



Version history

Known issues & solutions

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Steinberg Media Technologies GmbH

Contents

Dorico 3.5.....	3
New features.....	3
Pitch before duration in note input.....	3
Expression maps	6
Line style editors <small>ONLY IN PRO</small>	9
Figured bass.....	19
Condensing for divisi and section players <small>ONLY IN PRO</small>	24
Properties.....	27
Manual staff visibility changes	29
Clef and transposition overrides <small>ONLY IN PRO</small>	30
Used chord diagrams grid.....	32
Graphic slices <small>ONLY IN PRO</small>	34
Hollywood-style parts.....	35
Blank staves.....	37
Keda Indian Drum Basics sounds	37
Improvements.....	38
Issues resolved	57
Known issues and solutions	62
Frequently asked questions.....	62
Knowledge base.....	62
Entering the eLicenser Activation Code (Mac only)	62
Key commands to transpose notes by an octave (Windows only)	62

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Dorico 3.5

18 May 2020

New features

Pitch before duration in note input

When inputting music in Dorico in step time, using either the mouse, computer keyboard, or MIDI keyboard, it has always been necessary to choose the duration of a note before you specify its pitch. While many users find this very convenient, some users prefer to be able to specify the pitch of the note before choosing its duration, particularly if they use a MIDI keyboard for input and want to experiment with ideas or harmonies before committing to input that material.

When specifying duration before pitch, provided the caret is visible and note input is active, a duration is always specified – it is *sticky* – which means that any pitch you specify by playing a note on your MIDI keyboard or typing its name on your computer keyboard is input immediately. If you want to try out melodic ideas without inputting them, you therefore have to exit note input each time you want to play something without inputting it.

When specifying pitch before duration, by contrast, when the caret is visible and note input is active, a duration is not specified until you either type the number corresponding to that duration, or click its button in the notes panel. This means that any notes or chords you play on your MIDI keyboard will not be input, and you are constantly updating the pitch of the note or chord that will be input when you eventually specify a duration: this therefore allows you to try out ideas without exiting note input, only committing to input something when you are ready.

You can freely switch between specifying duration before pitch or pitch before duration at any time during note input. In fact, when specifying pitch before duration, you will often want to make a particular duration sticky in order to input a run of notes all of the same length, and this is done by switching to specifying duration before pitch once more, which automatically makes the last chosen duration sticky.

Default note input order. Although you can switch freely between specifying duration before pitch or pitch before duration at any time when using Dorico, you will probably develop a preference for the default state of note input when you start a new project or open an existing one. On the **Note Input and Editing** page of Preferences, the new option **By default, specify pitch** allows you to specify either **Before duration** (the new method introduced in this release) or **After Duration** (the default method that Dorico has always provided).

Immediately below this is another important option concerning selection behaviour when specifying pitch before duration, which affects the order in which other properties of the note to be input need to be specified. Normally, all properties of the note – accidental, articulation, rhythm dot – must be chosen before it is committed to the score, whether it is committed by specifying the pitch (in duration before pitch) or the duration (in pitch before duration). However, if you would prefer to specify the accidental, articulation and rhythm dot *after* the note has been committed to the score, you can do this by setting set **Specify accidental, rhythm dot and articulations** to **After inputting note**.

Similarly, if you are using a MIDI keyboard for input, you may find that you want to adjust the enharmonic spelling of the note that you have just input, in which case it is important that the note you have just input remains selected so that you can change its spelling with **Alt+/-=**, so you may find **After inputting note** the more useful setting when inputting using the MIDI keyboard.

If, on the other hand, you are using the computer keyboard and not a MIDI keyboard, you may find it more helpful for the note you have just input not to be selected, so that you can instead use **Alt+↑/↓** to manipulate the shadow notehead to specify the pitch of the next note. If this seems most useful to you, choose **Before inputting note**.

Do take notice that **Specify accidental, rhythm dot and articulations** takes effect regardless of whether you are using the new pitch before duration input method, or Dorico's original duration before pitch method. You may want to try out both approaches to see what feels most natural to you.

Toggling between input orders. To toggle between pitch before duration or duration before pitch at any time during input, simply type **K**, or click the note input toolbox button shown on the right.



Mouse input and pitch before duration. When pitch before duration input is active, you can use the mouse to position the shadow note, then either click the duration of the note you want to input in the Notes panel or type its shortcut. If you prefer not to use mouse input, activate the Select tool (the arrow at the top of the note input toolbox).

Specifying pitch. When pitch before duration input is active, no note or chord will be input until you choose the duration for the note to be input, but there is no requirement for the note or chord to be held down when you choose the duration. You can specify the pitch or pitches, and if you are using a MIDI keyboard, you can release all of the keys before you choose a duration: the shadow noteheads will show the pitch or pitches that will be input. Each time you play a new note or

chord, or each time you type a new pitch name on the computer keyboard, you update the pitch of the pending note or chord.

If you are using the computer keyboard, type the note name to show the shadow note. To specify the same pitch in a higher octave, hold **Shift+Alt** and type the note name again; repeat this to transpose upwards by a further octave. To specify a lower octave, hold **Ctrl+Alt** (Windows) or **Control** (Mac) and type the note name; repeat to transpose downwards by a further octave. Once the shadow note is shown, and provided the option **When specifying pitch before duration** is set to **Do Not Select Input Notes**, you can also transpose the shadow note by step using **Alt+↑/↓**.

To specify an accidental when using the computer keyboard, first type the note name, then type the key command for the desired accidental (by default, **0** for natural, **-** for flat, **=** for sharp).

Building chords. When using a MIDI keyboard, you can simply play all of the notes of the chord together before you choose the duration. When using the computer keyboard, engage chord input by typing **Q**. The familiar **+** sign appears to the left of the caret. Now as you type each note name on the keyboard, a new shadow note is added at the caret position; just as when inputting duration before pitch, build the chord from the bottom up, and when you have specified all of the pitches, choose the duration to input the chord.

Choosing duration. Once you have primed the pitch or pitches of the note or chord to be input, choose the duration by typing the appropriate key command. If you require a dotted note, type **.** or click the dotted note tool in the note input toolbox before you type the key command for the chosen duration.

Inputting a run of notes of identical duration. If you want to input a run of, say, eighth notes, you can continue to type **5** repeatedly after specifying each pitch, or you can instead return temporarily to specifying duration before pitch by typing **K**, which will cause the last chosen duration to become sticky. At the end of the run of notes, type **K** again to return to pitch before duration.

Inputting triplets. When inputting duration before pitch, you choose the unit of the triplet before invoking the triplet popover, and the triplet is created as soon as you confirm the popover. When inputting pitch before duration, you have two options: specify the unit of the triplet in the popover; or allow Dorico to infer the unit of the triplet from the first note you input after confirming the popover.

To specify the unit of the triplet in the popover, add the letter that corresponds to the desired duration after the second number in the ratio:

- Whole note (semibreve): **w**

- Half note (minim): **h**
- Quarter note (crotchet): **q**
- Eighth note (quaver): **e**
- 16th note (semiquaver): **x**
- 32nd note (demisemiquaver): **y**
- 64th note (hemidemisemiquaver): **z**

So, for example, to specify a quintuplet of eighth notes in the time of a quarter note, enter **5:2e** into the popover.

To allow Dorico to infer the unit instead, simply type the ratio as normal into the tuplet popover: when the popover is confirmed, no tuplet will be created until you next commit a note, at which point the tuplet will also be confirmed, taking its unit from the duration of the note you input.

Rest input. To input a rest, type , (comma) to engage rest input, then simply type the duration of the rest to be input; a shadow rest appears on the caret. There is no need to specify a pitch. To leave rest input, simply type or play a pitch, and the shadow note will reappear.

Lock Duration. Lock Duration behaves the same way regardless of the input order you are currently using: simply type or play the note, and the caret automatically advances to the next note, retaining the durations of the notes or chords at each position. When you either type **L** to disengage Lock Duration or reach the end of the existing music, pitch before duration input resumes automatically.

Expression maps

Dorico 3.5 brings a suite of improvements to its capabilities in working with today's sophisticated virtual instruments and sample libraries. We have surveyed a number of the latest libraries from the top manufacturers to understand the kinds of techniques their developers have used in designing their products, and introduced features to make it easier to set up expression maps that work with the design of these libraries, rather than against them.

It is important to understand that with today's powerful and comprehensive sample libraries, it is on the whole impractical for either Steinberg or the library manufacturer to create and distribute a single expression map, or even a single set of expression maps, that will provide a plug-and-play solution to make playback sound great with no effort from you. Today's sample libraries are so enormously detailed and resource intensive that it is unlikely you will be able to load every sound in a plug-and-play template for a whole orchestra on a typical computer, so it is necessary for you to be more selective about which instruments – and even which playing techniques and articulations for a certain instrument – you will load. And while the general mechanical processes used by sample library developers to

make it possible to choose between the different articulations, techniques, layers, microphone positions and so on are broadly the same, using a combination of key switch notes and MIDI controllers, the details of how these processes are implemented are different for every library – very often even for libraries from the same manufacturer.

But do not be disheartened: while this means that you will have to engage with the details of how your chosen sample library works, and you will have to spend some time working with expression maps in Dorico, this modest effort will pay off quickly.

Our primary goal with the improvements in Dorico 3.5 is to make it easier and quicker for you to create and edit expression maps, and to that end there are not only new capabilities – including automatic switching of articulation based on played note length, add-on switches that can dramatically reduce the number of technique combinations you need to define, and so on – but also usability improvements in **Play ► Expression Maps** to make the process more pleasant.

Switch types. Switches in expression maps can now be one of three types:

- **Base:** this is the type of switch that existed in previous versions of Dorico, and to which all switches in existing expression maps created in earlier versions will be mapped when you open your existing projects in Dorico 3.5. A base switch will typically describe a significant change in playing technique or articulation, such as *pizzicato* versus *arco*, or *staccato* versus *legato*. Base switches are by their nature mutually exclusive, so switching from one base switch to another removes the prevailing playing technique and switches to the new one.
- **Add-on:** this new switch type can be useful for defining playing techniques or articulations that can be added to an existing base switch; for example, some libraries use a consistent set of MIDI controllers to control *legato*, and this applies regardless of what base sound is currently in use. An add-on switch does not remove or change a base switch. Add-on switches are simpler than base switches and can only trigger simple key switch notes and controller values.
- **Init:** this new switch type can be used to send a particular set of instructions when playback starts; for example, you might want to reset a round-robin controller, or ensure a particular MIDI controller always starts at a particular known value. Every expression map defines an init switch, but it will be empty by default. Like add-on switches, the init switch can only trigger simple key switch notes and controller values.

Conditions. Base switches can now define conditions that must be satisfied in order for them to be triggered. In this release, note length is the only conditional

value supported, but we plan to expand support for conditions in future versions, allowing you to create simple sets of conditions using Boolean logic. For an example of conditions in action, look at the default **HSO Violin Solo** expression map, which defines two switches for the **Natural** playback playing technique, and two switches for **Legato**, with each of the two switches conditional on note lengths being longer or shorter than the **Medium** length.

Note length can be one of five values:

- **Very short:** dotted 16th at 120bpm (0.1875 seconds)
- **Short:** dotted eighth at 120bpm (0.375 seconds)
- **Medium:** dotted quarter at 120bpm (0.75 seconds)
- **Long:** dotted minim at 120bpm (1.5 seconds)
- **Very long:** any longer duration

This choice of note lengths allows you to easily switch between different lengths of samples that are provided, for example to switch between staccatissimo, staccato, marcato and short sounds, and can really enliven the interpretation of a phrase.

Enabling and disabling switches. It is now possible to disable a switch in your expression map without removing it, which can be useful when experimenting with a particular approach to handling a particular playing technique, or if you are working with an expression map that defines a greater number of playing techniques than you can load or require for your current project. Simply select the switch from the table in the **Base and Add-on Switches** section and deactivate the **Enabled** checkbox on the right-hand side.

Descriptive names for switches. Switches can now have a descriptive name, instead of simply listing the combination of playback playing techniques they handle. This allows you to match the name of a switch to the terminology used in the sample library, if you would find that useful: simply select the switch from the table in the **Base and Add-on Switches** section and then edit the **Name** field. To see which playback playing techniques are handled by a switch with a custom name, simply hover over the entry in the list, and the tool tip will show you.

Reordering actions. It is normally crucial that a series of MIDI messages intended to trigger a particular playing technique in the sample library is received in the correct order, so you can now change the order in which the actions for a switch are output. In the action bar for the **Actions** table in the **Base and Add-on Switches** section you will find upward and downward pointing arrows, which allow you to re-order the switches.

Duplicating actions. You can now duplicate an entry in the **Actions** table by clicking the new **Duplicate Action** button in the action bar.

Automatic mutual exclusion groups. Mutual exclusion groups define the relationships between playback playing techniques and how they can be combined or otherwise in the particular sample library you are using. If two playback playing techniques are defined as being mutually exclusive with each other, then if playing technique A is active and a notated item that gives rise to playing technique B is encountered, then playing technique A is removed and playing technique B is added. If these techniques were not mutually exclusive, B would be added to A, and the expression map would be expected to define a set of actions to produce the combination A+B.

Although you are still free to define your own mutual exclusion groups in Dorico 3.5, the program can now define mutual exclusion groups automatically for you, and indeed does so by default in any expression maps you create.

If you want to create your own mutual exclusion groups, expand the **Mutual Exclusion Groups** section of the **Expression Maps** dialog, and deactivate the **Auto** checkbox. Beware that if you later decide to re-enable automatic mutual exclusion groups, when you reactivate the **Auto** checkbox, any manual mutual exclusion groups you have created will be removed.

Combined dynamics. The combined dynamics ***fp***, ***pf*** and ***ffp*** can now give rise to playback playing techniques if needed, allowing you to trigger dedicated samples for these dynamics if your library provides them.

Importing expression maps. You can now import either Dorico or Cubase expression maps by dragging and dropping the files onto the **Expression Maps** dialog.

Importing Cubase expression maps. You can now import several Cubase expression maps at once, and Dorico imports a wider variety of switches from Cubase expression maps than in previous versions, mapping them on to the appropriate playback playing technique in Dorico (including Bartók pizzicato, snap pizzicato, harmonics, *con sord./senza sord.*, flautando, flutter-tongue, and others). However, you should still consider an imported Cubase expression map only a starting point for developing your own native Dorico expression map, as the two applications approach the handling of sample libraries in a rather different way.

Line style editors ONLY IN PRO

Building on the flexible and powerful horizontal, note-attached and vertical lines introduced in Dorico 3.1, Dorico 3.5 now makes it possible for you to extensively customize these lines and design your own new ones, thanks to a set of four new editors available from the **Engrave** menu.

