



Installation and Operation Guide V1.0

Firmware 1.6.19 (Osprey-SC)

4K-SVE

Sports Video Encoder

PRELIMINARY

HARDWARE
ENCODER | RECORDER

H265 HEVC | H264 AVC



User guide notes:

- The screenshots in this manual might not exactly reflect your user interface due to variations in firmware revisions

© 2026 Osprey Video. All rights reserved. Osprey® is the registered trademark of Osprey Video. Any other product names, trademarks, trade names, service marks, or service names owned or registered by any other company and mentioned herein are the property of their respective companies. No part of this specification may be reproduced, transcribed, transmitted or stored in a retrieval system in any part or by any means without the express written consent of Osprey Video. Osprey Video reserves the right to change any products herein at any time and without notice. Osprey Video makes no representations or warranties regarding the content of this document and assumes no responsibility for any errors contained herein.



Contents

- Introduction**
- Hardware Features [3](#)
- Front Panel Controls [4](#)
- Use as Video Recorder [5](#)
- Network Configuration and web UI Login [7](#)

- Web Interface**
- Dashboard** [8](#)
- System**
- Device Settings [9](#)
- Storage [10](#)
- Network Settings [11](#)
- Camera IDs [12](#)
- Export / Import Settings [13](#)
- Date & Time [13](#)
- LCD Config [14](#)
- Profiles [14](#)
- Channel Setup**
- Output Protocol [15](#)
- Video Recording [16](#)
- Streaming Protocols
- UDP [17](#)
- SRT [18](#)
- RTMP [19](#)
- Video Encoding Settings [20](#)
- Audio Encoding Settings [22](#)
- Status Page**
- Actions**
- Start / Stop [23](#)
- Support**
- Firmware Updates [25](#)
- Factory Restore [26](#)

- General Information**
- Enterprise and Security [28](#)
- Opensource Listing [29](#)
- Safety and Compliance [30](#)

Hardware Features



1. Ethernet Connection
2. USB Recording Media
3. SDI Loopout
4. SDI Input
5. HDMI Input
6. 12VDC Power
7. Recording Start/Stop
8. Boot and Signal Lock LED's
9. Power Switch
10. Time Zone Selection
11. Camera ID Selection
12. Toggle Display Pages
13. Tally Output for Time Marker and Recording
14. External Button Trigger
15. Trigger for Time Marker
16. USB Controls



Accessories
Trigger Button and Tally Light

External Button Trigger Setting (access by removing the bottom cover):

1. Trigger Based Workflow: The external trigger button works in parallel with the yellow "Time Marker" button to log 'Mark-In' and 'Mark-Out' events
2. Clip based workflow: The external trigger button works in parallel with the red Recording 'START | STOP' button



Default Setting : TIME MARKER



Front Panel Controls

START | STOP: Start of a recording and/or live stream. Video will be recorded to USB (if present) and to the internal SSD backup drive. Active recording is indicated by a solid lit red LED. A udp stream will be delivered over ethernet to the destination as preconfigured in the webUI. Without a network connection (standalone recording application), the udp stream will have no effect. In case of a missing or defective USB Drive, the backup recording to SSD will still initiate and the backup can be recovered by ftp or USB (see Page 16 for details)

TIME MARKER: Trigger your start and stop of a play event. The yellow LED indicates a started trigger event. Triggers can be initiated with the yellow front panel push button or an external trigger button. The trigger events are saved in a separate text file on USB and internal SSD.

The 4K-SVE also accepts embedded SDI triggers. The source of the trigger can be changed by pressing the 'TIME MARKER' button 3 times and then confirm by pressing one more time. Ensure you have the correct trigger source setting prior to start recording. A single push of the button will display the current setting.

USB UNMOUNT: A solid yellow led indicates a successfully mounted USB drive. To prevent corrupt video files, it is highly suggested to unmount the USB drive before removing it. Push and hold the USB UNMOUNT button until the display prompts to confirm, then release and press the button again. It is save to remove the USB Drive after the yellow LED turns off.

FORMAT USB: Push and hold the USB FORMAT button until the display prompts to confirm, then release and press the button again .This will erase all the data. The drive will automatically remount after formatting is complete

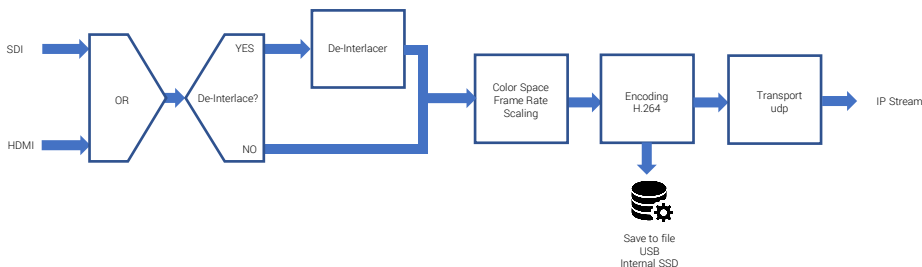
DISPLAY: This button steps through several display pages providing information about the 4K-SVE and its settings.

CAMERA ID: Change the ID of the unit and the connected camera. Up to 20 ID's can be preset in the webUI (see page 12 for more information). The ID becomes part of the video file name for easy identification. A single press of the button displays the current setting.

TIME ZONE: Change the time zone. Standard setting is UTC. A single press of the button displays the current setting.



Block Diagram





Video Recorder

Talon 4K-SVE ships pre-configured to be used "out-of-the-box" as a Video Recorder

Presets:

- Video Input: SDI
- Encoding Resolution and Frame Rate: 1080P59.94
- Bitrate: CBR @ 10Mbps
- Video Segmenting: 60 Minutes
- Trigger Input: Button

First Use:

Connect and Power On: Connect Power (6) → Connect SDI Video Source (4) → Press the Power Switch (9). The **Power | Boot LED** (8) will change from red to blue once boot is complete. The **SDI LED** (8) will turn green, indicating a valid video input.

Set Time Zone: Press **TIME ZONE** button (10).

Set Camera ID: Press **CAMERA ID** button (11)
Up to 20 Camera ID's can be configured using the web UI

Insert USB Media: Insert USB Media (2). The **USB LED** (16) will turn solid yellow once the drive is mounted. If the USB drive is not formatted as **exFAT**, it will automatically be formatted after 5 seconds unless aborted.
⚠ Formatting will erase all existing data

Start Recording: Press the **START | STOP** button (7) to begin recording → the **START | STOP LED** (7) will turn Red. MP4 files will be saved to the USB media, with a backup copy stored on the internal SSD drive → see Page 16 for more information on recording

Time Marker: Press the **TIME MARKER** button (15) to log Start and Stop actions associated with each video file → the **TIME MARKER** Led (15) will turn yellow indicating an active event. The events will be saved to a **RECORDING MANIFEST** file on USB and internal SSD (*see next page*)
*⚠ The external **BUTTON TRIGGER** (14) is synchronous with the **TIME MARKER** button (15)*

Remove USB Drive (Important): Press and hold the **USB UNMOUNT** button (16) and follow the on-screen instructions. Press the button again to complete unmounting.
⚠ Removing the USB drive without unmounting may corrupt recorded video files.

TRIGGER SOURCE (Embedded SDI or Button Trigger):

Important: Recording must be stopped for below actions to be valid.

To change the trigger source:

1. Press the **TIME MARKER** button (15) three times, then confirm the change, or
2. Select the trigger source using the **web UI** - System - Device.
3. A single press of the **TIME MARKER** button (15) displays the current trigger source setting.

⚠ Only the selected trigger source is active; the other is disabled.



Video Recorder

RECORDED VIDEO FILES AND TIME MARKER MANIFEST

USB Structure: Video Files and Trigger Manifest

Name	Date modified	Type
ch1_SL_20260123-103642_0.mp4	1/23/2026 10:36 AM	MP4 File
ch1_SL_20260123-103747_0.mp4	1/23/2026 10:37 AM	MP4 File
ch1_SL_20260123-103801_0.mp4	1/23/2026 10:38 AM	MP4 File
RECORDING_MANIFEST_SL.json	1/23/2026 10:37 AM	JSON File

Video File Naming:

ch1_cameraID_date_time_segment number.mp4

Manifest File:

```
{
  "Action": "Start",
  "Duration": "00:00:03.466",
  "File_name": "ch1_SL_20260123-103642_0.mp4",
  "Time": "2026-01-23T10:36:46.411916-06:00",
  "Trigger_type": "GPIO"
},
{
  "Action": "Stop",
  "Duration": "00:00:08.810",
  "File_name": "ch1_SL_20260123-103642_0.mp4",
  "Time": "2026-01-23T10:36:51.757554-06:00",
  "Trigger_type": "GPIO"
},
}
```

Action: Start or Stop
Duration: Elapsed time after Action event
File_name: Video File to which the action applies to
Time: Time the action was triggered (RFC3339)
Trigger_type: TIME MARKER button (GPIO) or SDI (Embedded)

Catapult and DV Sport automatically recognize the manifest during file import. Video files are then cut or cropped according to the imported manifest.

