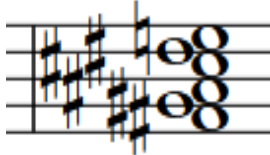


# Tone Clusters in Sibelius

Bob Zawalich June 20, 2019

Some information in this document was provided by Jeremy Hughes and Kai Struck in [a post in the Sibelius technical support forum](#).

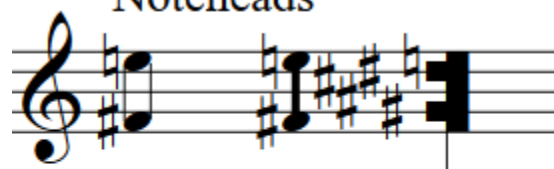
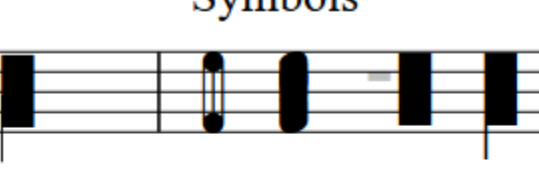
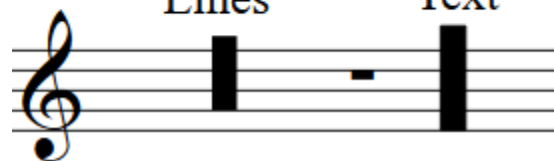
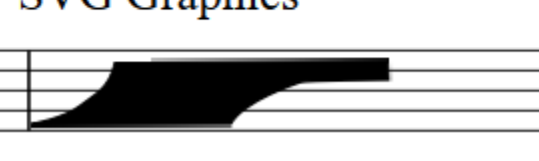
Tone clusters, also called note clusters, or just clusters, are a shorthand notation for several adjacent notes played at once. Groups of notes like this can be difficult to read, and in many cases specific pitches are not required.



There is an [accompanying Sibelius score in Sibelius 7 format](#) that includes all the examples shown, and from which you can copy any of the examples. The names of custom objects used in this document refer to definitions of custom objects in that score. Most of these techniques can be used in versions of Sibelius prior to 7, but SVG graphics and some text properties are not available until Sibelius 7.

## Clusters in Sibelius

Sibelius can represent clusters in several ways, each of which has issues that can make them awkward to use. Here are some examples of clusters represented by different objects.

Noteheads		Symbols	
			
Lines	Text	SVG Graphics	
			

## Playback

In most cases clusters will not play back. To play back, put hidden notes in an unused voice as the same location as the clusters, or add an extra staff to contain the notes and then hide that staff. For this document I am assuming that any cluster made of notes will be silenced with *Play On Pass* or a special notehead, and playback will be handled separately.

## Accidentals

In some cases you can insert notes with hidden noteheads to provide stems, flags, dots, and accidentals, and overlay symbols, lines, or text over the invisible noteheads. You can instead add separate symbols for accidentals and other parts, or create composite symbols that include other symbols, which will keep the symbol's parts together as layout changes.

Accidentals can be placed at various locations on a cluster, and you may need to create your own sets of symbols if you need specific and reproducible accidental positioning.

## Precise and Approximate pitches

The use of clusters rather than groups of noteheads already adds some degree of approximation. When the top and bottom pitches are specified, accidentals are often included, and ledger lines shown.

Rectangles without noteheads are usually less precise, and may be positioned anywhere on or off the staff, to provide rhythmic information rather than pitches.

## Half and Whole Notes (hollow noteheads)

When using lines, symbols, and certain noteheads, hollow shapes can be harder to find than solid ones.

## Stability when score formatting changes

Except for some clusters made of noteheads on a single staff, all the clusters described below will be affected when bars change size or when spacing between staves changes. You should either try to wait until the score layout is stable before adding clusters, or expect to update them.

Be aware that clusters in parts will likely format differently from the main score, and you will need to check all parts that contain clusters.

## Categories of Clusters

I will discuss 3 types of clusters and various ways to implement them in Sibelius.

- Henry Cowell type
- Rectangles
- Arbitrary graphical shapes

## Henry Cowell-style clusters

Cowell specified the top and bottom pitches of clusters with noteheads. If actual notes are used they can provide accidentals. If symbols are used, add separate accidental symbols. Here are some examples of Cowell-style clusters:



## Implementing Cowell clusters

There are different implementations for each note duration. Clusters can generally be written across staves by extending the separator stems or lines across the staves.

