

ATOMOS SHOGUN

USER MANUAL

EDITION 1: DECEMBER 2014



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Warranty & Conditions

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1 The Shogun is designed to a high standard but there are some things you should be aware of to prolong the life of the unit and for your own safety.

6 Batteries and power supplies

6 The battery supplied with the Shogun is a powerful professional device, designed to retain enough energy to supply the Shogun for hours.

6 You should avoid short-circuiting the battery connections because this can cause a high current to flow which can damage the cells and even pose a fire hazard. For example, you should not carry batteries in a bag or pocket where they may contact other metal objects such as coins.

9 The power supply and battery charger included are intended for use with the Shogun only. Keep the power supply, plug and cable away from water and unplug from the mains electricity socket when not in use.

10 Disconnect power supplies before cleaning the Shogun or its components.

11 Using the Shogun safely

11 Although the Shogun is very lightweight compared to all the devices it replaces, it is still a solid object that could cause injury if misused.

- 12 • Always make sure that the Shogun is mounted securely and is unable to fall onto anyone nearby. This is especially important when there are children present who might be tempted to pull on cables.
- 12 • Always ensure that cable runs to the Shogun are clearly visible and do not present a trip hazard.
- 13 • Do not place on uneven or unstable surfaces.
- 14 • Do not insert anything but Shogun Master Disk caddies in the Master Disk slot on the side of the Shogun.
- 15 • Do not touch the Shogun's screen with sharp, metallic or abrasive objects.
- 16 • The Shogun can become warm or hot with prolonged use. Do not place it in contact with your lap or any part of your body where such warming could cause discomfort or injury.
- 17 • Do not expose to strong electrical or magnetic fields.
- 17 • Do not expose to or use near liquids, rain or moisture.
- 18 • Do not dispose of the Shogun or its batteries in municipal waste and do not incinerate it or its batteries, but follow local regulations for safe disposal

23 Care of disk drives

23 Spinning disks and SSDs are very sensitive to damage from static electricity. Please observe all the usual ESD precautions when handling them.

24 Please see the section Mechanical shock and vibration later in this manual for information about how to handle and care for your disk drives.

28 SDI Cables


28 Please remember that SDI cables use locking connectors and will not simply pull out if they are jerked or tripped over. They are therefore a significant trip hazard, and also a hazard to your equipment, which may be damaged if the cables are misused.

33 HDMI cables

33 Please remember that HDMI cables do not use locking connectors and will simply pull out if they are jerked or tripped over. Please ensure your cables make a secure connection and avoid flexing them excessively to maintain reliability.

User Manual Conventions

36 To keep things simple but clear, we've only adopted two conventions in this manual:

36  A helpful tip, suggestion or something to note because it's not obvious at first

Menu Monospaced text indicates a menu or touch action

Warranty & Conditions

Notice

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- the main product, not including TFT/LCD, or any external accessories, will be free from defects in materials and workmanship for a period of 1 years from the date of purchase, the user may upgrade to a 3 year warranty upon registering their product at www.atomos.com
- the TFT/LCD, batteries, battery charger, HDD/SSD docking station, Master Caddy and Carry Case will be free from defects in materials and workmanship for a period of 1 year from the date of purchase.

This warranty is exclusively for the benefit of the original purchaser and is not assignable or transferable.

If during the warranty period the product is shown to be defective ATOMOS may at its option:

- a)** replace the goods or supply equivalent ones, **b)** repair the goods,
- c)** pay the cost of replacing the goods or of acquiring equivalent ones and
- d)** paying the cost of having the goods repaired;

The customer must notify ATOMOS of any defect in the goods in writing prior to the expiry of the warranty periods set out above. The customer will be solely responsible for returning the goods to ATOMOS or its authorized distributor. Upon acceptance of a warranty claim by ATOMOS, where ATOMOS repairs or replaces the goods, it will be responsible for reasonable shipping costs incurred in sending the goods to the Customer, provided that customer is located in a country in which ATOMOS has an authorized distributor or repair centre or agent.

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- Unauthorised repairs or attempted repairs;
- Tampering with or modification of the goods;
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Registration + Warranty Upgrade

Standard warranty is 1 year. Register to upgrade your warranty to 3 years. Visit: www.atomos.com/registration

Introduction

Thank you for choosing the Atomos Shogun: your 10-bit 4K SDI / HDMI Recorder/Monitor/Player. It's the most compact portable recorder available, with excellent battery life, a super high-resolution screen, waveform monitor, vectorscope and on the fly conversion between HDMI & SDI input/output sources.

Shogun preserves the pristine uncompressed video quality from your camera's sensor by directly encoding it into Apple ProRes® or (optionally) Avid DNxHD®.

It records to HDD/SSD using the exFAT file system making it instantly compatible with your NLE timeline. The Shogun's revolutionary 'Sensor-to-NLE' workflow is the fastest and best quality available today!

With the plummeting price of hard disk storage, the 2½" disks used by the Shogun are very cheap; the cost of storage is no longer an issue. Buying a disk for the Shogun is just like buying a tape – except that with a disk you will have instant "non-linear" access to your video.

The Shogun's one-touch IPS 'SuperAtom' screen interface is intuitive and simple to use. There are no complicated menus or difficult to find functions – everything you need is instantly accessible from the home screen. Refer to 'Using your Shogun' for more information.

Software updates for your Shogun will be issued regularly. Registering your Shogun now will ensure you are kept abreast of any updates.

Software updates and information will also be available at:

www.atomos.com/support

We hope you enjoy your Shogun!



AtomOS

HDMI

HD-SDI

ProRes



Your Shogun comes with a standard 1 year warranty on all parts and accessories. You can upgrade to a 3 year warranty on the main Shogun unit alone (excluding IPS screen) by registering your Shogun online at www.atomos.com/registration

This will enable us to let you know about updates to the product and other important information surrounding your purchase.

What's Included

We try to provide you with as complete a package as possible: you don't have to add anything except 2.5" storage media (you can buy additional packs of empty Master Disk Caddies from your Atomos Reseller) and some accessories to suit your set-up, like HDMI/SDI cables and tripod screws. All other parts necessary to use the Shogun are included.



Atomos does not sell storage and your package will not contain any spinning disks or SSDs. You can buy these locally to keep running costs as low as possible.

We recommend drives, please refer to Part 16 (Technical Specifications) of this manual. For the most up-to-date information please visit:

<http://www.atomos.com/discovery-what-drives/>

Here's the complete list

1. Shogun recorder/monitor
2. 5 x empty Master Disk Caddie II's + 20 screws for fixing disks
3. Master Caddy Docking Station with USB 2 & 3 Cable (not pictured here - see page 31)
4. 9V 3A AC Adaptor for Shogun
5. Single Battery Charger including AC power adaptor
6. 9V AC Adaptor for Battery Charger (110-240V for AC operation)
7. 1 x Atomos 7.4V 2600mAh Battery
8. XLR Push pull circular break-out cable
9. Shogun Quick Start Guide (not pictured)

* Contents may differ slightly from those shown here.



What you also need

Spinning Disk Drives (HDD) up to 1080 30p/60i HD Only

These are the raw storage medium for Shogun. You can use either traditional “spinning” disks, or the new solid state drives. Choose 2 ½” spinning drives if your Shogun is going to be attached to a tripod or if it is not going to be subject to excessive vibration. For harsher conditions, choose a solid state drive.



 HDD |  SSD

Which drives should you use?

There are so many drives available, and newer models appear all the time. We are not able to test all drives but here are some guidelines.

Speed and reliability are the main factors. Here are a few things to bear in mind:

- Disk drive data rates tend to be given in megaBYTES per second, and codec data rates are normally given in megaBITS per second. It's very easy to get confused. But there's no need to be, because all you have to do to convert megabits to megabytes is divide by 8. So if you're recording at 220 megaBITS per second, that's going to result in 220/8 megaBYTES per second, which is 27.5 megaBYTES per second.
- We recommend at least 7200 RPM drives. Just remember that the higher the bitrate of the codec you're using, the faster the drive needs to be, with 4K recording your data rate doubles from that of HD recording, please ensure your drive is capable of keeping up with 4K write speed requirements.



More information regarding ProRes data rates can be obtained online from Apples ProRes whitepaper PDF document

Atomos regularly test hard drives – please check this link before purchasing drives: <http://www.atomos.com/discovery-what-drives/>

Solid State Drives (SSDs) up to 3840x2160p30

These are Flash memory devices that come in the same form-factor as 2 ½” disk drives, and they are fully supported by the Shogun.

See the section below about when you should consider using SSDs.

Master RAID Caddy

- The Atomos raid caddy is a hardware raid adapter that enables you to use 2x spinning disk or solid state drives in Raid 0 (Stripe). Raid technology allows greater flexibility in your workflow and requires two identical drives to properly function.
- Raid 0 (Stripe) is used to increase available storage whilst boosting hard drive performance, this is achieved by striping data equally across 2 available hard drives.
- When using the raid 0 configuration take extra care with your drives and ensure the hard drive or SSD is raid 0 friendly

⚠ IMPORTANT: Raid 0 offers no fault tolerance or redundancy and may increase your risk of data loss due to failed drives, please exercise caution when using the raid adapter in rugged environments and ensure you keep regular backups of recordings.

Please check our recommended drives page for compatible hard drives for use with the Atomos Shogun Raid Caddy adapter. <http://www.atomos.com/discovery-what-drives/>

Mechanical Shock and Vibration for Spinning Disk HDD's

Hard disks are precision mechanical devices that need to be handled carefully. You will be using the same type of drives that are normally used in notebook computers, and you can use this as a guide to whether you need to use mechanical drives or Solid State ones for any proposed projects. If you think a particular usage scenario would be suitable for a notebook computer, then it will probably be OK for a mechanical drive inside a Shogun. If you think the drive inside your notebook might suffer damage, then don't use a mechanical drive.

We can't give rigid guidelines because there are so many different kinds of drives, each with different mechanical properties. You may even find variations between drives of the same type.

What we have found is that mechanical drives are suitable for most purposes that don't involve harsh vibration or mechanical shocks. They will be perfect for tripod-mounting, and also for the majority of hand-held work. We would advise against hard-mounting them on moving vehicles (but they would probably be OK if cushioned against the body of the camera operator) and we would not advise using mechanical disks if there is a likelihood that they might be dropped onto a hard surface.

