Relationship of BEEP pitches to musical notes

The QL BEEP command has a fairly complex relationship to musical notes, but it is possible to calculate the pitch and duration values to match to notes and lengths.

BEEP <pitch>,<duration>

gives a frequency approximately equal to 11447/(10.6+<pitch>) hz

and a duration of <duration>*72/1000000 seconds.

Frequencies Of Notes In Even Tempered Scale With A=440Hz

Here is a table giving the frequencies in Hz of musical pitches, covering the full range of all normal musical instruments. It uses an even tempered scale with A = 440 Hz.

	C	C#	D	Eb	E	F	F#	G	G#	A	Bb	B
0	16.35	17.32	18.35	19.45	20.60	21.83	23.12	24.50	25.96	27.50	29.14	30.87
1	32.70	34.65	36.71	38.89	41.20	43.65	46.25	49.00	51.91	55.00	58.27	61.74
2	65.41	69.30	73.42	77.78	82.41	87.31	92.50	98.00	103.8	110.0	116.5	123.5
3	130.8	138.6	146.8	155.6	164.8	174.6	185.0	196.0	207.7	220.0	233.1	246.9
4	261.6	277.2	293.7	311.1	329.6	349.2	370.0	392.0	415.3	440.0	466.2	493.9
5	523.3	554.4	587.3	622.3	659.3	698.5	740.0	784.0	830.6	880.0	932.3	987.8
6	1047	1109	1175	1245	1319	1397	1480	1568	1661	1760	1865	1976
7	2093	2217	2349	2489	2637	2794	2960	3136	3322	3520	3729	3951
8	4186	4435	4699	4978	5274	5588	5920	6272	6645	7040	7459	7902

The octave number is in the left column so to find the frequency of **middle C** which is C4, look down the "C" column til you get to the "4" row : so middle C is 261.6 Hz.

Some Specific Notes

Middle C is C4=261.6Hz

Standard tuning fork A is A4=440Hz

Piano range is A0=27.50Hz to C8=4186Hz

Guitar strings are E2=82.41Hz, A2=110Hz, D3=146.8Hz, G3=196Hz, B3=246.9Hz, E4=329.6Hz

Bass strings are (5th string) B0=30.87Hz, (4th string) E1=41.20Hz, A1=55Hz, D2=73.42Hz, G2=98Hz

Mandolin & violin strings are G3=196Hz, D4=293.7Hz, A4=440Hz, E5=659.3Hz

Viola & tenor banjo strings are C3=130.8Hz, G3=196Hz, D4=293.7Hz, A4=440Hz

Cello strings are C2=65.41Hz, G2=98Hz, D3=146.8Hz, A3=220Hz