

## Lime 9.15 Documentation Addendum



Annex to the Lime™ Manual  
for version 9.15.9.9  
(work in progress)  
2016-12-19



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## 1. Introduction

In the interests of releasing Lime 9.15 and associated updates, upgrading the manual has had to be postponed. This document comprises draft text for inclusion in the Lime manual. As such, it is an essential component of the Lime 9.15 and 9.16 documentation. It describes enhancements and changes up to and including version 9.16.

In general, with the exception of annotation anchoring, the use of Lime 9.15 and 9.16 is upwards compatible with earlier versions.

### 1.1. Summary

Main changes from 9.0x (amongst over 500 enhancements and fixes) are:

- New file format to support the new annotation anchoring capabilities. The new format can be read and converted back to the previous format by 9.14.9 but not anything earlier.
- Truly high quality printing on Intel Macs (without postscript).
- New, flexible annotation anchoring capabilities, including bar lines and the right of the page. Also supports right justified text.
- Right-Click replaces Alt-click for selecting and manipulating annotations. Alt-right-click is still needed for the 'Extended Alt-Click' option. N.b. on Macs, Ctrl-click is tantamount to a right-click.
- Batch update facility, enabling multiple files to be updated to the new format or to be changed to templates.
- Major improvement in MusicXML import. However export is still very basic.
- Command-period (Ctrl-period on windows) replaces command/ctrl-H for invoking the hear option. However, if you want, you can still set command/ctrl-H as a short cut.
- Ctrl-Alt-letter is now available on Windows to provide 26 additional user settable short cuts. On Macs, Command-Alt-letter replaces Ctrl-letter.
- On Macs, pressing Ctrl while selecting a menu item can be used instead of Shift (this replaces the use of Alt, which is no longer available).
- New backslash expressions for editing annotations; includes \>> and \<< which replace \1 and \2 which are now used for MARL numeric symbols.
- White on Black & Black on Yellowy display options plus other colour improvements.
- Performance improvements in the time taken to format a page of music.
- Improvements to Lime Lighter, including full screen display, ticker tape & autocue contexts, automatic scrolling, go to bar touch screen navigation, and a Low Vision parameter template set for display.
- 9.15.8 and later has the ability to edit Unicode annotations saved by post 9.16 Lime. 9.16 will create Unicode annotation if needed. 9.17 will have full Unicode support.

### 1.2. System Requirements

Lime 9.16 is available for Apple Mac OSX 10.4 and later and for Windows 2000 and later.

- On Apple Macintosh it has been tested up to 10.11, El Capitan;
- On Windows it has been tested up to Windows 10.





## 2. Registration

Basic Lime is now 'donation-ware'. Anyone who previously purchased it is deemed to have 'donated'. Donations may be made at [www.dancingdots.com/lime/LimeDonate.html](http://www.dancingdots.com/lime/LimeDonate.html). Donations go towards the development of facilities for blind and partially sighted musicians.

Those who have donated will receive a registration key. Once this has been entered, the initial splash page that is displayed when Lime starts up will no longer appear. All Lime facilities are available, whether or not you have donated. The only exception is that the largest zoom is disabled if you haven't registered.

Visit [www.dancingdots.com](http://www.dancingdots.com) for more information on Lime based products for blind and partially sighted musicians.







### 3. Annotations

#### 3.1. Annotation Anchoring

One of the main enhancements in Lime 9.15 is flexible annotation anchoring. Apart from anchoring on the note-head, previous versions limited the horizontal anchoring to the left of the page (called 'horizontal lock'), and the vertical anchoring to the staff middle ('called 'vertical lock') and the page bottom (but only combined with 'horizontal lock'). Lime 9.15 supports independent anchoring horizontally and vertically, enabling annotations to be anchored not only to the note-head but also to the page (left, right, centre, top, bottom, and middle), to the staff (left, right, and the vertical middle), and to the previous and next bar lines.

All annotations are anchored at a fixed distance from a horizontal and from a vertical point. In different contexts this anchor point may be at a different place on the page but the annotation will be at its designated distance from that point. Furthermore, if anything is changed, such as page size, system formatting, or even the music itself, annotations will remain at their designated position from their anchor point.

##### 3.1.1. Horizontal Anchoring

<i>Anchor</i>	<i>Relativity</i>	<i>Description</i>
<b>Note</b>	Head	The anchor point is the left edge of the note-head. This is the default.
	Accidentals on Chord	The anchor point is just to the left of any accidentals on the chord in which the annotation's note participates. Typically the annotation will be right justified (and have the 'leave-space' style).  This is useful for placing things such as an arpeggiation symbol.
<b>Page</b>	Left	The left edge of the page; (this used to be called 'horizontal lock').
	Center	The page centre. Title, etc, are typically anchored to the page centre.
	Right	The right edge of the page. Such annotations will, typically, have right justification
<b>Staff</b>	Left	The left edge of the current staff
	Right	The right edge of the current staff
<b>Bar Line</b>	Left	The bar-line to the left of the annotation's note. If there is no bar-line, the staff-left is used.
	Right	The bar-line to the right of the annotation's note. If there is no bar-line, the staff-right is used.





### 3.1.2. Vertical Anchoring

<i>Anchor</i>	<i>Relativity</i>	<i>Description</i>
<b>Note</b>	Head	The anchor point is the middle of the note-head. This used to be the default, however nowadays, chord-ornament anchoring may be more useful.
<b>Page</b>	Top	The top edge of the page. Typically titles, credits, etc will be anchored to the page-top.
	Middle	The page middle. This is for completeness. It will probably not be much use until pictures are supported.
	Bottom	The bottom edge of the page; (this used to be called 'footer')
<b>Staff</b>	Middle	The middle line of the current staff; (this used to be called 'vertical lock'). Typically, lyrics and directive will be staff-relative.
<b>Chord Ornament</b>	Above	Above any automatically placed notation symbols, above the staff
	Fixed.	Fixed as a chord ornament (cannot be moved vertically). See below for further information.
	Under (below)	Below any automatically placed notation symbols, under the staff

#### 3.1.2.1. Chord Ornament-Fixed Anchoring

*Chord Ornament-Fixed* anchoring can be convenient as a mechanism for entering ornament annotations for multiple contexts, when a voice appears with different stem directions and, possibly, differ whether ornaments (such as Fermata) are placed above or below the staff.

The *Chord Ornament-Fixed* anchoring was designed to facilitate MusicXML import and the automatic placement of notation symbols above or below the staff, depending on voice layout, in the absence of any indication in the MusicXML (as is common).

Care must be taken when using *Chord Ornament-fixed* anchoring because there are some limitations with the associated automatic placement which include:

- Done in order found.
- Any alt-click generated annotations are always analysed after the others.
- While an annotation with a *Chord Ornament-fixed* anchor is being edited, any other annotations, with *Chord Ornament* anchoring on the same note, may move. When editing is complete, they will be restored to their original position.





### 3.1.3. Text Justification

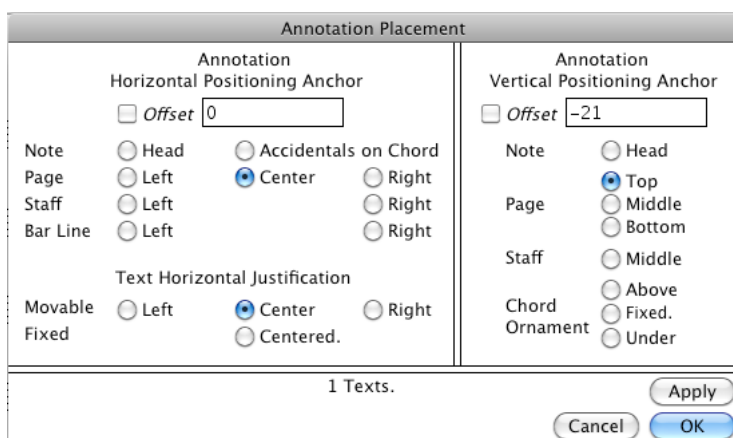
Text annotation may be specified as being left-justified, right-justified, or 'centre-justified'.

There is also a special justification, known as '*Centered*', which not only centres the annotation at its horizontal anchor<sup>1</sup> (see section on annotation anchoring), but also prevents it being moved horizontally. Its main use is for lyrics.

Because justification and anchoring are closely related, text justification is specified in a unified dialog<sup>2</sup> along with the anchoring, which is invoked using the '*Annotation Placement...*' menu item from the *Annotation* menu.

### 3.1.4. Annotation Placement Dialog

The anchoring (and text justification) is specified using the '*Annotation Placement...*' menu item from the *Annotation* menu. This is a unified dialog, which enables horizontal and vertical anchoring to be specified as well as the justification of the selected text annotations. The predefined shortcut for this dialog is in Windows Control-, (comma) and on Macintosh Command-,.



Annotation Placement Dialog

When the dialog is first invoked, it shows the anchoring justification of the selected annotation(s). If more than one annotation is selected, radio buttons are highlighted if any annotation in the selection has that characteristic. If one is clicked, then all annotations will get that characteristic. If any of the selected annotations is text then the dialog is oriented towards text placement and the justification section is included

<sup>1</sup> actually 'Centered' annotations are 3pts to the right of the left of the note head, which is effectively the centre of the note-head.

<sup>2</sup> for compatibility, the old *style->centered* menu option now automatically invokes this dialog, with justification preset to centered.





Click the relevant radio button to select the required anchoring or text justification. Once you click a radio button, all other buttons in the group are cleared.

The *Offsets* show the placement of the annotation(s) in points from the anchor (horizontal and vertical). If there is more than one annotation and the offsets are not the same, the offset field will be blank initially. The offset value can only be changed if the associated check box is checked.

If an offset value is changed, it will be set for all selected annotations. This can be useful as an alternative way of aligning annotations.

### 3.1.5. Line Placement Dialog

If none of the selected annotation is Text, then the dialog is oriented towards Lines and Curves and, if any are resizable includes a section for the horizontal anchoring of the (right) end of the Line(s)/Curve(s).

Line/Curve Placement Dialog

The example in the figure above shows the anchoring (and positioning) of an extendable line that always extends from the beginning of the bar to the end of the bar in which its corresponding note is.

If more than one line/curve is selected, changes to the End Horizontal Positioning only affect the resizable ones.





### 3.1.6. Resizable (Extended) Lines and Curves

When the “Extend Line or Curve to Here” facility is used, the end of a Line or Curve is initially anchored to the note-head of the specified note, with an offset of 0. This will usually cause the end of the line/curve to move. The position can, of course, be changed by dragging the end of the line/curve, and the anchor can be changed using the *Annotation->Annotation Positioning* dialog.

If a line/curve style is set to Extended using the *Annotation->Line and Curve Style* menu, the end of the line/curve will initially have the same anchoring as the beginning of the line and the end of the line/curve will not move.

Like text annotations, the anchoring for a line or curve annotation is specified using the ‘*Annotation Placement...*’ dialog. If all the selected annotations are lines or curves, and one or more are extendable, this dialog also allows specification of the anchoring of the end of the end of the line/curve.

When a line/curve is extended over a system boundary, the first 2/3 of the line/curve appear both before the end of the system and the last 2/3 of it appear after the beginning of the system. If the curve goes back on itself<sup>3</sup>, the duplication can become undesirable; in which case, it may be necessary to use two separate curves.

#### 3.1.6.1. Resizable Line and Curve Selection

A resizable line/curve may be selected by right-clicking near one of its real end points. This applies even if it extends over a system or page break. However right-clicking on the right of the first part of the line before the break or on the left of the last part of the line after the break has no effect; similarly, if the line extends over 2 or more systems, right clicking on one of the middle sections has no effect.

If a line/curve annotation extends over a system break, the selected part is fully highlighted and may be manipulated; the other end is partially highlighted to indicate where it is, but cannot be manipulated.

If a line/curve annotation extending over a system break is selected by right-clicking the end that was clicked will be the selected part and the associated note will become the insertion point and flash. This means that, by right clicking the end, one can see which is the associated end note.

#### 3.1.6.2. Clearing Extendability

A resizable/extendable line/curve may be converted back to normal using the *Annotation->Line and Curve Style* menu. If it extends over a system or page break, the beginning part will be resized to a default length, which, in most cases, will need adjusting.

If, for some reason, the terminating note of an extendable line/curve is deleted, the line/curve will be converted automatically normal. This can happen if the note is part of a sequence of notes replaced by another, longer note or rest, or if it is deleted when measures are deleted.

---

<sup>3</sup> A ‘complex curve’ is one whose 1<sup>st</sup> Bezier control point is significantly to the right of its 2<sup>nd</sup> one.





### 3.1.7. Annotation Placement Experimental Dialog Short-Cuts

The Annotation placement dialog has an experimental short-cut mechanism, whereby two letters may be used to 'click' a radio-button or check box, providing one is not editing one of the offset values. The first letter selects a block (an asterisk will be displayed before the block name after the first letter is pressed); the second letter selects the radio-button or check box within that block. If the second letter is the same as the first, the short cut is cancelled.

Note that, when the dialog is first invoked, the initial focus is on this invisible short-cut 'edit' field.