Formatting USB Drive:

Press and Hold **Format** Button (16) for approximately 3 seconds. Follow the instructions on the display by confirming with an additional push of the format button → this will erase all video files on the USB Media. The drive will remount after successful formatting.

Formatting internal SSD Drive:

Press and Hold **Format** Button (16) for approximately 15 seconds. Follow the instructions on the display by confirming with an additional push of the format button → this will erase all backup video files on the internal SSD Media.

Recover Backup Files from internal SSD drive:

1. The internal drive can be accessed via ftp using the following address: ftp://talon:<password>@<IP Address> (Network connection required). Default password is "access". The password can be changed in the web UI - System - Device (FTP Password)
2. Download to USB: Using a PC, create a blank file named "recovery" (no extension) and copy the file to a formatted USB drive. Insert USB drive to 4K-SVE → automatic download of all video files created within the last 24 hours



Network Configuration and Login

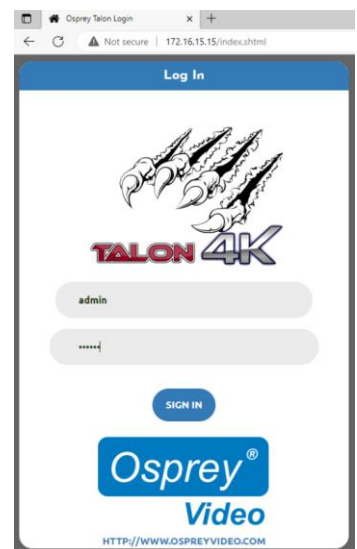
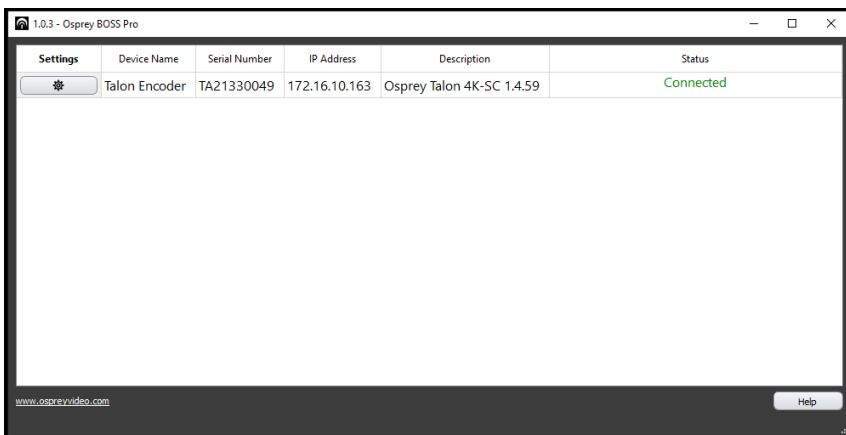
Important! Talon Encoders ship from the factory in DHCP mode. Please ensure your host PC and Talon are connected to the same network supporting DHCP.

1. Connect Talon to your network using a CAT5 or faster Ethernet cable
2. Connect Talon to power using the supplied 12V adapter. Ensure the barrel connector is fully engaged and locked
3. Power up Talon with the front power switch
 - Red "Power" LED will turn blue once the booting process is complete.
 - Use the Display button to toggle to the IP Address page. It might take up to a minute to successfully acquire an IP address.
 - Connect to Talon from your host PC
 - Option #1: Type the IP address into your web browser
 - Option #2: Download "Boss" from www.ospreyvideo.com to find all Talons on your network
4. Default login credentials
 - Username: admin
 - Password: osprey

Setting up Talon without Network access or with Network without DHCP server using APIPA

1. Verify your PC is set to Automatic IP (DHCP)
2. Connect Talon directly to your PC with an Ethernet cable (**ensure the PC doesn't have network connection though Wifi, USB, etc**)
3. Follow above instructions beginning with step 2.

APIPA - Automatic Private IP Addressing (APIPA) is a feature of Windows-based OS -- included since Windows 98 and Windows ME -- that enables a Dynamic Host Configuration Protocol client to automatically assign an IP address to itself when there's no DHCP server available to perform that function.



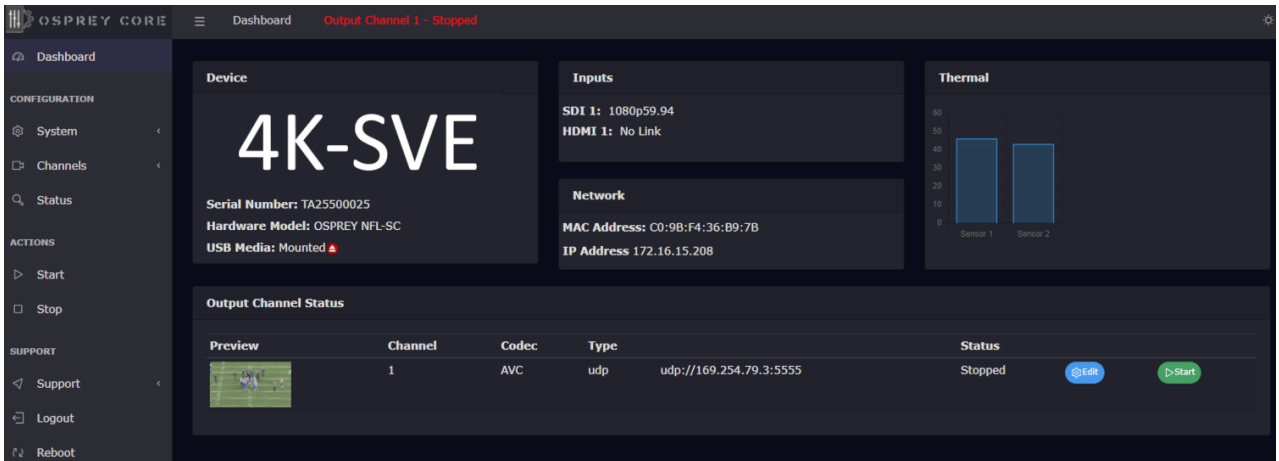
Web Interface - Dashboard



Overview

A web server in Talon allows for system control and stream settings via web browser. All commonly used Windows, Mac and Linux web browsers are supported. Please ensure your device is connected to the same network as Talon (see Page 6 for further instructions). To connect to the interface simply enter the IP address of your Talon into the web browser. Default login for a factory default Talon is **user: admin** and **password: osprey**.

The Dashboard provides basic information about the status of your Talon and a video preview* of your output channel.



The screenshot shows the Osprey Core web interface dashboard. The top navigation bar includes 'OSPREY CORE', 'Dashboard', and 'Output Channel 1 - Stopped'. A left sidebar contains sections for 'CONFIGURATION' (System, Channels, Status), 'ACTIONS' (Start, Stop), and 'SUPPORT' (Support, Logout, Reboot). The main content area is divided into several panels:

- Device:** Displays '4K-SVE' in large text, along with 'Serial Number: TA25500025', 'Hardware Model: OSPREY NFL-SC', and 'USB Media: Mounted'.
- Inputs:** Shows 'SDI 1: 1080p59.94' and 'HDMI 1: No Link'.
- Network:** Shows 'MAC Address: C0:9B:F4:36:B9:7B' and 'IP Address 172.16.15.208'.
- Thermal:** A bar chart showing temperature for 'Sensor 1' and 'Sensor 2'.
- Output Channel Status:** A table with columns for 'Preview', 'Channel', 'Codec', 'Type', and 'Status'. The table contains one row for Channel 1 with a video preview, 'AVC' codec, 'udp' type, and 'Stopped' status. Below the table are 'Edit' and 'Start' buttons.

