# Die Ziach – Version 5.6.1
## Description

**Installation and Handling of the Ziach plugins**

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# Preface

Meanwhile the score editing program capella has many friends also in not German speaking countries. Especially the Ziach plug-ins do have many friends worldwide.

Up to now the description for these plug-ins was available in German only. This caused many questions. Therefore I am trying to provide an English version of this document.

Maybe there is a native speaker around how is willing to transform this document into better English than my pidgin English.

In the meantime you have to live with this version.

**A word to the wise:**

Best things in live are free as the old saying goes. So are the Ziach plugins. However Bob Heinlein, an author I like very much, created in one of his writings the *Loony talk* TANSTAAFL which stands for *There aint no such thing as a free lunch*. This is also valid for the plug-ins.

First you need the professional version of Capella. This one is not for free.
Second you will have to spend some time to learn the handling of this program.
Third you will have to download and install the free plugins and finally you have to read and understand this manual carefully to learn the handling of the Ziach plugins.

However, you might need to spend some more time and money.

There is still the question of how do I get the scores I want to translate into *Griffschrift* into Capella.

Capella itself as a score writing programs stores the score in a special format ( CAPX or MusicXML ). Scores from other sources are normally provided on paper, in a graphical format ( TIFF, JPG or others ) or as a PDF file. These files Capella cannot read.

You can do it now the hard way and type in everything by hand. But you can also use another program which is able to actually read sheetmusic an translate it into the capella format. This is much easier and saves a lot of time.

This program is called Capella Scan.

And of course, this program is not for free.
Also the things I said about Capella ( learning how to handle ) apply as well.

Have fun

Peter Becker

# Some Basics

- **What's new in 5.6.1**

  Currently the half and the full notes are often represented by hollow crosses. This saves a lot of space and is more easily readible.

  **Caution: All other forms of representation are not changed. It is absolutely neccessary to install the new Ziach.TTF.**

- **What does this plugin do**

  This plugin transforms normal sheetmusic into the *Griffschrift* used bei the *Steirische Harmonica.* The *Griffschrift* is based on the one proposed by Rosenzopf or similar versions. I myself do not play this instrument, therefore I leaned heavily on the documentation provided by *Franz Fuchs* on the Internet.

  http://www.volksmusik.cc/

  To all testers and especially to Mr. Fuchs I'd like to say Thank You for their testing and their valuable suggestions.

  And additional Thank You goes to the next Generation of the family Fuchs for their valuable contributions to this plugin.

  Mr. Fuchs also provided on his own homepage a description on how to write *Griffschrift* and how to use this plugin.

  http://www.volksmusikschule.at/griffschriftskript.htm

- **What do we need for input ?**

  - A capella file were the system contains only one staff with several voice. Multiple Heads on one staff are allowed.

  - The key oft the piece is insignificant. The plugin internally transposes the notes for an instrument which is tuned to ADG or ADGC. With certain limitations you can decide for which row on your harmonica the piece will be translated. If your piece has 3 or 4 keys the must be adjacent in the circle of fifth, otherwise it is will be not playable on your harmonica. The plugin analyses the keys and offers the possible varieties. It is therefore insignificant how your harmonica is tuned. The result will be, thanks to the *Griffschrift*, in all cases playable.

  - **The accompanying chords are always required and must be fixed to all voices**. The can be defined as simple Text or as transposable symbols. The plugin uses these chords to deduce the direction ( push or pull ). If the accompanying chords don't belong to the current key the result is not predictable and there is a high probability it will be not usable.

    **There will be no support for such *Errors* from my side.**

- **Supported accompanying chords with simple text ( written exactly as shown )**

  - Opposite to standard Capella the plugin is supporting chords written in simple text. The full set including the secondary dominant is supported. The spelling has to be as shown in the following table. Because the assignment of the bass keys is configurable, the translation will be done according to the possibilities of the selected instrument.

Since most harmonicas do not have minor keys, the basstones only will be inserted if available.

- **C-major** : C , Dm , Em, F , G , G7 , Am , B- oder H- , D
- **G-major** : G , Am , Bm oder Hm, C , D , D7 , Em , F# - , A
- **D-major** : D , Em , F#m , G , A , A7 , Bm oder Hm , C# -, E
- **A-major** : A , Bm oder Hm , C#m , D , E , E7 , F#m , G#- -, B oder H
- **E-major** : E , F#m , G#m, A , A , B7 oder H7, C#m, D#--, F#
- **H-major** : B oder H , C#m , D#m , E , F# , F#7 , G#m , A# - , C#
- **Fis-major**: F# , G#m , A#m ,B oder H , C# , C#7 , D#m , E# - , G#

- **Cis-major** : C# , D#m , E#m , F# , G# , G#7 , A#m, H# - oder B# - , D#
- **F-major** : F , Gm , Am , Bb , C , C7 , Dm , E- ,G
- **B-major** : Bb , Cm , Dm , Eb , F , F7 , Gm , A- , C
- **Es-major** : Eb , Fm , Gm , Ab , Bb , Bb7 , Cm , D- , F
- **As-major** : Ab , Bbm , Cm , Db , Eb , Eb7 , Fm , G- , Bb
- **Des-major** : Db , Ebm , Fm , Gb , Ab , Ab7 , Bbm , C- , Eb
- **Ges-major** : Gb , Abm , Bbm , Cb , Db , Db7 , Ebm , F- , Ab
- **Ces-major** : Cb , Dbm , Ebm , Fb , Gb , Gb7 , Abm , Bb- , Db
- **Z** : Pseudo chord. Forces pull
- **R** : Pseudo chord. Forces push

**Chords not belonging to the key will be shown in red after transposition.**

## Supported chords using transposable objects.

- Basically the same chords as in simple text are supported. However transposable objects are complex entities. Therefore I cannot say much about the spelling. Currently the spelling as created by the Capella C7 plugin and the spelling as in the Capella symbols and the spelling used by Mr. Fuchs are supported.

## Scope of delivery

| | |
|---|---|
| Ziach_A.py | *Modul 1 - Preparation* |
| Ziach_B.py | *Modul 2 - Translation* |
| Ziach_C.py | *Modul 3 - Finalizing* |
| Ziach.ttf | *special font* |
| Ziach_DEF.py | key *Definitions* |
| Ziach_tr.py | *Language group* |
| Ziach_description.pdf | English Description |
| Ziach_Beschreibung.pdf | German Description |

## Hints

- For Version 5.3 of this plugin Capella starting with Version 7 is mandatory. If you have an older version of Capella you must use Version 4 of this plugin. However there will be no further development und bugfixes for this version. Version 4 can be downloaded here:

  http://www.peter-becker-cap.de/Ziach4.2.1.zip

- Make sure Capella has the latest stepup installed.
- The plugins A, B and the must be called in sequence. Undo is possible by Capella means.

- This plugin changes the original data. Therefor make a backup copy of your data before processing. I suggest saving the processed data as *xxxxx_GS.*

- **Installation**

    - Download the following modules:

        - Ziach_A.py
        - Ziach_B.py
        - Ziach_C.py
        - Ziach_tr.py
        - Ziach.ttf

    - Install the font *Ziach.ttf in Windows.*

    - I suggest using the plugin *Scriptdownload*. This will install all available plugins automatically and will also provide nice pulldowns.

    - If you did everything correctly, the plugin is now ready to use.

## The modules

- ### Step 1 : Ziach_A

  It prepares your score for translation by transposing the notes and chords for the internally used base instrument. This instrument is tuned to ADG/C. It also decides based on the chord if to push or to pull. The key in your score is insignificant. However the 3 or 4 keys must be next to each other in the circle of fifth.
  If it finds chords, not belonging to the current keys, these keys will be shown in red. The upper letter is the chord the lower letter is the bass key as defined in Ziach_DEF.py.

- ### Step 2 : Ziach_B

  This step translates the score into *Griffschrift*. Not playable notes will be shown in red.

