

March 2021



The International Publication of the American Society of Cinematographers

American Cinematographer

Industry Tech Pivots | Breaking Down a Script



News of the World
An American Journey



Stunning Highlights. Absolute Black Point. This is True On-Set HDR.

Vision is the first 4K True HDR monitor built to withstand on-set production. Superior image quality rendered with detailed highlights, an infinite black point, and stunning, true-to-life colors in 115% DCI-P3. Powered by Small4K™ Architecture, an unrivaled Quad 4K I/O signal pass-through with integrated powering options. Housed in a lightweight, rugged aluminum unibody chassis for easy portability.

SMALLHD

Go further. See more at: hdr.smallhd.com



VISION 24
4K Production Monitor

The True HDR
Solution



SMALLHD

American Cinematographer

Contents



On Our Cover:

Tom Hanks and Helena Zengel star in *News of the World*. (Photo by Bruce W. Talamon, courtesy of Universal Pictures.)

Features

18 An American Journey

Dariusz Wolski, ASC helps director Paul Greengrass try a new style on the Western drama *News of the World*.

30 Accelerated Evolution

Pandemic pivots give rise to new procedures and industry advances.

46 Stage to Screen

Amid Covid-19 protocols, cinematographer Jonathan Furmanski brings polished look to Bon Jovi concert special.

54 Broken Soul

Newton Thomas Sigel, ASC teams with blockbuster directors Joe and Anthony Russo on the indie drama *Cherry*.

Departments

8 Letter From the President

10 Shot Craft: **Analyzing a Script**

66 New Products and Services

68 Ad Index

69 In Memoriam: **Robert F. Liu, ASC**

70 Clubhouse News

72 Wrap Shot

VISIT ASCMAG.COM

FREE
Download
Now!

Blackmagicdesign



Introducing DaVinci Resolve 17

Over 300 new features including HDR grading, AI magic mask and improved Fairlight usability!

DaVinci Resolve 17 is a major new release packed with over 300 features and enhancements! Colorists get new HDR grading tools, AI based magic mask, color warper and more. Fairlight adds lightning fast keyboard and mouse sound editing tools. Editors get new metadata 'slate' view, smart reframing, proxies, keying, Fusion effects and more!

Next Generation HDR and Color Features!

New HDR grading tools, redesigned primary controls, AI based magic mask and more. The new HDR palette lets you create custom color wheels for targeted corrections, magic mask uses the DaVinci Neural Engine to isolate and track objects, and the color warper lets you morph colors in creative new ways! New DaVinci wide gamut image processing gives you even higher quality!

World's Fastest and Highest Quality Pro Audio Tools!

Fairlight features a powerful new engine that supports up to 2,000 realtime tracks with effects, dynamic and EQ. The new context sensitive edit selection tools and updated shortcuts make it even faster and easier to use, especially if you're switching from another system. You can now reverse clips, analyze loudness, view transients, preview video, move automation and more!

Powerful New Edit and Cut Page Features!

A new metadata 'slate' view with bin dividers makes it easy to sort and find clips based on scene, shot, camera, and more! There's also new audio trimming on the cut page, AI based smart reframing for changing aspect ratio, a new portable proxy workflow that supercharges edit performance, render in place, timeline based syncing, compositing, keying, Fusion effects and more!

Fusion Effects, Titles and Transitions for Editors!

DaVinci Resolve 17 lets you save anything created on the Fusion page as an effect, title or transition that can be used on the edit and cut pages! New animation curve modifiers automatically retime animations when clip length is changed, there are new vector shape tools for motion graphics, shared markers, and audio playback with graphical waveform!

DaVinci Resolve 17 **Free**
DaVinci Resolve Studio 17 **\$295**



Free DaVinci Resolve Speed Editor
with purchase of DaVinci Resolve Studio 17

www.blackmagicdesign.com

Available for Mac, Windows and Linux

[Learn More!](#)

American Cinematographer

EDITOR-IN-CHIEF

Stephen Pizzello

WEB DIRECTOR and ASSOCIATE PUBLISHER

David E. Williams

EDITORIAL

SENIOR EDITOR Andrew Fish

SHOT CRAFT and TECHNICAL EDITOR Jay Holben

CHIEF TECHNOLOGY OFFICER and WEB PRODUCER Mat Newman

DIGITAL CONTENT CREATOR Samantha Dillard

WRITER/RESEARCHER Tara Jenkins

CONTRIBUTING WRITERS

Benjamin B, Rachael K. Bosley, John Calhoun, Mark Dillon, Michael Goldman, Jim Hemphill, David Heuring, Noah Kadner, Debra Kaufman, Michael Kogge, Iain Marcks, Matt Mulcahey, Jean Oppenheimer, Phil Rhodes, Patricia Thomson, Peter Tonguette

PODCASTS

Michael Goldman ▪ Jim Hemphill ▪ Iain Marcks

BLOGS

Benjamin B ▪ John Bailey, ASC ▪ David Heuring

CREATIVE DIRECTION and DESIGN

Edwin Alpanian

ADVERTISING

ADVERTISING SALES DIRECTOR Angie Gollmann

323-936-3769 Fax 323-952-2140 e-mail: angiegollmann@gmail.com

ADVERTISING SALES DIRECTOR Sanja Pearce

323-952-2114 Fax 323-952-2140 e-mail: sanja@ascmag.com

SUBSCRIPTIONS, BOOKS and PRODUCTS

CIRCULATION DIRECTOR Saul Molina

ASC CEO and PUBLISHER Terry McCarthy

ASC SPONSORSHIP and EVENTS DIRECTOR Patricia Armacost

CHIEF OPERATIONS OFFICER Alex Lopez

MEMBERSHIP ADMINISTRATOR Salvador Maldonado

DIRECTOR OF FINANCE and ACCOUNTING Thanh Lai

ACCOUNTING Kim Pallares

American Cinematographer (ISSN 0002-7928), established 1920 and in its 101st year of publication, is published monthly in Hollywood by ASC Holding Corp., 1782 N. Orange Dr., Hollywood, CA 90028, U.S.A., (800) 448-0145, (323) 969-4333, Fax (323) 876-4973, direct line for subscription inquiries (323) 969-4344. Subscriptions: U.S. \$50; Canada/Mexico \$70; all other foreign countries \$95 a year (remit international Money Order or other exchange payable in U.S. \$).

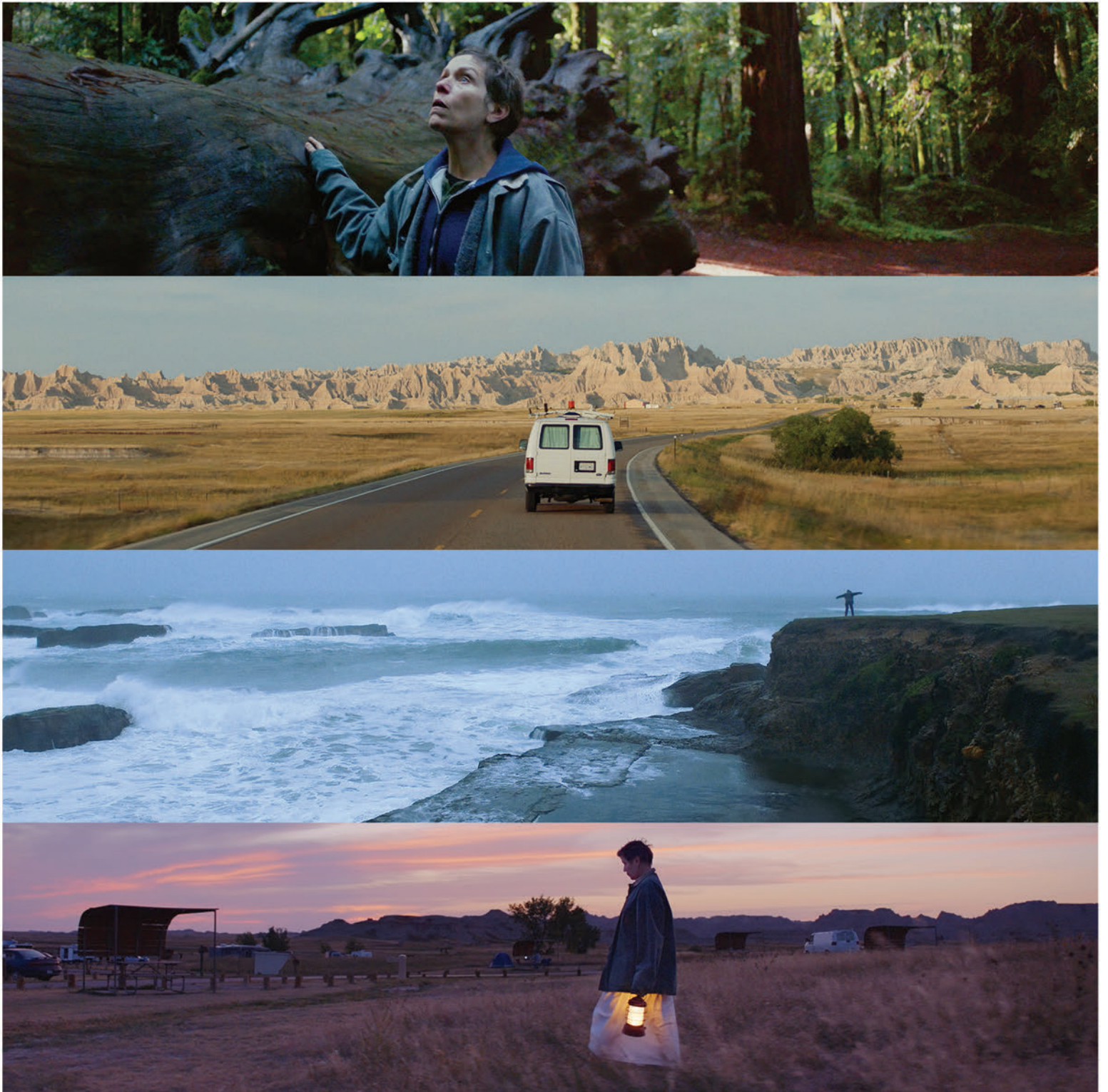
Advertising: Rate card upon request from Hollywood office. Copyright 2021 ASC Holding Corp. (All rights reserved.)

Periodicals postage paid at Los Angeles, CA and at additional mailing offices. Printed in the USA.

POSTMASTER: Send address change to American Cinematographer, P.O. Box 2230, Hollywood, CA 90078.

“Grace manifests itself in the unobtrusive beauty of Joshua James Richards’ widescreen images, in the gentle curve of a highway or the sunlight gleaming over a crowded RV park.”

Justin Chang, *Los Angeles Times*



For Your Consideration in All Categories Including

Best Picture

Best Cinematography

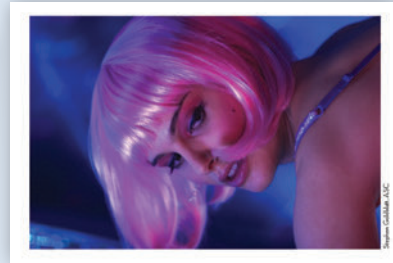
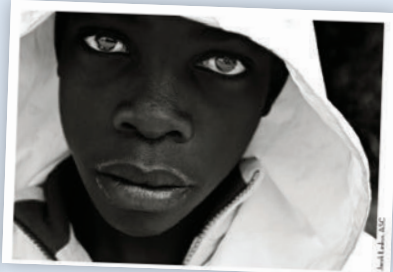
Joshua James Richards, Director of Photography

NOMADLAND
A FILM BY CHLOÉ ZHAO

NomadlandFYC.com



CUSTOM COLLECTION OF STILL PHOTOGRAPHY BY MEMBERS OF THE ASC



IMAGES BY

RUSSELL CARPENTER ▪ JAMES CHRESSANTHIS
FREDERICK ELMES ▪ STEPHEN GOLDBLATT ▪ EDWARD LACHMAN
JACEK LASKUS ▪ PHEDON PAPAMICHAEL ▪ JOHN SIMMONS
JOHN TOLL and MORE

Curate your personal portfolio of outstanding photos created
by some of the world's finest cinematographers,
delivered to you complete with a
museum-quality presentation box.

You'll find everything in the ASC Gallery at
store.ascmag.com/collections/asc-photo-gallery



American Society of Cinematographers

*The ASC is not a labor union or a guild,
but an educational, cultural and
professional organization. Membership is
by invitation to those who are actively en-
gaged as directors of photography and have
demonstrated outstanding ability. ASC
membership has become one of the highest
honors that can be bestowed upon a
professional cinematographer — a mark
of prestige and excellence.*

OFFICERS 2020/2021

Stephen Lighthill
President

Amelia Vincent
Vice President

Steven Fierberg
Vice President

John Simmons
Vice President

Steven Poster
Treasurer

Gregg Heschong
Secretary

Christopher Chomyn
Sergeant-at-Arms

MEMBERS OF THE BOARD

John Bailey
Christopher Chomyn
Curtis Clark
Richard Crudo
Dean Cundey
Frederick Elmes
Larry Fong
Edward Lachman
Stephen Lighthill
Lowell Peterson
Steven Poster
Lawrence Sher
Rodney Taylor
Mandy Walker
Robert Yeoman

ALTERNATES

Michael Goi
Buddy Squires
Steven Fierberg
Charlie Lieberman
Denis Lenoir

MUSEUM CURATOR

Steve Gainer

FOR YOUR CONSIDERATION

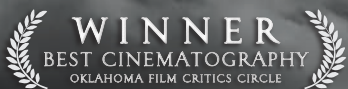
Best Picture

Best Cinematography – Theatrical Release

ERIK MESSERSCHMIDT, ASC

“IT IS THE MOST GORGEOUS PIECE OF CINEMA YOU’LL SEE ANYWHERE.
BRILLIANTLY SHOT BY ERIK MESSERSCHMIDT.”

ABC NEWS



Mank



FILM.NETFLIXAWARDS.COM

Letter From the President



PHOTO BY MICHAEL M. PESSAH, ASC.

With this issue of *American Cinematographer*, we return to the theme of virtual production. While the technology of VP is recent, the idea of in-camera compositing is as old as moviemaking itself, starting with simple dissolves — which required the cameraperson to mechanically fade out the ending of one shot, cap the lens, rewind the film, and then begin a new take gradually fading in — all in-camera. Techniques for in-camera effects grew more sophisticated, but were actually logical and simple, and included such methods as matte painting, where an experienced scenic artist would paint an image on a large glass plate suspended in front of the lens; magically, an entire village, mountain or skyscraper was added to the live footage. Some of you may also remember when the Ultimatte system first allowed a trial marrying of video images on set when used with a green- or bluescreen.

Fast-forward to now, and we have a new magic for compositing with LED screens being fed video images — one of the main themes of this issue. Of course, people have to create the images to feed to these screens, and so it takes a village to create a “village” image that can suddenly appear on set, camera-ready. It will be essential for cinematographers, production designers and CGI specialists to collaborate for this technology — like any other in our field — to successfully advance the story being told.

This challenging collaboration will only work if all the players realize there is no “boss” in the traditional sense. “My way or the highway” is an attitude that most likely will be left in our past. As James Baldwin put it, “Not everything that is faced can be changed, but nothing can be changed until it is faced.” Cinematographers now have to face more authors of the in-camera image than just themselves and their teams. There will be more collaborators working on this image, and, as it involves an intensely electronic process, many more wires on the floor of the set.

In fact, the entire film industry looks like it is being rewired these days. Mat Beck, ASC has a thoughtful piece in this issue examining how many filmmaking methods and technologies are being reconceived and pushed to evolve due to the pandemic. And with virtual production set to play an ever-increasing role, the ASC will not only keep covering this topic in *AC* magazine, but we are also launching a series of Master Classes to explain and demonstrate this new technology. There are bright new worlds ahead!

A handwritten signature in black ink, appearing to read 'Stephen Lighthill'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Stephen Lighthill
President, ASC



“★★★★★. **STUNNING** CAMERA WORK BY **NEWTON THOMAS SIGEL.**”

DEADLINE

“**THE BEST PICTURE OF THE YEAR.**”

ABC NEWS

“**THE WORK OF NEWTON THOMAS SIGEL IS OFF THE CHARTS
UNBELIEVABLE.**”

