. CPS member has a job in a foreign country (a job that may have nothing to do with a Canon-supported media event), and wishes to borrow equipment in that country, the foreign country's CPS program will typically try to help if it can. However, they are under no obligation to do so. In these situations, we usually recommend that a Canon U.S.A. CPS member obtain loan equipment from Canon U.S.A. prior to leaving the country to work on a job. On a related note, Canon U.S.A. typically will not ship equipment out of the country, even to members of Canon U.S.A.'s CPS program. This relates to import/export and tax issues, not to mention shipping costs.

Looking strictly at repair services, CPS programs around the world usually provide expedited service to all CPS members in good standing, regardless of their home country. But again, each sales company runs its own Factory Service Center(s), and consequently they control their own repair and pricing policies. If you run into a problem, it's best to contact the manager of your country's CPS program to find out if they can contact the other country's CPS program on your behalf.

**Is it true that f/2.8 lenses work better on EOS-1 class bodies? If so, please explain.**

Most of our current cameras, including the EOS 20D as well as the 30D and the 5D, offer the same level of high-precision AF on their center focusing point as the EOS-1 series cameras. When an f/2.8 or faster lens is used with these cameras, the baselength of the rangefinding portion of the AF sensor is tripled, thus increasing autofocusing precision.

On EOS-1 class cameras, 7 out of the 45 total focusing points achieve maximum precision with f/2.8 or faster lenses, compared to just 1 such focusing point on a

20D, 30D or 5D. Also, the center focusing point on an EOS-1 class camera has high-precision capability with lenses as slow as f/4 and can provide standard precision autofocus with maximum apertures as slow as f/8, so one could say that the EOS-1 class cameras offer more autofocus functionality than other EOS models. But when comparing the center focusing points of each camera, the EOS 20D, 30D and 5D are equal to the EOS-1 class in terms of autofocus precision.

**I have searched some of the archives on a couple of the bigger forums including Rob Galbraith's, but I can't find a definitive answer to this question, and opinions are all over the place on it. I have an EF70-200/2.8L which I have been using as my main portrait lens for the last couple of years. Although I own an EF200/1.8L and an EF85/1.2L, this is still my favorite lens mainly because of the tripod collar as I always shoot on a tripod. This leads me to my question, I was about to buy the newer IS version of the EF70-200/2.8L since every once in a while I inadvertently forget to lock down the tripod collar or my ball head and I get a little movement which results in a few soft images. Yesterday I lost 6 images in a session where I had found the most spectacular light. This is totally my fault of course. But would the IS version help here on a tripod? Would the electronics kick in if I bumped the tripod or the camera otherwise moved because the tripod collar or ball head was not tightened down?**

The EF70-200mm f/2.8L IS lens shuts off its stabilizer automatically when the degree of motion falls below a certain threshold, as would be the case under most circumstances when using a tripod. This is a better arrangement than the early IS lenses like the EF75-300mm f/4-5.6 of 1995 or the EF100-400mm f/4.5-5.6L IS, where the IS system would actually increase blur when using a tripod. But it is not as sophisticated as the IS system in our super-telephoto lenses like the EF300mm f/2.8L IS USM, which can detect and compensate for mirror slap at slow shutter speeds even when the lens is mounted on a tripod.

You can get a sharp image on a tripod at slow shutter speeds with the EF70-200mm f/2.8L IS without turning off the IS system, but in order to do so, you would need to observe the following precautions:

1. Use the self-timer, or keep the shutter button depressed half way for at least a couple of seconds to allow the IS system to stabilize prior to exposure.
2. Use mirror lock to eliminate mirror slap.

In the situation you are describing (tripod use, but no self-timer and no mirror lock), you cannot expect the IS system of this particular lens to help you.

**I am looking for the best solution to solar charge my Canon 1D batteries (NP-E3, 12V) during my trekkings in Nepal. Can you give me advice about**

**the minimum requirements needed to charge such a battery and what accessories are recommended to safely connect and charge this battery (with the solar charger)?**

I haven't seen any type of solar charger on the market that is specifically compatible with a Canon NP-E3 battery pack. After researching the issue as well as I could on the Web, I think I understand why: There is no easy way to protect the pack from overcharging. Additionally, the NP-E3 uses a proprietary plug. One could easily cannibalize an NC-E2 charger to get a connecting cable, but then one is faced with the problem of controlling the input from a solar panel. Here are some Web discussions that may be of interest:

<http://www.fredmiranda.com/A19/>

<http://www.naturescapes.net/phpBB2/viewtopic.php?t=57453&highlight=solar>

Under the circumstances, you might be better off carrying 2 or 3 spare NP-E3 battery packs and then conserving power while you shoot, as I outlined in previous issues of *Tech Tips*:

<http://digitaljournalist.org/issue0509/westfall.html>

<http://digitaljournalist.org/issue0508/westfall.html>

Also, keep in mind that the Mark II versions of the EOS-1 Digital SLRs consume far less power than the original EOS-1D and EOS-1Ds. The Mark II cameras are rated at 1200 shots per charge in normal temperatures, and many photographers have reported even better results than that. At 1,200 shots per charge, you could get nearly 5,000 images with 4 packs.

If you have occasional access to a portable generator with 12-volt output, you might want to consider using an AC-DC inverter that would allow you to plug in an NC-E2 charger while you are in camp.

**I understand the difference between ASA (ISO) films 50 vs. 1600 - speed vs. grain -- But on my 5D, will the ISO 50 setting give me less noise than ISO 100? (And I don't have noise at 100.) I've noticed you have to use custom function 8 to get to ISO 50 and 3200, so is shooting at these speeds not recommended?**

Some customers claim that they see less noise at ISO 50 than ISO 100 on a 5D, but in my experience both settings are about equally noiseless. There is about a stop less dynamic range in the highlights at ISO 50, which is the reason why this setting is normally locked out. It's still a very usable setting for most professional photos, as long as you are not trying to record an extreme range of contrasts. I find ISO 50 useful for studio strobe shots, since it provides more flexibility in aperture selection.

**The new EOS Utility software application appears to have no facility for uploading a tone curve to my 1Ds MkII. Must I also have EOS Viewer Utility installed just for this purpose? Or have I missed something?**

You can upload custom tone curves to your 1Ds Mark II with the new EOS Utility software. Here's how:

1. Connect the camera to the computer and power it up.
2. Launch EOS Utility.
3. Click on Camera Settings/Remote Shooting from the main menu. (The remote shooting screen appears.)
4. Locate the camera icon (next to the setup menu [wrenches] icon) in the lower right corner of the screen. A new menu extends from the bottom of the remote shooting screen.
5. Click on Parameters in the extended menu. The Parameters setting dialog box appears.
6. Load your custom tone curves and/or make other parameters adjustments as usual.

**I've got an EF300/2.8 that came out of service from the White House Press Corps that has its ET-118 lens hood cut down. I've been looking for awhile to find a new or at least different hood. Canon wants \$520 for a new one, ouch. I know the ET-120 will fit, but it's not cheap either. I'm trying to find a different solution because I love the lens so much. Anyway, I know a guy in LA who's got a hood from the old FD300/2.8, EH-123, and was wondering if there was anyway to figure out if it would fit. Any other suggestions would be welcome. It just doesn't make economic sense for me to put \$500 into a \$1,500 lens that is more than 10 years old.**

I checked a sample of the EH-123 hood on a current EF300/2.8L IS lens. It's a loose fit, but close enough that it could be tightened up by anyone who is mechanically proficient. Canon would not offer this service, but you might be able to get it done by an independent repair facility. If you really want to save money and you don't mind that the lens won't look as pretty, just attach the hood to the lens with a few layers of gaffer tape wrapped all the way around. The only disadvantage to this approach, other than cosmetics, is that you won't want to remove the hood to store the lens.

**On a shoot today with the Canon 1Ds Mark II someone made a claim that surprised me and I was wondering if you had heard anything like this. The claim:**

**"When shooting tethered you can shoot faster using a FW800 cable than you can using a FW400 cable."**

**The reason that I was surprised is that to my knowledge when you connect a FW400 device to a FW800 port, data communication takes place at the FW400 rate. Now Canon does not expressly say their port is FW400 but in a review I found this comment:**

**"The FireWire speed has also been increased, from 60 Mbps on the 1Ds, to 100Mbps on the Mark II."**

**This suggests that the port is FW400, and that it only communicates at one of the slower data rates in the FW400 specification which allows for a maximum of 400Mbps. This would seem to make it even more likely that the FW 800 cable would speed up shooting. Any comments or information you have heard would be appreciated.**

First things first: There is no question that the data port on an EOS-1Ds Mark II is FireWire 400. The data transmission rate is higher than the original EOS-1Ds, which is also FireWire 400, but the main reason for that is the higher performance of the Mark II camera's DIGIC II processor vs. the pre-DIGIC equivalent on the earlier model. As you noted, in both cases, the actual data transmission rate from either camera is clearly lower than the maximum theoretical throughput for FireWire 400. This differential is caused by error-checking algorithms that ensure data integrity, an important consideration for high-resolution digital still cameras like the EOS series.

It is possible to connect a Mark II camera to a FireWire 800 port via an adapter, but I have not personally tried it. Based on what I've heard from Mac owners who connect their external FireWire 400 drives to a FireWire 800 port on their computers with this type of adapter, I would expect a slight improvement in data transmission rates with a Mark II camera, but nothing drastic. In any case, Canon does not recommend the practice of connecting current EOS digital SLRs to a FireWire 800 port, and we make no claims that it will improve performance.

By the way, if shooting quickly while tethered is important, I recommend using the camera's shutter button or a remote switch attached to the camera's remote control socket rather than firing the camera from the computer's keyboard. When firing from the computer, you can only take one shot at a time, and you have to wait until the image is completely transferred to the computer before taking the next one. When firing from the camera, you can shoot as many images as the camera's buffer memory will allow, even in continuous mode.

