

Life of the Mind



Dana Gonzales, ASC and Polly Morgan, BSC employ a broad array of tools and techniques to plumb the depths of a super-powered mutant's anguished psyche for the FX series *Legion*.

By Iain Marcks



Based on the Marvel Comics character created by Chris Claremont and Bill Sienkiewicz, *Legion* is the story of David Haller (Dan Stevens), a troubled young man who's been diagnosed with schizophrenia. Or maybe he's one of the world's most powerful mutants.

Season 1 opens on a psychiatric institution, where we meet David and his burnout bestie, Lenny (Aubrey Plaza), whose rote existence is upended with the arrival of a new patient named Syd (Rachel Keller), a mysterious woman who doesn't like to be touched. As it's later revealed, Syd's aversion stems from her involuntary mutant ability to swap minds with anyone whose skin comes into contact with hers — a power that leads to a traumatic supernatural exchange between her and David, which results in Lenny's demise (she comes back) and the revelation of David's nascent abilities. After David escapes from the hospital, Syd guides him to a secret facility for mutants called Summerland, run by Dr.

Melanie Bird (Jean Smart), a telepathic therapist who helps David discover that he has been haunted his entire life by an evil parasitic mutant known as the “Shadow King,” aka Amahl Farouk (Navid Negahban).

The Shadow King ultimately departs from David’s body, and in Season 2, a mysterious orb appears and teleports David to an unknown place. With Farouk on the loose, David’s associates form an alliance with their erstwhile enemy “Clark” (Hamish Linklater) and his government shadow organization, Division III.

Legion, developed by *Fargo* showrunner Noah Hawley, is a co-production of FX Productions and Marvel Television. The series is photographed by *Fargo* cinematographer Dana Gonzales, ASC, who established its look and shares a credit in Season 1 with Craig Wroblewski, CSC, then in Season 2 with Polly Morgan, BSC and Erik Messerschmidt. The show’s pilot received nominations for the Camerimage International Film Festival’s First Look competition, and for an ASC Award for an Episode for



Commercial Television.

“We’re putting art on the screen to tell our story — pop art, Bauhaus, modern art,” Gonzales says. “These defined what came to be the style of the show.” Cinematically speaking, he places *Legion* on a spectrum between the films of Stanley Kubrick and Paolo Sorrentino. Specifically, the filmmakers studied *A Clockwork Orange*, with its pseudo-futuristic Brutalist milieu and John Alcott BSC’s wide-lens framing. (Hawley even appropriates the film’s

title for the name of the show’s quasi-sci-fi retro-’70s mental facility: Clockworks Psychiatric Hospital.) Sorrentino’s influence — which itself is influenced by the likes of Scorsese, Spike Lee, the Coen brothers and Antonioni — is evident in the aspects of *Legion* that hew closely to its characters’ troubled emotional lives.

Gonzales notes that the starting point of any creative discussion about an episode of *Legion* is that “the visuals and the storytelling must work seamlessly,



Opposite: After escaping a psychiatric hospital, David Haller (Dan Stevens) and Syd Barrett (Rachel Keller) take refuge at a secret facility where David discovers that he may be one of the world’s most powerful mutants on FX’s *Legion* — a series set in Marvel’s X-Men universe. This page, left: Cinematographer Polly Morgan, BSC (center) discusses a scene with director Ellen Kuras, ASC (left). Below: Cinematographer Dana Gonzales, ASC on set during Season 1.

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Right, from left: David is examined by Cary Loudermilk (Bill Irwin) and Dr. Orwell (Christine Horn) in Season 2. Below: David sits alone in an ostensibly abandoned nightclub.



one not overshadowing the other.” A varied roster of directors — including Hawley, executive producer John Cameron, Hiro Murai, Sarah Adina Smith, Ana Lily Amirpour, Gonzales himself, and Ellen Kuras, ASC — with unique skills and talents seems appropriate for a show in which the main character experiences the symptoms of schizophrenia.

A particularly remarkable element of *Legion* is its depiction of mental illness as woven into the narra-

tive and its visuals. From episode to episode, the reality in which David and his friends find themselves seems to shift and alter ever so slightly, as if one falls asleep on a square and wakes up on a circle. According to Gonzales, none of the filmmakers could truly rely on what someone else did in a previous episode, because each new episode “goes places [that the story] has not been before in tone and time period. Each director works with the cinematographers to showcase and high-

light the differences, while integrating into the show as a whole.”