CINEMABLEND

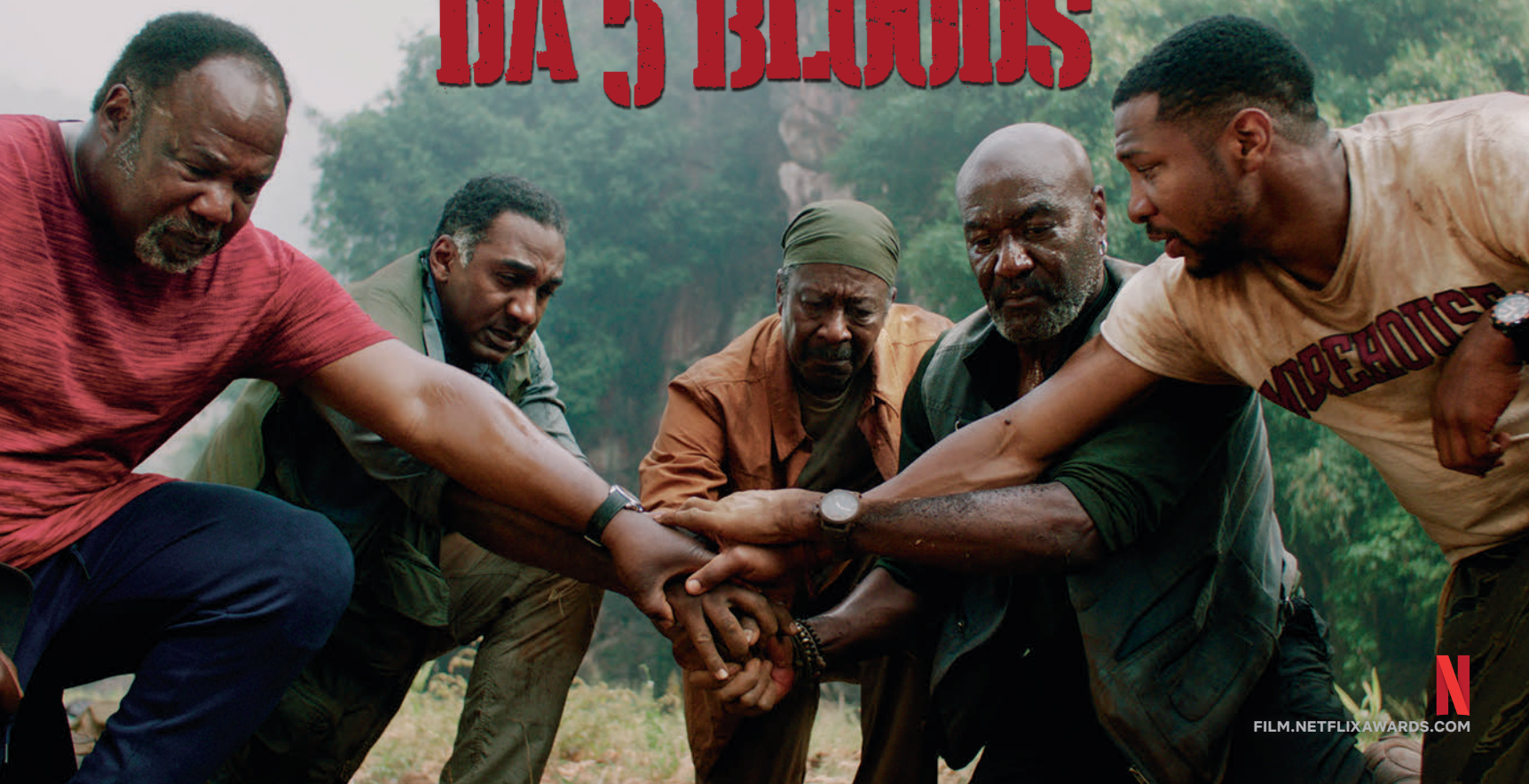
FOR YOUR CONSIDERATION

BEST PICTURE

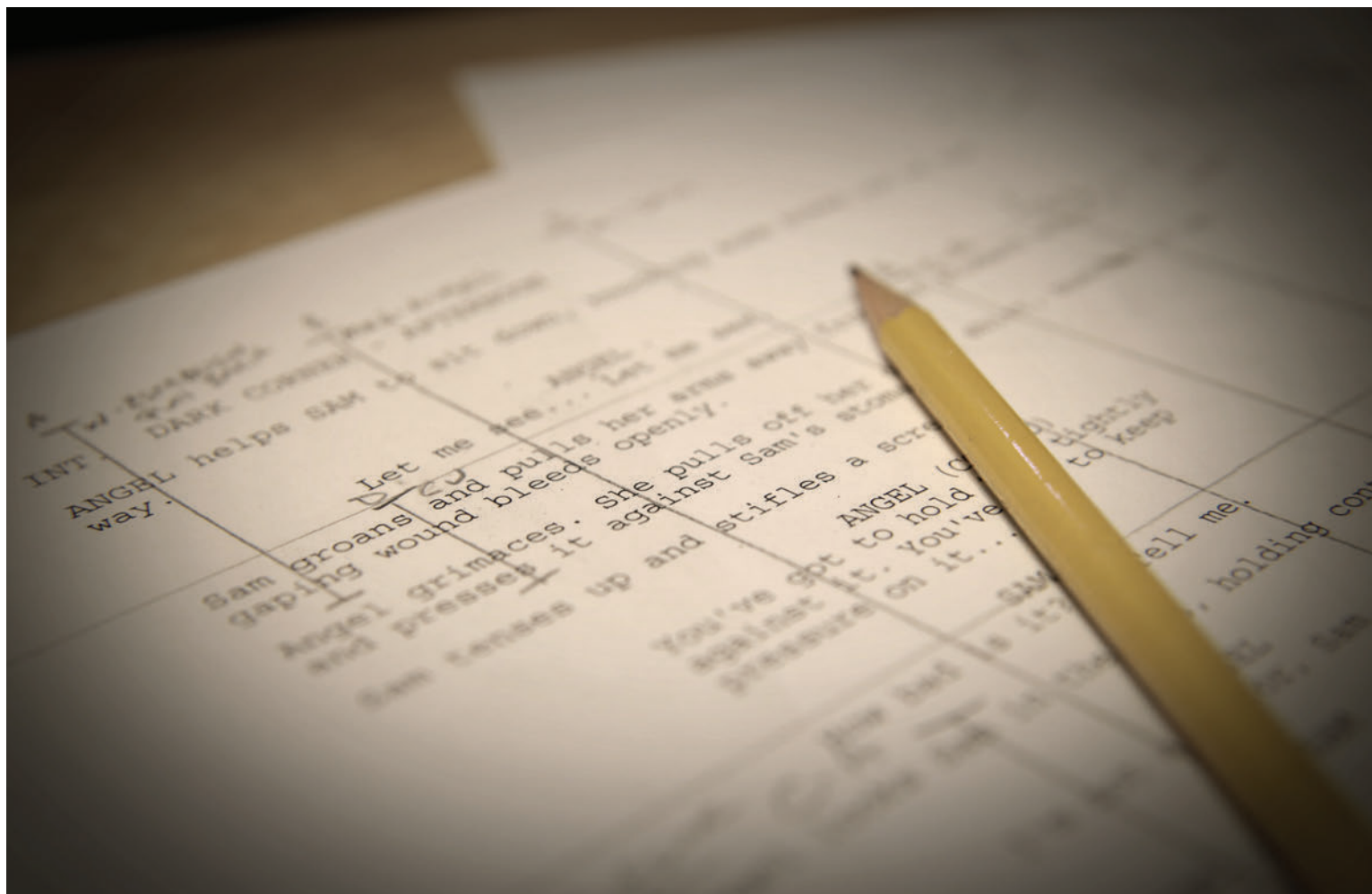
OUTSTANDING ACHIEVEMENT IN CINEMATOGRAPHY - THEATRICAL RELEASE

NEWTON THOMAS SIGEL, ASC

DA 5 BLOODS



Analyzing a Script



It's All About the Story

Cinematography is visual storytelling — it's about conveying emotion and meaning in the imagery. To that end, it's all about what helps to tell the story in any given moment and express a certain feeling to the audience.

When filmmakers first read a script, they will want to identify the main characters, their objectives, and if they achieve them or not. Many cinematographers will testify that they try not to visualize the script on the first read. Instead, they will distill the script to the essence or heart of the story. A cinematographer may make notes about genre (as that will set a particular tone for the visual approach), time period, and any major visual rules set by the script (i.e., it's on an alien planet where the

light is always red, or in a post-apocalyptic world where there's always a thick cloud of poison atmosphere and never direct sunlight). Finally, a filmmaker will want to note a story's point of view. Sometimes it's omniscient — a third-person, all-seeing and all-knowing viewpoint — but often a story is told mostly through the experiences of one character the audience will most likely empathize with. Understanding point of view will inform many choices a cinematographer can make.

A More Detailed Pass

A second read of a script is typically where filmmakers will take more detailed notes and approaches to each scene. For example, in a scene with a character after a funeral of

a loved one, a cinematographer might note, "moody, cool tones, feels depressing," and decide to play into the sadness.

In a scene where a man meets the love of his life, one could note, "bright, almost blinding-hot flares that make it hard for him to see her," and decide to make the love interest backlit to force the man to squint and struggle to see her clearly — he's literally blinded by her beauty.

In a scene where the hero is stalked by the antagonist, one could note, "dark shadows, hard light, wide compositions with a lot of negative space," to emphasize that the character is alone and afraid.

By the time you get to the end of the second read, you'll likely develop strong thoughts

that can inform aspect ratio, overall lighting approach, color palette, specialized lenses, or camera support. Maybe you get a strong feeling that the second half of the movie should be handheld to reflect the frantic emotional breakdown that is coming for the lead character. There are no right or wrong thoughts here, and sometimes notes can even be contradictory, but it is important to get them down on paper. These thoughts can be refined on third and fourth reads and can be beneficial before or after the initial conversation with the director.

Lookbook

A critical tool for any filmmaker is a lookbook, and many cinematographers will make one before meeting with a director. A lookbook will contain a collection of images that help convey thoughts of composition, color, light quality, mood, and any combination thereof. The process helps to solidify your thoughts and communicate them visually.

Scene-by-Scene Breakdown

When it comes to how I personally approach each scene in my work, my background as an actor and director are major influences. Many actors break down a scene into “beats and measures,” like a musician. Generally, each character in the scene has an objective, and they have techniques they use to try to achieve what they want. A character may switch tactics multiple times in any given scene, and each of these attempts is an individual beat. A cinematographer will also look for these beats and measures because they inform how the character is feeling and how to possibly approach the scene. For example, I’ll make marks in the script’s margin where I feel the beat changes happen, and draw a horizontal line across the scene. These notes may inform a change in camera operation/movement or lens selection, or motivate a lighting cue, or inspire a combination of these decisions.

The next step is to “line” the script, which is literally drawing lines through the action and dialogue that represent an individual

Clicking With the Script

By Polly Morgan, ASC, BSC

The first time I read a script, it’s always for story. I ask myself, “Do I connect with the material? Does it resonate with me? How does it make me feel? Am I interested in dedicating months of my life to helping tell the story?” If the answer is yes, then I read it a few more times in preparation to meet and talk it over with the director. At this stage, I make notes on what visual tools I feel would be appropriate to bring the script to life, how I see it in visual terms, and how I would use the tools to execute it. I pull references to convey the tone to the director for lighting, color and framing.

Once I get hired on a production, I continue breaking the script down in more detail. I usually make a master document that breaks down each scene relating to each department. For example, each scene number will be broken down by color-coordinated departments, and their anticipated impact on the visuals. I can then make notes on the script in that color so I know at a glance what my notes on the script relate to. It will look like this:

1. Camera

Shot lists/design

Tools needed to create the given shots (special lenses, filtration, heads and grip)

2. SFX

Rain, atmosphere, wind, etc.

3. VFX

Greenscreen/previs

4. Lighting

Approach

Tools needed to create lighting approach

4. Color

Light/design/costume

5. Time of day/scheduling

I will keep expanding on this document so it becomes my bible on how the movie will look. For some projects it will also contain overheads, storyboards, references and such. As the document grows, the approach gets imprinted on my brain, so at a certain point I don’t need to look at it anymore. However, when I’m deep in the middle of a long shoot and my brain is fried, it’s great to be able to pull it out to review the day’s scenes and the absolute approach from all departments. It’s a helpful way to prep with the AD and plan the execution of the movie — and a wonderful reminder of the project once you’ve wrapped and moved on.



Examples of a notated script (left) and shot list.

shot. This is something most directors will do, but it's always a good idea to have your own concept of how to approach the scene. For example, if I look at a scene and know that I'm going to need a wide master for the entire scene, I will draw a long vertical line through all of the action and dialogue of that scene and label it "A – Wide Master." I know that I need a medium shot of the main actor for the first part of the scene, so I'll draw a second vertical line through about half of the scene and label it "B – Med on 1." If there's a switch in beats halfway through the scene, and I know that I want to be closer to the main actor on a wide lens to get more intimate with his growing emotion, I'll do something else: starting about halfway into the scene at the spot where I've indicated the beat change, I'll draw a new vertical line through action and dialogue that represents that coverage and

label it "C – Close wide lens on 1." This is noting how I visualize the scene in my head and what shots are important to tell the individual story. From here, it's easy to make a shot list by simply writing down all of the individual shots and then discussing them with the director.

Additional Visual-Communication Tools

There are two major types of thumbnail sketches that are frequently interchanged. The first is a rough storyboard, which communicates the final framing. The second is an overhead sketch, which is sometimes called a director's plan or bird's eye. This is a sketch of the set or location noting actor positions, camera positions, and anything else that's important to add (dolly track, lighting, etc.). These sketches are very useful to your key crew (operator, key grip, gaffer), as well as

the ADs, because they show what is required for each shot.

As you go through this process, more and more details will become apparent, such as identifying the shots that require special tools — Steadicam, handheld stabilizer, dolly, crane, drone, etc. — and you'll start to visualize your daily requirements in more significant detail. You might also start to formulate an overall plan dictating that the look of the film may change as the story evolves. Making these notes on the script will help you maintain this idea as you go into production.

All of these notes need to be discussed with the director. If you're not on the same page, you may argue and defend a particular idea, but remember, it's your job to bring the director's vision to life. If you're really at odds creatively, then this might not be the right project or partnership for you — it happens.

**“A BRAVURA FILM
that feels like a story from five minutes ago,
not 50 years ago.”**

Entertainment
WEEKLY



BEST PICTURE

BEST CINEMATOGRAPHY

SEAN BOBBITT, BSC

**JUDAS
AND THE
BLACK MESSIAH**

FOR YOUR CONSIDERATION



BRON

WWW.WBAWARDS.COM





More Script Tips From ASC Members

Start With a Blank Slate

By Todd A. Dos Reis, ASC

In my initial read of a script, I approach the material as if I am just a reader, experiencing the story for the first time, freeing myself from all production thoughts. In my second pass, I read the script as the DP, with context and subtext in my mind. I will ask myself, “What does each scene mean? How does the piece make me feel? How does each scene fit into the totality of the script?” After meeting with the director, I go through the script a third time and attempt to synthesize all of the

director’s thoughts so that we start with a plan on paper to get their vision on the screen.

For me, the only way to get into the director’s head is to spend as much time as I can with them. I like to start with visual references the director has in mind — films, photography books, paintings, etc. I see my job as translating the director’s ideas into a visual language that can transfer the script onto the screen. A lookbook is a must, and it has become increasingly easy to create one with the development of Lawrence Sher [ASC]’s [screen-image database], Shotdeck. Through our communication, I develop a set of principles that will either carry a film to fruition or carry a TV series through many seasons.



Story, Structure and More

By M. David Mullen, ASC

I first read the script straight through without trying too hard to visualize it, to get a sense of the overall story. Then I think about visual structure — stories can fall into certain designs, like an A-to-B journey, or perhaps a conflict between the world of A versus the world of B (of course, there may be more than two characters or worlds that they occupy).

I also try to decide whether the story would be better told in a subjective style, where we only see what the main character sees and experience everything through him or her, or a more objective style, where we maintain some distance in order to see societal or institutional structures more clearly. All of these approaches are a bit simplistic (few movies are entirely only subjective or objective), but start with broad strokes and come up with a simple visual concept — because in the course of making the film, things develop more flavors and, to some degree, the idea gets watered down (or, to put it more positively, becomes more subtle). All of these questions that I ask myself, I also ask the director.

If the film is an A-to-B journey, then it helps to first decide where you want to end up in order to figure out how you want to begin. For example, some horror films fall into a structure of starting out in Naturalism and ending up in Expressionism. But do you want to begin with a happy, sunny mood that devolves into a dark nightmare? Or do you want to maintain a mood of dread? There are no right or wrong answers. Some choices come down to the particular story, but also the taste of every creative person involved.

Once the broad approach is decided, I start breaking down the script into specific tones, colors, moods, and find visual references for inspiration.

FOR YOUR CONSIDERATION
IN ALL CATEGORIES INCLUDING

BEST
CINEMATOGRAPHY
JOHN SCHWARTZMAN, ASC



the little things



Words First, Images Later

By Greig Fraser, ASC, ACS

When I first read a script, I try to read it with the least amount of visual imagery in mind — impossible most of the time. I hate to try to create the visual spine of the film during the first read. Once I've discussed the script with the director and heard what visual ideas they have and the direction they want to take it, I read it again with an eye to the cinematography. Of course, I have ideas initially, but they are half-formed and malleable. Rarely do I find myself in a situation where the director's ideas and my half-formed ideas are so far apart that I need to say no to the job.

Exchanging Ideas

By Paul Cameron, ASC

First pass I read for story and the point of view of the characters. It's ideal to speak with the director soon after and start exchanging ideas. I start pulling and manipulating images along with basic notes. It's elliptical. I make some key visual reference panels, often-times with overlays, until I exhaust myself. Then I focus on the process of visualizing the film with the director. Hopefully, by then the collaboration begins with the production designer and VFX supervisor. ◻

**"ONE OF THE MOST
EXCITING MOVIES
I'VE SEEN IN QUITE
SOME TIME"**

The New York Times



**"IMPECCABLY
CRAFTED ON
EVERY LEVEL"**

Los Angeles Times



FOR YOUR CONSIDERATION
In All Categories Including

BEST PICTURE
BEST CINEMATOGRAPHY
TAMI REIKER ASC

AMAZON ORIGINAL MOVIE

**ONE NIGHT IN
MIAMI...**



amazonstudiosguilds.com

AMAZON
STUDIOS



An American Journey

Dariusz Wolski, ASC helps director Paul Greengrass leave his comfort zone for the *Western News of the World*.

By Michael Goldman



When director Paul Greengrass took on the first Western of his career, *News of the World*, he decided the material called for a departure from the “comfort zone” of his famed kinetic filmmaking style. Based on a novel by Paulette Jiles, the Reconstruction-era drama tells the story of a Confederate war veteran (Tom Hanks) who is traveling through Texas — reading newspapers to townsfolk to eke out a living — when he comes upon an orphaned white girl (Helena Zengel) who needs to return to distant relatives after spending most of her life raised by a Kiowa tribe. The rugged journey to bring her “home” across a harsh yet beautiful landscape, and the evolving relationship between the unlikely pair, form the emotional core of the story.

Best known for directing three films in the *Bourne* action series and the historical thriller *United 93*, Greengrass quickly realized the challenge he faced was how best to “do things a little differently yet still make it feel authentic to me,” he says. To accomplish this, he called upon cinematographer Dariusz Wolski, ASC — whose credits include the *Pirates of the Caribbean* franchise, *The Martian* and *Alice in Wonderland* (2010) — to collaborate with for the first time.

“When you make films, you have to change and grow,” Greengrass says. “I love the movies I’ve made with [longtime collaborator Barry Ackroyd, BSC]. He’s a dear friend, and I’m sure we’ll make more films together in the future, but I wanted to explore a different style of filmmaking. I’ve loved Dariusz’s work for years, so I spoke to him, and told him I wanted to be challenged. I wanted to do things differently — and that’s what we did. [We came] at the material with different instincts and backgrounds.”

The Unknowing Camera

Both filmmakers agree that one inspiration for their approach, thematically and visually, was John Ford’s classic Western *The Searchers*. Greengrass, a self-described Ford fan, explains that *News of the World* is, in a sense, “*The Searchers* in reverse, because in that movie [John Wayne’s character] is going to find a girl so he can get her home, and in this film, our character has already found the girl and is trying to bring her home.”

Wolski examined other Westerns he admires, including Andrew Dominik’s *The Assassination of Jesse James by the Coward Robert Ford* (AC Oct. ’07) — photographed by Roger Deakins ASC, BSC — which served as another inspiration. “[Roger is] such a master of lighting with the way he utilizes natural sources,” Wolski says.

Early on, Greengrass talked extensively with Wolski about how best to maintain his preferred “unknowing camera” — which he defines as a camera that “doesn’t know more than the characters in the story.” They also discussed how to find a visual language that would allow them to “shoot a classical Western that honors the landscape and the intimacy of the characters — the two different poles of the story,” he says. The result, according to the director, is “a film of stunning beauty with a certain muscularity to it as we traveled through the landscape, as opposed to a

Dariusz Wolski, ASC (right) with director Paul Greengrass.



passive follow of these two characters.”

The filmmakers’ differing viewpoints were essential to the success of their vision. “Paul takes a documentary approach and makes movies from the direct perspective of the main character,” Wolski says. “I come from a different background, having worked with Tony and Ridley Scott, Gore Verbinski, and Tim Burton, who are extremely visual directors. The question I faced was how to take the documentary approach and turn it into something a little bit more visually arresting.”

That challenge, combined with a modest budget and the rugged shooting locations throughout New Mexico, led Wolski to suggest that the film be shot entirely with a combination of handheld and Steadicam techniques. For conversations and non-action scenes, the camera was always handheld, and “for big tracking shots and long walking shots, we decided to go

to Steadicam to kind of calm it down a bit,” the cinematographer says.

Wolski chose Arri Alexa LF and Mini LF cameras, Angénieux Optimo EZ1 and EZ2 zoom lenses, a Panavision Primo 11:1 zoom, and Panavision System 65s. “The EZs pretty much covered us for the range of shooting,” Wolski says. “We had the Primo for the occasional long-lens shot, which, of course, a Western calls for. I always used the [System 65] primes at night; they’re super-fast and a little soft, and they flare nicely.” A-camera 1st AC Dan Ming adds, “We shot wide open at night and mainly at a T5.6/8 during the day so we had room to open up when the inevitable clouds would roll by.”

