

Harmony Improvisator

Reference Manual

Harmony Improvisator for Windows and Mac OS
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1 Welcome to Harmony Improvisator

Thank you for purchasing Harmony Improvisator.

Utilising centuries of knowledge, Harmony Improvisator opens up the infinite world of harmonic theory. No other tool provides such a uniquely transparent and understandable approach to writing chord progressions.

1.1 What is unique about Harmony Improvisator?

Harmony Improvisator is a VST plug-in which is intended to facilitate composing music based on the rules of classical harmonic theory. With Harmony Improvisator you do not have to worry about harmonic functions, keys, scales or the rules of part-writing, but instead you can fully concentrate on the creative part of your composing work. Harmony Improvisator is suitable for people with all different levels of background knowledge. If you are not familiar with the basic principles of harmonic theory, the clearly arranged graphical user interface allows you to compose according to harmonic rules easily and will make you become familiar with sound chord progressions fast. Experts will appreciate how quickly and accurately the Harmony Improvisator algorithm can help you to explore unusual chords and to create sophisticated harmonic patterns with just a few clicks.

1.2 How does Harmony Improvisator work?

Harmony Improvisator is not a programme itself, but a plug-in that has to be embedded in host software as a VST instrument (VSTi). It is compatible with most commonly used digital audio workstations (DAWs). A list of supported software and detailed instructions how to embed Harmony Improvisator in the different sequencer programmes can be found in Chapter 2.

Harmony Improvisator offers you a large number of different chords, including standard chords but also more sophisticated ones. Per default, chords that you trigger in Harmony Improvisator are routed to a built-in synthesizer. You can optionally load a separate sampler or synthesizer in your host application and route the midi output of Harmony Improvisator to it. To hear the harmonies very clearly, we suggest piano or organ as instruments. Once you have clicked the first chord, Harmony Improvisator comes up with suggestions what chord you could play next. It automatically considers the rules of part-writing, so that you can be sure that chord progressions will be accurate in terms of voice leading. Using the suggestions or also the full set of available chords, it is simple to experiment with harmonies. All chords can easily be placed in the progression timeline

via drag and drop. Individual notes can be edited in the sheet music view, and you can save your harmonic progression as MIDI or HARM file.

More detailed information on the different functions of Harmony Improvisator can be found in Chapter 3.

1.3 Different versions of Harmony Improvisator

Harmony Improvisator is available for Windows and for Intel Mac. When downloading the free demo version or purchasing the full version of Harmony Improvisator, you will automatically receive both versions.

The Windows version of Harmony Improvisator is generally compatible with Windows XP, Windows Vista and Windows 7. It was designed for 32-bit systems, but in principle it also works on 64-bit systems. However, if you work with a 64-bit system we strongly recommend trying out the free demo version first before buying to make sure it works on your system.

The Intel Mac version of Harmony Improvisator was designed for Mac OS X.

For us the best way to prevent piracy is to provide our customers with a special value that they cannot download from some piracy site: We grant our customers a free lifetime update service for Harmony Improvisator. Whenever we publish a new version, you will automatically receive an update via e-mail. Since all customers will always have the up-to-date version, there is no version numbering for Harmony Improvisator.

1.4 Brief introduction to harmonic theory

The term *harmony* derives from the Greek *harmos* 'joint' and the Latin *harmonia* 'joining, concord'. Today harmony is a broad term for the simultaneous sounding of musical notes, the so-called "vertical" component of music, as distinguished from the melodic line which is called the "horizontal" aspect of music.

Harmonic theory is the systematic approach to analyse and explain chord characteristics and provide rules for composing. This involves studying chords and their construction, as well as how to connect chords to create a chord progression. Functional harmonic theory aims at understanding how harmonies and harmonic progressions evoke a certain impression on the listener.

It would certainly go beyond the scope of this manual to give a detailed overview of harmonic theory. Interested users may be referred to specific literature. However, here is a very brief introduction of terms that you will most probably come across when studying harmony.

There are twelve pitches in the musical scale, forming a so-called octave. Each pitch is referred to as a "degree" of the scale. The first degree of the scale is called the tonic. The fourth degree is the subdominant, and the fifth degree is called the dominant.

The relationship between two separate musical pitches is called interval. Intervals can be consonant (for example major and minor third, fourth, and fifth) or dissonant (for example major second, and seventh). Dissonant intervals produce tension and therefore require resolution.

A chord is a set of harmonically related notes and any chord refers to a certain combination of intervals. The most frequently used chords are triads consisting of three different notes: major, minor, diminished or augmented triads. A chord is in root position when the tonic is the lowest note of the chord. If this is not the case, the chord is said to be inverted.

