PRACTICAL GUIDE

Sony FX3

The FX3 vs a cinema camera: what your colorist needs you to know



by Luis Taveras · Colorist

Why everyone loves it

The FX3 is probably the most loved camera among filmmakers. One person, with no crew, can shoot a full music video or documentary with it. For someone starting out, or someone who needs to work fast, it is a brilliant tool. These are its official specs:

- **Full-frame sensor** (35.6 × 23.8 mm) with about 12.1 effective megapixels for stills and 10.3 for video: large photosites that see in the dark.
- **ISO 80 to 102,400** (expandable to 409,600) and **15+ stops of latitude** in S-Log3, according to Sony.
- **4K up to 120 fps**, eye-detection autofocus and 5-axis in-body stabilization.
- **Internal 10-bit 4:2:2** in XAVC S-I (All-Intra), up to 600 Mbps at 59.94p.
- **715 grams** with battery and card: it fits on a gimbal, a drone or a car.

What reaches the colorist from an FX3

XAVC S-I	All-Intra H.264, 10-bit 4:2:2. The easiest to grade and play back.
XAVC HS	H.265, 10-bit. Small files, but heavier to decode on the timeline.
XAVC S	H.264 Long-GOP, 8- or 10-bit depending on the mode. For log, always 10-bit.
External RAW	ProRes RAW or Blackmagic RAW from an HDMI recorder (MONITOR guide).

Yes, it has reached the big screen too

The Creator (2023), by Gareth Edwards, was shot mainly on the FX3, with Greig Fraser and Oren Soffer as cinematographers and a film crew working around the camera. The camera alone doesn't make the film: the decisions and the crew do.



What the colorist finishes: light, skin and texture.



Vivid color outdoors.



Skin cared for indoors.

Frames from *Madre* and *La Fábrica de Bodas*, color graded by Luis Taveras.

The FX3 vs a cinema camera

Compared with two current cinema cameras: Sony's own BURANO and the ARRI ALEXA 35. Manufacturer data.

	SONY FX3	SONY BURANO	ARRI ALEXA 35
Sensor	Full frame · 12.1 MP	Full frame · 8.6K (8640×5760)	Super 35 · 4.6K (4608×3164)
Base ISO	800 and 12,800 (S-Log3)	800 and 3,200	EI 800 (range 160–6,400)
Dynamic range	15+ stops	16 stops	17 stops
Internal ND	No	Variable electronic 0.6–2.1	0.6 · 1.2 · 1.8
Video output	HDMI Type-A	12G-SDI + 3G-SDI	2 × 12G-SDI
RAW	External only: 16-bit over HDMI	Internal X-OCN LT	Internal ARRIRAW*
Mount	E-mount	PL + locking E-mount	LPL (PL with adapter)
Body weight	715 g with battery and card	≈ 2.2 kg without PL mount	—

* Depending on the camera license. Dynamic range: each manufacturer's own figure, measured their own way; not comparable to the exact stop.

What it means for the colorist

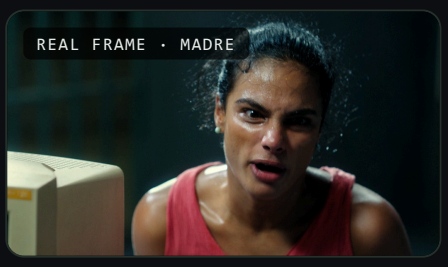
- [ ] **No internal ND** means shooting with filters in front of the lens. A low-quality variable ND can tint the image or leave a dark "X" at its extremes, and that cast changes from shot to shot.
- [ ] **No internal RAW**: without an external recorder, the colorist receives 10-bit 4:2:2 with the camera's processing already baked in.
- [ ] **No SDI**: on-set monitoring depends on an HDMI connector, which is more fragile on a long shoot.
- [ ] **Timecode:** the FX3 accepts timecode input through its Multi/Micro USB port with an adapter. Use it: it saves the editor and the colorist hours when there are several cameras.



Controlled light on set.



Original footage with every detail.



Protected highlights.