In order to understand how the four editors are used, it's worth dwelling for a moment on the anatomy of Dorico's lines. A line is made up of the following ingredients:

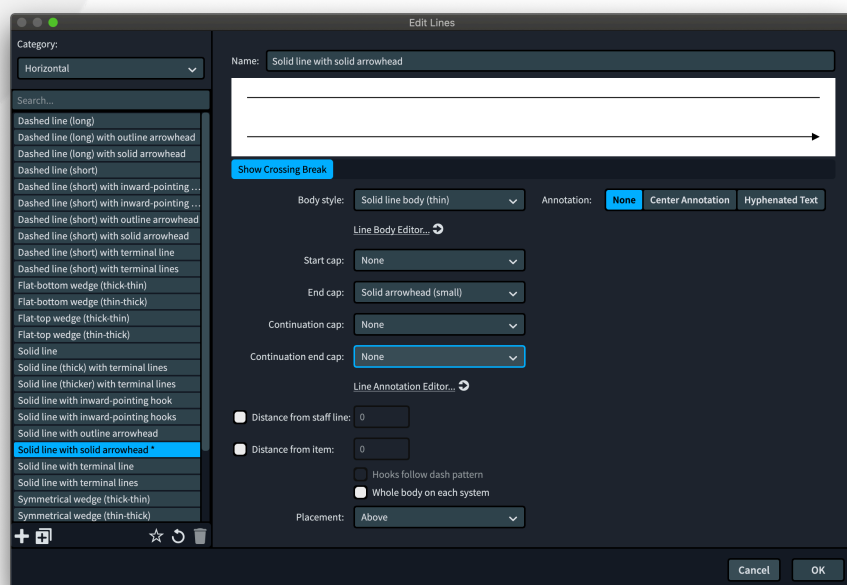
- The main part of the line is the line body. This can be one of three kinds: a generic straight line of a particular thickness, dot or dash pattern, or a double line; a wedge, which goes from thick-to-thin or thin-to-thick over its length; or one made up of multiple repeatable symbols.
- The start and end of the line can each optionally show a cap. The cap can be an arrowhead, a hook, a terminal line (a line that extends an equal distance to either side of the body), an item of text, or a music symbol.
- The middle of the line can optionally show an annotation, or show hyphenated text over the length of the line body. The annotation can be an item of text or a music symbol.

There are separate editors for line bodies, line annotations (which are used both as start and end caps, and as annotations in the middle of the line body), and repeatable symbols (which are used as raw materials for line bodies). These ingredients are combined together in **Engrave ▶ Lines**, so we will begin there.

Lines editor. You can open the lines editor in one of the following ways:

- Click the edit button in the action bar at the bottom of either section of the Lines panel in Write mode; or
- Select a line in the music in Engrave mode and type Return; or
- Double-click a line in Engrave mode; or
- Choose **Engrave ▶ Lines**.

The **Edit Lines** dialog appears:



On the left-hand side, you can choose to edit either **Horizontal** or **Vertical** lines. Select the line you want to edit, or use the buttons in the action bar at the bottom of the list to create a wholly new line, or a new line based on the currently selected line. The panel on the right-hand side of the dialog will look different depending on whether you are editing a horizontal or vertical line; when editing a vertical line, the preview runs up the right-hand side of the dialog, the better to show how it will look in the score itself.

The options on the left-hand side of the panel are as follows:

- **Body style:** this lists the line bodies, as defined in **Engrave ▶ Line Bodies**. Below this selector is a link that jumps to the **Line Bodies** dialog, in case you want to edit or create a line body.
- **Start cap / End cap:** these selectors list all of the line annotations that can be used as caps, as defined in **Engrave ▶ Line Annotations**.
- **Continuation cap:** this is the line annotation that will be used at the start of any segment of the line after the first (which uses the **Start cap**), if the line continues across a system break, and only applies to horizontal lines. To see a preview of how this cap will appear, ensure **Show Crossing Break** is activated below the preview, which will show the line in two segments.
- **Continuation end cap:** this is the line annotation that will be used at the end of each segment of the line except for the last (which uses the **End cap**), if the line continues across a system break, and only applies to horizontal lines. Below is a link that jumps to the **Line Annotations** dialog, in case you want to edit or create an annotation.
- **Distance from staff line:** when the line is positioned outside the staff, this defines the minimum distance that Dorico must maintain between the outermost staff line and the line. If this value is not set, the value for **Default distance from staff** on the **Lines** page of Engraving Options will be used instead.
- **Distance from item:** when an item protrudes outside the staff, this defines the minimum distance that Dorico must maintain between the protruding item and the line. Dorico will always use the larger of the **Distance from staff line** or **Distance from item** values as appropriate. If this value is not set, the value for **Minimum distance from protruding items** on the **Lines** page of Engraving Options will be used instead.
- **Hooks follow line pattern:** for lines that are set to use a hook or terminal line for any of its caps, activating this option will cause Dorico to use the same line pattern as the line body for the hook or terminal line, if possible. So if, for example, you have a dotted line body, or a line body that uses a pattern of alternating long and short dashes, provided the hook or terminal line is sufficiently long to fit the line body pattern into its length, Dorico will

draw the hook or terminal line in the same style as the line body; otherwise, the hook or terminal line will be drawn using the line type defined for the line annotation. If the dot or dash pattern has multiple pairs of values, the hook or terminal line will draw only using the first pair of values.

- **Whole body on each system:** if a line crosses one or more system breaks, this option determines whether or not each segment of the line should contain the complete line body, or whether the line body should be split proportionally between the total number of segments. This is easiest to see in the case of lines using wedge bodies: when **Whole body on each system** is activated, each segment will show the complete wedge from thin-to-thick or thick-to-thin; when it is not activated, each segment will show only a portion of the overall wedge. Similarly, if the line uses a **Center Annotation** or **Hyphenated Text**, **Whole body on each system** determines whether the entire annotation should be repeated in each segment, or should be divided between all segments.

The options on the right-hand side of the panel change, depending on the choice made under **Annotation**, which allows you to add a further annotation to the line.

If you choose **Center Annotation**, this allows you to show a text or music symbol annotation in the middle of the line, with the following options:

- **Annotation:** this selector lists all of the compatible line annotations. By default in a newly-created project there will be none listed here, because there are no text or music symbol line annotations in Dorico's factory library. Define suitable line annotations in **Engrave ▶ Line Annotations** and they will appear here.
- **Vertical position:** this selector specifies the position of the line annotation relative to the line, allowing you to choose between the annotation being centered on the line, or positioned above or below the line.
- **Repeat:** allows you to specify whether the annotation should appear just once in the middle of the line, or whether it should be repeated multiple times along the length of the line. If you choose to repeat the annotation, it can be repeated at regular intervals (**Equidistant**), or with larger intervals at the start of the line and smaller intervals at the end of the line (**Accelerating**), or the converse, smaller intervals at the start of the line and larger intervals at the end of the line (**Decelerating**). When **Equidistant** is chosen, **Repeat distance** specifies the distance in spaces between repetitions of the annotation.
- **Placement:** specifies whether the annotation should appear in the **Center** of the line (the default), or at the **Start** or **End**. If the annotation is shown at the start or end of the line, the annotation will be inset from the start or end

by the value of **Start/end gap**. If **Start/end gap** is set to 0, and the line starts or ends with a cap, be aware that the annotation will overprint the cap at that end of the line.

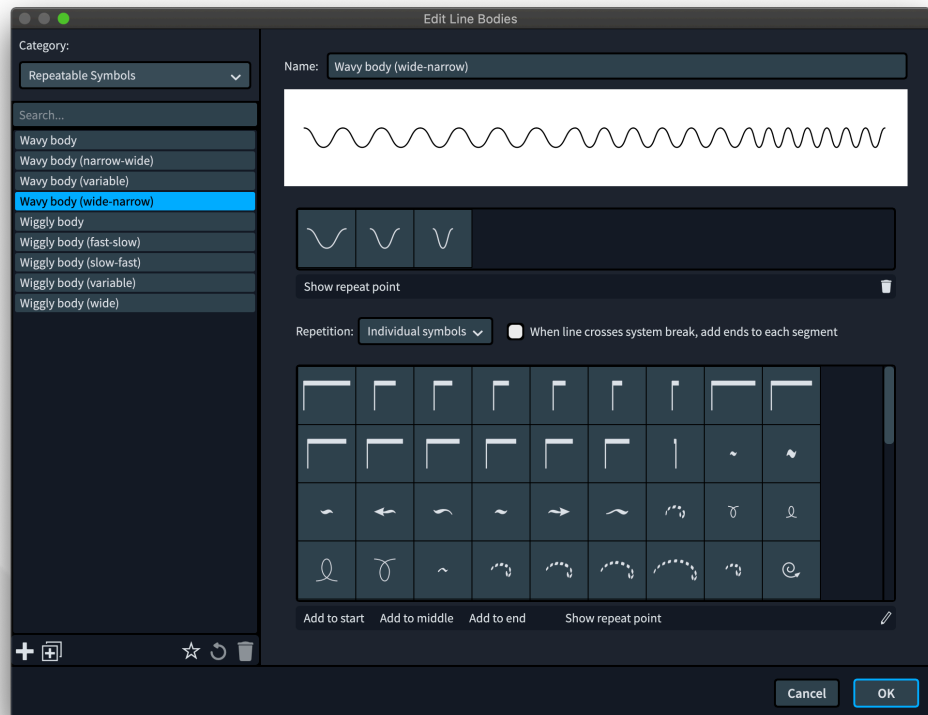
- **Always horizontal:** this specifies whether or not the line annotation should be allowed to rotate when the line is rotated.

If you choose **Hyphenated Text**, this allows you to show a series of syllables (such as “slen-tan-do-po-co-a-po-co”) over the length of the line, with the following options:

- **Syllables:** enter the text that you want to appear along the length of the line here; be sure to separate each syllable with a hyphen.
- **Font style:** specifies the font style, defined in **Engrave ► Font Styles**, to use for the hyphenated text.
- **Starts with text:** when activated, this means the first syllable will appear at the start of the line, instead of whatever is defined as the **Start cap**. When not activated, the first syllable will appear some distance after the start of the line.
- **Ends with text:** when activated, this means the final syllable will appear at the end of the line, instead of whatever is defined as the **End cap**. When not activated, the final syllable will appear some distance before the end of the line.
- **Gap on the left / Gap on the right:** these values define how much white space should be left between the line body and the syllable at each occurrence.
- **Position:** defines the vertical position of the text relative to the line body.

You can save any line you define as a default for new projects you create in future by clicking the star icon (★) in the action bar at the bottom of the list of lines on the left-hand side of the dialog. If you edit one of the factory line types and want to return it to its factory state, click the revert icon (↺).

Line bodies editor. Choose **Engrave ► Line Bodies** to open the line bodies editor:



Using the **Category** selector in the top-left corner, you can choose between the three types of line bodies you can design. We will take each of them in turn.

For **Generic**, the following options are available:

- **Style:** determines whether the line will be **Solid**, which produces a single solid line; **Double line**, which produces two parallel solid lines; or **Dashed or dotted**, which produces a single line with a variable pattern of dashes or dots.
- **Line width:** specifies the width, in spaces, of the line.
- **Dash-gap pattern:** specifies a series of pairs of values that describe the pattern of dashes or dots and gaps to be used for the line. There must always be an even number of values here: the first value describes the dash length or dot diameter, and the second value describes the following gap. Each value must be separated from its neighbour with a semicolon. You can specify the length either as a fraction (for example, $\frac{1}{2}$ or $1\frac{3}{4}$) or a floating-point decimal value (for example, **0.5** or **1.75**). To specify the length dash, use a positive value; to specify the diameter of a dot, use a negative value. For example, the values $\frac{1}{2}$; $\frac{1}{2}$; $-\frac{1}{2}$; $\frac{1}{2}$ produces a series of alternating dashes and dots, separated by gaps of half a space.
- **Line separation:** specifies the distance in spaces between the two parallel lines when **Style** is set to **Double line**.

For **Repeatable Symbols**, things work a little differently. The preview at the top of the panel shows how the various settings below combine.

Below that is a single-row grid showing which symbols are used to produce the line body. If the line begins or ends with a specific symbol, those symbols will be annotated with **S** for start and **E** for end. Activate **Show Repeat Point** to show a vertical line on each item showing the point at which the next symbol will be drawn. To remove a symbol from the grid, either select it and click the delete icon at the right-hand side of the action bar, or simply double-click it in the grid.

To add a new symbol to the grid, use the multi-row grid below. If you double-click a symbol in the multi-row grid, it will be added to the grid above as a regular symbol that can appear anywhere in the line body. To add a specific symbol for the start of the line body, select it and click **Add to Start**. Similarly, to add a specific symbol for the end of the line body, select it and click **Add to End**. The symbols that appear in this multi-row grid are defined in **Engrave ► Repeatable Symbols**, which is described below.

Finally, the **Repetition** selector between the two grids allows you to specify how the symbols should be repeated along the length of the line body:

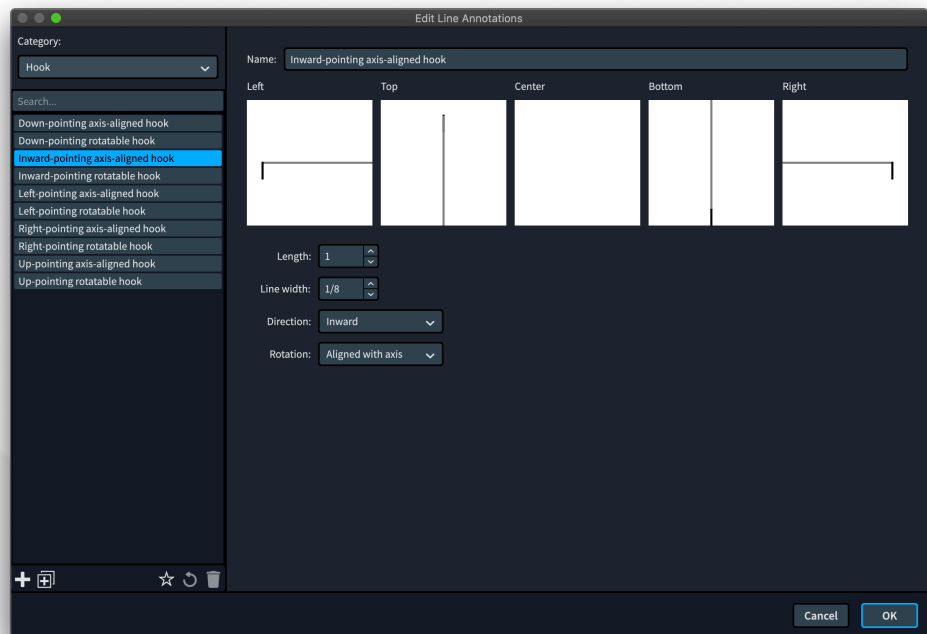
- **Individual symbols:** this divides the symbols between the whole length of the line body. If you had three symbols in the line body, for example, Dorico will repeat the first symbol for the first third of the line body, the second symbol for the middle third, and the third symbol for the final third.
- **Whole pattern:** this repeats the entire pattern along the whole length of the line body, cycling through each symbol once, then repeating the whole pattern again.

When line crosses system break, add ends to each segment specifies whether each segment of the line should start and end with the symbols given those special roles.

For **Wedge**, the following options are available:

- **Wedge type:** determines the shape of the wedge to be used. **Flat outside** produces a wedge that will have a flat top when placed above the staff, or a flat bottom when placed below the staff; **Flat inside** the converse. **Symmetrical** produces a wedge that proceeds from its maximum thickness to its minimum thickness equally above and below.
- **Start thickness:** specifies the width, in spaces, of the left-hand end of the wedge.
- **End thickness:** specifies the width, in spaces, of the right-hand end of the wedge.

Line annotations editor. Choose **Engrave ▶ Line Annotations** to open the line annotations editor:



Using the **Category** selector in the top-left corner, you can choose between the various types of line annotations you can create in the dialog. We will take each of them in turn.

For **Arrowhead**, the following options are available:

- **Arrow style:** specifies whether the arrowhead will be a pair of angled lines (**Chevron**), or an outline (**Empty triangle**) or solid (**Filled triangle**) arrowhead.
- **Width:** defines the width of the arrowhead, in spaces.
- **Height:** defines the height of the arrowhead, in spaces.
- **Line width:** defines the width of the line to be used to draw the arrowhead, in spaces.

For **Hook**, the following options are available:

- **Length:** defines the length of the hook, in spaces.
- **Line width:** defines the width of the line to be used for the hook, in spaces.
- **Direction:** defines the direction in which the hook should point. For hooks intended for use with horizontal lines, the most useful values are probably **Inward**, which means that it will point towards the staff whether it is placed above or below the staff, and **Outward**, which means it will point away from the staff, but you can also force the hook to always point **Up** or **Down**. For

hooks intended for use with vertical lines, the only values that are likely to be useful are **Right** and **Left**.