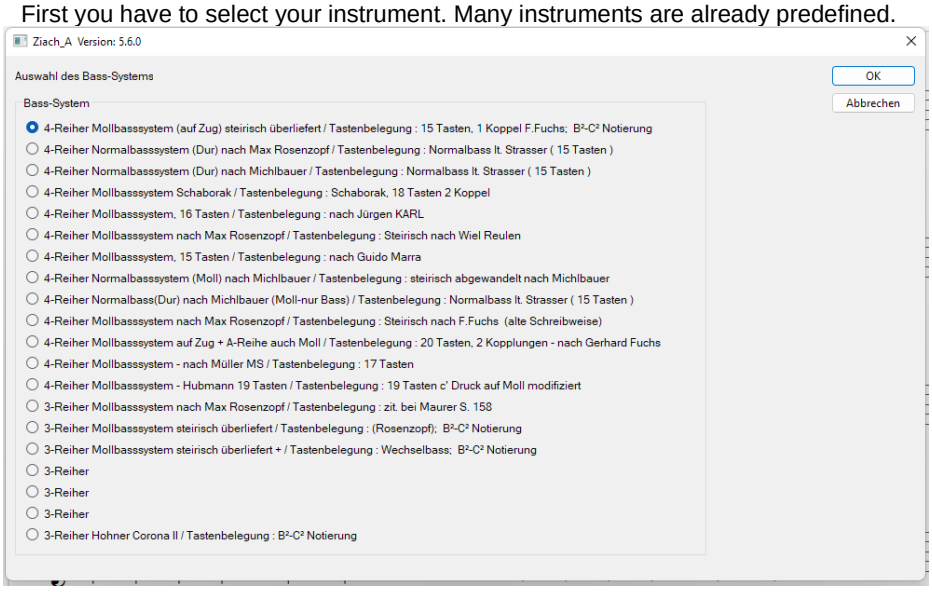
- ### Step 3 : Ziach_C

  Here your score gets the final touches. Optical correction are done and the accompaniment chords pattern is created

## Step by step Procedure

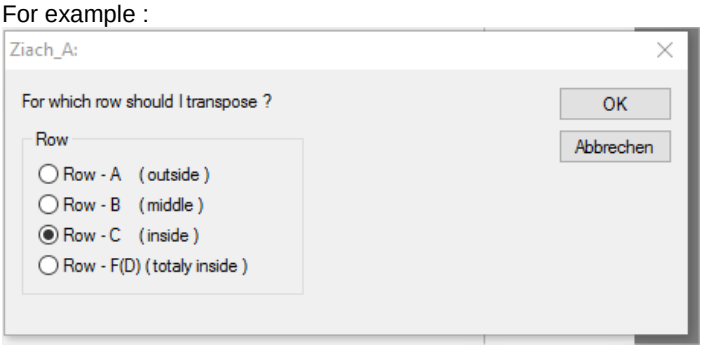
- ### Preparation by running *Ziach_A*

  First you have to select your instrument. Many instruments are already predefined.



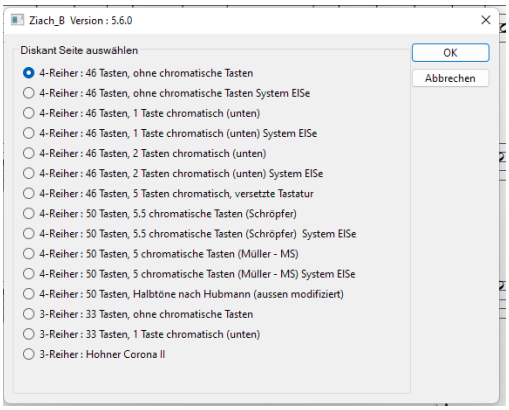

  After this you have to select the row for which the translation has to be done. The plugin offers the different possibilities based on your score.

  For example :

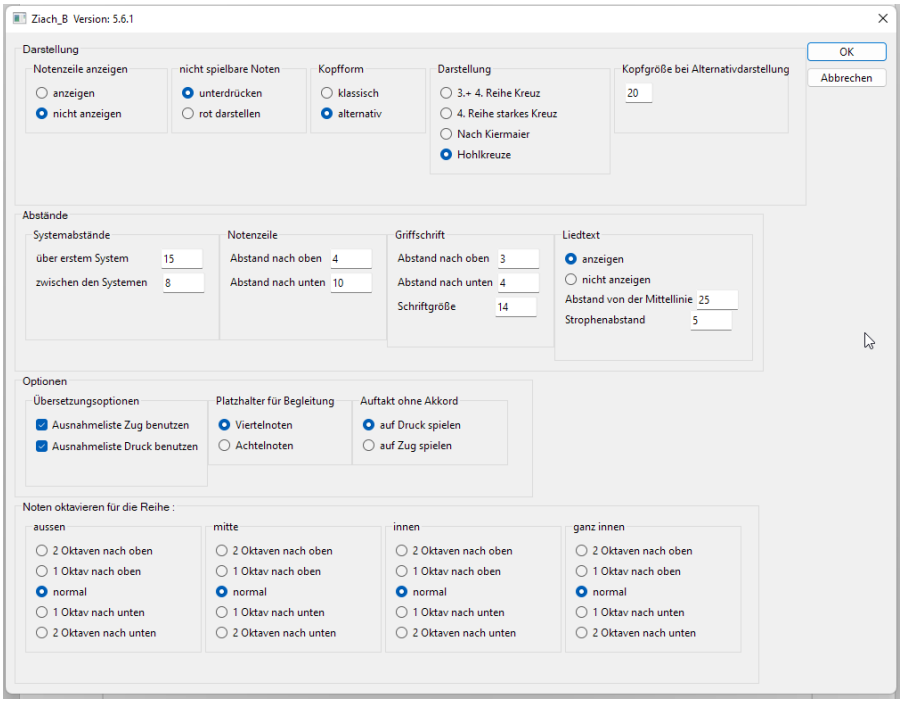


- **Translation by running *Ziach_B***

  First of all you have to select the layout of the treble side. The most common instruments have already been predefined. If your instrument has a different layout, feel free to add your instrument to Ziach_DEF.py. The format of Ziach_DEF is described later in this document.




After selecting the instrument you have to select your translation options.

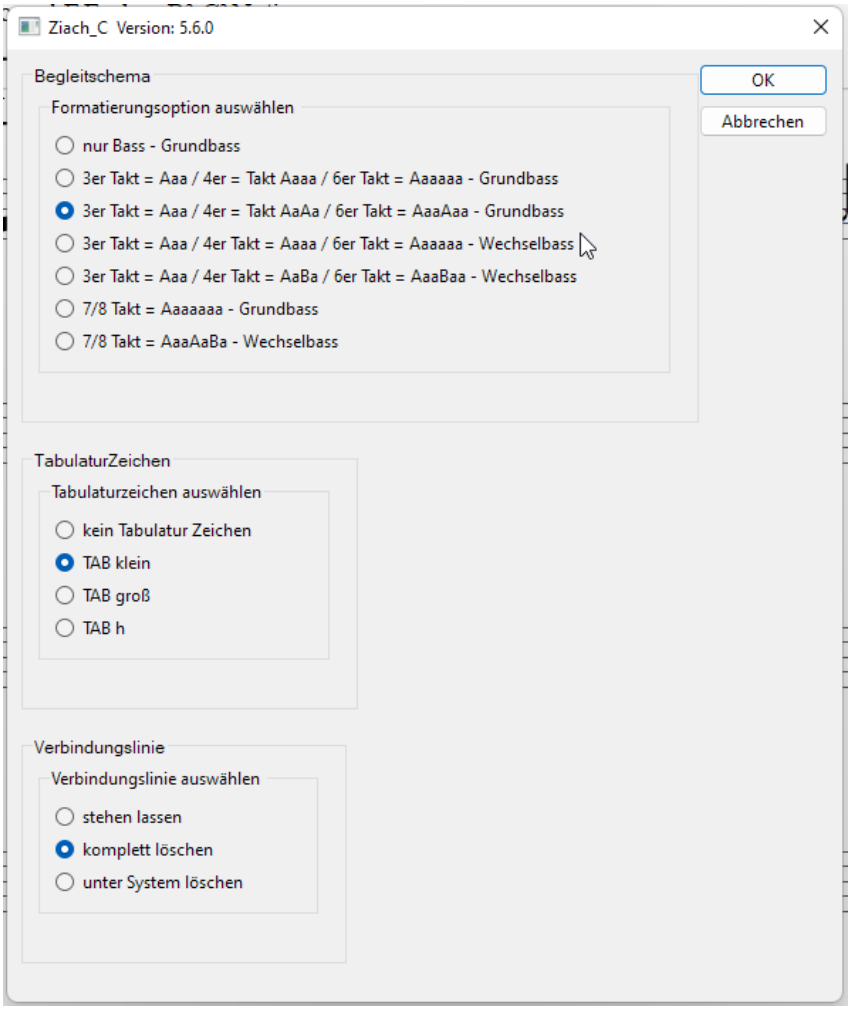



  - Additionally show normal staff after translation
  - Show invalid notes in red or suppress these notes
  - Form of the head and size
  - Push or pull if there is no chord on first measure
  - Placeholder for bass chords
  - Different distances
  - Bass font size
  - Take exception list into consideration ( see additional description ))
  - Take up or down the octave if necessary.

