

Panasonic

Box-Style Mirrorless Camera and Lens System



LUMIX BS1H



Unbox Your Creativity

Full-frame Box-Style Mirrorless Live & Cinema camera featuring compact body with 6K 24p / 5.9K 30p 10-bit unlimited video recording capability.



•L-Mount is a trademark or registered trademark of Leica Camera AG.

FULL-FRAME SENSOR

24.2MP full-frame CMOS sensor

A 24.2-megapixel full-frame CMOS sensor equipped onto the compact box-style to achieve cinema-quality video expression. The sensor partnered with the Venus Engine delivers a maximum ISO 51200 / Extended ISO 204800 for minimal noise at high sensitivity and beautiful rendition of dark areas in the frame, while the low pass filter effectively suppresses moiré.

Dual Native ISO technology

The image sensor features the Dual Native ISO technology developed for Panasonic VariCam professional cinema cameras, leveraging a dual-base ISO setting to minimize noise and maximize image quality from low to high sensitivity.

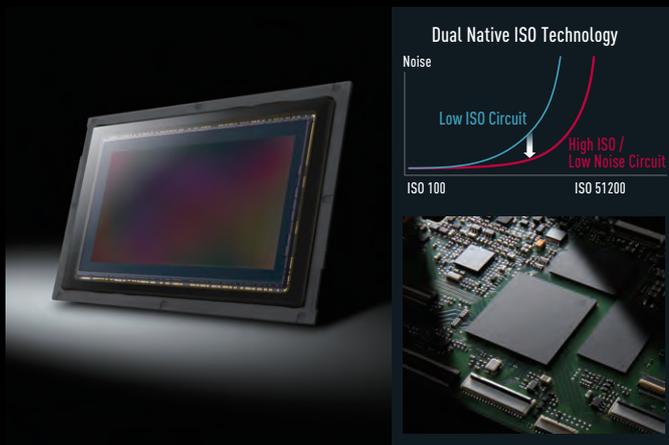
CINEMA QUALITY VIDEO

6K video recording performance

Equipped with 6K 24p 4:2:0 10-bit (3:2) and 5.9K 30p/25p/24p 4:2:0 10-bit in addition to C4K/4K 60p/50p 4:2:0 10-bit, C4K/4K 30p/25p/24p 4:2:2 10-bit and anamorphic 4K recording. Meets the diverse video production needs of professionals with a wide array of recording modes.

RAW video data output

The LUMIX BS1H enables the output of maximum 29.97p 5.9K (5888x3312, 16:9) / 59.94p 4K (4128x2176, 17:9) and Anamorphic 3.5K (3536x2656, 4:3) 12-bit RAW video data over HDMI to save it as Apple ProRes RAW on the Atomos Ninja V 4K HDR monitor-recorder.* The Blackmagic RAW can also be recorded on Video Assist 12G HDR.**



*[Apple ProRes RAW] •Selectable recording mode depends on the firmware version of Atomos Ninja V. •Please refer to the Atomos website for the information on the corresponding firmware version of Atomos Ninja V. •Software that supports Apple ProRes RAW is required to edit RAW video recorded with NINJA V. Apply the LUT (Look up table) available on the following customer supports site to make the same color grading as V-Log/V-Gamut https://panasonic.jp/support/global/cs/dsc/download/lut/s1h_raw_lut/ •All functions may not be available depending on the situation. **[Blackmagic RAW] •Selectable recording mode depends on the firmware version of Video Assist 12G HDR. •Please refer to the Blackmagic website for the information on the corresponding firmware version of the Video Assist 12G HDR. •DaVinci Resolve or DaVinci Resolve Studio is required to play back the Blackmagic RAW data. DaVinci Resolve Studio is required to edit the Blackmagic RAW data. •All functions may not be available depending on the situation.

