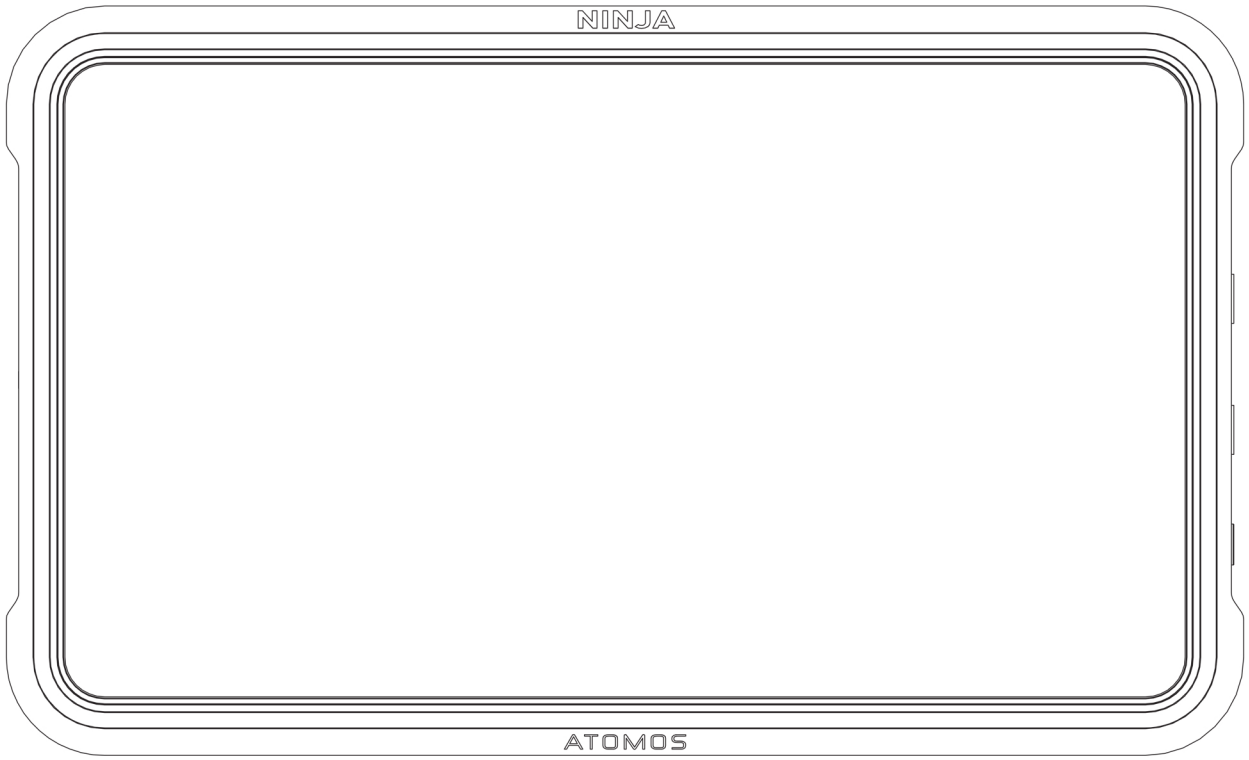
ATOMOS

NINJA V+

USER MANUAL



NINJA V+ User Manual

Specifications are subject to change without notice. All information assumed correct at time of publishing.

This user manual assumes that you are using AtomOS firmware version 10.82 or later. Visit my.atomos.com to update the AtomOS firmware for your NINJA V+

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Introduction

Thank you for choosing the Atomos NINJA V+ 5 inch HDR Monitor-Recorder. With NINJA V+ you can record up to 8Kp30 and 4Kp120 in Apple ProRes RAW, and 4Kp60 and HDp120 video, and integrate these new formats seamlessly into the timeline of your existing ProRes RAW or ProRes projects. Rounding out the powerful codec arsenal is Apple ProRes, Avid DNx and H.265, which provides a highly efficient compressed codec option.

Featuring a super high-resolution screen in a lightweight aluminium alloy chassis and an array of essential production tools including waveform monitoring, vectorscope, focus assist and the world's leading support for HDR monitoring; NINJA V+ will give you the creative and commercial advantage you've been looking for.

This user manual will get you up to speed with all the amazing features packed into the NINJA V+ that will assist you during a shoot and speed up your workflow on set and in post production.

Stay up-to-date with the latest information and software by registering your product today at my.atomos.com

Visit www.atomos.com/support to learn about supported cameras and media, read FAQ's, submit support tickets and more.

Safety Instructions

The NINJA V+ 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.

Using the NINJA V+ safely

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

- Always make sure that the NINJA V+ 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.
- Always ensure that cables that run to the NINJA V+ are clearly visible and do not present a trip hazard.
- Do not place on uneven or unstable surfaces.
- Do not insert anything but a NINJA V+ Master Caddy II or AtomX SSDmini in the drive slot on the rear of the NINJA V+.
- Do not touch the NINJA V+ screen with sharp, metallic or abrasive objects.
- Do not expose to strong electrical or magnetic fields.
- Do not expose to liquids, rain or moisture.
- Do not dispose of the NINJA V+ in municipal waste and do not incinerate it, always follow local regulations for safe disposal.

Care of disk drives

Spinning disks and SSDs are very sensitive to damage from static electricity. Please observe all the usual electrostatic discharge (ESD) precautions when handling them. Please see the section on mechanical shock and vibration later in this manual for information about how to handle and care for your disk drives

HDMI cables

Please remember that almost all 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.

Software License Agreement

IMPORTANT, PLEASE READ CAREFULLY. THIS IS A LICENSE AGREEMENT.

This ATOMOS software, related documentation, any included sample images files (the "Software"), is protected by copyright laws and international copyright treaties, as well as other intellectual property laws and treaties. The Software is licensed, not sold.

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3. Reverse engineering. You agree that you will not attempt, and if you are a corporation, you will use your best effort to prevent your employees and contractors from attempting to reverse compile, derive circuits, modify, translate or disassemble the Software and/or the ATOMOS NINJA V+ in whole or in part. Any failure to comply with the above or any other terms and conditions contained herein will result in the automatic termination of this license and the reversion of the rights granted

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ATOMOS reserves the right to terminate this license without prejudice to any additional recourse ATOMOS may have against you if you violate any of its terms and conditions.

Notice

Image credit on NINJA V+ display and all other instances: https://unsplash.com/@freestocks

Trademarks

REGISTRATION + WARRANTY UPGRADE Register within 12 months of purchase date to upgrade your standard 1 year warranty to a 3 year warranty. Visit: my.atomos.com.

Registered users receive updates of all AtomOS updates upon release.

Registering your product

Register your NINJA V+ at my.atomos.com within twelve months of purchase to upgrade to a 3 year warranty.

Registering your product ensures you receive communication on all future updates.

International Hardware Limited Warranty

ATOMOS warrants that:

- The main product, not including the IPS screen, or any external accessories, will be free from defects in materials and workmanship for a period of 1 year from the date of purchase; or 3 years upon completion of product registration within 1 year from the date of purchase at www.atomos.com
- The TFT/LCD, SSD Docking Station, Master Caddy II and Cable 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 center or agent.

Warranty Exclusions

This warranty applies only to defects in workmanship and does not cover defects caused by:

- Neglect;
- Improper or negligent acts or omissions;
- Repairs or attempted repairs;
- Tampering with or modification of the goods;
- Connection to incompatible equipment or power sources;
- Exposure to water or weather;
- Exposure to magnetic fields or corrosive liquids or substances;
- Physical damage

Except as stated in this warranty, ATOMOS, it's vendors, agents, resellers and distributors disclaim in their entirety all other warranties, express or implied, including without limitation all warranties of merchantability or fitness for a particular purpose. The remedies outlined in this warranty are the exclusive remedy a customer from defective goods, which are subject to the warranty.

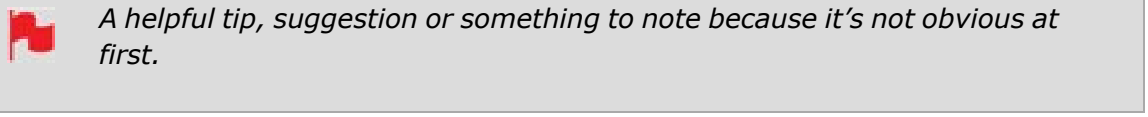
ATOMOS does not warrant that the goods will operate in a manner that is error free, or uninterrupted. The goods are not intended to be the primary or only data storage device for data – customers are solely responsible for back up and protection of data.

REGISTRATION + WARRANTY UPGRADE Register within 12 months of purchase date to upgrade your standard 1 year warranty to a 3 year warranty. Visit: my.atomos.com.

Registered users receive updates of all AtomOS updates upon release.

User Manual Conventions

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



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

An important note or warning

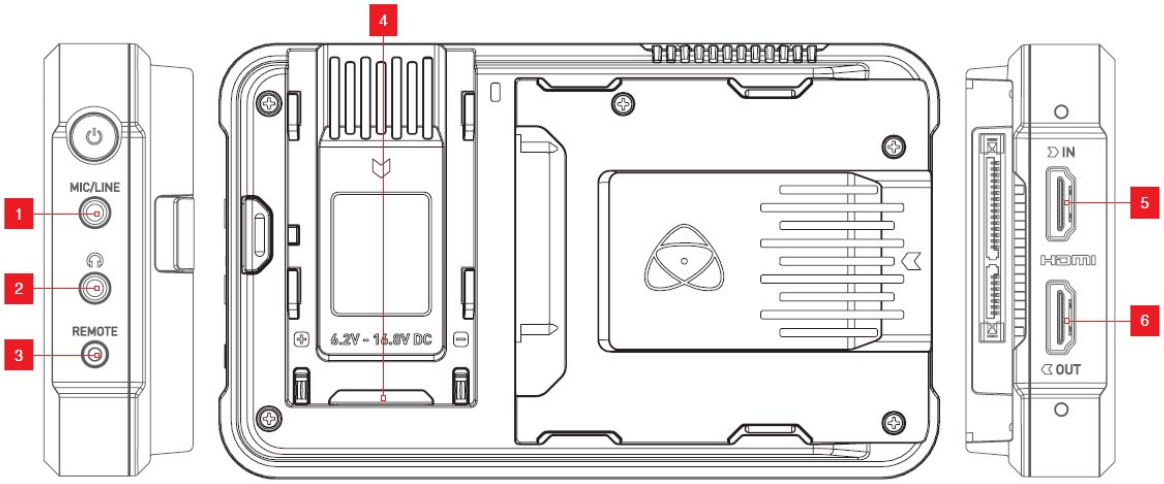
What’s included

Your NINJA V+ includes base accessories to get you started, such as a mains power supply and a media Master Caddy. Additionally you will need a 2.5” Solid State Drive (SSD) or AtomX SSDmini, a compatible HDMI cable (Camera out/NINJA V+ in) and compatible batteries. Optional AtomX accessories including power and accessory kits are also available. Visit the ATOMOS website for the latest accessory options.

What's in the box:

- NINJA V+
- 1 x Master Caddy II + screws
- International DC power supply
- Battery Eliminator
- NINJA V+ Quick Start Guide

NINJA V+ Connections



Mic/Line in (1)

A 3.5mm input jack is located under the power button. Channel selection and volume for headphone monitoring is via the audio controls section, accessible by touching the audio meters in the top right side of the screen (monitoring mode) or in the bottom right of the screen (homescreen mode).

Headphone/audio out (2)

A 3.5mm headphone jack is located above the remote port. Channel selection and volume for headphone monitoring is via the audio menu page on your NINJA V+. To access this menu, tap the audio meters in the upper right side of the touchscreen (monitoring mode) or in the bottom right of the screen (homescreen mode). For more details refer to the "Audio Menu" on page 214 section.

> *When monitoring any channels please ensure that the headphone selection is set to the stereo pair you'd like to monitor.*

Remote/Calibration Port (3)

The calibration 2.5mm jack on the right hand side (looking from the front), allows for the connection of the Calibrite ColorChecker Display Pro / Display Plus calibration device. The calibration unit utilizes the optional USB to serial adapter cable. The latest version of the ATOMOS Calibration software is available at www.atomos.com/support

For optimal calibration it is recommended that your NINJA V+ is powered for 30 minutes prior to calibration.

For remote operations via this port, ATOMOS supports both LANC in Sony and Canon format. The NINJA V+ uses LANC Client so a LANC controller must first be attached to a camera and the output taken out via a Y cable to the NINJA V+.

AtomXpansion Port (4)

Enhance your NINJA V+ through the built-in modular AtomXpansion port. Bi-directional high speed video, audio and power are available. Expansion modules dock into the battery slot and can be stacked, passing power and offer advanced connections and functions. www.atomos.com/accessories

HDMI in (5)

The video input is a full size HDMI 2.0a connection used to receive the video. This connection also supports embedded audio and timecode if your camera or device sends these out over HDMI. The image is both displayed and recorded to the ATOMOS monitor/recorder storage media.

Embedded Audio

Most mirrorless cameras and camcorders send 2 channels of audio over HDMI but the NINJA V+ can record up to 8 channels of digital audio embedded in the HDMI signal if supported.

HDMI Out (6)

This is for connection to an external monitor or other device with an HDMI input. It carries a loop-through of the incoming HDMI signal in record and standby mode, and the playback signal when the NINJA V+ is in playback mode. This output is 2.0a and can carry either a 4K or HD signal (with the option to down convert the 4K input to HD).

Video Scale Convert

Video out also has the option for a downscale to be applied allowing your 4K input to be converted to a 1080 HD output for use with existing HD equipment. DCI signals with a 17:9 aspect ratio have the option to be cropped to 16:9 to support a wider range of output displays.

3D LUT Output

3D LUTs can be applied to the outputs of the NINJA V+ and LUTs can also be selected to be applied to the outputs and routed out to other equipment via the HDMI connections.

HDR Output

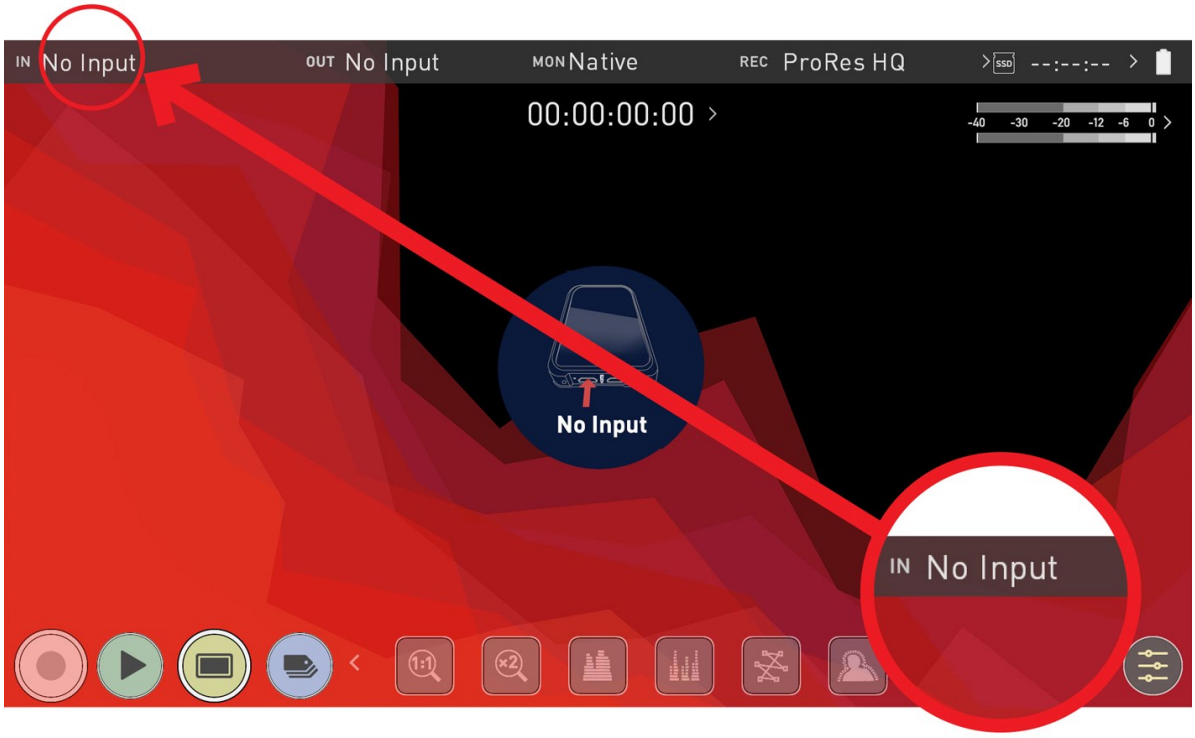
The NINJA V+ can read the incoming HDR information frame from compatible cameras that indicates if a signal is HLG or PQ. You can set the NINJA V+ to automatically detect this and loop this out. You can also convert between a Log input to HDR display standards or between HLG <> PQ, and Dolby. For more information refer to Understanding HDR and Log in the Monitoring and Recording section.

Best Practice

Understanding the basic controls and 'housekeeping' functions will save you time in the future. Before you start enjoying your NINJA V+ it will help to set the date and time, the 'device name' and file naming conventions.

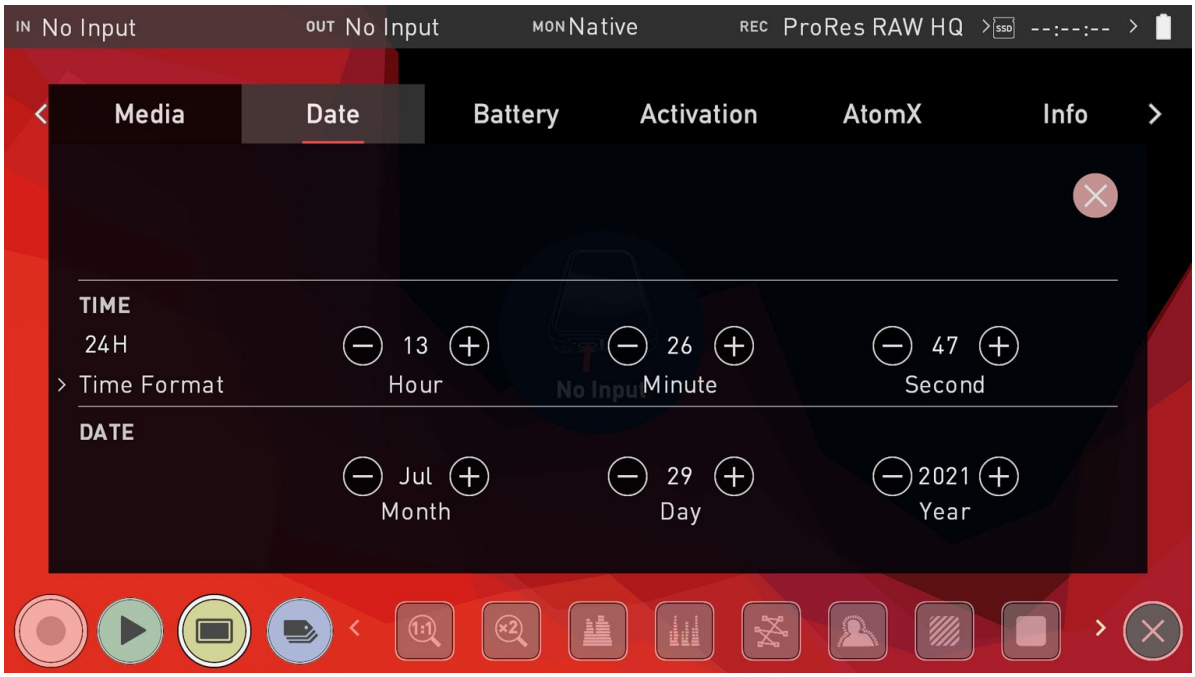
Date & Time

It is vital you set the correct date and time on your NINJA V+ to ensure that the metadata for your files is correct. To access the Date tab, tap the input indicator from the home screen Information bar.



Then swipe the menu tabs to the left to navigate to the Date tab.

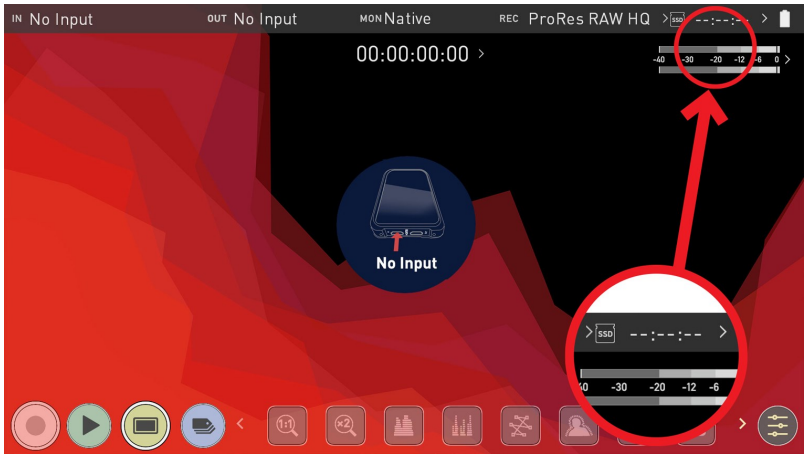
Swipe left to reveal more tabs that contain settings. If you cannot find the menu you are looking for, swipe left or right.



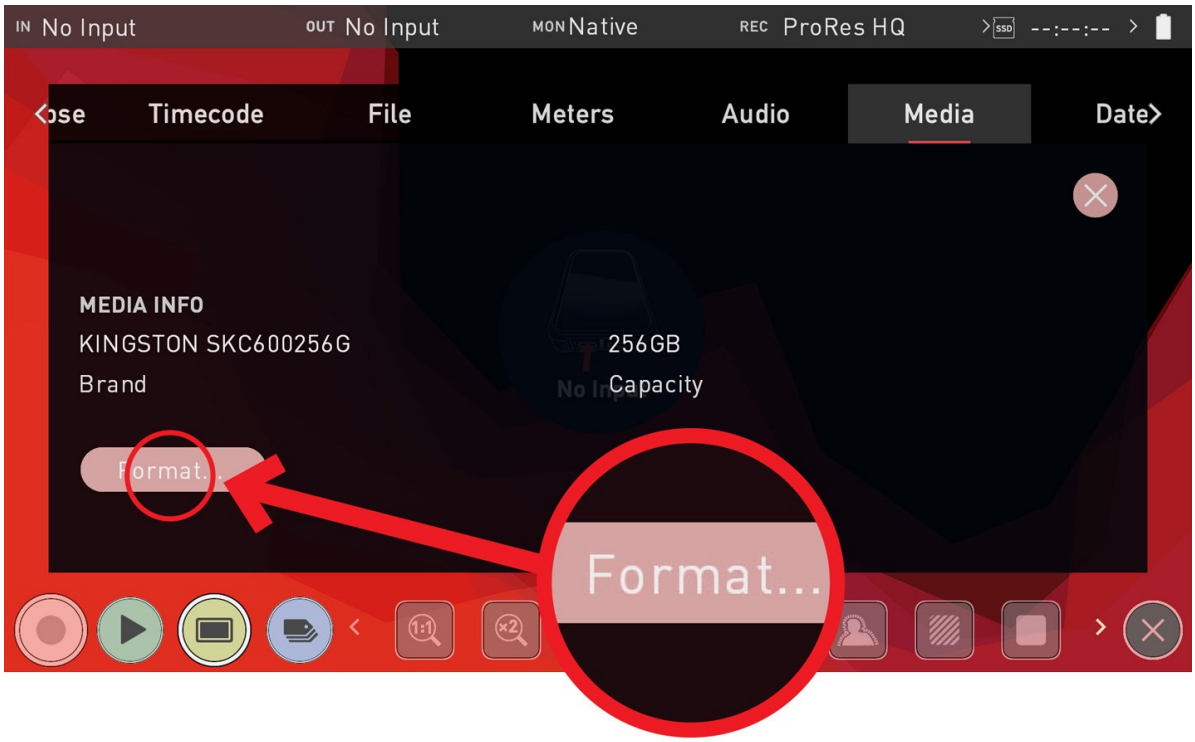
Use the -+ icons for each setting to set the time and date used on the NINJA V+. For more information refer to the Date page in the Using the NINJA V+ section.

Format Media

Make sure your drive is correctly inserted and all data from previous shoots has been securely backed-up. Touching the Storage Capacity Indicator on the home screen will take you to the Media Menu.



The Media menu provides information on the drive currently inserted. To format the drive tap the Format button (below).



When you first insert a drive you may be presented with 'Invalid media'. This means that the drive has not yet been formatted and you simply need to format your drive before using it.

If you do not see your hard drive information, there may be a problem with the connection or drive. Try removing the drive and reattaching the drive. Ensure correct alignment of your media.

The NINJA V+ uses the exFAT file system for broadest compatibility.

Secure Erase Format

For drives that carry the ATOMOS Logo such as the G-Technology 4K SSD, Angelbird 4KRAW, AtomX SSDmini by Angelbird and Sony, an option for Secure Erase is also presented. For more information refer to Secure Erase Format in "Media Menu" on page 219

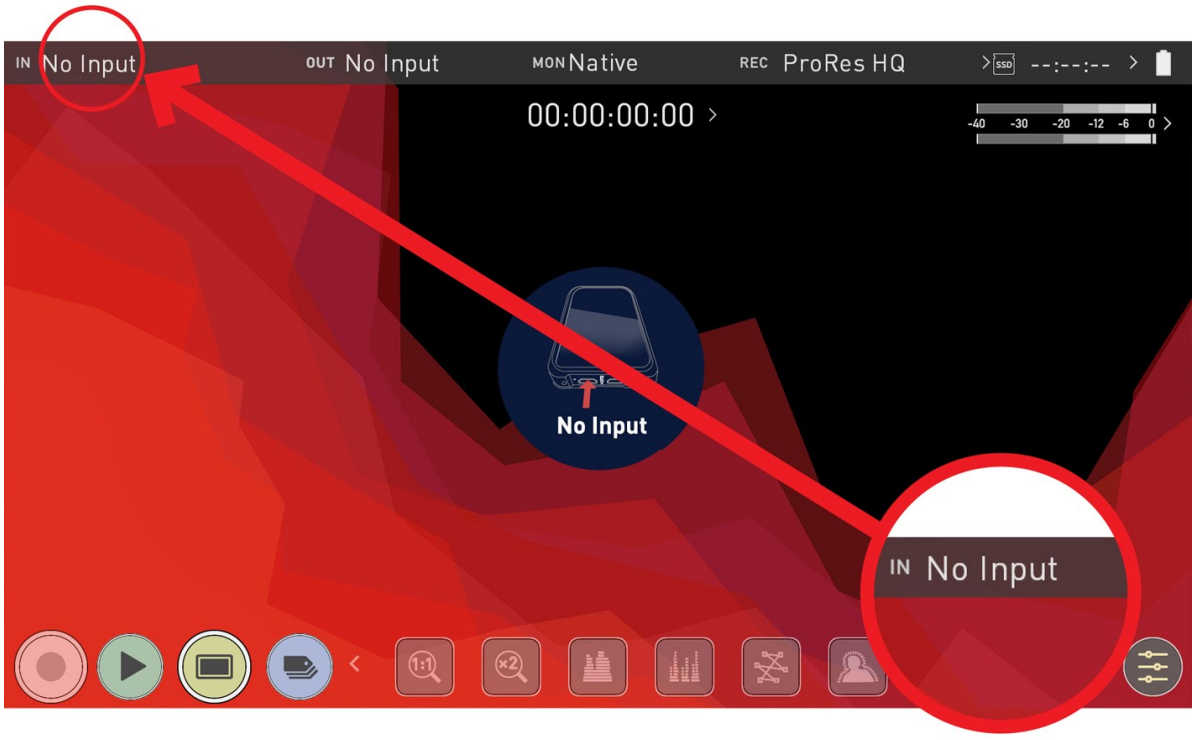
Unit Name

You can also modify the unit name for your NINJA V+. Creating a unique name for each NINJA V+ you are using can be very useful when using multiple devices or with multicam shoots. Practicing good file management during production will save you valuable time in post production.

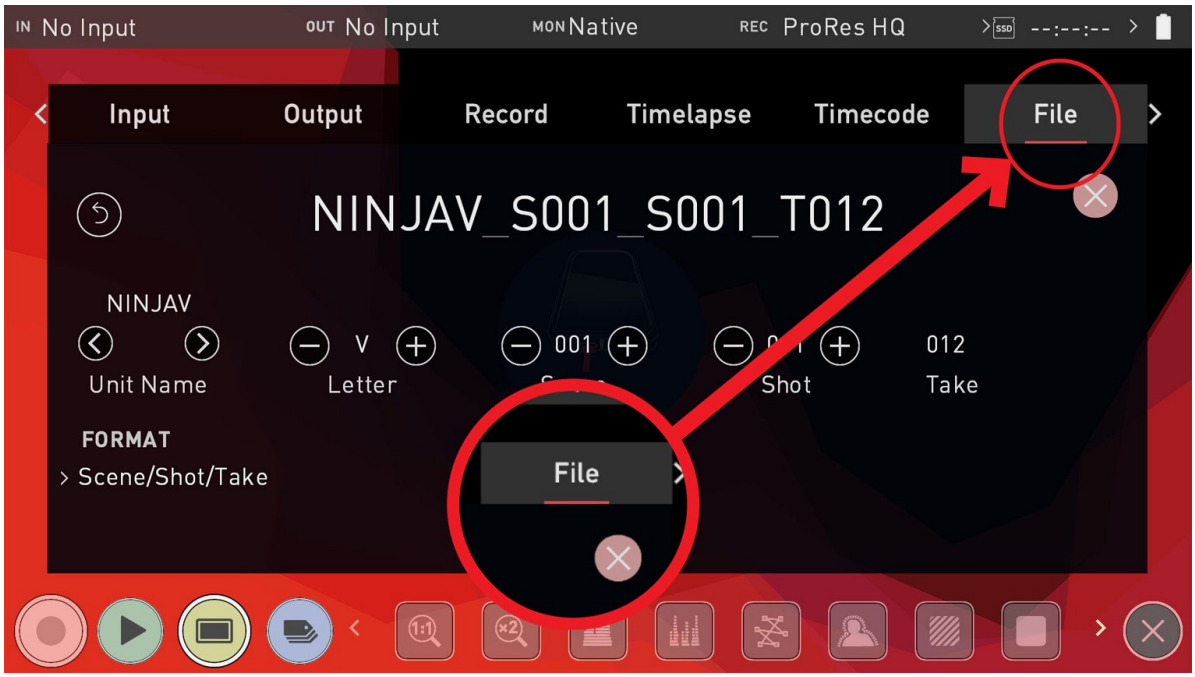
The unit name serves two main purposes:

- Drive Naming: Giving the unit a unique name aids with identification. Once you have given it a name all drives subsequently formatted in the NINJA V+ will bear this name as a prefix.
- File Naming: The current unit name appears at the start of the recorded clip name: NINJVP_S001_S001_T001

To access the unit name, tap the input indicator from the home screen Information bar.



Then navigate to the **FILE TAB** where you can change the unit name.



How to change the Unit Name:

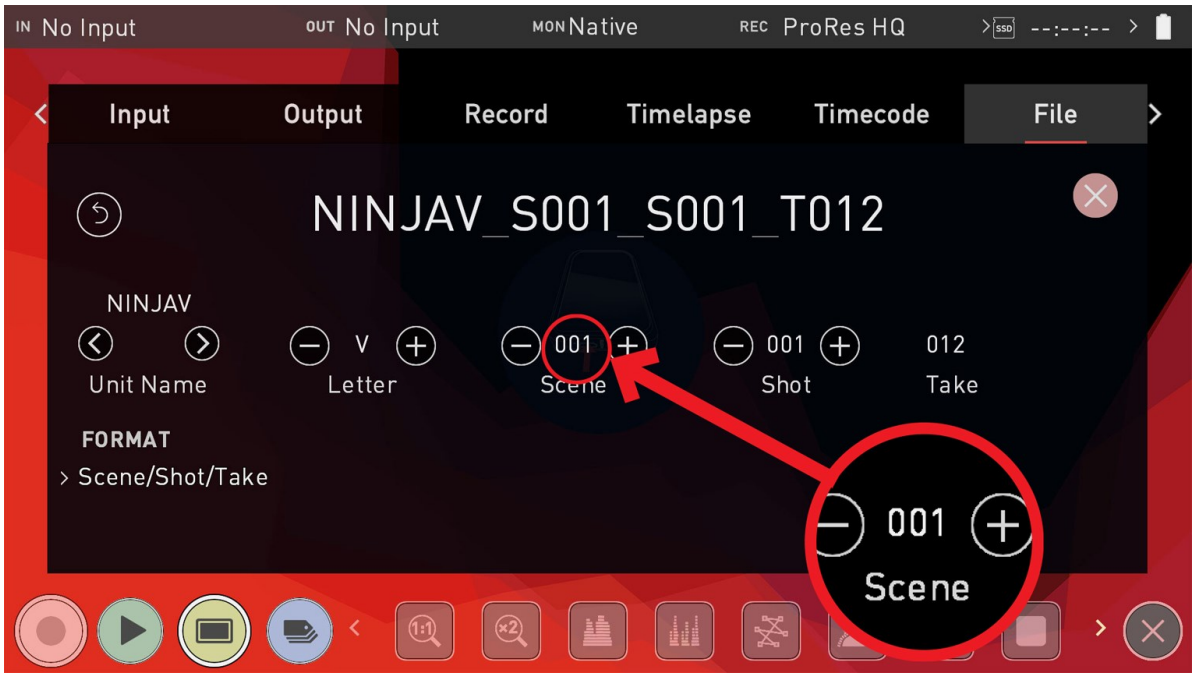
- Using the < > icons at Unit Name, select the letter to update. The character you are updating will display in the Letter indicator.
- Tap the Letter - + icons to change the character. When the correct letter is displayed, use the select control to move to the next character.

File Naming

The File menu also allows you to adjust the Scene and Shot number that will form part of the recorded clip filename: NINJVP_S001_S001_T001

How to modify the File Name:

- Use the - + icons at Scene and Shot, to increase or decrease the numerical values.
- Once you have finished making changes, tap on Apply.

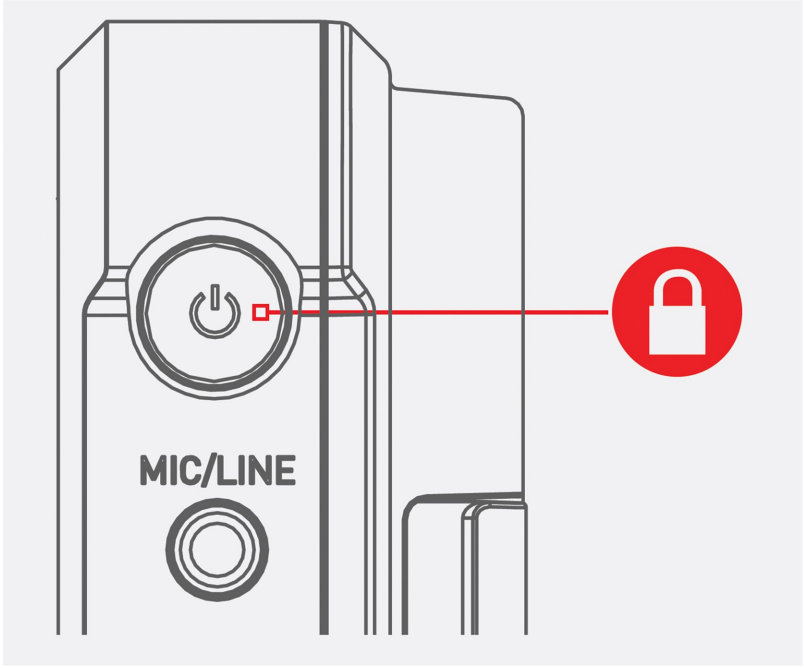


When changing the drive please ensure that you take note of the last scene and take number so you can append this, as formatting a drive will reset the scene and take counter to 001,001,001.

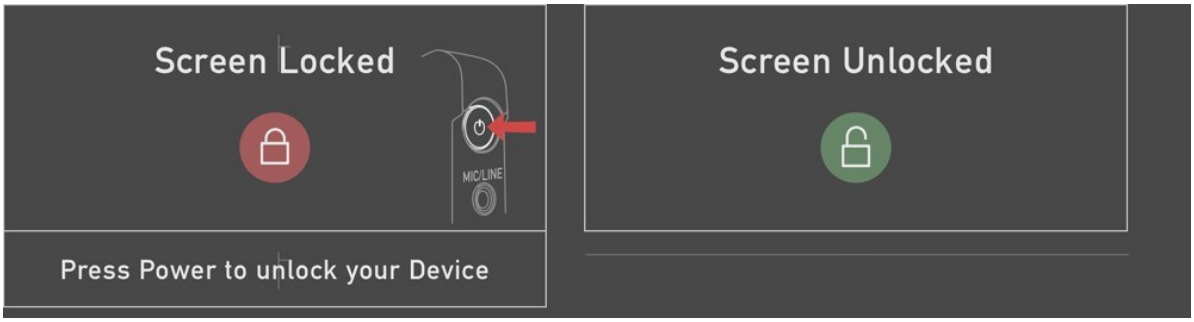
Screen Lock

Lock the Display Screen

You can lock the display of the NINJA V+ by tapping the power button. This will ensure no changes can be made by mistakenly touching the screen. Tap the power button again to unlock the unit.



Images on screen will indicate whether tapping the power button has locked or unlocked the screen.



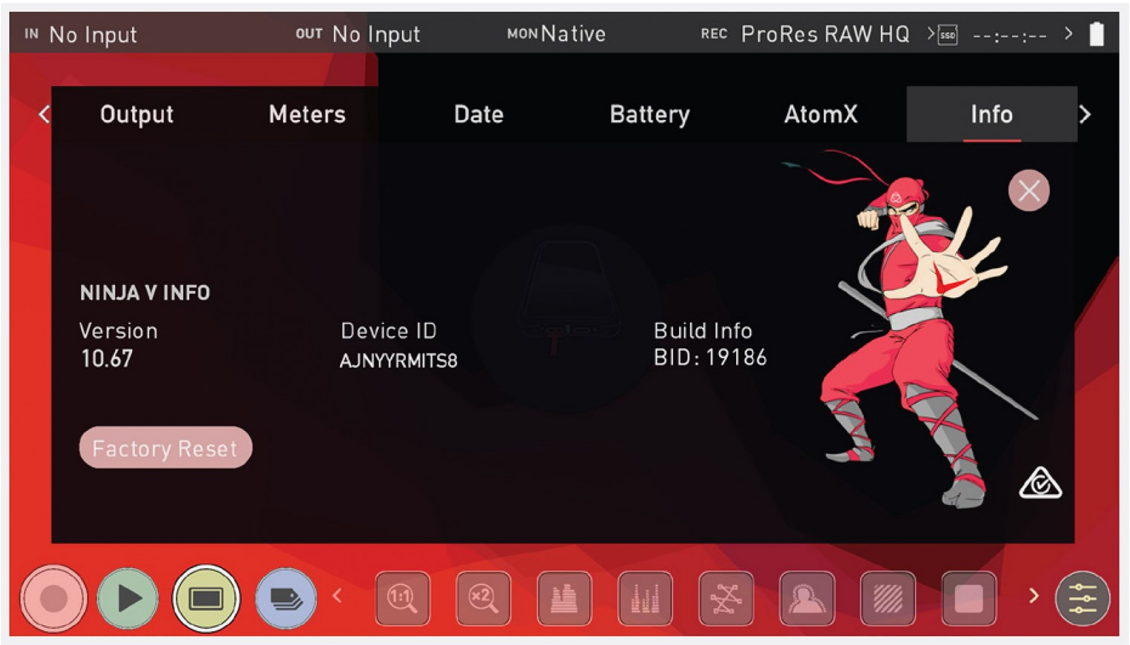
The lock screen can be combined with the Display Off function so that when the screen is locked, the display is turned off. The Tally light on the front of the unit will still display Rec (Red) or idle (green) status. The Display Off function can be found in the Monitor menu. For more information refer to 'Display Off' in the "Monitor tab" on page 328 section.

AtomOS Updates (Firmware)

From time to time we will issue AtomOS (firmware) updates for your NINJA V+. This is the software that runs inside your NINJA V+ and is available from our support page, along with the release notes for each AtomOS release.

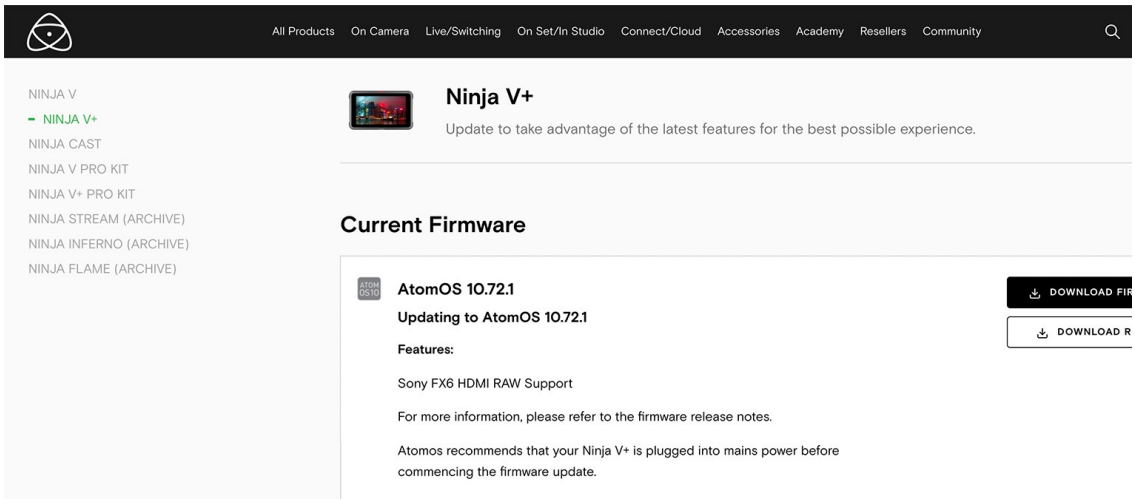
How to update AtomOS (Firmware)

1. Tap the battery icon at the top right of the home screen on your NINJA V+ to open the Power menu screen, then select the Info tab. The Info menu page lists the AtomOS version and other important information about your NINJA V+. Take note of the AtomOS version that is installed. In the image below the AtomOS version is 10.67.



2. Visit atomos.com/product-support and check the current AtomOS version for NINJA V+ which will be listed at the top of the page. In the image below AtomOS 10.72.1 is greater than the AtomOS version number displayed on the NINJA V+ in the image above, so a firmware update is required. Click Download Firmware Update to download the update.

> *The firmware release notes will list the date of release for each firmware version.*



3. Insert a compatible, formatted drive into your Docking Station and connect it to your computer.

> *Always format your drives in the NINJA V+ first. It formats the drive for optimal performance for video*

4. Unzip the downloaded zip file and copy the ATOMNJP.FW file to the root of the drive in the docking station.

> *Ensure that the firmware update file is on the root of the drive, and not in a folder on the drive.*

> *Make sure that the firmware file is not renamed when your computer unpacks the ZIP file. If you have other firmware in the same folder, the file may become renamed to ATOMNJV-1.FW when unzipping and the update will not work.*

5. Eject the drive (according to operating system guidelines).

6. Insert the drive with the ATOMNJP.FW file into the NINJA V+. Use a freshly charged battery or connect to mains power. It is very important that your NINJA V+ does not lose power during a firmware update.

ATOMOS strongly recommends that your NINJA V+ is plugged into mains power before commencing the firmware update. If using batteries for power, ensure that they have plenty of charge and that you do not interrupt your NINJA V+ while its firmware is upgrading. You will see a progress bar to the lower half of the screen. When it is finished, the NINJA V+ will restart and you will be able to use the device as normal. This process can take up to 5 minutes.