**Caution:** This can exceed the presentation capabilities of Capella which will lead to *interesting* results.

- **Optical correction and accompaniment chords creation by running *Ziach_C***

  Define the format of the accompaniment chords, select your TAB sign and suppress the staff connecting line.




- **Extra work**

  - Staff distances
  - Font size
  - Correction of overlaying heads
  - Correction of slurs
  - Optical corrections
  - Correction of basses and alternate basses
  - Maybe some more

The sample I have taken from Franz Fuchs. The translation was done using the plugins Ziach_A to _C .

- ## Creation of bass patterns

  - ### General remarks

    The bass definitions will be generated based on the chords. They will be anchored on the placeholders generated by Ziach_B.

    Every chord creates a bass key.

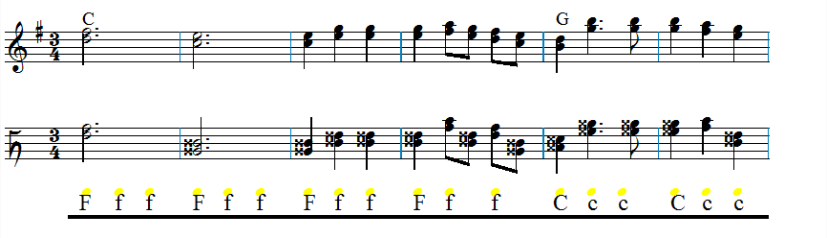
    The accompaniment chords will be created by Ziach_C depending on the selections done there.

    A new chord within a measure interrupts the creation of the accompaniment chords.

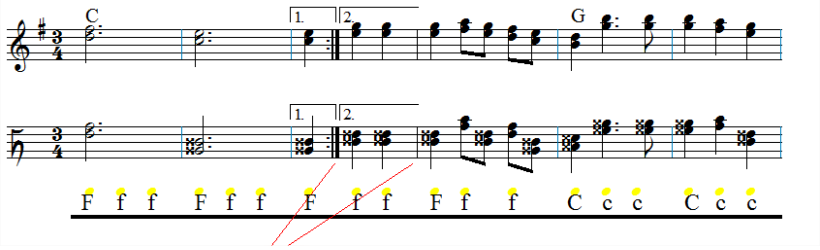
    The accompaniment patterns are created schematically. Especially at the end and within house brackets manual intervention is required

  - ### Fundamental bass

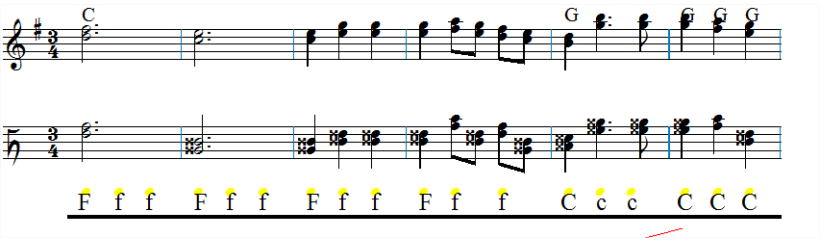
    If you select fundamental bass in the menu, only the fundamental bass will be created.




- The color information of Capella has been switched to on
- For placeholder *quarter notes* was selected




- Here we do have fixed bare lines
- This extraneous to the creation of the fundamental basses. The plugin starts counting with 0 anyhow. Here manual intervention will be required.



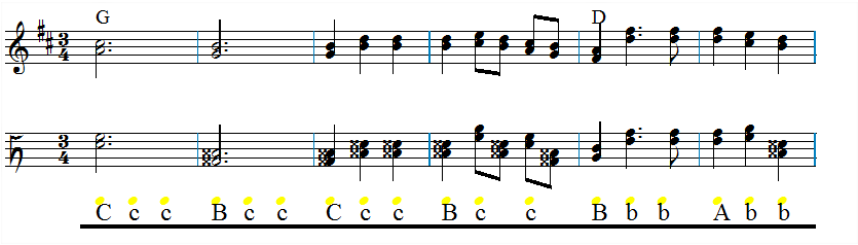

- Here we do have a chord on every note in the last measure. This interrupts the generation of accompaniment chords. Every note gets a fundamental bass.

  - ### Alternating basses

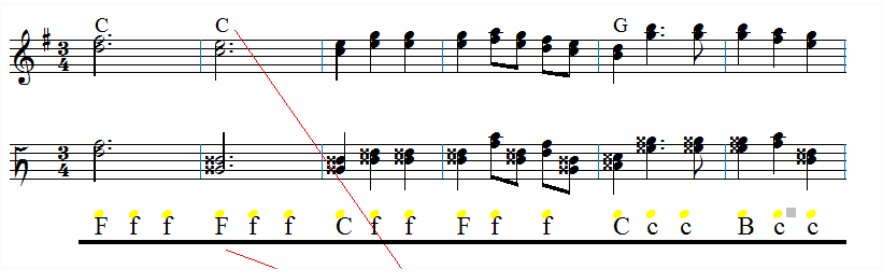
If you select alternating basses in the menu, alternating basses bill be created according to he definitions in Ziach_DEF.

The accompaniment patterns are created schematically. Especially at the end and within house brackets manual intervention is required

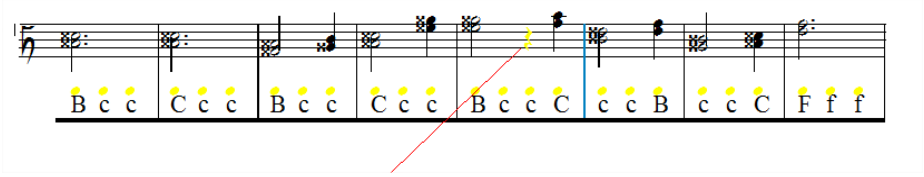
A new chord within a measure interrupts the creation of the accompaniment chords. Wenn Sie Ihre Vorlage mit Capella Scan erstellt haben, ist Vorsicht geboten. If you are using *Capella Scan* be carefull. *Capella Scan* will sometimes create invisible rests. This will disturb the creation of patterns. Please check by switching on the color information of *Capella*.




- Correctly created alternating basses



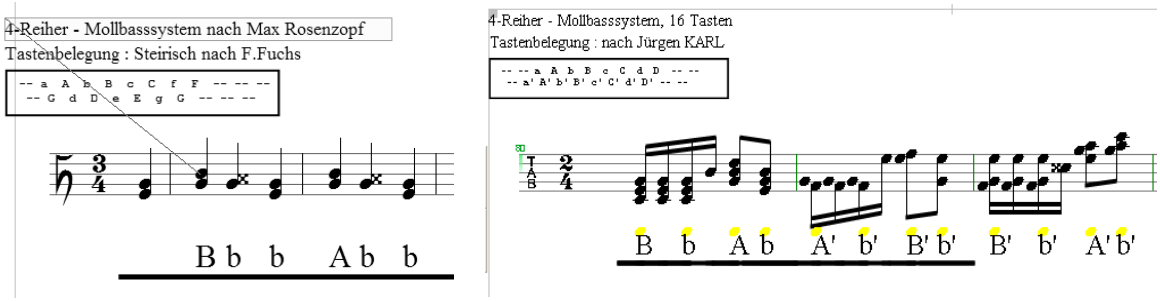

- Here I added an additional chord. The creation of alternating basses starts anew




- Here we have an invisible rest. This will disturb the pattern creation

- ## General remarks

The printout shows the selected bass system.

