Introduction

MKB is a virtual Masterkeyboard. It allows the playing of virtual and real MIDI instruments.

1. via the PC keyboard
2. via PC mouse
3. via external MIDI devices.

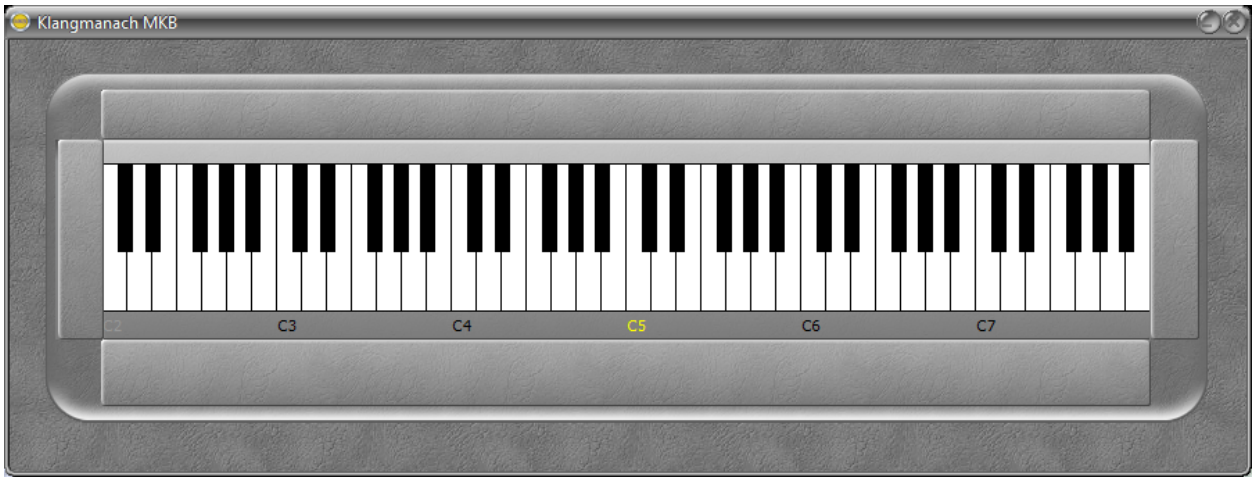
MKB also simplifies the finding of melodies and chords under the rules of scale degrees in harmonics and the circle of fifths.

1. Transposition and adjustment of keys.
2. Creation of chords (triads and tetrads) in the respective key
3. Inversion of chords
4. Creation of guitar chords in the respective key, both in base position as well as on all frets
   Striking of strings is simulated via keyboard

MKB simplifies usage of external MIDI instruments like MIDI keyboards

1. Keyboardsplit with crossover possibility within the software
2. Settings like volume, panaroma, chorus, sustain and more can be done through **MKB**
3. These settings can be assigned and saved freely to sliders and switches of the external keyboard
4. Seven playmodes are available in **MKB**

Despite functional diversity there are no menu bars etc. to keep usability simple. Changes in parameters are saved automatically and are immediately available after a restart. If there are virtual MIDI ports installed, all music programs (DAW) which accept such input can be accessed with **MKB**



MKB at program start

MKB behaves like a MIDI keyboard, as in it doesn't create sounds itself. For this purpose, both require additional hard- and or software.

