Supported Media for Google Cast

Google Cast supports the following media facilities and types. Some of these require additional coding or the Cast Application Framework (/cast/docs/caf_receiver_overview) (CAF). See Basic CAF Receiver Applications (/cast/docs/caf_receiver_basic) for more information about developing your receiver application to support these media types.

f you're having problems playing streams on a Cast device, it may be an issue with CORS. Use a publicly ole CORS proxy server to test your streams. (Please note that such third-party software as referenced here ntrolled by Google. Google cannot guarantee that third-party software will operate as intended. Please pro aution.)

All Google Cast receiver applications support the following.

Image formats

- BMP
- GIF
- JPEG
- PNG
- WEBP

mages have a display size limitation of 720p (1280x720). Images should be optimized to 1280x720 or les scaling down on the receiver device.

Media container formats

- AAC
- MP3
- MP4
- WAV

- WebM

You can determine if a particular codec is supported with a call to **`CastReceiverContext.canDisplayTy`** /docs/reference/caf_receiver/cast.framework.CastReceiverContext#canDisplayType). For example:

```
nst context = cast.framework.CastReceiverContext.getInstance();
ntext.canDisplayType('audio/mp4', 'mp4a.40.5');  //returns true
```

Video codecs

Chromecast 1st and 2nd Gen.

- H.264 High Profile up to level 4.1 (720p/60fps or 1080p/30fps)
- VP8 (720p/60fps or 1080p/30fps)

Chromecast 3rd Gen.

- H.264 High Profile up to level 4.2 (1080p/60fps)
- VP8 (720p/60fps or 1080p/30fps)

Chromecast Ultra

- H.264 High Profile up to level 4.2 (1080p/60fps)
- VP8 (2160p/30fps)
- HEVC / H.265 Main and Main10 Profiles up to level 5.1 (2160p/60fps)
- VP9 Profile 0 and Profile 2 up to level 5.1 (2160p/60fps)

  High Dynamic Range (HDR)

  - Dolby® Vision™
  - HDR10

Google Nest Hub

- H.264 High Profile up to level 4.1 (720p/60fps)
- VP9 up to level 4.0 (720p/60fps)

Audio codecs

- HE-AAC
- LC-AAC
- MP3
- Vorbis
- WAV (LPCM)
- FLAC (up to 96kHz/24-bit)
- Opus

Media type strings

MP4 video and audio

Video codec	Video profile	Audio codec	Audio profile	Media type string
H.264	level 3.0 baseline	AAC	aac_he	video/mp4; codecs="avc1.42E01E, mp4a.40.5"
			aac_lc	video/mp4; codecs="avc1.42E01E, mp4a.40.2"
		MP3		video/mp4; codecs="avc1.42E01E, mp4a.69"
				video/mp4; codecs="avc1.42E01E, mp4a.6B"
H.264	level 3.1 baseline	AAC	aac_he	video/mp4; codecs="avc1.42E01F, mp4a.40.5"
			aac_lc	video/mp4; codecs="avc1.42E01F, mp4a.40.2"
		MP3		video/mp4; codecs="avc1.42E01F, mp4a.69"
				video/mp4; codecs="avc1.42E01F, mp4a.6B"
H.264	level 3.1 main	AAC	aac_he	video/mp4; codecs="avc1.4D401F, mp4a.40.5"
			aac_lc	video/mp4; codecs="avc1.4D401F, mp4a.40.2"

Video codec	Video profile	Audio codec	Audio profile	Media type string
		MP3		video/mp4; codecs="avc1.4D401F, mp4a.69"
				video/mp4; codecs="avc1.4D401F, mp4a.6B"
H.264 level 4.0 main		AAC	aac_he	video/mp4; codecs="avc1.4D4028, mp4a.40.5"
			aac_lc	video/mp4; codecs="avc1.4D4028, mp4a.40.2"
		MP3		video/mp4; codecs="avc1.4D4028, mp4a.69"
				video/mp4; codecs="avc1.4D4028, mp4a.6B"
H.264 level 4.0 high		AAC	aac_he	video/mp4; codecs="avc1.640028, mp4a.40.5"
			aac_lc	video/mp4; codecs="avc1.640028, mp4a.40.2"
		MP3		video/mp4; codecs="avc1.640028, mp4a.69"
				video/mp4; codecs="avc1.640028, mp4a.6B"
H.264 level 4.1 high		AAC	aac_he	video/mp4; codecs="avc1.640029, mp4a.40.5"
			aac_lc	video/mp4; codecs="avc1.640029, mp4a.40.2"
		MP3		video/mp4; codecs="avc1.640029, mp4a.69"
				video/mp4; codecs="avc1.640029, mp4a.6B"
H.264 level 4.2 high		AAC	aac_he	video/mp4; codecs="avc1.64002A, mp4a.40.5"
			aac_lc	video/mp4; codecs="avc1.64002A, mp4a.40.2"
		MP3		video/mp4; codecs="avc1.64002A, mp4a.69"
				video/mp4; codecs="avc1.64002A, mp4a.6B"

