

Osprey[®]

Video

Osprey Raptor Series
Users Guide

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FCC Notice

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

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

The Osprey Raptor Series video capture device 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.

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 Use of Certain Hazardous Substances in Electrical and Electronic Equipment, Directive 2011/65/EC, the RoHS. For current RoHS statement, visit

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 two years (24 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.

Overview

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

Audience

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

System requirements

The Osprey high definition (HD) video capture cards require intense bandwidth across the system bus, CPU, and memory. The host computer system capabilities (CPU, RAM, and motherboard) must be capable of processing this amount of data. The following system requirements are required to achieve desired HD performance.

- Install the Osprey video capture card in a PCI Express® (PCIe®) slot with direct lanes to the CPU or a Northbridge or IOH.
- The selection of the CPU is critical. To process full HD video, a six-core processor per HD input is a good benchmark.

Please refer to the website for the latest supported operating systems. Other important guidelines include:

- On the BIOS screen:
 - **Always** disable C-States
 - Only enable hyper threading if the CPUs have 6 cores or more
- Set Power Options as follows: ○ Power Scheme to Presentation ○ Turn off Monitor to Never ○ Turn off hard disks to Never ○ System Standby to Never
- Configure Performance Options as follows:
 - Visual Effects adjusted for best performance ○ Memory Usage to System Cache (for Windows XP only)

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Osprey Raptor Driver Installation

The preferred installation method is to run the Setup.exe program or .msi installation file in the web package that you download. The installation program automates the steps required to install the driver and ensures you perform the steps correctly. The driver is unique to the Osprey Raptor series in the same operating system; it will not automatically configure other Osprey models. You will need to configure other cards separately.

These installation steps are the steps Osprey Video recommends if you install an Osprey video capture card on a system for the first time. After the install is run, the card is detected, and its drivers automatically start.

Note: Before you install Osprey software updates, uninstall the driver software and reboot the computer.

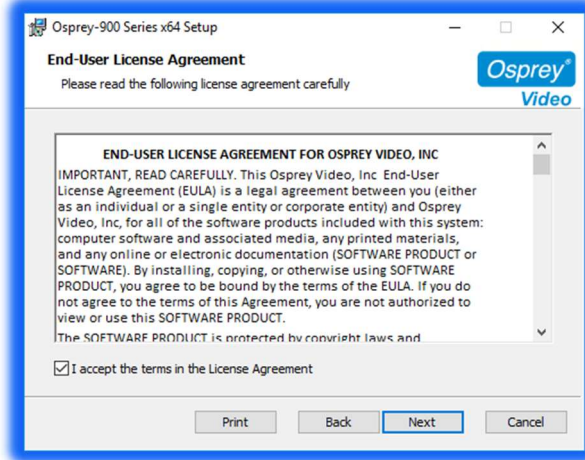
Installing the driver

1. Open the .msi file provided with your Osprey card.
2. The InstallShield Wizard appears and guides you through the installation process.
3. The **Remove Previous Installations** window displays.

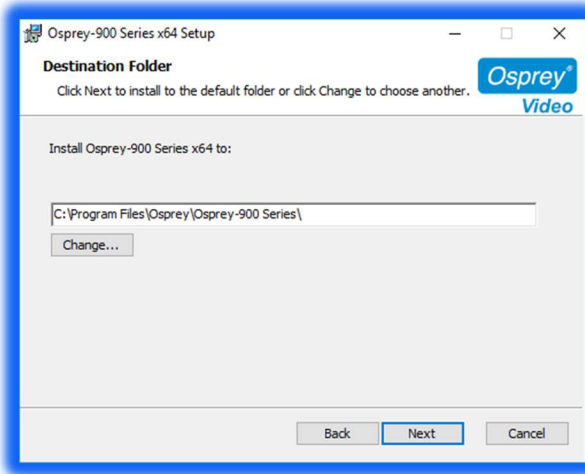


Click **OK**. Then **NEXT**
The End User License Agreement displays.

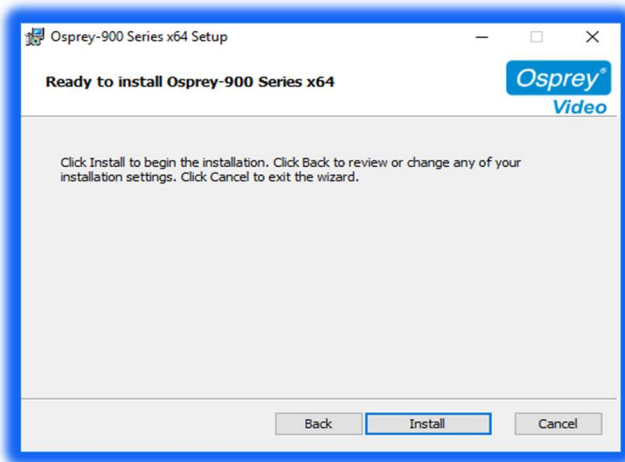
4. Select **I accept the terms in the license agreement**.



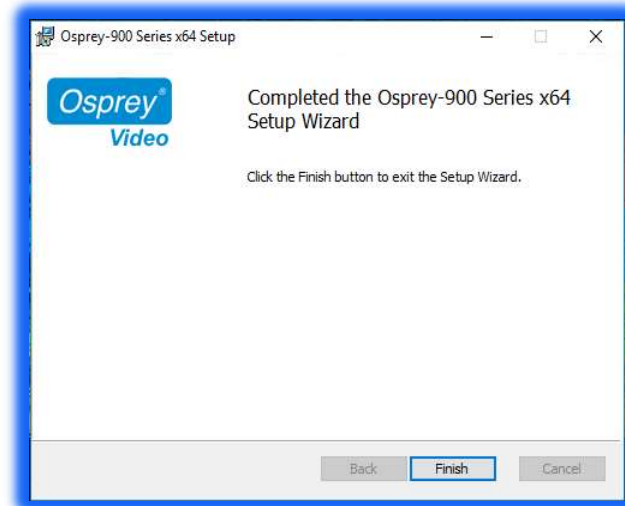
5. Click **Next**. A Destination Folder window appears indicating the folder in which the driver will be installed by default.
To change the location of the destination folder, click **Change** to browse for a different location. If this destination folder is okay, click **Next**.



6. Click **Install**.



After successful installation, the completed wizard screen is displayed



7. Click **Finish** when the InstallShield Wizard Completed window appears.
8. When the installation is complete, completely shut down the computer on which the driver has been installed.

Osprey Raptor Video Properties

After you have installed the Osprey Raptor series card and driver, you will be able to access the properties for the card through most major DirectShow applications. For detailed information on how to select the Osprey card and access its Video Properties window from third-party applications, refer to the documentation for the encoding application.

Note: Most of these encoding applications expose the drivers' Property tabs without modification, so the examples set forth below will probably appear as shown. However, some applications expose the Property tabs slightly differently. Therefore, the examples below may differ somewhat.

Osprey Raptor Series Video Properties

Properties

Video Decoder Crossbar Performance Connector Configurator Text Overlay Diagnostics Resource Monitor

Device Input Detect Deinterlace Watermark Loss Of Signal Cropping Closed Caption Video Proc Amp

Name:

Driver Version:

Production Information

Vendor ID: Device ID:

Serial #: Facility ID:

Date: Time:

PCI Information

Bus #: Device #:

Lanes: Link:

OK Cancel Apply Help

The tabs are as follows:

Device	Displays product information.
Input Detect	Describes the signal coming into the card.
Deinterlace	Sets de-interlacing properties.

Watermark	Sets up on video logos.
Loss of Signal	Enables video overlay.
Cropping	Enables cropping, sets the cropping rectangle
Closed Caption	Sets closed caption rendering.
Video Proc Amp	The Video Process Amplifier (Video Proc Amp) tab lets you control Gamma, Brightness, Contrast, Hue, and Saturation.
Video Decoder	This tab is a Microsoft DirectShow standard control for setting the video standard.
Crossbar	The Crossbar tab lets you select from multiple inputs.
Performance	Sets the pin centric settings.
Connector Configurator	Selects I/O configuration for supported cards
Text Overlay	Alternative text and time/date overlay configuration
Diagnostics	Support use only
Resource Monitor	Displays PCIe states and buffer activity. Mostly used for development testing this view does not provide general user information.

In some applications, additional tabs other than those listed above may appear. The additional tabs are application- or system-supplied and are intended for information only. The additional tabs generally contain no controls that can be changed.

*Note: Some controls are interactive. For example, changes you make are updated immediately in the captured video. Such examples are the Brightness, Contract, Hue, and Saturation, controls, graphical Gamma control, and graphical sizing and positioning controls for watermarks/logos. The **OK**, **Cancel**, and **Apply** buttons have no effect on these controls. The **OK** and **Apply** buttons pertain only to changes on the currently displayed tab.*

Device tab

The Device tab displays product information.

The screenshot shows a 'Properties' window with a 'Device' tab selected. The window has a title bar with a close button. Below the title bar is a tabbed interface with the following tabs: Video Decoder, Crossbar, Performance, Connector Configurator, Text Overlay, Diagnostics, Resource Monitor, Device (selected), Input Detect, Deinterlace, Watermark, Loss Of Signal, Cropping, Closed Caption, and Video Proc Amp. The 'Device' tab contains the following fields:

- Name:
- Driver Version:
- Production Information section:
 - Vendor ID:
 - Device ID:
 - Serial #:
 - Facility ID:
 - Date:
 - Time:
- PCI Information section:
 - Bus #:
 - Device #:
 - Lanes:
 - Link:

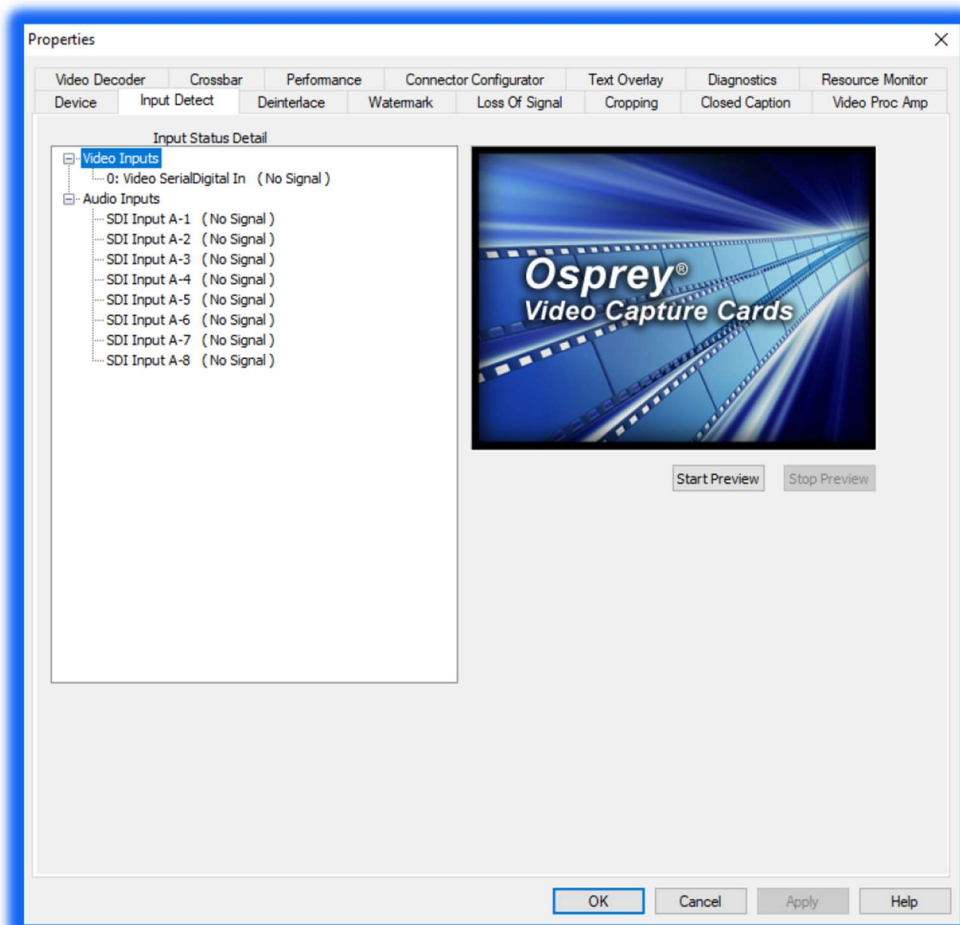
At the bottom of the window are four buttons: OK, Cancel, Apply, and Help.

The Device tab has the following fields.

Name	Product name
Driver Version	Indicates the version of the driver.
Product Information	Displays the vendor ID, device ID, serial number, facility ID, date and time.
PCI Information	Displays the bus and device number.

