Unleashing A MONSTER On Manhattan

J.J. Abrams returns to the big screen with Cloverfield, armed with a Thomson Grass Valley Viper, Sony F23 and Panasonic handicams to capture monster mayhem in New York

BY PAULINE B. ROGERS

Stuck in the infamous L.A. gridlock, wunderkind J.J. Abrams got an idea. What would happen if a monster descended on Manhattan? Five minutes and a half mile later, he had the green-light for his next Paramount feature. Then another thought popped up. *Transformers* opens soon. Wouldn't it be great to run a teaser before the picture? By the time the traffic started to move, Abrams had the go-ahead to shoot a teaser for a movie that had yet to be scripted, cast or crewed up. Such is the power of J.J. Abrams.

Almost immediately, a camera crew led by cinematographer Ernie Holtzman, ASC, finished two minutes of grainy footage, beginning as an innocent-looking party that quickly dissolves into an apocalyptic night scene with explosions, fireballs and a few "glimpses" of some sort of monster—no title, just "Produced by J.J. Abrams" and the date "1-18-08".

Under a cloak of secrecy, Abrams then pulled together a team, people he had worked with before—His *Lost/Alias* writer Drew Goddard to script, *Felicity* director Matt Reeves to direct, *Lost* executive producer Bryan Burk to coproduce and *Felicity/Lost/Alias* cinematographer Michael Bonvillain, ASC, to shoot—and the work begins on the untitled J.J. Abrams project, only recently christened *Cloverfield*.

THE VISUAL CONCEPT

His signature on a non-disclosure agreement allowed cinematographer Mike Bonvillain to sit down with Bryan Burk and read one of only two copies of "the script"—printed on red paper, no less. Bonvillain decided to go with handheld camerawork in HD instead of Steadicam.

"Nothing would take the audience away from the reality of a handicam shot than the big glidey feeling of a Steadicam," explains Bonvillain. "The handicams these days are so small and light, they have a very distinctive look—just in terms of the quickness with which they pan, tilt and dutch."

Eventually, Reeves, Bonvillain and DIT Nick Theodorakis settled on four basic cameras. For any shots with VFX, they used the Viper in filmstream mode, the then-new F23 for New York shots, and for non-effects work, a pair of Panasonic HVX-200s, which, says Bonvillain, "are almost high-def, 4:2:2, using the P2 cards." Add to that Panasonic's HDC-SD5 camera (using the AVCHD codec) for a few plate shots, and there's the camera package for *Cloverfield*.

CAMERA TESTS

Each camera being considered was tested in different script situations. The first was for top-speed camera movement around a series of practical locations to see how they handled dynamic movement. This involved the HVX-200, the Panasonic HDC-SD5 and the Sony F950 T-Cam against the Thomson Grass Valley Viper.

"We needed to see how different shutter angles handled these high-motion speeds," explains Theodorakis. "These tests were to see if high-velocity camera movement allowed for clean distinct frames with no motion artifacting or doubling. Clean VFX elements were a primary concern."

The next test: downtown Los Angeles, Viper against F23. Bonvillain chose a street corner with minimal lighting, mostly from marquee signs and typical low-level, sodium-vapor ambient light. The Viper was set to Filmstream mode and the Sony into the S-Log gamma curve. The Viper displayed good latitude for highlight detail—beautiful pictures. The F23 stunned Bonvillain and Theodorakis with its level of low-end latitude and high dynamic range.

"We could see so deeply into the shadows, with such a fine noise structure on the F23 that detail was evident in the clouds way deep into the distance," Theodorakis says.

The Sony F23s, pushed internally with a half-stop gain, matched the same level of noise as the Viper camera at baseline. That meant that Bonvillain and Theodorakis could get more ASA out of the F23 while still giving the VFX department the clean imagery needed.

There were two drawbacks to using the F23s for the bulk of the work. First, footage shot by Holzman for the teaser would be incorporated into the movie, and there was a concern that matching could be a challenge. Second, the F23 was relatively new and there were few available.

The F23, however, was the camera of choice for all the New York footage, handling less-controlled lighting situations and principle exteriors. "It was the best move because the F23 really adds to the documentary low-light feel of the movie," says Theodorakis, "and its color rendition is so much more natural and, for lack of a better word, Kodak-ish than previous Sony cameras."

The tests on the Panasonic HVX-200s proved that they would be the best for non-effects work, where emulating handicam was most important.

Left: (Left to right) Lizzy Caplan, Director of Photography, Michael Bonvillain and Director Matt Reeves on set with the HVX200; Right: Jessica Lucas, who plays Lily, contemplates the future; Below Left: Michael Stahl-David, who plays Rob, partying with friends before a monster attacks New York. Below Right: Rob and Lily fight for survival on the streets of New York - with HD camcorder in hand.

"SPLICING" CAMERAS TOGETHER

One of the most difficult tasks of the movie was figuring out which camera could cut against another so the look would be seamless. The team had to see if they could work around the changes in resolution and color depth. "When we tried to use only one camera in each scene, the cuts were easier," explains Bonvillain.

The Viper and F23 are both 1080 x 1920 24P cameras with no sub-sampling. The HVX-200 and HDC-SD5 are 720P and 1080i, respectively, with heavy sub-sampling in play. And the HDC-SD5 shoots at 60i. This meant the small camera only could be used in the beginning and end of the film, and on the New York subway, for both stealth and verisimilitude.

