

FIGURED BASS GENERATOR

Figured Bass

Figured bass is a musical notation composed of Arabic numerals annotating a basso continuo (the "continuo" practiced by "continuists"). It indicates the intervals, chords and foreign notes for a piece of improvised or non-improvised music. This system is mainly used in baroque music.

It can be compared very roughly to the so-called "Anglo-Saxon" notation system used for jazz grids or song scores for example.

Figured bass is the daily practice of baroque keyboardists¹ and serves as a basis for improvisation.

Nowadays, learning it is essential for any baroque musician and, more generally, provides a valuable key to better understanding the thinking and work of "classical" music composers, who were all trained on this basis.

Teaching Figured Bass

There are programs and software covering almost all areas of musical learning:

- Ear training
- Reading training
- Learning music theory
- Rhythmic exercises
- Instrumental learning
- Working on "grids" (Jazz for example), etc.

However, to this day, learning Figured Bass is still based exclusively on existing texts, written by composers of the Baroque period, and on specific methods, from that time to the present day. But no tool today can automatically generate the exercises necessary for the practical learning of Figured Bass.

The figured bass generator fills this gap.

Indeed, if the figured bass generator does not replace a theoretical figured bass method, it constitutes its practical support, by offering an infinity² of randomly generated texts adapted to the level of each student or practitioner wishing to train.

The Figured Bass Generator

This generator randomly produces an infinity (theoretical²) of figured bass exercises, all in accordance with the rules and practices governing this practice, and in particular the general rules of so-called "classical" harmony:

- Consistency of figures according to degrees (the notes on which the chords are based)
- Validity of sequences (some sequences are authorized, others are not)

1 Or any polyphonic instrument.

2 More precisely, a few trillions per key (1 followed by 18 zeros).

- Respect for "Cadences" (rules governing the ends of phrases)
- Conformity to the sequences of the "Octave Rule" (the most common sequences)

A tool for teaching or training purposes, it therefore has the advantages (for example: the different levels) and the limits of the genre (for example: the text does not modulate, but remains in the chosen key). It is not a question of generating a "real" piece of baroque music, but rather an exercise for the student or continuo practitioner, as well as for anyone wishing to practice or improve in "classical" style improvisation.

The application is "responsive": suitable for any medium (computer, smartphone, tablet, etc.)

Features

1. General principle

Each text generated:

- Complies with the rules of classical harmony,
- Is made up of "permitted" and most common sequences,
- Constitutes a coherent musical phrase (beginning and end),
- Has one or more production solutions.

2. Configurable choices

Four parameters can be adjusted by the user:

- Number of chords

This parameter determines the length of the generated text.

Tip: favor 4-bar frames (4, 8, 12 or 16 bars depending on your level).

In all cases, the phrase ends with one of the three possible final cadences ("perfect/imperfect cadence", "half cadence", "plagal cadence").

Tip: choosing "0" generates a phrase of 16 chords, built with an "antecedent" (1/2 cadence) and a "consequent".

- Key signature

This parameter determines the number of alterations in the key (the tonality), from 3 flats to 3 sharps, thus covering the most common key signatures in baroque literature.

A "random" function is also available.

- Mode

This parameter determines the mode of the text among the two existing modes (major or minor). A "random" function is also available.

- Level

This parameter allows the user to accompany their progress.

4 levels are offered:

«**Easy**» : includes only the "basic" chords, for beginners:

- 1st degree and its 1st inversion
- 5th degree and its 1st inversion
- 7th chord of the 2nd degree in its 1st inversion
- 7th chord of the dominant in its 1st inversion

«**Medium**» : includes most of the common chords, i.e., in addition to the chords of the previous level:

- 4th and 6th degrees (in the fundamental state)
- All the inversions of the "7th of the dominant"

«**Difficult**» : includes all the chords (in particular of the "octave rule") and appoggiaturas or common delays, i.e., in addition to the chords of the previous levels:

- 1st inversion of the 4th degree
- Dominant of the dominant (2nd inversion "+6")
- 7th chord of the 2nd degree in its 3rd inversion (in minor)
- Delays or appoggiaturas (4, 6/4, +7)

«**Expert**» : Currently in Beta version, this level includes, in addition to the chords of the previous levels:

- Secondary dominants (V/IV, V/VI)
- Diminished 7th chords (V, V/II, V/V)
- Delays and appoggiaturas (9, 7...)
- Neapolitan sixth

3. Presentation of the text

The application is "responsive": suitable for any device (computer, smartphone, tablet, etc.)

The generated text is presented on a two-staff "keyboard" type system, with the figured bass in the left hand and an empty staff in the right hand. Each bass note is a whole note.

Example :

6/5 4 ♯ +4 6 6/4 ♯ 6 6/♯ 6 4/3 ♯ 6 6/5 ♯

This presentation allows:

- To invent one or more realizations,
- To write them down if necessary,
- To invent (and write) a rhythm of your choice for the bass line,
- To improvise on the text thus personalized, etc.

4. Interface

Several buttons are offered (depending on the level):



“**Home**” : returns to the main page, to modify the parameters.



“**Refresh**” : generates a new text while keeping the choices set by the user.



“**Print**” : edits a new page (which can be sent to the printer) and containing the same text in 4 keys:

- The main key,
- The 2 neighboring keys of the same mode (IV and V),
- The relative key.



“**Hide/Show**” : hides or displays a solution.



“**Transpose**” : these 2 buttons allow you to transpose the text (*from 3 flats to 3 sharps in the current version; extended function in future versions*).



“**Help**” : these 3 buttons display clues:

- The degrees,
- The degrees in color,
- A “grid” of the Anglo-Saxon type (in C Major and A minor).



To access the application:

Site: jmt-musique.com

Tab: « **harmonie** »

Direct link: jmt-musique.com/harmonie.php#chordListGenTop

To contact me: jmt@jmt-musique.com