**I own a 5D. I would like to set the owner and (c) notice in the camera, for use in the EXIF data. I do not, however, want to install any unnecessary software. Every time I do this my PC gets slower, more unstable, and filled**

**with more unnecessary stuff. What is the minimum software I can install to set Camera owner and (c) information?**

It is actually simpler now than it has been for the past few years to answer this question: The only software currently needed to upload the Owner's Name field to your EOS Digital SLR is EOS Utility 1.0. (This software replaces the "Camera Window" software I discussed in an earlier edition of *Tech Tips*.)

No other software is required for this purpose. However, if you want to use Canon's Digital Photo Professional (DPP), ZoomBrowser EX or ImageBrowser software in addition to EOS Utility 1.0, it is necessary to use the latest versions of each and uninstall any earlier versions. EOS Utility is supplied with the EOS 30D, but if you own the 5D or any other EOS digital SLR dating back to the D30, you can update to EOS Utility at no charge via the Canon USA Web site. Be sure to read the installation instructions carefully before you begin, because it is necessary to have qualifying Canon digital camera software installed on your computer before you install the updaters version of EOS Utility. Also, there is an instruction manual for EOS Utility in the Product/Software Manual section of the Canon USA Web site. I strongly suggest reading this manual to get the most out of EOS Utility. Once EOS Utility is installed, it is OK to uninstall earlier versions of Canon EOS Capture and RemoteCapture software.

**I am experiencing difficulty using both studio flash and a Canon Speedlite simultaneously. I own an EOS-1D Mark II N but the problem seems to be consistent with other 1-series DSLRs which I use from time to time for such work. The typical shoot involves a number of studio flash monoblocs positioned around the subject (sometimes as many as eight units). The nature of the environment (interiors) often precludes the use of a studio flash from the camera position so I have attempted to use the Speedlite (both camera mounted and via the Off-Camera Shoe Cord 2) for this purpose. However the resultant exposure is almost zero (i.e., no picture is recorded under this combined setup). The camera works fine with just the Speedlite or just the studio flash, but not together. I have tried removing the sync cord from the PC socket (triggering the monoblocs via optical slave): no difference. I have tried taking the flash off ETTL-II (onto Manual, thinking that the pre-flash was firing the optical slaves just prior to exposure): no difference. I have two 580EX (problem exists with both) and use various 1-series cameras, so it appears not to be an isolated equipment fault. Hope you can help.**

I'll bet that the sync cable for the studio flash units has reverse polarity compared to the Speedlite. This isn't a problem when you're only using one or the other, but it doesn't work when both are connected at the same time. Here's why: your 1D Mark II N has a circuit that detects the polarity of the sync cable and compensates for it automatically. But when the flash in the hot shoe has reverse polarity compared to the sync cable connected to the PC socket, the circuit

cannot compensate for both at the same time. The result is no flash. You should be able to correct the problem by reversing the polarity of the sync cable that's attached to the PC socket. Also, in this situation, I would suggest that you set the Speedlite to its Manual flash mode to avoid any issues with the preflash that occurs in E-TTL mode.

**I am an amateur photographer who used to be a marketing communications director for a Fortune 100 company. I think you do a superb job as a communicator who believes in content and not fluff. You add great value to Canon customers. A question, if you have time to answer: Will the EF100-400L IS work well on a monopod with IS switched on? I know it won't on a tripod. What's your experience?**

Thanks for the kind words! I sincerely appreciate your sentiments. As you mentioned, the EF100-400L is one of the early Canon Image Stabilizer systems that cannot compensate properly when used on a tripod. There's no way to guarantee that the IS system of this lens will work on a monopod, but the decision to use it or not depends on your technique. The steadier the lens, the more likely it is that the IS system will blur your shot. My suggestion would be to keep the IS system on for hand-held photography, but shut it off when the lens is on a tripod or a monopod. Incidentally, another tip to improve the odds of getting a sharp photo with the EF100-400L lens is to raise the ISO speed setting on the camera. This can result in higher shutter speeds under most lighting conditions, and the noise levels on our current EOS models are so low that you can get away with setting higher ISO speeds without losing much in terms of image quality.

**How long will a CMOS sensor work before it starts to "fail?" My instinct tells me that anything with color will eventually fade, and there are color filters over each photosite on the sensor. Obviously color is just one aspect of longevity, and issues like camera obsolescence as well as other mechanical factors are involved. But theoretically, how long would a sensor keep on working before it runs into problems?**

It's difficult to answer your question, because there is no easy way to simulate aging with an image sensor. However, the microlenses on Canon CMOS sensors do a good job of sealing the RGB filter elements and preventing them from exposure to atmospheric gases. Additionally, the CMOS sensors used in EOS cameras are usually in "dark storage" behind the camera's focal plane shutter except during exposures or cleaning, so that's another way in which the sensors are well protected. All we can really say is that we're building a track record over time; Canon's first CMOS image sensor for digital SLRs appeared 6 years ago with the EOS D30, and to date there is no evidence of sensor failure or any change in color accuracy with Canon CMOS image sensors regardless of age or usage conditions.

**I have a Canon EOS Digital Rebel XT, but cannot get it to connect to my iMac G5. I went to the Canon site to download all of the latest utilities, but have had no luck. When I attach the camera to the computer, Camera Window opens, then quietly quits - like it didn't find a camera. What are the solution options?**

The solution to your problem may lie with the Rebel XT's "Communication Setting." You'll find this setting on the "Setup 2" menu on the camera's LCD screen. When Communication is set for "Print/PTP," which is the default, the camera can be recognized by Apple software such as Image Capture and iPhoto, as long as the Preferences for those programs are properly set. But if you want to use Canon software, the XT's Communication has to be set for "PC Connection." This is spelled out in the software instructions, but it's easy to miss. If you continue to experience connection problems after making this change, I would suggest calling Canon USA's Customer Support Center at 1-800-828-4040 for further assistance. They are currently open from 8 a.m. to 12 midnight (Eastern USA time), Monday through Friday, and 10 a.m. to 8 p.m. on Saturdays, excluding holidays.

## **JUNE 2006**

**I am a DPP user for RAW conversion and I noticed recently that the JPEG conversion in the latest version is giving me much larger file sizes than earlier versions (around 4-5 times bigger). I usually convert to "9" setting which has previously resulted in a file size of around 1-2MB from a RAW image from my EOS-1D Mark II N. Now the same image will typically be around 5MB under the latest version of DPP.**

Canon Inc. has confirmed that the JPEG compression algorithms were changed in DPP 2.1 compared to 2.0 and earlier. Their comments were as follows:

"We improved the curve of the JPEG compression rate so as to change file sizes more smoothly. The attached is data of JPEG compression setting in DPP 2.1 and DPP 2.0 in case of 20D. We expect the data will be helpful for your understanding."

At this point, I am not permitted to release the chart that Canon Inc. provided, but I can tell you that Level 7 in DPP 2.1 is roughly equivalent to Level 9 in DPP 2.0 and earlier, in terms of JPEG compression ratios.

The interesting point for me was to see how drastically the older versions of DPP changed the compression ratio going from Level 10 to Level 9. Also, there was relatively little difference in compression ratios stepping down from Level 9 in the older software. With DPP 2.1, each step down the scale reduces file size by approximately 40 percent, so there's a much greater degree of flexibility to work with.

**I have a problem when using my EOS 20D at high ISO (1600 and 3200) with sporadic white balance and exposures. I manually set exposures, preset white balance and sometimes even use manual focus (as an example at a recent gymnastics meet), but I am getting exposures and white balance all over the place when shooting several exposures in a row. This happens with all my lenses and with both of my 20D's. Any suggestions?**

When you shoot under discontinuous spectrum lighting (such as fluorescent and mercury vapor, etc.), the light pulses on and off at 60 Hz. The human eye compensates for this, but still cameras do not. Color temperature changes drastically over the course of each pulse, and fast shutter speeds only pick up one portion of each lighting cycle. Net result: some shots will look OK for color, while others will look very yellow or green, depending on the spectral characteristics of the light source. In some cases, you may even see a form of banding that shows different colors in the same image.

One way to minimize or eliminate the problem is to shoot at slower shutter speeds, so that the number of lighting cycles captured in the image increases. Another solution is to use flash to replace the available light. But other than converting the images to black and white, there's no way I know of to eliminate the color issues of discontinuous spectrum lighting if your shutter speed is set too high.

**I am the owner of a Canon EOS 20D. I also happen to have the new Apple MacBook Pro with an Intel Core Duo inside. I have been unable to accomplish tethered shooting with Canon's myriad of confusing software. Every application I've tried merely hangs when launching with a connected camera (spinning beach ball mode). I have been unable to find any information about why this happens or how to rectify it. I'd really appreciate it if you could provide some insight into this mystery.**

The solution to your problem may lie with the 20D's "Communication" setting. You'll find this setting on the camera's LCD menu screen. When Communication is set for "PTP," which is the default, the camera can be recognized by Apple software such as Image Capture and iPhoto, as long as the Preferences for those programs are properly set. But if you want to use Canon software, the Communication has to be set for "Normal." This is spelled out in the software instructions, but it's easy to miss. If you continue to experience connection problems after making this change (and if you are a USA resident), I would suggest calling Canon USA's Customer Support Center at 1-800-828-4040 for further assistance. They are currently open from 8 a.m. to 12 midnight Eastern USA time), Monday through Friday, and 10 a.m. to 8 p.m. on Saturdays, excluding holidays.

Incidentally, if you haven't done so already, I would suggest updating your Canon software to the latest versions for maximum compatibility with Mac OS X

including 10.4.6. Go to the Support Index page for EOS 20D on Canon USA's Web site:

Canon USA Support Index

...and click on the Drivers/Software link. Follow the prompts from there. The latest versions for 20D are:

DPP 2.1.1

EOS Utility 1.0

ImageBrowser 5.6.1a

You don't need anything earlier than these updaters. Be sure to read the download pages for information on which software must be installed on your system before these updaters can be installed.

