



33⅓ RPM vs. 45 RPM:

What the Speed Means for Your Master

A quick reference for artists and labels cutting vinyl

Vinyl playback speed isn't just a technical spec — it directly affects how loud your record can be cut, how much low end it can hold, and how long each side can run. Below is a plain-language breakdown to help you choose the right speed and set realistic expectations.

The Core Difference

Both speeds spin the same size groove-cutting stylus across the same size disc, but 45 RPM moves the groove past the stylus (and later, the playback needle) faster. A faster groove velocity allows for more high-frequency detail and more low-end energy per rotation, which is why 45s are the standard for club and audiophile singles, while 33⅓ remains the standard for full-length albums.

Speed & Playing Time at a Glance

Disc Size	Speed	Typical Max. Time / Side	Common Use
12" LP	33⅓ RPM	~22 min (18–22 recommended)	Albums, full releases
12" Single/EP	45 RPM	~13–15 min	Club/DJ 12"s, EPs
10" LP	33⅓ RPM	~12–14 min	EPs, reissues
10" Single	45 RPM	~7–9 min	Singles, EPs
7" Single	45 RPM	~4–5 min	Radio/pop singles

These are practical ceilings, not hard limits — running close to the maximum time forces narrower, more closely-spaced grooves, which reduces headroom and low-frequency output. Shorter sides always cut louder and cleaner.

Sound Quality Trade-offs

Factor	33⅓ RPM	45 RPM
Groove velocity	Slower	~35% faster
High-frequency detail	Good	Better / more open top end
Bass & dynamic headroom	Good, if side is well under max time	Excellent — industry standard for deep bass
Achievable cutting level	Moderate	Higher / louder cuts possible
Max. practical playing time	Longer (full album sides)	Shorter
Surface noise sensitivity	Slightly more audible per rotation	Less audible — better signal-to-noise

How This Affects Your Master

- Choosing 45 RPM for a 12" single or EP generally allows a louder, punchier cut with stronger bass — ideal for club play and DJ use.
- Choosing 33⅓ RPM lets you fit a full album on two sides, but very long sides (over ~22 minutes) require a reduction in level and low-end energy to keep grooves from overlapping.

- If low end and volume matter more than total running time, consider splitting a release across more sides at 45 RPM rather than cramming it onto fewer 33⅓ sides.
- We tailor the master (EQ, bass mono-ing, and limiting) to the chosen speed and side length — always confirm your speed and track order with us before final approval.