In Western music, a so-called harmonic cadence is a series of at least two chords that concludes a musical phrase. A very commonly used progression is I–IV–V–I, that is tonic – subdominant – dominant – tonic. In C scale, this is equivalent to C–F–G–C.

The fundamental rules established by Hugo Riemann and others many decades ago hold true even for most of today's music. They seem to have a foundation in the physiology of human sound perception by our cochlea and the brain. Even though the reasons for the strong emotional impact of polyphonic music still remain to be unveiled, the rules of functional harmonic theory are so simple and yet powerful that composing according to them can bring remarkable results. You will see...!

2 Getting started

As described in section 1.2, Harmony Improvisator is a tool that has to be embedded in host sequencer software as a VSTi plug-in. Most commercially available audio software supports the VST format, and below you find detailed instructions for the use of Harmony Improvisator in some of the most commonly used DAWs. There is also a number of free host programmes available in the internet, and we suggest the free SAVIHost for Windows users, and the VSTLord for Mac users (see below).

2.1 SAVIHost

SAVIHost is a very simple and freely available VST host for Windows. It can be downloaded on <http://www.hermannseib.com/english/savihost.htm> and is basically just an EXE file that does not need any installation.

When you execute the EXE file, a window will pop up in which you can set the directory of the VST plug-in. In this case, you choose Harmony Improvisator's DLL file and click 'Open'. The Harmony Improvisator user interface will be visible now and you can start working immediately. You should now hear a sound when clicking on any of Harmony Improvisator's chord buttons. If you cannot hear any sound, make sure that the 'Run' button in the SAVIHost (right below the 'File' menu) is activated.

2.2 VSTLord

VSTLord is a free VST host that we suggest for Mac users. It can be downloaded on <http://www.kvraudio.com/get/2101.html>.

In order to load Harmony Improvisator in VSTLord, open VSTLord and choose File → New Synth. In the pop-up window find the file "HarmonyImprovisator.vst" and double-click it. Harmony Improvisator will open and should produce sound when you click chords with the mouse.

2.3 Cubase

Harmony Improvisator can be embedded in Cubase 5 on both PC and Mac according to the following instructions:

At first, copy Harmony Improvisator's DLL file into the folder that Cubase accesses for VST plug-ins. Normally this is the folder 'vstplugins' within the Cubase folder in your local programme directory.

After starting Cubase and opening a new project, click on the 'Devices' menu and then on 'VST instruments'. When you select Harmony Improvisator, its user interface will automatically pop up and you can start experimenting with harmonies and harmonic progressions right away by using its built-in synthesizer.

If you want to route the sound to an external synthesizer or sampler, please follow these instructions:

- In Harmony Improvisator's GUI, select 'OUTPUT: MIDI out'.
- Add your instrument of choice to your Cubase project in additional track.
- Create a new MIDI track by going to the 'Projects' menu and selecting 'Add track' --> MIDI.
- In the 'Input' drop-down menu for this MIDI track, select Harmony Improvisator.
- In the 'Output' drop-down menu for this MIDI track, select your instrument.
- Enable monitoring in the 'Monitoring' section for this MIDI track (The little speaker symbol lights up).
- When you click on any chords in Harmony Improvisator now, they should be played back by the instrument of your choice.

You can always get back to Harmony Improvisator's user interface by clicking on the 'edit VST instrument' button in the Harmony Improvisator track.

2.4 Ableton Live

Harmony Improvisator can be embedded in Live 8 on both PC and Mac. Simply follow these instructions:

Live usually scans your computer for available plug-ins when it you start the programme. Therefore, Harmony Improvisator should appear in the plug-in list that becomes visible when you click on the plug-in devices button on the left side of Live's GUI. If Harmony Improvisator is not in the list already, you can search for it using the search option within the plug-in browser.

Drag the Harmony Improvisator plug-in into the project area to create a new track.

Harmony Improvisator's user interface will automatically pop up, so you can start experimenting with harmonies and harmonic progressions right away using its built-in synthesizer.

You can also route Harmony Improvisator's chords to an external synthesizer or sampler:

- In the 'OUTPUT' box of Harmony Improvisator, choose 'MIDI out'.
- Drag your desired instrument from Live's instrument list into the project area to create a new track.

- Make sure the 'I-O' button on the right side is active so that input/output options are visible for each track.
- In the 'MIDI from' section of the instrument's track, choose Harmony Improvisator in both white panels.
- In the instrument track, activate 'Monitor' by clicking on the 'In' button.
- When you click chords in Harmony Improvisator, you should now hear your sound of choice.

To get back to Harmony Improvisator's user interface, click on the Improvisator track and then on the little spanner within the small box that opens at the bottom of Live.

2.5 FL Studio

Harmony Improvisator can be embedded in FL Studio 9 on both PC and Mac. Proceed like this:

First of all, copy Harmony Improvisator's DLL file into the folder that FL Studio uses for VST plug-ins.

