# Blackmagic URSA Broadcast G2

Feature Comparison

November 2021

# Introduction

**About the Blackmagic URSA Broadcast G2:**

The URSA Broadcast G2 is the replacement for the highly successful URSA Broadcast camera. The new 6K Super 35mm sensor provides traditional broadcast acquisition in UHD and HD using 2/3" B4 lenses for continuity with the previous model. The B4 mount can be swapped to allow EF prime and zoom lenses to be used for high-end broadcast and corporate production. Increased dynamic range and improved low light performance, combined with Gen 5 colour processing further enhances image quality. Recording options have been extended with the inclusion of H.264 and H.265 codecs along with additional Blackmagic RAW profiles.

**About this document:**

This document has been produced to provide a direct comparison of specifications for the URSA Broadcast and the new URSA Broadcast G2.

Please study this document carefully when considering the URSA Broadcast G2, either as a replacement for an URSA Broadcast or including it in a multi-camera production with the previous model.

| | Blackmagic URSA Broadcast | Blackmagic URSA Broadcast G2 |
|---|---|---|
| **Camera Features** | | |
| **Effective Sensor Size** | 2/3 inch sensor size when using 4K B4 mount (Actual sensor size 13.056mm x 7.344mm) | 2/3 inch sensor size when using 4K B4 mount Super 35mm sensor size when using EF mount (Actual sensor size 23.10mm x 12.99mm) |
| **Lens Mount** | B4 2/3 inch | B4 2/3 inch installed Active EF mount also included |
| **Lens Control** | Electronic control via 12-pin broadcast connector. Control possible via EF mount pins when using optional URSA Mini Pro EF Mount. | Electronic control via 12-pin broadcast connector. Control via EF mount pins when using URSA Mini Pro EF Mount with compatible EF lenses. |
| **Lens Correction** | In-camera correction of colour fringing when using compatible B4 lenses. | In-camera correction of colour fringing when using compatible broadcast lenses. |
| **Dynamic Range** | 12 Stops | 13 Stops |
| **Shooting Resolutions** | 3840 x 2160, 1920 x 1080 | |
| **Frame Rates** | Project frame rates of 23.98, 24, 25, 29.97, 30, 50, 59.94 and 60 fps supported. Off-speed frame rates up to 60p. | |
| **Dual Native ISO** | | 0dB (equiv. 400 ISO) and 18dB (equiv. 3200 ISO) gain |
| **Sensitivity at 0dB Gain** | | f11 with 2160p59.94. f12 with 2160p50. At 2,000 lux with 89.9% reflectance. Additional 1.1 stop light loss using 4K B4 mount. |
| **Signal to Noise Ratio** | | 64.62dB for 2160p Ultra HD scaled from 5.3K |
| **Built in ND Filters** | Four position ND filter wheel with clear, 2-stop, 4-stop and 6-stop ND filters. | Four position ND filter wheel with clear, 2 stop, 4 stop and 6 stop ND filters. |