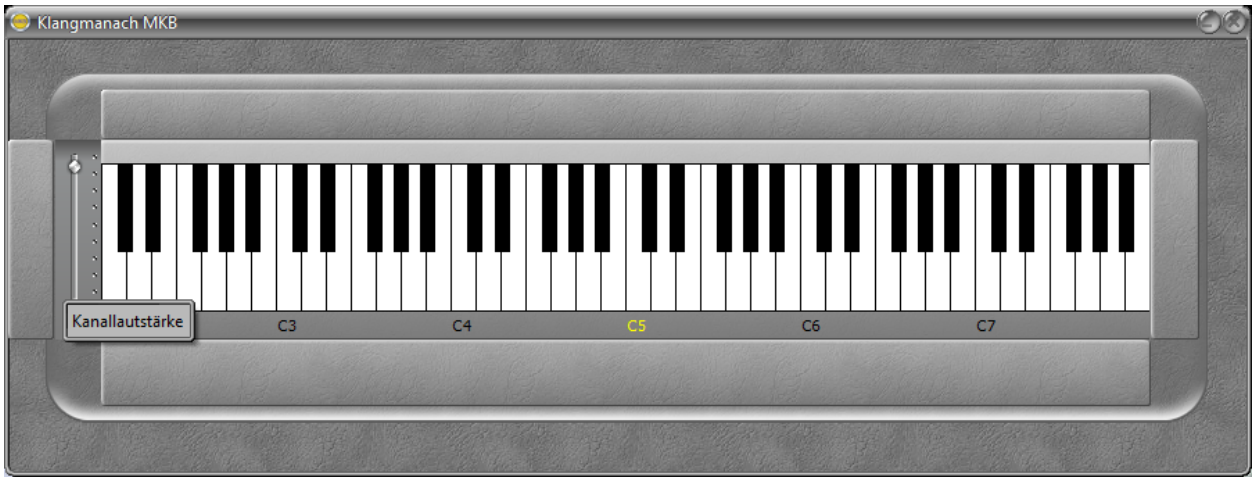
Installation

MKB does not require installation. The program file can be copied in any folder with write access and then started with a double click. **MKB** can also be launched directly from a flash drive
After the first launch, a file named „mkbParameter.ini“ will be created in the same folder. All relevant changes will be saved into this file. If **MKB** can not find this ini file at a later point, a new one with the starting parameters will be created.
Should you want to keep an elaborate set of parameters, you might want to consider copying „mkbParameter.ini“. Replacing the current „mkbParameter.ini“ with the saved one restores the parameters of the replacement. „mkbParameter.ini“ is a text file and can be edited with the Editor or similar programs.

First start

After launch, the user interface appears rather tidy. The control elements are covered by blinds on the four sides. A mouse click opens these blinds.
In the middle, a claviature can be found. If in windows system properties a MIDI output device is configured (usually „Microsoft GS Wavetable Synth“), first tones can be heard when using the mouse buttons or keyboard.
Note: in different volumes, depending on where a claviature key is pressed with the mouse. The lower, the louder.
Beneath the claviature is the octave display. The yellow C5 is the middle C on a piano. C3-C7 Are clickable and shift the respective octave to the middle of the display. This does not change the pitch.
Displayed is a detail of 6 of 10 octaves.

Control elements



Open blind with the slider for channel volume

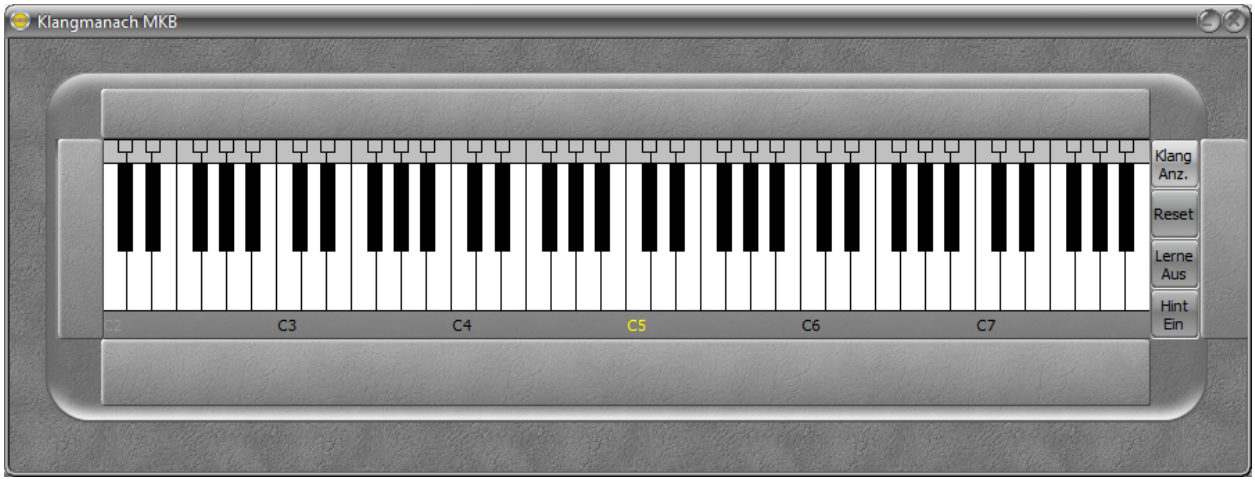
Exemplary for the control elements; the channel volume. It can be operated by:

