

Streambox® Media Player™

for Apple TV® 4K

(HD, UHD, 8 &10-bit, HDR)



Quick Start Guide

NOTES (Oct 2021):

Apple TV – Second Generation. Media Player ver 2.1.0.

Current version: 1021c. Adds Decryption Key dialog.

Table of Contents

Table of Contents 2

Introduction 3

Getting Started 3

Installing Media Player: 3

Optimizing Apple TV for the Media Player 3

Starting Media Player 4

Main Menu 5

Session by ID 5

Color Space Settings 6

Advanced Features 6

Sync Channels 6

Channels XML file 6

Sync Channel Settings File 7

Unicast (netmode = 0) 8

Unicast Fields 8

Multicast (netmode = 1) 9

Server (netmode = 2) 9

Session (netmode = 3) 10

Setting up Pro Monitors for HDR & Dolby Vision 10

Media Player Specifications 11

Support 12

Privacy Notice 12

Introduction

Streambox® Media Player™ for Apple TV® (second generation) is a player for IP video streams arriving from Streambox encoders or from the Streambox Cloud services. The Media Player is well suited for post-production review via streams being pushed (routed to) or pulled from the Streambox Cloud Services.

NOTE: Streambox Media Player for Apple TV is optimized for Apple TV, second generation, with full HDR color support for:

Rec.709 (Full BT.1886), Rec.709 (Legal BT.1886), P3 D65 (Full), Rec.2020 (Full), Rec.601 (Legal), Rec.709 (Legal), Rec.709 (Full), P3 DCI (Full), HDR Rec.2020 (PQ Full), HDR P3 D65 (PQ Full), HDR Rec.2020 (HLG Full), HDR P3 D65 (HLG Full), HDR Rec.2020 (PQ Legal), HDR P3 D65 (PQ Legal), HDR Rec.2020 (HLG Legal), HDR P3 D65 (HLG Legal).

Getting Started

Installing Media Player:



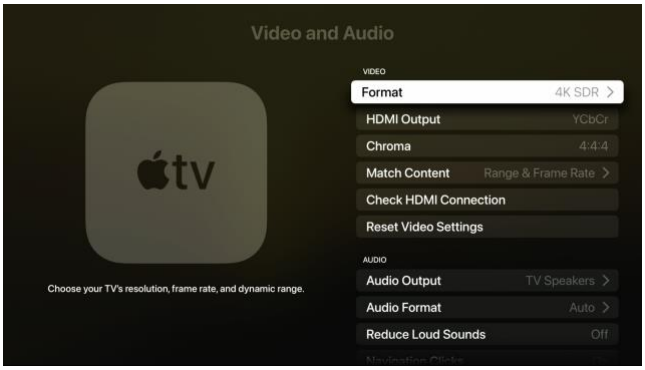
- Install *Streambox Media Player* from the Apple App Store
- You will be provided with TestFlight credentials for Streambox Media Player
- Make sure you are familiar with navigation on the Apple TV interface using either your iPhone as a remote or the included remote

Optimizing Apple TV for the Media Player

The Apple TV senses the attached TV/monitor and usually does a good job of selecting the correct settings. That said, there are a few settings that can optimize the performance and response to a variety of incoming stream properties. So, let's look at the *Video and Audio Settings*.



- Click the Settings button and select the *Video and Audio* item from the Settings menu to open the Video and Audio menu (image below).



- From the Format menu, select 4K SDR (**don't worry about HDR, that is handled a few steps below).
- HDMI Output is not as crucial – we set it to YCbCr.
- Select Chroma 4:4:4 or 4:2:2 depending on the connect TV/monitor
- **For *Match Content*, turn on both *Match Dynamic Range* and *Match Frame Rate*. This is the key to optimization. This allows the Apple TV to detect the incoming streams and adjust output settings accordingly, e.g., HDR vs SDR.

  Note: It is recommended that you first test your system with each format you plan to use (e.g., HD HDR and UHD HDR) to ensure that the attached TV and Apple TV respond as expected.
- It is important to use a high-quality HDMI cable (rated for 8K or HDR) when connecting the Apple TV to the TV/monitor. You can use the *Check HDMI Connection* feature to test your HDMI cable (this can take several minutes)
- Press the Menu button on the remote control two times to return to the Home page

Starting Media Player

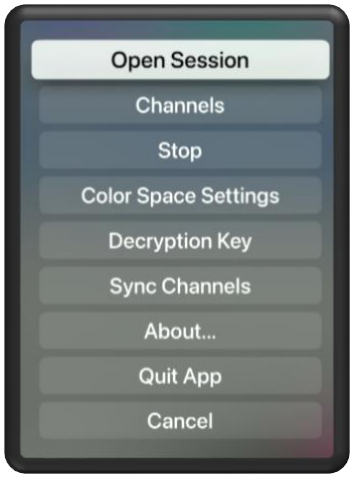


From the Home page of Apple TV, locate the Streambox Media Player button and click it (left image). Once you see the Streambox Media Player Home page (image below), you can open the Main menu (next page) using the Menu button on the remote (red circle).





