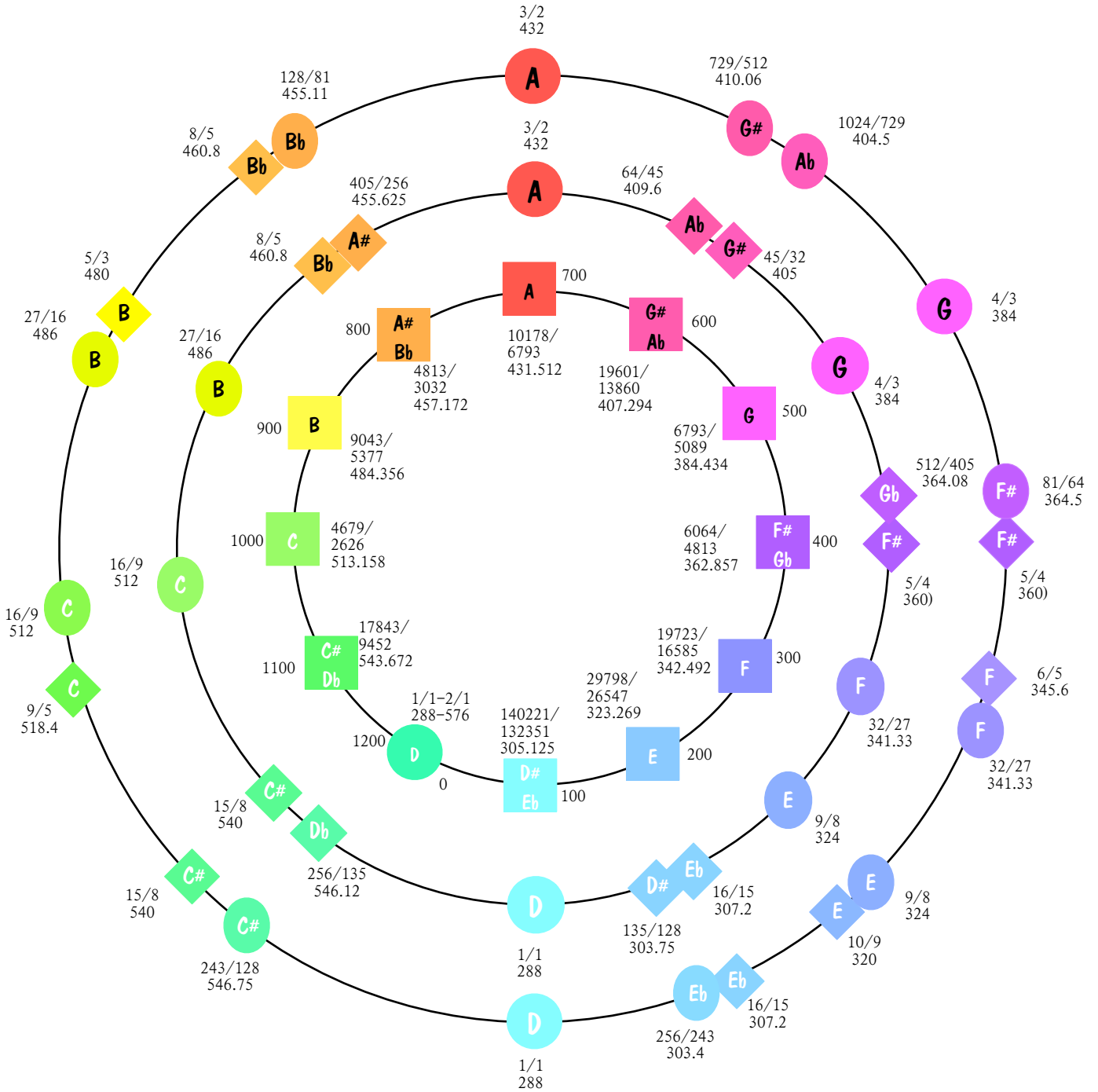


Color Tunings in Hue, Saturation, and Brightness for 12-Note Equal Temperament, 17-Note, and 22-Note 2-3-5 Limit Lattice



The colors come directly from the Hue-Saturation-Brightness color wheel on the Macintosh computer. (I am using the note A as 0° red hue and moving counterclockwise in each of the 3 circles.)

The inner wheel numbers show ratios and hertz for 12-tone equal temperament. The numbers just outside the inner circle from 0–1200 in 100 degree increments show the number of “cents” for each note. Notice that the cents are all even round numbers, but the ratios are huge and the hertz are uneven. For example, the note B in equal temperament is 900 cents, ratio 9043/5377 and 484.356 hertz. In the middle circle 17-note octave, both ratio and hertz are simpler with B at 27/16 and 486 respectively. The outer circle includes both the 2-3 limit lattice B of 27/16 (486 hz), and the even simpler 2-3-5 limit lattice ratio of B 5/3 (480 hz)

The equal temperament hertz number will always be somewhere in between the the 2-3 limit and the 2-3-5 limit versions of the same note. For example, on the inner wheel, the equal temperament C is 513.158 hz ratio 4679/2626; the 2-3 limit C is ratio 16/9 and 512 hz, lower than the equal temperament C; but the 2-3-5 limit C is ratio 9/5 and 518.4 hz, higher than the equal temperament C.

Color Tunings in Hue, Saturation, and Brightness for 12-Note Equal Temperament, 17-Note, and 22-Note 2-3-5 Limit Lattice



The innermost circle shows 12 equal divisions of 360°. The colors and degree numbers come directly from the Hue-Saturation-Brightness color wheel on the Macintosh computer. (I am using the note A as 0° hue and moving counterclockwise in each of the three circles.)

The middle wheel distinguishes the A#/Bb, C#/Db, D#/Eb, F#/Gb, and G#/Ab, which, in equal temperament, are considered the exact same pitch but with different note names. Recognizing these enharmonic spellings as two separate and distinct notes brings the number of notes in this octave to 17, which is the division of the net in the biblical parable of the Fishes in the Net. (See John Michell, *Dimensions of Paradise*, pp. 174–178 and David Fideler, *Jesus Christ, Sun of God*, pp. 291–308 for the numeric and geometric symbolism.)

The outer circle is based on the 2-3-5 limit lattice harmonic ratios growing out of the 1—the monad. Here the top number is the ratio translated into degrees on a circle and the bottom number in parentheses is the HSB color number. In this outer circle the color numbers begin with 0° as A red, but the musical ratios begin with D as ratio 1/1 and 0° harmonically. D is the harmonic mean of the octave from A to A, the perfect fifth descending. Notice that in 12-tone equal temperament, while the complementary colors of red and cyan are 180° apart, the musical interval is an augmented fourth/diminished fifth—a tritone which has historically been considered a dissonant interval. Using the same number ratios for both color and interval keeps the complementary colors of red and cyan 180° apart, but changes the musical interval from a tritone in the inner circle, to a perfect fifth in the middle and outer circles. The perfect fifth is the most consonant interval next to the perfect unison and perfect octave.

If the ratio degrees in the outer circle are added together, they total 3168. To quote John Michell, “The general character of the number 3168, as conveyed by its position in ancient cosmological diagrams and the phrases associated with it through gematria, is that it represents the spirit which passes through and encircles the universe, Plato’s World-soul. The Christian term for this spirit, developed from the number 3168, was Lord Jesus Christ” (*Dimensions of Paradise*, p. 173).