

Sundog Song Studio: The Manual

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Quick introduction: What is Sundog?

Sundog is a standalone composition software that sends MIDI notes to other music apps or hardware. The MIDI notes will be sent on different channels so that you can play on multiple instruments at once. Sundog also includes a built-in soundset of over 100 instruments. This way you can use Sundog even without opening your DAW.

Sundog makes sure that all notes follow certain harmonic principles. This way your songs will always sound harmonic and interesting.

Setup

Sundog contains a built-in Preview Synth with 128 different instruments. However, you get the most use out of Sundog if you connect it directly to your DAW/synthesizer with a virtual MIDI cable.

There are several **DAW specific guides** available that explain the setup for Ableton Live, FL Studio, etc. In most cases it's really easy to do, just follow the steps:

If you use **Ableton Live**: [How to use Sundog with Ableton Live](http://www.feelyoursound.com/sundog-with-ableton-live/)
(<http://www.feelyoursound.com/sundog-with-ableton-live/>)

If you use **Bitwig**: [How to use Sundog with Bitwig](http://www.feelyoursound.com/sundog-with-bitwig/) (<http://www.feelyoursound.com/sundog-with-bitwig/>)

If you use **Cubase**: [How to use Sundog with Cubase](http://www.feelyoursound.com/sundog-with-cubase/) (<http://www.feelyoursound.com/sundog-with-cubase/>)

If you use **Logic Pro X**: [How to use Sundog with Logic Pro X](http://www.feelyoursound.com/sundog-with-logic/)
(<http://www.feelyoursound.com/sundog-with-logic/>)

If you use **Mixcraft**: [How to use Sundog with Mixcraft](http://www.feelyoursound.com/sundog-with-mixcraft/) (<http://www.feelyoursound.com/sundog-with-mixcraft/>)

If you use **FL Studio**: [How to use Sundog with FL Studio](http://www.feelyoursound.com/sundog-with-fl-studio/) (<http://www.feelyoursound.com/sundog-with-fl-studio/>)

If you use **Propellerhead Reason**: [How to use Sundog with Reason](http://www.feelyoursound.com/sundog-with-reason/)
(<http://www.feelyoursound.com/sundog-with-reason/>)

If you use **Presonus Studio One 2, 3, or 4**: [How to use Sundog with Studio One 2, 3, or 4](http://www.feelyoursound.com/sundog-with-studio-one/)
(<http://www.feelyoursound.com/sundog-with-studio-one/>)

If you use **Cakewalk Sonar**: [How to use Sundog with Cakewalk Sonar](http://www.feelyoursound.com/sundog-with-cakewalk-sonar/)
(<http://www.feelyoursound.com/sundog-with-cakewalk-sonar/>)

If you use **a different DAW**: [How to use Sundog with a DAW](http://www.feelyoursound.com/sundog-with-daw/)
(<http://www.feelyoursound.com/sundog-with-daw/>)

If you would like to work with an external MIDI keyboard you can select a MIDI In device as well. Please note: Never use the same virtual MIDI device as input and output at once. This would just create a feedback loop.

Basic Concept: Scales, Chords, Rhythms

The whole idea behind Sundog is to create new harmonic songs from scratch by focusing on the main things that matter: **Nice scales, chords, and harmonic rhythms**. This is the basic songwriting workflow:

1. To write a great song you don't have to use *all* the notes that are available.

Concentrate on a certain set of notes instead that work well together (called a "scale"). For example only use the notes of C Major (C, D, E, F, G, A, B) or C Minor (C, D, D#, F, G, G#, A#).

2. Create a chord progression by choosing chords that only use notes from that scale.



3. Now simply stick to your chord notes most of the time and work rhythmically on them when you write your song.

You can't go wrong with these notes, because if they form a nice chord they also sound nice together when they are played on different instruments.

4. For the lead instrument you can use all the notes of the scale that you like.

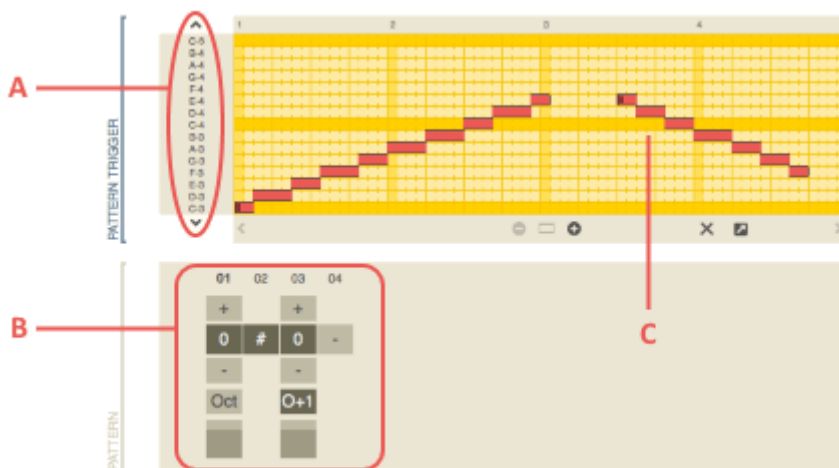
Because the background instruments are bound to the chord notes your lead instrument can go wild without sounding chaotic or off. It has all the room it needs to stand out.

Basic Concept: The Sundog Way

Sundog makes it easy to separate the rhythm of the melody from the tone height / pitch.

It's as simple as this:

When you click and hold down your mouse on **A**, the pattern in **B** will be triggered and played back. You can either record this input live or draw lines in the trigger editor (**C**).



This combination of Pattern Trigger and Pattern area can either work on scale notes or chord notes.

Once you get used to this you will be able to write great new melodies, basslines, arpeggios, and chord progressions within minutes.

