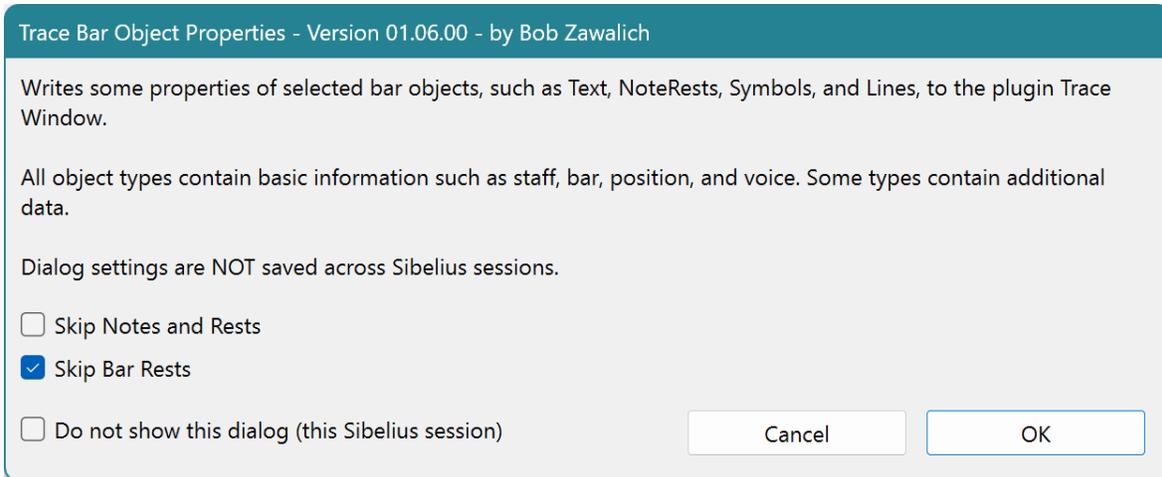


The Trace Bar Object Properties Plugin

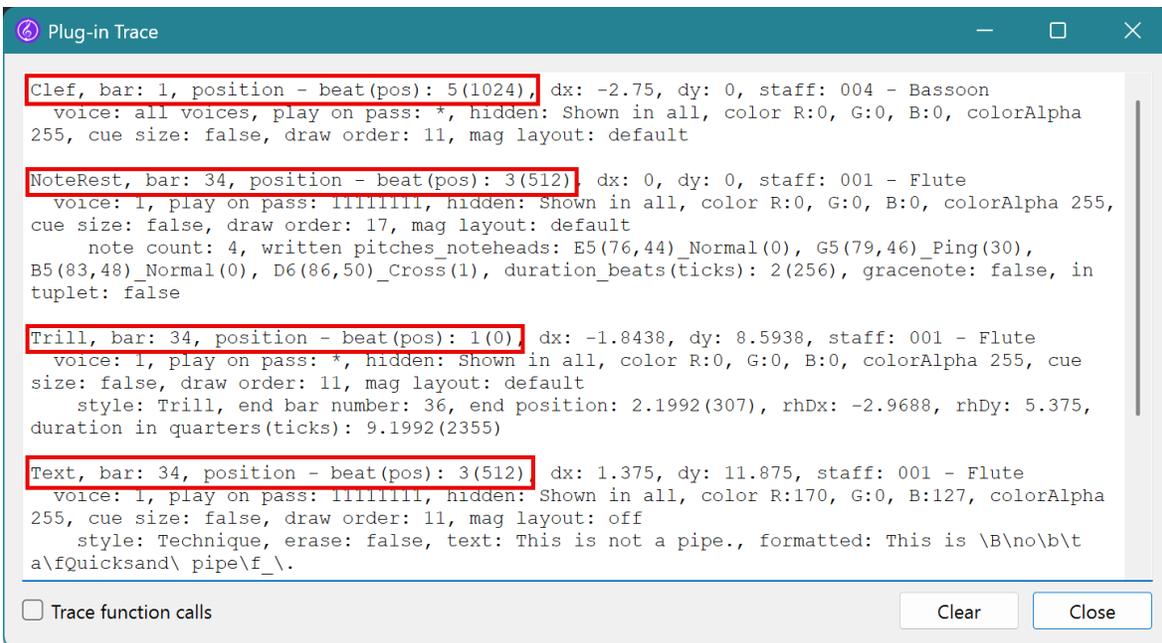
Bob Zawalich October 2, 2025



Trace Bar Object Properties writes some properties of selected bar objects, such as Text, NoteRests, Symbols, and Lines, to the plugin Trace Window.

All object types contain basic information such as staff, bar, position, and voice. Some types contain additional data.

The plugin traces a lot of data, so it is usually best to **filter** the types of objects you want to investigate, or make a small selection. You will also want to clear the **Trace Window** pretty often to avoid getting lost in the data.

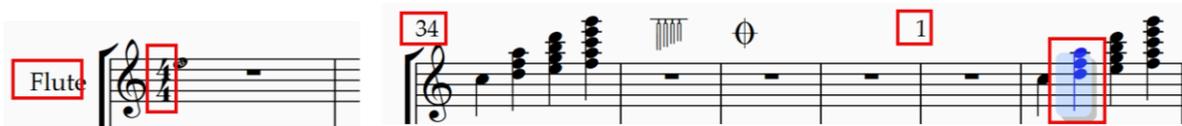


Each traced **Bar Object** contains at least 2 lines of data:

Data Line 1

- Object type (See Appendix 1)
- Bar number
 - If there are Bar Number Changes you will see the displayed bar number followed by the "internal" sequential bar number in parentheses.
- Position of object in the bar in beats and in "ticks", where there are 256 ticks in a quarter note
- Dx (horizontal offset), as shown in the Inspector
- Dy (vertical offset), as shown in the Inspector
- Staff number and name

Here is an example of the first line for a **NoteRest** object. (A **NoteRest** is a container for **Note** objects. If it contains no Notes, a NoteRest is a rest). Here the selected NoteRest is a chord.



Object type: NoteRest, bar: 2(39), position - beat(pos): 2(256), dx: 0, dy: 0, staff: 001 – Flute

- The **Bar Number** reflects a Bar Number Change, and shows the displayed bar number followed by the internal sequential bar number. In the score you would see the bar number 2, but the bar number starting from the start of the score, ignoring Bar Number Changes, is 39.
