

## CAMERA PRODUCTION GUIDE | Blackmagic URSA Mini PRO 4.6K G2

Settings and best-practices for capture with the URSA Mini Pro 4.6K G2 (on Camera 6.5.1 or later) on Netflix 4k Originals.

Current Ops Manual: [HERE](#)

### CAPTURE SETTINGS | 4K RAW

Preferred SELECTION setting shown in **YELLOW & BOLD** and alternatives in normal text.

SETTING	MENU NAVIGATION	SELECTION
SHOOTING MODE	Menu (button) → RECORD (4" LCD) → Page 1 →	Resolution: <b>4.6K</b> , 4.6K 2.4:1, 4K 16:9, 4K DCI, 3K Anamorphic
GAMMA / LOG ENCODING	Menu (button) → RECORD (4" LCD) → Page 2 (4" LCD) →	Dynamic range: <b>Film*</b> (Blackmagic Design 4.6K Film)
COLOR SPACE	Menu (button) → RECORD (4" LCD) → Page 2 (4" LCD) →	Dynamic range: <b>Film*</b> (Blackmagic Design)
RAW FORMAT	Menu (button) → RECORD (4" LCD) → Page 1 (4" LCD) →	Codec & quality: <b>Blackmagic RAW Q0</b> (constant quality) <b>Blackmagic RAW 3:1</b> (constant bitrate) <b>Blackmagic RAW 5:1</b> (constant bitrate) Blackmagic RAW 8:1 (constant bitrate)

\* Equivalent to LOG capture gamma and color space.

## CAPTURE SETTINGS | **4K COMPRESSED**

Preferred SELECTION setting shown in **YELLOW & BOLD** and alternatives in normal text.

SETTING	MENU	SELECTION
SHOOTING MODE	Menu (button) → RECORD (4" LCD) → Page 1 (4" LCD) →	Resolution: <b>4.6K</b> , 4.6K 2.4:1, 4K 16:9, 4K DCI
GAMMA / LOG ENCODING	Menu (button) → RECORD (4" LCD) → Page 2 (4" LCD) →	Dynamic range: <b>Film*</b> (Blackmagic Design 4.6K Film)
COLOR SPACE	Menu (button) → RECORD (4" LCD) → Page 2 (4" LCD) →	Dynamic range: <b>Film*</b> (Blackmagic Design)
CODEC	Menu (button) → RECORD (4" LCD) → Page 1 (4" LCD) →	Codec & quality: <b>ProRes XQ</b> ProRes 4444 ProRes 422 (HQ) <b>Blackmagic RAW Q0</b> (constant quality) <b>Blackmagic RAW 3:1</b> (constant bitrate) <b>Blackmagic RAW 5:1</b> (constant bitrate) Blackmagic RAW 8:1 (constant bitrate) Blackmagic RAW Q5 (constant quality) Blackmagic RAW 12:1 (constant bitrate)

\* Equivalent to LOG capture gamma and color space.

## HIGH SPEED | 4K RAW & COMPRESSED

INTERNAL MEDIA	MAX FPS	MAX RESOLUTION
<b>CFast 2.0</b>	<b>65 fps</b>	<b>4.6K in Blackmagic RAW 3:1</b>
<b>CFast 2.0</b>	<b>105 fps</b>	<b>4.6K in Blackmagic RAW 5:1</b>
CFast 2.0	120 fps	4.6K in Blackmagic RAW 8:1
CFast 2.0	150 fps	4.6K 2.40:1 or 4K DCI (Windowed) Blackmagic RAW 8:1
CFast 2.0	300 fps	2K DCI or 1080p (Windowed) in Blackmagic RAW 3:1
CFast 2.0	80 fps	4.6K in ProRes HQ
CFast 2.0	120 fps	2160p (Scaled or Windowed) in ProRes HQ
CFast 2.0	240 fps	2K DCI (Windowed) in ProRes HQ

## OPTIMIZING PERFORMANCE | MAINTENANCE PROCEDURES

SETTING	MENU	STANDARD OPERATING PROCEDURE
BLACK SHADING	MENU (button) → SETUP (4" LCD) → Page 4 (4" LCD) → Calibrate Sensor →	Perform at start of day once camera has reached operating temp and any time there is a significant change in ambient temperature.

**Note 1: Blackmagic RAW** files can be viewed in the free Blackmagic RAW Player available as part of the Blackmagic Camera update, as part of Blackmagic RAW or in DaVinci Resolve. All of which are available free of charge [HERE](#).

**Note 2: Embedded 3D LUTs** - On URSA Mini Pro G2 the setting chosen for your 3D LUT monitoring is stored in metadata within the Blackmagic RAW files. If you have your LUT switched 'on' for any of your monitoring outputs, or if you have the 'Apply LUT in File' option enabled on 'record' page three, the 3D LUT will be automatically embedded in the file header. This is helpful for ensuring that a reference is always passed through post production with the



## Production Technology Support

original intent. If 'Apply LUT in File' is switched 'on', the LUT will also be applied automatically when viewed in post production. 'Apply LUT' can be switched off easily in the RAW decode tab of the application.

**Note 3: Constant Quality Q0 and Q5** - Blackmagic RAW works in 2 different ways. You have a choice to use either the constant bitrate codec, or the constant quality codec. The constant bitrate codec works in a similar way to most codecs but constant quality is quite different. Constant Quality options have a variable bitrate. Q0 gives you minimal quantisation which means that the image quality will always remain at the highest level. Q0 will represent a compression ratio that generally ranges somewhere between 2:1 - 5:1 but may get as low as 1.5:1 or lower in highly complex scenes. Q5 has a greater level of quantisation but offers a greatly improved data rates, it will range somewhere between 7:1 - 20:1 for normal scenes. Actual data rates are entirely dependent on image subject matter.