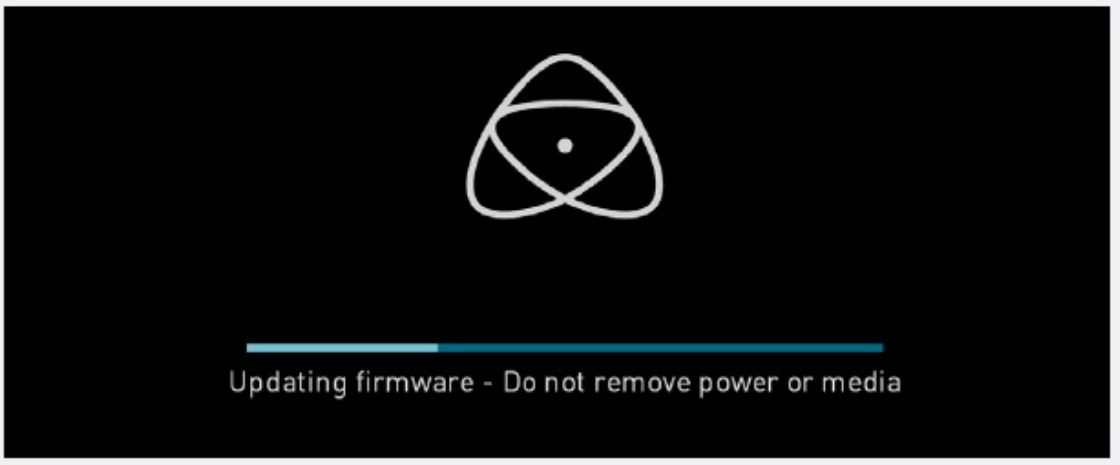
7. Press the Power Button to power the NINJA V+ on. The AtomOS update process will begin automatically.

If you place the .FW file on the drive and insert it into the NINJA V+ whilst it is turned on, the device will recognize the firmware update and ask if you'd like to apply the update. If you select 'OK' the device will shut down and begin the update process. Once the update has completed, your NINJA V+ will delete the .FW file and power down.

8. If your NINJA V+ is already powered on, you will be prompted to perform the AtomOS update when a drive containing a new AtomOS version is inserted.

9. The ATOMOS logo will appear. After a few seconds the AtomOS update will start.

10. During the AtomOS update, an 'updating firmware' screen will appear. The update will take a few minutes.



11. When the AtomOS update is finished, the NINJA V+ will:

a. Delete the ATOMNJP.FW file from your drive.

b. Power itself down.

12. Power your NINJA V+ on and check that the AtomOS version is the version expected (menu>info tab).

For further information and troubleshooting on updating AtomOS, click here.

IMPORTANT: Problems when installing AtomOS

Very rarely, the firmware update process can go wrong. This might be because of an incomplete or corrupted download. In the unlikely event of your NINJA V+ 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 NINJA V+ 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)

What you also need

These are some of the things you also need to use your NINJA V+.

HDMI cables

ATOMOS makes a range of professional HDMI cables which are ideal for connecting between your camera and NINJA V+. For 4Kp50/60p and RAW recording we advise the use of ATOMOS HDMI 2.0 cables. For more information and to purchase ATOMOS HDMI cables, visit the HDMI Cables page on the ATOMOS website.

In terms of third party HDMI cables, they are not all created equal and there are a variety of different qualities available. Please make sure you test your cables prior to shooting. This is particularly important when recording 4Kp50/60 and RAW. Many cables will claim to be high speed but will lack the required shielding on both cable and connector to maintain a high quality signal. If the signal contains errors that affect your recording, your NINJA V+ may not lock to these inputs.

Take care to use HDMI cables of the appropriate grade and ensure that you protect them from damage. Signal issues can often result from damaged HDMI cables, or from using cables that are too long.

Also check your connectivity at both the camera connector and the recorder / monitor connector to make sure you have a firm connection, to avoid signal drop outs.

If the HDMI cable is removed whilst you are recording, the 'Skippy' icon will be displayed. Tap the Skippy icon and it will disappear, ready for the next notification.

Media

Which drives should you use?

There are quite a large number of drives available on the market, and newer models appear all the time. To avoid potential data loss and/or write/read errors, ATOMOS only recommends the use of AtomX SSDmini, approved SSD media and CFAST II media only. For the most up-to-date information on compatible drives, please visit: www.atom-os.com/drives

> *Spinning Disk Drives (HDD's) are not recommended for use with your NINJA V+. They are not suitable for 4K recording or for use in environments or situations where they are subject to harsh vibration or mechanical shocks. They are also not suitable for external recording beyond 1080p30.*

> *Master Caddy II does NOT fit into the NINJA V+ media slot when ATOMOS CONNECT is attached. Only Master Caddy III, AtomX SSDmini or AtomX CFast Adapter should be used in this scenario.*

Solid State Drives (SSDs)

Widely available 2.5” SSDs are the basic storage media for ATOMOS Monitor Recorders. We work closely with leading drive manufacturers to qualify as many options as possible. Before using these drives, they need to be mounted in the Master Caddy II or Master Caddy III. For more information refer to "Mounting disks in the Master Caddy II " on page 48.

To purchase Master Caddy II units, visit atomos.com/accessories/master-caddy-ii-5pack

AtomX SSDmini

ATOMOS has teamed with the world's leading media manufacturers to design SSD media that is better suited to our ever evolving Monitor Recorders. The AtomX SSDmini is a little over 1/4 inch tall and 3" long. It is also 20% shorter than traditional SSDs, yet keeps the standard SATA III connector.

It fits directly into the NINJA V+ without the need for a Master Caddy II and is compatible with all ATOMOS recorders and docking stations. AtomX SSDmini is backward compatible with previous ATOMOS devices by adding a clever extension handle (SSDmini adapter). These tiny, slimline SSDs are a true innovation by our close drive partners Nextorage and Angelbird. 1 TB AtomX SSDmini by Angelbird pictured.

To purchase an AtomX SSDmini, visit the Nextorage SSDmini or Angelbird SSDmini pages on the ATOMOS website.

To purchase an SSDmini handle adapter, visit atomos.com/accessories/ssdmini-handle

AtomX CFast Adapter

The AtomX CFast adapter from Angelbird, utilizes the AtomX SSDmini form factor and allows you to use CFast 2.0 Type I cards for recording on ATOMOS NINJA V+. When combined with the Angelbird AV PRO CF – CFast 2.0 memory card, you can capture RAW in high resolution and high frame rates. You can even utilize older CFast type 1 cards to upload and store 3D LUTs.

To purchase an AtomX CFast Adapter, visit atomos.com/accessories/atomx-cfast-adapter

Secure Erase

For drives that carry the ATOMOS Logo such as the G-Technology 4K SSD, Angelbird 4KRAW, AtomX SSDmini by Angelbird and Sony, an option for Secure Erase is presented. This allows for the entire drive including the drive cache to be formatted. This will erase ALL content on the drive meaning nothing can be recovered. It will wipe all data off the drive (which may also be useful as a additional security measure) and reset it back as close as possible to factory conditions. The benefit of this feature is that it helps to maintain maximum drive performance, and therefore should be used when available.

Backing up and archiving

Remember that no storage media, 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 media were to suffer from a sudden failure, and you should back up your content accordingly.

Deleting files

To ensure the integrity of data writes and to avoid situations such as fragmentation, the ATOMOS operating system on the NINJA V+ does not support the deletion of files. We also do not advise removing or deleting files randomly from the disk on your computer. Often files are left in the trash or garbage partition of the drive occupying drive cache and this can affect drive performance. It’s advised that you archive your content and reformat the drive before each shoot. For more details refer to the Using the NINJA V+ - Best Practice section.

Master Caddy Docking Station

The Master Caddy Docking Station allows you to connect your media to your computer for editing directly from the drive or to copy the files to your own storage system. There are two ATOMOS Powered Docking Station models, the ATOMOS Powered Docking Station with USB 3.1 Gen 1 & 2.0 and the ATOMOS USB-C 3.1 Powered Docking Station. Both models support a single drive caddy at a time and efficiently offload the drive contents direct to your computer via integrated USB cables.

ATOMOS Powered Docking Station models:

- **ATOMOS Powered Docking Station with USB 3.1 Gen 1 & 2.0.**

  The integrated USB cable features one USB 3.0 and one USB 2.0 connector, with the latter provided for compatibility with older computers. Also provides support for an ATOMOS RAID Caddy power cable for connecting a RAID caddy.

  To purchase the ATOMOS Powered Docking Station with USB 3.1 Gen 1 & 2.0, visit the Docking Station page on the ATOMOS website.

> *The Master Caddy Docking Station is a sophisticated device supporting two different data interfaces: USB 2 and USB 3. When using the Master Caddy Docking Station you may need to connect both USB connectors. 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.*

> *When connecting the Powered Docking Station with USB 3.1 Gen 1 & 2.0 to a computer, a USB Type-C to USB Type-A Adapter may be required.*

- **ATOMOS USB-C 3.1 Powered Docking Station**

  The integrated USB cable features one USB-C 3.1 connector for use with computers with a USB-C connection.

> *When connecting the AtomX USB-C 3.1 Docking Station II with older computers a USB 3.0 Male to Type C Female adapter is required*

All NINJA V+ media can be connected to a docking station:

- AtomX SSDmini,
- Master Caddy II with SSD media installed,
- AtomX CFast adapter with CFAST II media inserted.

For the most up-to-date information on compatible drives, please visit: www.atomos.com/drives

> *Master Caddy 1 drives can connect to a Master Caddy Docking Station, but are NOT compatible with the NINJA V+ due to the compact latch design.*

Standard 1/4” or 3/8” Mount/Arm

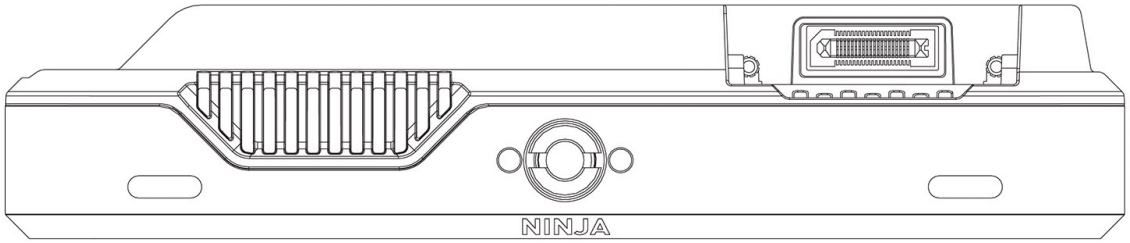
Below are some examples of tripod and hot shoe mounts, available from most camera and video specialists. A secure mount will greatly enhance usability and security of HDMI, power, remote and audio connections.

Your NINJA V+ has 3/8-16 connectors with 1/4-20 adapters and an ARRI style anti-rotational pin system on the top and bottom of the unit. Select the mount type that best suits your input device, application and conditions. For more information on the mounting points on the NINJA V+ refer to the "Mounting options" on the next page section.

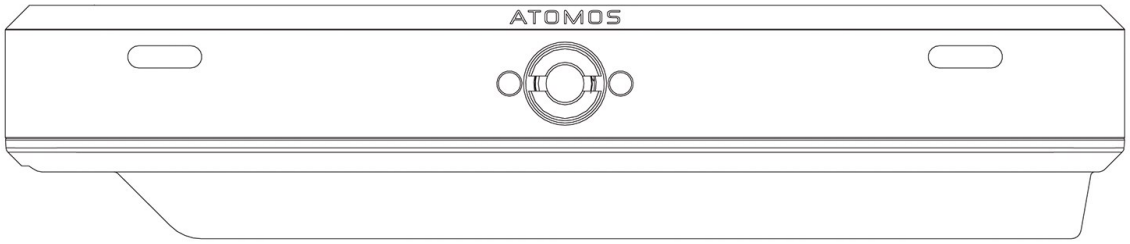
Mounting options

The NINJA V+ is designed for versatility, and includes multiple mounting options. The unit has 3/8”-16 screw mounts on the top and bottom, and comes with removable 1/4”-20 adapters installed in both locations. This allows you to have the option for a 3/8”-16 or 1/4”-20 screw mount on the top and bottom of your NINJA V+.

The 1/4” adapter is easily removed for mounting on 3/8” fixtures. To remove it, use a flat head screwdriver to gently loosen the adapter and store your adapter in a safe location.



Top view



Bottom

The mounting points on the top and bottom of the unit feature ARRI style anti-rotational pins, which allows for secure mounting of your NINJA V+ to a wide range of arms, mounts, cages and gimbals. It is compatible with the latest mounting solutions from companies such as Shape, SmallRig and Wooden Camera.

For information and to purchase the ATOMOS AtomX 5” NINJA V+ Cage by SmallRig, visit the 5" NINJA V Cage page on the ATOMOS website.

Ensure you do not over tighten the screw mounts as this may cause damage. Do not insert a 1/4-20” or 3/8”-16 thread longer than 5mm or you will risk causing damage to the aluminum chassis.

Choosing your power source

The NINJA V+ can be powered by the included AC-powered Battery Eliminator, or by using a compatible DC battery. If you are the owner of other ATOMOS devices, the batteries you have for these devices (NP-F/L Series) will be compatible with your NINJA V+.

Battery Eliminator

Included in the NINJA V+ box is a Battery Eliminator. This connects directly to the battery slot of your NINJA V+ and allows you to connect the included power supply for an AC power connection. It is also compatible with the ATOMOS coiled DC to D-Tap cable.

To purchase a Battery Eliminator, visit the Battery Eliminator page on the ATOMOS website.

> *The Battery Eliminator is suitable for use with ATOMOS devices only.*

Batteries

We recommend the use of optional ATOMOS NP-F type batteries and the ATOMOS Power Kit with the NINJA V+. The NINJA V+ can also use standard NP-F/L-Series compatible batteries. Charge new batteries before using them, using a compatible battery charger. 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.

To purchase ATOMOS NP-F type batteries, visit the 5200mAh (4 cell) or 7800mAh (6 cell) pages on the ATOMOS website.

Choosing the right battery for your application

Size	Cells	Battery Life*
5200mAh	4	Up to 2 hrs
7800mAh	6	Up to 3 hrs
Battery Eliminator	-	Continuous AC
D-Tap	-	Source dependent

* Battery life tested during Monitor/Record 4Kp60 operation.

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.

ATOMOS Fast Battery Charger (optional)

The ATOMOS Fast Battery Charger has been designed to rapidly charge NP-F type batteries, yet be lightweight so that is easy to travel with. To purchase an ATOMOS Fast Battery Charger , visit atomos.com/accessories/fast-battery-charger-power-supply

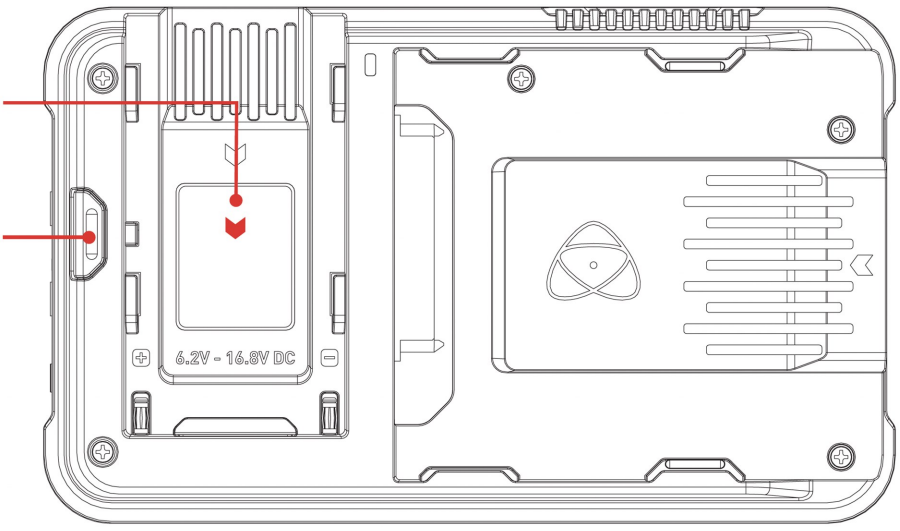
Fast charging of the battery is possible up to 80% capacity and the remaining 20% will then charge at a slower rate to maintain optimal battery life.

In the unlikely event of a charge error the first and last red LEDs will flash quickly.

Attaching a Battery or a Battery Eliminator

Battery slot
Gently slide down into battery slot and lock into position

Push the release button to unlock the battery and slide battery upwards to remove.



Once locked into position, NINJA V+ batteries and modular accessories are held in place tightly to ensure that they cannot work loose. You may have to be quite firm with the battery latches to remove batteries and accessories,

so we suggest that you familiarize yourself with the force required so that you can do this quickly in the field.

12V-3A AC power supply

The included 12V-3A AC power supply connects to the Battery Eliminator to supply power to your NINJA V+. When you have an AtomX CAST connected to your NINJA V+, the power supply connects to the DC input on the AtomX CAST to provide power for both NINJA V+ and AtomX CAST.

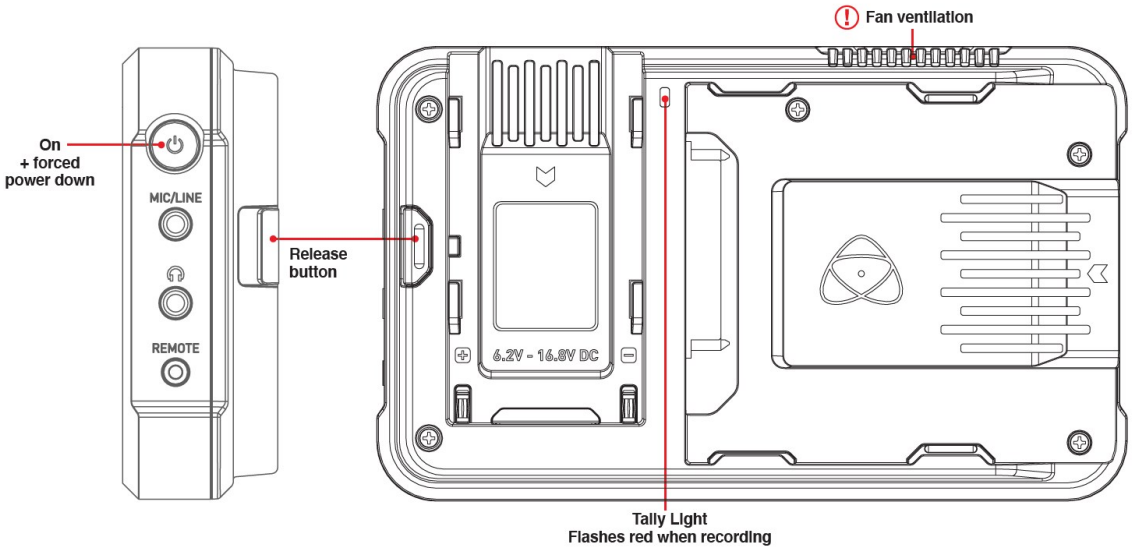
DC to D-Tap Coiled Cable

The DC to D-Tap Coiled Cable is an optional ATOMOS accessory. It is designed to allow you to power your device from an external battery system with a D-Tap port. Simply connect the D-Tap connector to your power source.

To purchase a DC to D-Tap Coiled Cable, visit ATOMOS coiled DC to D-Tap cable.

Ensure that the output of the power source does not exceed 16.8V DC.

Powering On and Off

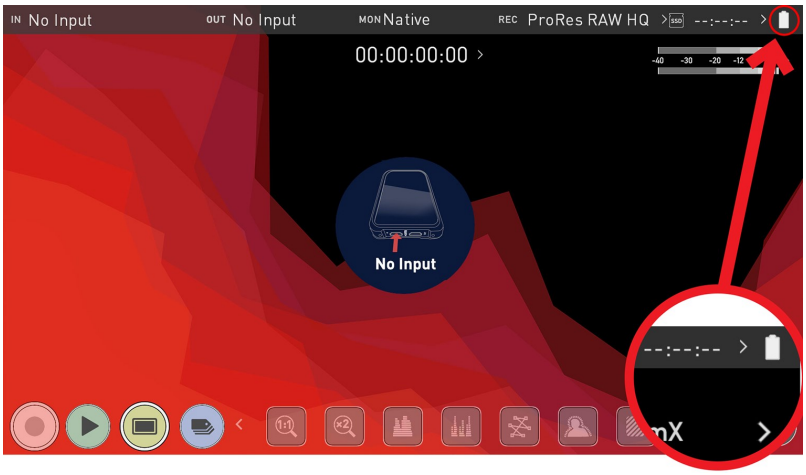


Turning ON power to the NINJA V+

The Power button is located on the top right hand side of the unit (as you look at the screen). With a power source connected, momentarily press the Power button. After a couple of seconds you will see the ATOMOS logo then the NINJA V+ Home Screen.

Turning OFF power to the NINJA V+

To turn the unit off, tap the battery icon on the top right of the home screen to open the Power menu screen.



On the Power menu screen press the green Power icon for 4 seconds.**Four seconds** can seem like a long time, but this is intentional to make sure that the NINJA V+ can't be turned off accidentally.

The icon will turn red when touched to indicate activation of the button. The unit will then power off. You can also do a forced power down by pressing the physical Power button on the side of your NINJA V+ for four seconds.

For more information on the Power menu see the "Power Menu" on page 222 section.

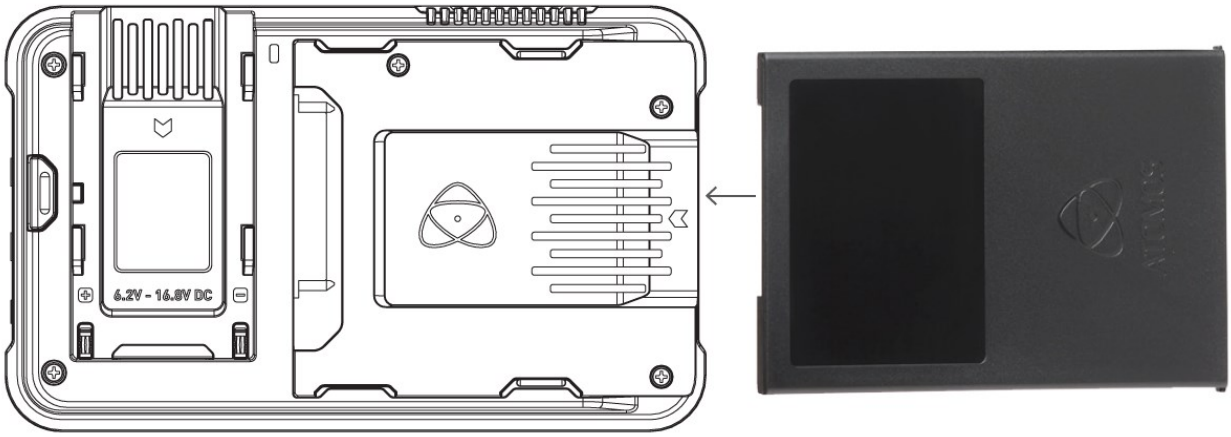
Do not press and hold the power button in on the NINJA V+ while the unit is off. This will place the device in to a Firmware recovery mode. If you accidentally do this, simply turn the device off again or remove the power source.

Take note to respect the air flow and do not obstruct the cooling vents of the unit.

Inserting and Removing Media

Inserting Media

On the rear of the unit is a 2.5” slot designed for your media. To insert an AtomX SSDmini, Master Disk Caddy II/III or the AtomX CFast adapter, gently push the media into the slot until it stops at the end of the drive slot.



Removing Media

The SSDmini, Master Caddy II/III and the AtomX CFast adapter are all hot-swappable, so you can remove the media at almost 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. To remove media, simply pull it out from the slot by holding the top and bottom tabs on the media itself.

The NINJA V+ disk slot does NOT have a release latch for media. It is a friction-fit system. Simply pull the SSDmini / Master Caddy II out using the top and bottom tabs on the caddy itself.

The AtomX SSDmini Handle is available as an optional accessory, and can be attached to your AtomX SSDmini. This allows it to be used with existing ATOMOS Master Caddy II devices, and also reduces handling and potential damage to the disk casing.

AtomX SSDmini is backwards compatible with previous ATOMOS recorders. The original Master Caddy 1 is NOT compatible with NINJA V+ as the key-ways are on one side only.

Mounting disks in the Master Caddy II

If you choose to use your own disks instead of using a pre-built AtomX SSDmini, then it needs to be installed into a Master Caddy. The Master Caddy is a plastic shell that holds your disk in place, and has two variants - Master Caddy II and Master Caddy III.

Master Caddy II is still supported on NINJA V+, however, if you are using an ATOMOS CONNECT with your NINJA V+, then you **must** mount your disks in a Master Caddy III to ensure that the disks can be inserted into the media slot when an ATOMOS CONNECT is attached to your NINJA V+.

For more information on using Master Caddy III, refer to "Mounting Disks in Master Caddy III" on page 50

> *Master Caddy II does NOT fit into the NINJA V+ media slot when ATOMOS CONNECT is attached. Only Master Caddy III, AtomX SSDmini or AtomX CFast Adapter should be used in this scenario.*

How to mount a disk into Master Caddy II

Insert the disk into the caddy, and secure with the four supplied screws. These screws should be tightened so the screw heads are flush with the casing of the caddy. 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 Master Caddy II into the NINJA V+ or the docking station makes all the connections for you.

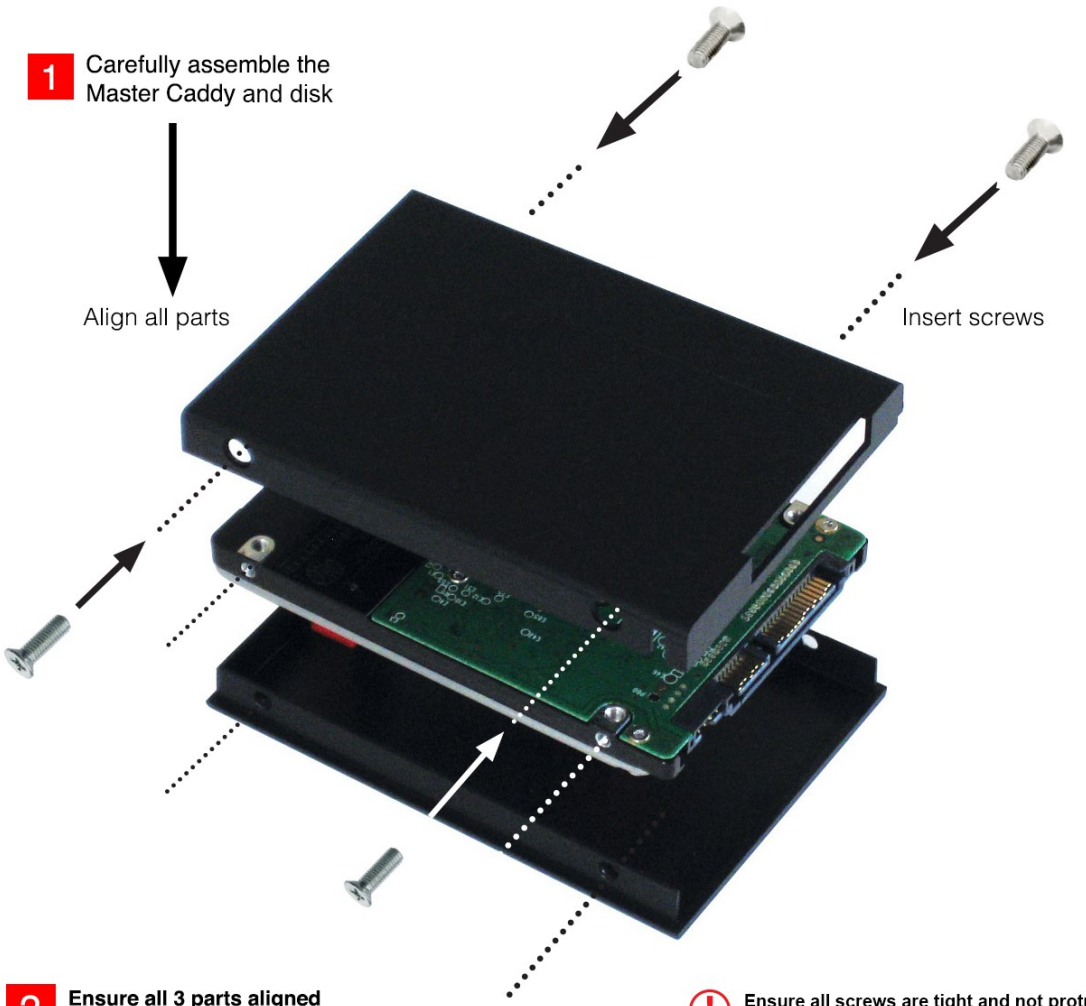
The Master Caddy can’t be inserted the wrong way round. Always make sure that the disk connector faces the slot in the NINJA V+. Push the Master Caddy II into place, but never force the disk just in case something isn’t set up or aligned properly. For information on attaching media to a Master Caddy Docking Station see "Connecting media" on page 362.

There is very little that can cause problems, but if there is an issue it is likely 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 and NEVER 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 NINJA V+ due to the compact latch design

How to Mount Disks in the Master Caddy II



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.

Ensure all screws are tight and not protruding from casing. Loose screws may cause the caddy to become lodged in the disk slot.

Mounting Disks in Master Caddy III

If you choose to use your own disks instead of using a pre-built AtomX SSDmini, then it needs to be installed into a Master Caddy - a plastic shell that holds your disk in place.

Master Caddy III was introduced with the release of the ATOMOS CONNECT accessory, and must be used when ATOMOS CONNECT is attached to the NINJA V+. If you have used Master Caddy II before with other ATOMOS products, you will notice that Master Caddy III has a slimmer, lighter weight design to ensure that the disks can be inserted into the media slot when an ATOMOS CONNECT is attached to your NINJA V+. A Master Caddy III and screws are provided in the box when you purchase an ATOMOS CONNECT.

For information on drives that are compatible with your NINJA V+, refer to the compatible drive page at atomos.com/compatible-drives

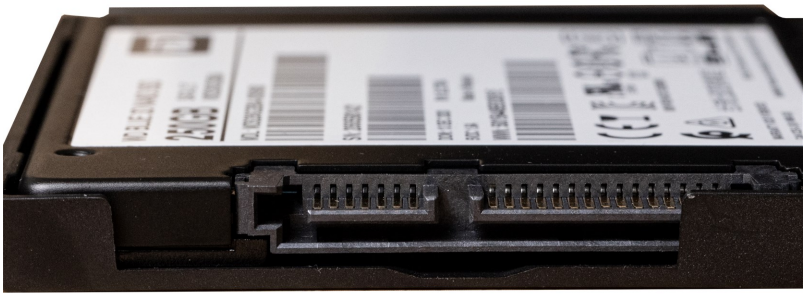
Master Caddy II does NOT fit into the NINJA V+ media slot when ATOMOS CONNECT is attached. Only Master Caddy III, AtomX SSDmini or AtomX CFast Adapter should be used in this scenario.

How to mount a disk into Master Caddy III

When inserting the disk into the Master Caddy III, ensure that the SATA connectors of the drive line up with the gap in the plastic shell. If they do not line up with this gap, turn the drive over.

Correct alignment

Incorrect alignment



It is important to properly align the drive correctly with this gap in the Master Caddy III, so that the drive can connect to the SATA connectors on NINJA V+ when inserted.

SSDs are very sensitive to damage from static electricity. Please observe all the usual precautions when handling them and NEVER touch the exposed SATA connector as static electricity may be harmful to your disk.

With the drive inside the Master Caddy III, use the four supplied screws to secure the drive in place. These screws should be tightened so the screw heads are flush with the casing of the caddy. The caddy is light and the disk just needs to be held securely.

Take care not to over-tighten the screws.

When inserting the Master Caddy III into the media slot on your NINJA V+, ensure that the SATA connectors on the disk line up with the SATA connectors on your device. Gently push the Master Caddy III into place, but never force the disk just in case something isn’t set up or aligned properly.

If you experience difficulty when inserting the Master Caddy III to your device, the drive may not be sitting correctly in the Master Caddy or the screw heads may not be flush with the casing of the caddy. A quick visual check will confirm this. Remove the drive and re-insert it in the Master Caddy III.

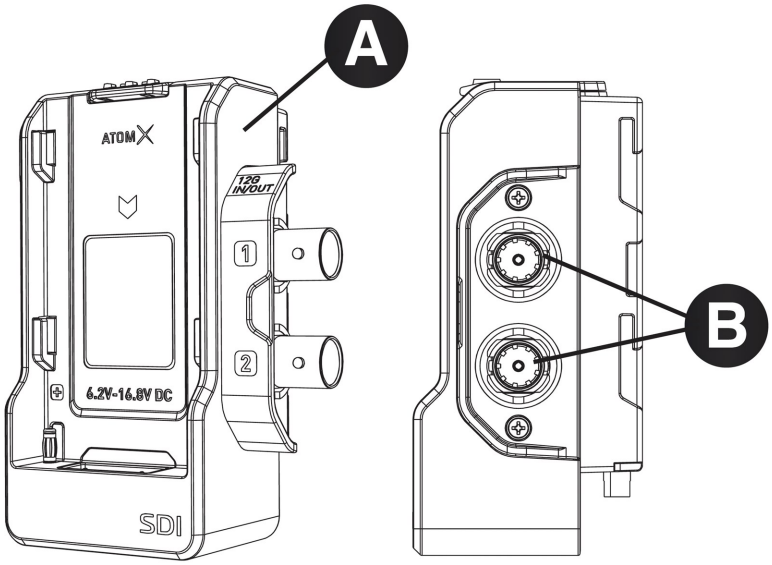
For information on attaching media to a Master Caddy Docking Station see "Connecting media" on page 362

Master Caddy II is still supported on NINJA V+ when an ATOMOS CONNECT is not attached to your NINJA V+. For information on using Master Caddy II, refer to "Mounting disks in the Master Caddy II " on page 48

AtomX Expansion Modules

AtomX expansion modules attach to the AtomXpansion port on your NINJA V+, and provide additional connections and functionality.

AtomX SDI Expansion Module



The AtomX SDI Expansion Module (A) adds the quality and convenience of SDI connectivity to your NINJA V+, which allows you to monitor and record SDI video up to 4Kp60 from a range of professional cameras and video sources. The two BNC connectors (B) allow for input and output connections, so you can send video to or receive video from any SDI device. This provides flexibility for any video or film production to allow all crew including directors, cinematographers, assistants and focus pullers to monitor and replay identical and calibrated content in HDR at the same time.

To use the AtomX SDI Module with your NINJA V+, firmware version 10.65 or later needs to be installed.

The AtomX SDI Expansion Module also allows you to cross convert signals between HDMI and SDI. This means that where HDMI sources are connected to your NINJA V+, an SDI signal can be output from both of the BNC connectors on your AtomX SDI Expansion Module. Where an SDI video signal is connected to your AtomX SDI Expansion module, you can output an HDMI signal over the HDMI Out connector on your NINJA V+. Cross conversion happens automatically, and does not need to be enabled. For more information on cross conversion refer to "Cross Conversion" on page 106.

For more information or to purchase an AtomX SDI Module, visit atom-os.com/accessories/atomx-sdi

> *To use the cross conversion feature, firmware version 10.65 or later needs to be installed on your NINJA V+.*

SDI RAW

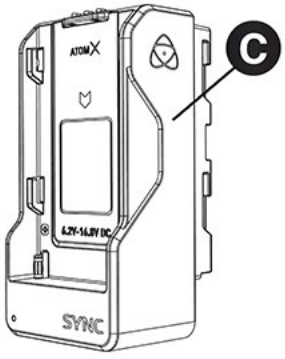
You can add the SDI RAW feature to your NINJA V+ by purchasing the optional SDI RAW upgrade at my.atomos.com

After activating the feature on your NINJA V+, you can use the AtomX SDI Expansion module to record RAW over SDI from compatible cameras. Refer to Activation section for more information on the activation process.

> *To use the AtomX SDI Module for SDI RAW, firmware version 10.65 or later needs to be installed on your NINJA V+*

> *When RAW over SDI is enabled on a connected camera, your NINJA V+ will automatically detect the RAW signal and prompt you to select ProRes RAW as the recording codec.*

AtomX SYNC Expansion Module



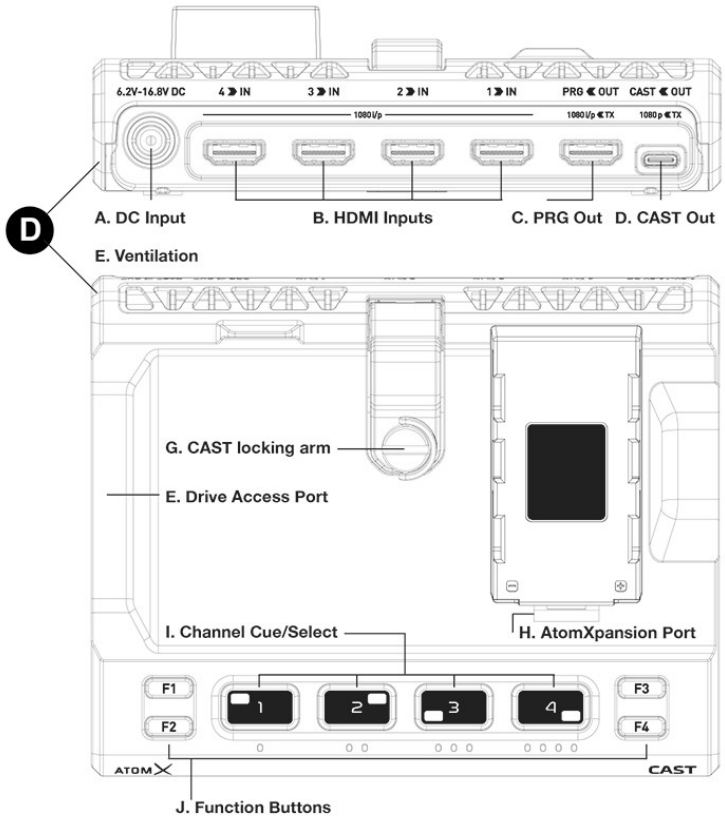
The AtomX SYNC Expansion Module (C) adds professional wireless timecode and sync to any HDMI camera or source, making it easy to integrate consumer cameras into multicam productions. This allows for perfect synchronization with a range of other products including iOS devices, professional audio recorders and cameras. The ATOMOS UltraSync ONE and UltraSync Blue can also be used to bring multiple cameras and devices into perfect sync.

The result is that your footage and audio from multiple sources will be perfectly aligned when you bring it into your NLE timeline. You can sync and/or control any number of NINJA V+ units equipped with AtomX Sync modules on the same network at ranges of 200m+. AtomX Sync also has a built-in battery extender that allows for continuous power when swapping batteries, ensuring uninterrupted operation of the NINJA V+ during a shoot.

For more information or to purchase an AtomX SYNC visit atom-os.com/accessories/atomx-sync

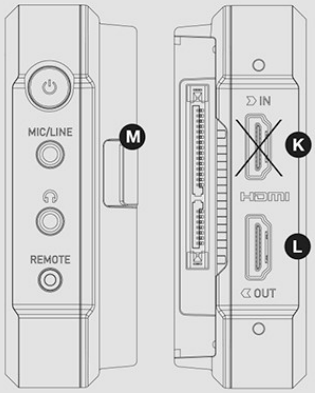
To use the AtomX SYNC Module with your NINJA V+, firmware version 10.65 or later needs to be installed.

AtomX CAST



K. When docked into the AtomX CAST the HDMI input on the Ninja V/V+ is NOT IN USE.

L. **HDMI OUT** - The HDMI Output of the Ninja V/V+ can be configured for use as **Program, Preview or Multiview output.** This is configured from with the menu of the Ninja V/V+.



M. Release Button - press the battery release button on the rear right hand side of the Ninja V/V+ to disengage the AtomXpansion Port.

The AtomX CAST (D) is a modular companion that transforms the NINJA V+ into a 4 input HDMI switcher. The combination of the NINJA V+ and AtomX CAST becomes the Ninja CAST, a fully functional stand-alone switcher with an integrated high quality 5” HDR touch-screen monitor with multi-view, broadcast quality recording and physical buttons - that can be used anywhere and does not require a computer to function. The flexible control options allow you to use either the touchscreen or the physical buttons to 'switch' between sources when deciding what should be on screen at any one time for broadcast.

Ninja CAST appears as a high-quality webcam to your computer, and it works immediately with your video applications like Zoom, Teams and Skype without the need to install drivers on the computer. Create broadcast quality multicamera programs and use features like logos, graphics and picture in picture to enhance your online meetings, presentations, conferences, remote learning/training, virtual conferences or demonstrations.

To purchase an AtomX CAST visit atomos.com/accessories/atomxcast

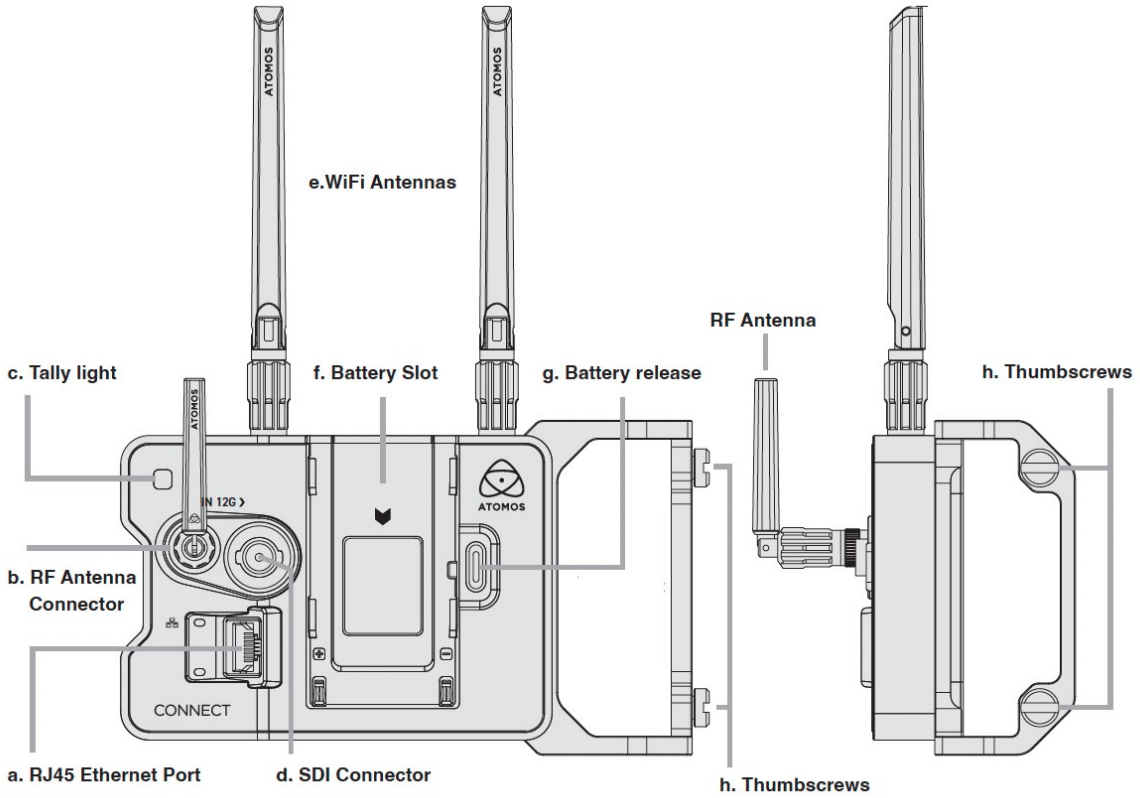
To use AtomX CAST with your NINJA V+, firmware version 10.71 or later needs to be installed.

ATOMOS CONNECT

ATOMOS CONNECT attaches to the AtomXpansion port on your NINJA V+ and provides additional connections and functionality. It features a 12G-SDI input, ATOMOS AirGlu™ wireless sync timecode technology for direct, long-range communication between devices, multiple power options to accommodate a variety of on-set scenarios, plus Wi-Fi 6 and Gigabit Ethernet. When attached to the NINJA V+, the ATOMOS CONNECT transforms professional cinema, mirrorless, and DSLR cameras into fully connected devices that support a range of advanced cloud-based workflows. For more information on cloud-based workflows refer to the "Connect Menu - Atomos Cloud Studio" on page 145 section.

and Bluetooth LE capabilities for flexible connections.

To use the ATOMOS CONNECT with your NINJA V+, ensure you have AtomOS firmware version 10.8 or later installed. Visit atomos.com/support to download firmware for your device.



ATOMOS CONNECT Connections

a. RJ45 Ethernet Port

1Gbe Ethernet for a high-speed robust hardwired network connection.

b. RF Antenna Connector

Connect the supplied RF antenna for AirGlu™ wireless SYNC functionality.

c. Tally Light

Red Tally light on the rear of the unit will flash when recording. Tally light can be enabled/disabled in the "Monitor tab" on page 328.

d. SDI Connector

The SDI input connector is 12G compliant and backwards compatible with 6G, 3G and 1.5G signals.

e. WiFi Antennas

Connect the two supplied WiFi antennas in this position. Wi-Fi 6 provides high performance wireless connection and mobile hotspot support

f. Battery Slot

Attach NP-F / L-Series batteries or a Battery Eliminator to supply power.

