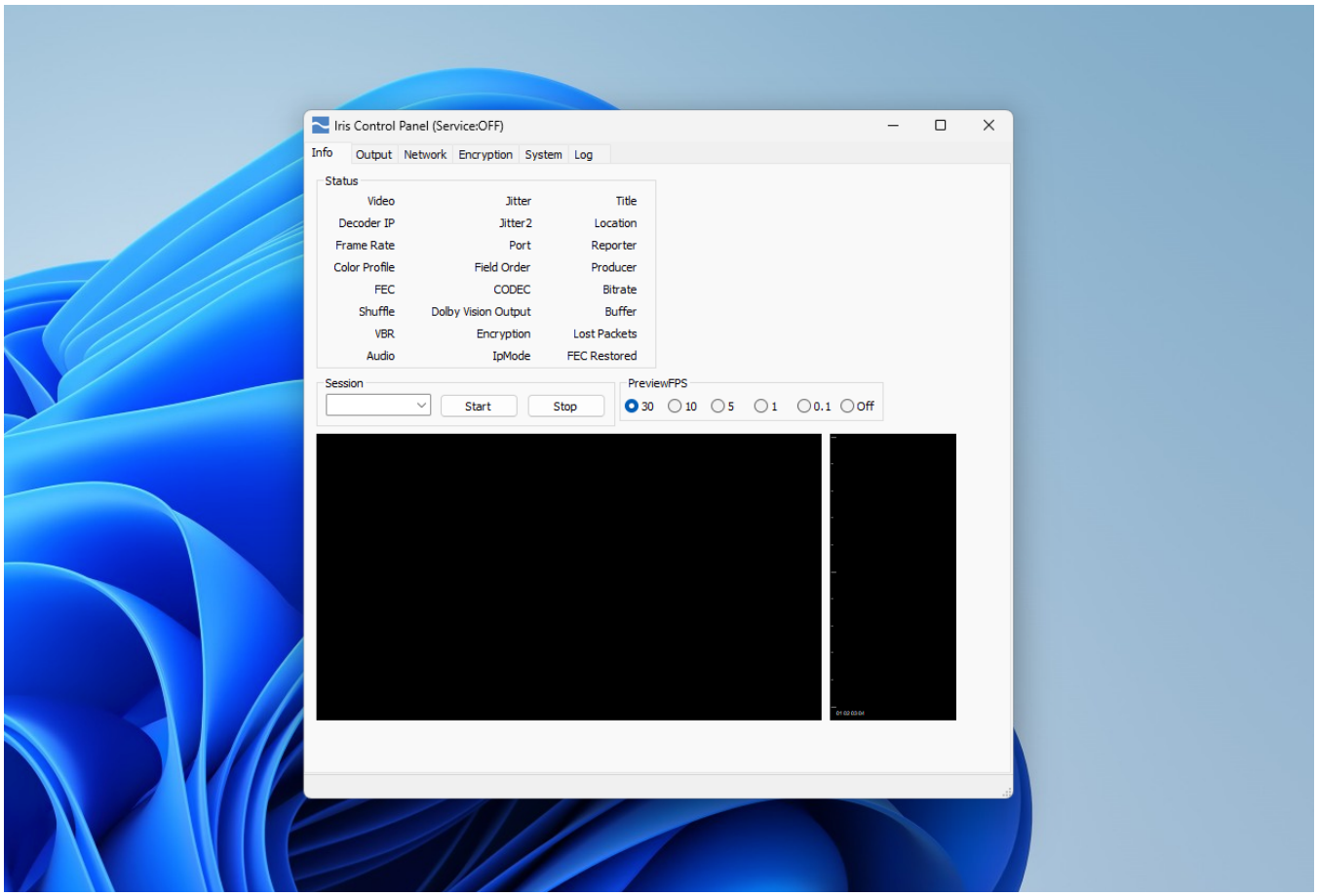


Streambox® Iris™ Decoder for Windows

(Compatible with Blackmagic Design Hardware)

Setup Guide

Update: Dec. 2023 (ver 1.3)

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Introduction

Streambox® Iris™ is a software decoder for macOS and Windows and Blackmagic Design hardware that supports HD/UHD/4K/HDR Video streams with up to 16 channels of audio arriving from Streambox encoders or from the Streambox Cloud services. Iris is well suited for editors and colorists in collaboration where high image and color fidelity, with low latency, is key.