INTERNAL RECORDING (*1)										HLG	VFR	59.94Hz	50.00Hz	24.00Hz
MOV (*2)	Full-frame	6K	5952 x 3968 (3:2)	4:2:0 10-bit	LongGOP	H.265/HEVC	200Mbps	Yes	-	23.98p	-	-	24.00p	
		5.4K	5376 x 3584 (3:2)	4:2:0 10-bit	LongGOP	H.265/HEVC	200Mbps	Yes	-	29.97p	-	25.00p	-	
		5.9K	5888 x 3312 (16:9)	4:2:0 10-bit	LongGOP	H.265/HEVC	200Mbps	Yes	-	29.97p / 23.98p	-	25.00p	24.00p	
		C4K (*3) 4K	4096 x 2160 3840 x 2160	4:2:2 10-bit	ALL-Intra	H.264	400Mbps	Yes	-	29.97p / 23.98p	-	25.00p	24.00p	
				4:2:2 10-bit	LongGOP	H.264	150Mbps	Yes	-	29.97p / 23.98p	-	25.00p	24.00p	
		FHD	1920 x 1080	4:2:0 8-bit	LongGOP	H.264	100Mbps	-	-	29.97p / 23.98p	-	25.00p	24.00p	
				4:2:2 10-bit	ALL-Intra	H.264	200Mbps	Yes	-	59.94p / 29.97p / 23.98p	-	50.00p / 25.00p	24.00p	
				4:2:2 10-bit	LongGOP	H.264	100Mbps	Yes	-	59.94p / 29.97p / 23.98p	-	50.00p / 25.00p	24.00p	
				4:2:0 8-bit	LongGOP	H.264	100Mbps	-	Yes	59.94p / 29.97p / 23.98p	-	50.00p / 25.00p	24.00p	
				4:2:2 10-bit	ALL-Intra	H.264	100Mbps	Yes	-	59.94i	-	50.00i	-	
				4:2:2 10-bit	LongGOP	H.264	50Mbps	Yes	-	59.94i	-	50.00i	-	
		S35mm PIXEL/PIXEL	C4K (*3) 4K	4096 x 2160 3840 x 2160	4:2:0 10-bit	LongGOP	H.265/HEVC	200Mbps	Yes	-	59.94p	-	50.00p	-
	4:2:2 10-bit				LongGOP	H.264	150Mbps	-	-	59.94p	-	50.00p	-	
	4:2:2 10-bit				ALL-Intra	H.264	400Mbps	Yes	-	29.97p / 23.98p	-	25.00p	24.00p	
	4:2:2 10-bit				LongGOP	H.264	150Mbps	Yes	-	29.97p / 23.98p	-	25.00p	24.00p	
	4:2:0 8-bit				LongGOP	H.264	100Mbps	-	Yes	29.97p / 23.98p	-	25.00p	24.00p	
	4:2:0 10-bit				LongGOP	H.265/HEVC	200Mbps	Yes	-	-	-	50.00p	-	
	Anamorphic 4K		3328 x 2496 (4:3)	4:2:0 8-bit	LongGOP	H.264	150Mbps	-	-	-	-	50.00p	-	
				4:2:2 10-bit	ALL-Intra	H.264	400Mbps	Yes	-	29.97p / 23.98p	-	25.00p	24.00p	
				4:2:2 10-bit	LongGOP	H.264	150Mbps	Yes	-	29.97p / 23.98p	-	25.00p	24.00p	
				4:2:0 8-bit	LongGOP	H.264	100Mbps	-	Yes	29.97p / 23.98p	-	25.00p	24.00p	
				4:2:2 10-bit	ALL-Intra	H.264	200Mbps	Yes	-	59.94p / 29.97p / 23.98p	-	50.00p / 25.00p	24.00p	
				4:2:2 10-bit	LongGOP	H.264	100Mbps	Yes	-	59.94p / 29.97p / 23.98p	-	50.00p / 25.00p	24.00p	