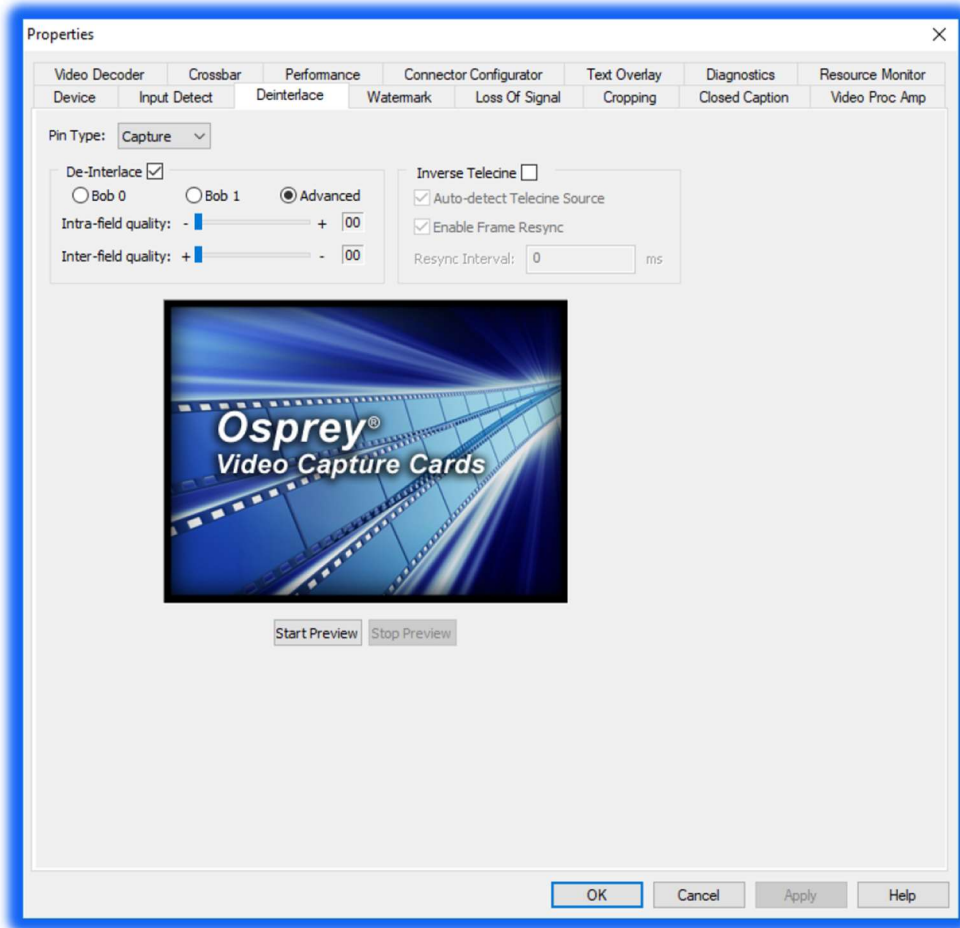
Input Detect tab

The Input Detect tab displays the signal properties of what the card detects as the input signal.



Deinterlace tab

Use the Deinterlace tab to turn deinterlacing on or off, select a desired algorithm, and instruct the card to detect telecined content, and apply appropriate compensation.



Advanced motion adaptive deinterlace

Motion adaptive deinterlace is an algorithm for deinterlacing pure video (non-telecine) content. Motion adaptive deinterlace detects which portions of the image are still, and which portions are in motion, and applies different processing to each. This can be somewhat CPU-intensive but is helpful when the video consists of high-motion content. Simpler Bob and Weave algorithms can be employed when video is relatively stationary, with a slight loss of sharpness. In some cases, such as when the desired output frame vertical dimension is exactly half of the incoming dimensions, it may be unnecessary to select deinterlacing—the scaling algorithm simply drops odd or even frames, that is, drops the odd or even lines altogether to achieve the scaling.

Once you enable deinterlacing via the check box, you may select which algorithm to use:

- Bob 0
- Bob 1
- Advanced

There are two fields per interlaced frame, odd and even. Bob 0 is for Field 0 (even) and Bob 1 is for Field 1 (odd). If the signal coming in is progressive, these settings have no effect.

Clicking **Advanced** forces the advanced motion-adaptive algorithm to deinterlace incoming video.

Telecine and inverse telecine

The dialog box allows you to enable or disable Inverse Telecine. When Inverse Telecine is enabled, the following options are available:

- Auto-detect Telecine Source
- Enable Frame Resync
- Resync Interval

Telecine video is NTSC video originally created on movie film at the industry-standard 24 frames per-second rate. Since standard NTSC video has a near-30 frame-per-second rate, in the telecine conversion process from 24 frames to 30 frames-per-second, certain fields are repeated in a regular, recurring sequence. If a telecined sequence is viewed directly on a progressive screen, as is usually the case, and you stream video to a computer screen, interlacing artifacts will be visible.

The process called Inverse Telecine is the reverse of Telecine. Telecine drops the redundant fields and reassembles the video into a 24 frames-per-second progressive format. Interlacing artifacts are 100 percent removed. If the video is viewed at 24 frames-per-second, you will see the exact timing and sequencing that was on the original film. If you view the video at 30 frames-per-second, every fifth frame is repeated; however, no deinterlacing artifacts exist.

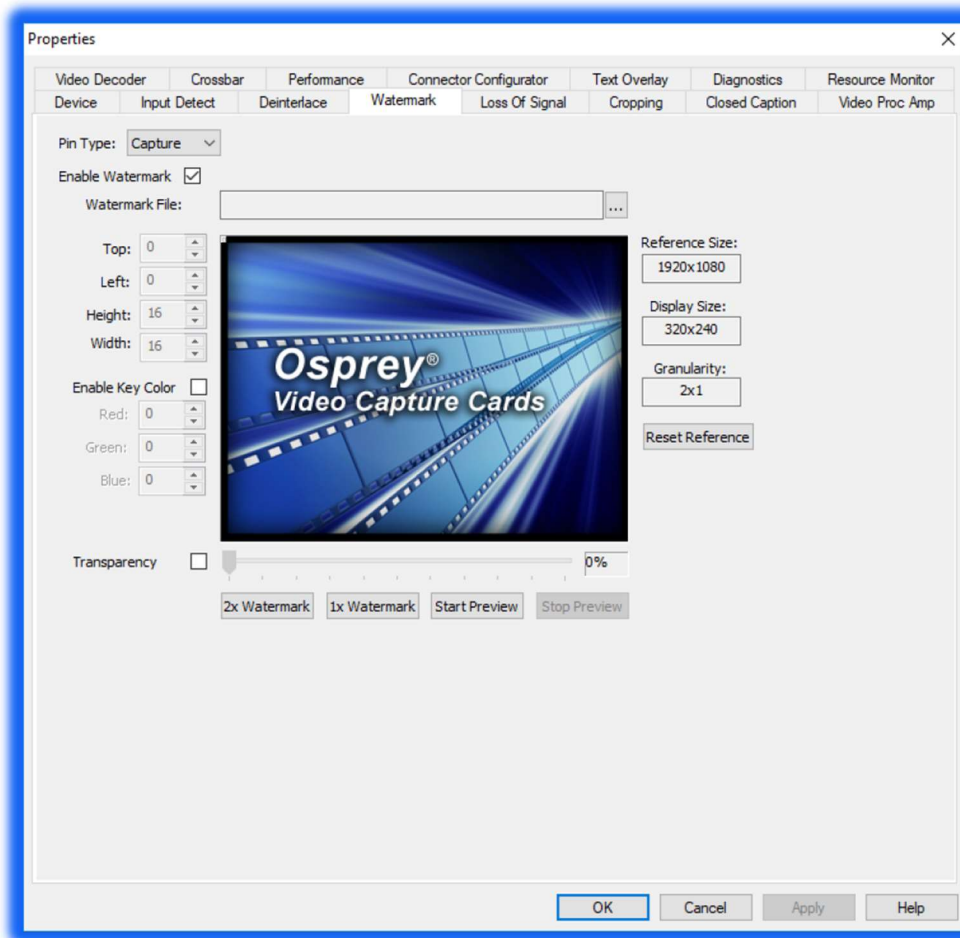
Telecine and inverse telecine are not used for PAL video. The Auto and Inverse Telecine buttons will be ignored when PAL or any HD mode is selected as the video standard.

The Deinterlace tab has the following controls:

Pin Type	The drop-down list has three choices (see <i>Capture and preview pins</i>).
De-Interlace	Enable deinterlacing and select: <ul style="list-style-type: none">• Bob 0• Bob 1• Advanced
Inverse Telecine	Enable inverse telecine and select: <ul style="list-style-type: none">• Auto-detect Telecine Source• Enable Frame Resync
Start Preview	Click to view the preview.
Stop Preview	Click to stop the preview.

Watermark tab

Use the Watermark tab to enable, disable, and position a graphic anywhere in the video capture window. A watermark might be any properly formatted bitmap of appropriate size. Typically, the graphic is a network / affiliate logo, an advertisement, or some promotional bitmap positioned near the lower-right corner of the screen. You can also use the Watermark tab to select the desired bitmap file and adjust transparency.



Watermarks are often used as logos, and have the following characteristics:

- Any RGB-24 bitmap (.bmp) can be used.
- A selectable key color can be specified; all parts of the Watermark graphic with that color are not drawn on the video.
- A transparency control can be used to blend the Watermark graphic with the background video.
- The Watermark appears on both captured and previewed video. If the capture and preview video are different sizes, the logo is scaled to look the same on the preview video when the Pin type of both has been selected and the user has set different properties for Capture and for Preview.

The Watermark property controls work best when the preview video is running and is viewed using the **Start Preview** button. With preview video running, you can preview your changes dynamically. If your application displays capture video in real time, capture video can be used instead.

The Watermark properties are organized into four areas:

- File
- Position
- Color
- Transparency

The Watermark tab has the following controls.

Pin Type	<p>The drop-down list has three choices (see <i>Capture and preview pins</i>).</p> <p>When you select Both in the Pin Type drop-down box, changes you make to the Watermark setup apply to both the Capture and Preview pins. You can enable different setups for the pins. For example, you can enable the logo on the Capture pin but not on the Preview pin, and thereby save CPU time. When you select Capture in the Pin Type drop-down list, the current logo settings for the Capture pin are loaded, and changes you make apply only to the Capture pin, not to the Preview pin. The Preview button works analogously.</p>
Enable Watermark	<p>Enable or disable logos. If you disable logos, all of your other Watermark settings are retained for when you re-enable logos.</p>
Watermark File	<p>Click the browse button at the end of the field to browse for a file. Watermark files must be in (1) .bmp format with a .bmp filename extension and (2) RGB-24 format.</p> <p><i>Note: If you have a graphic that is in another format, you will need to edit the graphic with a drawing or photo edit program, such as Windows Paint, and save the graphic in a RGB24 format.</i></p>
Top, Left, Height, Width	<p>The Watermark Position and Size controls allow you to position and scale the watermark, similar to the process on the Cropping tab. Osprey Video strongly recommends you have live or preview video running when you use these controls.</p> <p>The background/preview window represents the video area where you can position the logo. The selected bitmap graphic appears when the Enable Watermark checkbox is checked and a suitable bitmap has been loaded. To position the logo, you must click on the logo rectangle and drag it to the new position.</p> <p>The four “nudge” spin-buttons, Top, Left, Height, and Width, position the logo exactly one pixel at a time on the output video to help you position the watermark precisely after a drag-and-drop operation. The Up and Down buttons change the position and the size of the watermark.</p>
Enable Key Color	<p>The key color is the color that disappears from the graphic so the underlying video shows through unchanged.</p> <p>If Enable Key Color is disabled, all colors display.</p> <p>Alternatively, if Enable Key Color is enabled, key coloring is activated. The user can adjust the three edit boxes, Red, Green, and Blue, to enter any RGB color value into these boxes.</p> <p>You control the key color and the transparency effects of the watermark. If preview video is running, you will dynamically see your changes.</p>

