

# What's in my Camera Bag

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## Déjà vu?

If the title of this month's Tutorial sounds familiar to you, then this means two things: 1) You read my Tutorials, 2) You have good memory. This was the title of a Tutorial that I wrote two years ago (March 2011, Stereogram 15.7). It is interesting to see how my 3d equipment change with time as the technology evolves or my personal taste and interests change.

My most recent "photographic vacation" took place during the entire month of December when my sister came to visit from Greece. During this month we toured the USA and visited cities like New York, Washington DC, Pittsburgh, Niagara Falls, Las Vegas, and, of course, Cleveland. In these trips I carried a moderate sized camera bag (see below) with all the equipment that I thought essential to cover most photographic situations and took thousands of 3d pictures. I would like to describe the equipment I used and how I used them.

## Why Isn't One Camera Enough?

First, let me address the question: "Why do you need more than one 3d camera? Isn't one enough?"

It is true that long time ago for many years and many vacations I carried only one camera, the Stereo Realist (actually, two Realists, one for backup). After I was

introduced to digital (10/2009), in one of my first "all digital" vacations (New Orleans, 2010) I only carried the Fuji W1 and I had a blast. So, it is possible to take plenty of interesting pictures with only one camera. This is especially true with digital where experimentation costs next to nothing and this one 3d camera can also function as a single camera for sequential (cha-cha) hyper/hypo stereos which can then be aligned with StereoPhoto Maker. So, I guess a lot of people would be happy with just one 3d camera today. But it is part of my nature to want to photograph a variety of subjects in the best possible way. During my December photo spree we visited large cities (people, buildings, storefronts with Christmas decorations), museums, etc. No one camera/technique is perfect for all these photographic situations. I like to change three variables: 1) Stereo Base, 2) Focal Length, 3) Focusing distance. This means that I have to carry more than one camera. For my personal needs I have found that, to cover most photo shooting situations, I need the following:

1. A standard 3d camera for everyday use.
2. A single camera for hand-held hyper- (mostly) or hypo-stereos.
3. Two cameras on a bar for synchronized hyperstereos.
4. A close focusing camera/lens or attachment for close-ups/macros.

The Table below summarizes how I satisfied these 4 areas in 3 different occasions, each two years apart: 1) In my last big "film vacation" in Orlando FL in 2009, 2) in New Orleans in 2011 with digital equipment, and 3) two years later, in December 2012.

## Single 3d Camera

This is, of course, the most important tool. Most of my 3d pictures are taken with a conventional 3d camera. Back in my film days, my favorite 3d camera was the RBT S1. In an important vacation I would also carry the RBT X3 to take advantage of the slightly longer stereo base and to use different lenses.

If I only had to have one camera with me today, this would be either the Fuji W3, or the Panasonic 3D1 (most likely the Panasonic, for reasons that I covered in a previous article.) In December, I carried both cameras with me.

One advantage of the Fuji is that there are a lot of accessories to go with it, like the Cyclopital3d attachments. These expand the use of the camera for macros, hyperstereos, use of various filters and lenses (fisheye lenses for example) external flash, etc. So this camera alone can cover a lot of ground. Also, I would like to emphasize again that the Fuji can be used for single cam-

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<i>Technique</i>	<i>Film Orlando 2009</i>	<i>Digital N Orleans 2011</i>	<i>Digital December 2012</i>
<b>3d camera</b>	RBT S1 RBT X3	Fuji W3	Fuji W3 Panasonic 3D1
<b>Single 2d Camera</b>	Pentax ZX-M	Panasonic GF1	Panasonic GF2
<b>Two Cameras synchronized</b>	2x Pentax ZX-M	2x Panasonic TZ10	2x Panasonic LX5
<b>Close up/ Macros</b>	Horseman 3D	Macrobox	Panasonic 3D lens
<b>Accessories</b>	Film, flash, tripod, bar	Batteries, memory cards, cables, twin camera bar	



**Top:** The main contents of my camera back during my photo vacation in December: Two stereo cameras, one single camera with 3 lenses (one for macro) and a twin camera system.

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era hyperstereos and macros, using the "Advanced 3D" mode.

**Important Note:** It appears that both the Fuji W3 and the Panasonic 3D1 cameras are discontinued and, based on what was shown in the recent Consumer Electronics Show in Las Vegas, there are no plans for any new 3d still camera. It is still possible to find the Fuji W3 for about \$150-\$250 in ebay, Amazon, or other places, but the 3D1 appears to be either too expensive or only available from Japan (around \$250-\$350, with Japanese menus.) If you are thinking of getting one of these cameras do not wait any longer.

### Single 2d camera

In the film days I used a Pentax ZX-M SLR camera for both single and twin camera hyperstereos (I had two of them, with wired shutter cables, but I could use just one for single camera hyperstereos). I also carried three matched pairs of lenses, 20, 40 and 100mm.

In my recent trip I carried a Panasonic GF2 camera with 28 and 40mm lenses. I used this camera to take hyperstereos from the air and also for various hand-held single camera stereos of buildings and macro stereos of displays in muse-

ums, etc. I could have taken these pictures (and I did take some hypers) using the Fuji in "Advanced 3D" mode, but the GF2 offers better quality. This quality comes at the expense of convenience (it takes longer to organize the pictures and combine the pairs to create 3d photos.) Also, the Fuji has the advantage of offering a tool for aligning the second picture over the first, and shows you the pair in 3d after it is recorded, which lets you judge the amount of depth. But I will still go for quality over convenience.

