



SHOGUN STUDIO 2

3U Dual Channel 4K / Multi HD ISO Monitor Recorder



Features and functionality are compacted into 3U of rack space that could previously require over 10U

- **Dual 4k p60 recording** (1 x input per channel)
- **Up to 8 channel of 8 x 1080 p60 ISO as and switched program output** (4 x per recorder channel)
- **Bi-directional SDI ↔ HDMI conversions with support for Quadlink SDI inputs simultaneously output to 12G SDI and HDMI 2.0**
- **4k to HD down convert on loop out with DCI crop option**
- **Color Pipeline management with real-time transforms between Log, HDR Standards** (Rec.2100 - HLG, ST.2084 and Dolby Vision)
- **Built in 3D LUT box for monitoring, loop out and burn in**
- **Raw to Video input conversion for Raw Masters with downstream video outputs, ideal for Panasonic CineLive applications**
- **In-Rack HDR monitoring on 7" 1500 Nit screen with 360 backlight zones**

Following the same core Atomos principles of Record, Play, Monitor and Edit, the Shogun Studio 2 allow you to overcome many of the challenges faced with in live events, production galleries, post production facility MCR, video wall payout, on set DIT, sports officiating and many more.

Atomos have defined the ability to migrate away for MPEG based GOP codecs with high levels of compression and reduced color accuracy by capturing content direct from the sensors of any camera that outputs a clean feed such as studio camera channels, Remote Pan Tilt Zoom and TX outputs from vision mixers. This also includes RAW outputs from large sensor cinematic cameras into highly efficient ProRes RAW codec or visually lossless industry standard Apple ProRes and Avid DNx edit ready codecs.

Master your rack

The 3RU form factor offers a toolset beyond that of a simple recorder with features that could traditionally require up to 10u of equipment. It's short rack depth also means that it's perfect for use in monitor bridges or small more mobile OB vehicles.

HDR and color pipeline management

Supporting Log inputs from all major camera vendors to provide options for use of 3D LUTs with included Log to 709 and support for up to 8 .cube files per recorder channel.

The built in AtomHDR engine also provides support for Rec.2100 standards with options to monitor in HDR for LOG, HLG and PQ with output transfers to color gamuts, HDR monitoring with EOTF transform on output options for HLG, ST.2084 PQ in Rec.2020 or DCI-P3. Realtime Dolby Vision output tunneling allows for inputs to be dynamically out put to supported HDR consumer TVs for client viewing, Gallery viewing or infield QC before final mastering via the Dolby eMCU in Post.

Video, audio and synchronization I/O

The rear of the Shogun Studio 2 provides grouped connectivity for each of the recorder channels with 12G, 6G, 3G (single, Dual, Quad) and 1.5B SDI I/O, HDMI with support for both the inputs and outs along side XLR audio I/O, Genlock and LTC input as well as loop through.

Bi-directional SDI & HDMI signal converters easily allowing the use of HDMI equipment such as DSLRs on input for routing to a mixer or LCD screens in the gallery to take a feed from and SDI multi viewer. Built into the IO are 4k to HD signal down convert on both SDI and HDMI.

Redundant Dual Power Supply balance the power load and are lined to the user interface to provide warning if a PSU fails.

Advanced record modes

Beyond a simple recorder, the Shogun Studio 2 offers a number of different record modes that make it suited for a wide range of uses

Pre Roll: Continually cache record 8 seconds in HD or 2-3 seconds in 4k to make sure you never miss the action.

Multi Camera ISO recording and Switching: Record up to 8 SDI inputs from cameras at up to 1080 p60. Each bank of 4 inputs also benefits from a switched output allowing you to have 2 video switched or manage more feeds than you may have input for on your video mixer.