- **Rotation:** specifies whether the hook should follow the rotation of the line (**Rotated**), or whether it should always point to one of the four cardinal directions (**Aligned with axis**).

For **Music Symbol**, the following options are available:

- **Symbol:** click **Edit** to open the symbol editor, in which you can choose one or more glyphs from a font, add text, or import a graphic. Once you have edited the symbol and click **OK** to confirm the symbol editor, the chosen symbol will appear in the previews at the top of the panel.
- **Horizontal attachment:** defines the attachment point of the symbol relative to a vertical line.
- **Vertical attachment:** defines the attachment point of the symbol relative to the horizontal line.
- **Gap above / Gap below / Gap on the left / Gap on the right:** define the gap between the symbol and the line body, in spaces.
- **Rotation:** specifies whether the symbol should follow the rotation of the line (**Rotated**), or whether it should always point to one of the four cardinal directions (**Aligned with axis**).

For **Terminal Line**, the following options are available:

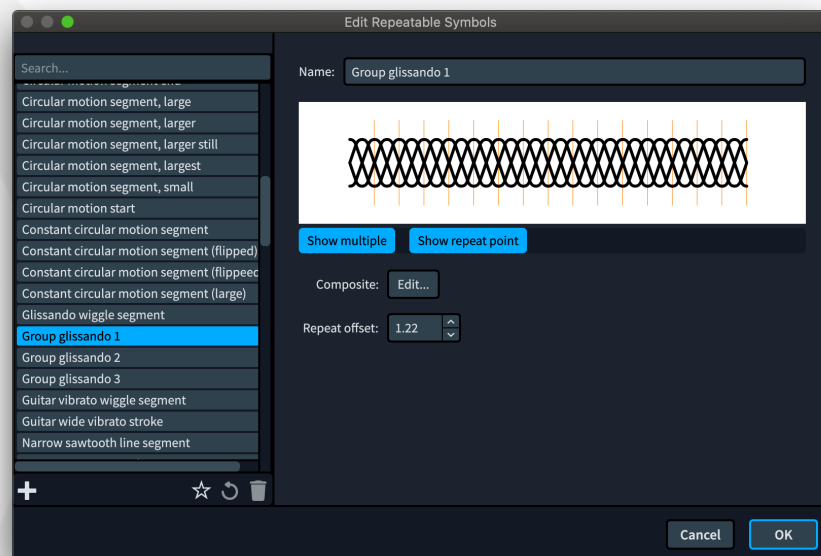
- **Length:** defines the length of the terminal line, in spaces.
- **Line width:** defines the width of the line to be used for the terminal line, in spaces.
- **Rotation:** specifies whether the terminal line should follow the rotation of the line (**Rotated**), or whether it should always point to one of the four cardinal directions (**Aligned with axis**).

For **Text**, the following options are available:

- **Text:** defines the actual text that should appear on the line.
- **Font style:** specifies the font style, defined in **Engrave ▶ Font Styles**, to use for the text.
- **Horizontal attachment:** defines the attachment point of the text relative to a vertical line.
- **Vertical attachment:** defines the attachment point of the text relative to the horizontal line.
- **Gap above / Gap below / Gap on the left / Gap on the right:** define the gap between the text and the line body, in spaces.

- **Rotation:** specifies whether the text should follow the rotation of the line (**Rotated**), or whether it should always point to one of the four cardinal directions (**Aligned with axis**).
- **Erase background:** specifies whether an area around the text should be erased; activate this if you plan to use the line within the staff, as this will cause the staff lines and barlines to be knocked out around the text.
- **Ignore font metrics** determines whether Dorico should position the text according to its tight bounding rectangle, rather than using the font's normal metrics for ascenders and descenders; this also affects the size of the background erasure if **Erase background** is active.

Repeatable symbols editor. Choose **Engrave ▶ Repeatable Symbols** to open this dialog:



This allows you to define your own repeatable symbols that can be used in line bodies. The options are as follows:

- **Symbol:** click **Edit** to open the symbol editor, in which you can choose one or more glyphs from a font, add text, or import a graphic. Once you have edited the symbol and click **OK** to confirm the symbol editor, the chosen symbol will appear in the previews at the top of the panel.
- **Repeat offset:** this determines the point, in spaces, from the left-hand side of the symbol at which the next symbol in the sequence should begin. A value of zero means the left-hand side of the symbol with maximum overlap.

The preview at the top of the panel provides a couple of tools to help you achieve the correct tessellation. **Show Multiple** draws the symbol multiple times, one after the other, with the next symbol starting at the position defined by **Repeat offset**.

Show Repeat Point draws a vertical line in orange at the position defined by **Repeat offset**.

If you want to see how one particular symbol tessellates with other symbols, use **Engrave ▶ Line Bodies** to define a line body that uses several different repeatable symbols.

Figured bass

Figured bass is a musical shorthand commonly used in European music notation throughout the 17th and 18th centuries. Figures (numerals) are used to describe the changing harmony of the music, with each figure describing the interval above the written bass note.



Figured bass was typically played on accompanying instruments such as keyboards and fretted instruments, and meant both that the composer could communicate the intended harmony efficiently and that the performer was given considerable creative leeway in the interpretation of the figures through improvisational performance.

Dorico 3.5 introduces a new popover for the input of figured bass and provides comprehensive options for its appearance in your score, together with some unique capabilities arising from its semantic understanding of what the figures themselves actually mean.

The way Dorico approaches figured bass is intended to address two distinct types of usage: firstly, to make it possible to reproduce existing editions closely, with the ability to specify exactly how and where figures should appear at the time of input; and secondly, to provide a more flexible approach that allows Dorico more freedom to respond to changes to the music more intelligently, and which affords you more options for deciding how overall the figures should be presented using the provided engraving options.

This is conceptually similar to working with the Force Duration feature for note input switched on or switched off. When Force Duration is switched on, you can specify exactly how each note, chord and rest should be notated, but when you make large structural changes to the music, like changing meter or inserting or removing music, Dorico has less freedom in how it can rewrite the affected music to make sense of the changes. When Force Duration is switched off, by contrast, you allow Dorico's notation options to determine key aspects of the notation, such

as how notes are split into ties and how rests are grouped, which both allows you to input music more quickly and also gives you greater future flexibility in making large structural changes to the music, since Dorico is free to rewrite the music to fit the new structure.

It is therefore quite important that you make this choice at the outset of your project.

Input options. The most important input option is found on the new **Figured Bass** page of **Write ► Note Input Options**. If you need to reproduce an existing edition exactly, or you are very particular about exactly how you expect figured bass to appear, set **When inputting via the popover** to **Follow input literally**. If, on the other hand, you do not know at the outset exactly how you want your figures to appear or expect to be making substantial revisions to the music over the course of the project, choose **Follow Engraving Options**.

This option affects figured bass at the time it is input: changing this option has no retrospective effect on figured bass you have already input in your project. You can, however, later reset existing figured bass if you need to – see below.

Figured bass popover. To input figured bass, show the caret on the staff where you want to start inputting, or select a note on that staff, then either type **Shift+G** or click the button shown to the right, which is found in the notations toolbox on the right-hand side of the window in Write mode. The popover appears at the caret or selection position, allowing you to input figures.



- You can input figures from **1** to **9** in the popover, in any order: Dorico will rearrange the figures into ascending order automatically.
- To specify accidentals, type **#** for sharp, **b** for flat, and **n** for natural. Dorico can usually determine by context whether the accidental should apply to the preceding or following figure, but to remove any ambiguity, you can separate each figure with accidental from the next with commas; for example, **6,#4,2**.
- To input a raised third, you can type **#** on its own.
- Dorico will infer figures beyond those you type, so to input common figures you can input only one or two figures, allowing Dorico to fill in the gaps. For example, to input a first inversion triad (6 over 3), you can simply type **6**.
- To specify that a particular figure should be hidden, enclose it in angle brackets, e.g. **6<3>** will tell Dorico to show the **6** but hide the **3**.
- To specify a suspension with resolution, type for example **4->3**, which describes a fourth resolving to a third.

You can also use the same input syntax as you would use in the **Shift+Q** popover for inputting chord symbols, so you can type things like **Em7** or **G/B**, and Dorico will convert these chord symbols into the correct figures.

Advancing the popover. The figured bass popover can be advanced with the following keys:

- **Space** advances to the next beat, or the next note, whichever comes sooner.
- **←/→** advances to the previous or next rhythmic grid position.
- **Tab/Shift-Tab** advances to the start of the next or previous bar.

Specifying where figured bass appears. Dorico will automatically make figured bass appear on any instrument on which you invoke the **Shift+G** popover. You can further choose which instruments should show figured bass via the **Players to show figured bass** option in the new **Figured Bass** section of the **Players** page of Layout Options. Here you will also find an option that determines whether figured bass should appear below the staff (the default) or above.

Local figured bass. By default, figured bass is specified globally; that is to say, it is assumed that the same figures apply to all the instruments in the ensemble. If you need to show different figures on different instruments, this can be done by creating local figured bass. While the popover is open, hold **Alt** to temporarily specify that the current figure should be created for the current instrument only; to input a run of local figured bass, type **Alt+L** to lock the popover to local input, and to return to global input, type **Alt+G**.

Figures are relative to the bass note. When you input figured bass, Dorico calculates the absolute pitches of the notes corresponding to the figures you have entered relative to the bass note at the position of the popover, and stores these. This allows Dorico to recalculate the figures in the event that you change the pitch of the bass note: for example, if you change the inversion by moving the bass note, the figures will be rewritten to reflect the new inversion. This also means that if you have global figures shown on instruments with differing bass notes, different figures will appear on each instrument.

Transposing figured bass. When you transpose music that includes figured bass, Dorico will transpose the figures along with the music, including replacing sharps with flats or flats with sharps as necessary.

Hold lines. When the bass note changes but the notes in the chord above it are held, a hold line is drawn proceeding from the figures for the rhythmic duration for which the figures should continue to apply. To add a hold line, select the figures and type **Shift+Alt+→** to make a hold line appear; type **Shift+Alt+→** again to

extend the hold line by the current rhythmic grid value, or click and drag the circular handle to extend or retract the hold line.

Alternatively, you can activate the **Duration** property in the **Figured Bass** group in the Properties panel. The property allows you to specify the duration of the hold line as a rhythmic duration: the left-hand value is the number of quarter note (crotchet) beats, while the right-hand value allows you to specify that the hold lines should end at a grace note position if necessary.

Suspensions. When you specify a suspension, for example by typing **4->3**, the resolution figure is created immediately to the right of the suspension figure. You can click and drag the circular handle that appears on the resolution figure to adjust its position, or alternatively you can activate the **Resolution pos.** property to specify its rhythmic position.

Choice of figures. The **Figures** section of the **Figured Bass** page of Engraving Options provides options that determine how Dorico handles all of the common combinations of figures, including triads in root position and inversions, how raised thirds should appear, and so on. These options will be followed if **When inputting via the popover** is set to **Follow Engraving Options** in Note input Options; if, on the other hand, you have input the figures with **Follow input literally**, Dorico will reproduce exactly the figures you have input.

Diminished intervals. There are different conventions in use for whether or not it is considered necessary to show figures when they form a diminished interval, either with a lower figure or with the bass note. For example, in the key of C major, if you had a bass note of B and a raised third, often the fifth would not be given an explicit figure; by convention, because diminished fifths are rare in the music of this period, the fifth would nevertheless also be raised, to avoid forming a diminished interval with the bass note.

You can choose how Dorico should handle situations like this using the **Hide raised or lowered figures if they form a diminished interval** options in the **Figures** section of the **Figured Bass** page of Engraving Options.

In a similar vein, you can determine how Dorico infers intervals when inputting figured bass via the popover using the **Interpretation of diminished intervals during figured bass input** option on the **Figured Bass** page of Note Input Options.

Cautionary alterations. Dorico can also calculate cautionary alterations for figured bass and automatically add cautionary accidentals to figures to remove ambiguity for the continuo player. To enable this behaviour, set **Cautionary alterations** to

either **Show in same bar** or **Show in same and following bar** in the **Accidentals** section of the **Figured Bass** page of Engraving Options.

Resetting figured bass. If you used the **Follow input literally** option when inputting figured bass via the popover and later want to reset some or all of the existing figures in your project so that they will update in response to changes to the engraving options for figured bass, you can reset them by selecting one or more stacks of figures and choosing **Edit ▶ Figured Bass ▶ Reset Figured Bass**.

The converse operation is **Edit ▶ Figured Bass ▶ Force Current Appearance**, which effectively fixes the appearance the selected figures, as if you had input them with **Follow input literally** activated. This means that if you subsequently change the figured bass engraving options, these figures will not update.

Appearance of figured bass. The **Accidentals** section of the **Figured Bass** page of Engraving Options provides a choice between using accidentals and using figures annotated with slashes to indicate raised and lowered figures. The **Design** section provides further options for the precise choice of annotated figures for the raised fifth and raised sixth, as well as a choice between using the traditional bold appearance for figures and using the numerals from a regular text font.

If you want to use a different font, you can either set **Figured bass appearance** to **Plain font**, which tells Dorico to use the **Figured bass plain font** style that you can edit in **Engrave ▶ Font Styles**, or you can choose **Bold font**, then edit the individual music symbols used in the **Figured Bass** category of **Engrave ▶ Music Symbols**. If you choose to use the plain font, you should also ensure that **Appearance of raised or lowered figures** is set to **Always use accidentals**, as a regular text font does not contain the annotated figures necessary to show raised intervals.

Further options for hold lines and suspensions are provided, including the option to show a single hold line for a set of figures instead of one hold line for each figure in a column of figures, and the vertical position of that single line if shown.

Dorico performs sophisticated automatic kerning for figured bass across the width of the system, dynamically adjusting the line spacing between each row of figures to ensure that every combination of figure plus accidental is clear, even at small sizes. Options for the default distances between accidentals and figures and between rows of figures can be found in the **Vertical Positioning** section of the **Figured Bass** page of Engraving Options.

Engrave mode. You can nudge columns of figures in Engrave mode by holding **Alt** and using the arrow keys; if you nudge a column of figures with hold lines shown, the hold lines will move with the figures, and will always be kept horizontal. The

start and end offset of each hold line can also be adjusted left and right if required. You can drag stacks of figures with the mouse to position them if you prefer.

Further developments. It is not yet possible to show figures within brackets, and this is planned for future releases.

Dorico 3.5's support for figured bass is not intended to meet the requirements of using figured bass as part of a broader set of notations used in academic writing for harmonic analysis, but expanding the tools for harmonic analysis is also planned for future releases of the software.

Condensing for divisi and section players ONLY IN PRO

Building on the unique condensing features introduced last year, Dorico 3.5 now expands condensing in two important new ways: it is now possible for section players to participate in condensing, and divisi passages written for section players can also be condensed.

Condensing for section players. When writing for ensembles like concert and wind band, it is often the case that, for example, the Clarinet 1 part will actually be played by a number of clarinetists all playing the same music. In Dorico 3.0, if you wanted to create a condensed conductor's score for a wind or concert band score, you would have to use solo players instead of section players; this restriction has now been lifted.

To enable condensing for section players, set the new **Section players** option in the **Condensing** section of the **Players** page of Layout Options to **Condense divisi and adjacent players**. If you are writing for an ensemble that mixes section players in both the wind and string sections, you may also wish to activate **Exclude adjacent violin section players from condensing**, which will prevent Violin 1 and Violin 2 from condensing.

Once you have activated **Condense divisi and adjacent players** and clicked **Apply** to confirm your changes, you will see the automatically detected condensing groups for the section players in the layout listed in **Groups to exclude from condensing**, so that you can prevent specific section players from condensing.