With this in mind, Gonzales laid down some loose ground rules for the other filmmakers to follow going forward: use little coverage, use wide lenses, move the camera but don’t use a Steadicam, tell the story visually, consider new possibilities. Shooting a dialogue scene with David and Syd lying in bed? Instead of a two-shot, try a shot-reverse-shot with the cameras at a 90-degree angle, so that it looks like the actors are standing up. It works.

The reasoning behind this approach is another remarkable thing about *Legion*, which depicts the effects of mental illness with shockingly casual suddenness. The projections and double exposures that flash in blink-and-you-miss-them jump cuts aren’t so much scares as they are a poke in the side to keep you focused on the details. Cameras move in disorienting fashion. Things we’ve seen in the past are misremembered by characters, their details shifting ever so slightly and replayed as fact.

“It’s a cinematographer’s dream to work on a show so dedicated to visual storytelling, and it’s always an adventure



trying to figure out how you're going to pull everything off," says Morgan. "The scripts are so dense and heady, and the relationships between the different characters are complex. It's like trying to pick apart a puzzle."

The pieces that comprise the puzzle that is *Legion* are many, and they lock together in surprising ways. In "Chapter 7," Dr. Bird's cryogenically frozen husband, Oliver (Jemaine Clement), returns to meet our heroes on the Astral Plane and bestows upon them special black-framed spectacles that reveal the truth to their wearer. Gonzales and director Dennie Gordon leaned into the *They Live* reference, depicting "truth" as black-and-white before a segue into a silent-film pastiche, complete with title cards.

In Season 1, the production was based in Vancouver — on warehouse stages and at various locations in and around town. The production relocated to Los Angeles for Season 2, settling into four stages at The Lot in West Hollywood, as well as other locations throughout Southern California.

The production operates on a



Top: Fitted with an Optex Excellence Probe, the camera frames the eye of actor Jemaine Clement (portraying Oliver Bird). "We used [that lens] many times to do dolly push-ins into and out of characters' eyeballs," says 1st AC David Edsall. "It's a great tool that really helped the show."
Bottom: Gonzales and crew set their frame.

nine-day schedule, with no overlapping days between episodes. Gonzales and Morgan use what little prep time they have to scout, shot-list, hold meetings with various department heads, and make equipment requests. Direct communication between a given cinematographer and the crew during this

process is sporadic, as the crew does not work on a rotating basis and is off shooting whatever episode is currently in production. "Your approach is conceived in prep, but often your dream shot is one of those things you just have to work out in a five-minute conversation on the day," says Morgan. Season 2

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The camera captures Navid Negahban (portraying Amahl Farouk, aka the nefarious “Shadow King”) for a sequence including Aubrey Plaza (portraying Lenny Busker) in which the two characters confer within the villain’s dreamlike domain.



camera logistics were handled by A-camera 1st assistant David Edsall and 2nd assistant Jason Alegre, who relayed the cinematographers’ camera and lens requests to Keslow Camera in Los Angeles — which supplied cameras and lenses for Seasons 1 and 2.

Legion is captured with Arri’s Alexa Mini, and though the production carries three camera bodies, no more than two are usually in play at once. In Season 2 — which begins with “Chapter 9” — the A-camera team led by operator Mitch Dubin handled what would be considered main-unit photography, while the B-camera team led by operator John T. Connor often splintered off to pick up shots and scenes, or assist with prep and testing for an upcoming episode. “It was often a small affair, but at times developed into a full unit with additional ADs and a full lighting and grip crew,” Morgan explains. Footage was captured in ProRes 4:4:4 XQ in Alexa Log C for 23.98-fps material, and ProRes 4:4:4 Log C for 48 and 60 fps — in UHD for spherical and 2.8K for anamorphic. Anything above 60 fps was captured at 2K. The Minis recorded to 256GB CFast 2.0 cards.

A separate aerial drone unit

employed Freely Alta and DJI Inspire 2 drones piloted by Michael-Ryan Fletchall and camera-operated by Jason Kay.

