



vielklang
instant harmony 2

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Introduction

In this chapter you will learn:

- ✓ How to install vielklang instant harmony 2
- ✓ How to handle the registration
- ✓ About new features of vielklang instant harmony 2
- ✓ About differences between vielklang instant harmony 2 and LE

Initial words

Thank you for purchasing vielklang instant harmony 2 (abbreviated: vk2), a plugin incorporating zplane's next generation of audio harmonization technology. vk2 allows you to load any single-voiced melody and get a fully harmonized four-voice output instantly even if you do not have any deeper musical knowledge. It allows you to focus on the musical issues rather than technical or theoretical ones.

vk2 is not just a harmonizer. It makes use of musical intelligence and knowledge of music theory, particularly voice leading. It analyzes the selected melody and can then synthesize up to four voices with the pitches selected to sound the most natural. You never have to bother about things like root note, scale, tuning frequency, harmony progression, voice leading etc., although you can, if you want to.

In addition to its harmonization capabilities, vk2 is also a powerful editing and pitch correction tool with special optimization for vocals. You can control every aspect of the performance including adding vibrato and tremolo even when they were not present originally.

For news on vielklang2, information about our other products or to get in touch with other users, please visit [vielklang2 website](#) and join the [support forum](#).

Features: vk2 vs vk2 LE

Feature	vk2	vk2 LE
MIDI harmonization	✓	✓
Pitch correction	✓	✓
Time correction	✓	✓
Stretching	✓	✓
Chord selection	✓	✓
Mixer	✓	✓
Global voice manipulation	✓	✓
MIDI input harmonization	✓	

mode		
Advanced single note editing	✓	
Vibrato tremolo editing	✓	
All voice audio/MIDI export	✓	✓
Single voice audio/MIDI export	✓	
Arranger view	✓	✓
Piano roll view	✓	✓
Hybrid score view	✓	
Multiple file import	✓	
Snapshots	✓	
MIDI triggering	✓	
Multitrack output	✓	

Installation & Registration

After buying vk2 you'll receive a serial number and a download link for the full version of vk2. Please go to the [zplane products site](#) and click on **MYACCOUNT** at the top right. Log in If you already have an account, otherwise create a new one. In the **My Products** section you can register your serial, receive the corresponding unlock code and you can download the latest full version of vk2.

Installation

Windows

- Double click on the Windows installation binary (*.exe)
- Click next in the installer window
- Read the license agreement and if you agree click next
- Follow the instructions of the installer

Mac OS X

- Double click on the DMG file
- Double click the .pkg file
- Click continue in the installer window
- Read the license agreement and if you agree click next
- Follow the instructions of the installer

If you have not unlocked your copy of vk2 yet, you will be presented with a splash screen upon opening the plugin for the first time. That screen will give you the option to switch to the unlock screen. For your later reference you can always access the unlock screen by opening the preferences.

Get started

In this chapter you will learn:

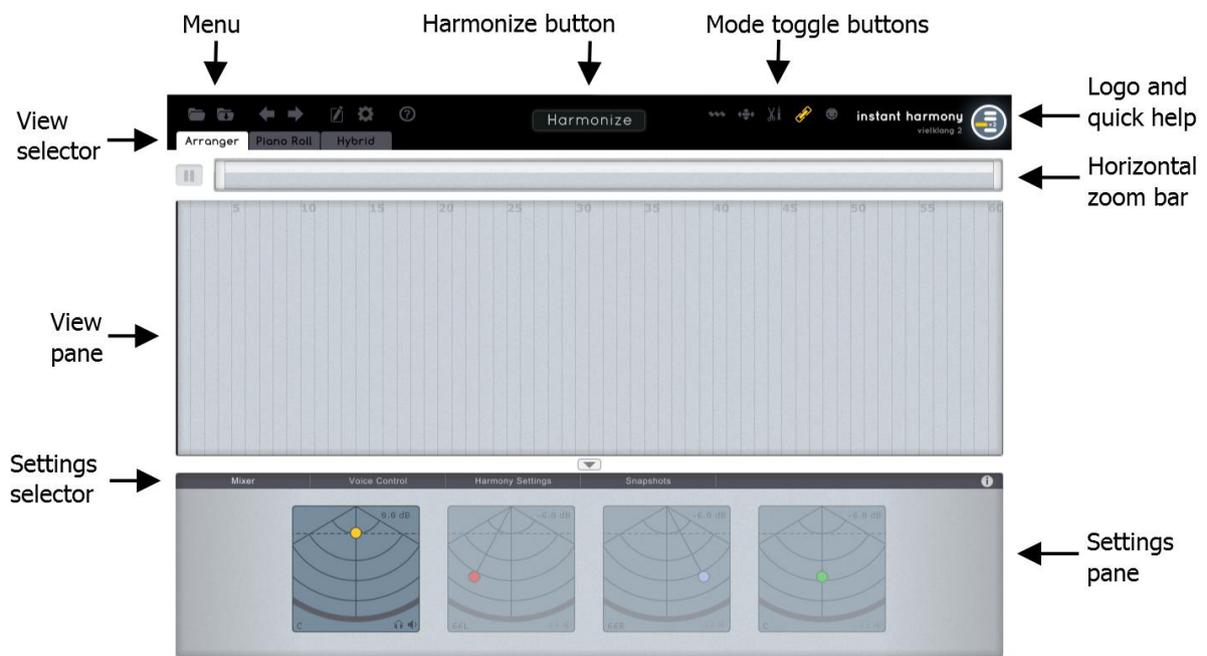
- ✓ How to load vk2 in your host
- ✓ About the basics of the interface
- ✓ How to import audio or MIDI
- ✓ How to edit and harmonize
- ✓ How to change global performance parameters and the mix
- ✓ Routing and exporting

Load vk2

Load the vk2 instrument just like you would load any other virtual instrument; the detailed procedure depends on the host application you are using.

Although vk2 processes audio data, it is not a real-time audio effect, but rather a *virtual instrument*. This means that you have to load the audio/MIDI data into it (see below) before you are able to control the audio playback either via host synchronization or MIDI triggers.

Quick Interface Overview



Import Audio/MIDI

After an empty instance of vk2 has been loaded, the single-voiced audio/MIDI data has to be imported for the harmonization and/or editing.

Import Menu

To load an audio/MIDI file, click on the file folder icon in the menu section. This will open a standard file window for your particular OS, and allow you to navigate to the file you want to harmonize.

Drag and Drop

You also have the option to drag and drop an audio file from a host track or from the host browser to vk2, if the host supports this functionality. MIDI drag and drop usually does not work from the host, but you can drag from a file browser or from your desktop. The MIDI file has to be a compliant MIDI file with a .mid extension.

- ✓ The input audio has to be *single-voiced* to be used in the context of this instrument.
- ✓ Regions have to be consolidated/rendered to one single audio file before being dropped into vk2.

Views

Arranger

In the Arranger view you can drag audio/MIDI files to the desired time position. Remove a file simply with a right click.

Piano Roll

We recommend to do the initial vocal editing and pitch correction before harmonizing. You can still edit after the harmonization but then the editing has to be done for each voice separately.

Dragging a note at the

- Outer left edge horizontally lets you change the beginning of the note
- Inner left area horizontally lets you move the note's position
- Inner right area vertically lets you change the pitch of the note (hold ALT for fine tuning)
- Outer right edge horizontally lets you change the ending of a note

For more detailed editing, simply double click a note or make use of the toggle buttons at the top right of the plug-in.

Hybrid Score

The Hybrid Score view combines the time line of Piano Roll with a more traditional score visualization on staves. It offers the same editing features as in the Piano Roll view as mentioned above.

Harmonize

General Concepts

After importing an audio/MIDI file, click the Harmonize button in order to bring up the harmonization options. If you only want to harmonize certain sections of the file, simply select the desired sections before you click the Harmonize button. Each harmonized section has its own settings allowing you to mix different types of harmonization.

Harmony settings

After harmonizing the settings pane will switch to the harmony settings. Here you can change the root note, scale and harmonization algorithm to your liking.