Ming notes that because of the locations and the nature of the story, the logistics were “inherently more challenging” for pulling focus. “Actors were on horseback, [in a] wagon,

swimming or walking — situations where marks aren’t really practical,” he says. “We were frequently just running around with small monitors and handsets with a Preston Cinema Light Ranger overlay to give us distance readings. Dariusz is not one to shoot everything wide open, and the natural surroundings and sets gave a lot of texture to the story, so it was nice to be able to see it and not have it all be soft with a super-shallow depth of field.”

The camera was never locked off during production. “We covered the majority of actor and wagon movement with the Steadicam — a very demanding assignment for [B-camera 1st AC] Simon England, who made it look easy,” says Steadicam operator James Goldman. “We did a lot of walking with the Steadicam because we did not carry a dolly, Technocrane or pursuit vehicle for the entire show. Most of the news-reading scenes were covered with three

“THE BEST FILM OF THE YEAR”

The New York Times

“MOVIEMAKING ON A HIGH WIRE”

DEADLINE

OVER 20
TOP FILM OF THE YEAR
LISTS

INCLUDING

The New York Times CINEMABLEND IndieWire

VARIETY RogerEbert.com RollingStone GLAMOUR Parade

AMAZON ORIGINAL MOVIE

BORAT
SUBSEQUENT
MOVIEFILM



FOR YOUR CONSIDERATION IN ALL CATEGORIES INCLUDING

BEST PICTURE

BEST CINEMATOGRAPHY

LUKE GEISSBÜHLER



“We were out in the middle of the desert, doing it like a proper Western.”



Illuminating Choices

Intending to avoid movie lights as much as possible, Wolski worked with gaffer Orlando Hernandez and set decorator Elizabeth Keenan to select 100 period kerosene fixtures for use throughout the shoot. (Additional lamps were used to dress backgrounds.) For safety reasons, any lamps not close to or held by characters were converted from kerosene to electricity. “We used 12-volt DC LED controllers [generally one per lantern] with 50-, 75- and 100-watt halogen bulbs, and that also gave us the ability to control LED tape installed on the lantern hoods and such to augment the output,” says Hernandez. “This was my first time using a 12VDC system for lanterns instead of 120VAC, and this approach eliminated the need to run miles of Socapex cable and install elaborate dimmer stations throughout the towns. It also allowed us to place lanterns in the shot at the last second. Our

console programmer, Patrick Toohey, set the intensity level and applied a slight flicker to these units to mimic the occasional flutter of a kerosene lantern.

“Night exteriors and firelit scenes employed custom 530-watt 2'x4' LED hybrid panels that I built for this film,” Hernandez continues. “We added Half CTO gel to create a warmer glow below 2,600K. These panels worked as soft boxes mounted in condors, attached to ceilings, and mounted on stands, and smaller versions were used whenever a light source needed to be concealed.”

HMI's were used for day interiors, to backlight rain for some of the daytime tank work, and to occasionally augment natural daylight on exteriors. Arri L-Series and SkyPanel LED units were occasionally used for night interiors — with SkyPanel S60s “sometimes also providing fill for exterior and interior day scenes.”

handheld cameras, as were the other longer stationary dialogue scenes.

“Key grip extraordinaire Mike Popovich converted a Dodge Ram 1500 truck into a shooting platform via speed rail,” Goldman continues. “That allowed us to mount two cameras simultaneously — [A-camera operator] Martin Schaer handheld and me with the Steadicam from the back or front. It was a low-budget approach that worked very well for leading and following shots where terrain allowed.”

The movie features “a lot more Steadicam than I’m used to,” Greengrass notes, as well as some helicopter aerial work that Wolski says the director was originally opposed to “because he believes everything should be shown from the perspective of the character. But in the end he [agreed] because it was important to open the movie up and show the characters in the landscape, which is also a character in the film.”

When it came to a crane-mounted camera, however, despite a long history of classic crane shots in many famous Westerns, Greengrass was insistent that *News of the World* eschew the technique entirely. “Cranes would take me too far away from my vernacular,” the director says. “A sweeping crane shot as you often get in Westerns would have introduced us to the ‘knowing camera,’ and I didn’t want that. It can be beautiful if you do it properly, but it didn’t feel like my language. Dariusz agreed with that, and yet he was relentlessly searching for a Western-composition way of viewing the landscape to help us reach those two poles — the intimate drama identity in the center of the film and having that [take place] inside this enormous, unforgiving landscape.”

Chase, Crash and Shootout

The picture features a classic action sequence, beginning with the two protagonists fleeing into the mountains in a rickety wagon as villains try to run them down. The wagon crashes spectacularly — and a cat-and-mouse, tension-filled shootout ensues in and out of the rocks and crevasses of the landscape. The sequence was extremely complicated to shoot safely in the mountains at about 7,200' in elevation.

“A STUNNER...

a tense, minutely crafted
crime drama that’s as
patient as it is thrilling”

PLAYLIST

“There’s such confidence behind
the camera, director Julia Hart
and the cinematographer
Bryce Fortner find art within the
genre without indulgence. It’s
**INCREDIBLY STYLISH AND
GORGEOUSLY COMPOSED”**

**The
Guardian**

AMAZON ORIGINAL MOVIE

I’M YOUR WOMAN

FOR YOUR CONSIDERATION
IN ALL CATEGORIES INCLUDING

BEST PICTURE

BEST CINEMATOGRAPHY

BRYCE FORTNER



amazonstudiosguilds.com

AMAZON
STUDIOS

Tech Specs:

2.39:1

Cameras: Arri Alexa LF, Mini LF

Lenses: Angénieux Optimo 45-135mm EZ1 T3 and 22-60mm EZ2 T3 (both with FF Rear Optical Block); Panavision Primo LF Zoom adapted to 40-470mm T4.5, System 65

Captain Kidd (Tom Hanks) travels across Texas to deliver national headlines to small-town residents.



According to Greengrass, the idea was to construct a “long-flowing action sequence. It starts as one thing, a wagon chase, and then becomes a foot chase, and then becomes a gunfight, and then we go to the resolution. Dariusz and I both were struck with the textures of the [mountain location] — all the dust, sand and stone. It was a brutal and dramatic visual palette to set the sequence in. There were also a tremendous number of safety issues associated with that sequence, particularly when we got really high up. It would take a couple of hours to get everybody into position to shoot, and then a couple more to come down.” The director adds that Wolski is “indefatigable in reaching a place where he can get the shot that he wants. It was a real adventure for us, and a lot of hard work. We weren’t on a soundstage — we were out in the middle of the

desert, doing it like a proper Western.”

Wolski notes that the filmmakers “had to cheat two different locations” to make the scene work, because they couldn’t bring a wagon or horses high into the mountains. “We shot the ‘beef’ of the scene with the main actors first,” Schaer says, after which the operator led a 2nd unit that shot material featuring the villains to tie the action together.

“We used three handheld cameras for the action sequences almost all the time — that gave us plenty of angles and action,” Schaer continues. “For the shootout, Paul and Dariusz chose a location below a dramatic cliff [that was] only accessible by foot, not even by mules or horses. For a few weeks, a team of motivated two-legged ‘goats’ — aka crewmembers — made an early-morning ascent into the gnarly rocks to set up

6

CRITICS CHOICE AWARDS NOMINATIONS
INCLUDING

BEST PICTURE OF THE YEAR

BEST DIRECTOR **EMERALD FENNEL** BEST ORIGINAL SCREENPLAY **EMERALD FENNEL**

BEST ACTRESS **CAREY MULLIGAN**

4

GOLDEN GLOBE® AWARDS NOMINATIONS

BEST PICTURE OF THE YEAR

BEST DIRECTOR **EMERALD FENNEL** BEST SCREENPLAY **EMERALD FENNEL**

BEST ACTRESS **CAREY MULLIGAN**



WINNER
BEST PICTURE OF THE YEAR
San Diego Film Critics Society Music City Film Critics' Association Columbus Film Critics Association
Sunset Circle Awards Kansas City Film Critics Circle

SCREEN ACTORS GUILD AWARDS® NOMINEE
OUTSTANDING ACTRESS
CAREY MULLIGAN



“This daringly directed, ultra-modern fable is seductive, bruising and utterly intoxicating”

KATIE WALSH, TRIBUNE NEWS SERVICE

“Benjamin Kračun’s cinematography is pure sugar”

PETER TRAVERS, ROLLING STONE



FOR YOUR CONSIDERATION IN ALL CATEGORIES INCLUDING

BEST PICTURE OF THE YEAR

BEST CINEMATOGRAPHY BENJAMIN KRAČUN

PROMISING YOUNG WOMAN

WRITTEN AND DIRECTED BY EMERALD FENNEL



[CLICK HERE TO WATCH ASC CLUBHOUSE CONVERSATION](#)



FOCUS
FEATURES
A COMCAST COMPANY
© 2021 FOCUS FEATURES LLC

A practically produced sandstorm was enhanced by natural clouds.



and create an exciting sequence amid this spectacular Western Range.”

Goldman adds, “For much of the battle we were perched on the sides of steep hills, handheld, wrestling to get shots. Shooting the overs from the top down toward the villains at the bottom was handheld at the knees, as the actors took cover low and popped up to shoot.”

Sky and Sand

One element of the environment the filmmakers couldn’t possibly control was the New Mexico sky. For one key sequence, the production

created a practical sandstorm to pelt the protagonists using gas-powered propeller fans. It was an effect, he says, that worked very well — and was then augmented by Mother Nature herself.

“We created the sandstorm, and then we realized we had super-dramatic dark clouds behind it,” Wolski recalls. “It was spectacular. [In the movie], when the sandstorm subsides, you see this very dramatic sky in the background. That was all real. My philosophy has always been to be open to nature and don’t overplan it. When something beautiful happens, just be ready to capture it.”

Run and Gun

The shooting environment required a mobile run-and-gun setup, reports digital-imaging technician Ryan Nguyen. He used a combination of Teradek Bolt 3000 XT transmitters and receivers, and a proprietary fiberoptic system designed for him by Panavision to manage the camera signal. “Because we were shooting in the mountains with multiple cameras in all directions at any given time, it was very hard to hide the receivers and the video village,” he says.

“I found it easier to place the receivers as

close to the cameras as possible, and from there I would run a BNC cable to the on-set fiber box and then run a single fiber cable back to my station. I find that fiber is an essential tool for video workflow on set, even when using wireless.”

Nguyen adds that he built a mobile rack for the production that housed a BlackMagic Design router, four TVLogic IS-Mini LUT boxes, a Decimator quad split and a Convergent Design Odyssey 7Q as his “go-to device to grab reference and use as my waveform and vectorscope, and for false color.”

“We [understand that] one LUT doesn’t always work for every scene, so we are always playing a bit with CDLs on set,” Nguyen adds. “[Dariusz and I] really like to start off by seeing what the set and environment give us, and once you embrace that, the color and look comes naturally. “EC3 and Company 3 then handled our dailies creation, using the ASC CDLs I provided. Dailies were viewed using a Pix system, but if Dariusz ever wanted to see something on a bigger screen, I had a setup back at the hotel.”

“THE BEST PICTURE OF THE YEAR”

Rolling Stone



WINNER
BEST ACTRESS -
SIDNEY FLANIGAN
New York Film Critics Circle
Boston Society of Film Critics

WINNER
BEST SCREENPLAY
New York Film Critics Circle
Indiana Film Journalists Association
Chicago Film Critics Association
National Society of Film Critics



**NEVER RARELY
SOMETIMES ALWAYS**

FOR YOUR CONSIDERATION IN ALL CATEGORIES INCLUDING

BEST PICTURE OF THE YEAR

BEST DIRECTOR
ELIZA HITTMAN

BEST ACTRESS
SIDNEY FLANIGAN

BEST ORIGINAL SCREENPLAY
ELIZA HITTMAN

BEST CINEMATOGRAPHY
HÉLÈNE LOUVART A.F.C.

**“AN URGENT,
EXTRAORDINARY FILM FOR THIS
VERY MOMENT. SIDNEY FLANIGAN’S
PERFORMANCE IS ASTONISHING”**

— *Entertainment* MARY SOLLOSI —

**“A WORK OF ART.
HÉLÈNE LOUVART’S CINEMATOGRAPHY
IS EXCELLENT”**

— *THE WALL STREET JOURNAL*. JOE MORGENSTERN —



Sign up at FocusInsider.com for exclusive access to early screenings, film premieres and more.
For more on this film, go to FocusFeaturesGuilds2020.com.

PASTEL



**FOCUS
FEATURES**
A DIVISION OF
© 2021 FOCUS FEATURES LLC

Right: The sandstorm was created with the aid of gas-powered propeller fans. Below: Capturing a night interior.

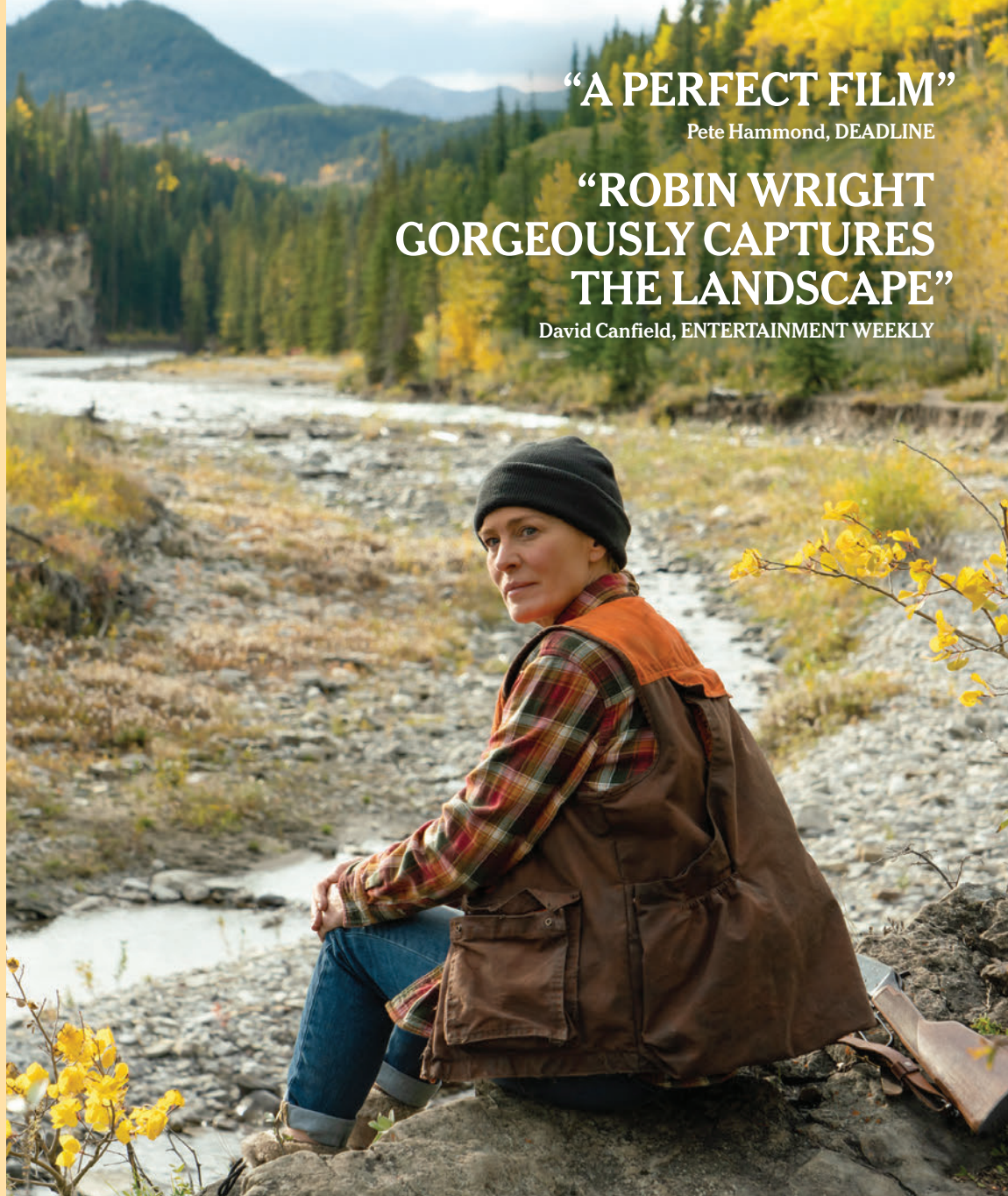


“When something beautiful happens, just be ready to capture it.”

Intimate Storytelling

Wolski used classic film lights “as little as possible,” he says, relying on natural light for day exteriors, and real or enhanced firelight and kerosene lamps at night. The goal for the interior work was to make the scenes “as realistic as possible just using gas lights, making it moody and kind of mysterious — representing that period.” (See sidebar, page 22.)

Apart from “a few beautiful wide shots,” the film is very intimate, Wolski adds. “It’s shot in close-ups — it’s *about* close-ups. Most conversations happen either on the wagon or by the campfire — that’s where we get reflective, emotional scenes. The campfire gave us great opportunity for intimacy, especially when you try to do it during magic hour with real flames, hardly augmenting anything. On the one hand, this is a big landscape movie, but on the other we are talking about two faces in the middle of nowhere. And that makes it a very emotional movie.” ◻



“A PERFECT FILM”

Pete Hammond, DEADLINE

“ROBIN WRIGHT
GORGEOUSLY CAPTURES
THE LANDSCAPE”

David Canfield, ENTERTAINMENT WEEKLY

FOR YOUR CONSIDERATION IN ALL CATEGORIES INCLUDING

BEST PICTURE OF THE YEAR

BEST DIRECTOR

Robin Wright

BEST ACTRESS

Robin Wright

BEST ORIGINAL SCREENPLAY

Jesse Chatham and Erin Dignam

BEST CINEMATOGRAPHY

Bobby Bukowski

LAND

Written by JESSE CHATHAM and ERIN DIGNAM

Directed by ROBIN WRIGHT



Sign up at FocusInsider.com for exclusive access to early screenings, film premieres and more.
For more on this film, go to FocusFeaturesGuilds2020.com.





Accelerated Evolution

AC reaches out to experts in the field to discuss advances in technology and perspective in the age of Covid-19 and beyond.

Introductory essay by Mat Beck, ASC



The multicolored light bars and stone-tiled walls are in fact an image displayed on an LED wall at Gum Studios. (See page 42 for the full virtual-production setup.)

Everything was in place for the first day of shooting. The virtual-production volume was set up with LED walls, and the pre-rendered assets were loaded in. The Covid protocols were all established. No more than 10 people on set at one time. Tents and trailers outside for hair, makeup and art department. Only one problem — the director of photography had just found out he'd been exposed to the virus. Though he had no symptoms, the production took the most cautious route. He could not come on set. (So much for cinematic immunity!) A new protocol therefore emerged. He watched takes via videoconferencing, and called in comments to the line producer — who transferred the comments via walkie-talkie to the AD, who passed them along to the director and crew. The work continued, and the schedule was maintained.

