

FX6 IRIS ISO-GAIN SHUTTER ZEBRA GUIDE

Exposure, Motion, Depth of Field, Face-Zebra and VF
Histogram Operation

Camera	Sony FX6 ILME-FX6V, firmware V5.02
Primary mode	Cine EI, S-Gamut3.Cine/S-Log3
Monitoring	s709 LUT, waveform, zebras, histogram
Frame-rate baseline	23.98p with 1/48 or 180-degree shutter
Release	V1.0 - 30 June 2026

Project-specific guide. Camera-verified V5.02 evidence governs over later-firmware differences.

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All graphics in this guide are original conceptual teaching illustrations. They are not literal Sony interface captures.

1. Quick Start and Governing Doctrine

THE OPERATING ORDER Frame rate and shutter establish motion. Iris establishes depth and focus tolerance. Base ISO establishes the Cine EI operating base. White balance establishes color consistency. ND and lighting place exposure. Zebras and waveform verify the result.

1. Select the project frame rate. For the user baseline, confirm 23.98p.
2. Set 1/48 shutter speed or 180.0-degree shutter angle. Do not use shutter as the routine brightness control.
3. Choose the iris for the intended depth of field and actor movement.
4. Select Base ISO 800 or 12800 deliberately in Cine EI.
5. Select the intended EI position; the camera-verified V5.02 Cine EI set is H 1600EI, M 800EI, and L 400EI at Base ISO 800.
6. Lock white balance under the actual key light.
7. Light the subject and use variable ND to place exposure without changing motion or depth.
8. Check the face with Zebra1. Check upper highlights by switching to Zebra2.
9. Confirm important levels on the waveform. Use the histogram only as a secondary distribution warning.
10. Record and review a short technical clip whenever the scene is critical.

MUTED-COLOR RULE Do not create a restrained look by starving S-Log3, contaminating skin, or using an arbitrary shutter. Build the look with lighting, wardrobe, production design, negative fill, controlled contrast, accurate monitoring, and grading.

The user baseline

Control	Camera-verified / preferred starting value	How to treat it
Frame rate	23.98p	Project baseline, not a universal delivery requirement.
Shutter	1/48 or 180.0 degrees	Normal motion starting point at 23.98p.
Zebra1	62% with 6% Aperture	User-tested starting target band; calibrate with the exact LUT path and intended face look.
Zebra2	95%	Upper warning starting point; switch to Zebra2 to inspect

		highlights.
Base ISO	800 in ordinary controlled light; 12800 for low light	Select for the scene before choosing EI.
Monitoring LUT	s709	Viewing reference; confirm internal-record LUT routing remains intentional.

V7 handbook references: master hierarchy pp. 8-10; shutter/aperture pp. 87-95; exposure monitoring pp. 113-120; Cine EI pp. 121-128; muted-color doctrine pp. 173-189.

2. The Control Hierarchy

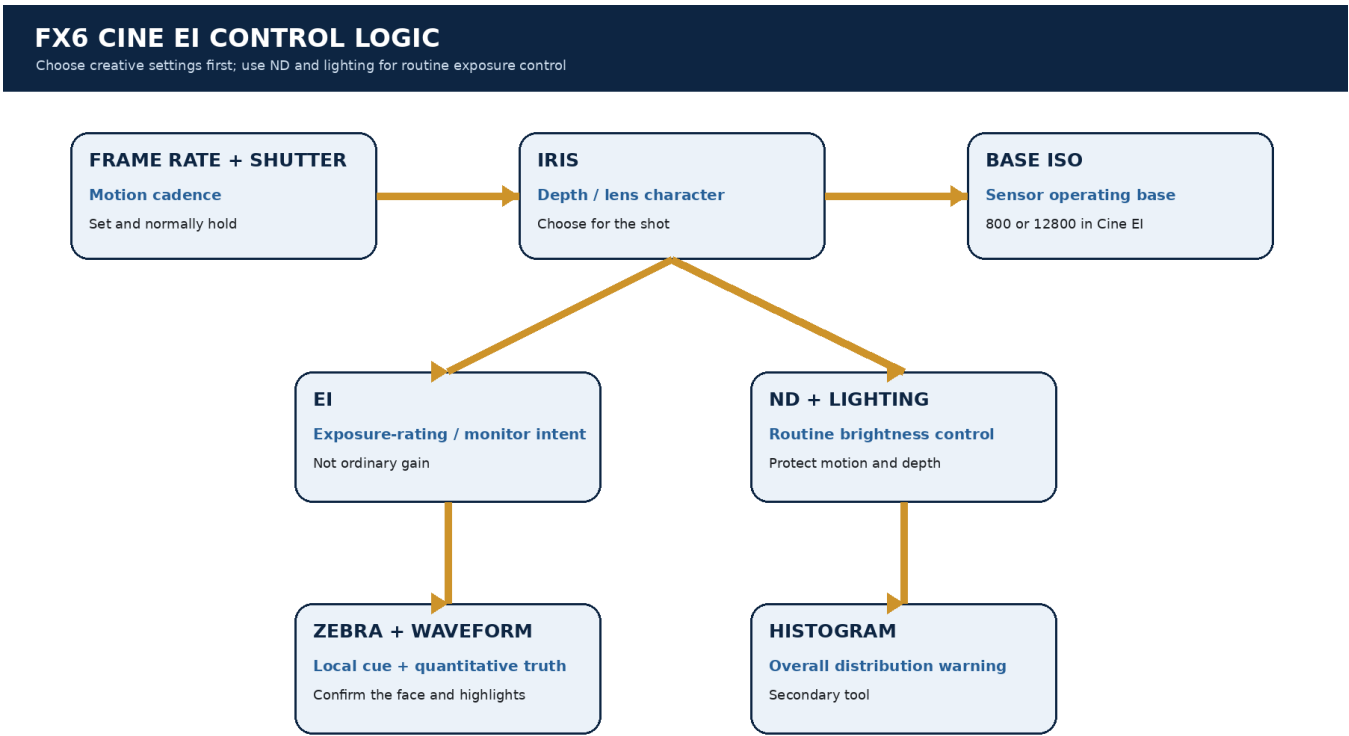


Figure 1. Cine EI control logic: preserve the creative controls and use ND/lighting for routine placement.

Why the still-photography exposure triangle is incomplete

The familiar triangle of aperture, shutter, and ISO is useful for understanding brightness, but it is incomplete for an FX6 Cine EI workflow. The FX6 adds electronic variable ND, selectable base ISO, an Exposure Index that is not ordinary gain, and a monitoring LUT that changes how the image looks without necessarily changing the recorded log signal.