You cannot attach or 'stack' AtomX modules to the Battery Slot (f) on the ATOMOS CONNECT accessory.

g. Battery Release

Press and slide an attached power source away from the unit to remove it.

h. Thumb screws

Use the provided thumb screws to securely attach the CONNECT to the left side of your NINJA V+.

Take care not to over tighten the thumb screws.

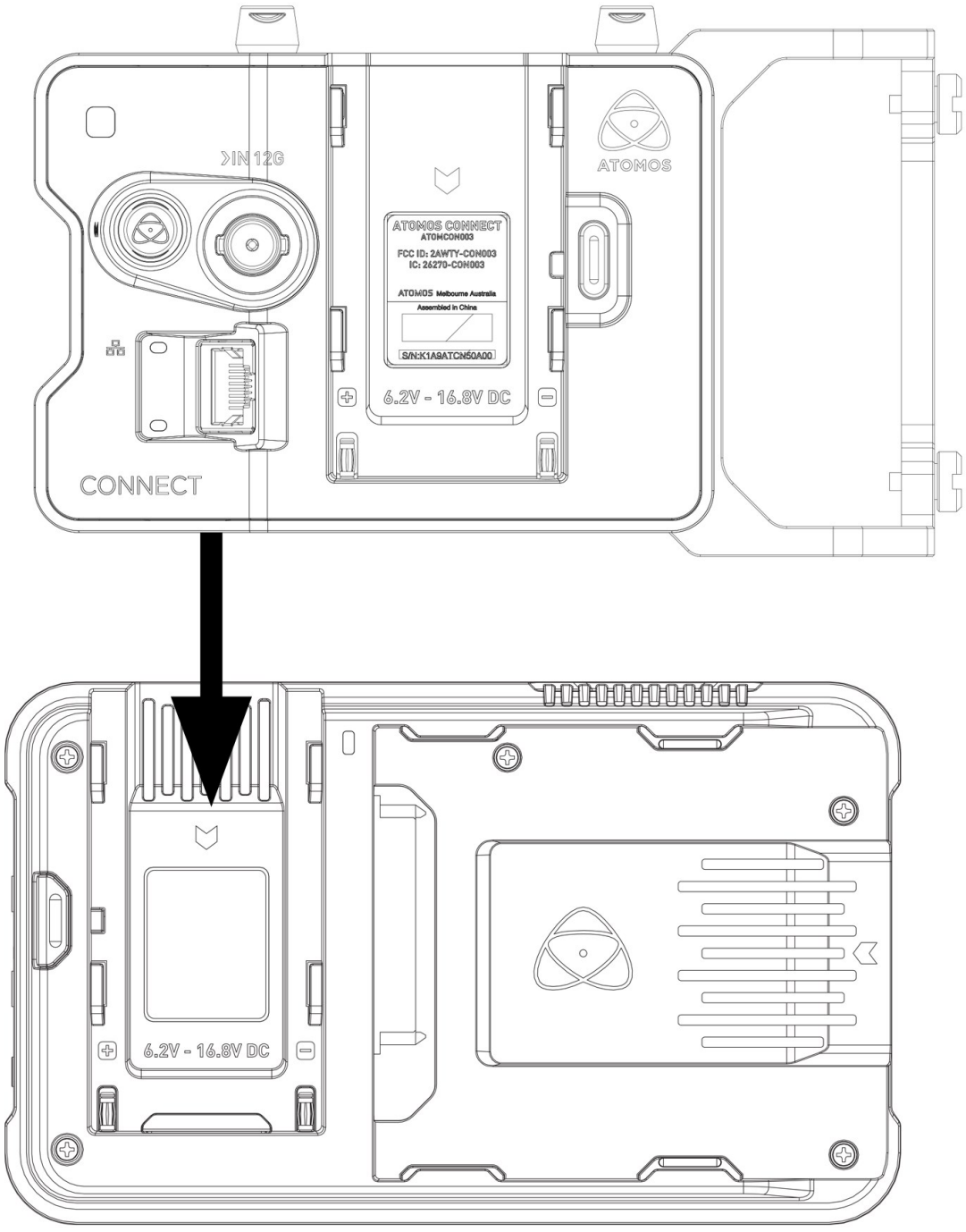
Master Caddy II does NOT fit into the NINJA V+ media slot when ATOMOS CONNECT is attached. Only Master Caddy III, AtomX SSDmini or AtomX CFast Adapter should be used in this scenario.

Attaching / Removing ATOMOS CONNECT

The ATOMOS CONNECT attaches to your NINJA V+ in the same way that you attach AtomX modules to your NINJA V+.

To attach the ATOMOS CONNECT to your NINJA V+:

1. Line up the rear part of the ATOMOS CONNECT with the AtomXpansion port of NINJA V+.

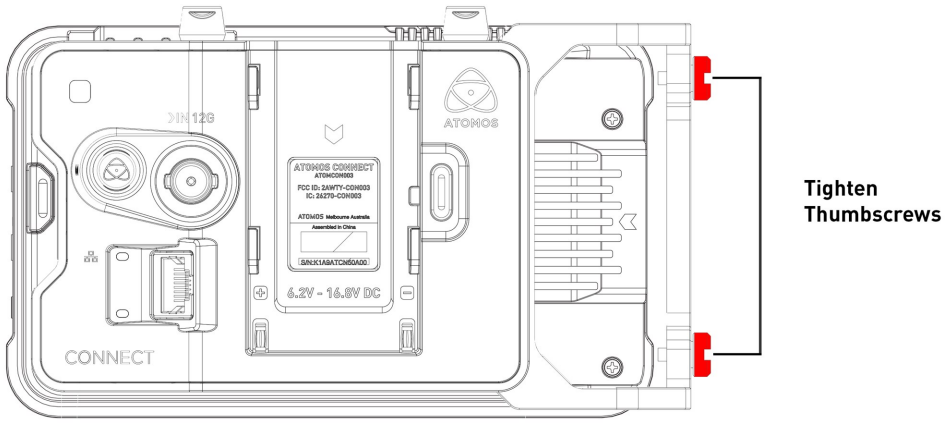


2. Gently slide ATOMOS CONNECT into the AtomXpansion port until it clicks into place.

When mounting ATOMOS CONNECT, make sure that it clicks into place.

3. Tighten the thumbscrews (h) to secure ATOMOS CONNECT in place.

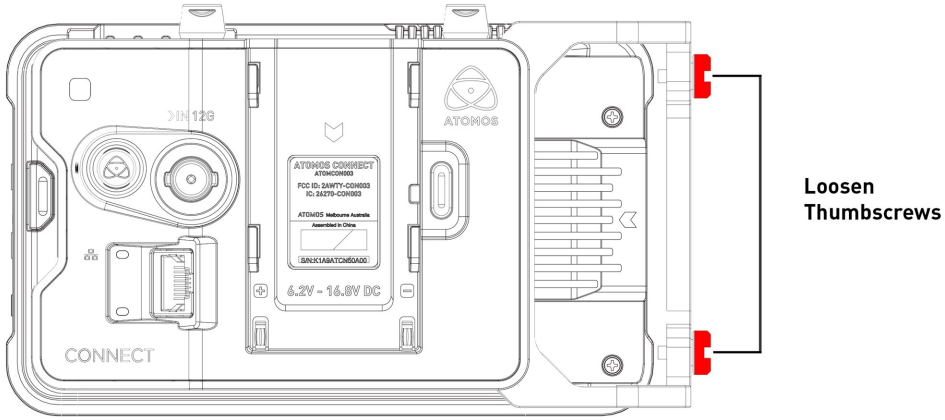
Take care not to over tighten the thumb screws.



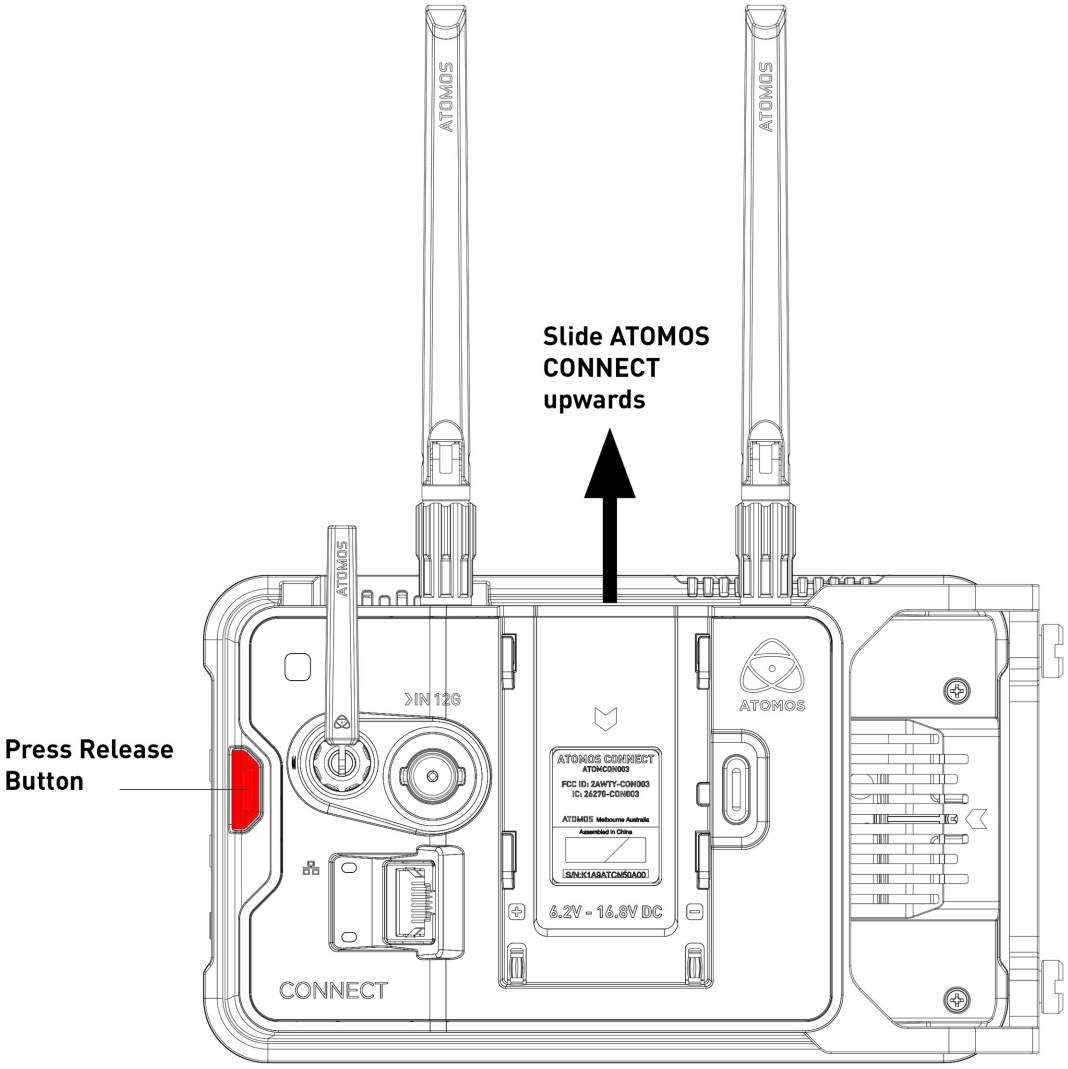
To remove ATOMOS CONNECT from your NINJA V+:

Ensure that any inserted media is removed from your NINJA V+ before attempting to remove the ATOMOS CONNECT from your NINJA V+.

1. Loosen the thumbscrews completely (h).

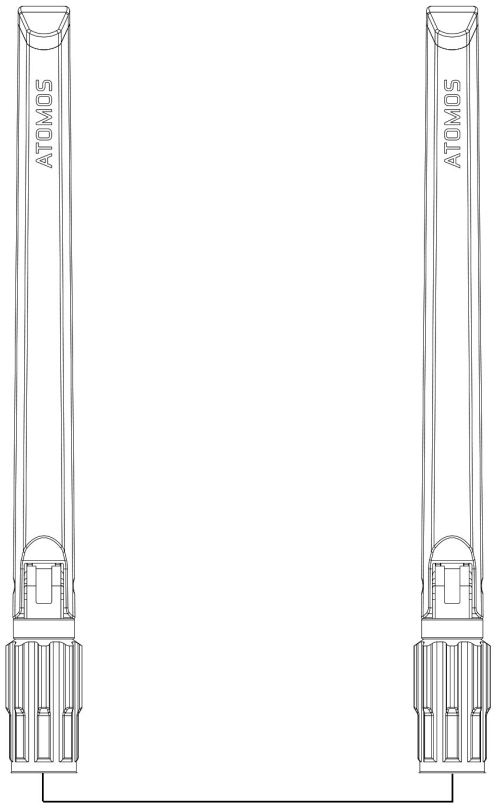


2. Press the release button on the NINJA V+ and gently slide the ATOMOS CONNECT upwards and away from the NINJA V+.

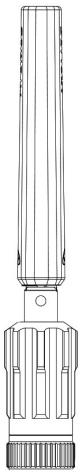


Attaching the Antennas to ATOMOS CONNECT

There are three antennas inside the ATOMOS CONNECT box. Two of the antennas are identical in size and shape and one is smaller in length. The two longer antennas are the Wi-Fi antennas, and the smaller antenna is the RF antenna.

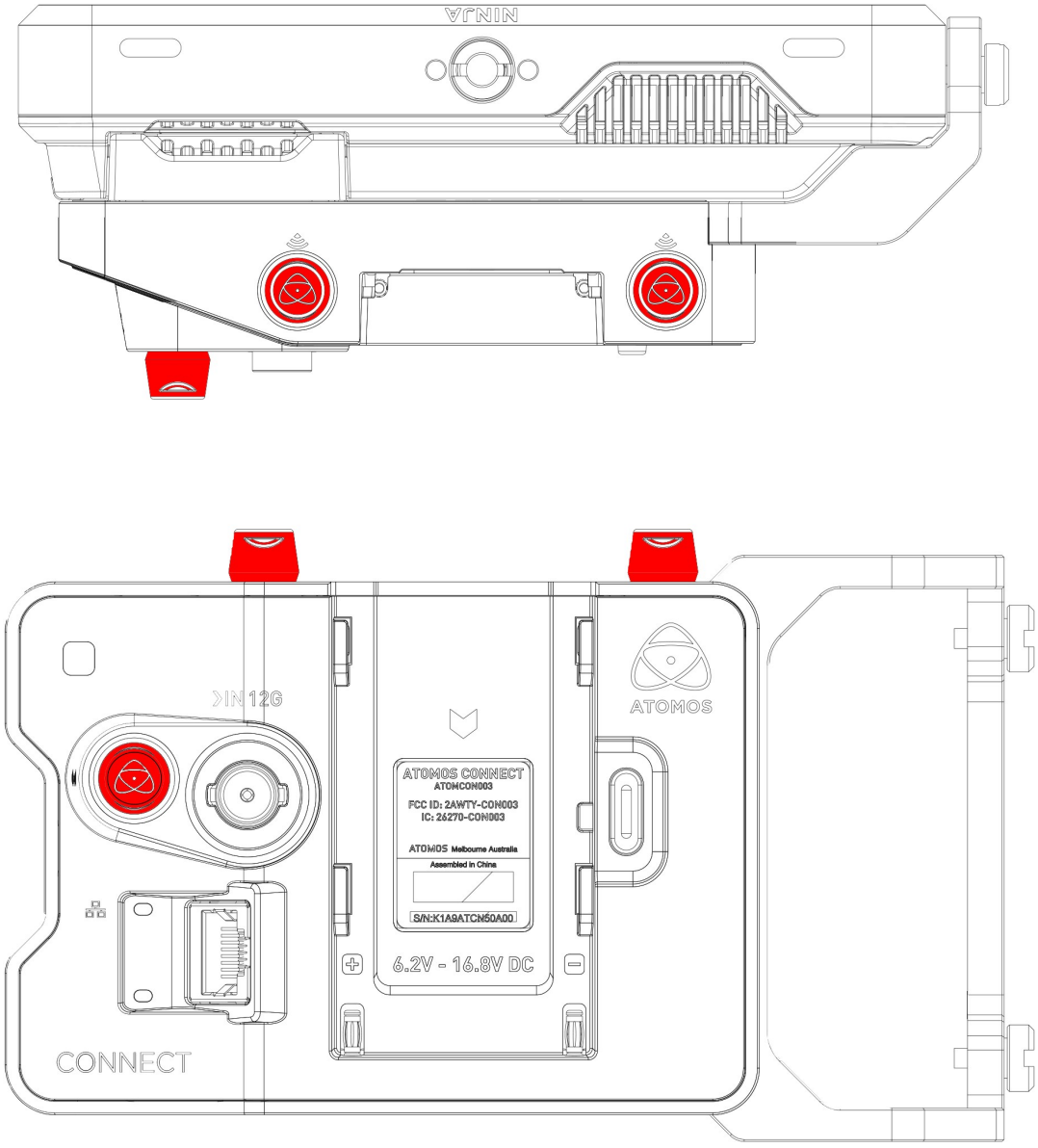


Wi-Fi Antennas

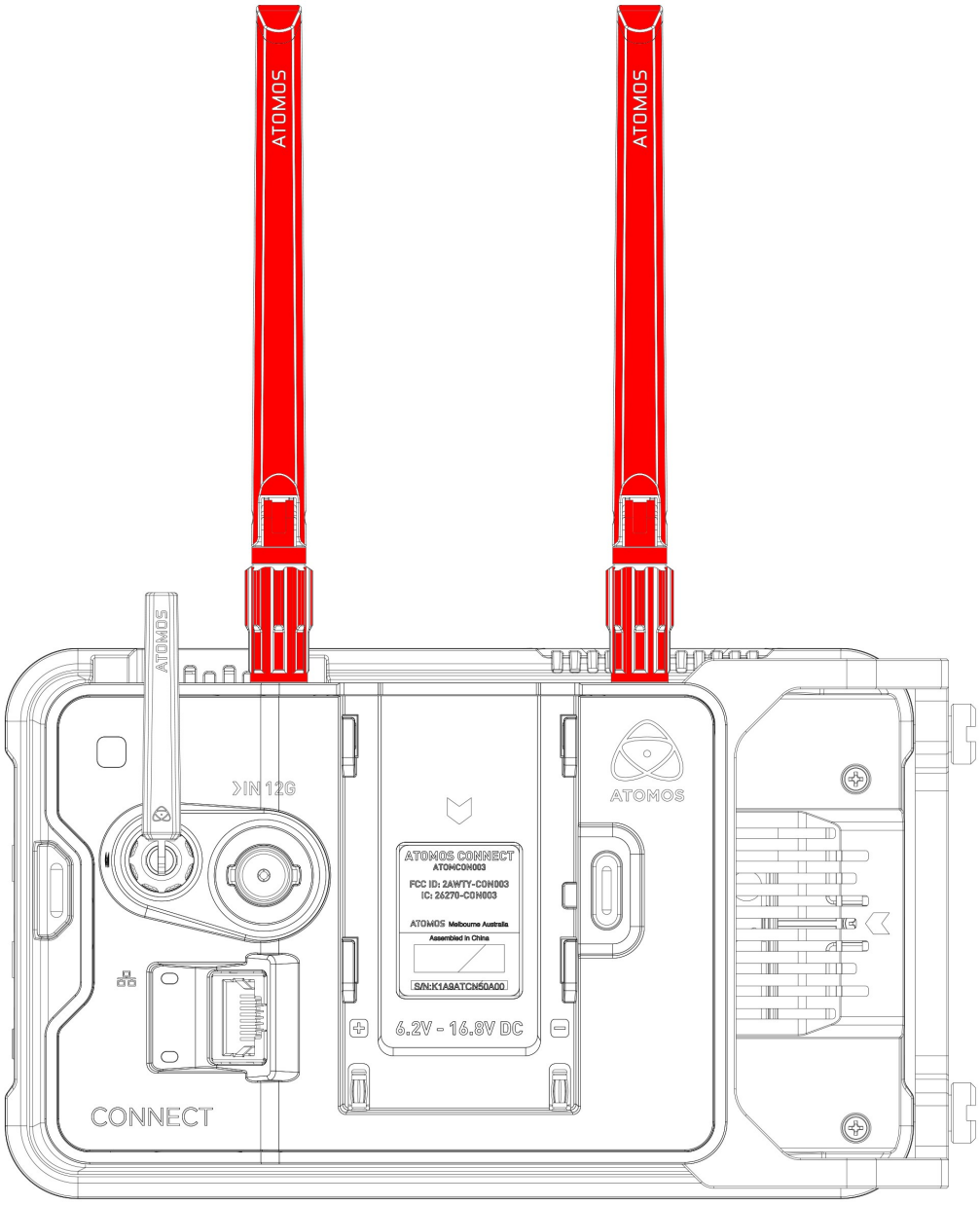


RF Antenna

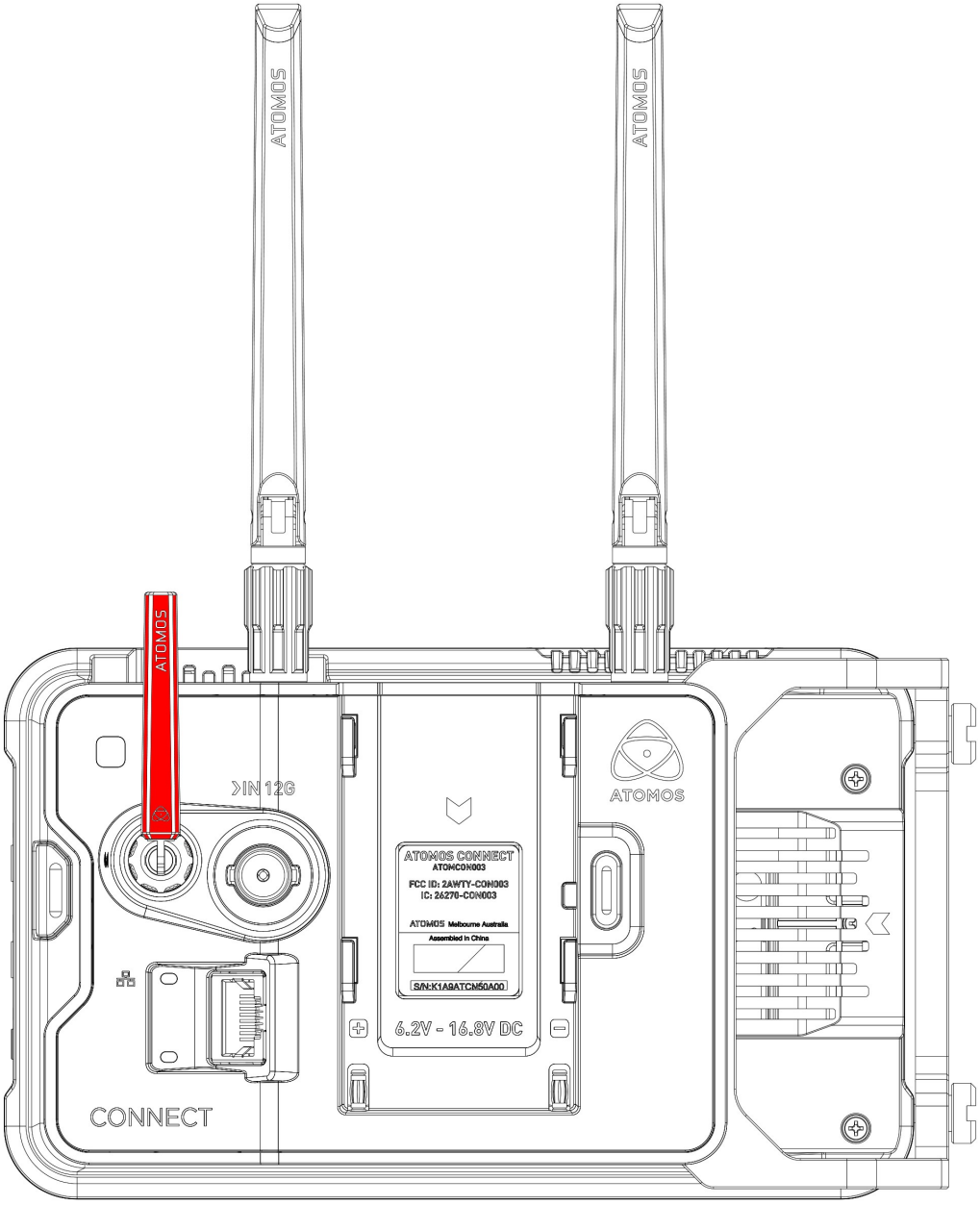
1. Unscrew the Antenna mount covers from the positions indicated, and store them in a safe place. When the antennas are not attached, these covers should be screwed in place to protect the antenna connectors.



2. Screw the 2 x Wi-Fi antennas into the Wi-Fi connectors on the top of ATOMOS CONNECT.



3. Screw the smaller antenna into the RF connector on the back of ATOMOS CONNECT.



Attaching Power to ATOMOS CONNECT

The ATOMOS CONNECT can be powered by the DC Power Supply and Battery Eliminator that were supplied with your NINJA V+, an optional D-Tap to DC Barrel Coiled Cable (ATOMDTPCB2) or NP-F / L-Series type batteries. Connect your chosen power source to

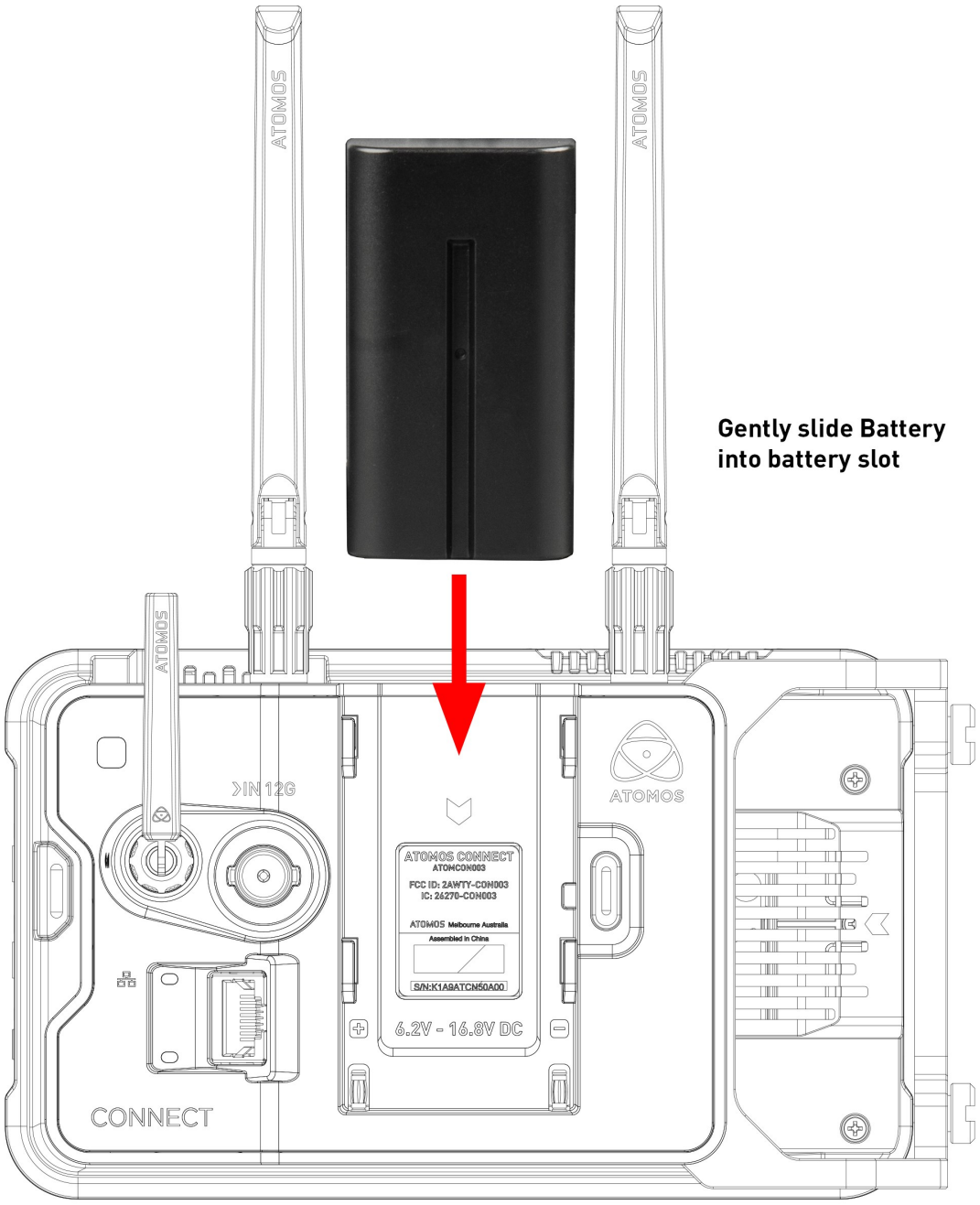
the battery slot (f) to provide power in the same way you would attach a power source to your NINJA V+.

Connecting a power source to the ATOMOS CONNECT supplies power for both NINJA V+ and CONNECT.

The first time you power on your NINJA V+ with ATOMOS CONNECT attached, you will be prompted to select your region of use. Tap Region to cycle through the options and then tap on Confirm. This message will also appear after performing a factory reset and after installing new AtomOS firmware.

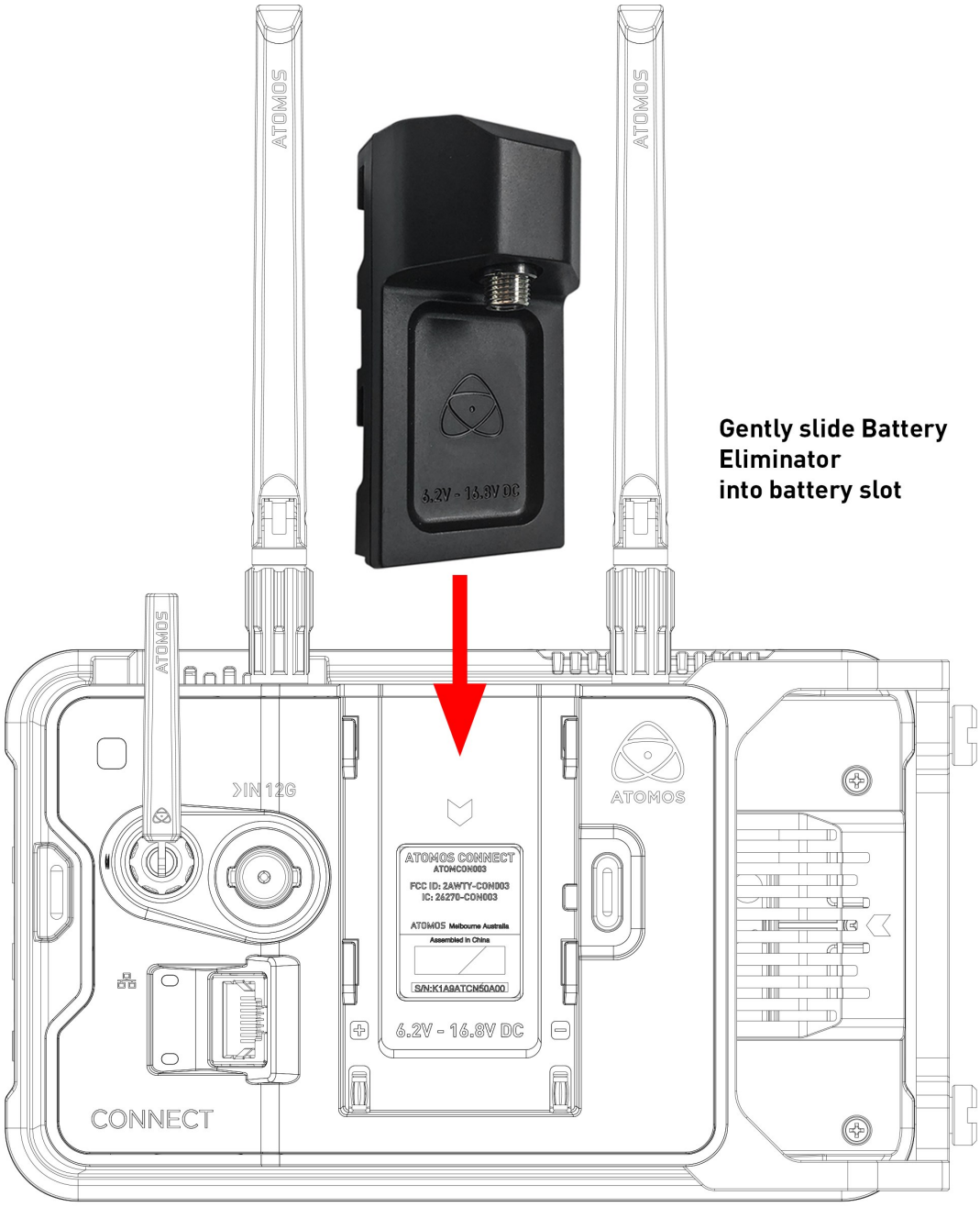
To attach an NP-F / L-Series type battery to ATOMOS CONNECT

- Place the battery in front of the retaining lug, align with the connectors and slide the battery into the battery slot (f) until it clicks into place



To attach a Battery Eliminator to ATOMOS CONNECT

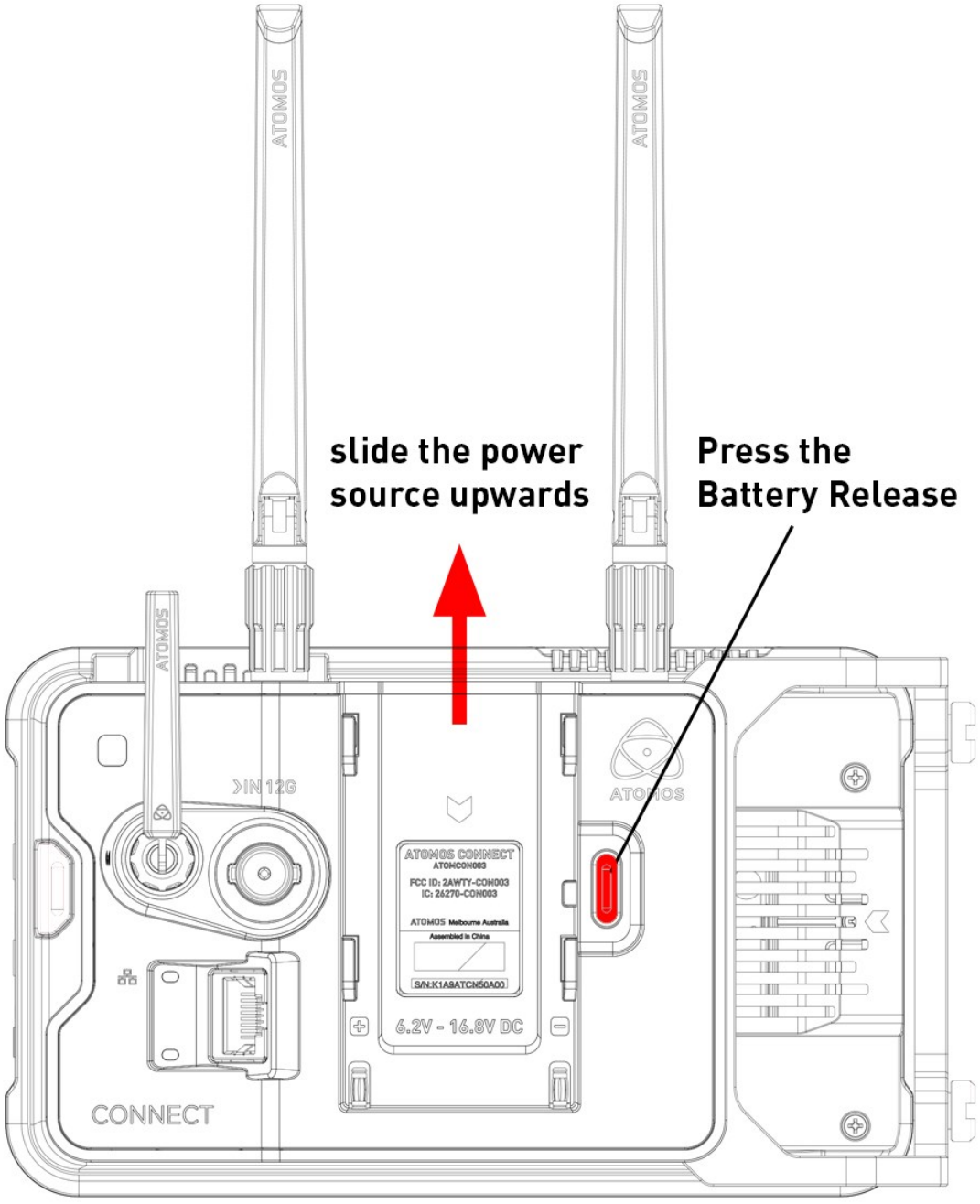
- Gently slide the Battery Eliminator into the battery slot (f) until it clicks into position.



- Secure the DC power supply to the DC jack on the Battery Eliminator.
- Alternatively, secure the optional ATOMOS D-Tap to DC Barrel Coiled Cable (ATOMDTPCB2) to the DC jack and connect the other end to a D-Tap power source.

To remove a Battery Eliminator or battery from ATOMOS CONNECT

- Press the battery release (g) and gently slide the power source upwards to remove it.



Connecting to the Atomos Cloud

For information on how to connect to Wi-Fi or Ethernet networks, refer to the "Wi-Fi Menu" on page 124 and "Ethernet Menu" on page 129 pages. For information on the Atomos Cloud Studio and the procedure for connecting to the Atomos Cloud, refer to "Connect Menu" on page 133 and "Connect Menu - Atomos Cloud Studio" on page 145

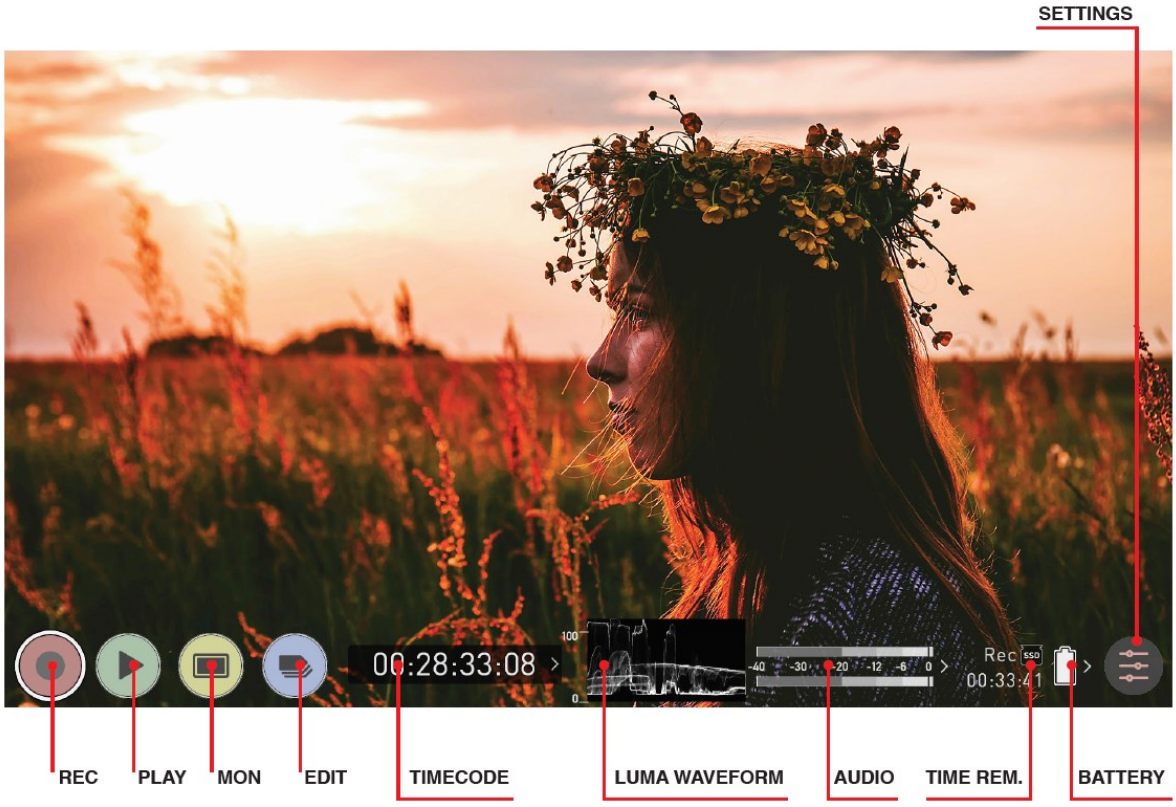
AtomOS 10 Operating System

With the AtomOS 10 Operating System, you get the ultimate touch interface for monitoring and recording and an operating system that has a clean, intuitive and elegant design. It's simple and straightforward, but at the same time it provides access to the complete range of features. No complicated sequences of buttons. No endless menus crowded with text. It's optimized for the AtomIC hardware platform. And it's extremely responsive with fast boot up times.

The Main Screen - Home Screen

The ATOMOS 10 home screen is designed for unobstructed monitoring at all times. The clean and uncluttered design of ATOMOS 10 concentrates the attention on the image, not on the device's operation. From the muted main button controls through to flexible histogram size and positioning, all on-screen controls are non-obtrusive and incredibly intuitive to use. Monitoring tools are only one-touch away, and allow for a better view of your subject while adjusting monitor-assist functions such as focus peaking and false color, Record, Playback, Monitoring and Edit features are easier than ever to use.

Monitor Mode / Home



REC (Record): Press to begin recording. Jump to Record Home Screen.

PLAY: Jump to the most recently recorded clip on the Playback Home Screen.

MON (Monitor): Press once to show Monitoring Features and Information Bar. See the following pages for activating Monitoring features. Press again to return to home.

EDIT: Press to show Editing Features and Information Bar. Press again to return.

TIMECODE: Shows the selected timecode such as embedded, time of day or rec run.

LUMA WAVEFORM: Luma Waveform is a constant on your home screen, to allow for greater control over monitoring without compromising the subject.

AUDIO: Audio Meters. Touching the Audio meter will open the Audio Menu.

TIME REMAINING: Time Remaining on Disk (at current record settings). Changing Recording Format will change Time Remaining.

BATTERY: Touch to access Power Menu. Battery Indicator shows power level and flashes red when power is running low.

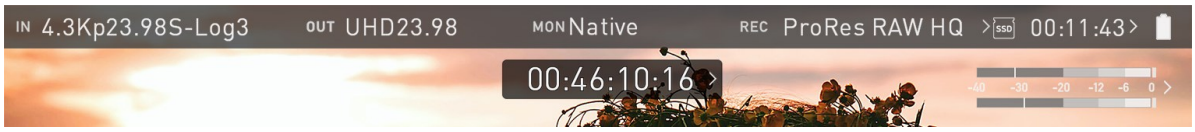
SETTINGS (red): Touch to access all Recording settings, including input, output, file, media, gamma, gamut, and more.

Touch **MON** (Monitor) to reveal Monitoring Features and the Information Bar. When activated the Monitor button will have two surrounding rings. For more information refer to "The Main Screen - Monitoring Features" on page 80

At any time you can remove the overlays by touching the center of the screen. Touch again to bring them back.

The Main Screen - Information Bar

At the top of the NINJA V+ screen is the area referred to as the **Information Bar**.