### Cowell-style – using notes

#### Cowell-style - quarter notes stemless noteheads

Use stemless notes in the same voice - add a thick vertical line (must define a custom line; a .4 space width *Vertical line thick* used here). Zoom in to place line with Magnetic Layout off.



#### Cowell-style – flagged notes

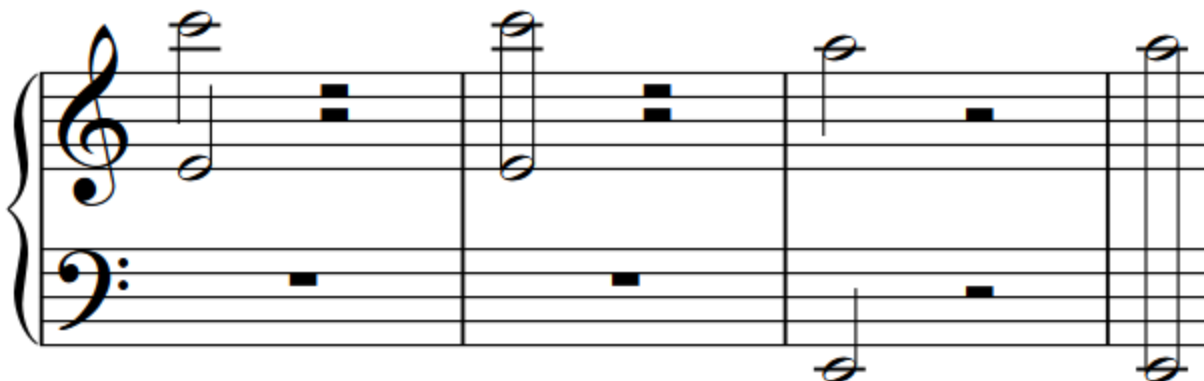
One notehead is stemless, the other has a stem. 2 voices; hide rests - add a thick centered vertical line, zoom in to place line. (must define a custom thick line - .4 space width *Vertical line thick* used here) with Magnetic Layout off.



#### Cowell-style - half notes

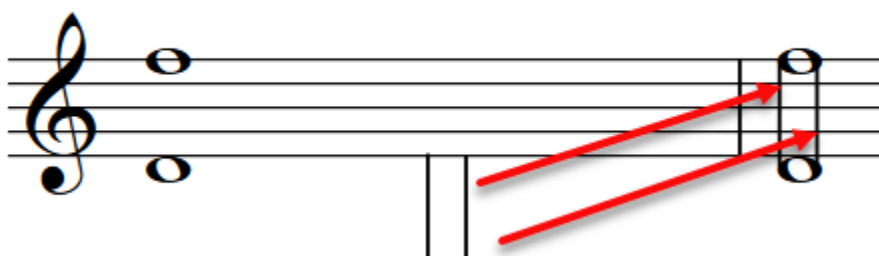
Same staff - Use different voices (1 and 3 here), drag stems down and up, and hide rests (you could also use a single voice and add a vertical line for one of the stems)

2 staves - notes are in the same voice. Drag stems down and up. Fix the stems if staff separation changes



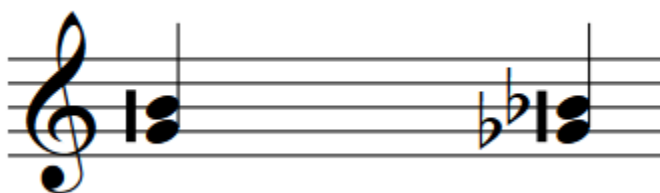
### Cowell-style - whole notes

Notes are in the same voice - add 2 vertical lines. Turn magnetic Layout off if easier. Lines will not adjust if the pitch changes or bar width changes.



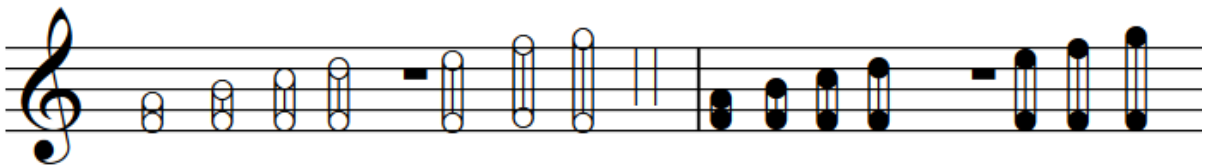
### Cowell-style - narrow range

Put bar (line, here a custom *Vertical line thick*) to the left of the notes. If there are accidentals, the bar goes between the accidentals and chord. Drag accidentals carefully to the left or use *shift+alt+left arrow* to make room before the note. Do not use *Reset Position* later.



