



December 2011 Volume 2, Issue 4

International Association of PANORAMIC PHOTOGRAPHERS e-Monitor



Table of Contents

- 6 Big Changes
- 8 Review: GigaPan Epic Pro
- 15 Graflex Action Photo

Editorial Staff:

Published by the International Association of Panoramic Photographers. All rights reserved, Copyright 2011

Bryan Snow, Editor

Dawn Snow, Creative Director

Contributors:

Will Landon, George Pearl

IAPP e-Monitor

The monitor on the rear of a digital camera is a device we use to quickly examine information about our photos. The IAPP e-Monitor was designed to give our membership a quick look at what is going on with the IAPP and with panoramic photography in general. It was originated to give our membership quicker information while they await the release of the PANORAMA.

We welcome any and all articles and photos from IAPP members for inclusion into the IAPP e-Monitor. This is a publication for the IAPP, by the IAPP, and about the IAPP.

WORKFLOW, or How to get the maximum quality out of your Digital Image, or Everything Old is New Again!

This started out as three separate articles, hence the three titles, but, as I began to write, it seemed that they all belonged together. The concept of “workflow” is a term that has been bantered around quite a bit lately and seems to cover a variety of areas. In photography it usually pops up when people start talking about the necessary steps taken to accomplish a specific task. It takes on greater and greater importance depending upon how famous the speaker or writer is who is discussing it. After all, if Ansel Adams had written on how he goes about taking, developing and printing

a photograph thousands of people would have bought his books (you do have these books in your personal library, don't you?). We all strive to do the best work we can and as efficiently as we can in the time we have allotted. So, when someone begins to discuss “workflow” it stands to reason that it behooves us to read or listen and compare their workflow to our own.

We also strive to get the maximum quality out of our images. Sometimes we bracket a shot to insure the correct exposure; sometimes we return to the same area to get better lighting; and

sometimes we process the hell out of it to add greater drama. With digital imaging our options are greater than with film and a wet darkroom although scanning film expands this older technology into the 21st Century. And yet, there is still old stuff that many have

discarded in this

new photographic age that may, yet, see a revival.

How important is workflow to your photography? You already know how to shoot

an image, so why should this require a discussion? In my case, I used to shoot a lot of medium format images (not weddings) and each shot took a reasonable length of time to get in the can. Working with medium or large format cameras forces you to check to make sure you are doing everything correctly in order to give you a better chance to get an above average photograph. Shooting 35mm film allows you to speed up your photographic workflow, especially with autofocus lenses and a brick of 35mm film in your bag. With DSLR cameras this procedure can become very rapid, sometimes to the point where you can overlook a step or two and only realize the problem when you get home and examine

your image on the larger monitor of your computer. Wait! Any photographer worth his/her salt wouldn't make foolish mistakes, especially after years of diligent shooting. Trust

me, as good as you may

think you are, circumstances can unfold that

can almost guarantee a screw up on more than one occasion. Just recently, in the Great Smoky Mountains, I set up for a panoramic shot just before sunrise and captured a beautiful sequence for a sunrise panorama in HDR. It was cold and I was uncomfortable and the wind was finding its way into my coat. I used the same lens I always use, the same pan adapter, the same incident handheld meter, the same tripod, everything. After coming home to stitch and process what I thought would be a keeper, I noticed, on the computer monitor, that every image was slightly out of focus. Why? Because I was shooting with a 45mm Tilt/Shift lens and it is a manual focus lens. I did everything I normally do to shoot a pan except focus the darned thing. I could use the excuse that the wind and the cold was a distraction but regardless of what happened, I screwed up. Why? Because I was in a hurry, I thought I had everything covered. I wouldn't have made that mistake if I was shooting with my Mamiya medium format. I probably wouldn't have made that mistake if I had a list of steps

needed to capture a successful panorama written on a pad duct-taped to my arm either. Using a list of steps is an example of a

mandatory workflow monitor but not something people usually carry with them. The single, most important thing you can do to increase your chances of getting that successful panorama even in the cold and wind, is to SLOW DOWN and think of what you are doing NOW. My biggest problem is that I am constantly thinking of where I am going to shoot next while I am currently shooting a panorama. Bad idea, bad, bad form.

Slow
down

Focus
Focus
Focus ...

If you've never screwed up an image because you did something stupid, then you are the consummate photographer. You are perfect and you need not read the rest of this article. In fact, I would rather you write the next article because the readership will be able to learn much more from you than from me. However, if you have ever whacked yourself in the head after a stupidity attack then it's time to examine your personal workflow.

