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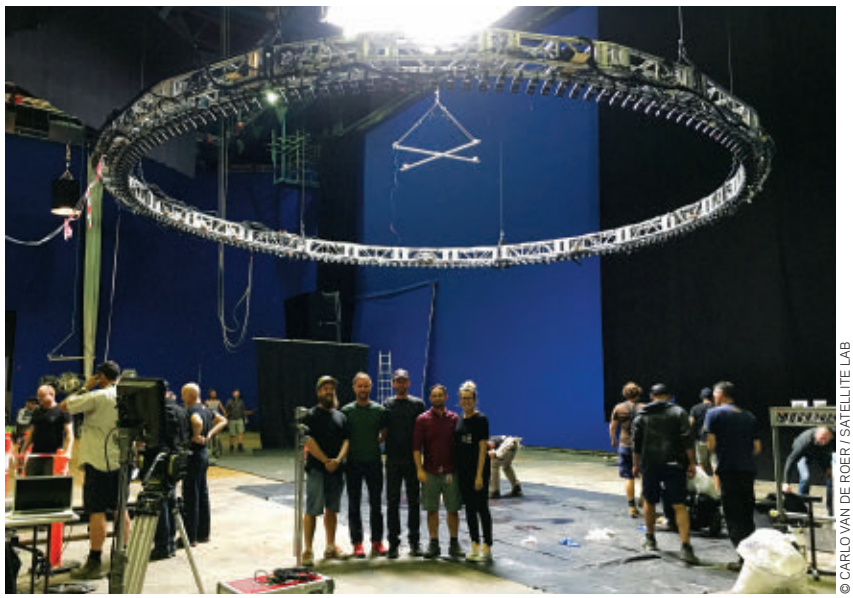
SOLVING THE STILLS + MOTION LIGHTING DILEMMA

How Satellite Lab built a machine for lighting and shooting stills and motion at once. **BY AIMEE BALDRIDGE**



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RIGHT: The North Face Apex Flex 2018 campaign featured stills and motion captured simultaneously using Satellite Lab's technology. **LEFT:** The Satellite Lab crew on the set of *Thor: Ragnarok*. The company's DynamicLight technology was used to film a dream-like sequence where Valkyrie riding winged horses attack the goddess Hela.

Do you fudge the creative details or try to finagle more production time out of your client? That's the dilemma many image makers face, with the ever-growing demand to deliver multiple media types and formats from a single shoot. Satellite Lab, a New York City creative studio and R&D space, decided to approach the problem from a different angle. Instead of trying to extend production schedules, they searched inside the time it takes to capture just a single frame for a way to produce a greater variety of images at once.

The result of their exploration is a new technology allowing stills and motion to be captured at the same time, on the same set, with separate lighting setups customized to each type of image capture.

To accomplish that, Satellite Lab built the hardware/software system they dubbed "FrameLight." "We made a little silver box that we call the 'brain' that takes care of all of our synchronization," says Satellite Lab Co-Founder and Creative Director Carlo Van de Roer. That controller is cabled to the cameras, and lights are connected either directly or through a camera. A technician controls FrameLight's brain through software running on a connected laptop, using it to synchronize one or more lighting setups simultaneously.

With separate still and video cameras shooting on the same set, each with its own dedicated lighting setup, FrameLight takes advantage of the blackout period in every video frame to light for stills. "Let's say you're shooting video at 24 frames a second and you're using a 180-degree shutter," Van de Roer explains. "That means that for half of every frame, the video camera is going dark. It's easy for us to then synchronize a stills camera to fire during the dark period of that video." Since the camera capturing stills is connected to its own set of synchronized strobes, that lighting does not appear in the video footage. And the still camera exposure is set to capture lighting from the strobes but not the dimmer video lighting.

FrameLight can also be used with a single-camera setup, for shooters who need stills and video with exactly the same point of view and don't want to make the compromises that can come with pulling frames from video footage—even with cameras that are touted as dual-purpose. For example, says Van de Roer, "the problem that's always arisen with trying to pull stills from a RED camera is either you get motion blur or you're ramping high ISO to get a smaller shutter angle, so you're having to deal with noise." He found that existing synchronization tools simply didn't offer enough speed to solve the problem. With FrameLight, "We sync every single frame of the RED to strobe," he says. "So every single frame is lit by strobe, and therefore is perfectly exposed and perfectly crisp, and it's high resolution."

FrameLight does require strobes that have recycle times fast enough to keep up with its ultra-speedy synchronization. "We use the Profoto Pro-10s because they have an amazing capacity to refresh quickly," says Van de Roer. But the system isn't tied to any one lighting or camera brand. "We don't really need to work with a specific camera," says Van de Roer. "We often work with a RED camera, Phantom cameras, and Arri a little bit. And then the still cameras that we've mostly been using are the 100-megapixel Phase One XF cameras." But FrameLight can potentially be used with any camera that can connect to its controller. "If it's a camera that we haven't previously worked with, we would just need to calibrate to that camera," says Van de Roer.

Being able to optimize the lighting for both stills and motion at once not only eliminates quality compromises but has also opened up creative possibilities. Using FrameLight, says Van de Roer, "you can actually start to separate the look and feel for your stills from the look and feel

for your video. They could be relatively similar or they could be completely different or you could alternate. You could be shooting stills in a way that matches the video for a while, and then you could flick a button so you're using a different set of strobes. And now you have a different look and feel for your stills, but you're able to move with flexibility within your stills environment without affecting the video at all."

With many clients asking shooters to produce imagery that can be used on a wide range of distribution platforms, FrameLight also makes the process of accommodating diverse formats more efficient. "More and more, we're being asked to shoot a 4x5 vertical at the same time as we're shooting a 16x9 horizontal," says Van de Roer. Using FrameLight allows those assets to be produced in-camera, during a single session.

Satellite Lab recently used FrameLight to create still and motion images for the outfitter The North Face. The images feature a new jacket that seems to be charging through a squall, to emphasize its waterproof, action-oriented design. "It was all about very precise timing of water and splashes and a spinning jacket, and so to do things for motion and for stills would have meant doing everything twice," says Van de Roer. Using FrameLight, Satellite Lab produced both stills and video in a single one-day session.

Satellite Lab also used their DynamicLight and PlateLight systems during the shoot. DynamicLight grew out of Van de Roer's work as an artist and was the first light-syncing technology the studio created. It allows moving light sources to be used within high-speed video captures. PlateLight captures video with multiple lighting set-ups simultaneously, so that the various lighting options can be used for creative compositing in post. To light the video during the shoot for The North Face, Satellite Lab used continuous HMIs in addition to their DynamicLight rig, a giant ring of hundreds of lights mounted to a speedrail so that the lights can move around a scene.

To create a different esthetic for the stills, they used five strobes connected to their Phase One camera, which in turn was connected to the FrameLight controller. "The lighting from that did not get recorded on the video because it happened during the dark period of the video frame," says Van de Roer. "We wanted the stills to have very directional light, a slightly graphic background, a crisp edge, and very sharp water. They don't have a drastically different look and feel, but if we'd shot the stills the way we shot the motion, I don't think we would have ended up with very interesting lighting for stills."

In addition to using it for their own work, Satellite Lab has begun to offer FrameLight to other studios as a service for shooters who need to produce both still and motion assets, capture great-looking behind-the-scenes video of a still shoot, or have photo and video crews working in tandem on the same set. They're also considering offering the system as a product if they see a strong demand. For shooters who want to expand their creative options within the confines of production budgets and schedules, it could be just the thing. pdn