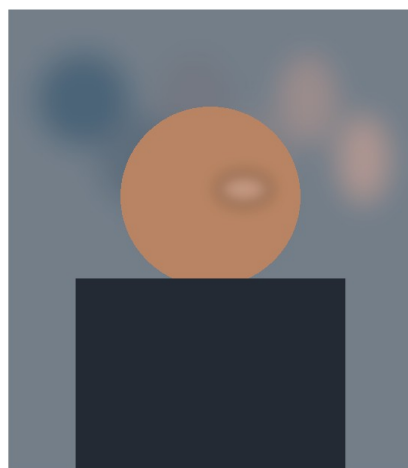
Control	Primary job	Secondary consequences	Default field rule
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Shutter	Motion rendering	Brightness and flicker interaction	Set for cadence; change only for a reason.
Iris	Depth of field and lens character	Brightness and focus tolerance	Choose for the shot; protect it with ND.
Base ISO	Cine EI sensor operating base	Highlight/shadow allocation and noise context	Choose 800 or 12800 before fine exposure placement.
EI	Exposure-rating and monitor intent	Operator exposure placement and post metadata	Use deliberately; do not call it gain.
ND	Brightness control	No intentional motion or depth change	Preferred routine adjustment.
Lighting	Actual scene contrast and modeling	Mood, color, texture	Fix the scene rather than forcing the camera.
Zebra	Local target/warning cue	Fast repeatability	Use Zebra1 for a band; Zebra2 for an upper threshold.
Waveform	Quantitative level placement	Whole-frame relationships	Primary exposure reference.
Histogram	Overall tonal distribution	Edge-clipping warning	Secondary; not localized and not a WB meter.

3. Iris and Aperture

IRIS AND DEPTH OF FIELD

Aperture is a creative and focus-tolerance decision



WIDE f/2

Shallow depth; one eye or ear can drift soft.



MODERATE f/4

Reliable close-up depth with separation.



DEEPER f/8

More background and two-person depth.

Figure 2. Aperture changes depth of field and focus tolerance as well as brightness.

What iris changes

- Exposure level reaching the sensor.
- Depth of field and the tolerance for small focus errors.
- The visual character of the lens, including bokeh, contrast and edge performance.
- The practical difficulty of keeping both eyes, two actors, or a moving subject acceptably sharp.

What iris does not solve

Opening the lens cannot restore detail that the lighting ratio has crushed, and closing the lens cannot recover a clipped practical or window if the scene contrast exceeds the recording allocation. Use lighting, flags, diffusion and ND to control the actual scene.

Working starting points

Situation	Starting intent	Field reasoning
Single actor close-up	Around f/2.8-f/4 when the lens and distance permit	Enough separation with useful near-eye tolerance.
Two-person dialogue	Around f/4-f/5.6, then verify	Depth depends heavily on

	both faces	subject distance and focal length.
Documentary interview	Around f/2.8-f/4	Separation without making small body movement fatal.
Walk-and-talk	Around f/4-f/5.6	More tolerance for distance changes.
Product/tabletop	Select for required product depth, often f/5.6-f/11	Judge diffraction against needed depth.
Very low light	Open only as far as focus reliability allows	Consider Base ISO 12800 and lighting before sacrificing focus.
Bright exterior	Keep creative iris and add variable ND	Do not close the lens merely because the sun is bright.

F-stop and T-stop

An f-stop is a geometric aperture ratio. A T-stop is a transmission-calibrated value. Cinema lenses marked in T-stops are useful for matching exposure between lenses, while still-photo lenses marked in f-stops can transmit slightly different amounts despite displaying the same number.

Manual iris versus auto iris

Manual iris is the continuity-safe default for controlled cinematic coverage. Auto iris can be useful for informational run-and-gun work, but it may pump when a bright object enters the frame. If auto iris is used, set its behavior intentionally and test it. Push Auto Iris is a temporary tool, not a substitute for deliberate scene exposure.

TWO-PERSON WARNING A beautiful wide-open single may be a poor two-shot. Place both actors, focus the nearer eye, check the farther eye at recording distance, and stop down or reposition before increasing sharpening or peaking.

4. ISO, Gain, Base ISO and Exposure Index

Cine EI

In Cine EI, Base ISO selects the camera's operating base. The FX6 offers Base ISO 800 and 12800. The Exposure Index changes the exposure-rating and monitor intent; it does not function as ordinary sensor-gain adjustment. When the operator meters and lights to a lower EI than the base, more exposure is given to the recorded log signal, generally favoring cleaner shadows while spending highlight headroom. A higher EI tends to encourage less exposure, preserving more highlight allowance but increasing the risk of noisier shadows.

Item	Cine EI meaning	Do not confuse it with
Base ISO 800	Low-base operating point for normal controlled light	The H/M/L EI switch values.
Base ISO 12800	High-base operating point for low light	A command to use 12800 in every dark-looking scene.
Exposure Index	Exposure-rating and LUT-monitoring decision	Changing analog/digital gain as in Flexible ISO.
H/M/L switch	Three stored EI positions in Cine EI	The old Flexible ISO H/M/L values.
Metadata	Communicates EI intent to compatible post workflows	A baked change to S-Log3 sensitivity.

Camera-verified V5.02 Cine EI state

Switch position	Verified value at Base ISO 800	Practical interpretation
H	1600EI / 7.0E	Higher rating; protect highlights but watch shadow noise.
M	800EI / 6.0E	Base-matched neutral starting point.
L	400EI / 5.0E	Lower rating; expose more, usually cleaner shadows with less highlight allowance.

These values are a stored project configuration, not a universal prescription. When Base ISO changes, verify the available EI values and the monitor behavior on the status screen.

Flexible ISO and gain-based operation

In Flexible ISO, ISO functions as a sensitivity/gain control and directly changes the brightness/noise/highlight tradeoff. In Custom or gain-based operation, the control can be expressed in dB. Positive gain increases amplification and noise; automatic gain can change during a take. Mode-specific instructions must not be mixed.

MODE CHECK Before touching the ISO/GAIN/EI control, look at the status display and confirm the shooting mode. The same physical button and switch have different meanings in Cine EI, Flexible ISO, and Custom operation.

Base ISO selection rule

- Use Base ISO 800 when the scene can be lit and exposed comfortably without extreme aperture or negative lighting compromises.
- Use Base ISO 12800 when the scene genuinely requires the high base, not merely because the intended grade is dark.
- When switching bases, recheck EI, ND, highlight allocation, white balance, LUT routing, waveform, zebras and a test clip.

