

SHOGUN STUDIO PRODUCT BROCHURE

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ProRes

Avid DNxHR



Harnessing the latest 4K/HD recorder, monitor and playback technologies the Shogun Studio enhances existing HD workflows and provides an affordable rack mount solution for creating 4K Masters.



RECORD 4K, HD AND RAW IN 4:2:2 10-BIT EDIT READY CODECS

The dual channel recorders capture ISO feeds directly from the sensor (4K UHD, 4K DCI Raw, 1080p60) to visually lossless, ready-to-edit 4:2:2 10-bit Apple ProRes or AVID DNxHR with file naming and metadata.

CONTINUOUS RECORD, MULTI CODEC RECORD, MULTI RESOLUTION RECORD

Record continuously with the ability to automatically switch channels when the SSD drive is full as well as dual record capability allowing 2 versions of the same input for parity or to suit your workflow. Perfect for recording 4K Masters with HD deliverables or Full Resolution RAW to ProRes/DNxHR with lightweight proxies or dailies.

DUAL 7" MONITORS WITH SCOPES FOR IMAGE ANALYSIS & QC

Full playback controls allow collaboration on set to review content the moment it's captured, using the full suite of monitor tools on screen or out to a larger HDMI or SDI monitor. There is even 4K to HD downscaling to connect with existing HD infrastructure.

CONTROL PROTOCOLS TO SUIT YOUR OPERATION

Offering the lightning fast touch screen interface of the AtomOS for in rack control, remote control via AMP over ethernet and 9-pin RS422 Machine control protocols for both recording and playback. You can also cascade trigger controls to enable multiple recorders to start recording from a single input.

METADATA TAGGING AT POINT OF ACQUISITION

Save time in post by tagging your captured content the moment you review on set. Mark using 10 tags including Favorite/Reject in record or playback mode & even mark the i/o points for the tags. Create custom playlist of favorites which respects subclip I/O points, selected clips or all clips with either a rundown or reverse order playback. Then save them out as an XML to the drive and drop straight onto the timeline of your choice of NLE.

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FEATURES IN DETAIL

MASTER YOUR RACK

Physically the Shogun Studio has been designed for easy integration into existing facilities. The 3RU height snugly fits the dual 7" screens, the short rack depth makes it easy for use in monitor bridges or smaller OB vehicles and the touchscreen interface makes it easy to use for any operator with most of the functionality one touch away.

VIDEO, AUDIO AND SYNCHRONISATION I/O

The rear of the Shogun Studio provides grouped connectivity for each of the recorder channels with 12/6/3/1.5G SDI, HDMI with 4K deep color support and balanced XLR audio. There is also Genlock, LTC input and loop through plus control connectivity using 9 pin D-SUB RS422 or AMP over Ethernet. Outside of the I/O, Shogun Studio has scaling and conversion capability built in to save on rack space and troublesome wall wart PSU's. Bi-directional SDI & HDMI signal converters allow HDMI DSLRs to be input and routed to SDI mixers, screens or multi viewers. The HDMI and SDI output also has the option for downscaling for connection with HD infrastructure. The redundant dual power supply balances the power load and are lined to the user interface to provide a necessary warning if a PSU fails.

CONTROL

Each of the Shogun Studio channels can be operated via the independent touch screens to adjust record, monitor, playback and edit functions. The Shogun Studio can also be controlled via RS422 Machine control or via AMP over Ethernet.

ADVANCED RECORD MODES

Both channels record camera ISO feeds directly

from the sensor (4K UHD, 4K DCI Raw, 1080p60) to increased quality 4:2:2 10-bit edit friendly ProRes or DNxHR with file naming and metadata. Outside of recording to these advanced codecs, Shogun Studio offers numerous advanced record modes not previously available in other rack mount DDRs.

- i) Continuous Record – combines the dual recording channels into a single record channel that will automatically switch over when the disk is full. Allows for drives to be replaced without any down time in recording, perfect for long form sports or live event recording.
- ii) Dual Record – creates a dynamic link between both recorders allowing for simultaneous recording in a Master and Slave setup. This function provides the ability to create Dual Codec recording for online and offline workflows as well as Dual resolution recording for 4K Masters and HD deliverables or the creation of dailies with burnt in LUTs.
- iii) Pre Roll - continually cache record 8 seconds in HD or 2-3 seconds in 4K to make sure you never miss the action.
- iv) Time Lapse – define your own capture sequences with flexibility over time lapse settings including up to 10 sequences, scheduled start time and motion blur – perfect for creating behind the scenes content for live or sports events.

IMAGE ANALYSIS & QC

The 7" Monitors provide accurate REC.709 viewing of content as well as a host of tools for image analysis. Wave Form Monitors – offer Luma Parade, RGD parade, Vector Scope with Vector zoom.