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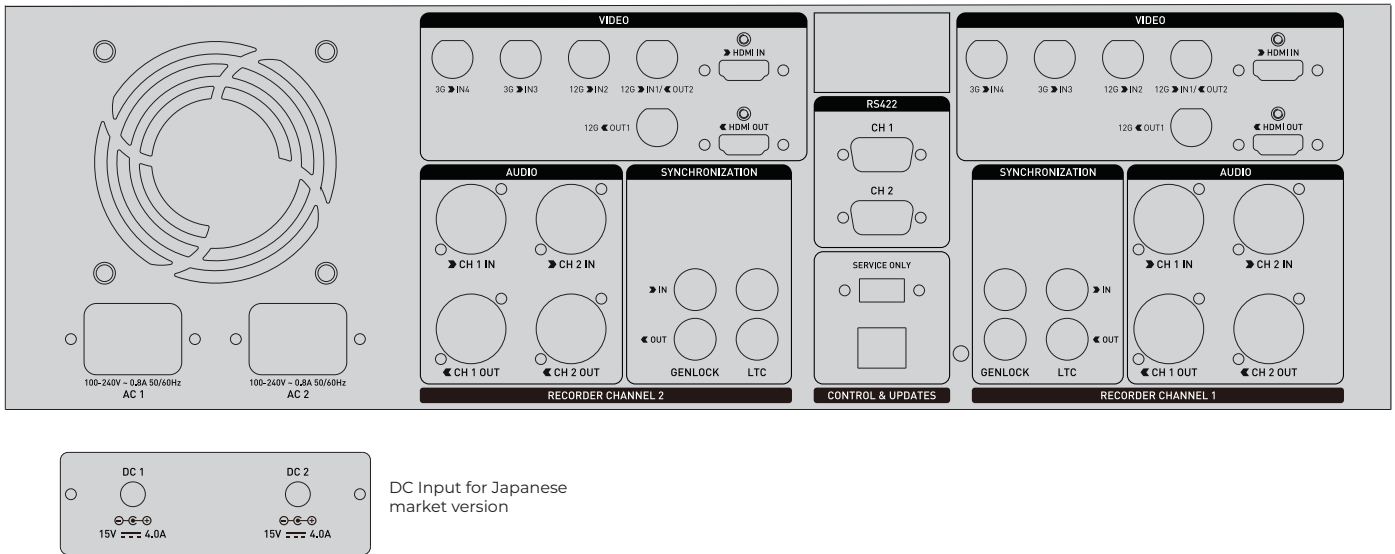


Image Analysis & QC

- **The 7" Monitors provide accurate viewing** of content as well as a host of tools for image analysis.
- **Wave Form Monitors – offer Luma, RGB 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 from a distance in conjunction with control via a separate camera control unit.
- **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.

Fast Act Dual Record Button

The Shogun Studio 2 also includes a hardware button that allows for both channels to be set to start recording. Pressing the button on the front of the unit for 4 seconds will set both channels to start to record.

With SSDs inserted and sources connect you can switch from playing back clips to dual recording in under 10 seconds or even if the devices is not turn on to jump to recording from a cold boot in under round 20 seconds.

Metadata tagging, Cut Edits & EDL XML

Atomos improve the speed of your end-to-end workflow, allowing for fast turn around of content, edits, highlight packages, creation of dailies and preparation of content for ingest into Media Asset Management environments.

Make edit decisions on the fly and in review with a choice of 10 tags. You can start to favorite or reject clips while you record and then Review, cut and tag in playback mode. Assemble clips to create a linear playlist of your favorite clips and instantly push these out to live screens, directors' viewing monitors, galleries etc.

Marked in and out points are carried right through to your edit with the export of edit decisions lists in XML that can be imported with clips in to Apple or convert the XML for use in Avid or Adobe. 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 record and monitoring tools are the ability to play out at up to 60p and HD HFR rate at reduced speeds. 4k and HD content in the same visually lossless quality as the input. Play lists can be created from clips either recorded on an Atomos recorder or from your edit system in a supported codec, resolution and framerate. Group clips to be played in either a run down or reverse order with out the need for a spate playout server. Mark in and out points to create sub clips, loop the playlist or a single file or for single clips mark in and out puts for looped play back.