5. Shutter

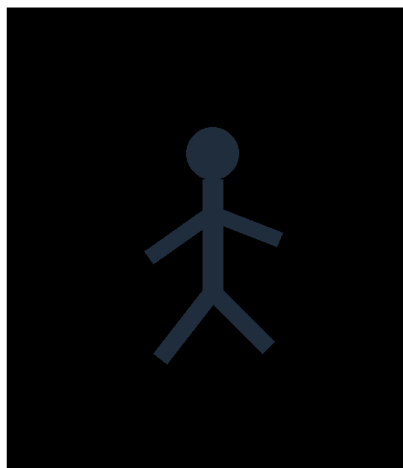
SHUTTER AND MOTION

Shutter changes motion rendering, not merely brightness



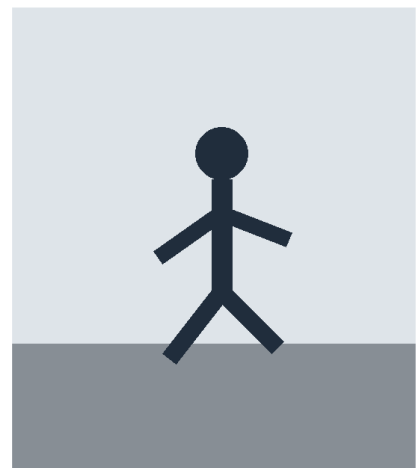
SLOW 1/24 at 23.98p

Excessive smear; useful only when intentional.



NORMAL 1/48 at 23.98p

Familiar cinematic motion cadence.



FAST 1/250 at 23.98p

Crisp, staccato action; reduced motion blur.

Figure 3. Shutter controls the character of movement.

Normal cinematic values

Frame rate	180-degree equivalent	Common speed setting
23.98p / 24p	180 degrees	1/48
29.97p / 30p	180 degrees	Approximately 1/60
59.94p / 60p	180 degrees	Approximately 1/120

The 180-degree convention is a starting point, not a law. Change shutter when the intended motion or a flicker problem requires it. Do not change it merely because the image is bright; use ND.

When to change shutter

- Fast action that needs sharper individual frames.
- A deliberate dreamlike or disorienting smear.
- A practical, display, LED wall or lighting fixture that flickers at the normal setting.
- Technical plate, VFX or sports requirements.
- Slow-motion recording where the capture frame rate changes the normal shutter relationship.

ECS and flicker

Electronic Clear Scan permits fine frequency adjustment where supported. The camera-verified V5.02 menu shows ECS Off with a stored 48.06 Hz frequency. Turn ECS on only while diagnosing a real flicker source and record a test; no single shutter or ECS value fixes every LED fixture, dimmer or display.

Auto shutter

Auto shutter is normally off for cinematic continuity. If enabled for uncontrolled factual coverage, it can alter motion blur during a shot. That change may be more distracting than a modest exposure variation.

6. Zebra Fundamentals

Zebra1 is a band; Zebra2 is an upper threshold

Sony defines Zebra1 as a brightness range centered on the selected Zebra1 Level. Zebra1 Aperture Level controls the width of that range. Zebra2 appears where the image level exceeds the selected Zebra2 Level. On this FX6 configuration, the Setting menu selects Off, Zebra1, or Zebra2; the operator switches between them rather than viewing both simultaneously.

62 / 6 / 95 BASELINE Zebra1 Level 62%, Zebra1 Aperture 6%, and Zebra2 Level 95% are the user's camera-verified starting values. They must be calibrated with the exact recording gamma, monitor LUT route, lighting and intended face appearance.

What the 6% Aperture means

The official Sony wording establishes that the Zebra1 display range is centered on the selected level. The FX6 operating instructions do not state whether the numeric Aperture value should be interpreted operationally as a full-span or half-span expression. Therefore, do not publish unverified endpoints such as "59 to 65" or "56 to 68." Treat 6% as the selected camera band width and determine its visible behavior in the calibration drill.

Monitoring-path dependency

In Log shooting, the Video Signal Monitor identifies its target as the applied Look or the S-Log3 signal. Zebra behavior must be verified against the chosen viewfinder/output path. A face target that works on s709 may not correspond to the same visual placement when the monitor is showing log. Record the LUT state in every calibration note.

Zebra failure modes

Observation	What it actually says	What it does not prove
No Zebra1 on the face	The face is below the selected target band.	That the face is unusably underexposed.
Sparse Zebra1 on key cheek/forehead	Those local pixels entered the target band.	That the whole face or background is safe.
Dense Zebra1 over the face	Much of the face is above the target band.	That pixels are clipped.
Zebra2 on a broad facial area	That area exceeds the selected upper threshold.	That the camera has no recoverable data without checking the signal and recording path.
Tiny Zebra2 specular patch	A small reflection exceeds the threshold.	That the entire face is overexposed.

7. Face-Zebra Operation

Controlled face procedure

11. Place the subject and finish the key light, fill, negative fill and practicals.
12. Set white balance under the actual face light.
13. Confirm S-Gamut3.Cine/S-Log3 recording and the intended s709 viewfinder LUT.
14. Choose shutter and iris for motion and depth.
15. Select Base ISO and EI deliberately.
16. Set Zebra1 and place the target stripes on the brighter key-lit facial plane.
17. Do not demand stripes over the entire face. Preserve texture on forehead, cheek and nose.
18. Switch the Zebra setting to Zebra2 and inspect broad skin highlights, white wardrobe, windows and practicals.
19. Return to Zebra1 or turn zebras off for composition.
20. Confirm with waveform and record a short test clip.

GOOD FACE ZEBRA

Conceptual FX6 exposure-training graphic



GOOD

GOOD FACE ZEBRA

Zebra1 appears modestly on the key-lit forehead and cheek. Use it as a repeatable target-band cue, then confirm with waveform.

Figure 4. A practical face target: modest Zebra1 on the key-lit plane.

FACE BELOW SELECTED BAND

Conceptual FX6 exposure-training graphic



VERIFY

FACE BELOW SELECTED BAND

No Zebra1 means the face is below the selected target band. It does not, by itself, prove that the face is unusably underexposed.

Figure 5. No Zebra1 means below the selected band, not automatically a failed exposure.

DENSE ZEBRA1 COVERAGE

Conceptual FX6 exposure-training graphic



WARNING

DENSE ZEBRA1 COVERAGE

Broad Zebra1 over most of the face indicates that much of the face is above the intended target band. Reduce light or add ND after checking the waveform.

Figure 6. Dense Zebra1 coverage means the face is above the intended band.

ZEBRA2 ON IMPORTANT SKIN

Conceptual FX6 exposure-training graphic



WARNING

ZEBRA2 ON IMPORTANT SKIN

Broad Zebra2 on forehead and cheek is a strong warning that important skin highlights are at or above the configured upper threshold.

Figure 7. Broad Zebra2 on important skin is a strong upper-level warning.