What you also need

Here are some things that you should bear in mind when using spinning disks:

- Even though spinning drives can withstand substantial shocks when they are not in use, they are more vulnerable when running. Harsh treatment that may not actually damage the drive may interrupt recordings at a much lower level of severity. We recommend that you experiment with your drives by testing them in the conditions that you normally work in.
- Spinning drives have a gyroscopic effect that you will feel faintly if you rotate the Shogun up or down or from side to side. They are particularly sensitive to this type of motion. If you do this too quickly while the drive is spinning, you may get a small gap in your recording.
- Be very gentle when changing batteries if you are recording. Practise this manoeuvre so that you are able to do it smoothly. It is always better to do this in-between takes.
- Do not bang or jolt the Shogun while recording. Gentle and cushioned movement may be OK.
- You will find noticeable differences in the ability of drives to withstand shock and to continue recording during vibration and movement. As we receive reports of drive durability and reliability, we will post them on www.atomos.com

File Recovery

- Your Shogun is able to detect when the drive is under stress and it will recover from any break in a recording by waiting until the drive is ready to continue, and then resuming from that point. If frames have been dropped because of shock or vibration, a "Skippy" Kangaroo symbol will appear on the home screen on the Shogun, just above the disk capacity indicator. This means that you will not normally have to restart the Shogun, even if a recording has been interrupted by mechanical disruption to the disk drive. (see *Recording and Monitoring: Atomos Anti-shock Technology* for more information)

Taking into account most usage scenarios, we think that mechanical disks will be suitable in the majority of cases. Spinning disks are most sensitive when they are rotating. It is obviously best to avoid dropping them but many disks now have a "drop detector" that will lock the most fragile mechanical parts in place and protect them from surprisingly hard knocks. We recommend that if you want to experiment with this, you do so with a drive that doesn't contain the day's shoot!

Backing up and archiving

Remember that no storage medium, including tape, optical disks, spinning disks and flash memory, is completely immune from failure.

You should bear this in mind when deciding how to manage your recorded content. At the very least, you should consider the consequences for you and your business if your storage medium were to suffer from a sudden failure, and you should back up your content accordingly. Hard drives that you can use for archiving are becoming increasingly affordable. You may find that it is completely feasible for you to keep your master Shogun disks on a shelf (just like tapes!), and, as a backup, store copies on large hard drives, RAID arrays or Network Attached Storage (NAS).

4K SDI cables (not included)

SDI cables are robust physically and electrically: you should rarely have problems with signal transmission unless your cables are either damaged or too long. Please remember that SDI cables use locking connectors and will not simply pull out if they are jerked or tripped over. They are therefore a significant trip hazard, and also a hazard to your equipment, which may be damaged if the cables are mishandled.

HDMI cables (not included)

HDMI cables are robust physically and electrically: you should rarely have problems with signal transmission unless your cables are either damaged or too long.

We recommend the use of Atomos Branded HDMI cables which provide the added benefit of



If the SDI / HDMI cable is removed while recording the "Skippy" image will also be displayed. To remove touch Skippy and he will disappear ready for his next notification.



Refer to page 25: Atomos Anti-skip Technology for more information about "Skippy".

Standard 1/4" Camcorder Mount

This must fit a standard 1/4" screw mount. Select the type that best suits your application and conditions.



3. Mounting disks in the Master Caddy II

Mounting drives in the Master Caddy II

This is simplicity itself. Just insert the disk into the caddy, and secure with four screws. The caddy is light and the disk just needs to be held securely. Don't over-tighten the screws. There are no connections to make because sliding the caddy into the Shogun or the Docking station makes all the connections for you.

The Master Caddy can't be inserted the wrong way round. Always make sure that the disk connector faces the slot in the Shogun. You have to be quite firm to push the Master Caddy into place, but don't push too hard, just in case something isn't set up or aligned properly.

There is very little that can cause problems and the most likely thing is that the Master Caddy isn't properly flush with the drive inside. A quick visual check will confirm this.

⚠ Spinning disks and SSDs are very sensitive to damage from static electricity. Please observe all the usual precautions when handling them, especially **DO NOT EVER** touch the exposed SATA connector as static electricity may be harmful to your disk.

⚠ Master Caddy II drives are backwards compatible with previous Atomos recorders, however Master Caddy 1 is not forward compatible with the shogun due to the compact latch design.

1 Carefully assemble the Master Caddy and disk

Align all parts

Insert screw

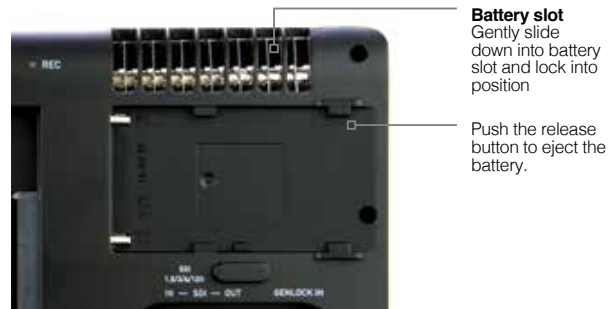
Insert screw

2 Ensure all 3 parts aligned and insert 4 x screws (supplied)

Do not over-tighten screws or alignment can not be guaranteed. We suggest squeezing the corners together near the screw you are tightening for optimal fit.

4. Connecting the Shogun and powering up

Battery



The Shogun is a battery powered device. Like all batteries, you will need to take care of them. Make sure that you don't short circuit the connections because this can result in very high currents that can damage the cells and could pose a fire hazard.

Charge new batteries before using them, using the battery charger supplied. To attach the battery, gently slide it down into the slot until it locks into position. To remove a battery, push the latch to release it.

⚠ Batteries do not charge in a linear way. At first they charge very quickly, and then the rate slows down to a trickle. While charging, one or more red lights will blink. When 90% charge is reached, all the lights will flash. It is perfectly OK to use the batteries at this point and we recommend stopping at this stage for the longest battery life. If you leave the batteries on charge after all four lights are flashing, the charger goes into trickle charging mode for the final 10%. Eventually, when trickle charging is complete, and the batteries are at 100% charge, all the lights will go out.

⚠ Before any type of disposal the battery should be discharged completely. Tape the contacts with electrical tape and package so as to prevent contacts accidentally coming together at any time.

Incineration must be performed by an approved and permitted waste treatment facility that handles lithium ion batteries. If you are not sure if your waste facility can handle lithium ion batteries, contact them and verify if they are permitted or not.

Once the Shogun is switched on, it will operate from your external DC power source if available, if no DC power source is present battery 1 will become the primary power source. Battery 1 will work as redundant power if DC power is disconnected.

To attach the battery, gently slide it down into the slot and lock into position. To remove a battery, push the release button below the battery.

To attach a DC Power source such as Power Bar, connect the DC cable to the side of the shogun.

⚠ Shogun batteries and modular accessories are held in place tightly because they are on the outside of the device, this is to ensure there is no possibility whatsoever that they could work loose, so you may have to be quite firm with the battery latches. We suggest that you familiarize yourself with the force required to remove the batteries and accessories so that you can do this quickly in the field.

The Shogun features an Atomos technology called Continuous Power which uses battery looping technology for uninterrupted switching between power sources during use.

With the optional Atomos Power Station connected to the DC 6.2v input on the shogun you will not lose power to the unit during a battery change so long as there is a single battery left attached with sufficient charge.

With continuous power technology the process of changing batteries can be repeated an infinite number of times.

⚠ The Shogun may be powered from NiMH & Li Ion 14.4V battery systems. Battery adapter required such as the Atomos battery plate or D-Tap adapter.

4. Connecting the Shogun and powering up



Turning OFF power via touchscreen



Turning ON power to the Shogun

The start button is located on the top right hand side of the unit (as you look at the screen). Momentarily press the circular button on the top right side of the Shogun as you look at the screen to power up the unit. After a couple of seconds you will see the Atomos logo, and then the Shogun Home Screen.

Turning OFF power to the Shogun

To turn the unit off, touch **menu** on the home screen, and then **press the red Power off icon for 3 seconds** the icon will go white when touched to indicate activation of the button. The unit will then power off. You can also do a forced power down by **depressing the on/off button for three seconds**.

Three seconds can seem like a long time! We've made it this way to make absolutely certain that the Shogun can't be turned off accidentally.



Tally Light
Flashes red when recording

Battery latch

5. Shogun Connections

The Shogun is equipped with the following interface connections

HDMI in: The video input connection used to record to the Shogun's storage media

HDMI out: This is for connection to an external monitor or other device with an HDMI input. It carries a delay-free loop-through of the incoming HDMI or SDI signal in record and standby mode, and the playback signal when the Shogun is in playback mode.

LANC Remote / Serial : In addition to direct control through SDI or HDMI, you have the option of controlling the Shogun remotely using the LANC remote control protocol. The Shogun has a LANC input and a 2.5mm 'Y' adaptor cable is included to allow you to connect LANC- controllable devices. This connector is also a serial port used for computer.

Audio: The Shogun can record 12 channels of digital audio embedded in the SDI signal, and 8 channels of digital audio embedded in the HDMI signal.

There is also a 3.5mm output that doubles as a Line Out or Headphone Out, which has its own independent level control in the user interface.

Audio XLR Connector: The XLR Connector with Atomos XLR breakout cable features

- 2 analogue Line in channels (Adapter required)
- 2 analogue line out channels (Adapter required)
- Mic Level Inputs with 48v Phantom Power

4K /HD-SDI in: The video input connection used to record to the Shogun's storage media.

4K /HD-SDI out: This is for connection to an external monitor or other

device with an SDI input. It carries a delay-free loop-through of the incoming SDI or HDMI signal in record and standby mode, and the playback signal when the Shogun is in playback mode.

GENLOCK IN: Genlock is short for "Generator Lock" in video systems. The Genlock feature locks the internal timing system in a video device to an external reference signal.

Gen-locking has been a common practice in video production equipment for many years. It is a video system necessity in video production use where the playback of a video device or

deck is locked to this external reference signal so that the playback output can be synchronized across several playback decks or devices.

The Shogun's Genlock input can accept a standard composite video signal such as a Black Burst signal, which has also become to be known as a bi-level reference signal. The Shogun can also utilize the much more modernized version of signal reference being a Tri-level reference signal used in high definition video synchronized systems.

Once Shogun is Gen-locked to the external reference signal through its Genlock input, its playback output is synchronized to this common reference source. This can be done across multiple Shogun units and ensures proper deck use with Switchers and Vision Mixers in live events & mobile production studios. Having all the inputs synchronized at the video Switcher allows the Switcher to operate glitch free when making transitions, cuts, and graphic overlays between those synchronized inputs.