	FHD	1920 x 1080	4:2:0 8-bit	LongGOP	H.264	100Mbps	-	Yes (*4)	59.94p / 29.97p / 23.98p	-	50.00p / 25.00p	24.00p		
4:2:2 10-bit			ALL-Intra	H.264	100Mbps	Yes	-	59.94i	-	50.00i	-			
4:2:2 10-bit			LongGOP	H.264	50Mbps	Yes	-	59.94i	-	50.00i	-			
4:2:0 10-bit			LongGOP	H.265/HEVC	150Mbps	Yes	-	119.88p	-	100.00p	-			
4:2:0 10-bit			LongGOP	H.265/HEVC	100Mbps	Yes	-	47.95p	-	-	48.00p			
4:2:0 10-bit			LongGOP	H.265/HEVC	200Mbps	Yes	-	47.95p	-	-	48.00p			
MOV (*2) HFR	Full-frame	FHD	1920 x 1080	4:2:0 10-bit	LongGOP	H.265/HEVC	150Mbps	Yes	-	119.88p (*5)	-	100.00p (*5)	-	
				4:2:0 10-bit	LongGOP	H.265/HEVC	100Mbps	Yes	-	47.95p	-	-	48.00p	
				4:2:0 10-bit	LongGOP	H.265/HEVC	200Mbps	Yes	-	47.95p	-	-	48.00p	
	S35mm PIXEL/PIXEL	Anamorphic 4K	3328 x 2496 (4:3)	4:2:0 10-bit	LongGOP	H.265/HEVC	200Mbps	Yes	-	47.95p	-	-	48.00p	
				4:2:0 10-bit	LongGOP	H.265/HEVC	150Mbps	Yes	-	119.88p (*5)	-	100.00p (*5)	-	
				4:2:0 10-bit	LongGOP	H.265/HEVC	100Mbps	Yes	-	47.95p	-	-	48.00p	
MP4	Full-frame	4K	3840 x 2160	4:2:0 10-bit	LongGOP	H.265/HEVC	72Mbps	Yes	-	29.97p / 23.98p	-	25.00p	-	
				4:2:0 8-bit	LongGOP	H.264	100Mbps	-	-	29.97p / 23.98p	-	25.00p	-	
				4:2:0 8-bit	LongGOP	H.264	28Mbps	-	-	59.94p	-	50.00p	-	
		FHD	1920 x 1080	4:2:0 8-bit	LongGOP	H.264	20Mbps	-	-	29.97p	-	25.00p	-	
				4:2:0 8-bit	LongGOP	H.264	24Mbps	-	-	23.98p	-	-	-	
				4:2:0 10-bit	LongGOP	H.265/HEVC	100Mbps	Yes	-	59.94p	-	50.00p	-	
	S35mm PIXEL/PIXEL	4K	3840 x 2160	4:2:0 10-bit	LongGOP	H.265/HEVC	72Mbps	Yes	-	29.97p / 23.98p	-	25.00p	-	
				4:2:0 8-bit	LongGOP	H.264	100Mbps	-	-	29.97p / 23.98p	-	25.00p	-	
				4:2:0 8-bit	LongGOP	H.264	28Mbps	-	-	59.94p	-	50.00p	-	
		FHD	1920 x 1080	4:2:0 8-bit	LongGOP	H.264	20Mbps	-	-	29.97p	-	25.00p	-	
				4:2:0 8-bit	LongGOP	H.264	24Mbps	-	-	23.98p	-	-	-	
				4:2:0 8-bit	LongGOP	H.264	24Mbps	-	-	23.98p	-	-	-	
HDMI RAW DATA OUTPUT (*2)										59.94Hz	50.00Hz	24.00Hz		
Full-frame	5.9K	5888 x 3312 (16:9)	12-bit								29.97p / 23.98p	25.00p	-	
S35mm	4K	4128 x 2176 (17:9)	12-bit								59.94p / 29.97p / 23.98p	50.00p / 25.00p	-	
	Anamorphic 3.5K	3536 x 2656 (4:3)	12-bit								29.97p / 23.98p	50.00p / 25.00p	-	