- ✓ Note that the root note and scale here do not represent the file's original root and scale but rather the desired output root and scale. This lets you transpose the whole arrangement to another key.
- ✓ By default after harmonization the melody is quantized to the chosen key. This might modify your original melody. To disable the quantization disable the magnet button right beside the chosen scale.

Mixer & Voice Control

Mixer

You can either use the XY-Pad to adjust volume and panning at the same time or use the separate sliders that appear when hovering over a XY-Pad. Double clicking the number displays allows to enter the values manually. Volume and panning can also be automated from your host.

The headphone symbol  sets the voice to solo and the speaker symbol  mutes the voice.

Voice Control

These parameters adjust global performance attributes for each voice.

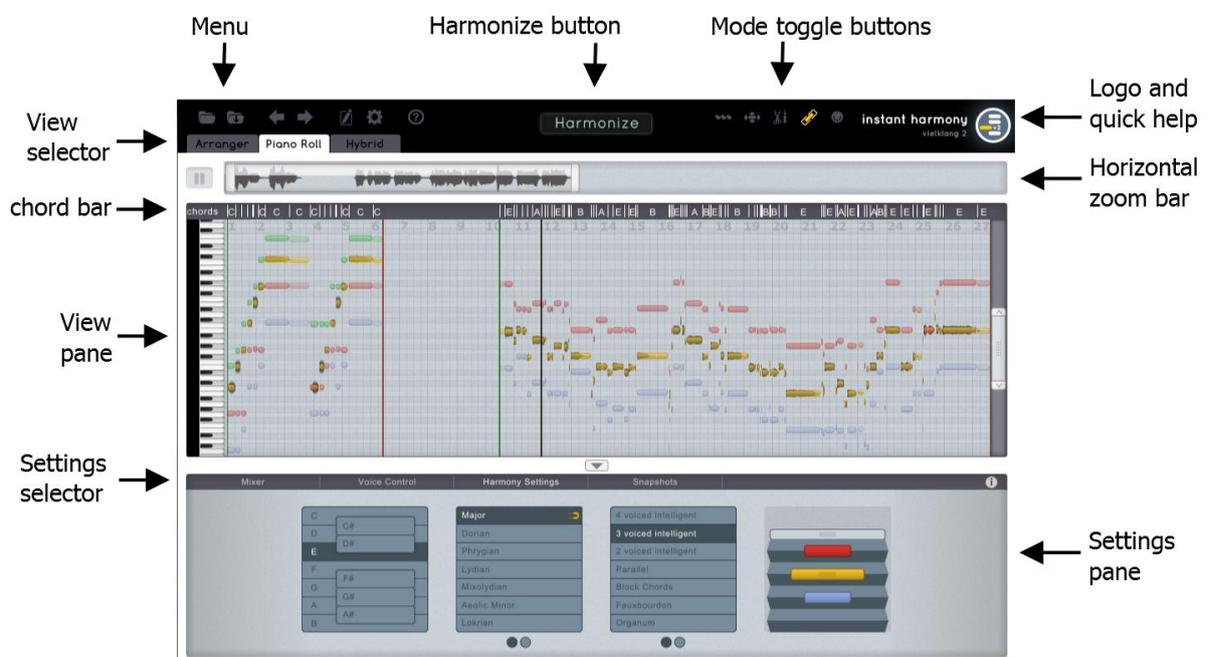
parameter	description
Tune	Controls the deviation of all notes from fully quantized pitch. 100% means that the pitch is 100% quantized.
Drift	Controls the deviation of the pitch curve from average note (e.g. vibrato).
Timing	Humanizes the timing of the voice. +1 means maximum timing variation with a laid back feel. -1 maximum timing variation with a forward feel.
Shape	Shifts the timbre/formant shape in semitones.

User Interface

In this chapter you will learn:

- ✓ All about the menu options
- ✓ The purpose of the toggle buttons
- ✓ More details about the different views
- ✓ About all setting options
- ✓ All keyboard and mouse shortcuts

Overview



Menu

Import



In order to import audio or MIDI hit the import button in the menu. Alternatively, drag and drop a file from your desktop or file explorer (Finder). Some hosts also support drag and drop from the arrangement or the internal file browsers.

You should always render your recorded audio to *one* file before import. To import MIDI you'll have to export it as a compliant MIDI file first (having a .mid or .midi extension). For more details in your host, please refer to the how-to section.

- ✓ After the imported audio/MIDI file is analyzed you will be shown a dialog telling you the estimated root note, key and standard pitch and original tempo. Please check if these are correct and edit them if necessary.

Export



Clicking the export menu button on the top left allows you to export either all or separate single (not available in LE version) voices as audio or MIDI file. If nothing is selected, everything is exported starting from bar one. Otherwise, only the selected time range in the currently active view is exported.

Selecting 'Collect' allows you to copy all imported samples to one specific directory. After collection save your host project, otherwise the new file references will get lost.

Undo/Redo



Use these buttons to undo and redo your last action. The number of undo steps is unlimited.

- ✓ Note that after re-loading a project all undoable actions are discarded.
- ✓ Changes to the "Mixer" and "Voice Controls" cannot be undone within the plugin, because they are under control of the host automation.

Edit



undo	shift + Z
redo	shift + Y
✓ views follow transport	shortcut: 'F'
select all	shift + A
copy	shift + C
cut	shift + X
paste	shift + V

Undo/Redo

Same as the Undo/Redo buttons.

Views follow transport

Unselect this if you do not want the views to follow the transport position. This is particularly useful if you're editing a certain section and want the views to stay at that position. This setting is enabled by default and can also be toggled with the key shortcut 'f'.

Select all

Selects all objects in the current view.

- ✓ Note that you can have different selections in the different views. All actions with selections always refer to the selection in the currently active view.

Copy

Copies all selected objects in the current view into the clipboard.

Cut

Copies all selected objects in the current view into the clipboard and removes them from their original position.

Paste

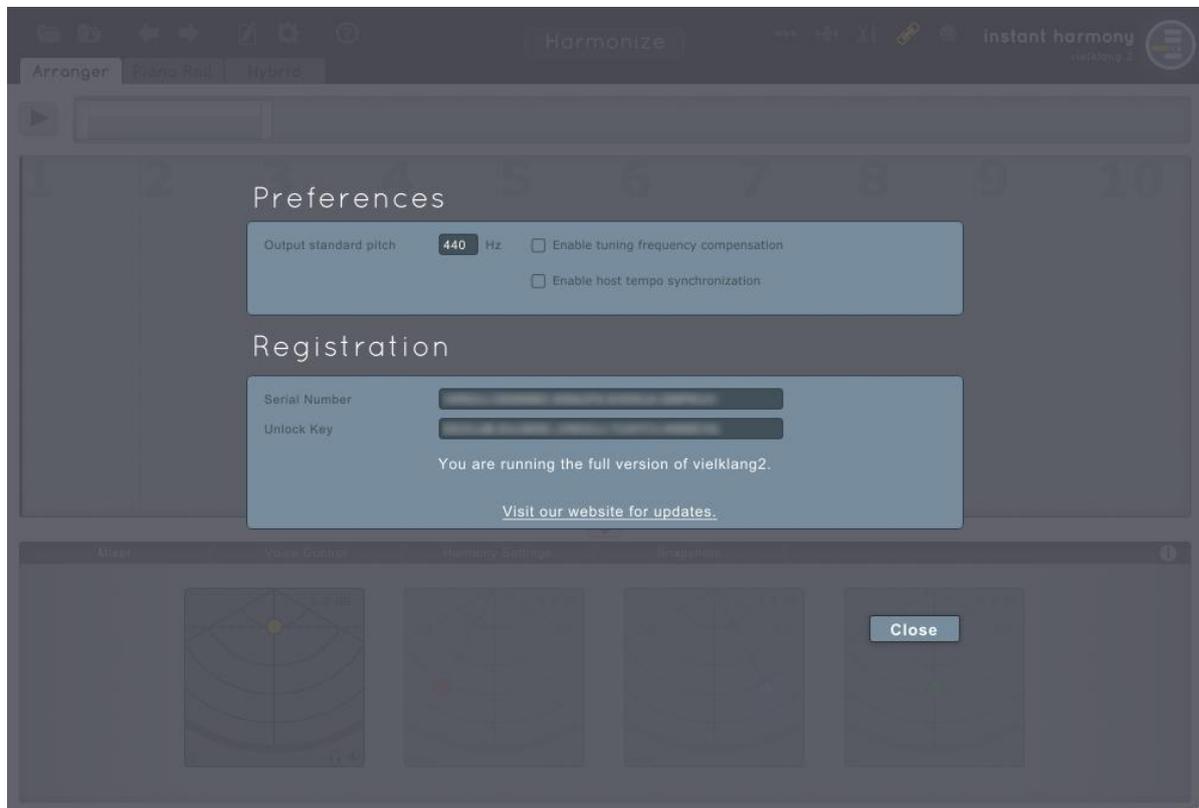
Pastes the clipboard to the current transport position.