First, examine what you are doing before, during and after you are shooting your pans. The easiest way I accomplish this is to go out and shoot and examine the individual steps I take throughout this exercise. Try this: gather your stuff and take it out in your backyard (if you do not have a backyard then head to a nearby park). Set up your normal equipment and make sure that you have not forgotten anything (like your camera or lens, or panorama adaptor, or tripod). Better to find out what you missed while you are in your backyard rather than at Yellowstone. I find that I pack everything camera-related in one backpack [cameras, lenses, meters, CF cards, cable release, filters, batteries, lens cleaning equipment, business cards (never leave home without them), compass, mini-screwdrivers, etc]. A quick glance into the pack will reveal an empty compartment that might normally contain my case of CF cards. If it's empty, I go find it and put it back where it is supposed to be. Next, I have a case or backpack that



Practice
Practice
Practice

contains my panoramic adaptor (one is manual and one is robotic. Which one I take depends upon the shoot). Finally I take the tripod. I can carry all of this in one trip from my car to the park or from my house into the backyard. Once it is all set up you can see if you have left anything out. Now begin your routine to shoot your panorama: level the adaptor; set your lens at its nodal point (entrance pupil); focus your camera/lens on your target, etc. Here is where making a list might come in handy. If you are into lists this is great. If you are the type who forgets where you left your list then this won't help you much. Sometimes it is easier to bundle tasks together: level your pan adaptor/set the lens nodal point; focus lens/set camera exposure.

However you accomplish these necessary tasks, do them slowly and deliberately. Always make sure you tighten anything that needs to be tightened - that quick changing plate on your camera/lens that fits on top of your tripod/pan adaptor needs to be handled with extra care. If not, it can quickly become a quick dropping plate instead. Go through every step in advance of your panoramic shot. Then actually go through shooting your pan. When that is accomplished, and the images are quickly viewed on your camera's monitor, then you can begin the takedown of your equipment. Put everything back in the reverse order that you pulled it out. This reinforces the steps you took to set up and reasonably assures that you don't leave

anything behind (not a guarantee). After putting everything back in its proper place and taking your stuff back to the car or inside the house then you can take your CF card to your computer and examine the results. Are they in focus? Are they exposed properly, including the ones you shot for an HDR panorama? Run them through the stitching software and generate a final pan. Only then can you call this exercise a success. The more you practice this exercise the better your workflow will become, and the more routine you will find it to be. Practice at home extensively so when you get to the Tetons these steps will be familiar enough to you that it will become instinctive. This, however, can be deceiving. To this instinct you must add the words “patience” and “methodical”. Only then will this workflow be successful.

Going All Out!

When I find I have screwed up with my workflow I try to come up with a remedy so it won't happen again. Sometimes just trying to go back to the same workflow doesn't always succeed. It is then you must see if some systemic change is in order. Failing to adequately focus the sunrise panoramic images in the Great Smoky Mountains caused me to contemplate a different solution. What if my six decade old eyes are not allowing me the best view of that little camera monitor to get a proper focus? Then all subsequent images will have a possibility of not being in focus, or at best, it will be a 50/50 chance. I could use a magnifier on the camera monitor in the hopes that I could obtain a better focus but the only way I would know for sure would be to examine the image at the computer. But if I wait until I get home that would be too late.

How about taking the computer with me to the panoramic shoot? I use a laptop so it is portable. I thought about taking a small



folding table with me but that means that I would have to make another trip from the car to where I am setting up. Just this past month I found the perfect answer - a tripad! At a photo show in Austin they were selling this item. I had never heard of it before but I thought it had promise, so I bought it (\$89). It comes in two sections, a tray-type table and a triangular piece that attaches to your tripod. The two pieces slide together and lock. Then you place the triangular piece over the top of your tripod and slide it down until the vertices of the triangle fits snugly around the legs of your tripod. The triangular piece fits at an angle and the tray sits level. The tray/table is just the right size for my MacBook Pro 15

inch laptop and it is very stable when set up. I had an exceptionally large rubber band that I think I bought in a pack at The Container Store and I just open the laptop and set it on



the tray and place the big rubber band around the laptop/tray combination. Even if you knock the tripod over the laptop stays on the tray. It is a great combination and works extremely well [the tripad even has two pull-out extensions on either side with the one on the left having a cup holder (because we all know how well computer keyboards love nearby coffee cups)].

