Osprey®

Video

Osprey TALON Decoder

User Guide

Overview

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

FEEDBACK:

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

support@ospreyvideo.com

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Some information in this user guide is specific to firmware build 1.10.0.257. If your Talon is using an earlier firmware, please consider upgrading to the latest version by checking the Osprey website.

Getting Started

Before you can use your Osprey Talon encoder, you first need to set up and configure it. This chapter provides 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 encoder. 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 and Linux. Once Talon has been identified on the network any HTML browser can be used to configure your encoder.

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 encoder.

Prerequisites

Before connecting the Osprey Talon encoder, 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 in section 8.0 at the end of this document, including:
  - FCC Notice
  - Environmental Notices
  - Warnings

Contents

Introducing Osprey Talon Decoder

Osprey Talon G1 and G2 hardware-based RTP/UDP decoders are designed for A/V and broadcast customers tasked with delivering quality point to point video over the unmanaged internet.

Each Talon encoder uses the same web interface and Osprey BOSS utility to access and configure their features. Functions that are not part of that model are not visible in the web page.

Osprey Talon Decoder Product Identification

Talon G1 H.264 Decoder

HDMI Output

Decodes H.264 RTP and UDP Streams and .TS Files

.

Talon G2 H.264 Decoder

SDI Output with EIA-608 & EIA-708 Closed Caption Support

HDMI Output

Decodes H.264 RTP, UDP Streams, and TS Files

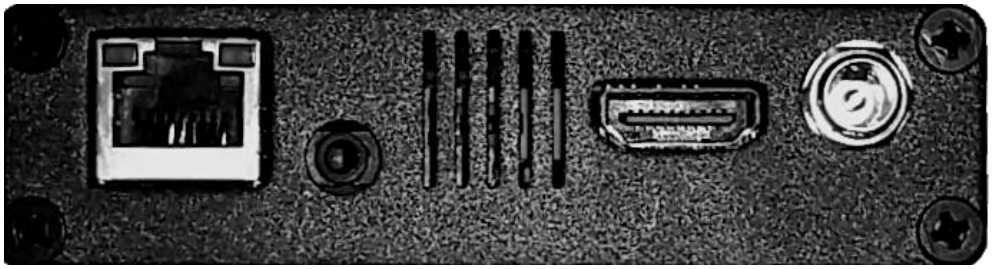
Touch Display

Osprey Talon G1 Front Panel Diagram

You should familiarize yourself with the front panel controls for the Osprey Talon. Besides the basic buttons for power, start/stop, up/down and menu access, there are indicator lights that are hidden until illuminated.

A	Power On/Off
B	HDMI Out

Osprey Talon Back Panel Diagram



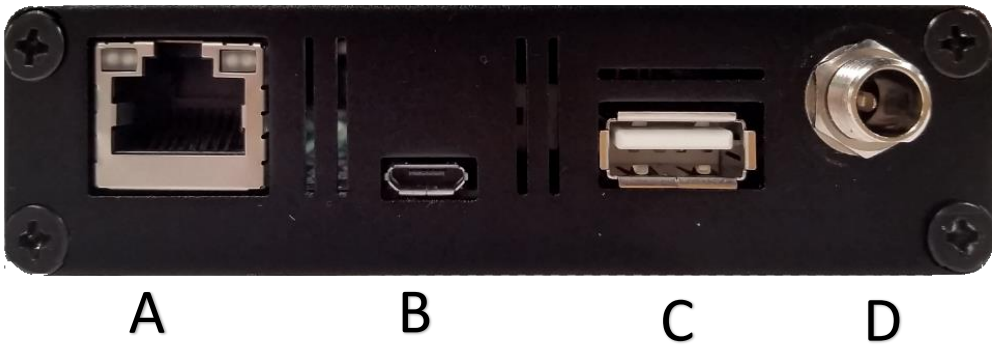
A B C D

A	Network (RJ45)
B	Service
C	HDMI OUT
D	Power

Osprey Talon G2 Decoder Front Panel Diagram

The Talon G2 decoder has several features not found on the G1. The most noticable change is the LCD Touch Control on the face of the decoder. The G2 also supports simultaneous HDMI and SDI output.