Shortcut	Description
SHIFT + Z	Undo
SHIFT + Y	Redo
f	Toggle 'views follow transport'
SHIFT + A	Select all
SHIFT + C	Copy
SHIFT + X	Cut
SHIFT + V	Paste

Preferences



Opens the preferences/registration overlay.



Preferences

The preferences box lets you choose the desired output tuning frequency and if everything should be mapped to that frequency. This is useful if you have audio from different sources with different tuning frequencies and you want them all adapted to the current one.

By checking the *Enable host tempo synchronization* checkbox all audio and MIDI files will be tempo synchronized to the host tempo with respect to their original tempo.

Registration

In the registration box you can unlock your version of vk2. If you are not upgrading, but have purchased a full vk2 license you just enter your serial number and unlock keys into the text fields. When you enter your vk2 LE or old vielklang2 1.5 serial and unlock key, vk2 will run in LE mode. If you buy the upgrade to vk2 you can then enter the upgrade serial und unlock and it will run in vk2 full version mode.

Entering the upgrade serial/unlock without having entered the LE serial /unlock will not work.

Help



Hitting the help button and selecting *tutorial* will open an overlay that shows you the basic features of vk2. If you need more in depth information please consult this manual.

Toggle Buttons

Vibrato Edit



This selects the vibrato edit mode (shortcut: 'v'). Enabling the vibrato edit mode will automatically enable the advanced edit mode if it has not been enabled before. For more details refer to the ['Views' chapter](#).

Advanced Edit



This selects the advanced edit mode (shortcut: 'e') or by *double clicking a note*. For more details refer to the ['Views' chapter](#).

Cut/Glue



This selects the cut/glue mode right (shortcut: 'c'). By standard you are in cut mode and can click anywhere on a note to cut it into two parts. Glue two adjacent notes together by selecting them while holding the ALT key.

Link to Host



If enabled (shortcut: 'l'), vk2 will follow the exact position of the transport in your host. If disabled, the transport of vk2 will be independent of the host and the play/pause button at the left of the waveform overview will become enabled.



- ✓ Unlinking the transport from the host transport is useful if you want to edit without using the transport controls of the host. The playback should be linked to the hosts transport to check if your edits and harmonies fit the arrangement.
- ✓ In unlinked mode selections will loop automatically.

MIDI Trigger



Enables the MIDI trigger mode (shortcut: 'm') and automatically disables the Link To Host playback. MIDI trigger mode allows you to trigger snapshots with individual MIDI notes. You have to assign MIDI notes to the snapshots in order to make them triggerable.

Shortcut summary

Shortcut	Description
v	Toggles Vibrato Edit mode
e	Toggles Advanced Edit mode, alternatively double click a note
c	Toggles Cut/Glue mode
ALT + mouse select	Glues adjacent notes in Cut/Glue mode
l	Toggles Link To Host
m	Toggles MIDI Trigger mode

Harmonize Button



Hit the Harmonize button to harmonize a selected phrase of audio/MIDI. After import, the last imported file is selected automatically. So, if you want to harmonize everything just hit the button. In case you only want to harmonize portions of the file, select the part you want to harmonize before you hit the button. Each harmonized section can have different settings.

- ✓ If the imported file needs correction or modification it is advised to do the editing before harmonization.

Views

Navigating the views

Transport

Left clicking in an empty area of any view moves the transport cursor to that position. If the transport is linked to the host the transport cursor will reset to the host position as soon as the playback of the host is started. If it is unlinked it will play from the selected position. The transport cursor can also be dragged to any position.

Horizontal scrolling and zooming

Use the Horizontal Zoom Bar. Dragging in the middle of the selected area in the Horizontal Zoom Bar moves the position of the viewed pane. Dragging either the left or the right side changes the size of the pane.

Alternatively, you can move horizontally by pressing SHIFT and using the scroll wheel. You can zoom in and out by pressing SHIFT & ALT and the scroll wheel.

Vertical scrolling and zooming

If present, use the vertical scroll/zoom bar at the right of the view. Use the scroll wheel to navigate vertically. Hold ALT+ scroll wheel for vertical zooming.

Changing the position

You can move the current position of the view by holding CMD (CTRL) + ALT and dragging an empty region of the view.

Zoom to selection

Selecting objects and right click the mouse while holding CMD (CTRL) zooms into the selection. If nothing is selected the views will zoom out completely.

Shortcut summary

Shortcut	Description
SHIFT + mouse wheel	Move view horizontally
SHIFT + ALT + mouse wheel	Zoom view horizontally
mouse wheel	Move view vertically
ALT + mouse wheel	Zoom view vertically
CMD (CTRL) + ALT + mouse drag	Move view vertically and horizontally
CMD (CTRL) + right click	Zoom to selection. If nothing is selected, zoom out full.

Arranger



The Arranger view lets you position your imported files on a timeline in order to align them to the playback in your host. If you locate the play cursor at the desired position before importing, the imported file will be put there. You have the possibility to drag the file to any location you want to. Normal dragging is locked to a 1/16 per bar grid. If you want to move the object freely, hold ALT while dragging.

You can also put the transport to the desired position and then select and double click an object while holding SHIFT: it will jump to the transport position then.

To remove a file from the arranger, right click the object and select 'remove' from the pop up menu.

- ✓ Note that when using copy/cut & paste, only the main (orange) voice is pasted. Your additional harmony voices will be lost.

Shortcut summary

Shortcut	Description
ALT + move object	Unquantized move in Arranger
SHIFT + double click object	Moves object to current play cursor position