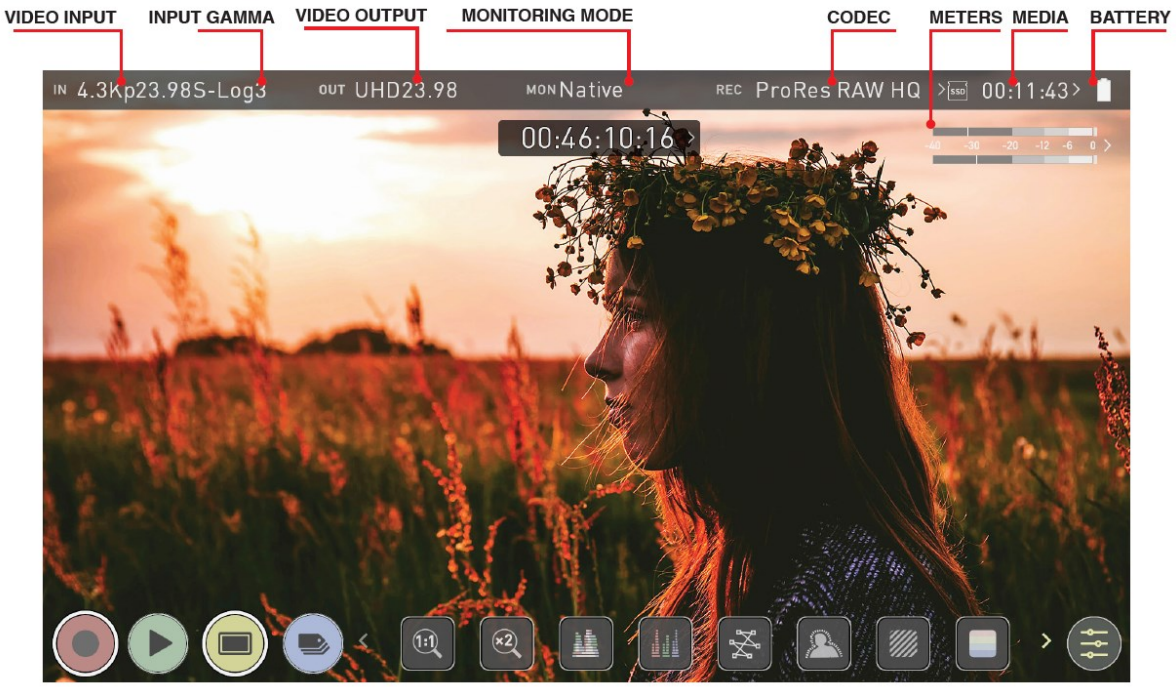


It displays the settings of your input device/camera, current settings of your NINJA V+, media, audio, disk capacity and more. Touching any of these areas will take you to the relevant menu and allow you to make changes to your setup.

Alternatively you can access these setting by tapping the Record Settings icon. Tapping the Settings button will open the Record Settings menu, from where you will be able to navigate to the required tab. Swipe left to see more tabs.

The content in the Information Bar is dependent on what mode you are in, for example Recording and Monitoring will display the Video Input type, but if you are in Play mode, Video Input will show the resolution and frame rate of the video clip currently cued or playing.

Monitor Mode / Features



In the image the NINJA V+ has an input and an output, and is ready to record the signal or play the last recorded file from disk.

VIDEO INPUT: (Rec & Mon mode) Resolution and frame rate from input device

VIDEO INPUT: (Play & Edit mode) Resolution and frame rate of current playback clip

INPUT GAMMA: Displays the current input gamma. Tap to open Input menu to ensure it matches the output coming from your camera or other input device. RAW inputs will automatically be set to match the camera output. For some cameras further options can be selected. During playback mode this setting will be determined by the metadata of the recorded content.

VIDEO OUTPUT: This menu displays the active video resolution and frame rate being output from the HDMI Out.

MONITORING MODE: Displays the monitoring display mode that has been selected. Native, Rec709, HLG, PQ or the name of the 3D LUT selected. Touch to change settings.

CODEC (RECORDING FORMAT): Shows the recording format. Touch to change settings.

METERS: (Audio Meters): Touching the audio meters will open the Audio Menu.

MEDIA INFO: This shows the remaining recording time based on the chosen codec and remaining capacity of the drive.

BATTERY: Touch to access Power Menu. Battery Indicator shows power level and flashes red when power is running low.

NETWORK STATUS

When you are in Connect mode, the following network status icons will appear in the Information Bar. These icons represent Wi-Fi and Ethernet connections, and will appear white when active.

SETTINGS (yellow): Touch to access Monitoring Feature settings.

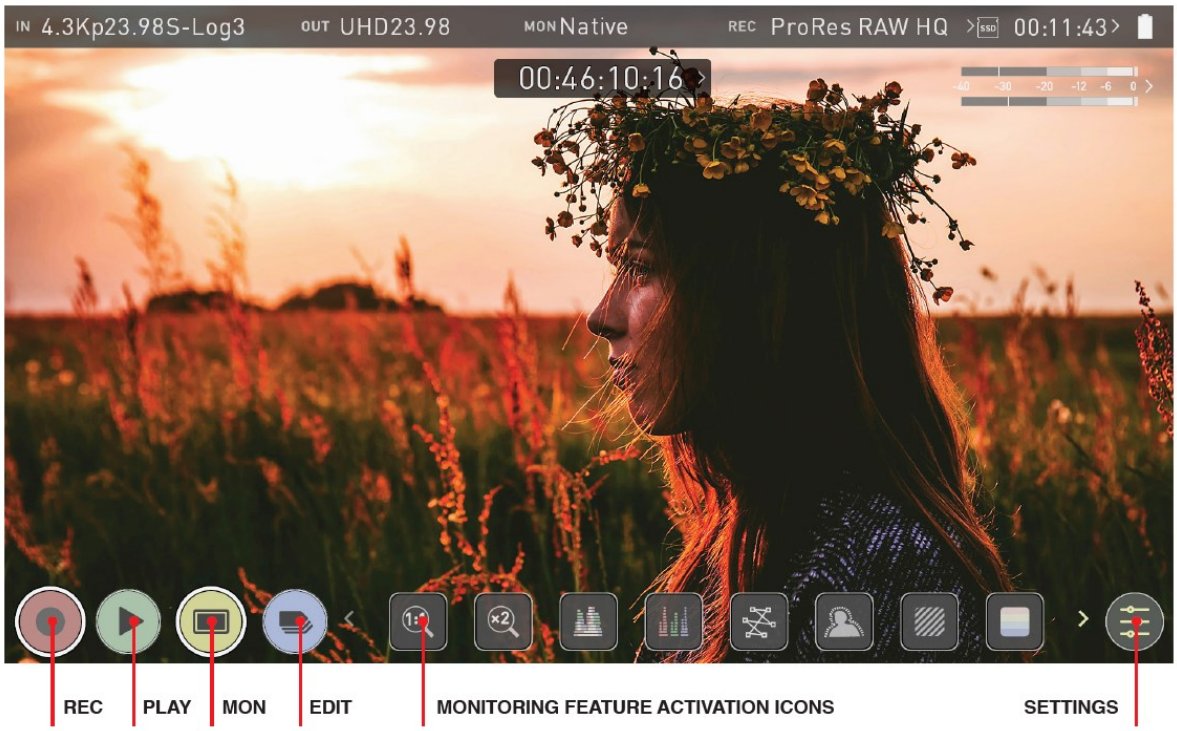
Touch MON again to return to previous screen.

The EDIT button works in a similar fashion to the Mon button, as it is not possible to have Monitor and Edit active simultaneously.

The Main Screen - Monitoring Features

At the bottom of the Monitoring screen are the Monitoring Features, accessible by toggling the MON icon. Monitoring Features do not affect your recorded file and can be turned on and off, or adjusted whilst recording (unless you choose to burn a LUT into your footage). Not all Monitoring features are available at first glance – to reveal all Monitoring features, swipe monitoring icons to the left. The icons will behave in a carousel like manner and you can swipe left and right to access any of the features. At the bottom right is the Settings button. Press the yellow Settings icon to adjust the settings and behaviors of the Monitoring Tools.

Monitor Mode / Features



Main Controls

REC (Record): Tap to begin recording / Return to Record Home Screen.

PLAY: Jump to the most recently recorded clip / Enter Playback Home Screen.

MON (Monitor): Whilst on the monitoring features screen press once to revert to home screen view. For Monitor settings press the Settings button.

Any Monitoring functions you have enabled will remain active until deactivated.

EDIT: Press to show Editing Features and Information Bar.

Press again to return to home. Any Monitoring functions you have activated will remain active until they are turned off.

SETTINGS (yellow): Touch to access Monitoring Feature Settings. Set scope sizes, adjust transparency, LUTs, Focus Peaking and more.

Monitoring Feature Activation Icons

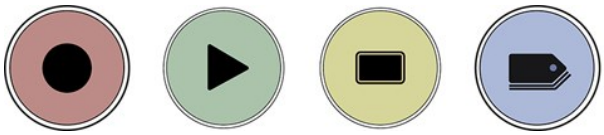
For more information on the monitoring tools, refer to the Monitoring Features section.

Home screen and menu functions

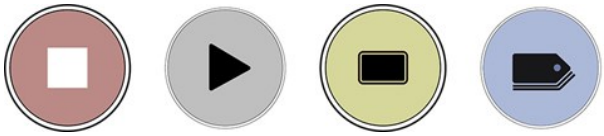
REC (Record)

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



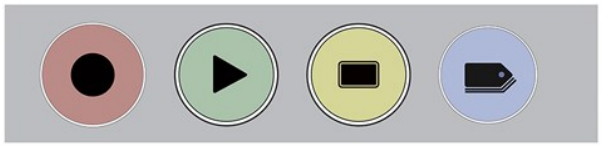
No input / No media

The Rec icon is dimmed and disabled if there is no valid video input. It also appears in where there is no media, 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 and touch it again to pause playback. When you press the green Play button the NINJA V+ will switch to playback mode and automatically play the last recorded clip.

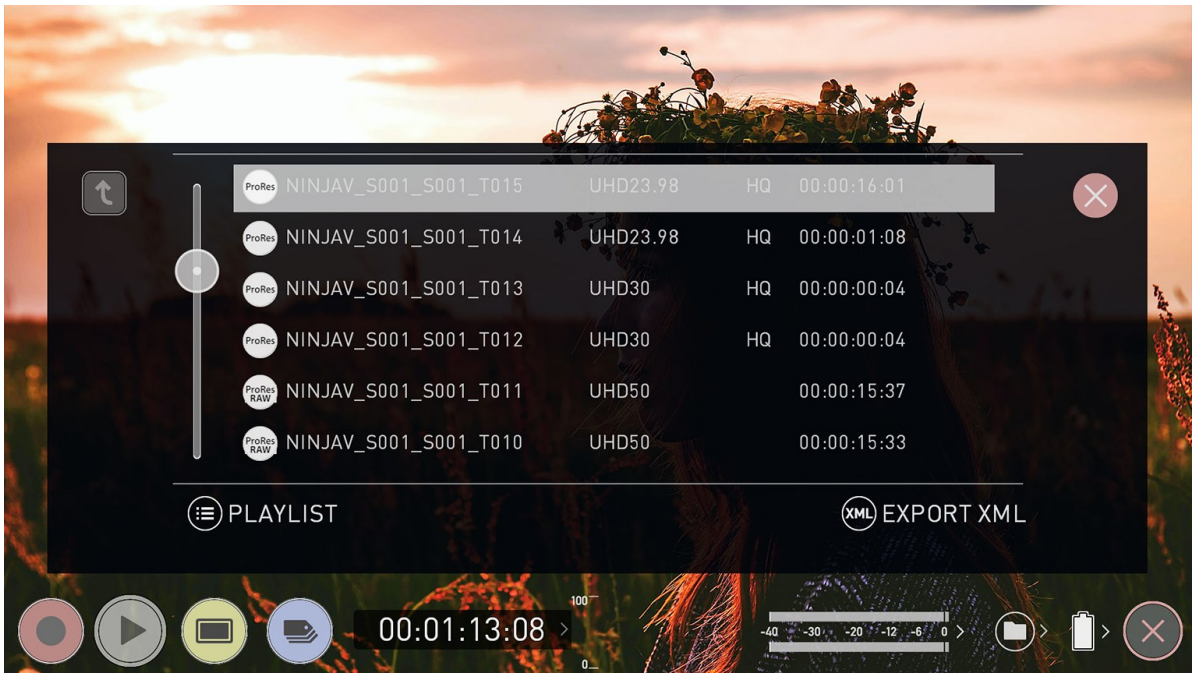
Playback Mode



Playback Home screen

Touching the folder icon will reveal the available playlist.

NINJA V+ 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. To exit the playlist simply touch close, or any other button. Touching close will take you to the previous window.



Close Screen

Tap to close the screen.

Folder level up

Tap to navigate one level up in the folder structure.

Playlist Options

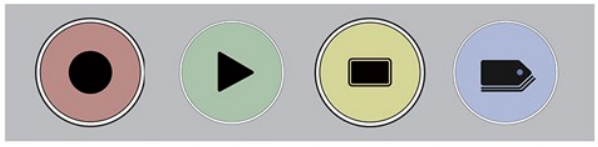
Tap to enable Playlist options. For more information on using playlists, refer to "Playlists" on page 342

No disk / disk not secure

The Play button will be dimmed and disabled if there is no disk, where there is a poor connection or the disk is not correctly formatted and during recording. See the "Best Practice" on page 19 section for more information.

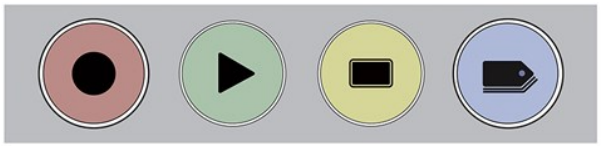
MON (Monitor)

Pressing MON reveals Monitor Assist icons as shown in "The Main Screen - Monitoring Features" on page 80 section. These features are explained in detail in the Monitoring Features section.



EDIT

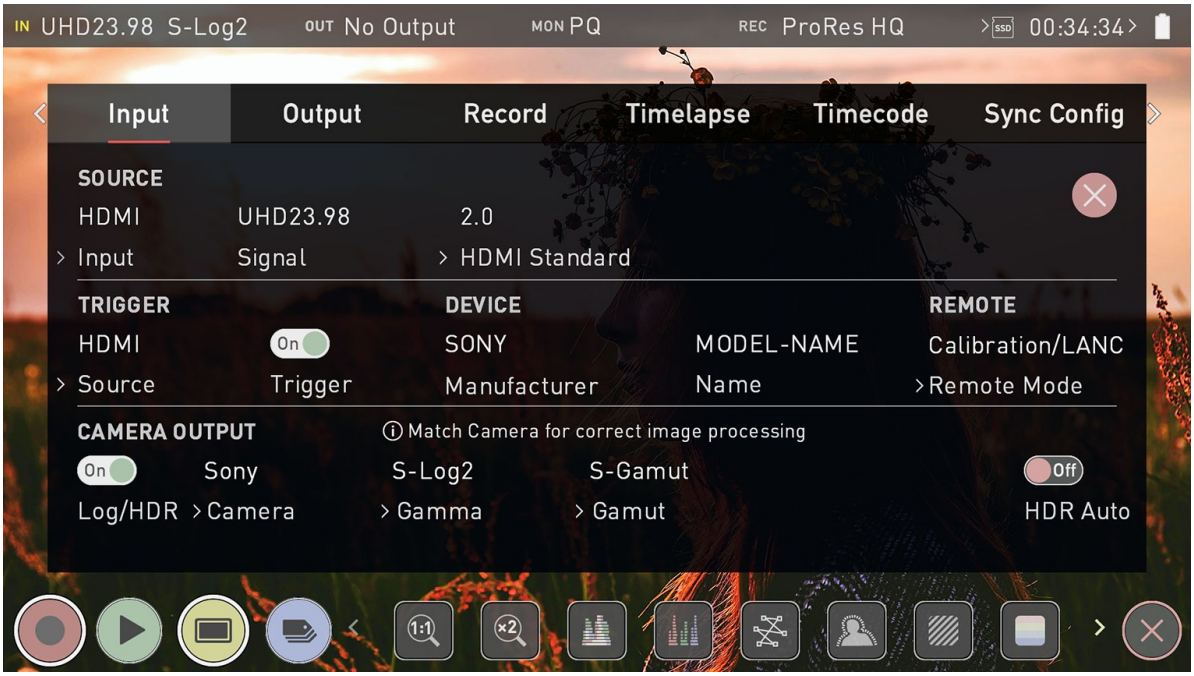
You can use the edit tools during recording and playback. Pressing EDIT takes you into a number of options. For more information refer to the "Edit Mode" on page 350 section.



The NINJA V+ Menu system

Tap on the Input, Output, Codec, Media or Battery indications in the Information bar at the top of the home screen to open the menu related to that item.

Menu pages contain information as well as settings that can be adjusted.

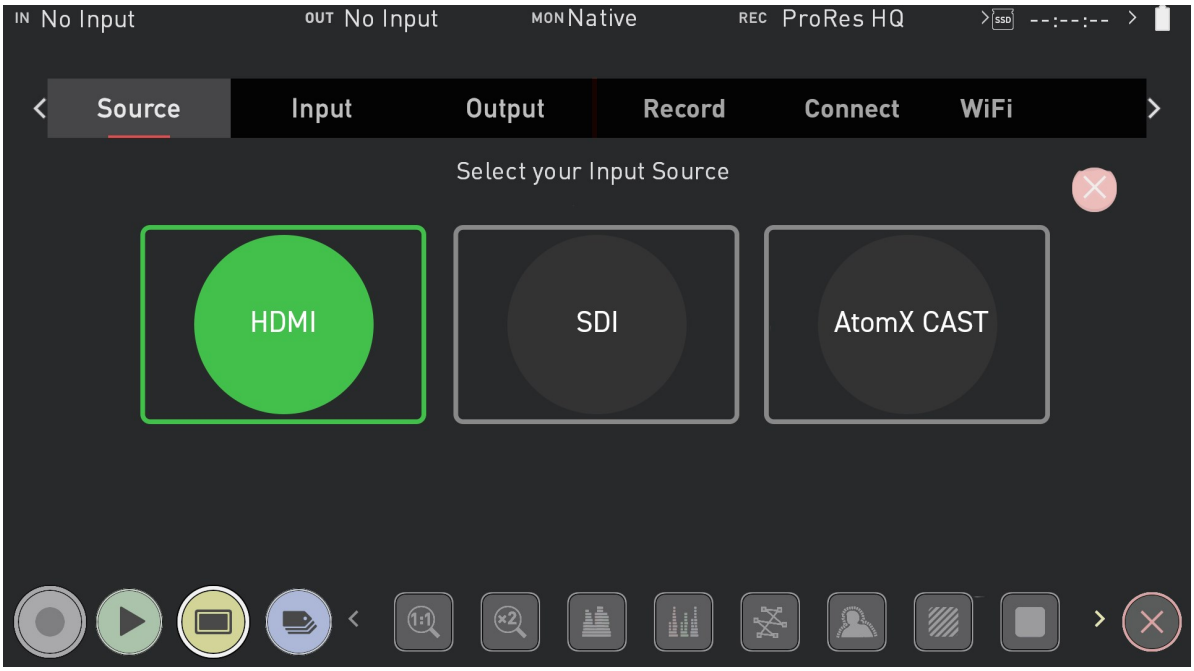


Across the top of the menu page that opens are menu tabs that link to the other menu pages. Swipe the menu tabs to the left or right to see all of the menu tabs and tap on the one you wish to enter.

Swipe left to reveal more tabs that contain settings. If you cannot find the menu you are looking for, swipe left or right.

Source Menu

The Source menu allows you to select your Input Source, depending on your signal connection and how you are using your NINJA V+.



Select your Input Source

Select your Input Source from the options below. Once you have made a selection, tap OK and your NINJA V+ will power down and reboot in the selected mode. Press cancel to return to the selection screen.

HDMI

Selects the HDMI input on your NINJA V+. This mode should be used for standard NINJA V+ operation when you do not have AtomX CAST connected.

SDI

For SDI sources connected to an AtomX SDI Module or ATOMOS CONNECT that is attached to your NINJA V+. To be available for selection, an an AtomX SDI Module or ATOMOS CONNECT needs to be connected before turning on the NINJA V+.

AtomX CAST

Select to use the features of the AtomX CAST. To be available for selection, the AtomX CAST module needs to be connected to the NINJA V+ before powering it on.

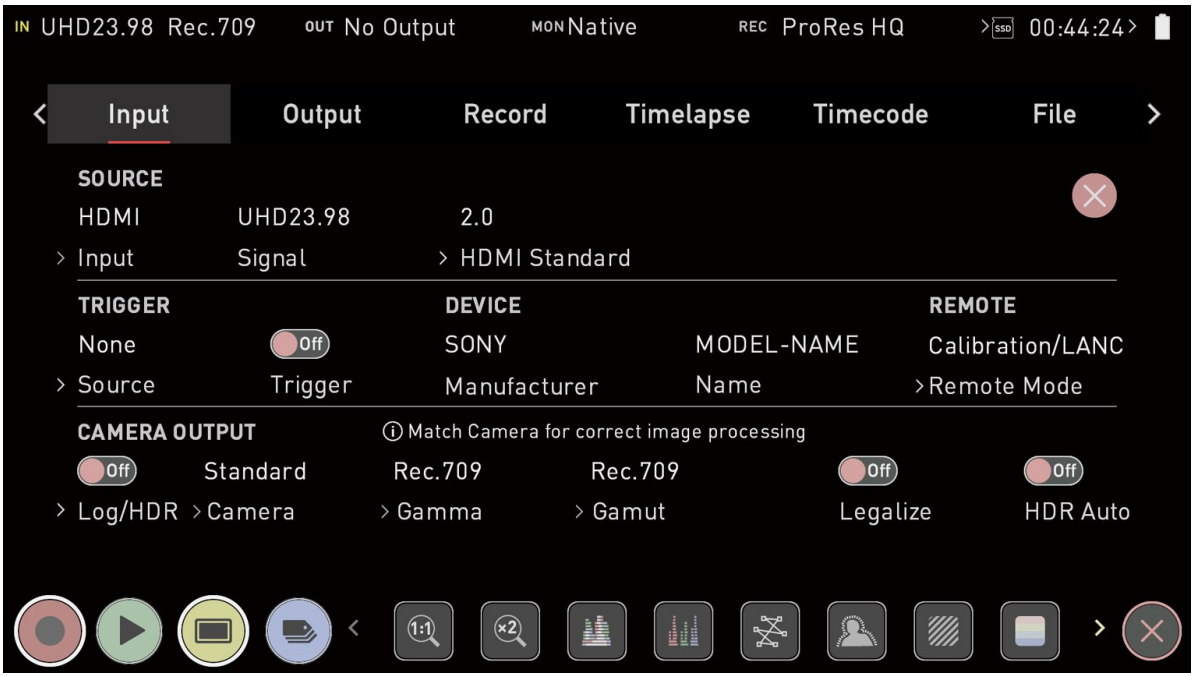
When AtomX CAST is connected to your NINJA V+, the AtomX SDI option will be greyed out since you cannot use the SDI module when the AtomX CAST is attached.

RAW inputs are not supported when using the AtomX CAST for switching.

If you power on NINJA V+ after using the AtomX CAST mode, you may see a warning notifying you that an AtomX CAST module has not been detected. You will be advised to Power Off your NINJA V+ and attach the module, or to change modes and operate without the module.

Input Source

The source section allows you to select the input signal connection type, and related settings.



Input

When you have an AtomX SDI module or ATOMOS CONNECT attached to your NINJA V+, you will be able to tap on Input to switch between HDMI and SDI inputs. For more information refer to "Input via AtomX SDI Expansion Module" on page 92 and "Input via Atomos CONNECT" on page 94

> *You can only switch from HDMI input to SDI input when the AtomX SDI Expansion Module or ATOMOS CONNECT is connected to your NINJA V+.*

Signal

The resolution and frame rate of the selected input source is displayed. No Input will be displayed when there is no input connected.

HDMI Standard

When connected to an HDMI source, tap on HDMI Standard to toggle between the following:

- HDMI 1.4,
- HDMI 2.0 and
- Compatibility Mode.

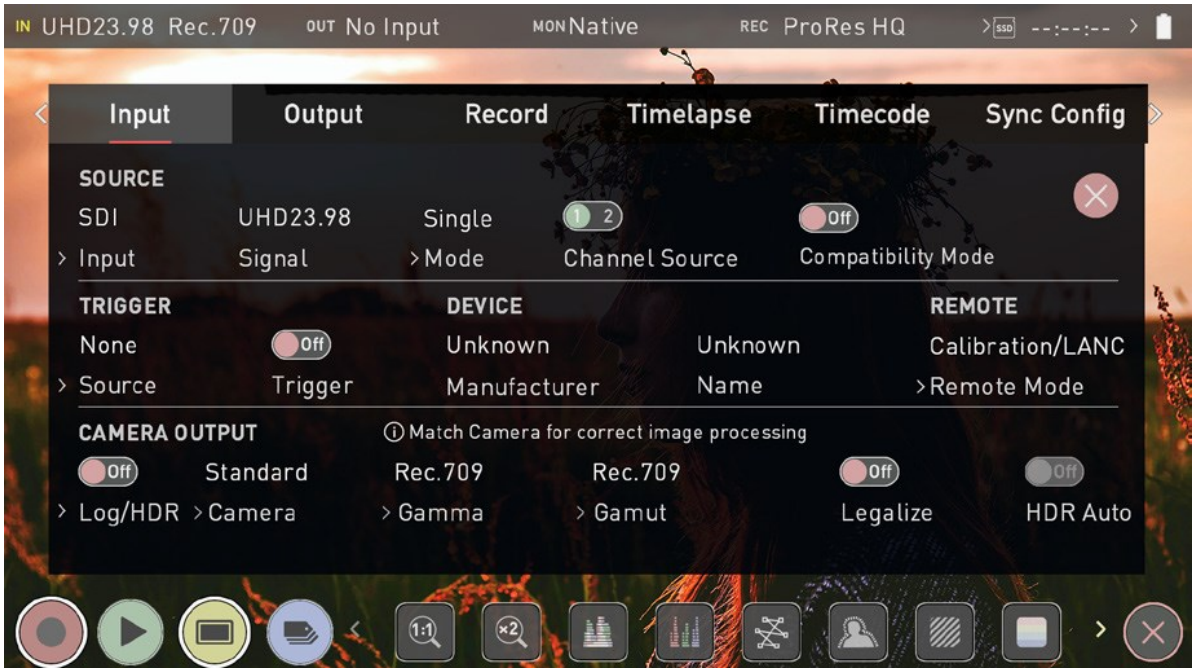
Compatibility Mode (HDMI)

This mode improves the signal locking process when working with HDMI signals from specific cameras. After selecting compatibility mode, remove and re-insert the HDMI cable to the camera.

Compatibility mode should be enabled when recording from a Z CAM E2 series camera via HDMI, for all frame rates and resolutions in ProRes, DNx and ProRes RAW. It should also be enabled when recording video from a Canon 1DX MIII via HDMI, in 4Kp50 and 4Kp60 modes in ProRes and DNx.

Compatibility mode for HDMI should not be used for any HDMI RAW signals except for Z CAM E2 series cameras and the Canon EOS R5.

Input via AtomX SDI Expansion Module



The AtomX SDI expansion module adds 12G SDI I/O to your NINJA V+ with 2 x industry standard full size BNC connectors. When you have an AtomX SDI module attached to your NINJA V+, you will be able to tap on Input to switch to SDI as your input. You will then be prompted to reboot your NINJA V+ so that it can to change to the SDI input. Tap Confirm and wait for your device to reboot in SDI source mode.

Once in this mode, the input menu will resemble the image shown above. The AtomX SDI Module does not need to be activated before use, however to use the SDI RAW feature you will need to activate this feature. Refer to the "Activation Menu" on page 225 section for more info.

You can only switch from HDMI input to SDI input when the AtomX SDI Expansion Module or ATOMOS CONNECT is connected to your NINJA V+.

To use the AtomX SDI Module with your NINJA V+, or the SDI RAW feature, firmware version 10.65 or later needs to be installed.

Mode

When connected to an SDI source, tapping on Mode will toggle between the following modes:

- **Single Mode**: For single SDI sources, where a single SDI input on either the Channel 1 or Channel 2 connector.
- **Dual Mode**: Selects both SDI connectors to deliver the input signal as a dual-link connection, where two SDI cables are connected for dual link 1.5G/3G and 6G standards.
- **Auto Select**: Your NINJA V+ automatically detects the correct mode to use, based on the signal that it is receiving.
-

Channel Source / Link Status

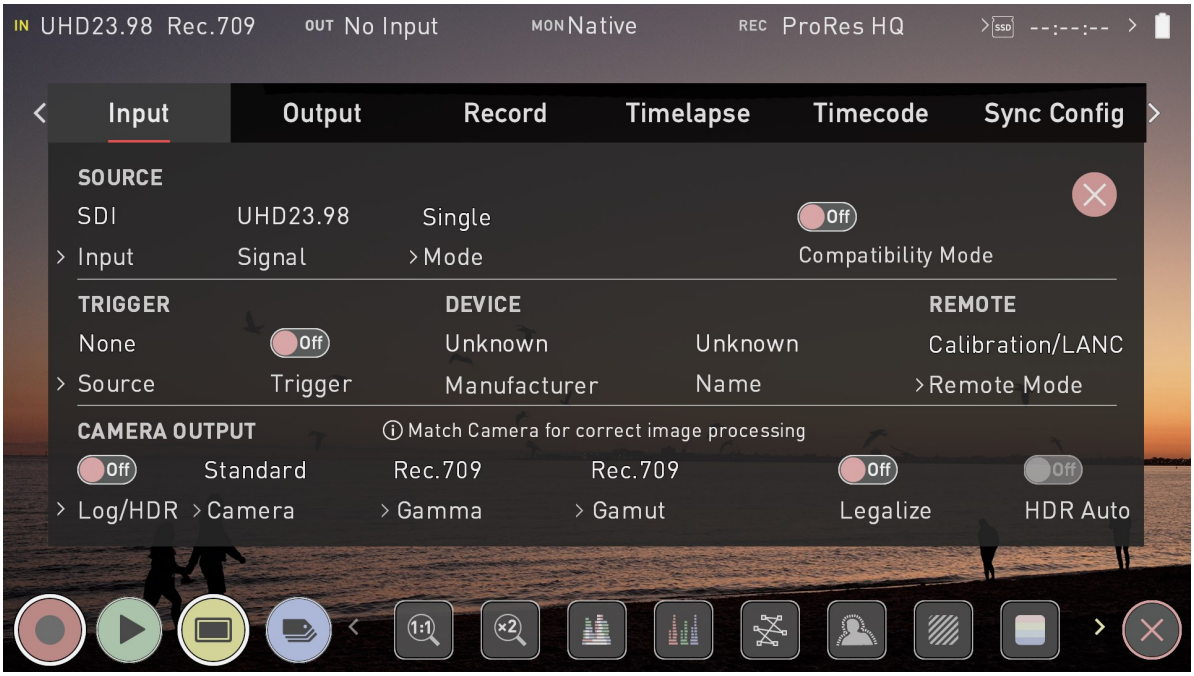
In Single Mode, a Channel Source indicator will appear and display the currently selected channel. Where you have two different SDI sources connected, you can tap Channel Source to switch between SDI connector 1 and 2. Single link SDI connections will automatically be configured based on the signal input between 12G/6G/3G/HD.

In Dual mode, a Link Status Indicator will display the status of your signals. Channel 1 and/or 2 will be red when the signal is not present, whilst they will both be green when both receiving a signal.

Compatibility Mode (SDI)

Where SDI has been selected as your input, a Compatibility Mode toggle switch will be visible under Source. This mode improves the signal locking process over SDI, when working with specific cameras that use a slightly different version of the 12G standard. For more information refer to atomos.com/support

Input via Atomos CONNECT



With the ATOMOS CONNECT attached, you will be able to tap on Input in the Input Menu to switch to SDI as your input. The Source Menu will open, where you can select SDI. A note will advise that changing input source will take a few seconds. Tap Ok and wait for your device to switch to SDI source mode. Once in this mode, the input menu will resemble the image shown above.

The ATOMOS CONNECT features a connector for 12G SDI input, which allows you to monitor and record SDI video up to 4Kp60 from a range of professional cameras and video sources.

> *To use the ATOMOS CONNECT with your NINJA V+, firmware version 10.8 or later needs to be installed. To use SDI RAW, firmware version 10.6 or later needs to be installed.*

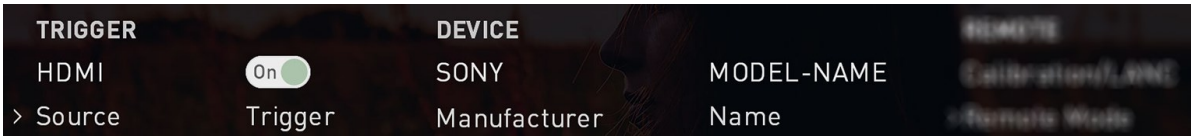
To use the SDI RAW feature with ATOMOS CONNECT you will need to activate this feature. Refer to the "Activation Menu" on page 225 section for more information.

Compatibility Mode (SDI)

Where SDI has been selected as your input, a Compatibility Mode toggle switch will be visible under Source. This mode improves the signal locking process over SDI, when working

with specific cameras that use a slightly different version of the 12G standard. For more information refer to atomos.com/support

Trigger



Source (Trigger Source)

The NINJA V+ can be remotely triggered to record from your camera. For HDMI inputs, tap Source to cycle through the following trigger sources:

- **HDMI**: If HDMI timecode is selected, you have the choice to start and stop recording remotely from the source camera timecode.
- **None**: Select to disable the record trigger.
- **Timecode**: For older cameras or cameras that don't have Start/Stop flags for triggering recording, the rolling timecode trigger will trigger recording automatically on the NINJA V+ when it detects rolling timecode on the camera.
- **Camera Manufacturer**: When you have an AtomX SDI module attached, and have selected SDI at Input, you will be able to tap Source to cycle through camera manufacturers as well as Timecode or None as the source of a trigger.

Trigger (On/Off)

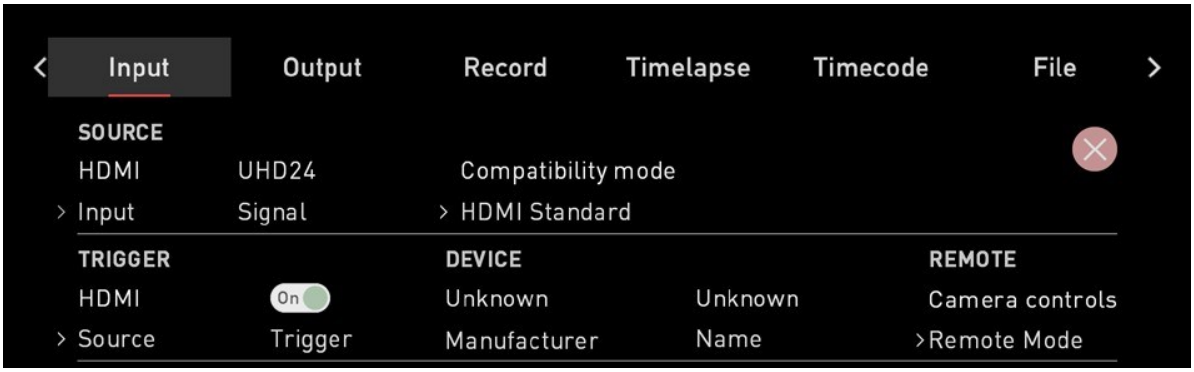
Where you have selected Timecode as the trigger source, you can enable or disable the trigger by tapping the ON/OFF switch.

> *Note that where you have selected a camera manufacturer, you cannot disable the trigger*

Device

- **Manufacturer**: Displays the camera or device manufacturer.
- **Name**: HDMI Devices will display an EDID Device name if the information is available from the HDMI device connected. Not all cameras carry an EDID device name. For cameras such as the Panasonic LUMIX GH5 this will display as ‘Unknown’.

Remote



Remote Mode

Tap to cycle through the options:

- **Camera Controls**: Allows you to control supported cameras via the screen of your NINJA V+. Refer to the section below for ATOMOS Camera Menu Control for ZCAM Series cameras.
- **Calibration**: Every brand of monitor in the field and in the editing suite naturally drifts in color over time. ATOMOS have partnered with calibration leader Calibrite to open up professional monitor calibration to all filmmakers. For information on how to calibrate your NINJA V+ and to purchase a Calibrite i1 Display Pro, visit atom-os.com/accessories/x-rite-i1-display-pro
- **Lanc**: For remote operations via the Remote/Calibration Port, ATOMOS supports both LANC in Sony and Canon format. The NINJA V+ uses LANC Client so a LANC controller must first be attached to a camera and the output connected via a Y cable to the NINJA V+.

> *Calibration and LANC will appear as one option: 'Calibration/LANC'*

ATOMOS Camera Menu Control for Z CAM Series cameras

When using your NINJA V+ with Z CAM E2 series cameras, you can control your camera via the screen of your NINJA V+.

How to enter camera control mode on NINJA V+ to control a Z CAM camera:

1. Use an HDMI cable that supports 4Kp60 to connect the output of the Z CAM to the HDMI input of your NINJA V+.

2. Connect the 3.5mm end of an ATOMOS USB-C to Serial LANC cable to the Remote/Calibration Port on your NINJA V+, and the USB-C end of the cable to the USB Type-C port on the Z CAM.

3. Power on your Z CAM and navigate to RAW over HDMI in the Record menu, to ensure that it is turned off.

> *RAW over HDMI must be disabled for camera menu control to work.*

4. Power on your NINJA V+ and select Compatibility Mode in the Input menu at HDMI Standard. Remove the HDMI cable from the Z CAM and re-attach it to ensure that the signal is locked correctly.

5. Tap on Remote Mode on the Input page to select Camera Controls, then tap on the blue Camera icon on the bottom of the screen to enter camera control mode.

6. Your NINJA V+ will display the Z CAM camera settings and a camera battery status icon across the top of the screen, with audio meters and a Menu icon on the right hand side. The information that is normally displayed across the top of the screen like video input, media, timecode and battery status will now be displayed on the bottom of the screen.

How to control a Z CAM camera with camera control mode on NINJA V+:

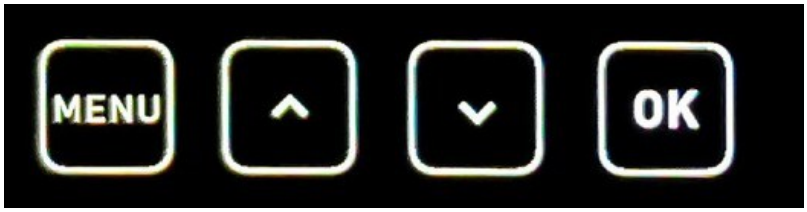
Once you have entered the camera control mode, you can manually adjust the settings of your ZCAM from the display of your NINJA V+. Tap one of the settings across the top of the screen like aperture, shutter speed, ISO or WB to bring up the adjustment arrows below the selected setting. Tap on the left or right arrow to adjust the values for the setting.

Auto ISO / Auto WB

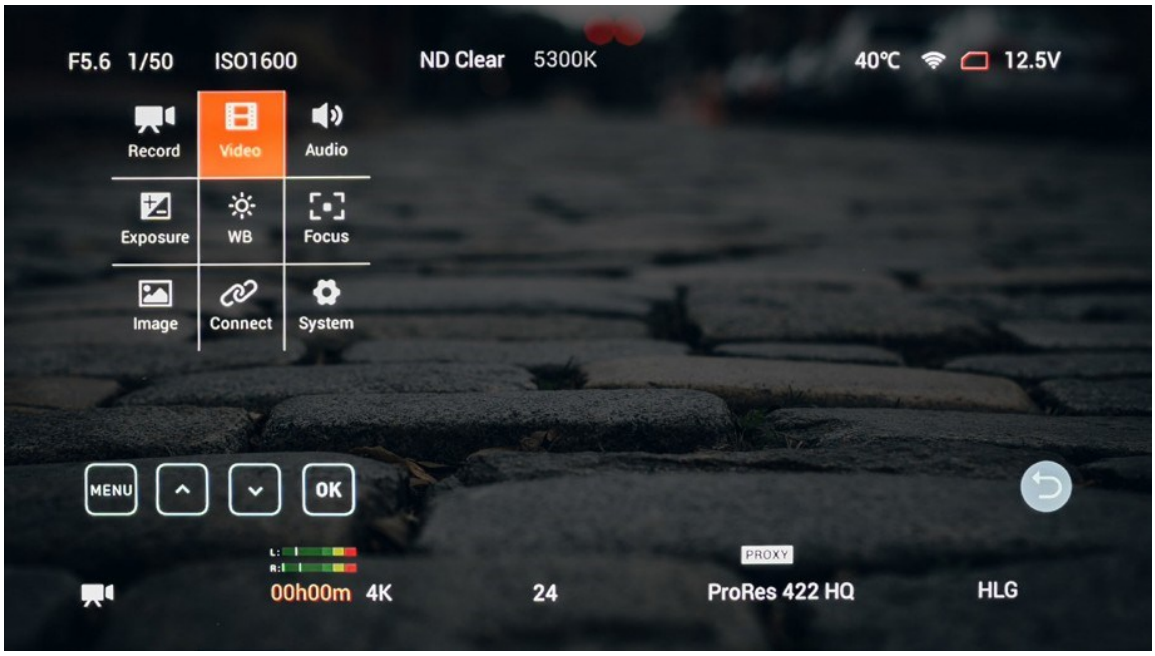
When you adjust the settings for ISO or WB, an additional Auto ISO or Auto WB icon will appear on the right side of the screen. If you tap on this icon, it will enable the automatic ISO or automatic WB mode respectively. The icon will have a white border, and an 'A' will be displayed beneath ISO or WB when enabled. Tap the icon again to disable the automatic mode.

Access the Z CAM Menu from the display of NINJA V+

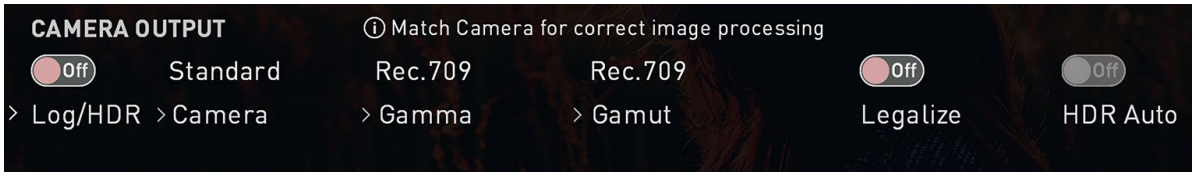
Tapping on the Menu icon on the right side of the screen will bring up some icons that replicate the physical buttons on the top of the ZCAM. The operation of these buttons are the same as the physical buttons.



Tap on the Menu icon in this view to bring up the Z CAM menu on your NINJA V+ screen. This is the same menu that appears on the screen of the Z CAM when you press the physical Menu button on the Z CAM. Tap on the icons to navigate through the ZCAM menu system and adjust settings, the same way you would when using the physical buttons on the ZCAM. Tap on the Menu icon again to hide the menu, and tap on the Return arrow icon on the right side of the screen to return to the previous screen.


F5.6 1/50 ISO1600
ND Clear 5300K
40℃ 12.5V
Record
Video
Audio
Exposure
WB
Focus
Image
Connect
System
MENU
OK
L:
R:
00h00m 4K
24
PROXY
ProRes 422 HQ
HLG

Camera Output



Choose to use Log/HDR, camera type, Gamma, Gamut or enable HDMI HDR auto if required. Your NINJA V+ will recognise most cameras when correctly attached via a compatible HDMI cable.

> *For the best image processing results it is essential to match the NINJA V+ settings to the camera/input settings.*

Log/HDR

Turn on to enable HDR image processing inside the NINJA V+. Bring the control of post into your shoot - record, preview and review using HDR.

Camera

Tap to scroll through to the manufacturer of the camera providing the input. Sony, Fujifilm, Canon, Panasonic, ARRI, RED and JVC.

Gamma

For each manufacturer there may be a number of different Log curves available and you can scroll through to the correct selection by tapping the Gamma icon.

Gamut

Select the Color Gamut of the input. This is not applicable to all cameras but again ensure that this matches the input of the camera to ensure accurate monitoring.

Legalize

The legalize function allows you to convert a full range video signal into a legal range signal to suit legal range NLE editing workflows. This setting is designed for use with inputs in SDR or REC.709 that are set to or are fixed in FULL range, but recording or monitoring is needed in 'legal range'. The terminology used by manufacturers when referring to levels can vary, but all refer to the range of values contained within an image file:

Terms	8-bit values	10-bit values
Full / Data / Extended	0-255	0-1023
Legal / Video / Limited	16-235	64-940

If you are working in SDR/Rec709 and have a full range video signal coming in, it is best practice to turn the Legalize function ON, on your NINJA V+. For Log inputs, the conversion to LEGAL range should NOT be applied. Log outputs from the cameras utilize FULL range signals in order to gain the maximum level of data and preserve dynamic range. The majority of Log base workflows are derived from Cineon, Kodak's original Cineon Film DI system. E.g. Sony, Canon and Panasonic all use FULL range levels.

Do not apply the Legalize function to a LEGAL range signal as this will create an incorrect correct color pipeline. The result will create an image that is of lower contrast and look like Log but without the additional dynamic range of Log - as the camera output was already defined as a Rec.709 / BT.1886 gamma.

The legal range toggle is not available when using Atom HDR. Atom HDR is used for log workflows and when engaged the Legalize option will not appear.

The legalize option is not available for ProRes RAW video.