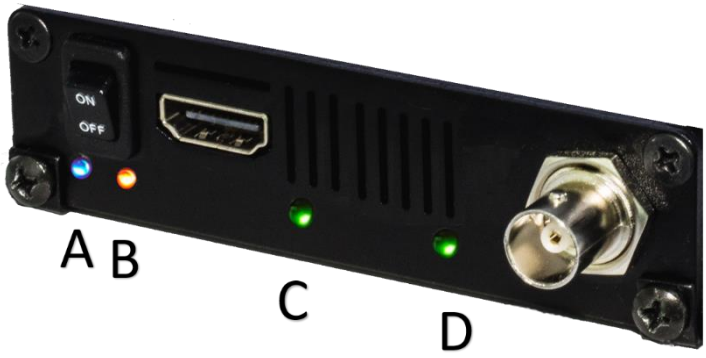
A	Power On/Off
B	HDMI OUT
C	SDI OUT



A	Network (RJ45)
B	Service
C	USB
D	Power

Osprey Talon Status Lights

There are four lights on the front panel of Talon G2 that indicate the status of several functions.



A and B: Indicate power and boot status of Talon.

- 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 an Orange indicates that Talon is decoding

C and D: Green lights after Talon is ready indicate that video output is active.

- C = HDMI
- D = HD-SD/SDI

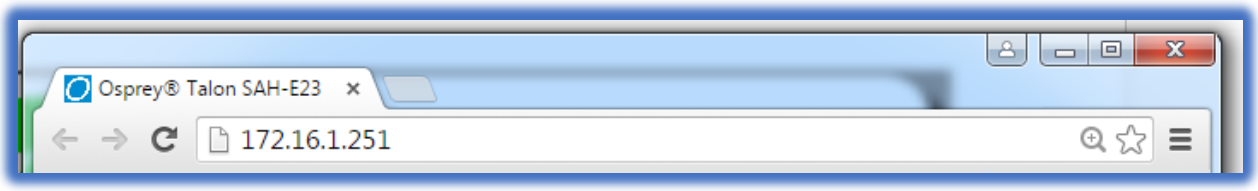
NOTE: Talon G1 decoder does not have lights C and D

Web Interface

Talon is configured and controlled from an internal webpage. This page was designed to provide easy access to all the configuration features of the Talon. Its simplicity makes it easy to use even from tablets and smart phones. Once configured, Talon can be stopped and started from the webpage, or from the LCD Touch Control panel on the front of the decoder.

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. After Talon boots, the current IP address is displayed on the LCD Touch Control. 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 encoder 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". 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 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 USB thumb drive.
6. Click **Upload and Update**
7. Talon will install the new image and automatically restart.

Updating via USB thumb Drive

If you cannot access the Talon web page, it is possible to update directly from a thumb drive.

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

Display Mode

Display Mode configures the Resolution and Layout of the decoder output. For model IPSHD-D12 both HDMI and SDI outputs are active.