Anamorphic recording

4K anamorphic video is captured in the 4:3 aspect ratio. Designed to accommodate anamorphic lenses in a wide range of magnification rates, including 1.3x, 1.33x, 1.5x, 1.8x, and 2.0x, the Anamorphic Desqueeze Display function means you can shoot while confirming the cinemascope-size image on an external monitor. * Playback only with HDMI output; both playback and recording with SDI output.



VFR (Variable Frame Rate)

VFR (Variable Frame Rate) functionality supports both overcranking and undercranking. Users have access to 2.5x slow (24p/60 fps) in C4K/4K and 7.5x super-slow (24p/180 fps) in FHD. * It is also possible to capture sequences of footage to show the accelerated passing of time by up to 30x normal speed (60p/2 fps). Auto focusing is possible before recording. * Angle of view narrows if you select a frame rate with a number of frames 151 or more.



HFR (High Frame Rate)

The LUMIX BS1H supports HFR (High Frame Rate) recording, with the following high frame rates available: 119.88p or 47.95p (59.94Hz), 100.00p (50.00Hz), and 48.00p (24.00Hz). In post-production, the frame rate can be changed and slow-motion video produced. Different from VFR (Variable Frame Rate) capture, HFR (High Frame Rate) recording includes audio and autofocus.

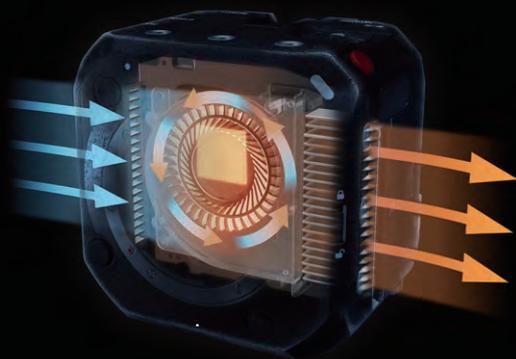


*1 • Use a card with SD Speed Class with "Class 4" or higher when recording motion pictures in [MP4 (under 28Mbps)]. • Use a card with SD Speed Class with "UHS-I / UHS-II UHS Speed Class 3 (U3)" when recording motion pictures with [MP4] in [4K] or [MOV]. • SD speed class is the speed standard regarding continuous writing. • Use of SD Memory Card with Video Speed Class 60 or higher is recommended for C4K/4K ALL-Intra video recording. • MP4 motion pictures with [MP4] in [4K]: When using an SDHC memory card: You can continue recording without interruption even if the file size exceeds 96 GB or 3 hours 4 minutes in length, but the motion picture file will be divided and recorded/played back separately. When using an SDXC memory card: You can continue recording without interruption even if the file size exceeds 4 GB or 30 minutes in length, but the motion picture file will be divided and recorded/played back separately. • 4:2:2 10-bit recording is a recording mode for film production and the video needs to be processed on PC. The original video cannot be played on standard TV, Blu-ray Disc™ recorder and Blu-ray Disc™ player. It may cause problems such as freezing when played on these devices. *2 High-res audio is selectable only when using the DMW-XLR1 (sold separately). *3 Corresponding to 4K (4096x2160) as defined by Digital Cinema Initiatives (DCI). *4 Only when S35mm is selected at 59.94/50.00p. *5 Only when S35mm is selected.

UNLIMITED RECORDING

Heat management

The LUMIX BS1H realizes unlimited video recording in all modes. The rise in the camera's temperature can be suppressed with the cooling fan and can be used for an unlimited time within the guaranteed operating temperature range.



BOX-STYLE

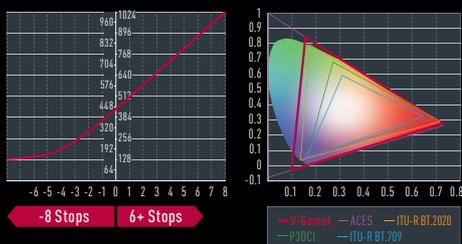
Compact, lightweight and durable body

The minimal metal exterior provides uniform heat dissipation. The aluminum and magnesium alloy body frame offers heat dissipation, light weight of 585g, and durability. Almost all rigs and other accessories can be shared with the LUMIX BGH1 since the body size and design are about the same as those of the BGH1.



*Weight and dimensions shown are approximate. *Body only.

V-Log Characteristics / V-Gamut



14+ stops of V-Log and V-Gamut "VariCam Look"

Offering compatibility with Cinema VariCam Look, 14+ stops of dynamic range, and a very wide color spectrum, V-Log and V-Gamut come preinstalled. Footage shot with the LUMIX BS1H can be seamlessly edited with footage shot with VariCam cameras. The V-Log of the LUMIX BS1H offers 14+ stops of dynamic range, which covers the PQ requirement of HDR, while V-Gamut covers the full HDR color spectrum, giving users access to HDR shooting wherever, whenever.

More on V-Log/V-Gamut and LUTs: https://pro-av.panasonic.net/en/cinema_camera_varicam_eva/support/lut/index.html

Simultaneous internal/external recording supported

10-bit video recording capability provides robust color profiles for an advanced post-production workflow. The LUMIX BS1H offers simultaneous 6K 24p 4:2:0 10-bit (3:2) / 5.9K 30p/25p/24p 4:2:0 10-bit (16:9) internal recording and 4K 4:2:2 10-bit live output for external recording via HDMI. This compact, lightweight camera offers all the quality you would expect from a high-end digital cinema camera.



Simultaneous SDI/HDMI output

The LUMIX BS1H addresses the diverse needs of a wide range of video productions with an SDI terminal (3G-SDI). Supporting 1080p output, it offers a stable connectivity, compliance with extended cable runs, and external monitoring. With support for simultaneous external recording via HDMI output and remote control via USB or LAN tethering, it delivers a wide range of video production capabilities.



Flexible expandability with wired LAN connection

REMOTE CONTROL

Ethernet / PoE+ compatible camera

It is equipped with a LAN terminal, and by connecting it with a PC using an ethernet cable, it enables remote control of up to 12 units using LUMIX Tether for Multicam version 1.3 or higher. LUMIX BGH1 units can also be used in combination. Wiring can be extended in a shooting environment by using a wired LAN cable to expand your shooting options. It is also possible to supply power from devices that support PoE+ (IEEE802.3at compliant).



LIVE STREAMING

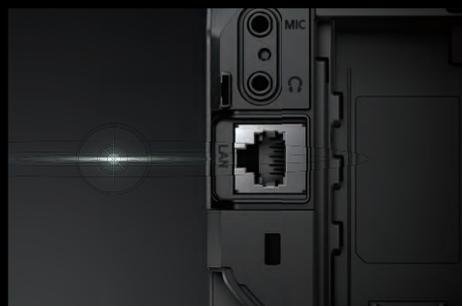
IP streaming with PC (RTP/RTSP protocol)

Supports the IP streaming function via PC with a wired LAN connection. Conduct high quality live streaming with up to 4K 60p/50p (H.265 codec) using social media platforms. The H.265 realizes half the bitrate while keeping the image quality the same as H.264. Streaming in ultra-high definition 4K at low bitrate is possible even in the cases where the bandwidth is not broad enough.