You may remember the word “homeostasis” from biology class. It refers to the effort of any system — living or not — to maintain a steady state as the environment changes. There's a slightly newer and somewhat more elegant term: “homeorhesis.” This is the tendency of a system that is constantly in flux to work toward holding a steady *trajectory*, rather than a steady state. It's more apt for living things that are changing but working to maintain consistency of path toward a destination. Either word can be useful to describe the remarkable ability of human beings — and their systems — to make corrections and re-balance in the face of difficulties threatening to knock them off course.

The example above occurred during production of a small independent film. The filmmakers are employing some cutting-edge technology to work in the new environment — and yet, in the end, a good old cellphone proved to be the final piece of the puzzle.

There's another principle at work, of course. Human beings are about connection. We need contact with other humans and tend to do poorly without it. In an age when multiple forces are conspiring to drive us apart, it's remarkable how strong and creative the efforts are to bring us back together — and how moving it is when they succeed.

Over the holidays this year, a cinematographer was sitting in a bubble with his daughter, feeling sad and nostalgic about family gatherings they used to have when they all lived closer together — and plague-free. So, on the last night of Hanukkah, they organized an impromptu lighting of the candles with a bunch of cousins from all over the country. Seventeen people met on a Zoom call, some of whom hadn't talked in years. It was a notable success. With the help of technology, scarcity turned into abundance.

The production environment has similarly adapted, and pretty effectively.

Paul Rabwin, vice president of postproduction at ABC Signature Studios, points out that a film set is probably the safest place to be during a pandemic. The varied zones, strict PPE and social-distancing rules, and testing three to five times a week means everybody is likely quite safe. He points out that “remote” is now one of the most important words in all aspects of production, from prep through post. Remote meetings,

“Ultimately, our success depends on finding ways to stay connected.”

scouting, viewing, dailies, color correction, editing — all are benefiting from the increasing capability to work via a high-resolution interactive link.

The same priority applies on set — existing technologies like remote dimmer boards and lens controls, originally designed for efficiency and convenience, are now used to allow crewmembers to be separated from the cast and other crew. Remote heads and even crane arms can serve the same purpose.

Michelle MacLaren, who recently served as an executive producer and director on *Coyote* for CBS All Access, is now directing *In Treatment* for HBO. She reports that both of the show's two cameras are on remote heads, leaving only the dolly grips near the actors. The production has also turned the necessity for remote communication to their advantage. A special headset connected her to cinematographer Steven Fierberg, ASC, as well as the operators, dolly

grips, set dresser and DIT. Everyone on line is in sync. It works great, but still it's not her preference. As much as MacLaren loves the systems that let her and her team work, she adds, “I'd rather be close to the actors, sitting next to the camera.” Fierberg agrees; he was surprised at first by how much he was missing when, while rolling, his only view of the set was through the remote cameras. Neither he nor the operators could see or react to what was happening outside the frame. The headset arrangement helps enormously, but it does leave out some non-verbal emotional information. The link is like “radio instead of cinema.” Fierberg is looking forward to when he can once again walk over to a colleague to give a note. And he misses the hugs.

Rodney Taylor, ASC, is working on the Apple TV Plus series *Swagger* in Virginia. He, the director and the script supervisor all sit at isolated monitors. Most of the crew must watch the

shooting through a Wi-Fi link. The gaffer is behind him, separated by a plastic shield. When lighting with stand-ins, he has to extrapolate the look of each face because they are wearing masks. Camera assistants can't trade tips or gossip around the camera carts because the carts are parked apart by the prescribed distance. For people who get so much joy from working together with their talented, motivated teammates, the job becomes emotionally harder. It's that connection thing again; with the masks on, you can't see your colleagues' smiles.

But there are compensations. Taylor reports that the set is quieter, more focused. They actually are working more efficiently — with no problem making their days. Also, it's quicker to get to work, because there always has to be crew parking close by. Self-driving is safer. And, of course, it's possible for crewmembers to pursue side projects after hours or on weekends — maybe learn a musical instrument — or just save a bunch of money, because where are you going to go and spend it?

MacLaren describes her experience on set as “lovely. People are so grateful to be here, to be working.” Everyone is making an effort to help each other out. The dolly grip sees MacLaren's goggles fogging from her mask and gives her the best solution to keep them clear. The AD decrees water breaks for cast and crew because no beverages are allowed on set. A huge directors' email chain trades hints on handling subtle on-set challenges. MacLaren is impressed by the massive, and costly, undertaking by the studio that allows them to work safely, and she's “grateful that we are still able to tell stories.”

As Homo Cinematogenesis continues to adapt to the challenging environment, newer technologies are offering their possibilities.

The groundbreaking advances in virtual-production techniques that were introduced to expand the world of the story now can be used to reduce the vulnerability of actors and crew. A large world can be filmed on a small volume with fewer vulnerable people. And those techniques are already migrating to smaller productions.

Director Randal Kleiser is currently working



Mat Beck, ASC started out shooting personal films and documentary footage, then began designing digital tools for the VFX industry, including likely the first microcomputer motion-control system. Simultaneously, he worked as a camera operator, progressing to cinematographer and VFX supervisor. He founded Entity FX (Los Angeles, Vancouver) in 2002.

Beck has worked on more than 70 feature films, including such notables as *Titanic*, *The Abyss*, *Moonstruck*, both *X-Files* movies, *True Lies*, *Galaxy Quest*, *Batman Returns*, *The Nutty Professor*, *Into the Wild*, Michael

Jackson's *This Is It*, *I Am Number Four*, *Yogi Berra*, *Riddick*, and *Laundromat*. He recently finished work on the Netflix feature *The Babysitter's Guide to Monster Hunting* and a sizzle reel for Bedrock Productions.

For television, Beck has produced and/or supervised visual effects for more than 50 series, including *Godless*, *The Walking Dead*, *The Vampire Diaries*, *The Originals*, *Mike and Molly*, *Smallville*, *Breaking Bad*, and *The X-Files*. HBO productions included *Watchmen*, *The Righteous Gemstones*, *Curb Your Enthusiasm*, *True Detective*, *Getting On*, *Game of Thrones*, *Ballers* pilot, *Six Feet Under*, *Entourage* and *Band of Brothers*.

Beck has also directed multiple 2nd units on feature and television projects, as well as an episode of *Smallville*.

He has been nominated for VES and ATAS awards, and has won two Emmy statuettes. He has served on the ASC MITC committee, the VES Board of directors, the AMPAS executive committee, the ATAS Peer Group, and is a member of the DGA.

FOR YOUR CONSIDERATION

BEST PICTURE

**BEST
CINEMATOGRAPHY**

Alwin H. Küchler, BSC

THE MAURITANIAN

Directed by **Kevin Macdonald**

Screenplay by **M.B. Traven** and **Rory Haines & Sohrab Noshirvani**

Based Upon the Book "Guantánamo Diary" by **Mohamedou Ould Slahi**

**"TRIUMPHANT.
A mighty, timely and
inspiring film."**

CLAYTON DAVIS, *VARIETY*

**"COMPELLING.
An exceptionally
well-made film."**

DEADLINE

**"This film
DEMANDS
TO BE SEEN."**

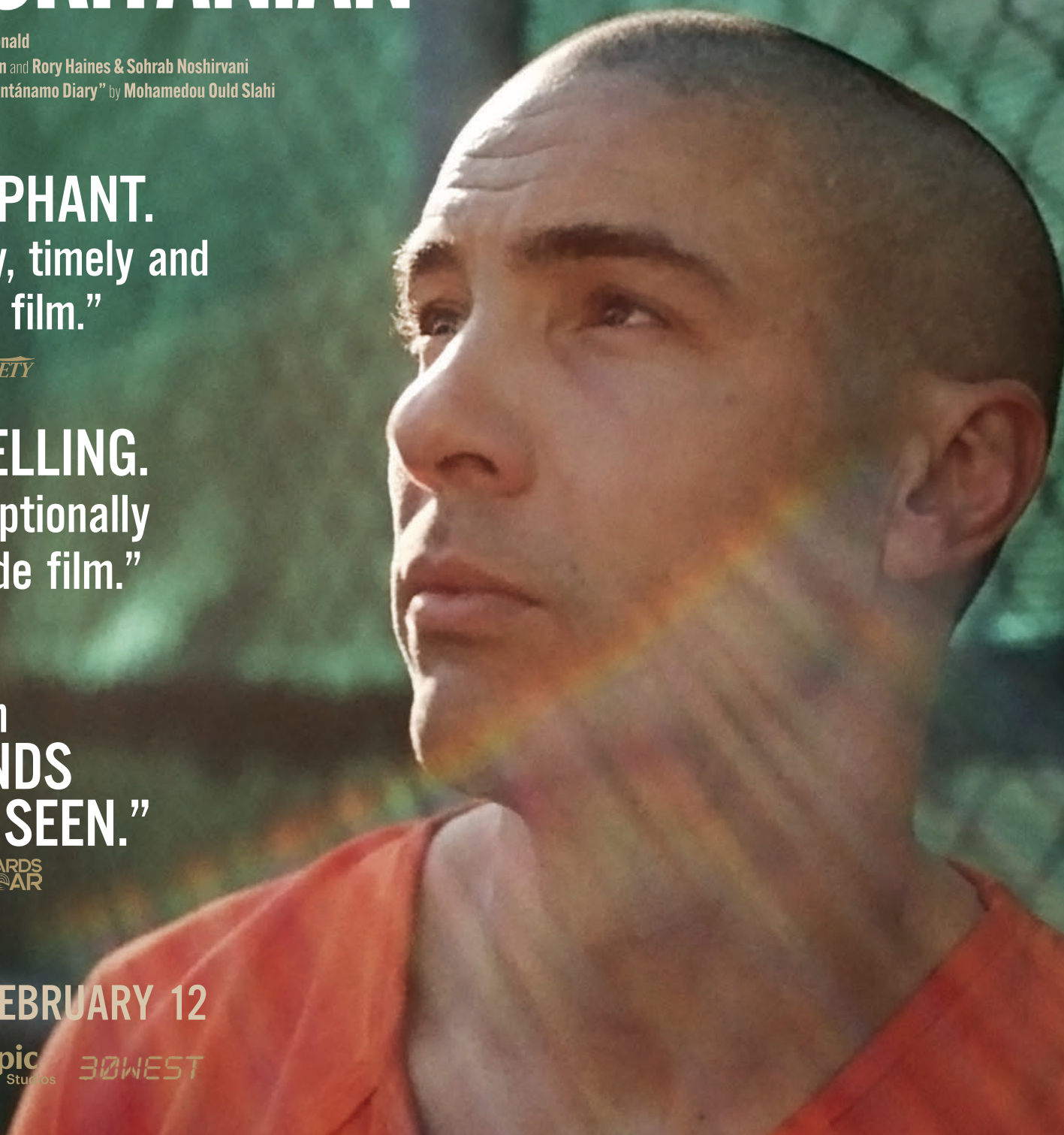
JOEY MAGIDSON, *AWARDS
RABBIT*

OPENS FEBRUARY 12

STX
films

topic
Studios

30WEST



Society member and instructor Lawrence Sher teaches during an ASC Master Class.



with his brother, VFX supervisor Jeff Kleiser, and Sam Nicholson, ASC's Stargate Studios on a virtual-production facility that includes both bluescreen and LED-wall volumes. He notes that one silver lining of the virus will be the accelerating introduction of these new VP techniques, but that one complication is staffing. There are a lot of volumes popping up, and all that computing power will require a lot of qualified people controlling it. They don't have to be on set, but they have to be on the ball.

Having a running background on an LED wall on a VP set means that the camera, as Nicholson points out, "is essentially compositing on a grand scale in real time." So all department heads — cinematographer, gaffer, grip, and VP and VFX supervisors — have to work together to assure that all the elements assemble as close to perfectly as possible. As Nicholson remarks, "That's what makes it very challenging yet very exciting on set."

A bonus of real-time rendering of the background is that its lighting can change in response to foreground action. For instance, a

lantern that is tracked in the foreground volume can appropriately illuminate objects in the virtual background as the light source moves — helping to tie the two environments together. And, when it's time to change camera direction, you don't have to call crew to move the camera. Just move a mouse and spin the world.

Ultimately, our success depends on finding ways to stay connected, one way or another. Without connection among the crew, a film can never get made. Without connection with an audience, it won't succeed. What separates movies from live theater has always been that in the cinema, the players are remote, their performance conveyed to us by technology. But still, the audience can be emotionally moved — moved even more when sitting in the dark together.

While Covid has driven so much of society apart, it has also, diabolically, made it harder for us to generate the stories that help bring us closer to each other. But productions and studios are responding, evolving techniques in response to external challenge. The best

storytellers will continue to use wits, goodwill and technology to preserve that connection among us, and between ourselves and the audience.

Finding a Silver Lining, Online: The ASC's Virtual Initiatives

By Tara Jenkins

This month marks one year of lockdown for much of the world. Undeterred, the ASC has continued its efforts to engage with the cinematography and filmmaking communities — in the virtual space. "The ASC Clubhouse is not only the headquarters of the ASC, but also an internationally recognized symbol of our collective cinematography community," says ASC President Stephen Lighthill. "It is unfortunate that we can't be in the Clubhouse for our usual educational events and celebrations, but we have been able to replace our in-person activities by being active through the internet."

In some ways remote events have allowed a more diverse and global audience to partake in Society initiatives. What was once exclusive to

“MANDY WALKER’S
CRISP CINEMATOGRAPHY MAKES
THE FILM ‘MULAN’ FEEL VITAL.”

– *Indiewire* • Kate Erbland



BEST CINEMATOGRAPHY
MANDY WALKER, ASC, ACS

Disney
MULAN

Light Iron provided remote color grading for the Netflix miniseries *The Queen's Gambit*.



Los Angeles is now available globally. Charlie Lieberman, ASC, who has helped shepherd many of these initiatives — including the ASC Virtual Photo Gallery and the online Master Class series — says, “It’s been a remarkable time; there’s a genuine level of human connection that I would not have believed possible if it was described to me last January.”

Clubhouse Conversations

The Clubhouse Conversations series was originally held at the ASC Clubhouse in Hollywood and involved a cinematographer or filmmaking team participating in a moderated discussion of their work on a recent project. In addition to the new virtual format’s presentation via Zoom, the “Conversations” discussions are conducted between peers; Society members serve as moderators and speak candidly with the subjects about their work.

“We decided to match cinematographers together for the virtual events,” says Lieberman, who serves as one of the moderators on the popular series. “A dialogue between cinematographers brings a whole different viewpoint to the discussion. A viewer who isn’t a cinematographer wouldn’t necessarily notice the same things.”

ASC Master Class

Operating in the virtual world has also provided benefits to the ASC Master Classes, which have been reformatted into a three-day schedule with the same access to expert ASC instructors.

The classes are online, so both students and instructors can log in from around the globe. Despite being on location in Tbilisi, Georgia, for example, Phedon Papamichael, ASC, was able to discuss his ASC Award-nominated work in *Ford v Ferrari*. “It’s great to be able to stay connected with young cinematographers from around the world by having the ASC continue to conduct our Master Classes,” Papamichael

says. “Of course it’s best to come face-to-face with the students, but by showing clips, discussing specific scenes and allowing for an extensive Q&A portion, the Master Class retains its intimate and personal quality. I really enjoyed it!”

Lieberman, who is quick to acknowledge the inherent differences between in-person and virtual sessions, says, “In the live classes, you are able to mingle in small groups. But what happens virtually is that everybody hears everything. Nobody is left out of any conversation. Everybody gets to have a little bite of what everybody has to say.”

The ASC Master Class will continue in the virtual space during the pandemic, and will expand its offerings to include an “ASC Master Class for Masters.” Lighthill remarks, “The purpose of the ASC has always been an educational one — both educating ourselves and educating young cinematographers. We feel we can take the Master Class template and apply it to a series of educational events aimed at ASC cinematographers facing the challenges of virtual production.”

ASC Awards

The 35th annual ASC Awards, an event that — under normal circumstances — would take place at the Ray Dolby Ballroom at the Hollywood & Highland complex with around 1,700 attendees, will be held virtually and live-streamed on April 18, 2021. ASC Awards chair Dana Gonzales, who has received two ASC Award nominations for his cinematography on the FX series *Legion*, says, “This is the first time we are doing something so different than what we have done for 35 years, and it’s daunting. The awards have become a primetime event for cinematographers, sponsors, vendors and people who love cinematography. This year, I saw that we now had a chance for the whole world to see the show” — in a new, intimate environment. “We’re going to bring the experience of being in the Clubhouse into the streaming show. I want it to be something that we can look back on and say that we capitalized on the format — that, globally, more people saw the show than ever before. I want to show people who we are.”

“We’ve made the best of a bad bargain, and we are going to hold a worldwide event with the Awards,” Lighthill says. “There’s always a silver lining in the dark clouds, and we’re keeping our eye on that.”

The Queen's Gambit: Light Iron and Remote Color Grade

By Iain Marcks

The hit Netflix miniseries *The Queen's Gambit*, photographed by cinematographer Steven Meizler, had just begun its color grade at Light Iron New York when the Covid-19 pandemic forced a near-global shutdown of the film industry.

“For better or worse, the pandemic ignited industry-wide change overnight,” says Katie Fellion, head of business development and workflow strategy for Light Iron, a Panavision company. “Light Iron was founded on the idea that even though the industry might be used to doing it a certain way, we can always adapt.”

F O R Y O U R C O N S I D E R A T I O N



BEST CINEMATOGRAPHY

Episode of a Half Hour Series
for Television

Greig Fraser, ASC

Chapter 1: The Mandalorian

Baz Idoine

Chapter 13: The Jedi

Matt Jensen, ASC

Chapter 15: The Believer

STAR WARS
THE
MANDALORIAN





“League of Legends” 2019 World Championship Quarterfinals with LED stage work by Lux Machina.

The Queen’s Gambit primarily shot in Berlin, where Light Iron dailies colorist Alex Garcia was equipped with an Outpost near-set dailies system and worked out of a satellite office at Cine Plus. Principal photography began with a five-day shoot in Toronto, where local dailies colorist Jacob Doforno worked from the same Colorfront Express Dailies project database that Garcia had created during camera tests in Berlin. “It was as if we were working from the same facility — except we were thousands of miles away from each other,” says Garcia.

Light Iron was already pivoting toward remote workflows with tools like Streambox and T-VIPS when lockdown guidelines went into effect in March. The work-from-home orders impacted final color as well as offline editorial, which rented equipment and space from Light Iron New York. Over a single weekend, Light Iron moved final colorist Steven Bodner and the editing team off-site to continue their work remotely. Bodner was equipped with a 4K HDR setup, including a Blackmagic Design DaVinci Resolve panel and 50TB of encrypted storage. The production was finished in 4K HDR Dolby Vision using Streambox Chroma+ and Moxion to remotely review the HDR.

Light Iron’s pre-pandemic remote workflows were consolidated around final color correction, with a colorist in one city and the director or cinematographer in another. “It feels like we’ve accomplished more growth and change in the past nine months than in the past nine years,” says Fellion. “We’re moving into an era where the facility is a centralized

hub for media, and creatives can tie into that from wherever they are with their own peripherals.”

The company is already rolling out additional remote offline editorial rentals in New York City, with targeted regional expansion planned this year. Light Iron has also begun deploying Outpost RC, which allows a Light Iron dailies colorist to control the complete near-set Outpost system remotely, regardless of geographic distance.