6. Master Caddy and Screw Mounts

Master Caddy II Slot


On the rear of the unit is a 2.5mm HDD slot for Shogun Master Disk Caddie II's. To insert a caddy, gently push until it clicks into position.

Formatting disks - see page 12



Master Caddy II - New 2 keyway system


The Master Caddy II is hot-swappable, so you can do this at any time – even while the unit is turned on. But don't do it while recording or you will get a corrupted file that may be unplayable.

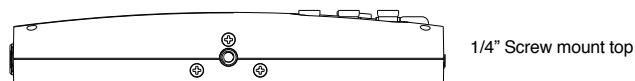
 *The Shogun does NOT have a release latch - it is friction-fit. Simply pull the Master Caddy out using the top and bottom tabs on the caddy itself.*

Master Caddy II is backwards compatible with previous Atomos recorders Master Caddy 1 is not compatible with Shogun as the keyways are on one side only.

Screw Mounts

The Shogun features standard tripod 1/4" screw mounts on the top and bottom of the unit, allowing you to configure your recording setup various ways (1/4" camcorder mount not included in Shogun kit).

 *Ensure you do not over tighten the screw mounts as this may cause damage*

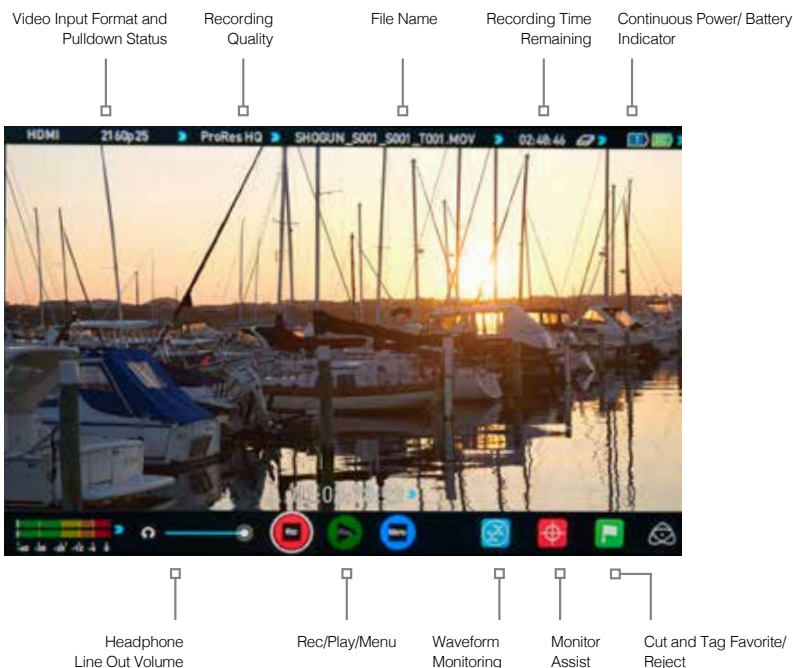



7. Using the Shogun

The Shogun is controlled via an intuitive touchscreen interface. Icons and buttons have been designed and laid out in a specific way to ensure operation is simple and fast.


The high definition 1920x1200 Home Screen displays all necessary technical and functional information.

The Record menu to the bottom of the screen is 120px allowing a full uncluttered 1920x1080 image to be visible on screen. Everything important for operation and adjustment is no more than one touch away. Here is how it works:



 *Touching the center of the screen at any time removes all overlays except any active Shot Setup or Monitor assist functions that are enabled. This is to allow you to use the Shot Setup and Monitor assist functions at all times while shooting.*

1 Category 1 – Operating Settings

This list of real-time operating settings can be adjusted or toggled WHEN a BLUE ARROW  is present. If the Blue arrow is disabled, the setting cannot be adjusted.

- | | | | |
|---------------------|----------------------|-----------------------|--|
| 1. Video Input | 3. Recording Quality | 5. Battery Indicator | 7. Audio Channels and Levels |
| 2. Recording Format | 4. Time Remaining | 6. Time Code & Record | 8. Headphone/Line Out Volume (Slider only) |

2 Category 2 – Shot Setup & Monitor Assist Tools

This list represents the icons and functions available for Shot Setup and Monitor Assist Tools:



Waveform Monitoring Functions
See page 21




Monitor Assist Functions
See page 23



Smart Log Cut and Tagging
See page 26

Touch these icons to reveal more functional options in a sub-category. Touch the sub category icons to toggle the functions on or off. When a Shot Setup or Monitor Assist function is active, detailed settings for each Shot Setup tool are also available from this panel.

Touch the  icon to go back to the Home Screen at any time.

3 Category 3 – Main Controls REC, PLAY & MENU

The Main Controls of the unit are indicated by large round icons.



To enable recording
See page 13



For instant playback and review
See page 13



To make settings changes
See page 13

7. Using the Shogun cont.

Home screen and menu functions

Rec (Record)

This is the icon you touch to begin a recording. Touch it again to stop a recording. While recording the Rec icon changes to a Stop icon and a red frame is present around the screen.

Standby




Recording



No input



 *The Rec icon is dimmed and disabled if there is no valid video input OR, the disk is not formatted, or the disk is full. The button is dimmed because you cannot record.*

Play

Touch this icon to play previously recorded clips. When you press the green Play button you will be taken to the navigation screen.

Standby




Navigation



Shogun uses a unit name, scene, shot and take convention to name the clips. Select the clip you want to play by touching the file name and this will start to playback.

No disk

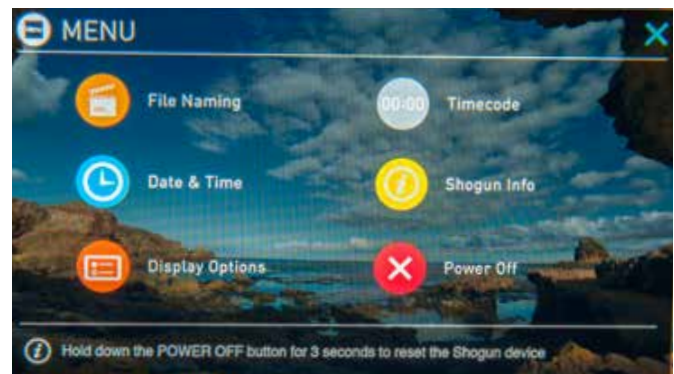


 *The Play button will be dimmed and disabled if there is no disk or the disk is not formatted.*

See page 13 - Formatting disks

Menu

Pressing this takes you into a number of options which will explained next.



7. Using the Shogun cont.



File Naming

Allows you to select the scene and shot number that will be recorded as well as change the unit / media name. To change the unit name tap the arrow under UNIT/MEDIA NAME, Use the left and right arrows to select a letter, and the up and down arrows to change its value.

To modify the scene and shot number under CONFIGURE FILE NAME, select plus or minus next to scene or shot (up to 999). The number you choose will then be shown in the file name at the top of the screen during recording, the take number is automatically increased with each take.



Date & Time

Allows you to adjust the date and time shown by the clock and calendar in the Shogun. This will also change the time of day timecode. Touching the Date & Time takes you into the Date and Time Screen.

Date formats (i.e. dd-mm-yyyy or mm-dd-yyyy) are selectable by tapping the blue arrow on "Select Date Format" Menu. Simply keep tapping until the desired format is shown. The Time, Month, Day and Year are selectable and can be modified by clicking the blue plus and minus icons next to the desired fields.



Display options

Allows you to modify display settings and screen orientation.

While Locked

Display is ON ➤ display stays on while screen is locked
 Display is OFF ➤ locking the screen switches off the LED display.

While Locked Display is Off > improves battery life whilst the display is locked and may assist with lowering the unit temperature in warmer environments. Tapping the display will switch it back on momentarily. Short Tap the power button to lock or unlock the display

Tally Light

➤ On / Off Toggles the Active recording indicator light

Brightness

➤ Touch and drag anywhere along the horizontal slider to adjust brightness levels.

Adjust Screen

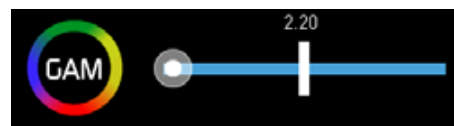
Rec. 709 Screen Adjustments and C-Log Display

From here you can apply screen color adjustments of Gamma, Y Lift and Y Gain. Canon C-Log users will enjoy the on screen C-Log color display. With one simple touch, switch instantly between Rec. 709 and C-Log.



To restore default values simply press

Press to return to the main menu



7. Using the Shogun cont.



Lock the Display Screen

You can lock the display of the shogun so that no changes can be made by mistakenly touching the screen, to lock the shogun simply short tap the power button

Short tap the power button again to unlock the unit

Only use this option if your camera model is listed.



UNLOCKED



LOCKED



Timecode

Takes you to the dedicated timecode configuration page.

Refer to Part 7 of this manual for more information.



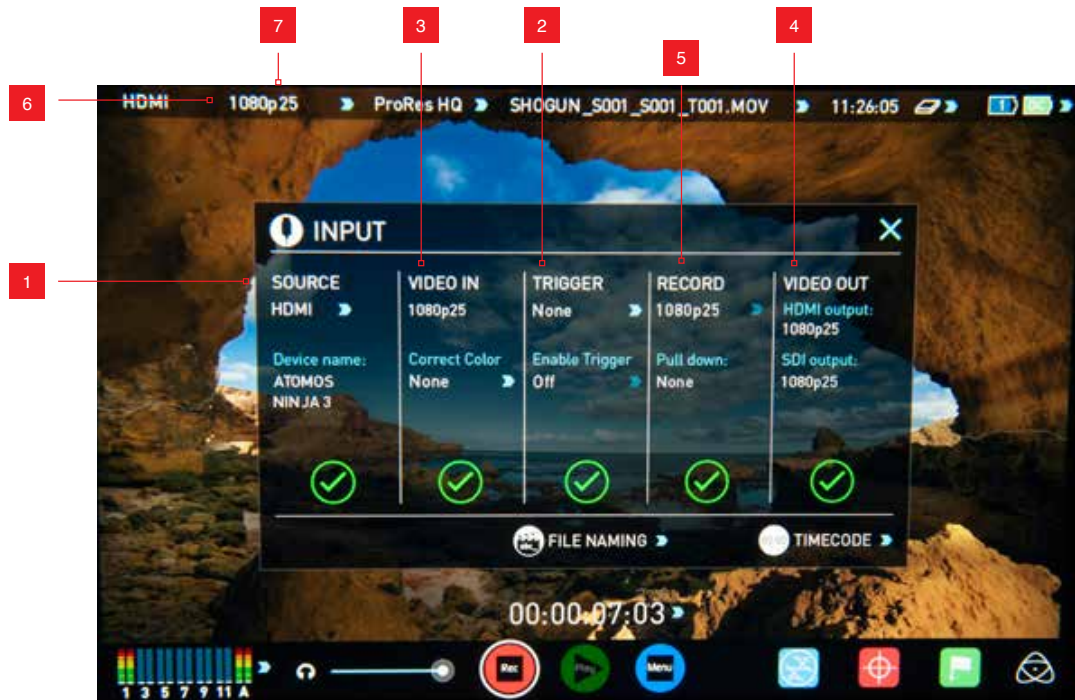
Shogun Info

Shows the software (firmware) version and unique device ID (DID) of your Shogun device. This will be required to activate the Avid DNxHD codec. You can also check on the Atomos website to ensure you are running the latest firmware: <http://www.atomos.com/support>

Remember that pressing a large blue arrowhead will always take you back to the previous menu.



