

# Kaltura Live Stream Requirements Guide

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A good source stream is essential for live streaming to work properly. Please configure your encoder according to the following recommendations:

## HD encoding guidelines

- Video codec: H.264, main profile
- Video frames per second (FPS): based on your capture device capabilities.  
Recommended values are 25 and 30
- Key frame interval: 2 seconds
- Audio Codec: AAC (AAC-LC) recommended
- Audio Sample Rate: 44100 or higher
- Audio Bitrate: 128Kbps or higher recommended
- Strict CBR encoding recommended for optimal Adaptive bit-rate performance

## 4K Encoding Guidelines

- Video codec: H.264, high profile
- Video frames per second (FPS): based on your capture device capabilities.  
Recommended values are 25 and 30
- Key frame interval: 2 seconds
- Audio Codec: AAC or MP3 (AAC recommended)
- Audio Sample Rate: 44100 or higher
- Audio Bitrate: 128Kbps and up
- Strict CBR encoding recommended for optimal Adaptive bit-rate performance
- Width: 3,840 pixels
- Height: 2,160 pixels
- Frame Rate: Constant

## Obtaining RTMP endpoint URLs and stream name

- In addition to video encoding configuration, you will need to configure the RTMP endpoint URLs and stream name on your encoder. See the article [Endpoints for Kaltura Live Streaming](#) for information on how to obtain the RTMP endpoint URLs and stream name for your live entry.

## Obtaining SRT endpoints and stream IDs

You will need to configure SRT endpoints and stream IDs on your encoder. See the

article [Endpoints for Kaltura Live Streaming](#) for information on how to obtain the SRT endpoints and stream IDs for your live entry.

## Single bitrate vs multiple bitrate ingest

When streaming to Kaltura, you can send either a single bitrate (using cloud transcoding) or send multiple bitrate streams (using passthrough) directly from your encoder to your live entry RTMP endpoints (primary & secondary). In both ways, you'll be able to serve ABR (adaptive bitrate) streams to your users.

### Sending single bitrate and using cloud transcoding

An on-premises live encoder sends a single bitrate stream to the RTMP endpoint that is enabled to perform real-time cloud transcoding.



### Default cloud transcoding

- Default cloud transcoding profiles are:
  - Source
  - 640x[auto] @ 964Kbps , H.264 main profile
  - 640x[auto] @ 664Kbps , H.264 baseline profile
  - 480x[auto] @ 464Kbps , H.264 baseline profile
  - 720x[auto] @ 1828Kbps , H.264 high profile [Optional]
  - 720x[auto] @ 2728Kbps , H.264 high profile [Optional]
  - 1080x[auto] @ 4128Kbps, H.264 high profile [Optional]
- Customized transcoding profiles are possible. If your setup requires special transcoding renditions please contact your Kaltura representative

### Sending multi bitrate and using pass-through

An on-premises live encoder sends multi-bitrate to the RTMP endpoint that is configured for pass-through delivery. The ingested streams pass through without any further encoding.



## Recommended video specs

Broadcast (h264)	Range
2160p	15-20 Mbps
1080p	3.5-5 Mbps
720p	2-3 Mbps



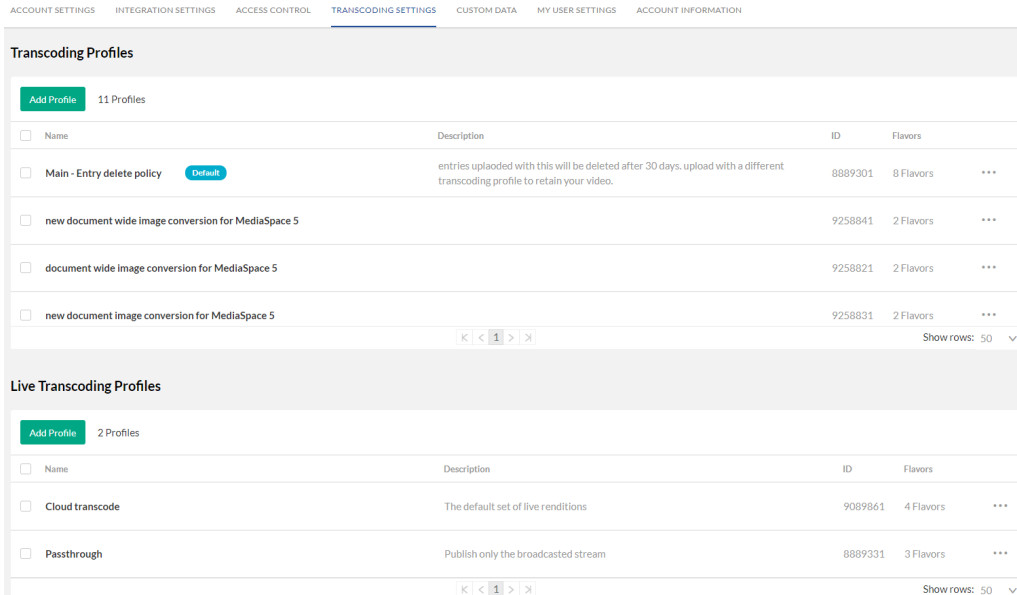
See also [Live Encoding Best Practices Guide](#).