- The **Position** is stored internally in "ticks", and there are 256 ticks in a quarter note. This object is a quarter note away from the start of the bar. It is a 4/4 bar, so one beat is a quarter note. Beat 1 is the start of the bar, so this NoteRest is at Beat 2.
- **Dx** and **Dy** are both 0, which you can confirm by looking at the Inspector.
- The **Staff Name** is **Flute**. The **Staff Number** (001) helps to differentiate staves with the same name.

Data Line 2

voice: 1, play on pass: 11111111, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 17, mag layout: default

- The **Voice** is 1
- **Play in Pass** shows 8 digits, one for each pass. A 1 indicates the object will be played on the pass, and a 0 indicates it will be skipped. Here is how this looks in the Inspector:



- **Hidden** shows that the object is not hidden.

- **Color** in this example is black (R, G, and B values are all zero).
- **ColorAlpha** is a measure of translucency, from 0 (fully translucent) to 255 (opaque). This property is inaccessible in Sibelius except by plugins. The installable plugin **Apply Named Color** can read and write the **ColorAlpha** property, which it scales to be a percentage in the range 0 to 100.
- **Cue size** will be true or false.
- **Draw order** is the value shown in **Appearance>Order>Order**. It is a number from 1 to 32, and this plugin shows the current number even if it is the default value.
- **MagLayout** is the magnetic layout setting from **Layout>Magnetic Layout**. It is almost always **Default**, which is almost always **On**, but if it had been manually changed you will see **On** or **Off**. A plugin cannot determine if **Default** means **On** or **Off**.