7. Using the Shogun cont.



1. Source

Displays the input source currently being recorded to the media inside the shogun, simply tap ➤ to toggle between HDMI & SDI. You can have both HDMI and SDI inputs connected at the same time and use this menu to toggle between active inputs. HDMI Devices will display an EDID Device name if the information is available from the HDMI device connected.

A green tick on Source indicates the shogun has locked signal on this input, a red cross indicates a signal or lock issue with the attached device, double check your cable and output setting.

2. Trigger

Select your primary record trigger source. HDMI, SDI and Timecode triggers can be activated from this menu by toggling Enable Trigger to ON. Please refer to section 9 for more information.

3. Video Out

This menu displays the active frame rates being output from both HDMI and SDI outputs.

4. Video In

Displays the current input resolution of the selected input source.

A green tick indicates that the input resolution is compatible and that the shogun has locked onto it.

A red cross indicates an issue with the input signal, please check your cable and device output settings.

 For more information on Pulldown please view section 10

 For more information on the timecode menu please view section 9

5. Record


The record menu allows you to toggle between available frame rate options based on your current source input. If recording from a source that applies pulldown to the output signal, pulldown removal can be applied on the fly to the recording. Pulldown removal requires movement in the frame to accurately lock signal, simply wave your hand in front of the camera to achieve lock.

6. The Input Menu

Simply tap the source input menu to the top left of the screen to bring up the input control panel. This panel will be a command centre for all devices connected to the shogun and will assist you with connectivity by indicating if the signal is active or if attention is required.

7. Shogun Screen Controls

There are a number of indicators on the home screen that double up as controls, tapping these indicators will bring up the following control menus

 **IMPORTANT:** For HD only. You need to match the format you are recording internally on the camera with the format recorded on the Shogun.

If you are recording 24p internally on the camera you need to record 24p on the Shogun so the recordings match. The shogun will automatically detect the output frame rate from the camera, if pulldown removal is required tap the frame rate displayed under record to toggle available pulldown options. The basic rule is match the format of the internal recording on the camera (not the external output of the camera). For more explanation on choosing the correct format on the Shogun and the relationship to camera internal format and output format refer to Section 10 – Pulldown.

7. Using the Shogun cont.

8. Battery Indicator

Shows whether you've got one or two batteries connected, this includes DC connections from external power sources. If there is no Battery connected a number will not be displayed in the appropriate slot. Touching the Battery Indicator takes you to the Batteries screen where you can closely monitor the status of the Batteries.




 When a battery is running low its icon will flash.

Batteries Screen

The Batteries screen indicator is made up of two Battery icons, the active battery is shown in orange and the level of each battery is shaded in 1/4 increments with a voltage level shown on top.



In the picture above we see Battery 1 is full and active and Battery 2 is currently inactive and 1/4 depleted. If no battery is present it will show an X in the picture and will be Black in colour as pictured left.

 **Warning: If both of the batteries are fully depleted, the unit will turn itself off.** The Shogun will switch to the battery screen for the last 5 seconds of available power before shutting down, alerting you that shut down is about to occur.

Auto Switching/Manual Switching

The Shogun will automatically switch between connected power sources when the source in use is depleted. ie: DC > Battery auto switches.

9. Storage Capacity Indicator

Located in the top right of the screen. When a disk is inserted, the Storage Capacity Indicator will show the recording capacity of the drive in hours minutes and seconds, based on the currently selected video compression, which of course, will determine the recording bitrate.




Formatting HDD/SSD

Touching the Storage Capacity Indicator on the home screen will take you to the Media Information and Format screen. Media Information indicates the drive you have present, in this case a Hitachi 500GB spinning disk. Touching Format HDD/SSD will format the drive inside the Shogun. A confirmation screen will give you the choice to continue or cancel the process.

If you do not see your hard drive information, there may be a problem with your connection. Try ejecting the drive and trying again or switching the unit on after inserting the drive.

Please check the drive compatibility list prior to purchasing drives:
<http://www.atomos.com/discovery-what-drives/>

 The Shogun file system is exFAT. We recommend that you format each disk with the Shogun and not your computer to ensure the correct parameters are set with the file system.

Unit Name



To access the unit name click the file name indicator from the home screen, then Unit Name.

The unit name serves two main purposes:

- **HDD Naming:** Naming the unit names the drive if the drive is formatted after the unit name has been set
- **File Naming:** File name is the current unit name as the start of the recorded clip name; SHOGUN_S001_S002_T003

To access the unit name screen simply touch the blue arrow to the right of the unit name. Creating your own unit name by arrowing the letters in. Pressing OK will allocate the new unit name and return you to the menu screen.

7. Using the Shogun cont.

10. Monitoring & Recording Audio Channels

Located on the bottom left corner of the home screen you will see the Audio panel and quick headphone volume adjustment bar.

Tap the audio bars to bring up the audio panel.

From this panel you can manage up to 12 digital channels (via SDI input) and 10 digital channels (via HDMI input) as well as 2 analogue audio channels (via the XLR Mic/Line in).



Recorded digital audio inputs work in correspondence to the video input source selected from the Input Menu, Analogue Line In is available to both selectable inputs. An active video input is required to record audio.

Each channel has a level meter assigned to Left & Right Channels; when there is active audio feed you will see the level indicator moving.

You can choose to record from any or all of the digital (SDI or HDMI) channels from the active source input as well as analogue inputs. Underneath each pair of audio channels you can see the **Rec** record button, when this is shown in red it is set to record, simply select the channels you want to record.

The Analogue audio input level is located to the far right, tap **Rec** to record this channel (XLR Line in Adapter Required)

Tap the headphone icon **🔊** next to the channel you wish to monitor from the headphone output, you can adjust the analogue audio gain by pressing the + and - buttons on Input Gain. There is also a slider to control the line out level. Press any point along the line or slide your finger to the left or right to adjust.

It is not possible to vary the gain if the signal input is from the SDI or HDMI connection because this is digital and is embedded in the signal. You can usually adjust this from the camera, please see your camera manual for operational details.

Audio During Playback Mode

When you enter into Playback mode on the Shogun it will only output channels 1/2 on the headphones, please bear this in mind when you select the audio channels for recording.

Audio Panel Configuration



Audio In

Line Level (-10 dBV)

Sets the analogue input channel to Line Level via the XLR to XLR connector.

Mic Level (-40 dBu)

Sets the analogue input channel to Mic Level via the XLR to XLR connector.

Pro Level (+24 dBu)

Sets the analogue input channel to Pro Level Audio to via the XLR to XLR connector.

Mic 48v

ON - Enables phantom power for mic's connected via the XLR connection
Note: Audio In must be selected as Mic Level.

Input Gain

Allows incremental increase or decrease of analogue input gain up to +/- 20dB.

Audio Out

Toggles the analogue gain on the Line Out/Head Phone connection.

Home Page Audio

Toggles the orientation of the audio bars displayed on the Shogun home page for the input channel you are monitoring.

Horizontal displays the 2 channels you are actively monitoring.

Vertical displays 12 channels + 2 Analogue Channels.

8. Monitoring and Recording

Connect to input

As soon as you connect a supported input to the Shogun input and have inserted a formatted drive:

- The Rec icons will go solid and colourful
- The input source & format will be shown in the top left corner
- Audio inputs will show levels in bottom left corner

Ready to Record



No Input / Disk Present



No Input / No Disk / No Disk Formatted



Input Present / No Disk



Before Recording

- Check there is a valid signal by checking the input menu ensuring all fields display a green tick.
- Check the input signal is set to what you would like from the input menu:
 - Progressive
 - Progressive with 2:2 or 3:2 pulldown (HD Only)
 - Interlaced (HD Only)
- If you see No Input for any reason please check your camera settings match a supported format for Shogun. See technical specifications page at the end of this manual.
- Connect any additional Analogue audio inputs and adjust gain accordingly.
- Check you have the correct audio channels in record, set as you required from the audio panel.
- Connect headphones and monitor the audio channels to make sure the sound is as expected
- Ensure the video is coming in as expected.
- Check you have the correct Scene & Shot number selected, this can be adjust by tapping the file name to the top of the screen.
- Check your drive is inserted and has been formatted by the Shogun
- Check your timecode settings are as required
- Choose how you will start/stop your recording
- Check for clean input:

By touching the screen in Monitor mode, you can remove the Atomos overlays to give you a clean screen. If any overlay graphics remain, these will be coming from your camera. Please check the settings on your camera to switch these off.


Choosing your recording format (Codec)


Select the codec name on to the top left of the screen to display the Record.

Format Menu



From the codec section you can toggle between ProRes® or Avid DNxHD®*. The Quality menu allows you to toggle codec compression Apple ProRes offers 3 levels of compression (HQ, 422 & LT) DNX offers 4 (220x, 220, 145, 36) The expected record time available from each codec selection is automatically calculated from the available space on the media inserted.

 If Avid DNxHD is required, you can activate it from www.atomos.com/support - DNx220x is 10bit, all others are 8 bit, 36 is a proxy codec.

 More information regarding Apple ProRes data rates can be obtained online from Apple ProRes whitepaper PDF document.

* Available 2015.