1:1 and 2:1 zoom – allow for operators to punch in to check shots for focus, exposure and which is perfect when used in combination with a remote camera control

unit. **Focus peaking, zebra and false color** – allow for further image QC checks to be remotely monitored in conjunction with control via a separate camera control unit. **LUTs** – use LOG outputs from the camera to increase the dynamic range and bring increased definition in highlights and shadows in post production. **Audio monitoring** – providing VU meters for up to 12 channels of embedded audio with the ability to monitor individual tracks and select which tracks to record.

METADATA TAGGING, CUT EDITS & EDL XML

Make editing decisions on the fly and in review with a choice of 10 tags. You can start to mark clips while you record and then review, cut and tag in playback mode. Assemble clips to create a play list of your favorite clips and instantly push these out to live screens, director's viewing monitors, galleries etc. Marked in and out points are carried right through to post production with the export of edit decisions as XML that can be imported with clips in to Apple, Avid or Adobe NLEs. Scene, shot and take naming criteria allow for storage management systems to identify clips and start to orchestrate projects or even create pre populated bins.

PLAYBACK & PLAYLIST

Complementing the recording and monitoring capability is the ability to play out 4K and HD content in the same visually lossless quality as the input. Playlists can be created from clips either recorded on an Atomos recorder or from your edit system in a supported codec, resolution and frame rate. Grouped clips can be played in either a run down or reverse order without the need for a separate playout server. Mark in and out points to create sub clips, loop the playlist or in single clips mark in and out points for looped play back.

WORKFLOW

PRO AV

With playlist functionality & control via RS422, Ethernet or on screen, the Shogun Studio is an affordable 4K & HD play out engine for video walls, signage and projection. Additionally, with dual channel play out capability over HDMI or 1.5/3/6/12G SDI, Genlock and 4K to HD down scaling the Shogun Studio can be used to provide synchronized 4K, 2K and HD simultaneous play out to high resolution projector or signage systems.

MOBILE PRODUCTION

With rack space at a premium and resolution on the rise, Mobile Production professionals will welcome the ability to record, monitor, test, measure, convert and play out from a single 3RU device. Dual codec, dual resolution recording maximises the flexibility in mobile situations. Combine the ability to record 4K resolution ISO feeds with a hardware down converted HD proxy version, record ProRes on one channel and DNxHR on the other or even playback and convert from one codec/resolution combination to another. Connecting to infrastructure is simple as well with built-in HDMI and SDI conversion that is bi-directional. Shogun Studio is ready for the 4K future, but 4K acquisition doesn't have to mean 4K delivery – when 4K can be achieved on a HD budget and you have the capability to downscale or record codec to suit you have the perfect product now and for the future in the tight space of Mobile production.

EVENT

Shogun Studio solves many of the problems faced by multi camera events with long run times. Our Master Caddy delivers affordable & reliable media while features like time lapse, pre-roll cache & 4K/HD simultaneous recording make this the perfect choice for Event professionals. Our open approach with media means you record up to 2.5 hours of 4K 30p or 5 hours of 1080p60 onto a single 1TB SSD, keeping media costs low. You can also link the two channels to utilize continuous recording. The Shogun Studio has the ability to then monitor the input, view waveforms/ scopes, setup complex time lapses and simultaneously record a proxy - under pinned with the safe guard of pre-roll cache recording (8 sec for HD / 2 sec for 4K) to ensure you never miss the action. You can even record presentations from PC, MAC and Mobile devices.

SECURITY

In security applications a wide angle lens on a 4K camera can mean a single camera replaces the equivalent of 4 x HD cameras. The Shogun Studio, with its long record time, time lapse and monitor zoom capability makes it the perfect weapon for 4K security applications. In ProRes LT at 25 FPS the Shogun Studio can record 6 hours of Ultra High Definition 4K per channel, this not only provides superior resolution but also an increase in the number of frames captured per second providing a more finite approach to high resolution security recording. In applications where the additional frames aren't important, the timelapse functionality can be set up to record specific frames at specific points over a specified duration. All of this can be reviewed on the dual 7.1" Full HD monitors and easily zoomed in for closer inspection of areas of interest.

ON SET / DIT

Shogun Studio in the rack of a DIT cart arms the set with the fastest path from acquisition to editing by recording direct to 10-bit 422 ProRes or DNxHR. The 3RU chassis provides dual record channels and class leading monitoring with test measurement for the highest quality 4K/2K/HD recording and setup.

For color analysis, the RGB and Vector scopes provide real time feedback and can be overlaid in several positions on the color accurate 7.1" 323ppi Full HD monitor. You can double check focus pulls with 2:1 zoom, focus peaking with edges only view and 8 LUT slots on board plus an infinite number on disk. These decisions can be made with the confidence you are using a 100% sRGB factory calibrated monitor that can be calibrated in the rack using the optional Spyder unit. Outside of monitoring, DIT's can start the editing process on set with favorite and reject tagging to start the formation of playlists and edit decisions for XML export.