SHOGUN STUDIO 2 Technical specifications

| Weight & dimensions | |
|------------------------------------|--|
| Weight | 5,0kg / 11lb |
| Rack height | 3Ru |
| Rack mounting | Removable rack ears |
| Dimensions (W x H x D mm) | 447 x 152 x 280mm, 17.6 x 6.0 x 11.0" |
| | 490 x 152 x 280mm, 19.3 x 6.0 x 11.0 (including rack ears) |
| Construction | Steel construction for durability |
| Cooling | Actively controlled fan with heat sinks |
| Power | |
| Operating power | 20-86W |
| Compatible batteries | No |
| DC Out | No |
| Touchscreen | |
| Size | 7.2" |
| Resolution | 1920 x 1200 |
| PPI | 325 |
| Aspect ratio | 16:9 native |
| Color Gamut | Up to Wide color gamut (105% DCI-P3) |
| Look up table (LUT) support | 3D LUT (.cube format) |
| Anamorphic de-squeeze | 2x, 1.5x, 1.33x, Panasonic 4:3 |
| Technology | Dynamic AtomHDR zoned backlight |
| Dynamic AtomHDR Technology | |
| Backlight | Direct LED |
| Zones | 360 direct backlight individual LEDs |
| LEDs | Wide Color Calibrated D65 or D95 |
| Bit depth | 10-bit (8+2 FRC) |
| Color | DCI-P3 105% |
| Brightness | 3000nit (+/- 10%) |
| Control | On the fly real-time brightness analysis for LED control |
| HDR Conversion | Log/RAW to HLG or PQ, Dolby Vision Loop out |
| HDR Monitoring Technology | |
| Gamma | Sony SLog / SLog2 / SLog3 Canon CLog / CLog2 / CLog3 ARRI Log CEI160 / LogCEI200 / LogCEI250 / LogCEI320 / LogCEI400 / LogCEI500 / LogCEI640 / LogCEI800 / LogCEI1000 / LogCEI1280 / Log-CEI1600 Panasonic Vlog JVC JLog1 RED Log3G10 / RED LogFilm / Fujifilm F-log / Nikon N-Log PQ10k and HLG |
| Gamut | Sony SGamut / SGamut3 / SGamut3.cine Canon Cinema / DCI P3 / DCI P3+ Nikon BT2020 Panasonic V Gamut Arri Alexa Wide Gamut Rec709 / BT2020 JVC RED WideGamut / RED DragonColor / DragonColor2 / RED Color2 / RED Color3 / RED Color4 |
| Video Input/Loop Out (Per Channel) | |
| HDMI | HDMI 1 x HDMI (2.0)** |
| SDI | Quad Link 4 x 3G/6G SDI*, 4 x 3G-SDI, 2x 12G single link SDI |
| Signal (camera dependent) | Uncompressed true 10-bit or 8-bit 422 |
| LTC (Record Mode Only) | LTC input signal and loop out |
| Genlock (Playback Mode Only) | Genlock input signal and loop out |
| Video Output | |
| HDMI | 1 x HDMI (2.0)** |
| SDI (Play Out) | 1 x Single link SDI 12G/6G/3G/1.5G, Optional 2nd SDI output available in Playback mode |
| Signal | Uncompressed true 10-bit or 8-bit 422 (playback file dependent) |
| Video Signal Conversion | |
| HDMI to SDI | 720p 50/60, 1080i 50/60, 1080p 24/25/30/50/60/100/120/200*/240* 2160p 24/25/30/50/60 |
| SDI to HDMI | 720p 50/60, 1080i 50/60, 1080p 24/25/30/50/60/100/120/200*/240* 2160p 24/25/30/50/60 |