8. Monitoring and Recording cont.

SmartControl

SmartControl is a versatile set of functions used to control the starting and stopping of recording by automatic or external means. This section outlines the different methods to start and stop recording.

Shogun Start and Stop record control can be triggered by the following methods:

1. Home Page Touch Screen
2. HDMI/SDI Rolling Timecode trigger
3. HDMI Camera trigger
4. SDI Camera trigger
5. Via LANC for Sony and Canon Cameras
6. Via LANC serial port

1. Home page Touch Screen

By pressing Rec (Record) and STOP to end recording



2. SDI / HDMI Rolling Timecode Trigger record



If the camera is Record Run mode, recording can be stopped or started by a moving timecode via HDMI or SDI.

When enabled the camera and the Shogun will start and stop recording simultaneously.

NOTE: Rolling timecode trigger is for use in older cameras with TC only & no trigger. If your camera is set to FREE RUN this trigger will start recording immediately and cannot be stopped until the input is removed. Please be that aware not all cameras have Start/Stop flags for triggering record, especially older cameras. In such cases rolling trigger in REC RUN will need to be used to trigger recording automatically at the same time as the camera starts recording.

3. HDMI Camera trigger record

The HDMI Camera trigger is available for supported cameras, There is a flag within the digital signal that lets the Shogun know the start/stop record has been pressed on the camera; in turn this will trigger the Shogun to start/ stop recording at the same time as the camera.

4. SDI Camera Trigger record

The SDI Camera trigger is manufacturer-specific, you will need to select the appropriate manufacturer for your camera from the input menu. There is a flag within the digital signal that lets the Shogun know the start/stop record has been pressed on the camera; in turn this will trigger the Shogun to start/ stop recording at the same time as the camera.



To enable this set TRIGGER to the camera manufacturer in the INPUT Menu.

When the manufacturer is selected in Camera trigger, this will disable the Timecode trigger.

5. Via LANC for Sony and Canon Cameras

Insert the 2.5mm LANC Y cable into the lanc port on the Shogun, Connect one end to the camera lanc port, and the other to the LANC remote, once the loop has been completed your Shogun will trigger stop-start recording from the LANC remote.

6. Via the LANC serial port



Controlled by a third party computer or controller. For system and OEM integration, contact support@atomos.com

Once you are recording you will see:

- The REC button has now changed to STOP on the main screen
- Play button has been disabled
- A transparent red boarder appears around the entire screen

Your files will be recorded to your drive with the Unit name, scene and shot you have set up.



8. Monitoring and Recording cont.



Waveform Monitoring

AtomOS6 has a newly improved Waveform Monitoring control panel which can be enabled with only a few button presses.

1. Waveform Monitoring
2. Luma Overlay
3. RGB Parade Display
4. Vectorscope
5. Vectorscope Zoom
6. Waveform Size (1/4, 1/3 and Full Screen view)
7. Transparency
8. Dynamic Range

What is Waveform Monitoring?

Waveform Monitoring is used for measuring the brightness, luminance or chroma values from a video input signal. This feature has several benefits to the production workflow including:


- Ensuring camera to camera matching accuracy when shooting multicam.
- Returning to locations for additional pick-up shots.
- Assisting with colour correction.
- Camera white and black balance

How to use

To enable the Waveform Monitor, press the Waveform Monitoring icon on the home screen.



Waveform Monitoring icon

 The Waveform Monitoring icon will only be visible if there is an input signal detected.

8. Monitoring and Recording cont.

Waveform Monitor Types

Inside the Waveform Monitoring menu, two types of Waveform Monitors are available for use:



Luma Overlay



Vectorscope



RGB Parade



Vectorscope zoom

Luma Parade, RGB Parade, Vectorscope and Vectorscope Zoom are enabled simply by touching the corresponding icon and will be by default displayed at the bottom right hand corner.

Luma Overlay


Luma Overlay shows the levels of brightness from an input source and makes it clear where overexposed or dark areas are on an image. Low values indicate an underexposed area, while high values indicate overexposed areas.



RGB Parade

RGB Parade will monitor the level of Red, Green and Blue from an input source. The RGB channels are displayed side by side. Each colour channel is measured from -6 to 108.



 The Waveform Monitor will remain on screen when hiding the overlays ensuring the focus remains on calibrating your image.

Vectorscope

The Vectorscope display shows empirical color information of hue (shown as a phase vector), vector and color strength (measured by outward distance from the centre). It is invaluable for setting camera white and black points, identifying areas that are desaturated and for determining if your shot requires color balancing. You can also use this function to colour match previous scenes and shots.



Vectorscope Zoom

The Vectorscope Zoom shows an accurate scaled up view of 8:1.




Waveform Monitor Settings

From within the Waveform Monitoring menu you can access the display settings for the waveform monitor.

To change the size of the waveform, press on the 1/4, 1/3 or Full Screen icons and the display will update immediately.



Waveform Size settings

 To toggle between Waveform Monitor sizes of 1/4, 1/3 and Full Screen from the Home Screen, press the bottom corner of the waveform.



Brightness



Transparency

The Dynamic Range slider directly controls the intensity of the waveform while the Transparency slider adjusts the transparency values of the waveform display on screen.

8. Monitoring and Recording cont.



Monitor Assist

AtomOS features Smart Monitor tools that help with making your shot picture perfect. Easily access Zebra bars, Focus Peaking, False Colour and Blue Only Exposure.

- | | |
|-----------------------|---|
| 1. Monitor Assist | 6. Safe Area / Grid Lines |
| 2. Focus Peaking | 7. Focus Peaking Mode (Colour, Monochrome, Outline) |
| 3. Zebra Pattern | 8. Zebra Threshold |
| 4. False Colour | 9. Focus Zoom |
| 5. Blue Only Exposure | |

Using the Shogun as a field monitor and viewfinder


With its 7.1" high-resolution color 1920x1200 pixel screen, the Shogun makes a great field monitor. So good, in fact, that you don't need any separate monitoring equipment. You could even say that the Shogun is a "Recording Monitor".

How to use

To enable the Monitor Assist functions, press the Monitor Assist icon on the home screen.



Monitor Assist icon

 The Monitor Assist icon will only be visible if there is an input signal detected.

8. Monitoring and Recording cont.

Focus Assist Types

Inside the Focus Assist menu, four types of focusing tools are available for use:



Focus Assist



False Colour




Zebra Pattern



Blue Only Exposure

Focus Assist, False Colour, Zebra Pattern and Blue Only Exposure are enabled simply by touching the corresponding icon in the menu.

 You can apply all filters to your monitor at the same time, however can be set up individually for your needs

Focus Assist

Focus peaking allows the user to ensure their recordings are always in focus. The parts of the image in focus are indicated by the selected colour. This tool is very accurate.

Focus Assist Colour



Focus Assist Mono



Focus Assist Outline



 You can change the focus peaking colors and modes from the Focus Assist Panel.

Zebra

Zebra lines show the parts of the image that are over exposed relevant to the % level set. 95% is usually used for objects, windows and surfaces. 75% is used for checking over exposure of human faces this will indicate reflective or shiny areas on the face.



False Colour

False Colour assigns different colors to areas of different exposure in the image. Instead of just showing what parts of the image are overexposed, it gives a more complete picture of what is going on in the image by using a range of exposure values. Generally speaking, overexposed elements will display as red, and underexposed elements will display as blue.

The gradient between colour levels can be adjusted to have a gradient or not. If gradient is not selected, the colour levels will change instantly to the next colour level.



False Colour Scale:

To help you determine the exposure range with more accuracy, please use the scale below:



8. Monitoring and Recording cont.

Blue Only Exposure

Displays a black-and-white image that is based on the blue channel of the input signal. Used to observe the noise content of a video image and to judge the overall exposure quality.



Cinema Markers/Safe/Areas/Grid Lines

AtomOS6 now includes 1.85/2.35 Cinema Markers, Safe Area/Grid Lines overlay to help frame for Safe Areas, Titles Safe, Centring and 4:3 Framing.

How to use

To enable the Safe Area/Grid Lines, press the Monitor Assist icon on the home screen, then select the Safe Area/Grid Lines icon below the settings icon.

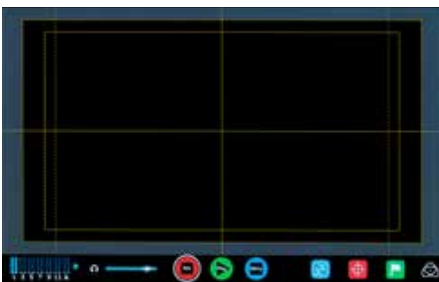



Safe Area/Grid Line icon

Safe Area/Grid Lines Shown With Menu Overlays



Safe Area/Grid Lines Shown Without Menu Overlays



 The Safe Area/Grid Lines will still be visible when tapping the centre of the screen to hide the overlays.

Focus Assist Settings

From within the Waveform Monitoring menu, press the Settings icon to access the display settings for Focus Peaking, Zebra, False Colour and Blue Only Exposure.



Focus Assist Settings icon

To change the Focus Assist modes, press on the Colour, Mono or Outline icons and the display will update immediately.



Color



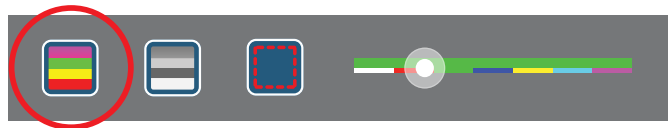
Mono



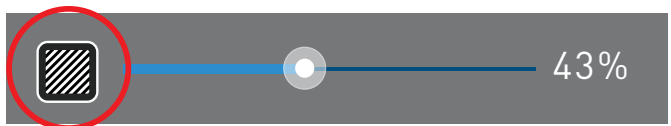
Outline


(Depth of field focus tool)

The color of the Focus Assist can be changed by dragging the slider, the color selected will be reflected in the top line.



The Zebra threshold value can be adjusted by moving the slider left or right. The threshold percentage will be shown on the right of the slider.



 All of these settings will update without the need to close the settings.

Focus Zoom



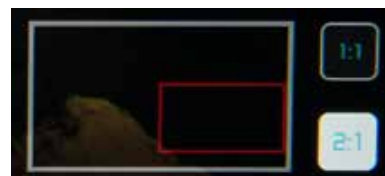
Toggle 1:1 to display 1:1 pixel mapping, the indicator box shows the location of the screen you are viewing.

4K 1:1 shows 1/4 of the 4K Image.