You can then run Lightroom (or Aperture) or any other capture software on the laptop, and set it up in “Tether” mode. When you attach your laptop to your camera through the USB connection, and when you then trigger the shutter the image will appear on your laptop screen and you can zoom to 100% to examine focus. This is a surefire way to make sure you come back from the panoramic shoot with images that are exposed correctly and in focus!

Everything Old is New Again!

Here is where the last article I was going to write becomes part of the workflow. Those of you who are experienced with large format cameras will recall the Focusing Cloth. You

young’ns might recall seeing them on old western movies when any photographer came to town. When the big wooden old-time camera was set up in the daytime the photographer placed his head under a black cloth to focus the camera (by racking the camera back or lens until the image was focused on the ground glass back). This required being in the dark or at least subdued light to see the image adequately.

In the daylight, we have a similar situation with a laptop screen; the sunlight is too bright to

adequately see the image on the screen. When placing the laptop on the tripad tray it is nearly impossible to make sure that your image is in focus. With the old fashion focusing cloth (yes, they are still made) you can drape it over the laptop and over your head and shoulders and the image on the screen is now much easier to see and evaluate. Google “Large Format Focusing Cloth” and you can locate a source for this newfangled item. Incidentally, the new ones have a dark cloth on the inside but a shiny silver cloth on the outside to reflect the sun off the cloth, thus making it a little cooler than the old style used to be. Another option, of course, is to find a dark cloth and use that.

In summary, practice will make your workflow into a routine but don’t let that routine lull you into a false sense of security; think about everything you are doing, every step of the way. Above all else, be patient; concentrate on what you are doing while you are doing it, and don’t even think about shooting the next panorama before you finish the one you’re working on.

Practice will
make your
workflow into
a routine ...

Printing Panoramas with Big Changes Coming!

by George Pearl

For all of you that attended my lecture on **Group Panorama Photography** at the October 2011 IAPP conference in Gatlinburg, Tn., you were surprisingly introduced to the new [Digital Web Press](#) which could have a high impact in the printing of panoramas instead of printing with photography technology as has been the mainstay in the past. This technology will enable printing in full color at the rate of almost ten 10" X 40" color panoramas per MINUTE! (30 Feet Per Minute in Full Color) The sharpness and color is superb at a resolution of 600 X 1200 dpi.

To this printer another company has made something "value added" in which there are feed and takeup reels and the ability to print an image as long as you want on this same machine. I have been working with some dealers of Oki here in Atlanta to try to find out more about this machine, its abilities and cost. I have some printed samples from the machine and will be working with them further to see if the output from the Digital Web Press will rival photographic output to the degree that wet labs are no longer required.

In the meantime, from an esteemed past member of IAPP, Bruce Klein of LA shared more information on yet another player in this game of technological advancements. He has pointed me to [MimJet printers](#). So far, from what I can tell of these printers they only use dye based inks, but the company is working on pigment to follow soon.

[For the shock of your life please take a look at this little video.](#)

Wow! is all I can say about this new machine! As to how much it actually cost per print verses the digital web press and an actual photograph produced the old slow way is yet to be

determined. Maybe one of our members will figure it out before me and report back to the e-Monitor and for the Members Only Section of the IAPP web site.

These new machines will certainly be game changers in the production of group panorama photos. I am certain that the cost should be less and the quality as good or higher. The speed that prints can be made and delivered back to the group will be fantastic. Since all is digital, the possibility of sending a digital panorama file back to your printer and then having them all printed out in minutes is certainly a reality.

What I am exploring at this time is also the finishing of the prints so that they have the depth of a real photo. I have laminated the output from the Oki DWP and it really helps. The way it comes off the press is colorful and sharp, but lacks a bit of black contrast. The lamination helps that, and next I will try coating the prints with UV Laminate with another coating used for brochures and coffee table books. I have not see the Memjet output yet so can not comment on it. I do think that from what I have seen so far from the Oki that it might be a good choice. It only prints 13 inches wide paper rolls and there is little cost for photocopy paper and toner. The ink jet machine looks impressive in the videos and specs, but the cost for inks and special ink jet paper is certainly more than just plain paper and toner could be.

My next step is to determine the life span of these prints. I know that my present FUJI Crystal Archive photo paper is supposed to be good for 100 years. I don't know what the new technology has in store for us. When I find out some more information, our IAPP members will be the first to know.