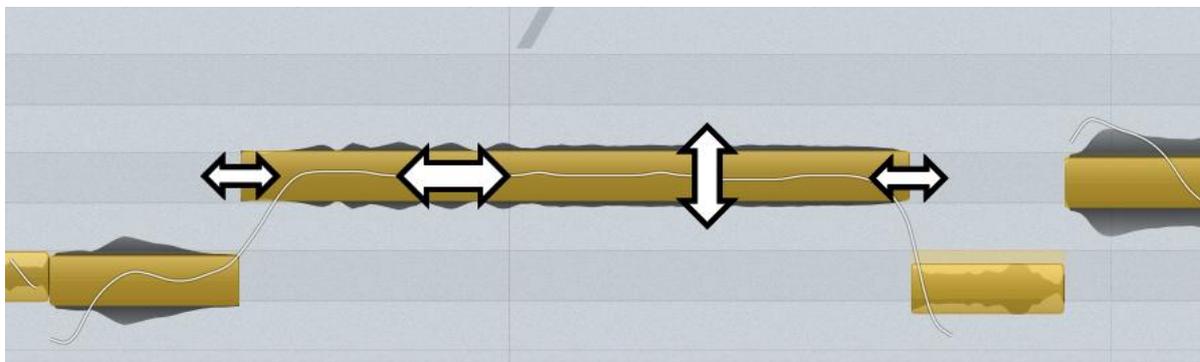
Piano Roll



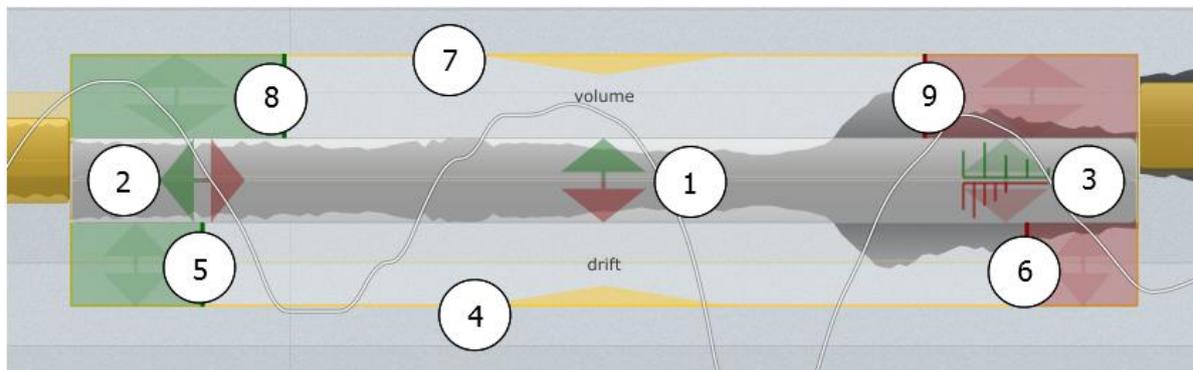
The Piano Roll will be your main editing view when working with vk2. It shows the imported audio or MIDI files as well as the generated harmony voices as notes on a Piano Roll. It allows individual note editing as well as selecting regions for harmonization. A note can only be edited if the corresponding voice is activated. The activated voice will show up in a darker color and have a waveform in the background. By default, selections can only be made within the activated voice. If you want to do a selection across multiple voices hold SHIFT while selecting.

- ✓ Note that paste actions will only work on the main (orange) voice.

Simple Edit



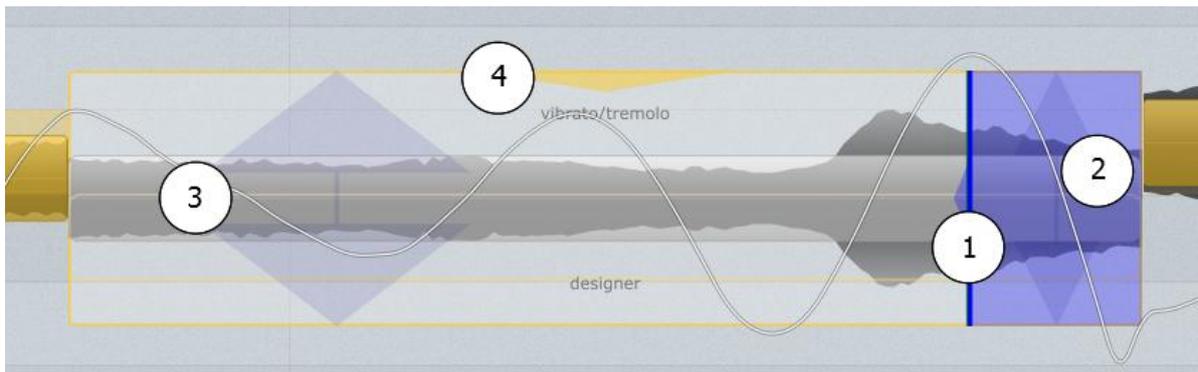
By default, the Simple Edit mode is activated. It lets you do basic editing like pitch shifting, resizing and repositioning single or multiple notes. If you drag the outer left or right edge of a note, it will be resized. Dragging within the left part of the note will change the position of the note while adapting the length of the notes before and after. Hold ALT while dragging and the adjacent notes will detach. Drag the right part of the note up and down to change the pitch. Pitching is locked to semitones. If you want to fine tune the note, hold ALT while dragging the pitch. In order to quickly pitch correct a note, simply right click the note and it will jump to the nearest quantized pitch.

Advanced Edit (not available in LE version)

Advanced Edit mode makes most edit options directly accessible without the need of changing edit tools all the time. To enter Advanced Edit mode, double click a note. Alternatively, you can switch to Advanced Edit mode by selecting the toggle button in the upper right corner. The following table explains all the edit options in the Advanced Edit box

Function	Description
1 Pitch shifting	See Simple Edit
2 Time movement	See Simple Edit
3 Formant shift	Drag up/down to shift the formants of the note
4 Drift	Controls the variation of the pitch around the average pitch. Use this to de-/increase the vibrato
5 Transition beginning	Drag up/down to control the steepness of the transition at the beginning of the note. Drag the vertical green line left/right to control the length of the transition
6 Transition end	Drag up/down to control the steepness of the transition at the end of the note. Drag the vertical red line left/right to control the length of the transition.
7 Volume	Drag up/down to change the volume of the note
8 Fade in	Drag up/down to control the start volume of the fade at the beginning of the note. Drag the vertical green line left/right to control the length of the fade.
9 Fade out	Drag up/down to control the end volume of the fade at the end of the note. Drag the vertical red line left/right to control the length of the fade.

Vibrato/Tremolo Edit (not available in LE version)



Vibrato/Tremolo Edit mode lets you add artificial vibrato/tremolo to each note. Enter Vibrato/Tremolo Edit mode by either hitting 'v' or click the toggle button in the upper right. In order to add vibrato drag the vertical blue line (1) at the right end of the note to the left. Dragging to the left will increase the vibrato frequency. Upon first opening of the edit box there is a vertical green line indicating the estimated original vibrato frequency.

	Function	Description
1	Vibrato frequency	Drag left and right to change the frequency of the vibrato. Dragging left increases the frequency
2	Vibrato end amplitude	Drag up/down to change the end amplitude of the vibrato
3	Vibrato start amplitude	Drag up/down to change the start amplitude of the vibrato
4	Amount of tremolo	Drag up/down to change the amount of added tremolo.

- ✓ If vibrato is already present it is advised to lower the drift of the note in order to remove the original and then add the artificial vibrato.
- ✓ Note that you can only add tremolo if you've added vibrato before. The tremolo will always have the same frequency as the vibrato.

The chords bar

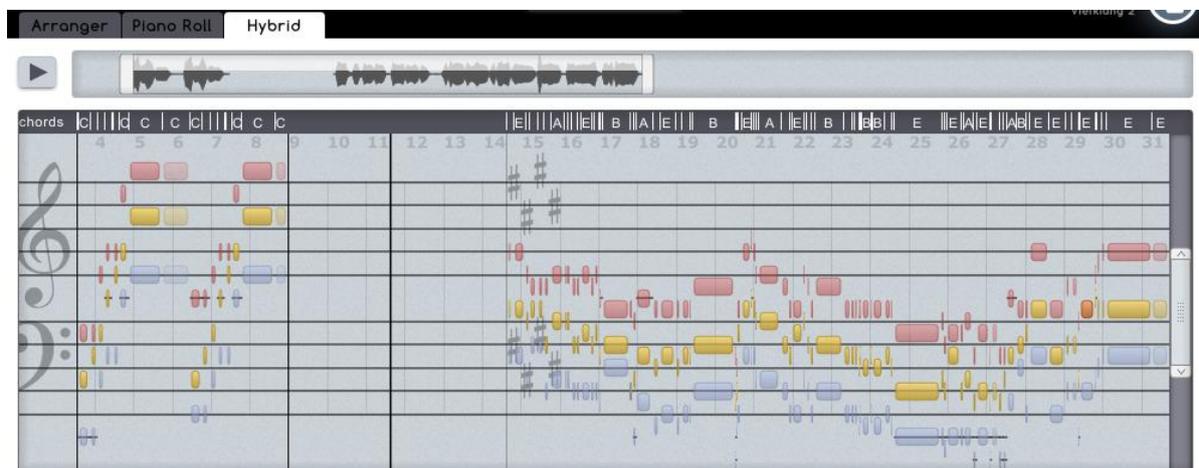
The estimated harmony progression (only used in the intelligent harmonization modes) can be changed in the chord bar on the top of the Piano Roll or Hybrid Score. Click on a chord symbol and select the desired one in the pop up menu. Hold SHIFT and click the first and the last chord symbol to change all chords in between. When holding CMD (CTRL) you can select several symbols that are not adjacent. SHIFT + ALT selects all chord symbols of the same kind as the first clicked between the first and last selected chord.

