

Panoramic Photography for Botanical Research
(recording eco-systems in danger of extinction)

Mangrove Swamps, Pacific Coast, Guatemala

Novoflex PANORAMA+Q PRO





We suggest you do not use a tripod head; put the Novoflex unit directly on top of your tripod.



Here is the round base with the horizontal “clamping” plate inserted. Normally you would put the base onto the camera first. But this photo intends to show the components of the Novoflex system.

What I like about this is the simplicity: even I can't lose these components (we have shelf after shelf after shelf of accessories, and each of the photography team needs to constantly be borrowing accessories for their field trips. Human nature being what it is, often the equipment gets mixed up on the wrong shelf.



Now you can see the bulk and can imagine the weight of the medium format camera system. The digital portion is a Phase One P25+.



The work area is a swamp area parallel to the Pacific Ocean, near Monterrico. But we select areas where the water is less than 2 meters deep so we can work easily (you can't take panos easily from a boat that is rocking back and forth).



You can slide the base plate to a point where you find the nodal point.



Be sure you use a cable release. We also trigger the mirror before we take the photo (in a single lens reflex, the mirror must flip out of the way before you take a photo. The movement of the mirror, and the clack! when it hits the resting point, are vibrations you don't want on your photo.

Applications: there are so many kinds of panoramic photography

Cityscape panos

A common form of pano photography is of cityscapes. Jim Trotter of St Louis is a master at this at the top professional level. Usually every city and definitely each country has one or more photographers of comparable expertise. Thousands of photographers around the world do comparable photography as a hobby.

My first panorama photographs were cityscapes; taken as tests for learning how to use the BetterLight pano system. The reason cityscapes are a good way to test a pano system is because you can do the cityscape photography from the porch of your apartment or the porch of your hotel. If you are in your home you don't have to drag all the heavy and delicate equipment to some distant location.



This photo is not intended to be a fine art rendition of Guatemala City; this is only a test of the camera. What impressed me is that I could read the text on a billboard that was TWENTY BLOCKS away! Today perhaps you can do that with a Gigapan, but would need a telephoto lens. I used a normal wide-angle lens. Now you know why large-format digital photography has some advantages (despite the bulk and weight that you have to carry with you around the world).

If I were to wish to, or need to, take a fine art or commercially viable of Guatemala City then I would first find a more dramatic view, and situate myself with a more significant set of buildings in the foreground, middle ground, and horizon. But FLAAR rarely does commercial photography; we prefer to do ecological photography for preservation and ethno-botanical research purposes.

Landscape panos

Yes, landscape photos we do, in Guatemala, in Greece, and in Missouri. In the past all these were done with the BetterLight pano system, usually with a Cambo 4x5 studio camera or a more portable Linhof 4x5. But nowadays airlines restrict carry-on baggage to the point that it is almost impossible to carry sophisticated camera equipment in your carry-on.

So I began to seek a more portable pano system but one that could produce high resolution results. At Photokina every two years, and at PMA and PhotoEast every year, I noticed the Novoflex Panorama=Q PRO system. Novoflex made this system available to evaluate and we issued our first evaluation already over a year ago based on using the system in Slovenia. During 2010 we have used the Novoflex Panorama=Q PRO for a long-range project to record endangered eco-systems in tropical swamp areas of Guatemala.