### Cowell-style – using symbols

These are standard Sibelius symbols from the *Clusters* group. They are not exactly Cowell-style, but they are close. Sibelius provides one symbol for each interval between a 3<sup>rd</sup> and a 9<sup>th</sup>. Position these manually, or display rests and select the rest before pasting or creating a symbol.



These are composite symbols built from *Round Notehead* symbols and *Cluster lines*, which can be stacked to make taller clusters.



These are Cowell-style clusters from the *Clusters group* in the Symbol table, in a score that uses the *Norfolk House* style, or uses the font *Norfolk Special Extras Std* as the *Music font* for *Special symbols(extra)* in *Edit Symbols*. These will not be visible if the font is not installed. You cannot create a new music font that uses this font to "mix and match" these symbols with symbols from other fonts, due to limitations in the way third-party fonts are handled, but if you are using *Norfolk* fonts, these will be the available cluster symbols.



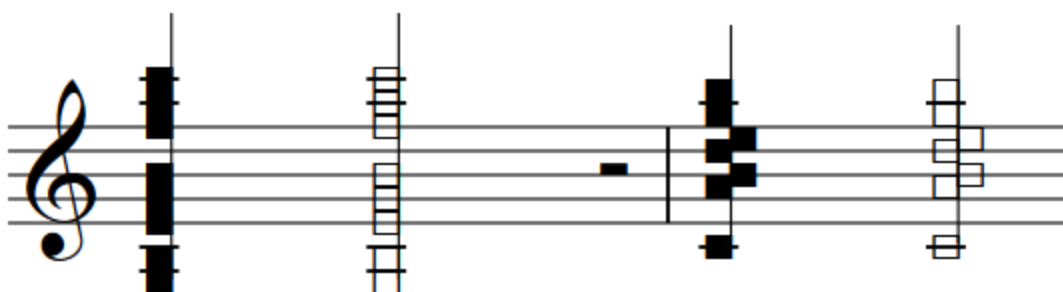
## Rectangular clusters

Clusters made of custom square noteheads.

Custom notehead symbols (*Square Cluster Notehead Black*, *Square Cluster Notehead White*) were made slightly larger (using a modified *Music Font*) than the default *Shaped Note 6* square notehead to avoid gaps between notes stacked vertically. A notehead style was then built using those symbols. You can build chords with these noteheads.

These custom noteheads work quite well for black notes, but are not as good for white, due to top and bottom borders on each notehead. Even for white notes, though, these can be useful if you want to show specific pitches.

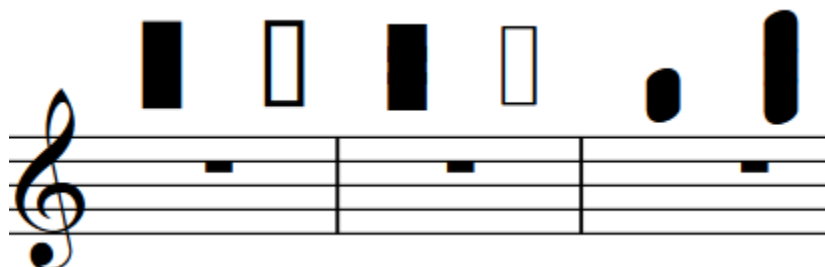
Noteheads provide flexibility and easy playback control. Note that the stem will be in the middle if they are 2-wide.



