

Ki Pro ULTRA Plus

Multi-Channel HD Recorder

4K/UltraHD/2K/HD Recorder and Player



Supports the latest technologies and workflows, including up to 4K 60p with HDMI 2.0 support and HDR.

Ki Pro Ultra Plus is a multi-channel Apple ProRes® recorder offering up to 4-Channels of simultaneous HD recording, or in Single-Channel mode a 4K/UltraHD/2K/HD Apple ProRes, Avid DNxHR® MXF for 4K/UltraHD or Avid DNxHD® MXF recorder and player. Ki Pro Ultra Plus supports the latest large raster high frame rate workflows, up to 4K 60p with HDR playback and recording.

3G-SDI, fiber and full HDMI 2.0 digital video connectivity plus a wealth of analog and digital audio connectivity answers any project's demand for efficient, powerful and flexible workflows.

Designed to be either portable or rackmountable with half rack wide, 2RU high dimensions, it's well suited for use in any environment. The Ki Pro Ultra Plus is designed to meet the demand for 4K and UltraHD capable recorder products with full support for current HD projects.

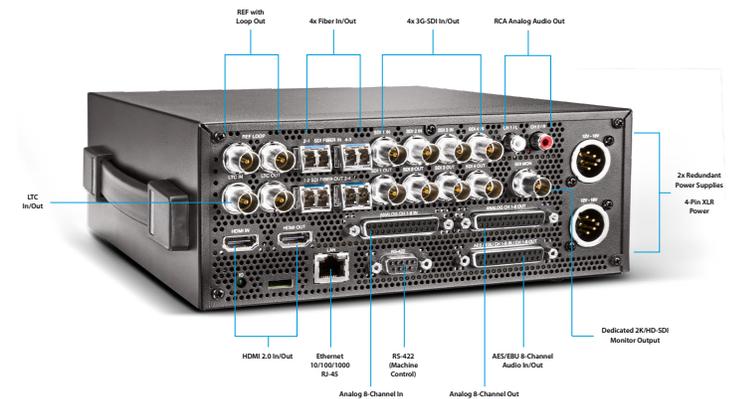
Ki Pro Ultra Plus supports a broad range of video formats and frame rates, recorded directly to AJA's proven and reliable SSD-based Pak Media, available in capacities up to 2TB.

Next generation pristine 4K/UltraHD 50/60p recording is easily supported, with full rollover capabilities from Pak Media drive to drive. This ensures long recording times for the most demanding projects.

Smooth slow motion playback can be obtained easily with full control via the RS-422 serial connection or through the simple and intuitive on unit menu system and through the Ki Pro Ultra Plus' web interface.

Menus and images are beautifully rendered on a new high resolution LCD display enabling detailed playback and monitoring in all environments.

Ki Pro Ultra Plus, the ultimate next generation digital recorder and player.



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4K, 12-bit Full Raster Workflows

Next generation 4K/UltraHD 50/60p recording and playback are attainable at up to ProRes HQ quality when using AJA Pak 2000 media. 4K/UltraHD is supported through 4x 3G-SDI, HDMI 2.0 or optional Fiber inputs and outputs.

Ki Pro Ultra Plus not only supports true 4K at 4096 x 2160p for digital cinema and 3840 x 2160 UltraHD for broadcast production, it also offers the color depth to match with ProRes 4444 (XQ) for recording/playback rates up to 30p.

Any shoot or project benefits from the rich colors and smooth gradations across the luminance and chroma range that 12-bit 4:4:4 makes possible.

VFX work benefits from Ki Pro Ultra Plus' 12-bit support on Apple ProRes 4444 files, resulting in clean, green screen plates across 4K/UltraHD/2K/HD resolutions for manipulation in postproduction. With full HDMI 2.0, you can monitor it all from 4:2:2 YCbCr to full 4:4:4 RGB in 12-bit.

Reliable Storage Media

Ki Pro Ultra Plus records to robust and field proven SSD-based AJA Pak media, with capacities up to 2TB. Pak media supports 4K recording up to 60p in ProRes HQ and offers very long record times for multi-channel HD capture.

Losing one or several feeds during a multi-channel shoot can cause major sync issues during the editing process that can be lengthy to resolve. But Ki Pro Ultra Plus is designed so that as soon as a loss in signal is detected on any of the inputs, a color bars frame with the legend "Loss Of Signal" is recorded until the input is restored or the shoot ends. This way, all multi-channel clips have the same time code duration and will align perfectly within any NLE. This function works with each input to Ki Pro Ultra Plus and will even function in Rollover mode.