Toggle 2:1 to magnify the screen, the indicator box shows the location of the screen you are viewing, you can move the zoomed location by dragging across the screen or selecting a portion of the indicator box.

4K 2:1 shows 1/16 of the 4K Image.




8. Monitoring and Recording cont.

SmartLog

SmartLog gives you the ability to tag your clips during recording (or playback, more on this later).

By the pressing the Favourite and Reject icons you can assign a "good clip" or "bad clip". This information can then be imported into a non-linear editing system to speed up the edit process, as you can easily see which parts of your recording you have marked to keep or reject.

 *SmartLog currently only works with Apple FCP X.*

How to use in Record and Monitor mode

To access tagging press the Cut and Tag on the home screen.



Cut and Tag icon

You can now see your monitor in the background and the Favourite and Reject icons for marking clips while recording.

When you have selected Favourite, the icon colours will invert (Green background with white text) and the Reject Icon will disappear. When Reject is selected the icon colours will invert (red background with white text) and favourite will disappear.

Monitoring Mode: Cut And Tagging For Easy Clip Selection When Editing



Monitoring Mode: Clip Marked As A Good Take

How to use in Playback mode*

To review and use the Cut and Tag feature in playback mode, press on the Play icon on the bottom of the screen.



Playback icon

From the Playback screen, select a clip from the Media source page by directly pressing it and it will become available for marking.



To access tagging press the Cut and Tag on the home screen.




Cut and Tag icon

The Favourite and Reject icons will appear on screen.



Press Play and when you see the section of the footage you would like to mark as good or bad, press Favourite or Reject and then press again to stop marking that section.



 *A green or red line will appear in the timeline scrubbing bar so you can identify the region that has been selected.*

Removing tagged clips

To clear all marking point clips, press on the Reset icon.



Clear Tags

** Playback available next firmware update.*

8. Monitoring and Recording cont.


Your final stage is to Export the XML flag:

Your final stage is to Export the XML flag:

- Enter Play or Media Information
- On the bottom right hand side there is an icon Export XML
- Press this once
- You will be shown a please wait screen (the length of time will vary depending on your recording time and amount of flags applied)
- Then it will return you to the previous screen



EXPORT XML ICON

 *You can carry on recording but please remember before you eject the drive to export your XML files.*

8. Monitoring and Recording cont.

Atomos Anti-Shock Technology

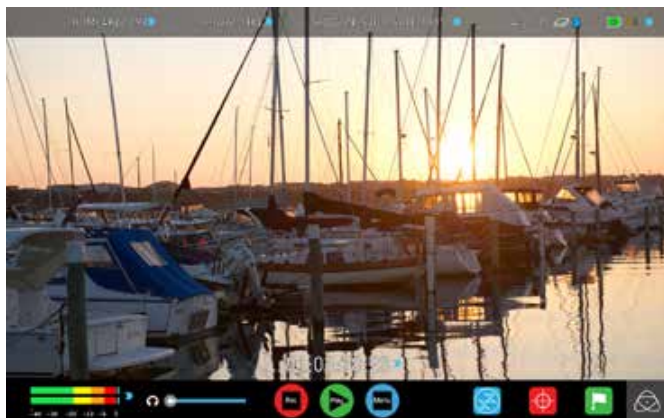
Spinning disks are very reliable in a controlled environment where movement and vibration are minimal and within the capabilities of the devices. They are ideal for low-cost recording, but will suffer reduced performance if they are jolted or receive a sudden impact.

Should one of these events occur, the Shogun will sense the hard disk slowdown. If there is a break in the recording it will detect the number of frames involved and will then continue to record when it is safe to do so.


This means that even if you suffer a momentary break in your recording, the video capture will continue without any intervention from you, the user.

It is obviously important for you to know that you have suffered from an interrupted recording and the user interface will display a warning (in the form of a Kangaroo sign) clearly above the disk-capacity display on the main screen.

If you find you are working on a very active project where you are seeing a lot of "Skippys" then you probably need to switch to SSDs, and only use spinning disks for gentler environments.



Skippy Warning

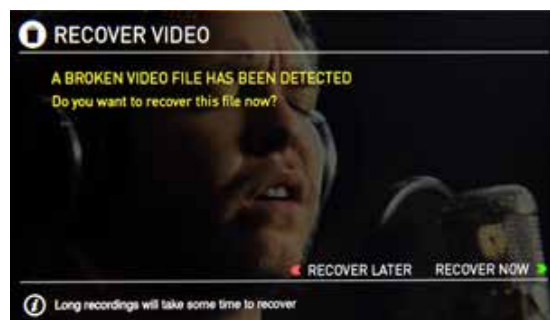
 To remove "Skippy" warning, simply touch the icon and it will disappear.


File Recovery

The Shogun saves the file every 8 seconds while in recording mode, so if the recording is stopped suddenly, without closing the file properly, you will only ever lose 8 seconds of material.

In the event of an interrupted recording, when you restart the Shogun, or enter playback mode, you will be presented with a menu that gives you the option to recover immediately, or recover it later.

If you recover later, every time you put the disk in, or start up the Shogun, the same menu will appear to prompt you to recover the file that did not close properly.



 If the drive is broken, or has become corrupted, then we will not be able to recover the file and we recommend that you try third-party hard disk recovery software

9. Timecode

Using Timecode

Touching the timecode display on the home screen, just above the three main coloured controls, will take you to the Timecode setup screen (this is also accessible by touching Menu and then Timecode)



Occupying the lower-centre part of the screen is the timecode display with controls to set the start-time of the timecode.

The timecode modes supported are:

- HDMI (Embedded)
- SDI (Embedded)
- Record Run
- Time of Day
- Auto Restart

Cycle through these modes by touching the timecode Source Selector.

SDI / HDMI embedded timecode



With this setting, the SDI or HDMI input will set the timecode (as long as the source device supports this). The controls to adjust the timecode value are disabled in this setting because the embedded timecode in the SDI/HDMI signal sets the timecode value of the recording. If you want to adjust this please, refer to the manual of your SDI/HDMI input device.


Trigger from SDI or HDMI time code



If SDI or HDMI timecode is selected and the camera is in REC RUN mode, the user has the choice to start and stop recording remotely from the source camera SDI timecode.

To enable rolling Timecode Start/Stop functions, simply press the TC icon shown here. When enabled, pressing the camera Record Stop/Start button will make the Shogun start and stop record simultaneously as the timecode starts and stops.



 When using the camera in Free Run timecode, the rolling timecode trigger might not work as expected. However, depending on the camera, you can trigger record function by the embedded flag/trigger in the SDI signal. Most higher end cameras have this functionality; if unsure contact us at support@atomos.com



Time of Day

With this selected, each new clip that is created will contain embedded timecode accurately showing the time of day that it was recorded, based on the internal Shogun Time of Day clock.


This can be set in Menu > Date & Time



9. Timecode cont.

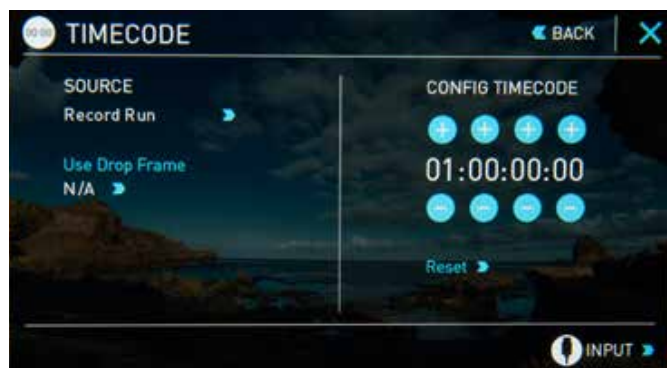
If recording is stopped and then restarted while in this mode, there will be a time gap between the last clip and the next one, equal to the length of time the Shogun has been out of record. The start timecode of each clip will be the exact time of day when recording started.

Time of Day timecode is useful as a reminder of the time that clips were recorded. It can also help with syncing-up of multiple cameras, but remember that the accuracy of the correlation of Time of Day timecode between Shoguns will depend on how closely their internal clocks are synchronised.

 *In Time of Day mode, the controls on the Timecode Setup Screen for adjusting the start-point of the Shogun timecode are not available, as the timecode is set by the Shogun's internal clock.*


Record Run

With this setting you set the start timecode of the first clip and the following clip will start at the frame immediately after the out point of the preceding clip. This will continue for all clips that follow. This is often referred to as continuous timecode.



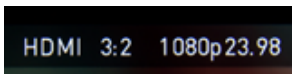
Auto Restart

With this setting, the timecode will be reset to the timecode you define here whenever you press record. All your clips will start at this timecode.

 *To adjust the timecode use the "+" and "-" above and below the hour:minute:seconds sections*

10. HD Pulldown

What is Pulldown?



Many professional and consumer cameras available today do not send true 1080p24, 1080p23.98, 1080p25, 1080p29.97 or 1080p30 signals down their SDI or HDMI outputs.



Instead they send 1080i59.94 in NTSC regions (eg USA, Japan), and 1080i50 in PAL regions (eg Europe)

In order to convert the signal from the internal recording format to 1080i5994 or 1080i50, they use a process called 3:2 or 2:2 pulldown.

(Note: Pulldown is only applicable to HD signals, not 4K)

Camera Setting	Pulldown	Shogun Receives
1080p23.98	3:2	1080i59.94
1080p24	3:2	1080i60
1080p25	2:2	1080i50
1080p29.97	2:2	1080i59.94
1080p30	2:2	1080i60

You will, of course, want the Shogun to record eg 1080p24, not 1080i60 to the disk. In many cases, it is not easy for the Shogun to detect the pulldown operation in the video, so you will have to set the correct mode in the Shogun as well as setting it on your camera.

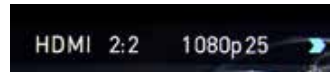
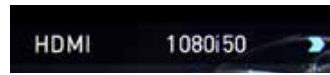
With some cameras, the Shogun can detect and remove the pulldown automatically, in which case the mode you expect (eg 1080p23.98) will display on the Shogun and you will not have to do anything further.

If there is no input detected, then toggle the input by pressing the screen until you see the input you wish to record.