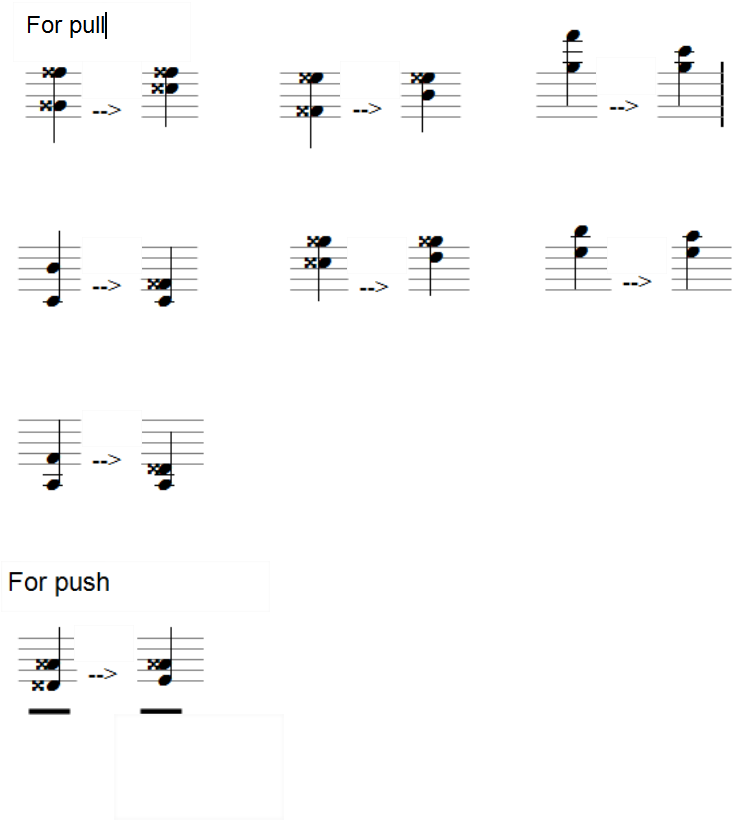



All definitions can be found in Ziach_DEF.py

- ## Exceptions lists

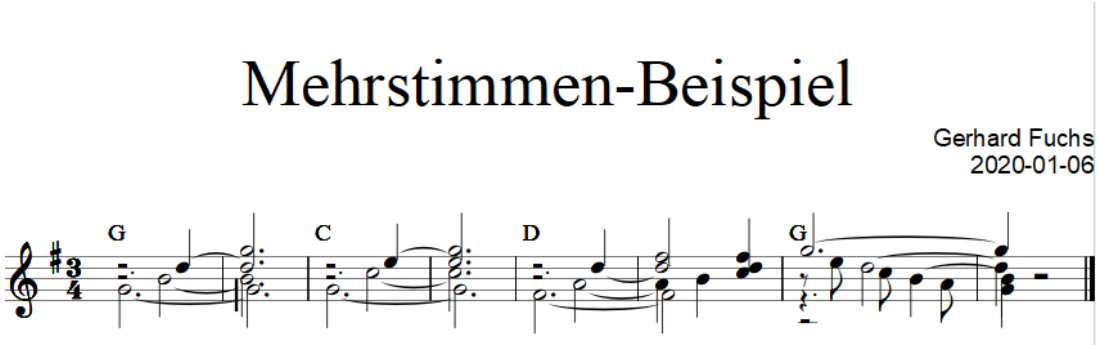
In some cases the fingering as calculated by the plugin is not optimal. Therefore we do have a list of exceptions within Ziach_B. One for Push and one for Pull. You can select the usage of those lists in the menu of Ziach_B .

It contains the following exceptions: For push

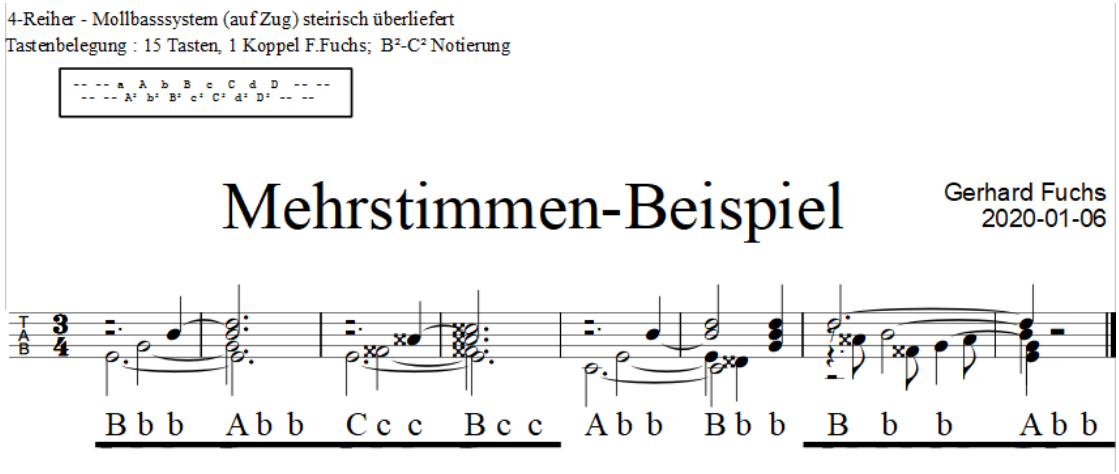


- **Multi voice support**

  Here comes a sample with multiple voices




  And this is the result after the plugin



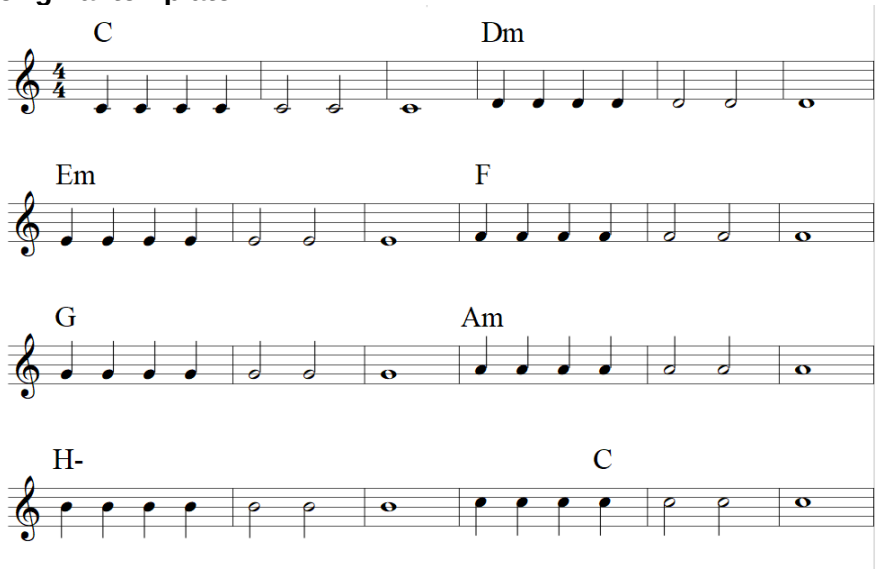

- **And now**

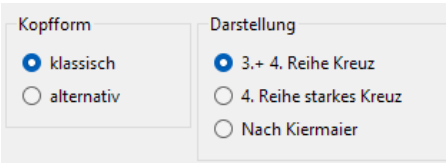
  I wish you lots of fun with this plugin and with your Ziach.

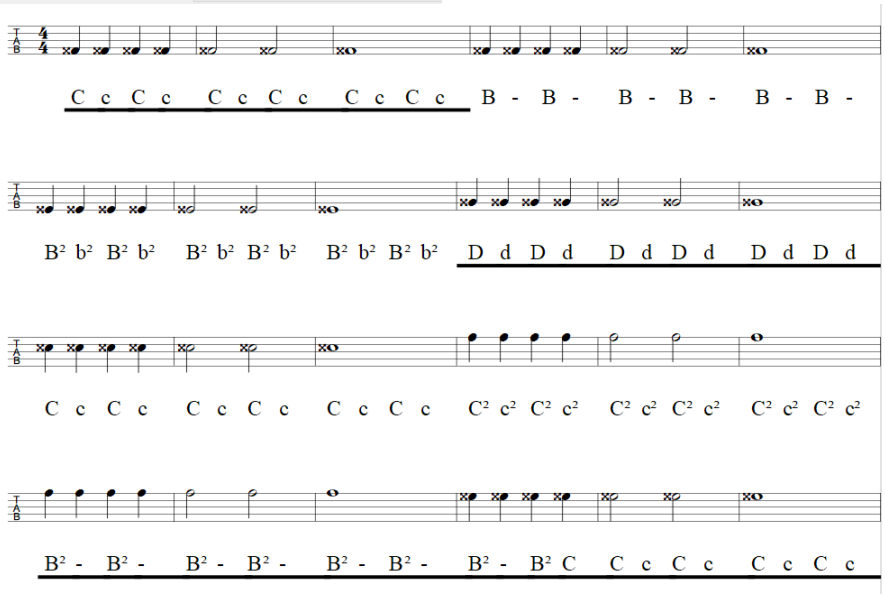
# Appendix :