* Video Preview will stop once an Encoder is started

Web Interface - Device

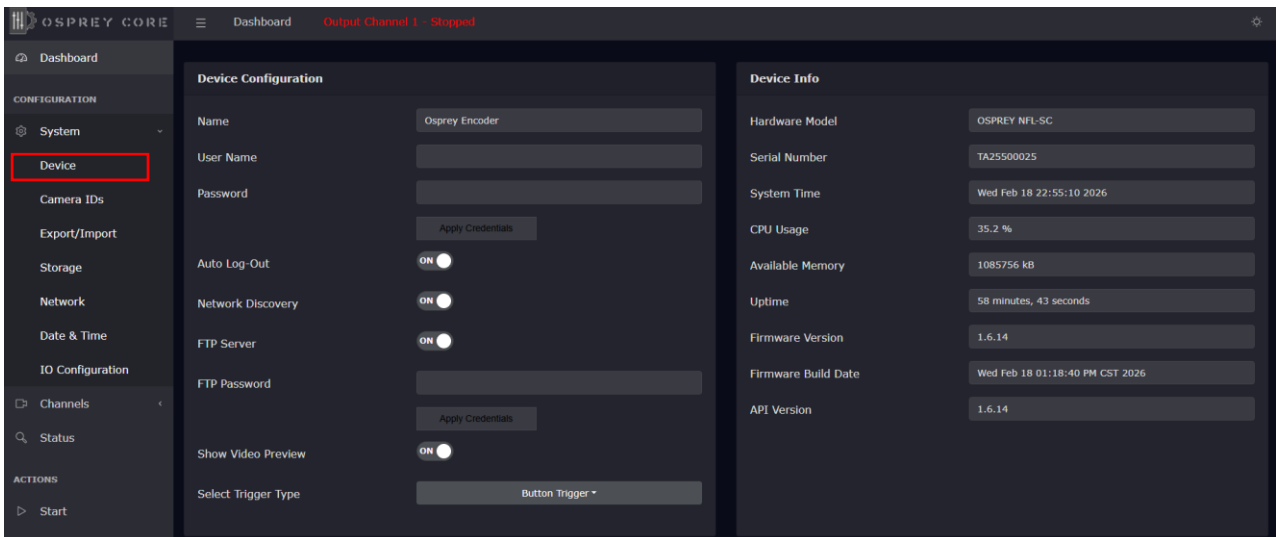


System Settings - Device Configuration

Name	change your device name
User Name	change user login name credentials
Password	change user login password credentials
Auto Log-Out	enable/disable UI Auto Logout Feature (auto logout is 10 minutes)
Network Discovery	Network Discovery allows computers and devices to find one another when they are on the same network. This service is turned 'on' by default. To stop Discovery services, select 'off'. Note that monitoring tools such as Osprey Boss require Discovery to locate Talon devices on the network. Osprey Boss will not be able to see any system that has Discovery turned off
FTP Server	on unit ftp server - default user: 'talon'. Remote access to USB/NVME storage drive
FTP Password	on unit ftp server - password: 'access'. Remote access to USB/NVME storage drive ftp access: ftp://talon:access@IPAddress (ftp://user:password@IPAddress)
Show Video Preview	disable "Dashboard Video Preview" to improve UI responsiveness and CPU usage
Trigger	Select between Button Trigger and Embedded SDI Trigger

System Settings - Device Info

Generic system and firmware overview



The screenshot shows the Osprey Core web interface. The left sidebar contains a navigation menu with sections for CONFIGURATION (System, Device, Camera IDs, Export/Import, Storage, Network, Date & Time, IO Configuration), Channels, Status, and ACTIONS (Start). The 'Device' option is highlighted with a red box. The main content area is split into two panels: 'Device Configuration' and 'Device Info'.

Device Configuration:

- Name: Osprey Encoder
- User Name: [input field]
- Password: [input field]
- Apply Credentials: [button]
- Auto Log-Out: ON
- Network Discovery: ON
- FTP Server: ON
- FTP Password: [input field]
- Apply Credentials: [button]
- Show Video Preview: ON
- Select Trigger Type: Button Trigger

Device Info:

- Hardware Model: OSPREY NFL-SC
- Serial Number: TA25500025
- System Time: Wed Feb 18 22:55:10 2026
- CPU Usage: 35.2 %
- Available Memory: 1085756 kB
- Uptime: 58 minutes, 43 seconds
- Firmware Version: 1.6.14
- Firmware Build Date: Wed Feb 18 01:18:40 PM CST 2026
- API Version: 1.6.14

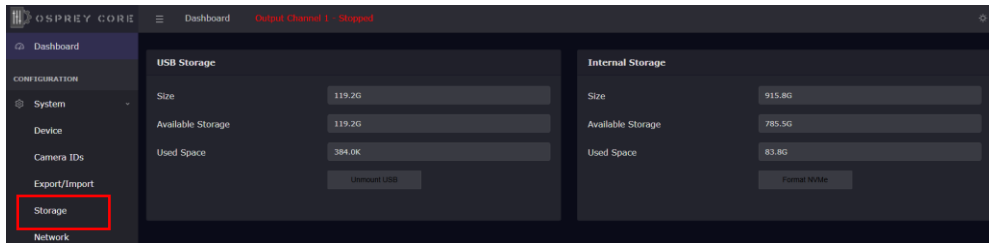
Web Interface –Storage



System Settings –Storage

Please refresh the browser page after inserting a drive as the page doesn't dynamically refresh.

 Always unmount the USB drive before unplugging it!!!



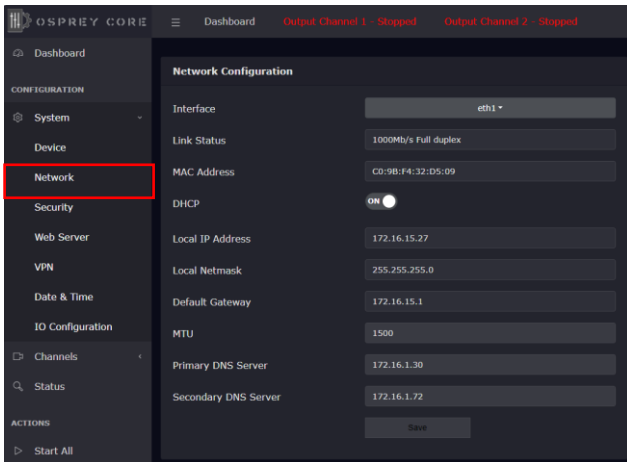
Note: The internal SSD storage allocates approximately 10% of its storage capacity to system files

Web Interface – Network Configuration



System Settings – Network Configuration

Interface	network port identification. If additional network devices are installed, they would be selectable here.
Link Status	Indicates link speed 10/100/1000Mbps (not network speed) and port status, full or half duplex.
MAC Address	Talon MAC ID
DHCP	enable/disable DHCP
Local IP Address	dynamic if DHCP is on. Otherwise, a new valid IP address can be entered here
Local Netmask	dynamic if DHCP is on. Otherwise, a new valid netmask can be entered here
Default Gateway	dynamic if DHCP is on. Otherwise, a new valid gateway can be entered here
MTU	maximum transmission unit in bytes – packet size maximum is 1500
DNS Server	dynamic if DHCP is on. Otherwise, a new valid DNS can be entered here



Important Dual NIC information

Where two NIC's are used the Interface pull down will have "eth0" and "eth1"

Each configuration now includes "Primary DNS Server" and "Secondary DNS Server".

When the two NICs are on separate networks, only one (usually eth0) should be configured as DHCP. The second NIC should be configured as Static. The Default Gateway should only be configured for the network handling the outbound stream. In that case, the second network should be configured without a default gateway.

NOTE: When saving network settings, save each NIC settings separately. Performing a SAVE on eth0 will not have any effect on eth1.

DNS settings: The OS only allows for one pair of DNS servers. Usually, the DHCP server sets the DNS servers as well. If a static DNS server is needed, then both NICs must be set to STATIC addresses for the change to take effect.

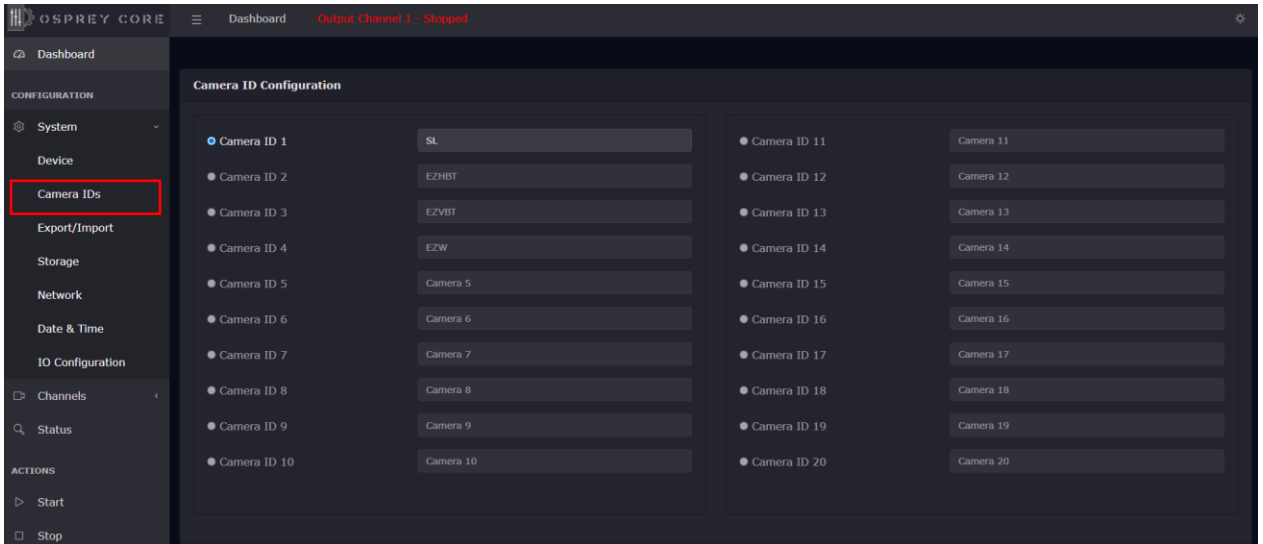
Web Interface – Camera ID's



System Settings – Camera ID's

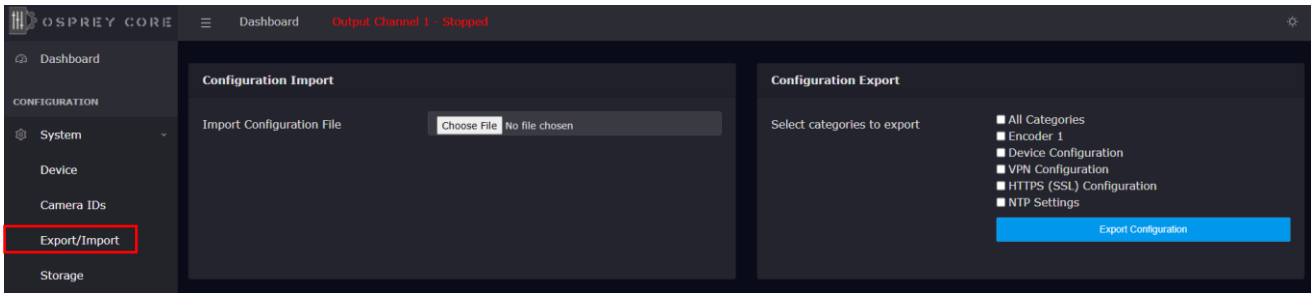
Preconfigure camera names used in the workflow. The camera ID is used to identify individual recorded video clips. For live capture applications, the camera ID will be embedded in the IP stream.