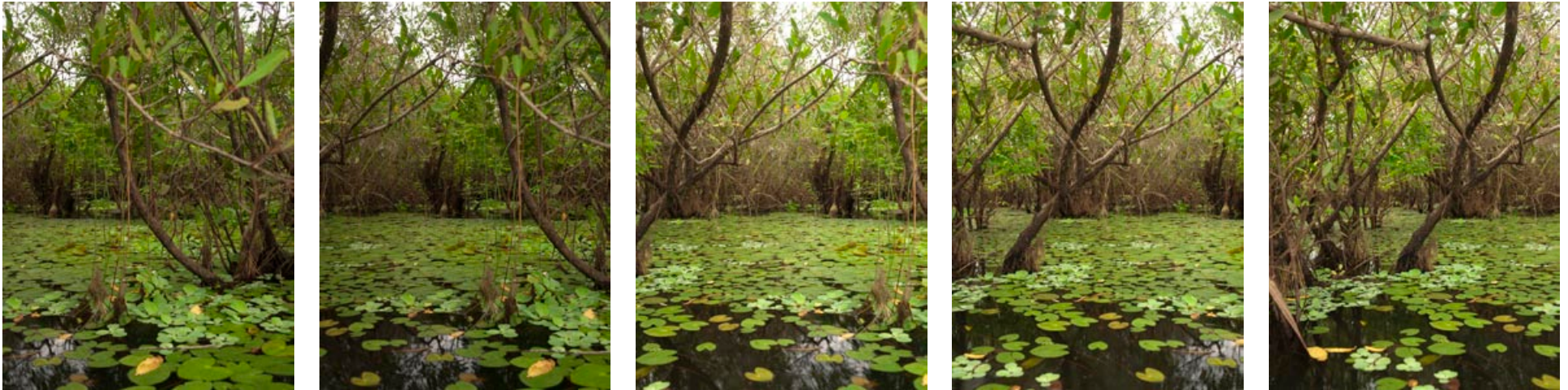
Lake Atitlan panoramic photograph by Nicholas Hellmuth.

Specialized panos

You could consider that photographs for ecological and botanical research are a form of landscape photography. But our goal is to record the water-lily eco-system of Guatemala (and eventually of adjacent Belize and southern Mexico). This eco-system was considered sacred by the Classic Maya civilization for over a thousand years. My PhD dissertation twenty-five years ago was written on the iconography of the water lily, crocodiles, turtles, water birds, fish, and other species of this eco-system. Now, more than two decades later, aided by additional information from years of field research, we are preparing a coffee-table book on this endangered eco-system.

The Novoflex Panorama=Q PRO has been helpful in making it possible to accomplish high resolution panos without having to carry a heavy 4x5 camera and the complex computer equipment required to operate the BetterLight system. We recommend the BetterLight for ecological and botanical research, and we have used this camera in earlier field trips, but it takes an average of two hours to set up, test, and finish one single panorama photograph. With the Novoflex we can do a pano in less than 10 minutes and then move on. A Gigapan would take about 20 minutes. These times are after you have set up each system, which is perhaps 10 minutes, since we are out in swamps.

We intend to take the Gigapan out to the swamp for future photography, but will continue to use the Novoflex as well (because it is so quick and easy to use). We also continue to use the BetterLight: each system has its pros and cons. Each system does several applications very well, but is not perfect for other applications. So it helps to know all the options and weigh the advantages and issues of each. Now you see the purpose of the FLAAR Reports evaluations.



Sofia Monzon has accomplished the graphic design and layout of this report. She intelligently suggested showing the individual photographs that the software subsequently turned into the finished pano.

This pano is not intended to be extreme wide-angle. Our goal is to show samples of the remarkable eco-system that surrounds the water lily plants.



Here you can see a comparison between a pano with Novoflex (left) and an ultra-wide angle single shot with a 15mm non-distorting extreme wide-angle lens (right), it looks like a fish-eye, but is non-distorting if you hold it horizontally.



Here is the complete photograph: the pano and the individual overlapping photographs. When I am out in the field doing the actual photography I rarely have patience to fine tune settings. So the number of degrees-per-photo is whatever I found already on the Novoflex pano plate. The results look fine so we have not tweaked or twiddled with the settings.





Here is a close-up of the pano with Novoflex (photo by Sofia Monzon and Nicholas Hellmuth).



Here is a close-up of the single shot from the 15mm Nikon lens (photo by Sofia Monzon and Nicholas Hellmuth).

All the different ways you can record the specific kind of pano

Since FLAAR does panoramic photography for many applications it is to be expected that we have several kinds of panoramic equipment. Plus we see many more kinds of panoramic equipment at major photography expositions.

