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Osprey[®]

Video

*Osprey® Talon G1 Decoder User
Guide*

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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.

Note to CATV Installer: This reminder is provided to call to the CATV installer's attention Section 820-40 of the NEC, which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

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.



For current RoHS statement, visit www.ospreyvideo.com

Osprey Video, 1628 Valwood Pkwy, Suite 200, Carrollton, TX 75006 USA

Overview

Thank you for purchasing the Osprey® Talon series video decoder from Osprey Video. This user guide provides step-by-step instructions for installing and using your new video decoder. For the latest Osprey product information and news, visit our website at www.ospreyvideo.com.

Warranties

For complete warranty details, refer to the specific warranty included with each product. General warranty information includes the following:

Limited Warranty

Osprey Video warrants its hardware products against defects in material and workmanship under normal use for the period of one year (12 months) from date of sale. Where specific Osprey Video warranties exist that provide more substantial coverage, notwithstanding the warranty provisions herein, such product warranties control and preempt or supersede the warranty provisions herein.

Reseller Pass Through of Standard Limited Warranties

Resellers pass the Osprey Video standard limited warranties for the products through to the customer without modification. Any modification of a product voids the Osprey Video or any other existing or available warranty.

FEEDBACK:

We greatly value your input. Please direct any questions, comments or support issues to

[**support@ospreyvideo.com**](mailto:support@ospreyvideo.com)

+1 972 488 7157

Product Description

The Osprey Talon is a small form-factor video decoder for RTP/UDP Unicast and Multicast streams.

Audience

The audience for this user guide includes anyone who uses or administers the Osprey Talon series. Users should have a basic technical understanding of streaming media. This user guide provides information on the Osprey Talon series only.

Warnings

Only trained and qualified personnel should install, replace, or service this equipment.

Do not attempt to open the case of the system. If you do, you incur a high risk of electrical shock that may cause damage to the system or personal physical injury or death to you and/or others. No user-serviceable parts exist inside the system. If you open the system case or make unauthorized changes to the case, you void the warranty.

Install the system away from any heat sources. This remains vital to the safety of the product users. Do not install the system near any heat sources such as:

- Radiators
- Heat registers
- Stoves
- Other heat-producing equipment

WARNING! Installing the system near heat sources could result in personal injury or death.

Never insert objects of any kind into the system through any system openings, as the objects may touch dangerous voltage points, short out parts, and result in a risk of fire or electrical shock.

Do not stack the system atop or below other electronic devices as this can cause heat build-up and vibration of the system. These conditions can damage the system thereby voiding the limited warranty.

You may stack multiple Osprey Talon units as these systems accommodate stacking.

Do not install the system in any area where the temperature is less than 5°C or more than 40°C. Transfer from temperature extremes may cause condensation. Let the system remain unplugged at room temperature for at least 45 minutes before connecting it.

Use an outlet with surge suppression or ground fault protection when using the system. Unplug the power cord from the wall outlet, disconnect the network connection, and disconnect the lines between the system and the video source for added protection:

- During a lightning storm
- During dangerous weather conditions
- When the decoder remains unattended or unused for long periods

Reduce the risk of fire or electric shock. Do *not* expose the system to any rain or moisture. Exposing the system to rain or other types of moisture could result in system damages. Do not place any liquids on or near the system. If you place liquids in any form on or near the system, do so at your own risk, for you incur a high risk of electrical shock that could occur and cause damage to the system.

WARNING! Exposing the system to rain or other types of moisture could result in physical injury or death. Any liquids on or near the system may result in electrical shock and personal injury or death.

Refer all servicing to authorized service personnel. You must have authorized personnel only service any damaged system. Relevant damage may occur with but is not limited to the following:

- An unplugged or damaged power supply cord
- Spilled liquid on the system
- Fallen objects in or on the system
- Appliance exposure to rain or other moisture or liquid
- Failure to perform as described in the User Guide
- A dropped system

Osprey Video assumes no liability or responsibility for any damaged system that clients continue using.

Use only attachments, accessories, or equipment specified by the manufacturer with the system. Using accessories or attachments not recommended by the decoder manufacturer voids the Limited Warranty.

Do not attempt to service the system yourself. If you open or remove covers, you may be exposed to dangerous voltage. Such action voids the Limited Warranty. Refer all servicing issues to authorized service personnel only.