One of *Legion*’s key visual motifs is the way its aspect ratio shifts throughout the show (from 1.78:1, to 2.39:1, to 2:1) in a representation of the characters’ shifting perspectives and, as Gonzales explains, of “timeline changes in the storytelling.” The change can happen slowly, with bars around the frame creeping in and out, or in the cut. In Season 1, anamorphic lenses were introduced as David’s powers begin to expand, and again in Season 2 for the narrative elements dealing with the mutant Farouk, as well as all of the “educational segments.” What is considered everyday life at Division III was captured spherically and framed for 1.78:1, as were a fair portion of the scenes in the Astral Plane. “Some of the Astral Plane [material] was shot anamorphic 2.39 in Season 2,” Gonzales notes. Edsall adds, “We [framed] a large portion of the show for [the] 2:1 aspect ratio. All of the 2:1 scenes are photographed in anamorphic.”

All told, more than 50 different kinds of lenses were used to make

Legion. Lenses have included Arri/Zeiss Master Prime, Canon K-35, Bausch & Lomb Super Baltar and Kowa Cine Prominar Spherical primes; Nikon Nikkor 400mm and Clairmont 1,000mm telephoto primes; and specialty spherical lenses such as a Kinoptik 9.8mm (the “Kubrick lens”), Arri/Zeiss Ultra Prime 8R, Kowa Cine Prominar 15mm, Petzval 85mm, Clairmont Squishy Lens, Arri/Zeiss 100mm and 200mm macros, Optex Excellence Probe and Clairmont Swing/Shifts. Anamorphic primes have included Canon K-35, Vantage Hawk C-Series and V-Lite Vintage 74, Todd-AO, Arri/Zeiss Master Anamorphic with and without Flare Sets, and Elite Anamorphic primes. Zoom shots were executed with a Fujifilm/Fujinon Premier 18-85mm (T2) as well as Angenieux’s Optimo 28-340mm (T3.2), Canon’s 7-63mm S16 (T2.6), and Vantage’s Hawk V-Plus 45mm-90mm Anamorphic Zoom.

“Master Primes were our main lens package for the main storyline,” Edsall says. “[They] were used about 50 percent of the time, with anamorphic being used about 40 percent; the remaining 10 percent were the variety of [other] lens sets.” ➤

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Right: The crane-mounted camera captures David's metaphysical meeting with Farouk. Below: David sees what he can divine from the crystal ball.



Gonzales and Morgan strove to do as much of their work as possible in-camera. Though visual effects by John Ross for Season 1 and Zoic Studios for Season 2 abound, “we don’t start there,” Gonzales asserts.

As an example of the show’s bespoke creative spirit, he points to a scene in “Chapter 9” in which “Future Syd,” who is unable to speak, uses a moving point of light — whose residual trail lingers in the air — to “write” messages to David. To help achieve this

“light-writing” effect, Gonzales captured Keller against a black backdrop with two Red Epic Dragons — fitted with Arri/Zeiss Ultra Primes — shooting 6K 3:1 at 24 fps and 3 fps simultaneously through a 3Ality Technica Atom 3D rig sourced from Cinesail 3D Systems. The smeary footage of Keller’s light source from the 3-fps camera was used by Zoic Studios to generate the finished effect, which was then merged with the normal footage from the 24-fps camera.

Morgan employed this technique later in the season, for “Chapter 12,” in which a defiant teenage Syd goes clubbing without her protective gloves on. When she allows her bare fingers to brush against the other dancers, the two images are blended together to evoke an impression of essences intermingling.

“With a show like *Legion*, every episode is so unique that you are often telling a different story each time. This means that you need a new approach,” says Morgan. “The merry-go-round scene [shot in Griffith Park] that opens ‘Chapter 10’ was written as a simple dialogue scene between Dave, Lenny and Oliver, but we chose to film the whole thing with the 9.8mm Kinoptik to give it this weird, offbeat quality that worked well for that episode.”

Later in that episode, which was directed by Amirpour, David is placed into an isolation tank at Division III, and sent through, as the script describes it, a “pink energy field” into the Astral Plane. The energy field was created with laser effects captured as separate inserts by projecting two 20-watt KVANT Spectrum OPSL laser projectors around the lens through several layers of scrim and haze. The mind-

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Top: Syd's mother, Joan (Lily Rabe), visits her in an institution. Bottom: Kerry Loudermilk (Amber Midthunder) looks on as David and Syd link minds.

bending head-trip was intensified by flashing pixel-ribbon practicals inside the tank, while the camera dipped and dove around Stevens on a Technocrane and Libra head. A Squishy Lens with its special flexible element was used to add an even more distorted vibe to the action.