- h Horizontal Positioning Anchor
  - hn Note head (also h.)
  - ha note Accidentals on chord
  - hp Page left
  - hr page Right
  - hs Staff left (also h[)
  - hg staff riGht (also h])
  - hb Bar left (also h\)
  - hi bar rIght (also h/)
  - ho horizontal Offset
- v Vertical Positioning Anchor
  - vn Note head (also v.)
  - vt page Top
  - vm page Middle
  - vb page Bottom
  - vs Staff middle
  - va chord ornament Above
  - vx chord ornament fiXed
  - vu chord ornament Under
  - vo vertical Offset
- j Justification (Texts only)
  - jl Left justified
  - jr Right justified
  - jc Center justified
  - jx Centered and fixed.
- e End Horizontal Positioning Anchor (Lines/Curves only)
  - en Note head (also e.)
  - ea note Accidentals on chord
  - ep Page left
  - er page Right
  - es Staff left (also e[)
  - eg staff riGht (also e])
  - eb Bar left (also e\)
  - ei bar rIght (also e/)
  - eo horizontal Offset





### 3.2. Annotation Selection - Right-Click

Annotations are selected or moved by using the right mouse button - *Right-Click* (or, on Macs, *Control-Click* or the equivalent). This replaces Lime's original *Alt-Click*, which is deprecated. If the 'allow any alt-click' option is turned on, *Alt-Right-Click* must be used to select and convert a standard graphics element.

### 3.3. Constrained Drawing and Moving

When drawing or modifying a line or curve or moving (dragging) any annotation, the Shift key<sup>4</sup> can be used to constrain the direction. This can be particularly useful for drawing horizontal or vertical line or drawing squares.

#### 3.3.1. Shift when Creating a Line or Curve

A line or curve is created by selecting Line or Curve mode, then with Command/Ctrl pressed, clicking and dragging at the required position.

If the Shift key is active, the direct will be constrained to horizontal, vertical, or diagonal, depending on the initial direction of movement, with the following exceptions:

- Rectangles, of any type, are always constrained to squares (i.e. the movement is constrained to a diagonal).
- Hairpins are always constrained to a fixed height and to the horizontal. This makes it relatively straightforward to draw hairpins with uniform heights.

#### 3.3.2. Shift when Modifying the Size of a Line or Curve (or Shape)

If the shift key is active when dragging one of the end points of a Line or Curve, the initial aspect ratio will be maintained. This means that the angle will stay the same or, if it is a rectangle, the proportions will be the same.

Hairpins are an exception; if the Shift key is active, when modifying their size, the hairpin height will remain constant and only the width may be changed.

#### 3.3.3. Shift when Dragging an Annotation

If the Shift key is down while dragging an annotation (right-click-drag), the direction of movement will be constrained to either **horizontal** or **vertical**, depending on the initial direction.

For this to be effective, the Shift key must be pressed AFTER the (right) mouse button, otherwise it will be treated as a group selection.

---

<sup>4</sup> Since 9.16, the Alt (option) key (not the Shift key) is used for high resolution adjustments.





### 3.4. Unicode Support

In 9.16, when editing an annotation, if the text cannot be rendered without Unicode, it will be converted to Unicode. However if it can be rendered without Unicode it will be. This also applies to annotations in MusicXML or NIFF imports.

In Lime 9.17, Unicode annotations will be fully supported (entailing a minor change to the file format). Until then, all versions after 9.15.7 are capable of reading files containing Unicode annotations. This means they can recognize, display and edit Unicode annotations.

Macintosh users may notice one or two small changes from 9.15.7 and earlier:

- Text on the screen will be slightly denser, but crisper. It is because it is now displayed using anti-aliasing. There is, however, no discernable change to the look of a piece when printed, either directly to a printer or to a PDF file.
- When editing and annotation, it is now possible to enter any Unicode character supported by the chosen font. However, unless the annotation was already Unicode, pre 9.16 Lime will convert it to a question mark (?) if it cannot be translated to a non-Unicode form<sup>5</sup>.

### 3.5. Fonts

In order to ensure a degree of compatibility between systems, since 9.15, Lime files contain accurate information about the fonts used in the piece. This allows the score to be read on any Windows or Mac OSX system. Prior to that, the font mapping, if any, was erratic and there was no mapping before version 9.0. This means that, unless well known semi-standard fonts were used, there is nothing in old files to indicate what actual fonts were used.

When reading old files, if there is no mapping information, Lime attempts to identify the fonts that may have been used. If identification is impossible, then *Times New Roman* will be used to display it.

When reading a Lime score, Lime will check that the fonts, which are identified in the score, are installed on the user's system. If they are not installed, then an appropriate default will be used for display purposes. In most cases, the default is *Times New Roman*, but in a few cases *Arial Narrow* or *Arial* is used (e.g. for the old, narrow *Avant Guard*).

If an annotation using an uninstalled font is edited, then for that annotation, the uninstalled font is automatically converted to the font used for display purposes.

The *Edit->Clear->Substitute All Uninstalled* Fonts menu item will convert all annotations using uninstalled fonts to the font used as a substitute.

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<sup>5</sup> This has always been the case on Windows.







## 4. Hearing

### 4.1. Short Cuts

The short cut to invoke the 'Hear' option has been changed to Control-period (command-period on Macs). On Windows, the old Control-H is also set by default to invoke the hear menu. On Macintosh, Command-H is NOT set by default, because it is the system standard for hiding the application; however it can be set if required. On both systems, *Control/Command-period* may always be used to invoke the Hear dialog or to pause hearing, whether or not another short cut has been defined.

If play-back is inactive, *Control/Command-period* invokes the Hear dialog. If used with the shift key, the dialog will default to beginning at the beginning.

If play-back is active, *Control/Command-period* by itself will suspend play-back; if it is pressed again, play-back will resume at the beginning of the bar in which it was suspended. If used with the alt-key (option), play-back is stopped completely. If used with the shift-key the Hear dialog is always invoked, stopping any play-back.

If play-back is active **with tracking** (only when tracking), *Control/Command-J* will play faster and *Control/Command-J* will play slower.

### 4.2. Hear Dialog

The Hear dialog that controls the hear option, serves two purposes:

1. To specify the parameters for hearing and to invoke the hearing.
2. To apply parameters for subsequent hearing, including automatic hearing (in Lime Lighter or when hearing to the end of piece, using ctrl/cmd-downarrow).

Hear Option Dialog





If you press 'OK' in the Hear dialog, then play-back will start. If you press 'Apply Done', then the options chosen will simply be saved as the default for next time or for any automatic playing. When a piece is saved, the latest set of hear options are saved, so that they are pre-set next time the piece is loaded.

#### 4.2.1. Parts to Hear

In the Hear option dialog, one can specify which parts (from those in the context) will be heard. These parts are saved with the score file. There are two sets of parts:

*normal*: the set used for normal hear options.

*auto*: the set used for hearing when Lime Lighter scrolling (manual and automatic) and when using ctrl/cmd-downarrow. Lime Lighter users, who use automatic scrolling, should use this facility to set up what, if any, parts play when playing while scrolling (the '*auto*' set of parts) and how the metronome is used.

It is possible for a set to be completely empty. This can be useful in the automatic case when one just wants to see the scrolling music and, possibly, have metronome clicks, but nothing else.

#### 4.2.2. Begin at the Beginning

The 'Begin at the Beginning' check box specifies whether Lime should play from the beginning of the piece (or from the current bar). If the Hear menu is invoked with the SHIFT key down, this will be set by default.

#### 4.2.3. Metronome

Lime supports the use of a metronome both as a lead-in when hearing and while actually playing.

There is a check box specifying that Lime should include a metronome click while playing the piece. By default this is off, except for Lime Aloud users, but the default can be set using the general preferences.

There is also a check box specifying whether there should be Lead-in metronome clicks before the actual playing begins.

Lime works out from the first time signature how many beats to a bar there should be and an appropriate number of lead-in beats. In general it will beat on the denominator of the time signature. However, if a compound or additive time signature is explicitly specified, the beat will be on each component of the compound. For example, 6/8 will normally beat 6 quavers to a bar; however if it is specified as 3+3/8 (use compound radio box in the BAR dialog), it will only beat 2 dotted crotchets (quarter notes) to the bar. Complex additive rhythms, up to 4 components in the bar are supported.

If starting at the beginning of a measure and it's not a pick-up measure, the lead-in will be the normal number of beats in the first measure; there is an option to double this. If there is a pick-up measure (see section 13), or if starting in the middle of a measure, the lead-in will be the number of beats up to the first beat in which the note appears. If there is only one such beat, then it will click for a complete measure plus this beat.

The 'Lead out' checkbox specifies that, if sounding the metronome while playing and the end of piece is reached, the metronome will continue to play until the end of the prevailing rhythm, or one more measure. If partially checked, it will play just one additional beat.





If a metronome is chosen, there are options to specify what it sounds like (including option for different first beat).

#### 4.2.3.1. *Metronome and Time Signature*

An accurate metronome requires an accurate time signature and, if there are any, identification of pick-up measures. See sections on Time signature and Bar line specification.

The metronome can beat an advanced alternating time signature (where the beat changes from one measure to the next), provided the "*Alternating Signature and Metronome*" option is chosen in the time signature.

#### 4.2.3.2. *Metronome Channel*

In both the *Hear* and the *Record* dialog, it is possible to specify the MIDI channel and pitch for the metronome. If channels 1-16 are selected, the metronome will be played on that MIDI channel on the output device. If channel 0 is selected, the metronome will be the current system 'beep' on the computer speakers.

#### 4.2.4. Tracking

If the Tracking option in the Hear option dialog is checked, a tracking line will move across the score as the piece is played. The line identifies the bar being played which, if necessary, will be scrolled into view, where possible allowing following music to be seen. While tracking, the piano window is minimized, so the music is not obscured. At the very end of the piece, the tracking bar will be moved briefly to the end of the final system.

The default state of this checkbox may be specified in Lime's general preferences. In addition there are options in the general preferences to specify the desired appearance and colour of the tracking line.

For Lime Lighter subscribers, there is an additional '*Lime Lighting*' tracking option, which tracks using a highlighting rectangle. This is similar to using the automatic scrolling pedal, except that the window will not be maximized. It can be useful for rapid testing while a piece is being set up.

#### 4.2.5. Skip Repeats

If 'Skip Repeats' is selected in the Hear dialog, repeats will be ignored and any possible discontinuity will be played as though it were the last time through.

If it is partially selected, only the next repeat or other playing discontinuity will be treated as the last time through; any following ones will be honoured.

#### 4.2.6. Do Not Reset Midi

By default, the controls on the MIDI output are reset to the default before playing begins (this does not affect the instruments). If checked, *Do Not Reset Midi* stops this happening.

#### 4.2.7. Ignore Sustain Ped

If fully checked, all pedal annotations will be ignored. If partially checked, any *Ped* annotation will be stopped after a short period.





#### 4.2.8. Use Piano if Voice has no Instrument

If checked, used midi channels, with no default MIDI program, will be set to 'Piano' before play-back begins. Any voice with a MIDI specification will change this, but any that do not, will play as 'Piano'. If this is not set, and a voice has no default MIDI program or MIDI annotation, the current setting of that channel will be used.

#### 4.2.9. Hear to End of Piece

If Command-Down-Arrow (Control-down-arrow on Windows) is pressed, the piece will be played from the current position with a metronome click; if the shift key is also pressed, the metronome will be omitted. All parts in the current context will be played, regardless of anything configured in the *Hear* option.

#### 4.2.10. Voices in Context

Both the Hear option and Midi export limit the parts that can be heard/exported to those voices that appear in the context. If you want a part to be heard but not seen, assign it to the context, but use *Parts and Voices* to assign all voices in the part not to print (*Don't Print* check-box). The *Voices and Parts...* dialog allows you to specify that the arrangement should continue to the end of the piece for non-printing parts/voice only.

### 4.3. Default MIDI Instruments (Programs)

In Lime 9.15.9<sup>6</sup> and later, the default program (instrument) for each voice may be set using *Voice->Voice on Channel*. If a default is set, then whenever the voice is played, the MIDI channel will be set to that program. The number is the same as used for interpreted *Program* annotations (i.e. starting from 1).

With Lime 9.16 and later, it is recommended that this method of setting the MIDI instruments at the beginning of the piece is used in preference to the old interpreted *Program* annotations.

Any subsequent *Program* annotations will override this default, except that *Program 0* will revert to the default, if any.

#### 4.3.1. Piano Sounds

If a piece is active and the piano keyboard (in the piano window or on an external MIDI device) is played, the channel used will be that of the currently selected voice (1 if none) and the instrument used will be the one in place at the beginning of that voice, if any.

If there is no specified instrument, then the sound will be whatever is currently set for that midi channel.

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<sup>6</sup> Though flagged as 'experimental', it is fully functional from 9.15.8.9. The 'experimental' flag is to warn that previous versions of Lime 9.15 will ignore the data.





#### 4.4. Resetting MIDI

The *Hear->Reset MIDI...* menu option, resets the currently selected, output MIDI device, stopping all notes and, optionally setting the MIDI instrument to Piano (1). Optionally, this can be restricted to channel 1, but otherwise it is done for all 16 channels.

If used with the Shift key, all notes are stopped on all channels and the instrument set to Piano, but the channels are not reset.





## 5. Short Cuts

### 5.1. Menu Short-Cuts

When upgrading from an earlier version of Lime, it is highly likely that the menu short cuts are no longer correct. Use the '*Edit->Preferences->Shortcut Keys...*' menu option to reset them to the default (click the relevant check-box) and then, if you need to, change them.

New built-in short cuts include:

cmd/ctrl-.	Invoke Hear option or suspend hearing.
cmd/ctrl-,	Invoke annotation placement and justification dialog
cmd/ctrl-;	Toggles between the previously viewed context and the current one. With shift key, goes to Score context or, if already there, to the last context in the list.
cmd/ctrl-[	Normally, go to previous page; but if play-back with tracking is active, play slower.
cmd/ctrl-]	Normally, go to next page; but if play-back with tracking is active, play faster.
cmd/ctrl-shift-[	Go to first page
cmd/ctrl-shift-]	Go to last page

Use of the shift-key with any context switch will open the context in a new view.