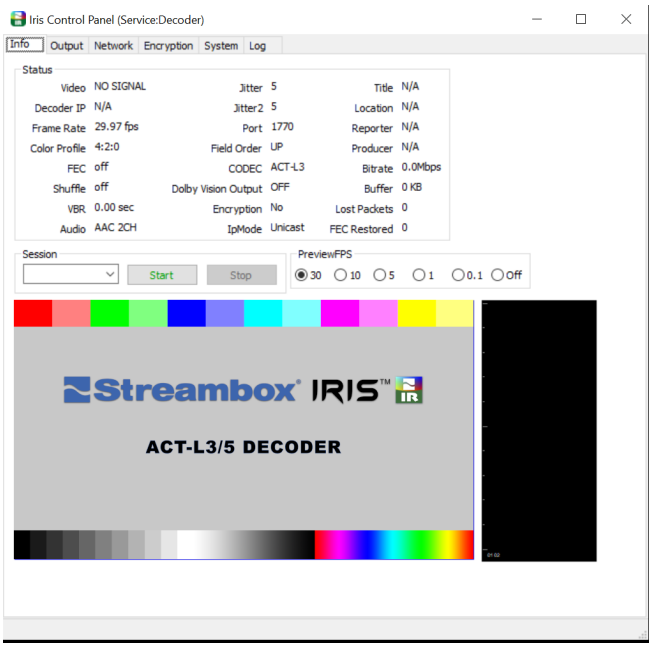
Installing Streambox Iris

- Install *Streambox Iris* using this link: https://streambox-iris.s3-us-west-2.amazonaws.com/latest/win/streambox_iris_win.zip
- Make sure your device has reliable, preferably low-latency Internet connection (LAN is preferred, but good Mobile or WiFi can be used)
- Make sure the Blackmagic output device is connected and is detected by the Blackmagic Desktop Video app.

- Open Streambox Iris

Info tab

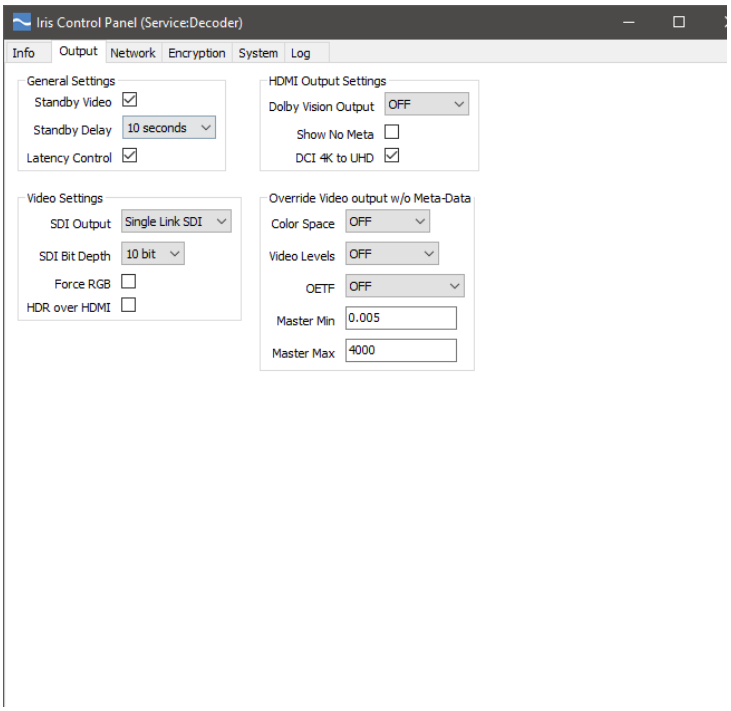
Video Status/Properties are displayed on the upper half, and the Session input field, preview window, and audio meter are on the bottom half of the page:



- **Status:** Contains all the relevant stream information and metadata
- **Session:** This is where you enter the *Session ID* that is provided to you by a Session host. 'Start' will initiate the Session pull that will remain until you 'Stop' the pull. Click here for more information about Sessions. Note that this only applies when using Sessions; Do not start this mode when other modes (such as the unicast/listen mode) are being used.
- **Video display:** provides an aspect-correct preview of the incoming video. When there is no incoming stream, a standard splash screen is displayed (see image above). You can choose the frame rate for the preview; turn it off or select a rate up to 30 FPS. The Decoder may not display at the full selected framerate if resources are low.
- **Audio meter:** Here the audio level of up to 16 channels of incoming audio are displayed as vertical bars; channel 1 is the leftmost bar.
- **Encryption status:** Indicates whether the incoming stream is encrypted, and by what method/mode. If the incoming stream registers an encrypted mode (e.g., AES-128), you will have to enter a decryption key (provided by the Session host) under the Encryption tab.

