

# Hyper in Newark

In 1920, artists Charles Sheeler and Paul Strand created *Manhatta*, a six-minute silent movie about New York that many have called America's first avant-garde film. Its groundbreaking photography captured New York's rapidly expanding metropolises like no film before or since.

Now, almost 90 years later, two filmmakers, Marylou Tibaldi-Bongiorno and Jerome Bongiorno, have created a contemporary interpretation of the film as a tribute to their own bustling city, Newark, New Jersey. It's called *New Work: Newark in 3D* and like *Manhatta*, it's black and white and six

minutes long. Unlike *Manhatta*, it's in 3-D, and largely in extreme hyperstereo as well.

*New Work: Newark in 3D* was commissioned by the Newark Museum as part of its Centennial celebration, where it will run in anaglyphic projection to January 10, 2010. See [www.BongiornoProductions.com](http://www.BongiornoProductions.com) or [www.newarkmuseum.org](http://www.newarkmuseum.org). Filmmaker Jerome Bongiorno (cinematographer and editor) supplied the following details about the film's production to *Stereo World*.

## Shooting New Work

by Jerome Bongiorno © Bongiorno Productions Inc.

In hyperstereo motion photography, the most important thing is to get the right stereo base. You can even shoot with two different cameras (I have), because you can fix almost any alignment problem in post, but what you can't fix is the stereo base; too much stereo base and parts of the image cannot be converged and too narrow a base yields an unexciting shot with too little depth. You've got to hit what I call that "sweet spot" where you have dynamic 3-D and the image can be easily converged even when blown up—as we did—to a 15x12 foot wall projection at

the Newark Museum. (See [www.youtube.com/watch?v=51GFE-W6YM](http://www.youtube.com/watch?v=51GFE-W6YM).)

The first thing we did was perform lots of tests and generate an equation to get us into the ballpark of what the stereo base should be. Armed with a Leica Rangemaster, we'd measure the distances of objects, plug the numbers into the equation, then generate a stereo base distance "range" we would cover.

During the production of *New Work: Newark in 3D*, we used two Sony high definition XDCAM EX3 camcorders—and two small automatic HD camcorders, the

MinoHD™ from Flip Video™.

Let's start with the Flips. When shooting with these cameras, zooming is digital and light adjustment is auto. If the cameras are on a bar with slidable mounts, you can be pretty nimble. The gear here is important. We used a Manfrotto 357 universal sliding plate attached to a lightweight Manfrotto tripod and head. The adapter plate is eight inches long (over-and-above any stereo base distance you'll need when shooting in a crowd) and, very importantly, the adapter can mount 90 degrees to the tilt of the tripod head. We shot the annual Newark Ferry Street Festival and got into and out of the dense crowd fairly easily—and it was crowded! We set the cameras at a 3 inch stereo base and made sure we were about 10 to 15 feet from the nearest object or person. When we were able to gain more distance, we increased the stereo base.

For most of our shots, though, we wanted more control of the image, like zooming or light or shutter control, so we used the Sony XDCAM EX3s. Best part is when you genlock these cameras, all motion is in perfect sync. Since the cameras aren't small, setting up a rig on the streets of Newark required time and security. But the extra production effort was worth it because the quality of the images at 1920 x 1080, through Sony electronics, is stunning.

The stock EX3 lenses (fitted with Tiffen UV filters—protect your

Broad and Steeple Streets, Newark, NJ in a hyperstereo frame from *New Work: Newark in 3D*. Images courtesy of and © Bongiorno Productions Inc.





Filmmaker Jerome Bongiorno operates two linked Sony XDCAM EX3s set up for a hyperstereo shot of a plane landing at Newark airport on a windy day.

lenses!) have a large zooming range, so you can really craft image composition. Wide open, you can safely use the 1:30 stereo base rule. One foot of stereo base to every 30 feet from the nearest object.

But, remember two things:

1) When you zoom, depending on the distance of the objects in front of you, the amount you zoom will end up affecting your stereo base. Even if near objects are say, 40 yards away—depending on the distances of the far objects—your stereo base might have to be knocked down to 8 inches.