Atomos is adding auto-detection support for more cameras, please check for firmware updates regularly at www.atomos.com



1080p23.98 or 1080p24



If you have set 1080p23.98 or 1080p24 in your camera and your Shogun displays 1080i59.94 or 1080i60, then you can easily remove the pulldown by following these steps:

- Select the Input Menu from the top Left and toggle the blue arrow underneath Record repeatedly until you see 1080p23.98 (or 1080p24) displayed. You will see that the Mon button is dimmed. Your Shogun needs to analyse the video for about 1 second, in order to detect the pulldown sequence and remove it.
- If it is not automatically detected after 1 second, wave your hand from side to side in front of the lens, or wave the camera from side to side for a few seconds. The Shogun will detect the pulldown in the movement, the input video format will show 1080p24 and the Mon/ Rec button will highlight.

3:2 pulldown detection is difficult, if not impossible to detect on completely still video. This is why you should wave your hand in front of the lens.

If you lose the input detection – for example you unplug the SDI cable or go to Playback mode, you will need to wave your hand or the camera again, when the signal is restored to the Shogun.

Some cameras use a variant of pulldown removal, for example Panasonic Advanced pulldown. The Shogun does NOT support this format, and it will not be detected.

Standard Panasonic pulldown is supported, ensure in the Panasonic camera settings that pulldown is not set to Advanced.

1080p25, 1080p29.97 or 1080p30

For these modes, simply press the blue arrow on the input menu repeatedly until your 1080p desired format is displayed. There is no need to wave your hand or the camera, as 2:2 pulldown removal does not require moving video.



Available from next firmware update.

12. Connecting and Editing

Connect

To access and edit your recorded material, connect the Master Caddy Docking Station to a Mac® or Windows® editing workstation via USB 2.0 or USB 3.0.

Eject the Master Caddy from your Shogun and insert it into the Docking Station. After a short wait, the recorded video will be accessible to the target computer via a standard disk (exFAT) file system.

NLE supported

We have chosen the Apple ProRes® and Avid DNxHD® codecs as they are both not only visually lossless, but also edit-ready formats. All major NLEs support ProRes and DNxHD.

- Final Cut Pro (version 7)
- Final Cut X
- Adobe CS5 (with 5.51 update)
- EDIUS 6
- Sony Vegas 10
- Lightworks
- Avid Media Composer 6


Avid DNxHD® support requires online activation.

ExFAT compatibility

The Shogun formats your disk as exFAT. We have chosen this file system to overcome the 4GB file limitation of FAT32 and keep compatibility on both Windows and MAC OS.

The Operating Systems that support exFAT are:

- Windows XP - install the following update:
<http://www.microsoft.com/download/en/details.aspx?id=19364>
- Windows Vista - install SP1 or higher
- Windows 7 & 8 (32/64bit)
- Snow Leopard 10.6.5 or higher
- Lion 10.7
- Mountain Lion 10.8
- Mavericks 10.9 and above

 *The Master Caddy Docking Station is a sophisticated device supporting two different data interfaces: USB 2 and USB 3. Note that when using the Master Caddy Docking Station you may need to connect an additional USB cable to the 5v power input. This is because when it has to power a disk drive and its interface electronics, the Docking Station may consume more power than is available from a single USB port. We supply you with a USB to 5v Power Supply socket for this purpose .*

Transferring Files


Now your docking station is connected and your disk is recognized by your operating system, you can edit directly from the drive or copy the files to your own storage.

Windows

Open the disk in My Computer > Select all the files or just the ones you wish to transfer, copy and paste them to your desired location. (ctrl+c copy, ctrl+v paste).

Mac OS

Your Shogun disk will show in Finder. Select the files you wish to transfer, drag the files to your desired location or use the copy and paste commands.(COMMAND + C copy, COMMAND + V paste).

 *If you have used a FAT32 formatted disk in the Shogun this will have a folder structure Scene, Shot, Take. This will mean you either transfer all the folders or utilize the Windows Search or MACs automate program to transfer just the .mov files. There are instructions on this in our knowledge base; visit www.atomos.com/support for more info.*



12. Connecting and Editing cont.

Importing

Final Cut Pro (version 7), Final Cut X , Adobe CS5 (with 5.51 update), EDIUS 6, Sony Vegas 10, Lightworks and Avid Media Composer 6 support imported files from your Shogun disk.

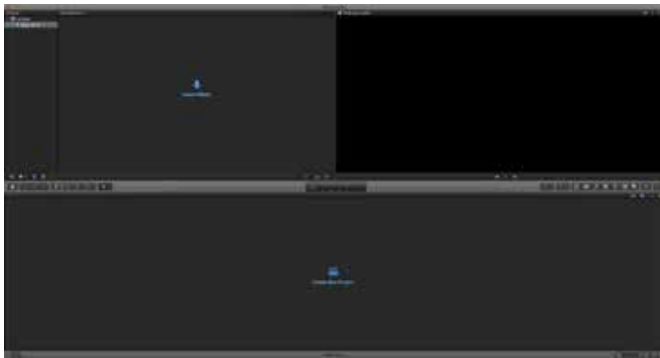
Importing Shogun footage into Final Cut Pro

You can import Shogun footage into Final Cut Pro (FCP) in just a few simple steps.

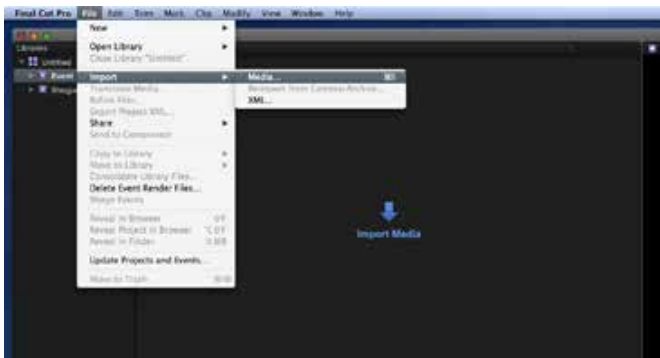
First, connect the Shogun Docking Station to your Apple Mac using the USB 2.0 or USB 3.0 port. Insert the Shogun Master Caddy containing the disk with your footage into the Docking Station and you will see the drive appear in your Finder window.

Start FCP and open your project (or start a new one).

The screen will look like this:

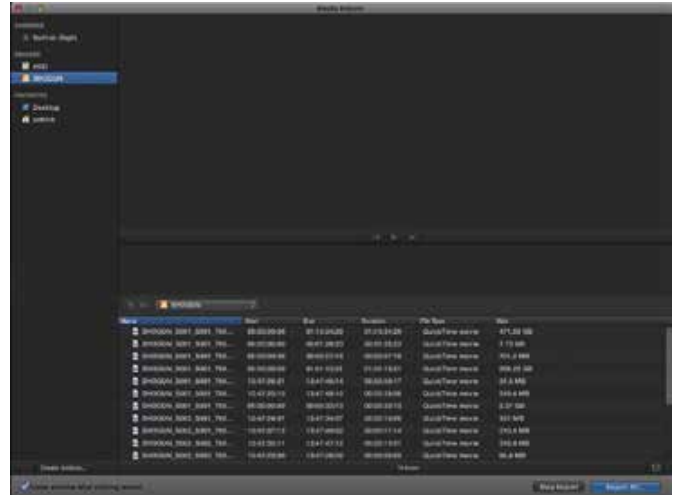


Go to the File menu and select Import > Media



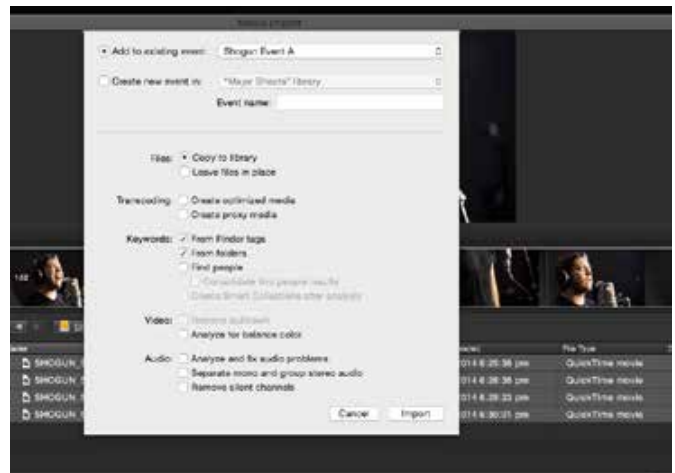
FCP will show you a "browse" window. Look for the Shogun drive, and click on it.

You'll see the folders in the Shogun drive. Select the folder containing the footage you want to import:



Click on Import All or Import Selected, individual clips can be selected. Choose the Event you wish to import the footage into, or create a new event.

Select Import:



Your Scene, Shot and Take files now appear in the project window, ready for use in your FCP project.



12. Connecting and Editing cont.

SmartLog with FCP X

Prior to importing the XML files into FCP X, ensure that:

- You have exported XML whilst the drive is in your Shogun
- You have connected your Master Caddy Docking Station and inserted your Master Caddy into the Dock
- You are using an operating system that supports ExFAT
- Your QuickTime version is up to date
- FCP X is the latest version

There are 2 ways to import the XML file:

1. Directly from the docked hard drive
2. Manually into FCP X

1. Automatic Import

- Open Finder
- Select the drive (in this example it is EXCVIDEO)
- Double-click the unitname.FCPXML file
- This will open FCP X and import the .xml file

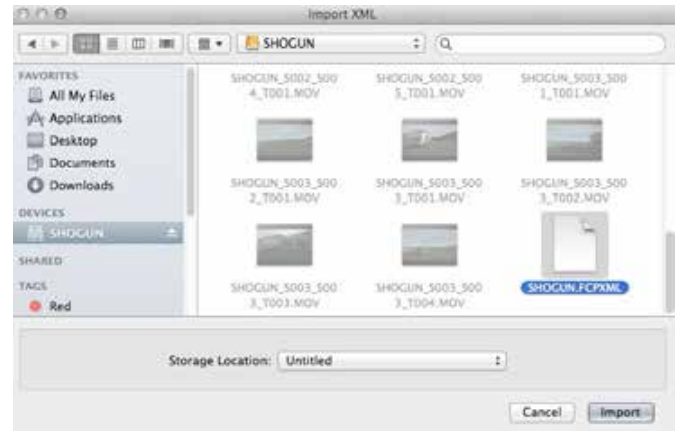
FCP X will make a event of the disk name and reference all the footage in that event.

You will notice that on the clips you have added Smart Tags too, with Green and Red indicating Favorite and Reject.

You can sort these by using the pull-down menu to show favorites. This will show all the individual favorites as separate clips in the Event Viewer.