Frames from *Madre* and *La Fábrica de Bodas*, color graded by Luis Taveras.

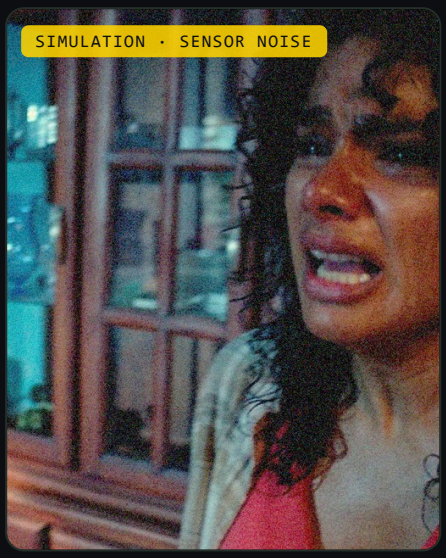
Dual ISO and noise reduction

The FX3 has two base sensitivities in S-Log3: **800 and 12,800**. The 12,800 base is there for when the light isn't enough, but it doesn't deliver the same cleanliness as 800. That's different from the dual base ISO of the Sony VENICE 2 (800 and 3,200 on its 8.6K sensor), designed so both bases behave very similarly.

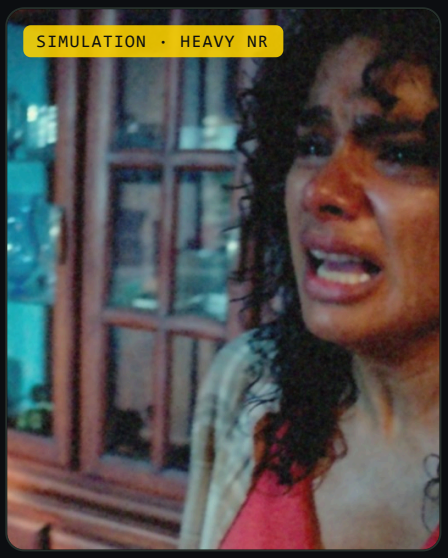
To hide the noise, the camera applies internal noise reduction. When recording internally it can't be controlled, and in CineD's lab tests of the a7S III (which shares its sensor with the FX3) that processing leaves blotches of color noise that make it hard to lift the shadows. The result is a clean image, but sometimes a pasty one: fine detail and skin texture get flattened.



Reference: skin with its texture.



Low light and high gain: grain appears, but the detail is still there.



The same image with heavy noise reduction: clean, but no pores or detail.

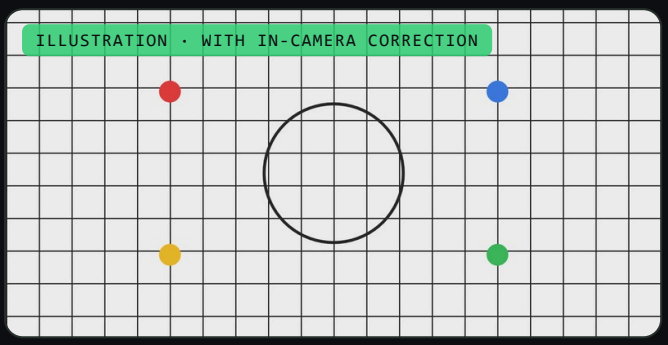
What the camera erased, the colorist can't bring back

Noise can be cleaned in the grade, with control and shot by shot. Detail the camera flattened before recording no longer exists in the file. That's why many cinematographers feel the FX3 image is "too digital" when it's recorded internally in low light.

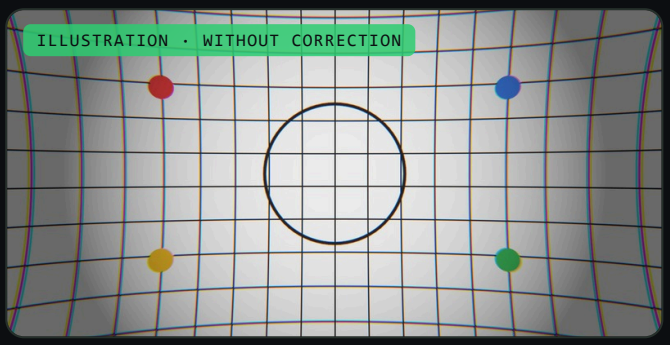
Frames from *Madre* and *La Fábrica de Bodas*, color graded by Luis Taveras. Simulations are computed on frames from *Madre* and *La Fábrica de Bodas* (graded by Luis Taveras) to explain the effect; they are not tests of any specific camera.