Unless you are in MIDI trigger mode or have MIDI Harmonization selected you can also use your MIDI keyboard to change chords. Simply place the play cursor at the desired position and play the chord on the keyboard. You can also do that on the fly during playback or use an aligned MIDI track as input.

Shortcut summary

Shortcut	Description
ALT + pitch note	Fine tune notes
ALT + resize note	Detaches notes upon resize
ALT + move note	Detaches notes upon move
SHIFT + mouse select	Select notes across multiple voices in Piano Roll and Hybrid Score
right click note	Pitch note to perfect tuning
SHIFT + mouse select	Select chords from the first to the last selected in chords bar
CMD (CTRL) + mouse select	Select different chords at once in chords bar
SHIFT + ALT + mouse select	Select chords of the same kind as the first chord between the first to the last selected in chords bar

Hybrid Score (not available in LE version)



The Hybrid Score gives you a score-like representation of your melody and harmonies. The pitches are shown in a score while the note lengths are represented as they are in the Piano Roll. Editing in Hybrid Score offers the same functionality as the [Simple Edit](#) mode in Piano Roll except that fine tuning is not possible.

The key signature will be shown at the beginning of each part underneath the notes and will stay at the beginning of the display when scrolling left/right until a new key signature begins. The accidentals of individual notes will appear as note overlays.

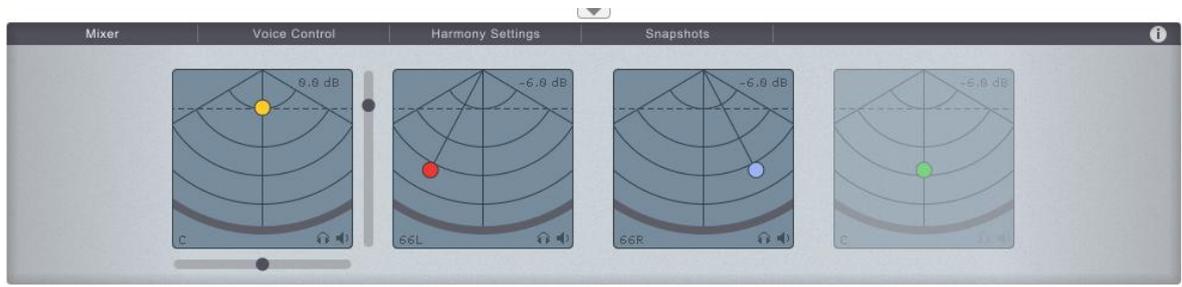
Dragging the clef symbols up and down adjusts the score to the actual note range of the melody and/or harmony voices. You can move the score up and down by a maximum of 2 octaves.

The chords bar

See [Piano Roll](#).

Settings Tabs

Mixer



The mixer tab lets you adjust the levels and the panning of each voice. When hovering over a mixer X/Y-pad separate controls for volume and panning will appear. Either use these or the X/Y-pad to adjust both at the same time. The value of the volume is displayed in the upper right corner and panning value in the lower left. Double click on the values to edit these manually.

When hovering a X/Y-pad of a voice the corresponding voice is activated in Piano Roll or Hybrid Score.

The headphone symbol  in the lower right side represents the solo and the speaker symbol  the mute button.

- ✓ Hold CMD (CTRL) and click on the horizontal or vertical fader to reset these to zero or center position.
- ✓ Volume and Panning are automatable by the host.
- ✓ These settings only apply to audio voices, MIDI is not affected.

Voice Control



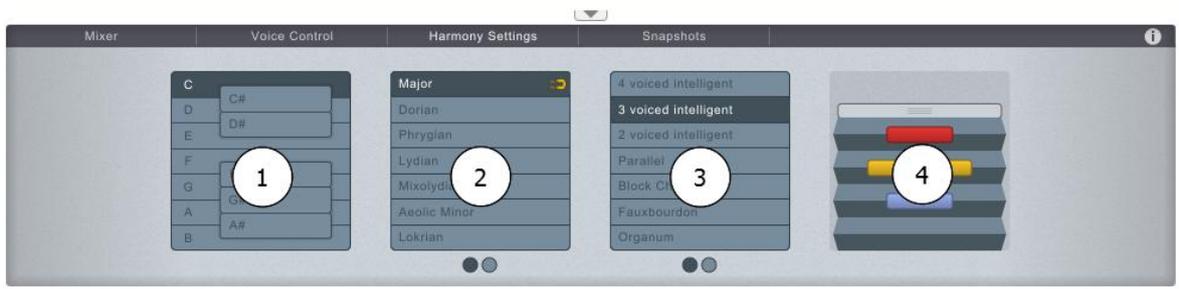
The voice controls adjust the global performance parameters of each voice. These controls affect all notes per voice at the same time:

parameter	description
Tune	Controls the deviation of all notes from perfect tuning. 100% means that it is 100% in tune.

Drift	Controls the deviation of the pitch curve from average note (e.g. vibrato amplitude).
Timing	Humanizes the timing of the voice. +1 means maximum timing variation with a laid back feel. -1 maximum timing variation with forward feel.
Shape	Shifts the timbre/formant shape in semitones.

- ✓ The voice control parameters are automatable by the host. Try to avoid continuous modification since some of these parameters involve some intensive computations.
- ✓ MIDI is only affected by the Timing parameter.

Harmony Settings



The harmony settings will appear after a harmonizing an audio or MIDI region. It shows the settings of the currently selected harmonization, or - if nothing is selected - the harmonization at the play cursor position. For non-harmonized areas the tab will be empty.

In (1) you select the output root. By default this is set to the estimated original root note. By changing the root, both the melody and the harmony voices will be pitch shifted either up or down depending on the shortest distance.

(2) selects the scale. Usually this is either Major or Aeolic minor, but other scales such as two gypsy scales, a wholetone scale and the western church scales can be selected. The magnet button beside the scale quantizes the melody to the chosen scale. This is enabled by default.

- ✓ Changing root note will shift the chords accordingly but preserve the relative chord progression.
- ✓ Changing the scale will recalculate the chord estimation and discard all changes you've made to it.
- ✓ By default after harmonization the melody is quantized to the chosen key. This might modify your original melody. To disable the quantization disable the magnet button right beside the chosen scale.

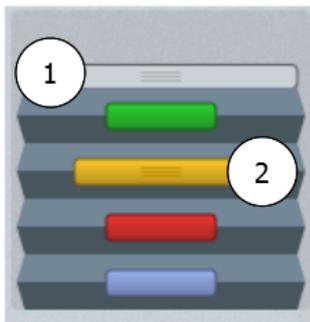
In Box (3) you select the harmonization mode. The available modes are listed below.

Harmonization modes

Mode	Description
4 voiced intelligent	Intelligent 4 voice harmonization with voice leading based on key and harmony progression
3 voiced intelligent	Same as above with 3 voices
2 voiced intelligent	Same as above with 2 voices
Parallel	Traditional harmonizer with fixed diatonic intervals
Block Chords	Jazz harmonization style (which has, for example, been used by Count Basie or Duke Ellington)
Fauxbourdon	Harmonization style used in the Middle Age and early Renaissance
Organum	Middle Age harmonization style, usually doubling the melody by a perfect fifth or fourth.
MIDI input (not available in LE version)	Use MIDI input to play the harmonization by yourself.

Box (4) changes according to the harmonization mode chosen.

4/3/2 voiced intelligent



The intelligent modes will show an accordion for control of additional harmonization parameters. Drag (1) up/down to change the range of the vocal arrangement, i.e. how far the voices are spread from each other. Drag the orange bar (2) to any other of the colored bar positions to change the voice order of the harmonization.

Parallel



In parallel mode, use the slot machine controls to select the intervals for each of the voices. The intervals are represented by roman numbers, e.g. III means a third either above or below

depending on which direction you've spun the wheel. The main (orange) voice is fixed, the red voice is also always present and you can choose any interval from a prime (same as the main voice) to an octave. The blue and green voice are optional and can be turned off by moving the wheel to the middle position ('-').