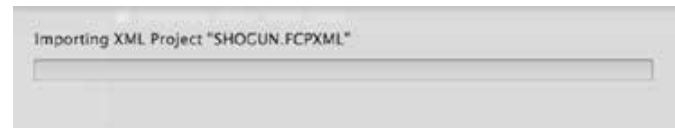
2. Manual

- Open FCP X
- Create a New Project (or you can use an existing project); in this example it is called XML Import
- Select File, Import, XML

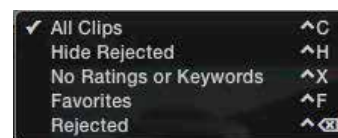
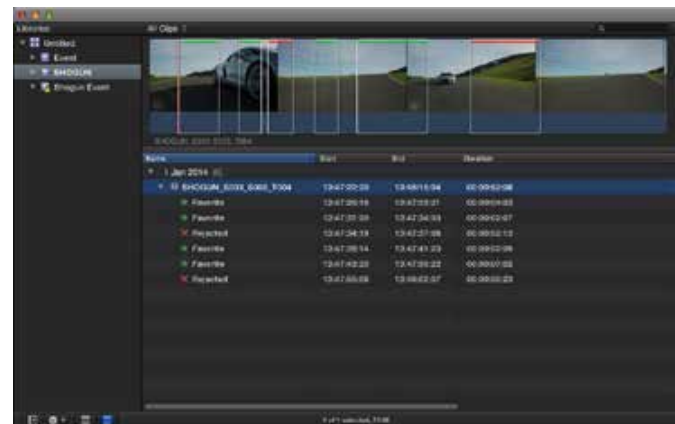


- Select the Shogun drive under Devices (in this example it is called EXCVIDEO)
- Choose the unitname.FCPXML, select Import

The XML will import



Once imported you can expand the clip and you will see the Favorite and Reject tags. You can also filter the view to only see favorite, etc.



15. Software Updates

AC Adapter (included)

This connects on the battery slot on the back of the Shogun. Please ensure it is connected to slot 1. The end of the adapter will connect to a mains plug.

Alternatively you can use any NP-Compatible Charger or power supply, as long as they use a "Dummy Battery".

D-Tap Adapter (included)

This adapter allows you to take the power supply from any source that has a D-Tap connection such as V-Lock

The D-Tap also connects to the battery slot of the Shogun, please ensure it is in slot 1. You will need a D-Tap to D-Tap cable (sold separately). Voltages 7.2 to 16.8 volts. Please refer to Atomos D-Tap document on the Atomos Knowledge Base.

Updating AtomOS (Firmware)

From time to time we will issue software updates for your Shogun. To update the firmware (that's the software that runs inside your Shogun), there is a simple procedure you have to follow.

- Go to www.atomos.com/support
 - Locate and download the firmware upgrade
1. Extract the file ATOMSGN.FW from the firmware zip file.
 2. Copy ATOMSGN.FW onto a drive in a Master Caddy.
 - a. Atomos recommends you use a freshly formatted known good disk.
 - b. Always format your drives in the Shogun. The Shogun formats the drive for optimal performance for Video.
 - c. Ensure that the firmware update file is on the root of the drive, and not in a folder on the drive.
 3. Put 2 freshly charged batteries on your Shogun. It is very important that your Shogun does not lose power during a firmware upgrade.
 4. Power down your Shogun.
 5. Insert the Master Caddy with the ATOMSGN.FW file.
 6. Power up your Shogun with a short press of the Power Button.
 7. Watch the screen. The Atomos logo will appear, and then be replaced with a Please Wait logo and after a few seconds the firmware upgrade will start.
 8. While the firmware upgrade is happening, there will be flashing colored lines above and below the Please Wait Logo.
 9. The firmware upgrade will take up to a few minutes.
 10. When the firmware upgrade is finished, the Shogun will:
 - a. Delete ATOMSGN.FW from the drive.
 - b. Power itself down.
 11. Turn on your Shogun again with a short press of the Power Button located on the side.
 12. When the Shogun has booted, Press "MENU" and then "Shogun Info" and check that the version number is the version expected.




! IMPORTANT: Problems when installing AtomOS

Very occasionally, the firmware update process can go wrong. This might be because of an incomplete or corrupted download.

In the unlikely event of your Shogun becoming unresponsive, there is a built-in recovery mechanism.

All you have to do is press and hold the on/off button for 10 seconds. If you do this your Shogun will revert to its factory condition, and you will be able to retry the firmware update later (taking due precautions to identify and remove possible reasons for the failure of the previous attempt).

 Please ensure your batteries have plenty of charge and that you do not interrupt your Shogun while its firmware is upgrading. You will see a progress bar to the lower half of the screen. When it is finished, the Shogun will restart and you will be able to use the device as normal. This process can take up to 7 minutes.



Shogun specs

SHOGUN SPECIFICATIONS	
Weight	
Without batteries & HDD	460g/16oz
With batteries & HDD	645g/23oz
Dimensions (W x H x D mm)	196 x 110 x 47mm, 7.7 x 4.3 x 1.85"
Construction	High quality lightweight ABS Polycarbonate for durability & portability Heat pipe cooling technology
Power	
Operating power	6.8W - 11W
Compatible batteries	NP series, D-Tap and supporting accessories (Nikon ENL6, Canon EL6)
Input voltage (battery)	6.2V to 16.8V
Battery time (based on 7.4V)	2600mAh - up to 3hrs 5200mAh - up to 5hrs 7800mAh - up to 8hrs
DC Out	1 x DC out
Continuous power * Patent pending	via optional Powerstation
Powerstation continuous power dual supply	Optional
Touchscreen	
Size	7.1"
Resolution	1920 x 1200
PPI	320
Aspect ratio	16:9 native
Color standard	REC709 HDTV
Native frame rate playback	48-60Hz
Technology	SuperAtom IPS panel (capacitive touch), calibratable to REC709 with optional Atomos Spyder
Video input/loop out	
HDMI	1 x HDMI (1.4b) 10-bit
SDI	1 x 4K-SDI 12G/6G or SDI 3G/1.5G (SMPTE) 10-bit
Signal	Uncompressed 10/8bit 4:2:2 (camera dependent)
Video output (play out)	
HDMI	1 x HDMI (1.4b)
SDI	1 x 12G HD/SD-SDI (SMPTE)
Signal	Uncompressed 10/8bit 4:2:2 dependent source
Supported loop out formats	
HDMI to HDMI	1280 x 720p 50/60/120, 1920 x 1080i 50/60 1920 x 1080p 24/25/30/50/60/120, 3840 x 2160p 24/25/30
SDI to SDI	720p 50/60, 1080i 50/60 1080pSF 24/25/30/50/60/120 1080p 24/25/30/50/60/120 2160p 24/25/30
Video signal conversion	
HDMI to SDI	720p 50/60, 1080i 50/60, 1080p 24/25/30/50/60/120p, 2160p 24/25/30
SDI to HDMI	720p 50/60, 1080i 50/60, 1080p 24/25/30/50/60/120p, 2160p 24/25/30
Supported formats (in/out)	
4K	3840x2160 - 30p/25p/24p
HD - high frame rate	1080p120, 1080p60/50, 720p120
HD	1080i60, 1080i59.94, 1080i50, 1080p30, 1080p25, 1080p24, 1080p23.98, 1080pSF23.98, 1080pSF24, 1080pSF25, 1080pSF30, 720p60, 720p59.94, 720p50,

SHOGUN SPECIFICATIONS		
Realtime hardware encoding		
4K-UHD 3840x2160 8/10-bit 4:2:2 to	Apple ProRes HQ 422 LT	Lossless Cinema DNG (data rate camera dependent)
1920x1080 8/10-bit 4:2:2 to	Apple ProRes HQ 422 LT	DNxHD 220/220x 145 36
Onboard processing		
Pulldown removal	50i from 25PSF > 25P (2:2 Pulldown) 60i from 30PSF > 30P (2:2 Pulldown) 60i from 24P > 24P (3:2 Pulldown) 60i from 23.98P > 23.98P (3:2 Pulldown)	
Audio in/out (48kHz PCM audio)		
HDMI	2 or 8ch 24-bit, camera dependent	
SDI	12ch 48/24-bit	
Audio	2ch balanced XLR analog in/out Dynamic range >90dB Max signal level +24dBu Max analog gain +40dB 48V Phantom Power for Mic	
Remote start/stop		
HDMI	Auto HDMI Trigger Supported Protocols - Canon, Sony, Atomos Open Standard	
SDI	SDI Trigger Camera Selectable	
Other	LANC control - Master and Slave	
Recording		
Supported media (Approved List Only)	4K / HD (50/60/120p) CFast SSD 2.5" Raided HDD (5,400 to 10,000rpm)	HD CFast SSD 2.5" HDD (5,400 to 10,000rpm)
Master caddy case	Master Caddy II (included) 75mm x 105mm x 12mm Master Caddy II RAID (optional) 75 x 115 x 25	
Master caddy dock	2.5" SATA to USB 2.0/3.0	
Supported applications	Supported Applications FCPX/FCP7+ / Media Composer 5.0+ / Premiere 5.5+ EDIUS 6.0+ / Vegas Pro 10+ / Lightworks / Autodesk Smoke 2015	
Accessories included	Shogun unit, Custom HPRC Italian carry case, 9V-3A AC adapter, Master Caddy II x 5, D-Tap adapter, Battery (NP-570) x 1, Battery charger, XLR to XLR cable, SATA 3/2 to USB 3/2 HDD/SSD docking station	
Optional extras	Master Caddy II RAID, Sunhood, Powerstation, CFast to SATA adapter, Spyder calibration unit	
Our future proof platform (Powerful Generation 2 Processor, Sata 3 @ 6Gb/s, Large FPGA with upgradability) is designed for the following in the future		
12G-SDI 4K 60/50p Support Apple ProRes HD 4:4:4 10-bit 3D LUTs FS700 RAW decode Full 4K - 4096 x 2160 support		



Construction note:

Your Shogun is designed to operate in ambient temperatures up to 45°C/113°F. It features a heat pipe design with a silent fan to circulate air and remove excess heat from the rear vents .

If you wish to extend the temperature of operation in high temperature conditions, you can choose an SSD drive, and set the TFT brightness to a minimum.

Atomos (HQ)

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www.atomos.com

Have you registered your Shogun yet?
Register now to receive communication on all future updates

Web: www.atomos.com **Sales:** sales@atomos.com **Support:** support@atomos.com