Lenses: what the camera corrects

Many modern mirrorless lenses are designed counting on the camera to correct the image. The FX3 has compensation for **shading (vignetting), chromatic aberration, distortion and focus breathing**. On a Sony camera everything looks perfect; the same lens on another camera, without those corrections, shows what it really is.



Straight lines, clean corners.



Barrel distortion, vignetting and color fringing in the corners.

Focus-by-wire and cinema lenses

- **G Master lenses focus electronically**, with no hard stops. Some have “Linear Response MF”, which helps repeat a move, but the focus puller can’t mark distances on a ring with hard stops like on a cinema lens.
- **A cinema lens** has a T-stop iris (the real light reaching the sensor), standard 0.8 module gears and mechanical focus with a long throw: about 300° on ZEISS CP.3 lenses, for example.
- **A cinema set behaves the same on every lens**: same color, same contrast, same rings in the same place.
- **For the colorist:** if different lenses are mixed in one scene, it’s not just color that needs matching, but also the contrast, vignetting and sharpness of every shot.



Straight lines indoors.



Even sharpness across the frame.



Vignetting as a choice, not a flaw.

Frames from *Madre* and *La Fábrica de Bodas*, color graded by Luis Taveras. The grids are illustrations.

How to shoot the FX3 with color in mind

1. **S-Log3 with S-Gamut3.Cine**, or Cine EI mode (firmware 2.0 or later), which always records at one of the two bases.
2. **XAVC S-I 4K, 10-bit 4:2:2** (240 Mbps at 23.98p; 600 Mbps at 59.94p). It's the easiest internal format to grade.
3. **Base ISO 800** whenever you can; 12,800 only when the light isn't enough.
4. **Expose a little over.** In S-Log3, middle gray sits at 41%. In Cine EI, an index lower than the base (e.g. 400 over 800, one stop) makes you expose more, and the colorist brings the image down with less noise. Always protect the highlights.
5. **A good-quality ND**, and if it's variable, don't push it to its extremes.
6. **Record RAW over HDMI** to an external recorder when the project calls for it: ProRes RAW or Blackmagic RAW (see the MONITOR guide).
7. **Log and hand over:** base ISO, EI, lens, ND and whether there was external recording. The colorist needs it.

Where the FX3 shines

- [ ] As a **B camera** next to a cinema camera, on a gimbal, drone, car or in tight spaces.
- [ ] On **small-crew shoots** or in low light where a big camera won't fit.
- [ ] With a **film crew around it**: cinema lenses, quality ND, monitor, focus puller and colorist.

It isn't a bad camera

It's a camera made for one person to shoot fast and well. Cinema asks for something else: texture, control and a crew working around the camera.







Frames from *Madre* and *La Fábrica de Bodas*, color graded by Luis Taveras.

ABOUT THE AUTHOR



Luis Taveras

COLORIST

Luis Taveras is a colorist, member of the Colorist Society International, with five feature films and more than 500 music videos. His credits include *Madre: a dos centímetros de ti*, winner of five awards at the 2025 New York Dominican Film Festival, and *La Fábrica de Bodas*, which premiered at the United Palace in New York. For him, color is the last place where a film can still change its emotion, and the skin always has to feel true.

5	500+	10
feature films	music videos	years in the craft

What I do

- Color grading for film
- Music videos
- Commercials and brands
- Cinema mastering and delivery (DCP)

Member, Colorist Society International · ID 98523302

DGCINE Film Agent · SIRECINE AC-PTA 18224

Planning your next shoot?

I'd love to collaborate with you on the color of your next project. Write to me and watch my demo reel.

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