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|---|---|---|
| **Focus** | Focus button turns on peaking, auto focus available using compatible lenses with focus servo. Touch and hold on LCD determines focus region and triggers auto focus. | Focus button turns on peaking, auto focus available using compatible lenses with focus servo. Touch and hold on LCD determines focus region and triggers auto focus. |
| **Iris Control** | Iris wheel and touch screen slider for manual iris adjustment on electronically controllable lenses, iris button for instant auto iris settings on compatible lenses so no pixel is clipped in film mode. Scene average auto exposure in video and extended video mode. | Iris wheel and touch screen slider for manual iris adjustment on electronically controllable lenses, iris button for instant auto iris settings on compatible lenses so no pixel is clipped in film mode. Scene average auto exposure in video and extended video mode. |
| **Screen Dimensions** | 4 inch | 4 inch |
| **Screen Type** | LCD capacitive touch screen. | LCD capacitive touch screen. |
| **Metadata Support** | Automatically populated lens data from electronic B4 lenses. Automatic recording of camera settings and slate data such as project, scene number, take and special notes. | Automatically populated lens data from electronic B4 lenses. Automatic recording of camera settings and slate data such as project, scene number, take and special notes. |
| **Controls** | Touch screen menus on 4 inch screen. Push buttons for other controls. 3 assignable shortcut keys on camera and 2 assignable shortcut keys (VTR and RET) on compatible B4 lenses. | Touch screen menus on 4 inch screen. Push buttons for other controls. 3 assignable shortcut keys and 2 assignable shortcut keys (VTR and RET) on compatible broadcast Lenses. |
| **Timecode Clock** | Highly accurate timecode clock. Less than 1 frame drift every 8 hours. | Highly accurate timecode clock. Less than 1 frame drift every 8 hours. |
| **ProRes Shooting Resolutions and Frame Rates** | | 3840 x 2160 (Ultra HD) up to 60 fps from Ultra HD window or scaled from 5.3K windowed sensor<br><br>3840 x 2160 (Ultra HD) up to 50 fps scaled from full sensor<br><br>1920 x 1080 (HD) up to 120 fps scaled from 2.7K windowed sensor<br><br>1920 x 1080 (HD) up to 60 fps scaled from Ultra HD or 5.3K windowed sensor<br><br>1920 x 1080 (HD) up to 50 fps scaled from full sensor |

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| **H.265 Shooting Resolutions and Frame Rates** | | 3840 x 2160 (Ultra HD) up to 60 fps from Ultra HD window or scaled from 5.3K windowed sensor<br><br>3840 x 2160 (Ultra HD) up to 50 fps scaled from full sensor |
| **H.264 Shooting Resolutions and Frame Rates** | | 1920 x 1080 (HD) up to 60 fps scaled from Ultra HD or 5.3K windowed sensor<br><br>1920 x 1080 (HD) up to 50 fps scaled from full sensor |
| **Blackmagic RAW Shooting Resolutions and Frame Rates** | | 6144 x 3456 (6K) up to 50 fps<br><br>6144 x 2560 (6K 2.4:1) up to 60 fps<br><br>5376 x 3024 (5.3K 16:9) up to 60 fps<br><br>3728 x 3104 (3.7K 6:5 anamorphic) up to 60 fps<br><br>3840 x 2160 (Ultra HD) up to 60 fps<br><br>1920 x 1080 (HD) up to 150 fps |
| **Project Frame Rates** | | 23.98, 24, 25, 29.97, 30, 50, 59.94 and 60 fps.<br><br>Off-speed frame rates up to 60p in Ultra HD and up to 150p in HD. |
| **Connections** | | |
| **SDI Video Inputs** | 1 x SDI | 1 x SDI |
| **SDI Video Outputs** | 1 x SDI, 1 x SDI Monitoring. | 1 x SDI |
| **SDI Monitor Outputs** | | 1 x SDI |
| **SDI Rates** | 1.5G, 3G, 6G, 12G. | 1.5G, 3G, 6G, 12G. |
| **Analogue Audio Inputs** | 2 x XLR switchable between mic, line and AES digital audio. Phantom power support. | 2 x XLR switchable between mic, line and AES digital audio. Phantom power support. |