You can create custom condensing groups for section players, but you cannot mix section and solo players in the same custom condensing groups, and the section players must themselves be adjacent to one another in the layout to be permitted to condense.

It is also possible to define manual condensing for condensing groups consisting of section players in **Engrave ► Condensing Change** if required. In general, condensing for section players works identically to condensing for solo players.

Unison labelling for condensed section players. When all section players are playing in unison, instead of using an indication like “a 2”, it is instead customary to write “unis.”, or possibly “all”. To that end, a new option **Text for unison indication for section players** has been added to the **Condensing** page of Engraving Options, allowing you to customize the label to be used. This text is also now used when you use **Edit ▶ Staff ▶ Restore Unison** to end a divisi passage.

Condensing for divisi. When writing divisi passages for string section players, Dorico already provides a certain amount of flexibility in how the music is laid out, dynamically handling the point at which the music moves from unison to divisi and vice versa, automatically filling in the part of the system before or after the divisi material with unison music. However, it has not hitherto been possible to show the divisi material on a smaller number of staves in the conductor’s score and still show it distributed between several staves in the instrumental parts. That is what the new support for condensing divisi music makes possible.

To enable condensing for divisi, set the new **Section players** option to either **Condense divisi** or **Condense divisi and adjacent players** in the **Condensing** section of the **Players** page of Layout Options. If you want to prevent Violin 1 and Violin 2 from additionally forming a condensing group of their own, and thus potentially having their music shown on a single staff when neither is divided, also activate **Exclude adjacent violin section players from condensing**.

If you are not already familiar with how to use Dorico’s divisi features, we recommend you review the material in the Operation Manual [here](#).

Solo divisions. If you have specified that there should be one or more soloists in the **Change Divisi** dialog, these solo divisions will be excluded from condensing, and will always appear on their own separate staves, above the staff or staves for the remaining divisions. Solo divisions are likewise excluded from manual condensing, so they will always be shown on their own, and labelled accordingly.

Condensing approach. In general, Dorico condenses music from divisi sections in the same way as it condenses music belonging to any other player, though there are a couple of differences. Dorico will allow any non-solo division to condense with any other non-solo division, regardless of order; it does not require that the divisions be adjacent or consecutively numbered in order for them to be condensed on the same staff.

Any divisi change is considered by Dorico as a new phrase for the purposes of determining the maximum possible condensation.

Manual condensing. If you want to determine exactly how Dorico should condense the non-solo divisions in a divisi passage, create a condensing change at or after

the position where the divisi begins, by selecting a note or rest and choosing **Engrave ► Condensing Change**. Activate the condensing change for the section player in question, then activate manual condensing. Each non-solo division then appears in the left-hand list and can be assigned to one or more staves in the right-hand list, in exactly the same way that you can assign individual solo players in a condensing group.

Unlike manual condensing for solo players, however, as soon as the divisions in the music change at the next divisi event, the manual condensing specified in the prevailing condensing change will no longer apply, and Dorico will return to condensing the music following its standard rules.

Player and staff labels. In general, player labels for divisi passages are less prescriptive than those produced for condensed section players; provided all divisions are condensed together, you will see only “div.” at the start of the division and “unis.” at the end of the divided passage. Dorico will also try to avoid showing a redundant “unis.” label at the start of a divided passage if in fact the music happens to still be in unison for a further passage before the material diverges.

If a subset of divisions is shown on a staff, or if there is a staggered entry where a subset of divisions enters after a period of rest, Dorico will qualify the “div.” labels for each entrance with the division numbers or names.

As with player labels for condensed solo players, the content of the player labels for condensed divisi passages can be overridden via the Properties panel in Engrave mode, or the labels can be hidden by activating the **Hide** property.

Staff labels at the left-hand side of the staff will reflect the disposition of the divisions at the start of the system: if a system begins with unison music, then no division numbers or names will be included in the staff label, but if condensed music appears at the start of the system, the labels will include the division numbers or names to show which divisions are assigned to which staves.

Staff labels for condensed divisi passages will also follow the state of the **Staff labels for identical adjacent solo instruments** option on the **Staff Labels** page of Engraving Options, allowing a single group label to appear between the divisi staves if desired.

Ossias. If a section player has music on an ossia staff, that player will be excluded from condensing for the system or systems on which the ossia staff appears.

Further development. As of this release, there are a few limitations for condensing divisi passages that we plan to address in future updates. Firstly, Dorico cannot currently draw slurs that start in a unison region and cross into a condensed divisi passage, or vice versa. Secondly, under some circumstances Dorico will not show

a sub-bracket for a condensed divisi passage that has been reduced to a single staff. And thirdly, some of the existing issues that affect the boundaries between unison and divided passages concerning changes of clef, key signature and time signature are still present in this release, and affect both uncondensed and condensed divisi passages equally.

Properties

Dorico 3.5 introduces a suite of improvements to make working with properties easier and more efficient, including improvements to the Properties panel itself, but most significantly providing additional feedback about and control over the scope of changes made to properties: in other words, whether changing a property will affect only the current layout, or whether the change will affect all layouts.

All of these new tools are accessed via a new bar that has been added at the top of the Properties panel when open.

Local versus global scope. Some properties set on an item are *global*, that is they affect that item in every layout in which it appears, while others are *local*, and affect that item only in the layout in which the property is set, while others still affect that item only in the specific music frame chain in which it appears in one particular layout. However, it is not especially straightforward to know at a glance whether a property will apply globally or locally when you activate or change its value.

If a property appears in the Properties panel without a slide switch to activate it, then that property is global, and always applies to that item in all layouts. If a property appears with a slide switch and is shown in Write mode, then it may either apply globally or locally. If a property is only shown in Engrave mode, then it will only apply locally, and will usually apply in the most localized scope possible, i.e. to the current music frame chain only within the current layout.

This is a very powerful system, allowing a great deal of flexibility in how items appear and are positioned between different layouts, all designed in service of the goal of making it possible to achieve whatever appearance is desired in the full score and instrumental parts without requiring separate project files for score and parts. But it may well be the case that you would prefer a property that is set locally to apply globally, and until now this has required the use of **Edit ► Propagate Properties**, which copies the properties of selected items from the current layout to all other layouts in which the item appears. As of Dorico 3.5, there is now a simpler and easier way.

Specifying property scope. At the right-hand side of the new bar at the top of the Properties panel are a pair of buttons, **Set local properties: Locally / Globally**. This allows you to specify whether properties that would normally be set locally should instead be set globally.

For example, you might want the **Gradual type** property for a gradual dynamic, which affects whether it appears as a hairpin or a text instruction, to take effect not only in the current layout, as it does by default, but in all layouts. Before you set the new value, first set **Set local properties** to **Globally**. Now, when you change the value of the **Gradual type** property, the value you set will apply to all layouts. Notice also that the **Gradual type** label is now shown in bold type: this denotes that this is a local property that has been set with global scope.

When you set a property, if this property already has a conflicting value in another context, Dorico will respect the current setting of **Set local properties** to determine what happens to the existing values: if you request global scope, any local values for that property will be removed, so that the global value will take effect in all layouts. By contrast, if **Set local properties** is set to **Local**, you can still set a property in one layout with a local scope, even if the property has previously been set with global scope; the local scope acts as an override to the global value.

Viewing property scope. At the left-hand side of the new bar at the top of the Properties panel is a new set of controls for **Show**. Click **Local Only** to filter only those properties that will apply locally, i.e. either in the current layout, or in the current music frame chain within the current layout; click **Global Only** to filter only those properties that will apply globally, i.e. to all layouts; or click **All** to show all properties.

Properties filtering. At the left-hand side of the new bar at the top of the Properties panel is a search box, which allows you to type the first few letters of a property group or individual property to instantly show only the matching property groups and individual properties. You can even type the first letter of each word of an individual property: for example, with a note selected typing **ps** will instantly narrow the set of properties to **Playback start offset**.

Filtering only set properties. The final pair of buttons at the left-hand side of the bar at the top of the Properties panel allow you to toggle between showing only those Properties that are currently set for the selected items and showing all properties. For items that have many properties, such as notes, this is a useful way to get an overview of which properties are actually set.

Propagate Properties. In previous versions of Dorico, **Edit ► Propagate Properties** works by copying the properties from the selected item in the active layout into all of the other layouts in which that item appears. However, if you subsequently create a new layout in which that item appears, the existing property value does not propagate automatically to the new layout.

From Dorico 3.5, **Propagate Properties** takes advantage of Dorico's new ability to set properties globally. This has the advantage that if you do subsequently create a

new layout in which this item appears, the global property value will automatically be inherited by the new layout.

Other edits that set properties. A variety of other editing operations in Dorico work by setting properties, and all of these operations now also respect the state of **Set local properties**. For example, if **Set local properties** is set to **Global**, when you flip the direction of a note's stem via **Edit ▶ Flip**, that edit will automatically apply in all layouts.

Similarly, when nudging or dragging staff-attached items in Engrave mode, those adjustments will apply globally if **Set local properties** is set to **Global**.

Manual staff visibility changes

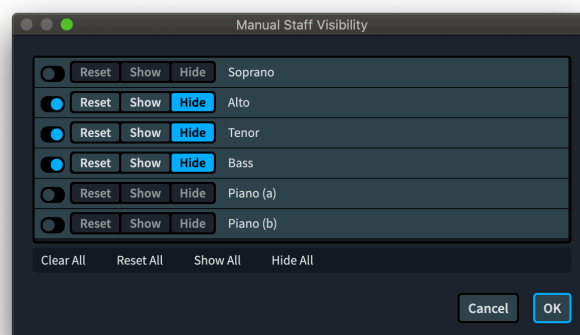
The **Vertical Spacing** page of Layout Options contains options for specifying whether empty staves should be hidden for each layout, on all systems, from all systems following the first system, or whether they should be shown in all systems. You can also specify certain players as exempt from hiding empty staves. (In previous versions, this section was called **Hide Empty Staves**, but is now called **Staff Visibility**.)

Dorico 3.5 adds new tools to override these layout-wide settings at any system break, allowing you to specify which staves should be hidden and which should be shown – whether or not they are empty – from that point onwards. This is called a *manual staff visibility change*.

To create a manual visibility change, either:

- Select a note, rest or other item at the position from which you want to change staff visibility, and choose **Edit ▶ Staff ▶ Manual Staff Visibility** to add a system break at that point and show the **Manual Staff Visibility** dialog; or
- Select an existing system break signpost and type **Return**, or double-click the signpost, to open the **Manual Staff Visibility** dialog.

The dialog appears:



The dialog shows a list of the staves that are visible at that point. Instruments with multiple staves – such as grand staff instruments like piano, violin section players with divisi, or instruments to which extra staves have been added – appear as multiple entries in the list, with each staff annotated with a letter in parentheses.

To change the visibility of a staff, first activate the slide switch corresponding to the staff, then choose from the three options:


- **Reset:** removes any prevailing override set in an earlier manual staff visibility change, so that from this point onwards, the staff will either be hidden or shown as determined by what is set in Layout Options.
- **Show:** forces the staff to be shown from this point, regardless of whether or not it is empty.
- **Hide:** forces the staff to be hidden from this point, regardless of whether or not it is empty.

An action bar provides quick access to showing, hiding, or resetting the state of all staves with a single click.

To remove the manual staff visibility change, you can simply delete the system break. If you want to retain the system break at that position, open the **Manual Staff Visibility** dialog and deactivate the slide switches for each staff.

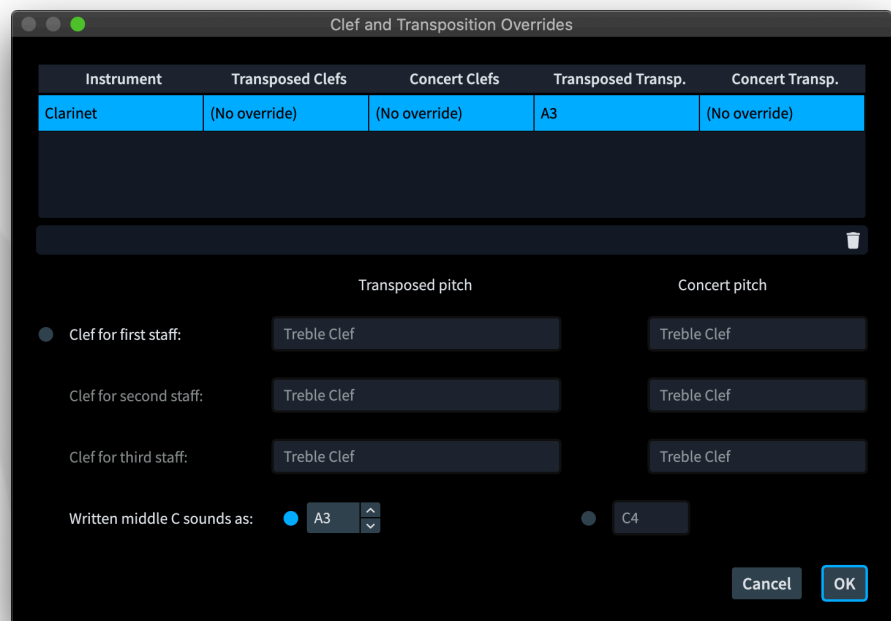
Clef and transposition overrides ONLY IN PRO

When preparing instrumental parts for wind and concert bands, or for ensembles with flexible instrumentation, it is often necessary to provide parts for the same instrument written in a variety of transpositions. Dorico 3.5 introduces an easy way to achieve this by creating one or more additional part layouts for a given player, then overriding either or both the clef and transposition of the part.

Creating a new part layout. To create a new part layout, switch to Setup mode, and in the **Layouts** panel on the right-hand side, click  to create a new part layout. By default, empty part layouts have all flows assigned to them, but no players. To assign a player to the part, simply activate the checkbox in the **Players** panel belonging to the player for whose instrument you want to create a new part. The part's name automatically updates from **Empty Part** to the name of the player now assigned to the layout, which may include the transposition of the instrument.

By default, the instrument name that appears at the top left-hand corner of the first page and in the header on subsequent pages of instrumental parts uses the **{@layoutName@}** token, so in order to display the updated transposition in the new part, edit the layout name by double-clicking it in the **Layouts** panel in Setup mode. If you want to include a flat symbol in the new name, type the token **{@flat@}**, which will automatically be displayed as a flat symbol in the layout itself.

Opening the dialog. Once you have created your new part, ensure it is selected in the **Layouts** panel in Setup mode, then right-click and choose **Clef and Transposition Overrides** from the context menu, or choose **Setup ▶ Clef and Transposition Overrides**. If you will find yourself using this feature often, you can of course assign a custom key command on the **Key Commands** page of Preferences. This dialog appears:



The table at the top of the dialog lists the instruments in the layout, and the overrides that are set. Select an instrument from the list, then make your choices using the options in the bottom half of the dialog.

Overriding the default clef. By default, a clef looks the same in both a transposed score and when viewed at concert pitch. When you activate the slide switch next to **Clef for first staff**, the clef selector under **Transposed pitch** becomes enabled. Unless you explicitly then activate the slide switch under **Concert pitch**, the clef you choose under **Transposed pitch** will be used both when viewing the layout in transposed pitch and at concert pitch; if you require a different clef in concert pitch, be sure to activate the slide switch under **Concert pitch** and then choose the desired clef.

If the instrument has two staves, the second row of clef selectors will be enabled; and in the very rare case of an instrument with three staves, the third row will be enabled.

The overrides that you create here affect the default clef at the start of each flow in the layout, unless you have created an explicit clef change at the start of the flow, in

which case that will still take precedence. Any later clef changes in the flow will still appear as normal.