### 5.2. Changed Default Short Cuts

cmd/ctrl-G	Go to Bar (default used to be 'Go to Page'). The resultant defaults to 'Go to Bar', but may be used to 'Go to Page'.
cmd/ctrl-shift-G	Go to 1 <sup>st</sup> bar of current page. G is whatever letter (if any!) is configured as the ' <i>Go to Bar</i> ' short cut.

Note that on Macintoshes, cmd-H is no longer defaulted to invoke the hear option (use cmd-period instead). This is to avoid the conflict with the standard use of cmd-H for hiding the application.

### 5.3. User Defined Short Cuts

The build in short cuts (i.e. ctrl/cmd-punctuation) are permanent and cannot be changed by the user. However you may, if you wish, configure an additional alphabetic short cut; if you do, the build-in one remains available.

On both Windows and Macs, the set of short cuts, ctrl/cmd-alt-letter may be configured by the user. Lime will never pre-assign any of these. On Macs, the facility to assign short cuts to ctrl-letter has been replaced by cmd-alt-letter (*ctrl-letter is deprecated*).





#### 5.4. Number Pad Arrow Key Short Cuts

If your keyboard has arrow keys and/or a number pad, which is not locked in 'Num-Lock' mode<sup>7</sup>, a number of short cuts are available (*Ctl* means the Command key on Macintoshes and the Ctrl key on Windows). Note that individual notes or chords are only played if the preference option 'Play sound when *Navigating with Arrow Keys*' is enabled.

HOME\_CHAR (num pad 7)

- move back one bar and play all notes on staff
- +ctl move to previous chord and play all notes in time-slice

UPARROW\_CHAR (num pad 8)

- go to previous voice and play note
- +ctl play all notes in current time-slice

PAGEUP\_CHAR (num pad 9)

- move forward one bar and play all notes on staff
- +ctl move to next chord and play all notes in time-slice

LEFTARROW\_CHAR (num pad 4)

- go to previous note and play note
- +alt go to previous annotation
- +ctl go to previous chord and play all notes on staff
- +shift group select previous note
- +shift+ctl group select previous voice-chord

NUMPAD5\_CHAR

- play current note (*and, for Lime Aloud users, speak all details*)
- +ctl play all notes at current time on staff

RIGHTARROW\_CHAR (num pad 6)

- go to next note and play note
- +alt go to next annotation
- +ctl go to next chord and play all notes on staff
- +shift group select next note
- +shift+ctl group select next voice-chord

END\_CHAR (num pad 1). *For Lime Lighter users only - emulates the pedal.*

- move to and highlight next measure*
- +shift *move to and highlight previous measure*
- +ctl *take-repeat and highlight measure at its beginning*

DOWNARROW\_CHAR (num pad 2)

- go to next voice and play note
- +ctl play from current selection to end of piece with (+shift without) metronome

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<sup>7</sup> On some Windows keyboards, notably the latest from Dell, the number pad is always in 'Num-Lock' mode and the Shift- or Ctrl- cannot be used with them.





## 6. Pre (and post) 9.15 Scores

In general, when reading scores created with earlier versions, Lime will automatically update the score to the new format. Since 9.14, Lime has always been capable of reading the next file format, albeit with possible loss of some features.

### 6.1. Upgrading Issues

There are a number of issues associated with upgrading scores created before Lime 9.15, particularly those created before 9.14.

As these can result in appearance changes, it is recommended that the results are checked, particularly if it is intended to publish them in some shape, size or form.

#### 6.1.1. Annotations on Invisible Rests

There was a problem in earlier versions of Lime that caused annotations on some invisible rests not to be shown (on multi-voice staves many rests are made invisible because they would conflict with notes or rests on other voices). This was fixed in Lime 9.15 and now annotations are shown, whether or not the associated rest is visible. This is particularly important for handling scores imported via MusicXML.

When upgrading older pieces, Lime attempts to identify rests that would have been invisible and automatically hides any associated annotations. It can only do this if there are no other contexts in which the voice staff assignment is different. It is, therefore, possible that previously invisible annotations will appear after conversion.

Some users will have added additional annotations when an annotation did not appear in a context, particularly for annotations declared as '*duplicate in all contexts*'. Lime attempts to identify such additional annotations and hide all but one. If the additional annotations were not in exactly the same place, it can appear an annotation has moved after the upgrade.

#### 6.1.2. Invisible Rests become Visible

An old, related bug was that on a multi-voice staff, if at some point one voice had a normal, unhidden rest, but one or more of the others had hidden rests, the unhidden rest would often (but not always) become invisible. Lime 15, correctly, ensures that the unhidden rest is visible. This, of course, means that not only can a rest appear where it wasn't before, but also any associated annotations become visible.

#### 6.1.3. Stem Directions

After Lime 9.05, the algorithms for determining stem directions and associated beaming on multi-voice staves are considerably more sophisticated (improved) where stem directions have not be explicitly set. This can, of course, cause a change in the appearance of scores after upgrade (usually for the better). If the old appearance is essential then, currently, it will be necessary to set stem directions explicitly.

#### 6.1.4. Annotation Horizontal Placement

As there may be small changes in note head horizontal positioning, as 9.15 uses more sophisticated rounding algorithms, annotations anchored on note heads may move slightly.







#### 6.1.5. Page Width

Versions of Lime before 9.14 rounded the page width up to a 16 pixel boundary (because it was needed on the original Macs). This is no longer done; so when upgrading older pieces, the page width is rounded up to compensate and ensure there are no positioning differences after the upgrade.

#### 6.1.6. Old Scores between Macs and Windows

Prior to 9.15 there were minor issues with moving scores between Macintoshes and Windows:

- The piece colour palette was not properly converted, which will affect scores with coloured notes or annotations
- Parameters that specified a character (e.g. a note head) in one of the music fonts (Marl, Tufa or Sonata) were incorrect.

Both these issues have been fixed; any scores created by the release version of 9.15 or later should be completely transferable between Macintoshes and Windows.

However, to handle older scores, it is necessary to know which system a score was created on. There is, therefore, an option when opening such a score (or within the *Batch...* facility) of specifying the provenance of a score, if it is known.

If you know definitely on which system a pre-9.15 score was created, you should click the "Known source?" and selected the required system. If the source is not known, leave this unchecked - Lime will attempt to derive it as far as possible; by default it assumes the system you are running on.

In general this is not a problem except if some Modified Staff Notation changes have been made to note heads, etc.

### 6.2. 9.17 Format

Annotations in files created by versions after 9.16 may be encoded using Unicode (actually in UTF-8). After 9.16.2<sup>8</sup>, to avoid any confusion, a new file format identifier will be used, so that 9.15 users, who have not upgraded to 9.15.8 or later, will not be totally surprised if they receive a score with Unicode that does not display all annotations correctly.

Note that 9.16 creates Unicode text annotation if the text cannot be rendered using the local 8-bit character set.

It is not anticipated that there will be any plotting or positioning changes with this upgrade. It is purely to support Unicode annotations and part names.

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<sup>8</sup> Full support for Unicode is planned to be introduced in 9.16.2.





## 7. XML Support

### 7.1. XML Importing

LIME provides basic support for importing MusicXML 1.1. It is perfectly capable of importing any version of MusicXML (3.0 was the latest at the time of writing); however it will ignore most features from MusicXML later than 1.1. Furthermore, many features from 1.1 are also ignored. In some cases this is because it is not appropriate, such as the positioning of notes or width of measures. In other cases, it is because LIME does not have an appropriate feature.

It must be recognized that, whilst MusicXML is very useful, the standard is, unfortunately, not rigorously defined (unlike MIDI), so different programs interpret it differently. Most programs, including LIME, do not have all the features implied therein and most programs (including LIME) also have features that cannot be exported with MusicXML.

**Whenever a piece is imported from MusicXML, it will usually be necessary to make some manual adjustments.**

Main features not supported by LIME include:

- <score-timewise> is not supported. LIME only supports <score-partwise> MusicXML.
- Play-back and Midi settings, pitch alterations, etc, are not yet supported. All notes will be inserted with default volume, etc.
- The smallest note duration supported by Lime is 1/128<sup>th</sup>, and the largest tuplet is 254/60. Any piece with smaller durations or crazy tuplets will not import properly and will have timing errors.
- Compressed MusicXML (.mxl files). However, if you change the suffix to .zip and use a zip tool to unzip it, the required .xml file is contained therein.

#### 7.1.1. Unicode Support

After 9.16, Unicode and, therefore, annotations in languages not based on the Roman alphabet are supported. Your system must, of course, have the necessary fonts used for these annotation, in order to be able to render the characters

#### 7.1.2. Creator Funnies

Ultimately MusicXML import can only be as good as the original encoding. Except in the simplest of scores, it is actually rare, if ever, that an exported file can be totally accurately imported even into the program that originally exported it. There are many known oddities, including:

- Sibelius (native 7) exported files have many of the credits at the bottom of the page (even when imported into itself)! It appears that it has erroneously used the distance from the top staff rather than the page bottom (as defined by MusicXML). The option to 'Discard Unclassifiable Credits' tries to detect and rectify this.
- MusicXML specifies that the horizontal positioning information for many directives is relative to the previous bar line, or system start (the other directives are relative to the note). However there seems to be no consistency, even within the same file; in many cases, it is clearly relative to the page start. Compensating for this is very difficult and, at the moment, nothing is done automatically apart from having import options. If annotations are clearly misplaced, experiment with the options.





- Creators, such as Sibelius (both native and Dolet) are erratic in how 8<sup>va</sup> and 8<sup>vb</sup> are placed. Sometimes they specify the notes as they are meant to be played, but often in the notated position. There is an import option to decide what to do.
  - Photo Score seems to use relative-xy (instead of default-xy) attributes to specify the actual position of directives. There's an import option to correct this.
  - SharpEye separates voices on multi-voice staves into different staves. Manual effort is needed to merge them again. Note that, when exporting from SharpEye you must use the XML 1.1 option to get reasonable annotation placement.
- If you have problems with importing a piece from SharpEye via MusicXML, try using NIFF; it is sometimes better with multi-voice staves.

### 7.1.3. Fingering

MusicXML allows fingering to be specified for each note. Lime treats fingering as a stacked annotation applying to the whole chord. If more than one character is used in the fingering text, then each character will be stacked.

### 7.1.4. Importing Options

Whenever a MusicXML file is imported, the user is presented with a dialog to specify the options for the import. This is a 2 page dialog, with advanced features on the 2<sup>nd</sup> page. At the top of the dialog is meta-data extracted from the MusicXML header, identifying the encoding source and the work title (though many encoders omit this and it will be blank).

Some of the options are 3-way. The third alternative is indicated by a hyphen on a Mac or a dimmed tick on Windows.

#### MusicXML Import Options Basic Options

- **Additional Page Scaling**  
If checked, the music is scaled up a little bit to compensate for the fact that some programs have slightly smaller note-heads, etc than Lime. If partially checked, you can specify the scaling.






- Convert Untied Ties to Split Slurs  
If the source seems to use a tie as a slur (often true of Sibelius), convert it to a Slur. Otherwise leave it as a pseudo tie, which is supported by Lime 9.15.
- Ignore Slur and Tie Orientations  
If checked, then the curve direction of all slurs and ties will be assigned by Lime; all orientation indications in the XML will be ignored. If several slurs and ties seem to be stupidly placed, then checking this might be the solution.
- Ignore System/Staff Separation  
If checked, the source's system and staff separation values will be ignored. If partially checked (the default), those in the header will be honoured, but not those in individual parts. If you want the score to be laid out as close as possible to the original, then this should be unchecked, but it can result in a lot of parameter annotations to set the separations.
- Don't Unhide Rests in Noteless Measures  
Normally, if a measure on a staff contains nothing but rests in all voices, all rests are made not hidden. In most cases the formatter will then combine them into whole bar rests. This tries to ensure that no measure is totally empty. Check this option if empty measures are actually required.
- Don't Stop Unused Voices in a Measure  
Normally, if an imported voice in a multi-voice system has only rests and no annotations in a measure, Lime will stop printing it until it becomes active again (if ever). Occasionally, this can cause problems with (low Vision) tracking.  
  
This option causes Lime to hide the rests, rather than stopping printing the voice; but it can cause difficulty with part extraction and other problems such as spacing and prematurely terminated beams, so it is not recommended except to cater for poor XML files.
- Don't Transpose Octave-shifted Notes  
Normally when 8<sup>va</sup> or 8<sup>vb</sup> is specified, the MusicXML specifies the notes at the pitch they should be played. These need to be transposed for notation purposed. This option supports encoders that specify the notes as they should be notated, and turns off the transposition.
- Ignore Lone relative-xy Positioning  
If checked, relative positioning (relative-x and relative-y) are ignored if there is no corresponding default positioning attribute (default-x or default-y). If partially checked they will be treated as the corresponding default attribute and horizontally (x) always relative to the note head. Try this if annotations are consistently badly positioned, particularly vertically.
- Text and Line Anchoring  
Although MusicXML specifies that the position of directions is relative to the previous bar line (or beginning of system), this is often not adhered to, even in the same file, particularly for Lines (Hairpins, etc). If many Text or Line annotations seem to be misplaced, try changing one of these options. Sibelius, for example, places many text annotations relative to the page (partial check the option).
- Default Lyric and Pedal Points  
If the position of Lyrics or Pedals are not given in the MusicXML (usually the case), place them the specified number of points *below* the staff. The only way of getting the correct value is to experiment. Of course, if there are both lyrics and pedal marks on the same staff, the values will need to be different.