Data Line 3

This is only present for some object types. As of this writing, **NoteRest**, **Text**, **SystemTextItem**, **SymbolItem**, **SystemSymbolItem**, **Tuplet**, **LyricItem**, and the types corresponding to various lines will create this line.

Here is an example line 3 for a **NoteRest**:

```
note count: 2, written pitches_noteheads: B5(83,48)_Normal(0), D6(86,50)_Black & white diamond(6), duration_beats(ticks): 2(256), gracenote: false, in tuplet: true, real duration_beats(ticks): 1.3008(77)
```

- **NoteCount** is the number of notes in the NoteRest. If there are no Notes, you will see "rest" followed by the Rest Position of the rest.
- **Written pitches_noteheads** is present only when there are Notes. For each note you will see the note name and octave (where middle C is C4), followed by the notehead style name and number. These are written names, so they will change for transposing instruments when viewing a transposing score. The name is followed by the MIDI pitch (0 – 127) and the diatonic pitch (0 – 35) that represent this pitch.
- **Duration** is shown in beats, which reflects the time signature, and in ticks, where there are 256 ticks in a quarter note. The example NoteRest is a quarter note, with 256 ticks.
- **Gracenote** will be "false", "appoggiatura", or "acciaccatura".
- **In tuplet** will be true if the NoteRest is in a child of a tuplet. In a tuplet, the **Duration** field will not be scaled by the tuplet ratio, so a quarter notes in a triplet will display 256
- **Real duration_beats(ticks)** will only appear if the NoteRest is under a tuplet. It shows the duration as scaled by the ratios of any tuplets that enclose the NoteRest.

Please observe that there are no separate **Note** objects, but some Note object properties (pitches and noteheads) will be shown in the NoteRest.

Examples

The image shows a musical score snippet for a flute part. It features a treble clef staff with a tempo marking of 120. A trill is indicated above a note in bar 45, with the text annotation "This is not a pipe." above it. The score includes bar numbers 34, 35, 36, 37, and 38. A bracketed section in bar 37 is labeled "4:2 5:3". Below the staff, there are three lines of lyrics: "lyric-verse 1", "verse - 3 - lyric - verse - 3", and "verse - 5 how - many - more".

Trill, bar: 45, position - beat(pos): 1(0), dx: -1.8438, dy: 8.5938, staff: 001 - Flute
 voice: 1, play on pass: *, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 11, mag layout: default
 style: Trill, end bar number: 47, end position: 2.1992(307), rhDx: -2.9688, rhDy: 5.375, duration in quarters(ticks): 9.1992(2355)

Text, bar: 45, position - beat(pos): 3(512), dx: 1.375, dy: 11.875, staff: 001 - Flute
 voice: 1, play on pass: 11111111, hidden: Shown in all, color R:170, G:0, B:127, colorAlpha 255, cue size: false, draw order: 11, mag layout: off
 style: Technique, erase: false, text: This is not a pipe., formatted: This is \B\no\b\t a\l\Quicksand\ pipe\l \

SymbolItem, bar: 46, position - beat(pos): 2.1445(293), dx: 0, dy: 3.25, staff: 001 - Flute
 voice: all voices, play on pass: *, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 11, mag layout: default
 name: Tubular bells, index: 69, relative index: Chromatic Percussion+5, size: Normal Size

Tuplet, bar: 47, position - beat(pos): 2(256), dx: 0, dy: 0, staff: 001 - Flute
 voice: 1, play on pass: 11111111, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 11, mag layout: default
 text: 5:3q, left: 5, right: 3, unit: quarter, bracket: on, style: left-right, full duration: false, duration: 6(1280), played duration: 4(768), rhDx: 0, rhDy: 0