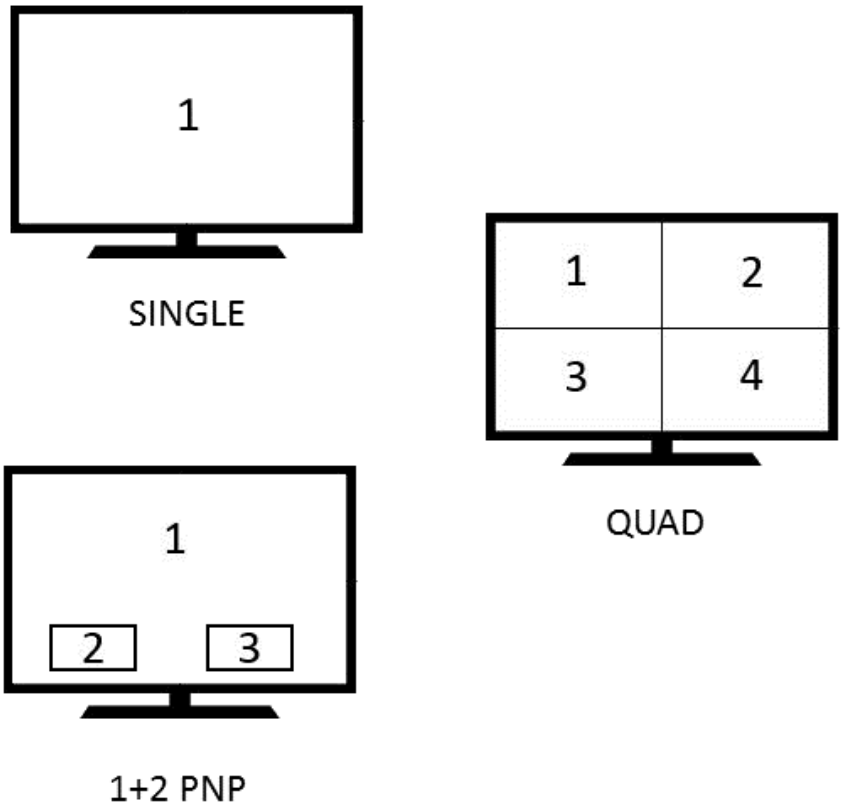
Resolution

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. To preserve aspect ratio, the best way to display two streams is to use the “Quad” layout but only start two streams.

Encodes appear on the screen in the order of the illustration. Stream 1 will always be primary. If you enable a single stream labeled “Stream 2”, it will not appear in “Single” mode.



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

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

Decoder Setup

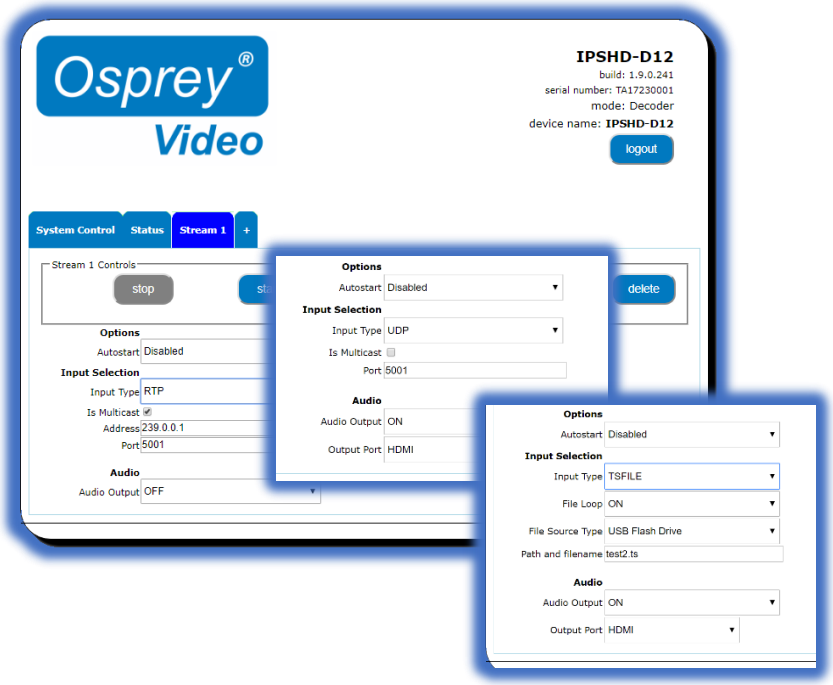
All configuration for actual decoding is found under the tab marked “Stream (1)”. If your interface doesn’t have a tab marked “Stream” simply click on the tab marked “+” and one will be created automatically. Additional streams may be created by clicking the “+” up to a maximum of 3 streams.

Options

Autostart allows the user to select one or more of the Streams to begin streaming when the power switch is turned on. This allows for unattended recovery in the event power is lost. The default is “**Disabled**”. Be sure to test stream configurations before enabling Autostart. Failure to do so can result in failure to start.

Input Type

Talon Decoders accept RTP, UDP and Zixi Receiver streams. Select the protocol if 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.



Zixi Receiver

When Zixi is selected as an input type, a different dialog appears. Put the source address provided by your Zixi service in the “Zixi Source Address” box and the channel name in the “Zixi Channel Name” box. The “Zixi Server Port” defaults to 2077. If your Zixi service uses a different port be sure to change that here.