The plug-socket combination that serves as the main disconnecting device must be accessible at all times.

Protect the power cord from anyone walking on it and being strained or pinched particularly at plugs, electrical receptacles, and the point where the power cord exits the system.

Do not use adapter plugs or remove the grounding prong from the power cable.

Use only the type of power source indicated on the marking label on the back panel of the unit to operate the system. Unplug the system power cord by gripping the plug and removing it from the power source. Do not pull the cord to remove the power source from the system.

Do not plug the system into a wall outlet that contains an overload of electrical cords or power strips/extension cords. This type of overload may result in fire or electrical shock risks.

Always handle the system carefully. Always avoid excessive shock and vibration to the system. Excessive shock or vibration can damage the system.

WARNING! Excessive shock or vibration to the system may result in electrical shock and personal injury or death.

Installing additional software

The Osprey Talon systems run an embedded version of the Linux operating system (OS). Installation of additional software on the Osprey Talon systems is not allowed.

Connecting to the Internet

Never connect an Osprey Talon system to the Internet through a direct connection without the use of a firewall. We recommend taking precautions against unwanted access such as installing systems behind a router or firewall. The speed of the router or switch should match or exceed the speed of the system's network card. See your network administrator for recommendations.

Package contents

Completely unpack all contents from the box and inspect each item for damage. Ensure that you have all the components listed below:

- | | |
|---------------------|--|
| System | • Osprey Talon |
| Power Supply | • AC to DC converter 12V International |
| Hardware | • Mounting Brackets |

WARNING! Read the installation instructions before connecting the system to the power source.

Getting Started

Before you can use your Osprey Talon decoder, you first need to set up and configure it. This chapter is dedicated to providing you with the details and step-by-step instructions you need to make your installation as quick and easy as possible.

Here are three starting requirements:

- AC power source (100 - 240 V)
- IP connection and/or Internet connection on a dynamic host configuration protocol/domain name server (DHCP/DNS) network.
- A '**configuration host**' system
A **configuration host** is a networked PC computer running a compatible HTML browser. The browser on the host will be used to access the configuration web page on the Talon decoder. There is also a small application called 'Osprey BOSS' that is used to locate and identify Talon on the local network. BOSS works with PC, MAC and Linux. Once Talon has been identified on the network any HTML browser can be used to configure your decoder.

The Osprey Talon decoder, an easy-to-use device that allows you to:

- Connect to a compatible browser on a dynamic host configuration protocol/domain name server (DHCP/DNS) network.
- Configure and connect your audio and video stream to the Osprey Talon.
- Select your output formats and settings.
- Begin receiving your media stream.

You can configure and use the Osprey Talon straight from the box. Use the web interface for setting options and controlling your Osprey Talon from another networked computer.

This section addresses the high-level actions you must perform to physically connect and set up your Osprey Talon video decoder.

Prerequisites

Before connecting the Osprey Talon decoder, ensure you comply with the following prerequisites:

- All packaged items are undamaged and in working order.
- Your environment meets all starting requirements.
- Safety instructions, notices, and warnings detailed in “Before you Begin” including:
 - FCC Notice
 - Environmental Notices
 - Warnings

You must complete the following tasks to setup the Osprey Talon decoder:

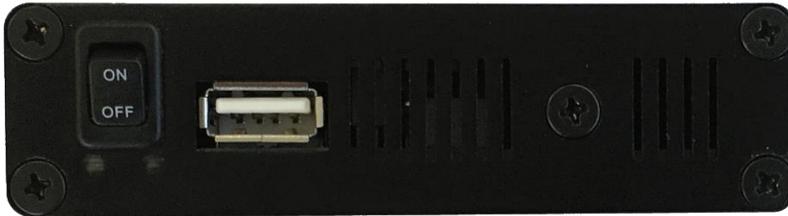
- Address and comply with the prerequisites above.
- Connect the Osprey Talon decoder using supplied power source.
- Connect the Osprey Talon decoder to an IP network with DHCP enabled.
- Access the ‘**Configuration Host**’ computer on the same network.
- Start the ‘Osprey BOSS’ application.
- Select the Talon that matches your serial number.
- Configure the Osprey Talon decoder.