I use Panasonic "micro 4/3" cameras and have built a system of cameras and lenses, but there are other good cameras around made by Sony, Olympus, Nikon, Canon, etc. The quality varies from DSLR to point-and-shoot cameras, depending on the expense and the size/weight one is willing to carry, vs. the quality of the results.

### Two Synchronized Cameras

For stationary objects one single camera works fine. But for hyperstereos of moving objects you need two synchronized cameras. It is interesting that synchronization of digital cameras tends to be more complicated than film cameras. With film cameras (electronic SLR type) all you have to do is to splice two remote

shutter release cords, as I had done with my Pentax ZX-M cameras. With digital, cameras synchronization is not that simple. I could write an entire Tutorial on this topic alone, but let me say that I am lucky to have two pairs of Panasonic cameras wired by Ekeren. For my December trips I used a pair of Panasonic LX5 cameras (these are upscale point-and-shoot cameras), the same pair that came with my Macrobox. Since Ekeren is no longer with us and no one has taken over his job of wiring digital cameras, other options for twin cameras include: 1) Canon cameras synchronized with StereoData Maker (see previous Tutorials or google for more information - the Canon S95 is a favorite camera for this.) 2) Cameras that can be synchronized with wired remotes (I know that certain Panasonic cameras can be synchronized that way - I have a pair of GF1, and others use other models - search the internet for more information.) Since it appears that camera manufacturers are trying to find ways to make their cameras take 3d pictures without using two lenses, making them easy to synchronize (wired or wireless) would be a great step in the right direction, doubling the camera sales by 3d enthusiasts. We can only hope.

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**Top:** Pictures taken with the Panasonic Lumix 3D1 camera. **Left:** Oh, what fun we had (in a bar in Washington DC, typical use of the Panasonic's close lens spacing, people at close range). **Right:** Hand-held hyperstereo (cha-cha). Normally I would not use the Panasonic for this type of picture, but I was out running and this was the only camera that I had with me. Goes to show you that any camera can be used for this type of pictures. **Bottom:** Pictures taken with the Fuji W3. **Left:** statue by the Vietnam Memorial in Washington DC. **Right:** At the Luxor hotel in Las Vegas. Since nothing is moving in either picture, these photographs could have been taken with a single camera and cha-cha.

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### Close Up/Macros

This is a rather specialized area but it has always been an interest of mine. In the film days one could use the Macro Realist, RBT macro unit, or the Horseman 3D camera. Today one can take such pictures with the Panasonic 3D1 camera (some of my best close-ups, including my 3 award-winning entries in January, are with this camera at arm's length), the Fuji close-up attachment, or custom made mirror devices like the Macrobox. The Macrobox is more flexible in terms of the stereo base and magnification (see Stereogram 15.3) But because it is bulky I will only take it if I know that there will be plenty of opportunities for such pictures.

A much more compact solution for me now is the Panasonic 3D lens (See Stereogram 16.4, and also: <http://www.drt3d.com/Panasonic3DLens.pdf>). The price of this lens has now dropped close to \$50 (it is \$62 and free shipping at B&H right now - for reference I paid \$250 for this lens a year ago.) One can also buy a slightly used but complete Panasonic GF2 camera body for around \$100, so for around \$150-\$200 (and a few modifications of the lens as described in Stereogram

16.4) one can have a nice macro system, with the camera doubling as a standard camera (but an extra lens is required for this.)

### Accessories

In addition to the extra batteries/memory cards, three useful accessories are: 1) flash, 2) long twin camera bar, 3) tripod.

During my December trip I did not carry a flash, relying on the built-in flash in the cameras (despite its many problems/limitations), but I tend not to use flash a lot. I also did not carry a tripod. The tripod is mainly useful for long exposures at low light (night photography.) Digital cameras are generally easier to use under low light than film cameras, and tripods are bulky, so the tripod is usually the first thing to stay back when space and weight is an issue. I did take plenty of pictures at night, supporting the Fuji or the twin cameras on any available support. The Panasonic 3D1 camera takes surprisingly sharp pictures handheld in low light with shutter speeds as slow as 1/8 second, thanks to its internal stabilization, so it is very convenient for low light photography.

A long twin camera bar is useful for hyperstereos, but it also attracts more attention. While in New York, visiting the

site of the Twin Towers, a guard approached me and asked me to drop the long case that held the Hyperbar. He then brought an explosive sniffing dog, which turned out to be a cute little puppy. This is the only unusual episode in my December trips.

### Concluding Remarks

Different people have different expectations and equipment requirements. As the situation stands right now, no single camera can take the variety of pictures, from macros to hyperstereos, that I like to take, so I elect to carry 4 different systems when I travel. I did this back in the good old film days and today in the digital era. One advantage with digital is that I can fit all the equipment in one compact camera bag that does not weigh too much.

I have reproduced some typical pictures taken with each of my equipment in this Tutorial, and I plan to show more pictures in the "mystery" Open Projection session in our club. Perhaps the mystery will be: "which camera took this picture?"

*George Themelis*



**Top:** Pictures taken with the Panasonic GF2 camera hand-held sequential (cha-cha). **Left:** Hyperstereo of a building in Washington DC. **Right:** Close-up of an exhibit at the Air & Space Museum in DC. These two pictures demonstrate the flexibility in stereo base when using one camera. The subject however has to remain still. **Bottom:** Pictures taken with the wired twin Panasonic Lumix X5 cameras. **Left:** Hyperstereo at Niagara Falls using the Hyperbar (camera separation is 2 feet.) The moving water is a good test of synchronization. **Right:** At the Jefferson Memorial in Washington DC. The cameras touch each other (stereo base about 5 inches). This picture is a hyperstereo but looks a lot like a normal stereo.