“Remote postproduction is here to stay,” says Fellion. “With a minimum amount of bandwidth, colorists, editors and dailies teams can do their job from anywhere in the world, reducing the amount of people on set or in the office — a requirement in the era of Covid — while still achieving a fast turnaround. And as we get better connectivity — like with rollout of 5G — more doors will open.”

Looking ahead, Fellion predicts that postproduction will evolve a hybrid approach as clients return to facilities for the control they offer with calibrated environments, as opposed to the kitchen counters and home offices where cinematographers and directors have recently been reviewing color decisions.

In the meantime, “we enjoy exploring new technologies and how they can give us better collaborations,” says Fellion. “The hardest part is that we have had to reinvent ourselves every 24 hours as more technologies are invented. Let’s see what happens in the next six months.”

BEST CINEMATOGRAPHY

DARIUSZ WOLSKI ASC

“DIRECTOR PAUL GREENGRASS AND CINEMATOGRAPHER DARIUSZ WOLSKI CREATE INTERIORS WITH THE DRAMATIC CONTRASTS OF A CARAVAGGIO PAINTING. THE EXTERIOR SCENES INCLUDE WIDE, CRYSTALLINE VISTAS OF PLAINS. IT IS AMONG THE MOST BEAUTIFUL FILMS OF THE YEAR.”

- B B C



NEWS
OF THE
WORLD

SCREENPLAY BY PAUL GREENGRASS AND LUKE DAVIES DIRECTED BY PAUL GREENGRASS

universalpicturesawards.com

© 2020 UNIVERSAL STUDIOS





Above: XD Motion's Arcam robotic cameras are mounted on "cobots" (collaborative robots). **Left:** A virtual-production session at a Mels Studios and Post-Production facility. **Opposite:** On the set of the short-form production *Gunslinger*, a Dimension Studios/DNEG collaboration.

ASC associate Stephan Ukas-Bradley, vice president of strategic business development and technical marketing for Arri, Inc., adds, "The stage in Burbank has a 25-foot curved LED wall with two 8-foot side-walls and is 15 feet tall. The screens are all on risers with casters, so we can move them around and be flexible. The stage is not intended as a commercial-use facility, but rather to engage with creatives to demonstrate the power of this way of working. With the stages in Europe, we can compare notes with productions in different regions to see where the bottlenecks are and hopefully address them to make everything easier, more cost-effective, and better to work with."

Arri has also worked to raise awareness of its products' remote capabilities, which facilitate smaller, dispersed crews. Kennel explains that once equipment is set up at a location and connected to a secure network, the visual-effects supervisor can direct, load images and control the camera remotely. Arri's Camera Access Protocol offers developers in its Partner Program the ability to control many aspects of Arri cameras via an internet connection or over a bonded cellular network. "We also have to ensure that the proper security is provided before remote workflows can be fully enabled in this environment," Kennel says. "Content producers and studios are rightfully very concerned about the security of their images."

Lux Machina's Insights and Improvements By Noah Kadner

Consulting company Lux Machina specializes in virtual production and has provided LED screens and the infrastructure (stage and crew supervision and operation) to drive real-time visual effects through them for live broadcasts including the Academy and Emmy Awards; features such as *Oblivion*, *Rogue One* and *Solo*; and series like *The Mandalorian*.

"We've done three or four full-production LED-wall shoots during Covid to great success," says co-CEO Philip Galler. "One of the new

Arri, Inc. Integrates Advances By Noah Kadner

As a leading manufacturer of camera, lenses and lighting equipment, Arri has long had a vested interest in virtual production. Greig Fraser, ASC, ACS; Barry "Baz" Idoine; Matthew Jensen, ASC; and David Klein, ASC have used Alexa LF cameras on the trailblazing Disney Plus production *The Mandalorian* (AC Feb. '20) to capture in-camera visual-effects scenery on LED-wall volumes. Arri lighting offers remote-control capabilities via DMX and wireless protocols, which can be synchronized to virtual sets and remotely operated. Recently, Arri installed LED-volume stages at its facilities in Burbank, Calif.; Germany; and the U.K. to assist with R&D efforts.

"We see advantages in this transformation of the creative process because it incorporates our cameras and lights into an integrated solution," says Glenn Kennel, president and CEO of Arri, Inc., and an ASC associate. "We're always tracking early adopters, and we have supported ILM with the setup and operation of *The Mandalorian*, but Covid really amplified interest in virtual production."

LEFT: TOP PHOTO COURTESY OF XD MOTION. BOTTOM PHOTO COURTESY OF MELS STUDIOS AND POST-PRODUCTION. RIGHT: IMAGE COURTESY OF DIMENSION STUDIOS/DNEG.



avenues [we're pursuing] is working with technology companies on LED volumes to help them solve R&D goals. People assume what LED in-camera can and can't do, or how easy or hard it is to set up, or what it might cost. So we spend a good chunk of our time on education and walking people through the entire process."

Galler notes that the pandemic has led to unexpected insights and improvements across the industry. "Changes have finally happened that we've been asking for for years from our manufacturers, such as HDR and high frame rate that are more important to film production than to live broadcast," he says. "Nobody wanted to pay much attention to them until this was the only thing they could do for work. In some ways, the crisis led to the development of improved tools.

"There's also a huge mental-health issue in the industry because people are used to working longer hours than anyone else. This remote situation has forced many of us to look at a healthier life-work balance. People have found ways to adapt and contribute meaningfully to major productions from their homes, and I hope it helps us resolve some of the mental-health issues.

"A few years ago," Galler adds, "I'd have said some roles can never be remote, but now I feel we've learned that there's no real reason to go back to the old ways of doing things."

Mels Studios Pivots to Virtual Production

By Noah Kadner

When initially faced with the new safety requirements and protocols, Mels Studios and Post-Production — located near downtown Montreal, Canada — found itself with much of its regular production business

significantly reduced or stopped entirely. So Mels looked for creative ways to pivot.

In October 2020, the studio opened a virtual-production LED-wall stage for in-camera visual effects. Mels President Martin Carrier, who has a background in video games, spearheaded the effort to embrace this new filmmaking methodology. "Even before the health crisis, I saw a lot of potential in real-time game-engine technologies, like Epic Games' Unreal Engine, to bring content to life for filmmaking in a very dynamic way," says Carrier. "We have a camera department, postproduction and visual-effects teams. Virtual production is the initiative that binds all these disciplines together."

Mels collaborated with Epic Games, as well as with Solotech, a Canadian event-lighting and staging company that supplied the Absen M2.9 2.9mm LED panels. Mels started with a proof-of-concept rooftop scene and quickly moved on to iterate larger versions of their LED volume. "This technology suddenly opens the door to shoot more exotic locales that would be too cost-prohibitive to achieve any other way," Carrier says. "It unlocks more creativity on the scripting side."

Mels offers its virtual production as a turnkey service and can also integrate outside vendors into their real-time pipeline. "One of the main challenges for producers new to LED wall in-camera visual effects is the significant preparation that must be done before shooting," Carrier says. "It's well worth the inversion compared to traditional visual effects, because once you're on set and shooting, you and your DP can see exactly what you're getting in-camera — as opposed to waiting months for postproduction to kick in."

When considering if interest in LED walls and in-camera visual effects



“We’re always tracking early adopters.”

will diminish once the pandemic finally ends, Carrier suggests Mels is all in for good. “A DP we recently worked with in the [virtual-production] volume said, ‘At the end of the day, I can see exactly how each shot is going to look, which I would never get on a greenscreen.’ It’s tough to go back to the past because artists put their signature on their work and they want to have confidence in the image.”

Brompton Technology: Remote But Controlled By Noah Kadner

Brompton Technology develops and manufactures video-processing products for live events, broadcast and film. Video processing plays a critical role in LED-wall virtual production by providing the bridge between the engine rendering game-engine footage in real-time and the LED wall, which displays the footage to then be captured in-camera.

Brompton’s global team includes Los Angeles-based regional technical manager Sean Sheridan and U.K.-based technical solutions manager Adam Callaway, who are integral to the company’s VP efforts and have worked steadily with customers during the pandemic. “Covid has had a massive effect on the positive trajectory of virtual production,” says Callaway.

“As we’re a tech company, we quickly found solutions to continue supporting our customers in the pandemic,” Callaway continues. “A prime example is that we now run training sessions on our processor features completely virtually. We have a remote studio station setup in London that our technical team can access from anywhere in the world. For example, Sean can control it from L.A. and give a demo to someone in Australia. [The pandemic] has changed the way we operate and created new challenges, but we’ve risen to the occasion.”

Adds Sheridan, “It’s been more of a shift in mindset to support the new VP and film markets. We expect that work to continue as LED



Left and right: 4Wall Entertainment deploys Brompton Technology processing at Gum Studios. In addition to the vertical wall, an array of LED panels on the ceiling provides toplight and reflections.

screens are increasingly chosen for this application, but we also hope to see our other business areas return.”

DNEG and Dimension Studio Extend Reality By Iain Marcks

In early 2020, visual-effects supervisor Paul Franklin (*Interstellar*, *Inception*, *The Dark Knight*), co-founder and creative director of DNEG, began work on a short feature that he intended to direct as an immersive, extended-reality experience. Through the U.K. nonprofit Digital Catapult — a government agency for the early adoption of advanced digital technologies — he connected with Dimension Studio’s joint managing director Steve Jelley, who helped Franklin develop the project as a virtual production using Epic Games’ Unreal Engine and LED-volume technology, with Dimension Studio acting as a virtual art department and managing the real-time on-set workflows in collaboration with DNEG’s own virtual-production team.

To Franklin, the partnership seemed like a natural fit. “Dimension has masses of practical, hands-on experience in putting things together for live performance and virtual reality,” he says. “DNEG has experience in making sure the digital content is fit for production, and that the color science, the cameras and the lenses are all working in concert.”

At the heart of Franklin’s production is the idea of blending two different locations: an interior physical set and a wide-open landscape. “Virtual production allows me to do this on set with LED-volume technology, and the benefit of doing it that way is that the cast gets to see the visual effects with their own eyes,” he says. “It impacts the way you



READY-TO-GO REMOTE SOLUTIONS

A customizable remote video production ecosystem for broadcast, cinema, and live events.

In November 2020, cinematographer David Baillie partnered with Motion Impossible to demonstrate how productions and crew members could effectively social distance on set without compromising stunning, cinematic images, complete with camera movement. Baillie used a combination of ARRI SkyPanels, ALEXA Mini LF camera, and SRH-360 stabilized remote head paired with the Motion Impossible Agito robotic dolly system to show how effective the gear was on action sequences, drama, and even a car commercial.

“Combining the ARRI SRH-360 and the Agito gives back to cinematographers much of the creativity and freedom of movement we had before COVID restrictions. In addition, they can often do away with the hassle of laying track. This is a combination I expect the industry to continue using long after we’ve all been vaccinated.”

– David Baillie, BAFTA and Emmy-winning cinematographer



ALEXA MINI LF

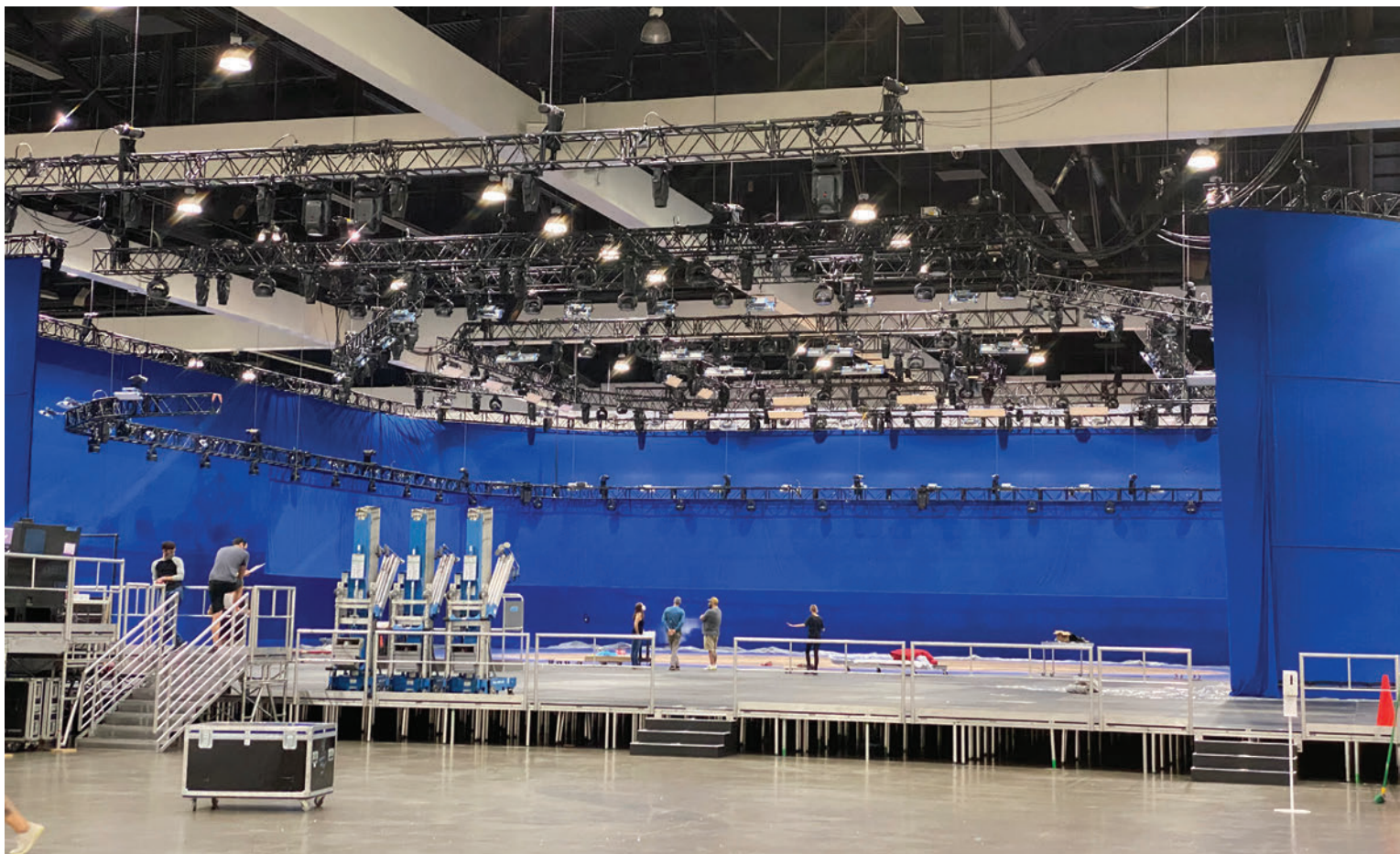


SKYPANEL®



SRH-360

ARRI 



TRP Worldwide bluescreen rigged at a convention center.

shoot, and it impacts their performances.”

XD Motion’s Robotics Aid Adherence **By Rubis Allouet, Marketing Assistant, XD Motion, France**

The use of robots to shoot television shows is an excellent response to the constraints caused by Covid-19. Our most popular solution right now is the Arcam robotic camera system and its software, IO.BOT. Recently, we “teleported” a TV presenter from a Paris studio to a set in Toulouse to co-present a demo program while using 3D objects. To accomplish this, we used two Arcam robotic cameras, one in Paris and one in Toulouse, and both were remote-controlled from Toulouse. The solution includes several camera-tracking technologies, each feeding into a real-time 3D graphics engine to generate the augmented-reality effect.

In short, the Arcam captures the journalist against a greenscreen, keys the image, and sends it to the destination studio in real time, where the 3D elements are added. A second camera synchronizes the images and elements together to create a realistic virtual environment. The data is transmitted over 4G and 5G networks. This is one of our great strengths: we have contracts with all existing telecom operators.

The six axes of Arcam robotic-arm technology make it extremely stable and maneuverable. We can repeat identical movements with perfect regularity and can quickly and easily program new ones at will.

The teleportation effect can be applied to many different kinds of programs (whether interviews or investigations) by allowing the subject to be filmed despite prohibitions on gathering or moving around, in working conditions that respect the law.

TRP Worldwide on the Benefits of Blue- and Greenscreens

By Pat Caputo, ASC associate and founder of TRP Worldwide

Prior to the pandemic, demand was astronomical. January and February 2020 were our best months ever, and at that point we were expecting a banner year — until the industry hit a brick wall. By the end of the year, things turned around, with loads of blue- and greenscreen being used. Due to Covid, we found that large live events are putting their subjects in front of blue- or greenscreen so they don’t have to be in the same room with an audience. There’s just a small crew and some lighting specialists.

With the uptick in Covid cases right now, many people are not traveling and locations may be limited, so they’re filming more on stages in a controlled environment. A lot of it will be done against blue- and greenscreen. LED walls are sometimes used, but that’s an expensive way of doing things. Keying fabrics are more cost-effective.

We’re used to doing intricate, custom projects. With the inquiries we receive, there’s no telling what shape or size the customer will need. Whatever it is, we can do it — that’s the norm for us. We specialize not only in keying fabrics, but also in light-manipulating materials: diffusers, bounces, controllers, color correctors and accessories for LED fixtures like our Snapbags and Snapgrids. Ultimately, we try to understand the needs of our customers and develop the right tools to help them.

We hope our friends, colleagues and customers stay healthy during these unusual times. ☉

For an extended version of this feature, visit ascmag.com.

Panasonic



+

ProRes RAW

+

LUMIX

ACHIEVE YOUR VISION

The LUMIX S1H and the new S5 can now record Apple ProRes RAW® on ATOMOS NINJA V over HDMI® to unify your workflow with cinema cameras like VariCam and EVA1.



Apple and ProRes are trademarks or registered trademarks of Apple Inc. in the United States and/or other countries. The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing, LLC in the United States and other countries.



Stage to Screen

Bon Jovi brings show
to home viewers.

By Patricia Thomson

American rock band Bon Jovi has been entertaining audiences since the early 1980s through anthems, ballads, and across 18 national and world tours. Last spring the band was set to go on a promotional tour for their 15th album — called simply *2020* — when Covid-19 hit and the tour was canceled. Singer-songwriter Jon Bon Jovi saw an opportunity to bring the tour to fans around the globe with *On a Night Like This* — *Bon Jovi 2020*: a free, audience-less performance of the *2020* album, interwoven with behind-the-scenes footage of rehearsals and commentary by the band members.

2020 is Bon Jovi's most topical album to date, with songs about racial injustice, mass shootings, and disinformation. That's a far cry from the band's rousing, decidedly apolitical tunes of the 1980s — as stark a



contrast as their tidy haircuts are from the big-hair locks of yore. After the 2020 tour was cancelled, the rock star and philanthropist went on to write additional songs that addressed the virus (“Do What You Can”) and the protests that erupted in the wake of George Floyd’s killing (“American Reckoning”), bringing the album up to the minute.