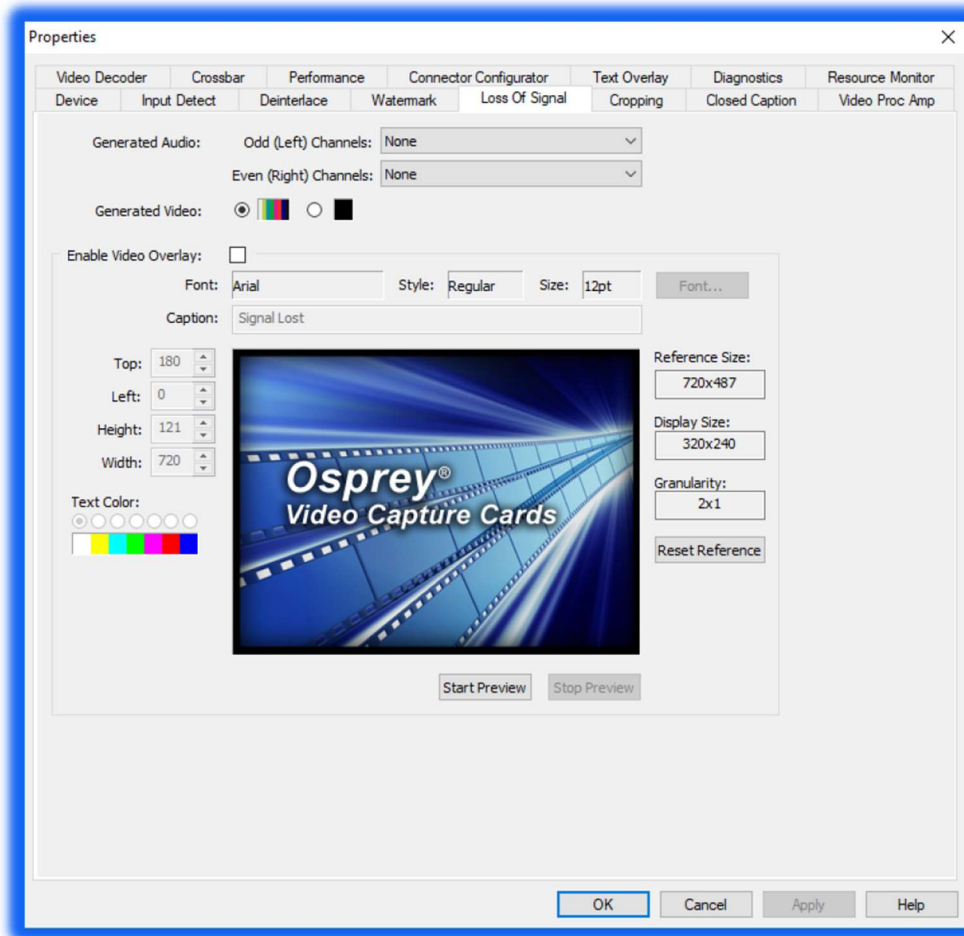
Reference Size Display Size Granularity	These fields refer to the size of the video.
Reset Reference	The Reference Size text box displays whatever you have selected on the Video Decoder tab as the expected input. After making the selection on the Video Decoder tab, click the Reset Reference button to update the value in the Reset Reference text box.
Transparency	The degree of transparency of the watermark is variable through use of a zero to 100 percent scale. If the setting is zero, the logo is opaque. If the setting nears 100 percent, the watermark is completely transparent. If you set a keycolor, the transparency value is applied only to pixels that do not match the keycolor and, therefore, are completely transparent.
2x Watermark 1x Watermark	These buttons adjust the size of the bitmap graphic. The quality of a scaled image will not be as exceptional as the quality of the 1X image. Osprey Video recommends that, wherever possible for production work, you should prepare the artwork to the exact size at which it will be used.
Start Preview	Preview the Watermark as it is positioned and scaled.
Stop Preview	If you press Stop Preview while in Preview mode, the original background graphic in the Crop window is restored.

Note: When incoming video modes switch on-the-fly, such as when you switch from SD to HD and back, the watermark size and position is recalculated automatically and, if necessary, is scaled to force the watermark to remain in the same position relative to the lower-right corner. This function is exclusive to the Designed-for-Live feature of the Osprey digital HD capture cards.

Loss of Signal tab

When the incoming video signal is lost, the Osprey card detects the signal loss. Use the Loss of Signal tab to overlay a video that can replace the incoming signal when it is lost.

This feature allows you to continue streaming video to an encoder without interruption. It also can be helpful to identify your source when using multiple systems.



The Loss of Signal tab has the following controls.

Generated Audio	Select the audio generated on the odd and even channels from the drop-down list.
Generated Video	Select the video overlay that will appear if the signal is lost.
Enable Video Overlay	Enable the overlay message that replaces the incoming signal when it is lost.
Font	Click Font to enter the font, the style of the font, and the point size.
Caption	Enter a caption.

Top, Left, Height, Width	Use the up and down arrows to position the overlay.
Text Color	Select a text color.
Reference Size Display Size Granularity	These fields refer to the size of the overlay.
Reset Reference	The Reference Size text box displays whatever you have selected on the Video Decoder tab as whatever their expected input is. After making the selection on the Video Decoder tab, you then click the Reset Reference button to update the value in the Reset Reference text box.
Start Preview	Click to view the video overlay.
Stop Preview	Click to stop the preview.

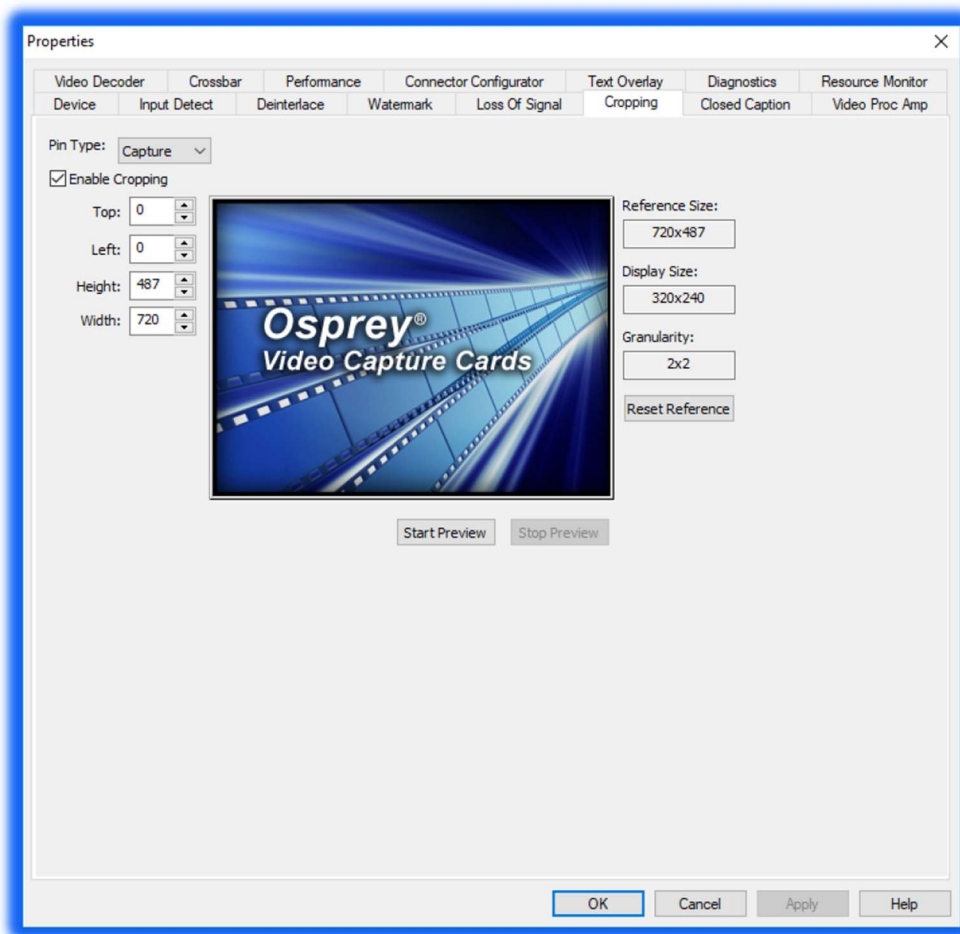
Cropping tab

Use the Cropping tab to enable and disable cropping and set the desired cropping rectangle.

Cropping means removal of unwanted video around the edges of the incoming image. For example, if the incoming video is letterboxed, with an aspect ratio wider than 4:3, you can crop away video at the top and bottom of the image and capture just the active portion. The Left and Width controls are used to crop the left and right sides of the video.

Note: This type of cropping is different from the final desired Display size that is usually set by the application software that negotiates with the driver to deliver the desired output.

The Display size is the size of the Osprey graphic in the dialog box. It is used to understand the size ratios versus the video appearance between the Reference size (incoming signal), what you see in the dialog box (Display size), and what appears at the client, i.e., such as Windows Media Encoder.



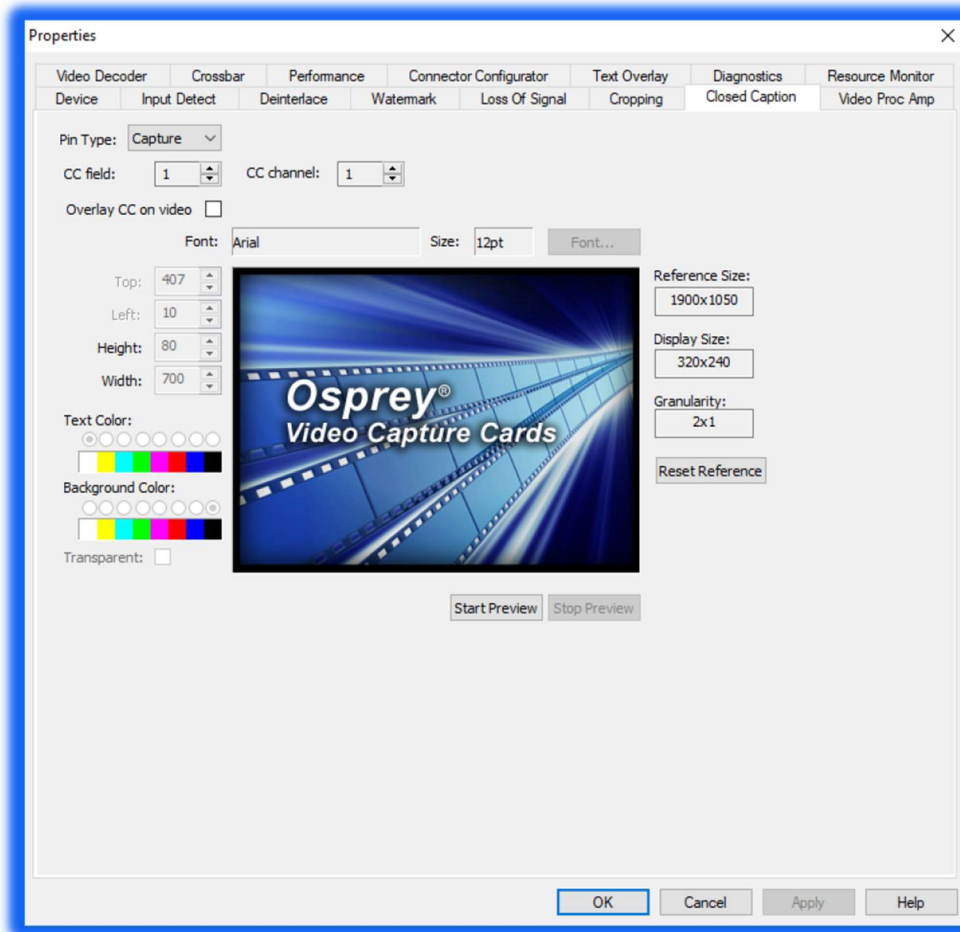
The Cropping tab has the following controls:

Pin Type	<p>The drop-down list has three choices:</p> <ul style="list-style-type: none"> • Capture • Preview • Both <p>Changes made on this page separately apply to Video Preview and Capture Pins on the currently selected device, as determined by the Pin Type drop-down list. When you select Both from the drop-down list, changes you make to the crop setup apply to the Capture and Preview pins.</p> <p>For example, you may need to create different setups for the Capture and Preview pins. To do this, you would enable cropping with both pins, and then create different settings for each pin.</p>
Enable Cropping	<p>Enables the ability to crop borders from the incoming video. When you enable this field, the crop sizing controls are enabled. When this field is disabled, the incoming video is unchanged.</p>
Top, Left, Height, Width	<p>Use the up and down arrows to set how many pixels in each of the four borders should be cropped. You can also enter the desired values.</p>
Click 'n drag cropping	<p>This control is available when you want to size and position the Crop window to set the cropping margins. If the Enable box is checked and no crop positions have been set, you can use the left mouse button to grab any corner, side, top, or bottom of the video preview window and drag the borders to the desired position. The entire crop window can also be positioned by clicking and dragging it to the necessary position.</p> <p>At any time, the crop window is smaller than the underlying preview window, the crop area is displayed as normal video and the video in the preview window is displayed as inverse video. This allows for easy determination of what portion of the incoming video should be ignored.</p> <p>Click your cursor on the video and hold down the mouse button. Move the video until the video is placed where you want. Release the mouse button to fix the video in this position.</p>
Reference Size	<p>Indicates the signal format selected in the Video Decoder tab.</p>
Display size	<p>Indicates the size of the preview graphic within the dialog box.</p>
Granularity	<p>Different video color space definitions impose pixel count and window dimension restrictions that must be considered when cropping. The Granularity box lets you know the number of pixels that will be cropped or added each time you increment or decrement the crop size by one pixel. In the above example (2 X 1), the crop border will always change in multiples of two pixels horizontally and one pixel vertically. Some color space modes force the granularity to 16 pixels or more in one or both dimensions.</p>

Reset Reference button	The Reference Size text box displays whatever you have selected on the Video Decoder tab as whatever their expected input is. After making the selection on the Video Decoder tab, click Reset Reference to update the value in the Reset Reference text box.
Start Preview	Sample frames of live video can replace the background graphic in the Crop window. This helps you pinpoint the desired crop border settings. If you do not have a valid input signal, internally generated SMPTE colorbars will be substituted for the background graphic.
Stop Preview	If you click Stop Preview while in Preview mode, the original background graphic in the Crop window is restored.