Use this code below
to receive 10% off
your order!
[iapp102011](#)

Award-winning Nodal Ninjas

Hobbyists - Hikers - Pros - Amateurs - Travelers - Realtors

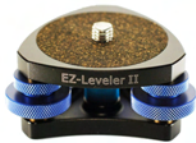
Nodal Ninja's are specially designed panoramic tripod heads made to meet specific needs of panoramic photographers. If you are looking to seamlessly stitch panoramas free of parallax while simplifying your workflow, then look no further. Our award-winning lightweight panoramic tripod heads are precision built to do just that. And being universal they will work with just about any camera and lens. We offer exceptional value without compromising quality that is backed by industry leading support. Explore our products and see why we are "turning heads".



Nodal Ninja 3 MKII

Lightweight, compact and strong - perfect for those on the go and best suited for single row and multi row panoramas. Your camera can be mounted in both landscape and portrait modes. (for Point and Shoot and small DSLR cameras).

Starting at \$209.95



EZ-Leveler II

Our second generation EZ-Leveler is smaller, lighter and made with greater precision. The EZ-Leveler II lives to its name and makes leveling a pano head quick and easy. A great add-on for Nodal Ninja or any other pano head.

Starting at \$99.95



Ultimate R1

Even smaller and lighter, this ring clamp style pano head is designed for use with circular and full frame fisheye lenses. The Ultimate R1 incorporates a unique cantilever tilting option and a ring clamp that mounts directly onto the lens, freeing up the camera.

Starting at \$379.95



NEW!

Pano Poles

If you are looking to take your panoramas to new heights take note. These carbon fiber poles are lightweight, stackable, compact and strong and are ideal for tourism, festivals, surveys, real estate, and many other applications.

Starting at \$269.95



www.nodalninja.com

store.nodalninja.com | nodalninja.com/forum | facebook.com/nodalninja

© 2010 Nodal Ninja®

Review:

GigaPan EPIC Pro

One of the most interesting and potentially important accessories for panoramic photography is the robotic panoramic adapter. These devices allow digital cameras to capture a large photographic area by shooting it with many smaller digital images and then stitching them together to make the one large panoramic photograph.

I have an old manual panoramic adaptor which still works well for the majority of the pans I take but I wanted to generate some large scale panoramas similar in resolution to the old Large Format cameras that introduced many of us to the magnificence of places like Yellowstone and Yosemite National Parks.

While there are digital backs that will fit on a 4X5 camera, they are scanning backs that take time to scan line by line to capture the full scene. Likewise, there are medium format digital backs that fit the 645 cameras by Mamiya, Hasselblad and the like and they are similar in resolution to the 4X5 Large Format film cameras, but they are smaller in size than the film for the Large Format. Another option would be to shoot the images with a Large Format camera and scan the film and then work digitally on the resulting scan. The option that I chose was to go the robotic camera holder route and use a full size DSLR and couple it with the best high-resolution lens I could get without selling my house.

I became enamored with the GigaPan EPIC Pro robotic camera holder. The price wasn't bad, \$895 but on sale for \$850. At the time I wasn't aware of the Seitz Roundshot so it didn't come into play (perhaps we can have a review of this unit in the not-to-distant future, hint, hint!). I already had a Canon 5D, 12.8 Mp full size digital camera and, as a retirement present, I bought myself a Canon 300mm f/2.8 super telephoto. This lens is one of the most



exceptional lenses ever made, with high resolution and excellent contrast. It was my desire to couple the camera and telephoto to the GigaPan EPIC Pro in the hopes of fulfilling my desire for high resolution panoramas. To see how well this system worked let's examine the GigaPan EPIC Pro in greater detail.

GigaPan EPIC Pro: Hardware

Let's start with the hardware. The EPIC Pro is one of three products from GigaPan Systems (www.gigapansystems.com) that specialize in robotic image capture. The other two are the GigaPan EPIC and the GigaPan EPIC 100. The EPIC and EPIC 100 are based on a single-arm, digitally controlled Alt-Az system that can move and position a camera in both Altitude and Azimuth. Altitude motion moves the camera up and down and Azimuth moves the camera left and right. The EPIC will handle most compact digital cameras and weighs a little over 3 lbs. The EPIC 100 closely resembles the EPIC but is a bit heftier and will handle larger point and shoot cameras and small DSLRs. Both are powered by 6 AA batteries. Prices are: EPIC - \$299 and EPIC 100 - \$499.

The GigaPan EPIC Pro is GigaPan System's top of the line robotic image capturing unit and weighs in at 7.25 lbs. It is powered by a 7.25 V 4300 mAH removable battery pack. This battery can be charged while it is in the EPIC Pro or it can be removed and charged separately. The charger and battery are included in the price. The EPIC Pro is a dual arm, digitally controlled Alt-Az system that can handle full size DSLRs with interchangeable lenses. From the website there is the claim that "**Large lenses are supported** Camera and lens combinations of up to 10 lbs. can be used with the EPIC Pro."