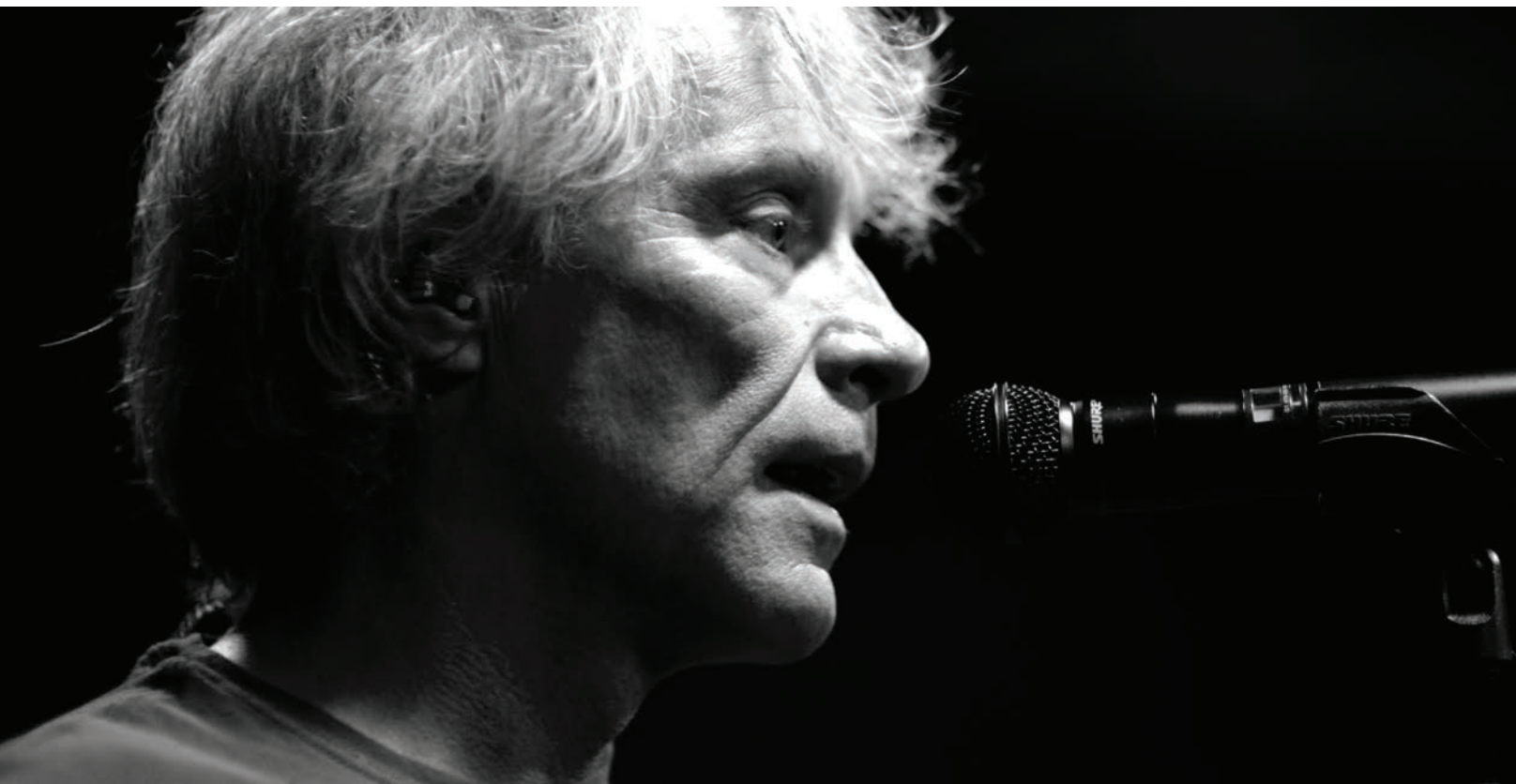
In late July, cinematographer Jonathan Furmanski got a call about a last-minute job. On the line was Alex Horwitz, a director and editor he’d worked with many times before, including their collaboration on *Hamilton’s America*, a 2016 PBS documentary about the creation of the Broadway hit. “He said, ‘I have this thing with Jon Bon Jovi. It’s a little weird, given the world we’re in right now. But that’s also part of the story,’” the cinematographer recalls.

On a Night Like This is not only threaded through with the rock stars’ commentary on the pandemic; it also prominently demonstrates the

Covid-19 protocols being followed on set. The film actually starts by showing each band member undergoing a nasal swab upon arrival in Nashville, Tenn., where the album and studio concert were recorded, and continues with the musicians wearing masks whenever they’re not performing. “Jon Bon Jovi took all the safety protocols very, very seriously and was adamant that everyone else take it seriously,” says Furmanski. “It’s not worth anybody getting sick to have a concert.”

Ten days after that phone call from Horwitz, Furmanski was on a plane to Nashville. The reason for the rush was because they were piggybacking onto another Bon Jovi studio-concert film, this one produced for a streaming service and intended to survey the band’s entire career going back to the 1980s. “They had built the stage and had all the people and the infrastructure,” says Furmanski, adding, “Jon saw this as an opportunity. He said, ‘Well, as long as we’re there, what if I basically rent

The show's rehearsal scenes were shot in black-and-white to differentiate them from the color concert sequences.



everything for another day, and we do a concert event for the fans who don't get to see us play live in this Covid environment?' It was a kind of thank you." The hour-long film debuted in November on SiriusXM; it's now on the band's various media channels.

The look of *On a Night Like This* is split into two parts: the concert portion, shot in color over one day, and two days of rehearsals, captured in black-and-white. Furmanski describes their thinking: "The live event is going to be glossy, colorful, and have a lot of movement in the lighting. But for the rehearsals, we were literally in a black-box space with some lights on the ceiling. We said, 'What if we make this a grittier, black-and-white, almost film noir look? Use vintage lenses, add just a bit of gauze over the whole image, and shoot it with a full-frame camera, so we have a greater amount of depth to work with.'"

They wanted the concert to be personal, "more like a living-room aesthetic, in the same way that *MTV Unplugged* and *VH1 Storytellers* would do it." Fumanski scaled back the lighting to suit the homier feel. "We wanted to take it from being a full-on rock 'n' roll show, with all of the glitz and glamour, and dial it down to make it feel more intimate, as if we were going from a big arena show to a small club."

Also adding a twist was the circular arrangement of band members — an epiphany the director had after the first day of rehearsal. One of the pluses of this setup was that the band could be spaced far enough



REDEFINING NOTHING.
It's all you.



650W
Power

IP65
Water Resistant

14000lux
@3m/9.8ft

PSU
Inside

\$4999
USD MSRP

5 Year Warranty
with registration

creamsource.com



Overhead fixtures augmented the natural light filtering through stained-glass windows in a church facility.





apart to sing without masks. “I love that Alex had the insight to create this performance in the round. It helped not only from the Covid-safety and photography perspectives, but it created something a little more interesting than your typical concert setup. A pyramid arrangement would have been flat and uninteresting without an audience to ground it.”

The production’s Covid-19 safety guidelines were based on “The Safe Way Forward,” a joint report that the DGA, SAG-AFTRA, IATSE, and Teamsters had issued one month earlier, in June 2020. The shoot’s Covid testing team comprised 10 people, duly listed on the credits. “They tested everybody on arrival, doing temperature checks and giving people PPE, sanitizing every piece of gear that came into the facility, and monitoring everything as it was happening: when people broke for lunch, and were just hanging out or drinking coffee,” Furmanski says. “They made sure everybody was behaving in the safest and most responsible way all across the set.”

These protocols didn’t interfere with production, though Furmanski notes, “When they sanitized the equipment, it had to sit by itself for 15 to 20 minutes. So that was something we had to take into account.”

The new production safety guidelines recommend dividing a production into zones, with Zone A being the core set; Zone B the separate holding areas; and Zone C the production offices, hotels, and other remote locales. In the black-box rehearsal space, “we were all basically Zone A,” says the cinematographer, “because there was too much intermingling” of the road crew and film crew, all of whom had to be there full time.

The warehouse-turned-concert-space was gargantuan and had ample space for Zone B. “The production ran more like a rock ‘n’ roll show, where we would get these all-access passes when we were Zone A, whereas other people had color-coded passes which meant they could only go to some areas.” It wasn’t as strict as one pilot Furmanski recently shot, where security checkpoints were at every entrance, “but it basically operated in the same capacity.”

He adds: “My feeling is that a lot of these protocols are going to become standard,” both on set and off. “If something comes up again like Covid, we’re just going to be safer. And I don’t see anything wrong with that.”

In the rehearsal space, the film team kept their footprint tiny: just Furmanski, Horwitz and a local sound technician. They had no gaffer, as they had brought only one LitePanel to supplement the overhead fluorescents. The cinematographer shot with his own Sony Venice, coupled with Canon K-35 primes; he shot 6K full-frame, cropped to 2.39:1. Horwitz operated his own Blackmagic Pocket Cinema Camera, mounted with a Canon 17-55 EF-S *f*/2.8 zoom, shooting at 4K.

Both cameras had a version of a black-and-white LUT that Furmanski had designed himself, based on the Kodak Tri-X film stock he’d always loved. “I find that stock to be very unique: its grain structure, contrast and tonality. It has a lot of texture that I find very appealing.” The LUT wasn’t about the grain, though; he preferred dealing with that in post. Rather, it was about creating “a steeper curve, a lot of good contrast, letting things fall off into black, letting people’s skin tones be a bit more

“It was great to be in a room with someone like Jon Bon Jovi, who is so legendary, and watch his creative process happen.”



luminous, more pearlescent.”

For the live-concert segments in color, Furmanski had inherited cameras and lighting from the previous production. Six Sony HDC-1500 ⅔" 3-CCD HD cameras were deployed: three on pedestals, the others on an 18' jib arm, Steadicam, and handheld. The concert footage was shot in the 16:9 aspect ratio.

Though one can occasionally spot a roadie handing off a guitar, the idea was not to let cameras appear in the shot. But with six cameras and no audience to cut away to, “it was tricky,” says Furmanski. “For some of the cameras, we would literally poke the lens through a piece of truss or scaffolding and then dress fabric around it, which limited the amount of coverage that camera could get because its field of view was more restricted. But it meant that when the Steadicam was doing a big pass around the entire band, there was very little chance of it seeing somebody else.” He adds, “We had one energetic handheld camera operator, and we put him in some uncomfortable situations, where he had to pretzel up on the floor so he would be hidden.”

One of the cameras poking through truss was dedicated to Jon Bon Jovi. In the filmmakers’ quest to create a living-room feel, they took advantage of the smaller space. “Normally, your close-up camera for the lead singer could be 150 feet away,” says Furmanski, who has ample

experience in such situations, having shot music documentaries on the Avett Brothers, Bruce Springsteen, Pixies, Red Hot Chili Peppers, Shakira, and Dead & Company. “It has to be on a riser in the middle of the audience, and then it’s an extremely long, flat lens. This was still a long lens, but it’s the 35mm equivalent of 75mm or 100mm, instead of a 300mm. It reinforced the idea that you’re there with them, creating a more intimate experience. You’re not one of 15,000 people watching.”

For lighting, Furmanski inherited “a very sophisticated and smart rock ’n’ roll live-event show,” with a package of moving lights, programmable lights, strobes, LED ribbons that perform color chases and animations, spotlights, and backlights. “We basically had every toy in the toy chest to play with,” says Furmanski, who worked with lighting director Mark Carver to repurpose this gear for the 2020 show.

Despite having no audience to cheer them on, the band members kept their energy up. “They perform like they’re 20 years old. It’s fun to watch, because they really are great showmen,” Furmanski says. “It was great to be in a room with someone like Jon Bon Jovi, who is so legendary, and watch his creative process happen. Being a fly on the wall for that, then watching these great musicians perform, and being around all these cool toys and cameras and lights — there’s no way I’m not going to have fun doing it.” ◉

CARS, HEADS & CRANES
IN THESE LOCATIONS:

LOS ANGELES

NEW MEXICO

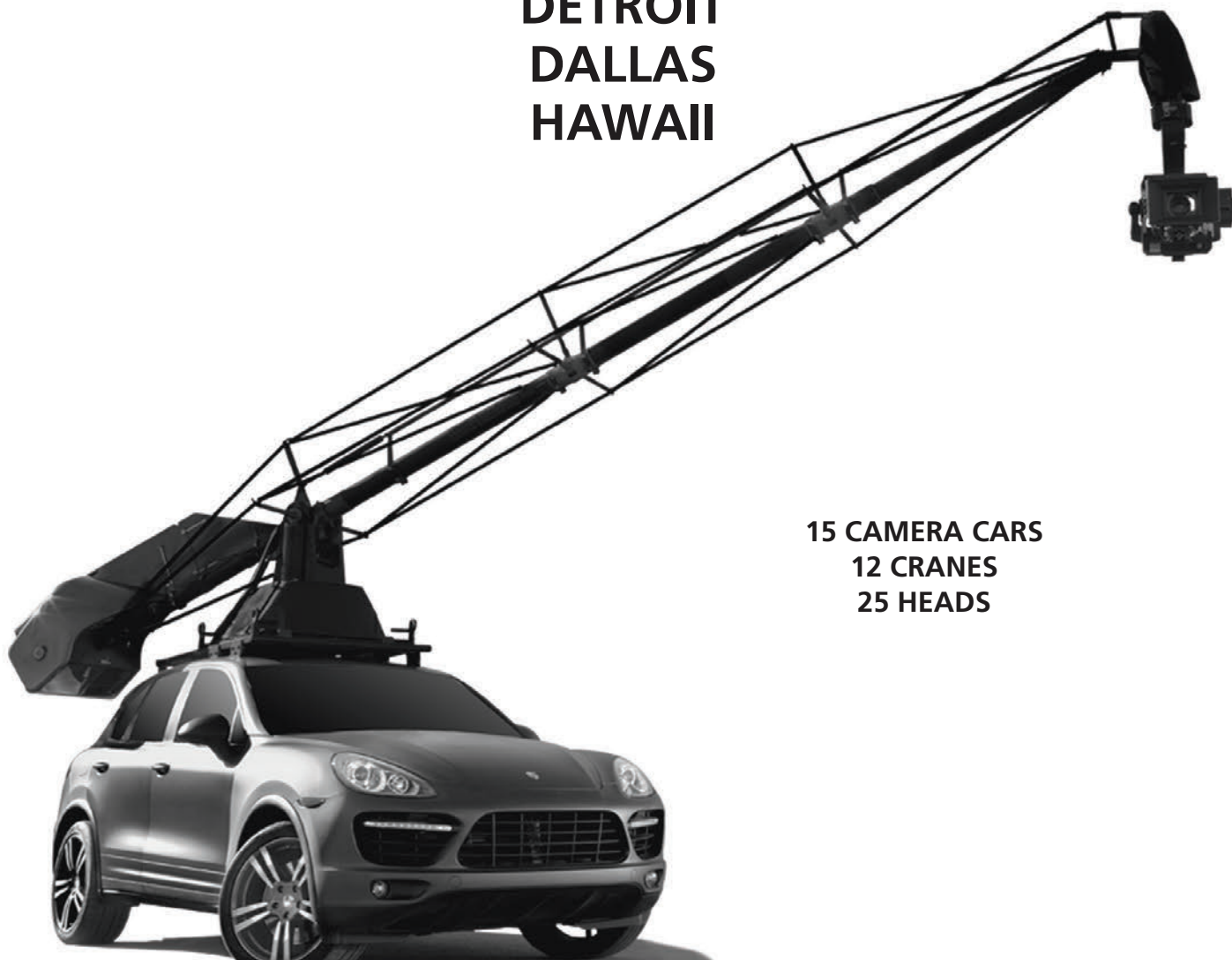
ATLANTA

FLORIDA

DETROIT

DALLAS

HAWAII



15 CAMERA CARS
12 CRANES
25 HEADS

filmotechnic

THE WORLDS LARGEST CAMERA CAR COMPANY.

310.418.3311
FILMOUSA.COM

Broken Soul

Newton Thomas Sigel, ASC and the Russo brothers chart a Gulf War vet's chaotic journey for *Cherry*.

By Rachael K. Bosley



Directors Joe and Anthony Russo, best known for directing four big-budget films in the Marvel cinematic universe, including the record-setting *Avengers: Infinity War* and *Avengers: Endgame*, have shifted gears and embarked on a smaller-scale project, *Cherry*, which presented the brothers with terrain both familiar and new. The story, adapted from the 2019 semiautobiographical novel by Nico Walker, is set mainly in the directors' hometown of Cleveland, and follows a Gulf War veteran (played by Tom Holland and referred to by the filmmakers as "Cherry," though he's never referred to by name in the movie), whose life is ravaged by opioid addiction — a national epidemic Joe describes as "very personal for us. We have family who are recovering from it and family who have died from it."

In its focus on one protagonist, whose perspective is intimately rendered, *Cherry* marks a departure from the ensemble-based storytelling that has defined the directors' career so far. However, Anthony observes, "*Cherry* is a single subjective experience, but how the character perceives his environment changes quite dramatically through the course of the film. By expressing that cinematically, I think we found a way to explore multiple perspectives, even though we had a single character to explore them through."

Compared to the Russos' Marvel projects, which also include two *Captain America* sequels — *The Winter Soldier* and *Civil War* — *Cherry* presented an obvious difference in scale. The brothers knew it would also be "a massive experiment in structure, tone and execution," says Joe. They were in the midst of producing *Extraction*, directed by Sam Hargrave and shot by Newton Thomas Sigel, ASC, when they decided



to make *Cherry*, and they immediately offered the job to Sigel. “Anthony and I get most excited by trying to disrupt narrative and find new ways to tell stories, and Tom has always been a cutting-edge technologist and a very adventurous director of photography,” says Joe. “We needed someone with his confidence and experience to pull *Cherry* off.”

Equally well-versed in superhero movies thanks to his experiences shooting four *X-Men* installments and *Superman Returns*, Sigel embraced the opportunity to work on a personal project like *Cherry*. “Nico’s novel is really tough, but I thought it displayed a unique voice — I was fascinated by the book’s use of subjectivity and its kind of ironic look at life,” he says. Then he read the script, cowritten by Angela Russo-Otstot (the directors’ sister) and Jessica Goldberg, “which took it another level and elevated the element of heart and soul in it. That, in conjunction with the casting of Tom Holland, who naturally brings those qualities to

a role, made it much easier for me to embrace the project and find the heart in it.”

Cherry unfolds in chapters, and the Russos wanted each to have its own look and feel, shaped by the protagonist’s state of mind. Joe explains that *Cherry*’s trajectory begins with him as a college student in love, then shifts to his military training; he subsequently endures the horrors of war, struggles with PTSD, partakes in drugs and criminality, and ultimately finds himself incarcerated. “We wanted to immerse the audience in that journey,” he says. “We also wanted to create empathy. *Cherry* makes some unlikable choices, and we wanted the audience to move through the story with him feeling empathy.”

Another mandate was to find ways to visualize *Cherry*’s psychological detachment, a sense of distance from others that recedes when he becomes a criminal. “A lot of the charm of Nico’s novel comes from the

Left: Directors Joe and Anthony Russo with star Tom Holland. Right: Cinematographer Newton Thomas Sigel, ASC blocks out a scene with Holland.



fact that the character's inner experience is incongruous with his external experience," says Anthony. "We wanted to maintain that, to explore a character who's out of sync with what's happening around him." They also wanted to convey that Cherry "is struggling against an existential threat that's much larger than he is — that was elemental to how we thought about the narrative," Anthony adds. "Fate," Joe emphasizes, "is critically important to this movie."

The key crew Sigel assembled for the Cleveland-based shoot included longtime gaffer Bob Krattiger and new collaborators such as A-camera/Steadicam operator Geoffrey Haley (a veteran of several Russo productions), key grip Jim Shelton and A-camera 1st AC Dan Schroer. Aerial specialists/drone operators Tim Sessler, Kevin LaRosa Jr. and Michael FitzMaurice were instrumental in achieving some of the overhead perspectives the Russos favored to suggest what Joe calls "the oppressive sense of fate hanging over Cherry, diminishing him."