Overriding the transposition. Instruments can transpose by any interval in a transposing layout and can optionally transpose by one or more octaves in a concert pitch layout; this latter kind of transposition is for instruments such as piccolo, guitar, double bass, the tenor voice, and low wind and brass instruments, that are conventionally written shifted by one or more octaves from their sounding pitch.

Activate the slide switch under **Transposed pitch** to specify the transposition in a transposed layout. For, say, a Clarinet in B \flat , **Written middle C sounds as** should be set to **Bb3**. You can type directly into the spin box to specify the note name and octave, or increment or decrement the value with \uparrow/\downarrow or by clicking the paddles; hold **Shift** to raise or lower by an octave.

If you want to additionally specify an octave transposition in a concert pitch layout, activate the slide switch under **Concert pitch**, then specify the appropriate octave. A double bass, for example, should be set to **C3**, while a piccolo should be set to **C5**.

Used chord diagrams grid

Chord diagrams, which show how particular chord voicings should be fingered on the fretboard of a guitar or other fretted instrument, are very useful for communicating precisely how a chord should be played, but they take up a reasonable amount of room when printed at a legible size above an existing vocal or keyboard part. Chord diagrams are typically provided for rock and pop songs, which normally use a relatively limited number of different chords and voicings, in which case it may not be necessary to show the chord diagram above each chord symbol: the player will quickly be able to learn which voicing to use, and so seeing only the chord symbol is normally sufficient.

Instead of showing the chord diagrams throughout the song, therefore, it can be more efficient – both in terms of reducing the amount of vertical space needed for each system, and to help guitarists get the voicings under their fingers – to show the chord diagrams in a grid above the first system of the music, in the manner popularized by rock and pop music publishers.

Dorico 3.5 introduces a one-click solution to add a grid of the chord diagrams used in a flow above the first system.

Adding the used chord diagrams grid. To show the grid of chord diagrams, go to the new **Chord Symbols and Diagrams** page of Layout Options, and activate

Show chord diagrams used at start of flow. The options below determine the size and placement of the chord diagrams:

- **Tuning for chord diagrams at start of flow** specifies the tuning to be used, defaulting to **Standard guitar tuning** but allowing you to choose from any of the tunings defined in the project.
- **Maximum number of chord diagrams per row** specifies how many chord diagrams can appear in a single row in the grid, though note that if the combination of page width, gap between chord diagrams and scale factor prevent this maximum from being reached, Dorico will always drop chord diagrams off the row to prevent them from becoming too crowded.
- **Scale factor for chord diagrams** determines by how much Dorico should enlarge or reduce chord diagrams shown in the grid compared to their normal size when displayed along with chord symbols above the music, defined by the values defined on the **Chord Diagrams** page of Engraving Options. It can be helpful to show the chord diagrams in the grid at the start of the flow a little larger than they would normally be shown in the music, to make the shapes more legible.
- **Distance between chord diagrams** specifies the horizontal distance between chord diagrams on the same row. This, and the other following measurements, are shown in your preferred measurement unit, as defined on the **General** page of Preferences.
- **Distance between rows** specifies the gap between rows of chord diagrams.
- **Gap above top row of chord diagrams** specifies the gap between the flow heading, if shown, or the top of the music frame, if flow headings are not shown.
- **Gap below bottom row of chord diagrams** specifies the gap between the bottom row of chord symbols and the first system of music.

Choice of chord diagrams. Chord diagrams are added to the grid at the start of the flow in the order in which they appear in the music. Each voicing is added only once, so while the grid will show every voicing used in the music, the chords as shown can not necessarily be played directly in the order in which they are shown in order to perform the song: the guitarist must still refer to the chord symbols in the music to know which chord should be played when.

Editing chord diagrams in the grid. The chord diagrams shown in the grid at the start of the flow cannot be selected or edited, but as you edit the chord diagrams in the music, the chord diagrams in the grid will update.

When showing the used chord diagrams at the start of the song, it is customary not to show them in the music along with each chord symbol, but in order to

change the voicing that appears in the grid at the start, you will need to show them in the music temporarily, which is done via the Players panel in Setup mode, and is described in the Operation Manual [here](#).

It is therefore advisable not to show the used chord diagrams at the start of the flow until the music is more or less complete.

Graphic slices ONLY IN PRO

When preparing documents or resources in other applications, you may sometimes need to include small musical examples, and exporting examples from Dorico that are smaller in scope than a whole page has historically been a little labour-intensive, either requiring you to set up dedicated layouts with appropriate page and margin settings to encompass only the music to be exported, or to post-process the graphics exported from Dorico in a graphics application.

Dorico 3.5 introduces a new tool in Engrave mode to make it quick and easy to export graphics smaller than a page: graphic slices. A graphic slice is a rectangular area of a page, stored persistently in the project so that you can re-export it again at any time in the future. Each slice can have its own unique name, and can be exported in any of the graphics formats supported by Dorico, several of which provide further choices concerning resolution and whether or not the graphic should be exported in color or monochrome.



Creating a graphic slice. To create a graphic slice, switch to Engrave mode, and activate the graphic slice tool in the toolbox on the left-hand side of the screen, which shows the Graphic Slices panel.

Click **Create Slice**, then click and drag around the region you want to be exported. As you drag, a rectangular frame appears on the page. Release the mouse button, and the frame is finalized. You can adjust the position of the frame without adjusting its size by clicking on any part of its outline, then either clicking and dragging with the mouse, or holding **Alt** and using the arrow keys (add **Ctrl** or **Command** for larger steps). To adjust the size of the frame, click and drag any of the handles around the outline of the frame, or use **Tab** to select a handle, then navigate to the handle you want to move using the arrow keys; once you have the desired handle selected, hold **Alt** and use the arrow keys to move that handle, changing the dimensions of the graphic slice frame. Unlike other types of frame, graphic slice frames can be created outside the grey page margins, so that you can capture brackets and braces, which are sometimes drawn outside the margins.

Specifying export options. Once a graphic slice has been created, it appears in the list of graphic slices in the panel on the left-hand side in Engrave mode, ordered by the page on which it appears. To specify the filename that will be used when

exporting the slice, double-click the first column in the list, and type the desired name.

With the slice selected, the controls below the list show its other properties, including the folder into which the slice will be exported. By default, graphic slices are exported into the same folder as the project file itself, but you can specify another folder here, and subsequent slices you create will default to the last-chosen folder, if it differs from the project's save location.

Four formats are provided for export: two bitmap graphics formats (PNG and TIFF), and two vector graphics formats (PDF and SVG). For the bitmap formats, you can specify the **Resolution** to be used, in dots per inch. Vector graphics formats are always scalable to any size, so there is no possibility to specify the output resolution for PDF or SVG. For all formats, you can specify whether the resulting graphic should be **Color** or **Mono**. When you choose **Mono**, be aware that this means monochrome rather than grayscale, so any non-white items will be exported as pure black.

Exporting slices. To export all slices, ensure that no slices are selected in the list in the panel, and click the **Export All** button at the bottom of the panel. To export a selection of the defined slices, select the slices to be exported in the list; the button at the bottom of the panel now reads **Export Selected**, and clicking this will export only the selected slices. If any of the slices have been exported before to this location, you will be prompted whether to overwrite the existing files.

Hollywood-style parts

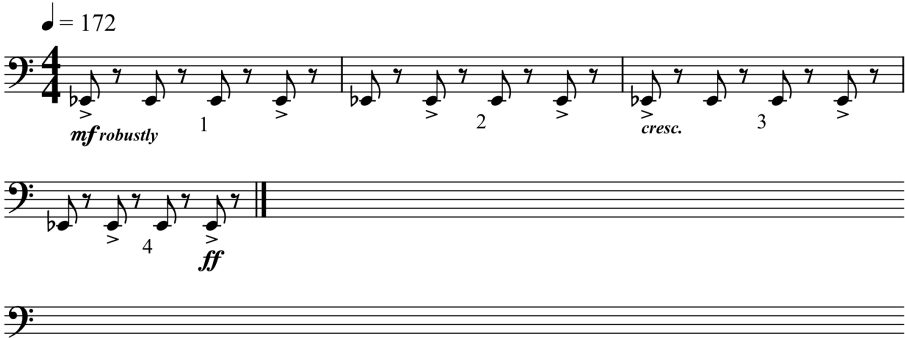
When producing performance materials for recording sessions for film, TV and video game productions in Hollywood, there are certain conventions followed by the largest of the specialist music preparation offices in Los Angeles that are very laborious for them to complete in every part that they work on.

Before the advent of computerised engraving, parts were hand-copied on standard printed manuscript paper, meaning that each page would be pre-ruled with a fixed number of staves. The copyist would copy the music out, giving great consideration to the casting off of the music in order to ensure maximum legibility, but without particular concern for whether the cue ends at the end of a page, or indeed even the end of the system. As a result, there would often be several blank staves at the end of a cue, and even some blank space at the end of the final system:

CELLO
LOCKDOWN IN LONDON

1M12
"We don't need no stinkin' virus"

$\text{♩} = 172$



Since the copying process was computerized, some music preparation offices have chosen to continue to emulate this aspect of hand-copied parts, partly as an evocation of the time-honored traditions of the craft of music copying, and partly because there can be some practical benefits to having empty staves for the players to be able to make notes and write in any additional cues they may be asked to play.

However, emulating the look of printed manuscript paper in music notation software is not straightforward, and requires the copyist to perform a series of manual edits when finishing every single part, all of which takes time and increases the risk of introducing errors.

To make this particular aspect of the process quicker, easier and more reliable, Dorico 3.5 introduces the ability to create this kind of special layout in just a few clicks:

- To ensure that the final system will not be justified unless it is very close to being completely full, on the **Note Spacing** page of Layout Options, set **Only justify final system in flow when more than *n*% full** to something like 95%.
- To fill the final page of the layout with blank staves, on the **Page Setup** page of Layout Options, in the **Flows** section, activate **Fill frame with blank staves**.
- Finally, to instruct Dorico to group the blank staves into the same system groupings as the preceding systems in the layout, activate **Show blank staves in systems identical to final flow**.

- Normally, clefs corresponding to the clefs in each system are shown in the blank staves after the end of the flow, but should you wish clefs not to be shown, activate **Exclude clefs**.

If **Show blank staves in systems identical to final flow** is not activated, Dorico will simply fill the frame with completely blank staves, with no clefs, brackets or braces; in this case, you can determine how many staff lines the blank staves should have by editing **Number of staff lines for blank staves**.

Blank staves

As an adjunct to the feature to automatically add blank systems at the end of parts for Hollywood recording sessions, it is now also very easy to create blank manuscript paper in Dorico 3.5. You can easily create whole pages of blank staves, ready to be printed out. If you're producing printed worksheets or other teaching materials for students, it's likewise simple to include a few blank staves anywhere on the page for them to write in.

To create a frame full of blank staves:

- Switch to Engrave mode, and activate the frame editing tool in the toolbox.
- Either create a new empty page or otherwise make space on the current page for a new music frame, and drag one out.
- Open the flow filter menu in the top left-hand corner of the music frame, and click **None** – see **Flows** on page 42 below for more details. This removes whichever flow or flows Dorico had automatically assigned to the new music frame.
- With the frame itself selected, activate **Fill with blank staves** in the **Music Frame** group of the Properties panel.

Dorico will create as many blank staves as fit in the height of the frame, using the global space size defined on the **Page Setup** page of Layout Options, and the gaps defined on the **Vertical Spacing** page. If you want to change the number of blank staves shown in the frame, you can change the height of the frame, or activate the **Blank staff count** property and set that to the desired number.

Unlike when following on from a flow, the blank staves cannot be grouped into systems, so they cannot show brackets and braces or clefs. It is also not possible to enter music into these blank staves in Dorico: they are purely cosmetic and intended for printing only.

Keda Indian Drum Basics sounds

In partnership with our friends at Keda Music, we are pleased to include a set of basic samples for four traditional Indian drums: tabla, dhol, pakhawaj, and dholak.

Each of the patches in the Keda Indian Drum Basics set provides a consistent set of playing techniques, mapped as follows:

Larger drum:

- C4 (note 60): Ke (closed)
- D4 (note 62): Ge (open)
- E4 (note 64): Ga (open)
- F4 (note 65): Gi (open)

Smaller drum:

- C5 (note 72): Ta (muted open)
- D5 (note 74): Te (closed)
- E5 (note 76): Tu (open)

When you create a **Tabla** percussion kit in a new project in Dorico 3.5, it will automatically use the new Keda Indian Drum Basics sound and percussion map.

For more information about Universal Indian Drum Notation, resources for composing for tabla and other Indian drums, and music for these instruments, please visit www.keda.co.uk.

Improvements

Barlines ONLY IN PRO

Default barline type for flow. A new option **Default barline type** has been added to the **Barlines** page of Notation Options, allowing you to specify what type of barline should be used for bars for which no explicit barline type has been specified.

The option **Single barlines between staves** has been moved from the **Barlines** page of Engraving Options, where it applied to the whole project, to the **Barlines** page of Notation Options, so that it can vary for each flow.

Beams ONLY IN PRO

Beams starting and ending with rests. The **Rests in beam groups** option on the **Beam Grouping** page of Notation Options has a new choice, **Allow rests within beams and at start and end of beams**. When this is chosen, Dorico will allow beamed groups to begin or end with rests without requiring stemlets to be shown.

Two new options have been added to the **Stems** section of the **Notes** page of Engraving Options to provide control over the appearance of beams extending to or from rests at the extremes of the beam group: **Ideal distance between innermost beam and rest** and **Minimum distance between innermost beam and rest**, counterparts for the analogous options for stemlets.

Rests and secondary beam groups. In previous versions, if you chose to allow rests within beamed groups, Dorico would always break the secondary beam at the rest if the duration of the rest differed from the duration of the surrounding notes, as follows:



If you set the new **Rests and secondary beam groups** option on the **Beam Grouping** page of Notation Options to **Preserve secondary beams over rests where possible**, this figure will be notated as follows:



Provided the rest is of the same or shorter duration than the duration indicated by the secondary beam, the secondary beam line is allowed to continue unbroken.

Disabling automatic secondary beam breaks. A new option **Approach for secondary beam groups** has been added to the **Secondary Beam Groups** section of the **Beam Grouping** page of Notation Options, allowing you to choose between Dorico automatically splitting beamed groups at secondary subdivisions or keeping a single primary beam group with no secondary beam breaks.

Beam slants for shallow ideal slants. Some European publishers prefer very shallow slants for beams, typically choosing slants of a quarter space for intervals of a second, and a half space for any interval of a third or more. You can emulate this appearance by adjusting the values in the **Slant for beams of more than two notes** and the **Slants for narrow beams** options in the **Slants** section of the **Beams** page of Engraving Options.

However, when using an ideal slant of a quarter space, beamed groups where one end of the beam sits on the outermost staff line will not maintain the ideal quarter space slant because of a rule that prevents the inside of a beam line from being positioned closer than half a space to the outermost staff line, as this can produce an undesirable wedge. In a similar vein, for certain combinations of staff positions, 32nd notes (hemidemi-quavers) will end up producing a slant of one whole space when the beams end within the staff, because the standard beam thickness and separation limit the available slants within the staff that do not produce wedges to a whole space slant or no slant at all.

Some engravers may find that the cure is worse than the disease, and that they would rather have shallower slants and wedges than beams with inconsistent and potentially jarring steeper slants. To that end, two new options have been added to the Advanced Options section of the Slants section of the Beams page of Engraving Options:

- **Preserve ideal quarter-space slant for beams positioned near the outer staff line** allows inner beam lines to end at any position relative to the outermost staff line if the beam would ideally use a quarter space slant; and
- **Preserve ideal quarter-space slant for 32nd note beams** allows beamed 32nd notes to use their ideal quarter space slant inside the staff.

