

OVERVIEW

ALEXA Plus 4:3

The ALEXA Plus 4:3, a new ALEXA model has similar functionality to the ALEXA Plus but features a 4:3 Super 35 sensor, the ability to switch from 16:9 sensor mode to 4:3 sensor mode, and built-in licenses for high speed shooting, DNxHD recording and anamorphic de-squeeze.

The ALEXA Plus 4:3 joins the ALEXA Studio and ALEXA M, which already have 4:3 sensors, rounding out a line-up that now represents the perfect solution for anamorphic productions. The Studio might typically function as an A-camera, the Plus 4:3 as a B-camera and the M as a compact, versatile C-camera.

With the ALEXA 4:3 cameras, the full area of the sensor is used and a much higher image quality retained. In addition, the unique optical characteristics of anamorphic lenses – the magic at the heart of anamorphic cinematography – are rendered faithfully and fully in the digital image.

TECHNICAL DATA

ALEXA Plus - Technical Data

Same as ALEXA, but with built-in wireless remote control, Lens Data System, one additional MON OUT, one additional RS, two LCS, one LDD and three lens motor connectors, built-in motion sensors and Quick Switch BNC connectors.

Camera Type	35 format film-style digital camera with electronic viewfinder, integrated shoulder arch, built-in support for the ARRI Wireless Remote System (WRS), cmotion evolution lens control system and ARRI Lens Data System (LDS).				
Sensor Type	35 format ALEV III CMOS with Dual Gain Architecture (DGA) and Bayer pattern color filter array.				
Operating Modes	Regular or High Speed mode. High Speed mode needs license.				
Frame Rates	ProRes 422 (Proxy), 422 (LT), 422 and 422 (HQ): 0.75 - 60fps ProRes 422 (Proxy), 422 (LT), 422 and 422 (HQ) with High Speed license: 0.75 - 120fps ProRes 4444 with 32 GB SxS PRO cards: 0.75 - 40fps ProRes 4444 with 64 GB SxS PRO cards, SUP 5.0 or later: 0.75 - 60fps HD-SDI: 0.75 - 60fps ARRIRAW SUP 5.0 or later: 0.75 - 60fps All speeds adjustable with 1/1000fps precision				
Aperture	Mode	Dimensions	Aspect Ratio	Photosites	Data
	Recording ARRIRAW	23.760 x 13.365mm / 0.9354 x 0.5262"	16:9	2880 x 1620	12 bit log
	Recording HD	23.76 x13.365 mm / 0.9354x0.5262"	16:9	2880 x 1620 down sampled to 1920 x 1080 for HD video and ProRes	10 bit lin / log,
Monitoring	Mode	Aspect Ratio	Resolution	Option	Data
	Viewfinder	16:9	1280x720 pixels	10% surround view option	8 bit lin / log
	MON Out	16:9	1920x1080 pixels	10% surround view option	10 bit lin / log
Recording	Internal to SxS PRO memory cards	1080p Apple ProRes 422 (HQ) or Apple ProRes 4444 QuickTime® with embedded 2-ch audio and ancillary metadata xml-file. Requires license key: AVID DNxHD 115/120/145 (8 bit 4:2:2) and AVID DNxHD 175x/185x/220x (10 bit 4:2:2) - 4:2:2 available in both Regular and High Speed Mode			
	External via REC OUT 1.5G or 3G	ARRIRAW or 1080PsF 4:4:4 RGB/4:2:2 YCbCr HD video. Recording frame rates other than HD standard 23.976, 24, 25, 29.97, 30, 50, 59.94, 60 fps requires a recorder with Variflag support. Recording ARRIRAW requires an ARRIRAW T-Link			

certified recorder.