To cut it short, this is the main workflow:

- First, you choose a scale and a base note.
- Now all notes that are played will match the scale.
- Second, you select some chords. Sundog offers a wide selection of useful chords per scale. You can listen to them by clicking on buttons.
- Third, you trigger playback patterns by dragging your mouse or entering notes with your keyboard.
- Now all output notes can either get mapped to the currently active chord notes or to the scale notes.

Song Parts



Use the top row to organize your song into different song parts. This is both useful to quickly sketch some ideas or to create a whole song. When you click on a "+" button a new song part will be created. The new song part will be a copy of the song part left to the "+".

You can **move song parts around by dragging them left or right**. A red border will indicate where the song part will move when you drop it (see image above).

Double click on a song part to **rename it**.

Check the "Song mode" box left to the play button (main view) to turn on the **song mode**. If this mode is activated, the song parts will be played back one after the other. Otherwise you will have to manually click on song part boxes to switch between them during playback. A striped background will show you which song part will be played back next.

Instruments

Use the instrument boxes to switch between different instruments.

Double click on an instrument box to **rename** it. Click on the small circle to **mute** the instrument.

If you set two instruments to the same MIDI channel and MIDI instrument (e.g. both to channel: 1, instrument: off) you can create very interesting **polyphonic melodies**. As soon as you export your song as MIDI file, the two - or more - Sundog instruments will be merged into one MIDI track.

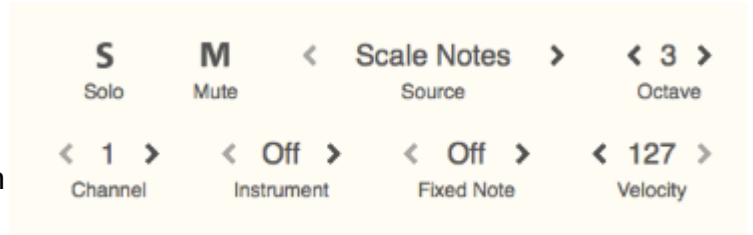


Pattern Trigger

The pattern trigger area is the part of the user interface where you control most aspects of the current instrument.

Basic parameters:

- Channel: The MIDI channel.
- Instrument: The MIDI instrument. In many cases it makes sense to set this to "Off", especially when you work with DAWs and softsynths.
- Solo: Click on this if you want to listen to this instrument only.
- Mute: Mute the instrument.
- Octave: The base octave of the instrument.
- Velocity: The maximum velocity.
- Fixed Note: If you set this to anything else than "Off", then this instrument will always play this note. Very useful for triggering drums or samples (P.S.: 10 is the standard drum channel of most MIDI devices).
- Source: This is a very important setting that will indicate on which notes the pattern trigger + pattern will work (see next paragraph).



Please note: You can click on any label between "<" and ">". A new view will be activated where you can choose from all possible values by clicking.

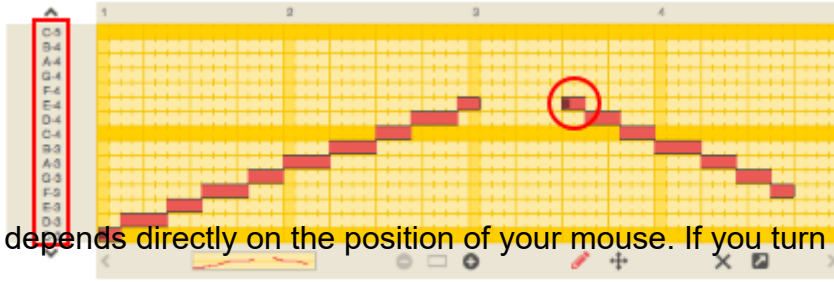
The different "Source" modes:

- "Scale Notes": The notes of the current scale will be used. Interesting for lead melodies.
- "Chord Notes": The notes of the current chord will be used. Example: If a chord consists of the notes C, E, and G, then a pattern value of 0 will map to C, 1 will map to E, and 2 will map to G. 3 will map to the next C. When the chord changes to D, F, and A, then 0 will map to D, 1 will map to F, and 2 will map to A. Interesting for monophonic "background" instruments like basses or keys.
- "Full Chords": A pattern value of 0 triggers the currently active chord (all notes of the chord are played back simultaneously). A value of 1 triggers the first inversion, a value of 2 triggers the second inversion, and so on. Set the pattern to "Off" and the chord notes will be triggered as soon as the chord changes.
- "Full Chords+": The same as "Full Chords", but additionally the root note of the chord will be played back one octave lower as well. Interesting to thicken the sound a bit.
- "Chromatic C": This mode consists of the full set of twelve notes per octave and always starts on C.
- "Chromatic R": This one uses twelve notes per octave as well, but starts on the basenote of the scale.

The input editor:

The input editor is the main element to trigger and control the pattern sequencer.

Click and hold your mouse in the area of the red rectangle and you will hear that the pattern sequencer will start to play. The pitch of the sequence depends directly on the position of your mouse. If you turn on the record button you can also move your mouse and record the



movements live.

There are two different tool modes available: **"draw" (pencil icon)** and **"edit" (arrows icon)**. You can switch between these modes by pressing "b" on your keyboard.

The "draw" mode:

Use your mouse to add or change triggered patterns. The start of a triggered pattern is indicated by a red dot (see the red circle for an example). When you move your mouse over a trigger line, the corresponding step in the pattern area is highlighted as well (attention: does not work with triplets).

- **Adding lines:** Click on a spot in an empty column. Hold down your mouse and drag it to another spot where the line should end.
- **Deleting lines / silencing line parts:** Hold down your right mouse button and move it over existing line parts. Alternative: Hold down Ctrl (or Cmd on Mac) and use the left mouse button.
- **Re-trigger patterns:** Double click on an already filled spot to restart the pattern from this point.
- **Lengthen or shorten lines:** Click and hold on the first or last element of a line and move it left or right.
- **Changing the pitch of the triggered pattern:** Click and hold your mouse in the area of an existing line, and you can quickly draw rising or falling melodies.