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|---|---|---|
| **Analogue Audio Outputs** | 1 x 3.5mm headphone jack, supports iPhone microphone for Talkback. | 1 x 3.5mm headphone jack, supports iPhone style headset for talkback. |
| **Reference Inputs** | Tri-Sync/Black Burst/Timecode. | Tri-Sync/Black Burst/Timecode. |
| **Lens Control** | | 1 x 12-pin Hirose Broadcast Lens Connector |
| **Remote Control** | 2 x 2.5mm LANC input for Rec Start/Stop, plus Iris and Focus control using compatible lenses. | 1 x 2.5mm LANC input for Rec Start/ Stop, plus Iris and Focus control using compatible lenses. |
| **Computer Interface** | USB Type-C for software updates. | 1 x USB Type-C 3.1 Gen 2 with power delivery for external drive recording and connecting Blackmagic Focus and Zoom Demand. 1 x USB Type-C for software updates. |
| **Audio** | | |
| **Microphone** | Integrated stereo microphone. | Integrated stereo microphone. |
| **Built in Speaker** | 1 x mono speaker. | 1 x mono speaker. |
| **Standards** | | |
| **SD Video Standards** | None | None |
| **HD Video Standards** | 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60 Interlaced output via SDI 1080i50, 1080i59.94, 1080i60 | 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p50, 1080p59.94, 1080p60 1080i50, 1080i59.94, 1080i60 |
| **Ultra HD Video Standards** | 2160p23.98, 2160p24, 2160p25, 2160p29.97, 2160p30, 2160p50, 2160p59.94, 2160p60 | 2160p23.98, 2160p24, 2160p25, 2160p29.97, 2160p30, 2160p50, 2160p59.94, 2160p60 |
| **SDI Compliance** | SMPTE 292M, SMPTE 424 level A and B, SMPTE 2081-1, SMPTE 2082-1 | SMPTE 292M, SMPTE 424M, SMPTE 425M level A and B, SMPTE 2081-1, SMPTE 2081-10, SMPTE 2082-1 and SMPTE 2082-10 |
| **SDI Audio Sampling** | 48 kHz and 24 bit | 48 kHz and 24 bit |

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| **Media** | | |
| **Media**<br>Please refer to either the Manual or the Information Note at www. blackmagicdesign.com/support for compatible media. | 2 x CFast for 4K RAW and ProRes recording.<br><br>2 x SD UHS-II card slots for HD and Ultra HD recording. | 2 x CFast 2.0 card slots, 2 x SD  UHS-II card slotsv, 1 x USB-C 3.1 Gen 2 expansion port with power delivery for recording to external media. |
| **Media Format** | Can format cards to ExFAT for Windows and Mac or HFS+ for Mac (file systems). | Can format media to ExFAT for Windows and Mac or HFS+ for Mac (file systems). |
| **Supported Codecs** | | |
| **Codecs** | DNxHD 220X,<br>DNxHD 145,<br>Apple ProRes 4444 XQ QuickTime,<br>Apple ProRes 4444 QuickTime,<br>Apple ProRes 422 HQ QuickTime,<br>Apple ProRes 422 QuickTime,<br>Apple ProRes 422 LT QuickTime,<br>Apple ProRes 422 Proxy QuickTime.<br>Blackmagic RAW Constant Bitrate 3:1,<br>Blackmagic RAW Constant Bitrate 5:1,<br>Blackmagic RAW Constant Bitrate 8:1,<br>Blackmagic RAW Constant Bitrate 12:1,<br>Blackmagic RAW Constant Quality Q0,<br>Blackmagic RAW Constant Quality Q5 | Apple ProRes 422 HQ,<br>Apple ProRes 422,<br>H.265 SDI (10-bit 4:2:2),<br>H.265 High (10-bit 4:2:0),<br>H.265 Medium (10-bit 4:2:0),<br>H.265 Low (10-bit 4:2:0),<br>H.264 SDI (10-bit 4:2:2),<br>H.264 High (8-bit 4:2:0),<br>H.264 Medium (8-bit 4:2:0),<br>H.264 Low (8-bit 4:2:0),<br>Blackmagic RAW Constant Bitrate 3:1,<br>Blackmagic RAW Constant Bitrate 5:1,<br>Blackmagic RAW Constant Bitrate 8:1,<br>Blackmagic RAW Constant Bitrate 12:1,<br>Blackmagic RAW Constant Quality Q0,<br>Blackmagic RAW Constant Quality Q1,<br>Blackmagic RAW Constant Quality Q3,<br>Blackmagic RAW Constant Quality Q5 |
| **Control** | | |
| **External Control** | Blackmagic SDI Control Protocol, iPad control via Bluetooth, 2 x 2.5mm LANC for lens and record control. | Lens control of compatible lenses using Blackmagic Zoom Demand and Blackmagic Focus Demand, Blackmagic SDI Control Protocol, iPad control via Bluetooth, 1 x 2.5mm LANC for lens and record control. |
| **Colour Corrector** | | |
| **Colour Corrector** | DaVinci YRGB. | DaVinci YRGB. |

