Millennia
Music & Media Systems

Legacy Recordings EQ

The 78 RPM record was a standard format for decades, followed by 33-1/3 RPM. While 33 RPM “LP” records produced after 1954 almost universally follow the EMI or RIAA standards, compensation curves used for 78 RPM records varied significantly between manufacturers and era. Via historical research and empirical testing, audio engineers have attempted to classify the myriad of legacy equalization formats.

The following chart lists a small sampling of various EQ curves which have been derived from papers, audio journals, jacket information on early LPs, experimentation, and other sources for records made generally between 1925 and 1955. The audio engineer should use these numbers as a guide only. Ultimately, use your ears as the final reference for correct compensation on legacy formats.

SOURCE	SERIES	TURNOVER (Hz)	ROLLOFF (dB @ 10 kHz)
Acoustic Recording (such as cylinders, etc.)		0 (or as required)	0 (or as required)
“AES”	*standard*	400	-12
AFRS Transcriptions		500	0 or -5
Allegro		750	-16
Allied		500	-16
American Recording Society		500	-12 or –13.7
Angel		500	-12
Arizona		400	-12
Artist		500	-16
Atlantic		500	-16
Audiophile		300	-8
BBC Transcriptions	1949	500	-5
BBC Transcriptions	most	250-300	0 to -5
Bach Guild	501-529	500-750	-16
Banner	adjust as required	500	-16
Bartok		629	-16

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SOURCE	SERIES	TURNOVER (Hz)	ROLLOFF (dB @ 10 kHz)
Bartok	301-304, 309, 906-920	700	-16
Berliner	speed = 71.29 RPM	0	0
Blue Bird		800	-10
Blue Note Jazz		400	-12
Boston		COL*	-16
Brunswick	rare	1000	-8.5
Brunswick	from 1946	300	-16
Brunswick	early	300-500	0 or -16
BSI		353	-10.5
Caedmon		629	-11
Caedmon	1001-1022	700	-12
Cameo	inconsistent, adjust as required		
Canyon		400	-12
Capitol	FDS	400	-12
Capitol-Telefunken		500	0
Capitol		500	-12
Cetra Soria		400	-12 or -16
Cetra		400	-11
Coliseum		400	-12
Columbia*	1925	200	-7
Columbia*	1926	250	-5
Columbia*	1938-most	300	-16
Columbia*	various	COL*	-16
Columbia*	European	300	-5

SOURCE	SERIES	TURNOVER (Hz)	ROLLOFF (dB @ 10 kHz)
Concert Hall		400	-12
Contemporary		400	-11
Cook Laboratories		500	-11
Cook Laboratories	binaural inside band	500	0
Coral		400 or 750	-12 or -16
Decca	early	150 or 300	0 or -6
Decca	1946-	400 or 500	-12
Decca FFRR	1949	250	-5
Decca FFRR	1951	300	-14
Deutsch-Grammophone		300	-5
Dial		500 or 750	-16
Disc		300	-16
Ducretet-Thomson		450	-11
EMI	1931	250	0
EMI	33LP	500	-12
EMS		375	-12
Edison		0	0
Electrola		800	-10
Elektra		629	-16
Epic	thru 1954	COL* or 750	-16
Esoteric		400 or 500	-12
European		280	0
Festival		750	-16
Folkways		629	-16

SOURCE	SERIES	TURNOVER (Hz)	ROLLOFF (dB @ 10 kHz)
Good Time Jazz		400	-12
Gramophone		300	-10
HMV	1925-1946	250	0
HMV	1946	400	-10
HMV	1946-1954	500 or 800	-16
HMV	American	400	-12
Handel Society		750	-16 or -17
Haydn Society		750	-16 or -17
Harmony Acoustics	thru 8/29	300	-16
Hit of the Week		500	-5
Kapp		700	-16
Kendall		629	-16
King		500	-16
Linguaphone		300	0
L'Oiseau-Lyre		500	-10
London	early	300	0
London	up to LL846	500 or 750	-10.5
London FFRR	1949-	250 or 280	-5
Lyrichord	early	400 or COL*	-16
Lyrichord	newer	629	-16
Mercury	thru 10/54	400	-12
MGM		500	0 or -12
Montilla		500	-12
Musicraft		750	-14

SOURCE	SERIES	TURNOVER (Hz)	ROLLOFF (dB @ 10 kHz)
"NAB"	*standard*	500	-16
New Records		750	-16
Nocturne		400	-12
Oceanic		COL* or 750	-16
Odeon	early electricals	700	0
Odeon	pre-1947	300	-8.5
Oiseau-Lyre	thru 1954	COL*	-8.5
Okeh	electricals	300	0 or -8.5
Oriole	inconsistent, adjust as required		
Orthoacoustic Transcriptions		500	-16
Overtone		400 or 500	-16
Oxford		750	-16
Pacific Jazz		400	-12
Parlophone	varies with era	300 or 500	0 or –8.5
Pathe	inconsistent, adjust as required		
Period		500	-16
Polydor		300	-8.5
Philharmonia		400	-12
Polymusic		500	-16
Ploymusic	binaural inside band	500	0
RCA Victor	early acoustics 71.29 RPM	0	0
RCA Victor	later acoustics 76.59 RPM	0	0
RCA Victor	1925 78 RPM	250 or 300	0 or -5
RCA Victor	1931 LP only	700 or 800	0 to –10.5

SOURCE	SERIES	TURNOVER (Hz)	ROLLOFF (dB @ 10 kHz)
RCA Victor	1933	375	-8.5
RCA Victor	1935	300 or 500	0
RCA Victor	1938	500	-5
RCA Victor	1938 – 1948	500	0 to -12
RCA Victor	1948	500	-10.5
RCA Victor	1949-	500	-12 or -13
Rachmoninoff Society		750	-16
Radiofunken		400	0
Remington		500	-16
Renaissance		750	-12
“RIAA”	*standard*	500	-13.7
Riverside		400	-12
Romeo	inconsistent, adjust as required		
Schirmer		1000	-24
Stradivari		750	-16
Supraphone		400	0
Technicord		800	-12
Telefunken		400	0
Transcriptions	various, typical	500	-16
Ultraphone		400	0
Urania	most	COL* or 750	-16
Urania	newer	400	-12
Vanguard	411-22, 6000-18, 7001-7011,		
8000-8004	COL* or 750	-16	

SOURCE	SERIES	TURNOVER (Hz)	ROLLOFF (dB @ 10 kHz)
Velvet Tone	acoustics to 8/29	300	-16
Vitaphone	950	-18.5	
Vitaphone	motion picture	300	0
Vocalion	electricals	300	0
VOX		500 or 750	-16
War Department	12” Special Services	700	-5
Western Electric	early transcriptions	300	0
Westminster	pre-1956	500 or 750	-16
Westminster	“AES” printed on jacket	400	-12
Westrex		200	0
Zonophone	early 71.29 RPM	0	0
Zonophone	most	300	0

Per NAB standards, the nominal speed of a 78 RPM record is precisely 78.26 RPM +/- 0.5%.

*COL — Some recordings were compensated with a roll off of -16 dB @ 10 kHz and a modified 500 Hz turnover that requires an additional VLF boost using a 100 Hz shelving filter @ +3.0 dB. Often referred to as a "Columbia curve," some sources list this at 300 Hz turnover with similar HF and VLF characteristics. Better advice: trust your ears.