Output tab

The Output tab is where you control what is passed to the output monitor via the supported Blackmagic Hardware (e.g., Blackmagic Design UltraStudio 4K Mini or UltraStudio Monitor 3G).



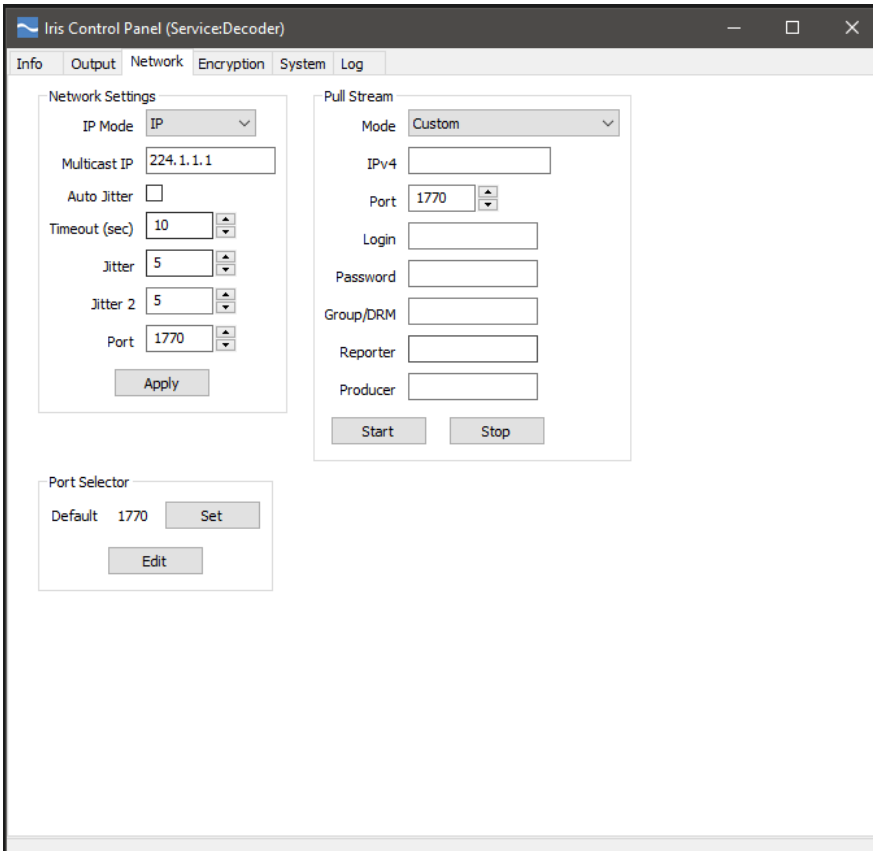
- **General Settings:**
  - Standby Video - when checked will display the standard splash screen as seen on page 3. If disabled, the output will display a blue screen (if it hasn't received a stream yet since startup) or a freeze-frame from the stream it was last receiving.
  - Standby Delay - the duration between a lost signal and when the Standby Video is displayed.
  - Latency Control – Compensates for network issues. Should remain checked unless directed by Streambox Support or are otherwise troubleshooting.
- **Video Settings:**
  - SDI Output – Select for Single, Double, or Quad link SDI out
  - SDI Bit Depth – Convert to selected bit depth
  - Force RGB – Output in RBG, regardless of encoded colorspace
  - HDR over HDMI – Set HDR flag for HDMI output
- **HDMI Output Settings:**
  - Dolby Vision Output – Sets the method to pass Dolby Vision video when iCMU is used.
  - Show No Meta – Don't display metadata/status on output
  - DCI 4K to UHD – Downscale from full 4K to UHD (many "4K" displays only support UHD, not full 4K)

- **Override Video output w/o Metadata:**
  Note: These are important where the display monitor does not support the incoming stream's chroma profile. Remember to click 'restart' to apply any changes.
  - Color Space – Apply specified color space
  - Video Levels – 'Full Range' or 'Video' levels
  - OETF – Apply specific transform function
  - Master Min/Max – Minimum and maximum nits level

Network tab

The Network tab settings determine from where the stream input will be arriving; either pulled from a Cloud Server's hosted Session, pulled directly from an Enterprise Server, received point-to-point sent by a Streambox encoder, or pulled from an IP Multicast transmission within the local network.