Audio

For all input types, If Audio Output is “ON” you will need to select the output port. Audio can only be delivered on one port. From the pull-down select either “SDI” or “HDMI” as needed

Decode from file

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

NOTE: Talon will only mount a thumb drive if it is formatted in FAT32.

The file location is [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 encoder 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.

LCD Touch Control (only on Talon G2 Decoders)

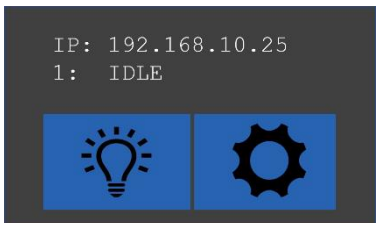
Configuration of the Talon G2 is done using the Web interface. Once stream outputs have been configured, they may be started and stopped with the LCD Touch Control on the front of the encoder. To configure the streams, use the IP address listed on the Touch Control to point your browser to the configuration page.

Shows IP address and decoder status.

Select to turn off the screen

Select to go to streams screen

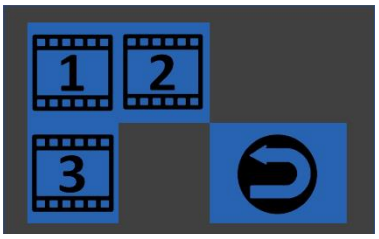
Main Screen



Select Stream by Number to change state

or to return to Main Screen

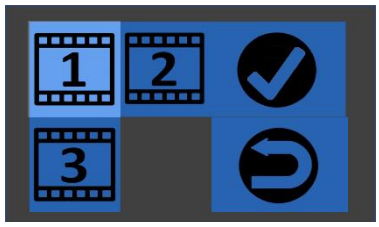
Encoder Screen



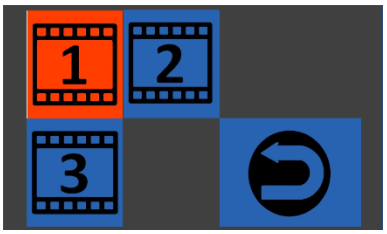
Select to confirm changes to the stream

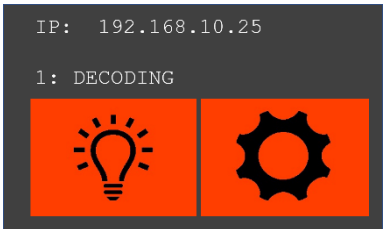
or to return to the Main Screen without changing

Change



The stream icon will change to Orange indicating a running state. Select arrow to return to main screen.





Appendix 1: Osprey BOSS

Osprey® BOSS is a utility application for managing Osprey Talon encoder and decoder systems on a Local Area Network (LAN). It is an extensible application that currently offers six important functions.

- Locate all Talon encoders on a LAN subnet
- Provide easy access to the Talon web GUI
- Remotely reboot Talon
- Remotely set a temporary IP address
- Clear Talon presets
- Clear System settings

Installing Osprey BOSS

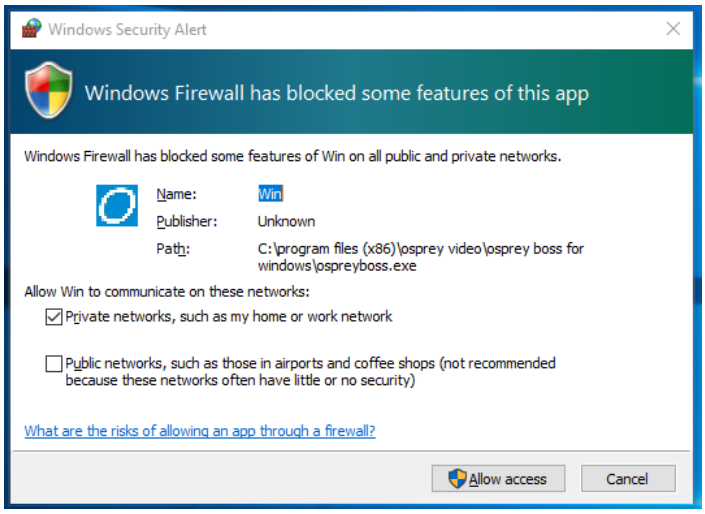
BOSS is available on the downloads tab of www.ospreyvideo.com

- From the downloads tab select "Talon G1 Downloads"
- Select "Osprey BOSS Utility"
- Download the version appropriate to your operating system; Windows®, Linux® or MAC®

Microsoft

- Click and run the Osprey Boss installer
- Launch Osprey BOSS

  NOTE: The first time the application is launched you may receive a notification that some features have been blocked by Windows Firewall. For Osprey BOSS to work you will need to authorize it to pass through the local firewall.