Two notable drone shots descend to ground level and become handheld moves. *Cherry* opens with one of these: The camera flies toward the city and then directly over a neighborhood, looking straight down, and then dives into the neighborhood, revealing kids on bikes and other signs of life as it travels along a street lined with houses. It stops in front of one, as Cherry, thin and haggard, steps out the front door. He approaches the camera, walking into a medium close-up and looking straight into the lens. "First impressions of a character are important, and I like to put a lot of thought into that moment," says Sigel. "Here's this nice, typical all-American neighborhood and here's our main character — and he's a mess." To get the shot, Sessler flew an Alta drone equipped with a Hawk 45mm V-Lite lens, and when it reached the front of Cherry's house, Haley grabbed it and finished the move. "That shot is

about the world, about the setting, but also about finding an individual among all these people to tell a story about — and it's just one story of thousands that are this harrowing," says Joe.

"I've come to love large format as much for the lenses it forces one to use as anything else," says Sigel, who shot *Cherry* in 6K with a Sony Venice. "To put a 50mm three feet from an actor and have this great field of view without distortion is terrific; it reminds me of medium-format stills photography."

Throughout the shoot, Sigel set the look for dailies by applying a baseline film-emulation LUT he developed with Company 3 and tweaking it for each chapter. Sigel performed the final color grade at Company 3 with colorist and ASC associate Steve Scott.

The movie's emotional spine is Cherry's relationship with Emily (Ciara Bravo), and through testing at Keslow Camera, Sigel determined Todd-AO anamorphic lenses should be "the core of our look." He recalls, "Nothing else had that romantic, beautiful, creamy, soft fall-off. It's a fairytale quality I thought was perfect for this story. Each chapter has its own visual recipe, but we start with the Todd-AOs and come back to them."

Sigel also selected a Sigma 14mm Cine lens, Leitz Cine M 0.8 Series primes and Hawk class-X primes, as well as some specialty lenses he chose to punctuate pivotal moments in Cherry's story. One of these moments is his first conversation with Emily, which takes place outside after they've sized each other up in the classroom. When Haley moved in for close-ups, Sigel switched to a Lomography 55mm Petzval MKII lens. "Everything else is falling away and there's just the two of them," Sigel says. "The center of the Petzval is actually quite sharp, but it falls off beautifully, especially when you shoot wide open and have a background

INTRODUCING

SUMOSKY®

As shoots become faster-moving and more fluid with the huge advances in VFX, lighting and camera, there's a new opportunity to create subtler, more reactive backdrops.



REACTIVE BACKDROP

BACK DROP

INSTANT GREEN SCREEN

INSTANT BLUE SCREEN

UP TO
15m
40ft
HIGH

MORE THAN 100m/300ft WIDE



QUICK EXPANDABLE LED-WALL FOR SMART VFX INTEGRATION

EASY TO USE PIXEL MAPPING • R G B W W • IP-PROTECTED
NO BANDING • SMOOTH BACKGROUND FOR KEYING

MADE IN GERMANY
SUMOLIGHT.COM
INFO@SUMOLIGHT.COM

SUMOLIGHT USA, INC
LOS ANGELES
PHONE: 310.729.5339

SUMOLIGHT GMBH
BERLIN
+49 30 3389 2987

SUMOLIGHT 

Sigel works through a scene with actor Ciara Bravo.



with a lot of small detail like we did.

“Cherry is an anamorphic film, but we switched to spherical for the sections where he goes to basic training and off to war in Iraq. The shift was meant to emphasize a kind of dislocation Cherry experienced in environments that were so alien to him. For the basic-training scenes we used the spherical 14mm Sigma in full sensor mode, which created an uncomfortable proximity and distortion. For the Iraq scenes, which we shot in Morocco, we switched to the Leica M-Series, a classic staple of photojournalists before zoom lenses came around. When Cherry comes home from the war, we go back to the anamorphic [look] that the movie began with.”

Early in their acquaintance, Cherry encounters Emily at a party, where he’s high on Ecstasy. To convey that euphoria, Sigel shot infrared and color footage simultaneously with a 3ality Technica TS5 stereoscopic

rig (using two Red Ranger Monstro cameras and Super Baltar lenses); then, in post, he graded the composited images to progress from a bright monochrome palette to varying amounts of color. “One Red captured normal color, while the other had the IR filter that normally blocks IR light removed and replaced with a KipperTie IR filter — which is designed to block visible light, but allow the IR part of the spectrum in. Additionally, in front of the lens we had a nearly opaque filter that still allows the IR spectrum in. To heighten the effect, we lit the actors with infrared lighting instruments, which is very strange on set, because you cannot see that light with the naked eye — only when it’s picked up by the IR-sensitive camera. The normal camera sees none of that light. By using this rig, we could begin the scene with Cherry very tripped out until he discovers Emily, who is able to ground him little by little, with the color normalizing. Having the two identical images allowed us to

An aerial photograph of a city, likely Montreal, with a prominent body of water. The city and water are mirrored, creating a symmetrical, dreamlike scene. In the foreground, a person stands on a grassy hill, holding a large orange and white striped umbrella, looking out over the city. The text "WE CREATE WORLDS" is centered in the middle of the image.

WE CREATE WORLDS

Raynault
VISUAL EFFECTS

MONTREAL • QUÉBEC • CANADA

Left: Sigel on set. Right: Cherry at war.



dial in how much IR and how much color we wanted in each individual shot. It's quite a metaphor of their relationship."

Another scene in this chapter starkly illustrates Cherry's disconnection from the world around him. Trying to resolve a problem with his bank account, he speaks to a teller whose face is literally blacked out — she appears silhouetted in the fully lit interior. In a later chapter, he returns to the bank to commit his first robbery, and then we see the woman's face. "It seems like a little thing," Sigel says, "but it was actually one of the most challenging aesthetically: How do you *not* light her and then have her lit in a day interior in a bank?"

Adds Joe, "One of the biggest problems today is 'otherizing,' people's tendency to not see the humanity in other people, and we thought it would be compelling to institutionalize this teller until the moment Cherry comes back to rob her, at which point she becomes human to him. It took a bit of work to figure out how to execute that, and to Tom's credit, most of it was done in camera; there was very little CG touchup in post."

Sigel lit the bank, a practical location, mostly from outside with 18Ks. Overhead fluorescent practicals were turned off when they weren't in frame, and the tubes in frame were wrapped in ND so they emitted

very little light, even though they appeared to be on. "Then we flagged the teller very precisely so only her face was obscured," Sigel says. "We had a lamp for her that we cut off everywhere else in the set, and we also flagged her ambient light while letting it hit the area immediately around her. The light is off, but when Cherry comes back for the robbery, we dim it up and expose her face."

To emphasize the rigors of basic training shown in another chapter, Sigel shot only with the 14mm Sigma and used static shots and grounded, linear camera moves; in addition, the 2.39:1 aspect ratio narrows to 1.50:1, and the warm colors of the preceding chapter drain away. "Cherry's decision to enlist proves to be regrettable, and there's a feeling of the walls closing in," says Sigel.

When Cherry lands in Iraq, the widescreen frame is restored, and Sigel transitions to Leitz Cine M 0.8 primes and "more neutral color." He adds, "Leicas are the tried-and-true lenses photojournalists have used for decades, and this was meant to be a certain nod to documentary — but as if David Lean were filming it!"

Cherry's first combat experience is depicted with a minute-long Inspire drone shot that echoes the film's opener: The camera flies over a mountain range where insurgents are firing on Humvees below,

“We needed someone with Tom’s confidence and experience to pull Cherry off.”



Cherry’s behavior becomes increasingly unhinged after he returns to civilian life.

RIG FASTER RIG BETTER

PEOVI SPHERICAL CAGE[®]



WWW.PEOVI.COM

T: 530-429-5559

info@peovi.com

MADE IN USA

Tech Specs:

2.39:1 and 1.50:1
 Cameras: Sony Venice CineAlta,
 Red Ranger Monstro
 Lenses: Todd-AO, Sigma, Leitz M 0.8 Series,
 Hawk class-X, Arri Swing Shift, Super Baltar,
 Lomography Petzval



descends to find two American soldiers, follows one as he runs through enemy fire, and then moves on to reveal more Humvees coming up a hill and into the fray, stopping at one when Cherry hops out of it. The shot holds on Cherry, capturing the shock on his face, and doesn't cut until his commanding officer comes over and grabs him.

"The shot was designed to both set the table for his experience in Iraq and go from the macro to the micro, to show the scale of the horror and

then go right into Cherry's head," Sigel says. "We did two handoffs. When the drone comes over the hill, we see a U.S. soldier firing from a hidden position, and that's Greg Baldi, who was normally doing the arm-car work with me, in costume. As the drone passes him, Greg drops his weapon and grabs the drone, holding it for the two-shot of the U.S. soldiers. When one of those soldiers starts to run, Greg lets go of the drone, and it follows the soldier through all the chaos. At one of the last Humvees in the row,

Geoff Haley, also in costume as a soldier, jumps out and grabs the drone just as the other Humvees are coming up over the hill. Geoff stops right in front of Cherry when he hops out."

After Cherry returns to Cleveland and turns to drugs to mitigate his anxiety and depression, compositions become increasingly asymmetrical, and in an especially vivid shot of the character high on oxycodone, he appears to swim through his bedroom as the background swirls behind him. "That's an important scene

Opposite: Sigel took pains to help Bravo's character, Emily, stand out as the focus of the ex-soldier's attention.
Below: The young lovers share a moment.

because it's meant to sell that he's gone beyond trying to deal with PTSD into really dangerous behavior," Sigel says. "Jimmy Shelton built a rolling rig that Tom could stand on, and we attached the camera to it so it stayed fixed on him as he floated his body around. It didn't feel like walking, but it didn't have the rigid quality of a bodycam. I spotted this massive convex lens on set — more of a diopter, really — that turned out to be what the set medic was using to remove splinters from fingers. We put that funky glass in front of the camera, I lit the windows very bright with [Arri] T12s and Par cans, and we pushed that rig through Cherry's journey. It's a very hallucinatory effect."

Sigel reserved the Hawk class-X anamorphic primes mostly for the epilogue, which takes place in prison and features no dialogue. "We feel the years slipping by," says the cinematographer. "The light is cold, but there's a glimmer of hope. Cherry comes out a very different man." ☐

Cherry will begin streaming March 12 on Apple TV Plus.



LUX MACHINA

JOIN OUR TEAM

Lux Machina is adding to its team and looking for experienced technologists to work in the fast-growing field of virtual production and in-camera visual effects.

Virtual Production Supervisors | Video Engineers | UE Operators

Apply at luxmc.com/jobs



TECHNOLOGY EMPOWERING CREATIVITY

www.luxmc.com/jobs

jobs@luxmc.com

@luxmc_

@luxmachinaconsulting

@luxmc_



"I use a variety of cameras to shoot stills, but my carry-around camera is a Leica M."

— Dan Laustsen, ASC, DFF

LEICA M 10-P "ASC 100 EDITION" The M for cinematographers.

The Leica M 10-P "ASC 100 Edition" continues Oskar Barnack's ingenious idea and translates it into a fitting tribute to the world of cinema on the occasion of the 100th anniversary of the founding of the American Society of Cinematographers.

The M 10-P "ASC 100 Edition" is an exclusive professional tool for aiding cinematographers and filmmakers in their search for the truly exceptional visual experience.

Please contact the ASC to order this unique Leica M10-P "ASC 100 Edition" at theasc.com/leica.



CLASSIC STYLE FROM THE ASC

This black tee sports famed ASC member Gregg Toland's Mitchell BNC silk-screened in white on the front, with the camera's serial-number badge on the back.

This same camera was used by Toland to photograph the classic *Citizen Kane*, as well as many other exceptional pictures, including *Wuthering Heights*, *The Grapes of Wrath*, *The Long Voyage Home*, *Intermezzo*, *The Little Foxes* and *The Best Years of Our Lives*.

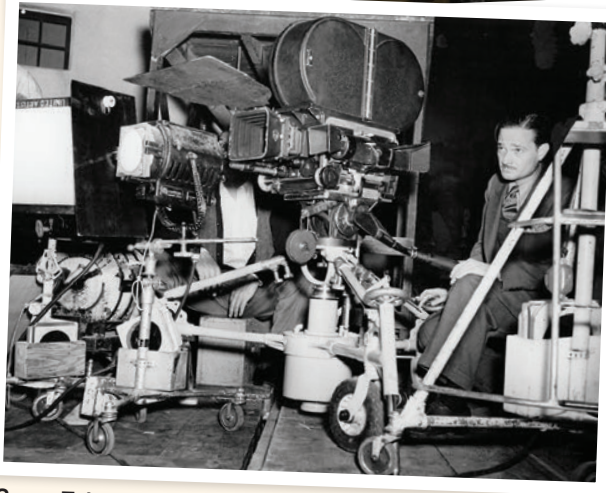
Restored to original condition, this piece of film history is now part of the ASC Museum collection.

Our commemorative shirt is made of fine jersey fabric, 100% combed ring-spun cotton.

To order, visit store.ascmag.com



Camera photo by Richard Crudo, ASC



Gregg Toland, ASC behind his trusty Mitchell BNC while shooting *Citizen Kane*.

New Products and Services

For more of our latest tech reports, visit ascmag.com/articles/new-products

Rokinon Goes Wide

Rokinon has unveiled a 14mm T3.1 Ultra Wide-Angle Cine DSX lens, the latest addition to its Cine DSX series. The lens offers a 115.7-degree full-frame rectilinear view and produces sharply defined images with minimal distortion and chromatic aberrations. It utilizes seven specialized elements, including Aspherical, High Refractive Index, Hybrid Aspherical and Extra-Low Dispersion types.

The DSX 14mm features a compact design with a matte black finish and a rounded nine-blade aperture that renders soft, circular bokeh. It also features a petal-shaped lens hood and a wider focusing gear that is comfortable when pulling focus by hand. Lens mounts are weather sealed and will be available for Canon RF, Canon EF, Canon M, Fuji X, MFT, Nikon F and Sony E. The Canon RF-mount model is equipped with a rear filter holder to allow the use of gel filters without vignetting. DSX lenses support the latest DSLR, mirrorless and cinema-camera systems.

For more information, visit rokinon.com.



Fujifilm Adds to Premista Line

Fujifilm North America Corp. has released the Fujinon Premista 19-45mm (T2.9) lens. It is the third model in the Premista Series of cinema zooms that support large-format sensors. The Premista 19-45mm is a lightweight (7.3-pound), wide-angle zoom that produces images with natural bokeh, high resolution, accurate color rendition and controllable flare with minimal ghosting for capturing high dynamic range.

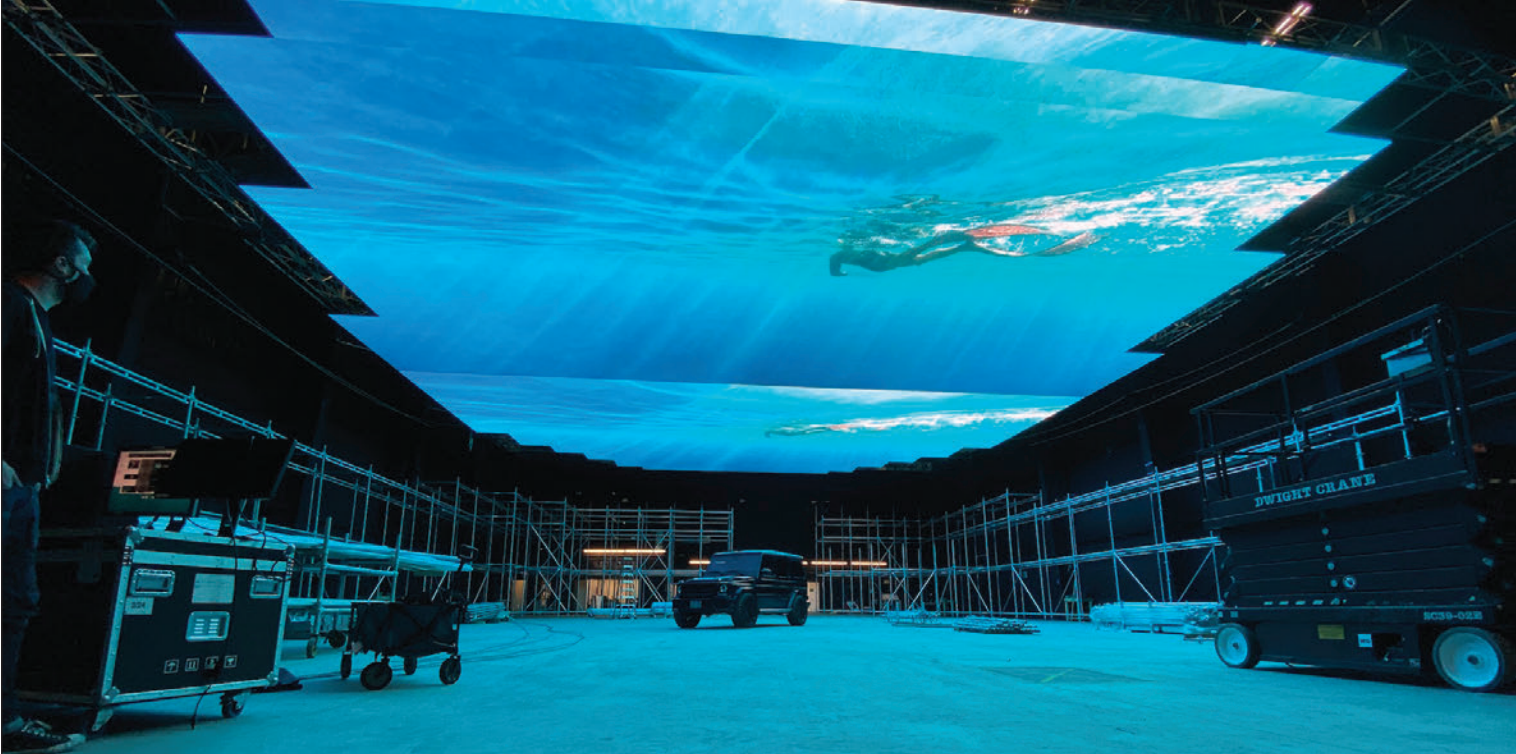
When combined with the Premista Series standard zoom (28-100mm) and telephoto zoom (80-250mm), the kit covers focal lengths from 19mm

to 250mm, catering to a wide range of shooting scenarios. All three lenses share the same front diameter and gear position for the focus, zoom and iris operating rings. Additionally, the focus ring has a wide rotation angle of 280 degrees and gives smooth torque during rotation for precise focusing and excellent control. Fluorescent paint is applied to index marks on the focus, zoom and iris rings, allowing these settings to be checked in dark environments.

The Premista 19-45mm offers a constant T-stop of 2.9 across its focal-length range. It features large-diameter

aspherical lens elements polished with Fujifilm's unique zooming system to effectively correct issues such as chromatic aberration. The lens also features a flange focal-distance adjustment mechanism, allowing users to easily adjust the flange focal distance by simply rotating a ring on the lens barrel to correct shifts caused by rapid temperature changes. Like the standard and telephoto zooms, the Premista 19-45mm lens supports Zeiss Extended Data.