The "edit" mode:

Choose this mode to select one or more trigger lines. You can then **move, copy, cut, paste, or delete** them.

To select lines, you can either click on them or draw a rectangle to fetch several lines at once. Hold down "Shift" if you want to **select multiple lines**. "Ctrl + A" (Windows) or "Cmd + A" (macOS) selects all lines, "Ctrl + D" (Windows) or "Cmd + D" (macOS) **duplicates** the selected lines.

As soon as lines are selected, you can drag them around with your mouse or use the **arrow keys of your keyboard to move them**. When you change the selection (or unselect the lines), the current state of the Pattern Trigger data will get finalized. Hold down "Ctrl" (Windows) or "Cmd" (macOS) and drag a selection with your mouse to **create an instant copy** of the selection.

While you use the "edit" mode, a black line can be seen in the editor. **This line marks the position**, where pasted sequences will be inserted. Please note that cut/copy/paste/delete work differently in "pencil" and in "edit" mode: In "pencil" mode, these commands will work on ALL the lines at once, and pasted data will overwrite existing data. This is not the case in "edit" mode.

Double-click on a spot to create a short line at this position. The mode will automatically switch to "draw" then.

Other actions:

Click on "x" to delete everything. Use "+" and "-" to zoom (or double click on the small preview area). Click on the square to reset the view. Use your mouse-wheel to scroll vertically, hold down Ctrl (or Cmd on Mac) to scroll horizontally. Click on the arrow icon next to the "x" to maximize the editor (shortcut: "T"). Right-click on the upper timeline bar to start the song from this position. This works with a click on the main timeline as well.

It's also possible to **record your input live**. Click on the record button and use your keyboard or the trigger editor to enter your data.

Patterns

The pattern area is the place to get creative with **musical rhythms and patterns**. As soon as the pattern is triggered, a step light will move from left to right. Each step can contain either a **numerical value, a "#", or a "-"**.

Numerical values will trigger a note that depends on the **"Source"** mode of the Pattern Trigger area.

If the source is set to **"Scale Notes"**, a value of 0 will play back exactly the note that is displayed in the yellow input editor of the Pattern Trigger area. A value of 1 will trigger the next scale note above 0, and so on.

If the source is set to **"Chord Notes"**, then 0 will trigger the base note of the currently active chord. A value of 1 will trigger the second note of the chord, and a value of 2 will trigger the third note.

If the source is set to **"Full Chords"** or **"Full Chords+"**, a value of 0 will trigger the full chord (a value of 1 will trigger the first inversion, a value of 2 will trigger the second inversion, and so on). Use the "Oct" field to work with different chord pitches.

A **"#"** means that the currently played note will be **stopped**. A blank field ("-") just leaves the note as it is.

You can use the **"Step Effects"** field to apply randomization to each step. You can read more about this in the [Pattern Step Effects section](#).

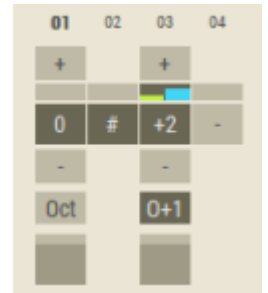
The **"Oct"** switch will transpose the current note one or two octaves up or down (left click: go up; right click: go down). You can set the **velocity level** per step by changing the value of the volume/velocity box. The velocity level is relative to the Velocity value in the Pattern Trigger area. In Full Chords mode, you can also change the **strum direction and strum speed** of the triggered chord. If you change the **pattern length** you can create quite complex arpeggios and rhythmic melodies.

Check the box **"Use triplets"** to activate the triplet mode for this pattern. One quarter note will consist of three triplets then. Every fourth "sixteenth step" in the sequence will simply be ignored during playback.

Select **"Double tempo"** to change the speed from 16th notes to 32nd notes. You cannot use "Double tempo" and "Use triplets" at the same time.

Click on the **Advanced button ("A")** for additional options:

- **Randomize velocity:** Useful for subtle or drastic velocity randomizations.
- **Keep overlapping notes pressed when chord notes change:** This one is relevant for the Full Chords and Full Chords+ mode. Usually Sundog stops all chord notes before playing the



next chord. When this option is checked, all the notes that are shared between the first and the second chord will be continued during the chord change.

- **Work with more than one pattern for this instrument:** Activate this option to work with more than one pattern ("multi-pattern"). Go back to the main view and click on the coloured boxes to edit the different patterns for this instrument. Click and hold down your mouse on the Pattern Trigger timeline to define which pattern is active at any given position.
- **Chord FX:** You can apply several "effects" to the original chord notes before the pattern sequencer works with them. The changes will only influence the current instrument. You can chain several Chord FX behind each other by using the boxes 1 to 5. The output of Chord FX 1 will go to Chord FX 2, the output of Chord FX 2 will go to Chord FX 3, and so on. The following effects are available:
 - "Remove lowest note"
 - "Keep only lowest note"
 - "Remove highest note"
 - "Keep only highest note"
 - "Apply global Chord Mod 1": This is useful to transform the chord in several ways. For example it can be used to *open* the chord by moving the second note up by one octave. You can read more about the different possibilities in the [Chord Mods](#) section. You can edit the "Global chord mod 1" setting by clicking on the button that appears when this effect is active.
 - "Apply global Chord Mod 2"
 - "Apply global Chord Mod 3"
 - "Apply global Chord Mod 4"
 - "Chord squish: 0.5 oct": The chord squish effect will look at each note and see if it is above a certain semitone amount ("0.5 oct" -> half an octave). If this is the case, the note will get moved down by an octave so that it is within the allowed semitone range. The same applies to notes that are *below the scale root* (they will get moved up when they are below "scale root minus semitone amount"). This effect is useful if you need to limit your chords to a certain note range.
 - "Chord squish: 1 oct"
 - "Chord squish: 1.5 oct"
 - "Chord squish: 2 oct"
 - "Invert close to scale root": This will minimize the finger movement of the chords in the chord progression. The chords will get inverted in such a way that they get close to the root of the scale.
 - "Invert until chord is above scale root": Especially useful in conjunction with "Chord squish: 0.5 oct".
 - "Set to closed root position (calculated)": Sundog will try to set the chord to the "standard" closed root position. A "Cmaj/E" chord will become a "Cmaj" chord then. This might be very interesting if you want to write a bassline or arpeggio that always starts on the root note of the chord. However, please be aware that there are cases where Sundog cannot know for sure which "standard chord" is the right one. This is especially true for four note

chords and other advanced chords. Example: "C6" consists of the notes "C, E, G, A". And "Amin7" consists of the notes "A, C, E, G". Both chords are valid candidates for the closed root position of a "G, A, C, E" chord. Sundog will try to use the more common type then.