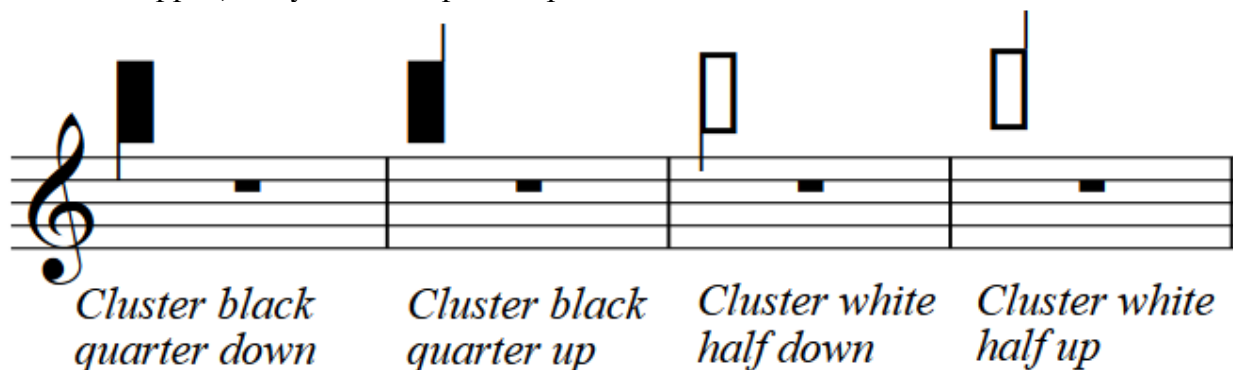
## Rectangular clusters using symbols

These are fixed size, though there are 4 size options for symbols in the *More Options* dialog for *Create > Symbol*. The options are all smaller than the *Normal* size, though. Sometimes it is worth creating the symbols large to take advantage of the available smaller sizes.

- The first 2 rectangles below are taken from the font *Norfolk Harp Standard* (28 March 2019 or later). They will not appear if that font is not installed. You may be able to find similar shapes in other fonts or create symbols from SVG graphics files. (The white rectangle is the hardest to find).
- The 3rd symbol is a composite made of stacked Sibelius *On rim* symbols.
- The 4th symbol is the Sibelius *Tenor Drum* symbol, which is not quite the desired size, but which may still work.
- The final symbols are single and stacked Sibelius *Cluster* symbols.



Composite symbols can be created by combining existing symbols in *Edit Symbol*, so here are some rectangles with added vertical line symbols added to rectangles. Symbols and most lines cannot be flipped, and you need separate *up* and *down* versions.

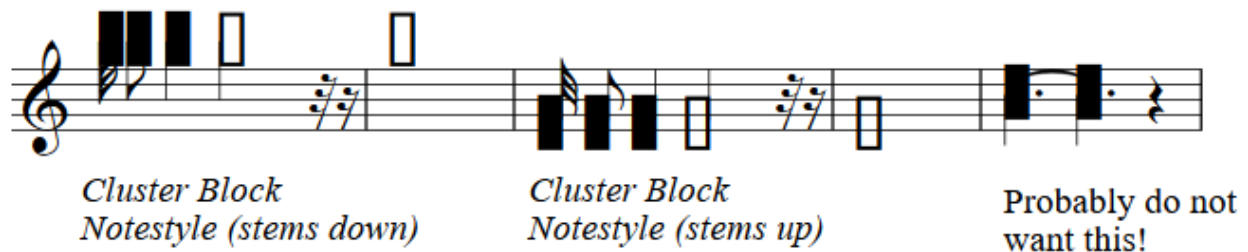


## Cluster custom noteheads from black and white Norfolk Harp rectangular symbols

These are notehead styles that use the black and white Norfolk Harp rectangular symbols as symbols for notehead styles. The advantage of doing this is that you can access stems and flags easily.

The symbols as defined are centered compared to the stem so they work both as both up stem and down stem, but you will often need to adjust the stem length. The examples below are unadjusted.

These are silent and show no ledger lines so they can be used outside the staff. There is only a single notehead, so it does not work well with dotted notes or multiple ties (see last example). These are, however, stable when the layout changes.



## Clusters made from lines – thanks to Jeremy Hughes

Lines are by far the easiest objects to adjust for height, and the fixed-width black line is very easy to use.

Black rectangles are custom black vertical lines. Set width to 1.25 spaces, which will not change. (*Vertical line thick* in the example score).

In the *Inspector* set height to be 1 space per note. To adjust height or width in *Inspector* it is simplest to set X or Y in *General* to 0, then set X or Y in *Lines End* to be the desired height or width in spaces. Once the size is set, you can reposition the line.

White rectangles are custom Box lines (*Cluster line white (box)* in example score). Border width is set to .19 spaces. To match the black line, set width to be 1.09 spaces (in *Inspector*) or .84 spaces if you want the border to match the black line. Adjust baseline to be .06 spaces higher than black line. Adjust height to be .08 spaces shorter than the number of notes.

The White line can expand in width as well as height. Be careful when moving not to accidentally change the width. Use the *Inspector* to set the desired width.



You will need to make several adjustments if adding a white line directly from *Lines* menu, rather than copying and pasting.

