

Delay by tempo (milliseconds)									
Tempo	Whole note (semibreve)	Half note (minim)	Dotted Quarter (dotted crotchet)	Quarter note (crotchet)	Dotted Eighth (dotted quaver)	Quarter triplet (crotchet triplet)	Eighth note (quaver)	Eighth triplet (quaver triplet)	Sixteenth (semiquaver)
60	4 000	2 000	1 500	1 000	750	667	500	333	250
65	3 692	1 846	1 385	923	692	615	462	308	231
70	3 429	1 714	1 286	857	643	571	429	286	214
75	3 200	1 600	1 200	800	600	533	400	267	200
80	3 000	1 500	1 125	750	563	500	375	250	188
85	2 824	1 412	1 059	706	529	471	353	235	176
90	2 667	1 333	1 000	667	500	444	333	222	167
95	2 526	1 263	947	632	474	421	316	211	158
100	2 400	1 200	900	600	450	400	300	200	150
105	2 286	1 143	857	571	429	381	286	190	143
110	2 182	1 091	818	545	409	364	273	182	136
115	2 087	1 043	783	522	391	348	261	174	130
120	2 000	1 000	750	500	375	333	250	167	125
125	1 920	960	720	480	360	320	240	160	120
130	1 846	923	692	462	346	308	231	154	115
135	1 778	889	667	444	333	296	222	148	111
140	1 714	857	643	429	321	286	214	143	107
145	1 655	828	621	414	310	276	207	138	103
150	1 600	800	600	400	300	267	200	133	100
155	1 548	774	581	387	290	258	194	129	97
160	1 500	750	563	375	281	250	188	125	94
165	1 455	727	545	364	273	242	182	121	91
170	1 412	706	529	353	265	235	176	118	88
175	1 371	686	514	343	257	229	171	114	86
180	1 333	667	500	333	250	222	167	111	83

Reference frequencies of various instruments				
Instrument	High-Pass Filter	Fundamental Frequency	Leading Frequency	Harmonics
Male voice	100 Hz	200 Hz	2 kHz (+)	4 to 5 kHz
Female voice	120 Hz	300 to 400 Hz	2,5 to 3 kHz	5 to 6 kHz
Talking voice	120 Hz	200 Hz	2 to 3 kHz	4 kHz
Electric guitar	80 Hz	200 to 300 Hz	2,5 kHz	> 4 kHz
Acoustic guitar	100 Hz	150 to 250 Hz	2 to 3,5 kHz	6 kHz
Piano	-	80 to 150 Hz	2 to 3 kHz	> 4 kHz
Bass guitar	-	80 Hz	250 to 500 Hz	2 to 3 kHz
Bass drum	-	60 to 80 Hz	350 to 600 Hz (-)	2 to 3 kHz
Snare drum	80 Hz	150 to 250 Hz	600 to 1,5 kHz	3 to 5 kHz
Tom	100 Hz	150 to 200 Hz	600 Hz (-)	2 to 3,5 kHz
Floor tom	-	120 Hz	300 to 500 Hz (-)	2 to 3,5 kHz
Hi-hat / Cymbal	200 Hz	400 to 600 Hz	2 to 3 kHz (-)	8 kHz
Harmonica	100 Hz	250 Hz	1,5 to 2,5 kHz	4 kHz
Saxophone	80 Hz	150 to 250 Hz	2 kHz (-)	3 to 4 kHz
High-pass filter	HP	Low frequencies, rather useless for the instrument sound.		
Fundamental Frequency	FF	Root frequency of the instrument. Emphasis: warmth and depth. Alleviation: the sound gets lighter and thinner.		
Leading frequency	LF	Frequency that has the most influence over the sound. Emphasis: instrument gets louder and stands out in front. (beware: can become aggressive) Alleviation: the instrument will come into the mix and the sound becomes softer.		
Harmonics	H	Frequencies that characterize the sound of the instrument. Emphasis: more presence and clarity. Alleviation: The sound becomes dull.		

Visual summary of reference frequencies									
Frequency	Male voice	Female voice	Electric guitar	Bass guitar	Bass drum	Snare drum	Tom	Floor Tom	Hi-hat / Cymbal
8000			H						H
6000		H	H						
5000	H	H	H			H			
4000	H		H			H			
3500						H	H	H	
3000		LF		H	H	H	H	H	LF
2500		LF	LF	H	H		H	H	LF
2000	LF			H	H		H	H	LF
1500						LF			
600					LF	LF	LF		FF
500				LF	LF			LF	FF
400		FF		LF	LF			LF	FF
350		FF		LF	LF			LF	
300		FF	FF	LF				LF	
250			FF	LF		FF			
200	FF		FF			FF	FF		HP
150						FF	FF		HP
120		HP						FF	HP
100	HP	HP					HP		HP
80	HP	HP	HP	FF	FF	HP	HP		HP
60	HP	HP	HP		FF	HP	HP		HP