You can work with a combination of different Chord FX to use the chord notes differently for various Sundog instruments. For example you could work with the original chords to make a bassline, then use "Set to closed root position" for your arpeggio, and finally use "Invert close to scale root" + "Apply global Chord Mod 1" to create a spacious, open pad sound. This way everything will stay harmonic, but each type of instrument can use the chords in a different context.

Sundog includes a **preset library** of over 200 patterns. You can get to this library by clicking on the "Pattern" rectangle. The following page will allow you to search and select patterns easily. You can read more about this in the following section.

Pattern Step Effects



Use the **"step effects" field** to add randomization effects. **Click on the field** and a new window will appear. You can work with different step modifiers now.

On the left, you can see various **"probability" sliders**. They indicate how likely the effects on the right will occur. The sliders can go from 0% (= will never happen) to 100% (= will always happen).

There are various effects that will only modify the step if the resulting step type is a note trigger.

If **"Resume playing notes"** becomes active, the sequencer won't stop already playing notes of this sequence. This is contrary to the normal behavior where the sequencer stops all playing notes before a new note becomes active.

Example: Usually, a sequence like "0---1---" means that Sundog triggers the "0" at the first position, and then stops the "0" before the "1" is triggered. If the "1" is marked with "Resume playing notes", Sundog will *continue to play the "0"* even when the "1" starts to play as well.

You can click on "OK" if you want to keep the changes that you made to this step or simply click outside the dialog window.

Attention: When you set "Randomize octave" to "+1" and use a probability of 100%, Sundog will **always** add "+1" to the normal octave settings. This is not really random anymore, because the final result will always sound the same. Use a probability of e.g. 50% to change the octave only from time to time. When you set "Randomize octave" to "+2" and the probability to 100%, Sundog will randomly add +1 octave or +2 octaves to the step each time. The same concept applies to the other effect types and their settings.

Searching Patterns

Click on the pattern name rectangle to load the search page. You can also use Ctrl+F (Windows) or Cmd+F (macOS) while you are in the Main View.

The search page consists of a left and a right side. On the left side you can adjust various search options. The right side displays the results in a list. Below the page title you can see how many patterns matched your criteria.

Most pattern names will contain a reference to the pattern length. "L16" for example will have a length of 16 steps, "L08" will have a length of eight steps.

The following search options are available:

- Search field: Enter some text that has to be included in the filename. Check the "Case sensitive" box if you want to match only files with the exact same upper and lower cases.
- Volume changes: Should the pattern contain volume variations?
- Made for triplets: Interesting to find patterns that were specifically created for triplets.
- Octave jumps: Find patterns that contain octave variations (both up and down).
- Stop symbols: Should the pattern contain stop symbols?
- Constant notes: Find patterns that only use one note for everything (for example only zeros).
- Direction: Useful for finding melodies that go into a certain direction.
- Multiples of 16th: Find patterns with 1, 2, 4, 8, 16, 32, or 64 steps.
- Min and max number of steps: Specify the pattern length.

When "**Click item for live preview**" is active, you can click on an item to play it back. A second click stops the preview. Activate "**Play live preview in solo mode**" if you want to listen to the current instrument only.

Chords

Click on "Chords" in the main view. You will see a new view with a **matrix of buttons**. Press any button and you will hear a chord being played with the **currently active instrument** (so better don't use a drum channel here...).

Each column corresponds to a different note of the scale. All the chords of each column **share the same root note**. The chord buttons have different colours. **Important, strong chords are darker than others**, and non-inverted chords also have a dark bar on the right side. **Triads** have a brown/yellow background colour, **four note chords** use a blue/green background colour. Chords that share exactly the same notes as the current chord - e.g. **inversions** - are marked with a dot. Activate **"Settings -> Chords View: Show chord tension"** to get some additional indicators that show which chord buttons are harmonic (empty background) and which are not (strong stripes in the background).

Some scales - the traditional western ones like Major, Minor, Dorian, etc - will also show you chord buttons with **roman numbers** in them (e.g. i, II, iv,..).

They use a different background colour than the other chords (yellow or green). These chords are the most important chords of that scale, and are good starting points for own experiments.

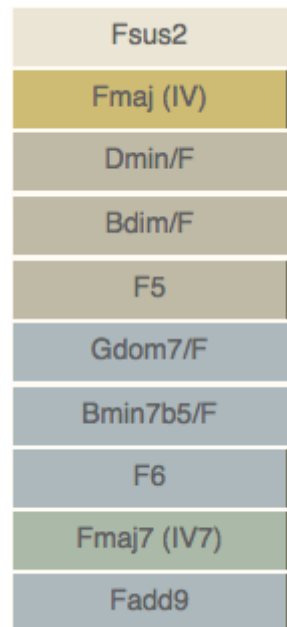
The chord buttons only show you the most important triads and four note chords per scale. If you want to create **own chords** you can turn single notes on and off inside the scale keyboard. Press **"Clear"** if you want to **reset** the current chord.

In the **Chords menu** you can find additional actions to **invert** the chord up or down, or to **raise / lower** it by an octave.