The camera ID can then be selected on the physical unit or in the UI.



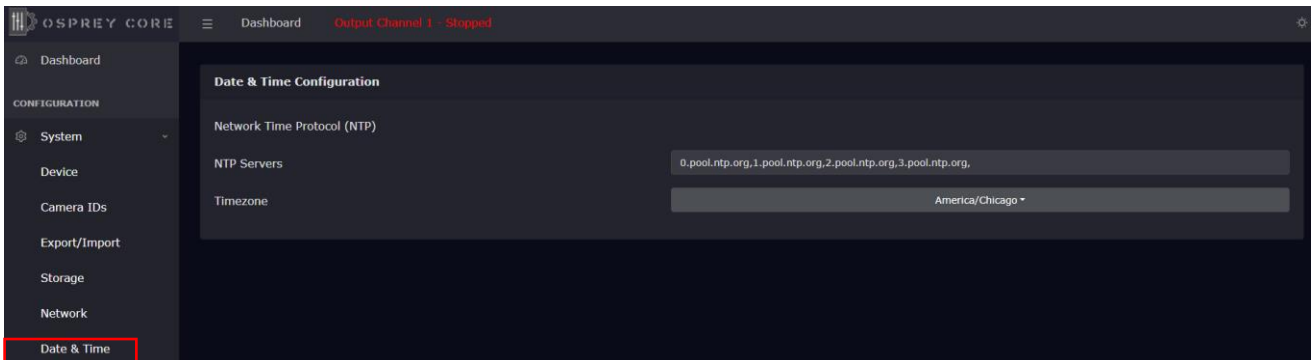
Web Interface – Export / Import

Export and Import your configuration. This feature lets you deploy a fleet of units with identical settings. Setup the first unit and export the settings, then import the settings to all subsequent units.



Web Interface – Date and Time

Selection of NTP server and time zone

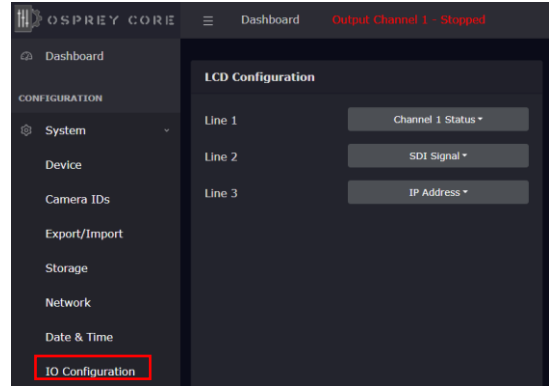


Web Interface – I/O Configuration



System – I/O Configuration

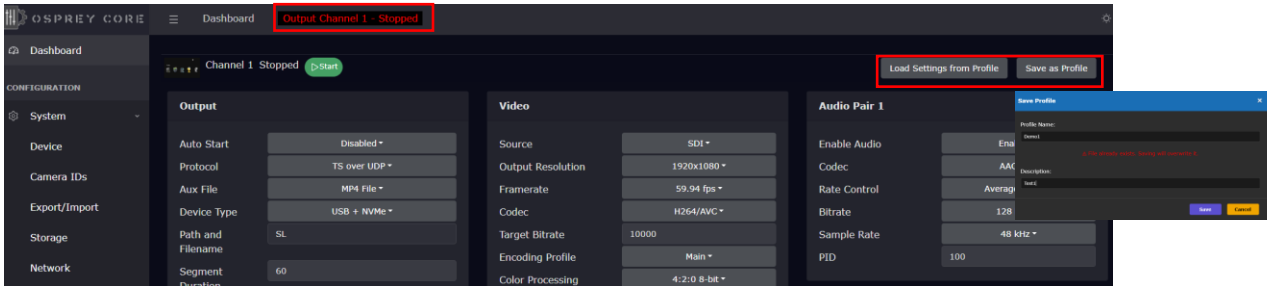
The last page of the unit's LCD Display can be custom configured



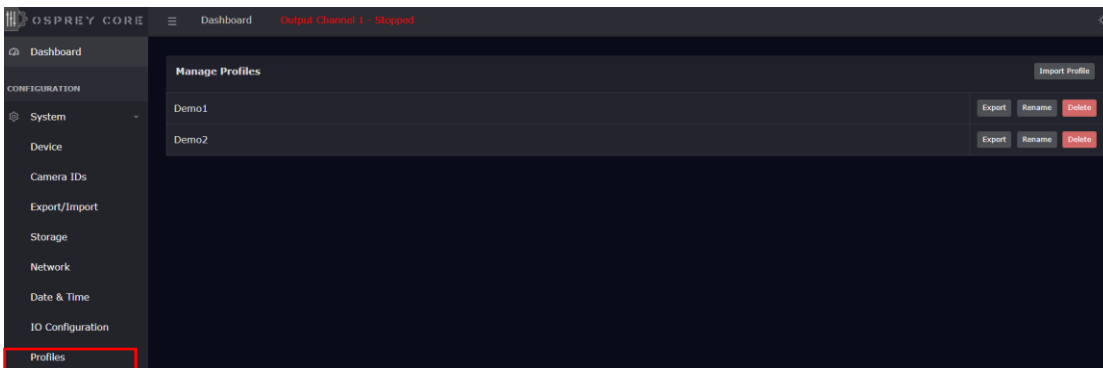
Web Interface – Profiles



Channel - Create/Load Profile: At the channel setup page, the user has the option save the current channel settings as a profile or load previously created profiles. Profiles only apply to the Channel Page – OUTPUT, VIDEO, AUDIO.



System - Mange Profiles: Export, Edit and Delete exiting profiles.



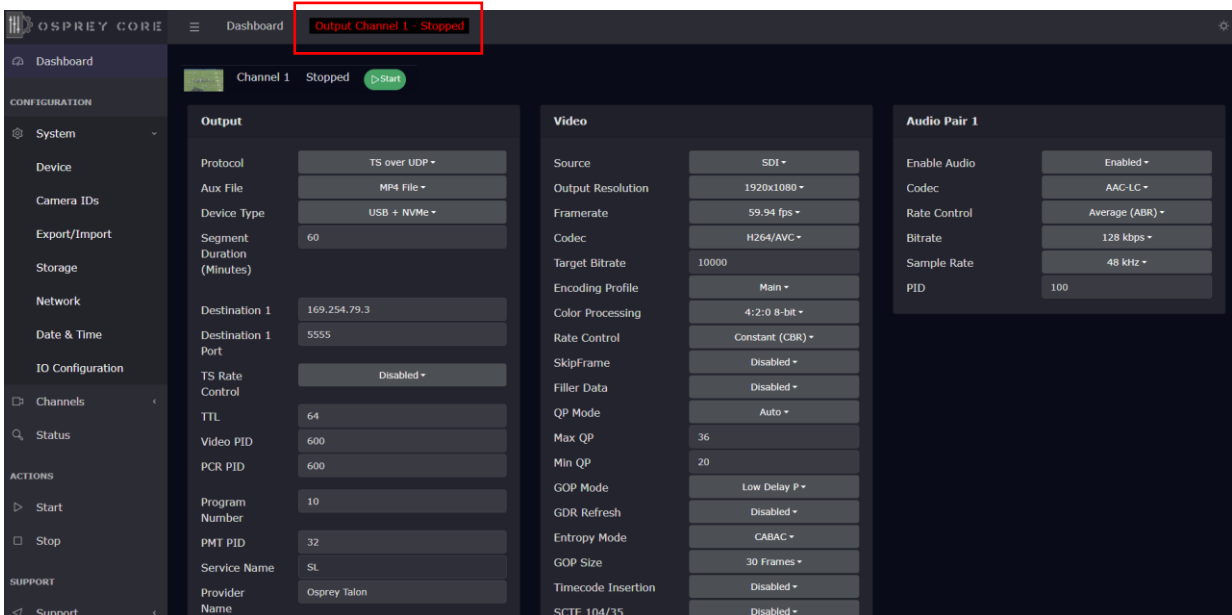
Web Interface – Channel Setup Output Protocol



Channel Setup - Output



Important: The selection of the output stream protocol dynamically changes the available options for video and audio encoding. Therefore, the streaming protocol must always be set before proceeding to the video and audio settings.