Chord diagrams

Custom tunings. If you customize the number of strings or the tuning for a fretted instrument in the **Edit Strings and Tunings** dialog, that tuning is now made available as a choice for displaying chord diagrams in your project, both in the **Chord Diagrams** submenu of the context menu for the Players panel in Setup mode, and for the grid of used chord diagrams, chosen on the **Chord Symbols and Diagrams** page of Layout Options.

Clefs

Octave reminder clefs. A new **Clefs** page has been added to Notation Options, with a new **Clefs with octave indicators** option.

By default, Dorico ignores the octave reminder on clefs, for example the 8 below the G clef commonly used for the tenor voice, because it is conventional for music for instruments that are written an octave higher or lower than they sound to be written that way regardless of whether an octave reminder clef is used: for example, although it is conventional for a tenor voice to be written with an octave reminder clef, it would be unconventional for a piccolo or double bass to be written with such a clef.

However, in the middle of the 20th century, some composers, including Britten, began using octave reminder clefs as an alternative notation for octave lines in extended passages, reasoning that an octave clef adds less visual noise than an ongoing octave line.

Dorico now supports this convention: you can set **Clefs with octave indicators** to **Respect octave indicator**. ONLY IN PRO

Octave shifts for clef changes. A number of different conventions have evolved over the years and in different countries for the use of clefs in parts for instruments such as horn and bass clarinet. The bass clarinet convention, for example, known

as Russian notation uses both treble G and bass F clefs, with the G clef written a ninth higher than sounding pitch, and the F clef written a second higher than sounding pitch. Horn parts in 19th century editions are sometimes written in “high bass clef,” meaning that lower notes are written in bass clef, but rather than being written a fifth higher than sounding pitch as is usual today, the notes are written a fourth lower than sounding pitch.

In order to accommodate these different conventions, it is necessary for the effective transposition of the instrument to change depending on which clef is being used, and this is now possible by activating the new **Octave shift** property for a selected clef change, then specifying the number of octaves by which the clef should transpose the following music. If you need to do this from the very start of the part, add an explicit clef change at the beginning of the first bar.

Condensing ONLY IN PRO

Fully-qualified unison labels. A new option **Player labels for unison passages** has been added to the **Condensing** page of Engraving Options, allowing you to choose whether a player label such as “1.2.3 a 3” should include the “a 3” qualification. If you feel that this is redundant, choose **Exclude “to” indication**.

Separators for player labels. New **Comma** value for **Separator between player numbers** option on the **Condensing** page of Engraving Options, allowing you to separate player numbers in player labels on condensed staves with a comma if desired.

Performance improvements. The speed of note input and editing when **Edit ▶ Condensing** is enabled has been significantly improved. Enabling and disabling condensing in a layout is also now faster than in previous versions.

Filter for condensing changes. A new command **Edit ▶ Filter ▶ Condensing Changes** has been added, allowing you to select or deselect condensing changes.

Cues ONLY IN PRO

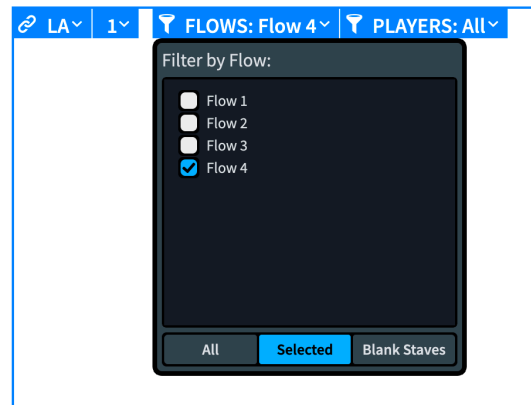
Cueing divisi. It is now possible to cue from one division to other divisions within the same section player.

Engrave mode ONLY IN PRO

Copy Staff Spacing. Choosing **Engrave ▶ Staff Spacing ▶ Copy Staff Spacing**, the initial value in the 'Page' spin box now takes into account a selected item in the music, instead of only relying on a selected staff spacing handle.

Flows ONLY IN PRO

Flow filters in Engrave mode. It is now possible to specify that a music frame should have no flows assigned to it using the flow filter menu in the top left corner of the music frame, accessible when editing frames in Engrave mode.

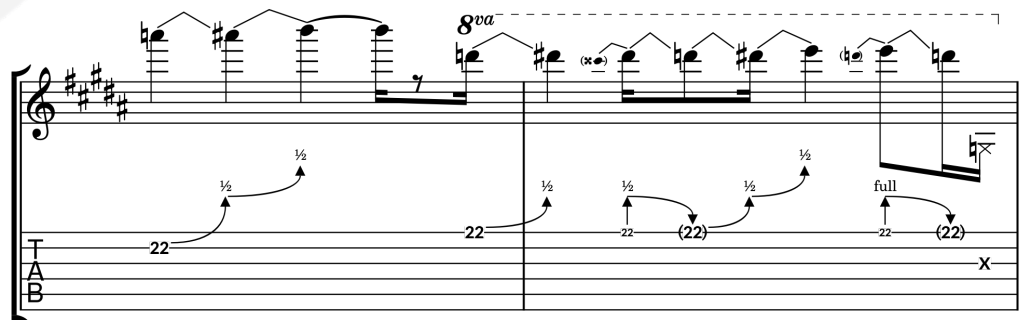


To specify that a music frame should be assigned no flows at all and should instead be filled with blank staves, click **Blank Staves** in the bar at the bottom of the flow filter menu; conversely, to specify that all flows should be assigned, click **All**.

Flow headings. If you specify in Layout Options that a layout should never use flow headings, but then apply a flow heading change to a particular page in your layout, Dorico will now show flow headings on that page, and on following pages as appropriate, if the flow heading change is ongoing.

Guitar tablature

Guitar bend runs. Multiple successive guitar bends can now effectively be chained together, and will be displayed correctly in tablature: for example, an initial bend of a half-step (semitone) followed by another bend in the same direction, as shown below:

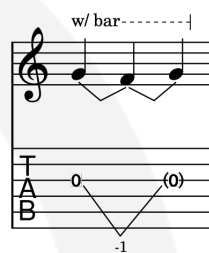


Further engraving options for the positioning of guitar bends in staff notation have been added, including an option that determines whether bends should stop before an accidental on the bent-to note, or should instead be positioned outside

accidentals, so that the bend can approach the center of the notehead more directly at the expense of occupying more vertical space.

Vibrato arm dips, scoops and dives. Dorico now provides simple ways to notate the most common techniques performed with an electric guitar's vibrato arm, informally known as the whammy bar, or tremolo arm.

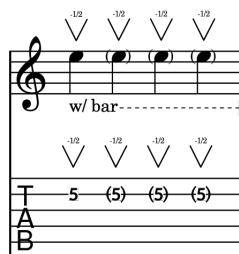
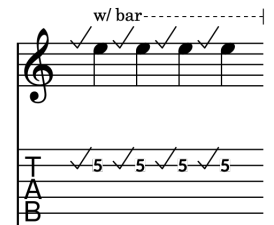
To create a dive, create a smooth fall using the appropriate button in the **Jazz** section of the Ornaments panel in Write mode, then add the **w/bar** indicator using the appropriate button in the **Guitar** section of the same panel, or type **wbar** into the **Shift+O** popover.



To create a dive and return, input the starting and returning note of the dive, with the target note between them. Type **vibbend** into the **Shift+O** popover or use the bend **w/bar** button in the **Guitar** section of the Ornaments panel in Write mode to create two bends. You can also convert a regular bend to use the vibrato arm by activating the **Use vibrato arm** property in the **Guitar Bends** group of the Properties panel.

To create a pre-dive, create a pre-bend by activating the **Pre-bend interval** property in the **Guitar Techniques** group of the Properties panel and specify the desired interval, then activate the **Vibrato bar pre-bend** property.

To create a scoop, select the note before which the scoop should appear, and click the appropriate button in the **Guitar** section of the Ornaments panel, or type **vibscop** into the **Shift+O** popover. If you want to add the **w/bar** indicator, select the region of notes that should be enclosed in the w/bar indication, then create it using the appropriate button in the same section of the Ornaments panel.

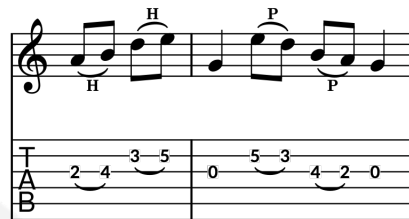


To create a dip, select the note on which the dip should appear, and click the appropriate button in the Guitar section of the Ornaments panel, or type **vibdip** into the **Shift+O** popover. By default, a dip uses the interval of a half-step (semitone); to indicate a whole step (tone), select the dip and set the **Interval above** property in the **Ornaments** group of the Properties panel to **1**. To indicate a continuous run of dips without re-striking the pitch, you may wish to bracket the following notes, which you can do by choosing **Edit ▶ Notehead ▶ Toggle Round Brackets**.

None of the vibrato arm techniques currently have any effect on playback, but this is planned for a future version.

Options for the default placement and position of vibrato arm techniques can be found on the **Guitar Techniques** page of Engraving Options.

Hammer-on and pull-off. Dorico can now display hammer-on and pull-off indicators both in tablature and in staff notation.



If you want to indicate hammer-on and pull-off only using a slur without showing the explicit **H** and **P** markings, it is sufficient simply to create slurs in the usual way: select the notes that should be slurred and type **S**. You can add H or P to an existing slur by selecting the notes under the slur and activating the **Technique** property in the **Guitar Techniques** group of the Properties panel, choosing either **Hammer-on** or **Pull-off** as appropriate.

To add both the slur and the **H** or **P** in a single operation, select the notes over which the technique should take effect, type **Shift+O** to open the ornaments popover, and type **hammer** or **ho** for a hammer-on or **pull** or **po** for a pull-off. You can enter **hp**, **hopo**, **hammerpull**, **lig** or **ligado** to add both hammer-on and pull-off indications at the same time.

By default, Dorico will show a single **H** or **P** centered over the slurred notes, but if you would prefer to show **H** or **P** on each note, set **Appearance of guitar techniques on adjacent notes** on the **Guitar Techniques** page of Engraving Options to **Show on each note**.

You can adjust the placement of the hammer-on and pull-off indicators by activating the **Technique placement** property in the **Guitar Techniques** group in the Properties panel.

Tapping. Right- and left-hand tapping can be displayed for selected notes, both in tablature and in staff notation. Select the notes you want to be played using the tapping technique, then activate the **Technique** property in the **Guitar Techniques** group of the Properties panel and choose either **Tapping** (for right-hand tapping) or **Left-hand tapping**. Right-hand tapping is notated by default as a small, bold **T** above the tapped note, but can alternatively be notated using a plus sign or small filled circle. Left-hand tapping is always notated using the small, bold **T**.

You can also add tapping using the **Shift+O** popover, entering **tap** for right-hand tapping, **lhtap** for left-hand tapping, and **tappull** or **lhtappull** for tapping combined with a pull-off.

To change the default appearance of right-hand tapping, choose the desired appearance from the **Tapping appearance** option on the **Guitar Techniques** page of Engraving Options.

Visibility on tablature. You can determine whether guitar techniques such as tapping, hammer-on and pull-off should appear on tablature when staff notation is also shown using the new **Show guitar techniques** option on the **Guitar Techniques** page of Engraving Options.

Tablature with rhythms. It is now possible to display tablature with rhythms alongside staff notation. In the **Fretted Instruments** section of the **Players** page of Layout Options, you can now activate **Show rhythms in tablature** independently of whether staff notation is shown alongside tablature.

Harp pedaling

Lowest two strings. The lowest C and D strings on a concert harp are not affected by the pedals that can otherwise raise or lower the pitch of every other string; harpists will instead tune these strings in advance of playing. Dorico therefore no longer considers the lowest two strings of the harp when calculating pedal positions, and nor will it show notes in red for the lowest two strings.

Holds and pauses ONLY IN PRO

Breath marks. A new option **Vertical position of breath mark** has been added to the **Vertical Position** section of the **Holds and Pauses** page of Engraving Options, allowing you to specify whether or not Dorico should adjust the position of breath marks taking into account the pitches of the previous or surrounding notes.

Instrument types

Tenor voice. A new tenor voice instrument that sounds at the same pitch as it is written has been added, for use in conjunction with the new option to respect the transposition of octave reminder clefs – see **Clefs** on page 40 above.

Tres tuning. The default tuning for the tres is now G3, C4, E4, the most commonly used tuning in current practice; the more traditional A3, D4, F#4 tuning is still provided.

Lines

Alignment for start of horizontal lines. A new **Horizontal start position** property has been added to the **Horizontal Lines** group in the Properties panel, allowing

you to specify whether the start of the line should be aligned with the left-hand side of the notehead, or aligned with any accidentals to the left of the notehead.

Color. Horizontal lines now respect the **Color** property, if set.

MusicXML export

Dynamics. A wider range of dynamics are now included when exporting MusicXML. The actual repertoire of immediate dynamics supported by MusicXML is reasonably restrictive, and different applications handle them differently, so you are advised to proof-read the dynamics after the MusicXML file has been imported into the target application.

Messa di voce hairpins are now included in MusicXML export, and if hairpins use an alternative line style – such as a dotted or dashed line – this information is also now encoded.

Notehead types. If a note uses a non-default notehead, that will now be exported in MusicXML. This includes support for the seven-shape shape note system that can be chosen on the **Notes** page of Engraving Options. Furthermore, if a notehead uses an overridden color, that color will also be exported to MusicXML.

Tempo. Immediate and gradual tempos are now exported to MusicXML.

Time signatures. A wider variety of time signature appearances is now exported in MusicXML, including common and cut common time, open time signatures (exported as *senza misura*), and so on.

Unpitched percussion. Percussion instruments are now exported in MusicXML. The five-line presentation type for percussion kits is supported, as is the single-line presentation type for kits or for individual percussion instruments not treated as kits; however, MusicXML has no support for percussion grids with variable number of staff lines, so kits using the grid presentation type will instead be exported using the five-line staff presentation type.

MusicXML import

Playing techniques. Dorico now imports text-based playing techniques from MusicXML files, allowing instructions such as *pizz.* and *arco* to be imported automatically.

Text items. The **Text items** option on the **MusicXML Import** page of Preferences is now activated by default. If you had previously tried switching this on, but later switched it off again because you were seeing too many duplicate text items for tempo and other markings that were imported as text as well as their proper semantic type, try switching it on again now: Dorico now does a better job of detecting potential duplicates when importing text.

Note grouping ONLY IN PRO

Notation Options. The option **Notes starting on a beat followed by a rest in the middle of the beat** has been moved to a new **Simple Time Signatures With or Without a Half-bar** section of the **Note Grouping** page of Notation Options to make clear it also applies to time signatures without a half-bar as well as those that do.

Noteheads ONLY IN PRO

Notehead types with multiple symbols. If you design a notehead type using multiple symbols, it is now possible to specify how that notehead should be positioned relative to the stem by adjusting its offset in the **Edit Notehead** dialog.

Note input

Moving to the staff above or below. When using **Edit ▶ Paste Special ▶ Move to Staff Above/Below** to move notes within tuplets to the staff above or below, a tuplet will now be created on the destination staff if necessary, even if it was not selected on the source staff. This prevents the rhythm from changing unexpectedly when moving material between staves.

Percussion maps

Note names. The note name and octave (for example **G4**) is now shown as well as the MIDI note number for each entry in a percussion map in **Play ▶ Percussion Maps**.

Playback

Guitar bends. Dorico now plays back guitar bends using MIDI pitch bend.