Osprey Talon front panel diagram

You should familiarize yourself with the front panel controls for the Osprey Talon. Besides the Power Switch and USB Port, there are indicator lights that are hidden until illuminated.

Osprey Talon front panel



A **B**

A	Power On/Off
B	USB 2.0

Osprey Talon back panel diagram



A **B** **C** **D**

A	1G Ethernet
B	Service
C	HDMI
D	9 – 17 VDC

Osprey Talon Status Lights

There are two lights on the front panel of Talon that indicate its status.

- Single Red indicates that Talon's power is on but is not ready.
- Red and Orange indicates Talon is booting. A and B will flash half way through the boot cycle
- Single Blue indicates that Talon is ready.
- Blue and Orange indicates that Talon is decoding

First time set up

You should read all instructions, notices, and warnings in the previous section prior to getting started with your new Osprey Talon hardware for the first time. Also, ensure you have all required parts and meet all system requirements before installing this product.

Do not continue with the installation if you find any components missing or damaged. Contact the Osprey reseller where you purchased your Osprey Talon system for assistance in obtaining any missing or replacement parts.

Connecting to an electrical power source

The Osprey Talon ships with an AC to DC converter 12V.

To connect the power source:

1. Attach the connector end of the AC/DC adapter to the Osprey Talon.
2. Plug the other end of the cable into a wall outlet or surge protection enabled power strip connected to a wall outlet or other common power source.

WARNING! The plug-socket combination must remain accessible at all times as it serves as the main disconnecting device.

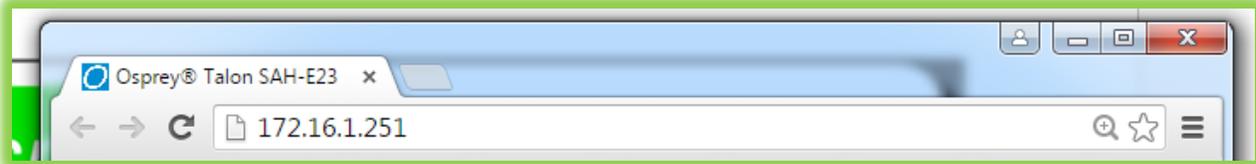
Do not work on the system or connect or disconnect cables during periods of lightning activity.

Web Interface

Talon is configured and controlled exclusively from an internal webpage. This page was designed to provide easy access to all of the configuration features of the Talon. Its simplicity makes it easy to use even from tablets and smart phones.

Login

To login to the Talon page, first enter the IP address of Talon in a web browser (show below) and press **enter**.



By default, the Talon receives its IP address via DHCP. If you are unable to determine the address of your decoder, we have created an application for finding Talon and performing some critical remote functions. Please consult the section labeled **finding your decoder with Osprey BOSS** at the end of this user guide.

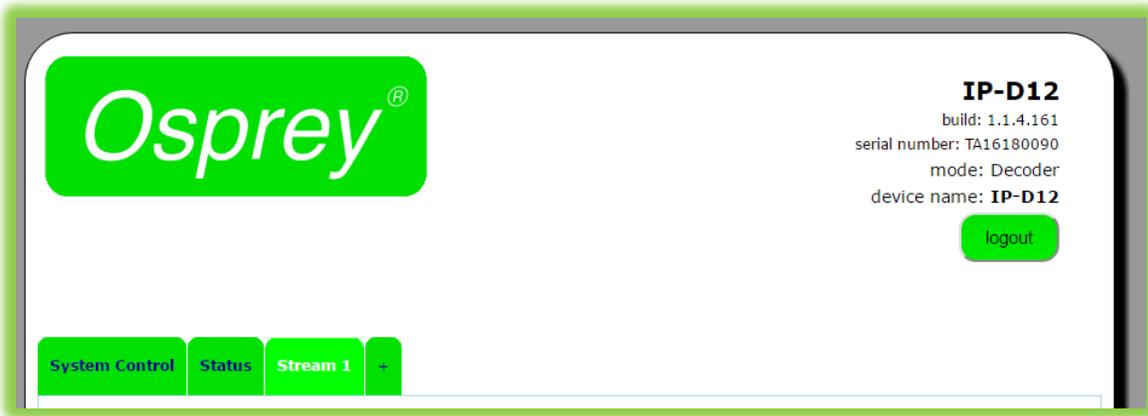
Your browser will be directed to the Talon Web Interface. The default password is '**osprey**'. For increased security always change the default password.