Genlock IN and Timecode IN/OUT

With multiple camera control and live streaming uses in mind, the LUMIX BS1H offers Genlock IN. When used in combination with timecode, it enables high-precision editing. Synchronizing to the frame based on an externally input signal, Genlock IN allows for perfect synchronization of multiple cameras for live sports and other challenging applications. Even when using a video switcher, feeds connect seamlessly. And timecode is embedded directly in the video for high-precision drone shooting and other single-camera shoots.



3 power source options

For your convenience in various situations, three power source options are offered. An AC adapter is included for studio shoots and outdoor sets where the camera is set up on an ongoing basis. The battery pack (sold separately*) facilitates handheld shooting, drone shooting, and other kinds of mobile shooting. And when multiple cameras are controlled remotely, power can be stably supplied via Ethernet cable and PoE+.

*Battery Pack: AG-VBR59/89/118. Battery Charger: AG-BRD50. Max. 11800mAh (AG-VBR118) can be used for approximately 12 hours.



Wi-Fi® / Bluetooth® / LUMIX Sync app

Installing the Panasonic LUMIX Sync Android or iOS app on a smartphone or tablet, you can connect to the BS1H via Wi-Fi® or Bluetooth® v4.2 (Low Energy) to monitor images or remotely control the camera. It's also possible to copy settings from one camera to another using the LUMIX Sync app*, making multiple-camera control simpler.

*Copying must done between cameras of the same model. Cannot be shared with the LUMIX BGH1. •The Wi-Fi CERTIFIED™ Logo is a certification mark of Wi-Fi Alliance®. •The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Panasonic Corporation is under license. Other trademarks and trade names are those of their respective owners. •iOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license. •Android and Google Play are trademarks or registered trademarks of Google Inc.

Main Parts & Controls



1. Status indicator	12. Rear tally lamp	23. [HDMI] terminal	34. [Q.MENU] button
2. Camera ON/OFF button	13. [MIC] terminal	24. Battery attachment part	35. Playback button
3. Lens release button	14. Headphone terminal	25. Video rec. button	36. [REMOTE] terminal
4. Lens lock pin	15. [LAN] terminal	26. Control dial	37. Card slot 1
5. Front tally lamp	16. Security Slot	27. [MENU/SET] button	38. Card access light 1
6. Fn button (Fn2)	17. Cable lock band attachment part	28. Cursor buttons	39. Card slot 2
7. Fn button (Fn3)	18. Battery release button	29. Delete button / Cancel button	40. Card access light 2
8. Operation lock switch	19. [SDI OUT] terminal	30. [NETWORK] connection lamp	41. Card door release lever
9. Screw hole for function expansion	20. [TC IN/OUT] terminal	31. Hot shoe	42. [DC IN 12V] terminal
10. Fn button (Fn4)	21. [GENLOCK IN] terminal	32. Stereo microphone	43. Fan outlet
11. Fn button (Fn5)	22. [USB] terminal	33. Fn button (Fn1)	

Front / rear tally lamp — visible from 4 sides

Thanks to the clean lines of the body design, the tally lamps can be monitored from the front, top, side, or back, a welcome convenience on any shoot.



Operation lock switch

The operation lock switch can freeze the operation of buttons and dials to prevent unintentional operation. The parts to disable can be individually set from the custom menu.



Bundled cable lock band

To stop cables from accidentally disconnecting during a shoot, the bundled cable lock band can be used to secure the HDMI, USB, and DC cables together at the back of the camera. It's made of flexible, easy-to-manipulate material and can be installed without a screwdriver.





LUMIX S Series Lenses

Leica / SIGMA Lenses
L-Mount Alliance : www.l-mount.com



Genlock Generator



Timecode Generator

BNC Cable

BNC Cable



External Monitor



SDI Cable (3G-SDI)