Be sure to click Stop on Pull Stream mode if using a point-to-point stream without any sort of Session ID.



Sessions

Streambox® Sessions™ makes video production collaboration easy. This is ideal for offsite producers, colorist, advisors, and others. Simply create a session on Streambox Cloud and stream to it. Share the Session ID with collaborators, and they enter the Session ID into a Streambox decoder, such as Iris, or Media Player. Within seconds, they will begin to receive your stream live, all reviewing the same high quality, color rich, video. The Session ID can be entered directly on the Info page (see Page **Error! Bookmark not defined.**).

Server (Cloud) Pull

The video stream can be pulled directly from the Streambox Cloud or from a Streambox Enterprise Server. This is ideal when you have many simultaneous video sources, and you want to select one of them. This mode is used with the sender is not using a Session.

- Open the Mode menu and select the Streambox Cloud Server that is receiving the stream, or Custom for an Enterprise server. If you selected 'Custom' you must provide the IPv4 address.
- Enter Port number (1770 (default), 1771, 1772…1779 are common)
- Enter server login credentials; 'Login' and 'Password'
- Enter Group/DRM (aka Group name or Network1)
- Enter Reporter (this must match *Reporter* of the source's metadata)
- Click 'Start'

The Iris Decoder will attempt to log on to the specified server with the provided credentials. If login succeeds, Iris will then request a video stream with the specified metadata: DRM and Reporter name; if found, the stream will start. This process can take up to a couple of minutes.

Be sure to click 'Stop' when the stream is completed.

NOTE: The Reporter name should not be the same as the user (login) name. For example, if the username is David, the Reporter name could be David1 or any other name except David itself.

Point-to-Point Streaming (using Pullstream/P2P)

Pullstream/P2P, is a point-to-point stream which uses the Session workflow, described above, the pull a stream directly from an encoder. Unlike Streambox Sessions, which can stream to multiple people, Pullstream is used for a single stream. Often, it's used for connecting a reference monitor, so a local user who is remoted into a distant workstation running the Encoder software can view in high fidelity a reference output from their workstation.

Like a Session ID, the Pullstream ID will be a 7-digit code beginning with $R, and can be entered on the

Info Tab. (See page 3.)

Point-to-Point Streaming (without Pullstream/P2P)

Streaming Point-to-Point is a workflow where the video stream to be delivered directly from the Encoder to the Iris Decoder over the internet. The Iris Decoder acts as a passive listener, waiting for the stream.

- Set IP Mode to 'IP'
- Set 'Port' number (1770, 1771, 1772, and 1773 are typical for UDP video streaming). 1770 is the default.
- 'Apply' changes

Now you can stream directly to the Iris Decoder. Set the Decoder IP (destination) on your Streambox source (encoder or cloud routing) to the IPv4 address of the network where the Iris Decoder is located. IPv4 addresses have the common IP appearance (e.g., 72.21.215.90) of a numeric address. Set the Port number to match the one set here for the Iris Decoder (e.g., 1770). Start the stream – it should appear on the Info tab within just a few seconds (but sometimes it can take a minute).

NOTE: If the video source and the Iris Decoder are on separate networks, separated by a firewall, you must set up port forwarding on the network where the Iris Decoder is connected. Port forwarding is a router setting. Make sure both the Device IP and Port number match (you can usually define a port range to support multiple channels, e.g., 1770 to 1779).

Multicast Streaming

IP Multicast can be useful where a stream needs to be shared within a closed network, e.g. multiroom lectures or sermons. The Iris Decoder can be used to capture and display the multicast stream. **NOTE**: multicast is a router feature that is supported by most routers.

The Multicast mode must be used within a single network. A Streambox Encoder must be setup for multicasting with matching settings, IP and Port.