**The new version of the EF85mm f/1.2L USM lens has come out, and I have been able to "play" with it. I have also used the older version of this lens, so I can comfortably comment on both lenses and their differences. Two things strike me as strange about the newer lens. Why was the filter thread not increased to 77mm, seeing as 80 percent of L lenses use this filter thread? Secondly why wasn't the weather seal ring around the bayonet mount included, unlike other recent L lenses? Either of these two changes might have mitigated in part the \$600 price increase for a slightly faster USM motor, and a bit of lens coating on the rear element. Whereas in other areas Canon is quite radical and forward-looking, in this lens re-release, they have kept as close to the original recipe as possible. Why? I realize these are not really technical questions, but rather marketing issues at stake, but your input on the reasoning behind this lens release and Canon's philosophy in general would be appreciated.**

The designers of the EF85mm f/1.2L II USM started out under the condition that the optical formula of the lens was not going to be changed. (The image quality of this formula is exceptional. Not only was there no need to change it, it's likely we would have had a revolt on our hands if we did.) This in turn led to the decision to use the original mechanical components of the lens to the greatest possible extent, in order to control manufacturing costs and ultimately, retail pricing. Had the lens been redesigned with a larger filter mount and/or a rubber gasket at the mount, it would have involved additional retooling, which would have increased the price even further. (Retooling the mechanical components of a precision, limited-production camera lens is no trivial matter in terms of cost.)

I would further argue that the improvements Canon made in this lens are far more significant than you seem to imply. The focusing speed (auto and manual)

of the lens was increased 1.8x compared to the original version. The improved lens coatings are far more extensive than just the rear element, and they significantly reduce ghosting in backlit situations when the lens is used with digital SLRs. The shape of the diaphragm blades was made more circular to improve bokeh at wide apertures. To summarize, we changed what needed to be changed, without compromising optical or mechanical performance. For what it's worth, the overall market reaction to this lens has been overwhelmingly positive, and sales are brisk.

**Do you have any recommendations for top-notch repair centers for F-1n and F-1 products?**

Canon no longer offers repair service for FD system cameras like the F-1, so at this point your best bet is to work with an independently owned and operated Canon Authorized Service Facility (ASF). If you are a USA resident, Canon USA provides ASF information through its toll-free Customer Support Center at 1-800-828-4040. The lines are open Monday-Friday from 8 a.m. to 12 midnight EST, and Saturdays from 10 a.m. to 8 p.m., excluding holidays.

**Are we very likely to see a firmware upgrade to the EOS-1D Mark II that would allow the camera to see and recognize a 4GB SD card? I can't help but think that with the falling price of these cards, I'm not the only one to have requested this. What do you think? Will it happen?**

I've already commented on this topic in an earlier edition of *Tech Tips*. The gist of the information was that as of January 2006, the SD Card Organization had not yet ratified a standard for SD cards with capacities higher than 2GB. They issued a press release confirming that fact, and announcing that they were working on a new standard to be called SDHC, for "SD High Capacity." The good news is that the SDHC standard has finally been ratified, and we are expecting firmware updates for all Mark II EOS digital SLRs over the next few months. The potentially bad news is that at least some of the currently available 4GB SD cards may not meet SDHC standards. If you have any questions on this, I would suggest that you contact the card manufacturer or distributor.

**Is it possible to enlarge the eyepiece on the Canon 1DsMkII? I notice the eyepiece is smaller than the one on my Canon 1V, and much smaller than the eyepiece on my 30-year-old Olympus OM 10. The files produced by the camera are terrific, but using the viewfinder is not as enjoyable as with my older cameras.**

The physical size of the viewfinder eyepiece is the same on an EOS-1Ds Mark II as it is on an EOS-1V, so you must be referring to the finder magnification, which is the apparent size of the viewfinder image. The finder magnification of the 1Ds Mark II at 0.70x is quite similar to the EOS-1V at 0.72x, but you are right that the image seen through the 1V's viewfinder is slightly larger. Older cameras like the

OM-10 and indeed earlier Canon 35mm SLRs like the FTb from the 1970s had finder magnifications closer to 0.85x, which is considerably higher than today's digital SLRs. Perhaps the biggest reason why the current cameras don't magnify the viewfinder image as much as the older models is to make it easier for eyeglass wearers to see the entire image at once without having to mash their faces into the rear of the camera. EOS users desiring higher magnification of the focusing screen for manual focusing can use the optional Angle Finder C, which provides a built-in magnifying lens and dioptic adjustment.

**I am writing regarding the parfocal property of Canon lenses. I have read on many forums that the EF24-70mm f/2.8L lens is supposed to be parfocal (including a list of parfocal lenses that you or someone posing as you wrote). My 17-40 and 70-200 are both parfocal and I find this property to be extremely useful. My 24-70 is not remotely close to parfocal (which I noticed since purchasing it). I would like to get it fixed, but I called Factory Service in Irvine and they indicated to me that they couldn't find in any documentation that the lens is parfocal. They indicated that if I were to send the lens for repair, they would test it for factory specifications, most likely find nothing wrong with the lens, and mail it back to me. Is there anything I can do short of selling the lens in order to buy a new one?**

I included the EF24-70mm f/2.8L USM on a list of EF zoom lenses that in my experience are parfocal. However, there is more to the story with this particular lens. It turns out that while the lens itself is reasonably if not perfectly parfocal, it is very difficult to calibrate for autofocus over the entire zoom range. There's no way to diagnose the issue properly without having the equipment examined by a Canon Factory Service Center technician, but you can do some troubleshooting on your own:

1. Use a tripod and a cable release or self-timer.
2. Set the camera at ISO 100 and One-Shot AF.
3. Use a flat target with plenty of detail. (Do not use an angled chart.) Make sure the camera is parallel to the target.
4. Position the camera about 6 to 10 feet from the target.
5. Set Custom Function 4-1 so that the AE lock button only operates AF.
6. Set Custom Function 12-1 for mirror lock.
7. Use the Standard Picture Style setting.
8. Use manual exposure or aperture-priority (with exposure compensation if necessary) to get an accurate exposure at f/2.8.

9. Manually select the center focusing point and make sure that Custom Function 17 is set to 0.

10. Perform the test in lighting conditions that are at least as bright as office lighting.

11. Zoom in to 70mm, autofocus and shoot. The self-timer is a good method to reduce potential vibration, since it automatically provides a 2-second mirror lock prior to the exposure when CF12 is on.

12. Check your results on a computer at 100 percent magnification. If the photo is sharp, the camera's AF system is functioning properly.

If the test photo is not sharp, then send in your camera and lens with a sample image and an explanation of your testing method.

Assuming the test photo is sharp, then continue testing as follows:

13. If necessary, refocus using the AF system at 70mm.

14. Zoom the lens to 24mm.

15. Take another test shot without refocusing. (IMPORTANT). The camera will not refocus as long as you followed Step 5 above.

16. Take yet another test shot after refocusing with the camera's AF system.

17. Examine the results at 100 percent magnification.

If the test photo taken at step 15 is sharper than the test photo taken at step 16, it is a clear indication that the lens needs to be calibrated for autofocus by the Canon Factory Service Center.

**I was wondering if you could comment on a 1DmkII phenomenon I was made aware of recently. This is a case where the 1DmkII or 1DmkIIN seems to switch to center-weighted metering mode whenever a flash is mounted and turned on, regardless of which metering mode the 1D was initially set to. For example, let's assume that the camera is in Manual mode (this happens in the other creative modes, too, but is easier to see in M mode) with metering set to spot mode. Let's also assume that we want to take a picture of a white poster board with a black lens cap in the center of the board. Zoom the lens so that the black lens cap completely fills the center spot metering circle and adjust the shutter and aperture so that the meter "needle" is at "0." Now, mount a flash set to E TTL mode but do not turn it on yet. (Note: If the shutter speed that was set on the camera is above sync speed, make sure to set the flash to HSS mode, too.) After mounting the**

**flash, observe the exposure meter through the viewfinder. It should still be at 0. Now, while looking at the exposure meter, turn on the flash. You should see the exposure needle drop about 1 1/3 stops. Turn the flash off and the needle goes back to 0. Similar observations can be made for the other ambient metering modes except for CWA. I have tried this on my 10D and 30D and they do not exhibit this behavior; only the 1DmkII does. Thanks for taking the time to read this and looking into it for me.**

In the case of the 5D and all EOS digitals other than the 1 series, ambient metering with dedicated flash is done in the pattern selected by the user. In the case of the 1 series, ambient metering with dedicated flash is done in Evaluative as if the center focusing point were selected (similar but not the same as center weighted average) regardless of the pattern selected by the user. Exposure compensation set by the camera when the flash ready light is on is a separate issue, and like the situation outlined above, one that Canon Inc. elects not to discuss in detail. Under the circumstances, I suggest that photographers familiarize themselves with the way their particular equipment combination handles these issues and select the exposure settings they prefer based on their own testing and preferences.

**Will Canon update the firmware on the 1D Mark II N to include the improved Auto Rotate feature that is found on the 30D? I would argue that this is a much-needed timesaving feature for the 1 series.**

Canon U.S.A. has forwarded this request to Canon Inc. for consideration. Thanks for the suggestion!

**I am the owner of a Nikon LS-1000 35mm Film Scanner (SCSI connector) and I have been unable to use it with my new desk computer. Do you know if there is any way to connect the scan properly to the computer? Please tell me if there is a way and the name of the cable, connector, etc.**

The LS-1000 scanner is supported on the Nikon USA Web site at the following URL:

[Nikon Support](#)

SCSI interfaces are not usually built into current personal computers, but there are various SCSI-to-USB and SCSI-to-IEEE1394 adapters available on the market. I would recommend that you try contacting Nikon Technical Support in your country or region to determine if any of these adapters have been tested or approved for use with the LS-1000. You might also want to check the URL above to see if the current version of Nikon Scan software is newer than the version you have been using so far.