HDMI Cable*2



External Recorder



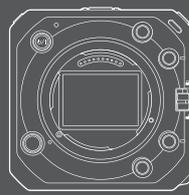
External Monitor



Blu-ray Disc™ Player

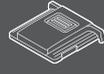


4KTV / HDTV



LUMIX BS1H

Standard Accessories



Hot Shoe Cover



REMOTE Terminal Cover



BNC Terminal Cover



AUDIO Terminal Cover



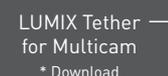
HDMI Terminal Cover



DC IN Terminal Cover



Body Cap



LUMIX Tether for Multicam
* Download



Cable Lock Band



AC Adapter AC Cable



Tripod Adaptor DMW-TA1



USB Connection Cable



Unidirectional Microphone AG-MC200G



XLR Microphone



XLR Microphone Adaptor DMW-XLR1



LED Video Light VW-LED1



Stereo Shotgun Microphone DMW-MS2



Stereo Microphone VW-VMS10



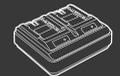
Headphones



Remote Control



LAN Cable



Battery Charger AG-BRD50



PoE+ Compatible Switching Hub / Injector



Battery Pack AG-VBR59 AG-VBR89 AG-VBR118



Computer



SD / SDHC / SDXC Memory Card*1

*1 Use a card with SD Speed Class with "UHS-I / UHS-II UHS Speed Class 3 (U3)" when recording motion pictures with [MP4] in [4K] or [MOV]. Use of SD Memory Card with Video Speed Class 60 or higher is recommended for C4K/4K ALL-Intra video recording. *2 To output motion pictures with 4K or higher, use a Premium High Speed HDMI cable (Type A - Type A plug). •The SDXC/SDHC Memory Card can be used only if their logos are indicated on the equipment or in the operation manual. It cannot be used with equipment that supports only the SD Memory Card. •Batteries made by other companies which have been certified by Panasonic may be used with these units, but we offer no guarantee as to the quality, performance or safety of such batteries. •Exercise care when purchasing batteries. Many fake or imitation batteries have been found among those sold at unusually low prices and those which customers cannot check for themselves before purchasing. •Please confirm the latest information about batteries on the following website. <http://panasonic.jp/support/global/cs/info/battery.html> [English].

Higher functionality remote control compatibility

The remote terminal (2.5mm super mini jack) of the LUMIX BS1H offers compatibility with widely used high-functionality remote controls, which enables precise remote operation.



XLR microphone adaptor DMW-XLR1 (sold separately)

This accessory allows you to connect an XLR microphone and achieve high-quality stereo sound. High-res sound recording at 96 kHz/24-bit is also selectable in MOV recording.



Dimensions and SDK (Software Development Kit) for camera control via USB & Ethernet is provided for free

https://pro-av.panasonic.net/en/cinema_camera_varicam_eva/products/bs1h/index.html



DC-BS1H Specifications

TYPE / IMAGE SENSOR		
Type	Digital Single Lens Mirrorless camera	
Lens mount	L-Mount	
Image sensor	35mm full-frame (35.6mm x 23.8mm) CMOS sensor	
Camera effective pixels	24.20 megapixels	
AR (Anti Reflection) coating	Yes	
STILL IMAGE (*1)		
Recording file format	JPEG (DCF, Exif 2.31)	
File size (pixels)	When using full-frame lenses: 6000x4000(L) / 4272x2848(M) / 3024x2016(S) When using APS-C/Super 35mm lenses: 3888x2592(L) / 2784x1856(M) / 1968x1312(S)	
MOTION PICTURE		
Recording file format	MOV: H.264/MPEG-4 AVC, H.265/HEVC	
Audio format	(LPCM: 2ch 48kHz/16-bit, 48kHz/24-bit (*2), 96kHz/24-bit (*2)) MP4: H.264/MPEG-4 AVC, H.265/HEVC (AAC (2ch))	
Latitude	14+ stops (V-Log)	
System frequency	59.94Hz / 50.00Hz / 24.00Hz	
Rec quality	Please refer to page 3	
HDMI RAW DATA OUTPUT		
Compatible external devices	ATOMOS Ninja V 4K HDR Monitor-Recorder (*3) Blackmagic Video Assist 5" 12G HDR (*4) Blackmagic Video Assist 7" 12G HDR (*4)	
Rec quality	Please refer to page 3	
Audio format	LPCM: 2ch 48kHz/16-bit, 48kHz/24-bit (*2), 96kHz/24-bit (*2)	
IP STREAMING		
Protocol	RTP / RTSP	
59.94Hz	4K 3840x2160	59.94p, 50Mbps / 25Mbps (H.265), 50Mbps / 25Mbps (H.264) 29.97p, 25Mbps / 12.5Mbps (H.265), 25Mbps / 12.5Mbps (H.264)
	FHD 1920x1080	59.94p, 20Mbps / 16Mbps (H.265), 16Mbps / 8Mbps (H.264) 29.97p, 12Mbps / 6Mbps (H.265), 6Mbps / 3Mbps (H.264)
	HD 1280x720	59.94p, 6Mbps (H.264) 29.97p, 4Mbps (H.264)
50.00Hz	4K 3840x2160	50.00p, 50Mbps / 25Mbps (H.265), 50Mbps / 25Mbps (H.264) 25.00p, 25Mbps / 12.5Mbps (H.265), 25Mbps / 12.5Mbps (H.264)
	FHD 1920x1080	50.00p, 20Mbps / 16Mbps (H.265), 16Mbps / 8Mbps (H.264) 25.00p, 12Mbps / 6Mbps (H.265), 6Mbps / 3Mbps (H.264)
	HD 1280x720	50.00p, 6Mbps (H.264) 25.00p, 4Mbps (H.264)
RTSP port	Change (up to 65535) / Default (554)	
FOCUS / EXPOSURE CONTROL		
Focus type	Contrast AF system with DFD technology	
Focus mode	AF / MF	
AF detectable range	EV -6 - 20 (F1.4, ISO100 equivalent, AF)	
AF mode	Motion picture: Auto Detection (Face, Eye, Body, Animal) / Tracking / 225-Area / Zone (Oval) / 1-Area	
Focus ring control	Nonlinear / Linear* (90° / 120° / 150° / 180° / 210° / 240° / 270° / 300° / 330° / 360° / 720° / 1080° / Maximum) *When a compatible lens is attached.	
Metering range	EV 0 - 18 (F2.0 lens, ISO100 equivalent)	
Exposure compensation	Motion picture: 1/3 EV step ±3EV, Still image (*1): 1/3 EV step ±5EV	
ISO sensitivity (standard output sensitivity)	Auto / 50* / 100 / 200 / 400 / 800 / 1600 / 3200 / 6400 / 12800 / 25600 / 51200 / 102400* / 204800* (Changeable to 1/3 EV step) *Extended ISO	
Dual Native ISO	Normal	Native ISO: 100, 640 Auto: Auto / 50* / 100-51200 / 102400* / 204800* *Extended ISO Low: Auto / 50* / 100-800 *Extended ISO High: Auto / 320* / 640-51200 / 102400* / 204800* *Extended ISO
	V-Log	Native ISO: 640, 4000 Auto: Auto / 320* / 640-51200 *Extended ISO Low: Auto / 320* / 640-5000 *Extended ISO High: Auto / 2000* / 4000-51200 *Extended ISO
	HLG	Native ISO: 400, 2500 Auto: Auto / 400-51200 / 102400* / 204800* *Extended ISO Low: Auto / 400-3200 High: Auto / 2500-51200 / 102400* / 204800* *Extended ISO