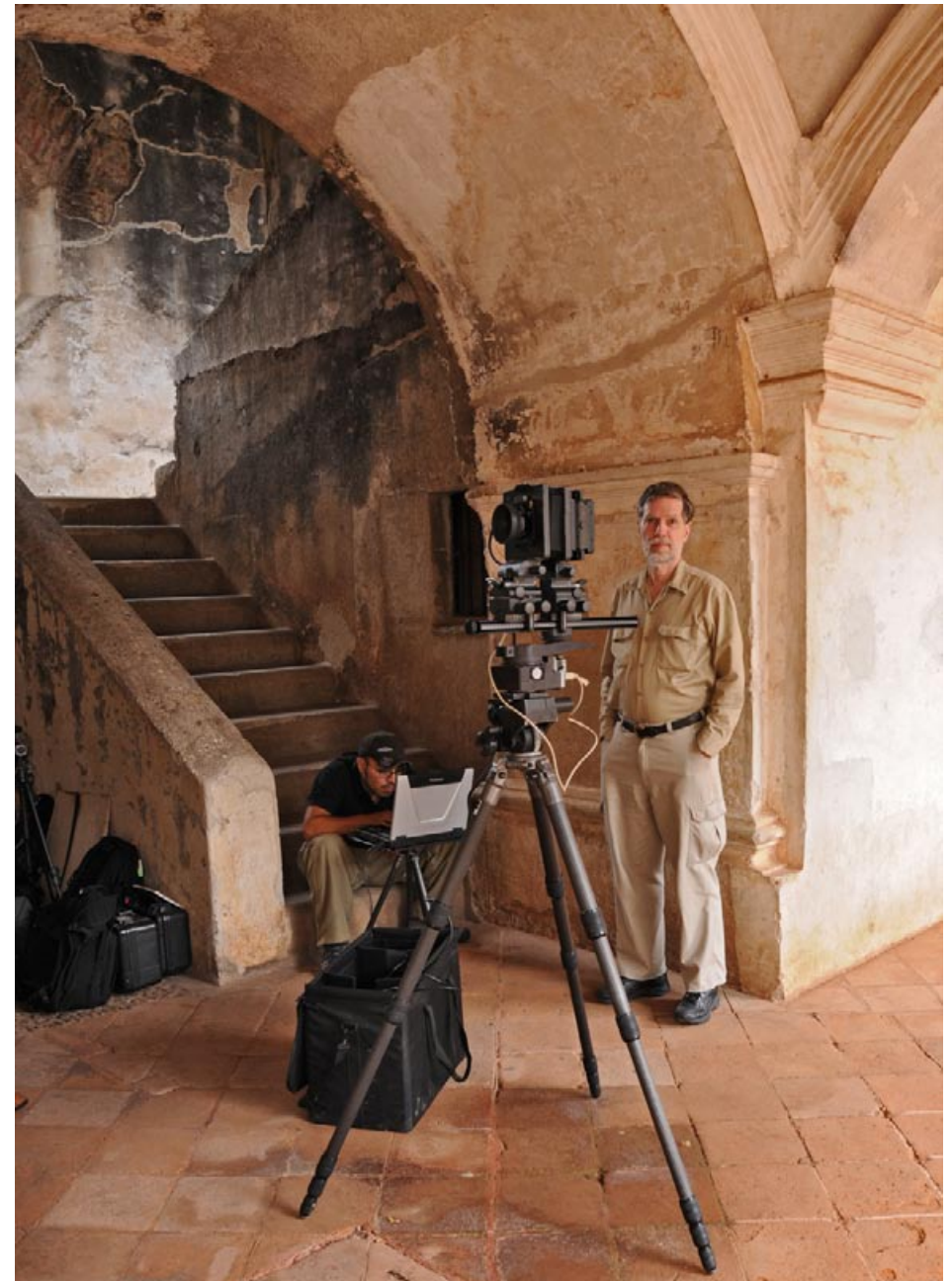
To begin with, we tend to use primarily medium-format and large-format digital cameras for panorama photography. One reason is because we are interested in exhibiting them at relatively large size. For example, at Photokina 2010 there is an exhibit of IR (infrared) pano photographs by FLAAR director of projects, Eduardo Sacayon, with one pano we did together. To do IR photographs, it is easiest to use a tri-linear scanning camera back (BetterLight).