**I'm curious if switching lenses while the camera is still on has any potential downsides, other than the obvious loss of everything in the buffer. I'm particularly concerned whether leaving the camera on increases the likelihood that dust might be attracted into the camera, or if there are any detrimental effects on image stabilized lenses. I'd also appreciate any additional insight you can provide on why leaving the camera turned on might be a bad idea, or why it really doesn't matter.**

I'm not sure where you got the idea that switching lenses would clear an EOS digital SLR's buffer memory while the camera is writing to a memory card, because it doesn't. On your second question, it's always possible for dust to enter the camera when changing lenses, but whether the camera is on or off during this operation makes no difference. On your third question, no detrimental effects are caused by changing an image stabilizer lens while the camera is on. I've covered the pros and cons of leaving an EOS digital SLR switched on in terms of power consumption in the September 2005 column of *Tech Tips*, available here:

<http://www.digitaljournalist.org/issue0509/westfall.html>

Other than these issues, the main concern about leaving a camera turned on is the possibility of unintentional shutter release that may occur if the equipment is stored in a gadget bag or other location where the shutter button might be pressed inadvertently.

**I have an EF16-35mm f/2.8L lens that displays very poor sharpness wide open in the corners, all the way to about 1/3 of the way to the center of the photograph. I have access to six more of these lenses, and all are alike in this poor sharpness regard. A friend had the same complaint, and sent his lens into Canon Factory Service for calibration. He claims it is now much better. So my question is--is he right? In fact, he ended sending every single one of his lenses in and claims they all came back significantly improved after Canon calibrated them. My question then continues to why these lenses should need calibration, even when new (why aren't L lenses, at such steep prices, completely calibrated before shipping)? And what exactly is done to them during calibration? Should I send in my lenses as well?**

The EF16-35mm f/2.8L USM lens is certainly capable of producing professional image quality from corner to corner on any EOS SLR, including Canon's high-performance EOS-1Ds Mark II and EOS 5D full-frame models, as long as the lens is performing according to its design specifications. That doesn't necessarily mean that you're always going to see tack-sharp detail in the extreme corners of the frame when the lens is used at maximum aperture, but your expectations are simply too high if that's what you're looking for. If maximum sharpness is the goal, then I'd suggest placing the camera on a tripod and using a moderate

aperture like f/5.6 or f/8. By the way, this recommendation applies to most other SLR lenses as well. I am not singling out the EF16-35mm lens.

Autofocus calibration is a separate issue from the overall sharpness of the lens, and it is a topic that I have addressed several times in this column. You may want to check the archives to read all of my comments on the subject, but as a brief summary, Canon calibrates SLR cameras and interchangeable lenses individually according to the tolerances for each component. All equipment is calibrated before it leaves the factory, but inevitably a small percentage of equipment requires further adjustment at our Factory Service Centers. Last month's column provided a detailed testing procedure to help customers determine if their EF24-70mm lenses require calibration, but the same test can be used on other lenses including the EF16-35mm f/2.8L USM.

**The EOS 5D could use a lock-out for the self-timer drive mode, or move the self-timer mode to the menu. I have inadvertently activated the self-timer mode during wedding shoots when fumbling through ISO settings, etc., on the top of the 5D. Just a thought.**

Thanks very much for the feedback! Just as an FYI, this is one of the features we offer on the EOS-1-class cameras via Personal Function control.

**I recently had an assignment that required me to photograph at 1600 ISO using my Canon EOS-1Ds Mark II and EOS-1D Mark II N. I had to photograph a dance performance and stop motion on a low-lit set. At 1600, my exposures ranged from 1/250 to 1/500 at f/2.8. The problem I encountered was that in the black shadow area when I blew up the images I saw a number of blue dots. I tried using Noise Ninja to correct the problem but it only made it worse. Can you tell me what caused this and is there a solution to the problem?**

Without seeing the images, it sounds like you found some digital noise in the shadow areas of your photos. Although the EOS-1Ds Mark II and EOS-1D Mark II N produce exceptionally low noise at ISO 1600 compared to most other digital SLRs, there is undeniably some noise in the images at this speed setting. You might not be able to get rid of it entirely, but the best technique to minimize its effects is to make sure that your overall exposure is correct. The camera's histogram is a good tool that you can use on set to make sure that your exposures are OK. Then, assuming a reasonably well-exposed subject, you can adjust the contrast of your image during post-processing in your computer to darken the shadow areas rather than lightening them. This technique is very effective at minimizing noise. Canon provides Digital Photo Professional software that makes it easy to adjust your RAW, TIFF and JPEG images, and there is a brand new online tutorial that you may find helpful:

<http://photoworkshop.com/canon/dpp2/index.html>

**Do you know if I can get the EOS utility to recognize my new Sandisk CF card reader, so it makes it easier to transfer my RAW images? Also if I can get the EOS utility to autostart when I plug in a new CF card, the way that it starts when I plug in my EOS 5D? Thanks.**

The current version of EOS Utility is only compatible with EOS digital SLRs. It cannot be used with a card reader. But our other software, including Digital Photo Professional, ZoomBrowser EX and ImageBrowser, is compatible with most card readers, and typically allows direct import of RAW images into these programs.

**I'm sure you've heard of the problems people are reporting with the Speedlite Transmitter ST-E2 on EOS 5Ds. I have a 5D and saw a need for the ST-E2 to work with my 580EX Speedlites, but don't want to purchase till the problem is fixed. Do you have any information on this?**

Canon Inc. has acknowledged the issue and is working on a firmware update to resolve it. According to the most recent information, the new EOS 5D firmware is scheduled to be posted on the Web in early July here:

<http://web.canon.jp/Imaging/BeBit-e.html>

**I was wondering if you could shed some light on a result I have been getting on my EOS-1D Mark II N. When shooting in raw file format I am getting very grainy results on my images. When testing using the same lighting, same shutter, F-stops and ISO settings, in both raw and large jpeg. The results show the raw images are very grainy compared to the large jpeg images. I am using Adobe Camera Raw conversion software. I would like to know if you have any reasons for this problem.**

Without having access to the original files, I suspect that the difference in 'graininess' between the images converted from the raw file and the images shot as in-camera JPEGs is mostly due to the settings you used in your RAW conversion software. The Adobe Camera Raw software is very fast, but at its default settings, it tends to produce more noise in the conversions than it does when you use its optional noise reduction capabilities. Also, it looks like the exposure is a little bit under on some of your images, and this will accentuate noise when you correct for it during post-processing. I don't think there's anything wrong with the camera itself based on these images. If you want to shoot in raw mode at high ISOs (and there's certainly nothing wrong with that idea), then you need to investigate the noise reduction features of your raw conversion software in order to get the best results. Incidentally, the current version of Canon's DPP software also offers noise reduction settings for high ISO speed RAW images.

**DPP currently strips all IPTC data from the image, forcing me to retype all the info. Any plans for an update that will support IPTC?**

I can't comment on Canon's future plans, but we are working on various ways to improve our digital imaging software. One problem with IPTC metadata is that it is not an international standard. (There's a different metadata standard called NSK in Japan, for example), so adding support for IPTC without adding support for various alternatives wouldn't fly very well with customers outside North America.

On the positive side, IPTC metadata is gaining more support here because of its benefits for archiving. Whereas IPTC metadata was originally designed for use by newspapers, it is now becoming attractive to a far wider group of users. Typically, users who wish to add IPTC metadata to EOS images use a third-party software application such as Photo Mechanic from Camera Bits, BreezeBrowser from Breeze Systems, or Pocket Phojo from Idruna Software.

For more information on Photo Mechanic, visit the Camera Bits Web site here:

<http://www.camerabits.com/index.html>

For more information on BreezeBrowser, visit the Breeze Systems Web site here:

<http://www.breezesys.com/BreezeBrowser/index.htm>

For more information on Pocket Phojo, visit the Idruna Software Web site here:

<http://www.idruna.com/pocketphojo.html>

Another option for using IPTC metadata with EOS images involves converting them to the Adobe DNG format. DNG has robust support for IPTC metadata via Adobe's XMP Extensible Metadata Platform. For more information, visit the following Web site:

<http://www.oreilly.com/catalog/dambk/>

Peter Krogh's book does a superb job of explaining the features, benefits and usage of the DNG format, with a lot of information on IPTC.

Hope this helps!

**I have noticed in lots of RAW image converter programs that if you assign 2800 degrees Kelvin to any normally color balanced picture it becomes blue, whereas per our info 2650K is for household lamps, and when you assign 10000K, the image becomes yellow. Will you please explain what is the logic behind this method...Anyway thanks for your fantastic column**

**and let me also congratulate Canon for serving the photographic community so well and for so many years...**

Thanks for the kind words! When you dial in a color temperature value on your digital SLR, you are telling the camera what's neutral for the lighting conditions at hand. Therefore, if the actual color temperature of the scene is higher than the dialed-in value, the resulting image will have a cooler white balance, and vice versa. Think of it this way: If you had a color film that was balanced for tungsten illumination, and you shot a photo without a filter in daylight or with flash, the resulting image would be very blue in tone because the color temperature of the scene was much higher than the color temperature rating of the film. Or, in your example, if you dialed in 10,000K but the actual color temperature of the scene was only 2,650K, the resulting image would be very warm or yellow because the scene is warmer than the color temperature you selected.