The majority of *Legion's* camera movement has been accomplished with remote heads, such as an Arri or Lambda head with Hot Gears, a Libra head, or a Power Pod on a Fisher 21 jib arm or a GF-8 crane. Key grip Manny Duran of Killer Grip Co. and his team

equipped the cinematographers with Technocranes, a Freefly Movi, DJI's Ronin 1 and 2, and FlyLine cable-cams. "The days are daunting in that way, because not only do you have these huge technical challenges, but when you're moving the camera the way we do, your move has to land with the performance," Gonzales says, citing the results as "a testament to the amazing operating skills of Mitch Dubin, SOC and John Connor, SOC."

Duran notes, "Time and budget [were] a factor in determining what we could achieve. With the full support of

our producers and cinematographers, we as a department had the capabilities to pull off some extraordinary work. I am so proud and amazed at the outcome of our team effort."

By all appearances, the *Legion* filmmakers mindfully adhere to a core imperative of narrative cinematography: The camera is an element of the story. "When you move the camera or choose a lens, it has to mean something," Gonzales observes. The cinematographers have thus approached *Legion's* emotionally charged dramatic scenes "in a more meaningful way," as Kuras describes, so that the audience can better understand the characters' relationships and challenges.

The Season 2 episode "Chapter 12," directed by Kuras, is an example of this approach, as David jumps back and forth in time through Syd's early life, searching for a critical moment in her past that may hold the key to saving her in the future. Morgan relied on a variety of different diffusions, colored filters, and lenses to tell "the emotional story of a woman and the choices that made her who she is." She used Super Baltar primes with Black Pro-Mist and Tobacco filters to create a feeling of nostalgia and texture for Syd's birth and toddlerhood, and then switched to a Tiffen Antique Suede and vintage Canon K-35 primes for Syd's tween and teenage years. "The shots emote and enhance this young woman's journey, and also help the viewer know where they are in time," says Morgan — who also wanted to distinguish Syd's narrative from the simultaneous one taking place within Division III, which was clean, sharp and shot with Master Primes.

For Season 1, Gonzales worked with production designer Michael Wylie, art directors John Alvarez and Michael Corrado, and gaffer Jeff Pentecost to light the sets almost entirely with LEDs, which offered the cinematographer a high degree of quality and control. This strategy remained in place when Jeff Webster was brought on as gaffer for Season 2. ➤

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The crew readies the upside-down set for Lenny's surreal interrogation.



At the beginning of Season 2, Wylie approached Webster with the idea that the Division III facility would feature a kind of hexagonal architecture: soffits in the apartment ceilings, overhead fixtures in Cary's lab, and other accents including walls and windows around the facility.

"We added a lot of practical fixtures, depending on what Wylie asked for, and what Dana or Polly thought might add to the scene," says Webster. Practical lamps in 'the Boat' [Division III's surreal, boat-themed

cafeteria] were rehoused gas lamps equipped with large Edison bulbs "for a warm glow and on-camera sparkle."

One of the most-used spaces on the show was The Lot's Stage 5, a multipurpose set with a 30'x200' backdrop curtain rail for greenscreen, Ultrabounce or black velvet. This is where David gets trapped in his coffin, where Syd does her light writing, where Lenny dances — where anything outside of time and space happens. Fifty Arri S60 SkyPanels were hung in two overhead 20'x30' soft boxes and skinned

with intermediate 1/2 Soft Frost and Full Silk underside for ambience. The greenscreens and seamless Ultrabounces were lit with Kino Flo Image 87s. "Rigging grip Eddie Gutierrez and rigging gaffer Bobby DeChellis built this amazing setup," Gonzales enthuses.

The lighting package for *Legion* has included Arri LEDs, Digital Sputnik DS1s and DS6s; ETC Source Four LEDs (Tungsten HD, Daylight HD, Lustr+); Astera AX1 Wireless PixelTubes; battery-powered LiteGear LiteMats; and Oversight Creamsource Doppio+ and Micro units. "Depending on the episode, we threw in 200K Parabolic Lightning Strikes by Luminys, and [open-faced] K5600 Alpha 18Ks for ultra-hard shadows through windows, and even DS1s mounted on drones with wireless control," Webster notes. Their moving lights have included the Clay Paky Scenius and Mythos, Ayrton Ghibli, GLP JDC1 strobe, and Robe BMFL Blade.