The "-1 octave" switch: Activate this box and **each chord button will get transposed one octave down when you click on it**. You can also do a right-click on a chords button and this box will get checked automatically during that click. If you press the 'o' on your keyboard (that's an 'ohh', not a zero), the box will get checked, too, while you hold down the key.

If you work with an external MIDI keyboard, you can use the white notes below C-3 and the box will get checked as well as long as the key is pressed.

There are two ways how you can visualize the chords. The **yellow scale keyboard** will only show you the notes of the current scale. This makes it very easy to focus on possible note combinations. Click on "Settings -> Show chromatic keyboard in chords view" to show a **regular keyboard** instead. Scale notes will be marked with yellow stripes. Strong yellow stripes indicate root notes of that scale.



Own Chords

If you click on the grid icon in chords view, you will get to a special page where you can **create and collect your own chords for this song part**. It's also possible to press **T** to toggle between this and the common chords view.



Simply click on a field to **create or trigger** an own chord. Click on the "Rename" icon to name the field as you like. Chords that contain notes outside the scale will get underlined.

Use the **keys 1 to 9** or your MIDI keyboard to **trigger chord fields**. Hold down **Ctrl** to trigger fields that are higher than 9.

There's a convenient way to **fill the own chords page** directly from the common chords view: As soon as you select a standard chord you can click on the **"Keep"** icon. The displayed chord will be saved to your own chords collection then.

You can clear your chord collection by clicking "Chords -> Clear own chords". Sort your chords with "Chords -> Sort own chords by root note". You can load and save own chord collections with "Chords -> Load own chords..." and "Chords -> Save own chords...".

Please note: The chords that are stored here aren't "fixed" chords. They just represent the relative notes that should be played **on the chosen scale**. If you start on a C Major scale and save a C Major chord (C-E-G) this will be saved as a "1-3-5" chord. If you switch the scale to D Minor, the "1-3-5" will represent a D Minor chord instead (D-F-A). However, if you switch between relative ("compatible") scales, you will be asked if the chords should get converted so that the chord types remain intact (e.g. a sus4-chord will still remain a sus4-chord).

Chord Mods

Sometimes it's desirable to **transform standard chords** to make them sound differently. For example a C Major chord in closed position (C-E-G) might be **more interesting** in an open position where the second note is moved one octave up (C-G-E).

To do this you will first have to turn on **"Settings -> Chord mods active"**. Now all standard chord buttons will consist of three zones - left, middle, right - when you move with your mouse over them. **Depending on your click position** the chord will get transformed / modulated.

Click on "Settings -> Edit left/right/middle chord mod" to **change the mod rules for each zone**. You will get to a new page where you can decide what will happen to each note of the chord. The "Move" section will **move the original note** of the chord a certain amount of octaves up or down. The "Add" section will **keep the old note and add additional notes** one or two octaves higher/lower. Use "Apply to triads" and "Apply to four note chords" to decide on which types of chords the effects will be applied.

Use the **"Enhance" column** to add additional notes that weren't present in the original chord before. In many cases the "Add 9", "Add 11", and "Add 13" boxes will make the most sense. The "Add" amount is relative to the root of the chord (the root itself would be the same as "Add 1").

Borrowed Chords etc.

The chord buttons generally only show you chords that consist of scale notes. However, you can freely add other notes to your chord if you wish.

First, you must make sure that "Settings -> Show chromatic keyboard in chords view" is checked. You will see a "full" keyboard in chords view. Now you can click on any note that you would like to add to your chord.

The notes that you choose are always relative to the basenote of your scale. This means that you can transpose your scale up or down as much as you like - your borrowed chords will always get transposed as well.

If your chord contains notes outside the scale, the chord progression field will display a "!" sign before the root note number. This number refers to halftones instead of scale notes now.

Chord Progressions

The main purpose of the chords view is to create chord progressions. To do this you will have to **switch between different song positions** by clicking on the small dark boxes on the left side of the play button. If a position is filled with a chord, the field will be marked with a number. This number stands for the column of the base note of the chord, so a higher number will represent a higher note than a lower number.



Press the play button to **play back** your chord progression. Right-click on a field to **start the playback from this position** (Ctrl + Space: Start from the current position).

You can **click on different progression slots during playback** and change the chord as needed. The next time the slot is reached, Sundog will play the new chord.

You can change this behaviour by checking "**Settings-> Chords View: Follow playback**". Now the active slot will change during playback.

A click on "X" will **erase** the chord progression (you will be asked to confirm this first). Click on the lock icon if you want to play around with chords **without making changes to the progression**. In the **Chords menu** you can find additional actions to **insert or remove chord slots** or to **move the entire progression** to the left / right.

Click on "**Use Chords**" when you are satisfied with your results. Otherwise press "Cancel" and your changes will be lost. If you want to use the chord progression in your DAW, you can **drag and drop the small MIDI symbol** from Sundog to your DAW.

Please note: To hear the chord progressions in your song (main view) you will have to set the "Source" mode of an instrument to "**Chord Notes**" (for arpeggios) or to "**Full Chords**" (for polyphonic chords).

Check "**Settings-> Chords View: Realtime preview**" and you can hear the changes that different chords make to your song directly. **The song part will sound the same as in the Main View**, so if you change a chord you will hear that change at once.

Deactivate "**Settings -> Chords View: Show reduced (quarter notes) timeline when possible**" if you want to work with sixteenth notes in your chord progressions. The sixteenth notes resolution is automatically turned on if you load a progression that needs this feature.

You can use the menu entries "**Chords -> Save chord progression**" and "**Chords -> Load chord progression**" to load and save progressions. A progression search is available as well (see next section).

There are several algorithms available to **optimize your chord progressions** ("Chords" menu). All these algorithms will invert the chords of your progression up or down to find an optimal note flow, beginning from the first chord.

- "**Minimize finger movement**": Play the chords in such a way that a pianist had to move the fingers as little as possible.
- "**Minimize bass note movement**": The lowest note of the chord should be moved as little as possible.
- "**Minimize highest note movement**": The highest note of the chord should be moved as little as possible.