Closed Caption tab

Use the Closed Caption tab to enable closed captions for rendering on outgoing video. Either CEA-608B and CEA-708B closed captions must be present in the input signal to be displayed on the outgoing video.



The Closed Caption tab has the following controls.

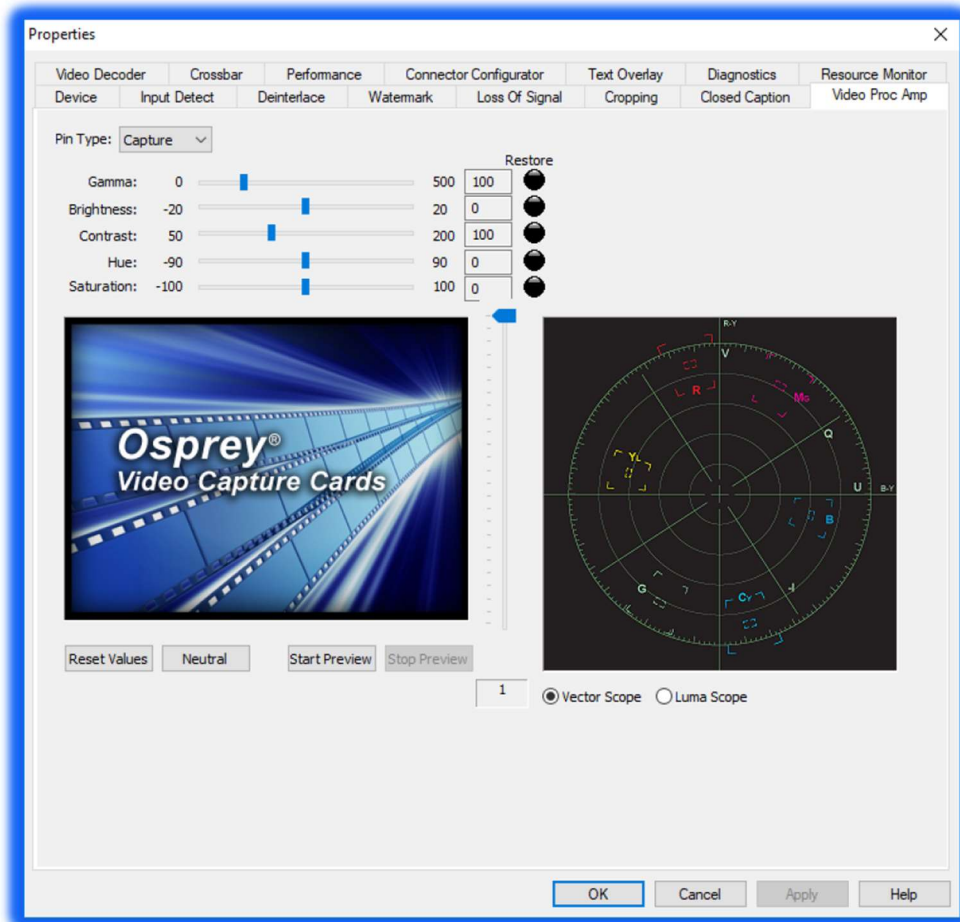
Pin Type	<p>The drop-down list has three choices (see <i>Capture and preview pins</i>).</p> <p>Changes made on this page separately apply to Video Preview and Capture Pins on the currently selected device, as determined by the Pin Type drop-down list. When you select Both from the drop-down list, changes you make to the crop setup apply to the Capture and Preview pins.</p> <p>For example, you may need to create different setups for the Capture and Preview pins. To do this, you would enable cropping with both pins, and then create different settings for each pin.</p>
CC field	Select whether the closed caption is from field 1 or field 2 of the video.
CC channel	Select which closed caption to use. <i>Note: CC1 is commonly used.</i>

Overlay CC on video	Enables the embedded captions to appear on the video.
Font	Select the font for the closed caption.
Size	Select the size of the font.
Top, Left, Height, Width	Use the up and down arrows to set the pixel size of the caption area. You can also enter the desired values.
Text Color	Select the color of the text.
Background Color	Select the background color.
Transparent	Select the Transparent check box if you want the closed caption text to be transparent.
Reference Size	This field represents the signal format selected on the Video Decoder tab.
Display Size	This field refers to the size of the preview graphic within the dialog box.
Granularity	Different video color space definitions impose pixel count and window dimension restrictions that must be considered when cropping. The Granularity box lets you know the number of pixels that will be cropped or added each time you increment or decrement the crop size by one pixel. In the above example (2 X 1), the crop border will always change in multiples of two pixels horizontally and one pixel vertically. Some color space modes force the granularity to 16 pixels or more in one or both dimensions.
Reset Reference	Click to update the value displayed in the Reference Size text box to the new signal format dimensions set in the reference format on the Video Decoder tab.
Start Preview	Click to preview the closed caption on the video.
Stop Preview	If you press Stop Preview while in Preview mode, the original background graphic in the Crop window is restored.

NOTE: CEA 608 or CEA 708 captions that are embedded in the input video are passed through to the CC pin of the output DShow filter regardless of the setting on this page. This setting only controls the display of the captions directly on the video.

Video Proc Amp tab

Video Proc Amp stands for Video Process Amplifier. Use the Video Proc Amp tab to control various characteristics of streaming output.



Gamma correction controls

The Gamma slider and control adjusts the gamma of the incoming video. Gamma refers to the response curve of video cameras and CRTs. When video is captured through a camera, the response of the camera is deliberately nonlinear—low lumen values are boosted, and high lumen values are compressed. This process is done for two reasons.

- It increases the effective bandwidth in the low lumen range, where it is needed, at the expense of the high lumen range, where it is needed less.
- It matches the response characteristics of TV sets and monitors.

The calibration specified in video standards matches the requirements of cameras and television sets in broadcast use, but generally does not match the needs of computer-based applications or the

response curves of computer monitors. Therefore, a correction inverse to the original bias is often needed, and you may want to adjust the gamma for the characteristics of a particular monitor.

Note: When gamma correction is disabled, either by setting the Gamma to Neutral or by setting the Gamma correction value to exactly 100, the software-based Gamma filter works in passthrough mode with no effect on the video and without using processing bandwidth.

When Gamma correction is enabled, the factor applied is as shown in the slider text box and in the graphic. If you are running preview video while adjusting the filter, you will see the effects of your adjustments as you make the adjustments.

The Video Proc Amp tab also has the following controls.

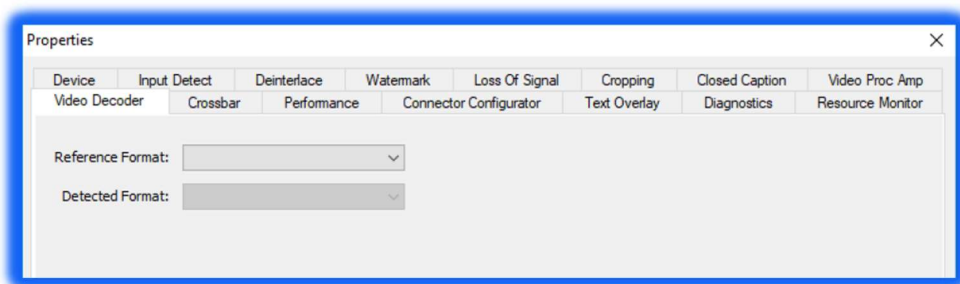
Pin Type	The drop-down list has three choices. See <i>Capture and preview pins</i> for information on how this selection works.
Gamma correction controls	<p>The slider controls are used to set Gamma, Brightness, Contrast, Hue, and Saturation. (The Hue slider is disabled when PAL is selected.) All slider values are applied real time. For example, if Preview or real-time capture-to-screen video is running when you access the Preview tab, you can see adjustments as you make changes.</p> <p>Individual Restore buttons return the respective slider to the settings as set when the dialog box is opened. An adjustment scale is also included to identify each slider's relative position.</p> <p><i>Note: If you change the video standard or video input you will not see any changes in the slider controls until the driver properties dialog is closed and re-opened.</i></p>
Reset Values	Click this button to reset all slide controls simultaneously to the state they were in when the dialog box was opened.
Neutral	Click this button to reset all slide controls simultaneously to the original factory default settings. These defaults are considered neutral, that is, the controls are set to positions that pass through the incoming video without modification.
Start Preview	Click to view the gamma settings in real time. You can see adjustments as you make changes.
Stop Preview	Stops the preview.
Vector Scope	Click this button to view the vector scope.
Luma Scope	Click this button to view the luma scope.

Video Decoder tab

The Video Decoder tab exposes the incoming video signal format. Osprey cards can function in computers in various countries with different standards.

Osprey 900 series
NTSC
PAL
HD 720
HD 1080

The selection should match the incoming signal's primary mode. Although the Osprey card automatically senses and adjusts to incoming signals, including switching between SD and HD modes, setting the incoming signal's primary mode is advisable to avoid the slight delay that results from evaluating and re-syncing to changes of input signal timing.

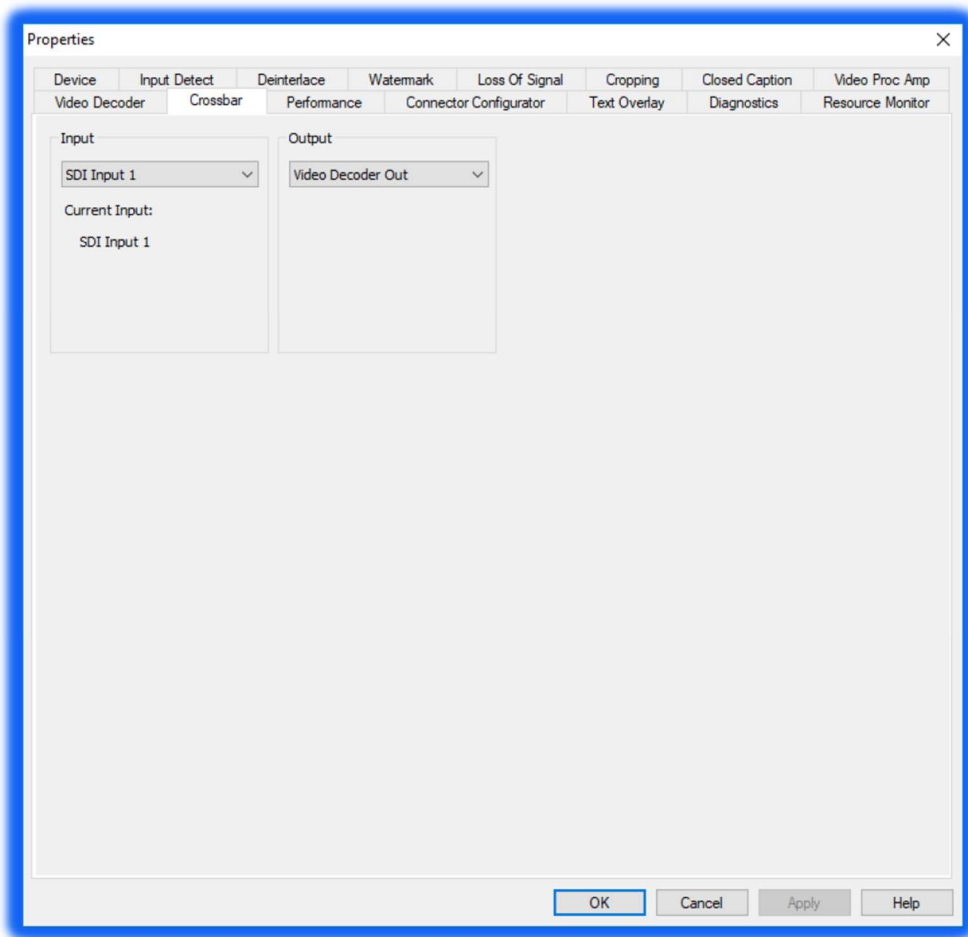


The Video Decoder tab has the following controls.

Reference Format	The value selected in Reference Format is what you should expect the input video to be. Whatever you select here displays on other tabs in the Reference Size text boxes. Once you make the selection on the Video Decoder tab, you must go to the other tabs (Watermark or Cropping) and click the Reset Reference button so the Reference Size text box is updated to the size corresponding to that chosen on the Video Decoder tab.
Detected Format	This field lists the detected format.

Crossbar tab

Use the Crossbar tab to set the input and output settings.