- **Points per Quarter Note Offset**  
This is a kludge to cater for MusicXML files which specifies the horizontal position of annotations, particularly hairpins ("wedges") in terms of musical position, which is not supported by Lime. This option specifies an approximate number of points per quarter note (crotchet).
- **Slur Association to Stem or Voice**  
Specifies how slurs on staves with multiple voices are handled by default in the whole piece; it may be changed later using the File->Options menu. For most XML, the default, 'Voice and Stem Direction' seems to give the best results. Note that Lime's normal default is 'Stem Direction' only.

The  button shows advanced options on page 2. In most cases, the defaults are appropriate and will not need to be changed.

- **Reassign Voices on Multi Voice Staves**  
If this is checked, Lime will attempt to split each staff into two voices based on the designated stem direction of each note. If it is partially checked there will be just one voice per staff. If it is unchecked (default), then the original voices will be used.

Note that voice reassignment is not possible if the piece has a voice that hops from one staff to another. If such a voice is detected, reassignment will be abandoned and the original voices used.

#### MusicXML Import Options Advanced Options

Describe the remaining advanced (page 2) MusicXML import options.

## 7.2. XML Exporting

Although Lime can export MusicXML, the result is currently relatively primitive and is limited to basic information. This will be improved in the future, but for the moment development effort is being concentrated on MusicXML import.





## 8. NIFF Support

### 8.1. NIFF Import

9.15 supports importing NIFF files.

It is strongly recommended that, before exporting a NIFF file (e.g. from SharpEye) for importing into Lime, all rhythm and note duration errors have been corrected.

Note that the facility (in Lime 9.0n) for preserving NIFF graphical alignment and flagging possible errors with coloured ("red") rests is no longer supported<sup>9</sup>.

Whilst Lime can import NIFF from any provenance, it is recommended that, if possible, with the occasional exception of interworking with SharpEye, MusicXML is used.

NIFF sometimes gives better results when importing scanned files from SharpEye when there are multi-voice staves. If importing using MusicXML has problems, try using NIFF.

### 8.2. NIFF Export

Support for NIFF export has been discontinued<sup>10</sup>.

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<sup>9</sup> The Colored (red) rest facility had too many problems to be generally useful.

<sup>10</sup> It is far more important to support exporting MusicXML.





## 9. Colours

### 9.1. Music Window Appearance

There are preference options specifying the basic colouring to display the music window on the screen. The options are:

- **Lime Default.** This is black music on an off-white, cream background designed to reduce glare.
- **Black on Yellowy** Specifically designed for vision impaired accessibility, this is normal black music on a yellowish background.
- **Black on White** (on Macs)
- **Windows Default** (on Windows). This uses the system default. On Windows this is based on the theme or, prior to Windows 8<sup>11</sup> as set in the personalization control panel. On Macs it is always simply black on White.
- **White on Black** (with colour inversion). Also designed for vision impaired accessibility, this displays the music as white music on a black background; all colours are also inverted (so, for example, yellow will appear as blue).

Whatever preference is selected, it only effects the display; printing is unaffected and will always be the standard black on white (or whatever colour paper is actually used).

### 9.2. Colour Palettes

As of 9.15.9, there are two colour palettes:

- **Piece Options palette** used for colouring of annotations and of selected note-heads (including rests) in the piece. Each piece has its own palette, which is saved as part of its general options.
- **Preferences palette** used for local functions, including the automatic colouring of note heads by note name and the colour of the tracking bar when hearing and Lime Lighter highlighting.

The default colours for the colour palettes are the 16 (excluding White) standard colours used by web applications, which have standard names - black, red, lime, blue, yellow, magenta (or fuchsia), cyan (or aqua), teal, silver, olive, purple, orange, green, navy, maroon, and grey.

1 black	2 red	3 lime	4 blue	5 yellow	6 magenta	7 cyan	8 teal
9 silver	10 olive	11 purple	12 orange	13 green	14 navy	15 maroon	16 gray

Standard Colours

---

<sup>11</sup> Note that on Windows 8 and later it is no longer easy to specify colouring of things like background of individual windows (though it can be done in the registry).





## 9.2.1. Customisation

In all colour dialogs, it is possible to customise any of colours (except black) in the associated palette. This is done by shift-clicking the colour and using the resulting dialog to set it as required.

As well as customizing an individual colour, you can reset all the colours in the palette to the default. If a colour has been customized, then no name will be displayed on its button, though behind the scenes, the button will be labelled with its red-green-blue (RGB) values.

## 9.2.2. Inverted Colours

If the *"White on Black (with colour inversion)"* music window appearance option is used, then all colours are also inverted (so, for example, red will appear as cyan). It is important to take this into account when choosing colours for display purposes.

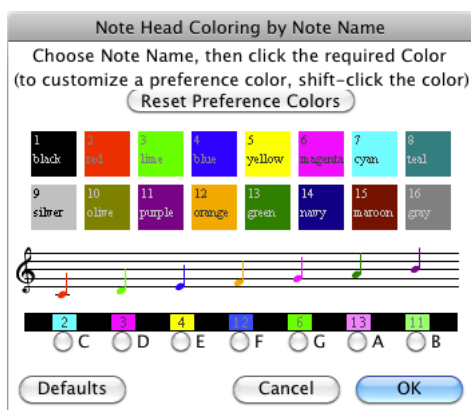
Note, however, that when the piece is printed, the result will be black on white, with normal colouring.

## 9.3. Colouring Note Heads and Keys by Note Name

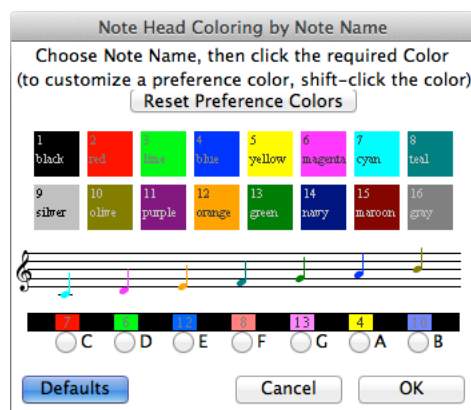
Using the preferences, it is possible to specify that every note and key signature throughout every piece is displayed in a colour based on the note name. In the preferences dialog, if the *"Color Note Heads and Keys by Note Name"* check-box is checked, it means:

- **Fully Checked** All Note heads are coloured by note name, and the colouring overrides any piece based colouring of individual notes.
- **Partially Checked** Uncoloured note heads are coloured by note name, but not those that have piece based colouring.

The mapping can be changed in the general preferences using the **Colors** button beside the *"Color Note Heads and Keys by Note Name"* checkbox.



Normal Defaults



Inversion Defaults

Note Head Colouring Dialog







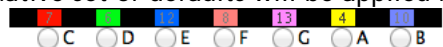
To set the colour for a note, click on the note (or its radio button), then click on the



If the music window appearance were "*White on Black (with colour inversion)*" then, as explained above, all colours will be inverted and the normal defaults would become:



For this situation, if the music window appearance is "*White on Black inverted*", when the dialog is invoked, an alternative set of defaults will be applied by the "*Defaults*" button:



This is the best approximation to the normal defaults that can be achieved without modifying any of the colours. Note that, in "*inverted*" mode, the actual colour buttons (and displayed notes) are the uninverted colours; you will need to experiment to see how they look when inverted (as shown on the big black line).

### 9.3.1. Default Note Name Colour Mapping

As shown above, the default mapping to the 16 colours in the colour palette is:

Note name	Default Uninverted		Default Inverted	
	Index	Colour Button	Index	Colour Button
C	2	Red	7	<i>inverted cyan</i>
D	3	Lime green	6	<i>inverted magenta</i>
E	4	Blue	12	<i>inverted orange</i>
F	12	Orange	8	<i>inverted teal</i>
G	6	Magenta	13	<i>inverted green</i>
A	13	Green	4	<i>inverted blue</i>
B	11	Purple	10	<i>inverted olive</i>

Remember that, to set the default inverted colours, ensure the "*White on Black (with colour inversion)*" option is set in the preferences before invocation of the note head colouring dialog; then click the Defaults button in the dialog.

*Note that, if any if the selected preference colours has been customized then, of course, the mapping between index and the actual colour will be different.*

### 9.4. Colouring Issues

It is recognised that Lime's colour facilities are a little antiquated and are due for overhaul after 9.16. In the meantime, the following should be noted:

- Only the colours in one of the two colour palettes can be used, though any of the colours, except black, can be customized.
- As described above, if the music window appearance is "*White on Black (with colour inversion)*", *all* colours are inverted. The results may not always be desirable.
- Prior to 9.15.9, the prevailing preferences palette was always used for display purposes and saved with a piece. 9.15.9 now uses and retains the palettes saved with each piece.





## 10. System and Staff Distance Options

The default distances between systems and staves may be set using the Layout (File->Layout) dialog. The defaults are as follows:

These values replace (and are essentially the same as) the old layout parameters:

- *"default vertical distance between systems" or "distance between systems with separator symbols"*
- *"default distance between this voice's staff and next";*

The parameters are still supported (though obsolete), but it is strongly recommended that in future the layout values are used rather than the parameters. The layout option values can be supplemented with the new additional distance parameters (see below).

In the layout dialog, if the "separators" checkbox (to the right of keep aspect ratio) is checked, when the page size values are changed, the "separator" distances between staves and systems are adjusted proportionally to the change in the vertical distance.

### 10.1. Additional Before System and Before Staff Distance Parameters

Most parameters apply to all relevant following music until changed (by a hidden 'PARAM' annotation). The following are an exception to this in that they apply to the system/staff on which they are found:

- *"additional distance between this voice's system and previous"*
- *"additional distance between this voice's staff and previous"*

These 'additional distance' parameters are in addition to the layout values for default distance between systems and between staves.

When determining spacing before a system or staff, Lime first applies the distance parameters found on (or before) the previous system/staff. It then looks forward for appropriate 'additional distance' parameters on the system/staff it is about to format. The *maximum* value found (if any) is *added* to the previously determined 'distance parameter'. If the additional value is positive, the default spacing will be increased, and if it is negative, the default spacing will be decreased.

If no 'additional distance' parameter is found on a system/staff, the prevailing value (either the default 0, or the value on a previous system/staff) is used.

The resultant computed default distance is advisory. Dense music may result in these distances being reduced.

### 10.2. Staff Drag

The use of **Staff Drag**, whilst still supported, is hard to manage and **not recommended** except in exceptional cases. In most cases a combination of the default distances in the Layout, the additional 'before system and staff' parameters and also Parts and Voices (remember more than 2 voices can be on a staff) will do everything necessary.





## 11. Parameters

### 11.1. Default Values

In the parameters dialog, if a parameter value (or character value) is set as completely blank (with nothing at all in the associated edit field), the default value will be used; furthermore if there is no change before the current point in time, then the change will be deleted. The Clear button is a short-cut technique to achieve this.

If The 'Delete any changes at this time' checkbox is fully checked, then if there is an associated parameter change at the current point in time, it will be deleted and the parameter value fields are ignored.

The 'Default' button on the dialog can be used to set the associated fields to the default value. This can be useful, if one wants to change a parameter back to the default.

### 11.2. Normal Values

Normal values (and X-/Y-offsets for characters) are specified as decimal numbers, optionally with decimal point and (minus) sign. It is possible to specify a number as a (heavy) fraction in the form nn/dd; for example 3/2 could be entered instead of 1.5.

### 11.3. Character Values

The value for a character parameter is specified either as a single character or as its numeric encoding in the specified font. Encodings are identified by there being more than one character, the first one of which is a zero. The encoding can be specified either as a normal (decimal) integer, or as a hexadecimal one by preceding it with 0x (e.g. 0x20).

In chord symbols, the accidental font sizes are with reference to the note name being 12-points. They will be resized automatically, proportional to the note name size.

### 11.4. Note Head Widths

If the value for a note head width is set negative (any negative value), the prevailing value for the normal (quarter/crotchet) note head width will be used.

The new "Half Note Width" parameter actually defaults to negative and, therefore, will normally use the prevailing normal (quarter/crotchet) note head width. If you want to change this, it must be set to an appropriate *positive* value, typically close to its displayed default.

The ability to distinguish between half and quarter note head widths, allows half note heads to be emboldened as a simple technique to improve their visibility for low vision users. If half note heads are made bold, increasing the half note head width by 0.2 is recommended.

### 11.5. Line Widths

If a line width parameter is negative, the associated lines will not be plotted. Thus, for example, if the ledger line width is set to -1, no ledger lines will be plotted.





## 12. Zoom Layout

The magnification, or otherwise, of a piece may be set using the Layout dialog (in the File menu) or, temporarily, using the Zoom sub-menu of the edit menu. If the layout menu is used, the selected zoom will be saved with the file and will be used next time the file is opened. If Zoom from the edit menu is used, the change is just for the session, unless the *Edit->Zoom->Save Zoom Layout...* option is chosen

As well as predefined zoom factors such as "Small" (1), "Normal" (1.5), "Big" (2), etc, the "Frame Width" (Windows) or "Screen Width" (Mac) option may be used to specify the width of frame (Windows) or main screen (Mac). If the "Resizable" option is chosen, then the zoom size will change if the window is resized.

The Layout and the Save Zoom Layout dialogs also display the current zoom and allow the actual percentage to be set. The theoretical maximum zoom factor is 1000%, however on a Macintosh this is limited by the number of pixels needed to display a page and can be as low as 200% for large pages. If the user tries to set the zoom higher than the maximum possible, Lime will silently use the maximum.

Normal users are limited to a zoom level of 4; Lime Lighter users, can use a zoom level up to 10 (6.67 times normal zoom size).

Currently the default zoom for a piece (or context therein) is set in the File->Layout dialog. This always uses the value associated with the piece options, which is not necessarily the same as the current zoom level. The *Edit->Zoom->Save Zoom Layout...* option allows the user to save the current zoom.