New Forced Rollover support allows users to force a rollover recording to the second Pak Media port at any point, allowing quick extraction of the first Pak media drive for fast transfer to editing environments, playout servers and more, while recording continues.

HDR Payout and Recording

Ki Pro Ultra Plus with HDMI 2.0 support enables playout of your HDR (High Dynamic Range) and WGC (Wide Color Gamut) materials to HDR capable HDMI displays. A simple menu setting allows the selection of the correct EOTF (Electric-Optical Transfer Function) for the video at hand, whether encoded as PQ based HDR10 or as HLG.

Static HDR infoframe data is transmitted to the HDR HDMI capable display by selecting the appropriate HDR format, letting the display know that it is receiving HDR encoded material. This allows the display to correctly map HDR color and luminance information appropriately.

Your footage comes to life with the extended color gamut of BT.2020 as compared to SDR video, with brighter specular highlights and a wider range of blacks to bring water, night scenes and shadows to life.

Ki Pro Ultra Plus also supports the capture of HDR footage with support for HLG over SDI and HLG and HDR10 over HDMI.

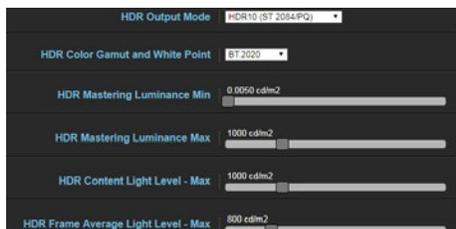
Multi-Channel HD Recording

Simultaneously record 1, 2, 3 or 4-Channels of up to 1080p 50/60 HD as beautiful Apple ProRes.

Multi-channel recording with Ki Pro Ultra Plus provides individual, discrete recordings for each input that are timecode accurate and ready to be imported directly into a multi-channel editing sequence. No additional conversion or software is required, just drag and drop the files directly from the Pak media into your edit.

Ki Pro Ultra Plus even allows independent profile support per channel in Multi-Channel mode; for example, select high resolution Apple ProRes HQ for high quality finishing and use a second input to record Apple ProRes (Proxy) for an efficient editing pipeline.

Starting with Input 1, add channels as needed in order when utilizing like raster size and frame rate, and record your HD Apple ProRes files on the same AJA Pak media. Ki Pro Ultra Plus even allows rollover to a second Pak drive for hours of uninterrupted multi-channel recording.



Protect



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Professional Connections

The video and audio connections on the rear panel of the Ki Pro Ultra Plus offer next generation connectivity with 3G-SDI, HDMI 2.0 and fully integrated fiber* inputs and outputs. Fiber allows direct incorporation into dedicated fiber networks for transmission and reception as far as 10km. AES and analog XLR balanced audio, LTC, RS-422 and LAN, plus headphone jack and unbalanced RCA analog audio out all included.

New analog audio mapping settings allows mapping of incoming channel pairs to desired recording tracks for ease of use in the field.

Two Sample Interleave I/O

Ki Pro Ultra Plus supports both Square Division Quad Split format and Two Sample Interleave giving a wide number of options to both record and playback 4K and UltraHD. Set up is easy, with Ki Pro Ultra Plus sensing the format being delivered in its "Follow Input" mode. Ki Pro Ultra Plus also allows you to select separate quad modes for both in and out, giving an additional conversion feature for when you need it.

Closed Captioning Support

If you need to record or playout video with embedded Closed Captioning, Ki Pro Ultra Plus is fully compatible with your needs.

Ki Pro Ultra Plus recognizes CEA-708 within incoming SDI Inputs and encodes the Closed Captioning to your Apple ProRes recorded file. Upon playback, you can utilize the Closed Captioning within a recorded file over Ki Pro Ultra Plus' 4x 3G-SDI outputs.

4K and HD Monitoring

Ki Pro Ultra Plus provides full resolution inputs and outputs for 4K, UltraHD and HD over 3G-SDI, fiber and HDMI 2.0, including the latest affordable UltraHD monitors for on-set quality checks and single cable simplicity with HDMI 2.0 for both capture and playback.

Using AJAs proven conversion technology, an additional dedicated 2K and HD-SDI monitor output can be fed to any HD-SDI display, even if you're recording in 4K mode.

Record to External Storage

Pak-Adapt-eSATA (sold separately) is a Pak Media sized adapter with an eSATA connector that allows the user to attach a qualified RAID or single volume storage via an eSATA cable so that it may be used as a recordable drive. eSATA connectivity provides the bandwidth needed for 4K 422 HQ at up to 30fps. You can even connect two Pak-Adapt-eSATAs to the Ki Pro Ultra Plus for even longer recording times.