SMALL SPECULAR PATCH

Conceptual FX6 exposure-training graphic



VERIFY

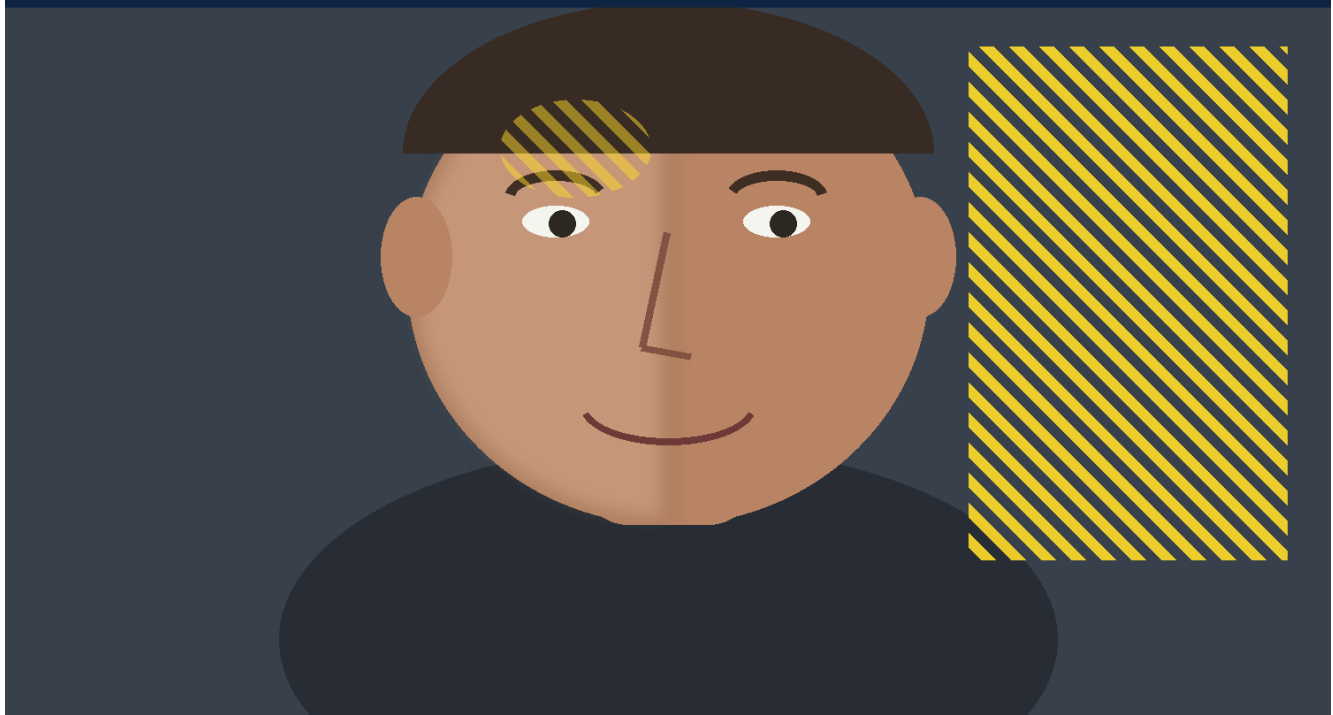
SMALL SPECULAR PATCH

A tiny Zebra2 patch from perspiration or a reflection can be acceptable when surrounding skin retains texture. Judge the area, not merely the presence of stripes.

Figure 8. A tiny specular highlight can be acceptable if surrounding skin retains texture.

FACE OK, BACKGROUND CLIPPED

Conceptual FX6 exposure-training graphic



WARNING

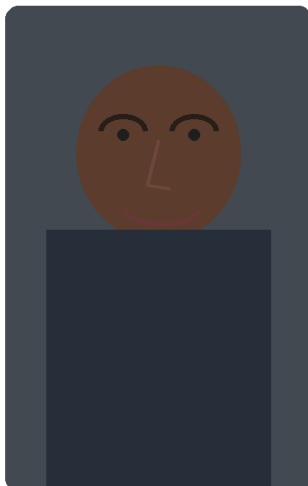
FACE OK, BACKGROUND CLIPPED

A face can sit in the Zebra1 target band while a window or white shirt exceeds Zebra2. Check the whole frame and the waveform.

Figure 9. Correct face placement does not protect a window or white wardrobe.

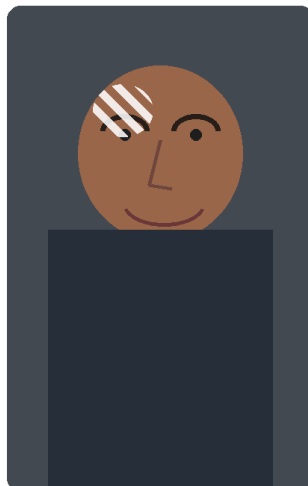
VARIED FACIAL REFLECTANCE

Same key direction, same camera setup; zebra amount can differ



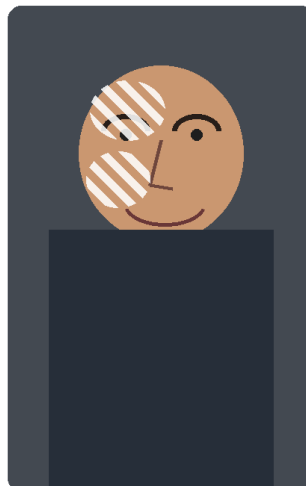
Subject 1

Natural reflectance and makeup change stripe coverage. Calibrate against the intended look and scopes.



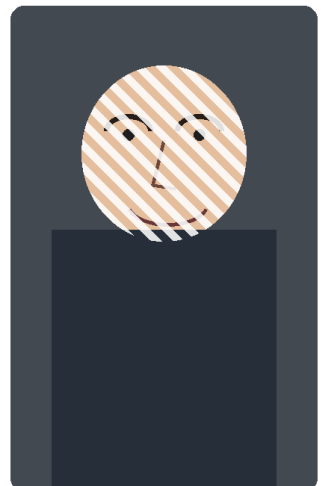
Subject 2

Natural reflectance and makeup change stripe coverage. Calibrate against the intended look and scopes.



Subject 3

Natural reflectance and makeup change stripe coverage. Calibrate against the intended look and scopes.



Subject 4

Natural reflectance and makeup change stripe coverage. Calibrate against the intended look and scopes.

Figure 10. Natural facial reflectance changes zebra coverage; no one stripe pattern fits every subject.

Why complexion is not a single IRE number

Skin reflectance varies. Makeup, perspiration, key angle, diffusion, color contamination and the ratio between key and fill also alter the monitored level. The objective is not to force every person to the same amount of zebra; it is to establish a calibrated, repeatable relationship between the key-lit face, intended s709 appearance, waveform and final grade.