From the FL Studio menu, select 'CHANNELS', then 'Add one' --> 'More...'. In the window that pops up, scroll down to the VST plug-ins and activate Harmony Improvisator in this list. (There should be an F symbol next to it now.) If Harmony Improvisator is not listed yet, press 'Refresh' and then select 'Fast scan'. Close this window and get back to the main FL Studio GUI.

To insert Harmony Improvisator into your FL Studio project, go to 'CHANNELS', then 'Add one' and click on Harmony Improvisator in this list. Harmony Improvisator will now be visible in the box where all the different layers are displayed, and its user interface will pop up automatically in a Fruity wrapper window.

If you have closed Harmony Improvisator's GUI but want to get it back to the screen, all you have to do is click on Harmony Improvisator in the pattern window and then select 'PLUGIN' from the pop-up that appears on the right side of FL Studio's GUI.

You can enjoy trying out different harmonies and creating harmonic progressions with Harmony Improvisator by using its default internal synthesizer. Alternatively, you can direct Harmony Improvisator to an external synthesizer or sampler as follows:

- In Harmony Improvisator's Fruity wrapper window, click on the 'extra options' button in the left-hand corner of the Fruity wrapper. Select the MIDI 'Output port' you want to use, for example output port 1. (You can get back to Harmony Improvisator's GUI by clicking on the 'extra options' button again).
- Click on the 'CHANNELS' menu, then on 'Add one' and select one of your instruments to use as a sound source.

- In the pattern window, click on your chosen instrument, which should now pop up in a Fruity wrapper. Click on the 'extra options' button. As MIDI 'Input port' select the same port that you used as output port for Harmony Improvisator.
- When you click any chords in Harmony Improvisator now, they should be played back by your chosen instrument.

2.6 Studio One

Harmony Improvisator can be embedded in PreSonus Studio One on both PC and Mac. The following instructions will help you:

Studio One automatically scans your computer for VST plug-ins. When you create a new song in Studio One, you can see a list of all available VST plug-ins in the browser on the right-hand side if you click on 'Instruments'. If Harmony Improvisator is not in this VST list yet, go to the 'Studio One/Options/Locations/VST Plug-ins' menu and click on the 'Add' button to add the directory which the Harmony Improvisator DLL file is contained in. Restart Studio One.

To use Harmony Improvisator in Studio One, drag it from the browser into the Song. Harmony Improvisator's user interface will automatically pop up and you can directly start experimenting with harmonies by making use of the internal synthesizer.

If you have closed Harmony Improvisator's GUI, you can always return to it by clicking at the 'Instrument editor' button (little keyboard symbol) in the Harmony Improvisator track.

To make sure that the instrument tracks remain active when opening the Harmony Improvisator GUI again, simply deactivate the 'Input Monitoring Follows Selection' option in the track menu.

Instead of using Harmony Improvisator's internal sound, you can also direct its sound to an external instrument:

- Choose 'OUTPUT: Midi out' in Harmony Improvisator.
- Drag your instrument of choice from the instrument browser on the right-hand side into the Studio One Song to create an additional track.
- In the instrument track, select Harmony Improvisator as input (in the black panel at the bottom of this track)
- Make sure that in both tracks – Harmony Improvisator and your instrument of choice – the speaker symbols are active. (They should appear blue once they are activated.)
- Any chords you click in Harmony Improvisator should now be played back by your instrument of choice.

2.7 Sonar

Sonar 8 is only available for Windows. Harmony Improvisator can be embedded by considering the following instructions:

Copy Harmony Improvisator's DLL file into the folder that Sonar uses for VST plug-ins. Usually this is in the directory C:\programmes\cakewalk\vstplugins. By default Sonar scans its VST folder upon start-up, so Harmony Improvisator should automatically appear in the list of VST plug-ins.

To open Harmony Improvisator in Sonar, go to the 'Insert' menu and select 'Soft Synths', then 'vstplugins' and therein select Harmony Improvisator. In the window that pops up, make sure that you check 'All Synth Audio Outputs' as well as 'Enable MIDI output', then press 'OK'.

In the new Harmony Improvisator track, double-click on the symbol next to the track name to open Harmony Improvisator's user interface. Enjoy experimenting with harmonies by using the built-in synthesizer.

Alternatively, you can route Harmony Improvisator's sound to an external synthesizer or sampler. For this purpose, choose 'MIDI out' in the 'OUTPUT' box of Harmony Improvisator. In addition, insert your designated instrument as a separate track in Sonar and choose Harmony Improvisator as its MIDI input by right-clicking on the instrument's track, selecting 'Track Properties' and then choosing Harmony Improvisator under 'Input'. Chords you click in Harmony Improvisator should now be played back by your instrument of choice.