Unlike the full Layout dialog, the *Save Zoom Layout* dialog from the Edit->Zoom menu may be used to change and save the required zoom in a locked (published) piece.

### 12.1. Default Zoom

It is possible to specify the default zoom used for new scores or imported scores. Currently the facility is in the "*Preferences...*" dialog under the *Edit* menu and is fairly basic. The user can specify the zoom factor as a decimal number between 0.5 and 10, in steps of 0.5. A negative value means that the window will also be resizable.

A value greater than 10 or less than -10 means the screen/frame width. On Windows, the actual size will depend on Lime's frame size. If this is maximized, then so will any piece whose zoom is set to the frame size.

Zero (or empty) means the prevailing default, which is Normal Zoom (1.5) for normal users, and Frame Width for Lime Lighter users.

For convenience, the following characters may be used for special values:

- + Fit to screen (or Frame on Windows)
- Prevailing system default (same as 0)

Note that Lime Lighter users may specify a default zoom to be used when Lime Lighting is active (in *Edit->Preferences->Lime Lighter Preferences...*). If specified, this overrides the editing zoom for the piece.



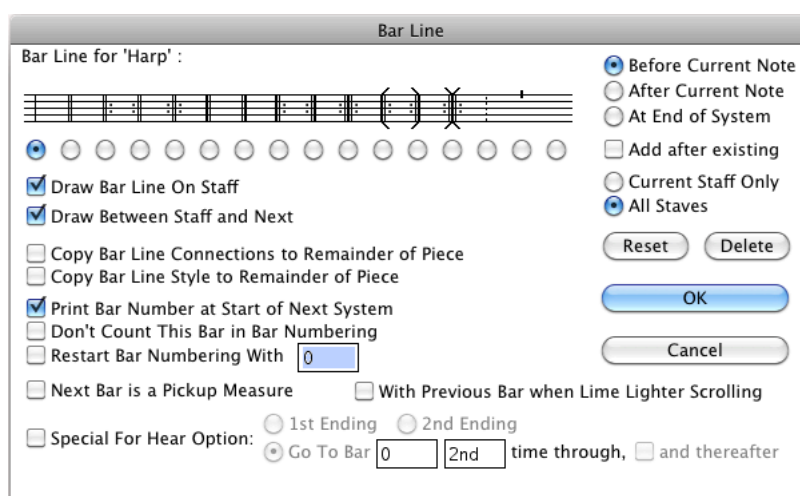


## 13. Bar Lines

A measure (or 'bar' in English) is a segment of time corresponding to a specific number of beats in which each beat is represented by a particular note value and the boundaries of the bar are indicated by vertical *bar lines*. Dividing music into measures provides regular reference points to pinpoint locations within a piece of music and makes the music easier to follow.

In Lime, as well as their normal musical use, bar lines provide essential control points for hearing the music and scrolling through it.

Selecting a note and using the *Symbol->Bar Line...* facility allows the user to specify bar lines at any point in the music and to change their characteristics.



Bar Line... Dialog

When the Bar dialog is first displayed, choose whether the bar line is before the selected note, after it, or at the end of system. The dialog should then display the characteristics of any existing bar line at that point.

Normally the same bar line is used across all staves, however it is possible to specify that the change is just for one staff (a common reason is to adjust whether it is drawn to the next staff, or, more rarely, if staves are asynchronous).

The following subsections summarise those fields that are not described in the old manual.

### 13.1. Hidden Bar Lines

If a bar is drawn neither on the staff nor between staves then it is invisible in this context. However, if you want a truly hidden bar line, the best way is to choose the empty (hidden) bar line on the far right of the options. The bar line will then be hidden and occupy no space in any context.





### 13.2. Hearing Options

These affect what happens when Lime is playing the piece and the bar line is encountered.

If the **Special for Hear Option** is checked and **Go to Bar** selected, if **and thereafter** is also checked, Lime will jump to the designated Bar the specified time through if ever the bar line is encountered again. If **and thereafter** is not checked, it means that time through and only that time through. This also affects the *Take Repeat* and *Go To* of Lime Lighter.

The **Next Bar is a Pickup Measure** affects the metronome. In general Lime restarts the beat rhythm at each bar line unless the measure is declared a pick up measure, in which case the rhythm is just continued.

The **With Previous Bar when Lime Lighter Scrolling** is only relevant if you have the Lime Lighter music stand or are preparing music for it. It specifies that when highlighting music, Lime Lighter will treat the two measures as a single entity when scrolling by measure. For example, if you have a single note pick up measure, it is often better for it to be combined the next measure rather than highlighted by itself.

### 13.3. Concatenated Bar Lines

Two bar lines may be concatenated together and displayed as one. In fact, if you insert a 2-way repeat bar line in the middle of a system, but subsequently split the system (e.g. in another context), the bar line will actually be split into two, with left dots at the end of one system and right dots at the beginning of the next.

This facility has been generalised so that any bar line can in fact be comprised of two concatenated lines, which are merged together.

Apart from being able to handle 2-way repeat bar lines at system breaks, the other main use of this features is to be able to have two independent 'special hear options' at the same place. For example one can have a '*Go To Bar*' 2<sup>nd</sup> time through and one 3<sup>rd</sup> time through (e.g. a repeat and then a *da capo*).

When editing a bar line that is not at the end or beginning of a system, you will have a number of options, dependent on whether the existing bar line is single or concatenated, and partially dependent on whether the line is before or after the selected note.

- **Add After Existing**      If selected a new, concatenated bar line will be inserted after an existing single line.
- **Add Before Existing**      If selected a new, concatenated bar line will be inserted before an existing single line.
- **Separate**      If not selected, an existing concatenated pair will be edited as and subsequently replaced as a single line. The options will be a combination of both existing lines; if there is a conflict, the first one take precedence.  
  
If selected, the first or second (depending on whether it is before or after the selected note) will be edited independently. This is useful, for example, if you want to change the hearing options for one but not the other.





## 14. Slurring

When a staff contains ‘chords’ in which notes are printed with different stem directions (typically because there is more than one voice) there are options to determine how slurs associate with the notes and voices.

Previous (to 9.15) versions of Lime always associated slurs to stem direction. 9.15 now includes options for them to be more voice associated. The two main options are:

- **Stem Direction.** This corresponds to the ‘normal’ behaviour in Lime 9.14 and earlier. In general a slur will only terminate at a chord containing a note whose stem is in the same direction as the slur itself.
- **Voice.** A slur will only terminate on a chord containing a voice that is involved in the slur. A voice is considered involved in a slur if any chord from the beginning of the slur contained one or more notes from that voice, which had slurring set.
- **Voice and Stem Direction.** At the moment the one exception to the voice rule is that an existing slur in the stem direction will override the voice rule

The required slurring option can be set for each piece (and each context therein). The default is, of course, the original stem direction algorithm.

For MusicXML import, the combination of Voice and Stem Direction is set as this seems to give the best results in most (but not all) cases. The most obvious case where this does not work is when a voice with an outstanding slur moves to another staff; the outstanding slur then just goes on forever<sup>12</sup>! The actual algorithm set for MusicXML import is an import option.

As well as the piece/context option, each individual slur can be specified to use a specific algorithm; the default is to use the piece/context option. If one or more slurs do not seem to behave as you want them, the best way is to experiment by setting an alternative association, using the Stem->Modify Slurring menu..

### 14.1. Adding Slurs and Ties

When the slur or tie attribute is removed from or added to one or more notes, the various slur or tie related flags (such as dashed, etc) are normally reset to the default. This ensures that any vestigial flags are not applied to the new slur/tie. However, If the shift key is pressed, when a slur/tie attribute is added, then these old flags will not be reset.

### 14.2. Grace Slur

The Grace Slur sub-menu item specifies whether to draw a slur appropriate for grace notes. This is set by default for grace notes. For ordinary notes this can be useful when slurring from a regular note to a *nachschlag*.

If one of the stem menu items to add a slur or additional slur to a group of notes (i.e. more than one selected), if one or more of the notes are flagged as grace slurs, then the flag will be set for all notes in the group.

---

<sup>12</sup> Clearly this needs to be detected and resolved!





### 14.3. Ties as Slurs

The normal use of the *Tie* attribute on a note is to specify that the note is tied to the next note in the same position in the next chord; when played the two notes (or more if the tie is extended) are sounded as one continuous long note.

The tie attribute can also be used as an indication of a split slur<sup>13</sup>. If there is no equivalent note-head in the next chord, Lime will draw the tie as a sort of split slur (a 'pseudo-slur') to the nearest note-head *in the same voice*, if there is one. For any particular note-head, only one 'pseudo slur' will be drawn terminating on it.

### 14.4. Conversion of Old Files

When old files (pre 9.15) are upgraded, Lime attempts to ensure that, as far as possible, slurring looks the same after the upgrade. However, if there are voices that print on the same staff in one context, but on different staves in another, it is possible for there to be a slight change in where slurs are terminated in the context where they print together, if stem directions have been specified explicitly. In general, the changes are for the better; but they are changes.

---

<sup>13</sup> The primary purpose of such tied slurs is to support MusicXML import.







## 15. Backslash Codes in Annotations

Backslash expressions are used in annotations to create special (music) characters and to specify formatting style. The font for such expressions should always be a simple, Western alphanumeric font, otherwise if the annotation is not flagged as Unicode (supported in 9.16) it may get converted when editing.

### 15.1. New Backslash Codes

In addition to the backslash codes used to enter music characters, etc [described in the manual], annotations also support the following backslash, single character strings:

- `\` Backslash followed by a space is a “non-breaking” space character. Currently a non-breaking space is only used in vertically stacked fingering to keep the space with the next character. This can be useful, for example, when stacking ornaments, including a delayed turn, represented by a non-breaking space followed by the turn character in the Marl font ( `~` ).
- `\\` Backslash followed by another backslash is a single backslash. This allows a backslash to appear in an annotation.
- `\N` Backslash followed by N (capital-N) is a new-line. Text following it will be on a new line.
- `\R` Backslash followed by R (capital-R) is a carriage return. Text following it will start at the beginning of the same line, overlaying the existing text.
- `\;` Forces the annotation to be edited in future using backslash expressions, but otherwise does nothing.

New backslash codes have been added:

- `\>>` Decrease font size by 4 points. Replaces `\1`. (`\1` is now number 1 in a music font).
- `\<<` Increase font size by 4 points. Replaces `\2`. (`\2` is now number 2 in a music font).
- `\>` Decrease font size by 1 point.
- `\<` Increase font size by 1 point.
- `\<>` Sets the base font size (for subsequent `\>`, `\<`, etc) to that of the last character.
- `\.` A dot (as in a dotted note)
- `\..` A double dot.
- `\|` A vertical line
- `\`` A slash (e.g. as used in figured bass)
- `\l` Toggle underline (like `\b` and `\i` for toggling bold and italic)
- `\FONT` Reverts to the base font (e.g. after `\MARL`).
- `\niente` A niente circle (e.g. for diminuendo to nothing).
- `\arp` The arpeggiation character.
- `\0 .. \9` `\` followed by a digit means the equivalent digit in a music font, as used, for example, for numbering full bar rests.





## 15.2. Backslash Editing Option

If backslash code are used when originally creating or modifying an annotation, the 'backslash editing' style will be set for the annotation. This means that if the annotation is edited, the original backslash expressions will be used. This can be changed using the 'backslash editing' option from the annotation style menu.

There is also a preference option to always use backslash editing. By default this is on if Lime's low-vision, speaking option is set, and off otherwise.

Care must be taken if setting backslash-editing for an annotation that was originally created without backslashes. Whilst the result, if left unchanged, should remain the same, the backslash expressions that Lime creates, may not match the original intention and can be a little confusing. This can also happen if character parameters used by the annotation have since been changed.

If an annotation was originally created when the preferred music font was MARL/TUFA and subsequently edited in backslash mode when the font is SONATA (or vice versa), symbols in the old font will be converted to the prevailing preferred music font.

## 15.3. Backslash Editing Mode

As well as the codes for music symbols, backslash codes include options to toggle face modes, **bold**, *italic* and underline and to change the font size. When an existing annotation is edited in backslash mode, the face and the size of text is first set to that of the first character. Text face toggling and font size backslash code start with reference to that.

Due to the potential conflict between the style (face, size, etc) set using backslash expressions and that set by the user using the annotation style menu, if a backslash expression is found that changes the style (currently face or size only), then any equivalent change in the actual text-edit record is ignored. So if \b; \i; or \l; is ever encountered, the text face of any subsequent text face of any subsequent characters is ignored. Similarly if \>; \>; \<; or \<; is ever encountered, the font size of any subsequent characters is ignored. This behaviour can be changed in the preferences.





## 16. Polymetric and Polytemporal Parts

Lime 9.15.9 includes support for system separation and pagination in pieces which have parts that proceed with multiple independent beat rates and whose measures do not align because they are of different lengths. This can legitimately happen for two reasons (within Lime the term '*Polymetric*' often means one or the other or both):

- The parts have incompatible time signatures such that the effective length of each measure is different. The play-back length of a note (e.g. a quarter/crotchet) is the same in each part, but there are a different number per measure (for example, one in 4/4 and another in 3/4). This is called '*Polymeter*'.
- A '*Polytempo*' note duration multiplier<sup>14</sup> is used in one or more of the time signatures. This modifies the effective length of each notated note. For example if the multiplier on part A were 1.5 against 1.0 in part B, a quarter/crotchet in part A would last the equivalent of a dotted one in Part B. In the score the different lengths will be reflected in the spacing.