Jazz articulations. Dorico now outputs appropriate playback playing techniques when it encounters jazz articulations, allowing you to map these notations onto dedicated sampled or synthesized performances of these techniques provided by your virtual instrument of choice; both NotePerformer and Garritan Jazz and Big Band, for example, include some basic jazz articulations. The sounds that are included with Dorico itself do not presently support any of these jazz articulations.

For the purposes of adding support to jazz articulations to your own expression maps, the playback playing techniques that Dorico outputs match the name of the jazz articulation itself. For example, the scoop jazz articulation maps onto the playback playing technique **Scoop**.

Velocity editing for multiple notes. It is now possible to edit the velocities of multiple selected notes in Play mode. Make a selection of multiple notes in the piano roll editor, then in the velocity lane either click at the desired value in line with one of the selected notes, or click and drag to the desired value. The velocities of all selected notes will be edited, maintaining their relative values. If you want to set

all selected notes to the same velocity, specify a single value in the spin box in the velocity lane header.

Pitch bend editing. A new **MIDI Pitch bend** entry has been added to the menu of MIDI controllers in the automation lane, allowing you to add MIDI pitch bend data using the pencil and line tools. It is not currently possible to change the pitch bend range, so the maximum amount of pitch bend is limited to one whole step above and below the played note.

Updated HALion Sonic SE and Steinberg Library Manager. Dorico 3.5 includes the HALion Sonic SE 3.4 and Steinberg Library Manager 3.0.25. These new versions will automatically update any previous versions of these components you already have installed.

Reset controllers. If **Reset controllers and send 'all notes off' when stopping playback** is active on the **Play** page of Preferences, Dorico will now additionally reset pitch bend for every channel when stopping playback.

Metronome click. A new **Wood Block** option has been added to the **Click** page of Playback Options, allowing you to choose between the pitched beep, the unpitched digital click, or an acoustic wood block sound for your metronome click.

Play mode

Automation lanes. The automation lanes in Play mode now display the effective values generated automatically during playback in addition to explicit automation data you have added.

For example, if the instrument uses MIDI CC 1, modulation, to control dynamics, if you view the automation lane for CC1, you will see the modulation data Dorico generates to realize the dynamics written in the score, together with minor variations arising from the humanization settings on the **Dynamics** page of Playback Options.

Automation data added using the Draw or Line tools is now shown with a shaded background behind the region, making it easier to tell it apart from automatically generated data.

Playing technique lane. The tool tip that appears when you hover over a region in the playing technique lane in Play mode now shows additional information to help you to understand what Dorico is actually doing at any point in playback: in addition to listing the expression map in use, it lists the active techniques, any intrinsic MIDI effects that are active (such as a modified note length for staccato, or modified velocity for accents), which switch is in use, and so on.

Editing velocity for multiple notes. It is now possible to edit the velocity of multiple selected notes in a single operation. Select the notes whose velocities you want to edit – either in Write mode, or by drag-selecting them in the piano roll editor in Play mode itself – then click and drag any of the selected velocity bars to edit the velocities of all of the selected notes.

Bar numbers in the ruler. The bar numbers displayed in the ruler in Play mode now take bar number changes and pick-up (upbeat) bars into account.

Print mode

Default zoom mode. The default zoom mode when switching to Print mode for the first time is now set to **Whole page** rather than **Page width**.

Gathering printer information. Some users encountered long delays when starting Dorico because one or more of the printers installed on their operating system were unavailable – for example, network printers from a work network not available on a home network, or a printer that is simply powered off – and the call to the printer driver to gather information about the printer's capabilities was timing out. Unfortunately this delay cannot be completely eradicated as it is caused by the time-out behavior of third-party printer drivers, but to ensure that any delay does not occur on start-up and is instead only incurred when you actually need to print, Dorico no longer gathers printer information at start-up, instead doing it only when you switch to Print mode for the first time during your working session. Consequently, you may see a progress indicator when you switch to Print mode for the first time after running Dorico.

Rehearsal marks

Rehearsal marks below the system. To display rehearsal marks additionally below the bottom staff of the system, activate **Also show below bottom staff**:

Rehearsal marks on the **Staves and Systems** page of Layout Options.

Rehearsal marks aligned with the systemic barline. New **Horizontal offset for rehearsal mark aligned with systemic barline** option on the **Rehearsal Marks** page of Engraving Options. When rehearsal marks are set to be left-aligned with the systemic barline, this offset will be applied for any staff in the middle of the system where the rehearsal mark would otherwise collide with the systemic barline.

Setup mode

New string ensembles. Three new preset ensembles have been added to the **Strings** category of ensembles, making it quick to add various string sections needed for pops and studio orchestras.

Slurs

Slurs over breaks. A new option **Interpolate vertical position of slur either side of break** has been added to the **Endpoint Positioning** section of the **Slurs** page of Engraving Options. When a slur crosses a system break, it is ideal if the shape of the first segment of the slur, prior to the break, is suggestive of the contour of the phrase on the other side of the break, so that the player has an idea whether the phrase is rising or falling overall. This option, when activated, allows Dorico to look ahead to the note at the end of the slur, and interpolate a suitable vertical position for the right-hand end of the first segment, before the break, and the left-hand end of the second segment, following the break.

This new option is activated in newly created projects, but is switched off in existing projects, to avoid changing the appearance of slurs in existing projects in unexpected ways.

Cross-staff slurs. A new option **Determine curvature of cross-staff slurs using point at which notes cross to other staff** has been added to the **Avoiding Collisions** section of the **Slurs** page of Engraving Options; this option improves the shape of cross-staff slurs by more accurately routing the slur around notes on both staves.

This option is activated in newly-created projects, but is switched off in existing projects to avoid changing the appearance of cross-staff slurs that you might already have tweaked.

Slurs between notes with mixed stem directions. A new option **Slurs starting and ending on notes with opposing stem direction** has been added to the **Endpoint Positioning** section of the **Slurs** page of Engraving Options. This option affects situations like this one:



in which the slur does not follow too closely the contour of the notes; by setting this option to **Position stem-side endpoint near notehead**, the same situation is instead handled like this:



These kinds of situations also arise with slurs that cross from one staff to another, where the stem directions are often opposed, and slurs in those situations will now

follow the melodic contour more closely. This new behavior is enabled by default in newly-created projects, but is switched off in existing projects.

Adjusting slurs in Engrave mode. In previous versions, each handle of the slur moved independently when dragged with the mouse or nudged with **Alt** and the arrow keys, but if you held **Alt** while clicking and dragging either of the slur's end points, the whole slur would be scaled and rotated, keeping the position of the control points in relation to the end points.

In response to user feedback, Dorico now always moves control points along with end points, whether you drag them with the mouse or use **Alt** and the arrow keys. This means that however you move either end point, the corresponding control point will also move; but you can still move the control point independently of the end point by selecting its specific handle and nudging or dragging it alone.

Stem-side slurs on notes with flags. Two new options, **Horizontal offset from stem with flag** and **Vertical offset from stem with flag**, have been added to the **Endpoint Positioning** section of the **Slurs** page of Engraving Options, allowing you to specify a special offset value for slurs when positioned on the stem side. Such slurs are now positioned by default more like stem-side slurs between a pair of quarter notes (crotchets) or half notes (minims).

Slurs and articulations of duration. A new option **Position of staccato, staccatissimo and tenuto relative to slurs** has been added to the **Slurs** section of the **Articulations** page of Engraving Options, allowing you to specify whether articulations of duration should be positioned inside or outside slur endpoints. It is also possible to override this on a per note basis: activate the new **Inside slur endpoint** property in the Articulations group of the Properties panel.

Default slur design. The default engraving options for slurs have been subtly adjusted, to produce slightly thinner slurs with slightly less pronounced shoulders.

Stems ONLY IN PRO

Hairpins crossing stems. A new **Erase background behind stems with erasure of width n spaces** option has been added to the **Stems** section of the **Notes** page of Engraving Options. When activated, this causes hairpins that cross stems to be split to either side, providing a little daylight between the nearly perpendicular lines of the hairpin and the stem.

Text

Show text in one layout only. You may need a textual instruction to appear only in the performer's part and not in the conductor's score. This can now be achieved by selecting a text item and activating the new **Hide** property in the **Text** group in the

Properties panel. The text item will be hidden in the current layout, but will remain visible in all other layouts.

Clef tokens. To show the common G clef, F clef and C clef symbols in text items, you can now use the tokens `{@gClef@}`, `{@fClef@}` and `{@cClef@}`, which can also be inserted using the right-click menu when editing text, from the **Music Symbols** submenu.

Time signatures ONLY IN PRO

Ties crossing time signatures. A new **Erase background behind time signature inside staff with erasure of width n spaces** option has been added to the **Design** section of the **Time Signatures** page of Engraving Options. When activated, this causes ties that cross a time signature to be split to either side, so that the curvature of the tie does not occlude the time signature digits.

Tuplets

Popover syntax. You can now use a space instead of a colon to separate the two sides of the ratio in the tuplet popover if you choose; this may be useful if the colon is awkward to type on your keyboard, which it is in some languages.

User interface

What's New guided tour. When you run Dorico 3.5 for the first time, if Dorico detects that you have updated from a previous version, it will show you a brief guided tour the first time you visit Setup, Write, Engrave and Play modes to introduce you to a few of the new features and improvements in this version of Dorico. You can review the guided tour for any mode again in the future by choosing **Help ▶ What's New Tour**.

Options dialogs. All five of Dorico's main options dialogs – Layout Options, Notation Options, Engraving Options, Playback Options, and Note Input Options, as well as Preferences – now support filtering and search.

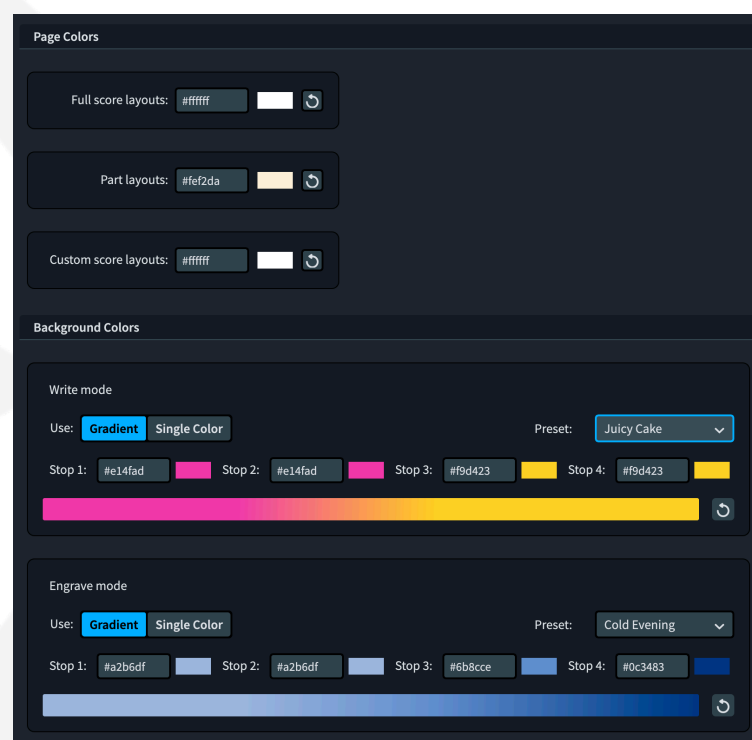
Each dialog has a filter edit box in its top left-hand corner. You can move the focus to the filter box by typing typing **Ctrl+L** (Windows) or **Command-L** (Mac). Whatever you type into the filter will instantly narrow down the list of pages to only those pages whose name, or the name of one of its sections, matches. This allows you to quickly find the page or section you are looking for, and is especially useful in Engraving Options, which has more than 50 pages.

Having found the page you are looking for, you can hit **Tab** to move the focus away from the filter edit box, and then search within the page by typing **Ctrl+F** (Windows) or **Command-F** (Mac) to show a search bar at the top of the dialog, into which you can type your search term. Dorico reports the number of matches and instantly navigates to the first one. Navigate to the next result by typing **Ctrl+G**

(Windows) or **Command-G** (Mac), or to the previous result with **Ctrl+Shift+G** (Windows) or **Shift-Command-G** (Mac). Each result is highlighted by changing the background color of the text. To close the search bar, simply type **Esc**.

If you want to change the key commands used for searching within options dialogs, you can edit them on the **Key Commands** page of **Preferences**, selecting the **Options Dialogs** category in the table of commands.

Background colors. New options have been added to the **General** page of Preferences, allowing you to customize the color of the page background for full score, part and custom score layouts, and to customize the background gradient in Write mode and Engrave mode.



Choose from the **Preset** menu for a variety of interestingly named gradients, taken from the WebGradients collection by designer Dima Braven, or define your own. Click any of the swatches to show the color picker and choose a new color, or click the reset arrow to reset that color back to its factory default.

If you prefer to use a single color rather than a gradient for your background, activate **Single Color**, which leaves only the **Stop 1** line edit and swatch enabled, and uses the color defined there as the entire background.

Library editors. A number of dialogs in the **Engrave** menu (**Paragraph Styles**, **Character Styles**, **Playing Techniques**, **Notehead Sets**, **Music Symbols**, **Chord Diagrams**, the **Lines** editors, and so on) allow you to save selected items as defaults for use in future projects by clicking the star icon (★) in the action bar. To

make it clearer which items have already been saved as defaults, the star will show as solid (★) for saved items. To remove a saved item from the defaults, simply click the star icon again: it will be shown as an outline once more.

Moving the view. A number of improvements have been made to how Dorico moves the view in response to changes in the selection or other edits:

- When navigating left and right in either galley view or page view, if the selected item is a long way out of view, Dorico now always moves the view sufficiently far to bring the item into view.
- When navigating in galley view, if the current selection is in a different flow to that which is currently in view, Dorico now always moves the view to bring the selection in the other flow into view.
- If any part of the item that is selected is in view, even if it is very close to the edge of the screen, Dorico will no longer move the view; previously it would move the view if the selection was in view but close to the edge.
- When making a large selection that spans multiple pages, for example when choosing **Edit ▶ Select to End of Flow**, if any part of the resulting selection is in view, Dorico will no longer move the view at all.
- When making a selection that spans a page break, for example by repeating the contents of multiple bars of music, Dorico now always moves the view to bring some part of the selection into view; previously Dorico would not bring the selection into view if the selection extended beyond the end of the current page.
- When **View ▶ Pages ▶ Single Pages Vertically** or **Spreads Vertically** is chosen, moving the view vertically with **Page Up/Page Down** now works reliably.

Furthermore, the width of background that Dorico will allow to the left of the first page and to the right of the last page has been reduced, so that when scrolling the music left or right to its most extreme position, the edge of the page is kept close to the edge of the view.

Navigating in Write mode. When navigating left or right in Write mode, if a slur is selected and there are no further slurs in the direction of navigation, Dorico will now hop the selection to the next note or rest after or before the slur as appropriate. This allows you to press → to navigate to the next note after inputting a slur, provided you have not yet input any more slurs after that point.

When a whole chord is selected in Write mode, pressing ↓ will leave the top note of the chord selected, while pressing ↑ will leave the bottom note of the chord selected. This makes it easy to select an individual note in a chord in order to modify its pitch.

Note input toolbox. With the addition of pitch before duration input, the note input toolbox in Write mode has been reorganized. The four tools that are always enabled (Select, Pitch Before Duration, Chord Input, Insert) are now shown at the top of the panel. The remaining eight tools in the toolbox, and the note duration, accidental and articulation buttons in the notes panel, are now only enabled if activating them would make sense given the current state (for example, whether the caret is visible, whether there is a selection, whether mouse input is enabled).

Adding bars. If you attempt to add bars using the **Shift+B** popover before adding a time signature, you will be prompted to either add a time signature or add time using syntax like **+12q** instead. Similarly, if you attempt to add bars using the **Insert Bars** button in the **Bars and Barlines** panel before a time signature has been added, you will likewise be prompted to add a time signature.