RS-422 Control

RS-422 control allows Ki Pro Ultra Plus to integrate easily with supported editing systems and external controllers enabling it to fulfill several of the functions of a traditional VTR. Supported NLEs can even perform assemble edits directly to the Ki Pro Ultra Plus.

Multiple Ki Pro Ultra Plus units can synchronously playback or record using RS-422 as well.

Simple Control

Ki Pro Ultra Plus is simple to manage and control with a built in Webservice presenting its elegant GUI to any browser on any platform. Simply plug in to Ki Pro Plus' ethernet port and connect it to a router for access from anywhere. Upload firmware, quickly access and control multiple parameters and save and recall presets as needed. For more sophisticated workflows, access REST commands through the built in API for total control.

exFAT and HFS+ Support

Ki Pro Ultra Plus allows you to use the file system that suits your needs. Full flexibility is provided to format your recording media as either exFAT or HFS+ within Ki Pro Ultra Plus itself or from your desktop computer. Work seamlessly with Avid ProRes files, Avid DNxHD, or DNxHR files on the OS that suits your workflow.



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Video Formats

- Single Channel Mode:
 - (4K) 4096 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
 - (4K) 4096 x 2160PsF 23.98, 24, 25, 29.97*
 - (UltraHD) 3840 x 2160p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
 - (UltraHD) 3840 x 2160PsF 23.98, 24, 25, 29.97*
 - (2K) 2048 x 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
 - (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
 - (HD) 1080i 25, 29.97, 30
 - (HD) 1080PsF 23.98, 24, 25**, 29.97**
 - (HD) 720p 50, 59.94, 60
- Multi-Channel Mode:
 - (HD) 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
 - (HD) 1080i 25, 29.97, 30
 - (HD) 1080PsF 23.98, 24, 25**, 29.97**
 - (HD) 720p 50, 59.94, 60

**Only 4x 1.5G-SDI, 10-bit 4:2:2 YCbCr, Square Division*

***25 and 29.97 requires Record Type>PsF selection*

Codec Support

- Single Channel Mode:
 - Apple ProRes 4444 XQ, up to 2K/60 fps
 - Apple ProRes 4444, up to 30 fps
 - Apple ProRes 422 (HQ)
 - Apple ProRes 422
 - Apple ProRes 422 (LT)
 - Apple ProRes 422 (Proxy)
 - Avid DNxHD HQX (220x)*
 - Avid DNxHD SQ (145)*
 - Avid DNxHD LB (36)**
 - Avid DNxHR HQX up to 4K/30 fps
 - Avid DNxHR SQ up to 4K/30 fps
 - Avid DNxHR LB up to 4K/30 fps
- Multi-Channel Mode:
 - Apple ProRes 4444, up to 30 fps
 - Apple ProRes 422 (HQ)
 - Apple ProRes 422
 - Apple ProRes 422 (LT)
 - Apple ProRes 422 (Proxy)

**Avid DNxHD only supported for 1080 and 720 resolutions*

***Avid DNxHD 36 only supported for 1080p*

Codec Container

- Apple ProRes .MOV
- AVID DNX MXF or .MOV

Removable Storage

- 2x slots, AJA SSD media Pak 256, Pak 512, Pak 1000, Pak 2000
- Pak-Adapt-eSATA*, Pak-Adapt-CFast*

**Only with AJA qualified media*

Video Input Digital

- 4x 3G-SDI, SMPTE-292/296/424, 10-bit (12-bit input supported)
- 4x Fiber LC*, 3G-SDI, SMPTE-297, 10-bit
- 4K/UltraHD 4:2:2 or 4:4:4 (4x BNC or Fiber LC*)
- Dual Link 4:2:2, 4:4:4 (2x BNC or Fiber LC*)
- Single Link 4:2:2, 4:4:4 (1x BNC or Fiber LC*)
- 1x HDMI standard type A connector
- HDMI v2.0
 - 4:4:4 RGB 8/10/12-bit (deep color)
 - 4:2:2 YCbCr 8/10/12-bit
 - 4:2:0 YCbCr 8-bit