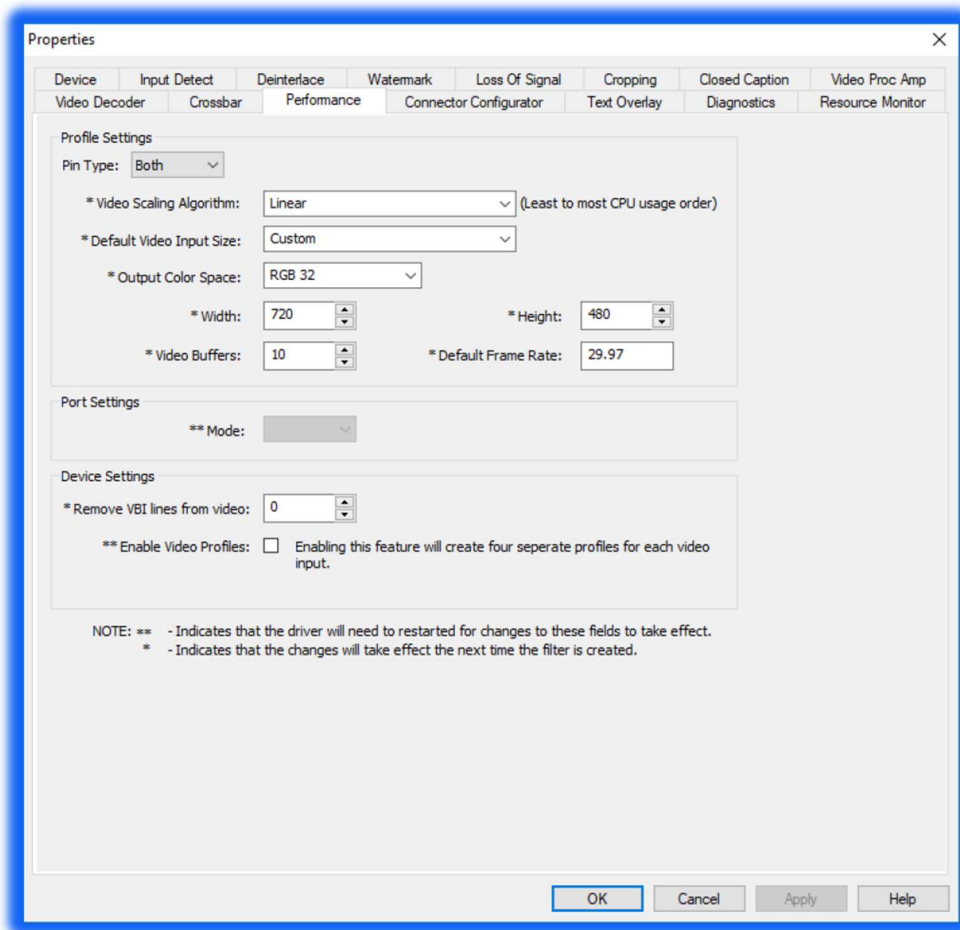
The Crossbar tab has the following controls.

Input	Click on the input source from the drop-down list.
Output	Click on the output source from the drop-down list.

NOTE: Crossbar options are only visible on cards that have Multiple Function Inputs (MFI).

Performance tab

Use the Performance tab to set the pin centric settings. These properties are global for all devices. Changes made on this window will not take effect until the video capture filter is recreated in the supporting application.



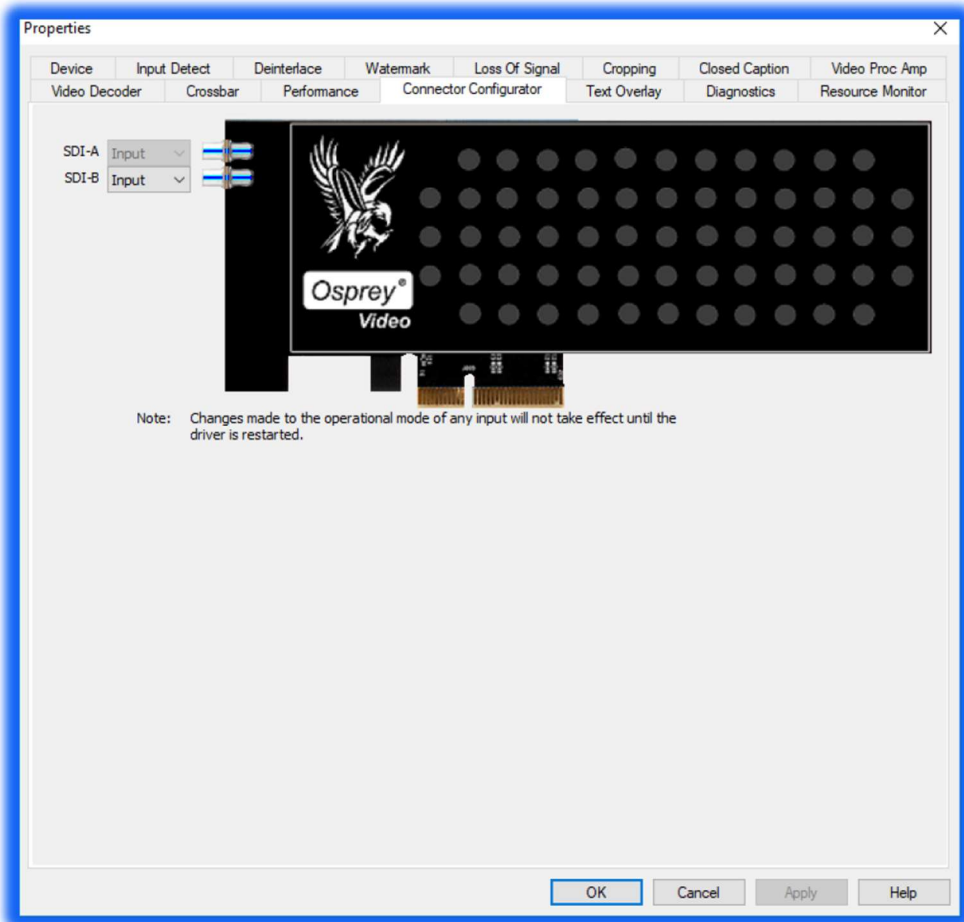
The Performance tab has the following controls.

Pin Type	The drop-down list has three choices (see <i>Capture and preview pins</i>).
Video Scaling Algorithm	Select the video scaling algorithm from the drop-down menu. <i>Note: Cubic and Lanczos are CPU intensive and are not recommended for high definition.</i>
Default Video Input Size	Select the default video input size from the drop-down menu to scale the incoming video. <i>Note: These values are only used if the application does not explicitly request a specific resolution.</i>
Width	Select the width of the input from the drop-down list.
Height	Select the height of the input from the drop-down list.

Video Buffers	Select the number of buffers to pass to the DirectShow filter from the dropdown list.
Default Frame Rate	Displays the frame rate sent to the application. You can change the frame rate if needed. <i>Note: These values are only used if the application does not explicitly request a specific resolution.</i>
Input pin mode	Displays the input port setting.
Remove VBI lines from video	Indicate the number of VBI lines that are passed through after the start of the video.

Connector Configurator tab

For cards with bi-directional or selectable I/O, the connector status can be changed here. Cards without bi-directional ports will not display this tab.

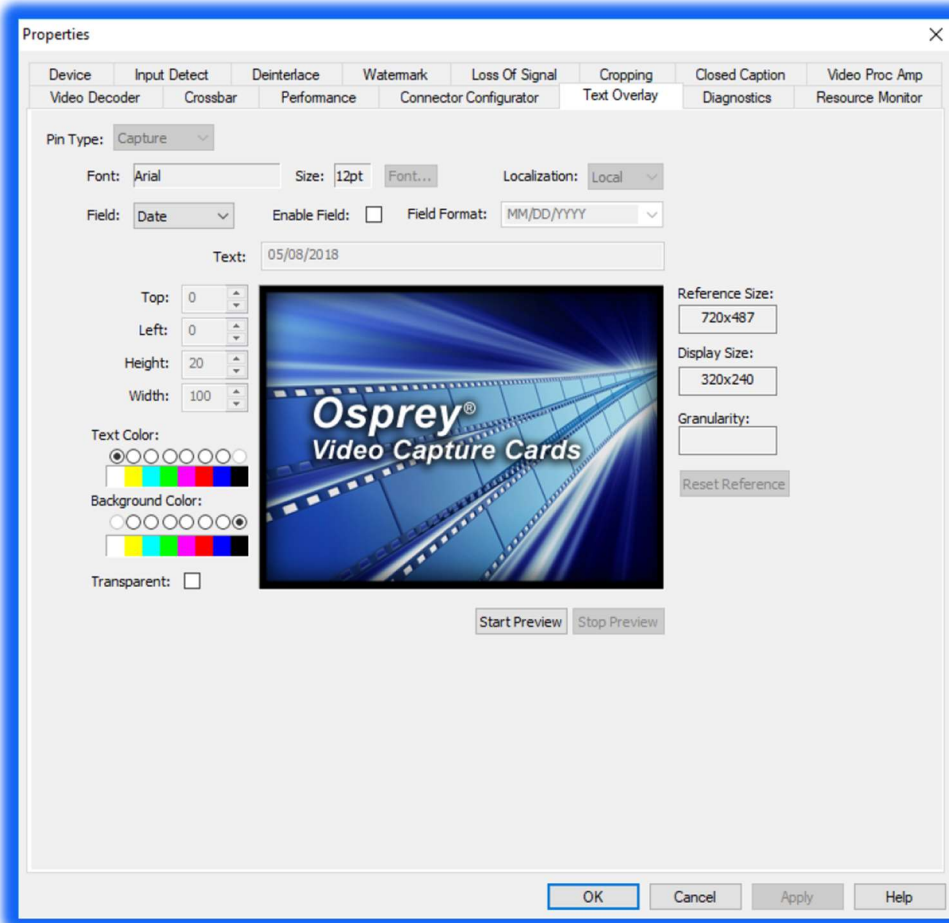


When using the M25 card the configurator image does not change. Make a note of the location of the A and B inputs represented here.



Text Overlay tab

For cards with bi-directional or selectable I/O, the connector status can be changed here.

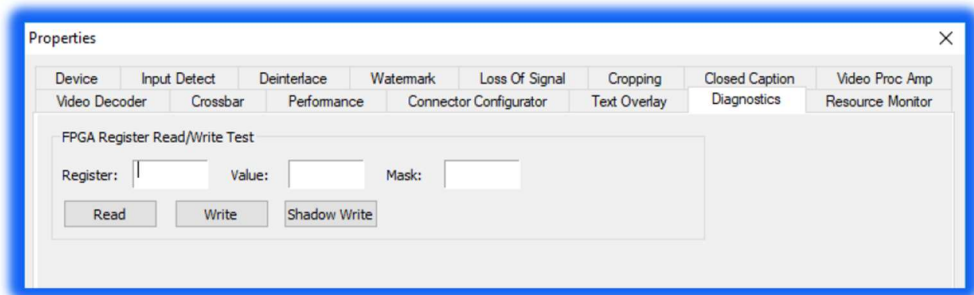


The Text Overlay tab has the following controls.

Pin Type	The drop-down list has three choices (see <i>Capture and preview pins</i>).
Font	Indicates the selected Font for text
Size	Indicates selected Font size
Font button	Allows font selection for enabled field.
Field	Select available text fields from a drop down
Enable Field	Select this box to enable the field show in the "Field" pull down
Field Format	Select from available formats for field
Top, Left, Height, Width	Use the up and down arrows to set the pixel size of the caption area. You can also enter the desired values.

Diagnostics tab

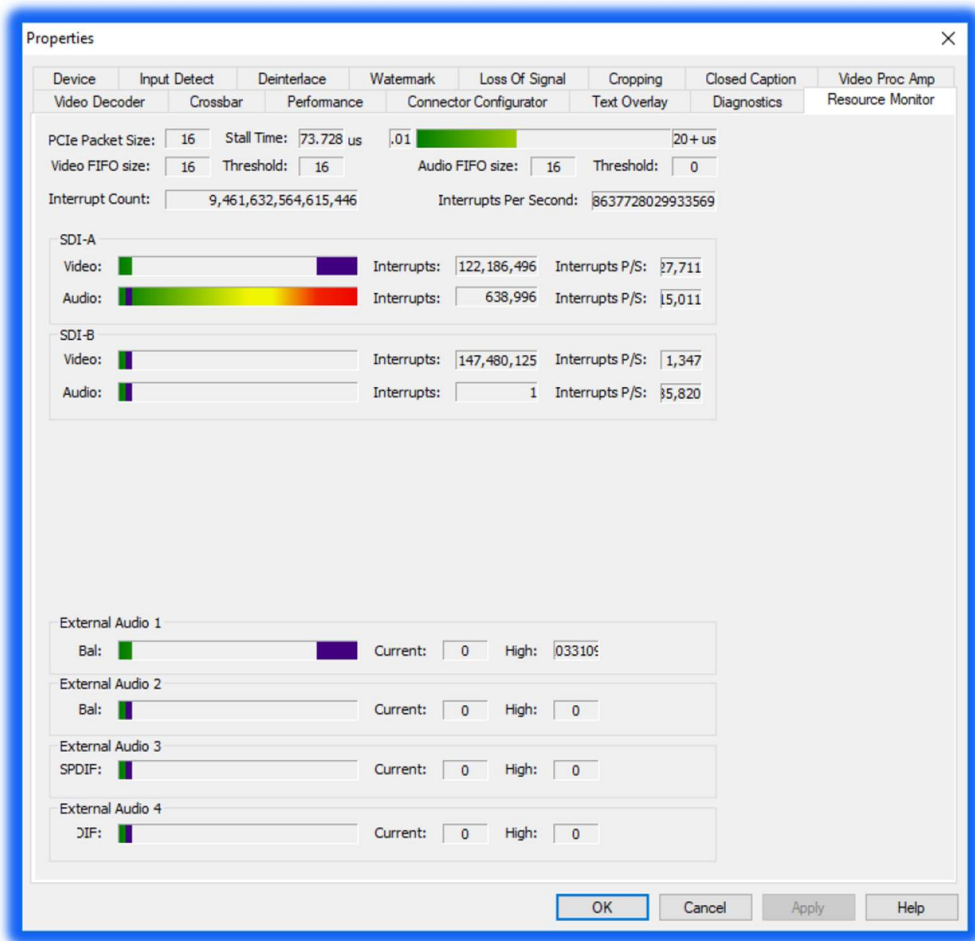
Use the Diagnostics tab to run certain internal self-tests for diagnostic debugging purposes. These settings are normally disabled. An authorized Osprey support representative may ask you to change these settings should you experience problems using the Osprey Raptor series with a video application.