If the differences between the parts in a context (e.g. the score) is significant, it can be impossible to put system/page breaks at measure boundaries that align on all parts. Prior to 9.15.9, Lime would just go ahead and split at an available measure boundary. This meant that after the split, the parts were not aligned by time, rendering them impossible to read/follow together. Lime 9.15.9 now allows a staff to be split anywhere, even in the middle of a chord. After the split, everything remains aligned.

There is an option for a piece's context (options for Piece... menu item) that specifies that the piece has *Polymetric Parts* (or polytemporal) and system breaks can be inserted anywhere, even if not at a timing boundary.

The following extract shows a very simple (silly), polymeter example of 4/4 against 3/4. There are 3 measures on the first staff and 4 on the second. There is no measure on either staff, where the system can be split at a measure boundary on both staves. Furthermore, a split at the 3rd measure in the 2<sup>nd</sup> staff, is not at a timing boundary on the 1<sup>st</sup> staff.

Staff 1 is 4/4

Staff 2 is 3/4

want to break 2<sup>nd</sup> staff here.

<sup>14</sup> Currently the polytempo note duration multiplier is an obscure parameter in the staff section; after 9.15.9 it is an attribute of a time signature and properly integrated.





Lime can, however, split at this point and correctly align the music afterwards, as can be seen below. What happens is that any note that starts before the time of the system break, will be placed before the break. The notes on that staff after the break will be placed according to the amount of time remaining and, therefore, will be correctly aligned with the other staff, as can be seen in the example below.

When a system break is not '*Bar Associated*' at a measure boundary, there will not be a bar line at the end of its staff before the break; furthermore, there will not be a line at the beginning of the staff after the break (though this can be controlled by a parameter).

Result of Splitting a System with Polymetric Parts

### 16.1. Polymetric Parts Option

In most music, parts should align at measure boundaries (or at least at regular timing boundaries) and, therefore, users are warned if there appears to be a problem. Setting the *Polymetric Parts* option (*File->Options for Piece...* menu item) avoids these warnings, and tells Lime that the context has Polymetric or Polytemporal (or both) parts.

The *Polymetric Parts* option is context specific. In most cases, contexts for individual will want systems split at measure boundaries; it would probably not be appropriate to set the *Polymetric Parts* option for those contexts.

Whether or not this option is set, there is no restriction on where system breaks may be placed (other than avoiding a completely empty system). It's main use is to warn normal users of possible mistakes and, furthermore, to set the default in some of the dialogs to be '*current staff only*' rather than '*all staves*'.

### 16.2. Note Editing

When editing notes at the end of a system (including end of page), which is not *bar associated* (does not occur at a measure boundary), if note lengths change, Lime will automatically adjust which notes go before the system break and which after it.

### 16.3. Beaming

Currently, if you want a beam to extend over a *non-bar associated* system break, you will have to set the notes before the break to *Continue Primary Beam* explicitly (using the *Note* menu).



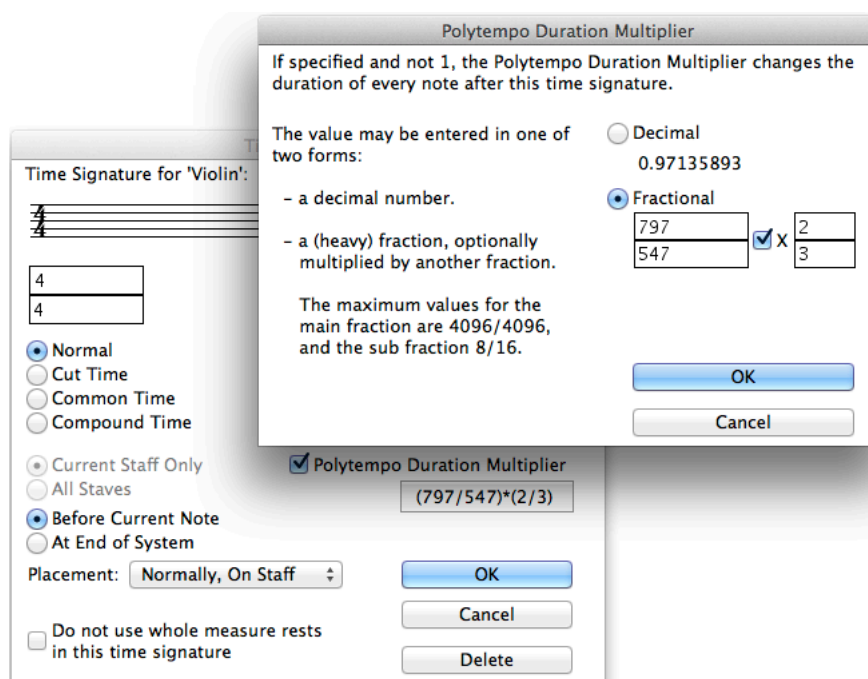


## 16.4. Polytempo Note Duration Multiplier

If a time signature has a *Polytempo Duration Multiplier*<sup>15</sup>, the duration and spacing of every note after this time signature is multiplied by this value. In essence, the multiplier is applied to the effective note length. If, for example, the multiplier is 1.5, then a quarter note (crotchet) will take the same time as a dotted quarter note on a part without a multiplier. Parts with different multipliers run at different paces through time.

If a polytempo duration multiplier is needed, it can be specified as part of the time signature, using the advanced '*Polytemporal*' attribute. If you do not actually want a visible time signature, then it can be hidden (placement, hidden) and, moreover, a signature of 0/0 is allowed, when there is a polytempo multiplier.

In most cases, there is a well defined ratio between polytemporal parts. It is, therefore, possible to specify and maintain the *Polytemporal Multiplier* as a ratio in the form of a (heavy) fraction, or even as the product of two fractions. If something more irrational is needed, then it can be specified as a positive decimal number.



Polytempo Duration Multiplier specified in a dummy Time Signature

If the fractional form is used to specify the multiplier and the fractional radio button remains selected when OK is pressed, the multiplier is maintained and displayed in the fractional form. If, however, the decimal button is selected, the multiplier is maintained and displayed as a simple decimal.

If an existing multiplier is in decimal form and the fractional option is chosen, Lime will attempt to identify a fraction that is within less than 0.00001 of the original.

<sup>15</sup> The Polytempo Duration Multiplier is a very advanced feature aimed at supporting certain types of modern music (see [www.theoctetproject.info](http://www.theoctetproject.info) for an example). You will not normally want to use it and, unless you know what you are doing, it is probably a mistake to set it at all.





#### 16.4.1. Re-computing Playback

The *Polytempo Duration Multiplier* affects the actual play-back time of each chord. If the multiplier is changed for any reason (change in value or deletion of a time signature) then it is necessary to re-compute play-back durations for the affected notes. This is done automatically.

#### 16.4.2. Linear Spacing

In a truly polytemporal score, using different *Polytempo Duration Multipliers* in different parts, linear spacing of the score is not recommended. There is no problem, however, in parts' contexts, providing the multiplier is the same.

In 'normal', measure aligned music, it is straightforward to align multiple staves and to space the music linearly in time. However, if anything other than very simple multipliers are used, it is seriously difficult to align music linearly within the constraints of a page because of the need to provide space for the bar lines on each staff. Unless the page width is big enough, more often than not, the music will be over compressed in order to fit.

#### 16.4.3. Upgrading Old Scores

Prior to Lime 9.15.9, the *Polytempo Duration Multiplier* was actually an obscure parameter. When reading such scores, Lime 9.15.9 and later, automatically sets the *polymetric* option and converts the parameter to the time signature attribute. If there is no time signature near the parameter annotation, then a new, hidden one will be created.

When Lime 9.15.9 saves a score with polytemporal parts, the old *Polytempo Duration Multiplier* parameters will be restored, so that the score is fully compatible with earlier versions of Lime.

### 16.5. Systems...

System/page breaks can be inserted wither with the *Page >Systems...* facility or manually at the desired using *Page >Split System*. To get alignment, you must set up the system breaks AFTER you have set up all the staves and, more important, AFTER you have entered the multiplier. The initial creation and insertion of measures does not do it automatically. Moreover, note entry does not change the position in time of any system breaks; if the break is at a bar line then that is where it stays, aligned or otherwise.

The easiest way of setting up the system breaks is to select the beginning of the fastest stave (i.e. the one that has most measures) and use *Page->Systems*, and select the 'New Systems and Page Start Locations (Fixed)' option.

#### 16.5.1. Bulk Breaks with the Page->Systems... option

The Page->Systems... option always works on the Voice of the note that is selected when the dialog is invoked. Measure breaks, etc, are all with reference to that voice. The systems that are created will all be at a measure boundary in that voice.

In 'normal' pieces where all parts have the same measures, it doesn't really matter which voice is selected. However, with *Polymetric Parts* (and polytemporal) it is important that the correct voice is used. It is recommended that the voice with the most measures is used as the master.





It is important to note that in order to get alignment you must set up the system breaks AFTER you have set up all the staves and, more important, AFTER you have entered the multiplier. The initial creation and insertion of measures does not do it automatically.

*Currently, use of the Systems... option for variable system and page starts based on note density in contexts using different polytempo multipliers is not recommended as it can lead to strange results. However there are no problems with any of the fixed options.*

#### 16.5.2. Manual Insertion of System and Page Breaks

System/Page breaks can be inserted manually anywhere in a piece using the Page->Split System menu option (except, of course, at the start of a system). The breaks will be inserted before the selected chord(s), whether or not it is at a measure boundary.

By default the break will be inserted at the same time on all other voices. If this has not been designated a *Polymetric Parts* context, the user will be warned if the break is not at a timing boundary on one of the other voices with the option to cancel the attempt. This warning includes the option to convert the context to being a *Polymetric Parts* one.

*If you are a die-hard and really want to have system breaks at measure boundaries and nowhere else, even if the measures do not align, it is still possible to do so by invoking the Page->Split System menu option with the Shift key down. In this case the break will be inserted at the beginning of the current measure on the selected voice and on other voices at the same place, or the next measure after if they do not align. This is not recommended; it is only for backwards compatibility and may be rescinded in 9.16.*

Manual staff splitting can be done at more than one place at the same time, by selecting more than one note. Care does need to be taken that the selected places do not conflict. If the results are not as expected, undo and try again.

#### 16.5.3. Staff Drag

The use of Staff Drag, whilst it is still supported, is very much **not recommended** except in exceptional cases, because the results are difficult to manage.

In most cases a combination of the default distances in the Layout, the additional 'before system and staff' parameters and also Parts and Voices will do everything necessary. Even if you require the drag to completely overlay another staff, it would almost definitely be better to use 'Parts and Voices...' to put all the necessary voices on the same staff, with appropriate use of uniform staff directions. Lime has long supported more than 2 voices on a staff, using an internal layering facility.

When systems are split, staff drags around the break are removed because system and staff separation distances will change and, therefore, the drag amounts are probably no longer applicable.

#### 16.5.4. Measure Insertion and Deletion

In polytemporal pieces, a fixed number of measures should only be inserted or deleted on all staves in exceptional cases. Normally, it is necessary to do it staff by staff. If measures are inserted or deleted, it will probably be necessary to redo system breaks.





## 16.6. Experimental

The polymetric and polytemporal parts capabilities are 9.16 facilities which are experimental in 9.15.9. Any piece, taking advantage of the facilities will not be rendered properly in 9.15.8 or earlier.

The following aspects still need to be addressed:

- Automated handling of beaming over system breaks that are not at measure boundaries.
- Time signature for more than one but not all staves.
- Remembering the master voice used for creating systems and, perhaps, giving the user the chance to use it instead of the selected voice for the *Systems...* option.
- There are issues with linear spacing in pieces using polytempo multipliers with many staves (bar lines can get overlapped). Normal spacing is, therefore, recommended.
- Use of the *Systems...* option for variable system and page starts based on note density in contexts using different polytempo multipliers is not recommended. However all fixed options now work.
- Can anything sensible can be done to insert or delete compatible measures on all staves? Currently in polytemporal pieces, the only practical way is staff by staff.







## 17. Miscellaneous Items

These are in no particular order.

### 17.1. About Lime

Information about Lime can be found:

On Macs: In the 'Lime Menu', just to the right of the Apple menu.

On Windows: In the system menu, brought up by clicking the Lime icon at the top left of the main Lime frame window (or pressing Alt-Space).

### 17.2. Preferences and Options

Preferences and Options are now two separate dialogs.

*Preferences.* Currently under the Edit menu, the preferences are those for the use of the Lime program that are piece independent.

*Options.* Currently under the file menu, the options are for the current piece that is being edited, for one or more notation contexts. The options are handled in the same way as the layout attributes.

#### 17.2.1. Make ~Backups when Saving

If checked, whenever a file is saved, the previous version is retained with a tilde (~) before the first character. If it is fully checked, this also applies to 'save as'.

#### 17.2.2. No Warnings when Opening Older or Newer File Formats

By default is a piece is opened that has an older or newer file format, the user is warned when the file is opened. If this preference is fully checked, then there will be no warnings; if it is partially checked, there will only be warnings for newer file formats.

Note that, if a piece was in an older or newer file format, 'save' will always act as a 'save as'.

#### 17.2.3. Emboldening Preference

The *Emboldened* preference can be used to generally embolden the score when displayed and, optionally, when printed. When turned on, this is equivalent to setting the minimum line size for many elements to 0.8 and using parameters to embolden things like half note heads (minims) and dots, but without actually modifying the score. Emboldening works best when the zoom level on the screen is *Big (2)* or larger.

When partially checked, this preference affects the display only; when fully checked printing will be affected as well.

Lime Lighter users can control the individual features - see Lime Lighter preferences (section 20.8).





#### 17.2.4. Metronome is default when Hearing

If this is checked a metronome will be the default for the session when the Hear option is used; if it is fully checked, then a lead-in will also be default.