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|---|---|---|
| **Talkback and Tally** | | |
| **Talkback** | SDI Channels 15/16 and Phone headset. | SDI Channels 15/16 and iPhone headset. |
| **Live Tally Indicator** | Tally on LCD, URSA Viewfinder and URSA Studio Viewfinder. | Tally on LCD, URSA Viewfinder and URSA Studio Viewfinder. |
| **Storage Features** | | |
| **Storage Type** | 2 x CFast 2.0<br>2 x SD UHS-II cards<br>2.5 inch SSD via optional URSA Mini SSD Recorder | 2 x CFast 2.0<br>2 x SD UHS-II cards<br>1 x high speed USB-C expansion port for external media.<br>2.5 inch SSD using optional URSA Mini Recorder |
| **Storage Rates** | Storage rates based on 30 frames per second.<br><br>3840 x 2160<br>Apple ProRes 444 XQ - 250 MB/s<br>Apple ProRes 444 - 165 MB/s<br>Apple ProRes 422 HQ - 110 MB/s<br>Apple ProRes 422 - 73.6 MB/s<br>Apple ProRes 422 LT - 51 MB/s<br>Apple ProRes Proxy - 22.4 MB/s<br>Blackmagic RAW 3:1 - 127 MB/s<br>Blackmagic RAW 5:1 - 76 MB/s<br>Blackmagic RAW 8:1 - 48 MB/s<br>Blackmagic RAW 12:1 - 32 MB/s<br>Blackmagic RAW Q0 - 76 to 191 MB/s<br>*<br>Blackmagic RAW Q5 - 19 to 55 MB/s<br>**<br>1920 x 1080<br>DNxHD 220X - 27.5 MB/s<br>DNxHD 145 -18.2 MB/s<br>Apple ProRes 444 XQ - 62.5 MB/s<br>Apple ProRes 444 - 41.25 MB/s<br>Apple ProRes 422 HQ - 27.5 MB/s<br>Apple ProRes 422 - 18.4 MB/s<br>Apple ProRes 422 LT - 12.75 MB/s<br>Apple ProRes Proxy - 5.6 MB/s<br><br>* Constant Quality setting Q0 storage rates quoted are indicative only, based on a 2:1 - 5:1 compression range.<br>** Constant Quality setting Q5 storage rates quoted are indicative only, based on a 7:1 - 20:1 compression range. Actual storage rates are entirely dependent on image subject matter. | Storage rates based on 30 frames per second.<br><br>6144 x 3456 (6K)<br>Blackmagic RAW 3:1 - 323 MB/s<br>Blackmagic RAW 5:1 - 194 MB/s<br>Blackmagic RAW 8:1 - 121 MB/s<br>Blackmagic RAW 12:1 - 81 MB/s<br>Blackmagic RAW Q0 - 242 to 483 MB/s<br>Blackmagic RAW Q1 - 162 to 387 MB/s<br>Blackmagic RAW Q3 - 108 to 277 MB/s<br>Blackmagic RAW Q5 - 65 to 162 MB/s<br>6144 x 2560 (6K 2.4:1)<br>Blackmagic RAW 3:1 - 240 MB/s<br>Blackmagic RAW 5:1 - 144 MB/s<br>Blackmagic RAW 8:1 - 90 MB/s<br>Blackmagic RAW 12:1 - 60 MB/s<br>Blackmagic RAW Q0 - 180 to 359 MB/s<br>Blackmagic RAW Q1 - 120 to 287 MB/s<br>Blackmagic RAW Q3 - 80 to 205 MB/s<br>Blackmagic RAW Q5 - 49 to 120 MB/s<br>5376 x 3024 (5.3K 16:9)<br>Blackmagic RAW 3:1 - 248 MB/s<br>Blackmagic RAW 5:1 - 149 MB/s<br>Blackmagic RAW 8:1 - 94 MB/s<br>Blackmagic RAW 12:1 - 63 MB/s<br>Blackmagic RAW Q0 - 186 to 371 MB/s<br>Blackmagic RAW Q1 - 125 to 297 MB/s<br>Blackmagic RAW Q3 - 84 to 213 MB/s<br>Blackmagic RAW Q5 - 51 to 125 MB/s<br>3728 x 3104 (3.7K 6:5 anamorphic)<br>Blackmagic RAW 3:1 - 177 MB/s<br>Blackmagic RAW 5:1 - 106 MB/s<br>Blackmagic RAW 8:1 - 67 MB/s |