2) Plus, zooming will make the cameras more sensitive to wind. When the cameras shake, they don't vibrate in unison, and the resultant 3-D is fuzzy. Sometimes, that can be a cool effect but, most of the time, you want the cameras to be super stable. We were very critical in choosing the right tripod. It had to be large and had to lock down tight, particularly when the head was tilted up or down. With two EX3s and a stereo camera bar (we used a bar and sliding mounts from Really Right Stuff), you have almost 20 pounds of rig sitting on the tripod head. So, the first thing we did was employ the heavy-duty Manfrotto 545GB tripod and 526 head to ensure stability.

The second thing we did was stiffen the camera mounts by using

EX3 camera plates by DM-Accesories. These plates saved some critical shots, particularly during very windy conditions atop high buildings and traveling on the fireboat on the Passaic River. When we filmed planes landing at Newark airport, it was incredibly windy. We tried to use large umbrellas to shield the cameras but ended up spending too much time wrestling with the umbrellas to keep them from turning inside out. We eventually abandoned the umbrellas and relied on the rig and

plates to steady the shots. Happy to report that we captured some great footage.

For our city skyline shots, we were very fortunate to travel on the Newark Fire Department's homeland security boat during rounds, up the Passaic River, at sunrise. That was memorable! As the sun popped up, Newark shined, and we captured it all in 3-D.

Syncing the cameras is a cinch. At the beginning of each take, I'd clap my hands three times, then I'd speak the following info into the camera mics: zoom number, white balance, ND filter, whether the cameras are parallel or toed, if they're genlocked, f-stop, and most importantly, the stereo base distance. This info is not only important as a checklist to make certain both cameras are set with exactly the same parameters, but also in editing; if you find a shot isn't working, you have some info to guide your next shot. By the way, we used a stopwatch to time our shots, so we didn't disturb the cameras to determine how long the shots had been recording. At the end of each take, I'd announce that we're slating, and I'd clap my hands three times. When editing, I'd go into the clip's audio track and sync takes using the last clap mark—it would always be the last of the three highest peaks on the

Train arrival from New York. Images courtesy of and © Bongiorno Productions Inc.



audio wave form. It's the best way we've found to easily and efficiently sync the clips—much better than syncing with a slate.

For *New Work*, we used Paul Strand and Charles Sheeler's 1920 avant-garde film, *Manhatta*, as a jumping-off point. We desaturated the images and squared off the final film to 1440 x 1080 to fill the 15 x 12 foot gallery wall at the Museum. We labored to get the anaglyph compression codec right, chose appropriate anaglyph glasses and prepared the wall surface with DIY Theater, White Platinum No Contrast Screen Paint over the white primer—which helped brighten the projected image. The Museum painted the gallery walls and ceiling black, installed a black rug, and added comfy black cube seating. We gathered some of Newark's best music and poetry and created a surround sound audio track. With the music and poetry filling the space around the viewer, the result is an immersive experience. With the 3-D, enhanced by the clarity of the screen, it almost feels like the wall isn't there. When setting up many of our compositions, we were careful to include a bit of the sidewalk



City hall at night from *New Work*. Images courtesy of and © Bongiorno Productions Inc.

in the image so that, while viewing *New Work*, you feel as though you could walk through the wall right into the cityscape.

Hyperstereo is a fantastic ride; an artistic, technical, and an intellectual one. Some shots we created were from two cameras separated by distances of over 50 feet. At

these lengths, the world looks very different. Understanding that our eyes are only separated by 2.5 to 3 inches, we realized that the images we had produced could not be seen, naturally, by human eyes. We wondered if this was what it was like looking through the eyes of God. ☪☪

# ANNOUNCING

## The 36<sup>th</sup> National Stereoscopic Association Convention

July 14-19, 2010

Huron, Ohio USA

Welcome back to the Great Lakes Region!! The 2010 NSA Convention will be held at the Lodge at Sawmill Creek, located in Huron/Sandusky on Ohio's North Coast. As always, the convention will feature Stereo Theater, Workshops, Trade Fair, Exhibits, Meetings and Banquets. Sheldon Marsh and Wildlife Area borders the resort and offers trails to view and photograph flowers, wildlife, and up to 300 species of birds. Several other nature preserves are within 2 miles of the resort. Cedar Point, one of the world's best amusement parks with 17 roller coasters and dozens of other attractions, is just a 10 minute drive from Sawmill Creek. Extend your stay to experience the local wineries, museums, Amish country, the scenic Lake Erie Islands, and many other great points of interest.