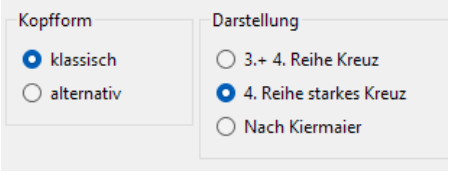
- **Forms of representation**

**original template**

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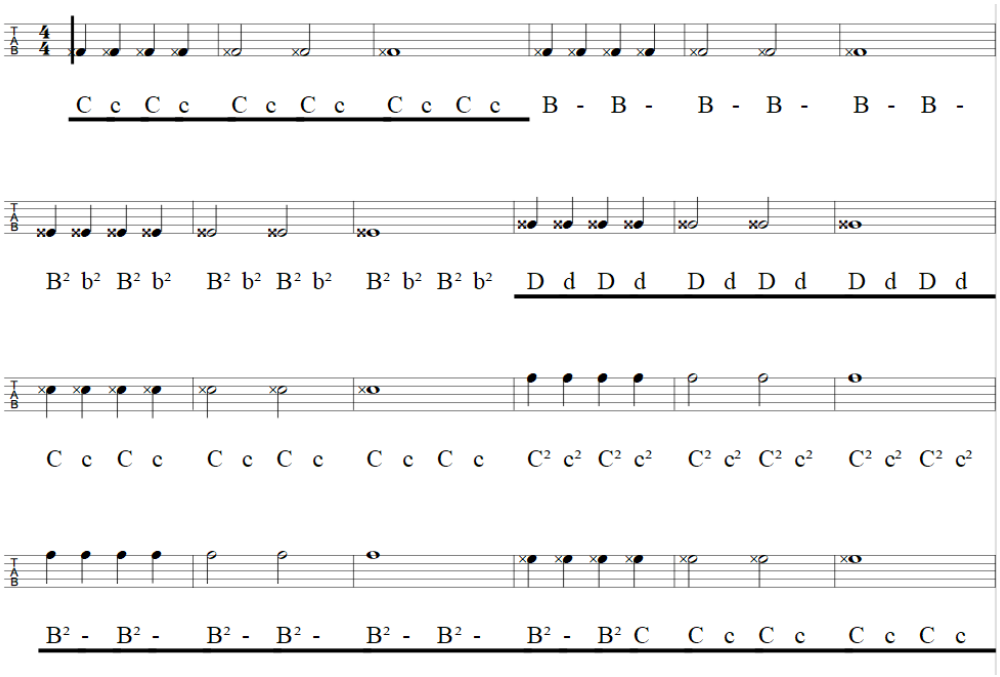
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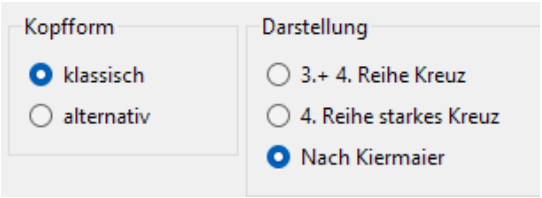
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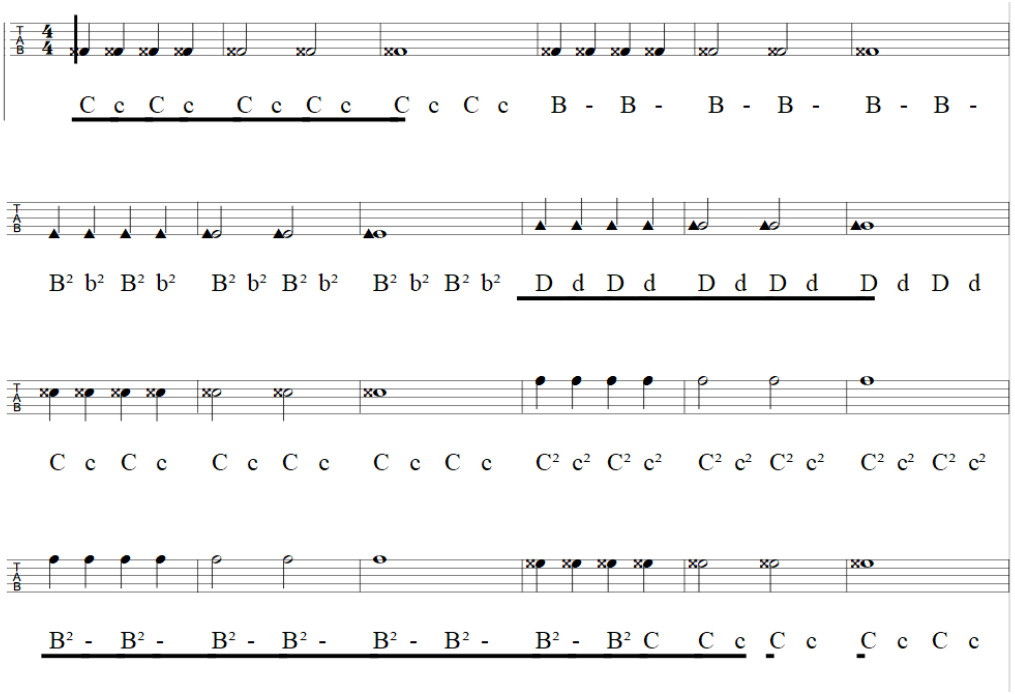
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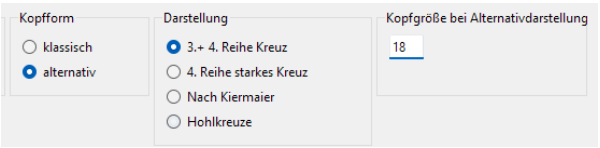
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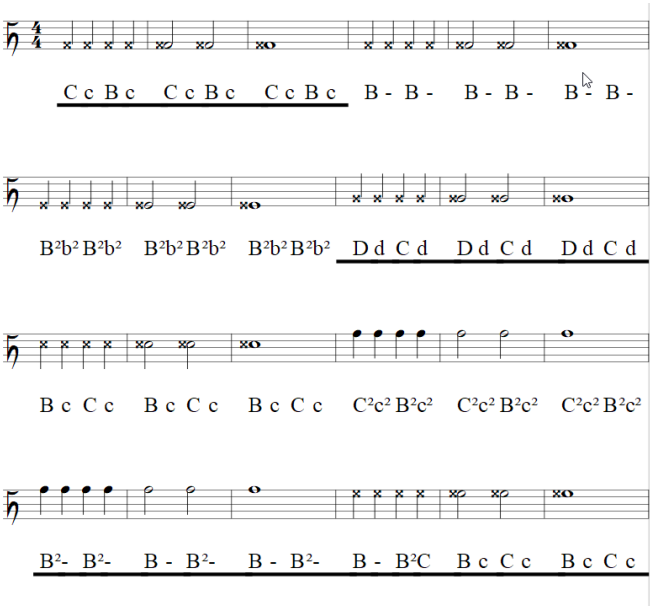
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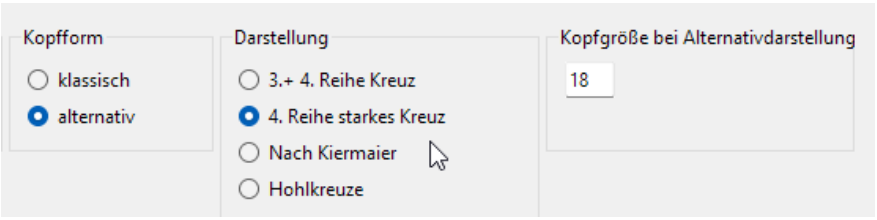
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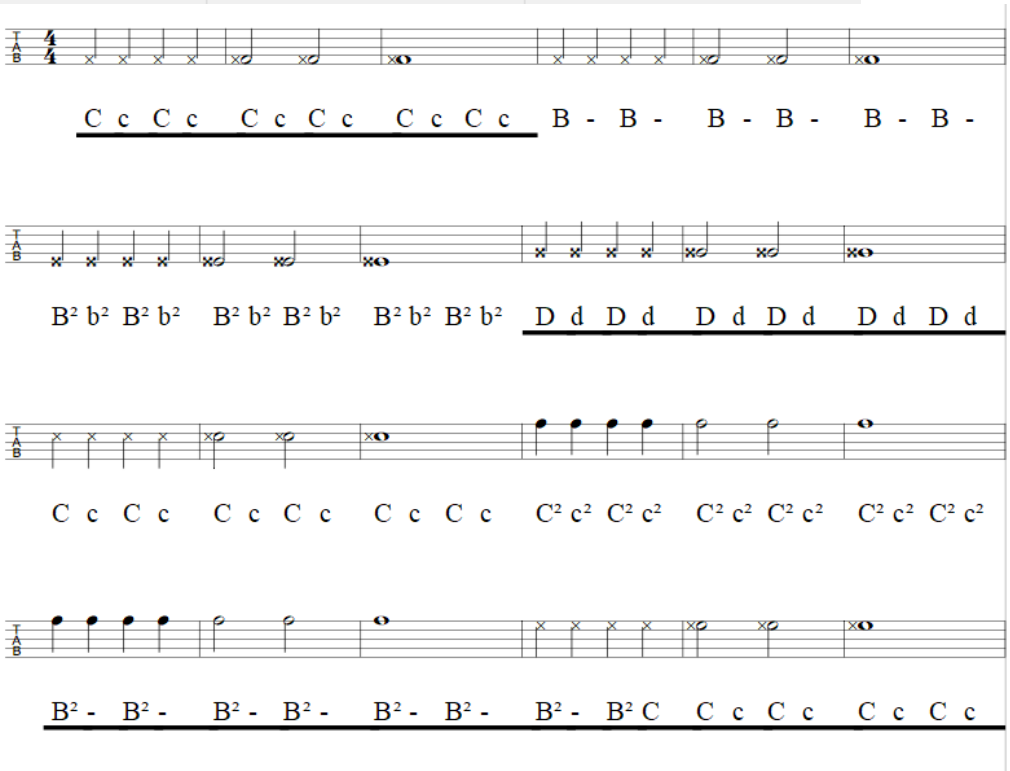
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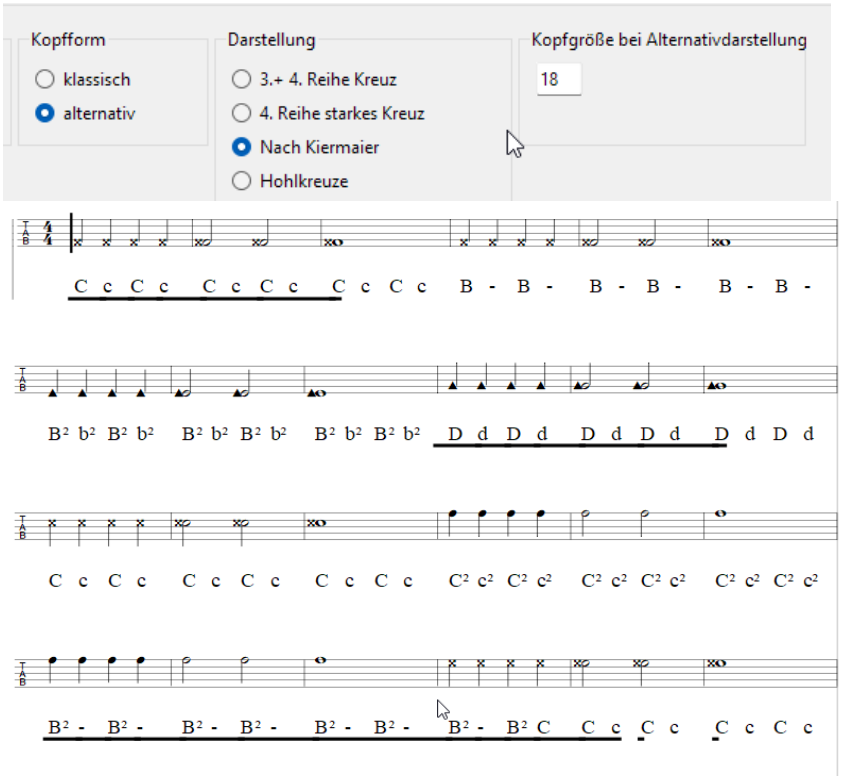
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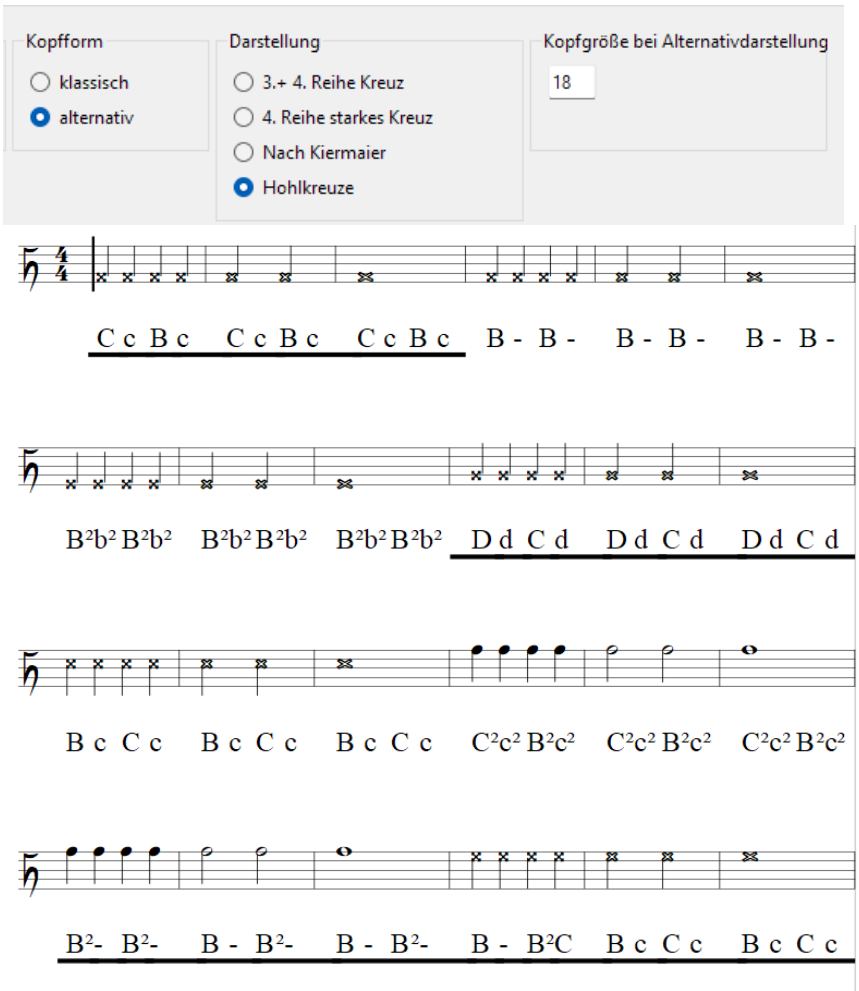
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4. Reihe starkes Kreuz
Nach Kiermaier
Hohlkreuze
Kopfgröße bei Alternativdarstellung
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- ## Bass Definitions