HDR Auto

HDR is detected when there is a compatible input signal. It is important that this is OFF if the camera is not outputting HLG or PQ. It should not be used for regular Log.

About Log/HDR

A better understanding of Log and HDR will enhance your workflow and ultimately allow you to capture maximum amount of detail during recording, and save you time in post production. To understand more about the importance of this function please refer to the "Understanding HDR and Log" on page 295 section.

Cross Conversion

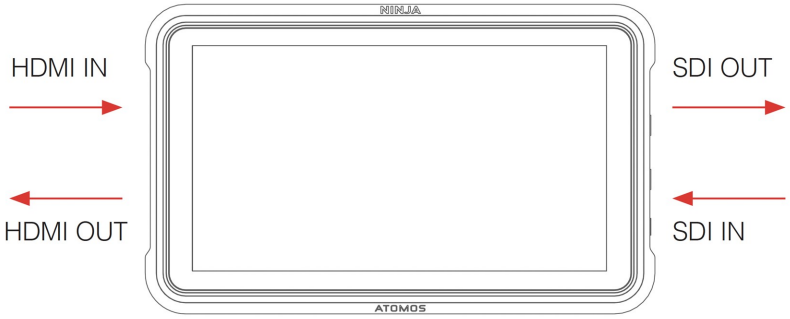
When an AtomX SDI Expansion module or ATOMOS CONNECT is attached to your NINJA V+, you can cross convert signals between HDMI and SDI.

This means that where HDMI sources are connected to your NINJA V+, an SDI signal can be output from both of the BNC connectors on your AtomX SDI Expansion Module. In this scenario, both BNC connectors on the module can be used for two simultaneous SDI outputs, which allows you to output the same signal to two monitors.

> *The SDI connector on ATOMOS CONNECT is an Input only, so HDMI signals connected to your NINJA V+ cannot be output via SDI with an ATOMOS CONNECT.*

Where an SDI video signal is connected to your AtomX SDI Expansion module or ATOMOS CONNECT, you can output an HDMI signal over the HDMI Out connector on your NINJA V+.

Whilst converting the signals listed above, you can use the Output Options in the Output menu to downscale and crop the signals. The HDR section provides options for outputting HDR versions of the signals after cross conversion. For more information refer to the "Output Menu" on page 108 section.



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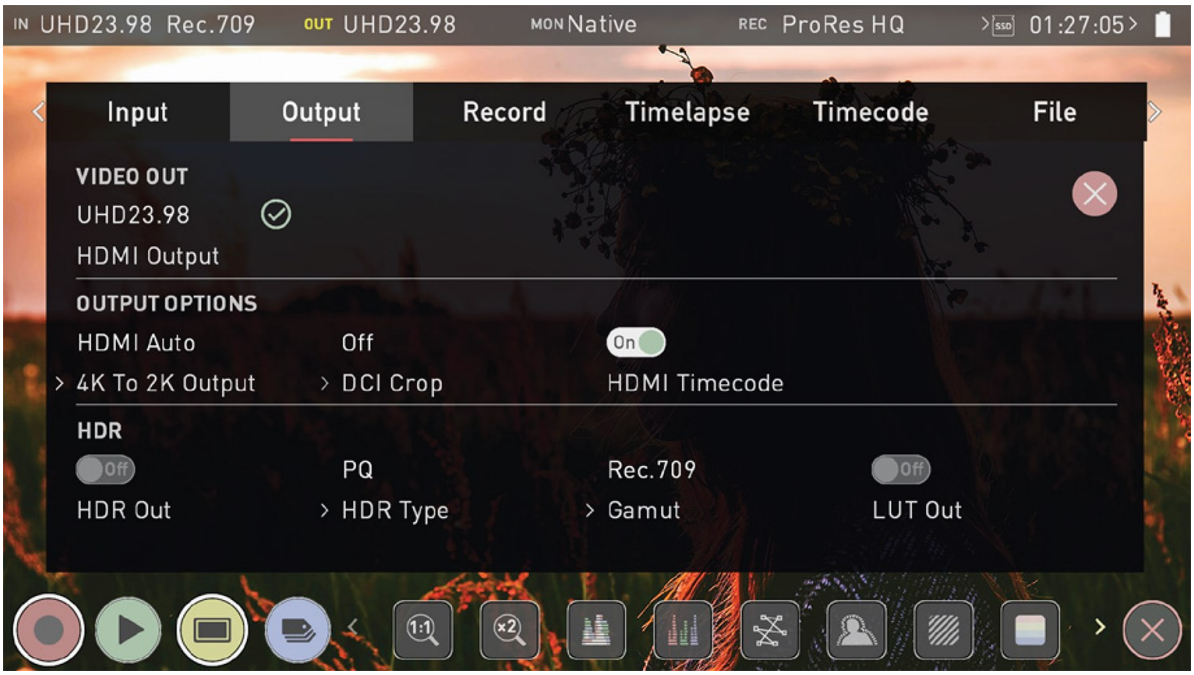
> *To use the cross conversion feature, firmware version 10.65 or later needs to be installed on your NINJA V+. Once you have installed this firmware, cross conversion will happen automatically and does not need to be enabled.*

Cross conversion of SDI RAW video inputs is possible, once your NINJA V+ has been activated for RAW at my.atomos.com. For more information refer to the "SDI RAW" on page 118 section.

Output Menu

This menu displays the active video format being output over HDMI, or SDI when the AtomX SDI module is attached. A 4K to HD down conversion can be applied to the output, which allows you to send a 4K input signal to a HD device. When working in HDR a signal will be output with the HDR flag to activate the correct settings on a compatible HDR display. This can be useful if you wish to monitor log footage in the studio.



VIDEO OUT

This section displays the resolution of the Input. When processing options are applied below it will be adjusted accordingly.

HDMI Output

Displays the resolution and frame rate of the HDMI Output from your NINJA V+. When you have an AtomX SDI Module connected, the resolution and frame rate of the SDI Output will be displayed. For more information refer to the "Output via AtomX SDI Expansion Module" on page 111 section.

OUTPUT OPTIONS

4K to 2K Output

Allows you to scale 4K or UHD inputs for output. This will scale 4K to 2K and UHD will be scaled to HD 1080p.

DCI Crop

When enabled, this setting trims the 17:9 DCI input to 16:9 converting the signal to UHD. When 4K to 2K Output is On, the output will down scale to HD.

HDMI timecode

Allows for the embedded timecode or in unit generated timecode to be looped out. The option is present to allow you to turn the timecode as this can disrupt some consumer equipment that is not intended to receive embedded timecode. Tap to toggle between on/off.

SDI Compatibility Mode

This option will appear when you have an AtomX SDI Module connected. For more information refer to the "Output via AtomX SDI Expansion Module" on page 111 section.

HDR

Here you are able to set a conversion from your LOG input to a HDR display standard such as HLG or PQ. You can also define the output color gamut from your camera’s gamut to a display standard for BT2020, DCI-P3 or Rec709.

HDR Out

Enable or disable HDR on the output.

HDR Type

Allows you to select the HDR type to output. Tap to cycle through PQ, HLG and Dolby Vision Tunnels.

Gamut

Allows you to select the Gamut of the signal that is output. Tap to cycle through Rec.709, BT.2020 and DCI-P3.

LUT Out

Allows you to loop out LUTs that are applied to your image, so that they are also applied to the Output signal.

Output via AtomX SDI Expansion Module

SDI Output

In the VIDEO OUT section of the Output menu page, the SDI module will automatically detect the resolution and frame rate of the SDI input when connected. The NINJA V+ detects the active input Channel Source and configures the other connector as an Output.

SDI 3G Type

Allows you to specify the 'SDI 3G Type' for compatibility with equipment that expects a specific type of 3G-SDI video. Tap to cycle through the options:

- Level A,
- Level B or
- Auto.

You can only output SDI when the INPUT is in 'SINGLE' or 'AUTO SELECT' mode.

SDI Compatibility Mode

Some video devices use a slightly different version of the 12G standard, which can cause issues with their ability to detect a video signal that is output from an ATOMOS device. Enabling SDI Compatibility Mode will cause your NINJA V+ to send out a video signal in the format that these devices expect. Tap the switch to toggle between On and Off.

Record Menu

Space Remaining

Indicates the expected recording time remaining on the inserted media at the current settings. Changing your recording settings may extend or decrease your available recording times.

Pre-Roll (On/Off)

Whilst enabled, the input is constantly being recorded, with approximately the last 8 seconds in HD and 2-3 seconds in 4K being cached into memory. The frame rate and codec selected will determine the number of seconds being cached for Pre-Roll. Using a lower bit rate codec setting and shooting at a lower frame rate will increase the length of Pre-Roll.

When the record button is pressed or trigger is sent, the buffered Pre-Roll data in memory will be written out to the start of the recording. This means if you are a few seconds slow hitting the record button when something interesting happens you will still capture the shot.

With this option turned on you will see a red Pre-Roll icon flash in the top left hand corner of the display.

A white circular arrow will also appear around the record button.

With Pre-Roll mode activated the Recorder is constantly caching frames internally to the unit and as such any feature that can not be changed whilst recording is disabled. This includes audio channel select, 3D LUT record, codec, disk options etc.

CODEC (Recording Format)

Codec Format

To select a codec tap on the currently displayed codec to toggle between the options:

- Apple ProRes®,
- Apple ProRes RAW,
- Avid DNxHD® and
- H.265 (HEVC)

After selecting a codec, you will be prompted to tap Confirm to switch to that codec.

If you select an optional codec like Avid DNx, ProRes RAW or H.265, you will be prompted to activate the codec at my.atomos.com as these codecs must be activated before use.

Compression

Tapping on this setting allows you to toggle the compression for the currently selected codec.

Apple ProRes

Apple ProRes is built in to the NINJA V+ and offers three levels of compression (HQ, 422 & LT).

Avid DNx

Avid DNx requires free activation via my.atomos.com and includes DNxHD with four levels of compression (220x, 220, 145, 36) and DNxHR for 4K/UHD inputs with four levels of compression (HQX, HQ, SQ and LB). DNxHD 220x/DNxHR HQX are 10-bit, whilst all others variants are 8-bit and DNxHD36 is a proxy codec.

Apple ProRes RAW

Apple ProRes RAW also requires free activation via my.atomos.com and includes two compression options: ProRes RAW and ProRes RAW HQ. Compression artifacts are very unlikely with ProRes RAW, and extremely unlikely with ProRes RAW HQ.

H.265 (HEVC)

H.265 (HEVC) is an optional codec that requires free activation via my.atomos.com and provides three compression options HQ, MQ and LQ (High Quality, Medium Quality and Low Quality). For more information on using H.265 (HEVC) refer to the "H.265 (HEVC)" on page 123 section.

Record Format

Displays the resolution and frame rate that is being recorded to your media.

Record Bit Depth

When the H.265 codec is selected, an additional Record Bit Depth setting will be available on the Record page. Tap to cycle through the options which include 8-bit 4:2:0, 8-bit 4:2:2 and 10-bit 4:2:2.

PULLDOWN

Pulldown Format

Tap to cycle through pulldown formats. For more information refer to "Pulldown" on page 120

RAW over HDMI

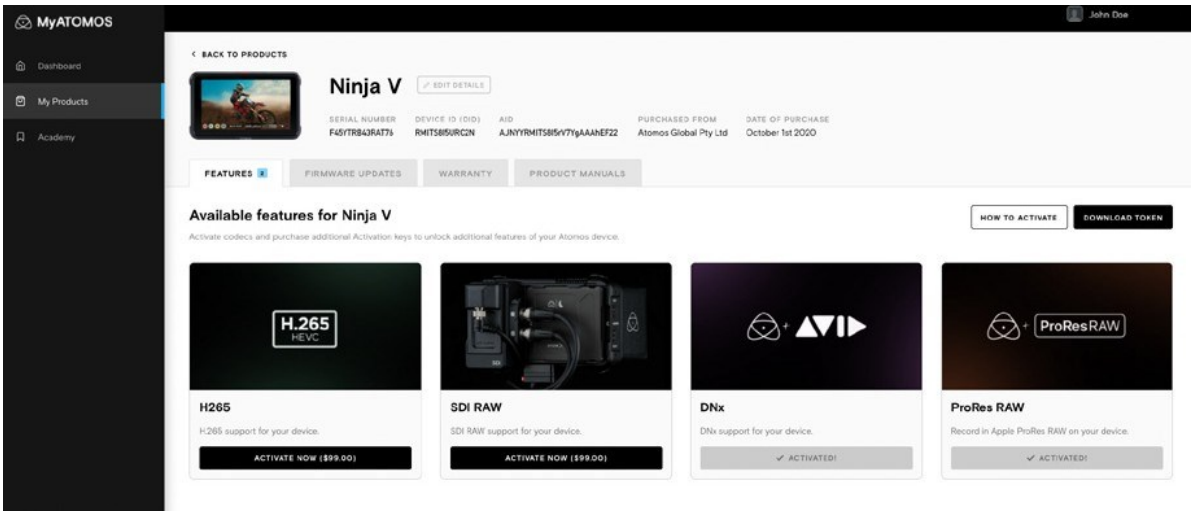
When connected to a supported camera via HDMI, you will be able to record RAW data over HDMI.

When RAW over HDMI is enabled on a connected camera, your NINJA V+ will automatically detect the RAW signal and prompt you to select ProRes RAW as the recording codec.

> *Refer to the documentation for your camera on how to enable RAW over HDMI from the camera.*

SDI RAW

You can add the SDI RAW feature to your NINJA V+ by purchasing the optional SDI RAW upgrade at [my.atomos.com.](my.atomos.com)



After activating the feature on your NINJA V+, you can use the AtomX SDI Expansion module or ATOMOS CONNECT to record RAW over SDI from compatible cameras. Refer to the "Activation Menu" on page 225 section for more information on the activation process.

When RAW over SDI is enabled on a connected camera, your NINJA V+ will automatically detect the RAW signal and prompt you to select ProRes RAW as the recording codec.

To use the ATOMOS CONNECT with your NINJA V+, ensure you have AtomOS firmware version 10.8 installed. Visit atomos.com/support to download firmware for your device.

To use the AtomX SDI Module for SDI RAW, firmware version 10.65 or later needs to be installed on your NINJA V+. For SDI RAW recording from Sony FS-Series cameras, firmware version 10.71 needs to be installed.

Sony Metadata Crop

To help with your video editing workflow, you can crop the RAW video captured from certain cameras like the Sony Alpha A7sIII, Sony Alpha 1 and Sony FX3 when recording ProRes RAW.

So for example, when recording 4.2K ProRes RAW video on the A7sIII the resolution is 4264 x 2408. Using the metadata crop feature will allow you to record the signal as 4240 x 2385, which has an aspect ratio of 16:9. This means that you can use the 4.2K footage in a 16:9 timeline in your NLE without having to be concerned whether the scaling of the image is correct.

Sony Metadata Crop will appear in the Record menu, when you have an HDMI RAW video signal that supports this feature and ProRes RAW is selected as the recording codec.

Pulldown

Pulldown Format

The record menu allows you to apply pulldown removal if recording from a source that applies pulldown to the output signal. Tap Pulldown Format to cycle between the options.

For 3:2 Pulldown removal, movement in the frame may be required to accurately lock signal, simply wave your hand in front of the camera to achieve lock.

What is Pulldown?

Many professional and consumer cameras available today do not send true 1080p24, 1080p23.98, 1080p25, 1080p29.97 or 1080p30 signals to their HDMI outputs. Instead they send 1080i59.94 in NTSC regions (e.g. USA, Japan), and 1080i50 in PAL regions

(e.g. 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.

Camera Set-ting	Pulldown	NINJA V+ 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 NINJA V+ to record the actual frame rate such as 1080p23.98, not the1080i59.94 to disk. In many cases, it is not possible for the NINJA V+ to detect when pulldown has been applied to the video, so you will have to set the correct mode of removal on the NINJA V+ to match the setup of your camera.

With some cameras, the NINJA V+ can detect and remove the pulldown automatically, in which case the mode you expect (e.g. 1080p23.98) will display on the NINJA V+ 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 NINJA V+ displays 1080i59.94 or 1080i60, then you can easily remove the pulldown by following these steps:

1. 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 may not get a green tick in this column immediately.
2. Your NINJA V+ needs to analyze the video for about 1 second, in order to detect the pulldown sequence and remove it.

3. 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 NINJA V+ will detect the pulldown cadence in the movement, and you will see a green tick along with the video displayed on the screen.

> *3:2 pulldown detection is difficult, it is 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 HDMI cable or go to Playback mode, you will need to wave your hand or the camera again, when the signal is restored to the NINJA V+.*

> *Some cameras use a variant of pulldown removal, for example Panasonic Advanced pulldown. The NINJA V+ 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, access the Record Menu tab and simply press the Record Format options 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.

> *Pulldown is only applicable to interlaced HD signals, not 4K*

H.265 (HEVC)

H.265 (HEVC) is a highly efficient compressed codec that combines excellent image quality with a small file size, which makes it ideal for streaming and for the sharing of files. It is also well suited to situations where there is no time or budget for color grading, as you can 'bake in' Rec. 709 or a custom LUT to the file so that you can share files immediately at the end of a shoot.

H.265 is also an excellent option for recording high quality proxy files in an ARRI or RED SDI workflow, where RAW is being recorded internally on the camera. Your H.265 proxy recordings can also use the same file names as the RAW files, so that you can start editing with the proxy files immediately and then use the RAW files for the final color grade.

For information on using Red/Arri file names for your recordings, refer to the "File Menu" on page 211 section.

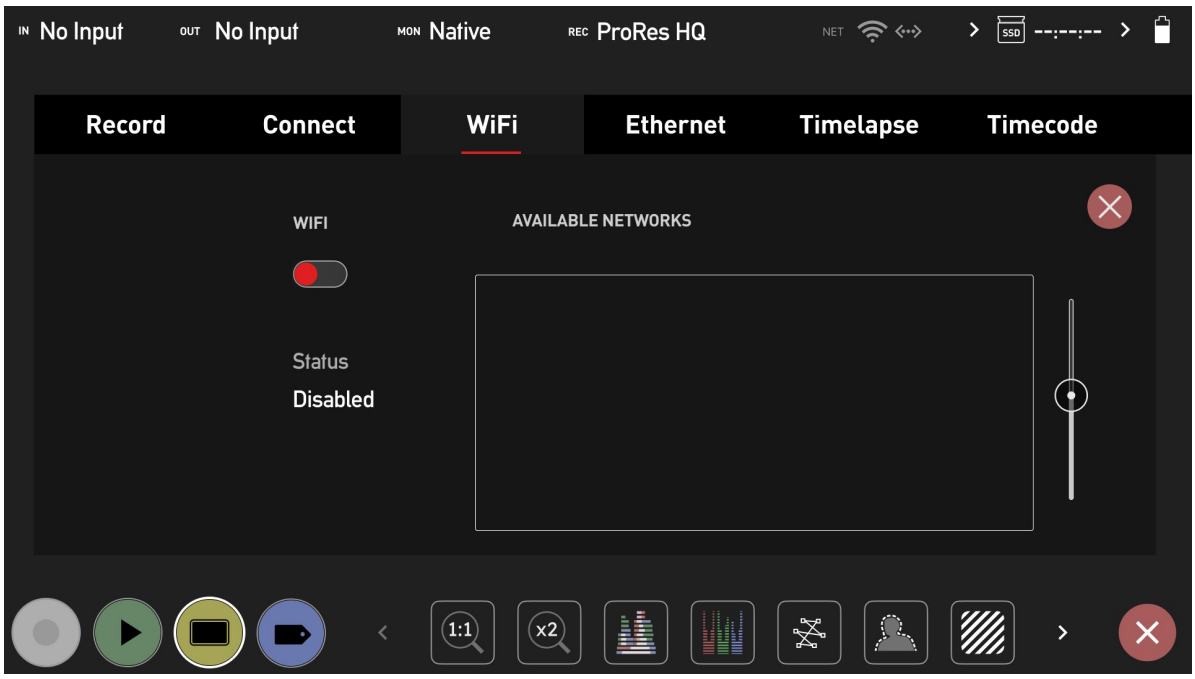
Activating the H.265 (HEVC) codec for your NINJA V+

You can add the H.265 (HEVC) codec to your NINJA V+ codec options by activating the free H.265 upgrade through your my.atomos.com account. Once H.265 (HEVC) is activated and has been installed, you can select H.265 as a recording codec on the "Record Menu" on page 113 page. Refer to the "Activation Menu" on page 225 section for more information on the activation process and using my.atomos.com.

Wi-Fi Menu

When the Atomos CONNECT accessory is attached to your NINJA V+ and the device is in Connect Mode, you can access settings on the Wi-Fi menu tab. This menu provides settings for connecting your device to a Wi-Fi network, so that you can connect to Atomos Cloud Services. For more information on Connect Mode refer to the "Connect Menu" on page 133 section.

An Atomos CONNECT must be attached to your NINJA V+ and the device must be in Connect mode before the Wi-Fi Menu page appears in the menu system.

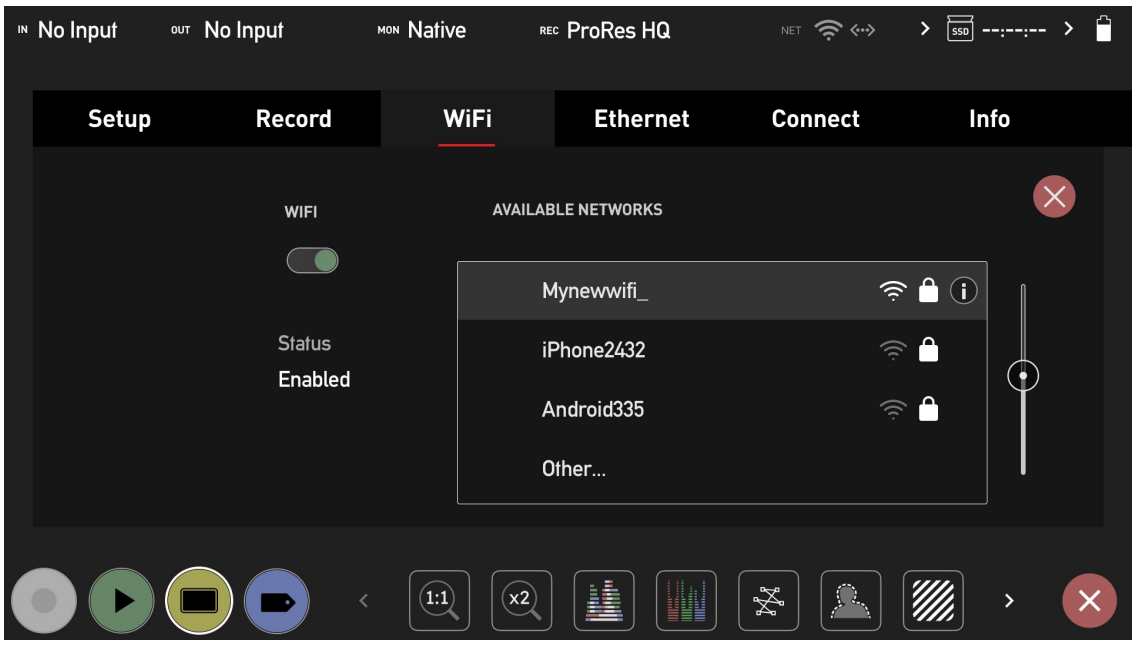


How to connect to a Wi-Fi network:

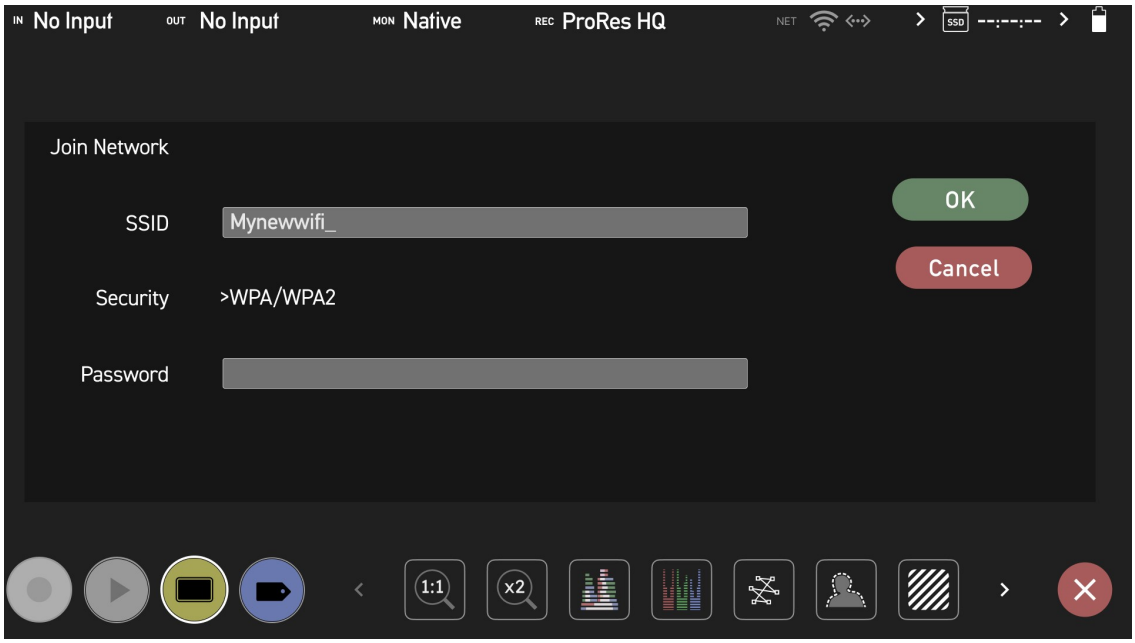
1. Navigate to the Wi-Fi Menu page on your NINJA V+.
2. Tap the toggle switch at Wi-Fi to enable Wi-Fi.

The WiFi on/off status is saved on reboot

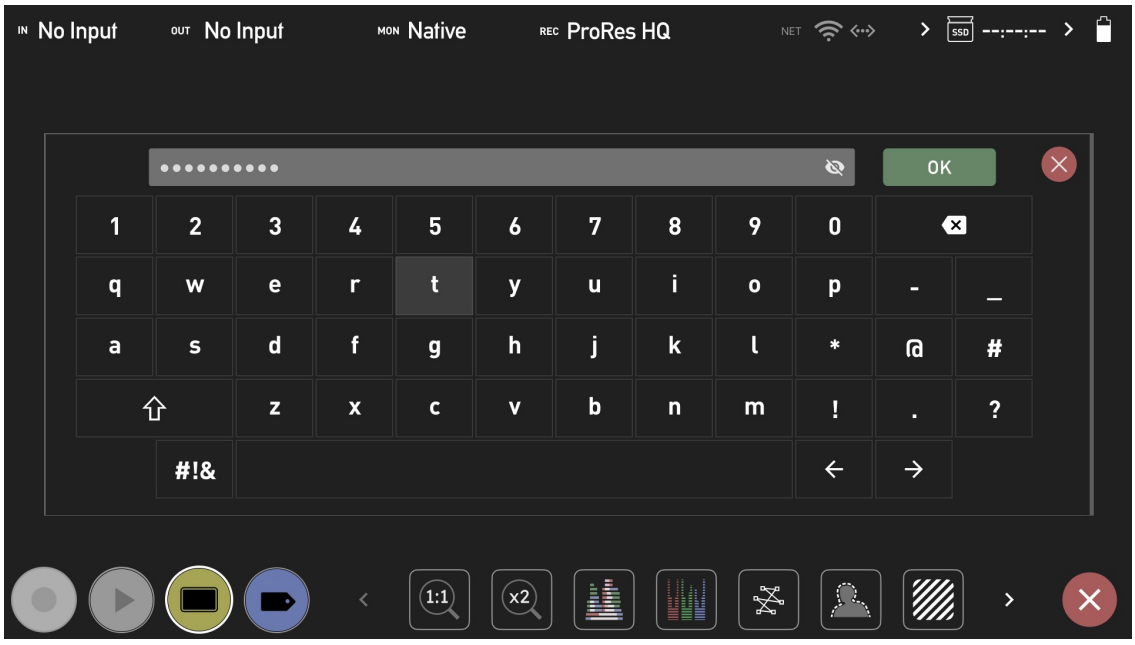
3. The network name (SSID) of the available Wi-Fi networks will be displayed at Available Networks, along with the signal strength for each network and a padlock icon where a password is required to join the network. Tap and drag the list to scroll through the listed networks.



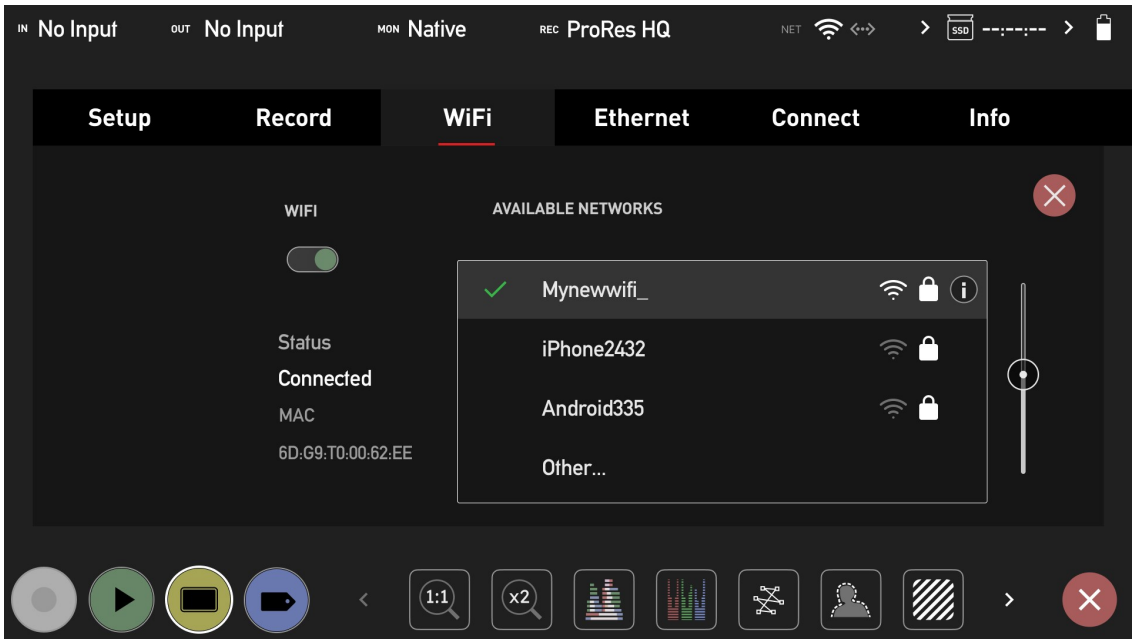
4. Tap on one of the network names to select it. A Join Network box will appear with the SSID, the security type and a field for the password. Tap on the password field to enter the password for the selected network.



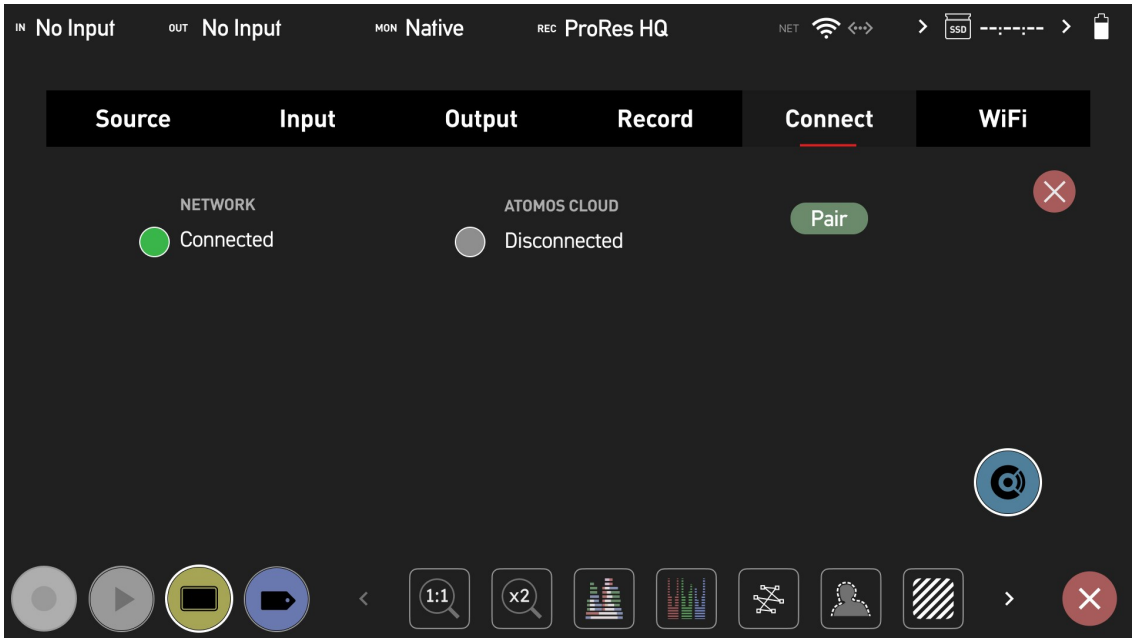
5. A keyboard will appear so that you can enter the password for the selected network. Enter the password for the network and tap on Ok. Tap on the Eye icon in the password field to toggle the visibility of the password on and off.



6. You will now be connected to the chosen Wi-Fi network, and a green tick will appear next to the network name. The MAC address will also be listed.



7. Now that you are connected to a network, the Connect Menu page will be updated with a green circle and the word 'Connected' at Network. Refer to the "Connect Menu" on page 133 section for information on connecting to the Atomos Cloud.



It may take up to 10 seconds for Wi-Fi connections to be re-established when switching between record and playback mode.

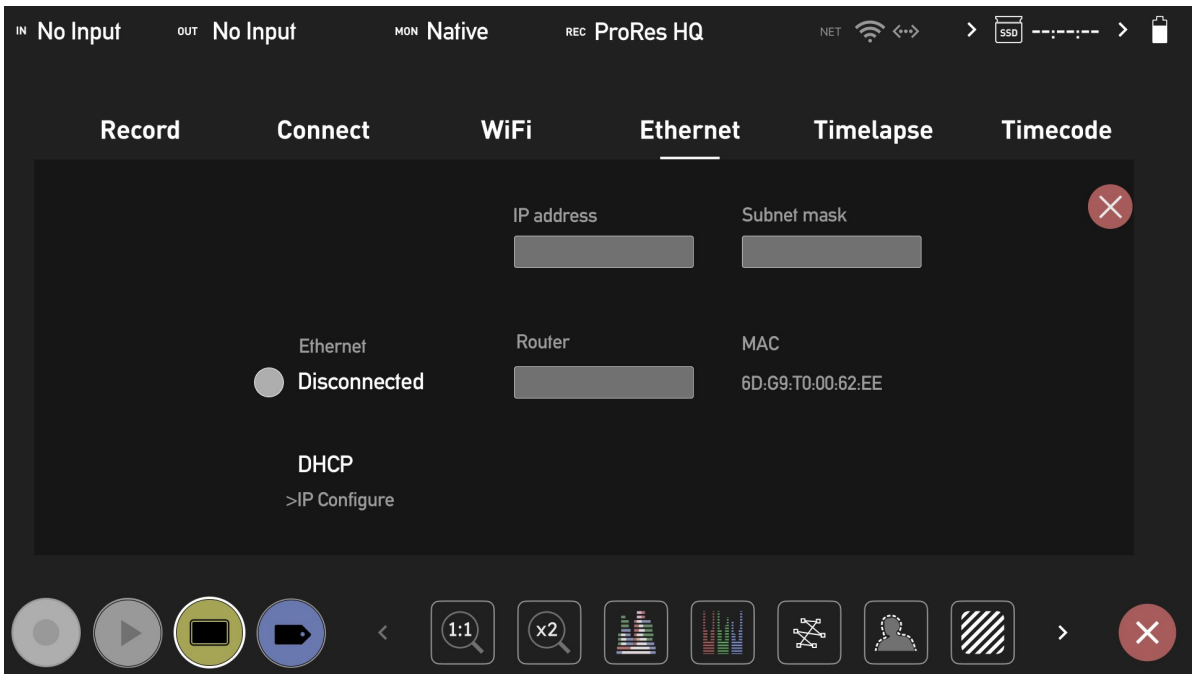
When toggling Wi-Fi on and off, the On/Off toggle may not be immediately responsive. A dialogue message may suggest a system reboot to fix the issue.

Enabling Wi-Fi may require the system to reboot to show available SSIDs. Please follow the on-screen prompts.

Ethernet Menu

When the Atomos CONNECT is attached to your NINJA V+ and the device is in Connect Mode, the Ethernet menu tab will appear in the menu system. This menu provides settings for connecting your device to a network via Ethernet, so that you can connect to Atomos Cloud Services. For more information on Connect Mode refer to the "Connect Menu" on page 133 section.

> *An Atomos CONNECT must be attached to your NINJA V+ and the device must be in Connect mode before the Ethernet Menu page appears in the menu system.*

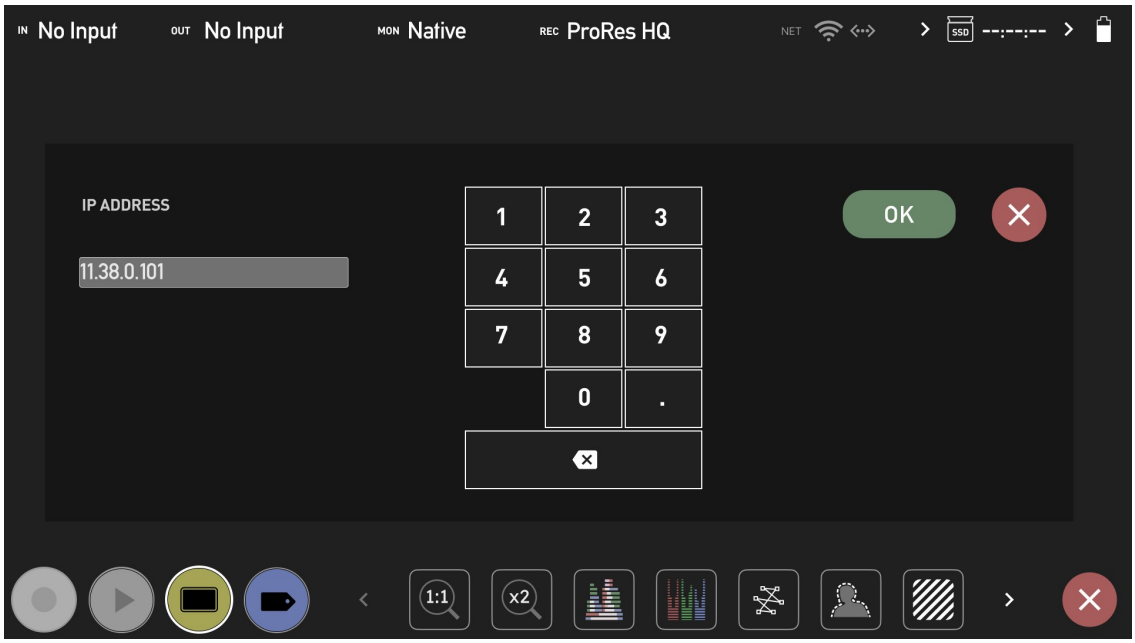


How to connect to an Ethernet network

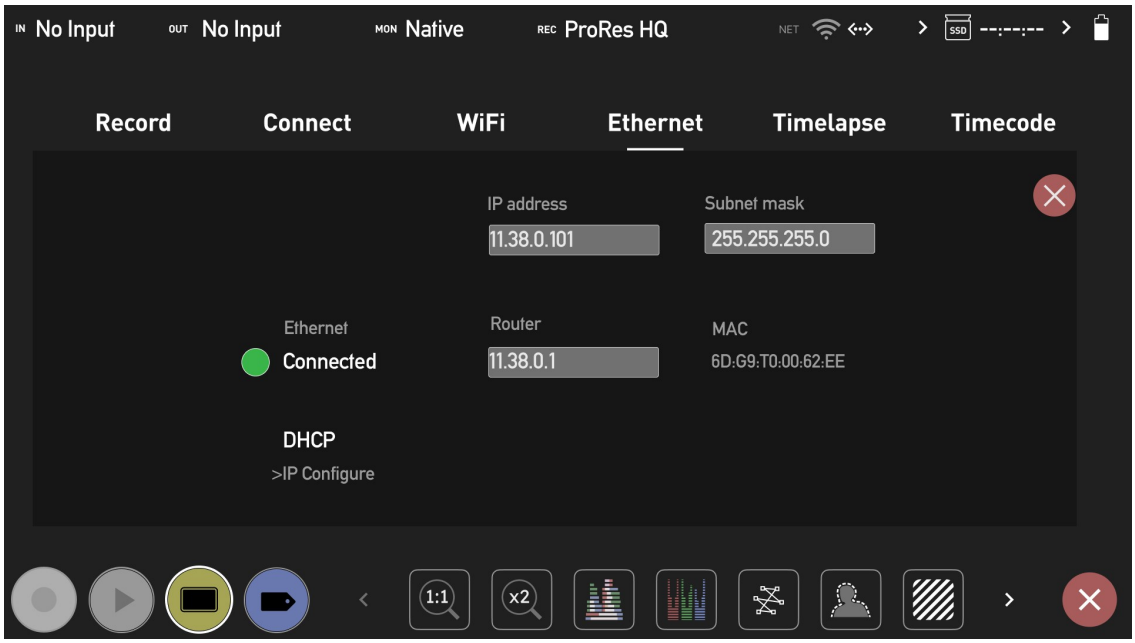
1. Plug an Ethernet cable from your network into the Ethernet connector on your Atomos CONNECT.
2. Navigate to the Ethernet Menu page on your NINJA V+.
3. Tap on IP Configure to cycle through DHCP and Static. Select DHCP to configure the network connection details automatically. Your router will then automatically populate the DNS, IP address and Subnet Mask fields.

To use DHCP, your network needs to have DHCP enabled, so that it can automatically assign an IP address.

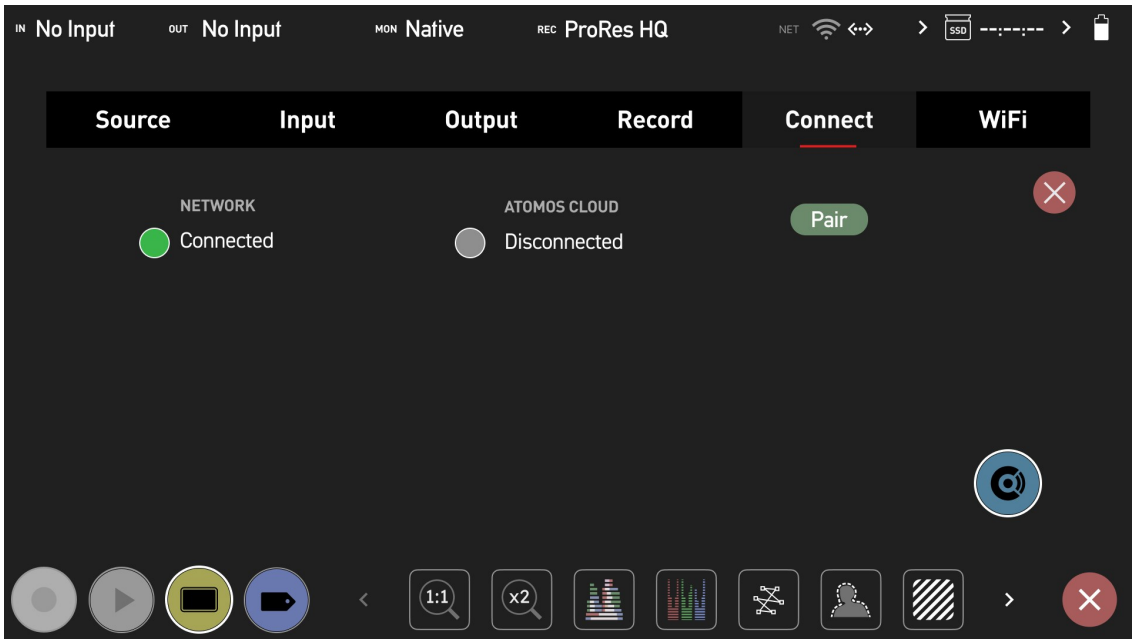
4. If you prefer to manually configure the network, select Static at IP Configure. Tap in one of the empty fields and a keyboard will appear so that you can enter the IP address, Subnet Mask and Router. Tap Confirm once you have finished entering these details.



5. Once you have connected to an Ethernet network, a green circle and the word Connected will be displayed at Ethernet. The device MAC address will also be displayed.