Face priority rule

PRIORITY For a face-driven shot, protect the bright facial plane first, then decide whether the background, wardrobe or practicals should be controlled with lighting, flags, diffusion, ND, reframing or a deliberate compromise.

8. VF Histogram and White-Balance Limits

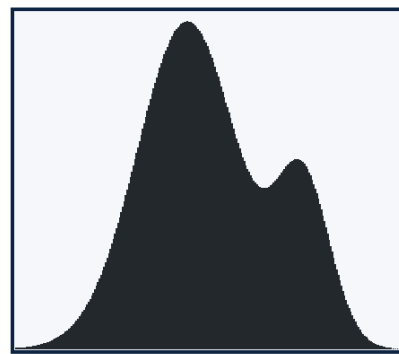
SIDENOTE The histogram section is included because it was omitted from the separate white-balance guide. It is an exposure-support topic, not a replacement white-balance method.

What the FX6 histogram shows

The FX6 Video Signal Monitor can display waveform, vectorscope, or histogram in the viewfinder. A luminance histogram plots how many image samples fall at each brightness level, with darker values toward the left and brighter values toward the right. It does not identify the object represented by a spike.

MODERATE-CONTRAST FACE

VF luminance histogram - conceptual, not a literal Sony screen capture



BLACK / SHADOW

WHITE / HIGHLIGHT

CAN SHOW

Overall tonal distribution is away from both edges.

MAY SUGGEST

The scene may have usable shadow and highlight separation.

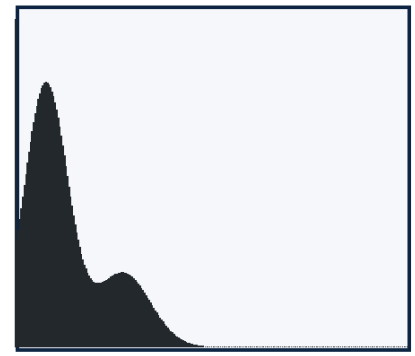
CANNOT PROVE

That the face is at the intended level, or that WB is correct.

Figure 11. Moderate distribution away from both edges.

LEFT-EDGE PILEUP

VF luminance histogram - conceptual, not a literal Sony screen capture



BLACK / SHADOW

WHITE / HIGHLIGHT

CAN SHOW

A large concentration of dark values and contact with the left edge.

MAY SUGGEST

Some shadows may be clipped or starved.

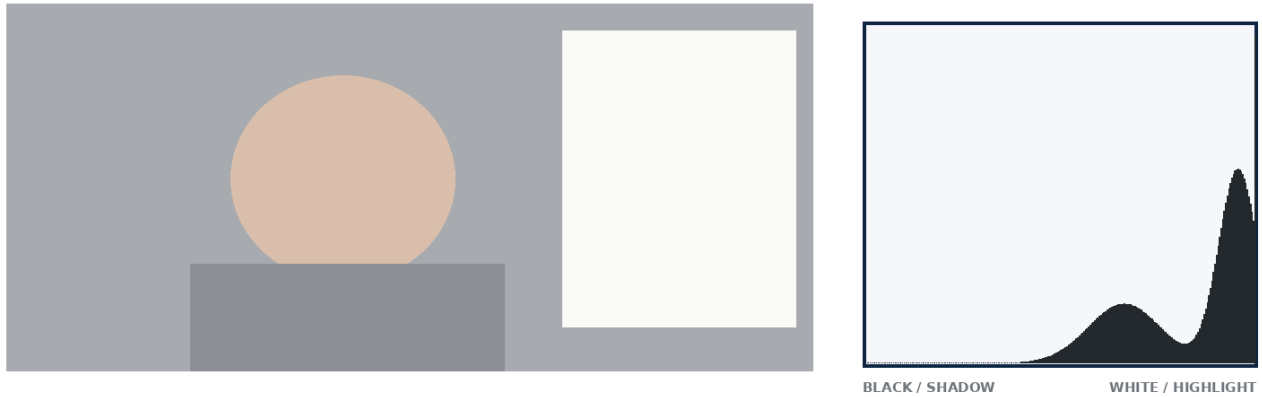
CANNOT PROVE

That the face is necessarily wrong in a deliberately dark scene.

Figure 12. Left-edge contact may warn of clipped or starved shadows.

RIGHT-EDGE PILEUP

VF luminance histogram - conceptual, not a literal Sony screen capture



CAN SHOW

A large concentration of bright values and contact with the right edge.

MAY SUGGEST

Highlights may be clipped.

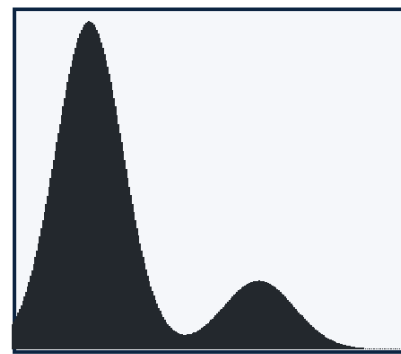
CANNOT PROVE

Which object is clipping or whether a tiny practical is acceptable.

Figure 13. Right-edge contact may warn of clipped highlights.

CORRECT LOW-KEY SCENE

VF luminance histogram - conceptual, not a literal Sony screen capture



BLACK / SHADOW

WHITE / HIGHLIGHT

CAN SHOW

The scene is intentionally weighted toward darker values.

MAY SUGGEST

The mood is low-key and highlight area is limited.

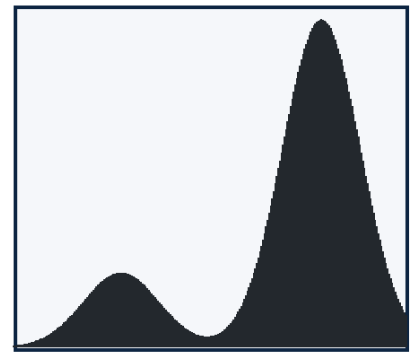
CANNOT PROVE

That the image is underexposed merely because it leans left.

Figure 14. A correct low-key scene can lean left.

CORRECT HIGH-KEY SCENE

VF luminance histogram - conceptual, not a literal Sony screen capture



BLACK / SHADOW

WHITE / HIGHLIGHT

CAN SHOW

The scene is intentionally weighted toward brighter values.

MAY SUGGEST

The set and wardrobe are high-key.