Is it perfectly stable with that amount? The answer is "Sort of".

This claim needs to be taken with a caveat. Will the EPIC Pro support 10 lbs. of camera/lens? The answer is "Yes". Is it perfectly stable with that amount? The answer is "Sort of". My ideal combination to attach to the EPIC Pro is my Canon 5D and the Canon 300mm f/2.8 L lens with Image Stabilization. The camera weighs 2 lbs.; the lens weighs 5.6 lbs.; for a total of 7.6 lbs. Does it fit on the EPIC Pro - Yes. Does it bounce when you touch the controls - Yes. In fairness, it does stop moving and settles down within a second or two after you touch the controls and it settles faster (< 1 sec) when it is moved by the digital control system. For normal use you can program a delay between movement of the camera/lens and the time the shutter is triggered so the dampening will occur before the camera is

fired. I am uncomfortable with the bounce that this combination causes on the EPIC Pro but when I use the same camera with a 45mm Tilt/Shift lens there is very little, if any, bounce.

Another problem I have found is in trying to place the camera/lens combination so that the nodal point (entrance pupil) is correctly positioned on the EPIC Pro so that parallax doesn't affect the image. Some camera/lens combinations,

when positioned on the camera holder of the EPIC Pro so that the nodal point is centered, cause the camera holder to be unbalanced. With shorter lenses this is normally not a problem, but with telephotos, this causes too much imbalance and it is better to set up the camera/lens combination at its balancing point rather than centering the nodal point. This can cause a parallax problem when trying to stitch a panorama that has detail in

the foreground as well as in the distance. The solution? Do not use foreground detail in your composition if you cannot balance in the nodal point position (although the stitching software might be able to handle it).

This system needs to be placed on a substantial tripod. Small, flimsy tripods are just not suitable for the GigaPan EPIC Pro with a large telephoto lens mounted upon it. The EPIC Pro has a bubble level mounted in the top-center of the control box between the two arms. The camera/lens centered position can be adjusted up and down and forward and backward in between the arms to accommodate a variety of cameras and camera/lens combinations.

Using the EPIC Pro in the field is straight forward. You mount the unit on your tripod and then level it using it's built-in bubble level. You then mount the lens on your camera and screw the quick-release plate onto your camera or lens tripod mount. Adjust the camera holder between the fork arms until it is either positioned at the nodal point, or balanced if you are using a large telephoto lens. The fully charged battery should last an hour or two depending on how many images you are shooting. The EPIC Pro does have an energy saver and will go to sleep if you haven't touched it for several minutes. Pressing the "Ok" button will wake it up. While the robot unit is moving and taking pictures, this sleep mode is disabled. It would not be a bad idea to buy a second battery for the EPIC Pro so you can continue to shoot once the initial battery gets low. Likewise, having several batteries for your camera will give you peace of mind as well.

GigaPan EPIC Pro: Software

Something that GigaPan Systems did that was forward-looking was to give you the ability to upgrade its internal software when new capabilities are created. You just download the software upgrade from their website into your computer and then connect the EPIC Pro to your computer via its USB port. The download can then be transferred to the robotic unit, and your device gets a whole new, upgraded brain.

If there is any complaint about the EPIC Pro's software it would be that there are SO MANY choices to choose from it can be overwhelming. I would suggest that you go to GigaPan Systems website and download the EPIC Pro's manual to get an idea of all the things you can do with this system. The good thing is that the more you practice with it, the better you get at tailoring the system to your needs. You can also use the robotic triggering of the camera's shutter to shoot time-lapse images.



GigaPan EPIC Pro:

A typical panoramic shoot

Set up time with the EPIC Pro gets faster each time you do it, but, at first, you should take everything really slow. First, locate the panoramic composition you wish to photograph. Next, set up your tripod and attach the GigaPan unit securely to the tripod. It does have a 3/8 inch tripod socket and I would suggest that you take advantage of the beefier mounting capabilities of that size socket. Next, level the unit using the built-in bubble level. Next, attach your camera/lens combination and center it on the nodal point or the balance point - your choice. Next, connect the cable release connector from your EPIC Pro unit to your camera's connection. This connection will allow the robotic image capture unit to control your camera's shutter, and special functions that you may have activated (there are several USB/cable release cables included with the EPIC Pro that connect to a variety of cameras). I usually set my camera's Automatic Exposure Bracketing (AEB) to expose three shots of the same section with one being underexposed, one being correctly exposed, and one being overexposed. This allows me to create a HDR panorama although, when you begin taking a panorama that shoots 32 individual sections to stitch together one large panorama, you now have 96 shots that the robotic unit has to take. I also usually program the EPIC Pro to trigger a signal to the camera to trip the mirror lockup (camera Custom Function #12 on the Canon 5D) a second or two before it trips the shutter. This means that every individual image the EPIC Pro shoots for the panorama it trips the mirror lockup three times and the shutter three times. Then it sends the command to advance to the next individual panorama section. A lot of work but the EPIC Pro handles it without problem