Upon login, you will reach the home page of the web configuration site.

Tab ID

The tabs on the front page provide access to the available configuration features of the Talon.



System Control	IP Setup, Set Device Name, Set Password, Update Firmware, Select Mode
Status	Displays real time information regarding streams and inputs
Stream 1	Contains all streaming settings for one output stream including source and output setup.
+	Selecting this item allows you to add additional decoding channels up to a total of 4.

System Control Tab

This tab accesses most of the administrative functions of the Talon.



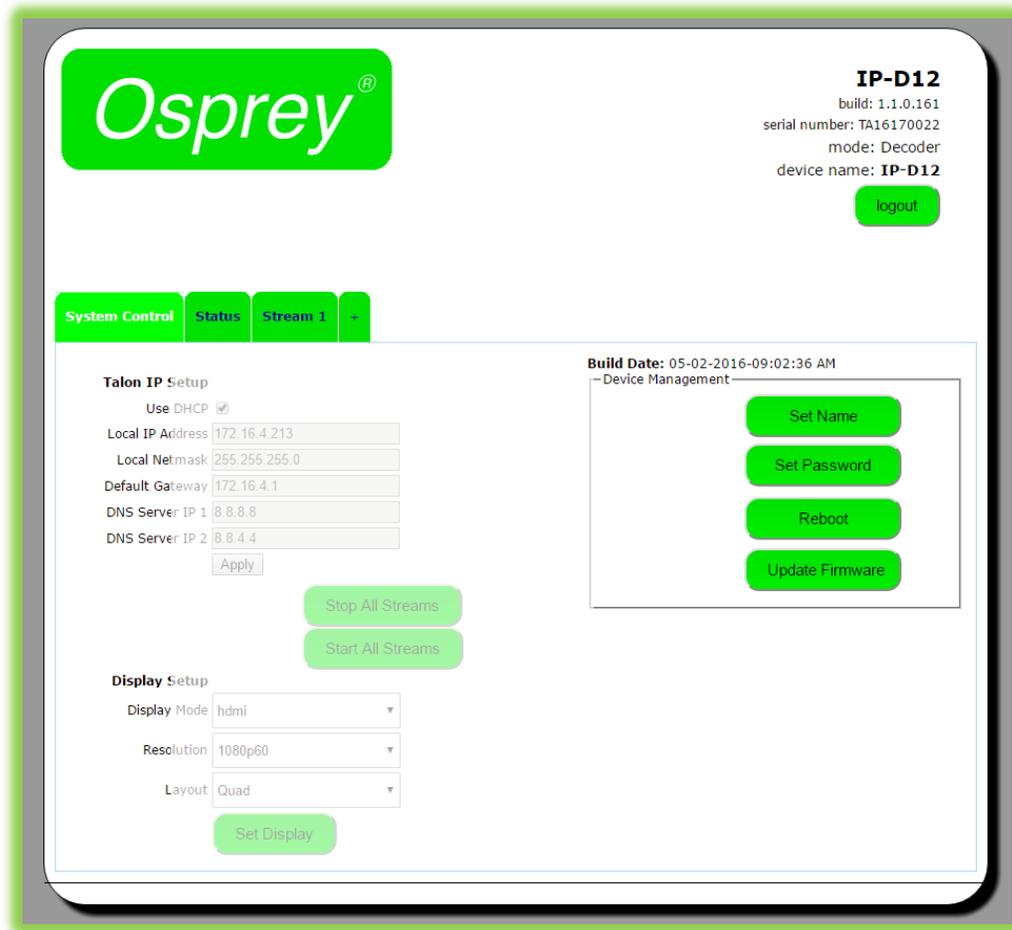
Talon IP Setup

By default, Talon receives its IP address via DHCP. If you need to use a manual address it can be set in the IP setup dialog box on the System Control page. If you are not familiar with the settings found here check with your system administrator before changing any settings.

Feature	(default)	Description
IP Address	Automatically Assigned	Sets the IP address
Netmask	Automatically Assigned	Sets the netmask
Gateway	Automatically Assigned	Sets the gateway
Use DHCP	Checked	Enables/Disables DHCP

Device Management

Device management tasks allow the configuration of operating system features. These features aren't accessed on a regular basis because they are not involved in the configuration of the decoder itself.