With the menu entries "**Chords -> Loop chord progression to different length**" and "**Chords -> Stretch chord progression to different length**" it's possible to change the length of the current song part while maintaining the chord progression.

Searching Chord Progressions

Click on "**Chords -> Search chord progressions**" to search for chord progressions. The Sundog-wide shortcut is Alt+F5, but you can use Ctrl+F (Windows) or Cmd+F (macOS) while you are in Chords View as well.

The search page consists of a left and a right side. On the left side you can adjust various search options. The right side displays the results in a list. Below the page title you can see how many chord progressions matched your criteria.

The following search options are available:

- Search field: Enter some text that has to be included in the filename. Check the "Case sensitive" box if you want to match only files with the exact same upper and lower cases.
- Triads: Choose if chords with three notes are allowed (might be available or not), forbidden (must not be contained), or required (must be included) in a chord progression.
- Four note chords: Same as for triads, but for chords with four notes.
- Bigger chords: Same as for triads, but for chords with more than four notes.
- Non-scale chords: Choose if the progression should contain chords outside of the scale. Interesting to add some tension.
- Direction: Should the progression go only up or down? 'Mixed' matches any progression.
- Scale must be compatible: Certain Major and Minor scales (and church modes) contain the same notes, but start on different root notes. Sundog can convert the chords of these "compatible" scales if needed. If "Scale must be compatible" is checked, Sundog will only list progressions that are compatible to your currently used scale.
- Min and max number of chords: Control the amount of chords that have to be included in the progressions.
- Min and max number of bars: Control the length of the chord progressions.

The additional settings:

If you load a chord progression with a different length than your current song part, Sundog can handle the situation in various ways:

- a) The chord progression gets looped (if the song part is longer) or cut (if the song part is shorter) ("Loop/cut progression").
- b) The chord progression is stretched to the length of the song part ("Stretch progression").
- c) The song part changes its length to that of the chord progression ("Use new length").

If you load a chord progression that doesn't use the same scale as your song part, but that is compatible (e.g. Major instead of Minor), Sundog can convert the chords to your current scale ("Keep current scale").

Example: You work in C Major and save a progression that contains an Amin (vi) chord (notes: A-C-E). Now you create a new song that uses an A Minor scale. You load the chord progression and let Sundog convert the chords. Now the Amin chord is still available (and the notes are still A-C-E), but of course the chord function within the scale is different now (it's not a 'vi' chord anymore, but an 'i' chord, because Amin is the first triad of the A Minor scale).

Importing MIDI Chord Progressions

Click on "Chords -> Import MIDI chord progression" to import chord progressions from standard MIDI files. Sundog will analyze the chosen file and translate the data to Sundog chord progressions. The algorithm will try to autodetect the scale of the progression and give you a recommendation.

Please make sure that your MIDI file follows these conditions:

Contains only chords, not melodies. Not longer than 16 bars. Contains only one MIDI channel with data. All notes are quantized to 16th.

Sundog will quantize the input, too. But usually it's better to do that in your DAW and do some corrections from hand first.

Copy and Paste

A blue bracket on the left side of the user interface will indicate which part is active at the moment. If you create a new song part the "Song Part" area will light up, if you change a pattern the "Pattern" area will light up, etc.

These "focus areas" are useful for copy and paste commands. The following **keyboard shortcuts** are valid:

- Delete: Del (Windows) / Backspace (macOS)
- Copy: Ctrl + C (Windows) / Cmd + C (macOS)
- Cut: Ctrl + X (Windows) / Cmd + X (macOS)
- Paste: Ctrl + V (Windows) / Cmd + V (macOS)



Copy and paste work like this:

When you press "Copy", the data of the active focus area will be copied. When you press "Paste", the last copied data will be pasted - **but it doesn't matter which focus area is active in that moment!**

This will allow you to do the following: Edit a pattern (pattern area lights up), press Ctrl + C (data gets copied), switch the instrument (instrument area lights up), and then press Ctrl + V (pattern data gets pasted even though the focus is on the instrument area).

Chords View: Cut, copy, paste, and delete will work on the currently active chord slot.

Using the Keyboard

Use the keys **1, 2,...**, **0** to trigger notes in the main view (or chords in the chords view). **1** will be the basenote.

Space starts and stops songs, **R** toggles the recording mode (main view).

Tab switches between Main View and Chords View.

S = Solo, **M** = Mute (main view).

C switches to Chords view, **J** switches to Jam view.

P stops the song and triggers the MIDI panic action.

L locks the chord progression to prevent accidental changes (chords view).

Use the **left** and **right** arrow keys in chords view to change the position within the timeline. If the Song Parts area is active, the arrow keys will switch between song parts.

A = switch to the song part to the left, **D** = switch to the song part to the right.

Ctrl+F (Windows) or Cmd+F (macOS): Main View -> search patterns. Chords View -> search chord progressions.

Delete: **Del** (Windows) / **Backspace** (macOS)

Copy: **Ctrl + C** (Windows) / **Cmd + C** (macOS)

Cut: **Ctrl + X** (Windows) / **Cmd + X** (macOS)

Paste: **Ctrl + V** (Windows) / **Cmd + V** (macOS)

T toggles the Pattern Trigger editor size (main view) or switches between own chords and common chords (chords view).

B toggles between "draw" mode and "edit" mode in the Pattern Trigger editor.

Ctrl + A (Windows) / **Cmd + A** (macOS) selects all lines in the Pattern Trigger editor.

Ctrl + D (Windows) / **Cmd + D** (macOS) duplicates the selected lines in the Pattern Trigger editor.

Use the **up and down** arrow keys in chords view to invert the current chord up or down.

Ins and **Ctrl+Del** can be used to insert and delete blocks in the chord progression (chords view).