**I am getting acquainted with my new Canon EOS-1Ds Mark II, but have encountered one technical problem. On my PC running Windows XP, my camera is recognized by the Windows Scanner and Camera Wizard, by ACDSee Pro, and by Photoshop CS2. It is, however, NOT recognized by the EOS Viewer Utility V.1.2.1 or by Digital Photo Professional. I've read all the reference books and played with all the possible adjustments, but can't understand this. Also, the personal functions can only be set with the viewer utility, not in camera, so I am unable to accomplish this.**

EOS Viewer Utility 1.2.1 must be paired with EOS Capture 1.5 in order to support the EOS-1Ds Mark II for tethered shooting, but both of these applications have been replaced by the combination of EOS Utility 1.0 and ZoomBrowser EX 5.6 and/or Digital Photo Professional 2.1 on the Windows platform. You can't mix and match the older software with the newer applications. (I'm not saying you did, but you haven't provided enough information to rule it out.)

The fact that your other applications are recognizing your camera gives me hope that your WIA driver installation is not corrupted, but as a last resort it may be necessary to uninstall and reinstall the WIA driver on your system. Before you take that step, I would suggest that you install EOS Utility 1.0 together with ZoomBrowser EX 5.6 and/or Digital Photo Professional 2.1. If tethered shooting is important for you, you'll be happier with DPP 2.1 because it can be set to display a larger image. Here are some tips:

1. Before connecting the camera, launch EOS Utility and set up your Preferences. In "basic settings," be sure to check the box that automatically launches EOS Utility when a camera is connected, and decide whether you want to have the program display the remote shooting screen immediately. Other items to set include the choices for "linked software" and "destination folder." You can also set up file naming and numbering at this time.

2. If you decide to link EOS Utility to DPP, launch DPP and set its Preferences. Locate the bottom of the General Settings tab and decide if you want to have DPP display the Edit image window during remote shooting with EOS Utility. If you do, you'll get a much larger image that refreshes each time you capture a new photo.

3. Once the Preferences are set for both programs, close them and connect the camera. This will automatically launch EOS Utility and get you into the Remote Shooting screen. Use EOS Utility's Preferences window to switch destination folders as you see fit.

Instruction manuals for EOS Utility, ZoomBrowser EX 5.6 and DPP 2.1 are available on our Web site when you download the software. Be sure to have EOS Viewer Utility installed on your system before you begin, because the downloads are updaters versions that look for an eligible installed application prior to installation.

Hope this helps! If you need further assistance, I would suggest contacting our Customer Support Center at 1-800-828-4040.

**I have a Gossen light meter that I use on occasion but I'm sure that I'm NOT using it to the fullest of its abilities, especially regarding the determination of highlight/shadow ratios, etc. Can you provide any links to discussions or articles that give details on just what can REALLY be accomplished with a decent light meter beyond the trite "x" aperture at "y" shutter?**

Here are a few online resources that should be helpful to you:

<http://www.danheller.com/tech-metering.html>

<http://www.photozone.de/4Technique/metering.htm>

<http://www.kodak.com/cluster/global/en/consumer/products/techInfo/af9/index.shtml>

In addition to these articles, you can also tap into the expertise of many experienced photographers by joining or searching through an online forum, such as:

<http://www.photo.net/>

<http://www.openphotographyforums.com/>

There are many other resources, including Jim Zuckerman's book entitled "*Perfect Exposure*," which may be available through your local public library or bookstore. Thanks for reading *Tech Tips*!

I recently upgraded from a Digital Rebel XT to the EOS 5D. My general purpose lens is an EF24-70mm f/2.8L USM which is a good range on the XT with 1.6x crop factor, but a little short for the 5D at full frame. It looks like the new Canon EF24-105mm f/4L IS would be Canon's best offering, but I don't understand the logic of IS over a faster lens. Is it possible for Canon to make an EF24-105mm f/2.8L? The advantage of IS is that you can shoot at slower shutter speeds, but that isn't usually optimal since subjects move.

Increasing the maximum aperture of a professional-quality 24-105mm zoom lens from f/4 to f/2.8 would increase the size, weight and cost of such a lens substantially. The Image Stabilizer function of the EF24-105mm f/4L IS USM helps to mitigate those factors by allowing hand-held photography up to three full shutter speed steps lower than the nominal hand-held limit of 1/focal length. It's not a perfect solution, but it's arguably more practical than a 24-105/2.8 zoom lens for many photographers, in terms of budget as well as portability and ease of use.

**In the July issue of *Tech Tips* you posted the following letter from someone:**

*"I recently had an assignment that required me to photograph at 1600 ISO using my Canon EOS-1Ds Mark II and EOS-1D Mark II N. I had to photograph a dance performance and stop motion on a low-lit set. At 1600, my exposures ranged from 1/250 to 1/500 at f/2.8. The problem I encountered was that in the black shadow area when I blew up the images I saw a number of blue dots. I tried using Noise Ninja to correct the problem but it only made it worse. Can you tell me what caused this and is there a solution to the problem?"*

**You answered saying that it was probably "noise"; however, I have run into the same issue with my 1D Mark II during high ISO (800-3200) in low-light situations and through my research have concluded these are "hot pixels" caused from charged pixels on the sensor. This does not always happen and was most pronounced during one wedding I shot last September. Since it has not happened since I am left to wondering what on earth caused it for this particular shoot. Are hot pixels something that Canon repair can address if I send the body in?**

Thanks for bringing that up! Hot pixels are definitely another possibility for this phenomenon. They can be caused by any number of things, including, believe it or not, cosmic particles emitted by the sun. They tend to show up more frequently in time exposures, and they are more visible in dark areas of an image. There is really no way to prevent them from happening, but there are several ways to keep them out of your processed images. One of the best ways I've found is to use the 'Copy Stamp' function of Canon's Digital Photo Professional (DPP) software. This is essentially a cloning technique, but it's very powerful because it can be applied to multiple images very quickly.

**Got the 5D and love it. Question: Long exposure noise reduction. Is there any reason to ever turn this off? It's an option so there's got to be a reason but you got me! Also, I assume this does not affect RAW files?**

For most EOS 5D users, it makes sense to leave the camera's long exposure noise reduction function turned on all the time. The main reason why we offer the ability to turn this feature off has to do with the amount of time it can take for the camera to process the noise reduction algorithm between frames. Fortunately, this only becomes a factor at ISO 1600 and 3200, which are sensitivity settings that many users would never select for time exposures. However, when the 5D is set for these ISO speeds and the long exposure noise reduction function is on, the camera requires an interval equal in length to the original exposure in order to process the noise reduction data for exposures lasting 1 second or longer. Turning off long exposure noise reduction under these conditions allows the photographer to eliminate the delay between frames that would ordinarily occur.

**I shoot with an EOS 20D and an EOS 5D. The 20D is set to Parameter 2. Which picture style setting do I set so that the 5D images look the same as the 20D? I have noticed in my outdoor portraits with the 5D I get excessive green tones in the shadow areas that I don't get with the 20D. Any advice would be greatly appreciated.**

The closest match for the EOS 20D's Parameter 2 on the EOS 5D would be the "Neutral" Picture Style.

**A** criticism of Canon digital SLRs for a long time, and in fact DSLRs from a number of manufacturers, is the lack of a permanent place on the top LCD, and more importantly in the viewfinder, to display the active ISO speed. One of the most wonderful things about shooting digital is the ability to change ISO on the fly. Unfortunately, being a human being, I sometimes forget to dial down a high ISO setting after using it, and end up shooting a series of shots at an ISO I didn't intend to use. I know that this is a feature of the more expensive 1-series cameras, but this should be a standard feature of all DSLRs. Do you agree?

Thanks for expressing your opinion. I'll be happy to pass it along to Canon Inc. for consideration towards future EOS Digital SLRs. I can certainly agree that the ability to change ISO from shot to shot is a tremendous feature of digital cameras in general. Full-time display of ISO settings in the viewfinder data display would be welcome for many SLR users, and as you say, it's currently available in the EOS-1 series. It's also available on demand with the 5D and 30D. The ISO value remains visible in the viewfinder while it's being adjusted, which is very helpful. If enough of our customers make it known that they wish full-time display of ISO speed to be a standard feature for all Canon SLRs, I'm sure that Canon will consider it.

**I recently discovered the benefit of switching DPP's preferences for tone curve mode to Luminance instead of RGB. But I was wondering why a lot of the photos still show the RGB Tone curve in the edit window rather than the selected preference of Luminance.**

One thing that could cause a problem of this type is making a set of initial adjustments in RGB mode, then resetting DPP's preferences to Luminance. You can't have both kinds of adjustments in the same Recipe. If you want to edit your images in DPP's Luminance mode, it's important to make sure that any previous RGB edits have been deleted. Also, switching the Tone Curve Tool mode from RGB to Luminance or vice versa is one of the few preferences in DPP that require you to shut the application down and restart before it takes effect. Please try these tips and let me know if there are any other questions. Incidentally, I just leave DPP in Luminance mode all the time, because there are some huge benefits to doing image corrections this way.

**I'm an EOS 20D owner and heard something about Canon lenses: picture sharpness varies according to the aperture setting. If it's true, what is the sharpest aperture to use on my EF70-200mm f/2.8L lens? By the way, I already apply unsharp mask in Photoshop (a trick I learned from your column) and the sharpness setting in my 20D is already at its highest level.**

You're going to find that most if not all EF lenses are at their best in terms of sharpness when used about 2 to 4 f/stops smaller than their maximum aperture. In the case of the EF70-200mm f/2.8L IS USM, that would be from approximately f/5.6 to f/11. However, it's important to note that L-series lenses like the EF70-200mm f/2.8L IS USM produce tack-sharp image quality even when they're used wide open. The improvements you get by stopping down can be seen on close inspection, but they're often subtle. It's more likely that images of real-life 3D subjects will look sharper at mid-range apertures simply because there is more depth of field than when you shoot wide open. Bottom line, I wouldn't obsess over using the sharpest possible aperture on any of your L-series lenses, if I were you.