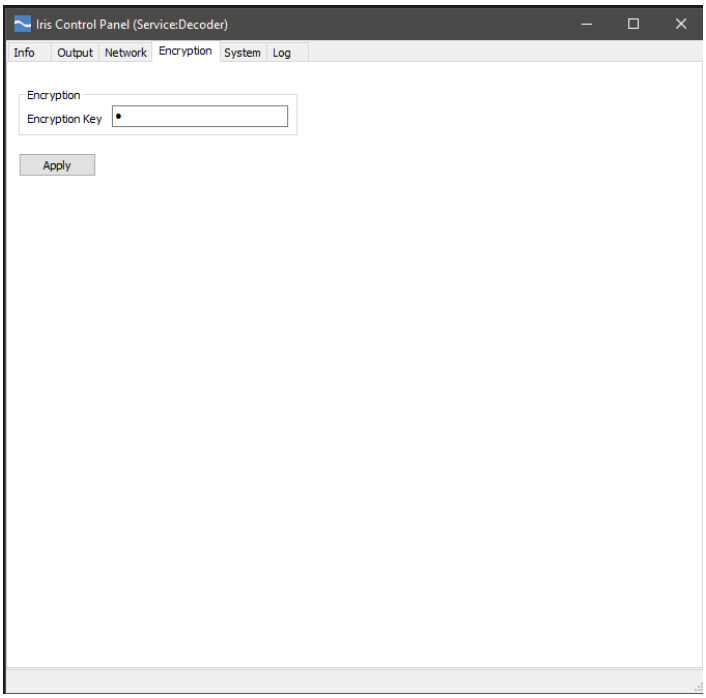
- Set IP Mode to IP Multicast
- Set Multicast IP address
- 'Apply' changes

NOTE: The IP address must be in the range reserved for Multicast use: 224.0.0.1 to 239.255.255.255.

Encryption tab

Streambox Iris Decoder supports AES 128-bit and 256-bit decryption. To receive an encrypted stream,

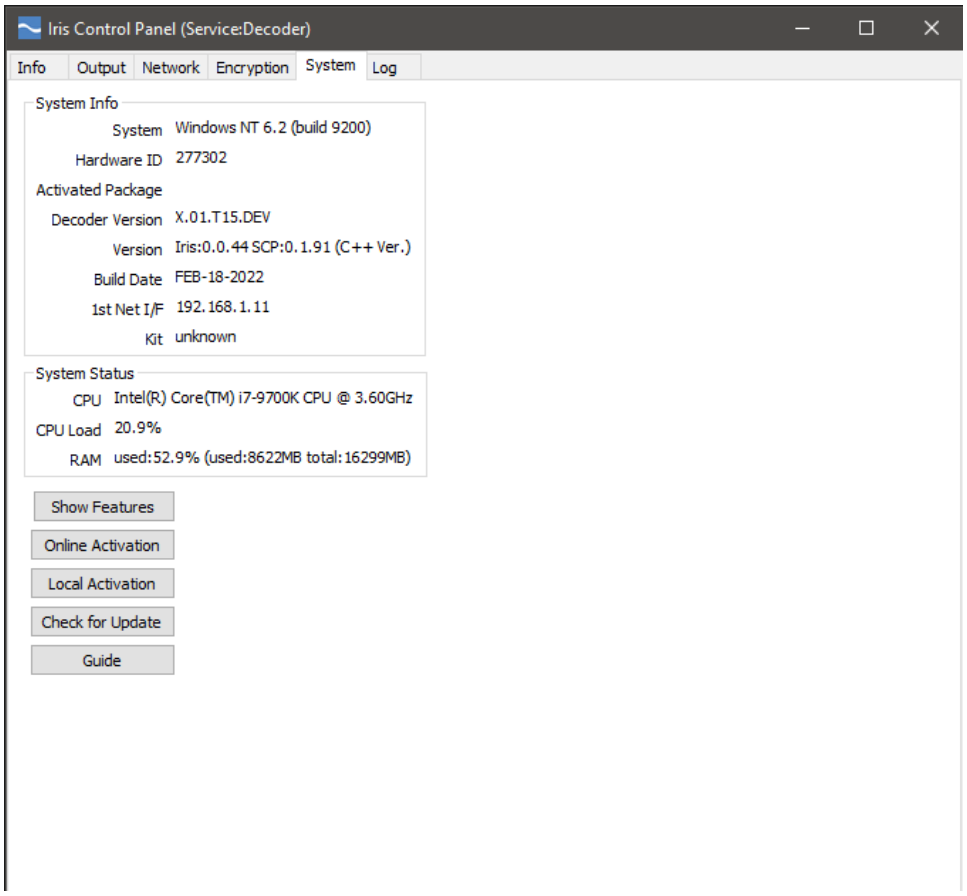
you must enter the matching symmetric encryption key (used on the Encoder).



When an encrypted stream is received without a matching decryption key, an ‘Incorrect key’ or ‘Invalid Decryption Key’ warning will be displayed on the Info page. If a matching symmetric key is engaged then the method of encryption (e.g., AES 128-bit) is listed on the Info page.