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| **Storage Rates Continued** | Blackmagic RAW 12:1 - 45 MB/s |
| | Blackmagic RAW Q0 - 133 to 265 MB/s |
| | Blackmagic RAW Q1 - 89 to 212 MB/s |
| | Blackmagic RAW Q3 - 60 to 152 MB/s |
| | Blackmagic RAW Q5 - 36 to 89 MB/s |
| | 3840 x 2160 (Ultra HD) |
| | Apple ProRes 422 HQ - 110 MB/s |
| | Apple ProRes 422 - 73.6 MB/s |
| | H.265 SDI - 12.3 MB/s |
| | H.265 High - 10.8 MB/s |
| | H.265 Medium - 7.8 MB/s |
| | H.265 Low - 3.2 MB/s |
| | 3840 x 2160 (Ultra HD) |
| | Blackmagic RAW 3:1 - 127 MB/s |
| | Blackmagic RAW 5:1 - 77 MB/s |
| | Blackmagic RAW 8:1 - 48 MB/s |
| | Blackmagic RAW 12:1 - 32 MB/s |
| | Blackmagic RAW Q0 - 96 to 190 MB/s |
| | Blackmagic RAW Q1 - 64 to 153 MB/s |
| | Blackmagic RAW Q3 - 43 to 109 MB/s |
| | Blackmagic RAW Q5 - 26 to 64 MB/s |
| | 1920 x 1080 |
| | Apple ProRes 422 HQ - 27.5 MB/s |
| | Apple ProRes 422 - 18.4 MB/s |
| | H.264 SDI - 7.0 MB/s |
| | H.264 High - 5.6 MB/s |
| | H.264 Medium - 3.2 MB/s |
| | H.264 Low - 1.8 MB/s |
| | Blackmagic RAW 3:1 - 19 MB/s |
| | Blackmagic RAW 5:1 - 12 MB/s |
| | Blackmagic RAW 8:1 - 7.8 MB/s |
| | Blackmagic RAW 12:1 - 5.2 MB/s |
| | Blackmagic RAW Q0 - 23 to 47 MB/s |
| | Blackmagic RAW Q1 - 16 to 37 MB/s |
| | Blackmagic RAW Q3 - 10 to 27 MB/s |
| | Blackmagic RAW Q5 - 6 to 16 MB/s |
| | |
| | Constant Quality storage rates quoted are indicative only. Actual storage rates are entirely dependent on image subject matter. |

|  | **Blackmagic URSA Broadcast** | **Blackmagic URSA Broadcast G2** |
|---|---|---|
| **Recording Formats** | DNxHD 1920 x 1080 and 1920 x 1080i with either film, video or extended video dynamic range.<br><br>Apple ProRes 3840 x 2160 and 1920 x 1080 with either film, video or extended video dynamic range.<br><br>Blackmagic RAW Q0, Q5, 3:1, 5:1, 8:1 and 12:1 at 3840 x 2160 with film, extended video or video dynamic range. | Apple ProRes 3840 x 2160 and 1920 x 1080 with film, video or extended video dynamic range or custom 3D LUT.<br><br>H.265 3840 x 2160 with film, video or extended video dynamic range or custom 3D LUT.<br><br>H.264 1920 x 1080 with film, video or extended video dynamic range or custom 3D LUT.<br><br>Blackmagic RAW Q0, Q1, Q3, Q5, 3:1, 5:1, 8:1 and 12:1 at 6144 x 3456, 6144 x 2560, 5376 x 3024, 3728 x 3104, 3840 x 2160, 1920 x 1080 recorded in non-linear 12 bit with film dynamic range and extended video, video or custom 3D LUT embedded in metadata. |
| **Software** | | |
| **Software Included** | Blackmagic OS<br>Blackmagic Camera Setup. | Blackmagic OS<br>DaVinci Resolve Studio for Mac and Windows including activation key<br>Blackmagic Camera Setup<br>Blackmagic RAW Player<br>Blackmagic RAW QuickLook Plugin<br>Blackmagic RAW SDK<br>Blackmagic RAW Speed Test |
| **Operating Systems** | | |
|  | Mac 10.14 Mojave,<br>Mac 10.15 Catalina or later.<br><br>Windows 8.1 and 10. | Mac 10.15 Catalina,<br>Mac 11.1 Big Sur or later.<br><br>Windows 10, 64-bit. |
| **Power Requirements** | | |
| **Power Supply** | 1 x External 12V power supply. | 1 x External 12V DC 100W power supply with 100 - 240V AC 50/60Hz IEC C14 input. |
| **External Power Input** | 1 x 4-pin XLR port for external power or battery use.<br><br>1 x 12-pin Molex connector on rear battery plate. | 1 x 4-pin XLR port for external mains power supply or battery use.<br><br>1 x 12-pin Molex connector under rear battery plate. |