The screenshot shows the 'Channel Setup - Output' configuration page in the Osprey Core web interface. The 'Output' section is highlighted with a red box and contains the following settings:

- Protocol: TS over UDP
- Aux File: MP4 File
- Device Type: USB + NVMe
- Segment Duration (Minutes): 60
- Destination 1: 169.254.79.3
- Destination 1 Port: 5555
- TS Rate Control: Disabled
- TTL: 64
- Video PID: 600
- PCR PID: 600
- Program Number: 10
- PMT PID: 32
- Service Name: SL
- Provider Name: Osprey Talon

The 'Video' section includes settings such as Source (SDI), Output Resolution (1920x1080), Framerate (59.94 fps), Codec (H264/AVC), Target Bitrate (10000), Encoding Profile (Main), Color Processing (4:2:0 8-bit), Rate Control (Constant (CBR)), SkipFrame (Disabled), Filler Data (Disabled), QP Mode (Auto), Max QP (36), Min QP (20), GOP Mode (Low Delay P), GDR Refresh (Disabled), Entropy Mode (CABAC), GOP Size (30 Frames), Timecode Insertion (Disabled), and SCTE 104/35 (Disabled).

The 'Audio Pair 1' section includes settings such as Enable Audio (Enabled), Codec (AAC-LC), Rate Control (Average (ABR)), Bitrate (128 kbps), Sample Rate (48 kHz), and PID (100).

Output Transport Stream

- Protocol** streaming protocols and native integrations
- AUX File** archive a copy of your stream in .mp4 – see page 16 for additional information
- Device Type** select the recording media – see page 16 for additional information
- Segment** Recorded video files will be automatically segmented – see page 16 for additional information
- TS Rate Control** Output Transport Stream bitrate (TS Bitrate) property. The encoder will add NULL packets as necessary into the transport stream to maintain this bitrate. The ts bitrate must be higher than the maximum value that the sum of the video bitrate, audio bitrate(s), and ancillary bitrates could get to (including bitrate spikes). We recommend at least 1.8 times the sum of those bitrates, and sometimes even higher if the combination of PQ settings and video bitrate allow for large fluctuation spikes in the output video bitrate. **This option should only be enabled if the endpoint doesn't tolerate bitrate fluctuations.**

Further setup selections are protocol dependent and explained in the following stream protocol pages.

Web Interface – Video Recording



Channel Setup – Video Archiving

Streaming Protocol udp, rtmp or srt *

File Format "MP4" for video recording or "none" if only the streaming feature is utilized

Device Type Select recording media

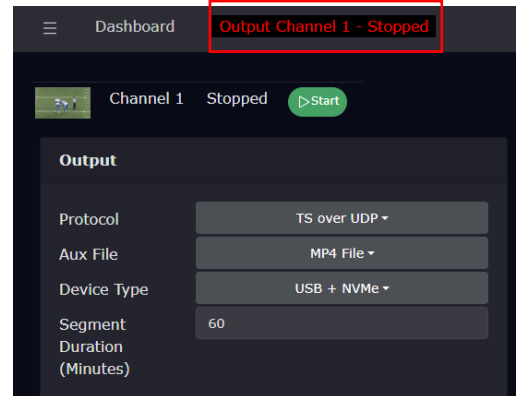
Segment File length limitation – default 60 minutes

* Simultaneous Video Recording and live streaming is only available for udp and rtmp.

!!! If the 4K-SVE is used for video recording only, udp must be selected !!!



In case where USB+NVME is selected but no USB Drive is present, Video will be recorded to NVME only



Save to USB

- Only exFAT formatted USB drives are accepted. Talon will auto format non-exFAT formatted drives.
- A correctly mounted drive will show in 'Dashboard' and the yellow LED on the unit is solid yellow
- Unmount USB drive from 'Dashboard' or physical UNMOUNT Button

Important:

USB Recording: Files are never automatically deleted from the USB drive, if the media fills up, the recording to USB will stop resulting in the last recorded file to be "corrupt" while recording to the internal backup NVME drive continues. The LCD display will alert the user once the remaining capacity on the drive drops below 20%.

Internal SSD Backup Recording: The system will automatically delete the oldest files once the used capacity exceeds 80%. Backup recording capacity is approximately 80 hours of video before the system starts deleting the oldest files.

At CBR @ 10Mbps, 1 hour of video results in a file size of approximately 4.5Gb.

Output file format example:

ch1_filename_20230420-153253_0.mp4

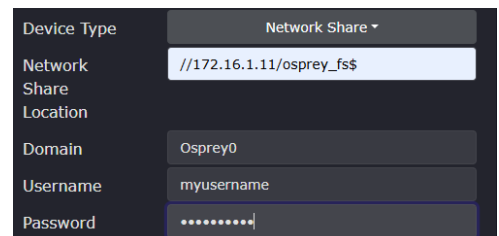
ch1_{CameraID}_{year}{date}{time}_{segment index number}.mp4

Remote access to USB/NVME storage drive with ftp:

on unit ftp server – user: 'talon', password: 'access'.

ftp://talon:access@IPAddress (ftp://user:password@IPAddress)

Recording to network share:

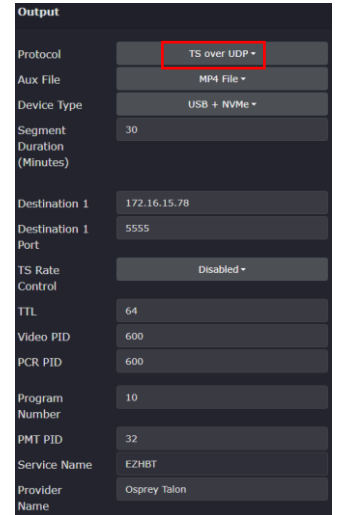


Web Interface –UDP



TS over UDP (User Datagram Protocol)

Destination	IP address of your endpoint
Destination Port	UDP destination port
TS Rate Controls	This will set the output transport stream to a constant bitrate by inserting null packets as needed. Default is “disabled” and it should only be enabled if the endpoint decoder requires this feature.
TTL	Destination time to live. Maximum number of ‘hops’ that data exists on a network before being discarded (to prevent endless loops)
Video PID *	ID for your video transport stream
PCR PID *	PCR ID for your transport stream
Program Number *	Program number for your transport stream
PMT PID *	PMT ID for your transport stream
Service Name	Camera ID for your transport stream
Provider Name	Provider ID for your transport stream



* Not usually relevant for single program transport streams

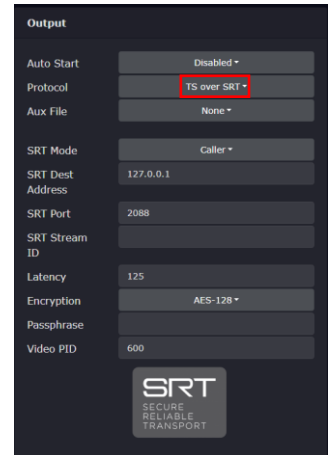
UDP is a connectionless protocol with minimal mechanisms. It doesn't require recipients to let the sender know that all data packets have arrived, which can make it unreliable. This protocol is stateless and ideal for transmitting data to large numbers of clients. UDP features multicast support for service discovery and broadcasting. Its low rate of retransmission delays makes it the perfect match for real-time applications

Web Interface – SRT



TS over SRT (Secure Reliable Transport)

SRT Mode	selection of 'caller' or 'listener' mode
SRT Destination Address	IP address of your endpoint (visible only in caller mode)
SRT Port	port used to listen or transmit, default 2088
SRT Stream ID	stream identification
Latency	maximum accepted latency in ms. Should be set to ≥ 2.5 times round trip time (RTT), default 125
Encryption	enable/disable 128-bit encryption
Passphrase	encrypted transmission, 16-character alpha-numeric
Video PID	Video PID for transport stream



SRT Mode **'Listener'**: The "agent" waits to be contacted by any peer caller. Note that a listener can accept multiple callers, but Talon does not support this ability; after the first connection, it no longer accepts new connections.

SRT Mode **'Caller'**: The "agent" (this application) sends the connection request to the peer, which must be listener, and this way it initiates the connection.

SRT is known for its security, reliability, compatibility, and low-latency streaming it is the preferred protocol for members of the SRT Alliance. This protocol does not rely on a single codec, which allows developers to pair it with any audio and video codecs they desire.