Set Name

The model designation for Talon is loaded as the default device name. To easily distinguish multiple Talons, you can create a new name here.

Set Password

The default password is "osprey". In order to maintain device security, it is recommended you change the default password.

Reboot

Reboot performs a complete power reset of the device. Make sure you save all of your settings before rebooting.

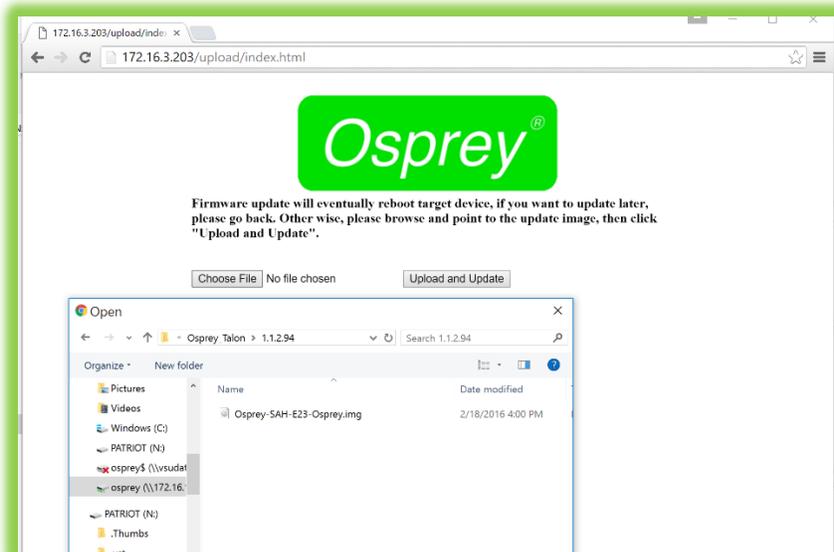
Update Firmware

Talon firmware can be easily updated. Osprey recommends that you check the Osprey Video webpage upon receipt of your Talon to ensure that you have the very latest version. There are two methods.



Updating via the Talon Web page.

1. Download the update from the Osprey Video webpage and save it on the host computer.
2. Login to the Talon via the web page a click the **System Setup** tab.



3. Click the **Update Firmware** tab.
4. From the update page click **Choose File**.
5. From Explorer select the Image file. This can be on the host hard drive or on a Flash drive.
6. Click **Upload and Update**
7. Talon will install the new image and automatically restart.



Updating via Flash Drive

In the event you cannot access the Talon web page, it is possible to update directly from a Flash drive.

- Insert a Flash drive in your host computer.
- Format the drive as FAT (do not use FAT32 or NTFS)
- Paste the image file to the root of the Flash drive.
- Insert the Flash drive in the Talon USB port.
- Restart the Talon
- Wait at least 5 minutes until you are certain Talon has restarted.
- Remove the Flash drive

Talon will silently update its image file and restart.

NOTE: For all image updates

Talon stores passwords, IP settings and Saved Profiles in non-volatile memory. These settings will be saved and made available to the restored image.

Display Setup

You can set the Display Mode, Resolution and Layout on this page.

The screenshot shows the web interface for the Osprey IP-D12 device. At the top left is the Osprey logo. At the top right, the device name is IP-D12, with build: 1.1.4.161, serial number: TA16180090, mode: Decoder, and device name: IP-D12. A green logout button is located below this information. A navigation bar contains buttons for System Control, Status, Stream 1, and a plus sign. The main content area is divided into two sections. The left section is titled 'Talon IP Setup' and includes a 'Use DHCP' checkbox (checked), and input fields for Local IP Address (172.16.10.217), Local Netmask (255.255.255.0), Default Gateway (172.16.10.1), DNS Server IP 1 (8.8.8.8), and DNS Server IP 2 (8.8.4.4). Below these fields is an 'Apply' button. The right section is titled 'Build Date: 05-05-2016-10:35:35 AM' and 'Device Management', containing buttons for Set Name, Set Password, Reboot, and Update Firmware. In the center of the page are two large green buttons: 'Stop All Streams' and 'Start All Streams'. The bottom section is titled 'Display Setup' and contains three dropdown menus: Display Mode (set to 'hdmi'), Resolution (set to '1080i30'), and Layout (set to 'Single'). The Layout dropdown menu is open, showing options: Single, Quad (highlighted in blue), and 1+2PIP.