Whenever the filmmakers needed a light that didn't come with the truck, or if a practical or special needed to be built, Webster and fixtures foreman Mike Beckman were on hand with a few hundred rolls of LED hybrid

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Cary visits Oliver's icy accommodations.



ribbon from LiteGear in Burbank, and RGBA and pixel ribbon from Environmental Lights in San Diego.

"We tried to give our built-in fixtures the ability to change color at a moment's notice," Webster remarks. He and Season 2 art director Nick Ralbovsky packed hybrid ribbon alongside RGBA ribbon into any fixture that would accommodate it, designating these full-color units as "Cine6." The

four *Legion* stages were networked together "by gigabit connection with control data transmitted via sACN DMX protocol, as well as an extended 5G Wi-Fi network," Webster specifies, allowing for immediate exposure and color control over any fixture on any stage, from any point on any stage, be it via a GrandMA2 Light console or an iOS device. "*Legion* has such a colorful aesthetic, it would have been a major

disadvantage if we didn't have the ability to choose our colors this way," Webster adds.

For the rare but still-important moments where something crazy or upside-down isn't happening, Gonzales and Morgan would ask Webster to set up a soft, natural key and negative fill on the camera side. "LiteMats through 400 LeeLux diffusion for close-ups and small sets, then S60s through 8-by and 12-by frames of Light or Full Grid for the larger sets," Webster details. "Sometimes we just used bounce cards to wrap the overhead lighting into the eyes."

Gonzales also designed the post workflow for both seasons of *Legion*. There is no dailies colorist. The pipeline begins with a slightly altered Arri K1S1 LUT. Digital-imaging technician Chris Cavanaugh assists Gonzales with creating the look on set in Pomfort's LiveGrade. Encore Hollywood applies Gonzales' or Morgan's CDL to the

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transcode, which becomes the offline editorial deliverable.

Encore colorist Tony D'Amore, who also graded *Fargo* for Gonzales, performs the final color grade by going back to the 4K camera original and building his own LUT with Blackmagic Design DaVinci Resolve. "I created my own custom LUTs to closely match what Dana and Polly saw, but with a wider color gamut than the Rec 709 SDR LUT they used on set, because we're finishing the show in HDR," he explains.

To ensure that the production's footage was future-proofed for 4K HDR viewing, Gonzales was compelled to alter his technique for maintaining exposure on set. "You don't want to shoot full range," he advises. "Crush your highlights, because when you add the HDR color space onto the digital negative, it takes your highlights up another 10 to 20 IRE."

Posting in HDR comes with its

own unique challenges — and being a relatively new way to view a moving image, it can trick the untrained eye into perceiving a sense of exposure latitude that might be difficult to match in SDR. Says D'Amore, "It's easier and more reliable to color the SDR first, knowing that you will only gain latitude in the HDR color space. I look at both HDR and SDR as I work to ensure that the look will hold up throughout the process. The key is to be mindful that you're not ignoring one for the sake of the other."

The characters in *Legion* are constantly examining their past and comparing it with the present in order to find answers for the future. It's not often that a television series spends so much time in its own head, but that's another quality that sets the show apart. As for Gonzales, his experience with *Legion* has certainly influenced the way he thinks about his other projects. "Photographing *Legion* has let me flex

my muscles with camera movement and active lighting, giving me an important new commodity in my toolbox," he says.

"To be given the opportunity to be as imaginative as possible, to be trusted, and to collaborate with so many talented artists was a phenomenal experience," says Morgan. "Working on this show has really expanded my vision of what I can achieve." ●

◀ TECHNICAL SPECS ▶

1.78:1, 2.39:1, 2:1

Digital Capture

Arri Alexa Mini, Red Epic Dragon, Zenmuse X7

Arri/Zeiss, Canon, Bausch & Lomb, Kowa, Kinoptik, Zeiss, Petzval, Clairmont, Optex Excellence, Vantage Hawk, Todd-AO, Optica Elite, Fujifilm/Fujinon

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