Tuplet, bar: 47, position - beat(pos): 2.5977(409), dx: 0, dy: 0, staff: 001 - Flute
 voice: 1, play on pass: 11111111, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 11, mag layout: default
 text: 4:2q, left: 4, right: 2, unit: quarter, bracket: on, style: left-right, full duration: false, duration: 5(1024), played duration: 2.1992(307), rhDx: 0, rhDy: 0
 Child tuplet at position in parent tuplet: 256, left: 4, right: 2, unit: quarter, real duration: 1.6016(154)

LyricItem, bar: 45, position - beat(pos): 3(512), dx: 0, dy: -11, staff: 003 - Clarinet in Bb
 voice: 1, play on pass: *, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 11, mag layout: default
 style: Lyrics line 3, text: 3, num notes: 1, syllable type: Start/Middle, duration in quarters(ticks): 1(256)

LyricItem, bar: 45, position - beat(pos): 3(512), dx: 0, dy: -16, staff: 003 - Clarinet in Bb
 voice: 1, play on pass: *, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 11, mag layout: default
 style: Lyrics line 5, text: 5, num notes: 1, syllable type: End, duration in quarters(ticks): 1(256)

LyricItem, bar: 48, position - beat(pos): 2(256), dx: 0.5625, dy: -6, staff: 003 - Clarinet in Bb
 voice: 1, play on pass: *, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 11, mag layout: default

style: Lyrics line 1, text: ric, num notes: 1, syllable type: Start/Middle, duration in quarters(ticks): 1(256)

NoteRest, bar: 45, position - beat(pos): 1(0), dx: 0, dy: 0, staff: 001 - Flute
voice: 1, play on pass: *, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 17, mag layout: default
Rest position: 0, duration_beats(ticks): 2(256), gracenote: false, in tuplet: false

NoteRest, bar: 45, position - beat(pos): 3(512), dx: 0, dy: 0, staff: 001 - Flute
voice: 1, play on pass: 11111111, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 17, mag layout: default
note count: 4, written pitches_noteheads: E5(76.44)_Normal(0), G5(79.46)_Ping(30), B5(83.48)_Normal(0), D6(86.50)_Cross(1),
duration_beats(ticks): 2(256), gracenote: false, in tuplet: false

NoteRest, bar: 39, position - beat(pos): 3(512), dx: -1.6875, dy: 0, staff: 002 - Oboe
voice: 1, play on pass: 11111111, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 17, mag layout: default
note count: 1, written pitches_noteheads: C5(72.42)_Normal(0), duration_beats(ticks): 1.5(128), gracenote: appoggiatura, in tuplet: false

NoteRest, bar: 39, position - beat(pos): 1(0), dx: -1.9062, dy: 0, staff: 002 - Oboe
voice: 1, play on pass: 11111111, hidden: Shown in all, color R:0, G:0, B:0, colorAlpha 255, cue size: false, draw order: 17, mag layout: default
note count: 1, written pitches_noteheads: A5(81.47)_Normal(0), duration_beats(ticks): 1.5(128), gracenote: acciaccatura, in tuplet: false

Appendix 1: Bar Object Types

These names identify the objects being traced, and are the names used internally by Sibelius.

Text
SystemTextItem
LyricItem

NoteRest
• Note. If none present this is a rest.
BarRest

Tuplet

SymbolItem
SystemSymbolItem

Line types:

- ArpeggioLine
- BeamLine
- Bend
- Box
- CrescendoLine
- DiminuendoLine
- GlissandoLine
- HighLight
- Line
- OctavaLine
- PedalLine
- RepeatTimeLine
- RitardLine
- Slur
- Trill

Clef
KeySignature
SpecialBarline
TimeSignature

GuitarFrame (chord symbol, which may include a chord diagram)
GuitarScaleDiagram

InstrumentChange
RehearsalMark

BarNumber
Bracket
Comment

Graphic