6. The Connect Menu page will be updated with a green circle and the word 'Connected' at Network. Refer to the "Connect Menu" on page 133 section for information on connecting to the Atomos Cloud.



It may take up to 10 seconds for Ethernet connections to be re-established when switching between record and playback mode.

Connect Menu

The Connect Menu allows you to pair your NINJA V+ with Atomos Cloud Studio. It also displays the details of services you have connected to.

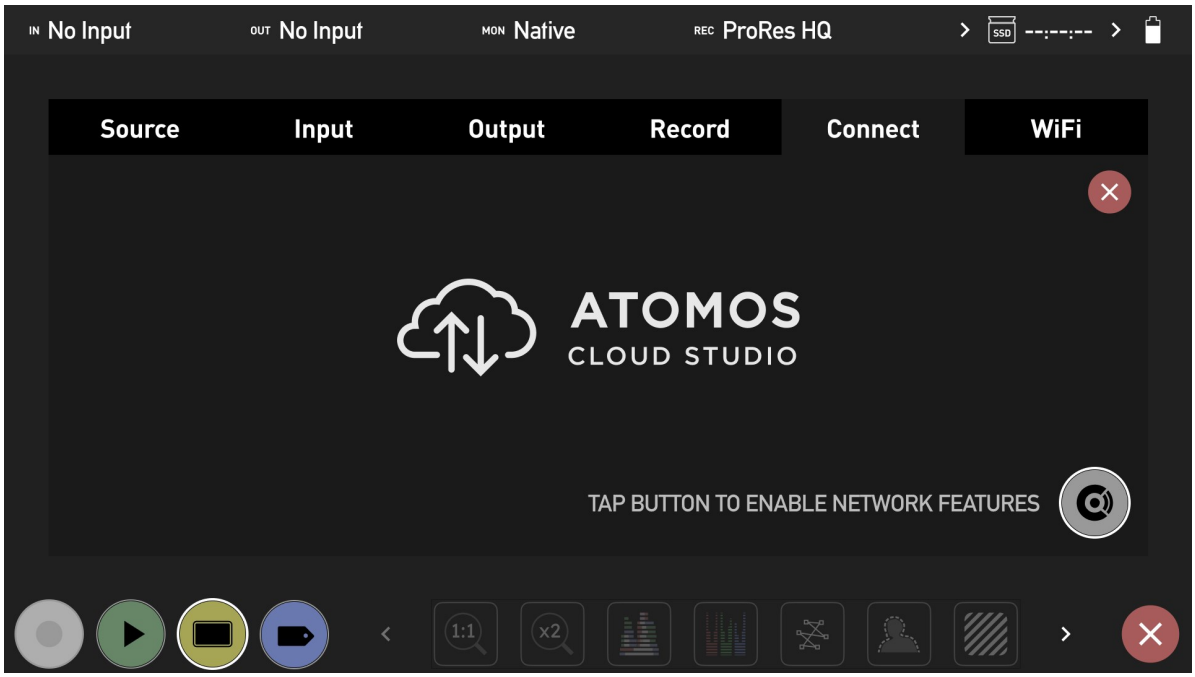
> *Networking and cloud features are only available when an Atomos CONNECT is attached to your NINJA V+, and the device is in Connect Mode. Once in Connect mode, the WiFi and Network menu page tabs will be available, and you can pair your device with Atomos Cloud from the Connect Menu.*

CONNECT MODE

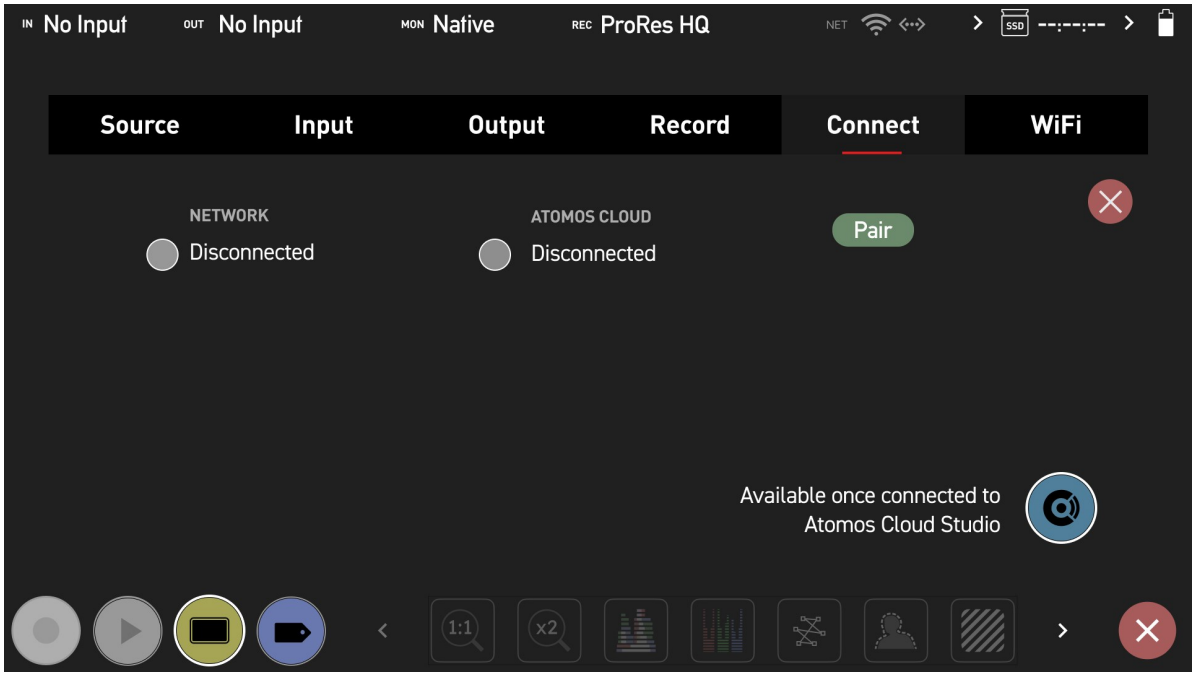
The first time that you open the Connect Menu page with an Atomos CONNECT attached to your NINJA V+, you will see the grey Connect icon on-screen. To use the network and cloud features of ATOMOS CONNECT, Connect mode must be enabled. Tap the Connect mode icon to enter Connect mode.

> *The Connect mode button will only appear when an Atomos CONNECT is attached to your NINJA V+.*

> *This screen will also be displayed after performing a factory reset, or installing new AtomOS firmware.*



Once you are in Connect mode, the status of the network connection and the connection to Atomos Cloud are displayed. The Wi-Fi and Network Menu Page tabs will appear in the menu system and the Wi-Fi and Ethernet icons will appear in the information bar as well.



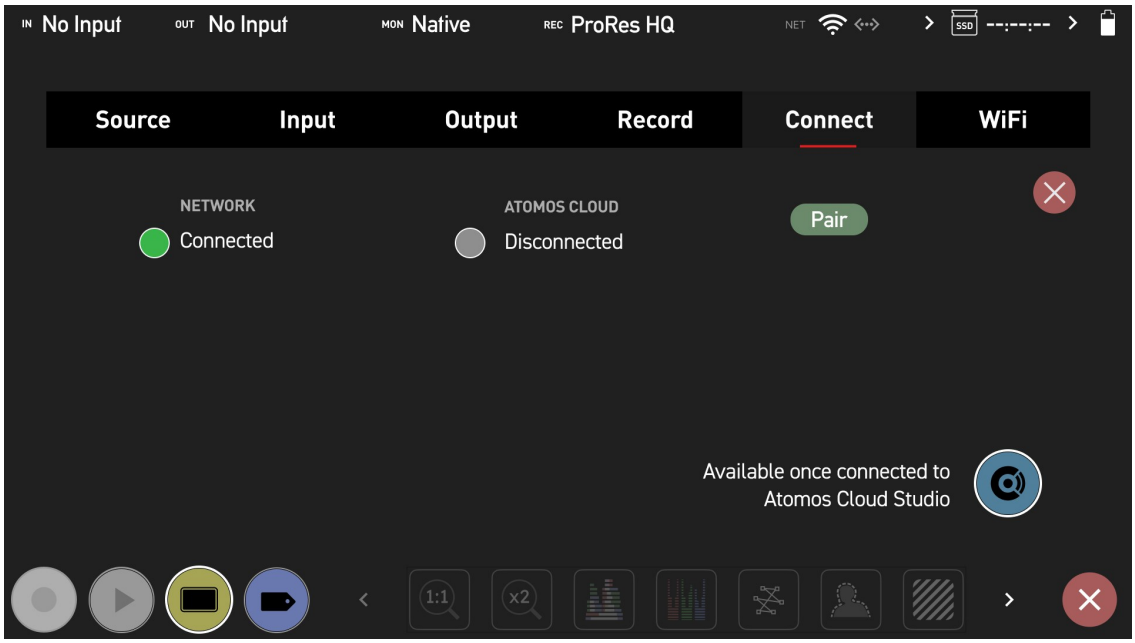
Whilst in Connect mode, tapping the connect button will allow you to manually turn the connection to Atomos Cloud Studio on or off.

Connecting to the Atomos Cloud

Before connecting to the Atomos Cloud, your device must first be connected to a network. Refer to the "Wi-Fi Menu" on page 124 and "Ethernet Menu" on page 129 pages for further information on how to connect to a network. When connected to a Wi-Fi or Ethernet network, the corresponding icon will appear white in the information bar under Network. Once you have successfully connected to a network, you can follow the steps below to pair the device to the Atomos Cloud from the Connect Menu.

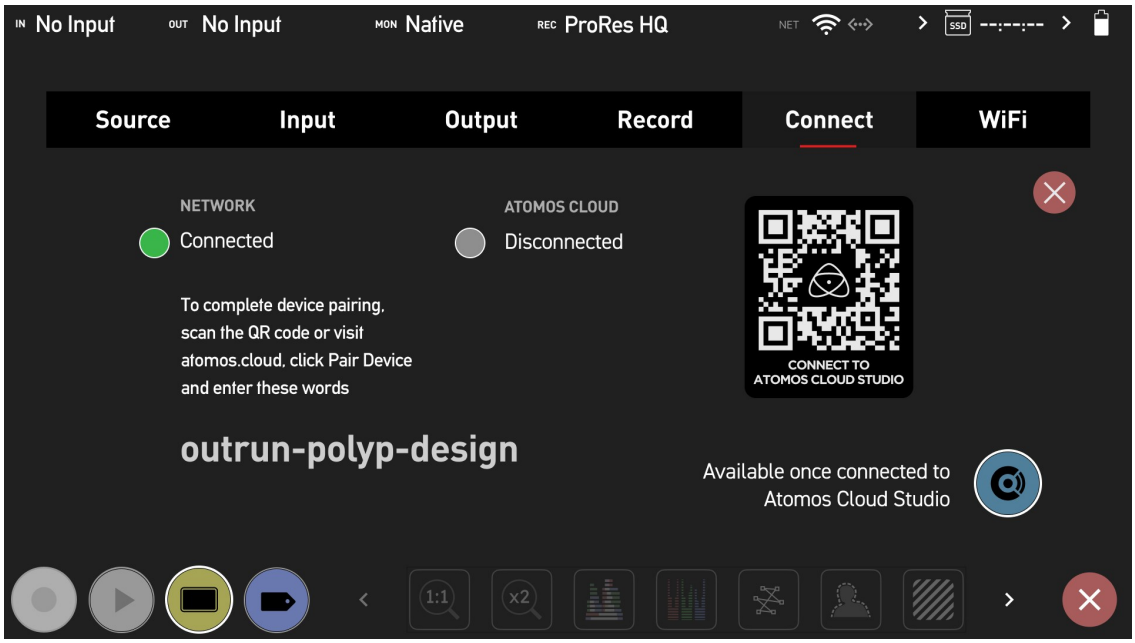
How to Pair your device to the Atomos Cloud

1. Confirm that your device is connected to a network. The network connection status is displayed under Network as either Connected or Disconnected, with a green or grey circle to indicate the status visually.

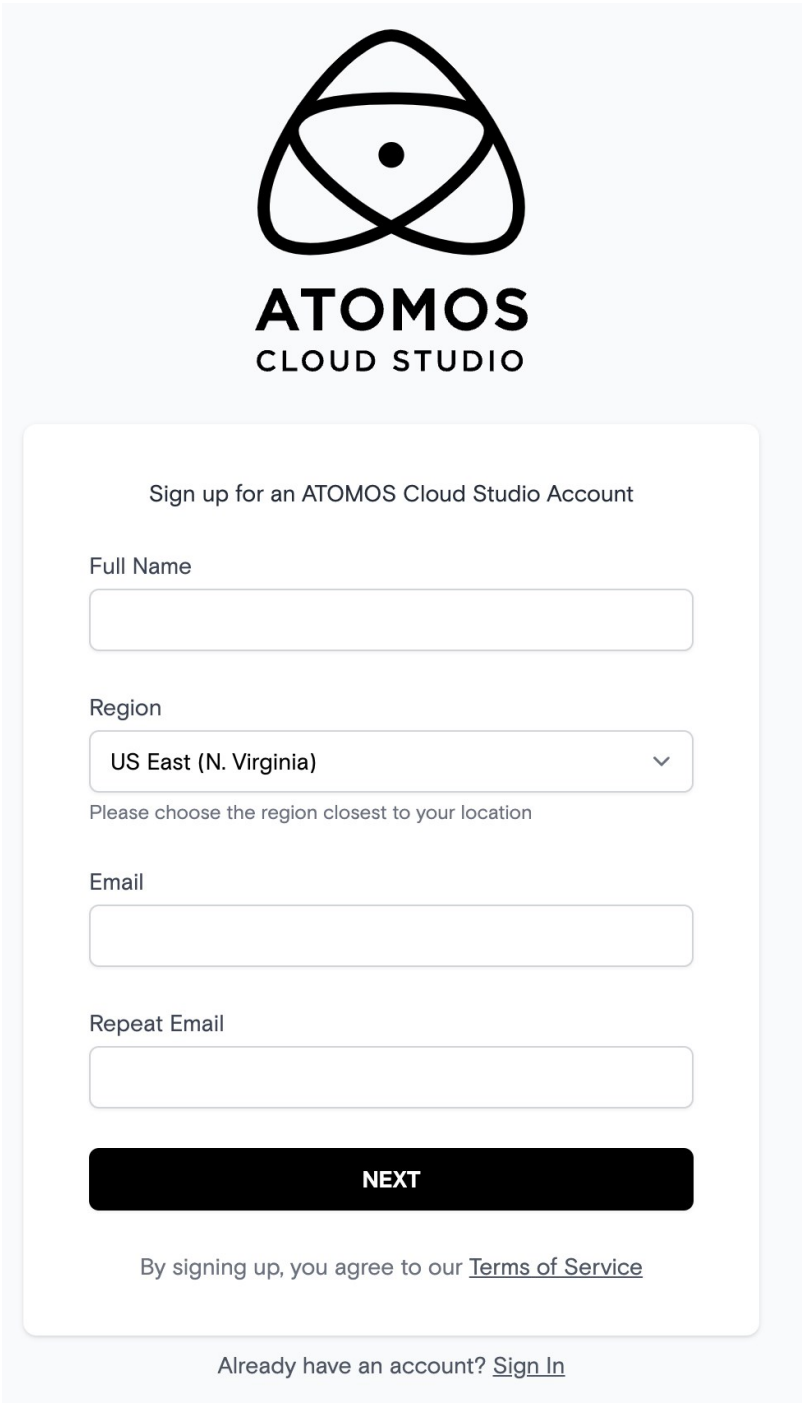


2. Tap on Pair.

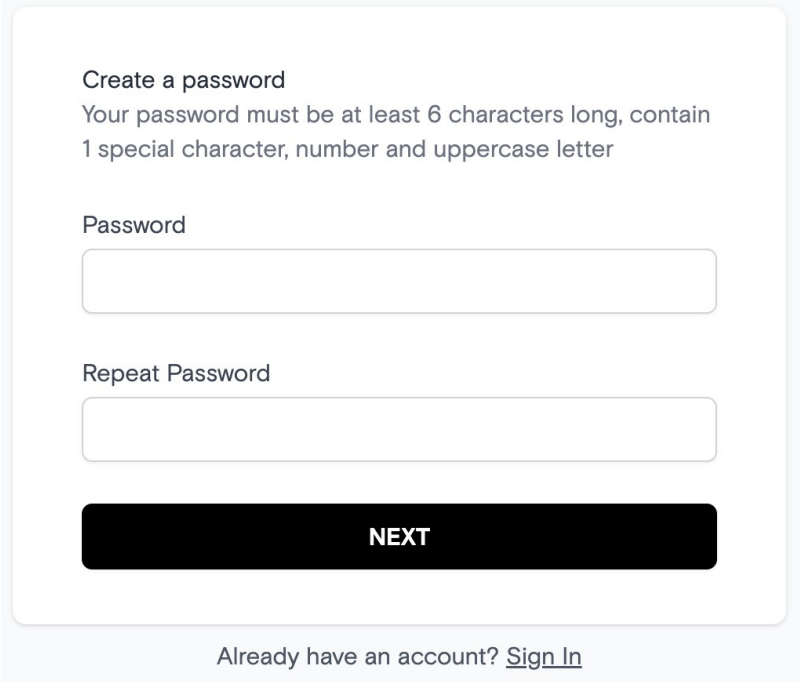
3. The device communicates with Atomos Cloud Studio and is assigned a unique three-word combination, which is displayed on your NINJA V+ screen with a QR code.



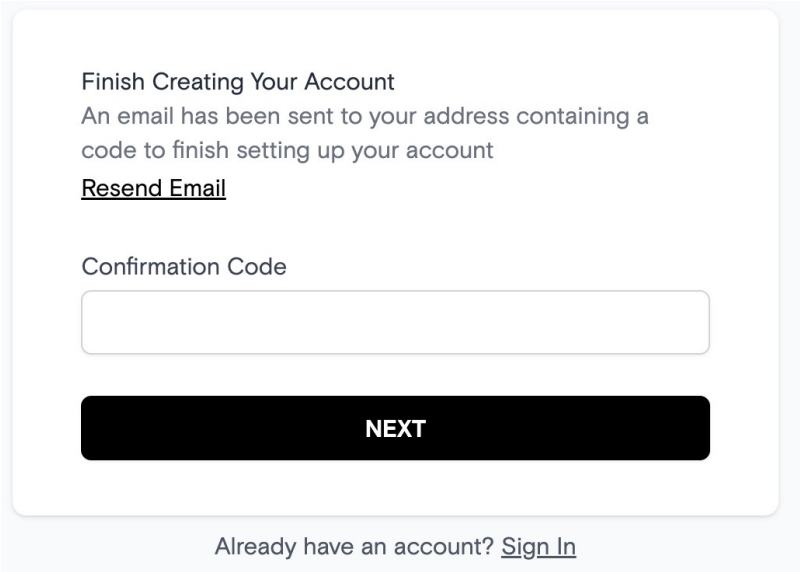
4. Scan the QR code to connect to Atomos Cloud Studio on your mobile device, or navigate to atomos.cloud on a desktop browser . Enter your details and tap/click Next to sign up for an Atomos Cloud Studio Account. Tap/click on Sign In if you already have an Atomos Cloud Studio Account, and follow the prompts to sign in.



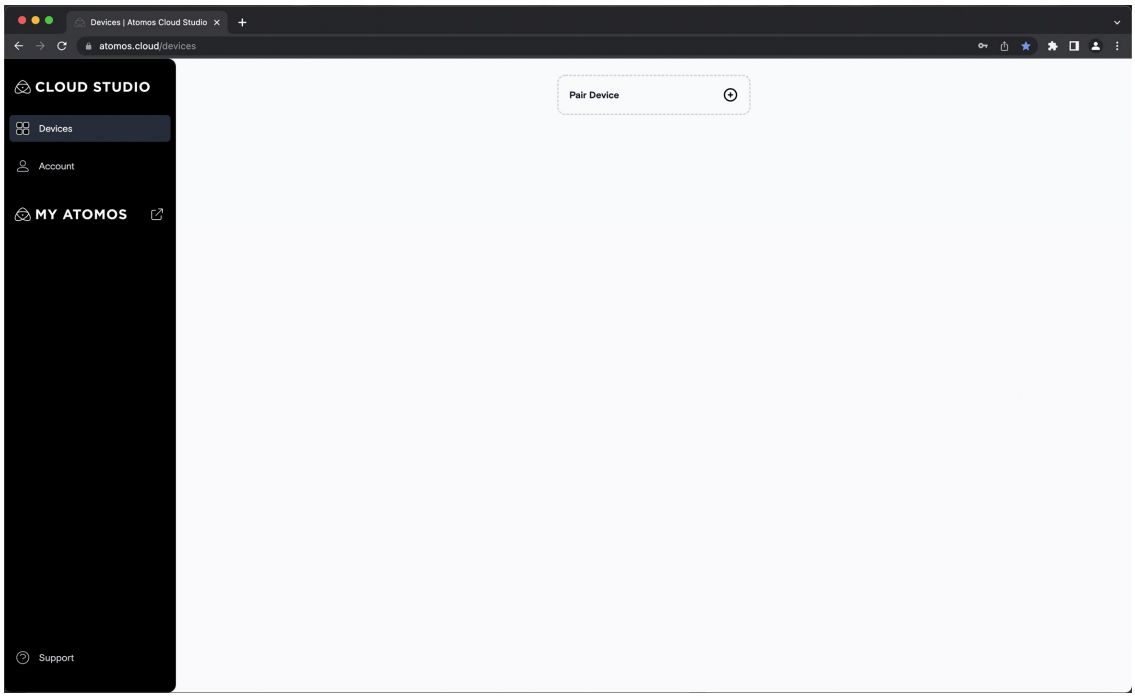
5. Follow the guidelines to create a suitable password.



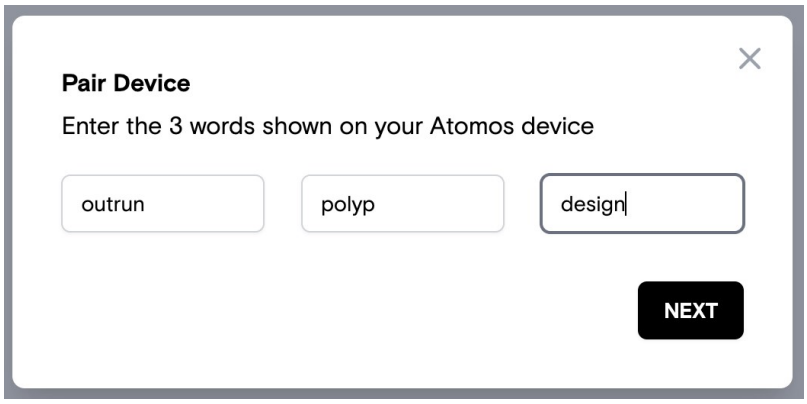
6. Check your email inbox for an email from Atomos with a six digit verification code. It will be sent to the email address used to create your Atomos Cloud Studio Account. Make sure you check your Junk-mail folders as well. Enter the verification code on screen when prompted and tap/click Next.



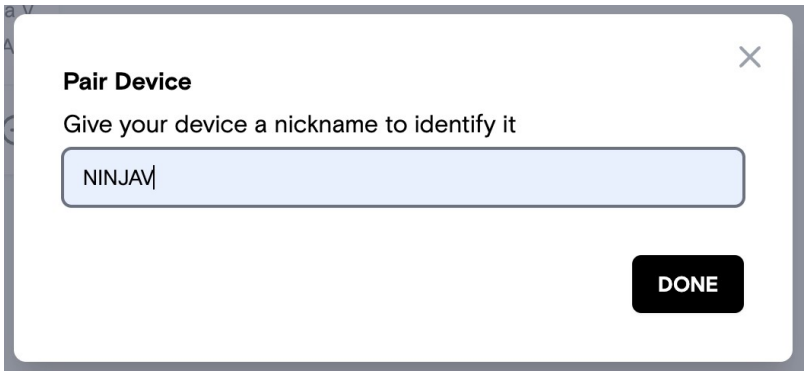
7. The main page will then open on the Devices tab. This screen displays the CONNECT devices that have been paired with your Atomos Cloud account. Tap/click on Pair Device in the center of the screen.



8. A window will appear with spaces to enter the three word code that was shown on your Atomos device. Enter the three words in the spaces provided and tap/click on Next.



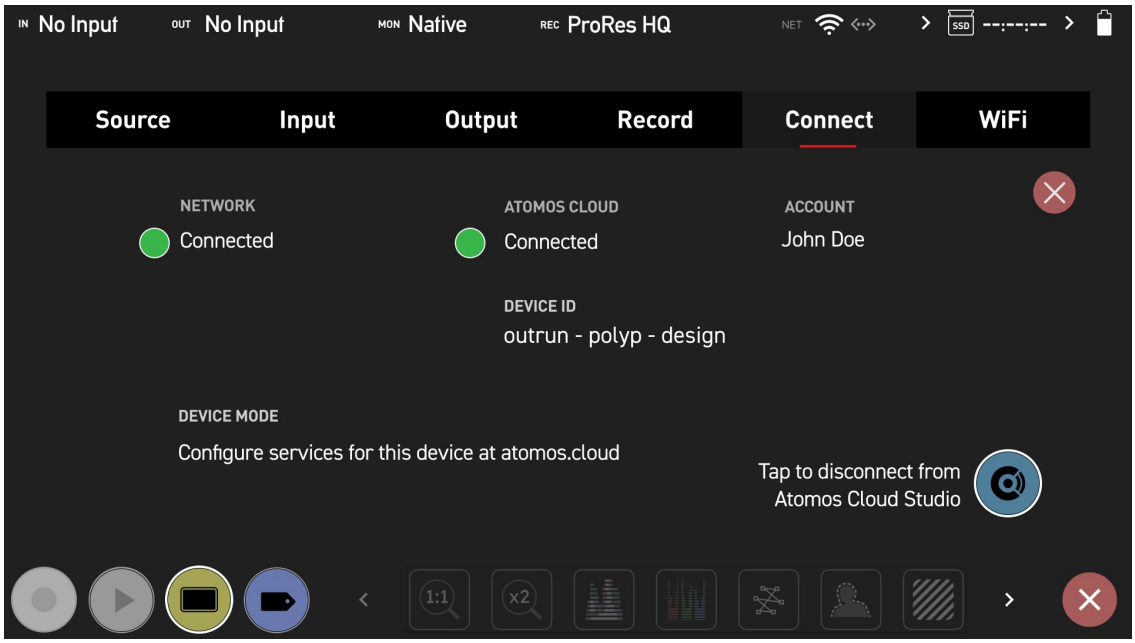
9. Give your device a nickname to help identify it.



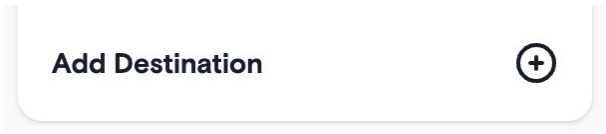
10. The device has now been paired with your Atomos Cloud account. The Devices tab will update to show an image of the device you paired and it's details. The three word code is displayed on the image of the device and the device type appears at Device. When your device is connected to Atomos Cloud, a green circle will appear next to the device nickname at the top of the device box.

11. The Connect Menu page of your NINJA V+ will also update to display Connected at Atomos Cloud with a green circle to indicate the status visually. The name used to create an Atomos Cloud Account will be displayed at Account, and the current device

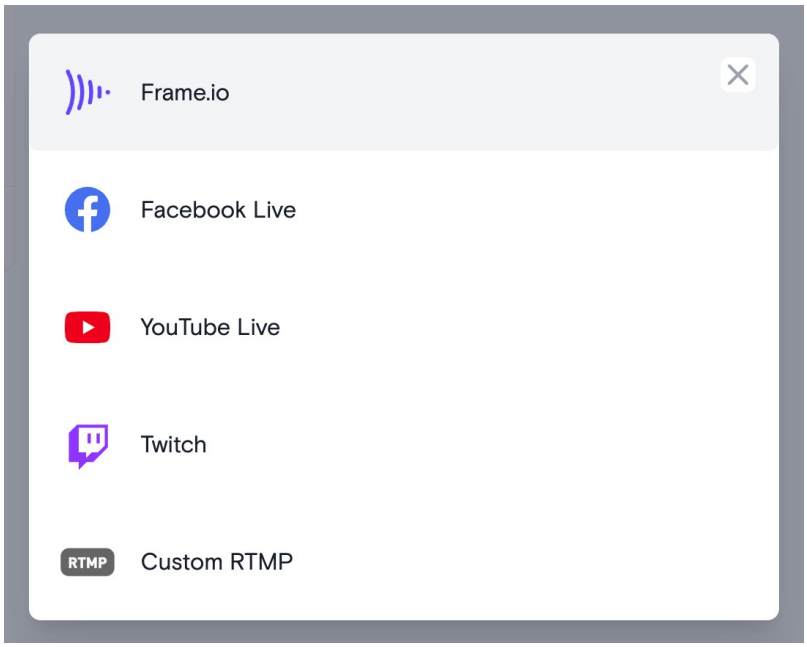
mode will be displayed at Device Mode. This will be either Frame.io C2C mode or Live Stream mode. Destination lists the name of the project selected as a destination.



12. Next you will need to configure the services for this device at atomos.cloud. Tap on the + symbol next to Add Destination in the device box to add a destination.



13. A new window opens displaying the destination options. Click to select a destination and you will be prompted to enter your credentials and other settings for that destination.



Adjusting settings for paired devices

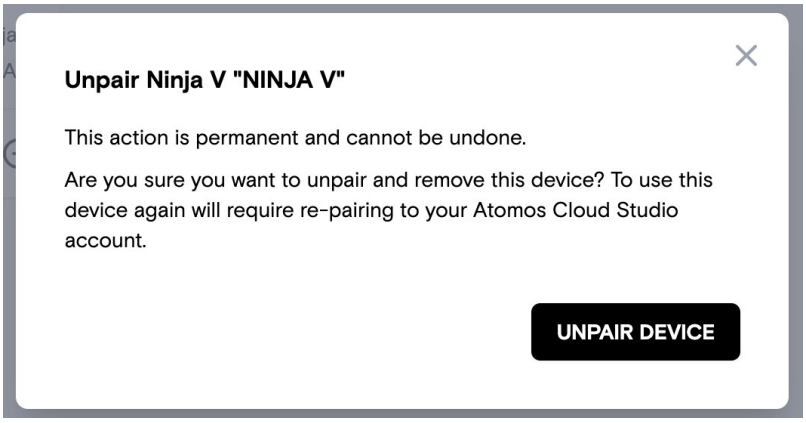
Tapping/clicking on the three dots in the upper right corner of the device image box displays options to change the nickname or unpair the device.

Unpairing your device from the Atomos Cloud

If you decide that you would like to unpair a device from your Atomos Cloud Account, select Unpair Device from the drop-down menu. A dialog box will ask you to confirm your decision.

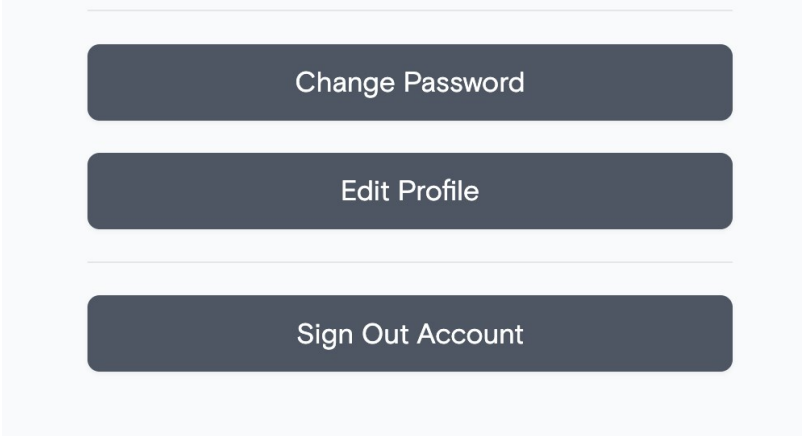
> *Unpairing a device will also disconnect any associated services that you may have connected to.*

> *Before performing a factory reset, ensure that you have unpaired your device from the cloud*



Adjusting Settings

If you would like to make changes to your Atomos Cloud Account, tap/click on Account on the left side of the screen to open the Account tab. This page allows you to change your password, edit your profile details or sign out of the Atomos Cloud Studio Account.


Change Password
Edit Profile
Sign Out Account

Connect Menu - Atomos Cloud Studio

ATOMOS Cloud Studio is a powerful collection of new cloud-based video production services, including ATOMOS Capture to Cloud and ATOMOS Stream. This allows anyone with a compatible camera or device to make use of these tools to share media and collaborate in real-time.

Create an Atomos Cloud Studio account at cloud.atomos to get started.

ATOMOS Capture to Cloud

Cloud-based workflows are rapidly growing in popularity and have proven their efficiencies on thousands of productions. Atomos Capture to Cloud adds new dimensions to these systems by allowing any HDMI or SDI equipped camera or device to be connected to online services.

This provides a powerful, flexible, and immediate way to share content from devices or clips from a camera to remote team members. By removing the need to manually offload cards and wait for rushes to be reviewed, this workflow will continue to break down the traditional divisions between production and post, to bring teams closer together wherever they are.

Frame.io Camera to Cloud (C2C)

Online review and collaboration platforms like Frame.io have become essential and have transformed the relationship between production and post by eliminating the delay between these stages. Frame.io Camera to Cloud is an ecosystem of **C2C Connected Devices** that connect Frame.io to the production set, by uploading video and audio from your camera on set to Frame.io between each take.

When it is paired with ATOMOS CONNECT, your NINJA V+ becomes a Frame.io C2C Connected Device, that connects directly into the Frame.io C2C ecosystem. This allows anyone with a compatible camera or device with HDMI or SDI to use Frame.io Camera to Cloud as well as the review and collaboration tools within Frame.io.

With Frame.io for Creative Cloud now included in the Creative Cloud subscription, even more filmmakers, streamers, and video content creators will have access to the powerful features of Frame.io.

The dual recording feature of the NINJA V+ creates matching “hero” Avid DNxHR/HD or Apple ProRes RAW* and "proxy" 1080p HEVC (H.265) files, so that the proxies can be shared and securely backed-up even as it is being recorded.

* This feature is coming soon

ATOMOS Stream

Allows you to live stream to popular platforms like YouTube, Facebook Live, LinkedIn Live, Microsoft Stream, Twitch and more. The integrated system supports a wide range of cameras that sets a new benchmark for flexibility and points of entry. Customers can choose to work with high-end digital cinema cameras and mirrorless, DSLR, USB cameras or even iOS devices.

ATOMOS Stream is designed to make sharing live video to popular online platforms easier, by making the process of configuring the stream more straightforward and more secure.

Connect Menu - Capture to Cloud

ATOMOS Capture to Cloud provides a powerful, flexible, and immediate way to share clips from a camera or device to remote team members using services like Frame.io Camera to Cloud (C2C).

Using Frame.io Camera to Cloud (C2C)

When it is paired with an ATOMOS CONNECT, your NINJA V+ can become a Frame.io C2C Connected Device that connects directly into the Frame.io Camera to Cloud ecosystem. This ecosystem connects Frame.io to the production set, by uploading video and audio from your camera on set to Frame.io between each take.

Selecting Frame.io as a destination in Atomos Cloud Studio allows you to use Frame.io Camera to Cloud to upload proxy files directly into your Frame.io project. Having the proxy files uploaded to Frame.io whilst you are recording them, means that an editor can access these files from anywhere in the world, and begin editing immediately. For more information on Frame.io Camera to Cloud, refer to https://frame.io/c2c/ or watch the Frame.io Training Series at https://frame.io/c2c-training/

The dual record feature of the NINJA V+, creates matching “hero” clips (at up to 4Kp30) in either Avid DNxHR/HD, Apple ProRes RAW* or Apple ProRes, and 'proxy' 1080p HEVC (H.265) files so that a clip can be shared and securely backed-up even as it’s being recorded. Once the edit is completed in your NLE, you can easily relink to the high quality 'hero' files for final color grading, visual effects or other post-production steps.

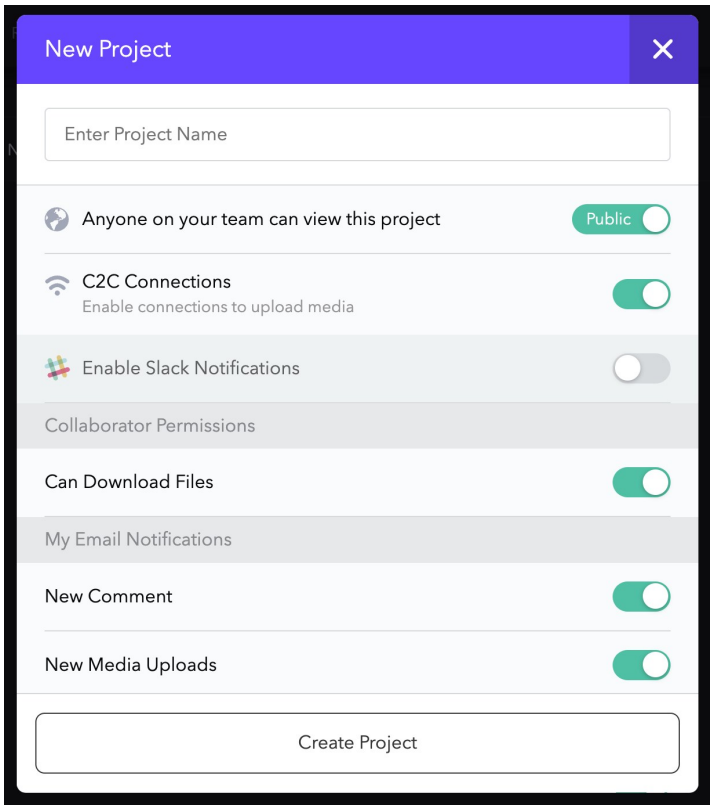
* This feature is coming soon

Setting up your Frame.io account

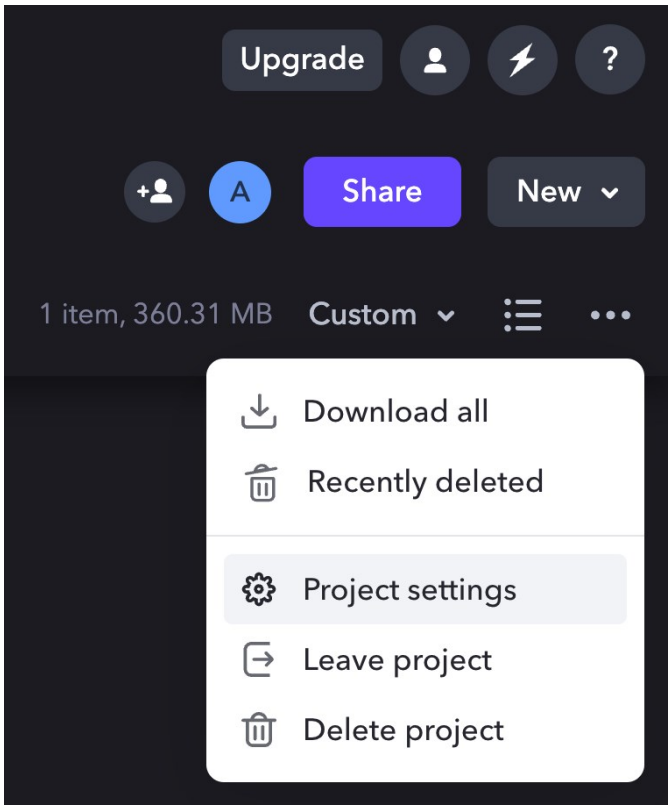
Before selecting Frame.io Camera to Cloud as a destination in Atomos Cloud Studio, you need to have a Frame.io account already set up. Visit https://frame.io/ and follow the prompts to create a Frame.io account.

You also need to have created a project that you can select as a media destination, and ensure that in the settings for the project you have enabled **C2C Connections**. This allows your NINJA V+ to connect directly into the Frame.io C2C ecosystem and upload proxy files directly into your Frame.io project.

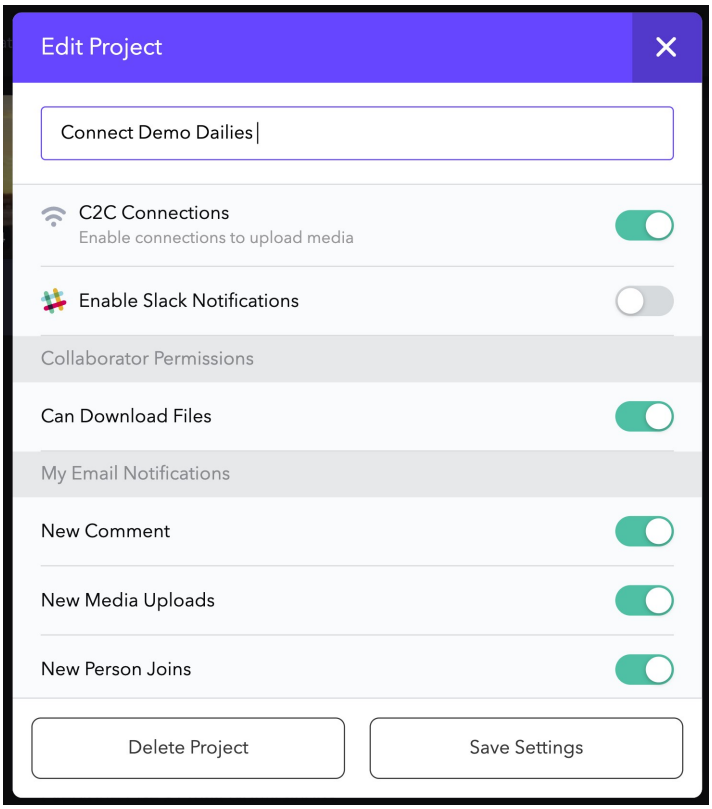
To enable C2C Connections, click the toggle switch at C2C Connections to ON when creating a new project from the web app, mobile web, or in the Frame.io iOS app.



You can also enable C2C Connections on an existing project by clicking on the three dots in the top right corner and selecting Project Settings.



An Edit Project dialog box will open, where you can click to toggle the switch at C2C Connections to ON.



Once you have enabled C2C Connections for your project, you can follow the steps below to set Frame.io Camera to Cloud as a destination in your Atomos Cloud account.

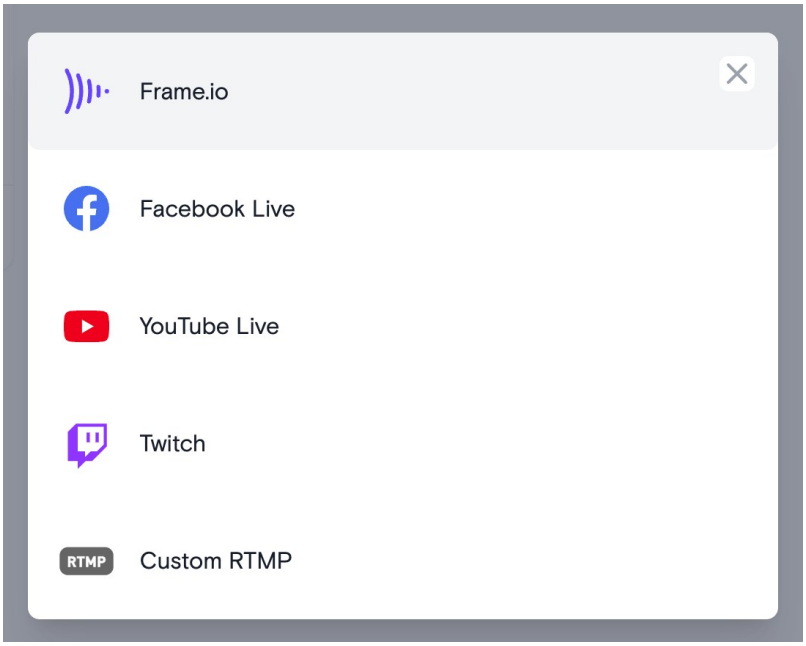
To select Frame.io – Camera to Cloud (C2C) as a destination in ATOMOS Cloud Studio, AtomOS 10.81.00 or later must be installed

Atomos devices cannot be paired from within Frame.io by using the 6 digit code method. Your Atomos device MUST be paired to Frame.io via ATOMOS Cloud Studio.