2.8 Logic Pro

Logic Pro 9 is only available for Mac and does not support VST plug-ins. So far there is no AU version of Harmony Improvisator, but there is a workaround to make it work in Logic:

Open Harmony Improvisator in the freely available 'VSTLord' host (see section 2.2). In Harmony Improvisator's GUI, select 'Virtual Midi Port' from the 'Output' Options. Now open Logic and create a MIDI track for a synthesizer or sampler of your choice. As MIDI input please choose 'Improvisator Virtual Out' and press a chord button in Harmony Improvisator to test the routing. You can record the notes that Harmony Improvisator routes to Logic in the same way you would usually record MIDI input from an external MIDI keyboard by simply pressing 'Record' in Logic while Harmony Improvisator generates MIDI output.

3 Functions and options

3.1 The user interface – overview

Experiment with chords

Settings and options

The screenshot displays the Harmony Improvisator software interface, divided into several functional areas:

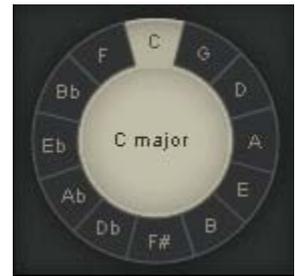
- Experiment with chords (left side, orange border):** This section contains multiple panels for chord generation:
 - SCALE DEGREES:** A grid of scale degrees (G, a, b, C, D, e) and their corresponding Roman numerals (I-VII).
 - BASSES:** Buttons for bass notes like G₃, G₅, and g.
 - GENDER:** A button for the gender of the chord (g).
 - SUSPENSIONS:** Buttons for various suspension types (G¹², G⁴, G⁹, G⁴⁹, G⁷⁺).
 - DERIVATIVES OF SUBDOMINANTS:** A grid of chord derivatives based on subdominants (C, C₃, C₅, C^{5b}, C^{5b}₃, C₆, C⁷, C^{7b}, Cⁿ, C₆ⁿ).
 - DERIVATIVES OF DOMINANTS:** A grid of chord derivatives based on dominants (D⁷, D₃⁷, D₅⁷, D₇⁷, D₃⁷, D₅⁷, D₇⁹, D₃⁹, D₅⁹, D₉⁹, D₃^v, D₅^v, D₇^v, D₉^v, D^{4b}, A₅⁷, A₅⁷, A₅^v, A₃^{v5-}).
- RECENTLY TRIGGERED (top right, dark grey):** A list of recently used chords (G, D₇, G⁴, D).
- SUGGESTIONS (middle right, dark grey):** A list of suggested chords (C, A, C^{4b}, G₇^v, D₇, B₇, A₇, D₃⁹, B₃^v, a).
- Settings and options (right side, blue border):** A vertical panel titled "Improvisator" (OOCHLEOR.COM) containing:
 - A circular chord wheel with G major selected.
 - INPUT:** Trigger Patterns.
 - OUTPUT:** Built-in Synthesizer.
 - SHOW:** Show Chord.
 - MAGNETIC NOTES:** Magnetic: Chord scale.
 - Save / Load:** Buttons for saving and loading patterns.
 - Volume/Tempo:** Sliders for -2, -1, 0, +1, +2.
 - VOICE RANGE:** OCTAVE, SOPRANO, ALTO, TENOR, BASS.
 - ACTIVE PATTERN:** 1.
- Harmonic timeline (bottom, red border):** A piano roll showing a sequence of chords over time. The chords are G, C^{5b}, D⁴, and D₇. Below the piano roll is a keyboard visualization with yellow highlights on the keys corresponding to the active chords.

Harmonic timeline

All functions and options of Harmony Improvisator will be explained in the next sections.

3.2 Main key

You can select the main key from the circle of fifths in the upper right corner of Harmony Improvisator's GUI. If you change the main key once you have created a chord progression, all the chords will automatically be transposed into the new main key.



3.3 Scale degrees

The two rows of buttons top left are the most important buttons. These are the scale degrees of the chosen key. The upper row corresponds to the current major key and the lower one to the corresponding minor key.



It is possible to change the reference for your harmonies. If you right-click on any of the chords from the 'scale degrees' box, this chord is selected as new tonic, meaning that all other functions will be in reference to the selected chord. This is graphically represented by the reference chord in brackets (see below). To get back to the original setting, simply right-click again until you get back to the original functions. Alternatively, press on the chosen main key in the circle of fifths again.