Internal Signal Generator	SMPTE color bars in REC OUT and MON OUT, 1Khz audio tone on HD-SDI outputs and headphones
Sound	Under 20 db(A) @ 24 fps and $\leq +30^{\circ}$ Celsius ($\leq +86^{\circ}$ Fahrenheit) with lens attached and fan mode set to 'Regular', measured 1 m/3 feet in front of the lens. Silent operation at higher temperatures possible with fan mode set to 'Rec low'.
Power In	Three inputs: BAT connector, battery adapter back and battery adapter top. All accept 10.5 to 34 V DC. 85 W power draw for camera and EVF-1 in typical use recording 24 fps to SxS PRO cards, without accessories.
Power Out	12V connector: limited to 12 V, up to 2.2A. RS, EXT and ETHERNET: input below 24V is regulated up to 24V, above 24V: input = output voltage. Both RS and EXT connectors combined: up to 2.2A. ETHERNET: up to 1.2A. Maximum power draw is also limited by the power source.
Dimensions	Length 332 mm/12.95" Width 175mm/6.89" Height 158mm/6.22"
Weight	ALEXA Plus camera body + SxS Module: 7.0kg / 15.4lbs ALEXA Plus camera body + SxS Module + EVF-1 + Viewfinder Mounting Bracket VMB-2 + viewfinder cable + Center Camera Handle CCH-1: 8.4kg / 18.5lbs
Environmental	-20°C to +45°C (-4°F to +113°F) @ 95% humidity max, non condensing. Splash and dust proof through sealed electronics. System cooling through radiator/single fan.
Lens Mount	ARRI Exchangeable Lens Mount (ELM); Lens Adapter PL Mount w/o LDS, 54 mm stainless steel PL mount, Super 35 centered
Flange Focal Depth	52.00 mm nominal
Shutter	Electronic rolling shutter, 0.75 - 60fps: 5.0° - 358.0°, 60 - 120fps: 356°. Shutter angle setting precision: 1/10 degree.
Viewfinder	Low latency (≤ 1 frame delay) electronic color viewfinder ARRI EVF-1 with 1280 x 784 F-LCOS micro display (image: 1280 x 720, status bars: 1280 x 32 above and 1280 x 32 below image) and ARRI LED illumination, both temperature controlled. Image can be flipped for use of viewfinder on camera left or right. Viewfinder Mounting Bracket allows movement of viewfinder forward/backwards, left/right, up/down, 360 degree rotation and placement on camera left or right. EVF-1 controls: viewfinder and basic camera settings, ZOOM button (2.25x pixel to pixel magnification), EXP button (false color exposure check) and jog wheel.
Assistive Displays	For EVF-1 and MON OUT: frame lines, surround view, camera status, false color exposure check, peaking focus check, compare stored image with live image, RETURN IN video and anamorphic de-squeeze. Anamorphic de-squeeze requires license purchase. MON OUT only: Reel & clip number.
Control	Camera right: main user interface with 3" transreflective 400 x 240 pixel LCD color screen, illuminated buttons, button lock and jog wheel. Camera left: operator interface with illuminated buttons, button lock and card swap button.
Exposure Latitude	14 stops for all sensitivity settings from EI 160 to EI 3200, as measured with ARRI Dynamic Range Text Chart (DRTC)
Exposure Index	EI 160 (+5.0 / -9.0) EI 200 (+5.3 / -8.7) EI 400 (+6.3 / -7.7) EI 800 (+7.4 / -6.6) EI 1600 (+8.4 / -5.6) EI3200 (+9.4 / -4.6) Values behind the exposure index are the number of stops above and below 18% grey. These values are for Log C. Rec 709 and DCI P3 are the same except for 0.5 stops fewer in the low end at EI 160, 0.4 stops fewer in the low end at EI 200 and 0.2 stops fewer in the low end at EI 400.
White Balance	Separate white balance (red/blue) and color correction (green/magenta) adjustment through Auto or manual setting. Red/blue: 2000 to 11000 Kelvin, adjustable in 100 K steps, with

presets of 3200 (tungsten), 4300 (fluorescent), 5600 (daylight) and 7000 (daylight cool). Green/magenta: -8 to +8 color correction (CC), 1 CC = 035 Kodak CC values or 1/8 Rosco values.

Connectors

- 2x slots for SxS PRO cards (SxS)
- 2x BNC recording out HD-SDI, 1.5G/3G switchable (REC OUT 1 and REC OUT 2)
- 1x BNC monitoring out HD-SDI 1.5G (MON OUT)
- 1x XLR 5 pin audio in (AUDIO IN)
- 1x BNC return signal HD-SDI 1.5G (RET/SYNC IN)
- 1x LEMO 16 pin external accessory interface (EXT)
- 1x Fischer 2 pin 24V power in (BAT)
- 2x Fischer 3 pin 24V remote start and accessory power out (RS)
- 1x LEMO 2 pin 12V accessory power out (12V)
- 1x LEMO 5 pin timecode in/out (TC)
- 1x TRS 3.5mm headphone mini stereo jack out (AUDIO OUT)
- 1x LEMO custom 16 pin electronic viewfinder (EVF)
- 1x LEMO 10 pin Ethernet with 24V power (ETHERNET)
- 2x Fischer 5 pin Lens Control System (LCS)
- 1x Fischer 5 pin Lens Data Display (LDD)
- 1x Fischer 12 pin for CLM-2, CLM-3 or later (RIS)
- 1x Fischer 12 pin for CLM-2, CLM-3 or later (ZOOM)
- 1x Fischer 12 pin for CLM-2, CLM-3 or later (FOCUS)