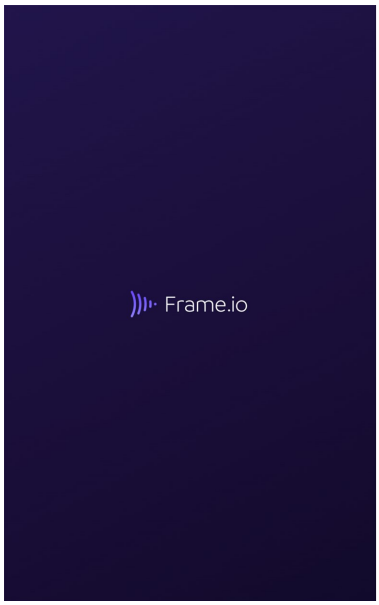
Setting Frame.io Camera to Cloud as a destination in Atomos Cloud Studio

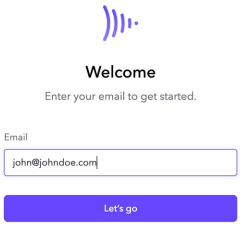
1. Follow the steps in "Connect Menu" on page 133 to pair your device to the Atomos Cloud. Once paired, click on Add Destination in the device box.

2. Select Frame.io from the options.

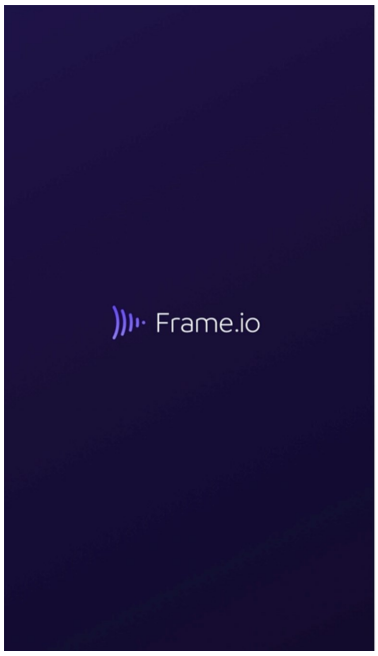


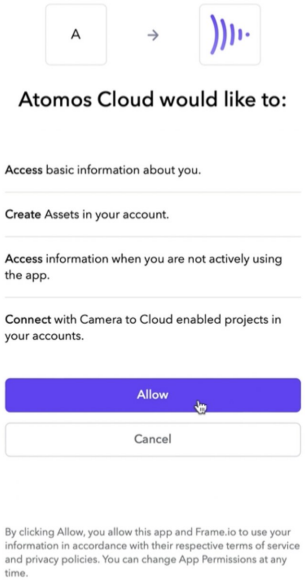
3. You will be prompted to log in to your Frame.io account.





4. You will then be asked to allow your Atomos Cloud account to connect with Camera to Cloud enabled projects in your Frame.io account. Click on Allow to proceed.

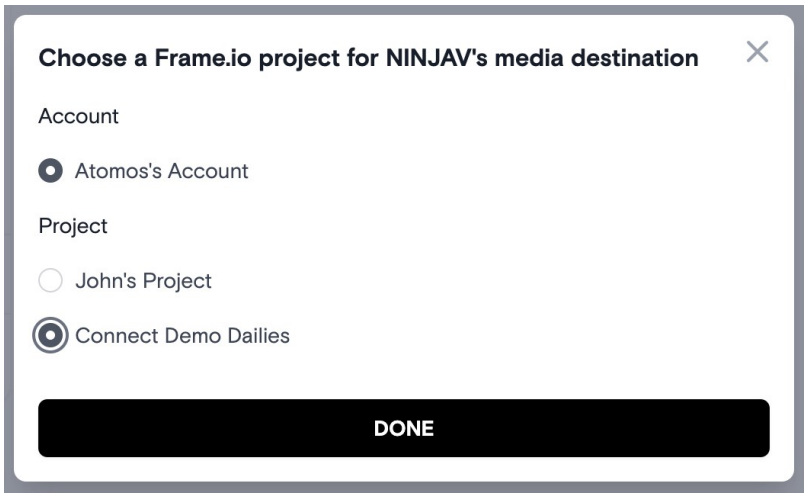




5. You will then be returned to the Devices tab whilst your Atomos Cloud Studio account pairs with Frame.io. Once paired, you will be able to select a Frame.io project to be used as a media destination for your device. Your personal Frame.io projects will be displayed, along with any projects that you have been invited to work on. Click on a project to select it as the media destination and then click on Done.

> *Your Frame.io account and project need to be already set up in Frame.io before you can select it. The project also needs to have the C2C Setting enabled.*

> *The security settings associated with your Frame.io account will dictate the projects that you are permitted to select.*

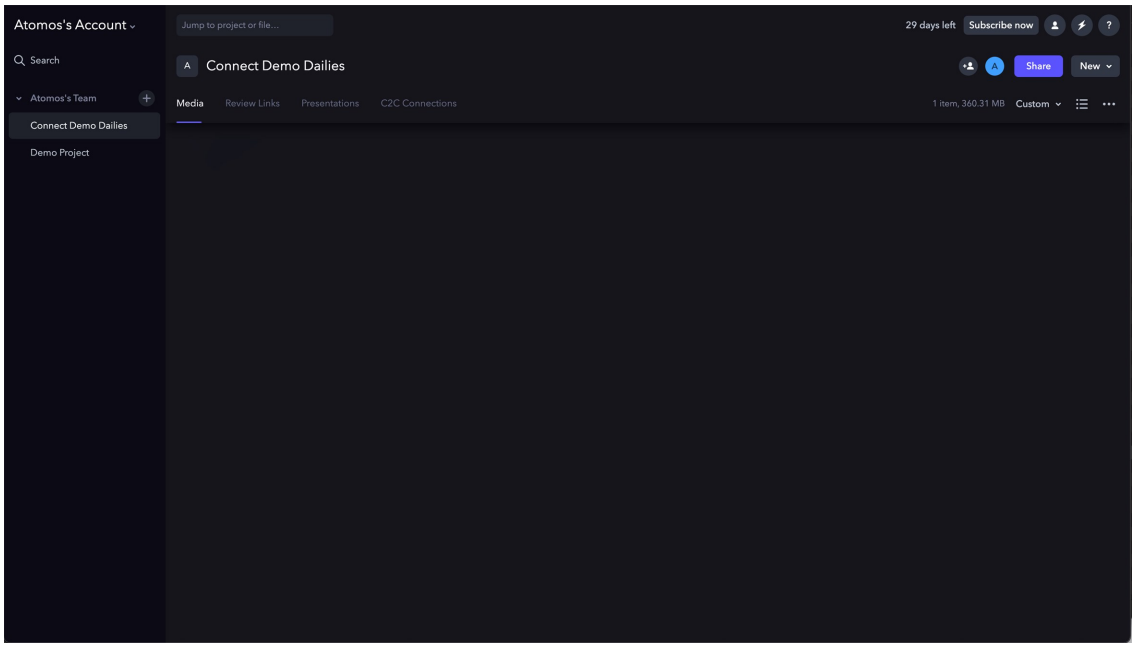


6. Frame.io will now appear at the bottom of the device box with a toggle switch to enable/disable the Frame.io destination for this device. Click to toggle the switch to On.

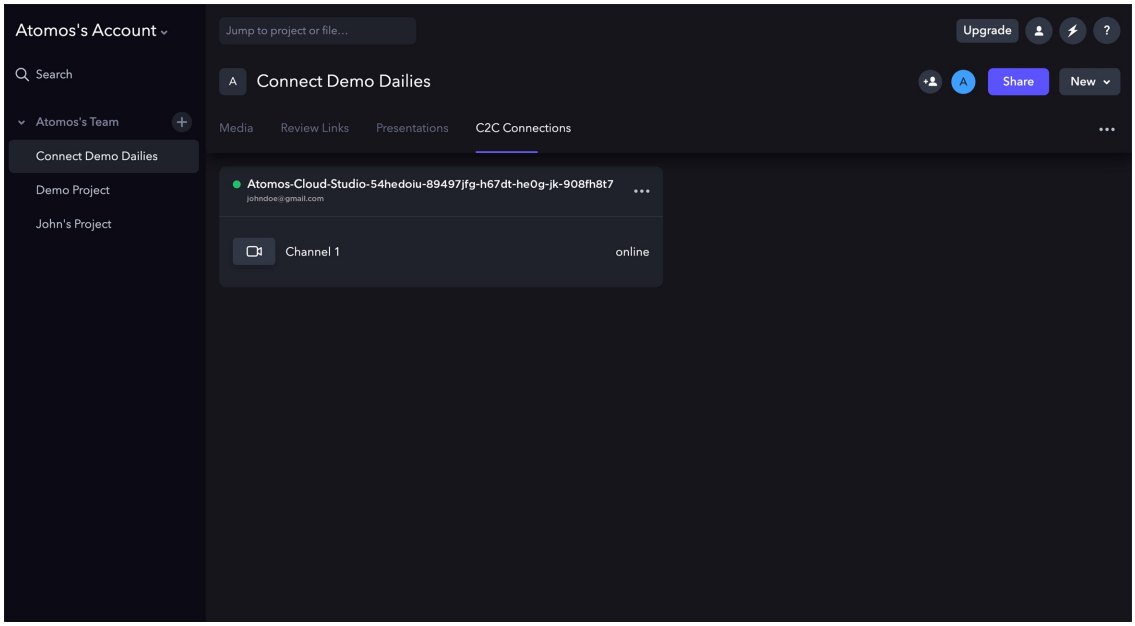
> *Toggling a destination On, will disable other destinations if they are enabled.*

> *Only one destination can be selected at a time.*

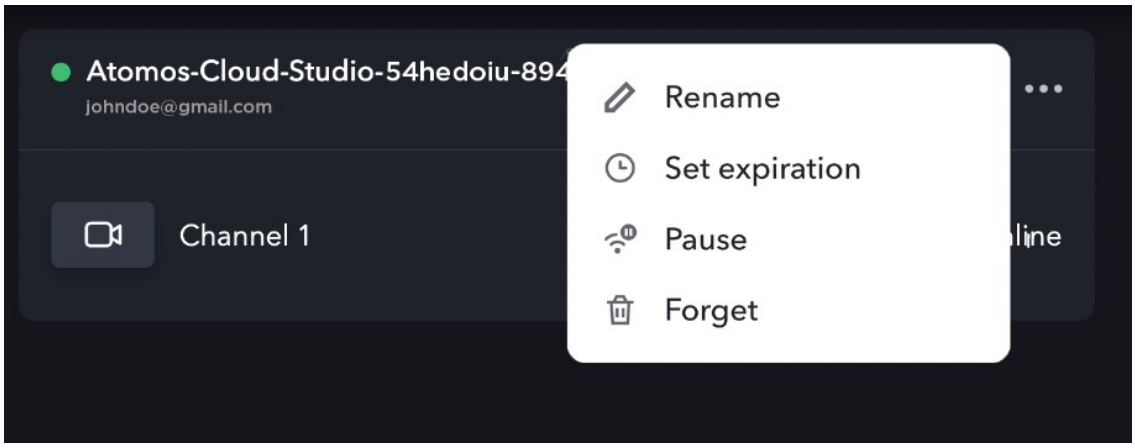
7. Log into your Frame.io acount in a new browser window and navigate to the Frame.io project that you selected to be used as a media destination for your device.



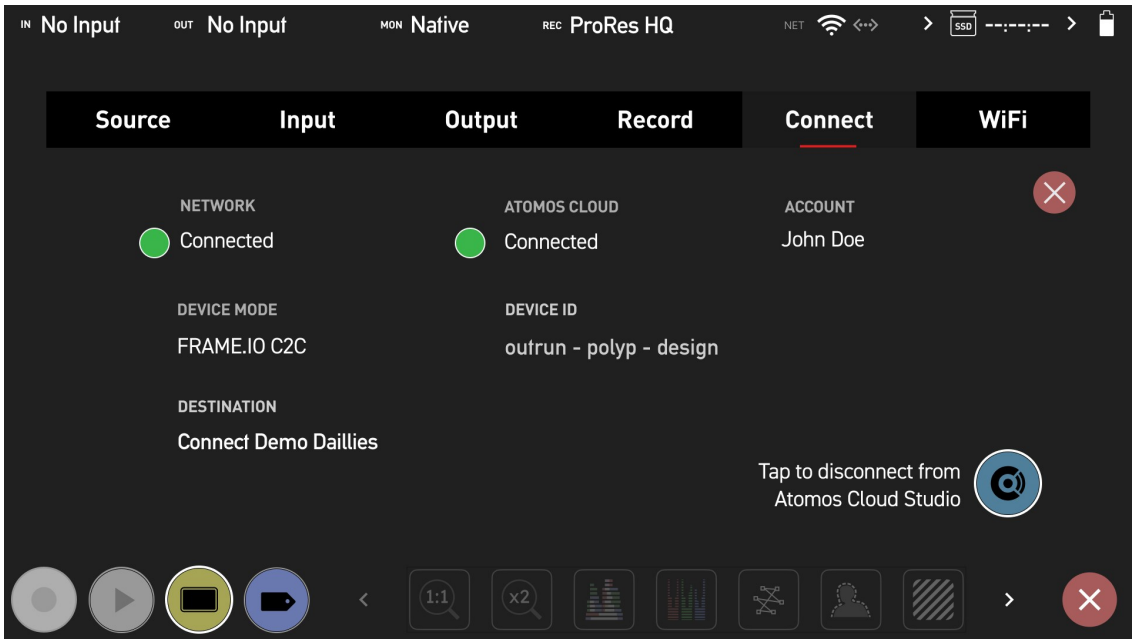
8. Click on the C2C Connections tab to view the Frame.io Camera to Cloud C2C Connections. These are hardware devices and apps that connect directly into the Frame.io C2C ecosystem. Atomos connected devices will appear here, and will have a green dot on a device when the device is currently connected to Frame.io.



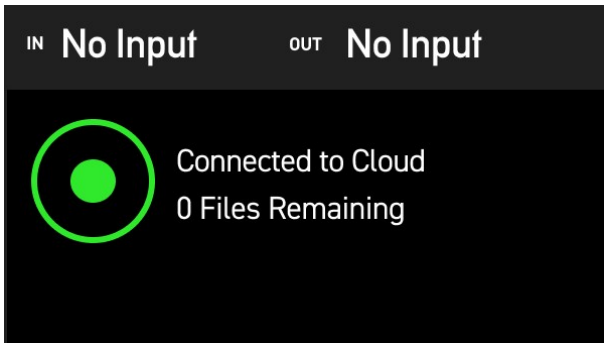
9. By default, the name of the device will be 'Atomos-Cloud' with an alpha numeric sequence. Clicking on the three dots on the right hand side of the connection box will display a menu that allows you to rename the connection. You may wish to use the same name that you used in Atomos Cloud Studio, so that the device has the same name on Frame.io. The other settings here allow you to pause, forget or set an expiration for the connection.



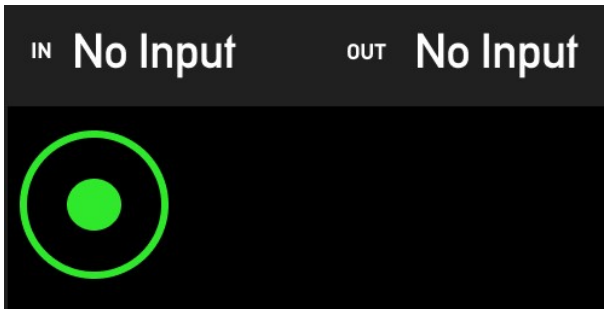
10. The Connect Menu page on your NINJA V+ will update to indicate that the Device Mode is Frame.io C2C. The selected Frame.io project will also appear at Destination.



11. A green circle will also appear in the top left of your NINJA V+ display, to indicate that your device is currently connected to the cloud, and that the connection is idle. The text next to the icon will confirm the status of the connection and if there are any remaining files to be uploaded.



Tapping on the status icon will toggle the visibility of the status text On or Off. This can be toggled whilst idle and also whilst files are uploading.



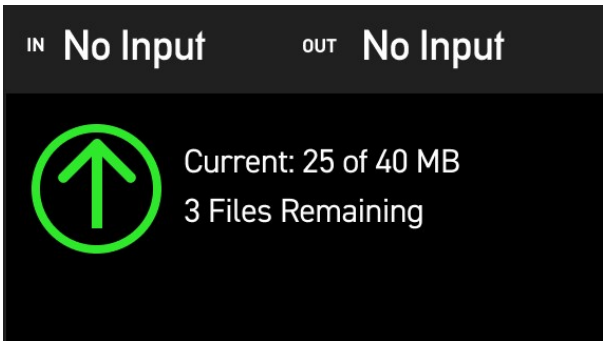
Uploading Proxy files to Frame.io

Now that you are connected to a Frame.io project, pressing the REC button will record a clip as usual to the inserted media, as well as generate a 1080p, H.265 (HEVC) proxy file that is saved to a PROXY folder on the inserted media. This proxy file will also be automatically uploaded to the Frame.io project you selected.

After you stop recording, a green arrow will appear in the top left of your NINJA V+ display, which indicates that the file is being uploaded to Frame.io. The text next to the icon provides details on the progress of the upload and how many files are remaining.

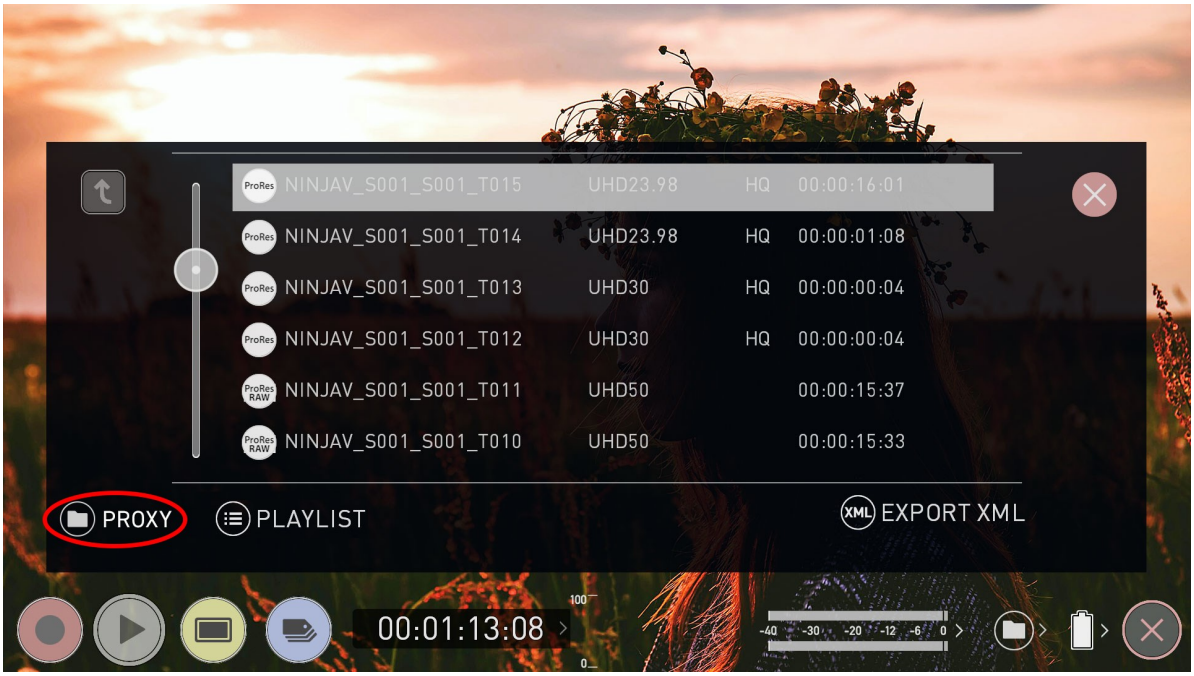
Full-resolution "hero" clips (at up to 4Kp30) can be recorded in either Avid DNxHR/HD, Apple ProRes, and Apple ProRes RAW, whilst Proxies will be recorded at 1080p resolution in H.265.*

* *This feature is coming soon*

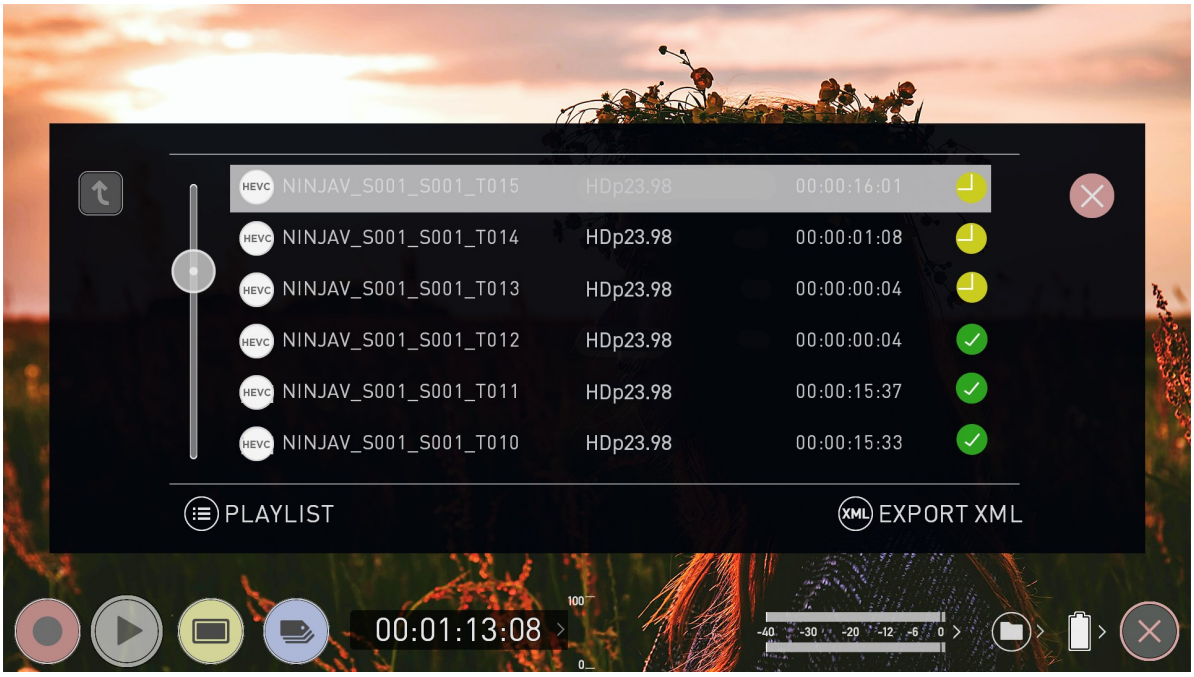


To view the proxy file upload status queue, switch to playback mode and tap on the folder icon to browse recorded files. Then tap on the shortcut to the PROXY folder at the bottom of the screen to open the PROXY folder.

Note that the files will not continue to upload to your Frame.io project whilst in playback mode.



In the Proxy folder, the proxy files displayed will have an icon to the right of each file to indicate the status of the file.

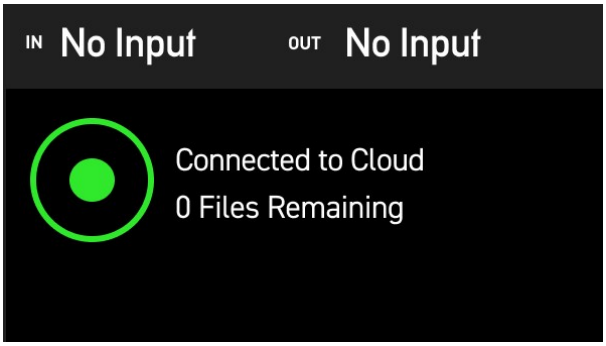


This icon indicates that the file has been successfully uploaded to your Frame.io project.

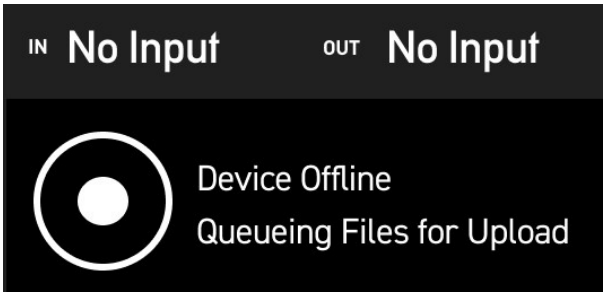
This icon indicates that the clip is queued for upload to your Frame.io project.

This icon indicates that the proxy clip is a broken video file that has been recovered, and will not be automatically uploaded to your Frame.io project. These clips must be manually uploaded.

Once uploading has completed, your NINJA V+ will display the green circle icon again, to indicate that the connection is idle.



If your device loses the connection with the network, the white circle icon is displayed with the text Device Offline.

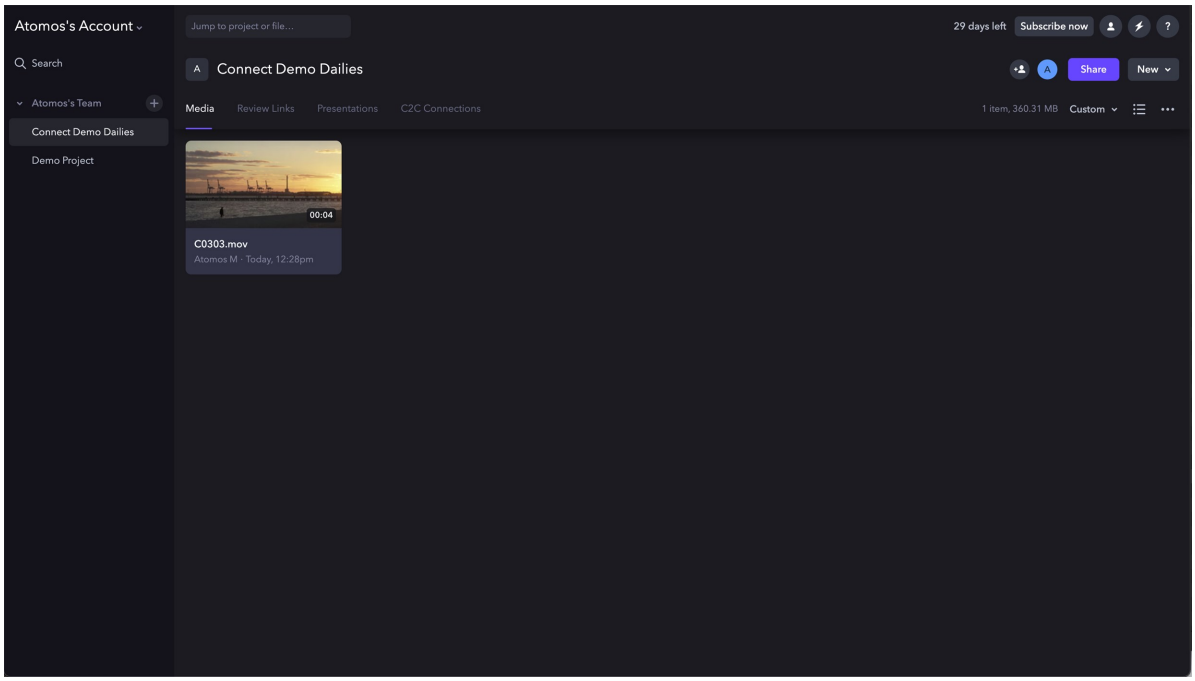


In the event that your device loses connection with the network whilst shooting, the proxy clips will continue to be generated and saved to the Proxy folder on inserted media. These proxy clips will be queued for upload, and begin uploading to Frame.io when the network connection is restored.

Viewing uploaded clips in your Frame.io project

Uploaded clips will appear in a fixed folder structure organized by date in the media tab inside your Frame.io project. Within a folder called Cloud Devices, media that has been written on different dates will upload to the folder that corresponds with the date of upload. The folder structure is as follows:

Cloud_Devices > Date > Device Type > Device

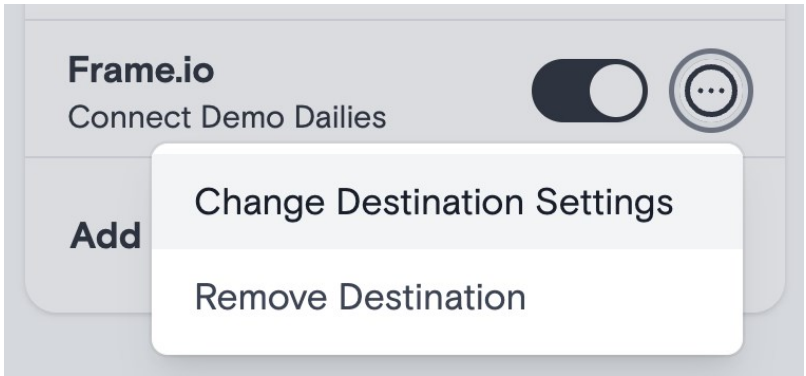


Now that the files from your NINJA V+ have uploaded to Frame.io, they can be moved, copied, or shared like any other asset in your Frame.io project.

For more information on Frame.io Camera to Cloud, refer to https://frame.io/c2c/ or watch the Frame.io Training Series at https://frame.io/c2c-training/

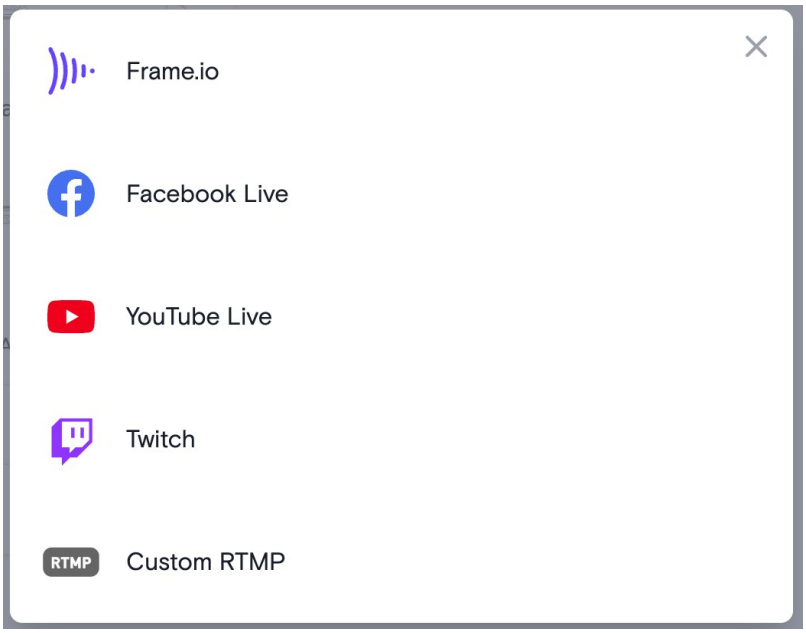
Adjusting settings for a Frame.io destination

Clicking on the three dots next to the Frame.io destination for the device, allows you to change the settings for your Frame.io destination or to remove the Frame.io destination.



Connect Menu - Atomos Stream

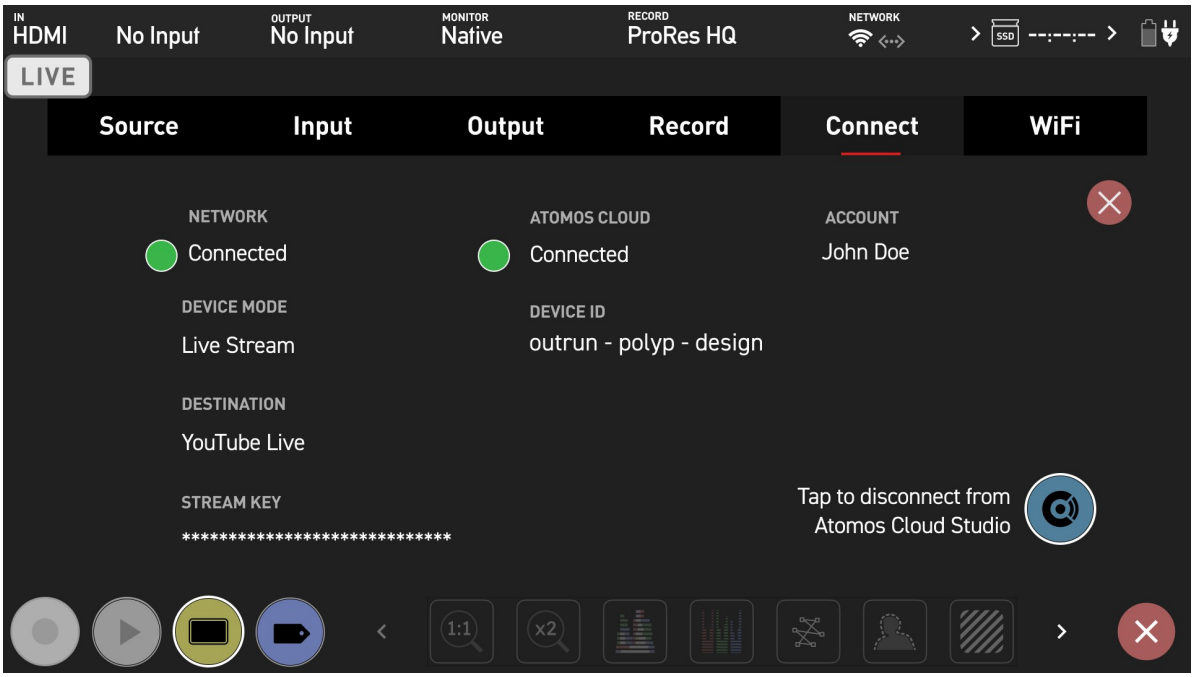
ATOMOS Stream is designed to make live streaming to popular platforms like YouTube Live, Facebook Live and Twitch easier. You can also choose to stream to a custom RTMP destination, which allows you to connect and stream to destinations other than the platforms listed.



You can choose to work with high-end digital cinema cameras, mirrorless cameras, DSLR, USB cameras or even iOS devices and stream content live to these popular online platforms through your Atomos Cloud Studio account.

In order to stream content from your Atomos Cloud Studio account to one of these platforms, first you will need what is called a Stream Key. This is a unique code generated by each platform, that provides information on where to send the video stream. The following provides guidance on generating a stream key and setting up for streaming on each of the platforms.

Once you have successfully set up a live stream by following the steps below, the Connect menu page on your NINJA V+will display the information about the destination. Device Mode is Live Stream, Destination is the destination you are currently connected to in Atomos Cloud and Account Name will also be listed.



For guidelines on setting a custom RTMP destination on the platforms we've tested and qualified as working, refer to our Custom RTMP Compatibility and Setup Guide article on our support page https://atomos.zendesk.com/hc/en-us/articles/5489116635791-Atomos-Cloud-Studio-Atomos-Stream-Custom-RTMP-Compatibility-and-Setup-Guide

Live Streaming is unavailable if ProRes RAW or H.265 are selected as the record codec. Streaming is only available when using standard video inputs like ProRes and DNx.

Changing resolutions and frame rate when Live Streaming mode is enabled may result in the stream stopping. Switching between Record and play back mode will allow the stream to restart. Press the LIVE button to stop the stream before changing inputs, resolutions or frame rates.

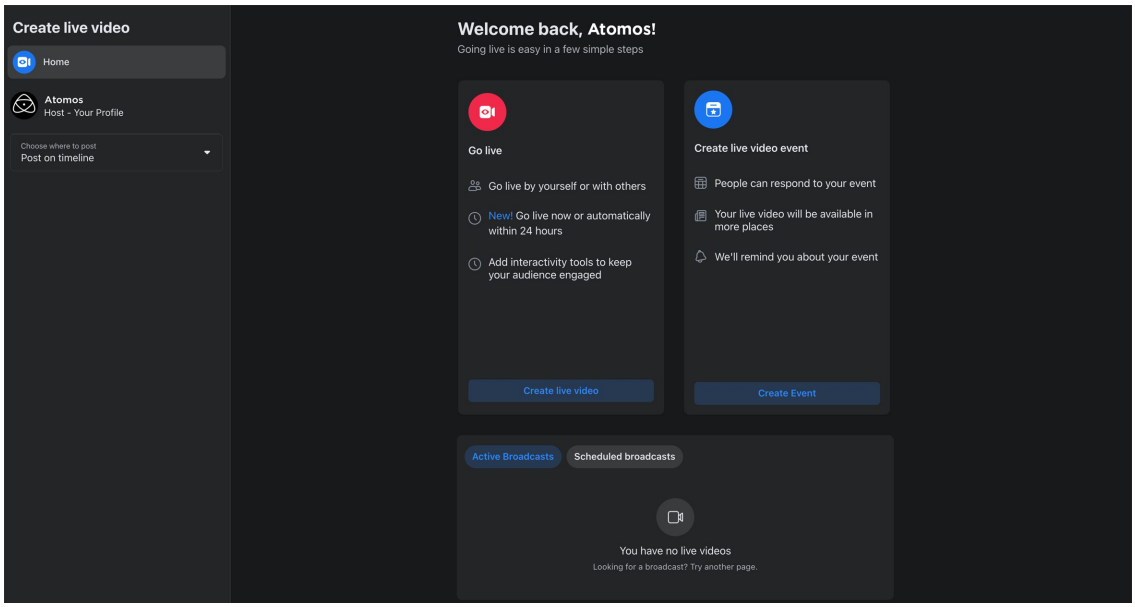
Streaming to Facebook Live

Facebook requires that a desktop device be used to generate a Stream Key for Facebook Live. If you only have access to a mobile device, you can

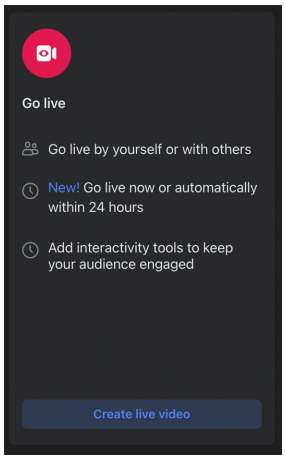
request the desktop version of the Facebook website from the mobile browser. Then you can follow the steps below.

To create a live stream on Facebook:

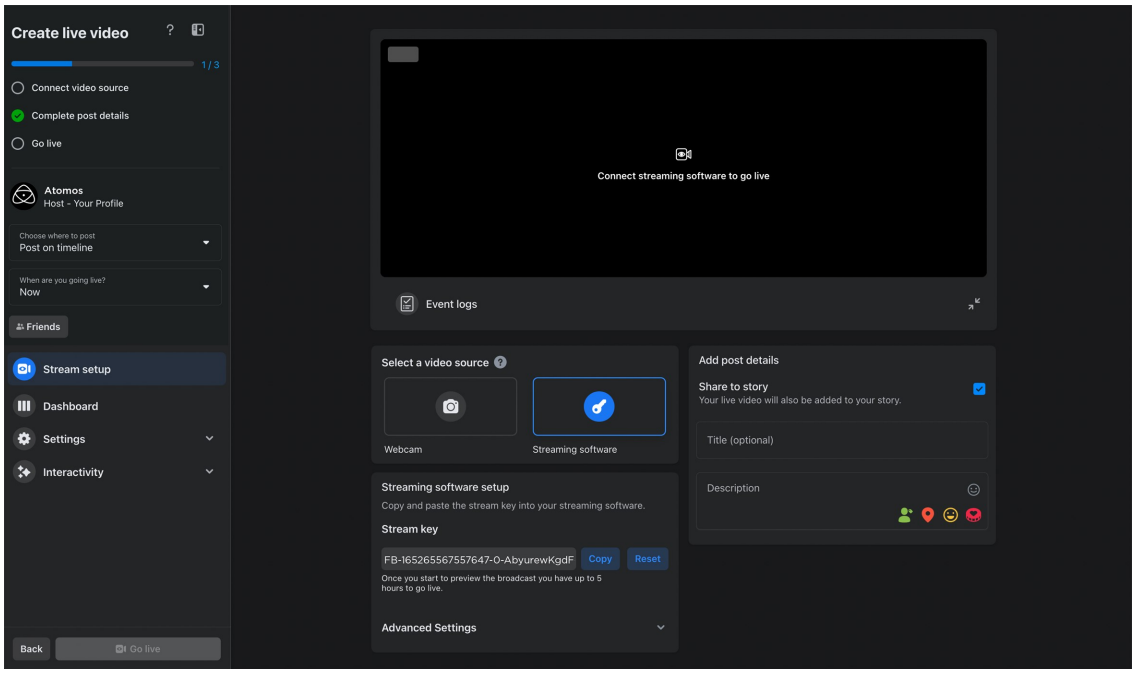
1. Go to facebook.com/live/producer



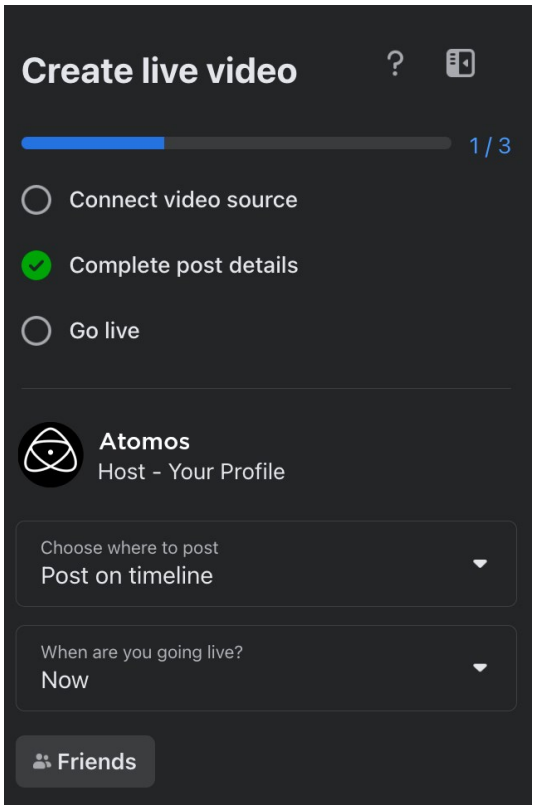
2. In the Go Live box, click on Create Live Video.



3. The main settings page will open.

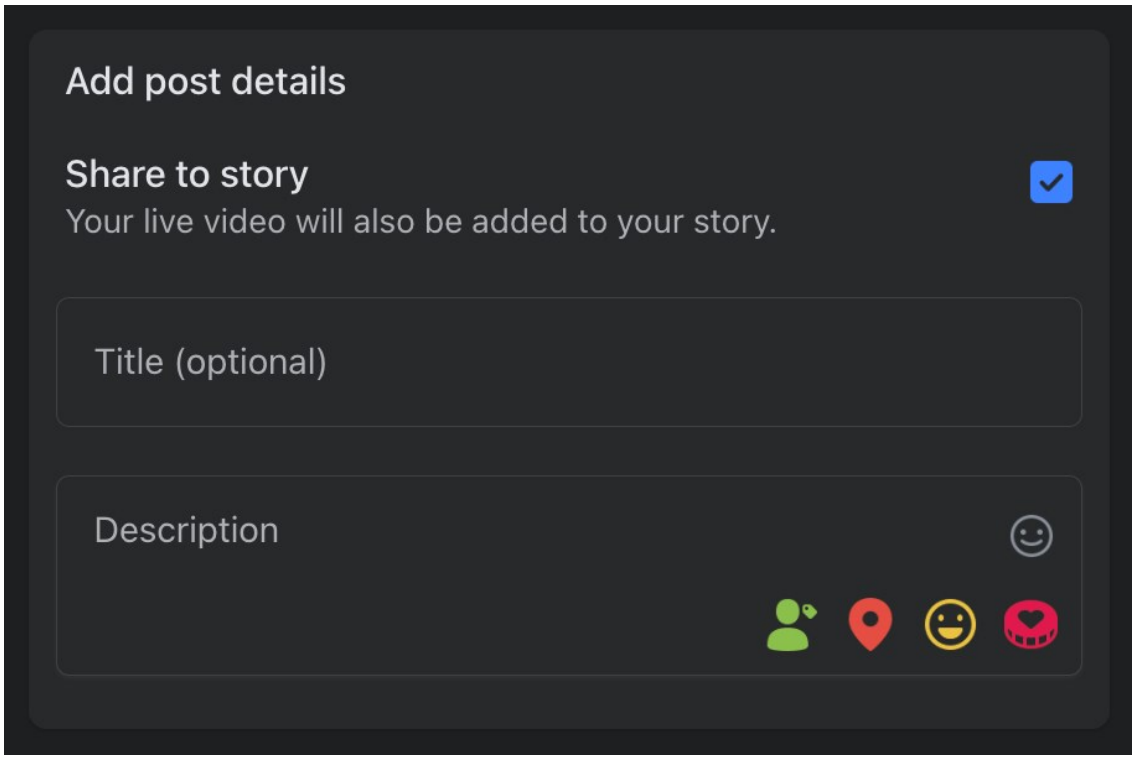


4. In the left side of the screen under Create Live Video, click on the drop-down arrow at ‘Choose where to post’, to select where the video will be posted. Options here include posting on your timeline, posting to a page you manage and posting to a group.