MP4 video only

Video codec	Video profile	Video level	Media type string	Notes
Dolby Vision	05	06	video/mp4; codecs="dvhe.05.06"	4k24fps
		07	video/mp4; codecs="dvhe.05.07"	4k30fps
		09	video/mp4; codecs="dvhe.05.09"	4k60fps

Video codec	Video profile	Video level	Media type string	Notes
	08	06	video/mp4; codecs="dvhe.08.06"	4k24fps, compatible with HEVC decoder
		07	video/mp4; codecs="dvhe.08.07"	4k30fps, compatible with HEVC decoder
		09	video/mp4; codecs="dvhe.08.09"	4k60fps, compatible with HEVC decoder
H.265	main	5.0	video/mp4; codecs="hev1.1.6.L150.B0"	
		5.1	video/mp4; codecs="hev1.1.6.L153.B0"	
	main10	5.0	video/mp4; codecs="hev1.2.6.L150.B0"	
		5.1	video/mp4; codecs="hev1.2.6.L153.B0"	

MP4 audio only

Format	Audio codec	Audio profile	Media type string
M4A	AAC	aac_he	audio/mp4; codecs="mp4a.40.5"
		aac_lc	audio/mp4; codecs="mp4a.40.2"
MP3	MP3		audio/mp3
MPA	MP3		audio/mpeg
	MP3		audio/mpeg; codecs="mp3"
MP4	MP3		audio/mp4; codecs="mp4a.69"
	MP3		audio/mp4; codecs="mp4a.6B"

MP4 non-compliant audio media types

Format	Audio codec	Media type string

Format	Audio codec	Media type string
M4A	HE-AAC	audio/mp4; codecs="mp4a.40.05"
	LC-AAC	audio/mp4; codecs="mp4a.40.02"

WebM video and audio

Format	Video codec	Audio codec	Media type string
WebM	VP8	Vorbis	video/webm; codecs="vp8, vorbis"
WebM (audio only)		Vorbis	audio/webm; codecs="vorbis"

Audio passthrough

- AC-3 (Dolby® Digital™ audio technology)
- E-AC-3 (EC-3, Dolby® Digital Plus™ audio technology)
- MPEG-H Audio

The Cast Application Framework (/cast/docs/caf_receiver_overview) (CAF) supports AC-3 passthrough. If you're not using CAF, you can check the codec support prior to creating the source buffer by using the `CastReceiverContext.canDisplayType()` (/cast/docs/reference/caf_receiver/cast.framework.CastReceiverContext#canDisplayType) method with the corresponding media type string for each codec.

Format	Audio codec	Media type string
MP4	AAC	audio/mp4; codecs="mp4a.40.2"
	AC-3	audio/mp4; codecs="ac-3"
		audio/mp4; codecs="mp4a.a5"
	E-AC-3	audio/mp4; codecs="ec-3"
		audio/mp4; codecs="mp4a.a6"
	MPEG-H Audio	audio/mp4; codecs="mhm1.0x0D"

Delivery methods and adaptive streaming protocols

These are available through use of the Cast Application Framework (/cast/docs/caf_receiver_overview) (CAF).

- MPEG-DASH
  - DRM Support: PlayReady (SL 2000), Widevine (Level 1)
- SmoothStreaming
  - DRM Support: PlayReady (SL 2000)
- HTTP Live Streaming (HLS)
  - DRM Support: AES-128, SAMPLE-AES using Widevine (Level 1)
- Progressive download without adaptive switching

With adaptive bitrate streaming protocols, you must implement CORS (/cast/docs/player#cors). To implement an encrypted protocol, including DRM, you should develop a Custom Receiver (/cast/docs/caf_receiver_basic). See DRM support (/cast/docs/mpl/streaming_protocols#drm) for more information.

Subtitles and closed captions

Your subtitle resources must implement CORS (/cast/docs/player#cors).

- TTML - Timed Text Markup Language (http://www.w3.org/TR/ttaf1-dfxp/)
- WebVTT - Web Video Text Tracks (http://dev.w3.org/html5/webvtt/)
- CEA-608/708 (https://www.cta.tech/Research-Standards/Standards-Listing/Test-Materials.aspx)

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