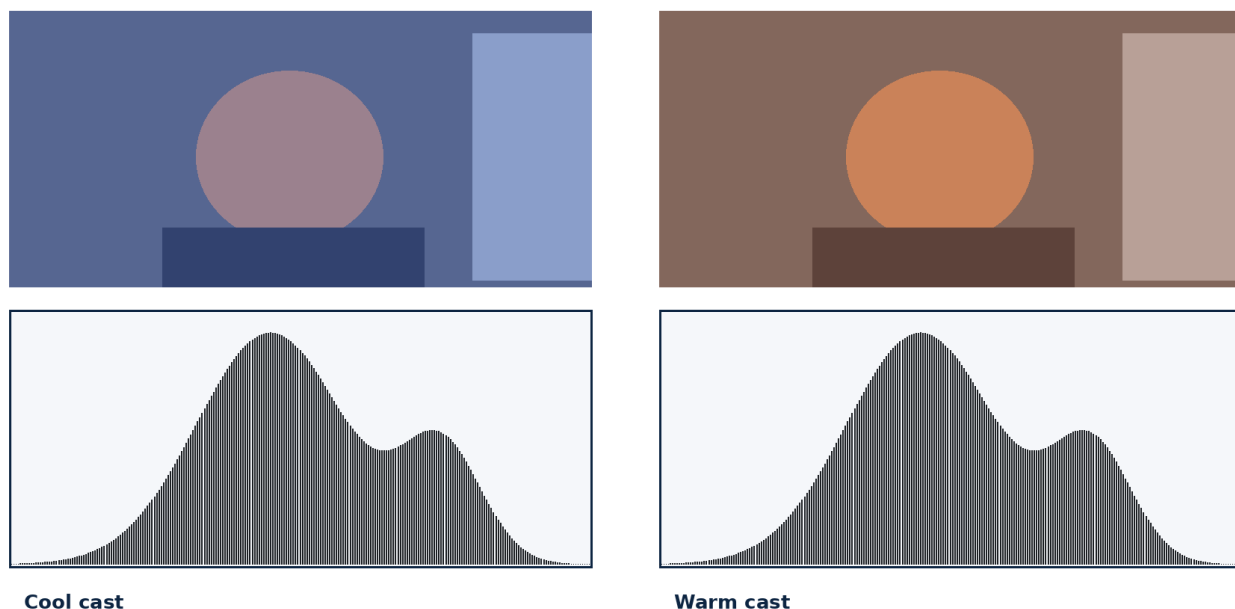
CANNOT PROVE

That highlights are clipped unless the graph actually hits the right edge.

Figure 15. A correct high-key scene can lean right.

WHITE BALANCE LIMITATION

Different color casts can produce nearly identical luminance histograms



The luminance distributions remain similar. The histogram cannot decide which image has correct white balance. Use a neutral reference, skin through the intended LUT, and RGB parade or vectorscope when available.

Figure 16. The histogram cannot decide white balance.

Histogram rules

- A centered histogram is not automatically correct.
- A left-weighted histogram is not automatically underexposed.
- A right-weighted histogram is not automatically overexposed.
- Contact with an edge is more significant than merely leaning toward it.
- A small practical or window can create a bright spike while the face remains correct.
- The histogram cannot show where the face sits. Use zebras or waveform.
- Do not assume an RGB histogram is available in the FX6 VF; the verified camera menu lists a single Histogram option.

White-balance limitation

A luminance histogram cannot prove neutral white balance. A blue and an orange cast can produce very similar luminance distributions. A WB change may slightly alter luminance because the channels are reweighted, but this indirect movement is not a reliable color test. Use a neutral target, locked WB, skin through the intended LUT, and RGB parade or vectorscope on a capable monitor or in post.

What histogram can contribute to WB/exposure checking

After white balance is correctly established, the histogram can help detect gross exposure shifts, especially accidental shadow or highlight clipping. It can also

reveal that a WB change caused an unexpected overall brightness redistribution, but it cannot tell whether that change is correct.

9. Waveform, Zebra, Histogram and LUT Hierarchy

EXPOSURE TOOL HIERARCHY

Use each tool for the question it can answer

MONITOR	Does the lighting and face look plausible? Composition and visual intent
ZEBRA	Has a local area entered a target band or warning threshold? Fast localized cue
WAVEFORM	Where do important levels sit quantitatively? Primary exposure reference
HISTOGRAM	Is the overall distribution pressed against an edge? Secondary distribution warning

Figure 17. Exposure tools answer different questions.

Waveform as primary truth

The waveform maps brightness by image position and provides a quantitative level reference. Unlike the histogram, it helps the operator relate a value to a horizontal area of the frame. It remains the primary exposure reference in the V7 handbook. The user’s S-Log3 references include approximately 41 IRE for 18% gray and approximately 61 IRE for 90% white when monitoring the log signal; LUT-transformed levels are different and must not be mixed.

s709 is a viewing reference

The s709 LUT makes S-Log3 easier to judge visually. It does not automatically mean the LUT is embedded in the recording. Confirm VF/Proxy/Stream, SDI/HDMI and Internal Rec LUT routes separately. A double-applied LUT can make contrast and skin look wrong while the underlying log signal remains different.

Question	Best first tool	Confirmation
Does the lighting and face look plausible?	s709 monitor image	Calibrated monitor and reference still.

Has the key-lit cheek entered my target band?	Zebra1	Waveform and test clip.
Is a window or white shirt above my warning level?	Zebra2	Waveform and recording review.
Where do face, gray and white sit quantitatively?	Waveform	Known reference card and LUT state.
Is the overall image jammed against an edge?	Histogram	Waveform and image inspection.
Is WB neutral?	Neutral target / vectorscope / RGB parade	Skin and reference clip; not histogram.

10. Pre-Menu and External-Control Setup

Camera-verified menu anchors

Menu / control	V5.02 project state	Purpose
Shooting > ISO/Gain/El	Base ISO 800; H 1600El, M 800El, L 400El	Three deliberate Cine El exposure ratings.
Shooting > Shutter	Angle 180.0; 1/48 shown grayed in Angle mode; ECS Off	Stable 23.98p motion baseline.
Monitoring > Zebra	Zebra1 62; Aperture 6; Zebra2 95	Stored target band and upper warning.
Monitoring > Display On/Off > Video Signal Monitor	Off / Waveform / Vector / Histogram available	Select the quantitative display.
Assignable button 6	Zebra in the camera-verified User state	Fast zebra selection.
Assignable button 9	Video Signal Monitor in the camera-verified User state	Fast scope cycling/display.
Grip dial	ND Filter in project baseline	Routine exposure adjustment.
Handle dial	IRIS in project baseline	Direct aperture adjustment with compatible lens.
Multi-function dial	Direct-menu adjustment and selectable default function	Fine setting and status control.

Assignable-button maps have changed across project revisions. Verify the active All File and status screen before assuming a physical button assignment. The

recommended field principle is more important than a particular button number: keep Zebra and Video Signal Monitor immediately reachable.