WARNING! You should not enable these settings without specific instructions from Osprey support. Doing so without proper instructions might result in system instability or in the system crashing.

Resource Monitor tab

Use the Resource Monitor tab to view PCIe states and buffer activity. This tab is used by Osprey Support. The information will not be useful to end users.

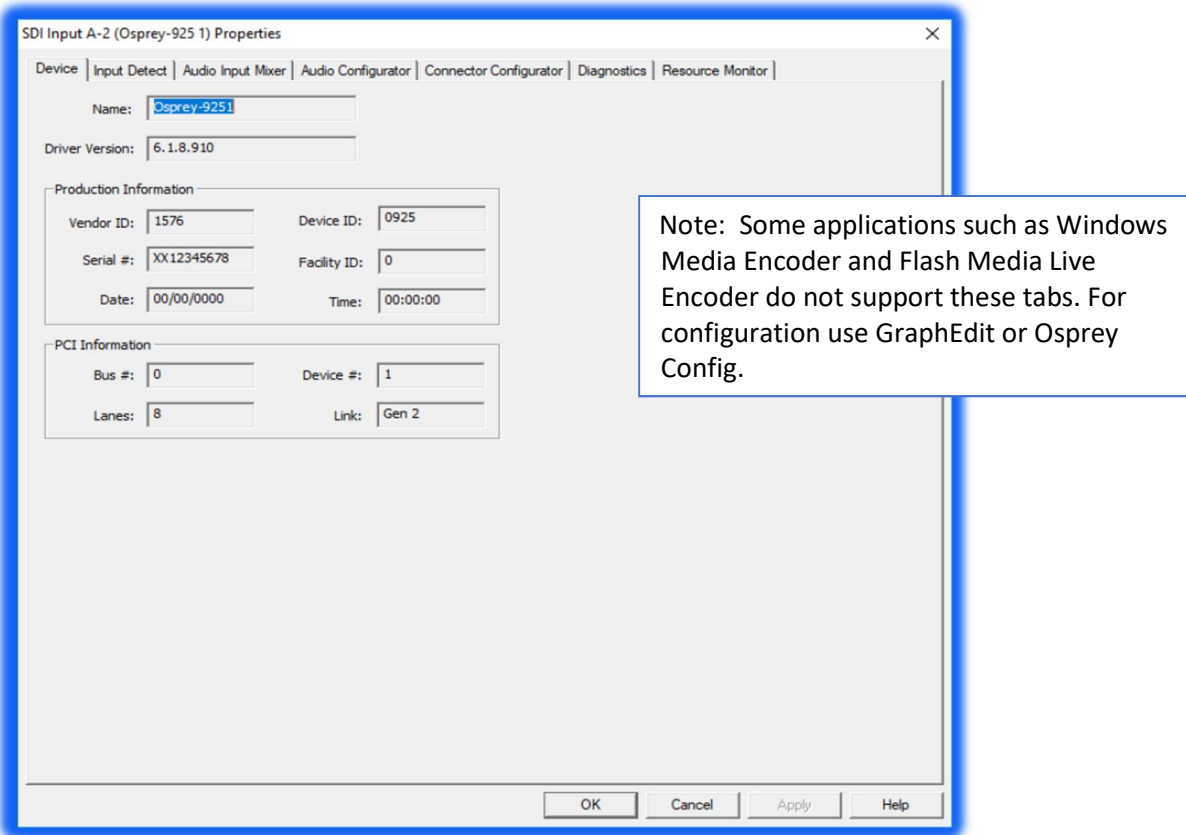


The Resource Monitor tab has the following fields.

PCIe Packet Size	The packet size of the PCIe.
Video FIFO size	The size of the first in, first out (FIFO) video.
Threshold	The threshold for the video.
Audio FIFO size	The size of the FIFO audio.
Threshold	The threshold of the audio.
Interrupt Count	The number of interrupts since start
Interrupts Per Second	The average number of interrupts per second
MFI-X or SDI-X	The video and audio FIFO activity for the particular input. The activity displays as current and peaked values.

Understanding Audio Input Properties

This section explains the audio input properties for the Osprey Raptor cards. You can change the default values according to the audio input you select.



The tabs are as follows:

Device	Displays product information.
Input Detect	Describes the signal coming into the card.
Audio Input Mixer	Adjusts input level for selected channel
Audio Configurator	Configures options for audio channels
Connector Configurator	Selects loopout function
Diagnostics	Developer use
Resource Monitor	Developer use

Audio Device tab

The Device tab displays product information.

The screenshot shows a Windows-style dialog box titled "SDI Input A-2 (Osprey-925 1) Properties". It has a tabbed interface with the following tabs: "Device", "Input Detect", "Audio Input Mixer", "Audio Configurator", "Connector Configurator", "Diagnostics", and "Resource Monitor". The "Device" tab is currently selected. The dialog contains the following fields:

- Name:** Osprey-9251
- Driver Version:** 6.1.8.910
- Production Information:**
 - Vendor ID:** 1576
 - Device ID:** 0925
 - Serial #:** XX12345678
 - Facility ID:** 0
 - Date:** 00/00/0000
 - Time:** 00:00:00
- PCI Information:**
 - Bus #:** 0
 - Device #:** 1
 - Lanes:** 8
 - Link:** Gen 2

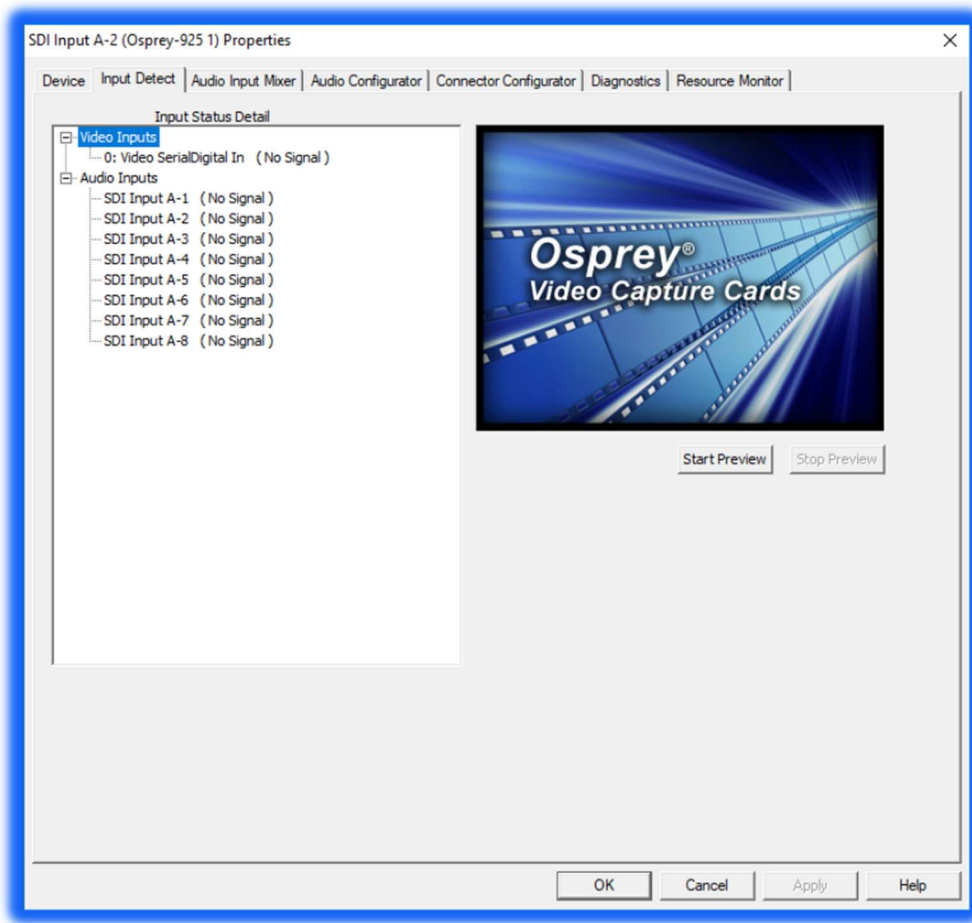
At the bottom right of the dialog are four buttons: "OK", "Cancel", "Apply", and "Help".

The Device tab has the following fields.

Name	Product name
Driver Version	Indicates the version of the driver.
Product Information	Displays the vendor ID, device ID, serial number, facility ID, date and time.
PCI Information	Displays the bus and device number.

Input Detect

Describes the signal as received by the card

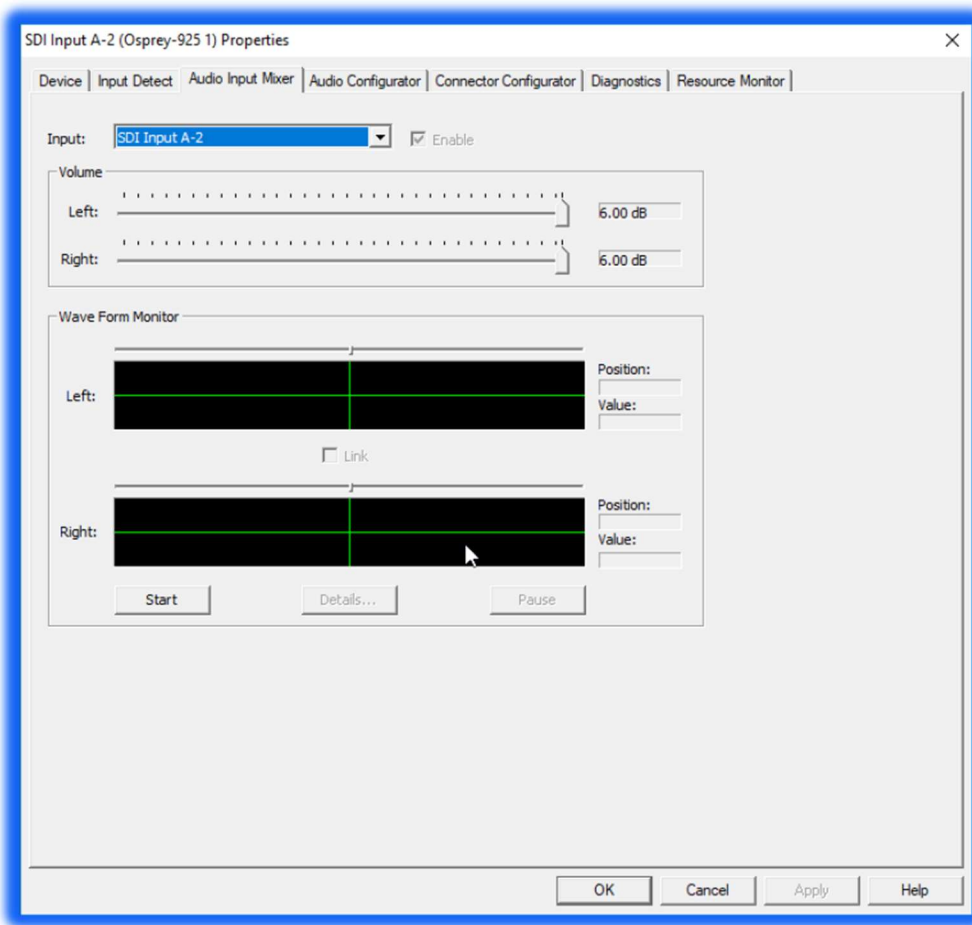


The Device tab has the following fields.

Name	Product name
Driver Version	Indicates the version of the driver.
Product Information	Displays the vendor ID, device ID, serial number, facility ID, date and time.
PCI Information	Displays the bus and device number.

Audio Input Mixer

Shows input gain levels and wave form.