Block Chords/Fauxbourdon/Organum

Block	Tenor diatonic	Fourth above
Block intelligent	Tenor intelligent	Fourth below
Shearing	Descant diatonic	Fifth above
Shearing intelligent	Descant intelligent	Fifth below
Drop2		Octave above
Drop2 intelligent		Octave below
Block free		Octave around

Block Chords

Block modes add three voices under the melody voice to form a narrow 7th chord. Shearing modes double the melody in the bass - as we only have four voices, the fifth of the chord is omitted. Drop2 modes "drop" the voice which should have been in alto to the bass with minor modifications aiming at plausible voicing. The intelligent modes detect dominant-relations and modify the chords accordingly. Free mode switches randomly between dominant 56 and dominant 2 chords.

Fauxbourdon

Each pitch is harmonized with two additional voices to form a sixth-chord.

- Diatonic modes simply build diatonic 6-chords
- Intelligent modes correct occurring tritones into perfect fourths
- In Tenor modes the melody pitch is in the second voice
- In Descant modes the melody pitch is in the top voice

Organum

Each pitch is harmonized with a single voice (except the Octave Around mode which has two voices) moving parallel to the melody with the indicated interval.

- Above modes indicate that the additional voice is above the input melody
- Below modes indicate that the additional voice is below the input melody
- Octave Around mode adds two additional voices: a fourth above and a fifth below the input melody

MIDI input (not available in LE version)



In MIDI input mode no automatic harmonization is generated. Harmonization is controlled by MIDI input. Play up to 3 voices on a MIDI keyboard or a MIDI track at the input of vielklang2 to control the harmonies.

Snapshots (not available in LE version)

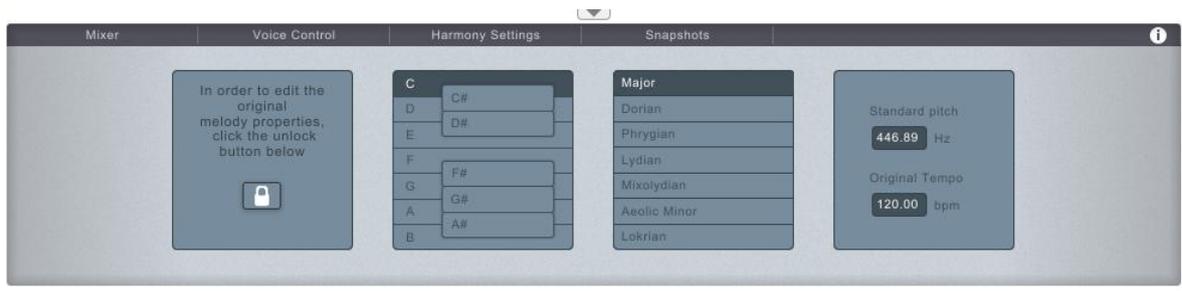


Snapshots allow you to save a specific phrase from your arrangement and recall it at any time. Simply select some notes and hit the + button in the snapshot list. To switch between snapshots click on the entry in the list. Snapshots are saved 'as is'; they do not have any harmonization settings available anymore but can be edited on a note-by-note base.

By dragging a snapshot entry to the keyboard on the right, a snapshot is assigned to a MIDI note. If MIDI trigger mode is enabled (the MIDI toggle button at the top right) the snapshots can be triggered by playing the corresponding MIDI note.

- ✓ Vielklang 1 users should note that the snapshot system has been changed a bit: Now snapshots are mainly used for MIDI triggering. To compare different versions of harmonization, please use the preset bank save function of your host (after loading a preset bank all undoable actions will be lost).

Info Tab



The info tab shows the original key, tuning frequency and tempo of the imported audio/MIDI file. This is the same information as shown when importing a file. It always refers to the file at the current transport position or the current selection.

These settings should always reflect the properties of the unmodified input files. Modify these settings only if you know the properties of the input file. To change, unlock the settings first by clicking on the lock button on the left.

- ✓ Changing the settings may affect your current harmonization. It is recommended to change these settings before harmonizing.

Shortcut summary

Shortcut	Description
CMD (CTRL) + click	Resets Sliders to their default position

Summary of keyboard/mouse shortcuts

Menu

Shortcut	Description
v	Toggles Vibrato Edit mode
e	Toggles Advanced Edit mode, alternatively double click a note
c	Toggles Cut/Glue mode
ALT + mouse select	Glues adjacent notes in Cut/Glue mode
l	Toggles Link To Host
m	Toggles MIDI Trigger mode
Shortcut	Description
SHIFT + Z	Undo
SHIFT + Y	Redo
f	Toggle 'views follow transport'
SHIFT + A	Select all
SHIFT + C	Copy
SHIFT + X	Cut
SHIFT + V	Paste

Views (general)

Shortcut	Description
SHIFT + mouse wheel	Move view horizontally
SHIFT + ALT + mouse wheel	Zoom view horizontally
mouse wheel	Move view vertically
ALT + mouse wheel	Zoom view vertically
CMD (CTRL) + ALT + mouse drag	Move view vertically and horizontally
CMD (CTRL) + right click	Zoom to selection. If nothing is selected, zoom out full.

Arranger

Shortcut	Description
ALT + move object	Unquantized move in Arranger
SHIFT + double click object	Moves object to current play cursor position

Piano Roll/Hybrid Score

Shortcut	Description
ALT + pitch note	Fine tune notes
ALT + resize note	Detaches notes upon resize
ALT + move note	Detaches notes upon move
SHIFT + mouse select	Select notes across multiple voices in Piano Roll and Hybrid Score
SHIFT + mouse select	Select chords from the first to the last selected in chords bar
CMD (CTRL) + mouse select	Select different chords at once in chords bar
SHIFT + ALT + mouse select	Select chords of the same kind as the first chord between the first to the last selected in chords bar

Settings

Shortcut	Description
CMD (CTRL) + click	Resets Sliders to their default position

Inputs & Outputs

In this chapter you will learn:

- ✓ About the different audio output channels
- ✓ About MIDI in- and output
- ✓ Import & Export

Audio Routing

vk2 outputs a stereo mix and 4 separate stereo channels for each voice. The stereo mix contains all voices of the harmonization. Consult the manual of your host application on how to route the other channels to your mixer.

MIDI Routing

MIDI input

Since vk2 is an instrument, it will always receive MIDI input from the assigned MIDI or instrument track. If the MIDI input of that track is set to an external MIDI keyboard, the keyboard can be used to control vk2 directly.

MIDI input is used in vk2 to

- **Change the chord estimates** in the chords bar
Place the play cursor at the chord you want to change and play the chord on your keyboard. Alternatively, you can play the chords during playback and that way change the chords on the fly. A MIDI track with the pre-recorded chords can also be used
- **Change the harmony** voices according to MIDI input when MIDI harmonization mode is enabled
- **Trigger snapshots** when MIDI trigger mode is enabled.

MIDI output

All notes played in vk2 (both audio and MIDI notes) are played as MIDI notes to the MIDI output of the instrument. Consult the manual of your host application on how to route the MIDI output of vk2 to another instrument or MIDI track.

Import & Export

Import

Vk2 can import the main voice from WAV, AIFF and MIDI files (.mid, .midi). Import is done by clicking the import button. Drag and drop is also supported. This works from your desktop or file explorer (finder), and - in some hosts - from the arrangement or the internal file browser.

Imported files are always positioned at the current play cursor position.

Export

All your melody and harmony voices can be exported as audio or MIDI. If nothing is selected, everything is exported starting from bar 1, otherwise only the selected region is exported. The export menu offers to save all voices at once (either mixed or separately) or each voice individually. Furthermore, the chord track can be exported as a MIDI file.

- ✓ Imported MIDI files cannot be exported as audio.

How to...?