	Cinelike D2 Cinelike V2	Native ISO: 200, 1250 Auto: Auto / 100* / 200-51200 / 102400* / 204800* *Extended ISO Low: Auto / 100* / 200-1600 *Extended ISO High: Auto / 640* / 1250-51200 / 102400* / 204800* *Extended ISO
Shutter speed	Motion picture: 1/16,000 - 1/2, Still image: 1/8,000 - 1 (*1)	
IMAGE STABILIZATION SYSTEM		
Body I.S.	-	
Boost I.S. (video)	Yes *When a compatible lens equipped with O.I.S. is attached.	
OTHER FUNCTIONS		
Photo style	Standard / Vivid / Natural / Flat / Landscape / Portrait / Monochrome / L. Monochrome / L. Monochrome D / Cinelike D2 / Cinelike V2 / Like709 / V-Log / Like2100 (HLG) / My Photo Style 1-10	
Vertical position information	ON / OFF	
SS/Gain operation	Shutter Duration/ISO / Angle/ISO / Shutter Duration/dB	
Luminance level	8-bit: 0-255 / 16-235 / 16-255 10-bit: 0-1023 / 64-940 / 64-1023	
V-Log view assist	Rec / Playback: HDMI / SDI	
HLG view assist	Rec / Playback: HDMI (AUTO / MODE1 / MODE2 / OFF) / SDI (MODE1 / MODE2 / OFF)	
Anamorphic desqueeze display	2.0x / 1.8x / 1.5x / 1.33x / 1.30x / OFF Rec: SDI, Playback: HDMI / SDI	
INTERFACE		
Operation lock	Yes with Operation Lock Switch	
USB	SuperSpeed USB 3.1 Gen1 Type-C	
DC IN	DC 12V (11.4-12.6V), EIAJ Type4	
HDMI (*5)	HDMI	HDMI TypeA, Audio: Stereo
	Monitor-through	4:2:2 10-bit (Rec Quality setting: 4:2:2 10-bit or 4:2:0 10-bit) 4:2:2 8-bit (Rec Quality setting: 4:2:0 8-bit) Down Convert: Auto / 4K/30p/25p / 1080p / 1080i / OFF
SDI	SDI	BNC terminal, 0.8V (p-p), 75Ω, 3G-SDI Level-A / HD-SDI Audio: Stereo, SDI Sound Output Gain Adj.: 0dB / -6dB / -8dB
	Monitor-through	4:2:2 10-bit *The bit accuracy is 8 bits when the 8-bit recording mode is selected.
Ethernet	Remote control: LAN terminal (RJ-45) Power supply: PoE+ (IEEE802.3at compliant) *Use an IEC60950-1 or IEC62368-1 compliant PoE+ (IEEE802.3at compliant) hub or power supplying device.	
Remote input	φ2.5mm	
MIC jack / Headphone jack	φ3.5mm / φ3.5mm	
XLR microphone	Yes with DMW-XLR1 (sold separately)	
SD card slot	Slot 1, Slot 2 *Compatible with UHS-I/UHS-II UHS Speed Class 3 standard SDHC/SDXC Memory Cards and UHS-II Video Speed Class 90 standard SDXC Memory Cards.	
TC IN/OUT	HDMI output	ON / OFF
	SDI output	ON / OFF
External setting	TC Synchronization / TC Output Reference	
Genlock IN	ON / OFF, Horizontal phase synchronization: -206 - +49	
Fan	Auto1 / Auto2 / Normal / Slow	
Wi-Fi / Bluetooth	2.4GHz (STA/AP), IEEE 802.11b/g/n / Bluetooth® v4.2 (BLE)	
POWER		
Direct power supply	AC adaptor (12V, 3A) (bundled) Li-ion battery pack (7.28V) (sold separately) PoE+ (IEEE802.3at compliant) (sold separately)	
Li-ion battery pack (sold separately)	AG-VBR59 (7.28V, 5900mAh, 43Wh) AG-VBR89 (7.28V, 8850mAh, 65Wh) AG-VBR118 (7.28V, 11800mAh, 86Wh)	
Recordable time (*6) (approx.)	Continuous time	MP4 [4K/60p]: 480 min [S35mm], MP4 [FHD/60p]: 630 min [FULL]
	Actual time	MP4 [4K/60p]: 240 min [S35mm], MP4 [FHD/60p]: 315 min [FULL] *When using S-R24105 and AG-VBR118. When the battery is fully charged.
DIMENSIONS / WEIGHT / OPERATING ENVIRONMENT / STANDARD ACCESSORIES		
W x H x D (approx.)	93.0 x 93.0 x 78.8 mm / 3.66 x 3.66 x 3.1 inch (excluding protrusions)	
Weight (approx.)	585g / 1.29 lb (body only)	
Operating temperature (*7)	-10°C to 40°C (14°F to 104°F)	
Operating humidity	10%RH to 80%RH	
Standard accessories	AC Adaptor, AC Cable, Cable Lock Band, Body Cap, Hot Shoe Cover, AUDIO Terminal Cover, DC IN Terminal Cover, BNC Terminal Cover, HDMI Terminal Cover, REMOTE Terminal Cover	