Web Interface – RTMP(S)

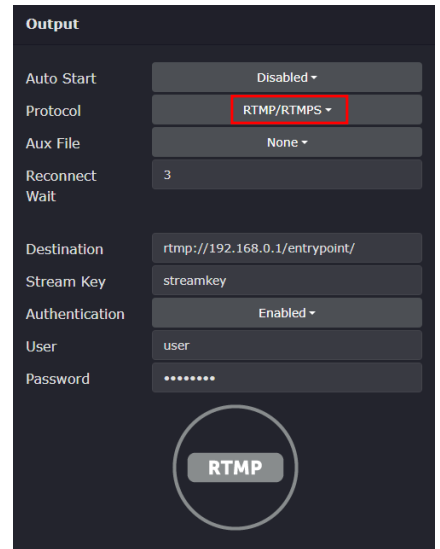


Channel Setup – RTMP(S)

RTMP/RTMPS (Real-Time Messaging Protocol)

Reconnect Wait	Time between reconnection attempts (seconds)
Destination	server address of your endpoint
Streamkey	key assigned by your endpoint
Authentication	enable/disable stream authentication
User	username for authentication
Password	password for authentication

Destination Stream URL Example: `rtmp://a.rtmp.youtube.com/live2`



Remote ID	the name that identifies the Feeder to the Broadcaster. Default is the serial number of the encoder. Do not change unless Broadcaster configuration requires it.
Password/Secret	this is the "Zixi Secret". By default, any publish point in Broadcaster can be accessed by any encoder. Zixi Broadcaster can provide a Feeder with a password which gives that encoder priority over any other encoder connected to that publish point. If an encoder with the password attempts to connect, the publish point will remove any other encoder connected to it and replace it with the password protected version.
Encryption	enable/disable AES-128, AES-192 or AES-256 stream encryption
Encryption Key	cut and paste the encryption key provided by your Zixi Broadcaster in the allotted space.
Video PID	the Default PID is 600. Any ID greater than 0 but less than 8192 may be used.
PMT PID	the default PMT PID is 10. Other values can be used where specified by the transport stream.

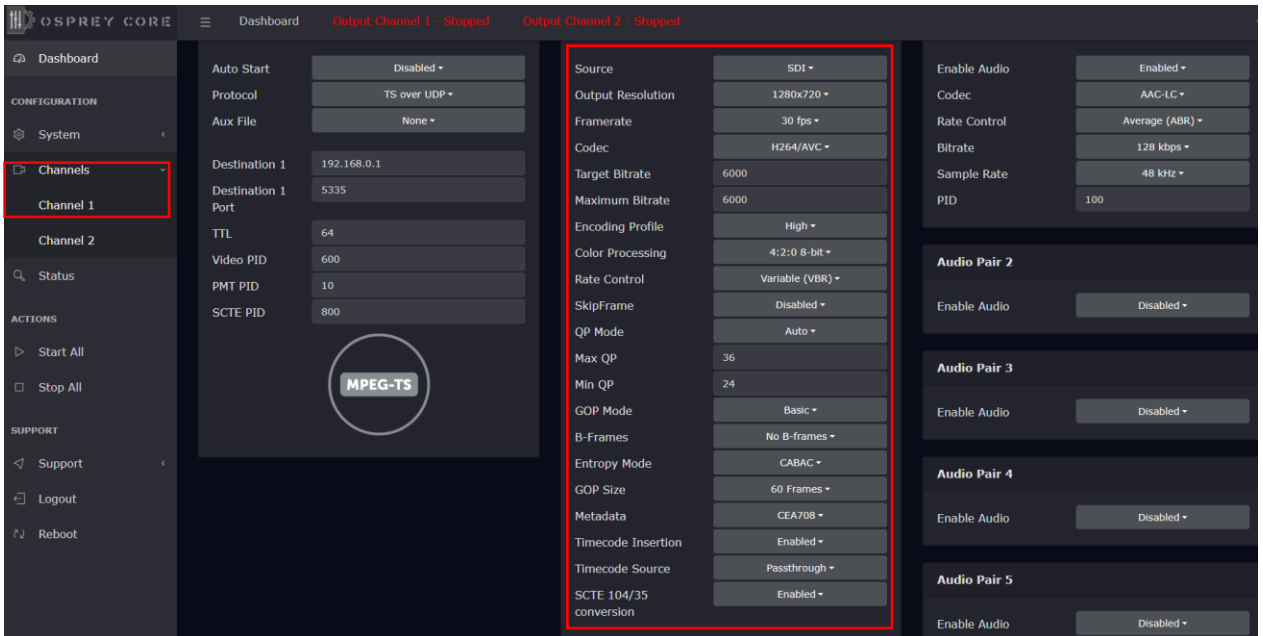
Web Interface – Video Encoding Settings



Channel Setup - Video



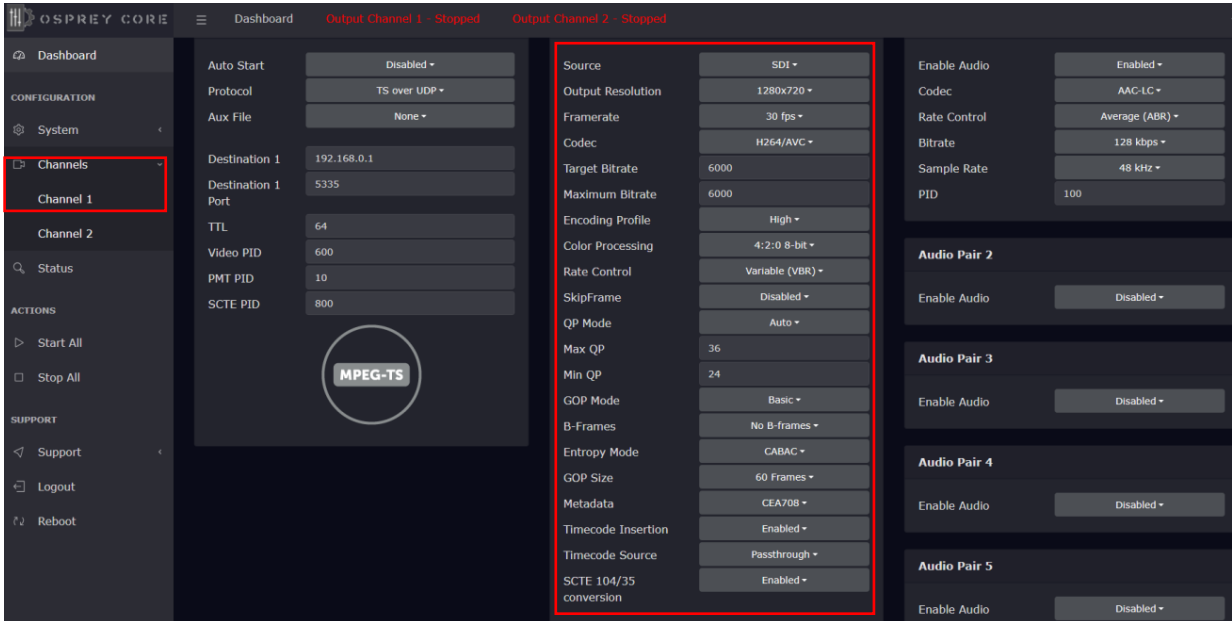
Important: The selection of the output stream protocol dynamically changes the available options for video and audio encoding. The options outlined in this chapter are based on UDP and might slightly differ from your settings.



The screenshot shows the 'Channel Setup - Video' page in the Osprey Core web interface. The 'Source' section is highlighted with a red box. The settings for 'Source' are: SDI. Other settings include: Output Resolution: 1280x720, Framerate: 30 fps, Codec: H264/AVC, Target Bitrate: 6000, Maximum Bitrate: 6000, Encoding Profile: High, Color Processing: 4:2:0 8-bit, Rate Control: Variable (VBR), SkipFrame: Disabled, QP Mode: Auto, Max QP: 36, Min QP: 24, GOP Mode: Basic, B-Frames: No B-frames, Entropy Mode: CABAC, GOP Size: 60 Frames, Metadata: CEA708, Timecode Insertion: Enabled, Timecode Source: Passthrough, and SCTE 104/35 conversion: Enabled. The 'MPEG-TS' button is also visible in the center of the page.

- Source** select your input video source
- Output Resolution** for best quality and lowest latency it is recommended to match your input and output resolutions
- Framerate** for best quality and lowest latency it is recommended to match your input and output framerate
- Codec** select between HEVC (H.265) and AVC (H.264). Note that not all streaming protocols support HEVC.
- Target Bitrate** Target Bitrate is set based on the rate control method used. For CBR, the Target Bitrate equals the bitrate to maintain throughout the encode. For VBR, it is the rate you want to average.
- Maximum Bitrate** maximum Bitrate is only enabled when VBR is selected. Maximum bitrate to be \geq 'Target Bitrate'
- Encoding Profile** different profiles are available depending on the codec:
HEVC - Main, Main 10, Main 4:2:2 10
AVC - Baseline, Main, High, High-10, High 4:2:2
- Color Processing** for best quality and lowest latency it is recommended to match your input and output color space. The options change depending on the selected codec and encoding profile.