Mac: **Ctrl+Enter** = insert, **Ctrl+Backspace** = delete.

Triggering chords with a computer keyboard (chords view):

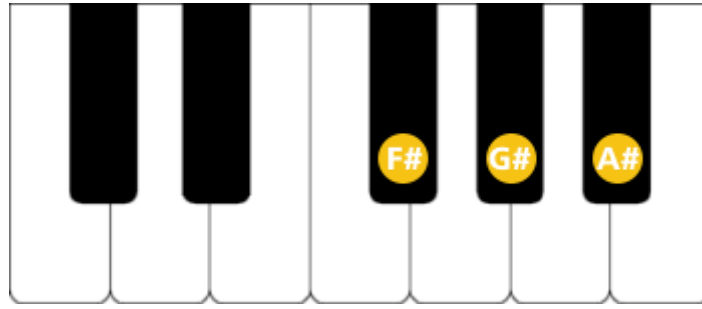
Use the keys **1, 2,...**, **9** to trigger triads. Hold down **0** to play four note chords instead. If you activate **Ctrl**, Sundog will search for the first unused chord in this order: "min / maj / dim / aug / dom", if nothing found yet: "5 / 6 / 9", if nothing found yet: "sus". If you activate **Alt**, Sundog will search for the first unused chord in this order: "sus", if nothing found yet: "min / maj / dim / aug / dom", if nothing found yet: "5 / 6 / 9". Sundog will only search in those chords that haven't been used before with activated or deactivated Ctrl key.

Using an external MIDI keyboard:

Make sure that you activate your keyboard in the Sundog preferences - and take care that you don't create feedback loops between your keyboard, Sundog, and your DAW!

Main view: Play the **white keys** to trigger notes. **C#** = switch to the song part to the left, **D#** = switch to the song part to the right.

Chords view: **C-2 to B-3** will trigger chords. Hold down **A#** to play four note chords. **F#** will work like



Ctrl described above, **G#** will work like Alt. If Chord Mods are active, you can hold down **C#** and **D#** to activate the left / right Chord Mod respectively.

Common Tasks

Here are some quick solutions for common tasks and questions. The first three solutions are also accessible via buttons when there is no line active in the Pattern Trigger editor.

Quickly fill the Pattern Trigger editor with a simple sequence:

Click on "Edit -> Fill editor with basic sequence" (**Ctrl + 1** (Windows) / **Cmd + 1** (macOS)): This does the same as drawing a long line on the base note in the editor. The current mode will be used.

Simply follow the chords with this instrument:

Click on "Edit -> Follow the chords with this instrument" (**Ctrl + 2** (Windows) / **Cmd + 2** (macOS)): This does the same as setting the mode to "Full Chords", setting the pattern to "Off", and drawing a long line on the base note in the editor.

Quickly create an arpeggio or bassline that follows the chords:

Click on "Edit -> Follow the chord notes with this instrument" (**Ctrl + 3** (Windows) / **Cmd + 3** (macOS)): This does the same as setting the mode to "Chord Notes", and drawing a long line on the base note in the editor.

Trigger drums or samples:

Set the "Fixed Note" of the current instrument to a MIDI note that will be recognized by your sampler as the right sample trigger. Now every numerical value of the pattern will trigger that special note.

Creating a melody without using the step sequencer / pattern mechanism:

First you will need to set the pattern to "Off" (first preset in the preset library). Then set the "Source" mode to "Scale Notes" or "Chord Notes". Now simply enter the notes in the Pattern Trigger editor with your mouse or record them live.

MIDI Export

In the File menu you can find different MIDI export options. You can export the whole song, the current song part, the current instrument (song part / song), or just the chords (song part).

You can also drag and drop the current note data directly to your DAW by grabbing the MIDI symbol in the upper left corner and moving it to the DAW. If you solo an instrument, only that instrument will be exported. If the "song mode" is active, the whole song will be exported.

A Note on Sharps (#) and Flats (b)

Sundog is using the same notation like tracker programs (e.g. Renoise) or some DAWs like Ableton Live per default. This means that only sharps are displayed.

If you want to display both sharps and flats, you will need to change this in the settings: Set "Only show Sharps" to "No". Now Sundog will represent the notes of common western scales - e.g. Major and Minor - the same way as most music theory books do.

The Menu: Edit, Tools, Settings,...

Edit: Most menu items should be self-explanatory: You can copy and paste different things ;).

Tools: Some helpful actions for various tasks. "Jam with current instrument" is explained in "The Jam View". "MIDI: Panic" is explained in "MIDI: Panic".

Chords: Useful actions for the chords page. Insert slots in the chord progression, delete them, invert chords up and down, etc.

Instrument: The actions here are interesting for various Pattern Trigger and Pattern tasks. The items "Fill channel with basic sequence" etc. are explained in "Common Tasks". "Set octave range of current instrument..." will change the amount of octaves that are displayed in the Pattern Trigger editor.

Settings: "Show input box instead of editor in main view": This will replace the Pattern Trigger editor with a big input box. The input box is especially interesting for recording live. "Show chromatic keyboard in chords view": This will replace the scale keyboard in chords view with a normal keyboard. "Link tempo of all song parts with same tempo": Activate this to change the tempo of all song parts with the same tempo at once (default: activated). "Link swing of all song parts with same swing": Activate this to change the swing of all song parts with the same swing at once (default: activated). "Follow current song part in song mode": If the song mode is active, Sundog will automatically follow the current song part during playback (default: activated). "Follow pattern position": Long patterns over 16 steps (one pattern page) will automatically adjust the page to the current position during playback. "Duplicate original pattern when pattern length changes to multiple": This will duplicate the original pattern when you change the pattern length to a multiple of the old length (e.g. when you change it from 4 to 8 lines - but not from 4 to 9 lines. Default: activated). "Always on top": Sundog will always stay on top of other program windows when this one is activated. "Reset UI size to default setting": If you configured Sundog to be way too large for your screen, then this menu item will help you to go back to the defaults. "Edit left chord mod" etc: Click this and you will get to a page where you can edit the chord modifier for the left side of the standard chord buttons (see the chapter on Chord Mods). "Chord mods active": The chord modifiers will only work when this is checked.