once you have programed it properly. This is the advantage of a robot; it repeats and repeats as many times as you want it to without getting tired, bored, or making a mistake; that is, as long as the batteries are still charged.

Telling the robot what to shoot

Now comes the fun part, telling the EPIC Pro exactly what you want it to shoot. First you must tell it what your camera/lens combination is. It doesn't recognize Canon or Nikon, or any of the various brands. It is just interested in the angle of view that your camera/lens is seeing. When you press "Camera Setup" on the menu it asks you to position the top of the camera's viewfinder to the horizon. You just press the up or down arrow on the digital controller and it moves the unit's Altitude motor. When you see the



horizon aligned with the top of your viewfinder, stop. Press “Ok” on the menu. When you do that the menu will ask you to position the horizon at the bottom of your viewfinder. Press the up/down button until the horizon is at the bottom and then stop. Press the “Ok” button and the unit now knows the angle of view of your camera/lens combination and can use this information to plan how many individual shots it must take to create your panorama (Note: the EPIC Pro assumes that your camera is in the landscape or horizontal mode and not in portrait or vertical mode). You can also program how much overlap you would like for each image.

Now to create that panorama you need to inform the robot where your pan will begin and end along the horizon and how high the panorama will be and how low it will go. In the menu, press “New panorama”. The EPIC Pro will ask for you to use the up/down/left/right arrow buttons to move the robotic unit carrying your camera/lens combination to point the viewfinder to the upper left corner of where you want your panorama to begin. Once you position it at that point, you press “Ok”. The EPIC Pro then asks you to position the viewfinder at the lower right position of your panorama. These two positions will encompass the rectangle that will be your final panorama. Once you position your viewfinder you then press “Ok” and the robot will then ask you if you want to see the corners of your chosen pan. If you press “Ok” it will then move the unit to position the viewfinder to the upper left corner. Press “Ok”, and the unit will move to the upper right corner. Once you see that you agree, press “Ok” and it will move the viewfinder to the lower right corner. Once again, press “Ok” and the unit will position the viewfinder to the lower left corner, completing the rectangle. Press “Ok” and the unit will move the viewfinder to the center of the panoramic rectangle. If you change your mind or if the composition isn’t quite what you wanted, press “New panorama” again and it

In fact, when the panorama is ready to shoot, the menu will tell you how many shots will comprise the pan and how long it will take.

will erase the information you just put in and go back to asking you to position the viewfinder in the upper left corner of the new panorama. Once you have your panorama finalized, the robot will ask if you wish to begin.

Press “Ok” and it will prompt you with some questions where you press “Ok” after each question. These are questions that ask you to set different settings on your camera to make sure the camera is ready to shoot. Questions such as “Camera On?” - press “Ok” when you are sure the camera is on; “Balance Locked?” - make sure your camera/lens is locked on the platform; “Exposure Locked?” - make sure you have set the exposure properly; “Focus Locked?” - set either Auto-Focus or, better yet, Manual Focus; and “Flash Off?” - pretty obvious. After you gain experience with shooting your panorama you can program the EPIC Pro to skip these questions and go right into shooting the pan. Depending on how many individual shots comprise the entire panorama, you can sit and watch the entire process but when you get to 80+ individual shots the time is in excess of 20 minutes. In fact, when the panorama is ready to shoot,

the menu will tell you how many shots will comprise the pan and how long it will take.