Linux

- Install mono for Linux by going to

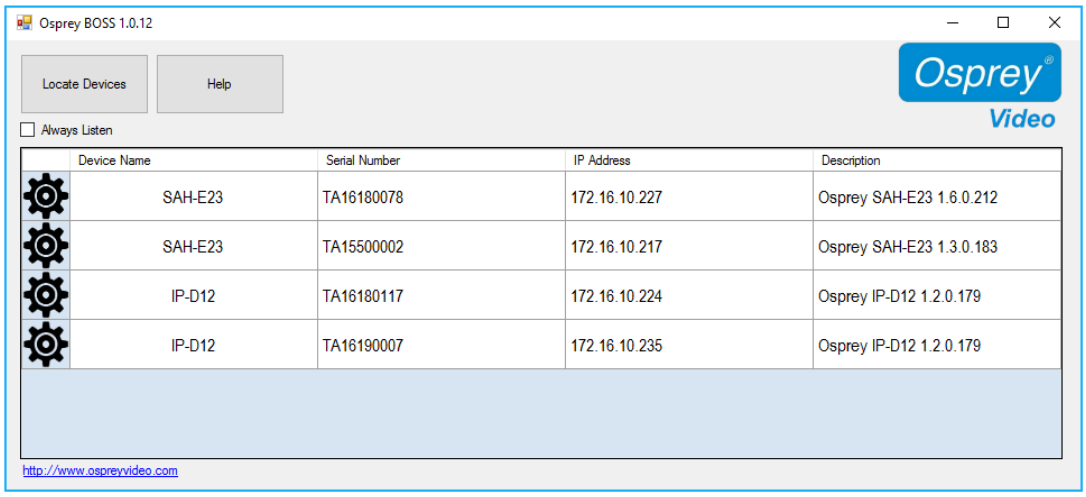
  http://www.mono_project.com/download/#download/download-lin and following their instructions
- Extract OspreyBOSS-XXX.tar.gz file to a local folder
- Launch OspreyBOSS by issuing a terminal command "mono OspreyBoss.exe"

MAC OS X

- Install Mono for Mac OS x by going to http://www.mono-project.com/docs/getting-started/install/mac/ and following their instructions.
- Extract the OspreyBOSS-XXX.zip file to a local folder
- Launch OspreyBOSS by running StartOspreyBOSS

Locating Talon with Osprey BOSS

Talon is managed via a web based GUI that can be accessed over the network by most web browsers. All you need to do is type the IP address of the Talon you wish to access into the address bar of the browser. The simplest way to determine the IP address is to power up Talon and connect it to the LAN. Once it is fully booted up and on the network, Osprey BOSS will locate it and notify you of the IP address.



BOSS can be used if you do not know the exact IP address of your Talon systems. BOSS discovers 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). This means that the computer that is hosting BOSS should be on the same IP subnet as Talon.

To locate all Talon devices on your subnet, click the "Locate Devices" button on the BOSS interface.

BOSS will populate with the Serial number, Device name, IP and MAC Address along with the Description for all Talon encoders on this subnet.

To access a specific Talon, click on its Serial Number and you will be taken to the web GUI.

The "Always Listen" check box is only valid for Talon versions 1.6.0.212 and above. Checking will cause BOSS to continually refresh Talon information without pressing "Locate Devices" again.