Help: "Quickstart help" includes links to the most important help topics and videos. "Online manual" will open this page. "Check for updates" searches for new Sundog versions (please check from time to time). "Register" is only available in the demo version and will allow you to enter your serial.

Swing

Use the swing setting to add some groove to your song. Sundog uses a common approach to do this: Each second 16th note will get delayed a little bit. A swing of "75%" means that the first 16th note will fill the first 75% of the 8th and the second 16th note will fill the remaining 25%.

"Off" is the same as a swing setting of 50%. A swing setting of 67% will match the timing of triplet notes.

Swing: 50%

Closed	Closed	Closed	Closed
--------	--------	--------	--------

Swing: 75%

ClosedHH	Clo	ClosedHH	Clo
----------	-----	----------	-----

Please note that you will hear the swing only when you work with 16th notes. If you just use quarter notes you will hardly hear anything as the swing won't affect them (because quarter notes always start on fixed borders that won't move).

MIDI Sync

Sundog can work both as MIDI slave and as MIDI master:

If you want to **sync another program to Sundog** you can turn on the MIDI Sync feature (Settings: "Send MIDI Clock Sync" -> On). Sundog will work as a master then and send MIDI clock signals via the Out Device. Sundog will also send a song position pointer (SPP) when it starts to play.

In the opposite case - if you want to **sync Sundog to a DAW** - you must select a MIDI device through which the MIDI clock signal comes in ("Receive MIDI Clock Sync from Device").

If you use MIDI sync please make sure that you don't create any feedback loops! I would advise to turn on either the slave or the master mode, not both at once.

The Jam View

Choose "Tools -> Jam with current instrument" to switch over to Jam Mode (or press `J`). In this mode you can play polyphonic notes by either using your computer keyboard, MIDI keyboard, or the rubberbox.

The Jam mode is entirely meant for, well, jamming. The notes you enter here aren't used for your song.

The Scale Finder

Click on "Tools -> Scale Finder" and you will get to a new view where you can search for scales. Enter at least three notes on the musical keyboard. If you know the root note of the scale you can select it from the root note box. If you have connected a MIDI In device to Sundog you can use it to enter notes as well. Press "Reset keys" if you want to clear all the notes that you have entered so far.

Click on "Find scales" as soon as you are ready. Sundog will calculate all scales that match your search and display them. Major, Minor, Harmonic Minor, and Melodic Minor scales will be highlighted as they are the most common scales in western music. You can press cancel to refine your search or click on a scale button to choose this scale.

You can call the Scale Finder from the main view, chords view, and jam view. Sundog will take you back to that view after you have used the Scale Finder.

Using an own Default Song

Save the song that you want to use as your default song in the main song directory (Mac: ~/Library/Application Support/Sundog/songs/, Windows: [program directory]\songs\). Save it as "default_song.sng". Now everytime that you start a new song, this song will be used.

Changing the user interface size

Sundog chooses an optimized user interface size depending on the operating system and the hardware. In many cases this default setting should work well. However, you can also manually adjust the interface size in the Sundog settings. "100%" refers to the standard UI size on most common displays. "125%" and up are especially interesting for Windows devices with high-DPI displays. "75%" is helpful on smaller laptops. You can reset the settings to the default "automatic" mode by clicking "Settings -> Reset UI size to default settings".

Using the clipboard to exchange presets

You can use the clipboard menu to copy the current pattern, the current Own Chords collection, the current song part, or the current chord progression to the system clipboard. You can paste this text anywhere you like, for example in a forum or in an e-mail.

Anybody who copies this text then, can import it into Sundog again. Simply click on "Clipboard -> Paste from clipboard".

When the clipboard contains more than one data block, Sundog will ask you if it should save the data to separate files on your hard drive.

Creating and importing own preset packages

It is possible to create own packages and to share them with other users. These packages end on ".fys". They are plain text files that contain data which was previously copied to the clipboard with the "Copy to clipboard" feature.

To create an own package, follow these steps:

- Create a new textfile.
- Copy Sundog data to the clipboard (use the "Clipboard" menu for that).
- Paste the data to your textfile.
- If you want to give this data block a name (recommended!), you need to put a "File: [file name]" in front of the data part. Patterns should end with ".ptn", Own Chords with ".oc", chord progressions with ".cp1s".
- It is possible to create an own subfolder for your package. Simply insert a line with the following syntax: "Folder: [package name]"

This is an example file:

```
Folder: Simple arpeggios
```

```
File: Arp up 1.ptn fysssd2pt_d9H4sIALCQZ10C-zOo MawxAgBiuB4oBQAA AA==_sd2ptfyse
```

```
File: Arp down 1.ptn fysssd2pt_5fH4sIAMOQZ10C-zOq MawxAAAuitC8BQAA AA==_sd2ptfyse
```

This example file contains two patterns called "Arp up 1.ptn" and "Arp down 1.ptn". They are stored inside a folder called "Simple arpeggios". Simply save this text section to a file called "arpeggios.fys" and you can import it into Sundog (click on "File -> Import FYS package...", then choose "arpeggios.fys").

You can also copy this text section to the clipboard and then import it into Sundog via "Clipboard -> Paste from clipboard".

Themes

Sundog ships with various dark and light themes. You can change the theme in the Sundog preferences.



MIDI: Panic

If you use several instruments on the same MIDI channel it might happen that some notes keep on playing forever. To stop all MIDI notes at once click on "Settings" -> "MIDI: Panic". You can also press **P** to stop the song and trigger the MIDI panic action.

Open questions?

If anything is not clear enough or you still have questions please don't hesitate to contact me (<http://feelyoursound.com/contact/>). Looking forward to hear from you!
