

# Nydanalyzer - SaLaTa

- Measure SaLaTa step intervals
- See how Pythagorean tuning works
- Find the notes belonging to chord symbols
- Examine scales, keys and modes

The dots on the rim of the big disc represent Pythagorean pitches, showing how they correlate to the twelve equal-tempered pitches being represented by inwards extended ruler markings. There are 10 cents between each ruler marking.

The dots have been slightly adjusted so that they correspond to 53-ET. This means that the octave is divided into 53 equal steps. 53-ET is a very good approximation of the Pythagorean tuning system.

Note names:

nDo dPa nRo dNa nMo nFa dVo nSa dGo nLa dBo nTa  
*C Db D Eb E F Gb G Ab A Bb B*

Intervals:

n0 d1 n2 d3 n4 n5 d6 n7 d8 n9 dX nY  
*P1 m2 M2 m3 M3 P4 d5 P5 m6 M6 m7 M7*

To measure intervals: simply point 0 to a note and read the intervals to other notes.

To find the notes of a key: point 0 to the beginning note of the corresponding major scale, and read the notes at intervals 0 2 4 5 7 9 Y.

Various pitch sets and chord symbols are conveniently accessible on the backside of the Nydanalyzer. Intervals that may be left out are written in parentheses.

The backside also features the Spiral of Seven Steps (traditionally known as the circle/spiral of fifths). You can look at the pattern of a chord along the spiral, and then shift that pattern a certain number of steps clockwise or counter-clockwise to find the same chord transposed to another note of your choice. If you want to transpose a piece from, let's say, Do major to Sa major, then all you have to do is to move every note or chord one step clockwise along the spiral.

To find the notes in the key of Do major, pick the sequence Fa Do Sa Ro La Mo Ta from the Spiral of Seven Steps (these correlate to: subdominant, tonic, dominant, supertonic, submediant, mediant, and leading tone). With these notes, you can build three major chords on Fa, Do, and Sa, respectively; and three minor chords on Ro, La, and Mo, respectively. The remaining note, Ta, is a so-called leading tone because it wants to resolve into Do. You can start anywhere on the Spiral of Seven Steps to derive the notes of any particular key - the notes always come in the same sequence.

Intervals can be assessed by the relative position between notes along the spiral.

Instead of talking about enharmonic equivalents of a note, SaLaTa notes can come in different intonations. The intonation variants of any given note are written next to each other along the radius of the spiral.

## Assembly

If you just want to try out the Nydanalyzer, then print and cut out the disc on this page and on page 3, and put them together with a lapel pin badge or a suitable earring. Otherwise follow these instructions:

Print out the three discs. Cut out the three discs roughly. Put carpet tape (which is adhesive on both sides) on a piece of cardboard and apply the disc from this page. Then cut out the disc. Do the same procedure with the disc from page 3. Then, put carpet tape directly on the backside of the disc from page 4. Cut out the disc from page 4 and apply it like a sticker on the backside of the disc from page 3 (make sure it's rotated properly to match the opposite side).

The best way to assemble the two discs, that you have prepared, is to use eyelets. Be sure to use eyelets consisting of two parts (eyelet+washer); otherwise the eyelet will eventually cut its way through the cardboard. You can usually buy eyelets where they sell sewing materials. Do not hammer too much on the eyelet as this could prevent the discs from rotating freely in relation to each other. Be careful when cutting out the holes for the eyelets - it's important that the discs are well centered if readings are to be correct.