1. moving the cursor with held down left mouse button.
2. the scroll wheel, if the cursor is above the slider
3. the arrow keys on the PC keyboard
4. the PageUp, PageDown, Pos1 and End keys on the PC keyboard
5. the respective control element on an external MIDI keyboard

As is standard with MIDI, the range of the slider is between 0 and 127.

System properties

Behind the blind on the right side are the elements for general functions.



opened right blind and activated tone display.

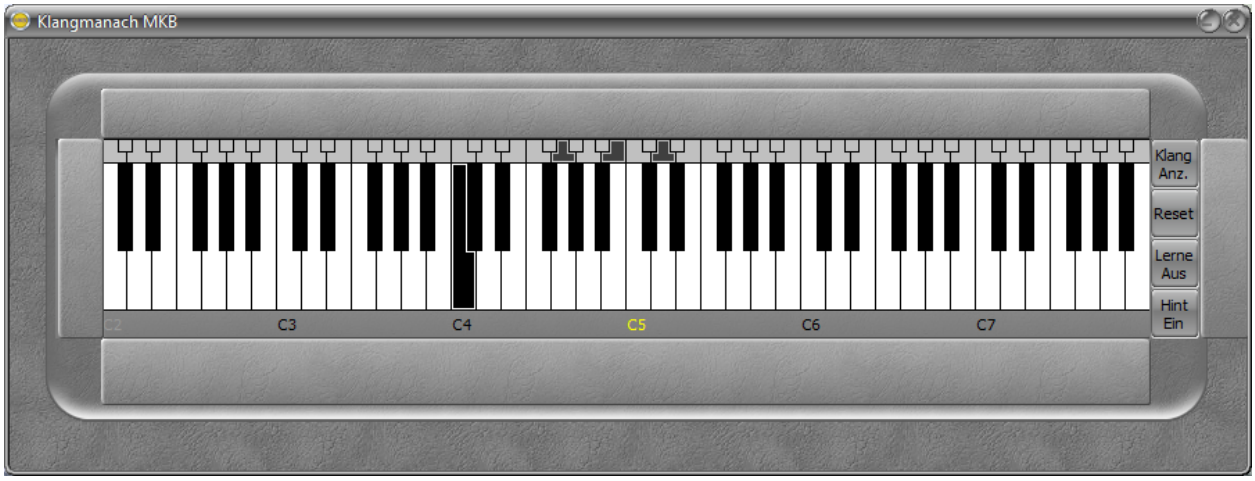
The button „**Klang Anz.**“ shows a tone display . With this „miniature claviature“, actually played tones are displayed.
In the chord automatics the played chords with all tones.
When changing key, the transposed chords.

„**Reset**“ shuts down all lingering tones and resets the tone display, should tones stop responding in the output device.

„**Lerne Aus/Ein**“ is used when a slider on an external MIDI keyboard is to be assigned to a program function. Herefore, three steps are necessary:

1. Press „**Lerne Aus**“. (The labeling changes to „**Lerne Ein**“)
2. Operate the slider on the external device.
3. Click the function you wish assigned in **MKB**.(The button's labeling returns to „Lerne Aus“)

„**Hint Ein/Aus**“ activates (Ein) or deactivates (Aus) tooltips.