**Optional SFP Modules*

Video Output Digital

- 4x 3G-SDI, SMPTE-292/296/424, 10-bit
- 4x Fiber LC* 3G-SDI, SMPTE-297, 10-bit
- 4K/UltraHD 4:2:2 or 4:4:4 (4x BNC or Fiber LC*)
- Dual Link 4:2:2 or 4:4:4 (2x BNC or Fiber LC*)
- Single Link 4:2:2 or 4:4:4 (1x BNC or Fiber LC*)
- 1x HDMI standard type A connector
- HDMI v2.0
 - 4:4:4 RGB 8/10/12-bit (deep color)
 - 4:2:2 YCbCr 8/10/12-bit
 - 4:2:0 YCbCr 8-bit
- HDR Infomage generation as defined in CTA-861.3 and HDMI v2.0a

**Optional SFP Modules*

Audio Input Digital

- 16-Channel, 24-bit SDI/Fiber embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, AES/EBU via (1/2x DB-25 TASCAM pinout)

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Audio Input Analog

- 8-Channel, mappable, 24-bit A/D analog audio, 48 kHz sample rate (1x DB-25 TASCAM Pinout)
- +24 dBu full scale digital
- +/- 0.2 dB 20 Hz to 20 kHz frequency response

Audio Output Digital

- 16-Channel, 24-bit SDI/Fiber embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, 24-bit HDMI embedded audio, 48 kHz sample rate, synchronous
- 8-Channel, AES/EBU via (1/2x DB-25 TASCAM pinout)

Audio Output Analog

- Stereo unbalanced headphone jack (1x 3.5mm jack) with volume control
- 8-Channel, 24-bit D/A analog audio, 48 kHz sample rate (1x DB-25 TASCAM pinout)
- 2-Channel unbalanced 2x RCA connectors

Recording Mode

- Multi-channel HD Apple ProRes recording (Pak 2000, Pak 1000, Pak 512 (R1), Pak 256 (R1))
- Single channel 4K/UltraHD/2K/HD recording

Playback Mode

- One channel of 4K/UltraHD/2K/HD at a time

Timecode

- SDI RP188/SMPTE 12M via SDI BNC
- LTC input (1x BNC)
- LTC output (1x BNC)
- Movable TC Super Out

Reference Input

- External, 2x BNC
- Looping, nonterminating
- Blackburst or tri-level sync

Network Interface

- 10/100/1000 Ethernet (RJ-45)
- Embedded web server for remote control via REST
- Video Confidence Monitor via Web Interface
- Clip upload/download via Web Interface in DATA-LAN mode
- Configuration and Transport Control via WEB Interface

Machine Control

- RS-422, 1x DE-9 female connector, Sony 9-pin protocol
- 9-pin D-connector pinout is as follows:

1	GND	6	GND
2	TX-	7	TX+
3	RX+	8	RX-
4	GND	9	GND
5	No Connection	Shell	GND

User Interface

- Rotary selector knob
- Dedicated, backlit transport controls and menu buttons
- Large 1280 x 720 TFT LCD display with Video Monitor and Menu/Status Overlays

Closed Captioning Support

- CEA-708, CEA-608

File System Support

- HFS+, exFAT

Size (w x d x h)

- 8.64" x 9.34" x 3.31" (219.46 x 237.24 x 84.08 mm)

Weight

- 5.6 lbs (2.6 kg)

Power

- Dual, redundant, 5.4A max, 35W-60W typical-65W Max
 - 100-240 VAC 50/60 Hz (adapter)
 - 12-18Vdc 4-pin XLR (chassis)

Environment

- Safe Operating Temperature: 0 to 40 C (32 to 104 F)
- Safe Storage Temperature (Power OFF): -40 to 60 C (-40 to 140 F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

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Accessories



Pak Media

Pak Media is a high capacity solid state drive encased in a protective housing with rugged connection engineered to handle the rigors of repeated use in the field. Available in 2TB, 1TB, 512GB and 256GB capacities.



Pak Dock

External Pak Dock with Thunderbolt and USB 3.0 connections for fast transfer of media to a host computer.



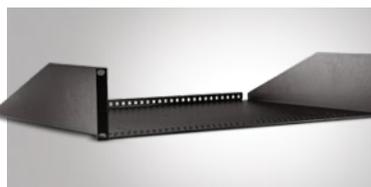
Pak-Adapt-eSATA

Pak-Adapt-eSATA is a Pak Media sized adapter with an eSATA connector that allows the user to attach a qualified RAID or single volume storage via an eSATA cable so that it may be used as a recordable drive.



Pak-Adapt-CFast

Pak-Adapt-CFast enables the use of qualified CFast cards in Ki Pro Ultra Plus for recording and playback.



KPU-Shelf

Ki Pro Ultra Plus features a small footprint for desktop use or can be mounted side by side using the additional KPU-Shelf for rackmount applications.