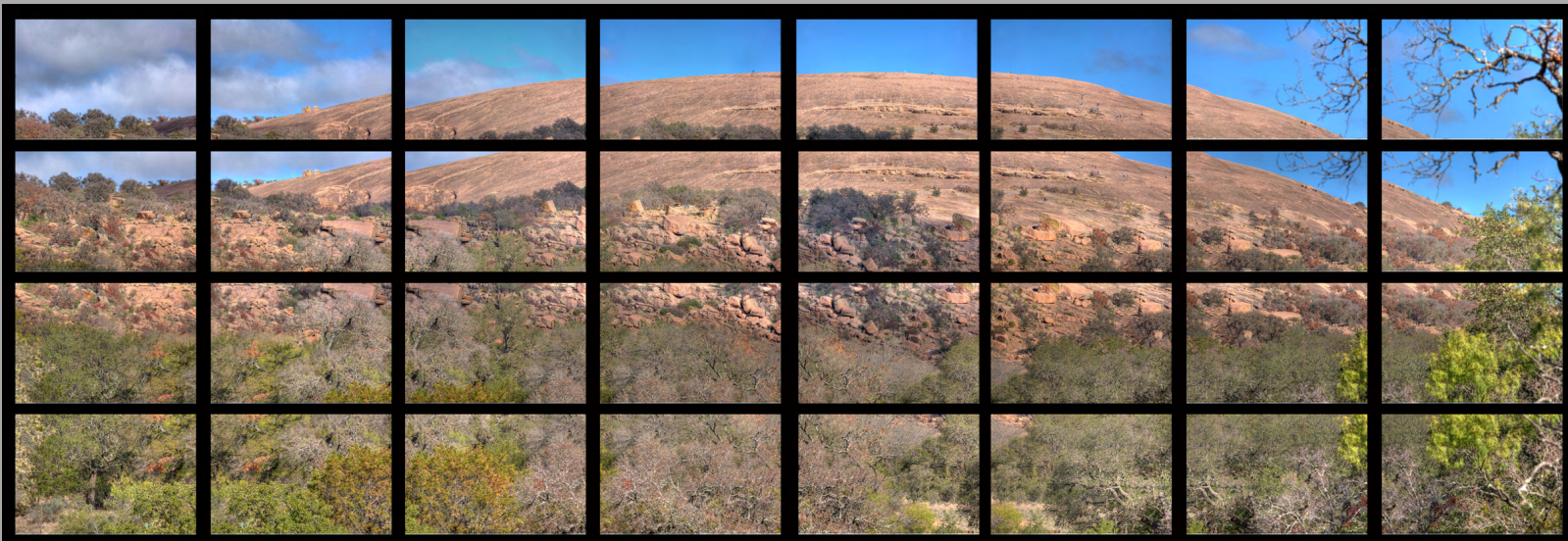
An alternate panorama you can take is called “360 Panorama” and, pressing “Ok” for this menu item will allow you to shoot a 360 degree panorama. Beginning this option is similar to the “New panorama” but this time it asks you to position the viewfinder to the top of your 360 degree pan. Once you use the up/down arrows to place the viewfinder to the top of your desired pan and you press “Ok” it will ask you to place the viewfinder at the bottom of the desired 360 degree pan. When you press “Ok” it will make as many rows and as many 360 degree passes as it needs to complete the panorama.

In Conclusion

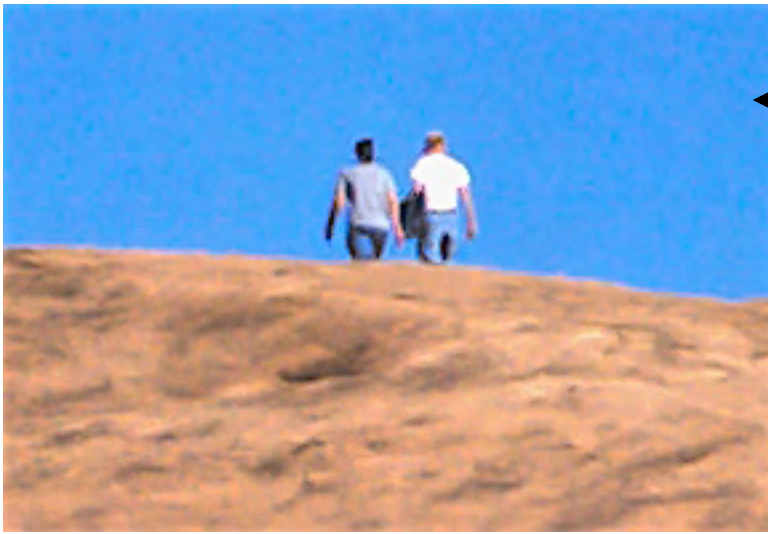
There is a lot to the GigaPan EPIC Pro, and this review just explains some of the basics. If you shoot digital images and prefer to stitch

individual images into a larger pan you may or may not need a GigaPan. I have a manual panoramic adaptor and use it for the majority of my pans that involve 3 to 5 separate shots to make an average sized panorama, maybe 12 inches by 36 inches. But when I want a high resolution, large scale panorama I will definitely use the GigaPan EPIC Pro. Once you program it to shoot a pan the way you want it, it will shoot pans all day long as long as the battery is not dead. If you have two batteries you can be charging one while shooting with the other. If you are near a 120VAC outlet you can plug the EPIC Pro in and it will be powered by the charger.