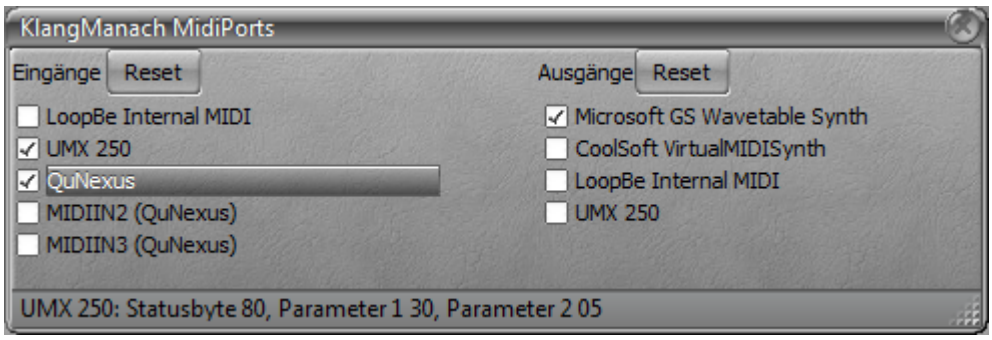
Activated tone display with played tone and full chord in a different key

Top blind – MIDI settings

Opened top blind

The button with the DIN socket opens the MIDI port selection in a new window. Here, MIDI in- and outputs can be selected.

MIDI port selection button



Das Midiport-Auswahlfenster. Die Auswahl wird nicht gespeichert und muss nach dem Programmstart neu getroffen werden.

MIDI inputs are on the left. Multiple devices can be tied into **MKB** at simultaneously.

MIDI outputs are on the right. Only one can be selected, since the output is blocked for other programs. (In use)

Is an external device activated after the start of **MKB**, it will not be displayed along the MIDI ports.
In most cases, usage of the reset functions a restart of **MKB** can be avoided (though it is better to prepare all external devices beforehand).

The status line at the bottom of the window shows if an input device was operated. Displayed is the device and the used function.
The status line can be seen as a simple MIDI monitor.

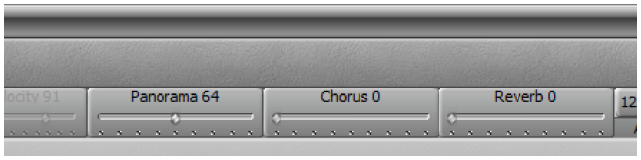
The selection window has to be closed with the „x“ button in the upper right corner.

Note: *„Coolsoft VirtualMIDISynth“ is a recommendable SoftFont-Player, downloadable for free. It can be tied directly into Windows and is availble this way to, for example, the „MS Mediaplyer“ as a MIDI output.*
„LoopBe Internal MIDI“ is a free virtual MIDI port via which other programs can be accessed. „LoopMidi“ is another free alternative.
UMX 250 and QuNexus are hardware devices.

Velocity can come from an external MIDI keyboard (Auto) or be set manually (Manu).
Manual velocity can be set and saved for each MIDI channel seperately, as well as tied to an external slider.

Usage is recommended when velocity is insufficiently supported.

Velocity



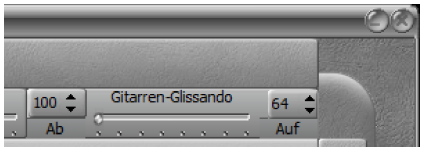
Tone parameters

Settings for tone parameters
Panorama: Shifts the tone from left to right. 64 is the middle setting.

Chorus: A choir effect, letting the tone sound fuller.

Reverb: Reverberation or echo effect.

The currently set value is displayed in the headline. (0 to 127)
(*Note: these effects can only be heard if the output device supports them.*)
The tone parameters can be set and saved for each MIDI channel seperately. They can also be tied to an external slider.

