

M2docs DIGITAL MUSIC DELIVERY PLATFORM SPECIFICATIONS

Amazon Music | HD | Ultra HD

Master Format - STANDARD/HD	1644 WAV
Digital Distribution Format - AMAZON DIGITAL MUSIC	256 MP3
Streaming Format - STANDARD	320 Opus
Streaming Format - HD	1644 FLAC
Master Format - ULTRA HD	2444/2448/2488/2496/24176/24192 WAV
Streaming Format - ULTRA HD	2444/2448/2488/2496/24176/24192 FLAC
LN Target Level	-14 LUFS
LN enabled by default	Yes
LN Mode	Track
Positive Gain	N/A

iTunes/Apple Music

Master Format - STANDARD	1644/2444/2448/2488/2496/24176/24192 WAV/FLAC/ALAC
Master Format - APPLE DIGITAL MASTERS	2444/2448/2488/2496/24176/24192 WAV/FLAC/ALAC*
Digital Distribution/Streaming Format - STANDARD	256 AAC (iTunes Plus)
Streaming Format - LOSSLESS	1644/2444/2448 ALAC
Streaming Format - HI-RES LOSSLESS	2488/2496/24176/24192 ALAC
LN Target Level	-16 LUFS**
LN enabled by default	No
LN Mode	Track/Album
Positive Gain	Gain

*Apple Digital Masters, formerly Mastered for iTunes (MFiT), only accepts 24-bit/44.1 kHz - 192 kHz files as delivery masters from select labels/digital distributors utilizing approved mastering studios.

**iTunes/Apple Music use Sound Check for loudness normalization. The loudness measurements in Sound Check do not correspond precisely with LUFS measurements. The target level is an approximation (generally accepted to be between -16.2 and -16.5 LUFS).

Bandcamp

Master Format	1644/2444/2448/2488/2496 WAV/AIFF/FLAC
Digital Distribution Format	WAV/AIFF/FLAC/ALAC/MP3/AAC/Vorbis
Streaming Format	128 MP3
LN Target Level	N/A*
LN enabled by default	N/A
LN Mode	N/A
Positive Gain	N/A

*Bandcamp does not support loudness normalization.

Loudness Normalization (LN) Overview

Loudness normalization (LN) is a system for adjusting the gain of audio files with the goal of each file being reproduced at the same perceived loudness. In music production, this is known as *track normalization* (Track Mode). LN systems scan audio files to calculate the difference between the measured perceived loudness and the *target level*, after which a gain offset value is assigned to each file. When LN is enabled, the level of the audio file is adjusted based on the value. Applying a negative gain offset decreases the level to that of the target level. Although not supported on all platforms, a positive gain offset increases the level to or toward the target level through the use of gain (to just below the point of clipping or in the case of Spotify -1.0 dBTP), gain and limiting, or gain and clipping. Some LN systems support *album normalization* (Album Mode), where the average loudness of an album is normalized, except in the case of TIDAL where the loudest track of each album is normalized, to the target level.

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Deezer

Master Format	1644 WAV
Streaming Format - LOW	64 HE-AAC v1
Streaming Format - STANDARD	128 MP3
Streaming Format - HIGH	320 MP3
Streaming Format - LOSSLESS	1644 FLAC
LN Target Level	-15 LUFS
LN enabled by default	Yes (mandatory)
LN Mode	Track
Positive Gain	N/A

Pandora

Master Format	1644 WAV
MOBILE APPS	
Streaming Format - LOW	32 HE-AAC v1
Streaming Format - STANDARD	64 HE-AAC v1
Streaming Format - HIGH	192 MP3
LN Target Level	-16 LUFS*
LN enabled by default	Yes (mandatory)
LN Mode	Track
Positive Gain	Gain + clipping

WEB BROWSER

Streaming Format - STANDARD	64 HE-AAC v1
Streaming Format - HIGH	192 MP3
LN Target Level	-16 LUFS*
LN enabled by default	Yes (mandatory)
LN Mode	Track
Positive Gain	Gain + clipping

*Pandora's loudness measurements do not correspond precisely with LUFS measurements. The target level is an approximation.

SoundCloud

Master Format	1648 WAV/AIFF/FLAC/ALAC
Streaming Format - STANDARD	64 Opus
Streaming Format - HIGH	256 AAC
LN Target Level	-14 LUFS
LN enabled by default	Yes (mandatory)
LN Mode	Track
Positive Gain	Gain + limiting

1644	16-bit/44.1 kHz PCM audio	24176	24-bit/176.4 kHz PCM audio
1648	16-bit/48 kHz PCM audio	24192	24-bit/192 kHz PCM audio
2444	24-bit/44.1 kHz PCM audio	24352	24-bit/352.8 kHz PCM audio
2448	24-bit/48 kHz PCM audio	24384	24-bit/384 kHz PCM audio
2488	24-bit/88.2 kHz PCM audio		Lossy file format bit rates (measured in kbps):
2496	24-bit/96 kHz PCM audio		24, 32, 48, 64, 96, 128, 160, 192, 256, 320

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Spotify

Master Format	1644/2444/2448/2488/2496 WAV/FLAC
DESKTOP/MOBILE/TABLET APPS	
Streaming Format - LOW	24 HE-AAC v2
Streaming Format - NORMAL	96 Vorbis
Streaming Format - HIGH	160 Vorbis
Streaming Format - VERY HIGH	320 Vorbis
Streaming Format - HiFi	1644 FLAC
LN Target Level - Loud	-11 LUFS*
LN Target Level - Normal	-14 LUFS (Default)*
LN Target Level - Quiet	-23 LUFS*
LN enabled by default	Yes
LN Mode	Track/Album
Positive Gain	Gain/Gain + limiting (Loud LN target level only)

*The target level is adjustable on Spotify Premium only.

WEB PLAYER

Streaming Format - NORMAL	128 AAC
Streaming Format - HIGH	256 AAC
LN Target Level	N/A*
LN enabled by default	N/A
LN Mode	N/A
Positive Gain	N/A

*The Spotify Web Player does not support loudness normalization.

TIDAL

Master Format - STANDARD/HiFi	1644 WAV
Streaming Format - STANDARD	320 AAC
Streaming Format - HiFi	1644 FLAC
Master Format - MASTER (MQA)	2444/2448/2488/2496/24176/24192/24352/24384 WAV
Streaming Format - MASTER (MQA)	2444/2448/2488/2496/24176/24192/24352/24384 FLAC
LN Target Level	-14 LUFS
LN enabled by default	Yes
LN Mode	Album
Positive Gain	N/A

YouTube

Master Format	1644/2444/2448/2488/2496 WAV/FLAC
Recommended Music Video Master Format	2444 WAV/FLAC
Streaming Format - MP4	128 AAC
Streaming Format - WebM	50/70/160 Opus
LN Target Level	-14 LUFS
LN enabled by default	Yes (mandatory)
LN Mode	Track
Positive Gain	N/A

M2docs DIGITAL MUSIC DELIVERY PLATFORM SPECIFICATIONS

YouTube Music

Master Format	1644/2444/2448/2488/2496 WAV/FLAC
Streaming Format - LOW	48 HE-AAC v1
Streaming Format - NORMAL	128 AAC
Streaming Format - HIGH	256 AAC
LN Target Level	N/A*
LN enabled by default	N/A
LN Mode	N/A
Positive Gain	N/A

*YouTube Music does not support loudness normalization.