Records Apple QuickTime/ProRes files or MFX/DNxHD files onto either one or two (Dual Recording) SxS PRO cards. All codecs legal range with embedded audio, timecode and metadata.

Codec /Color Coding	Compression (1)	Data Rate @30Fps (Mbit/s)	Data Rate @24Fps (Mbit/s)	Bit Depth	Recording Time 32GB SxS PRO@ 30Fps	Recording Time 32GB SxS PRO@ 25Fps	Maximum recording speed (Fps)
ProRes 422 Proxy YCbCr	40:1	45	36	10	1 h 35min	1 h 58min	60
ProRes LT YCbCr	18:1	102	82	10	42min	52min	60
ProRes 422 YCbCr	12:1	147	118	10	29min	25min	60
ProRes 422 HQ YCbCr	8:1	220	176	10	19min	23min	60
ProRes 444 (without alpha) RGB	5:1	330	264	12	12mn	15min	40 60fps with 64GB SxS Pro card

(1) Compression rate calculated based on 10bit full HD RGB with 1.8Gbit/s

Codec / Color Coding	Compression	Data Rate @29.97Fps (Mbit/s)	Data Rate @24Fps (Mbit/s)	Bit Depth	Recording Time 32GB SxS PRO@ 29.97Fps	Recording Time 32GB SxS PRO@ 25Fps	Maximum recording speed (Fps)
AVID DNxHD 115/120/145 YCbCr	12:1	145	115	8	29min	35min	60
AVID DNxHD 175x/185x/220x YCbCr	8:1	220	175	10	19min	23min	60

Recording Outputs

2x 1.5G or 3G REC OUT BNC connectors for ARRIRAW or HD-SDI video. Both with embedded audio, timecode, metadata and optional recording flag.
 ARRIRAW: 2880 x 1620, uncompressed 12 bit log without white balance or exposure index processing applied. Requires an ARRIRAW T-Link certified recorder.
 HD-SDI video: uncompressed 1920 x 1080 4:4:4 RGB or 4:2:2 YCbCr; both legal or extended range. Recording frame rates other than HD standard (23.976, 24, 25, 29.97, 30, 50, 59.94, 60 fps) requires a recorder with Variflag support.

Monitor Output

1x MON OUT BNC connector for uncompressed 1.5 G HD-SDI video: 1920 x 1080, 4:2:2 YCbCr; legal range.

Image Processing	16 bit linear internal image processing. Target color spaces for SxS, REC OUT and MON OUT: Log C (film matrix off), Log C (film matrix on), Rec 709 or DCI P3. For Rec 709 and DCI P3 a customized look can be applied during record and playback with ARRI Look Files. Optional horizontal image mirroring.
Synchronization	Master/Slave mode for precision sync of settings, sensor, processing, HD-SDI outputs and SxS recording for 3D applications.
Playback	QuickTime/ProRes and MXF/DNxHD clips can be played back from SxS PRO cards to the EVF-1, MON OUT and REC OUT. Playback audio is available embedded in the MON OUT and REC OUT signals and on the headphones jack.
Audio	1x XLR 5 pin AUDIO IN connector for 2 channel, line level balanced audio input, 24 bit/48 kHz A/D conversion, works at 23.976, 24, 25, 29.97 and 30 fps. Uncompressed audio is recorded into the QuickTime/ProRes file or MXF/DNxHD file and embedded in all HD-SDI outputs, including ARRIRAW T-Link. Max of 2.5 dBm output from AUDIO OUT headphones connector.
SD Card	For importing ARRI Look Files, camera set up files, frame line files and feature licenses. Stores captured stills from the REC OUT image path in ARRIRAW (.ari, 12 bit), TIFF (.tif, 16 bit), DPX (.dpx, 10 bit) and JPEG (.jpg, 8 bit) format as well as logging files. Also used for software updates.
Please note	All technical data based on Software Update Packet (SUP) 5.0. All data subject to change without notice.