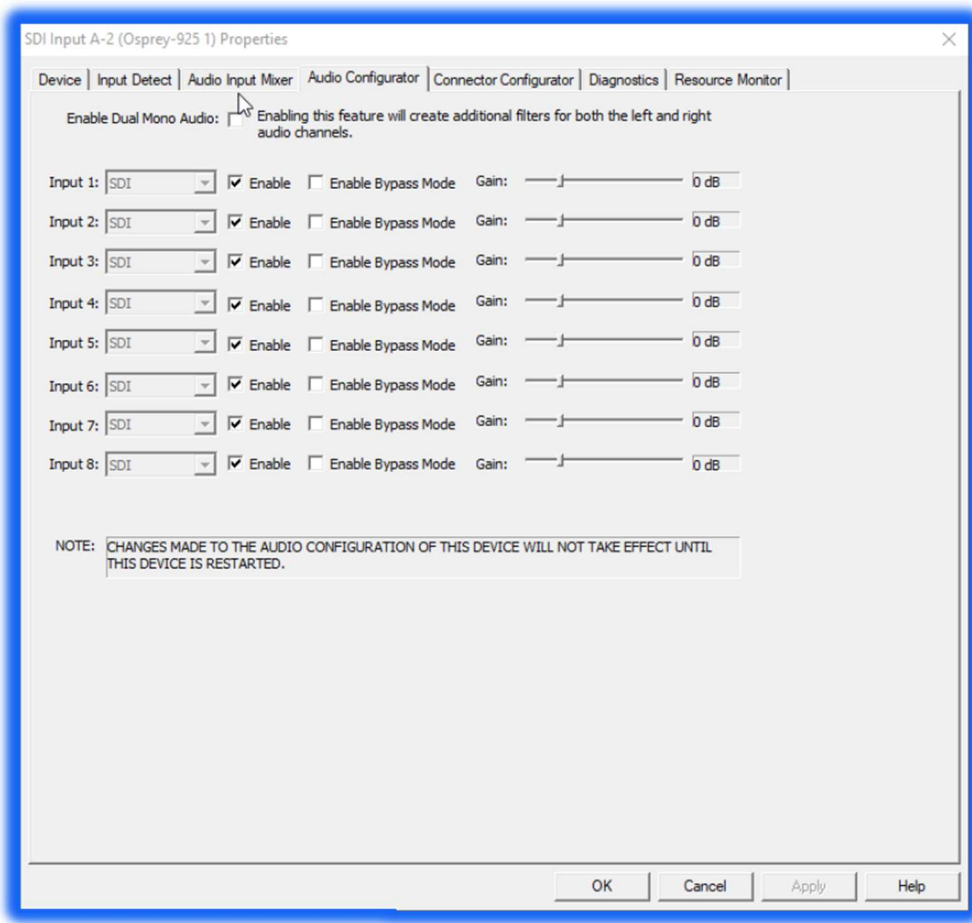


The Audio Input Monitor tab has the following fields.

Input	Indicates the name of the channel being displayed
Enable	Enables or disables this audio input
Volume: Left Right	Shows the input level settings. Adjustable from -25dB to +6dB
Wave Form Monitor	Displays audio wave form

Audio Configurator

Controls and configures audio inputs



The Audio Input Monitor tab has the following fields.

Enable Dual Mono Audio	In the default setting all inputs below are stereo pairs. When this tab is selected each pair becomes two discrete outputs. See illus below)
Input	Identifies available audio inputs
Enable	When checked this input is enabled
Enable Bypass Mode	When selected this input bypasses all input gain controls and is passed to the bus as data.
Gain	Shows audio gain on selected input

Enable Dual Mono

Default

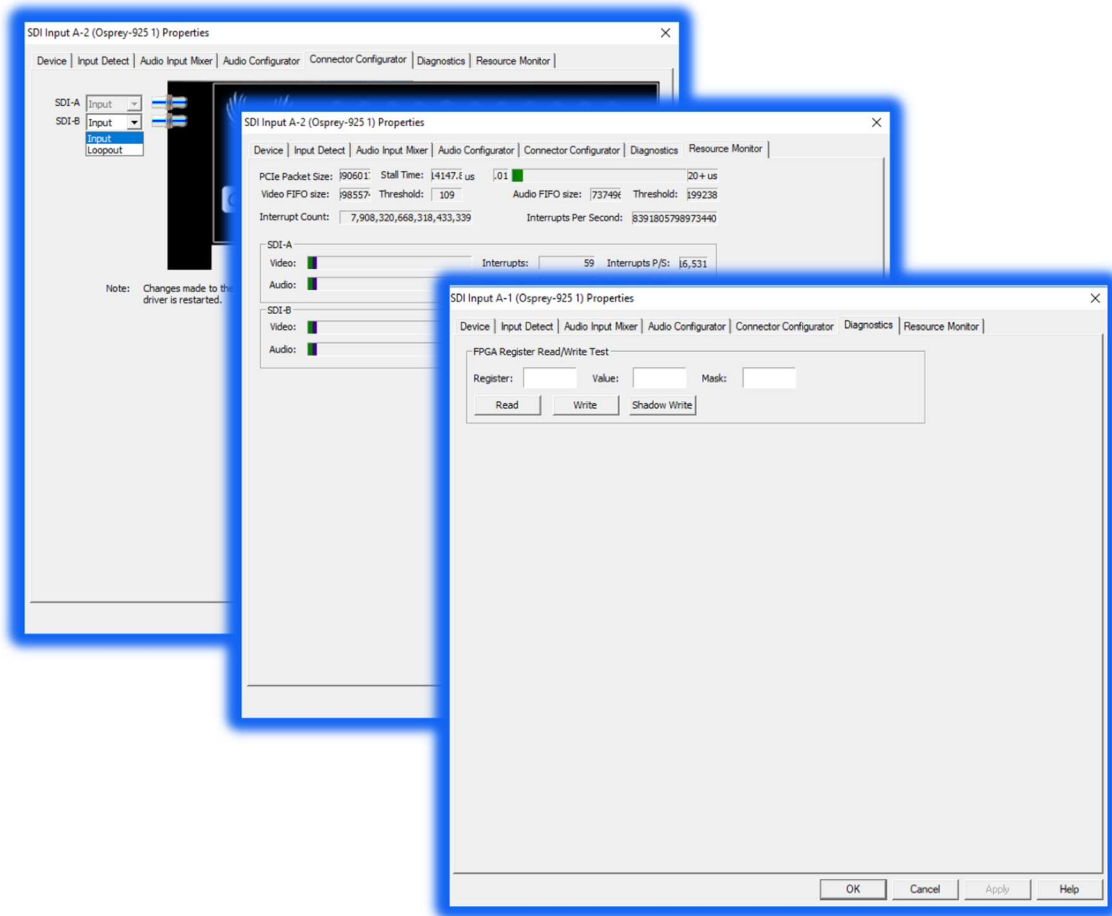
<input checked="" type="checkbox"/>	Disabled
<input type="checkbox"/>	SDI Input A-1 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-2 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-3 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-4 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-5 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-6 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-7 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-8 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-1 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-2 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-3 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-4 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-5 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-6 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-7 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-8 (Osprey-925 1)

Dual Mono Selected

<input checked="" type="checkbox"/>	Disabled
<input type="checkbox"/>	SDI Input A-1 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-1 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-1 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-2 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-2 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-2 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-3 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-3 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-3 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-4 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-4 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-4 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-5 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-5 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-5 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-6 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-6 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-6 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-7 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-7 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-7 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-8 (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-8 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input A-8 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-1 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-1 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-1 R (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-2 (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-2 L (Osprey-925 1)
<input type="checkbox"/>	SDI Input B-2 R (Osprey-925 1)

Connector Configurator, Diagnostics and Resource Monitor

Developer controls



The remaining three tabs duplicate functions found on the “video settings” dialog.

Appendix: Technical Specifications

Osprey® 915

Video capture card

Model:
95-00499 Osprey 915

Technical Specifications

Description

- Single channel 3G, HD, SD-SDI
- Loopout

PCI Format

- PCI Express Gen2 (x 4):
- Slots: x4, x 8, or x 16

Video Input / Output

- 3G SMPTE 424M
- HD SMPTE 292M
- SD SMPTE 259M

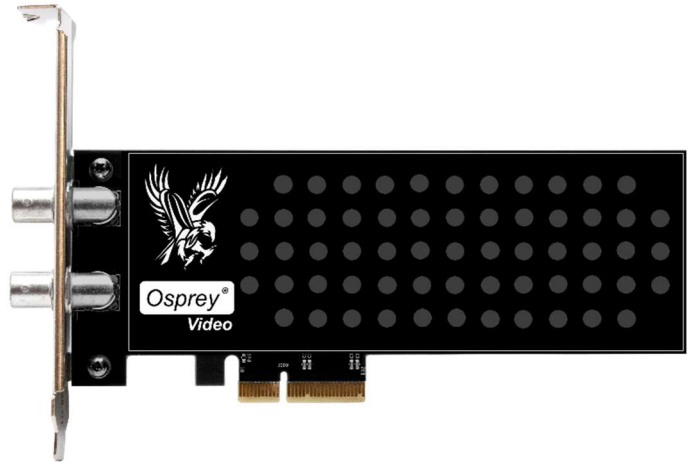
Video Connectors

- BNC x2

Video Modes Input / Output

- 1080i50,59.94,60
- 1080PsF23.98,24,25,29.97,30
- 1080p23.98,24,25,29.97,30,59.94,60(B)
- 720p24,25,30,50,59.94,60
- 480p60
- 625i50 PAL
- 525i59.94 NTSC
- **Audio Input / Output**

Embedded SDI (8 stereo pairs per SDI input)



Dimensions

6.60" L x 2.71" H (16.76cm L x 6.88cm H)
Half Height

In the Box

- Capture Card
- Half Height Bracket

Weight

- ~120 g

Power Consumption

- ~4.7 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating

Altitude Range

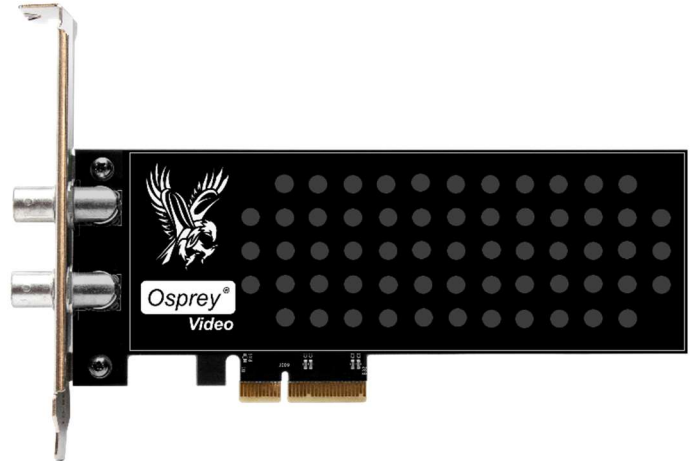
- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating

Osprey® 925

Video capture card

Model:
95-00498 Osprey 925

Technical Specifications



Description

- Two channels 3G, HD, SD-SDI
- Input B programmable as Input or Loopout of Input A

PCI Format

- PCI Express Gen2 (x 4):
- Slots: x4, x 8, or x 16

Video Input / Output

- 3G SMPTE 424M
- HD SMPTE 292M
- SD SMPTE 259M

Video Connectors

- BNC x2

Video Modes Input / Output

- 1080i50,59.94,60
- 1080PsF23.98,24,25,29.97,30
- 1080p23.98,24,25,29.97,30,59.94,60(B)
- 720p24,25,30,50,59.94,60
- 480p60
- 625i50 PAL
- 525i59.94 NTSC

Audio Input / Output

Embedded SDI (8 stereo pairs per SDI input)

Dimensions

6.60" L x 2.71" H (16.76cm L x 6.88cm H)
Half Height

In the Box

- Capture Card
- Half Height Bracket

Weight

- ~ 116 g

Power Consumption

- ~4.9 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating

Altitude Range

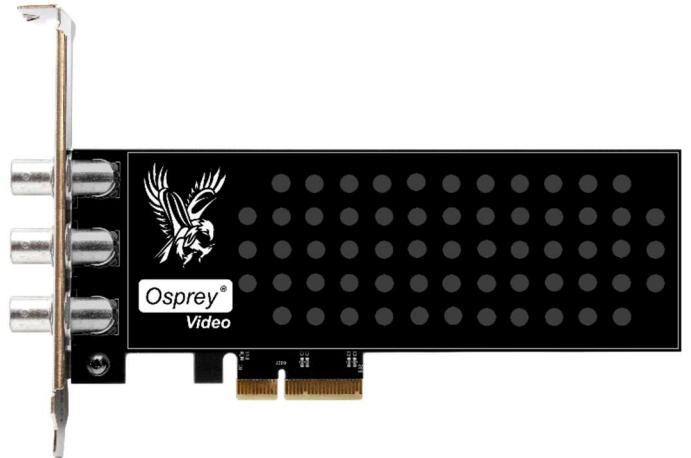
- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating

Osprey® 935

Video capture card

Model:
95-00502 Osprey 935

Technical Specifications



Description

- Three channels 3G, HD, SD-SDI
- Input C programmable as Input or Loopout of Input A