## Guidelines

- Up to 3 flavors are enabled by default. Up to 6 pass-through flavors are supported. See [Configuring Additional Flavors](#) for information on how to add additional flavors.
- The Key-frame MUST be aligned on all flavors.
- Up to 15Mbps are aggregated for all flavors.

## Configuring additional flavors


- In your Rich Media CMS, go to the Settings icon and select the Transcoding Settings menu. A list of the default Live transcoding profiles is displayed.



The screenshot shows the 'Transcoding Settings' page in the Kaltura Rich Media CMS. At the top, there are navigation tabs: ACCOUNT SETTINGS, INTEGRATION SETTINGS, ACCESS CONTROL, **TRANSCODING SETTINGS**, CUSTOM DATA, MY USER SETTINGS, and ACCOUNT INFORMATION. Below the tabs, the 'Transcoding Profiles' section is visible, containing an 'Add Profile' button and a list of 11 profiles. The first profile is 'Main - Entry delete policy', which is marked as 'Default'. Below this, there are three 'new document image conversion for MediaSpace 5' profiles. A pagination bar shows '1' of 1 items and a 'Show rows: 50' dropdown. The 'Live Transcoding Profiles' section is also visible, containing an 'Add Profile' button and a list of 2 profiles: 'Cloud transcode' and 'Passthrough'. The 'Passthrough' profile is highlighted. A pagination bar at the bottom shows '1' of 2 items and a 'Show rows: 50' dropdown.

- Click on "Passthrough" and then select Edit from the Actions (3 dots) menu to be able to add/remove pass-through flavors.

**Live Transcoding Profiles**


2 Profiles • 1 Selected  [Cancel](#)

<input type="checkbox"/>	Name	Description	ID	Flavors	
<input type="checkbox"/>	Cloud transcode	The default set of live renditions	9089861	4 Flavors	...
<input checked="" type="checkbox"/>	Passthrough	Publish only the broadcasted stream	8889331	3 Flavors	...

[Set As Default](#)  
[Edit](#)  
[Delete](#)

- Click on the Flavors tab to enable the flavors based on the number of flavors your local encoder will be broadcasting. For example:
  - if you plan on broadcasting 4 flavors, enable "Source", "Ingest 2", "Ingest 3" and "Ingest 4"
  - if you plan on broadcasting 5 flavors, enable "Source", "Ingest 2", "Ingest 3", "Ingest 4" and "Ingest 5"
  - and so on (up to 6 flavors)

ACCOUNT SETTINGS   INTEGRATION SETTINGS   ACCESS CONTROL   **TRANSCODING SETTINGS**   CUSTOM DATA   MY USER SETTINGS   ACCOUNT INFORMATION

← **Passthrough** [Save](#) 

ID 8889331 | Creation Date: 08/10/17 | Flavors: 3

Metadata

**Flavors**

23 Flavors • 3 Selected

<input type="checkbox"/>	Name	ID	Format	Codec	Bitrate (kbps)	Dimensions
<input checked="" type="checkbox"/>	Source	32	flv	N/A	N/A	640 x 480
<input type="checkbox"/>	Basic/Small - WEB/MBL...	33	mp4	h264b	464	480 x auto
<input type="checkbox"/>	Basic/Small - WEB/MBL...	34	mp4	h264b	664	640 x auto
<input type="checkbox"/>	SD/Small - WEB/MBL (L...	35	mp4	h264m	964	640 x auto
<input checked="" type="checkbox"/>	Ingest 2	36	flv	N/A	N/A	480 x 360
<input checked="" type="checkbox"/>	Ingest 3	37	flv	N/A	N/A	640 x 480
<input type="checkbox"/>	Ingest 4	39	flv	N/A	N/A	auto x 540
<input type="checkbox"/>	Ingest 5	40	flv	N/A	N/A	auto x 720
<input type="checkbox"/>	Ingest 6	41	flv	N/A	N/A	auto x 720
<input type="checkbox"/>	HD/720 - WEB/MBL (H...	42	mp4	h264h	1828	auto x 720
<input type="checkbox"/>	HD/720 - WEB/MBL (H...	43	mp4	h264h	2728	auto x 720
<input type="checkbox"/>	Audio only - English	100	mp4	N/A	N/A	auto x auto
<input type="checkbox"/>	Audio only - Spanish	101	mp4	N/A	N/A	auto x auto
<input type="checkbox"/>	Audio only - French	102	mp4	N/A	N/A	auto x auto
<input type="checkbox"/>	Audio only - German	103	mp4	N/A	N/A	auto x auto