For more information, visit fujifilm.com.



Brompton, Pixomondo Join Forces

Visual-effects house Pixomondo has finished building one of the world's largest virtual-production studios at its flagship location in Toronto, with Brompton Technology among its tech partners on the new facility. "Beyond the prerequisites for an LED processor geared toward virtual production, Brompton has

shown that it is heavily invested in innovation with a strong focus on quality," says Josh Kerekes, VP supervisor at Pixomondo. "In the past couple of years, we've been fortunate to be part of projects involving VP, giving us an early insight into this rapidly changing industry. Moving a traditional pipeline into real time

can be challenging, but thanks to key partners such as Brompton, it has been a smooth, natural extension of our business. We have many ambitions for this new space."

Adds Adam Callaway, Brompton's VP specialist, "With VP ushering in a new era in film and television production, we

are very excited to be partnering with Pixomondo, which is fully integrating Brompton HDR into its VP workflows. HDR technology is set to become a mainstay of future film, television and commercial productions."

For more information, visit bromptontech.com.

Cartoni Releases UV-C Boxer

Cartoni Professional Camera Supports has released the UV-C Boxer, a medical-grade device designed to disinfect film and video equipment. Microchem Laboratory, an FDA-compliant lab, recently confirmed the Boxer can neutralize 99.985 percent of microorganisms, including Covid-19, in three minutes. The Boxer's sliding, box-shaped container (36.5"x21.5"x24") facilitates safe loading and sanitization of multiple pieces of gear at the same time. Weighing 114.64 pounds, the device is equipped with wheels with positive locks and can easily be moved around on flat surfaces.

Because exposure to UV-C rays can be dangerous to humans, the Boxer is designed with a safety-lock system to avoid accidental UV-C irradiation; if the door to the Boxer chamber is not locked, the UV-C lamps will not activate. The Boxer's UV-C medical-grade lamps are tested to provide 10x the irradiation needed to sanitize the surface of objects, and the reflective walls provide an even distribution of the radiation on the entire surface of the item being disinfected.

At Microchem, the Boxer was tested with 64 plates of antibiotic-resistant bacteria and other microorganisms. Each was placed on different materials such as glass, composite and metal to simulate film and video equipment. Additionally, each microorganism was tested at five different positions within the Boxer's chamber.

For more information, visit cartoni.com.



Classifieds



CAVISION

ONLINE STORE: WWW.CAVISION.BIZ
tel: 604-298-9053 email: info@cavision.com



Process & Scan to 6.5K
Super 8 & Super 16 Film

Pro8mm
UP TO 6.5K

www.Pro8mm.com
2805 W. Magnolia Blvd., Burbank 91505
818-848-5522



RIP-TIE[®]
CABLE MANAGEMENT
www.riptide.com 510 577-0200



USED FILMEQUIPMENT
from Germany

filmcameras, lenses, **pille** lighting & dollies
Please visit our website
www.used-filmequipment.com

Sumolight Announces Sumosky

Sumolight USA, Inc., has announced the Sumosky, an expandable LED digital-backdrop display that will be available in summer 2021. "As larger productions become more fluid with advances in VFX, the Sumosky can save time and labor costs," says Sumolight President and CEO Malcolm Mills. "The Sumosky simply rolls out of a compact, wheeled case and can be hung in minutes with a very easy setup, allowing users to create their own large-scale digital canvas and backdrop. [It] has full RGBWW spectrum and superior color rendering, and background images and video can be projected and controlled by simply using our software on your laptop." It can also be externally controlled via Art-Net.

The Sumosky is stackable to over 300' long and expandable to 40' tall. It has a self-retracting function and features pixel mapping down to a resolution of 3.9"x3.9". Individual SkyBars will be available.

For more information, visit sumolight.com.



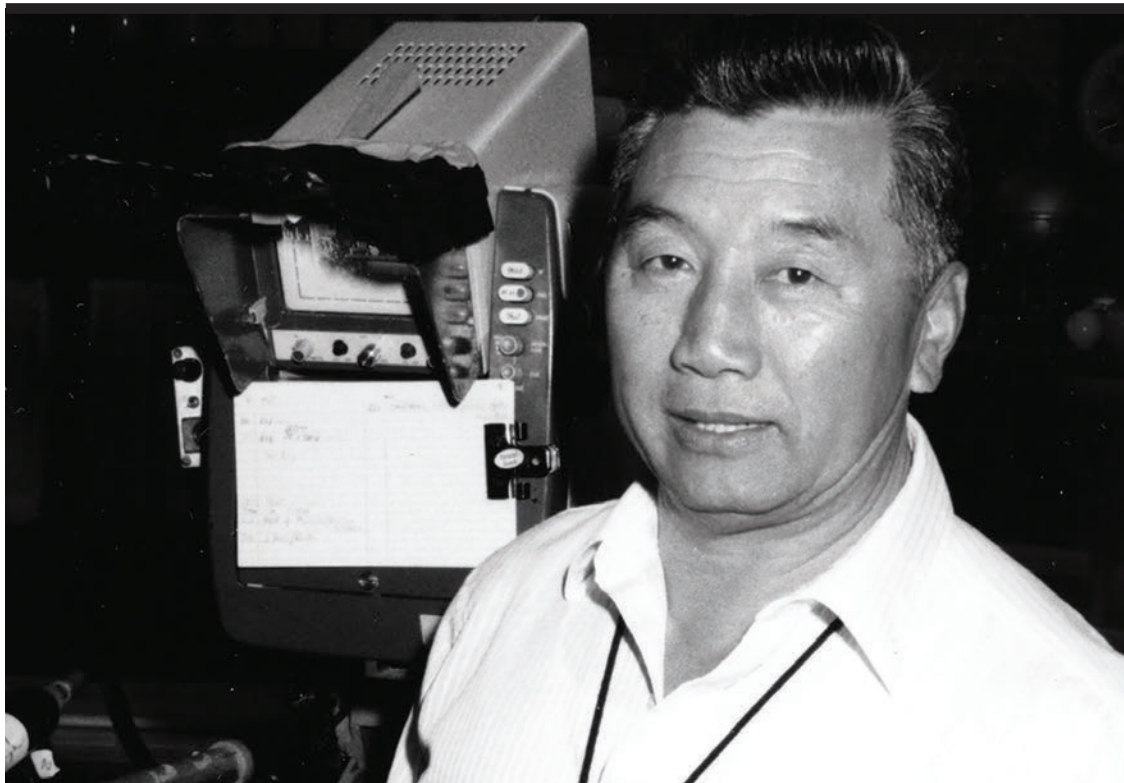
Advertisers Index

- | | |
|----------------------------|---|
| Amazon Studios 17, 21, 23 | STXfilms 33 |
| Arri 43 | Sumolight USA 57 |
| Blackmagic Design 3 | Vitec CS/SmallHD C2, 1 |
| Cavision Enterprises 68 | Walt Disney Studios Motion
Pictures 35, 37 |
| Creamsource 49 | Warner Bros. 13, 15 |
| Filmotechnic 53 | ASC/Leica 64 |
| Focus Features 25, 27, 29 | ASC Photo Gallery 6 |
| Fujifilm/Fujinon C3 | ASC Toland Shirt 65 |
| Lux Machina 63 | |
| NBC Universal Pictures 39 | |
| Netflix 7, 9, C4 | |
| Panasonic 45 | |
| PEOVI 61 | |
| Pille Filmgeräteverleih 68 | |
| Pro8mm 68 | |
| Raynault VFX 59 | |
| Rip-Tie 68 | |
| Searchlight Pictures 5 | |



In Memoriam

Robert F. Liu, ASC (1926-2021)



Robert F. Liu, ASC, a two-time Emmy Award nominee who forged a cross-cultural career when such experiences were rare, died Jan. 11 at the age of 94.

When Liu was a young man, his talent was recognized by Chinese filmmaker Chuang Kuo Chuen, and his U.S. mentors included Robert Wise and James Wong Howe, ASC. Liu received Emmy nominations for the series *Lou Grant* and *Family Ties*.

Liu was born in Shanghai on May 1, 1926. He and one of his brothers shared an early interest in chemistry, and together they turned the family home into a veritable laboratory, making everything from batteries and soap to enlarging paper. By the time he reached high school, Liu had begun experimenting with an 8mm Kodak camera. "I was fascinated with moving pictures, but I never thought I would end up in the business," he told *AC* in 2009, when he was honored with the ASC Career Achievement in Television Award.

Setting his sights on a career in diplomacy, Liu earned a bachelor's degree in political science. Upon graduating, however, he changed his mind. "The saying was, 'An ambassador is an honest man sent abroad to tell lies,'" he noted. "When I heard that, I decided it wasn't for me."

In 1949, Liu moved to Hong Kong and found work as a boom operator at Great Wall Studio. There he met Chuang, and in 1951, when Chuang shot a film in Taiwan, Liu worked as his assistant. The two remained close, and in 1957, Liu married Chuang's daughter, Ivy.

In 1959, sponsored by the National Academy of Arts and Crafts in Taiwan, Liu made his first trip to the United States. With the U.S. government paying his tuition, he was sent to the University of Southern California, where one of his professors, Herbert Farmer, encouraged him to pursue a graduate degree. Liu subsequently earned a master's in film from USC. During his studies, he met

Howe and Wise, and a few years later, when Wise went to Taiwan to make *The Sand Pebbles*, he brought Liu aboard as first AD.

Liu subsequently directed the documentary *Industry: A Free China* for the U.S. Information Office in Taiwan. The film won an award at a film festival in Asia, an honor that helped Liu fulfill the requirements to immigrate to the United States. Farmer offered him a job running USC's motion-picture laboratory, and in 1966, Liu and his family moved to America.

Almost three years later, Liu left his job at USC to work as the principal cinematographer at the UCLA Media Center, where he shot documentaries and surgical films. When he tried entering the camera union as a cinematographer, he was turned down. He tried again as a 2nd AC, and within two weeks he had a job on *Gunsmoke*.

Liu worked for cinematographer Edward R. Plante on the series *Medical Center* and for Gene Polito, ASC on the sci-fi feature *Westworld* (1973). Polito moved Liu up to 1st AC on the series *Adam's Rib*, and Richard C. Glouner, ASC promoted him to operator on the series *Columbo*.

After operating for one season on *Lou Grant*, Liu moved up to director of photography and went on to shoot multiple seasons of the show.

Liu became an ASC member on May 16, 1984, after he was recommended by Glouner, Harry L. Wolf and Ted Voigtlander.

In addition to *Family Ties*, his credits included the series *The Nanny*, *The Martin Short Show* and *Hardcastle and McCormick*.

Liu is survived by his wife, Ivy, three children, six grandchildren and six great-grandchildren.

"I was fascinated with moving pictures, but I never thought I would end up in the business."

PHOTO FROM THE ASC ARCHIVES.



Clubhouse News

Latest Bulletins From the Society



Society Welcomes Grau

New member **Edu Grau, ASC** was born in Barcelona and studied at the Superior School of Cinema and Audiovisual of Catalonia in Spain, as well as the National Film & Television School in the U.K., with a concentration in cinematography. After photographing the short *The Natural Route* (aka *La Ruta Natural*), Grau shot his first feature, director Albert Serra's *Honor of the Knights* (aka *Quixotic/Honor de Cavalleria*). He then collaborated with Tom Ford on the fashion designer's directorial debut, *A Single Man*. Among its many accolades, the picture was named one of the "most stylish films of all time" by *Vice* and *GQ*.

Grau's diverse feature work includes *The Awakening*, *Arthur Newman*,

Animals, *A Single Shot*, *Suite Française*, *The Gift*, *Suffragette*, *Trespass Against Us*, *Gringo*, and *Boy Erased*. For his work on the thriller *Buried*, Grau earned the Bronze Frog Award at the 2010 Camerimage film festival and was nominated for a Goya Award. His camerawork on the mystery *Quién te cantará* earned the cinematographer a CEC Award and Best Cinematography nominations at the Goya and Gaudí Awards. He also photographed the "Born This Way" music video for artist Lady Gaga, which has more than 273 million views on YouTube. His recent credits include the 2020 sports drama *The Way Back* and his first black-and-white picture, *Passing*, which will premiere later this year.



Deakins Knighted

Roger Deakins, ASC, BSC was recently honored with knighthood by Queen Elizabeth II for his outstanding artistic accomplishments. The cinematographer was honored with the ASC Lifetime Achievement Award in 2011 and has earned 16 ASC Award nominations for his feature work, winning for *The Shawshank Redemption*, *The Man Who Wasn't There*, *Skyfall*, *Blade Runner 2049* and *1917*. His list of accomplishments also includes 15 Academy Award nominations, winning for *Blade Runner 2049* and *1917*.

Deakins is pictured here on the set of the 2004 thriller *The Village*, in a shot captured by Frank Masi, SMPSP.



In Memoriam: Steven Manios Sr. (1938-2021)

ASC associate member **Steven Manios Sr.**, former owner and president of Century Precision Optics, died Jan. 3. He was 82.

Born Sept. 4, 1938, in Athens, Greece, Manios' career spanned

five decades. He developed numerous optical devices, including wide-angle and telephoto lenses, which became standard equipment in film and television production. He was awarded several U.S. patents and earned the patronage and friendship of many of the industry's top cinematographers.

Manios' work adapting the Canon 150-600mm zoom lens for professional use brought Century Precision Optics a Technical Achievement Award from the Academy of Motion Picture Arts and Sciences in 1992. Manios was also recognized with the Society of Camera Operators' Distinguished Service Lifetime Achievement Award in 2016.

Manios developed the company, renamed Century Precision Optics, into a major supplier of specialty optical equipment over the next few decades. Its Tele-Athenar telephoto lenses were widely used for sports and wildlife photography, and were employed on the film *Endless Summer* and the television series *Wild America* and *Hawaii Five-O*. The company created a custom relay system used to shoot model sequences for the first *Star Wars* film. It also developed specialized lenses used by the U.S. military to test weapons systems, and by auto manufacturers in crash tests. Other gear aided underwater photography and newsgathering.

Under Manios' leadership,

Century Precision Optics developed innovative products into the 1990s. Manios sold the company to Tinsley Laboratories in 1993 and remained on its board of directors until 1998. When he recognized a need for a high-quality, wide-angle, short-zoom lens for Steadicam cinematography, Manios worked with Angénieux to create the Angénieux 15-40 T2.6 Optimo Lightweight, an early addition to the company's popular Optimo series of zoom lenses.

Manios is survived by daughters Athena and Dina, son Steven (also an ASC associate member), and seven grandchildren.

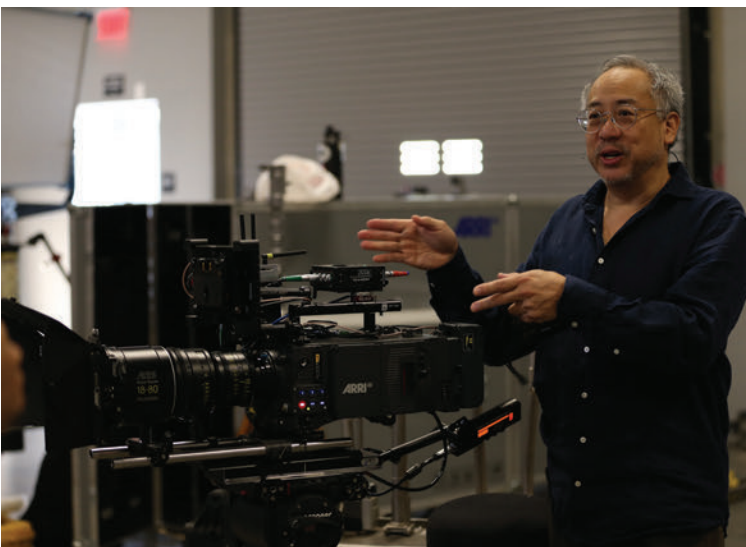


Online Master Class Marks New Frontier

After the in-person sessions of the ASC Master Class had to be temporarily suspended during the pandemic, the educational series has been reestablished online and is proving to be very popular. The new three-day format (at a reduced price point) was designed by **Shelly Johnson, ASC**, with the assistance of **Charlie Lieberman, ASC**.

Limited to 30 students per session, the classes are taught live by ASC members, allowing for students to ask questions and interact with the instructors. Each session also includes one pre-taped lighting demo that is edited for the digital format, but the cinematographers who shoot the demos — who have included Society members **Larry Fong** (pictured here), **Lawrence Sher** and **Frederick Elmes** — introduce their segments and are available for questions during and after the presentation.

Upcoming sessions include specialist classes on shooting commercials and music videos, as well as lessons on virtual production and shooting with LED walls. Details are available at theasc.com.



Wrap Shot

Michael Wadleigh

Director-cinematographer-editor Michael Wadleigh angles in on folk musician Richie Havens while shooting *Woodstock*.



PHOTO COURTESY OF ALAMY.

We decided in advance that approximately half of the film would be devoted to musical numbers and half to documentary coverage of the people at the festival, the human element that was such an important part of a happening like this. The 10 camera crews were divided up and assigned accordingly. During the three-and-a-half days of actual performing, I was constantly on the stage with four other cameramen, shooting the musical numbers in sync sound.

The five of us used Eclair [16mm] cameras exclusively, and they were all equipped with Angénieux [Type 10×9.5 f/2.2] 9.5mm-95mm zoom lenses. We used no prime lenses at all — only the zooms. The only exception to that was the super-wide-angle Angénieux [Type R7] 5.9mm f/2 lens that I would use at times to shoot a specific group or

get an unusual effect. In order to get a close shot with this lens, I had to literally get within two inches of the performers' hands and faces. I was the only cameraman who got that close to them onstage in order to really get involved with their music and with them as people.

On stage, together with the cameramen and their assistants, were our two assistant directors and supervising editors, Martin Scorsese and Thelma Schoonmaker. They were right with the action all the time and were helpful in many ways.

Penned by Wadleigh, this excerpt is from AC's coverage on his Academy Award-winning doc in Oct. 1970. AC Archive subscribers can read the full article, plus content from our every issue since 1920.

NOW INTRODUCING THE

Premista

19-45mm



LIVING LARGE

CAPTURE YOUR CINEMATIC VISION

SHORT, LIGHTWEIGHT WIDE

10% Shorter & 14% Lighter | Fast T2.9 Stop | Minimal Distortion | No Breathing
Exceptional Optical Performance | 46.3mm Image Circle | 7.3 lbs. | 9" Long



FUJIFILM
FUJIFILMUSA.COM

19-45MM T2.9 | 28-100MM T2.9 | 80-250MM T2.9-3.5
LARGE FORMAT

FUJINON
FUJINON.COM

FOR YOUR CONSIDERATION IN ALL CATEGORIES INCLUDING
OUTSTANDING ACHIEVEMENT IN CINEMATOGRAPHY - THEATRICAL RELEASE
PHEDON PAPAMICHAEL, ASC, GSC



“THE BEST PICTURE OF THE YEAR.”

DEADLINE

“PHEDON PAPAMICHAEL’S CINEMATOGRAPHY IS EXCELLENT.”

THE WALL STREET JOURNAL.



WRITTEN AND DIRECTED BY **AARON SORKIN**

THE TRIAL OF THE CHICAGO 7



FILM.NETFLIXAWARDS.COM