*1 Tethered photo shooting with LUMIX Tether for Multicam software. *2 High-res audio is selectable only when using the DMW-XLR1 (sold separately). *3 [Apple ProRes RAW] •Selectable recording mode depends on the firmware version of Atomos Ninja V. •Please refer to the Atomos website for the information on the corresponding firmware version of Atomos Ninja V. •Software that supports Apple ProRes RAW is required to edit RAW video recorded with NINJA V. Apply the LUT (Look up table) available on the following customer supports site to make the same color grading as V-Log/V-Gamut https://panasonic.jp/support/global/cs/dsc/download/lut/s1h_raw_lut/. •All functions may not be available depending on the situation. *4 [Blackmagic RAW] •Selectable recording mode depends on the firmware version of Video Assist 12G HDR. •Please refer to the Blackmagic website for the information on the corresponding firmware version of the Video Assist 12G HDR. •DaVinci Resolve or DaVinci Resolve Studio is required to play back the Blackmagic RAW data. DaVinci Resolve Studio is required to edit the Blackmagic RAW data. •All functions may not be available depending on the situation. *5 To output motion pictures with 4K or higher, use a Premium High Speed HDMI cable (Type A - Type A plug). *6 When the ambient temperature is high or continuous recording is performed, the camera may stop the recording to protect itself. Wait until the camera cools down. *7 The camera may stop recording when used in lower or higher than recommended operating temperature: -10 to 40 degrees. •QuickTime and the QuickTime logo are trademarks or registered trademarks of Apple Inc., used under license therefrom. •USB Type-C™ and USB-C™ are trademarks of USB Implementers Forum. •The USB Type-C™ Charging Trident Logos are trademarks of USB Implementers Forum, Inc. •The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing, LLC in the United States and other countries. •QR Code is a registered trademark of DENSO WAVE INCORPORATED. •Other trademarks and trade names are those of their respective owners. •Weight and dimensions shown are approximate. •Design, functions, and specifications are subject to change without notice. •Some sample images are simulated. •Some accessories are not available in some countries. •The use of recorded or printed materials that are protected by copyright for any purpose other than personal enjoyment is prohibited, as it would infringe upon the rights of the copyright holder.

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