Main Menu



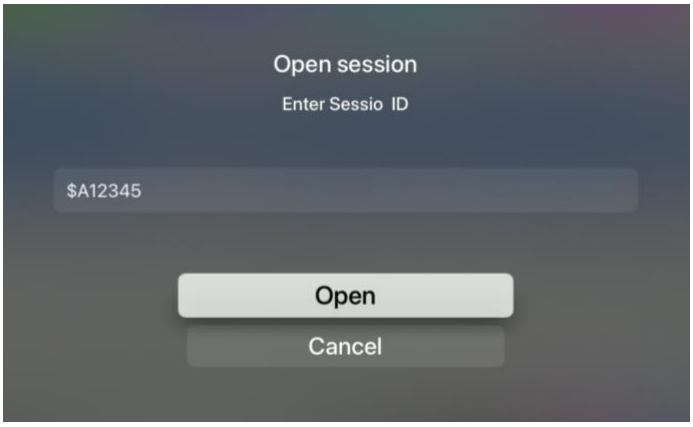
- **Open Sessions** button is used to enter a Session ID. See Session by ID section below.
- **Channels** button opens a menu from which to select programmed channels.
- **Stop** button is used to stop the current stream/channel. Once completed, a new channel or Session must be selected to continue to receive a stream.
- **Color Space Settings** button opens a menu of supported color spaces to choose from. For most cases/TV's/monitors, it is best to use Auto Detect.
- **Decryption Key** button opens a dialog to enter a matching symmetric decryption key that is applied if the incoming stream is encrypted.
- **Sync Channels** button opens the Sync Channels dialog page; this can be used to populate the Channels menu via a remote xml file.
- **About…** button opens an About dialog page with system information.
- **Quit App** button closes the Streambox Media Player app.
- **Cancel** button closes the Main menu as the clicking the Menu button on the remote.

Session by ID

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 Media Play, and all are live, reviewing the same high quality, color rich, video. The Session ID can be entered directly by selecting 'Open Session' from the Main menu.

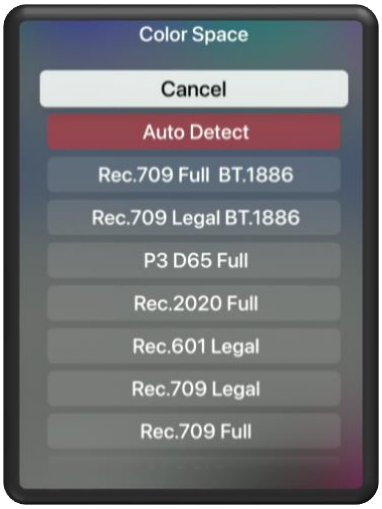
Note: The host of the session will provide the Session ID.

- Enter the Session ID (you may use the onscreen keyboard or iPhone remote)
- Click 'Open' and the stream will start within 60 seconds. Once the stream has started, the stream will respond within a second (depending on encoder settings) to stop/start and scrubbing.



Color Space Settings

Under most condition, on most systems, selecting the 'Auto Detect' color space works well. Should you need to fine tune color rendering, you can pick the color space that best matches the source:

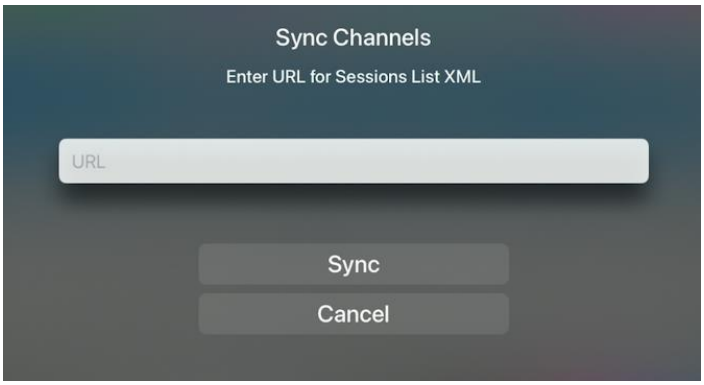


Rec.709 (Full BT.1886), Rec.709 (Legal BT.1886), P3 D65 (Full), Rec.2020 (Full), Rec.601 (Legal), Rec.709 (Legal), Rec.709 (Full), P3 DCI (Full), HDR Rec.2020 (PQ Full), HDR P3 D65 (PQ Full), HDR Rec.2020 (HLG Full), HDR P3 D65 (HLG Full), HDR Rec.2020 (PQ Legal), HDR P3 D65 (PQ Legal), HDR Rec.2020 (HLG Legal), HDR P3 D65 (HLG Legal).