| Audio In/Out (48kHz PCM Audio) (Per Channel) | |
|---|---|
| HDMI | 2 or 8ch 24-bit, camera dependent |
| SDI | 12ch 48kHz 24-bit |
| Audio | 2ch balanced XLR analogue in/out Dynamic range >90dB Max signal level +24dBu 48V Phantom Power for Mic |
| Headphone out | 3.5mm 2ch. |
| Supported Codecs & Frame Rates (Record & Playback) | |
| Raw to: | ProRes RAW, ProRes CinemaDNG (CDNG up to 30p only) Avid DNxHD |
| Sony** FS700, FS-5, FS-7, FS-7MkII | 4K DCI: 24/25/30/50/60p 4K UHD; not supported in camera 2K: 24/25/30/50/60/100/120/200/240p 1080: not supported in camera |
| Canon C300MKII/C500 CDNG | 4K DCI: 24/25/30p 4K UHD: 24/25/30p 2K: not supported in camera 1080: not supported in camera |
| Panasonic VaricamLT, EVA1 | 5.7K DCI: 24/25/30p (EVA1 ProRes RAW only) 4K DCI: 24/25/30/50/60p 4K UHD: 24/25/30/50/60p 2K: 24/25/30/50/60/100/120/200/240p 1080: not supported in camera |
| Supported base resolution & FPS from cameras | 2K DCI: 23.98/24/25/29.9/30/50/59.94/60p 1080p: 23.98/24/25/29.9/30/50/59.94/60p 1080i: 50/59.94/60i 720p: 50/60p PSF inputs converted to P but looped out as PSF |
| Supported FPS & resolution from gaming consoles and graphic cards | 4k UHD: 24/25/30/50/60p |
| Onboard Processing | |
| Pulldown removal | 24/25/30pSF > 24/25/30p (2:2 pulldown) 60i > 24p (3:2 pulldown) |
| 4K UHD downscale for HD monitoring | Yes - Loop-out and playback (Not available in all RAW modes) |
| Remote Start/Stop | |
| HDMI | Auto HDMI Trigger Supported Protocols - Dolby Vision, Canon, Sony, Atomos Open Standard |
| RS422* | 9pin transport control on qualified controllers |
| SDI | SDI trigger camera selectable |
| Other | LANC control - Slave / Calibration on front. Serial - Calibration on front |
| Playback | |
| Playlist / Genlock / LTC | Yes / Yes / No |
| CDNG (Recorded content) | No support |
| ProRes (Recorded content) | All recorded files can playback. Playback in slow motion >= 100fps. |
| DNxHR / DNxHD (recorded content) | All recorded files can playback. Playback in slow motion >= 100fps. |
| Recording | |
| Pre-roll record | Yes (HD 8s, 4K 2s) |
| ISO Record | Up to 8 streams in 60pHD in parallel |
| Custom timelapse | Yes* |
| Supported media | 2.5" SSD/HDD compatibility depends on recording format, resolution and frame rate. Visit atomos.com/drives for list of tested and approved drives |
| Master caddy case | Master Caddy II (included) 75mm x 105mm x 12mm |
| Supported applications | Final Cut Pro / Media Composer / Premiere Pro / After Effects / EDIUS / Vegas Pro / Lightworks / Autodesk Smoke |
| What's in the box | |
| Accessories included | Shogun Studio 2, 2 x rack ears with screws, 4 x rubber feet with screws, 2 x IEC power cable, 2 x HDMI cable, 1 x USB-C Dock, 1 x Master caddy II |
| Optional extras | Master Caddy II x 5, Atomos USB to Serial Calibration cable, Xrite i1 Display pro |
| Warranty | |
| Standard | 1 year. Extend to 3 yrs on product registration |

Please note: Specifications are subject to change without notice. All information correct at time of publishing. * This feature will be added in future Firmware update.

** Link between channel 1 and 2 is limited to 4kDCI at 30p ** FS700 and FS5mkii require RAW firmware upgrade. FS7 mki/ii require XDCA-FS& extension unit.