Set it once, then stay out of the menu

21. Store the intended H/M/L EI values for the selected base.
22. Set shutter to Angle 180.0 or Speed 1/48 and leave Auto Shutter off.
23. Store Zebra1 62 / Aperture 6 and Zebra2 95 as the tested baseline.
24. Assign Zebra and Video Signal Monitor to reachable buttons.
25. Assign ND Filter to a dial and Iris to a separate compatible dial when useful.
26. Confirm s709 on the intended VF/SDI/HDMI path and Internal Rec LUT state.
27. Save an All File after testing.

External control sequence

Need	External action	Menu entry normally required?
Change depth	IRIS function / lens ring / assigned dial	No, after setup.
Change EI	ISO/GAIN/EI button, H/M/L switch, direct menu or assigned dial	No, after setup.
Change motion	SHUTTER function and multi-function dial	No.
Change brightness while preserving look	Variable ND dial	No.
Check face band	Zebra assignable button / User shortcut	No.
Check waveform or histogram	Video Signal Monitor assignable button	No.
Change Zebra1 level or Aperture	Monitoring > Zebra	Yes; treat as calibration, not routine.

11. Run-and-Gun Workflow

Five-second check

28. Confirm the shutter display has not changed.
29. Confirm Base ISO/EI is intentional.
30. Look for the expected Zebra1 pattern on the face.
31. Switch briefly to Zebra2 if bright wardrobe, windows or practicals are present.

32. Roll when continuity and highlights are safe.

Fifteen-second correction

33. Preserve shutter and the chosen iris.
34. Adjust variable ND or subject lighting.
35. Restore the calibrated Zebra1 face pattern.
36. Check the histogram for edge contact.
37. Roll; confirm waveform at the next natural break.

Sixty-second controlled check

38. Place the subject and lock WB.
39. Set frame rate/shutter and iris.
40. Select Base ISO/EI.
41. Light the face.
42. Use ND for placement.
43. Check Zebra1, then Zebra2.
44. Confirm waveform and review histogram.
45. Record a technical clip and slate the settings if continuity matters.

What does not normally require a new exposure strategy

- Reframing that does not change the face light.
- A minor background brightness change.
- A small cloud movement that does not alter the key-lit face materially.
- A lens change whose transmission and color have been tested.
- An ND adjustment that restores the same waveform/zebra placement.

What requires a full recheck

- Moving from inside to outside or sun to deep shade.
- Changing the key fixture, dimmer, diffusion or major fill ratio.
- Switching Base ISO.
- Changing frame rate or shutter for slow motion.
- Changing LUT routing or monitor target.
- A new wardrobe element, window or practical that can trigger Zebra2.

12. Scene Recipes

Scene	Shutter	Iris intent	Base/EI	Brightness control	Zebra use	Main risk
Dramatic actor close-up	23.98p / 180 degrees	Choose f/2.8-f/4 for separation plus near-eye	Base 800; M 800EI or tested lower EI.	Variable ND after lighting.	Modest key-side Zebra1; switch to Zebra2 for forehead/sp	Do not underexpose for mood.

		tolerance.			eculars.	
Two-person dialogue	23.98p / 180 degrees	f/4-f/5.6 or enough depth for both face planes.	Base 800 where possible.	ND to hold depth.	Check both faces; Zebra1 need not be identical.	One actor drifting outside depth.
Documentary interview	23.98/29.97 as delivery requires	f/2.8-f/4 with body-movement tolerance.	Base 800; 12800 only for genuine low light.	Variable ND; manual iris.	Face Zebra1, then white shirt/window with Zebra2.	Auto exposure pumping.
Bright-window interior	23.98p / 180 degrees	Choose depth first.	Base 800 usually.	ND and lighting ratio, not shutter.	Face with Zebra1; window with Zebra2 and waveform.	Letting the window dictate a dark face without intent.
Moody practical interior	23.98p / 180 degrees	Open only as far as focus permits.	Consider Base 12800; test noise and highlights.	Lighting and ND clear/low density.	Face target remains deliberate; practical spike evaluated separately.	Histogram leaning left mistaken for failure.
Open shade exterior	23.98p / 180 degrees	Hold preferred portrait aperture.	Base 800.	Variable ND.	Calibrate face placement; protect sky/white wardrobe.	Sun patches crossing the face.
Direct sun exterior	23.98p / 180 degrees	Depth choice first.	Base 800.	Variable ND and negative fill/diffusion.	Zebra1 on sunlit face can become dense quickly; check Zebra2.	Closing to f/16 only because it is bright.
Golden hour	23.98p / 180 degrees	Portrait aperture with focus margin.	Base 800; re-evaluate near sunset.	Reduce ND as light falls.	Track face with Zebra1; histogram movement is expected.	Allowing exposure to drift between matching angles.

Night exterior	23.98p / 180 degrees	Open to a reliable depth.	Base 12800 often appropriate.	Lighting first; minimal ND.	Protect signs and practicals with Zebra2; face still needs intent.	Raising EI and starving shadows.
Ballroom/event	29.97/59.94 if motion/delivery requires	f/4-f/5.6 for movement tolerance.	Base 800 or 12800 by actual level.	Auto ND can be considered; fixed shutter.	Zebra1 for faces; histogram as quick edge warning.	Auto shutter and AGC changing during shots.
Walk-and-talk	23.98/29.97	f/4-f/5.6 when possible.	Select base before the move.	Variable or Auto ND only after testing.	Continuity over perfect moment-to-moment stripes.	Chasing every tiny light change.
Slow motion	Capture-rate specific	Depth sufficient for action.	Base chosen for required light.	Increase light or open iris after shutter requirement.	Recalibrate zebras for the same monitor path.	Forgetting the higher shutter/exposure demand.
Green screen	Delivery-driven	Depth to keep subject edges sharp.	Base 800 if feasible.	Lighting/ND for even screen and face.	Use waveform for evenness; face Zebra1 separately.	Using histogram instead of screen uniformity tools.

13. Troubleshooting

Symptom	Likely meaning	Correction
Face has no Zebra1	Below selected target band, wrong LUT target, or Zebra1 not selected.	Confirm Zebra1, LUT target and waveform; add light or reduce ND only when the intended face is actually low.
Entire face has Zebra1	Face broadly above target band or Aperture too wide.	Reduce light/ND placement after waveform check; do not change shutter.
Zebra2 appears on skin	Broad skin area above upper threshold.	Reduce key/specularity or exposure; inspect recorded