System tab

The System page contains basic information needed for Support, a check for Updates, and Feature activation.



Features

Click the “Show Features” button to view the available licenses. Current activations will be indicated by the checkboxes; expiration dates will appear where applicable.

Iris Software Decoder is available in the following feature packages:

Iris 2K/HD allows decoding up to 2K DCI resolution.

Iris 4K/UHD allows decoding up to 4K DCI resolution (including UHD, 2K, HD).

Both versions come with 8-channel audio, 128-bit AES encryption, and 10-bit 4:2:2 color.

Additionally, the following upgrade features are available at an additional cost: 256-bit AES encryption, 16-channel audio, 12-bit 4:4:4 color, and 3D/Stereo output.

Activation

There are two methods to activate the Iris Decoder: Online and Local. Once activated, you can click ‘Show Features’ to see what features were activated.

1. ***Online Activation*** may be used for either single or volume licenses, and the computer running Iris Decoder must have internet connection. Obtain 7-digit Product Key from your system administrator (who obtains it from Streambox Sales or Support). Fill in user information, enter a Product Key, and click 'Send'. Most of the user info fields are required, but the info is captured only for later reference if the license needs to be reset, moved to a new machine should the first one break, etc. If you have more than one Product Key to enter, repeat the process for each key.

2. ***Local Activation*** supports single licenses only, no volume licenses, for each instance of the Iris Decoder. To get a Local Activation code, first obtain the Iris machine's 6-digit Hardware ID: In the System tab, click the 'Local Activation' button, and the Hardware ID is found there. You may click the Hardware ID number to copy it to clipboard.

    a. Submit the Hardware ID to Streambox Sales, along with which version/features you are purchasing, and they will provide the 9 or 16-digit Activation Code to enter.
    b. Click Local Activation and enter the Activation Code (which is 9 or 16 digits in length) that you've been given by Streambox.

    Note that hyphens are ignored by the software when you enter the activation code.

Iris Decoder Specifications

Feature	Windows 10,11
Rec'v Point-to-Point Streams	YES
Pull from Cloud	YES
Pull from ES	YES
Session Compatible	YES
Quick Session	YES
Network Modes	Sessions, Server Pull, Pullstream P2P, Multicast, Unicast/Point-to-Point
Sync Channels, Remote	NO
A/V Offset	NO
Horizontal Flip	NO
Vertical Flip (Teleprompter)	NO
Output (Blackmagic adapter)	YES
Decryption AES 128-bit	YES
Decryption AES 192/256-bit	YES (Optional)
ACT-L3 Codec (auto switch)	YES
ACT-L5 Codec (auto switch)	YES
Stream Resolution	SD/HD/2K DCI/UHD/4K DCI
Decoding	8, 10, and 12-bit
Chroma Subsampling	4:2:0, 4:2:2, 4:4:4

Video Output RGB	12-bit, 4:4:4
HDR Video (PQ encoding)	YES
Dolby Vision	iCMU Workflow only
Color gamut support	AutoDetect Rec.709 BT.1886 (Full & Legal) Rec.709 (Full & Legal) Rec.2020 (Full) Rec.601 (Legal) P3 DCI (Full) P3 D65 (Full) (HDR) Rec.2020 PQ (Full & Legal) (HDR) P3 D65 PQ (Full & Legal) (HDR) Rec.2020 HLG (Full & Legal) (HDR) P3 D65 HLG (Full & Legal)
Full Color Fidelity	YES
Audio Codecs	AAC, PCM
Audio Channels	Mono, Stereo, 5.1, 7.1, 1-16

Supported Hardware

Streambox Iris supports all Decklink (PCIe connector-based) and Ultrastudio (Thunderbolt connector-based) output hardware, if that hardware supports Blackmagic Desktop Video 11.0 and higher. Getting the latest version of Desktop Video is recommended.

Contact Information

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Bellevue, WA 98004
+1 206.956.0544 Tel
+1 206.956.0570 Fax

Support

The below information will help to expedite your support request:

- Your name
- Company name
- Contact information and best time(s) to reach you
- Iris Decoder version number (include platform, iOS or macOS, and OS version)
- Steps to reproduce and/or a detailed description of your support question/need, and the outcome expected

Privacy Notice

Our Privacy Policy can be found at https://www.streambox.com/index.php?p=streambox-inc-privacy-policy/

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