PCI Format

- PCI Express Gen2 (x 4):
- Slots: x4, x 8, or x 16

Video Input / Output

- 3G SMPTE 424M
- HD SMPTE 292M
- SD SMPTE 259M

Video Connectors

- BNC x3

Video Modes Input / Output

- 1080i50,59.94,60
- 1080PsF23.98,24,25,29.97,30
- 1080p23.98,24,25,29.97,30,59.94,60(B)
- 720p24,25,30,50,59.94,60
- 480p60
- 625i50 PAL
- 525i59.94 NTSC

Audio Input / Output

Embedded SDI (8 stereo pairs per SDI input)

Dimensions

6.60" L x 2.71" H (16.76cm L x 6.88cm H)
Half Height

In the Box

- Capture Card
- Half Height Bracket

Weight

- ~ 130 g

Power Consumption

- ~5 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating

Altitude Range

- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating

Osprey® 914

Video capture card

Model:

95-00504 Osprey 914

Technical Specifications

Description

- Single Channel HDMI1.3 (4K30)

PCI Format

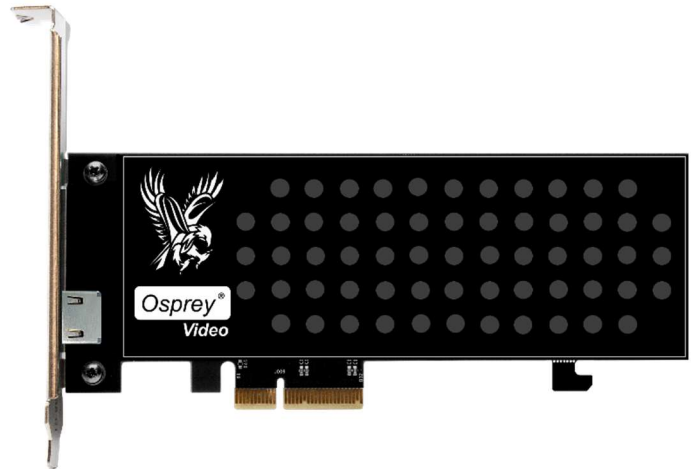
- PCI Express Gen2 (x 4):
- Slots: x 8, or x 16

Video Connectors

- Full Size HDMI x1 (Type A)

Video Modes

- DCI 4K 23.97, 24 (2SI)
- UHD 23.98, 24, 25, 29.97, 30 (2SI)
- 2K DCI 23.98p, 23.98PsF, 24p, 24PsF
- 1080i50, 59.94, 60
- 1080PsF 23.98, 24, 25, 29.97, 30
- 1080p 23.98, 24, 25, 29.97, 30, 59.94, 60(B)
- 720p 24, 25, 30, 50, 59.94, 60
- 576p50
- 480p60
- Graphical Resolutions @ refresh rates up to 85
- 1920 1200
- 1600 1200
- 1400x1050
- 1200x1024
- 1280x960
- 1360x768
- 1280x768
- 1024x768
- 800x600
- 640x480



Audio

- 4 Embedded Stereo Pairs

Dimensions

- 6.60" L x 2.71" H (16.76cm L x 6.88cm H)
- Half Height

In the Box

- Capture Card
- Half Height Bracket

Weight

- ~ 138 g

Power Consumption

- ~ 4.8 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating

Altitude Range

- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating

Osprey® 924

Video capture card

Model:

95-00505 Osprey 924

Technical Specifications

Description

- Two channels HDMI1.3 (4K30)

PCI Format

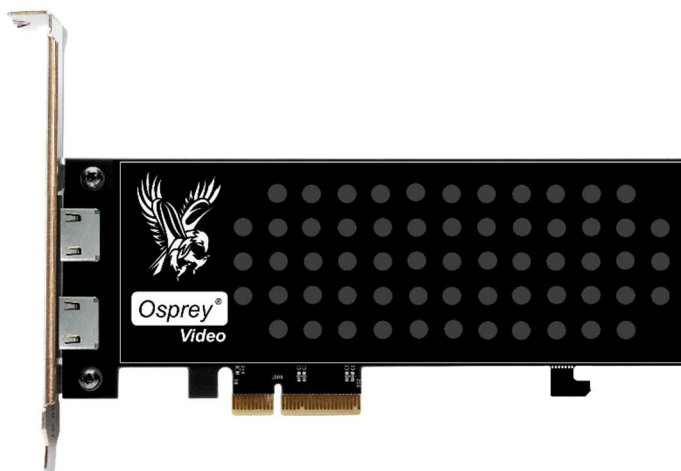
- PCI Express Gen2 (x 4):
- Slots: x4, x 8, or x 16

Video Connectors

- Full Size HDMI x2 (Type A)

Video Modes

- DCI 4K 23.97, 24 (2SI)
- UHD 23.98, 24, 25, 29.97, 30 (2SI)
- 2K DCI 23.98p, 23.98PsF, 24p, 24PsF
- 1080i 50, 59.94, 60
- 1080PsF 23.98, 24, 25, 29.97, 30
- 1080p 23.98, 24, 25, 29.97, 30, 59.94, 60(B)
- 720p 24, 25, 30, 50, 59.94, 60
- 576p 50
- 480p 60
- Graphical Resolutions @ refresh rates up to 85
- 1920 1200
- 1600 1200
- 1400x1050
- 1200x1024
- 1280x960
- 1360x768
- 1280x768
- 1024x768
- 800x600
- 640x480



Audio

- 4 Embedded Stereo Pairs for each HDMI input

Dimensions

- 6.60" L x 2.71" H (16.76cm L x 6.88cm H)
- Half Height

In the Box

- Capture Card
- Half Height Bracket

Weight

- ~ 146 g

Power Consumption

- ~ 4.8 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating

Altitude Range

- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating

Osprey® 944

Video capture card

Model:

95-00506 Osprey 944

Technical Specifications

Description

- Two channels HDMI1.4 (4K30)
- Two channels HDMI1.3 (1080P60)

PCI Format

- PCI Express Gen2 (x 4):
- Slots: x4, x 8, or x 16

Video Connectors

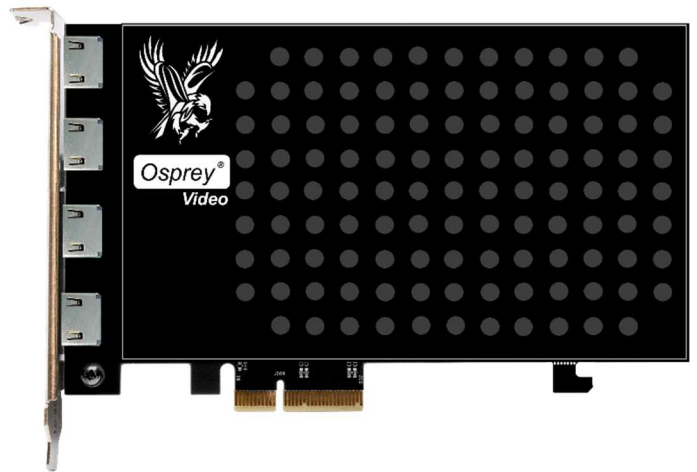
- Full Size HDMI x4 (Type A)

Video Modes

- DCI 4K 23.97, 24 (2SI)
- 2K DCI 23.98p, 23.98PsF, 24p, 24PsF
- UHD 2160p 23.98, 24, 25, 29.97, 30
- 1080i 50, 59.94, 60
- 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 720p 50, 59.94, 60
- 576p, 480p
- Graphical Resolutions @ refresh rates up to 85 640x480 through 1920x1200

Audio

4 Embedded Stereo Pairs for each HDMI input



Dimensions

- 6.60" L x 4.38" H (16.76cm L x 11.13cm H)
- Full Height

In the Box

- Capture Card

Weight

- ~ 182 g

Power Consumption

- ~ 4.8 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating

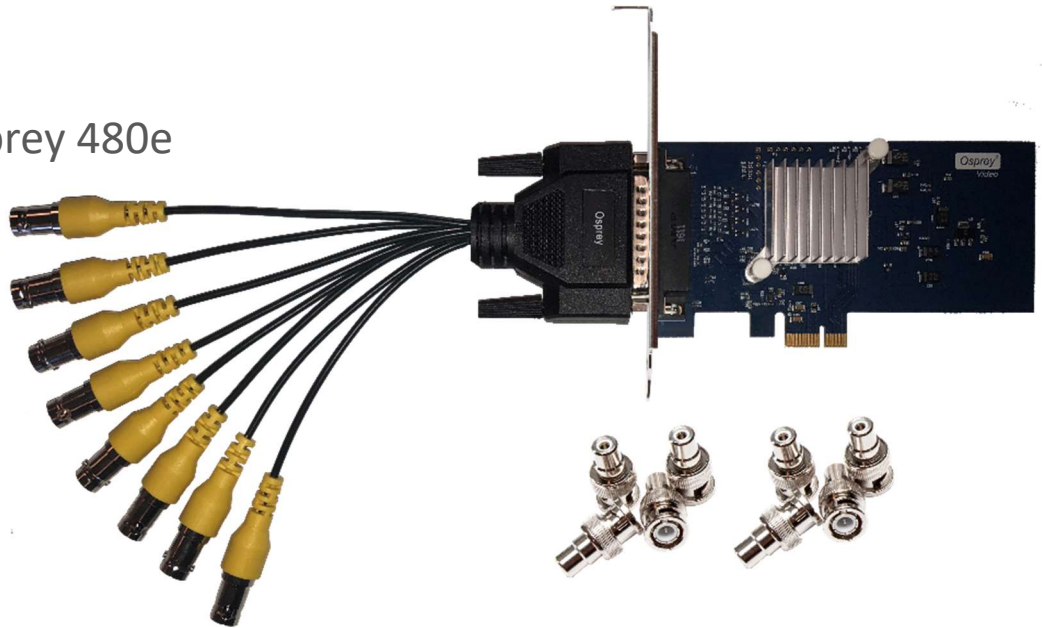
Altitude Range

- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating

Osprey® 480e

Video capture card

Model:
95-00497 Osprey 480e



Technical Specifications:

Description:

- 8 Channel Composite / CVBS

PCI Format:

- PCI Express Gen2 (x1)

Video Connectors:

- 8x BNC - RCA adapters included

Video Modes:

- 720 x 480 29.97, 30/I (NTSC)
- 720 x 576 25i (PAL)

Audio Modes:

- None

Dimensions

- 5.10" L x 2.71" H (12.95cm L x 6.88cm H)
- Half Height

In the Box:

- Capture Card with Full and Half Height Bracket
- Breakout Cable and 8x BNC to RCA Adapters

Weight:

- 48 g (without breakout cable)

Power Consumption:

- 12 W

Operating Temperature Range:

- 0 to 40C

Osprey® M15

Video capture card

Model:
95-00510 Osprey M15



Technical Specifications

Description

- Input 3G-A, HD, SD-SDI

PCI Format

- M.2 Gen2 (x 2):

Video Input

- 3G SMPTE 424M (Level A only)
- HD SMPTE 292M
- SD SMPTE 259M

Video Connectors

- MCX x1

Video Modes

- 1080i 50, 59.94, 60
- 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 1080PsF 23.98, 24, 25, 29.97, 30
- 720p 23.98, 24, 25, 29.97, 50, 59.94, 60
- 720 x 480 29.97, 30/i (NTSC)
- 720 x 576 25/i (PAL)
- 720 x 576 25, 50/p

Audio

Embedded SDI (8 stereo pairs)

Dimensions

- 22mm x 80mm

In the Box

- Capture Card

Weight

- ~ 28 g

Power Consumption

- ~2.2 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating

Altitude Range

- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating

Osprey® M25

Video capture card

Model:

95-00511 Osprey M25



Technical Specifications

Description

- Input 3G, HD, SD-SDI
- Input B programmable as Input or Loopout of Input A

PCI Format

- M.2 Gen2 (x 2):

Video Input

- 3G SMPTE 424M (Level A only)
- HD SMPTE 292M
- SD SMPTE 259M

Video Connectors

- MCX 21

Video Modes Input / Loopout

- 1080i 50, 59.94, 60
- 1080p 23.98, 24, 25, 29.97, 30, 50, 59.94, 60
- 1080PsF 23.98, 24, 25, 29.97, 30
- 720p 23.98, 24, 25, 29.97, 50, 59.94, 60
- 720 x 480 29.97, 30/i (NTSC)
- 720 x 576 25/i (PAL)
- 720 x 576 25, 50/p

Audio

Embedded SDI (8 stereo pairs)

Dimensions

- 22mm x 80mm

In the Box

- Capture Card

Weight

- ~ 22 g

Power Consumption

- ~2.6 W

Temperature Range

- 0 to 40C Operating Temperature
- -40 to 75C Non-Operating Temperature

Humidity Range (non-condensing)

- Between 5% and 80% Operating
- 95% RH, gradient 30% per hour Non-Operating
-

Altitude Range

- 0 to 3,048m (10,000ft) Operating
- 0 to 15,240m (50,000ft) Non-Operating



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