3.4 Derivatives

Below the scale degrees, you find more complex derivatives of these functions:

- various inversions, i.e. the same chord with a different bass note
- one gender inversion
- suspensions, which are chords that tend to be solved to a simple harmony
- various characteristic derivatives of subdominants
- various characteristic derivatives of dominants



3.5 Suggestions

In the central part of the user interface you find suggestions for harmonies that could well follow the chord you have just triggered. These are computed anew after each choice of harmony. The first suggestion usually is a rather common sound, for example the standard resolution of a suspension or of a dominant.

To try more than one suggestion without losing the others, you can right-click them to avoid that new suggestions are generated after each click.



3.6 Recently triggered

Above the ten suggestion buttons, Harmony Improvisator presents the four most recent harmonic functions that have been triggered.



3.7 Harmonic timeline

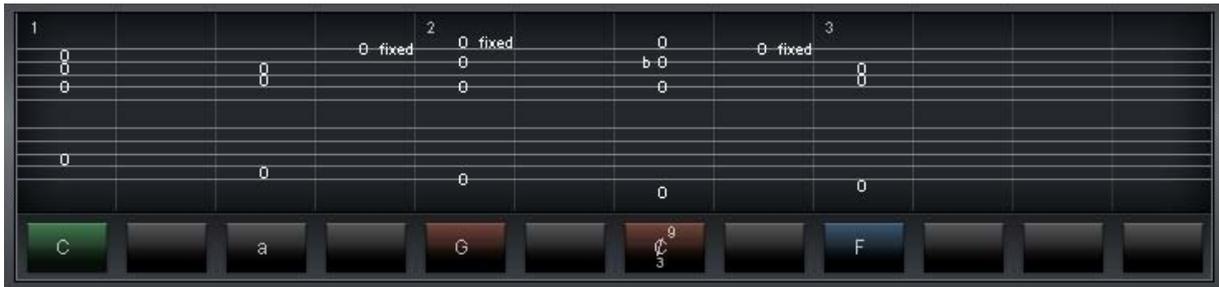
To create a harmonic progression, you can place any chord in the timeline by dragging it there with the mouse. Individual harmonies can be deleted, replaced or moved via drag and drop. If you right-click on the timeline, you can insert a pause, and you can also reset the whole pattern if you want to start all over.



Use the slider on the left-hand side below the time line to view the beginning or end of your progression. The zoom slider on the right below the timeline allows zooming in and out on the time resolution.

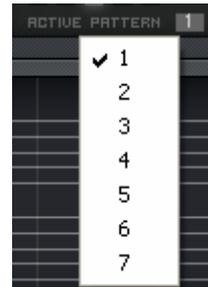
You can play back the created chord progression in a loop with the play button beneath the harmonic timeline, and stop the playback by clicking on the stop button. When the progression is played back, the keyboard at the bottom will show you the triggered notes, and the chord that is currently played back will be presented in the box on the bottom right.

With the timeline you cannot only visualise the actual sheet music of your harmonic progression, but you can also manually change individual notes via drag and drop. To make writing of melodies and manipulation of chord notes in the sheet music view easier, you can make a certain scale or the notes of the underlying chords magnetic. The different criteria you can choose from are explained in section 3.12 on *Magnetic Notes*.

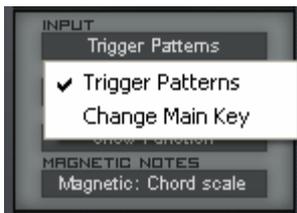


3.8 Active pattern

With Harmony Improvisator it is possible to create up to seven different harmonic patterns for assembling a piece of music. In the drop-down menu 'Active Pattern' you can switch between the patterns. As described below in section 3.9, these patterns can be triggered by MIDI keyboard.



3.9 Input options



There are two different possibilities to use a MIDI keyboard to control Harmony Improvisator.

Trigger patterns

When having created multiple harmonic patterns, you can use your MIDI keyboard to trigger the individual patterns. For this purpose, select 'Trigger Patterns' from the Input options. The patterns are automatically being looped and synchronized to the host project. Any C on the keyboard triggers pattern #1, any D triggers pattern #2 and so forth (only white keys). That way you can easily experiment with and record sequences of patterns to generate long and more complex arrangements in your host sequencer.

Change Main Key

Alternatively you can use your MIDI keyboard to change the main key. To do so, select 'Change Main Key' from the Input options and simply press the respective key on your keyboard.

3.10 Output options

Harmony Improvisator offers you five different output options:

Built-in Synthesizer

This is the default option and routes all the harmonies to a built-in synthesizer.

Midi out

Select this option if you want to route the sound to an external sampler or synthesizer. Make sure that you select Harmony Improvisator as Input for the selected instrument in your host application.

Silence

If you select this option, Harmony Improvisator will release no sound when you click on any chord. This option is ideal if you have some chords in mind and want to place them in the harmonic timeline without being played back.