In this chapter you will learn:

- ✓ How to use vk2 in your specific host
- ✓ How to work with MIDI harmonization
- ✓ How to do advanced correction and editing

Setup vk2 in different hosts

ableton Live

Loading vielklang2

Go to the VST/AU plugin folder in the browser. Look up vielklang2. Now, either drag it on the MIDI track of your preference, or just simply double-click it. The latter will open a new MIDI track for vielklang2 automatically.

Setting up MIDI input

Midi input is set up automatically by dropping vielklang2 on a midi track or by double-clicking it.

Setting up stereo output

Stereo output is also set up automatically.

Setting up multichannel outputs

Add a new audio track. In Audio From select the vielklang2 midi track. In the drop down menu below you can choose which voice output channel you want to route to the audio track. Do not forget to set the Monitor of the channel to In.

Setting up MIDI outputs (VST only)

Add a new MIDI track. In MIDI From select the vielklang2 midi track. In the drop down menu below choose vielklang2.

Annotations

Live only supports drag'n'drop of audio from the internal file browser to vielklang2, alternatively you can use the Import button or use drag'n'drop from the file explorer.

Apple Logic

Loading vielklang2

Add a new instrument track. In I/O go to Stereo/AU Instruments/ or Multi-channel/AU Instruments/ and look for vielklang2 and select it.

Setting up MIDI input

Midi input is automatically set up from the chosen instrument track to vielklang2.

Setting up stereo output

Stereo output is automatically set up to the output of the instrument track.

Setting up multichannel outputs

In order to use the multichannel output option of vielklang2 you have to load vielklang2 as a multichannel instrument (see above). If you have been working with the stereo version so far, that is no problem. Simply choose the multi-channel version in the same track instead of the stereo version. All your data will be preserved.

In Logic 7: For each single voice output channel add a stereo AUX channel. In I/O of each one of these AUX channels select in the drop down menu below I/O the desired vielklang2 output. vielklang2 3-4 corresponds to the orange voice, vielklang2 5-6 corresponds to the red voice, vielklang2 7-8 corresponds to the blue voice and vielklang2 9-10 corresponds to the green voice.

In Logic 8 and above: Open the mixer and look for the standard stereo output of vielklang2. Below the MUTE and SOLO buttons you will find a "+" and a "-" button. By hitting the "+" button you can add the additional outputs of vielklang2 to your mixer.

Setting up MIDI outputs

Midi output is not supported by AudioUnits at the moment. The only way to get midi output is to use the export as midi option.

Annotations

If the transport is not playing, Logic doesn't tell vielklang2 about the current transport position. This way the play cursor in vielklang2 will not follow the cursor in Logic unless you let the transport in Logic play.

Cakewalk Sonar

Loading vielklang2

Go to Insert/Soft Synths and select vielklang2. If vielklang2 doesn't show up after installation you might have to rescan your VST-plug-ins. This is done in Tools/Cakewalk Plug-In Manager.

Setting up MIDI input

The vielklang2 instrument track has a midi sub-track that is automatically routed to vielklang2. If you prefer to use another midi track then select the preferred track and choose vielklang2 in the output drop down menu right below the volume fader on the left.

Setting up stereo output

Stereo output is automatically set up when inserting a new vielklang2 soft synth.

Setting up multichannel outputs

When inserting a new vielklang2 soft synth select in the Insert Soft Synth Options All Synth Audio Outputs. Sonar opens up 5 audio tracks of which the first one represents the mix output, and next four the orange, red, green and blue single voice outputs.

Setting up MIDI outputs

In order to enable vielklang2 midi output you have to:

- check the Enable MIDI Output checkbox in the Insert Soft Synth Options dialog box when inserting a synth from the Insert menu or the Synth Rack
- right-click a synth name in the Synth Rack to enable or disable Enable MIDI Output from a popup menu.

Then choose a midi track and set the input of that track to vielklang2.

Annotations

Sonar supports drag'n'drop from Sonar to vielklang2. If you experience trouble with entering names or numbers, click on the window menu button at the upper left corner of the plug-in window and select Disable Floating.

When using the 64bit version of Sonar please use the dedicated 64bit version of vielklang2.

Digidesign Pro Tools

Loading vielklang2

Add a new stereo instrument track. Click one of the insert selectors of that track and select multichannel plug-in/Instrument/vielklang2.

Setting up MIDI input

The midi output of the instrument track is automatically routed to vielklang2's midi input.

Setting up stereo output

vielklang2s stereo mix output is automatically routed to the audio output of the instrument track.

Setting up multichannel outputs

For each desired single voice output add a new stereo AUX track. Switch to the Mix window. In each AUX track you can select the input which is usually set to no input by default. Click on the drop down menu and select the appropriate vielklang2 output voice in the submenu plug-in/vielklang2.

Setting up MIDI outputs

Add a new midi track, switch to the Mix window and select vielklang2 MIDI out as midi input for that track. In a submenu you may also choose if you want to route all channels or only a single channel to the midi track.

Annotations

Pro Tools supports drag'n'drop from Pro Tools to vielklang2. When dragging from the arrangement the imported file will be automatically set to the correct time position.

- ✓ On the Mac when dragging a region (which must be consolidated first) either from the arrangement or from the region list to vielklang2 it must be dragged to the header of the vielklang2 window.

Imageline FL Studio

Loading vielklang2

Go to Channels/Add one, look up vielklang2 and select it. If vielklang2 doesn't show up in the menu select More... and find it there.

Setting up MIDI input

Midi input is automatically set up from the channel to vielklang2.

Setting up stereo output

vielklang2s stereo mix output is automatically routed to the master output. To change this, click on vielklang2 channel in the step sequencer, this will open the vielklang2 window and the channel settings. In the upper right corner of the channel settings - called FX - you can assign the stereo mix output to a channel of the mixer.

Setting up multichannel outputs

Open the plug-in menu by clicking on the upper left down arrow of the plug-in window. In the menu enable the option Enable multiple outputs. The 4 additional outputs are now routed to the subsequent channels in the mixer.

Setting up MIDI outputs

Open the plug-in menu by clicking on the upper left down arrow of plug-in window. In the menu enable the Show MIDI output port. Then, you may assign a port in the upper right corner of the plug-in window. Use this port as the input to the synthesizer you want to control.

Annotations

FL Studio supports drag'n'drop from the FL Studio browser to vielklang2.

Steinberg Cubase/Nuendo

Loading vielklang2

Select Devices/VST Instruments, then choose vielklang2 in an empty VST instrument space. You can also add an instrument track by choosing Project/Add Track/Instrument and selecting vielklang2 as instrument, but this way you will not be able to use the extra output channels.

Setting up MIDI input

If Cubase asks you on loading vielklang2 if it should add a midi track to the instrument and you confirm, the new midi channel is connected to vielklang2. Otherwise add a new midi track and set the output of that track to vielklang2

Setting up stereo output

vielklang2's stereo mix output is automatically routed to the audio output of the VST instrument track.

Setting up multichannel outputs

If not already displayed, click on the output symbol to the left of vielklang2 in the VST Instruments dialog. Select the additional output channels.

Setting up MIDI outputs

Add a new midi track and set the input to vielklang2.

Annotations

Cubase supports drag'n'drop from Cubase to vielklang2.

When using the 64bit version of Cubase please use the dedicated 64bit version of vielklang2.

Setup MIDI harmonization

Besides audio harmonization, vk2 can also handle MIDI input. In order to harmonize MIDI, import a MIDI file via the import button. The process of harmonization is the same as for audio. To listen to the results you have to route the MIDI output of vielklang to a MIDI device capable of synthesizing audio output from MIDI input. Follow the steps for setting up the MIDI output for your host as described in the section above. If your host is not mentioned, consult the manual of your host. After setting up the routing of the MIDI output either place a virtual instrument in the new MIDI channel or route the channel to an external MIDI device. After that you should be able to listen to the results of your editing and harmonization within vk2.