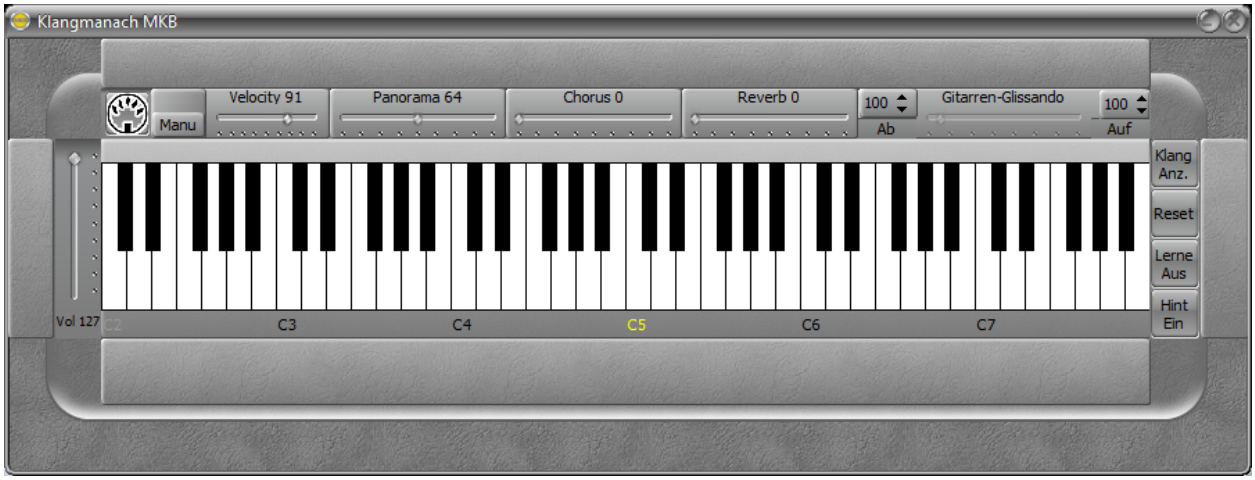


Special effect: only available in guitar modes (Modes 5 and 6)

Simulation of striking over all strings. up and downwards

Giuitar-Glissando

The slider plays the „guitar strings“. From the left, low string, to the right, high string and back.
With the sliders „Ab“ (down) and „Auf“ (up) the volume of both directions (0 to 127) can be set seperately.
The Glissando and both volume sliders can be tied to an external keyboard.
Saving is done automatically.

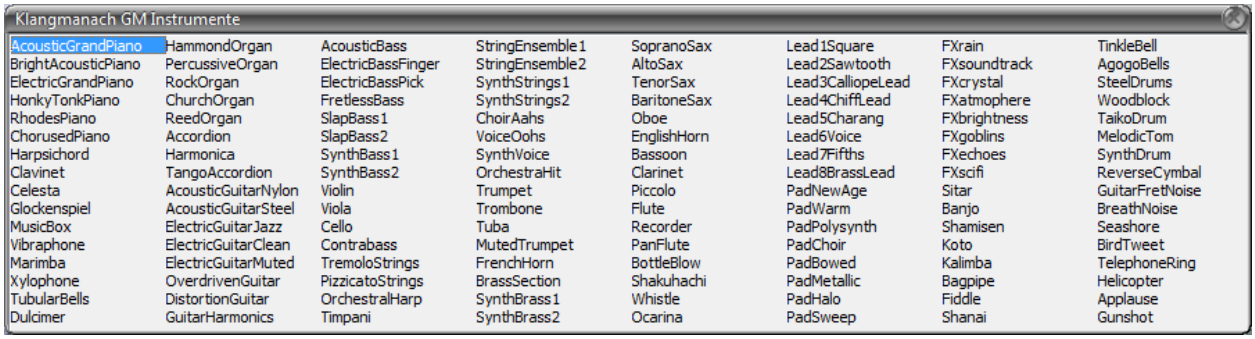


Overview of the now known control elements

Lower blind – play settings

The opened lower blind

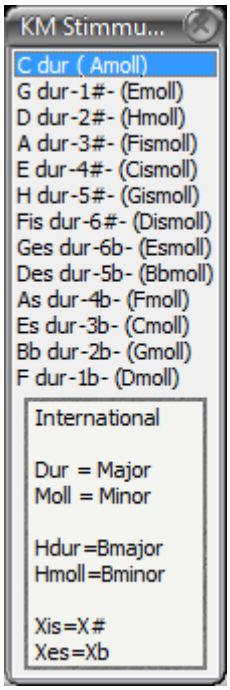
The channel selector, in this picture set to MIDI channel 1, is responsible for choosing the main channel and channel settings. All settings of the control elements refer to the channel set here.
When the channel is changed, settings are saved and **MKB**s user interface is updated to the settings of the new channel
.
An insturment can be selected for each channel individually. General Midi allots 128 instruments or tone colors for this. These can be chosen with the button „instrument“ from a list.