Web Interface – Video Encoding Settings

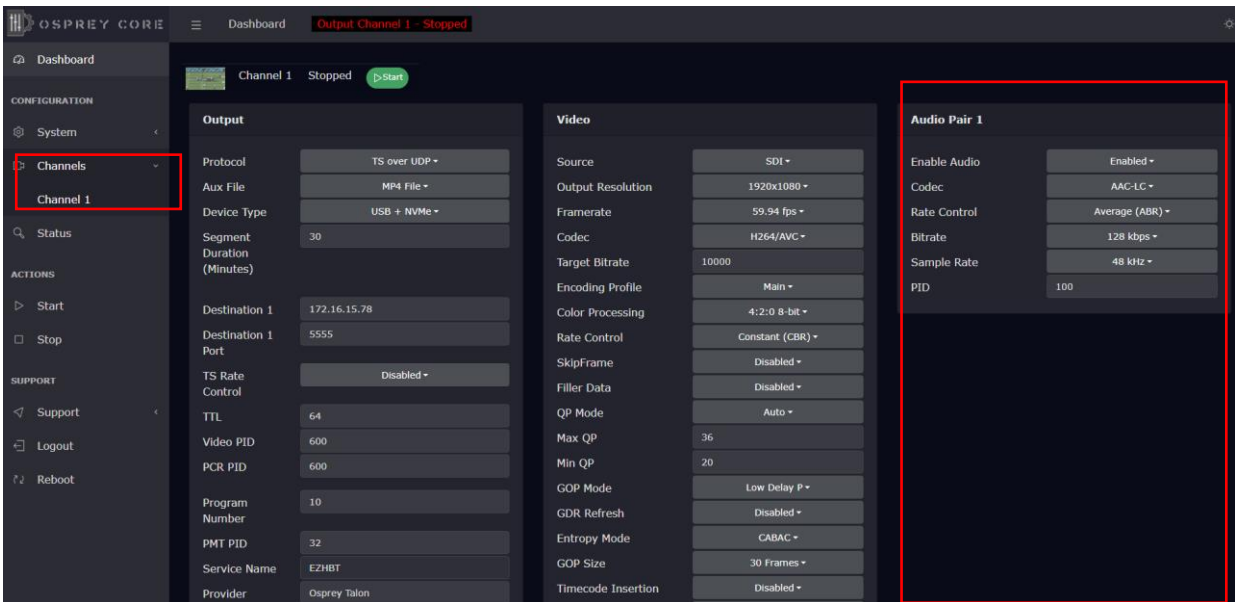
- Rate Control** select between CBR, VBR, QP and Low Latency. Constant QP means that the bitrate can vary greatly to achieve the set QP. This can result in wild fluctuations of bitrate and is not recommended for live streaming.
- SkipFrame** Encoder will drop frames in order to not exceed the selected Maximum Bitrate
- QP Mode** 'Auto' or 'Uniform', default is 'Auto'
- Max QP** Default '36', a higher number results in a lower bitrate and lower quality (delta between max QP and min QP should always be <12). Maximum is 51.
- Min QP** Default '24', a higher number results in a lower bitrate and lower quality (delta between max QP and min QP should always be <12).
- GOP Mode** Low Delay P/Low Delay B/Basic (IPPP)/Basic-B/Adaptive.
Choose '**Low Delay P**' if you are unfamiliar with GOP settings.
- B-Frames** Number of B-frames between I-frames. 0 – 4. This feature is only available for certain GOP modes.
- GOP Size** 5 – 240 frames, choose twice your encoding framerate as default
- Metadata** OFF, CEA708, SMPTE-2038
- Timecode Insertion** Enabled/Disabled
- Timecode Source** Passthrough, System Time (UTC)
- SCTE 104/35** Enabled/Disabled. Supports embedding the SCTE 104 messages from the SDI source into the output stream as SCTE35.

QP: The Quantization Parameter controls the amount of compression for every macroblock in a frame. Large values mean that there will be higher quantization, more compression, and lower quality. QP ranges from 0 to 51.

GOP: GOP parameters define the basic pattern of the video stream in terms of how the encoder uses I, P-, and B- frames.

B-Frame: A compressed video frame which is reconstructed based on its differences from the previous and the subsequent frame

Web Interface – Audio Encoding Settings



- Enable Audio** enable/disable select audio channels. If encoding video only it is recommended to disable all audio
- Codec** choose between AAC-LC and Opus
- Rate Control** choose between Average Bitrate (ABR) and Variable Bitrate (VBR)
- Bitrate** range 12kbps to 196kbps. For best encoding results match your input rate, if unknown 128kbps is recommended
- Sample Rate** 44.1kHz or 48kHz, 48kHz is recommended
- PID** Audio Stream ID

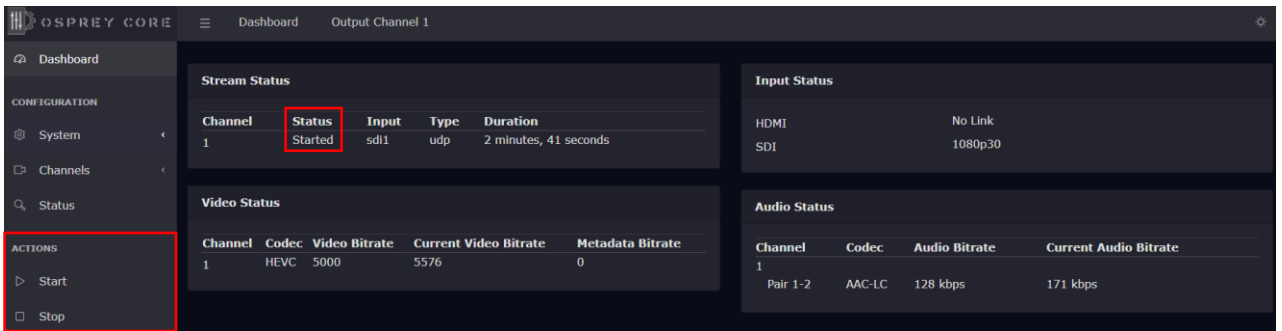
Web Interface – Status and Stream Start/Stop

The Stream 'Start' and 'Stop' buttons are always available in the main menu. It is recommended to start and stop your streams from the 'Status' page or from the 'Dashboard'. This allows for immediate monitoring of your stream data.

The status page provides information about your video inputs and live stream data

- Audio, Video and Metadata Bitrates
- Video Input resolutions and frame rates

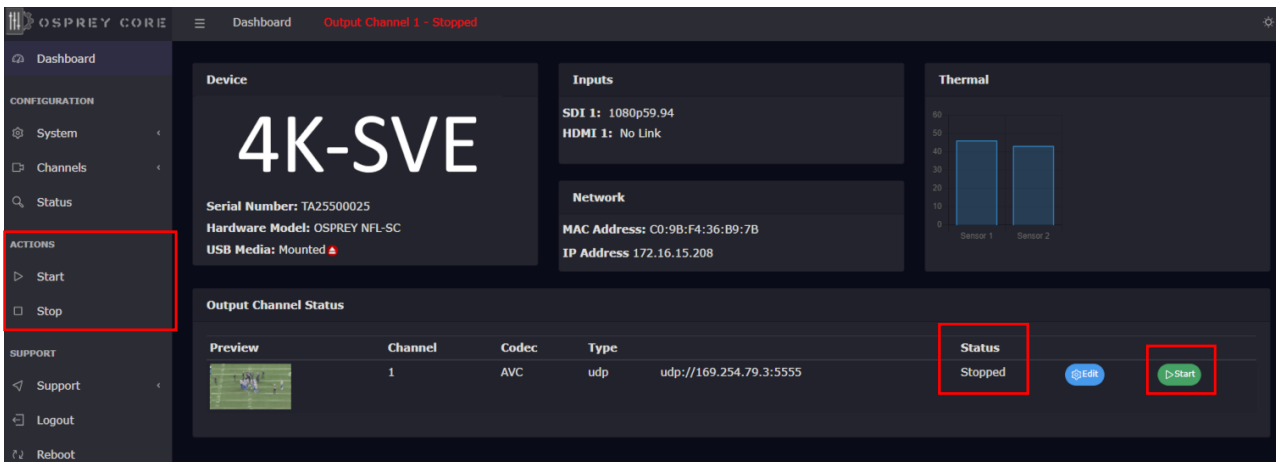
Status Page



The screenshot shows the 'Status' page in the Osprey Core web interface. The page is titled 'Dashboard Output Channel 1'. It features a sidebar on the left with navigation options: Dashboard, CONFIGURATION (System, Channels, Status), ACTIONS (Start, Stop), and SUPPORT (Support, Logout, Reboot). The main content area is divided into four sections:

- Stream Status:** A table with columns: Channel, Status, Input, Type, Duration. Row 1: Channel 1, Status Started, Input sdi1, Type udp, Duration 2 minutes, 41 seconds.
- Video Status:** A table with columns: Channel, Codec, Video Bitrate, Current Video Bitrate, Metadata Bitrate. Row 1: Channel 1, Codec HEVC, Video Bitrate 5000, Current Video Bitrate 5576, Metadata Bitrate 0.
- Input Status:** Shows HDMI and SDI inputs. HDMI has 'No Link', and SDI has '1080p30'.
- Audio Status:** A table with columns: Channel, Codec, Audio Bitrate, Current Audio Bitrate. Row 1: Channel 1, Codec Pair 1-2, Audio Bitrate AAC-LC 128 kbps, Current Audio Bitrate 171 kbps.