My ultimate panoramic setup is to couple the EPIC Pro with the Canon 5D Mark II (21 Mp/300mm f/2.8 L lens and attach the tripod to the tripod and attach a laptop to it. This way I can be assured that the individual images are in perfect focus and the exposure



The test image of Enchanted Rock consisted of 96 exposures, which were reduced in Photomatix Pro to 32 individual HDR images to stitch together with AutoPano Pro. The result was a high-resolution photograph that, at 300 dpi, produced a picture that was 26 inches high by 75 inches long, with detail that could be studied up close (see close up 1 and close up 2 on next page and their locations on page 1).



Details from the
completed panorama
shown on page one.
Close up 1

Close up 2



is good. Keep in mind that, even if the EPIC Pro takes 45 minutes to take all the individual photos, it will take many, many more hours to put together the individual HDR frames and stitch them together to form the final panorama. Is it all worth it? You be the judge!



Large Format 5X7 Graflex Home Portrait action photo

by Will Landon

The requirement was to capture an action photo of Snow Geese and make a print that was 25 inches wide and approximately five feet high. I had only one camera that could do that job, an antique 5x7 Home Portrait Graflex with a fourteen inch f4.5 Hexar mural enlarging lens. The camera had a revolving back so the film could be exposed in a horizontal or a vertical mode. It was a dual purpose camera with some slow shutter speed

settings for taking portraits, and some very fast shutter speeds for action shots, of 1/1500 of a second with a vertical moving focal plane shutter. There was another unusual feature, a front lens tilt for Scheimflug control. Normally a front tilt delivers a sharp front to back negative. Because I wanted to capture the geese circling for a landing, I set the Scheimflug front to back tilt for the birds in the sky.

Most photos of snow geese are taken when the birds explode off the ground into the air, in large squadrons of one thousand or more birds. Dramatic action for sure, but all scrambled so there was much blurring of wings and little consistent graceful wings spread and locked, which happened when the birds circle for a landing. That was the photo I wanted to take.

I only had one film holder for the camera, so I took along a tent changing bag and a box of 400 ASA T-Max film. I headed for one of the special fields set aside for the birds, which had been seeded with a type of grass that the birds liked. The tripod was a Husky Quick Set with a sports head that could track the flying birds. The reflex hood and ground glass were pre-focused on a nearby tree, then swung around to cover the most likely section of sky, pointing upward, but also set to include Mt. Baker in the background, and a flock of birds feeding on the ground two hundred yards from the camera. It had to be my lucky day because before very long a flock circled and locked their wings for a



landing. I took one shot, and it was a perfect composition as best as I could tell. So with one shot left, I scouted out a feeding group on the ground, and took their photo when they exploded off the ground. Home to develop the negatives, then scan them on an Imacon, and then make the mural print, after a minimum of photoshop cleanup.

panoramic photography . 360° . virtual reality . stitching . rewarding investment . precision
 brand-new productivity . any camera (even heavy ones) . new touch screen
 speed very strong motors . highly accurate . flexible
 brilliant modular hardware . gigapixel imagery
 x+y quality + speed + turntable + video + HDR
 tough 4 second 360° rotation . time-lapse
 terrific compact + lightweight . easy-to-use
 smooth faithful companion . very very cool
 99 programs value . 32-bit HDR . super efficient
 combines with 3rd party products object movies . video sweeps . VR
 Swiss engineered . long-lasting advanced technology . fine positioning
 2.3 kg compatible with many digital cameras
 touch me! aluminum instead of plastic . pro gear
 wireless remote automatic calculation of rows + images . many choices
 simple + secure fully motorized for horizontal and vertical movement
 bracketing online software updates . **beautiful** . spherical
 people sharp . long operation times . advanced software
 any lens 5 lb . multi-row . photographer's dream . design
 precision + pleasure USB + ethernet connections . powerful Li-Ion batteries
 never miss an image . value for money . the professional's choice . made in Switzerland.



The new Roundshot VR Drive - generation 2 -
 is the world's most advanced automated stitching solution.

Discover why:

www.roundshot.ch

seitz@roundshot.ch . ph: +41 52 376 33 53

roundshot
 fast 360 degree panoramic equipment