Panorama photography with tri-linear scanning camera

For our early panoramic photography projects a BetterLight was used, on a 4x5 Cambo Ultima camera.

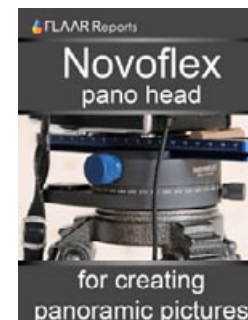
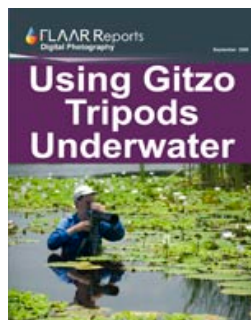
Benefits: images are 200 to 500, or more, MB in file size.

Downsides: a tri-linear scanner requires that the scene not have wind, traffic, people walking, or any other movement. Plus, unless you have a really portable large-format camera, you have a lot to carry, set up, and then take down and move to the next location. We use a full-size studio body; a much smaller camera would be significantly easier to carry around on field trips.



Medium Format pano camera accessories

Every camera size has advantages: for example, large-format is (so far) the only system that can do circumferential rollouts.



35mm is more realistic for extreme telephoto photography of birds and other small wildlife that are moving fast. A medium format camera would be bulky and their lenses don't have the reach of those available for Nikon and Canon.

But for sheer quality of an original image, medium format is impressive beyond description. Since panoramic photography is relatively simple it is an ideal situation to use medium format camera systems (what is complex in doing a panorama is selecting the composition).

One downside of using a medium format camera for panoramic photography would be the weight of the camera. Almost all the pano accessories are made for 35mm cameras. This is why FLAAR selected the Novoflex PANORAMA+Q PRO panoramic head system: this can hold the weight of a medium format camera.

Specialized pano camera systems

When you attend Photokina you will see a variety of dedicated digital pano systems, such as Seitz (Swiss) and several German systems, such as Dr Clauss. We are content with the several pano systems that we already have, so would not test other systems unless they were provided for our evaluation.

Pano systems for 35mm digital SLR cameras

Since there are thousands of photographers around the world who enjoy doing panoramic photography with 35mm DSLR cameras it is logical that accessory companies develop accessories to turn a normal Nikon or Canon into a panoramic system. In past years I have tried some of the L-shaped pano systems. They are okay for a lightweight 35mm camera but not all are adequate for to hold the weight of a Canon EOS-1Ds Mark III.

Of the (L-shaped) 35mm pano camera-holding systems we have tried the nice Seitz system has the advantage of having a motorized (turning) base.

But it has so many parts that it's hard to keep them all together when you have several hundred accessories being used by five different photographers. Plus it did not hold the weight of a medium format camera (it was made for the size, shape, and orientation of a normal-sized standard 35mm DSLR); so handling a heavy medium format camera is not its intended use. In general Seitz makes excellent panoramia equipment.

Novoflex also makes an L-shaped system (such as their VR-System PRO II). It has a diagonal buttress to help eliminate wobble from the weight of the hanging camera.

But if you have a medium-format camera you really need something more sturdy than an L-shaped holder. Most professional quality medium format digital backs can be turned sideways so you don't have to turn the heavy medium format camera sideways. So I definitely prefer the PANORAMA=Q PRO with QPL-PANORAMA sliding plate for my medium format camera to do overlapping shots out of which to create a panoramic photo.

Easy to operate, sturdy, idiot-proof to use without even searching for an instruction book. Just realize that the Hasselblad ELX thread does not easily take some bolts, so there may be a bit of play that you have to handle by understanding how to avoid the inherent sliding out of the grip of the bolt.

Contact Information

You can find a Novoflex booth at Photokina (held every two years).

Novoflex has been at most photography trade shows in the US in past years, usually in the booth of their US master distributor.

But you can contact Novoflex directly; they are multi-lingual.

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Novoflex booth at Photokina 2008 trade show.