Display Mode

Currently the only available mode is HDMI. Later Talon versions may offer different output settings.

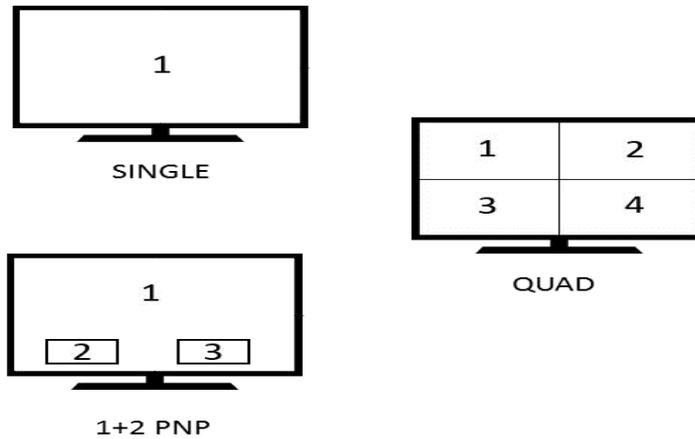
Resolution

Set the resolution to match the optimum settings for the display monitor or television.

Layout

Available settings are Single, Quad and 1+2PIP. For 1+2PIP the primary video will be Stream 1.

NOTE: Layout can be changed while the decoder is running. The screen will go blank for a few seconds and then resume with the new layout. Any screen section that does not have a stream assigned to it will appear black.



Status Tab

The Status tab provides gives basic status information about all of the decoder channels currently running on Talon. Be sure to refresh the page to ensure your data is current.

The screenshot shows the Osprey IP-D12 Status Tab interface. At the top left is the Osprey logo. On the top right, the device information is displayed:

IP-D12
build: 1.1.4.161
serial number: TA16180090
mode: Decoder
device name: IP-D12

A green 'logout' button is located below the device information.

Below the device information is a navigation bar with four tabs: 'System Control', 'Status' (selected), 'Stream 1', and a '+' icon.

The main content area is titled 'Decoder Status' and contains a table with the following data:

channel	URL	frames	fps
0	udp://239.0.0.1:5004	162881	0.00

At the bottom right of the table area, there is a green 'Refresh' button and an 'Auto Refresh' checkbox which is currently unchecked.

Decoder Setup

All configuration for actual decoding is found under the tab marked “Stream (1)”. If your interface doesn’t have a tab marked “Stream” simply click on the tab marked “+” and one will be created automatically. Additional streams may be created by clicking the “+” up to a maximum of 4 streams.

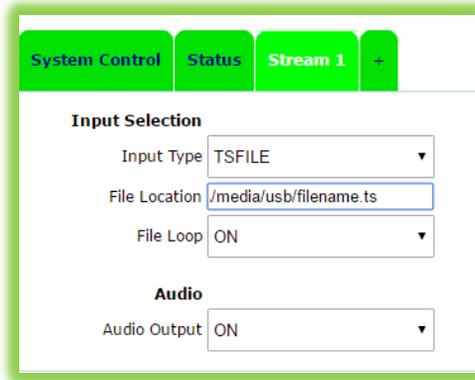


Input Type

Talon Decoders accept RTP and UDP streams. Select the protocol of the input you wish to use. If the stream is Unicast only the Port must be specified. If the stream is Multicast the dialog box opens to allow the IP address of the stream.

Decode from file

Talon will also stream from a .TS file. There is no internal storage on a Talon so you will need to have the file available on a USB Flash drive.



The screenshot shows a web interface for Stream 1 control. At the top, there are four tabs: 'System Control', 'Status', 'Stream 1', and a '+' icon. The 'Stream 1' tab is active. Below the tabs, there is a section titled 'Input Selection' with the following fields: 'Input Type' set to 'TSFILE', 'File Location' set to '/media/usb/filename.ts', and 'File Loop' set to 'ON'. Below this is an 'Audio' section with 'Audio Output' set to 'ON'.

NOTE: Talon will only mount a flash drive if it is formatted in FAT32 and the size is under 2GB.

The file location is /media/usb/[filename].ts

All file and folder names are case sensitive.