SHOGUN STUDIO SPECIFICATIONS

Weight & dimensions			Audio in/out (48kHz PCM audio)		
Weight	5.0kg / 11lb		HDMI	2 or 8ch 24-bit, camera dependent	
Rack height	3RU		SDI	12ch 48kHz 24-bit	
Rack mounting	Removable rack ears		Analogue audio	2 x XLR in & 2 x XLR out on rear per record channel. Mic or line level with phantom 48V	
Dimensions (W x H x D mm)	447 x 152 x 251mm, 17.6 x 6.0 x 9.9" (without rack ears) 490 x 152 x 251mm, 19.3 x 6.0 x 9.9" (with rack ears)		Processing	Gain control on line in & headphone output	
Construction	Steel construction for durability		Maximum audio quality	24-bit, 48kHz	
Cooling	Actively controlled fan with heat sinks		Audio delay	Delay setting +1 to 99 frames	
Power			Remote control		
Operating power	20 - 60W		HDMI	Auto HDMI Trigger Supported Protocols - Canon, Sony, Atomos Open Standard	
Redundant PSU	Yes		SDI	SDI trigger camera selectable	
Compatible batteries	No		RS422	RS422 machine control	
Input voltage (battery)	-		AMP	via Ethernet RJ45 10/100	
DC Out	No		Serial	Calibration (front)	
Continuous power * Patent pending	-		Timecode		
Touchscreen			HDMI	Embedded timecode from camera or video device	
Size	7.1"		SDI	Embedded timecode from camera or video device	
Resolution	1920 x 1200		LTC In	Yes (LTC loop back)	
PPI	320		GenLock In	Yes (GenLock loop back)	
Aspect ratio	16:9 native		Playback		
Color standard	Rec.709 HDTV		Playlist	Yes (run down or reverse order) for selected, favorite or all clips	
Look up table (LUT) support	3D LUT (.cube file format)		Playback options	Loop in & out markets	
Technology	SuperAtom IPS panel (capacitive touch), calibration to Rec.709 with optional Atomos Spyder		Recording		
Video analysis tools	Luma waveform, RGB parade, Vectorscope, Vectorscope zoom		Dual channel	Record 4K master with HD proxies. Record both ProRes & DNxHR versions, independent dual channel record.	
Calibration	Calibration in factory to Rec.709, in field calibration with optional Spyder		Continuous record	Single channel 4K / HD recording automatically switches between drive when at capacity	
Video input/loop out			Pre-roll record	Yes (HD 8s, 4K 2s)	
HDMI	1 x HDMI (1.4b) per channel		Custom timelapse	Yes (Key frameable up to 10 video and single frame Intervals, can be triggered from internal clock).	
SDI	1 x 4K-SDI 12G/6G or HD-SDI 3G/1.5G (SMPTE) per channel		Meta data tagging	Yes (10 tags available)	
Signal	Uncompressed true 10-bit or 8-bit 422 (camera dependent)		Recording media		
Video output (play out)			Drive slots	2 (1 per record channel)	
HDMI	1 x HDMI (1.4b) per channel		Drive connection types	SATA	
SDI	1x 4K-SDI 12G/6G or HD-SDI 3G/1.5G (SMPTE) per channel		Supported media (Approved List Only)	4K / HD (50/60/120p*) CFast 2.0, SSD 2.5", HDD (HD 50/60 only - 7,200 up to 1080p60) HD CFast 1.0, SSD 2.5", HDD (5,400 up to 1080p30)	
Signal	Uncompressed true 10-bit or 8-bit 422 (playback file dependent)		Master caddy case	Master Caddy II (included) 75mm x 105mm x 12mm	
Supported formats (Record & Playback)			Master caddy dock	2.5" SATA to USB 2.0/3.0	
4K - DCI RAW 4096x2160 to Supported cameras; Sony FS700, FS7 Canon C300MKII, C500	Apple ProRes HQ, 422, LT	DNxHR HQX, HQ, SQ, LB	Supported applications	FCPX/FCP7+ / Media Composer 5.0+ / Premiere 5.5+, EDIUS 6.0+ / Vegas Pro 10+ / Lightworks / Autodesk Smoke 2015	
4K-UHD 3840x2160 8/10-bit 4:2:2 to	Apple ProRes HQ, 422, LT	DNxHR HQX, HQ, SQ, LB	XML support	FCPX XML native, FCP7 supported with conversion (Adobe compatible)	
1920x1080 8/10-bit 4:2:2 to	Apple ProRes HQ, 422, LT	DNxHD 220x, 220, 145, 36	Accessories included	Shogun Studio unit, 2x Rack ears with screws, 5x Master Caddy II 4x Rubber feet, 2x Large rubber feet, 2x IEC power cable, 1x Screen cleaning cloth	
1280x720 8/10-bit 4:2:2 to	Apple ProRes HQ, 422, LT	DNxHD 220x, 220, 145, 36	Optional extras	Master Caddy II x 5, Spyder calibration	
Onboard processing			Warranty	1 year. Extended to 3 years on product registration	
Pulldown removal	24/25/30pSF > 24/25/30p (2:2 pulldown) 60i > 24p (3:2 pulldown)				
HDMI <> SDI conversion	Yes - Always on				
4K - UHD to HD downscale	On HDMI/SDI loop out (Rec & Payout)				



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