Midi out, Hold

While trying out different harmonies, a chord is normally only played back as long as you click on it with the mouse. If you choose the 'Midi out: Hold' option, the sound will be held even if you release the mouse.

Virtual Midi Port

This option can be very useful when trying to implement Harmony Improvisator in host programmes that do not support VST instruments.



3.11 Show options

You can choose from three different show options for the chords:

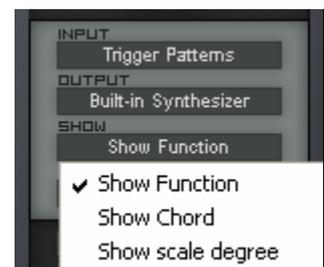
Show Function

Choose this option for the chords to be presented as their tonal function, for example tonic (T), subdominant (S), or dominant (D).

For someone without any background knowledge about harmonic theory this may look a little confusing, but this option is very valuable since it presents you the meaning of the chords rather than just a name that is difficult to put into context.

Show scale degree

If you choose this option, chords will be presented as Roman numbers (I, II, III etc.). Similarly to the 'Show Function' option, this allows you to see the chord's function.

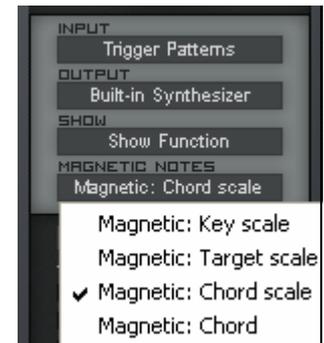


Show Chords

Choose this option if you prefer to see actual chord names (F7, Bb4, e6 etc.). Although this option may seem very simple, it has the disadvantage that you cannot deduce the tonal meaning of the chords, so it will not enable you to understand the harmonic progressions Harmony Improvisator creates for you.

3.12 Magnetic notes

As described in section 3.7, it is possible to change notes manually in the sheet music view of the harmonic timeline. To make this a little easier, you can make a certain scale or certain notes magnetic. This means that when moving a note vertically, it will always flip to the next magnetic step of the chosen scale / chord.



Magnetic: Key scale

By choosing this option, you can use all notes of your selected main key scale.

Magnetic: Target scale

The target scale is the scale of the target chord. Normally this is the main key, but for example in the case of secondary dominants it would be the target of the secondary dominant, namely the marked scale degree (in brackets).

Magnetic: Chord scale

This is the default option. All the notes that are contained in the chord scale are magnetic and can be used for sheet music editing.

Magnetic: Chord

When you choose this option, only notes that are contained in the actual chord are available for sheet music editing.

3.13 Voicing adjustment



For each pattern, you can adjust the representation of the four chord voices: 'Soprano', 'Alto', 'Tenor' and 'Bass'. To mute one of the voices, click the shiny square for that voice so that it becomes dark. Alternatively, you can activate more than one square for each voice which means doubling that voice shifted one or two octaves up or down. With the matrix of voicing adjustment you can thereby vary between 'thin' and 'full' voicing or between bass-rich or treble-rich voicing of the chords.

3.14 Save / Load

Once you have created a nice harmonic progression with Harmony Improvisator you surely want to save it. You have two different options for that.



Save

If you choose this option, the chord progression will be saved as HARM file, which is a Harmony Improvisator specific format. You can select your desired directory in the window that pops up. You should make sure to select this format if you intend to open your harmonic progression again with Harmony Improvisator, since it is the only format that Harmony Improvisator can read. To load a HARM file simply click on the 'Load' button and select the respective file.

Save MIDI

Choose this option if you would like to save your harmonic progression in as standard MIDI file which can be opened in any sequencer software. Please note that Harmony Improvisator itself is not able to load MIDI files.

3.15 Parallel instances of Harmony Improvisator

When it comes to triggering multiple VST instruments independently within one project, Harmony Improvisator can be launched several times in parallel. Each instance's output can be routed to a different target instrument but all Improvisator instances constantly communicate so that they share the same harmonic framework and main key.

In order to set up combos of different instruments, simply launch Harmony Improvisator several times within one host project and route the different MIDI outputs to different sampler or synthesizer plug-ins. When you manipulate the harmonic progression or the main key in one of these Improvisator instances, all the other instances are updated automatically. You can write different voicings for different instruments now and all of them are being played back synchronously, triggered by your host sequencer.

4 Explanation of the harmonic symbols

Unless you change the 'Show' options, Harmony Improvisator by default presents function symbols instead of chord names. Since these symbols are seldom used in the context of producing music with the computer, this may be confusing at a first glance, but they represent the essential concept of Harmony Improvisator. The chord symbol E^7 for example only tells you how to play the chord, which does not contain any information about the meaning of the chord. Harmony Improvisator is not designed for presenting interesting chords out of a "black box" that you can only play but not understand. Instead, it is aimed at presenting the user with the value of a chord in a certain context. Thereby, once you have spent a little time becoming familiar with this type of harmonic functions, you can more easily decide which chord you would like to use in a certain part of your harmonic progression.

