Streambox® Iris™ Decoder for macOS

(Compatible with Blackmagic Design Hardware)

Setup Guide (BETA Version)

Update: 23 Feb 2022

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Introduction

Streambox® Iris™ is a software decoder for macOS and Blackmagic Design hardware is an HD/UHD/4K/HDR Video/16-channel Audio decoder for IP video arriving from Streambox encoders or from the Streambox Cloud services. Iris is well suited for editor and colorists collaboration where high image fidelity with low latency is key.

Installing Streambox Iris:

- Install *Streambox Iris* from the Apple App Store

- Make sure your device has good Internet connection (LAN is preferred, but good Mobile or WiFi can be used)

- Make sure the Blackmagic device (monitor) is connect and is detected by the Blackmagic Desktop Video Setup app

- Open Streambox Iris

Info tab

Video Status/Properties are displayed on the upper half, and Session interface, preview window, and audio meter are on the bottom half of the page:
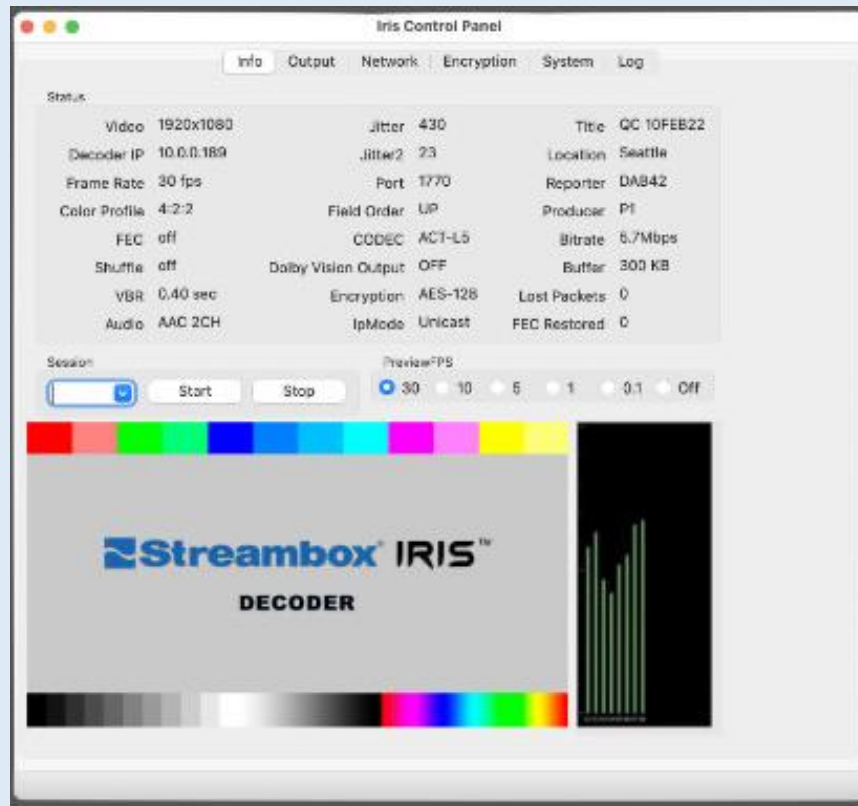
- **Status:** Contains all the relevant stream information and metadata

- **Session:** This is where you enter the Session ID that was 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.

- **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, Off to 30 FPS.

- **Audio meter:** displays audio level of upto 16 channels of incoming audio.

- **Encryption (Note):** Encryption is listed in the Status section. If the incoming stream registers an encrypted status (e.g., AES-128), you will have to enter a decryption key (provided by host) under the Encryption tab.

Output tab

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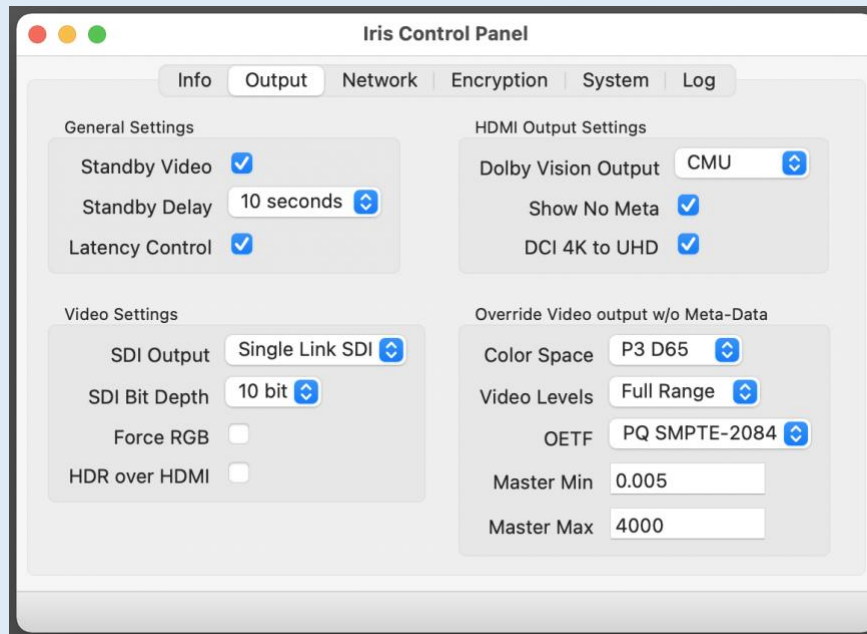

- **General Settings:**
  - Standby Video - when checked will display the standard splash screen as seen on page 3.
  - Standby Delay - is the duration between a lost signal and when the Standby Video is displayed.
  - Latency Control – Compensates for network issues. Should remain checked unless directed by Support or display issues.