## Instructions from Jeremy Hughes on how to size and position White Box Lines

- Select a note and create a box line



It appears as a line above the staff, with the rightmost handle selected. At this point, it extends from the originally-selected note to the next note, if one exists. The behaviour if there is no further note in the staff (or the original object is a bar rest) is that it spans one quarter-note, I think.

- Type shift-space



Because the rightmost handle is selected, you can extend or contract it by typing space or shift-space (like most lines). Typing shift-space contracts the line so it spans, in effect, zero beats of music. Using the appropriate default position settings for the box will give it the desired width.

- Without changing the handle selection, type *ctrl/cmd-[down-arrow]* one or more times



This opens up the box vertically in one-space increments by extending the bottom of the box downwards. It doesn't change the attachment points of the line. If you prefer to drag with the mouse to open it up, constrain the movement with shift-drag, or the attachment point may change.

- To extend the top of the box upwards, select the leftmost handle (type *alt/option-[left-arrow]* twice) and then raise it using *ctrl/cmd-[up-arrow]*. To move a box of the correct size vertically, select the box itself – not either of its handles – and use up- or down-arrows, or *shift-drag*.



Boxed Text Styles (with or without text) – thanks to Kai Struck



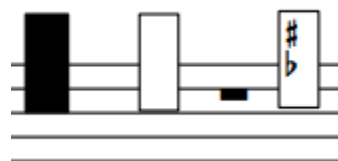
Type text using custom boxed styles *Cluster Box Text Black* and *Cluster Box Text White*. These are defined with a box border, *Erase Background*, fixed text frame size, and reduced *Line Spacing*.

To create boxes without text: create the text object, then without typing any text, type *Esc*, then *Undo*.

To select the boxes: make a passage selection, filter for staff text, and position and size with the *Inspector*. You can also click inside a box until handles appear to select it, or shift-drag a marquee selection around any box.

If you use *View>Invisibles>Handles*, you can click on a handle and use the mouse or arrow keys to change the size or move the text.

These function similarly to *Lines*, but can be a little more difficult to manipulate. The white boxes are opaque, which may or may not be desired. Turn off *Erase Background* in *Text>Styles>Edit Text Style* to make them transparent. You can also make opaque rectangles using SVG graphics files.



### Using visible stems, flags, and accidentals with rectangular clusters

If you use rectangular lines or symbols in the staff and want to retain stems or accidentals, you can create notes and apply headless noteheads to those notes. This will retain the stem, flag, dots, and ties.

Zoom in and drag the rectangle to where the noteheads were. (turn *Magnetic Layout* off).



### White key, black key, chromatic clusters (using rectangular noteheads)

Apply correct accidentals to top and bottom notes and put a cue-sized accidental symbol above or below the chord (not for chromatic clusters).



### Cluster Glissando

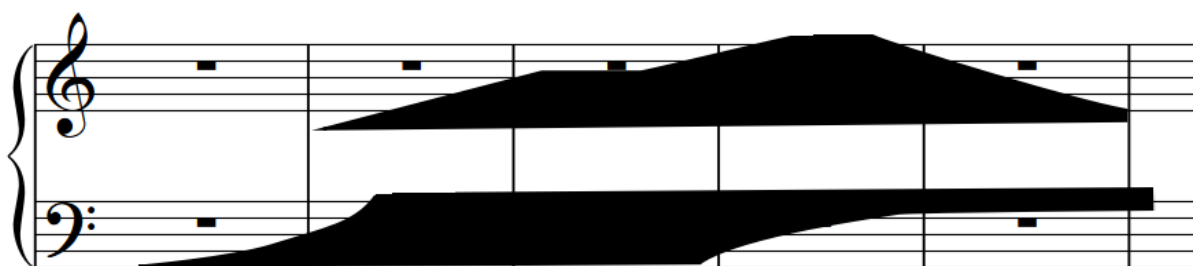
Use a thick line to indicate movement (2 stacked Beam lines used in this example). A custom line whose width matches the cluster width can be used instead.



### Arbitrarily Shaped Clusters using SVG graphics

Cluster-band notation, varying in width and pitch for an entire string section (as shown in Kurt Stone, *Music Notation in the Twentieth Century*). Import SVG graphics for this. This can be tricky to get right. Some hints for making SVG import work in Illustrator and Sibelius can be found [here](#) and [here](#).

You can also make rectangles from SVG graphics which can be used directly or converted to symbols.



This has been an overview of many of the options for creating tone clusters in Sibelius. I hope some of this information will be found useful.