#### 17.3. Annotation Selection - Right-Click

In most cases, annotations can be selected or moved by using the right mouse button - Right-Click (or, on Macs, control-click or the equivalent). This replaces Lime's original alt-click. Although alt-click is still available, it is deprecated and it is strongly recommended that users adopt right-click<sup>16</sup>.

The only exception is that, if the '*allow any alt-click*' option is turned on, Alt-Right-Click (alt-click currently also works) must be used to select and convert a standard graphics element. After that, Right-Click should be used to manipulate the resultant annotation.

#### 17.4. Edit->Clear

Several new options have been added:

##### Kill Annotation

Allows selected annotations to be completely removed and, if any were created as a result of "any-Alt-Click", the original graphic will be restored. Unlike clear (delete), killing an annotation has no side effects (such as changing volume levels if the annotation is a dynamic).

If applied to selected notes ("Kill Note's Annotations"), all annotations associated with the selected notes will be killed.

##### Restore Alt Annotations

For all selected notes, any annotations created following the use of "any-Alt-Click" will be killed and the original graphic will be restored.

If it is selected with the shift-key (or, on Macs, option-key) depressed, then for all selected notes, any annotations created following the use of "any-Alt-Click" and then deleted will be made visible again.

##### All Note head Coloring

This can be used as a quick way of removing all colours from note heads in the whole piece. There is an option to clear colours from clefs, this is to cater for a rare bug in an older version of Lime which spuriously left key signatures coloured and for a planned facility to colour key signatures.

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<sup>16</sup> Future versions of Lime may assign a different meaning to alt-click!





#### Hidden Annos on Pruned Rests

When a piece is formatted, if a staff chord includes notes and rests or more than one rest in the same staff direction, Lime will '*prune*' unnecessary rests and not show them. In older versions of Lime, any annotations on such '*pruned*' rests were ignored and not seen. When an older file is upgraded, Lime attempts to identify such annotations and explicitly hide them (but cannot always be successful). This clear option allows one to unhide or delete (use the check-box) any such annotations.

#### Substitute All Uninstalled Fonts

When a piece is read, if an annotation uses fonts that are not installed on your system, a substitute is used for display purposes. However, unless the annotation is edited, if the piece is saved the original font identifier is still used and, if the piece is opened on a machine with the font installed, it will be used. This clear option replaces the original font identifier with the one used for substitution. There will be no discernable change on your system, but it will mean that the substitute will be permanent even if the original font is installed.

### 17.5. Annotation->Text (Category) Menus

If a text category is selected from the Annotation->Text menu, annotation characteristics are set to those appropriate to the selected category and text entry is initiated (in Text mode). If the font or other characteristic is changed, whilst that category is selected, any new annotation will be created with the same characteristics.

If a new category is chosen, the prevailing defaults for that category are always set. Similarly, whenever any single annotation is selected, its characteristics are set for the associated text category.

With the exception of *Fred-Grid*, which requires the Tufa font (indicated by the : before it), the default font for all annotation categories is Times, when using the normal Text Category menu. This allows use of the back-slash notation without needing to change fonts.

For some categories, the Marl font can be used by default if the menu entry is chosen while pressing the SHIFT-key. This applies to the *Articulation*, *Technical/Bowing*, *Dynamic*, *Ornament*, *Pedal*, *Repeat* (ending) and *Pause* and categories.

#### 17.5.1. Text and Marl+reset

The alternative Text menu behaves the same as the normal Text menu with the following differences:

- If there is no user defined model for the category, the attributes will all be set to the default.
- The Marl font will be used by default for editing the *Articulation*, *Technical/Bowing*, *Dynamic*, *Ornament*, *Repeat*, *Pedal* and *Pause* categories. These are labelled with an asterisk (\* star) in the menu. This can be overridden using the SHIFT-key.





## 17.5.2. Annotation Classifications

### 17.5.2.1. Figured Bass

There is now a 'figured bass' annotation classification, which defaults to below the staff. A single figured bass annotation can be created using the \N new-line facility.

### 17.5.2.2. Poet and Dedication Annotation Classification

The Poet/lyricist and Dedication annotation classifications are similar to the composer classification. The default placement for poet/lyricist is on the left of the page, and for dedication it is in the centre.

## 17.5.3. Playback Interpretation

Some of the classes of annotation can effect play-back, and will default to being interpreted. These include:

- Tempo Marking
- Dynamic
- Midi

Note that, if an annotation's style is set to "*Do Not Interpret*", then there will be no effect on play-back, whatever it might contain. Thus an annotation, such as:

Program 72 (Clarinet)

will only set the midi instrument if interpreted. If you expect an annotation to affect play-back, but it doesn't, check that it does not carry the "*Do Not Interpret*" style.

## 17.5.4. Lines and Curves

Curves can be extended in the same way as Lines. If a curve extends over a system break, 2/3<sup>rd</sup> of it will be before the break and 2/3<sup>rd</sup> after. If the curve is not a simple slur-like curve, the result will need to be checked.

Using one of the 'flip' items, the *Annotation->Line and Curve style* menu, lines and curves annotations may be flipped horizontally or vertically. This adjusts the positioning (and clipping) and/or the meta-style to change the appearance.

Curves can be inverted using the *Annotation->Curve* menu. Inversion simply flips the curve's Bezier control points. Invert Vertical will, for example, convert a curve up into a curve down, and vice versa (this is the primary purpose of the facility). For complex curves, you will have to see what the effects are.

## 17.5.5. Rectangle Drawing

The line mode options "Rectangle" allow drawing of rectangles and generalised vertical or horizontal brackets (similar to hairpins, etc).

Like other 'meta-lines' (hairpins, etc), rectangles' selection points are the top-left and bottom-right. However, since Lime 9.15, you can also select by right- (or alt-) clicking on the bottom-left or top-right.

Squares can be drawn by using the Shift key while drawing.





## 17.6. Entering Numbers in Dialogs

In all Lime dialogs, a decimal number may be entered as a (heavy) fraction in the form *n/d*.

## 17.7. Note Entry

### 17.7.1. Grace Notes

When using step mode note entry, when a note length is hit on the piano window, it no longer clears the Grace status, unless the shift key is down.

### 17.7.2. Nachschlag Grace Notes

When chords are inserted in step mode, there is special handling if the chord is specified as a Nachschlag grace note:

1. If the insertion-point is a normal note, the Nachschlag is placed after any other Nachschlags already on the note (of, if none, after the note itself). The insertion-point remains the original note so that, if any further chords are added, the same procedure is followed.
2. If the insertion-point is itself a Nachschlag, it (and, if necessary any following ones) will be replaced by the new chord (as is normal with step mode entry). The new insertion-point will be the next Nachschlag note, if there is one, otherwise it will revert to the original note in the sequence.
3. If the insertion-point is a grace note (but not a Nachschlag), the Nachschlag that is being inserted is converted to a simple grace note and the insertion-point is set to the newly entered chord.
4. If the chord being entered is a grace note, but not a Nachschlag, and the insertion-point is a Nachschlag, the new note is placed before the insertion-point Nachschlag and becomes the new insertion-point.

## 17.8. Hidden Objects

### 17.8.1. Hidden Annotations

When a hidden text annotation is displayed or printed, everything behind it is masked out, so the annotation can be clearly seen.

Lines and Curves may be hidden in the same way as Text can be. If a hidden line or curve is displayed or printed, it will be in light grey. Hidden lines and curves are only useful as part of fixing old scores.





### 17.8.2. Hidden Symbols

Bar Lines, Time signatures, Clefs and keys can be hidden (using their dialogs). Hidden symbols and rests can be seen temporarily using the *Symbol->Show Hidden Symbols* menu option. This will show them in light grey. Note that there will be changes in the music layout to accommodate the hidden symbols, while they are being shown. Showing hidden symbols allows you to see where they are and modify them. This is particularly useful for hidden Bar Lines and Time Signatures when they can significantly impact play-back and lay-out, and for showing hidden rests.

### 17.8.3. Hidden Rests

Note that *showing hidden symbols* also shows hidden rests, but only those that are explicitly hidden and actually occupy space. If there is more than one voice on a staff, one of which has hidden rests, more likely than not these rests will be discarded and not occupy any space. The *showing hidden symbols* option will not show them.

If a rest is explicitly hidden, Tuplet marks will never be shown on it, whether or not the *Hide Tuplet* flag is set for it. However, unless the *Hide Tuplet* flag is set, a hidden rest will be considered when tuplet groups are identified. If the *Hide Tuplet* flag is set for a hidden rest, then the rest will be totally ignored for tuplet purposes.

Note that, if there are multiple voices on a staff with rests at the same place, if they should not be seen, they all need to be hidden, otherwise one will be shown.

### 17.8.4. Hidden Key Signatures

A Key Signature can be hidden, but this only applies at the point of insertion; the duplicates, put at the beginning of the following system will be shown as normal.

#### 17.8.4.1. $8^{va}$ and $8^{vb}$

A hidden Key Signature is particularly useful for temporarily setting octave-shifted play-back, such as  $8^{va}$  and  $8^{vb}$ . Place a hidden key signature before and after the required section:

- *before* specify transposing as +-12 (or 24 for +-15<sup>ma</sup>) over and above any existing transposition;
- *after* revert the transposing to what it was before the section.

#### 17.8.4.2. Showing Invisible Key Signatures

A key signature with no accidentals (C-major or A-minor) or natural changes is normally invisible. When *Showing Hidden Symbols*, such invisible keys are shown as two naturals one above the other, as shown below.



Symbol for Showing C-Major or A-Minor





### 17.9. Showing Tuplet Numbers

By default, the number of notes in a tuplet group is shown in the middle of the group, with no bracket, as shown in the following example. If you want tuplet brackets, you should hide the tuplet numbers and draw a *tuplet bracket* line annotation.



Tuplet Numbers

If, for any reason, a tuplet group is incomplete (they are both complete in the example above), then the nominal number is still shown<sup>17</sup>, subject to the *Show Tuplet Numbers* piece option setting.

Showing of the tuplet numbers number can be controlled in one of two ways:

- By using the *Note->Hide Tuplet* menu item for one or more notes.
- Globally for the context using the *Show Tuplet Numbers* option in the *File->Options for Piece* dialog. If this is fully checked, then all tuplet numbers will be shown, except for those individually disabled. If it is partly checked then only numbers for complete groups will be shown (this is for compatibility with previous versions of Lime). If tuplets are being shown and a tuplet extends over a system break, it will be shown both before and after the system break.

### 17.10. Multi-Line Text

Support for multi-line text is limited; it is primarily aimed at simplifying MusicXML import. The following should be noted:

- Style options such as extending underscore or hyphens are not available with multi-line text.
- If the fingering style is set, then new-lines go above the previous line if the annotation is above the note or staff; furthermore, if there are new-lines (\N) or carriage-returns (\R), splitting is only at those characters.
- Like other annotations, the selection points for multi-line text are top-left, top-right, bottom-left and bottom-right. Right-clicking anywhere else in the text will do nothing (unless it is near another annotation).

### 17.11. Piano Window

The Piano Window (tool-box) is resizable on both Windows and Macs.

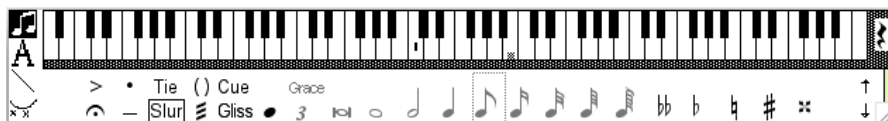
Using the *Window->Piano Zoom...* menu, standard sizes from 100% to 200% may be set. The default is 125% because that is better suited to modern screen sizes and resolution. When the menu option is used, the window is always repositioned to its default position. Other sizes may be set by using the mouse (grow-box at the bottom right on Macs, or any of the window borders on Windows).

<sup>17</sup> Before 9.15.9 the nominal number was never shown for an incomplete tuplet group. When pre-9.14 or earlier pieces are imported, the option will be set to *not* show incomplete tuplet numbers.





The piano window may be moved to a new position using the drag box - the box on the right of the window; on Macs it is light green; on Windows it has a light grey pattern.



Mac Piano Window



Windows Piano Window

There is an option, the Window->Piano Zoom... menu, to minimize the piano window. This can be useful when all one wants to do is read the score. When hearing with tracking or when low-vision scrolling, the piano window is automatically minimized and restored to its original state afterwards.

On Windows, apart from the icons on the left and keyboard itself, which are always black and white, the buttons and background of the piano window follow the user's Windows' theme.

#### 17.11.1. Piano Window Mode

The four buttons on the left of the piano window identify the current mode of music editing.

- Music mode for viewing and editing notes;
- Text mode for creating and editing text annotations;
- Line mode for creating or editing Lines, etc;
- Curve mode for creating and editing curves.

The icon of the selected mode is inverted. In the examples above, music mode is selected.

#### 17.11.2. Piano Window Music Mode Buttons and Status Indicators

In Music Mode, the two rows of buttons below the keyboard show the status of the currently selected note(s) and many of them may be used to change the status. Those that are inactive are shown disabled (typically, light grey). A button is framed (has a rectangle drawn round it) if all the selected notes have that characteristic<sup>18</sup>; it is shown with a dotted background if only some of the notes have that characteristic.

In normal editing mode, the note duration buttons (and the grace button) are disabled (grey, or whatever is configured for the disabled colour on Windows); however they show the status of the currently selected note(s). In addition, a small, grey mark is placed on one or more piano keys, corresponding to the selected note or notes.

<sup>18</sup> n.b. prior to 9.15.9, buttons were inverted, white on black, rather than framed.







In note entry mode, all buttons are enabled and are used to set the characteristics of the next note to be entered.