Advanced Features

Sync Channels

Media Player supports over 30 programmable channels. You can update the Channels menu list via the Sync Channels feature. This is accomplished by storing an XML file with the desired settings on an internet accessible server (e.g., Dropbox). Then by providing the URL of the channels XML file you can populate the Channels menu. From the Channels menu, select 'Sync Channels' to open the Sync Channels dialog page. Enter the URL for the XML file and click the Sync button.



Channels XML file

You can store your custom channel XML file on any server accessible to the internet. For example, you can place the XML file in a Dropbox folder and then use the 'Copy Dropbox link' command to fetch a link for your 'Custom URL' (**Note: for this to work, replace the dl=0 with dl=1 at the end of the

Dropbox link).

Sync Channel Settings File

Channel Settings are stored in XML format. For example:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<root>
      <decChannels>
            <decChannel name="DemoUnicast" netmode="0" ip="" port="1775" login=""
            password="" reporter="" DRM="" encrypass="" colorstd="0"/>

            <decChannel name="DemoMulticast" netmode="1" ip="224.0.0.1" port="1775"
            login="" password=""/>

            <decChannel name="DemoServer" netmode="2" ip="52.25.129.48" port="1770"
            login="MyLogin" password="MyPassword" reporter="dab" DRM="MyGroup"
            encrypass="" colorstd="0"/>

            <decChannel name="DemoSession" netmode="3" sessionid=”$A12345”
            encrypass="" colorstd="0"/>