The harmonic symbols are quite easy to understand and we will give a short overview here:

A small letter stands for a minor chord, a capital letter for a major chord.

T and t stand for "tonic", the main key itself. S and s stand for "subdominant", the chord which is based on the fourth degree of the key scale. D and d represent the "dominant", the fifth degree's chord. The harmonic progression T-S-D-T is generally called "cadence"; it is the most common harmonic motif in Western music.

The superscript numbers represent an added note or suspension in the corresponding interval to the base note of the function symbol. The symbol s^{56} for example represents a minor subdominant with added sixth, a so called "Sixte ajoute".

The numbers below the symbols denote which tone is set as the lowest note, the bass of the chord. The 3 for example means that the third degree of the key scale is the bass, which corresponds to the first inversion of a chord.

P and p stand for the parallel of a chord. The parallel of a major chord is a minor chord three semitones below the main key. The parallel of a minor chord is a major chord three semitones up. For instance, A minor is the parallel of C major and vice versa.

A superscript "v" represents a diminished chord which has a dissonant, dominant character.

A crossed symbol means that the first degree note of the chord is missing.

DD stands for „double dominant“, which is the dominant of the main key's dominant. For example, if the main key is C major, the dominant is G. Thus the double dominant is D.

The symbol s^n represents a so-called "Neapolitan chord", which has a characteristic minor sixth and no fifth. This type of chord has the function to prepare the dominant.

5 Tutorials

5.1 Simple

This tutorial shows you how to create a simple chord progression with Harmony Improvisator. We do not use the suggestions here, but instead show you something that you can easily reproduce to get a feeling for Harmony Improvisator's basic functions.

1. Please launch Harmony Improvisator in your host software according to the embedding notes in Chapter 2. Choose 'Show Function' in the Show options and select 'C major' as main key to follow this tutorial.
2. Choose your first chord and drag it to the '1' in the harmonic timeline. In this case we use the minor chord of the main scale, that is the tonic 't':





- 4. Select the third chord and drag it to count '3' of the harmonic timeline. In this case, we chose the major chord of the dominant with an added fourth and sixth, noted D⁴⁶:



5. Drag your fourth chord to count '4' of the harmonic timeline. For this tutorial we selected the dominant seventh chord, denoted as D^7 .



6. Of course you can keep going like this if you want to create a longer harmonic pattern. But for this tutorial we stop here.
7. Press the 'Play' button and enjoy what you've created.
8. If you like this harmonic progression, click on 'Save' and then 'Save MIDI' to save it as MIDI file, which allows you to load and edit it in other programmes.
9. We also suggest that you save the progression as HARM file because this is the only format Harmony Improvisator can load. That way you can elongate or edit the progression with Harmony Improvisator later if you feel like. Simply click on 'Save' and select 'Save' from the drop-down menu.
10. We encourage you to try out different chords, maybe change the main key of this progression, use the suggestions to get new ideas, and just enjoy being creative.

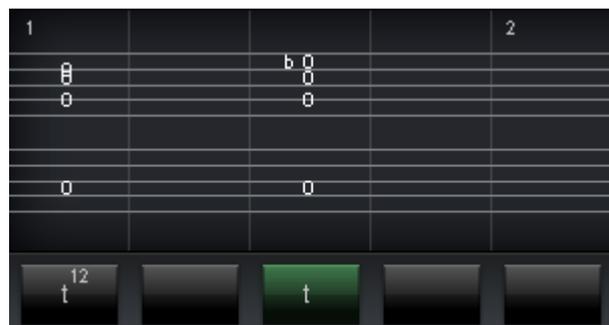
5.2 Advanced

This tutorial is a little more advanced than the first one. It includes a change of target scale and we have used some chords that are not immediately visible in the GUI upon starting Harmony Improvisator.

1. Launch Harmony Improvisator in your host software according to the embedding notes in Chapter 2. Make sure 'Active Pattern' is set to '1' so that the chord progression you build up in the timeline will be referred to as harmonic pattern one. Please use the 'Show Function' setup to be able to follow this tutorial.
2. To create the harmonic pattern, all the desired chords are placed in the harmonic timeline by drag and drop with the mouse.
3. The first chord is a suspension of the tonic. In order to make this chord available in the GUI, left-click once on the minor tonic chord 't', which is the very left button in the second row of scale degree chords (highlighted in white in the snapshot below). Now left-click on the 't¹²' button (marked with orange rectangle) and drag this chord to count '1' in the harmonic timeline.