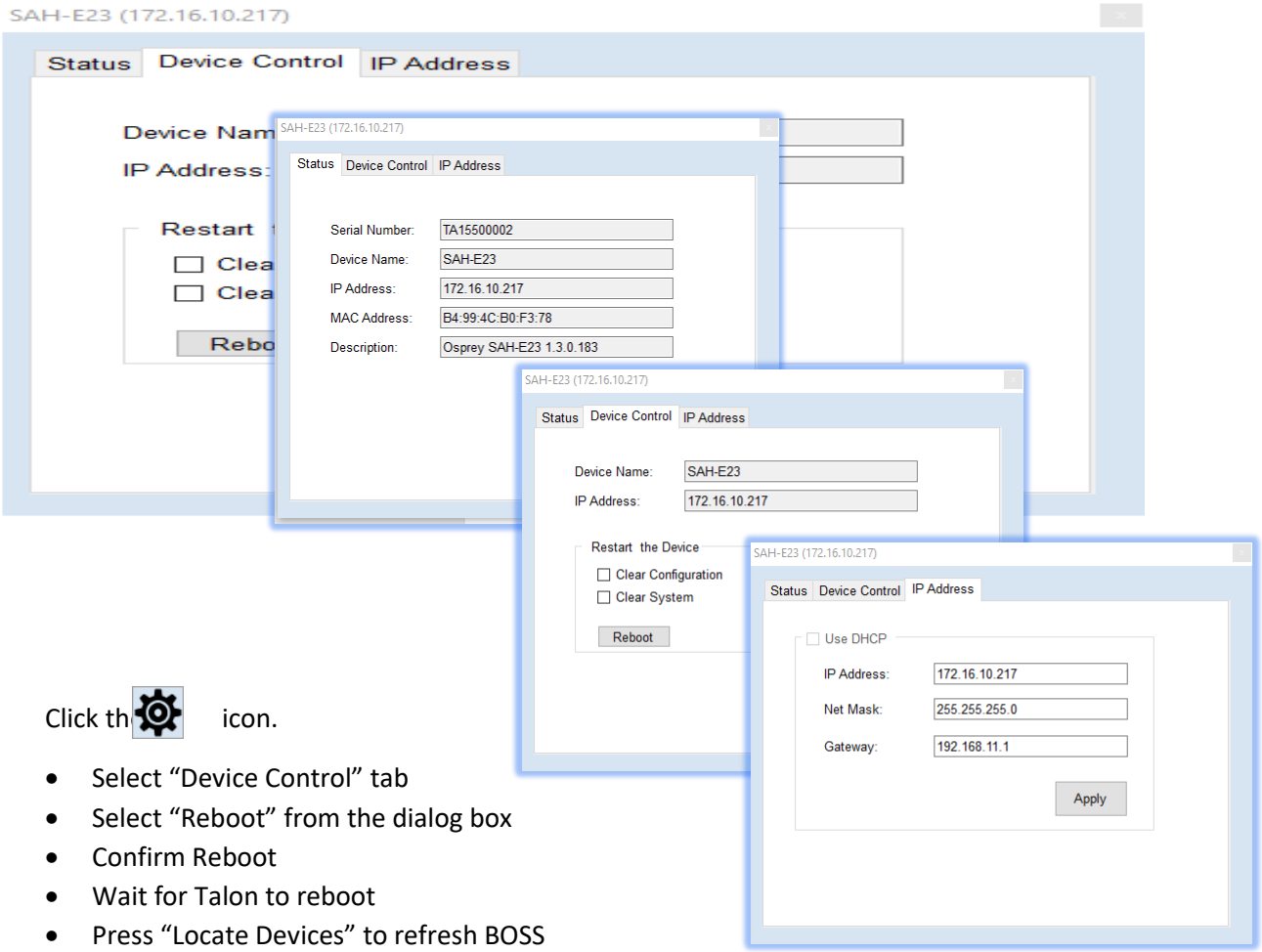
Additional Operations from BOSS

BOSS also includes other functionality that can be used to manage Talons

- Reboot
- Set a Temporary IP
- Clear Configuration
- Clear System

Reboot

To reboot a Talon from BOSS:



Click th icon.

- Select “Device Control” tab
- Select “Reboot” from the dialog box
- Confirm Reboot
- Wait for Talon to reboot
- Press “Locate Devices” to refresh BOSS

Clear Configuration

When this check box is selected, Talon will remove all encoder configurations from memory. You will not be able to recover them.