IInstrument list (GM/GS)

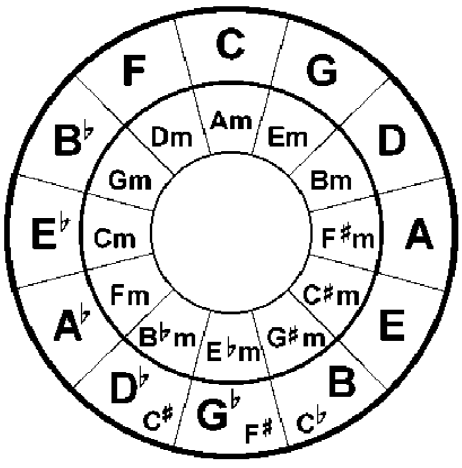
This window can be kept open and is refreshed after a change of channel. It opens directly beneath the **MKB** main window, but can be moved freely.

After launch, **MKB** is set to C major. With the button „Stimmung“, this key can be changed.



Einstellbare Tonarten

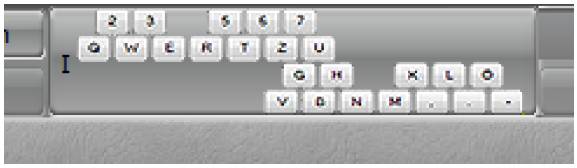
The keys correspond to the circle of quints. Indicated are the key signature and the parallel minor key.
In practice this means, when a melody is played in C major, in can be heard in the selected key. This can be observed on the tone display.
Is a C played in G major, a G can be heard.
This applies to single notes as well as chords.



Example for a circle of quints.

The button**„Sustain Aus (off)/ Sustain Ein (on)**“ simulates the sustain pedal (right pedal) of a piano.
With Sustain set to off, a note only sounds as long as the key is pressed.
Set to on, instruments can let the note fade. Examples are xylophone, guitar and piano
Attention: sounds like organ or flute keep playing „indefinitely“. (Reset is needed)

Sustain can be set and saved for each midi channel seperately, as well as tied to an external control element. (A slider is possible, since it then knows only on and off.)



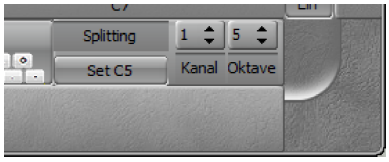
The button for use via PC keyboard shows the assigned keys for two octaves. The upper two rows for the octave left of the splitpoint, the lower two rows for the octave right of the splitpoint of the claviature.

Keyboard settings for two octaves

Playmodes

0: Standardkeyboard Keyboard without modification. Playable with the set parameters.

1: Splitkeyboard



With the button „**Set**“, the splitpoint of the keyboard can be set.
In the image, the splitpoint is set to C5.
After a click on „**Set**“, any note on the keyboard can be played. It will be set as new splitpoint and displayed accordingly.

Splitsektion

For most cases, a splitpoint set to the C keys is the best choice.

The button **„Kanal“ (channel)** sets the MIDI channel for the right side of the keyboard. This channel is played with the parameters set for it. (Settings set via the main channel are applied)

The button „**Oktave**“ adjusts the octave of the split channel. Channels can overlap, but not have a gap. The octave of the split channel can only be set lower than the splitpoint.
All other modes have one splitpoint.

