

Main features

- Simple integration
- Skinnable layout with DPI-responsive UI
- Full screen handling
- Closed caption (HLS Embedded subtitles)
- Live / Vod playback
- Live DVR
- Adaptive bitrate streaming
- Automatic updates for future sdk releases
- Advertising
 - VAST 2.0 / 3.0
 - VMAP
 - Preroll, Midroll, Postroll
 - Linear and NonLinear
 - Ad Pods, Ad Skip, Tag Waterfall
 - Companion banners

Supported Os

- Android 4.4.x or higher

Supported Formats and Protocols

The following network protocols are supported for audio and video playback:

- RTSP (RTP, SDP)
- HTTP/HTTPS progressive streaming
- HTTP/HTTPS live streaming [draft protocol](#):
 - MPEG-2 TS media files only
 - Protocol version 3 (Android 4.0 and above)
 - Protocol version 2 (Android 3.x)
 - Not supported before Android 3.0

Note: HTTPS is not supported before Android 3.1.

Core Media Formats

Note: Media codecs that are not guaranteed to be available on all Android platform versions are accordingly noted in parentheses—for example "(Android 3.0+)".

Table 1. Core media format and codec support.

Type	Format Codec	Encoder	Decoder	Details	Supported File Type(s) / Container Formats	
Audio	AAC LC	•	•	Support for mono/stereo/5.0/5.1 content with standard sampling rates from 8 to 48 kHz.	<ul style="list-style-type: none"> • 3GPP (.3gp) • MPEG-4 (.mp4, .m4a) • ADTS raw AAC (.aac, decode in Android 3.1+, encode in Android 4.0+, ADIF not supported) • MPEG-TS (.ts, not seekable, Android 3.0+) 	
	HE-AACv1 (AAC+)	• (Android 4.1+)	•			
	HE-AACv2 (enhanced AAC+)		•	Support for stereo/5.0/5.1 content with standard sampling rates from 8 to 48 kHz.		
	AAC ELD (enhanced low delay AAC)	• (Android 4.1+)	• (Android 4.1+)	Support for mono/stereo content with standard sampling rates from 16 to 48 kHz		
	AMR-NB	•	•	4.75 to 12.2 kbps sampled @ 8kHz		3GPP (.3gp)
	AMR-WB	•	•	9 rates from 6.60 kbit/s to 23.85 kbit/s sampled @ 16kHz		3GPP (.3gp)
	FLAC			• (Android 3.1+)		Mono/Stereo (no multichannel). Sample rates up to 48 kHz (but up to 44.1 kHz is recommended on devices with 44.1 kHz output, as the 48 to 44.1 kHz downsampler does not include a low-pass filter). 16-bit recommended; no dither applied for 24-bit.

Type	Format Codec	Encoder	Decoder	Details	Supported File Type(s) / Container Formats
Audio	MP3		•	Mono/Stereo 8-320Kbps constant (CBR) or variable bit-rate (VBR)	MP3 (.mp3)
	MIDI		•	MIDI Type 0 and 1. DLS Version 1 and 2. XMF and Mobile XMF. Support for ringtone formats RTTTL/RTX, OTA, and iMelody	<ul style="list-style-type: none"> • Type 0 and 1 (.mid, .xmf, .mxmf) • RTTTL/RTX (.rtttl, .rtx) • OTA (.ota) • iMelody (.imy)
	Vorbis		•		<ul style="list-style-type: none"> • Ogg (.ogg) • Matroska (.mkv, Android 4.0+)
	PCM/WAVE	• (Android 4.1+)	•	8- and 16-bit linear PCM (rates up to limit of hardware). Sampling rates for raw PCM recordings at 8000, 16000 and 44100 Hz.	WAVE (.wav)
	Opus		• (Android 5.0+)		Matroska (.mkv)
Image	JPEG	•	•	Base+progressive	JPEG (.jpg)
	GIF		•		GIF (.gif)
	PNG	•	•		PNG (.png)
	BMP		•		BMP (.bmp)
	WebP	• (Android 4.0+) (Lossless, Transparency, Android 4.2.1+)	• (Android 4.0+) (Lossless, Transparency, Android 4.2.1+)		WebP (.webp)

Type	Format Codec	Encoder	Decoder	Details	Supported File Type(s) / Container Formats
Video	H.263	•	•		<ul style="list-style-type: none"> • 3GPP (.3gp) • MPEG-4 (.mp4)
	H.264 AVC	• (Android 3.0+)	•	Baseline Profile (BP)	<ul style="list-style-type: none"> • 3GPP (.3gp) • MPEG-4 (.mp4) • MPEG-TS (.ts, AAC audio only, not seekable, Android 3.0+)
	H.265 HEVC		• (Android 5.0+)	Main Profile Level 3 for mobile devices and Main Profile Level 4.1 for Android TV	<ul style="list-style-type: none"> • MPEG-4 (.mp4)
	MPEG-4 SP			•	3GPP (.3gp)
	VP8	• (Android 4.3+)	• (Android 2.3.3+)	Streamable only in Android 4.0 and above	<ul style="list-style-type: none"> • WebM (.webm) • Matroska (.mkv, Android 4.0+)
	VP9		• (Android 4.4+)		<ul style="list-style-type: none"> • WebM (.webm) • Matroska (.mkv, Android 4.0+)

Video Encoding Recommendations

Table 2, below, lists examples of video encoding profiles and parameters that the Android media framework supports for playback in the H.264 Baseline Profile codec. While table 3 lists examples that the framework supports for playback in the VP8 media codec.

Table 2. Examples of supported video encoding parameters for the H.264 Baseline Profile codec.

	SD (Low quality)	SD (High quality)	HD 720p (N/A on all devices)
Video resolution	176 x 144 px	480 x 360 px	1280 x 720 px
Video frame rate	12 fps	30 fps	30 fps
Video bitrate	56 Kbps	500 Kbps	2 Mbps
Audio codec	AAC-LC	AAC-LC	AAC-LC
Audio channels	1 (mono)	2 (stereo)	2 (stereo)
Audio bitrate	24 Kbps	128 Kbps	192 Kbps

Table 3. Examples of supported video encoding parameters for the VP8 codec.

	SD (Low quality)	SD (High quality)	HD 720p (N/A on all devices)	HD 1080p (N/A on all devices)
Video resolution	320 x 180 px	640 x 360 px	1280 x 720 px	1920 x 1080 px
Video frame rate	30 fps	30 fps	30 fps	30 fps
Video bitrate	800 Kbps	2 Mbps	4 Mbps	10 Mbps

For video content that is streamed over HTTP or RTSP, there are additional requirements:

- For 3GPP and MPEG-4 containers, the **moov** atom must precede any **mdat** atoms, but must succeed the **ftyp** atom.

For 3GPP, MPEG-4, and WebM containers, audio and video samples corresponding to the same time offset may be no more than 500 KB apart. To minimize this audio/video drift, consider interleaving audio and video in smaller chunk