Key commands. It is now possible to assign key commands to the following functions, in the following categories in the **Key Commands** page of Preferences:

- **Note Input ▶ Disable Mouse Input**, otherwise known as the Select tool in the note input toolbox.
- **Edit ▶ Force Centered Stem** and **Reset Centered Stem**.
- **Edit ▶ Notehead Set** now presents a list of the notehead sets defined in the factory library and those that you have saved as defaults for newly-created projects.

Measurement spin boxes. Numeric controls with up and down paddles to increment or decrement the shown value are called *spin boxes*, and the spin boxes Dorico uses to show measurements in the Properties panel and the various options dialogs, typically in spaces, now allow you to perform simple arithmetical operations on the value. For example:

- To add 2 to the current value, enter **+=2** into the spin box.
- To subtract 3.5 from the current value, enter **-=3.5** into the spin box.
- To multiply the current value by 1.5, enter ***1.5** into the spin box.
- To divide the current value by 2, enter **/2** into the spin box.

The behavior of the up and down paddles has also been modified, and clicking the paddles with one or more modifier keys depressed now increments or decrements the value by the following amounts:

- Click with no modifier key: 1/8 space
- Click with **Ctrl+Shift** (Windows) or **Shift-Command** (Mac): 1/32 space
- Click with **Shift**: 1/2 space



- Click with **Ctrl**: 1 space

Instant print preview. If you want to see your music exactly as it will be printed or exported to graphics, instead of switching to Print mode, you can now simply hold down the key immediately to the left of **Z** – \ (backslash, on Windows) or ` (backtick, on Mac) – to hide all non-printing items, including page margins, frame outlines, signposts, system track, bar numbers, voice colors, notes out of range, and so on. While the key is depressed, all printing items are shown in the color they will actually be printed (typically black, of course), and all non-printing items will be hidden. As soon as you release the key, all non-printing items that were visible are restored to view.

Size and position of dialogs. Dorico now keeps track of the size and position of all of its dialogs during a single application session, and will restore all dialogs to the last-used position when they are shown again. These remembered sizes and permissions do not persist when you quit and restart the application.

Diagnostic reports. When you choose **Help ▶ Create Diagnostic Report** to create an archive of logs for submitting to technical support or the forum, you will now see a message telling you where the archive has been created, and when you confirm that message, an Explorer (Windows) or Finder (Mac) window will be opened to that folder. The archive itself is always named **Dorico Diagnostics.zip**.

Performance

Projects with many flows. Opening a layout in a project with many flows is now faster, because Dorico now uses multiple threads to process each flow.

Playing techniques. Adding a new playing technique to the project is now considerably faster than before.

Issues resolved

Component	Issue
<i>Arpeggio signs</i>	When using the Place items with the mouse preference, clicking on a note in a down-stem voice to create arpeggio sign (or a vertical line) now works as expected.
<i>Articulations</i>	When using Petaluma and allowing accent articulations to appear inside the staff, accents are now correctly positioned one whole space away from the outermost notehead, not in the adjacent space.
<i>Barlines</i>	If the option to show a double barline before a coda is set, but the option to show a double barline before a start repeat barline is not set, the double barline before a coda coinciding with a start repeat barline no longer draws incorrectly.
<i>Beams</i>	Editing music in 3/8 no longer sometimes causes secondary beam groups to change unexpectedly.
<i>Beams</i>	Setting Split secondary beam on a note no longer influences the automatic calculation of secondary beam groupings, so manually setting a secondary beam break will not otherwise influence grouping.
<i>Beams</i>	Fixed beam corners in cases where a partial beam occurs at the beginning or end of a wider beam group on an inner beam line further out.
<i>Beams</i>	The stem direction calculation for beams with odd numbers of notes and an equal number both above and below the staff mid-line now correctly accounts for the side with notes furthest from the mid-line.
<i>Beams</i>	When setting single-note tremolos using the panel in Write mode, it no longer causes manual beam breaks to be removed.
<i>Brackets and braces</i>	In the various orchestral templates, the option Bracketed groups with only one instrument is now set to Use bracket by default.
<i>Brackets and braces</i>	Dorico will now correctly group staff labels for an uncondensed staff adjacent to a condensed staff.
<i>Chord diagrams</i>	When ordering alternative chord shapes for a particular chord, Dorico no longer prefers shapes that include barres above those that do not.
<i>Chord diagrams</i>	Changing the tuning for chord diagrams no longer sometimes causes existing chord diagrams in the flow to draw as empty grids.
<i>Chord symbols</i>	Under some circumstances, Dorico could crash when attempting to add an imported graphic to a chord symbol; this problem is now fixed.
<i>Chord symbols</i>	Under some circumstances, moving a chord symbol in Engrave mode could cause items elsewhere to move unexpectedly. This problem has now been fixed.
<i>Chord symbols</i>	The Appearance of major triads option for chord symbols now only applies for simple triads; for chord symbols with higher intervals and alterations, the option has no effect.
<i>Clef</i>	Various problems with clef changes in divisi unison passages have been fixed.
<i>Clefs</i>	Typing f3 into the Shift+C popover now creates an F clef on the middle line of the staff, as it should.
<i>Clefs</i>	Dorico no longer shows a redundant clef at an instrument change if the clef for the new instrument is the same in the transposed part layout but different in the concert score layout.

Component	Issue
<i>Comments</i>	Dorico will no longer crash when attempting to generate initials for the comment author from a UTF-32 username.
<i>Comments</i>	Selecting a comment in the Comments panel now more reliably brings the comment into view.
<i>Dynamics</i>	Under some circumstances, moving a dynamic in Engrave mode could cause items elsewhere to move unexpectedly. This problem has now been fixed.
<i>Dynamics</i>	Increasing or decreasing the intensity of an immediate dynamic hidden by way of Hide dynamic intensity now updates the text of the signpost immediately.
<i>Dynamics</i>	A <i>messa di voce</i> hairpin that stops at the barline no longer has a larger than specified gap between the two opposing hairpin segments.
<i>Filters</i>	When using the Edit ▶ Filter ▶ Note in Chords filters, if a chord contains an exact unison, only one of the unison noteheads will now be selected.
<i>Grace notes</i>	Selecting multiple grace notes at the same position and hitting T to tie them to the following rhythmic note now correctly ties all the selected grace notes, rather than only the top one.
<i>Guitar notation</i>	The horizontal position of the right-hand of a guitar bend starting on a grace note and ending on a rhythmic note has been improved.
<i>Guitar notation</i>	Typing Ctrl +left/right to navigate to the start of the next or previous bar in tablature no longer causes a crash.
<i>Guitar notation</i>	Clicking Export Tuning in the Edit Strings and Tunings dialog no longer causes the file chooser to appear twice in succession.
<i>Harp pedalling</i>	When copying and pasting a harp pedal change to the same position as an existing change, the pasted harp pedal change will overwrite the existing one, even if it is attached to the other staff.
<i>Instrument types</i>	The transposition of the handbells instrument has been corrected. Handbells sound one octave higher than written.
<i>Instrument types</i>	The banjo and tenor banjo instruments now have the correct octave transposition.
<i>Key signatures</i>	When editing a custom key signature, it is no longer possible to attempt to add more accidentals to the key signature when the maximum number of accidentals has already been reached.
<i>Key signatures</i>	A problem whereby cancelling the changes made in the Edit Key Signature dialog would nevertheless persist despite have been cancelled has been resolved.
<i>Key signatures</i>	The input string for an open or atonal key signature is now parsed case-insensitively.
<i>Lines</i>	Note-attached horizontal lines are now correctly duplicated when duplicating a flow.
<i>Lines</i>	Improvements to the editing horizontal lines whose ends are note-attached to prevent their duration from becoming negative when moving their start position.
<i>Lines</i>	When importing one or more flows from another project, horizontal and vertical lines from the source flow are now correctly imported.

Component	Issue
<i>Localization</i>	Dorico's user interface is now always shown in the Noto Sans JP font family, instead of allowing the operating system to choose the font automatically.
<i>Lyrics</i>	Adjusting the vertical position of a line of lyrics on a system that also contains material cued from another instrument now works correctly.
<i>Lyrics</i>	It is now possible to nudge multiple lyrics with the same line number but belonging to different voices vertically in Engrave mode.
<i>Lyrics</i>	Soft or discretionary hyphens are now filtered out from lyrics that are pasted into Dorico.
<i>Lyrics</i>	Moving a selected lyric with Alt+←/→ , or pasting it, to a position that contains lyrics in other lines no longer causes all other lyrics at that position to be overwritten.
<i>Lyrics</i>	Lyric verse numbers are now correctly aligned with the line of lyrics to which they correspond, even if the verse numbers are drawn at a smaller size.
<i>Multi-bar rests</i>	When a multi-bar rest starts with a special barline, the width and positioning of the H-bar now takes the width of the special barline into account.
<i>MusicXML export</i>	Players are no longer incorrectly omitted from exported MusicXML files if the current layout does not included all players.
<i>MusicXML export</i>	When a voice ends in the middle of a tuplet, the resulting exported MusicXML now includes the necessary hidden rests to ensure the output is valid.
<i>MusicXML import</i>	Rehearsal marks such as F and P in MusicXML files are no longer incorrectly also imported as dynamics.
<i>MusicXML import</i>	Opening a MusicXML file that reports a validation error when another project is already open no longer incorrectly causes the other project window to receive the focus after you dismiss the validation error.
<i>Note input</i>	When copying and pasting a selection made from the system track, Dorico no longer pastes break events that do not apply to the current layout.
<i>Note input</i>	Copying and pasting a playing technique or text item to the same rhythmic position as an existing item of the same type no longer overwrites the existing item.
<i>Notes</i>	The position of rhythm dots on long and maxima notes on staff lines has been corrected.
<i>Page layout</i>	When using Make into System on a range that starts with a frame break, if the initial frame break has the Wait for next frame break property set, that property value is now correctly retained.
<i>Page layout</i>	It is once again possible to adjust the distance between the individual lines of a percussion grid when editing staff spacing in Engrave mode.
<i>Percussion</i>	When exporting a percussion kit, all dependent notehead sets and playing techniques are now correctly included.
<i>Percussion</i>	MIDI note 32 in the Yamaha XG percussion map (used in the default HSSE playback configurations) is now correctly defined as stick click (two drum sticks clicking together), not cross stick.
<i>Percussion</i>	Mark tree now plays back with a more suitable sound in the default HSSE playback configurations.

Component	Issue
<i>Percussion</i>	When moving a note up or down in a percussion kit using either the five-line staff or grid presentation, Dorico no longer loses track of any triplets that may be active.
<i>Percussion</i>	Under rare circumstances, adding a new percussion instrument to an existing percussion kit could cause Dorico to crash; this has now been fixed.
<i>Performance</i>	Under rare circumstances, it could be impossible to start note input by double-clicking in projects with many flows using flow headings; this has now been fixed.
<i>Play mode</i>	Dragging and dropping MIDI data from Cubase into Play mode into a Dorico project with no time signature now works correctly
<i>Playback</i>	If Dorico needs to transpose by one or more octaves to play a playing technique correctly, it now checks the octave of the requested combination, not only the Natural playing technique.
<i>Playback</i>	The Suspend audio engine when in background preference has been removed, since it caused more problems than it solved.
<i>Playback</i>	Under certain circumstances, slurs starting and ending within a run of grace notes would not cause the legato playback playing technique to be removed at the end of the slur; this has now been fixed.
<i>Playback</i>	The playback of glissandos on notes whose start positions are affected by swing has been corrected.
<i>Playback</i>	Under certain circumstances, removing a tie from a note with a single-stem tremolo would not cause playback to reflect the tremolo until the project was reopened; this problem has now been fixed.
<i>Playback</i>	Events in the dynamics lane no longer prevent playback of automatic dynamics following a repeat.
<i>Playback</i>	<i>Messa di voce</i> and <i>sforzando</i> dynamics now play correctly following a repeat.
<i>Playing techniques</i>	If you use an imported graphic in a playing technique appearance, editing that playing technique a second time will no longer lose track of the imported graphic.
<i>Repeat markers</i>	The vertical positioning of repeat count text at the start of successive systems has been improved.
<i>Selections</i>	With a single note in a chord selected, Select More now once again selects all of the remaining notes in the chord.
<i>Selections</i>	Breath marks are now included in block selections, i.e. when you click in a blank spot in a bar to select its contents.
<i>Setup mode</i>	The order of the instruments in the Big Band brass ensemble has been corrected, with saxophones coming before trumpets and trombones.
<i>Slurs</i>	The Maximum angle for slurs option now applies both to slurs that slant upwards and downwards; previously it only applied for upwards-slanting slurs, resulting in asymmetry in some situations.
<i>Tablature</i>	Lyric hyphens and extender lines are no longer incorrectly shown on tablature if lyrics are shown on the associated regular staff.
<i>Tempo</i>	It is now possible to specify a maximum of four rhythm dots for a metronome mark in the Shift+T popover.

Component	Issue
<i>Text</i>	The baseline for the Regular and Italic weights of Academico was inconsistent; this is now fixed.
<i>Time signatures</i>	If you replace a barline in the middle of an aggregate time signature, the overridden barline will now be correctly preserved when reopening the project.
<i>Time signatures</i>	Changing the Separator property for an interchangeable time signature from - to = now immediately updates the score.
<i>Tonality systems</i>	When exporting a tonality system, Dorico now includes any required custom font styles and imported graphics to ensure custom accidentals and key signatures appear correctly when imported elsewhere.
<i>User interface</i>	When you use a pinch gesture to zoom in or out in a project window with a vertical or horizontal split, Dorico now zooms the view under the mouse pointer, rather than the one that is currently in focus.
<i>User interface</i>	When switching layout in the current tab and switching to a layout that has previously been open in the current session, the last viewport position of the layout is now correctly restored.
<i>User interface</i>	When applying changes in the Project Info dialog, Dorico no longer sometimes incorrectly loses the selection in the list of flows.
<i>User interface</i>	Under some circumstances, saving the project immediately after undoing an action could cause the view to jump when the save completes; this problem has now been fixed.
<i>User interface</i>	The right-hand options panel in Print mode is now wider when running Dorico in French, so that the translated text fits within the panel without scrolling.
<i>User interface</i>	The Edit ▶ Chord Diagrams submenu is now also included in the right-click context menu.
<i>User interface</i>	When a modeless dialog, such as Project Info or any of the options dialogs, is open when the user changes the name of the project using Save As , the name shown in the dialog title bar now updates.
<i>User interface</i>	Typing Tab after typing a value into a spin box to move focus to the next column in the Actions table in Play ▶ Expression Maps now correctly remembers the value you typed.
<i>User interface</i>	The Custom spacing ratio control in the Note Spacing Change dialog now behaves the same way as the corresponding control on the Note Spacing page of Layout Options.

Known issues and solutions

Frequently asked questions

Answers to frequently asked questions about Dorico can be found online in the [Dorico forum](#).

Knowledge base

For the latest information about issues and solutions you may encounter when running Dorico, please [consult the Knowledge Base](#).

Entering the eLicenser Activation Code (Mac only)

When you first run Dorico and are prompted to enter your Activation Code, you may find that after you have successfully activated your Soft-eLicenser, you must quit and restart Dorico for the application to detect that it is fully licensed.

Key commands to transpose notes by an octave (Windows only)

The Intel Graphics Adaptor drivers used by many Windows computers define a default key command to flip the screen by 90, 180 and 270 degrees via a shortcut **Ctrl+Alt+up/down/left/right** arrows.

Ctrl+Alt+up/down option conflicts with the key commands in Dorico note input for transposing notes by an octave.

For information about how to disable the default Intel Graphics Adaptor key command, [consult the Knowledge Base](#).