2: Akkorde < fest | > frei Chords are created on the left side of the splitpoint. On the right sides, notes can be played in any combination.
Created chords are of the respective key. The following applies to C major:

For the white keys
Key C: C major
Key D: D minor
Key E: E minor
Key F: F major
Key G: G major
Key A: A minor
Key B: B dim

For the black keys, seventh chords are created
Key C sharp: C7 (C major with minor seventh)
Key D sharp: D7 (D major with minor seventh)
Key F sharp: F7 or E7
Key G sharp: G7
Key A sharp/Bb A7

F7 or E7 is chosen with the button „**Fis =**“. This button can be tied to an external MIDI keyboard and will be saved.

3: Akkorde < variabel | < frei The chords created left of the splitpoint are varible. To the right can be played freely. (like in mode 2)
Creation of chords is the same as in mode 2, basically, but inverse chords can be realized. For this, several keys have to be pressed „simultaneously“ according to the following rules:

Key C alone:	C major normal
Key C and D:	C major in first inversion
Key C and E:	C major in second inversion
For seventh chords:	
Key C sharp alleine:	C7 normal
Key C sharp and D	C7 in first inversion
Key C sharp and E	C7 in second inversion
Key C sharp and D and E:	C7 in third inversion

So for every played key, the next two white keys control the inversion.

On a regular PC, it's technically impossible to press two keys simultaneously. They are handled consecutively. Additionally, there's inaccuracies when playing and tolerances of the keyboard.
For this, there's the slider „**Delay**“. Every key pressed during the chosen delay time will be accounted for when creating inversions.
The range is between 1 and 99. With a little practice, tests show this to be enough. Higher values would result in audible delay.

4: Akkorde < fest | > gebrochen Creations of chords left of the splitpoint follows now known rules.
To the right of the splitpoint, only notes belonging to the chord are played.

For C major:
From the splitpoint

Key C	C
Key D	E
Key E	G
Key F	C one octave higher
Key G	E one octave higher
Key A	G one octave higher
Key Bb	Bb minor seventh (for C7 chord)
Key B	H major seventh (for Cmaj7 chord)

5: Akkorde < fest | > Gitarre Creation of chords to the left as before. Starting from the splitpoint, guitar strings are played.
For the standard tuning of a guitar

Key C	lower E string
Key D	A string
Key E	D string
Key F	G string
Key G	B string
Key A	higher E string

„Strings“ are assigned for all chords and all keys as in a guitar's lower 4 frets. The only exceptions are chords where a guitarist wouldn't be able to reach all six strings. Here, chord appropiate notes are assigned to the strings.

Guitar control

In guitar modes, two additional control elements are available:
„**L Vol / Mute**“ controls the audibility of the created chords.
„**Leer / Mem**“ control the behavior of the string keys.

Leer: If no chord key is pressed, the string keys play the open strings of the guitar
Mem: If no chord key is pressed, the string keys play the last chosen chord. Chord changes can be reduced to a short playing of the chord keys.

6: Akkorde < fest | > Gitarre Kapodaster There's only one difference to mode „5: Akkorde < fest | > Gitarre“
The strings are assigned as they would be when a capo is used. Hereby the key determines the fret of the capo.
Higher frets are reachable this way. Playing occurs in the chosen key.

All settings in the guitar modes also apply to **Gitarren-Glissando**.
An octave shift of the split channel has no impact on guitar modes, since it always sounds the original tone pitch of a guitar.

Excerpt of mkbParameter.ini

Channell0(1) to 15(16)
[kanal0]
Instrument=73
Velocity=71
Volume=127
Panorama=64
Sustain=0
Chorus=0
Reverb=0
Kanal=0

All Channel
[allgemein]
Delay=10
Abschlag=127
Aufschlag=127
Hint=1
Velocitycontroller=73
Volumecontroller=7
Panoramacontroller=10
Sustaincontroller=64
Choruscontroller=91
Reverbcontroller=93
Abschlagcontroller=14
Aufschlagcontroller=15
Glissandocontroller=9
Programmmodus=4
FisE7=1

Program: Klangmanach Masterkeyboard (KM MKB)
Mady by: Werner Biermann
Contact: info@all-manach.de