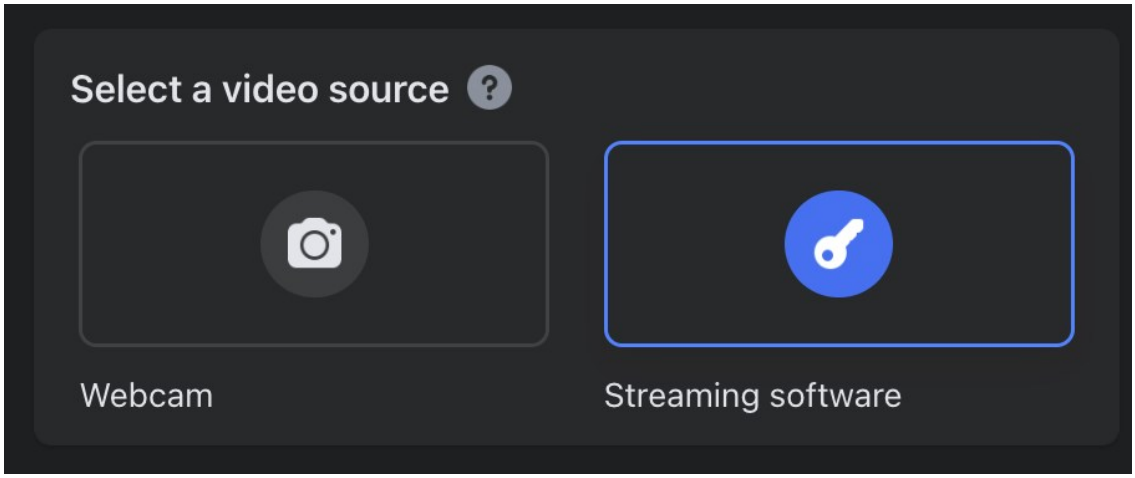


5. Click on the drop-down arrow at ‘When are you going live?’, to select when you want to go live. Select Now to go live when you are finished adjusting the settings. If you select Later, you can enter the date and time that you want to go live.

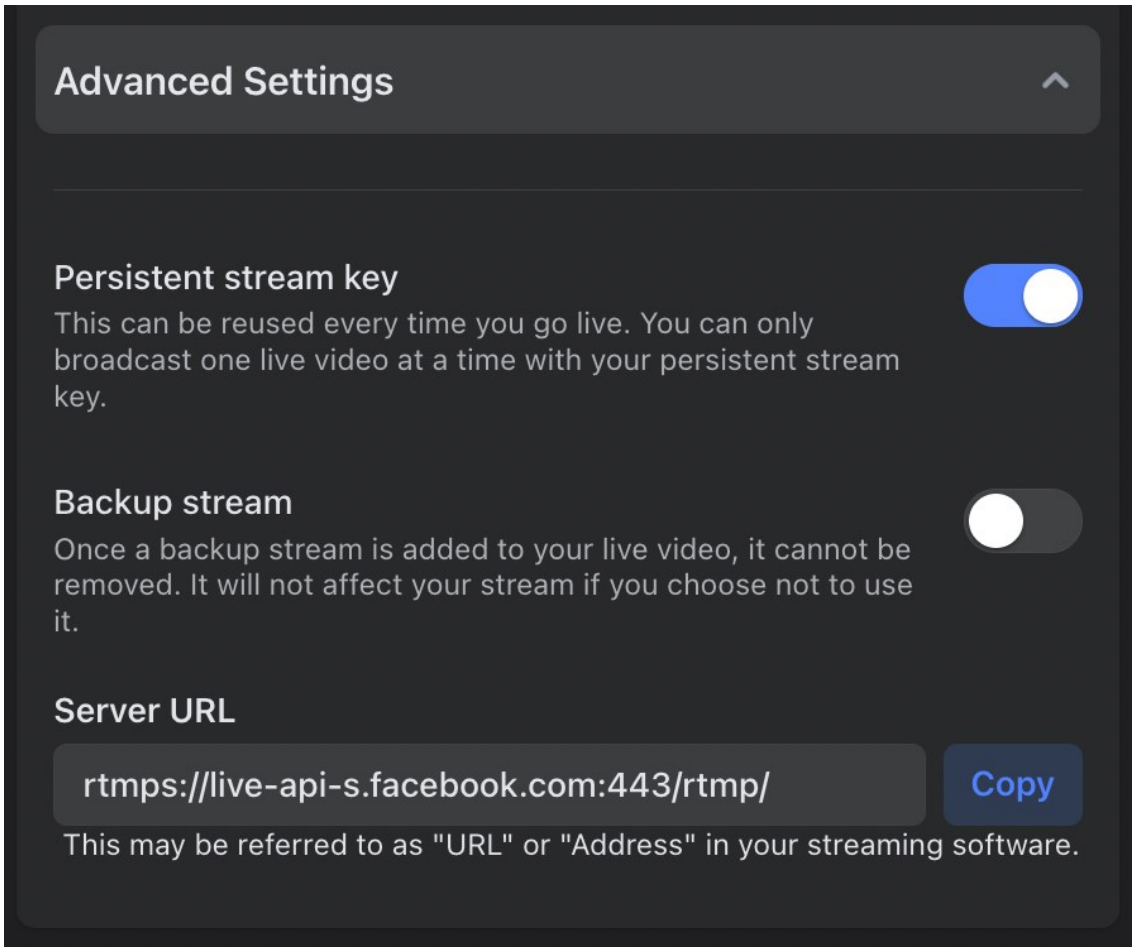
6. On the right side of the screen, you can add a title and description for the stream. A tick-box also allows you to select whether to add to your story.



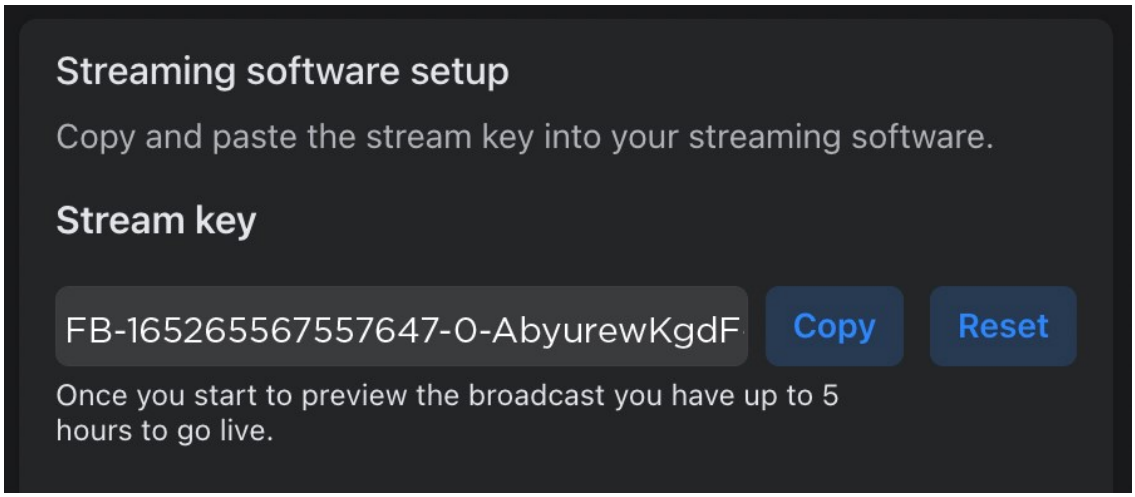
7. At Select a video source, select Streaming Software.



8. Click on the Advanced Settings drop-down menu to view the advanced settings. Toggle the switch at 'Persistent Stream Key' to On, so that you can use this stream key every time you stream to Facebook Live from your NINJA V+.

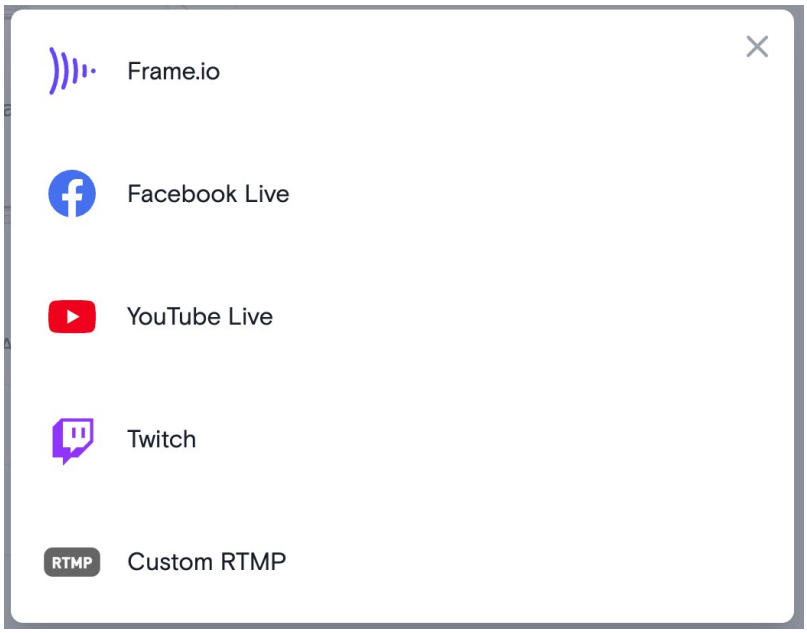


9. Click the Copy button next to the Stream Key to copy it.

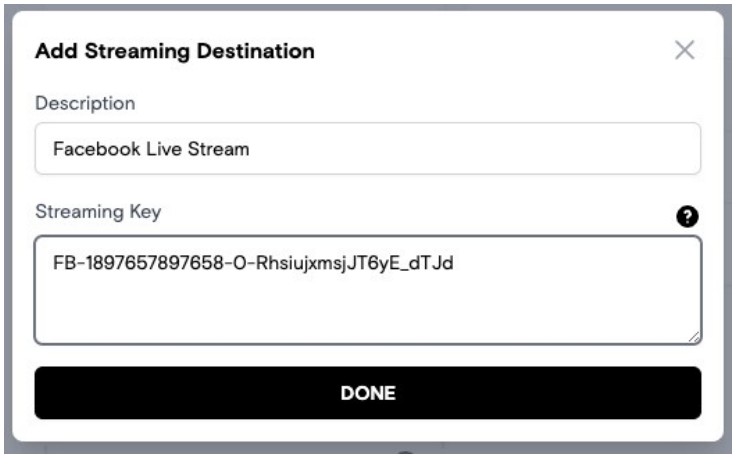


10. In your browser, log into atomos.cloud and click on the '+' symbol at Add Destination for the NINJA V+ device you want to stream from.

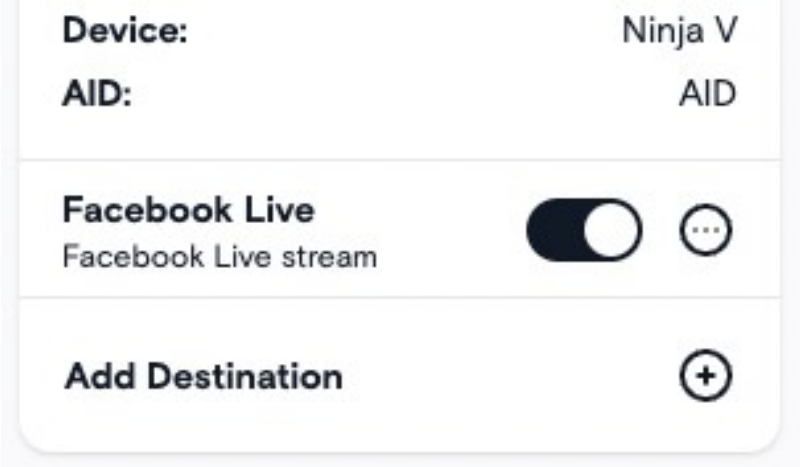
11. Select Facebook Live in the popup box that appears.



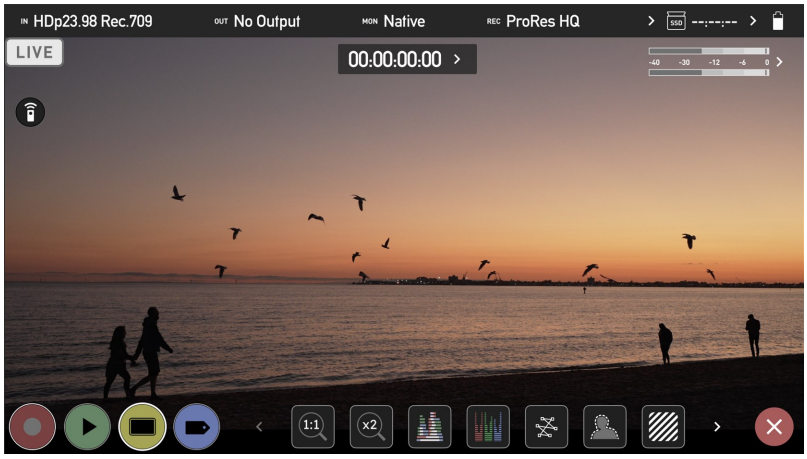
12. In the next popup box, add a description for the stream. Right click in the Streaming Key field and select Paste, to paste the Facebook Live streaming key that you copied. Click on Done to save the destination settings.



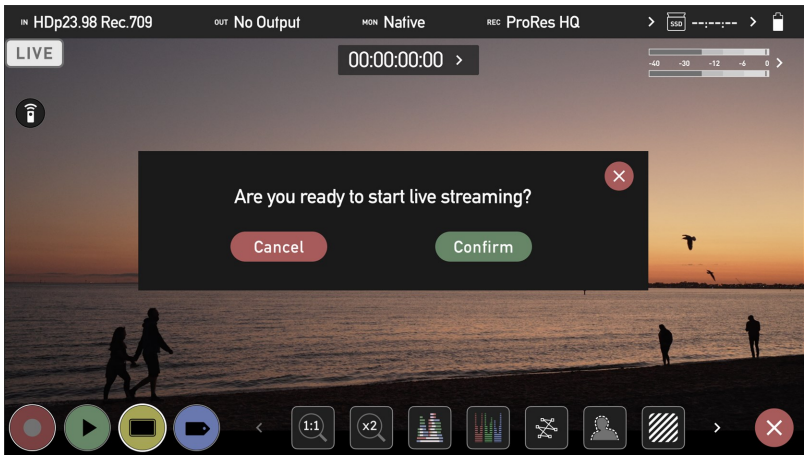
13. Facebook Live will now appear as a destination at the bottom of the device box in Atomos Cloud. Toggle the switch at Facebook Live to On.



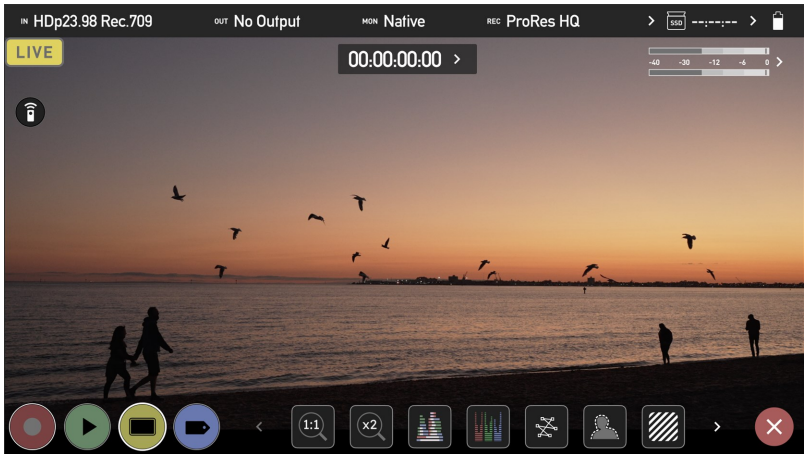
14. Tap on the LIVE icon in the top left corner of your NINJA V+ display to start streaming from your device.



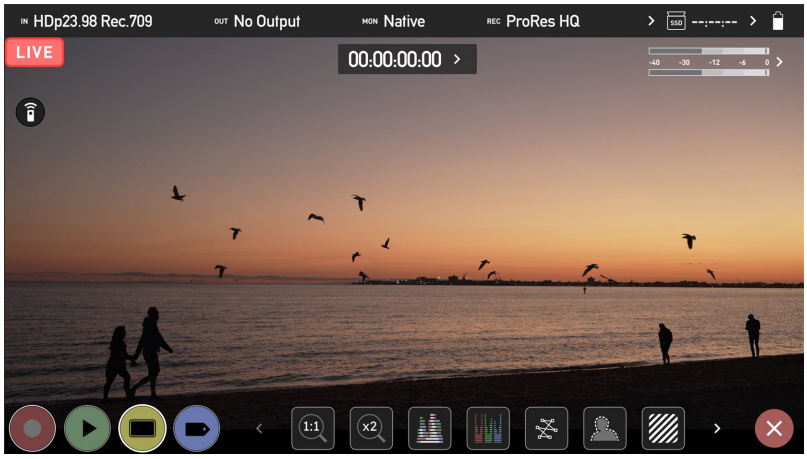
15. You will be asked if you are ready to start live streaming. Tap on Confirm to proceed.



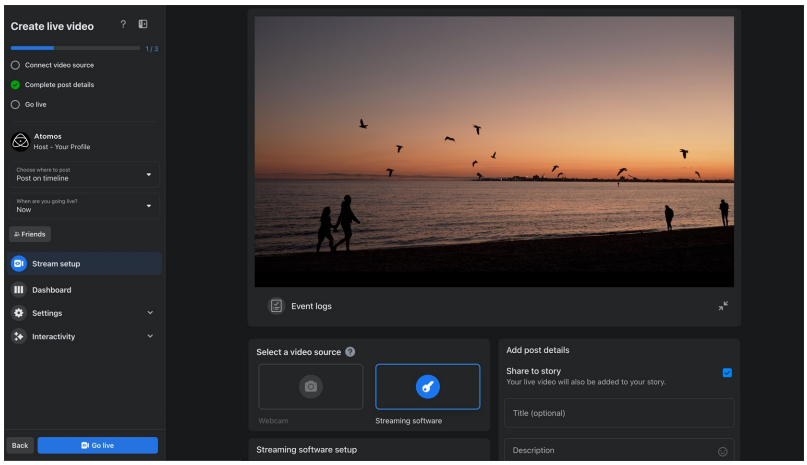
16. The LIVE icon will turn yellow to indicate that your device has begun to connect.



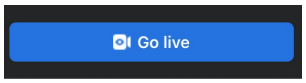
17. The LIVE icon will turn red once the stream has been acknowledged by the server. This indicates that you are currently live streaming.



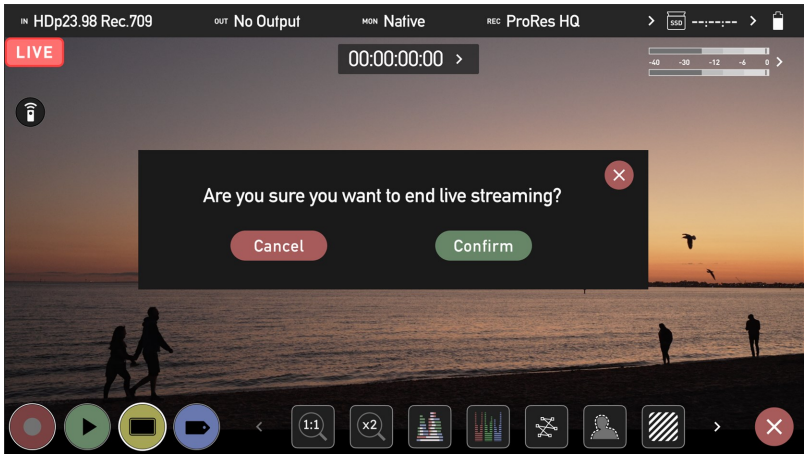
18. A preview screen will appear on the Facebook settings page with the image from your camera



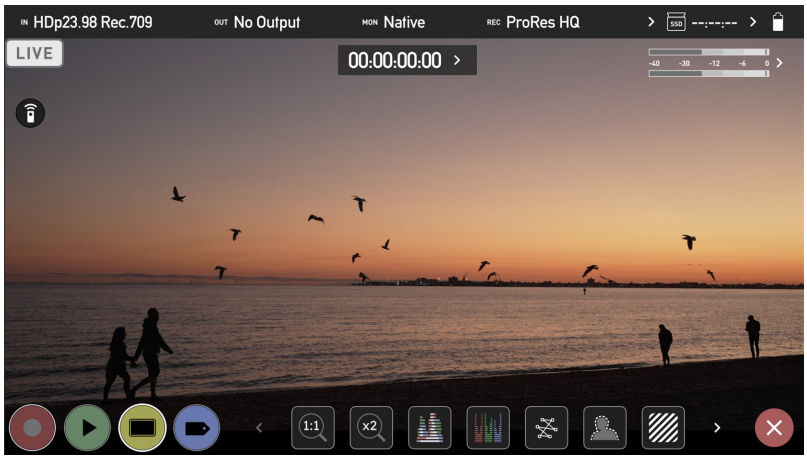
19. Click on the Go Live button, to start streaming to Facebook Live.



20. Tap the red LIVE button on your NINJA V+ display when you want to stop live streaming to Facebook. You will be asked to confirm your decision. Tap Confirm to proceed.



21. Your device will stop streaming, and the LIVE button will turn white to indicate that you are no longer streaming.



For more information and details on creating a Facebook Live stream, refer to

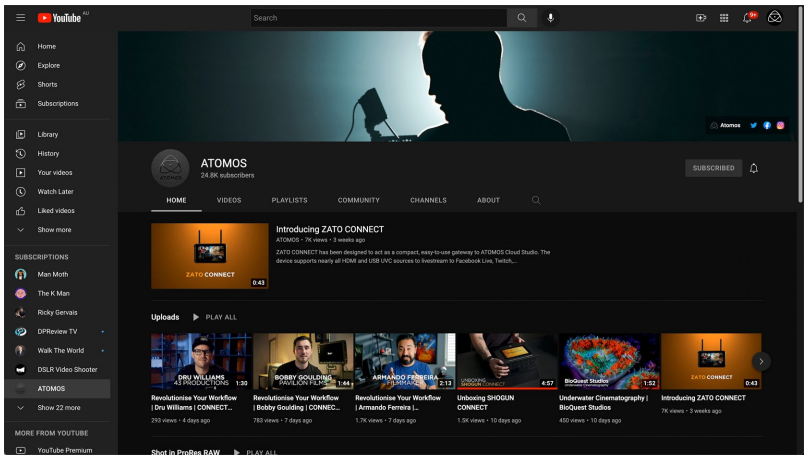
facebook.com/help/587160588142067

Streaming to YouTube Live

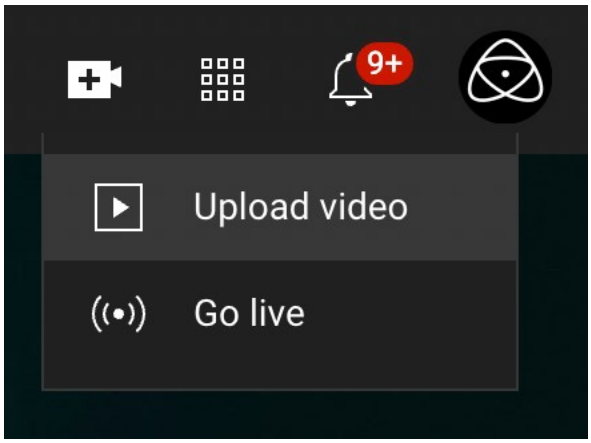
When using your NINJA V+ with ATOMOS CONNECT to stream to YouTube Live, your CONNECT is viewed as an encoder, and must be set up in YouTube as such.

How to create a YouTube live stream with ATOMOS CONNECT

1. Navigate to youtube.com and sign in to your YouTube account. Create an account if you do not already have one.



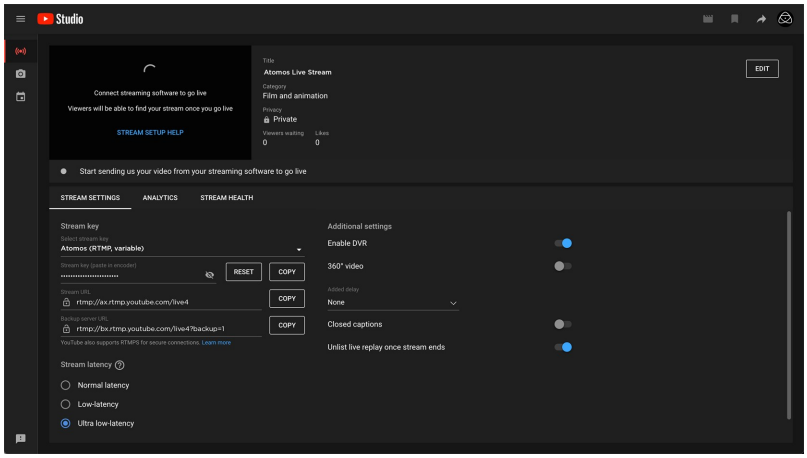
2. Click on the Create icon in the top right corner and select Go Live from the drop-down to open the YouTube Live Control Room.



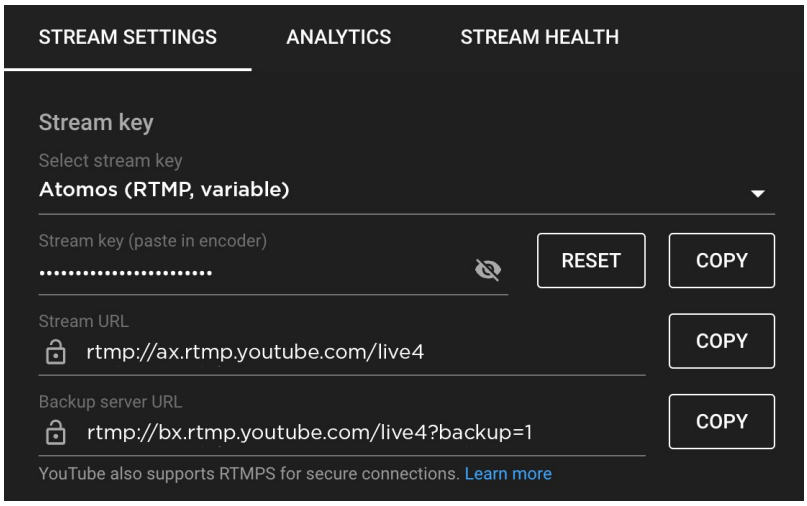
3. If you have not yet verified your YouTube channel, you will need to verify your channel before proceeding

> *NOTE: Before being able to live stream to YouTube, you need to enable live streaming. YouTube requires that you have no live streaming restrictions in the past 90 days and that you verify your channel. Enabling a live stream for the first time may take up to 24 hours.*

4. A pop-up may appear, asking you to choose when to go live. Options are Right Now and at a Later Date. Click the Start icon in one of the boxes to proceed. If you select Right Now, you will then need to select Streaming Software as the type of stream from the next pop-up screen. The YouTube studio will open.

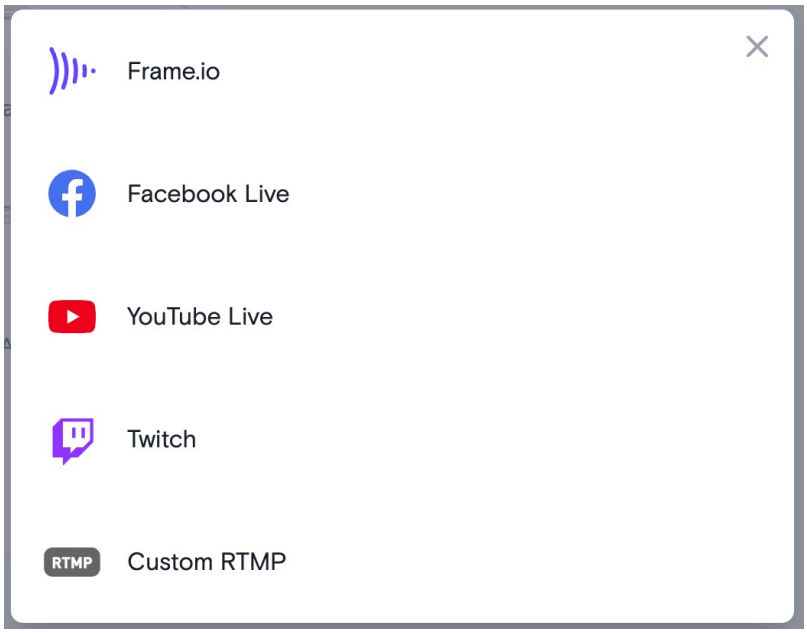


5. Click the Copy button next to the Stream Key to copy it.

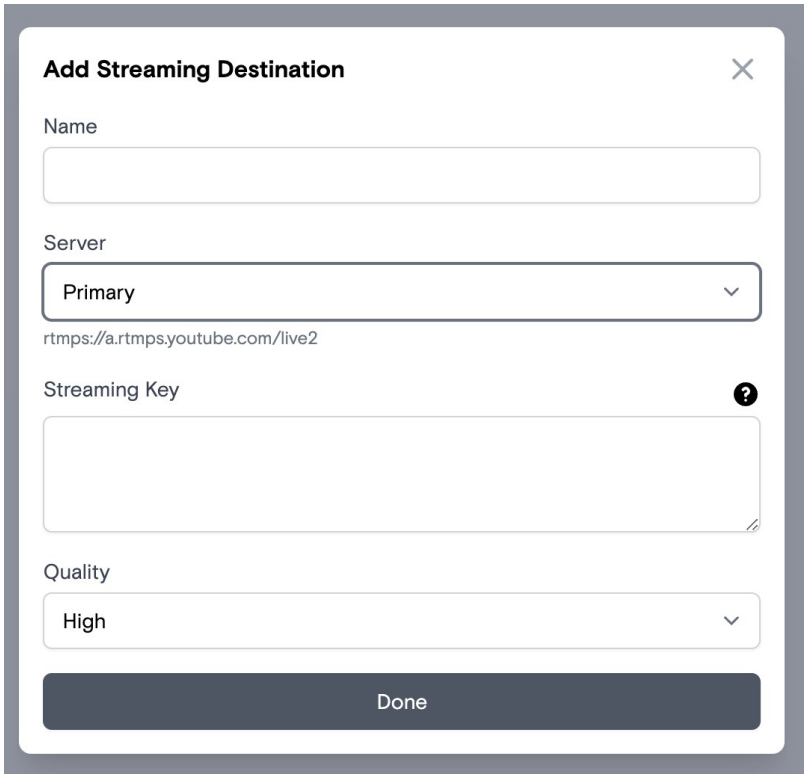


6. In your browser, log into atomos.cloud and click on the '+' symbol at Add Destination for the NINJA V+ device you want to stream from.

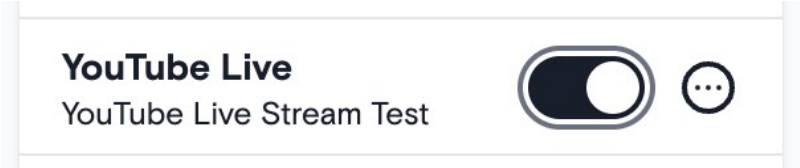
7. Select YouTube Live.



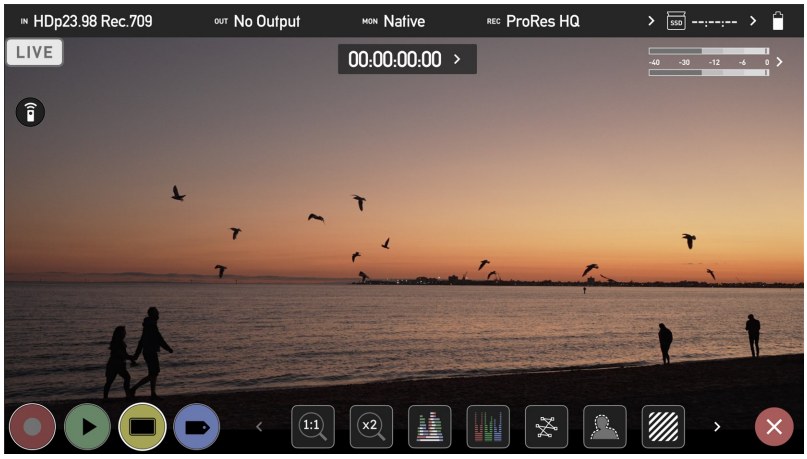
8. In the popup box that appears, add a description for the stream and click on the drop-down arrow at Server to select a server to use. Right click in the Streaming Key field and select Paste, to paste the YouTube Live streaming key that you copied. Click on Done to save the destination settings.



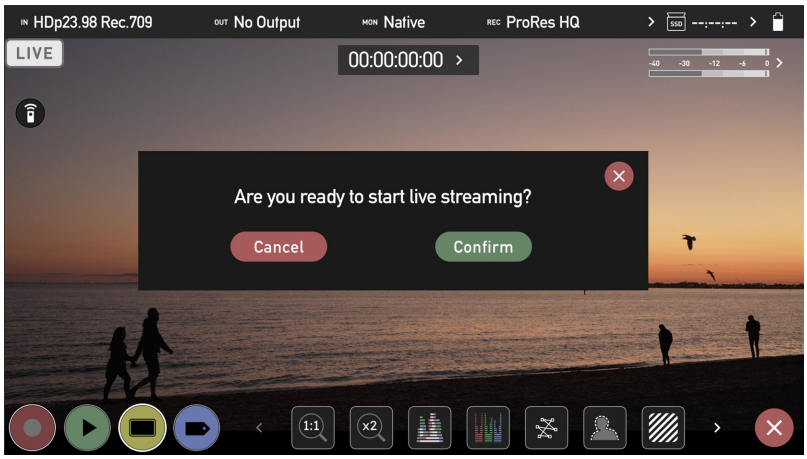
9. YouTube will now appear as a destination at the bottom of the device box in Atomos Cloud. Toggle the switch at YouTube Live to On.



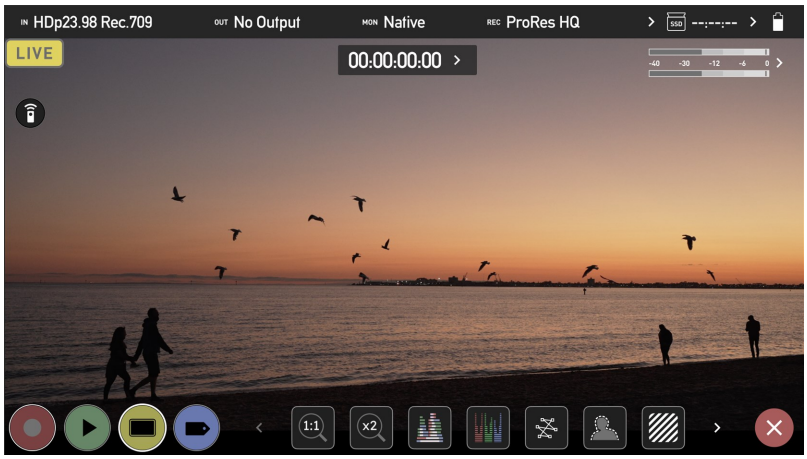
10. Tap on the LIVE icon on your NINJA V+ display.



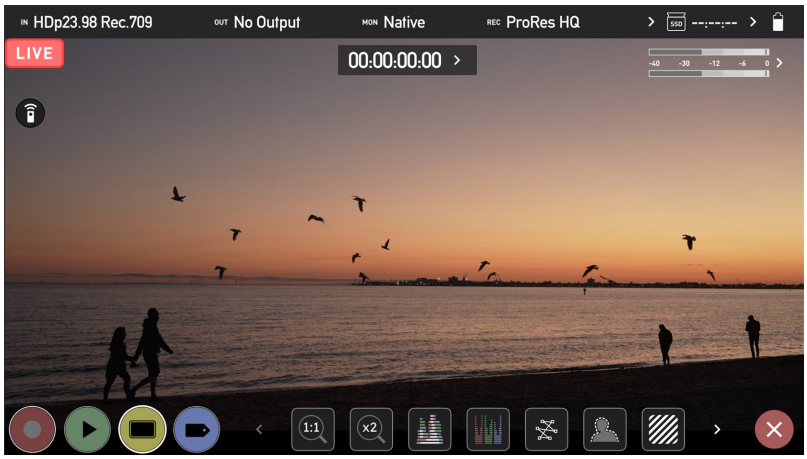
11. You will be asked if you are ready to start live streaming. Tap on Confirm to proceed.



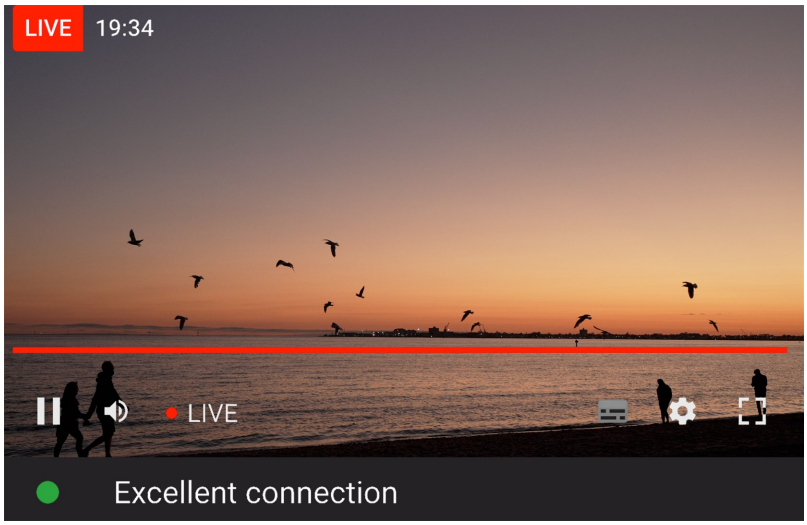
12. The LIVE icon will turn yellow to indicate that your device has begun to connect.



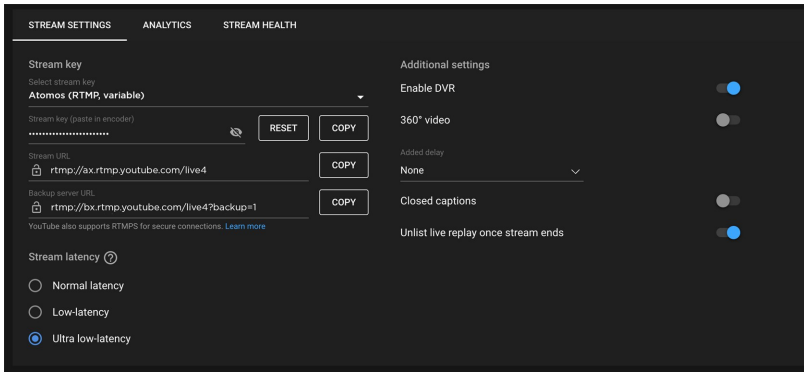
13. The LIVE icon will turn red once the stream has been acknowledged by the server. This indicates that you are currently live streaming.



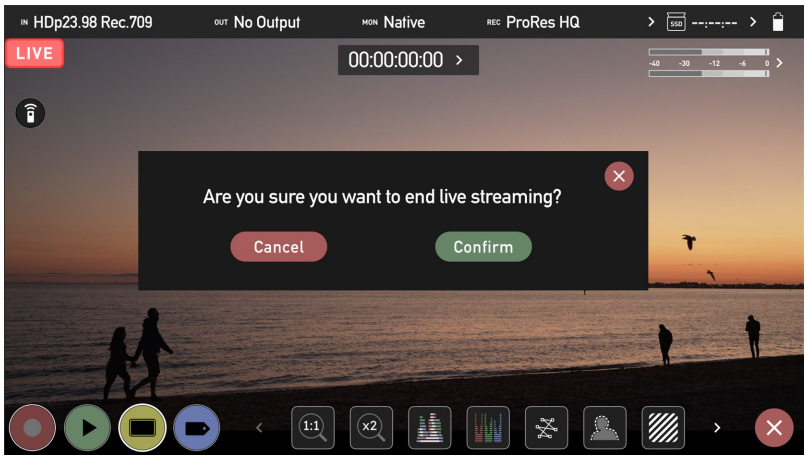
14. A preview screen at the top of the YouTube Studio settings page will display the image from your camera. The words LIVE and the elapsed time of the stream will be displayed whilst you are live streaming to YouTube.



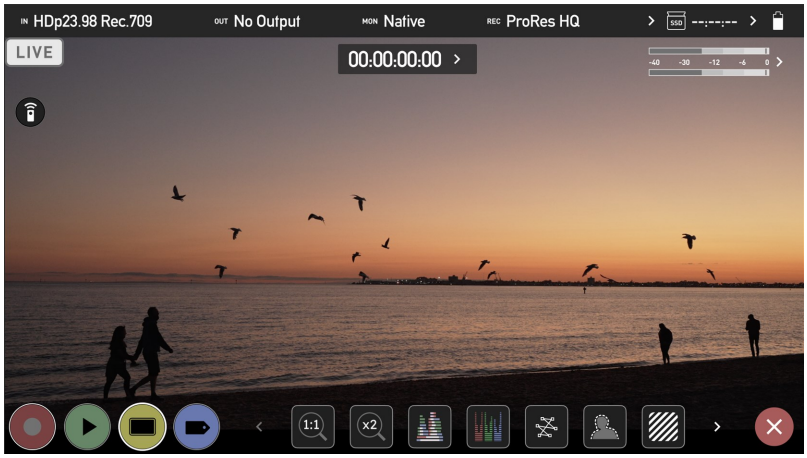
15. The Stream Settings tab below the preview screen allows you to adjust the stream latency and other settings for the stream.



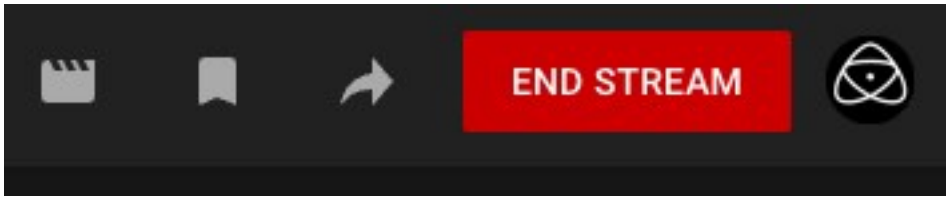
16. Tap the red LIVE icon on your NINJA V+ display to stop live streaming. You will be asked to confirm your decision. Tap Confirm to proceed.



17. Your device will stop streaming, and the LIVE button will turn white to indicate that you are no longer streaming.



18. To end the live stream from within YouTube, click on End Stream in the top right hand corner of the screen.

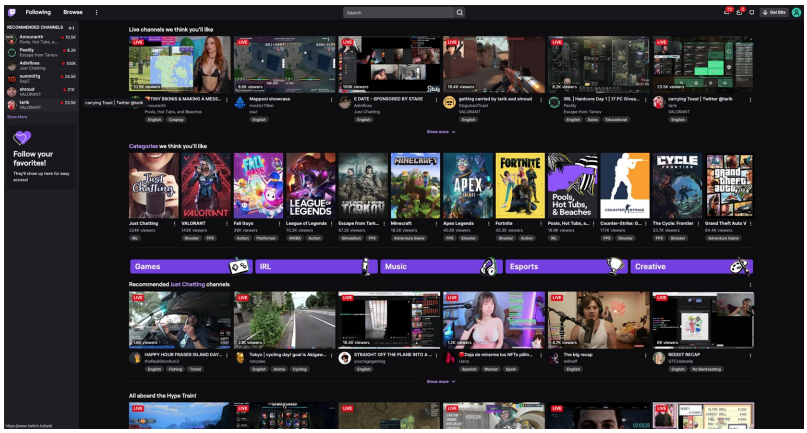


For more information and details on creating a YouTube live stream, refer to

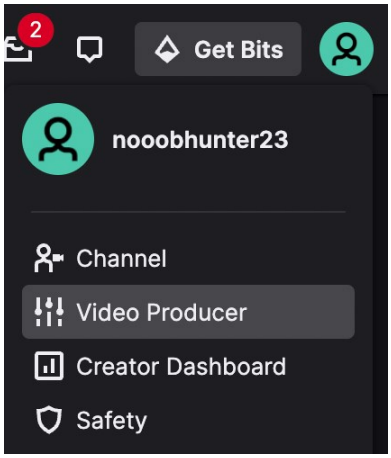
support.google.com/youtube/answer/2907883?hl=en

Streaming to Twitch

1. Create a Twitch account at twitch.tv or log into your existing Twitch account.



2. Click on your profile picture icon in the top right corner of the screen and select Video Producer.



3. The Video Producer interface will open.