The file *.....\scripts\Ziach_DEF.py holds* the accompaniment chords and their matching bass keys. Also the direction is defined. In addition the alternating basses are defined too.

We do have entries for 3-row and for 4-row instruments. The layout and the sequence of the entries must not be changed. Comments may be inserted everywhere.

- **#-** Comment. To improve the readability.
- **#Reihen** tells us if it is a 3-row or a 4-row instrument. This field is already filled in.
- **#Bass-System** is the name for the bass layout. This name is copied into the selection menu. The length of the field is defined by the exclamation marks and must not be changed.
- **#Bass-Belegung** specifies the bass layout in more detail. It is copied into the menu as well. The length of the field is defined by the exclamation marks and must not be changed.
- **#ID** is he internal Bass-ID. This field is already filled in. The ids 01-13 are reserved for 4-row instruments and the ids 14-20 for 3-row instruments
- The following rows match the chords to the bass keys. The macros **#F**, **#C**, **#B** and **#A** correspond to the rows on the treble side of the instrument. The internally used instrument is tuned to C/GDA. The details can be found here:

  *http://members.yline.com/~arizona/harmonika/*

  - 3-rows 33 Tasten normal
  - 4-rows 46 Tasten normal

  tuning G/D/A or C/G/D/A, Semitones = # .
  The basses must be selected for the same keys.

- The table contains the chords of the 1st to the 7th stage in form of the base chord, also the dominant seventh (V7) the Double dominant and in addition the dominant after a double dominant. This is required because in this case the direction (push or pull) is sometimes different. Also the seventh for minor keys is defined ( V7/M5 ).
- For every chord the bass key and the direction has to be defined.

  e.g.: for #C the tonica G-major

  ```
  _________
  !   G   !
  ! C ! D !
  ```

  Basskey **C** Push ( D=Push , Z=Pull )

  If the chord is not playable on this instrument, you have to enter **–** for the key and for the direction.

  The minor chord of the 2nd stage (M2) can, if not available, be substituted by the subdominant.
  e.g. row #F Here the d-minor is substituted by F-major (key G, pull). This is common in folk music.