Do advanced pitch correction

Good and natural pitch correction is not only about putting notes into perfect tuning. It often involves a more detailed look at the pitch curve to check the intonation across a note. It is not always advantageous to apply 'perfect' tuning since the deviation from the fully quantized pitch may be intentional – adding more feeling to a melody. So, before putting all notes to fully quantized pitch (select all and right click one note) listen to the melody in the given context and trust your ears. Notes that sound wrong to you should first be corrected by right clicking them. If they still sound wrong, first check if the note has been corrected to the intended note. In that case put the drift to 0% and listen if the note sounds correctly then (this will sound a bit unnatural but will give you an idea if the average pitch is correct). If not, apply fine tuning by holding ALT while pitching.

Put the drift back to 100% and have a look at the pitch curve. Is it well centered around the average pitch? If not, try to reduce the drift. If there are unintended jumps in pitch try to cut these parts out and treat them separately.

Finally have a look at the transitions into and out of the note. These should be consistent with the transition out of the note before and with the transition into the next note, respectively. Also, check the transition time. For example, it might be a problem that it takes too long to reach the desired pitch. Use the drift and transition controls to correct these.

Add natural vibrato and tremolo

For adding natural sounding artificial vibrato, start off by reducing the original drift. We recommend not to reduce it to 0%. If there is an original vibrato, reduce the drift to 10%-25%, otherwise a drift around 50% is a good starting point. Switch to Vibrato Edit mode. First, use the proposed vibrato frequency: move the vibrato frequency slider to the green line. Then move it while listening until it sounds good to you. Adjust the amount of vibrato at the end and then at the beginning. Usually, vibrato starts with a low amplitude and then increases, but this may vary depending on the use case.

Tremolo is usually in sync with the vibrato. In case there is an original tremolo present which doesn't fit the new vibrato, you should add an artificial tremolo by dragging the tremolo handle down. Be careful with that and don't overdo it. Adding an artificial tremolo removes all volume variation of the original note, so it might be useful to adjust the volume fade in and out to create proper volume transition to the adjacent notes.

Troubleshooting

Please find the answers to some common problems below. If the problem persists, do not hesitate to contact us directly.

Plugin does not show up in the host after installation

Note that vk2 is a virtual instrument, not a real-time effect, so you have to look under the instruments menu of your host. If you still cannot see the plugin try to do a rescan of your plug-ins and delete any potential blacklists before. Please check the host documentation on how to do this.

Unlocking

If you have trouble with unlocking vk2, please make sure that the info you entered in the registration dialogue is exactly the information you received from our web-shop.

Freezing does not work

In order to freeze an instrument properly the host needs to know at what time the instrument produces audio output. Usually this is done by checking where the instrument has MIDI input. So, in order to freeze a vk2 track you need to generate a dummy MIDI part for whole time where vk2 is supposed to produce audio output. In some host it is sufficient just to generate an empty MIDI part, in others you might need to add a dummy note ranging from the beginning to the end of the MIDI part.

The input melody is automatically modified

Vk2 does this automatically because the input pitch was not in the harmonization scale, and it has assumed that for proper harmonization, it should be quantized to that scale. You have the option to switch this automatic behavior off by disabling the small magnet icon in the scale selector in the harmony settings. If this option is turned off, the input melody pitches will remain unaltered.

Midi-Output does not work with the AudioUnit

Unfortunately live MIDI output is not supported by the AudioUnit interface. But you can use the export MIDI function from the menu.

Feedback & Support

The [vielklang2 website](#) always provides the latest information and news about vk2. You can also always post in our [forum](#) to discuss your impressions, tips and tricks, questions, and feature requests with other users and the zplane team.

Any issues you encounter may also be reported in the forum, or directly to us via post or email. Before contacting us directly, please ensure you are using the latest version of vk2. Please also make sure that your problem is not covered in the manual, the forum, the faq or elsewhere on the [vielklang2 website](#).

In your email or letter, please provide the following details to enable us to help you as fast as possible

- ✓ your registration information
- ✓ your system specifications (hardware, operating system, host software)
- ✓ the exact version number of vk2 (see the about dialogue by clicking on the help button).
- ✓ a detailed description of your problem, including a step-by-step description of how to reproduce the issue

Please use the following contact information:

zplane.development

katzbachstr. 21

d-10965 berlin

germany

[mail support](#)

Glossary

Chord

In the context of vk2, a chord consists either of three pitches (triad) or of four pitches. The pitches are always separated by (diatonic) thirds. Due to the integrated voice leading, a chord is not necessarily complete: pitch doubling or missing pitches can occur if preferred by the voice leading engine.

A chord inversion means that a pitch other than the chord's root note is the lowest pitch.

Chord Labels

The following table explains all chord labels used by vk2 with respect to a root note of C.

Chord Label	Description	Chord
C	Major Triad	
c	minor triad	
c dim	diminished triad	
C aug	augmented triad	
C M7	Major seventh chord (four voiced)	
c m7	Minor seventh chord (four voiced)	

C 7	Dominant seventh chord (four voiced)	
c m7b5	Half diminished seventh chord (four voiced)	
c dim7	Diminished seventh chord (four voiced)	

Harmony

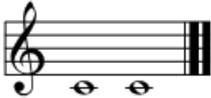
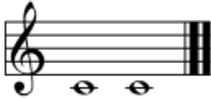
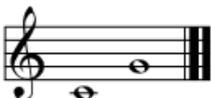
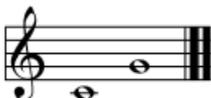
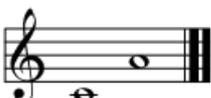
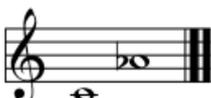
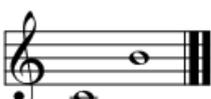
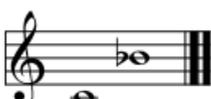
Here, a Harmony is basically the same as a Chord.

Interval

An interval describes the distance in pitches between two pitches. One can differentiate between chromatic intervals and diatonic intervals. The chromatic intervals as shown in the following table always define the exact distance in semitones, while diatonic intervals always refer to their scale.

Interval	Distance in semitones
Prime	0
Minor Second	1
Major Second	2
Minor Third	3
Major Third	4
Fourth	5
Tritone	6
Fifth	7
Minor Sixth	8
Major Sixth	9
Minor Seventh	10
Major Seventh	11

In the case of diatonic intervals, there is no need to refer to intervals as major or minor, as the number of semitones is defined by the scale itself. The next table shows intervals from the pitch C for two scales, major and aeolic minor.

Interval	Major: distance in semitones	Pitches in Major	Minor: distance in semitones	Pitches in Minor
Prime	0		0	
Second	2		2	
Third	4		3	
Fourth	5		5	
Fifth	7		7	
Sixth	9		8	
Seventh	11		10	

Key

The key of a musical piece is defined by the combination of a root note with a scale. It thus defines all possible or “allowed” pitches in this specific key. For example, the Major scale starting at pitch C leads to a key of *C Major*.

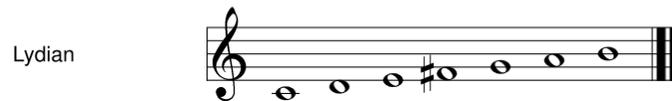
Root

The Root or Root Note is the “most important pitch” of a musical piece. Together with the mode, it is used to define a key.

Scale

A simple and in the context of this software valid definition of the term “scale” is an ordered series of intervals.

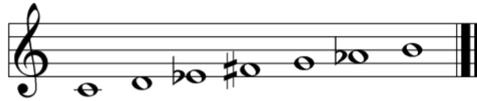
Together with a Root Note, the scale determines the key and thus the “valid” pitches in tonal context. vk2 offers the following scales (in this example plotted over a Root Note C):



Harmonic Minor



Gipsy I



Gipsy II



Wholetone



The most popular scales are Major and (Aeolic or Harmonic) Minor. The usage of vk2 does not require exact knowledge of the mentioned scales. You may just switch between different scales and listen to the results.

Tremolo

Periodic loudness variation around the mean loudness of a tone. In most cases in-time with the vibrato.

Tuning Frequency

The frequency of pitch A4. In many cases, it is at 440Hz, but deviations from this tuning frequency are easily possible.

Vibrato

Periodic frequency variation (usually 4-8Hz) around the mean pitch frequency of a note.