**My son has just persuaded me to buy an EOS 5D to replace my aging Pentax SF7. A large part of the photography I do is macro work at night. On the Pentax I used up to three extension tubes with an off-camera flash to get perfect results. The Canon literature says never to use more than one tube with a lens ... Is that true and, if so, why? Also, what is the reason Canon recommends not using AF when a tube is fitted? I had been hoping the Canon tubes would drive Canon lenses and so automate focusing in difficult conditions.**

The main reason why Canon advises users not to stack extension tubes or other coupled lens accessories like extenders is the possibility that the camera's shutter may not release. Each extra accessory increases the level of electrical

resistance. But, you are welcome to try; many users have reported successful results using two or three coupled extension tubes.

Autofocus performance with extension tubes is a separate issue. Assuming no problems with shutter release, there is still the possibility that the effective maximum aperture of your coupled lens with one or more extension tubes may become smaller than  $f/5.6$ , which is the limit for the EOS 5D. If so, the camera's AF system may not be getting enough information to determine an accurate focus. Additionally, extreme close-up photography results in extremely shallow depth-of-field. Even if the subject matter is reasonably contrasty and the effective maximum aperture isn't an issue, the focusing motor in the lens might be driven so fast that the AF sensors can't recognize the subject. This is not to say that AF with extension tubes is impossible, but it's important to realize that the odds are stacked against it. Manual focus is often the only practical option, even when autofocus is technically available. Under such circumstances, you may find that focusing manually while pressing the shutter button halfway allows the circular green LED in-focus indicator in the camera's viewfinder data display to function as an effective focusing aid.

**I have a question about the real world performance of Canon image stabilizer lenses. The EF28-300mm f/3.5-5.6L IS USM would really suit my needs of traveling light, i.e., with as few pieces of equipment as possible, but yet be ready for any situation. After all, one EF28-300 IS doesn't weigh more than carrying a 24-105 and a 70-300 DO. What does concern me, before I invest, is hand-holding 1.6 kilos and getting a really sharp shot. At 300mm, three stops less means shots at about 1/40 sec. At 28mm, three stops less means about 1/4 sec. At 300mm with the EF28-300 IS, the length and weight are similar to any 300mm, but at 28mm the 1.6 kilos and 18cm is an awful lot. Therefore, in the real world, with a zoom with IS, is the real hand-held limit at 28mm actually the same as at 300mm, i.e., 1/40 sec.? The question really applies to all zoom IS lenses; i.e., is the IS hand-held limit at any zoom length actually the same as that at max telephoto because of the extra weight/length of a zoom?**

Thanks for the good question! After rechecking my sample of the EF28-300mm L IS lens against my sample of the EF24-105mm L IS, I feel reasonably comfortable in telling you that it is definitely possible to get a full three steps of shutter speed correction throughout the focal length range of either lens during hand-held photography. For best results, it is important to activate the image stabilizer for at least 0.5 second before taking a photo. Also, you'll find that the percentage of sharp photos will improve if you practice good camera handling techniques, like gripping the camera body firmly (but not clenching it) with your right hand, supporting the lens from the bottom with your left hand, and keeping your elbows close to your body and your feet in a comfortable position while composing and shooting. Try to brace yourself against a wall, a tree trunk, or other similar support if possible.

Lighter and smaller lenses like the EF24-105mm L IS and EF70-300mm DO IS are clearly easier to handle than the EF28-300mm L IS lens, but the trade-off in favor of the EF28-300mm zoom is the convenience of using and carrying only one lens instead of two. Choosing between these alternatives is largely a matter of personal taste, but based on real world tests, differences in IS performance are insignificant.

**I do a lot of nighttime and low-light shooting, and tend to refrain from using flash as much as possible. Obviously this requires a very steady hand (and subject!) and also the use of Image Stabilization. Many Canon lenses come with this, but I notice that they all seem to be either zooms or telephotos. There are no ultra wide-angle IS lenses. What is the technical barrier, if any, to putting an IS mechanism into the 16-35 2.8L, for example, or the 15mm fisheye?**

Here's the barrier: Optical image stabilization requires additional, specialized lens elements in order to compensate for the movement that occurs during image stabilizer operation. For instance, the EF70-200mm f/2.8L IS USM has 23 elements in 18 groups, versus 18 elements in 15 groups for the EF70-200mm f/2.8L USM. The EF300mm f/2.8L IS USM has 17 elements in 13 groups, versus 10 elements in eight groups for the EF300mm f/2.8L USM. Other non-IS lenses like the EF15mm f/2.8 Fisheye and the EF16-35mm f/2.8L USM would have to be redesigned with more elements in order to incorporate optical image stabilization. There's no technical reason why this couldn't be done, but frankly, other lens requests have had higher priority so far. Canon pioneered the concept of image stabilization for SLR lenses starting in 1995 with the EF75-300mm IS lens, and we are still the market leaders with 16 IS lenses in our current line-up. Moreover, we are firm believers in the superiority of lens-based image stabilization versus body-based stabilization in terms of performance, so chances are good that you will see more IS lenses from Canon over time.

**My EOS-1Ds Mark II delivers great images but how do I size them for the best display on a 50-inch HD Plasma using a progressive scan DVD player? Of course I wish to fill the appropriate amount of the display with the optimized image. Should I resize in Photoshop and reduce the PPI from 360 to a lower number?**

The best way to display images from an EOS digital SLR on your HD plasma screen in terms of image quality is via direct computer input if your display accepts it. For example, most if not all of the current Panasonic and Pioneer HD plasma sets have a 15-pin socket that connects to the external monitor port of a Windows or Macintosh personal computer. If you use this connection, your computer most likely will be able to resize your images automatically, depending on the software you use to display them. For instance, the Canon ZoomBrowser EX (for Windows) and ImageBrowser (for Mac OS X) software that was supplied with the EOS-1Ds Mark II has a slide show function that works very well for this

purpose. You could go through the effort of making downsized copies of your high-res originals to match the native resolution of your HD plasma set, but using slide show software on your PC should allow you to bypass that step.

If you use a standard definition DVD player (even a progressive scan version) for input, you will first need to create DVDs that your player can handle. This involves producing downsized JPEG versions of your original images, which are then imported to an authoring program on your computer and eventually burned to DVD. The problem with this approach is that the clarity of your images will be degraded somewhat by the relatively low resolution of the standard definition video format. You could get a sharper image on screen by using one of the latest Blu-Ray or HD-DVD high definition video systems, but you may find that producing compatible DVDs for these new formats is problematic.

PS: An even better way to display high resolution images from an EOS digital SLR instead of an HD plasma screen is to use a Canon REALIS projector with computer input. This method provides better detail and more accurate color than any other non-printed alternative, and it has the further benefit of being able to vary the dimensions of the displayed images according to the size of the screen. For more information, please visit [this web site](#).

**When using my EOS-1D Mark II N in Av mode with AI Servo I seem to get exposure differences between shots in rapid fire mode (8 fps). I typically use Av mode for shooting soccer using Custom Function 4-3, as the lighting changes across the field. The exposure problem is fairly consistent with the first shot exposed properly and the second shot under exposed by an increase of shutter speed. This happens a lot and it is always the same with the first shot being properly exposed. I have seen this literally hundreds of times.**

For this type of photography, try using center-weighted average metering rather than evaluative. It should provide more consistency to your exposures for two reasons:

1. It's looking at a larger percentage of the picture area for its primary reading.
2. Unlike evaluative metering, it doesn't allow the camera to apply exposure compensation automatically.

When analyzing your sample images, I noticed that there was a slight change in camera angle, making me think that the camera may have been hand-held. Then I overlaid the active focusing point on both shots and noticed that it was fairly close to the kid's teeth, which are brighter than his skin. That's exactly the type of thing that evaluative metering might pick up and try to "compensate," whereas the exposure would almost certainly have remained the same for both shots had

the camera been set for center-weighted average metering for the reasons stated above.

**Thanks for the reply and your time to look at the pictures. I believe I have used CWA metering with similar results. I will need to test this the next time I'm out in the field. I took a look at the focus points after reading your message. You are correct about the pictures being hand-held. I wanted to emulate a field sports situation (monopod or hand-held). In the shot that had the proper exposure, I see that the focus point is closer to the white tooth than in the underexposed shot. Based on my understanding of the metering system, I think that the shot that has more "white" covered by the focus point would be "compensated" to underexpose picture. I'm seeing the opposite or maybe I have a misunderstanding of the metering system?**

As I mentioned, evaluative metering has the ability to execute automatic exposure compensation. This has the following consequences (at least):

1. It cannot be totally controlled by the photographer.
2. It's as likely to add exposure rather than subtract it when confronted with brighter tones.

We're not talking night-and-day differences from shot to shot with the same overall scene, but it's entirely conceivable that a series of evaluative exposures of the same scene could fluctuate by 1/3 stop, especially if there are changes in the brightness of the subject matter being analyzed. Again, center-weighted average metering eliminates automatic exposure compensation, and it is less susceptible to variations in meter readings caused by minor changes in composition with the same scene because it reads a larger area than evaluative as its main emphasis.

**I recently acquired CS2 and Adobe Bridge to manage the RAW files from my EOS-1D Mark II and II N. Bridge has a 'Batch Rename' function. I find this very convenient. In a couple of easy clicks of the mouse I can rename a whole day's work by year, month and day with sequential numbers added automatically – i.e., 20060913, 20060913 (1), 20060913 (2), etc., etc. I was wondering if am able to take this one step further and have the cameras automatically naming files by date and sequence so this extra step in Bridge isn't necessary. Not that it's that great a sacrifice, but it would be one less thing to think about and maybe something Canon might want to consider if it isn't already available.**

I appreciate the suggestion on customizing filenames in the camera body. As you may be aware, the EOS-1D Mark II N already offers this capability to a limited extent, in that the first four characters can be set on the camera by the user. However, the current file format (i.e., the file naming and directory structure format, as opposed to image recording format like JPEG or RAW) in use by all

Japanese digital camera manufacturers, which is known as DCF, strictly regulates the conventions for file naming in digital cameras. The current version of DCF requires in-camera file names to be eight characters plus a three-character suffix (no more and no less).