Clear System

When this check box is selected, Talon will clear the encoder name and IP address from memory. Selecting both “Clear Configuration” and “Clear System” will clear all settings and restore Talon to its factory state.

Set Recovery IP address

Usually a Talon on the network receives its IP address via DHCP. It is possible to assign a static address. Occasionally, when a static address is used an error can occur whereby the address doesn’t match the correct specification for that network. When the address is wrong, it is not possible to access the Web GUI of the Talon. BOSS is still able to locate and identify a Talon with an unreachable IP address, but will be unable to connect to the Web GUI. For that reason, BOSS includes a utility to assign a **temporary** address to allow access to the Web GUI.

To use this utility:

- Click on tl  icon to the left of the Talon you need to change.
- Select “Set IP” from the dialog box
- In the “Set Device IP Address” dialog, enter valid IP information.
- Press “Locate Devices” to refresh BOSS
- Access Talon by clicking on the name of the Talon you want to reach

IMPORTANT NOTE: The IP address that BOSS assigns is only for accessing the web GUI. Upon successfully reaching the GUI, use the Talon’s IP configuration to set it to DHCP or manually enter a valid IP address. <u>If you reboot Talon without first resetting its address in the web GUI you will return to the situation where you started.</u> You will once again have a Talon with an unreachable IP address.

Troubleshooting Note: BOSS will not locate Talon if:

- Network Discovery is turned off on your Windows PC
- Your Talon is not in the same network segment (VLAN/subnet) as your PC
- Your network is firewall-protected. The UDP broadcast may not be permitted unless Port 10024 is open.

If you are unable to locate Talon, have your network administrator 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

Technical Specifications
Osprey® Talon G1
H.264 Decoder

Model:
96-02020 Osprey Talon G1 Decoder

Description

Hardware Based H.264 Decoder

Video Input

- H.264 RTP/UDP multicast and unicast stream
- H.264 .TS file

Max Video Input Capacity

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

Video Output Mode HDMI

- 720P 50, 60
- 1080P 25, 30, 50, 60

LED indicators

Power, Unit Ready, Unit Decoding

In the Box

- Talon G1 Hardware Decoder
- International Power Supply
- Mounting Brackets

*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.

Technical Specifications
Osprey® Talon G2
H.264 Decoder

Model:
96-02021-01 Osprey Talon G2 Decoder

Description

Hardware Based H.264 Decoder with Dual outputs and LCD Display

Video Input

- H.264 RTP/UDP multicast and unicast stream
- H.264 .TS file

Max Video Input Capacity

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

Video Output Mode HDMI and SDI (Parallel)

- 720P 50, 60
- 1080P 25, 30, 50, 60

Closed Caption

- SDI Output with EIA-608 & EIA-708 Closed Caption Support

*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.

Touch Display

- IP Address
- Status Indicator Decoding/Idle
- Decoding Start/Stop
- Change Output Resolution
- Change Output Configuration

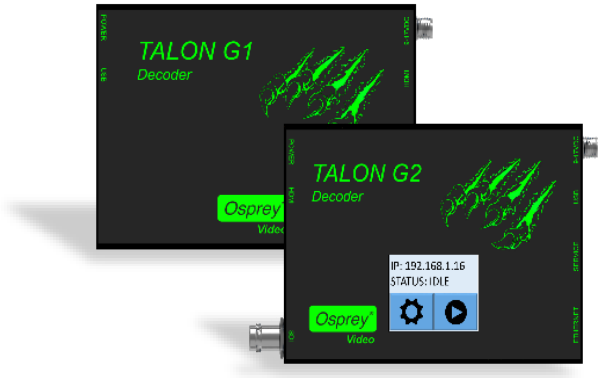
LED indicators

Power, Unit Ready, Unit Decoding

In the Box

- Talon G2 Hardware Decoder
- International Power Supply
- Mounting Brackets

Technical Specifications common to all Talon Decoders



USB Connector

USB Type A 2.0

Ethernet Connector

1 GigE x 1

Software Control

HTTP Based-GUI

Weight

260g

Power Consumption

6W

Dimensions

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

Warranty

2 Years

Compliance

CE, FCC, ROHS, WEEE

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.

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 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

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