      </decChannels>
</root>
```

Where

name: Channel Name – any descriptive alphanumeric; for example, **MyDemo**

netmode: 0=Unicast, 1=Multicast, 2=Server, 3=Session

ip: In Server netmode (see line above), the IP address of the source Streambox Live Server. For a list of Live Servers, see: https://streambox.force.com/support/s/article/streambox-cloud-server-ip-addresses

port: The local port receiving the video stream (1770 is the default or most common port)

login: The user login used in Server netmode (to log onto Streambox Live or Enterprise server)

password: The user password used in Server netmode (to log onto Streambox Live or Enterprise server)

reporter: The Source (Reporter) associated with the stream; for example, ‘Camera1’ or ‘Mary’ or ‘Whitehouse’. This value is set on the Encoder side and must match for Server netmode.

DRM: This is your Group name for logging onto the Streambox Live or Enterprise server.

sessionid: This is the Session ID provided by the session Host (the most easiest setup for Media Player)

encrypass: This is the encryption key where encryption is deployed. This must be an exact

match with the encryption key used on the Encoder side.

colorstd: This is the color standard used for display (we recommend '0' for AutoDetect).

0=AutoDetect,
1=Rec.709 Full BT.1886
2=Rec.709 Legal BT.1886
3=P3 D65 Full
4=Rec.2020 Full
5=Rec.601 Legal
6=Rec.709 Legal
7=Rec.709 Full
8=P3 DCI Full
9=(HDR) Rec.2020 PQ Full
10=(HDR) P3 D65 PQ Full
11=(HDR) Rec.2020 HLG Full
12=(HDR) P3 D65 HLG Full
13=(HDR) Rec.2020 PQ Legal
14=(HDR) P3 D65 PQ Legal
15=(HDR) Rec.2020 HLG Legal
16=(HDR) P3 D65 HLG Legal

Unicast (netmode = 0)

Using 'Unicast' mode allows a video stream to be delivered directly to the Media Player. This is ideal for point-to-point streaming from a media source via Streambox Cloud services directly to the Media Player.[1]

Unicast Fields

XML Format: `<decChannel name="DemoUnicast" netmode="0" port="1775" encrypass="" colorstd="0"/>`

- Provide a Name that helps you remember the behavior of the channel.
- Set *Port* number (1770, 1771, 1772, and 1773 are typical for UDP video streaming). 1770 is the default.
- Enter *Decrypt* key that matches the encryption key used by the encoder. Leave blank if no encryption was used.
- Select *Color Profile*. We recommend *Auto Detect*.

Now you can stream directly to the Media Player by selecting a Unicast channel. Set the Decoder IP (destination) on your Streambox source (encoder or cloud routing) to the IPv4 address of the network where the Media Player 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 for the Media Player channel (e.g., 1770). Start the stream – it should appear on the Media Player within just a few seconds (but sometimes it can take a minute).

Remember: If the video source and the Media Player are on separate networks, separated by a

[1] See www.Streambox.com for a list of Streambox encoders and Cloud services

firewall, you must set up port forwarding on the network where the Media Player 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 (netmode = 1)

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 one or several Media Players 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. The IP address must be in the range reserved for multicast use: 224.0.0.1 to 239.255.255.255.

XML Format: `<decChannel name="DemoMulticast" netmode="1" ip="224.0.0.1" port="1775"/>`

Note: A more efficient way to stream within a network is to utilize the NDI protocol which is supported by Streambox Chroma and Spectra encoders and Streambox Media Players.

Server (netmode = 2)

Setting 'Server' mode allows a video stream to be pulled from the Streambox Cloud or from a Streambox Enterprise Server. This is ideal when you have many sources streaming videos and you want to select one of them.

XML Format: `<decChannel name="DemoServer" netmode="2" ip="52.25.129.48" port="1770" login="MyLogin" password="MyPassword" reporter="dab" DRM="MyGroup" encrypass="" colorstd="0"/>`

- Provide a Name that helps you remember the behavior of the channel
- Enter Port number (1770 (default), 1771, 1772… are common)
- Enter a Streambox Cloud Server IP (see: https://streambox.force.com/support/s/article/streambox-cloud-server-ip-addresses)
- Enter server login credentials; 'Login' and 'Password'
- Enter Source name (this must match *Reporter* of the source's metadata). Source is a generic designation and can be anything from a name to an event name, or a course name, etc.
- Enter DRM (aka, Group name or Network1)
- Enter *Decrypt* key that matches the encryption key used by the encoder. Leave blank if no encryption was used.

- Select *Color Profile*. We recommend *Auto Detect*; as mentioned above, *Color Profile*.

Once a channel with Mode set to Server is selected from the *Channel* menu, Media Player will attempt to log-on to the specified server with the provided credentials. If login succeeds, Media Player will then request a video stream with the specified Source (Reporter) name; if found, the stream will start. This process can take up to a minute.

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

Session (netmode = 3)

Using Sessions is the easiest way to share and receive video streams with collaborators (see Session by ID above). Using 'Session' mode allows a video stream to be pulled from the Streambox Cloud.

XML Format: `<decChannel name="DemoSession" netmode="3" sessionid="$A12345" encrypass="" colorstd="0"/>`

- Provide a Name that helps you remember the behavior of the channel
- Provide the Session ID
- Use *Decrypt* key that matches the encryption key used by the encoder. Leave blank if no encryption was used.
- Enter a *Color Profile*. We recommend *Auto Detect*.

Setting up Pro Monitors for HDR & Dolby Vision

Apple TV is primarily designed for consumer TV's. By default, the HDR output of the Apple TV is Rec.2020 (PQ). Thus, when using a Pro Monitor that does not utilize HDR or Dolby Vision metadata, you need to manually set the monitor to Rec.2020. Dolby Vision metadata is not directly supported but Dolby Vision workflow is supported with Professional Monitors and iCMU.

Media Player Specifications

Feature	Apple TV (2nd Gen)
Rec'v Point-to-Point Streams	YES
Pull from Cloud	YES
Pull from ES	NO (Optional)
Play Files	NO
Session Compatible	YES
Quick Session	YES
Programmable Channels	20
Channel Modes	Unicast, Server, Multicast, Sessions
Sync Channels, Remote	YES
A/V Offset	NO
Horizontal Flip	NO
Vertical Flip (Teleprompter)	NO
Full Screen playout	YES
Output (Blackmagic adapter)	N/A
Decryption AES 128-bit	YES
Decryption AES 192/256-bit	YES
ACT-L3 Codec (auto switch)	YES
ACT-L5 Codec (auto switch)	YES
Stream Resolution	SD/HD/UHD
Color bit depth	8, 10, and 12
Chroma Subsampling	4:2:0, 4:2:2, 4:4:4
HDR Video	YES
Color gamut	AutoDetect Rec.709 (Full BT.1886) Rec.709 (Legal BT.1886) P3 D65 (Full) Rec.2020 (Full) Rec.601 (Legal) Rec.709 (Legal) Rec.709 (Full) P3 DCI (Full) HDR Rec.2020 (PQ Full) HDR P3 D65 (PQ Full) HDR Rec.2020 (HLG Full) HDR P3 D65 (HLG Full) HDR Rec.2020 (PQ Legal) HDR P3 D65 (PQ Legal) HDR Rec.2020 (HLG Legal) HDR P3 D65 (HLG Legal).
Full Color Fidelity	YES
Audio Codecs	AAC, GSM, CIF, PCM
Audio Channels	Mono, Stereo, Downmix 5.1and 7.1 to Stereo

Support

Email support@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
- Media Player 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

http://www.streambox.com/streambox-inc-privacy-policy/

©2019, 2020, 2021 Streambox, Inc. All rights reserved. The Streambox logo and ACT-L3/5 codec are trademarks of Streambox, Inc. All other brands and product names are trademarks or registered trademarks of their respective holders. Information supplied by Streambox, Inc. is believed to be accurate and reliable. Streambox, Inc. assumes no responsibility for any errors in this brochure. Streambox, Inc. reserves the right, without notice, to make changes in product design or specifications.