This is why most current downloading software, including Canon's EOS Utility as well as other independent applications, have recently been strengthened in terms of batch renaming functionality. The bottom line is, fully customizable batch renaming cannot be done in the camera unless or until the file format is changed. There are all sorts of good reasons why digital images should be renamed to facilitate cataloguing and archival storage, but I don't expect the in-camera file naming scenario to change any time soon unless or until DCF is updated.

**I spent the weekend shooting with several cameras, including my EOS 30D, at the Grand Prix of Denver. I don't know if it's the altitude and humidity, but I noticed several marks on the 30D's sensor. They look like condensation residue as opposed to dust, and won't blow off with a lens cleaning bulb. What's the best way to clean marks like these from the sensor? Is this something I can do myself, or should I take it to a photo store or Canon service center? Does Canon have a Web site that explains things like this?**

Canon's official recommendations for cleaning the image sensor (or more accurately, the low-pass filter in front of the sensor) of an EOS 30D are essentially the same as they are for other EOS digital SLRs. The suggestions are spelled out in the Instruction Manual, with language similar to this: "If the sensor needs to be cleaned directly, have it done by a Canon Service Center. However, if you want to clean the sensor yourself, follow the procedure below...." The instructions never involve touching the low-pass filter in any way.

Realistically, we understand that our customers may use commercially available sensor cleaning products. Moreover, there's no doubt in my mind that at least some of these tools can be effective and safe when used properly. But our customers must realize that Canon will not be held liable for any user-inflicted damage to the low-pass filter or other camera parts. This is why we cannot endorse cleaning tools that are designed to touch the low-pass filter.

Let me cover this controversial topic in a little more depth: Before taking any action to clean a DSLR image sensor, the first thing I would suggest is to carefully evaluate whether the spots on the low-pass filter are actually showing up in your images. If not, I'd advise you to leave well enough alone until such time that your images are significantly affected. Even when dust spots do start to show up consistently, there are various ways to automate retouching procedures in post-processing so that you can eliminate the spots in your finished images.

At some point, though, it will be best to clean the low-pass filter. Plenty of EOS Digital SLR owners have had successful results doing their own cleaning, and there's no reason why you shouldn't be able to do the same. However, it's very important to understand that any sensor cleaning you perform is done at your own risk. In other words, if you end up scratching the low-pass filter, it will void the camera's warranty. You can get a scratched filter replaced, but only at your expense. Replacement costs vary according to the camera, but the going rate to replace (for example) the EOS 30D's low pass filter is approximately \$250 including parts and labor.

If you are uncomfortable with that thought, you are welcome to have your camera's low-pass filter cleaned by Canon Factory Service or an Authorized Service Facility for a nominal fee. But I would encourage you to explore the possibility of learning how to clean the filter safely on your own. If you're successful, it will save you tons of time and money, and it will give you a lot of peace of mind. There are several effective cleaning methods, and each of them has its own group of supporters. I do not specifically recommend any single method over another, because all of them can be effective when executed properly. Thus, choosing a method becomes largely a matter of personal taste.

Here are a few options you might want to explore:

[http://www.pbase.com/copperhill/ccd\\_cleaning](http://www.pbase.com/copperhill/ccd_cleaning)

<http://www.visibledust.com/products.php>

<http://www.photosol.com/>

Hope this helps!

**I wonder if you can comment on the technical and business feasibility of making a digital camera body that has, like the lens and memory, an interchangeable image sensor and image processor? It makes sense from the consumer side, to protect the value of our camera investments.**

The concept of interchangeable image sensors and image processors sounds like a great idea in theory, but the realities of a competitive market make it highly unlikely. First of all, there's a lot more to the design of a digital camera than lenses, sensors and processors. What about things like size, weight and cost? What about improvements in the design and performance of other components like the camera body and LCD screen, etc.? Frankly, in my opinion it makes a lot more sense to give camera designers a clean slate to work with so that they can take advantage of technological developments not only in sensors and processors, but in all other areas of product development as well. History clearly shows that every significant expansion in the digital SLR market has occurred

due to the release of new products that provide better features at lower prices than previous models. Locking in on a single body design just to support the ability to upgrade internal components would almost certainly cost customers more money, while simultaneously leaving them behind the curve in terms of technological evolution.

**One of the first pro bodies I ever owned was the Canon EOS 3. I loved it quite specifically because of the Canon-exclusive Eye Controlled Focus. Not sure if I'm alone in this but, doing mostly documentary work, it was incredibly useful. Focusing became more instinctual the more I used the camera, allowing me to concentrate on the content of my work. Is Canon considering bringing Eye Controlled Focus back to any of the digital EOS bodies? Is there some technical limitation? I think that specific feature is one that photojournalists in particular would really appreciate.**

At this point, it is reasonably clear that the absence of Eye Controlled Focus (ECF) in EOS digital SLRs is a marketing decision. There is no point in ruling out the possibility that ECF may be introduced in future EOS models, but I don't expect it to appear unless a sufficient level of market demand is perceived. So far, that has not happened, but your request has been forwarded to our Product Development Center.

**It would be interesting if Canon could build a fixed focal length pocket-sized digital camera as a high-quality snapshot compliment for SLR users. Replacing the usual zoom for a higher quality "L" fixed focal length lens (say 35mm equivalent), combined with a 3:2 ratio "SLR" type sensor, would appeal to those looking for a higher image quality pocket camera at around a \$500-\$700 price point. Contax successfully did that for film users back in the '90s with the Zeiss-lensed T1/T2 series 35mm compacts. What do you think?**

A high-quality compact digital camera of the type you propose has been suggested to Canon many times over the past several years. If we ever release such a product, I am certain it would be well received by savvy photographers all around the world. That being said, I'm not so sure that sales volume would be high enough to justify the required investment, unless the market price is sufficiently affordable. This creates a dilemma: the lower the price, the less compelling the feature set for a camera that virtually by definition is not designed for the masses. However, it's still a tempting idea! Thanks for the suggestion.

**I work as a photojournalist on several newspapers in Brazil. Recently I bought a Canon EOS 30D. I know that's not what Canon recommends for this kind of photography. For sports and action in general I should have an EOS-1D Mark II N. That being said, I should tell you I'm very pleased with this camera and its possibilities. After reading October's *Tech Tips* I started wondering about LCDs and stuff. And I have to ask you this. Why doesn't**

**the 30D's LCD show exactly what I've shot? I say that, because every time I shoot an underexposed picture, it looks OK on the LCD screen. Only when I transfer the images to a computer do I see that they're underexposed. The opposite is not true, though. When it comes to overexposure, they look far too white on both the LCD and the computer screen.**

I understand your concern here. You'll be pleased to know there's a solution to this issue: Use the EOS 30D's histogram display. It provides a reliable indication of exposure accuracy. For what it's worth, it is important to understand that the 30D's LCD screen is intentionally designed to take maximum advantage of its limited brightness range in order to provide a readable image for photographers while they're working in the field. The enhanced brightness of the image makes it easier to check details in an image, such as facial expressions, sharpness, etc. The trade-off for this is that some images appear darker on a computer monitor than they do on the camera's screen. But when checking exposure accuracy is the priority, the camera's histogram display is a valuable tool.

**I work as a news photographer in Auckland, New Zealand, and I use a Canon EOS-1D Mark II N. Other photographers and I have found that the images taken on RAW are not as sharp as images taken on JPEG, and the focus tracking seems slower on RAW. Is there a reason for this?**

In order to preserve the maximum amount of image information, raw data is intentionally unsharpened. It is up to the photographer to decide how much sharpening to apply when rendering a JPEG or TIFF image with conversion software such as Canon DPP or Adobe Camera Raw, etc. On the other hand, in-camera JPEGs shot with an EOS-1D Mark II N are typically sharpened if the camera is left at its default Standard picture-style setting. This difference is usually not a big obstacle for most photographers who shoot RAW images. Once they find a sharpening setting they like, they can lock it in on their conversion software and simply apply it to all rendered images. Similarly, the Mark II N allows photographers to adjust the sharpening on in-camera JPEGs. The standard setting is level 3, which is essentially mid-scale between 0 and 7. The image quality setting (RAW or JPEG or RAW+JPEG) has no bearing whatsoever on autofocus performance.

**Can you explain to me why, when shooting in RAW on the EOS-1D Mark II or Mark II N, I would not have focus tracking problems? I think I know the reason but I need something from an expert to show the photo staff here. We have started shooting all our work in RAW and the photogs say that is impossible in this mode as the camera does not keep up with the focus.**

Focus tracking and lens drive operation are completely independent from the photographer's choice of recording formats. After all, from the camera's point of view, every exposure starts out as raw image data that is subsequently converted to JPEG or recorded as a RAW image according to the image quality

setting on the camera. Therefore, setting the camera to record RAW or RAW+JPEG has no effect on focus tracking or lens drive. However, because of the larger file sizes involved, it does have an effect on the number of images that can be recorded in a burst, and how long it takes to write the image data to a memory card.

Here's a more detailed explanation: The EOS-1D Mark II N can nominally capture 48 consecutive Large/Fine JPEGs, but only 22 consecutive RAW images, or less when the camera is set for RAW+JPEG. This occurs because RAW images require more storage capacity than JPEGs, but the buffer memory capacity of the camera is fixed. Under these circumstances, it may well be that photographers who are used to shooting JPEGs are noticing that the camera's buffer fills up much more quickly when shooting RAWs. This problem can be minimized somewhat by using fast memory cards, but ultimately the photographers must come to terms with the fact that they cannot shoot as many RAW images in burst mode as they might wish. Clearly, though, the choice of image recording formats has nothing to do with focusing accuracy.