Dashboard



The screenshot shows the 'Dashboard' page in the Osprey Core web interface. The page is titled 'Dashboard Output Channel 1 - Stopped'. It features a sidebar on the left with navigation options: Dashboard, CONFIGURATION (System, Channels, Status), ACTIONS (Start, Stop), and SUPPORT (Support, Logout, Reboot). The main content area is divided into several sections:

- Device:** Large text '4K-SVE'. Below it: Serial Number: TA25500025, Hardware Model: OSPREY NFL-SC, USB Media: Mounted.
- Inputs:** SDI 1: 1080p59.94, HDMI 1: No Link.
- Network:** MAC Address: C0:9B:F4:36:B9:7B, IP Address 172.16.15.208.
- Thermal:** A bar chart showing temperatures for Sensor 1 and Sensor 2.
- Output Channel Status:** A table with columns: Preview, Channel, Codec, Type, Status. Row 1: Preview (video thumbnail), Channel 1, Codec AVC, Type udp://169.254.79.3:5555, Status Stopped.

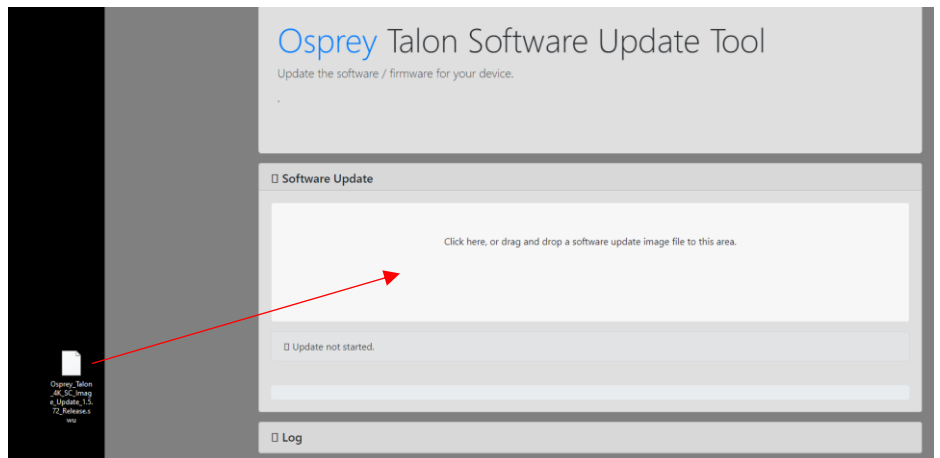
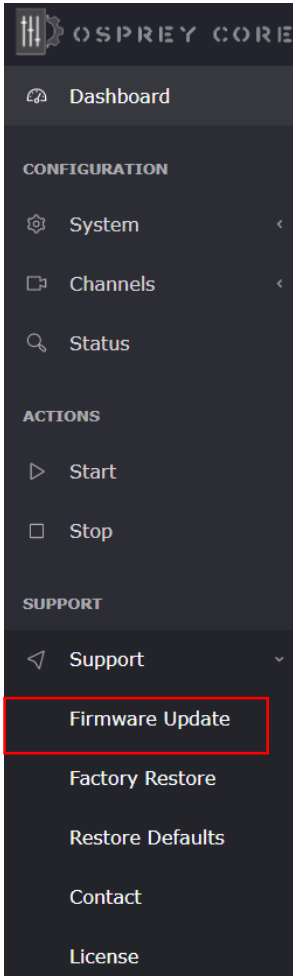
Page intentionally left blank

Web Interface – Firmware Update

As we constantly add features and maintain our Talon line of products, we suggest you keep your Encoder Firmware up to date.

Firmware upgrade steps:

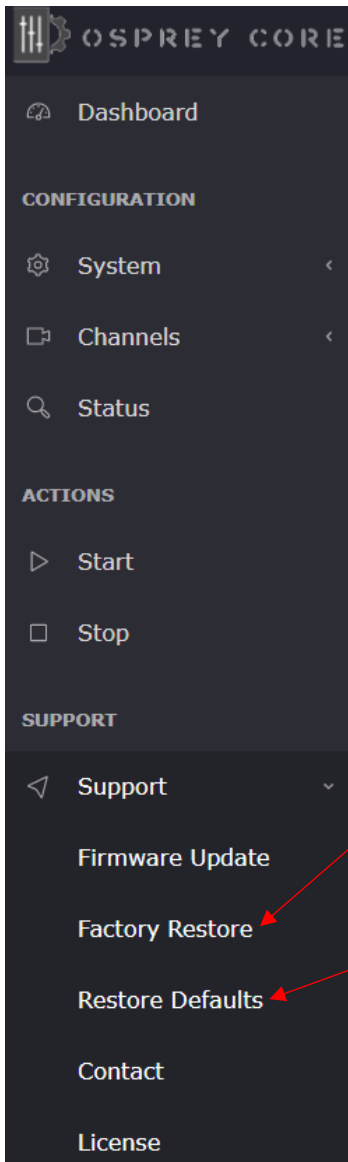
1. Download the latest firmware revision at www.ospreyvideo.com/talon-software-and-firmware
2. Go to 'Firmware Updates' on Talon Web Interface
3. Drop the downloaded firmware file into the 'Software Update Tool'
4. Update will start immediately and might take several minutes



Web Interface – Restore



Please read carefully before attempting to restore Talon's firmware and settings



Factory Restore will reset Talon and restore it with the original firmware it shipped with. Settings will be reset to default

Restore Defaults will reset all user settings with its default values

Page intentionally left blank



Enterprise and Security

To protect the Talon OS and to ensure data integrity, multiple security features are included by default. These require no user intervention and are active upon the first startup.

NDA compliant

Talon 4K series encoders are manufactured in the USA from globally sourced components. All parts are vetted to ensure NDAA compliance.

Operating system firmware

All OS firmware is AES encrypted and RSA authenticated. No part of the operating system can be modified except by Osprey.

Trusted image/update control

The initial firmware, as well as all updates are encrypted, digitally signed and only available from Osprey. This ensures that only approved software can be loaded. Any attempt to load outside software will fail.

Certificate encrypted SSH

All SSH access is keyed and encrypted. Only Osprey can access the device via SSH.

Telnet access blocked (no telnet client installed)

To comply with most secure networks, Telnet access is not enabled. There is no Telnet client on the Talon. Because of the Trusted Image, none can be installed.

Opensource Listing

Package	Version	Description	License
Linux Kernel	5.15.19		GPLv2
bash	5.1.8	Bourne Again Shell	GPLv3+
busybox	1.34.1	Lightweight common UNIX utilities	GPLv2 & bzip2
alsa-conf	1.2.5.1	Advanced Linux Sound Architecture utilities	GPLv2+
alsa-utils	1.2.5.1	Advanced Linux Sound Architecture utilities	GPLv2+
apache2	2.4.52	Opensource web server	Apache-2.0
passwd	3.5.29	System user password management	GPLv2+
cronie	1.5.7	scheduled process management	GPLv2+
curl	7.78.0	Tool for transferring data using various network protocols	MIT
daemontools	0.76	supervisor and monitor services	PD
dhcpcd	9.4.0	DHCP client	BSD
e2fsprogs	1.45.3	EXT2/3/4 filesystem utilities	GPLv2
ethtool	5.13	query and control network device drivers	GPLv2+
faad2	2.8.8	Freeware Advanced Audio (AAC) decoder	GPLv2
faac	1.30	AAC audio support	LGPLv2+
gst-interpipes	1.1.8	Tools for monitoring gstreamer	LGPL2.1
gst-perf	1	Tools for monitoring gstreamer	LGPLv2+
gst-shark	0.7.2	Tools for monitoring gstreamer	GPLv2+
gstreamer1.0		Multimedia Pipeline control	LGPLv2+
gstreamer1.0-plugins-bad	1.18.0	Multimedia Pipeline control	GPLv2+
gstreamer1.0-plugins-good	1.18.0	Multimedia Pipeline control	GPLv2+
gstreamer1.0-plugins-base	1.18.0	Multimedia Pipeline control	GPLv2+
i2c-tools	4.3	Accessing i2c devices	GPLv2+
init-ifupdown	1.0	Tools to bring network configuration	MIT
initscripts	1.0	Scripts for run level processing	GPLv2
iproute2	5.15.0	Linux TCP/IP traffic control	GPLv2+
iptables	1.8.7	Linux TCP/IP firewall	GPLv2+
libcrypto	1.1.1l	Crypto library	Openssl+



Safety and Compliance

FCC Notice

The Osprey Talon has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the computer into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If the above measures are unsuccessful, please consult the dealer or manufacturer of your radio or television receiver or speak with an experienced Radio/TV technician.

Shielded Cables: Connections between this device and peripherals must be made using shielded cables in order to maintain compliance with FCC radio emission limits.

Modifications: Modifications to this device not approved by Osprey Video could void the authority granted to the user by the FCC to operate the device.

Product Disposal Information

Dispose of this product in accordance with local and national disposal regulations (if any), including those governing the recovery and recycling of waste electrical and electronic equipment (WEEE).

RoHS Compliant: Osprey Video is committed to compliance with the European directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, Directive 2002/95/EC, the RoHS directive.

Osprey Video
400 Gerault Rd
Flower Mound, TX 75028
United States of America