		signal.
Face correct, window clipped	Scene contrast exceeds the chosen compromise.	Flag, gel, diffuse, lower window, raise face, or accept intentionally.
White shirt triggers Zebra2	Wardrobe exceeds threshold.	Control key angle/level or choose deliberate compromise; do not darken face blindly.
Histogram heavily left	Dark scene or shadow clipping.	Inspect image and waveform; decide whether edge contact is intentional.
Histogram heavily right	High-key scene or highlight clipping.	Check right-edge contact and waveform; identify the object.
Histogram centered, face wrong	Histogram is not localized.	Use Zebra1 and waveform for face.
Histogram unchanged despite wrong WB	Luminance distribution can remain similar.	Use neutral target, vectorscope/RGB parade and skin.
Monitor looks good, log is low	LUT or EI caused false confidence.	Check VSM target, waveform and internal-record LUT route.
Image looks over-contrasty	Possible double LUT.	Confirm FX6 output LUT and monitor LUT are not both active.
Shutter changed while fixing exposure	Exposure hierarchy was broken.	Restore motion setting and use ND/lighting.
Iris too wide for movement	Focus tolerance inadequate.	Stop down, light more, adjust distance/focal length, or use high base if appropriate.
EI change did not change sensor gain	Expected in Cine EI.	Re-expose according to EI intent; do not treat EI as Flexible ISO.
LED flicker	Shutter/fixture/dimmer interaction.	Test shutter angle/speed or ECS; change fixture/dimmer if necessary.
Zebra settings copied from another workflow fail	Gamma/LUT/subject/calibration differ.	Run the calibration drill and document the exact path.

14. Calibration, Checklists and Logs

Zebra calibration drill

46. Use the exact camera mode, gamma, LUT route and monitor used in production.
47. Light a subject consistently and include a known gray reference and a calibrated white reference.
48. Set WB correctly before exposure evaluation.
49. Record exposure steps in one-third or one-half stop increments without changing shutter.
50. At each step, record Zebra1 placement, Zebra2 warning, waveform levels and histogram shape.
51. Review S-Log3 clips on a calibrated system and select the face placement that produces the desired normal grade.
52. Save the selected Zebra1 Level/Aperture and Zebra2 Level.
53. Document complexion, makeup, key angle, lens, filtration, Base ISO, EI and LUT route.
54. Repeat when the monitoring path, camera firmware or creative target changes materially.

Before-you-roll checklist

Check	Confirmed
Shooting mode = Cine EI	[]
Base ISO intentional	[]
EI position intentional	[]
Frame rate correct	[]
Shutter 1/48 or 180 degrees unless deliberately changed	[]
Iris chosen for depth	[]
Variable ND ready	[]
WB locked	[]
s709 path confirmed	[]
Internal Rec LUT state confirmed	[]
Zebra1 checked on face	[]

Zebra2 checked on highlights	[]
Waveform confirmed	[]
Histogram reviewed as secondary warning	[]
Test clip recorded when critical	[]

Exposure continuity log

Field	Entry
Date / production	
Scene / shot	
Camera / firmware	
Lens / filtration	
Frame rate / shutter	
Iris	
Base ISO	
EI H/M/L position	
WB memory / Kelvin / tint	
ND state	
Zebra1 level / aperture	
Zebra2 level	
VF/SDI/HDMI LUT path	
Internal Rec LUT state	
Waveform face / gray / white levels	
Histogram note	
Reference clip	

Lighting / practical note	
Reason for change	

Five-second field card

ROLL CHECK Shutter for motion. Iris for depth. Base ISO selected. EI intentional. ND for brightness. WB locked. Zebra1 face checked. Zebra2 highlights checked. Waveform confirmed.

15. Glossary

Term	Meaning
Aperture / iris	Variable opening in the lens; changes exposure, depth of field and lens behavior.
Base ISO	The selected sensor operating base in Cine EI: 800 or 12800.
Cine EI	Log workflow using fixed base ISO and Exposure Index for exposure-rating/monitor intent.
ECS	Electronic Clear Scan; fine shutter-frequency adjustment for certain flicker sources.
Exposure Index	Cine EI rating and monitor intent; not ordinary gain.
F-stop	Geometric aperture ratio.
Gain	Electronic amplification, often expressed in dB in gain-based modes.
Histogram	Overall luminance distribution from dark to bright; not localized.
IRE	Video level scale used by waveform and zebra settings.
LUT / MLUT	Viewing transform that maps log to a display appearance.
ND	Neutral-density filtration used to reduce light without intentionally changing motion or depth.
s709	Sony monitoring look designed for S-Log3

	viewing.
Shutter angle	Exposure-time expression relative to frame interval; 180 degrees is a common starting point.
T-stop	Transmission-calibrated lens aperture value.
Variable ND	FX6 electronic ND system used for smooth brightness control.
Video Signal Monitor	FX6 VF display mode offering waveform, vector or histogram.
Waveform	Position-aware quantitative video-level display.
Zebra1	Band-type local exposure indicator centered on a selected level.
Zebra1 Aperture	Width control for the Zebra1 band.
Zebra2	Upper-threshold local warning; displayed above the selected level.
White balance	Color-neutrality and continuity control; not measured by luminance histogram.

16. Source Appendix

Authority order: V7 Handbook; user-provided camera-verified V5.02 evidence; official Sony operating instructions; carefully labeled supplemental Sony material. Camera-verified V5.02 states govern where a newer manual differs.

Source	Used for
FX6 CINE EI Muted-Color Shooting System Handbook V7.0	Project doctrine; chapters 11, 12, 15, 16, 18, 19 and 23; S-Log3 references and operating order.
FX6 Cine EI Verified Menu System and Status Display Reference Guide V1.0/V1.1	June 2026 V5.02 Cine EI menu state and screen evidence.
Sony FX6 Operator Shooting Guide Menu (V05.02) v1	Indexed menu names, options and stored project values.
Sony ILME-FX6 Operating Instructions, release 17 March 2026	Control names, direct-menu operation, Video Signal Monitor and Monitoring > Zebra definitions. Used as nomenclature reference; V5.02 camera evidence controls availability.
Sony FDR-AX700 Help Guide - Zebra	Supplemental official wording: Zebra1 is a range

	centered on Zebra1 Level; Zebra2 is above the selected threshold.
Sony guide to Cine EI / professional documentation	General Cine EI interpretation cross-check only; not allowed to override project evidence.

Critical source notes

- The official FX6 manual lists Monitoring > Zebra options: Setting Off/Zebra1/Zebra2, Zebra1 Level 0-109%, Zebra1 Aperture Level 2-20%, and Zebra2 Level 0-109%.
- The official FX6 manual states that the Video Signal Monitor can display Waveform, Vector or Histogram, and identifies the Log-monitor target as Look or S-Log3 gamut/gamma.
- The project's latest camera-verified Cine EI menu shows Base ISO 800, H 1600EI, M 800EI, L 400EI, 180.0-degree shutter, ECS Off, Zebra1 62/6 and Zebra2 95.
- The old Flexible ISO H/M/L values are not carried into the Cine EI operating explanation.

FINAL FIELD CONFIRMATION Shutter for motion. Iris for depth. ND for brightness. EI deliberate. Zebras checked. Waveform confirmed.