- **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 color space
  - HDR over HDMI – Set HDR flag for HDMI

- **HDMI Output Settings:**
  - Dolby Vision Output – Sets the method to pass Dolby Vision media/metadata
  - Show No Meta – Don't display metadata/status on output
  - DCI 4K to UHD – Downscale from full 4K to UHD

- **Override Video output w/o Metadata:**
  - Color Space – Apply specified color space
  - Video Levels – Full Range or Video Levels

- OETF – Apply specified transform function
- Master Min/Max – Minimum and maximum nits level

Network tab

The Network tab settings determine from where you stream input will be arriving: pulled from a hosted Session, pulled from a Server, received point-to-point from an encoder, or pulled from a local Multicast. The following will be presented based on approach and not user interface.
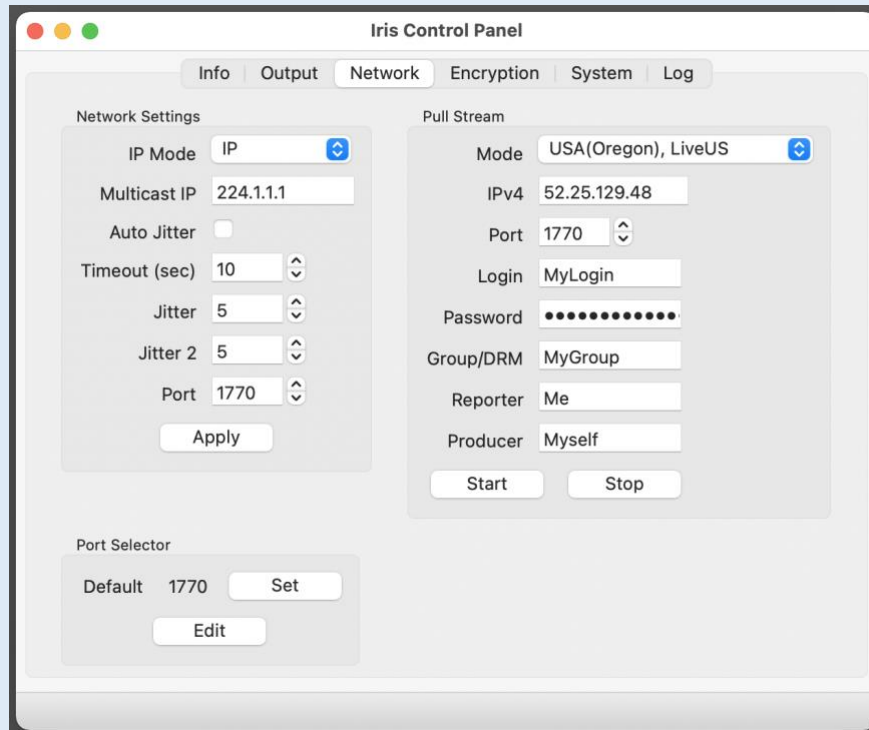
Sessions

Streambox® Sessions™ makes video production collaboration easy. This is ideal for offsite producers, colorist, advisors, and others. All you do is create a session and stream to it, share the Session ID with collaborators, they plug the Session ID into a Streambox decoder, like Iris, or Media Play, and all are live, reviewing the same high quality, color rich, video. The Session ID can be entered directly on the Info page (see Page 3).

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.

- Select the Streambox Cloud Server, that is receiving the stream, for 'Mode' or Custom for an enterprise server. If you selected 'Custom' you must provide the IPv4 address.

- Enter Port number (1770 (default), 1771, 1772… 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 Reporter name; if found, the stream will start. This process can take up to a couple of minutes.

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

Point-to-Point allows a video stream to be delivered directly to the Iris decoder over the internet.

- 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

The use of 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.

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.

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* requires a Volume License, and the Iris decoder installation has internet connection. Obtain Activation Code/Serial number from your system administrator (this can be setup through Streambox Sales or Support). Fill-in user information and enter each applicable Activation/Serial code, one at a time, and click 'Send' for each.

2. *Local Activation* supports single activation for each instance of the Iris decoder.
   Obtain Hardware ID: under System Info, click the Hardware ID number to copy to clipboard
   - Email Hardware ID to: beta@streambox.com (or call for quicker turn-around)
   - Please ask to activate as:
        "Iris decoder" and "AES-128 encryption" (AES 256-bit encryption requires a contract)
   - Click Local Activation and enter the Activation Code

Iris decoder Specifications

Feature	macOS (Catalina, Big Sur, Monterey)
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, Multicast, 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/UHD/DCI4K
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	YES
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

Support
Email beta@streambox.com for a response within 24 business hours.

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

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