- The macros **#FWB**, **#CWB**, **#BWB** and **#AWB** contain the alternating basses in *Griffschrift*.

e.g.: #F tonika C-major

```
 ---------
 !   C   !
 ! F ! D !
 ! F ! C !
 ---------
```

The alternating bass starts with F ( *Griffschrift* ) and changes to C

IF bass only should be played, E.g. if no chord available, the bass is preceded be an + sign.

```
 ---------
 !   C   !
 !+F ! D !
 !+F !+C !
 ---------
```

- **#GR1** describes the assignment of the bass keys in row 1 (*Griffschrift*)
- **#GR2** describes the assignment of the bass keys in row 2 (*Griffschrift*)
- The definition of a bass system must end with an **#END** statement

```
#Reihen        !4!-------------------------------------------------------------------------------!
#Bass-System   !Mollbasssystem nach Max Rosenzopf              !-------------------------------------!
#Bass-Belegung !Steirisch nach F.Fuchs  (alte Schreibweise)    !-------------------------------------!
#ID            !10!------------------------------------------------------------------------------!
#-------------------------------------------------------------------------------------------------
#-Akkord/Stufe !   I   !   II  !  III  !   IV  !   V   !   V7  !   VI  !  VII  !      ! V/V7  !   V7  !
#-Reihe        ! Tonika!   M2  !   M3  ! SubDom!  Dom.  !  Dom7 !   M6  ! verm. ! DopDom!nach DD!   M5  !
#-------------------------------------------------------------------------------------------------
#-F = C-Dur    !   C   !   Dm  !   Em  !   F   !   G   !   G7  !   Am  !   H-  !   D7  !   G   !   E7  !
#F             ! F ! D !+C ! Z ! E ! Z ! G ! Z ! F ! Z ! F ! Z !+B ! Z !+E ! D ! B ! D ! C ! D ! G ! D !
#FWB           ! F ! C !+C !+C ! E ! E ! G ! B ! C ! F ! C ! F !+B !+B !+E !+E ! B ! B ! C ! C ! G ! G !
#-------------------------------------------------------------------------------------------------
#-C = G-Dur    !   G   !   Am  !   Hm  !   C   !   D   !   D7  !   Em  !   F#- !   A7  !   D   !   H7  !
#C             ! C ! D !+B ! Z ! D ! Z ! F ! D ! C ! Z ! C ! Z ! E ! Z !+D ! D ! B ! Z ! B ! D ! E ! D !
#CWB           ! C ! B !+B !+B ! D ! D ! F ! C ! B ! C ! B ! C ! E ! E !+D !+D ! B ! B ! B ! B ! E ! E !
#-------------------------------------------------------------------------------------------------
#-B = D-Dur    !   D   !   Em  !  F#m  !   G   !   A   !   A7  !   Hm  !  C#-  !   E7  !   A   !  F#7  !
#B             ! B ! D ! E ! Z !+D ! D ! C ! D ! B ! Z ! B ! Z ! D ! Z ! - ! - ! A ! Z ! A ! D ! D ! D !
#BWB           ! B ! A ! E ! E !+D !+D ! C ! B ! A ! B ! A ! B ! D ! D ! - ! - ! A ! A ! A ! A ! D ! D !
#-------------------------------------------------------------------------------------------------
#-A = A-Dur    !   A   !   Hm  !  C#m  !   D   !   E   !   E7  !  F#m  !  G#-  !   H7  !   E   !  C#7  !
#A             ! A ! D ! Z ! - ! - ! B ! D ! A ! Z ! A ! Z !+D ! D ! - ! - ! E ! D ! G ! D ! - ! - !
#AWB           ! A ! G ! D ! D ! - ! - ! B ! B ! D ! A ! D ! A !+D !+D ! - ! - ! E ! E ! G ! G ! - ! - !
#-------------------------------------------------------------------------------------------------
#-------------------------------------------------------------------------------------------------
#GR1           ! -- ! a  ! A  ! b  ! B  ! c  ! C  ! f  ! F  ! -- ! -- ! -- !-----------------------------
#-------------------------------------------------------------------------------------------------
#GR2             ! -- ! -- ! d  ! D  ! e  ! E  ! g  ! G  ! -- ! -- ! -- !-----------------------------
#-------------------------------------------------------------------------------------------------
#END
```

Other forms as the Rosenzopf systems for the bass keys are allowed, because the value is taken directly from the definitions. Definitions with 2 digits are allowed. Internally only the first character will be checked (A – G, H, O, U - Z) and translated to lower case for the accompaniment chord. The 2nd character will be taken as is (e.g.: C' to c').

```
#Reihen        !4!-------------------------------------------------------------------------------!
#Bass-System   !Mollbasssystem - Hubmann 19 Tasten             !-------------------------------------!
#Bass-Belegung !19 Tasten c' Druck auf Moll modifiziert        !-------------------------------------!
#ID            !13!------------------------------------------------------------------------------!
#-------------------------------------------------------------------------------------------------
#- Akkord/Stufe!   I   !   II  !  III  !   IV  !   V   !   V7  !   VI  !  VII  !      ! V/V7  !   V7  !
#-Reihe        ! Tonika!   M2  !   M3  ! SubDom!  Dom.  !  Dom7 !   M6  ! verm. ! DopDom!nach DD!   M5  !
#-------------------------------------------------------------------------------------------------
#-D = C-Dur    !   C   !   Dm  !   Em  !   F   !   G   !   G7  !   Am  !   H-  !   D7  !   G   !   E7  !
#F             ! D ! D !+C ! Z ! D'! D ! D'! Z ! C ! D ! D ! Z ! A'! Z !+C'! D ! C ! Z ! C ! D ! A ! Z !
#FWB           ! D ! C !+C !+C ! D'! C'! D'! C'! C ! B ! C ! D ! A'! A'!+C'!+C'! C ! B ! C ! B ! X ! A !
#-------------------------------------------------------------------------------------------------
#-C = G-Dur    !   G   !   Am  !   Hm  !   C   !   D   !   D7  !   Em  !  F#-  !   A7  !   D   !   H7  !
#C             ! C ! D ! A'! Z ! B'! Z ! C'! Z ! C ! Z ! C ! Z ! D'! D !+B'! D ! B ! Z ! B ! D !+B'! Z !
#CWB           ! C ! B ! A'! A'! B'! B'! C'! D ! B ! C ! B ! C ! D'! D'!+B'!+B'! B ! B ! B ! B !+B'!+B'!
#-------------------------------------------------------------------------------------------------
#-B = D-Dur    !   D   !   Em  !  F#m  !   G   !   A   !   A7  !   Hm  !  C#-  !   E7  !   A   !  F#7  !
#B             ! B ! D ! D'! D !+B'! D ! D ! Z ! B ! Z ! B ! Z ! B'! Z !+A'! D ! A ! Z ! A ! D ! B'! D !
#BWB           ! B ! A ! D'! D'!+B'!+B'! D ! B ! B ! C ! C ! B ! B'! B'!+A'!+A'! A ! A ! A ! A ! B'! B'!
#-------------------------------------------------------------------------------------------------
#-A = A-Dur    !   A   !   Hm  !  C#m  !   D   !   E   !   E7  !  F#m  !  G#-  !   H7  !   E   !  C#7  !
#A             ! A ! D ! B'! Z !+A'! D ! B ! D ! A ! Z ! A ! Z !+B'! D !+E ! D !+B'! Z ! D'! D ! A'! D !
#AWB           ! A ! X ! B'! B'!+A'!+A'! B ! A ! X ! A ! X ! A !+B'!+B'!+E !+E !+B'!+B'! D'! D'! A'! A'!
#-------------------------------------------------------------------------------------------------
#-------------------------------------------------------------------------------------------------
#GR1           ! -- ! -- ! X  ! a  ! A  ! b  ! B  ! c  ! C  ! d  ! D  ! E  !-----------------------------
#-------------------------------------------------------------------------------------------------
#GR2             ! -- ! -- ! a' ! A' ! b' ! B' ! c' ! C' ! d' ! D' ! E' !-----------------------------
#-------------------------------------------------------------------------------------------------
#END
```

- ## Treble Definitions

Section 2 of file *.....\scripts\Ziach_DEF.py* contains the definitions for the treble side.
Like the bass side a few macros are required:

- **#-** Comment
- **#DReihen** 3-row or 4-row instrument ( 3 or 4 )
- **#DBelegung** description (free text)
- **#GIDL1** innermost row push, 4-row instrument
- **#IDL1** inner r

```
#Reihen        !4!-------------------------------------------------------------------------------------------
#Bass-System   !Mollbasssystem - Hubmann 19 Tasten            !-------------------------------------
#Bass-Belegung !19 Tasten c' Druck auf Moll modifiziert       !-------------------------------------
#ID            !13!------------------------------------------------------------------------------------------
#-------------------------------------------------------------------------------------------------------
#- Akkord/Stufe!   I   !   II  !  III  !   IV  !   V   !   V7  !   VI  !  VII  !       !  V/V7 !   V7
#-Reihe        ! Tonika!   M2  !   M3  ! SubDom!  Dom. !  Dom7 !   M6  ! verm. ! DopDom!nach DD!   M5
#-------------------------------------------------------------------------------------------------------
#-D = C-Dur    !   C   !   Dm  !   Em  !   F   !   G   !   G7  !   Am  !   H-  !   D7  !   G   !   E7
#F             ! D ! D !+C ! Z ! D'! D ! D'! Z ! C ! D ! D ! Z ! A'! Z !+C'! D ! C ! Z ! C ! D ! A ! Z
#FWB           ! D ! C !+C !+C ! D'! C'! D'! C'! C ! B ! C ! D ! A'! A'!+C'!+C'! C ! B ! C ! B ! X ! A
#-------------------------------------------------------------------------------------------------------
#-C = G-Dur    !   G   !   Am  !   Hm  !   C   !   D   !   D7  !   Em  !  F#-  !   A7  !   D   !   H7
#C             ! C ! D ! A'! Z ! B'! Z ! C'! Z ! C ! Z ! C ! Z ! D'! D !+B'! D ! B ! Z ! B ! D !+B'! Z
#CWB           ! C ! B ! A'! A'! B'! B'! C'! D ! B ! C ! B ! C ! D'! D'!+B'!+B'! B ! B ! B ! B !+B'!+B
#-------------------------------------------------------------------------------------------------------
#-B = D-Dur    !   D   !   Em  !  F#m  !   G   !   A   !   A7  !   Hm  !  C#-  !   E7  !   A   !  F#7
#B             ! B ! D ! D'! D !+B'! D ! D ! Z ! B ! Z ! B ! Z ! B'! Z !+A'! D ! A ! Z ! A ! D ! B'! D
#BWB           ! B ! A ! D'! D'!+B'!+B'! D ! B ! B ! C ! C ! B ! B'! B'!+A'!+A'! A ! A ! A ! A ! B'! B
#-------------------------------------------------------------------------------------------------------
#-A = A-Dur    !   A   !   Hm  !  C#m  !   D   !   E   !   E7  !  F#m  !  G#-  !   H7  !   E   !  C#7
#A             ! A ! D ! B'! Z !+A'! D ! B ! D ! A ! Z ! A ! Z !+B'! D !+E ! D !+B'! Z ! D'! D ! A'! D
#AWB           ! A ! X ! B'! B'!+A'!+A'! B ! A ! X ! A ! X ! A !+B'!+B'!+E !+E !+B'!+B'! D'! D'! A'! A
#-------------------------------------------------------------------------------------------------------
#-------------------------------------------------------------------------------------------------------
#GR1           ! -- ! -- ! X  ! a  ! A  ! b  ! B  ! c  ! C  ! d  ! D  ! E  !-----------------------------
#-------------------------------------------------------------------------------------------------------
#GR2             ! -- ! -- ! a' ! A' ! b' ! B' ! c' ! C' ! d' ! D' ! E' !-----------------------------
#-------------------------------------------------------------------------------------------------------
#END
```

  ow push, 4-row instrument

- **#MDL1** middle row push, 4-row instrument
- **#ADL1** outer row push, 4-row instrument
- **#GIZL1** innermost row pull, 4-row instrument
- **#IZL1** inner row pull, 4-row instrument
- **#MZL1** middle row pull, 4-row instrument
- **#AZL1** outer row pull, 4-row instrument
- **#IDL** inner row push, 3-row instrument
- **#MDL** middle row push, 3-row instrument
- **#ADL** outer row push, 3-row instrument
- **#IZL** inner row pull, 3-row instrument
- **#MZL** middle row pull, 3-row instrument
- **#AZL** outer row pull, 3-row instrument

- **#DEND** End of a system

Some assignments can be found here: *http://members.yline.com/~arizona/harmonika/*
You can also define your own systems here. The sequence in the menu is the same as the sequence of the definitions. Placeholder like the bass systems are not required.

```
#-------------------------------------------------------------------------------------------------!
#DReihen       !4!-------------------------------------------------------------------------------!
#DBelegung     !46 Tasten, ohne chromatische Tasten                                              !
#-------------------------------------------------------------------------------------------/ /-------------------------
#-ganz innen Dr! c'           ! his          ! e'           ! fes'          ! g'           !       ! c''''         ! Ende !
#GIDL1         ! C500 ! A4 ! 1 ! B410 ! A4 ! 1 ! E500 ! C5 ! 1 ! F520 ! C5 ! 1 ! G500 ! E5 ! 1 !  /  /  ! C800 ! E7 ! 1 ! XXXX !
#-------------------------------------------------------------------------------------------/  /-------------------------
#-

#- innermost push    : Comment

#GIDL1               : Innermost push, 4-rows

! C500 ! A4 ! 1 !    : translation of a tone

  C5.. -------------: Ton from Capella score. In this case c'
  ..0. -------------: Accidental. 0=non , 1=sharp, 2=flat
  ...0 -------------: not used. =0
         A4 --------: translated tone. In this case  a
              1 ----: Form oft he head. 0= normal, 1=cross, 2=cross selectable
```

The last tone of a row has to be terminated with **! XXXX !**

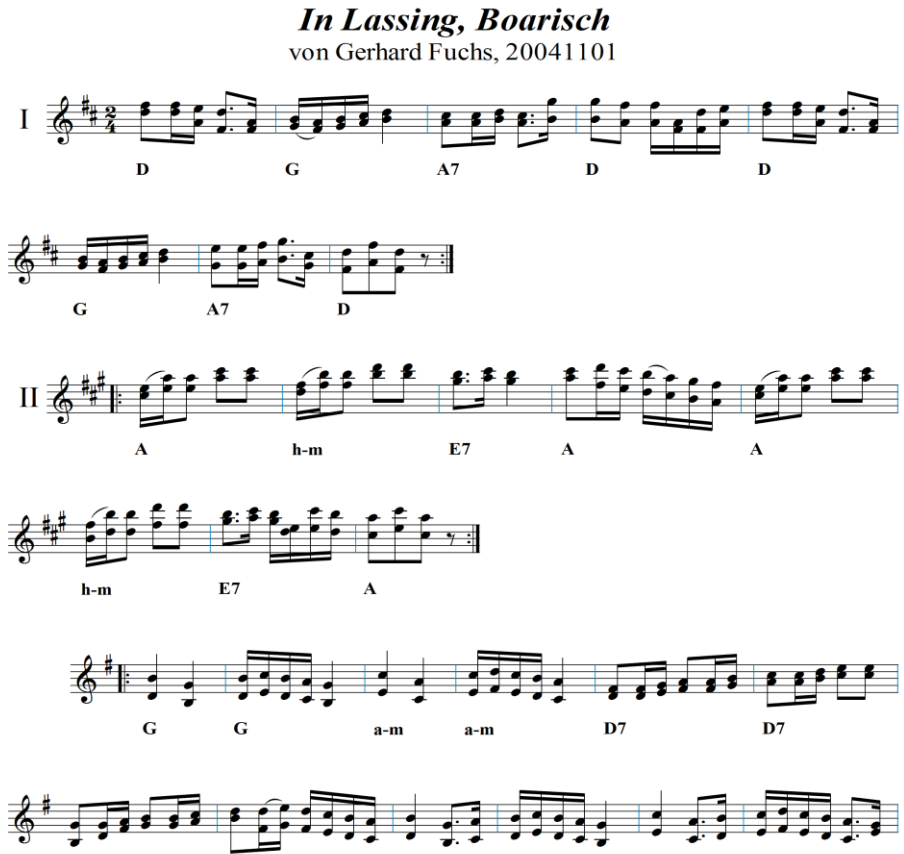
On system has to be terminated with an **#DEND** statement.

- ## Language groups

  The German messages are defined within the modules Ziach_A to _C.

  The English messages are defined within Ziach_tr.py. Here you can also define the translated messages in other languages. Capella selects the language group automatically based on the systems language.

- ## Sample



After translation with alternating basses
Placeholder = quarter notes