The testing generated a set of ground rules for Reeves, who always wanted to use the smallest camera. "We found that as long as the lighting scenario on one scene was different enough from the previous scene, you could easily cut the HVX to a Viper, provided the VFX department created a 'video effect' implementation to carry over the transition," explains Theodorakis. Since the concept of the film is home videotape, this allowed for a far less clean image than in "conventional" pictures.

What didn't work was cutting into a scene with a different camera than the one that started the scene. If the scene started on the Viper, it had to finish that way. Hence, the choice of Viper over F23 when cutting with teaser footage, even though the Viper and the F23 could cut together, the problem being the overall green cast of the Viper camera and the warm characteristics of the F23.

WORKFLOW CONSIDERATIONS

The reality Reeve, Bonvillain and Theodorakis faced was that they would be using professional motion picture camera systems, which had the weight and profile of standard movie cameras, but the script dictated they emulate a handicam. This meant that, in designing the workflow, Theodorakis had to make allowances for inevitable long takes and extreme moves.

The second issue with the long takes and dynamic camera moves was the Viper's tether. That meant Theodorakis had to think around the cable situation. He implemented the fiber system with which he had been experimenting on *Miami Vice*.

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"This way, we had almost a full mile of lightweight cable that could carry the signal to a recording deck at the central command station," Theodorakis says. "Fiber doesn't suffer from any of the voltage issues of copper line cable, and in some cases, it's far more resilient than the typical BNC cable. It really gives the people at the camera end the creative freedom to ignore the technology and concentrate on what really counts—the scene."

When the deck of the F23 proved to be too heavy to operate off the shoulder, the camera was tethered to the off-board deck. This was cabled to Theodorakis' station or to a backpack that digital-imaging technician Oliver Mancebo would wear.

Finally, there was the HVX-200 that captures footage at 720P when in the 24P Native mode. The shots would look like handicam, but the camera could handle MS mics, external follow-focus and iris units, etc. The camera was set up untethered with no direct HD line to the monitor. For monitoring purposes, the typical modulus RF transmitter sent the feed wirelessly.

ON-SET WORKFLOW

Theodorakis used a Cine-Tal monitor, which is a monitor with a computer built into it, as a LUTher box. Driving the monitor was a beta release of Iridas' SpeedGrade On Set program. "It's a nice little suite of color-correction tools, with primary and secondary correction, as well as difference mattes and other colorist utilities," Theodorakis says.

The program would contact the Cine-Tal and steal a still from it in full resolution. The footage could be color-corrected in SpeedGrade and then applied to the live image. The signal from the Cine-Tal monitor would be sent to a Sony CRT Multiformat monitor in 4:4:4. This CRT was the true monitor for everyone on the set and was matched to the DI suite at Co.3. The system essentially created a mini-DI suite on set.

Recalls Theodorakis, "It came in handy in so many ways, the least of which being that the image the Viper provided was entirely green in the Filmstream mode. So even though the SRW deck would record the RAW Filmstream image, I'd correct the green out and create the look for the scene using my Look Up Table."

Bonvillain and Theodorakis found that the best way to shoot the Viper and the F23 was to light the image a bit hotter in order to give VFX the thicker "negative" they needed, but print it down through the Look system to a more natural-looking "available" light level. This was for monitoring, but it gave Bonvillain a real indication of how close he could get things in the final correction. From there, Theodorakis could export a DPX file with a screen capture and send it to the post house.

To see how one camera would cut against the other, Theodorakis could pull up footage from the LUT color-timed Viper and then pull up the live camera image of the HVX camera and A-B the two. This allowed Bonvillain and Theodorakis to see how much correction could be done to smooth out the two images as they "married."

"If the conditions were in the right tonal range, we could cut one against the other," Theodorakis explains. "But the main issue with the HVX is that if skin tones were even slightly hotter than perfect exposure, then posterization would show. This made the cut against the F23 or Viper difficult. The F23 and Viper are 10-bit cameras while the HVX-200 is an 8-bit camera. The difference is noticeable."

After each P2 card on the HVX200 was finished, Theodorakis would hand the footage off to Mancebo and he would download it to Final Cut Pro. Mancebo would watch the footage on a MacBook Pro laptop, keeping his eye out for any video issues. He also backed up the footage to a RAID hard drive system.

POSTPRODUCTION

Paramount had never done a project with such a complicated workflow, so they had Theodorakis create a "white paper" for how Production and Postproduction would be implemented.

"With so many cameras, some with no time code handling at all, the task proved to be formidable," Theodorakis says. "We had five cameras, three different formats of capture, each with their own procedure. By the time it came to conform and film out, all the camera formats had to be the same. You can't send numerous formats to a film recorder in one project file.

"The concern I had was time code," he adds. "It's usually an on-set imperative to get perfect. This was a get-up-and-go-type shoot, with little time to make adjustments to the cameras. So I had each roll re-striped with a new time code the moment it hit the post house."

To tie the time codes together in production, sound jammed a time-code box that would be sent to an audio track on all the cameras. Says Theodorakis, "The important thing here was to create a unified system amongst all cameras. The rule was that the audible time code would never leave the footage."

Whenever possible, Theodorakis got sound on the tape. This reference track made dailies easier to sync. The more reference points, the better with this many formats. Theodorakis also worked with sound mixer Ed White to create a workflow for the sound tracks that would follow through to final delivery and helped optimize the possibilities of foreign distribution and inevitable format conversions. HDVP

Find out if five friends survive the most horrifying event of their lives, as told from the perspective of each of their video cameras, when* Cloverfield *opens on January 18, 2008. Until then, you can visit www.cloverfieldmovie.com.