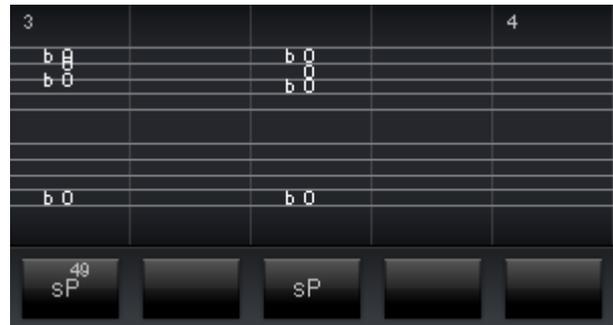
4. The suspension you have just added to your chord progression leads to the minor chord of the tonic 't'. Left-click on this button (highlighted in white in the screenshot above) and drag the chord to count '1 ½' in the harmonic timeline.



- Our third chord is a suspension of the subdominant parallel, namely 'sP⁴⁹'. In order to access this chord, left-click once on the 'sP' chord (highlighted in white in the snapshot below). You will see that now 'sP⁴⁹' becomes available (marked with orange box). Drag this chord to count '3' in the harmonic timeline.



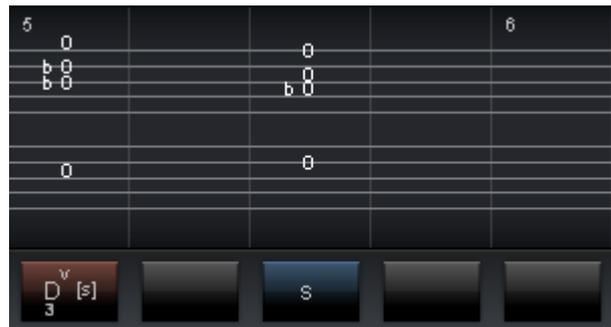
- The suspension that we have just added leads to the fourth chord, the subdominant parallel 'sP'. The position of the respective button is marked in the screenshot above (highlighted in white). Drag this chord to count '3 1/2' of the harmonic timeline.



- The fifth chord is a diminished dominant targeted at the subdominant: 'D₃^v'. In order to make this chord available, right-click the subdominant 's' once (highlighted in white in the snapshot below). You will then find the chord of interest available at the very bottom, as marked by the orange box below. Drag this chord to count '5' in the harmonic timeline.



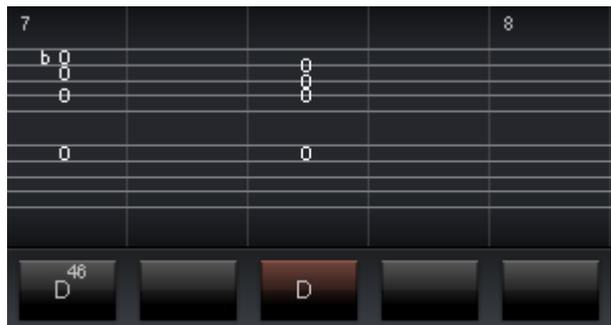
8. The chord we have just added has prepared the next chord, which is the subdominant 's'. Left-click once on the respective button in the second row of scale degrees chords and then drag this chord to count '5 ½' in the harmonic timeline.



9. Our next chord is a suspension of the dominant 'D⁴⁶'. It has a special place at the bottom of the chord array because in functional harmonic theory it exists only for the dominant and is used very often. Drag this chord to count '7' in the harmonic timeline.



10. This suspension of the dominant leads to the final chord of this tutorial sequence, the dominant 'D'. It can be found in the very first row of scale degree chords. Drag this chord to count '7 ½' in the harmonic timeline.



11. When you loop your harmonic progression by clicking the play button, the dominant at the end will lead back to the tonic at the beginning of the sequence.

12. To make the voicing a bit more compact, move the soprano one octave down. You can do this by clicking on the bright square in the soprano row once to deactivate it, and then activate -1 in the same row by clicking on the respective grey square so that it becomes bright.



13. Press play again to hear the result. If you do not hear the difference right away, change the voicing back to the original setting and compare both.

14. In order to build a track around the harmonic progression with your host sequencer, create a sequence eight bars in length on the input MIDI track of Harmony Improvisator. Insert only a single C (in any octave) at the very beginning of the

sequence. As you know from Section 3.9, any C will trigger harmonic pattern #1, while any D would trigger pattern #2 and so on.

Now, for all parts of your song where you want active pattern #1 to be played back synchronised to your host project, you simply insert this sequence.

15. When you now press the Play button in your host software, you will hear the harmonies you entered into the harmonic timeline synchronous to your host sequencer clock.

16. Now you are ready to build a drum pattern, for instance, if you like.

17. Do not forget to always save your harmonic progressions as HARM and MIDI files if you like them.

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