Audio

Each stream can have an audio output. Note that any stream that has the audio output set to “ON” will play. The result could be 4 different audio streams playing at the same time. Be certain you only activate the audio stream you wish to hear.

Channel Control Buttons

The buttons in the Stream 1 Control box control the Stop and Start of the decoder labeled Stream 1.

Clone

Often a user wants to create second stream that is very similar to the first, with only minor differences. You may use the ‘Clone’ button to make a second stream configuration that is exactly like the first. Then it is a simple matter to make the minor change such as address in the second stream without having to recreate the whole thing.

Delete

Delete completely removes the selected stream configuration.

Status

Indicates whether the stream is running or not.



Creating Additional Streams

Clicking the “+” button will create another Stream tab. Talon will only let you create 4 streams.

Finding your decoder with Osprey BOSS

If your Talon is powered up and attached to the local network Osprey has included an application that allows you to use a browser on another computer to locate the decoder and access it via the network.

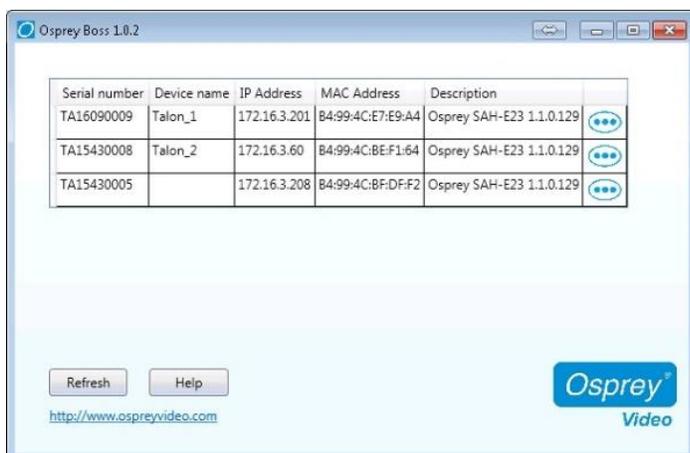
The Base Osprey System Supervisor (BOSS) discovers Osprey Talon devices on the network by broadcasting data packets to all IP addresses within your PC’s subnet (i.e. the IP range that your PC is currently in). BOSS can be used if you do not know the exact IP address of your Talon systems. You do need to know the IP subnet on which Talon is installed.

BOSS will not locate Talon if:

- You are using a router in your network to connect across subnets.
- Your network is firewall-protected. The UDP broadcast may not be permitted unless Port 10024 is open.
- If you are unable to locate Talon, please ensure it is on the same physical and logical section of your network and that broadcast traffic is allowed on port 10024 with a broadcast address of 224.0.0.212

To use BOSS:

- Download BOSS from the Talon Download link at www.OspreyVideo.com. There are versions available for PC and Linux.
- Install the application on a computer located on the same IP Subnet as Talon.
- Launch BOSS
- When the BOSS screen appears, click the “Refresh” button.
- BOSS will populate with the Serial number, Device name, IP and MAC Address along with the Description for all Talon encoders and decoders on this Subnet.
- To access the web page of a particular Talon, click on the Serial Number of the desired Talon and you will be taken to the web GUI.



Appendix: Osprey Hardware Specifications

Description:

Hardware Based H.264 Decoder

Software Control:

HTTP-Based GUI for Configuration and Software Update

Ethernet Connector:

1 GigE x 1

Video Input:

H.264 RTP/UDP multicast and unicast stream

H.264 .TS file

Video Input capacity:

1 x 1080p60* | 2 x 1080p30 | 2 x 720p60 | 3-4 x 720p30

USB Connector:

USB Type A 2.0

Video Output Mode:

Up to 1080p

LED Indicators:

Power | Unit Ready | Unit Decoding

Dimensions:

93.1mm X 120.2mm X 24.75mm (Chassis only. Does not include mounting brackets or connectors)

In the Box:

Talon G1 Hardware Decoder | International Power Supply | Mounting Brackets

Weight:

240g

Power Consumption:

6W

Warranty:

1 year limited hardware warranty

*100% capacity is based upon pixels per second rather than bitrate. 1080p60 requires 124MP (million pixels) per second. Any combined encoding load that equals less than 124MP per second is acceptable.