**I have a Canon 20D that I sent in for repair. I did not include a compact flash card. When I got the camera back, the image sequence number and the folder number were way different than what is in my database. How can I reset the sequence number and folder (less important) back to the original sequencing?**

Here's what to do if you still have a CF card with images that are exclusively from the initial file numbering sequence, ideally from the end of that sequence:

1. Find a spare CF card that you don't mind formatting.
2. Set the camera's file numbering setting to Auto Reset.
3. Format the spare CF card. This resets the file numbering sequence to 100-0001.
4. Set the camera's file numbering setting to Continuous.
5. Replace the spare CF card with the CF card that has the last image from the initial file numbering sequence. The camera will resume file numbering from that point.

**I recently purchased a used EF600mm f/4L USM lens (non-IS), and am using it with my EOS 30D. It has provided great pictures in my resolution tests so far, even when using stacked 1.4X and 2X extenders, but I am concerned that the focusing ring only seems to work in manual mode. Since I don't have the lens manual, I don't know if this is a defect in the lens (which I have about five days left to return), or whether it is the way it was designed. I have heard that on some camera bodies it is possible to enable manual focusing after AF is complete -- does the 30D support this function? (I've mislaid my instruction manual for the camera as well.)**

The EF600mm f/4L USM (the non-IS version) has an electronic manual focusing system that requires electrical power to operate. As you say, the focusing ring is functional when the focus mode switch on the lens is set to M and the lens is mounted to an EOS body that's on. There are also two ways to operate the manual focusing ring when the focus mode switch is set to AF:

1. Set your EOS 30D to Custom Function 4-1 or 4-3. This optional setting initiates autofocus from the AE lock button on the back of the camera, while making the manual focusing ring of your lens active even in AF mode.
2. Set your EOS 30D to Custom Function 4-0 (the default setting) or 4-2 and set the camera for One-Shot AF. In this configuration, the manual focusing ring will become active in AF mode after autofocus is complete, while the shutter button is pressed halfway and the green in-focus indicator dot in the viewfinder is visible.

The EOS 30D instruction manual is available online at Canon USA's Web site. You can order a copy of the instruction manual for any EF lens through Canon USA's Customer Support Center at 1-800-828-4040.

**I want to switch my color-managed workflow from Adobe RGB to Pro Photo RGB. My question is: Digital Photo Professional does not list Pro Photo RGB as an option in the color management preferences. DPP does list Wide Gamut RGB. Is this the same thing?**

Wide Gamut RGB and Pro Photo RGB are similar color spaces in the respect that both are wider than Adobe RGB, but strictly speaking, Pro Photo RGB is a slightly wider color space than Wide Gamut RGB. In practice, this distinction is virtually meaningless for most applications, since the extra width of Pro Photo RGB vs. Wide Gamut RGB consists for the most part of imaginary colors that cannot be reproduced. The best way to decide which color space you prefer is to try them all. This is relatively easy to do as long as you have DPP for Wide Gamut RGB and Adobe Camera RAW or another converter that supports Pro Photo RGB.

**Can I follow up your answer with another question?: Wouldn't the best option then be to set DPP to Wide Gamut RGB to get the most possible color from each image? Then set Photoshop to preserve the embedded Wide Gamut RGB working space? Thanks again – and I'm looking forward to your response.**

The decision to use Wide Gamut RGB or Pro Photo RGB mostly depends on what you plan to do with the image. In order to take maximum advantage of all the colors in the file, you need to print it with a high-quality inkjet printer that has enough gamut to make it worthwhile. In the current Canon lineup, the best choice

would be the imagePROGRAF iPF5000, with its Lucia ink set, because it includes red, green and blue inks in addition to cyan, photo cyan, magenta, photo magenta, yellow, and three shades of black. For more information on the iPF5000, visit this Web page:

<http://images.photoworkshop.com/iPF5000/features/index.html>

Keep in mind that you won't see all the colors in a Wide Gamut RGB image on your computer screen, no matter how good it is. Also, you won't see all the colors if you use a printer with a gamut smaller than the color space in the file. This would include most standard photo-quality inkjet printers that only have subtractive colorants. For these printers, Adobe RGB is sufficient. To get a better understanding of these issues, it would be a good idea to study color management. One of the best textbooks on this subject is "Color Confidence" by Tim Grey.

<http://www.timgrey.com/books.htm>

**[In terms of Canon lenses,] should I use IS Mode 2 all the time? If not, why?**

The answer to these questions largely depends on whether you're shooting hand-held or from a tripod. For hand-held photography, I recommend Mode 1 for stationary subjects and Mode 2 for panning, with any IS lens that has both modes. When using a tripod, the first thing you need to think about is whether to use IS at all. Unless you are using one of our IS super-telephoto lenses (i.e., 300/2.8L IS, 400/2.8L IS, 400/4 DO IS, 500/4L IS, or 600/4L IS), I recommend shutting off the IS for best results. If you are using one of the aforementioned IS super-telephoto lenses on a tripod, the choice between Mode 1 and Mode 2 is largely a matter of personal taste. If there is any possibility of panning, Mode 2 is best. If not, it doesn't make any difference.

(For the benefit of readers who might be unfamiliar with Canon's nomenclature, Mode 1 on an IS lens attempts to compensate for vertical and horizontal camera movement simultaneously. Mode 2 shuts off IS in the panning direction when panning is detected.)

**I have recently noticed on images taken with my EOS-1D Mark II that almost in the center of all of the images, I see what I expect to be a hot or stuck pixel (only one). It looks like a clear hole in the image. None are red color as described in a lot of the posts on this topic. None of my images are long exposures. I usually shoot high school sports and candid. I am trying to understand if there is any work-around that I can do. Is there a re-mapping process that is available to me, or must I clone it out of all my images? Unfortunately, it is almost in the center of the image so it will appear on many faces. I don't think that there will be any issue with uncropped or minimally cropped images, but it is clearly visible on a tightly cropped**

**enlarged image. I would appreciate any comments or experience you have had with this issue, and, do I need to prepare myself for a new sensor? I just had my shutter replaced.**

Canon Factory Service in Jamesburg, N.J. should be able to "map out" the bad pixel so that it won't be necessary to replace the image sensor. They might handle it as a warranty repair, even if your warranty has expired, but I would suggest checking with them ahead of time to discuss that issue.

**I just picked up my camera from the Jamesburg repair facility; one of the circuit boards was replaced, camera cleaned and adjusted - all considered under warranty. Thanks!!**

You're welcome! Glad I could help.

**Here's a recent quote from Mark Cohran on the "Canon Digital Photography Forum" at Photography-on-the-Net forum...**

"There have been some indication from Canon (Chuck Westfall) that the 1D line will merge in the future, but there haven't been any press releases that I've seen recently that have supported this statement."

And there are others you can find if you Google the right terms. Back to early 2005...So--Chuck--now's the time to set the record straight (especially since the search at old RG's forum is currently not working). Did you (or someone from Canon) say "they'll merge sometime in the future" or "at the next release"? Or were you just trying to say, between the lines "things have changed?"

I never said that the EOS-1D and 1Ds model lines would be merged. As best as I can tell, this line of thinking is based on the alleged comments of another Canon executive (Mr. Takaya Iwasaki) who was interviewed a couple of years ago by a European digital camera Web site.

[http://www.e-fotografija.com/artman/publish/article\\_440.shtml](http://www.e-fotografija.com/artman/publish/article_440.shtml)

**Jernej:** "At the moment you have two high-end cameras. Will the next generation be just one, high-speed and high-resolution camera?"

**Takaya:** [nodding] "Yes."

Back to Chuck: I strongly suspect that Mr. Iwasaki was simply acknowledging the question rather than answering it. This type of reaction is quite typical in Japanese culture. Another possibility is that he simply misunderstood the question. After all, he's not a native English speaker, and neither were the folks who interviewed him. In any case, I strongly doubt he meant to answer this question affirmatively.

It's interesting to note that Mr. Iwasaki's October, 2004 interview was followed very closely in the same month by an interview with another Canon Inc. executive, Mr. Tomonori Iwashita, who incidentally holds a much higher position in Canon's global organization [Chief Executive, Image Communication Products Group, Canon Inc.] than either Mr. Iwasaki or I. Mr. Iwashita was asked a similar question by a Japanese digital camera Web site. Here is a relevant excerpt from an English translation of that interview:

<http://hobday.net/canon/>

**At the present time Canon has 35mm full-frame sensors, 1.3x sensors, and 1.6x sensors, a lineup of three different sizes. End users have various complaints about this, such as lenses behaving differently depending on the body, and difficulty switching between high-end and low-end bodies. Do you have any plans to consolidate your sensor offerings into either 1 or 2 sizes?**

"We feel that the ability to use different sensor sizes is a strong point of digital cameras. Rather than consolidating into fewer sensor sizes, we feel that different sensor sizes offer various strong points to different users. For users who wish to make use of the full range of their EF lenses, full-frame sensors are best. For those searching for the fastest frame rates, 1.3x is best. For the most cost-sensitive users, the APS-C 1.6x size is ideal."

Back to Chuck again: In my opinion, this quote is much more in line with Canon's philosophy regarding the use of several sensor sizes. It echoes my response on the subject, which I posted on Rob Galbraith's Web site in September 2003:

"Canon's digital SLR design philosophy is to provide a range of camera models to cover clearly defined market segments. For the foreseeable future, this is going to involve a range of sensor sizes from APS-C (as in EOS Digital Rebel and 10D) through APS-H (as in EOS-1D) to full-frame (as in EOS-1Ds)."

My statement was true then and it remains true today. I have no intention of discussing Canon's future plans in detail, but it wouldn't surprise me to see us continue to manufacture several distinct sensor sizes, if that's what it takes to offer the best camera performance in each DSLR product category.