| | **Blackmagic URSA Broadcast** | **Blackmagic URSA Broadcast G2** |
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| **Power Output** | | +12V 4-pin XLR regulated output on side of camera<br><br>+12V D-Tap regulated output on VLock battery plate |
| **Power** | Rear camera mount compatible with industry standard V-mount or gold mount battery plates. | Rear camera mount compatible with industry standard V-mount or gold mount battery plates. |

## Accessories

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|---|---|---|
| **Optional Accessories** | Blackmagic URSA Viewfinder<br>Blackmagic URSA Studio Viewfinder<br>Blackmagic Shoulder Mount Kit<br>Blackmagic Camera Fibre Converter<br>Blackmagic Studio Fibre Converter<br>Interchangeable Lens Mount for EF, PL or F mount lenses<br>Blackmagic URSA Mini Mic Mount<br>Blackmagic URSA Mini SSD Recorder<br>Blackmagic URSA VLock Battery Plate<br>Blackmagic URSA Gold Battery Plate | Blackmagic URSA Viewfinder<br>Blackmagic URSA Studio Viewfinder<br>Blackmagic Camera Fibre Converter<br>Blackmagic Studio Fibre Converter<br>Blackmagic URSA Mini Pro PL mount<br>Blackmagic URSA Mini Pro F mount<br>Blackmagic URSA Mini Mic Mount<br>Blackmagic URSA Mini Recorder<br>Blackmagic URSA Gold Battery Plate |

## Environmental Specifications

| | | |
|---|---|---|
| **Operating Temperature** | 0° to 40°C (32° to 104°F) | 0° to 40°C (32° to 104°F) |
| **Storage Temperature** | -20° to 45°C (-4° to 113°F) | -20° to 45°C (-4° to 113°F) |
| **Relative Humidity** | 0% to 90% non-condensing | 0% to 90% non-condensing |

|  | **Blackmagic URSA Broadcast** | **Blackmagic URSA Broadcast G2** |
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| **What's Included** | | |
| **What's Included** | URSA Broadcast body<br>Turret dust cap<br>B4 lens mount<br>Power supply<br>SD card with software and manual | Blackmagic URSA Broadcast G2<br>4K B4 lens mount installed<br>B4 turret dust cap<br>EF Mount with dust cap<br>VLock Battery Plate installed<br>URSA 12V 100W power supply<br>URSA Mini Shoulder Pad<br>URSA Mini top handle & rubber stopper<br>Viewfinder mounting plate<br>2 x 1/4 inch baseplate screws<br>2 x long 1/4 inch top handle screws<br>2 x short 1/4 inch top handle screws<br>8 x EF Mount screws<br>4 x VLock plate spare screws<br>Welcome wallet with QR code for camera software download<br>DaVinci Resolve Studio wallet<br>DaVinci Resolve Studio activation key |
| **Warranty** | | |
| **Warranty** | 12 Month Limited<br>Manufacturer's Warranty. | 12 Month Limited<br>Manufacturer's Warranty. |

**Blackmagic Design Contact Information**

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