In duration editing mode (*Edit->Enable Duration Edits*), the note duration buttons (and the Kill button), which can be used to change the duration of the selected note(s) are shown in red (whatever the Windows' theme), indicating that care must be taken when using them.

### 17.11.3. NUM-Lock Indicator

The drag box on the piano window is used to indicate whether the keyboard is in NUM-Lock state. NUM-Lock is indicated on the piano window by the drag box being darker (darker green on Macs, darker grey on Windows).

If you wish to use the number-pad arrow keys, then it is important that NUM-Lock is off. Similarly if you wish to use the numbers on the number pad (typically for piano window short cuts), then NUM-Lock must be on.

On most keyboards<sup>19</sup>, NUM-Lock is toggled using the key above the '7' on the number-pad. On Macs the SHIFT-key must be used as well<sup>20</sup>.

## 17.12. Navigation when Inspecting Internal Fields

The *Note->Internal Fields* dialog includes four buttons to enable navigation within the page while staying within the dialog. Each button is equivalent to the *Cancel* button, followed by a move to the appropriate note, followed by re-invocation of the dialog. The four buttons correspond to the left, up, down and right arrow keys, namely:

- < move to previous note
- ^ move to previous voice
- v move to next voice
- > move to next note

If the move is not possible (e.g. you are already on the last note in a voice on the page, or the voice stops printing), the system beep will be sounded and the dialog will remain on the same note.

Note that these arrow keys do NOT save any changes you might have made. If you want to apply a change before moving, use the *Apply* button.

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<sup>19</sup> On some keyboards (notably the Dell KM714), NUM-Lock is permanently on & can't be changed.

<sup>20</sup> On Macs, NUM-Lock is controlled within Lime and always starts in the *off* state.





### 17.13. Low Resolution Rendering

#### 17.13.1. Printing

If the Shift-key is down when printing is selected, an alternative (“low”) resolution method is used.

Windows: The alternative “low resolution” is simply a slightly different rounding algorithm. In most cases, it makes little or no difference.

Macs: By default Macs use very high (10x) resolution when printing and specify a scaling of 10% (over and above any user scaling). If saving to a PDF file, the result can be quite large. The “low resolution” option uses 5x resolution and, thus, results in smaller PDF files.

#### 17.13.2. Copy Rectangle

By default Copy Rectangle will copy at high resolution (5x), which will need down-sizing when pasting; this is done automatically by word processors, such as Word. If the shift-key is used (“low resolution”), then an exact copy of the rectangle on the screen will be made at the current screen resolution.

Note that nowadays, the equivalent can be achieved by printing to a PDF and using PDF tools to copy selected portions.

### 17.14. Saving

Whenever a piece is saved, it is first saved to a temporary (unique) file in the target directory, which is then renamed to the required file name. This means that, if there is a problem while writing a file, the original file will not be corrupted. Error messages may sometimes refer to this temporary file.

Though most potential problems (such as read-only) are detected before a file is written, it is possible for there to be an error when trying to rename the temporary file. If this happens, the temporary file will be left in the target directory for the user to manually move or rename (or delete).

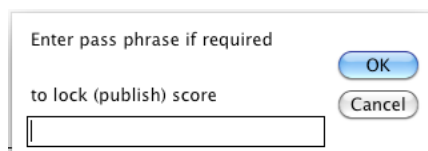
By default, a piece may be saved even if it is unchanged. Whenever a piece is saved, its status, such as current page and context is saved with it. There is a preference option to use Save As... if you try to save an unchanged piece.

### 17.15. Locking (Publishing) Scores

It is possible to lock (often called ‘publish’) a score so that nothing in it can be changed, even if it is saved as another file name.

A score may be locked (published) by choosing the *Save as Locked...* item from the File menu. You will then be asked to enter a ‘pass phrase’, which, if not empty, must be used if the score needs to be unlocked.





If the pass phrase is empty (or all spaces), then nothing is needed to unlock it. Note that any file 'published' prior to version 9.15 has no pass phrase and can be unlocked easily.

## 17.16. Parts and Voices...

In the *Parts and Voices...* dialog, when a staff is set as *Don't Print*, there is an option to set it for the rest of the piece for the voices on the staff only. If the *Don't Print* check-box is fully checked, it not print until the end of the piece; if it is only partially checked (— on Macs or a dimmed tick on Windows), then the effect may be rescinded later in the piece. In the staff list a stave that doesn't print until the end of the piece, is indicated by an equals sign, but if it may be rescinded later it is indicated by a minus sign.

The '*for All Staves*' check-box in the *Parts and Voices...* dialog specifies that the staff size should be applied to all staves (when OK is pressed). If it is only partially checked (— on Macs or a dimmed tick on Windows) then, if a voice changes the specification elsewhere in the piece, the user will be asked whether the change should be done for all of this voice and all remaining voices. If it is fully checked, the change will be done for all voices for the whole piece.

### 17.16.1. No Ledger Lines

The '*No Ledger Lines*' check-box in the *Parts and Voices...* that no ledger lines should be plotted for notes on the designated staff. Normally this will only ever be used if there is only one (or no) staff lines, so the user will be warned if this is checked and there is more than one staff line. Note that this is a 9.16 feature and will have no effect if opened with Lime earlier than 9.15.9.

## 17.17. Go To Bar and Go To Page

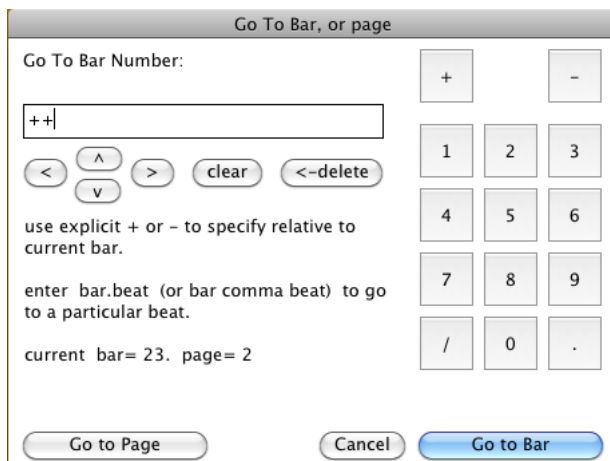
Both the *Go To Bar...* and *Go To Page...* options in the Page menu, bring up a touch screen friendly dialog for entering the required Bar or Page number. The dialogs default to the specified option, but there is an alternative button for going to the other option.

On Windows:

In the *Go To Bar...* dialog, you can specify page by using alt-P instead of return.

In the *Go To Page...* dialog, you can specify bar by using alt-B instead of return.



Go To Bar Dialog

The dialogs provide a numeric keypad<sup>21</sup> for use with a mouse or touch screen to enter the numbers as well as navigation buttons to move the cursor.

As well as allowing entering a specific Bar or Page number, the dialog supports specification of relative Bar or Page numbers, by explicitly putting + (plus) or - (minus) before the number. Alternatively one can use a string of pluses or minuses; the relative value is the number in the string (the example above means go forward 2 bars to bar 25).

#### 17.17.1. Going to First or Last Page

Use of the shift key with previous or next page menu items, or with Command-[ and Command-] (Ctrl-[ & Ctrl-]) will go to the first or last page respectively.

### 17.18. Merging Staves

There is a facility for merging staves throughout the piece. All notes on one staff, throughout the piece (in current context) can be merged with either the one below or one above. This works better than the Voices/Parts dialog because it caters for voices stopping and starting.

To use this facility, select any single note on a staff and choose the *Voices->Merge Staff...* menu item. You will be asked whether merging should be upwards (with previous staff) or downwards (with next staff).

---

<sup>21</sup> Throughout Lime, a decimal number can be entered as a heavy fraction using a forward slash (/). The keypad therefore include a slash as well a period.



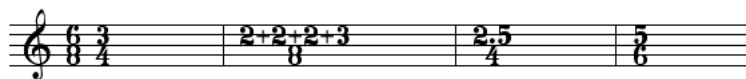


## 17.19. Time Signatures

Time signatures now support alternating, additive and fractional signatures. Check the *advanced alternation* checkbox for alternating ones. For additive or fractional ones, enter the required combination. Up to 4 additive beat counts may be specified. For fractional ones, enter the fraction as a decimal number; only n.5, n.25 and n.125 are supported.

If the Compound option is selected for fractional or additive signatures, then the actual display is simple, but the metronome will follow the underlying rhythm. For example,  $\frac{6}{8}$  will normally be the equivalent of  $\frac{3+3}{8}$  (2 beats in the bar). For common compound signatures, such as  $\frac{6}{8}$ , the conversion will be done automatically when compound time is selected.

Irrational time signatures (e.g. 5/6) are also supported, provided it is possible to create the necessary tuplets to fill the measures.



Alternating, Additive, Fractional, Irrational,  
Time signatures

🔗 [Complete section on advanced time signatures](#)

### 17.19.1. Polytemporal

If a time signature is *Polytemporal*, the associated *Polytempo Duration Multiplier* changes the duration and spacing of every note after this time signature. In essence, the multiplier is applied to the effective note length. If, for example, the multiplier is 1.5, then a quarter note (crotchet) will take the same time as a dotted quarter note on a part without a multiplier.

Because it is a very, very rarely used feature, the polytemporal multiplier is only shown and is only active if the *Polytemporal* option is checked. The actual entry of the multiplier uses a separate dialog, that allows it to be entered either as a decimal number or, more usefully, as a (heavy) fraction or the product of two fractions - see section 16.4.

## 17.20. Rhythm Errors and Voice Length Consistency Checks

By default, whenever Lime reads a piece, it checks that all voices are approximately the same length when it comes to play-back. If for some reason, you have a piece which always fails this test, you can set the piece options to omit this test when reading the file. Currently this can only be set partially (to allow for an expanded option in the future).

### 17.20.1. Next Rhythm Error

The *Page-> Next Rhythm Error* menu item will go to the next bar whose length is inconsistent with the time signature. This can be useful after importing (or opening) a file with known timing errors.

In normal mode this option will just search the currently selected voice, from the current position. If the SHIFT key is pressed when the menu item is selected, all subsequent voices will also be searched from the beginning of the piece.





## 17.21. Rulers

If rulers are enabled (in Edit->Preferences), a click in the horizontal or vertical ruler, it will draw a guide line; you have to click the ruler and drag it away to get rid of it.

In addition, if the **Alt** (Option) and **Shift** keys are pressed (*but not the Command/Ctrl key*) while moving the mouse about, a full page cross-hair will be shown<sup>22</sup>.

## 17.22. Don't Share Note Head

The *Note->Don't Share Note Head* option in the Note menu, allows you to specify that, if there are multiple voices on a staff, a note's note head should not be shared with that of a note in another voice.

*Normal layout with shared note heads*



*Layout with Don't Share Note Heads*



In the example above, the stem up quavers (blue eighth notes) have "*Don't Share Note Head*" set.

## 17.23. Switching Contexts

The short cut Ctrl/Cmd-semicolon (;) can be used to switch contexts quickly to the previous one viewed. Ctrl/Cmd-shift-semicolon will go to the score context or, if already there, to the last context in the list.

## 17.24. Select All

There is now a 'Select All' sub-menu under the Edit menu. This allows one to select all notes in a voice, part, on a staff or in the whole piece.

## 17.25. Shift Key Menu Alternatives

The Shift key is often used with menus to modify slightly what the menu actually does. The following is a list of menu items affected by the Shift key.

- *Next* and *Previous Page* become *First* and *Last Page*.
- When Shift is used, *Revert* is available, even if the file is apparently unchanged.
- When Shift is used with *Split System* or *Add to Next System* and the context does not have 'polytemporal parts', the timing tests are not performed and the split or addition will be at the same measure number on each voice (this is not recommended).

<sup>22</sup> Prior to 9.16 this was Command/Ctrl + Shift, but this was incompatible with the use of Shift to constrain drawing and dragging to the horizontal or vertical.





- When Shift is used with *Print*:
  - On Macs the resolution is a bit lower, creating smaller PDFs.
  - On Windows a slightly different rounding algorithm is used.
- When Shift is used with *Copy Rectangle*, the copy is at the current screen resolution (zoom).
- When Shift is used with *Paste Text*, the paste will be unformatted; just the text will be pasted, not the style.
- When Shift is used with *Enable Duration Edits*, there will be no warning message.
- When Shift is used with *Create Piece*, it defaults to a grand staff.
- When Shift is used with *Insert Measures*, there will be no warning message if 'all staves' is not chosen.
- When Shift is used with *Paste Music*, reminder accidentals will be retained with no warning.

⌘ *Complete list of Shift modifications to menus.*

## 17.26. Lime Console

For certain operations<sup>23</sup>, Lime will write log and status information to a 'console' window, which will usually be shown automatically.

On both Macintosh and Windows, there are 'Hide' and 'Show' Lime Console items in the Window menu.

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<sup>23</sup> Currently only the Batch... facility uses the console





## 18. Max OSX Considerations

Note that OSX has a tendency to set the default application for a type/extension to the last application that opened a file of that type implicitly. If that application is removed, OSX will revert to any suitable version it can find, not necessarily the previous version that was being used. This can cause confusion, particularly if the one it found is older. Removing all unneeded versions from the disk (or compressing them and deleting the originals) is a good way to guard against this.

### 18.1. OSX Version Support

Lime 9.15 has been tested on all systems from 10.4 (Tiger) up to 10.11 (El Capitan); it will not work on earlier systems. It works on both Intel and PowerPC systems. It is not, however, signed for Mountain Lion or later.

### 18.2. Printing

#### 18.2.1. Print Quality

Since version 9.15, high quality printing from Lime is available on all platforms.

#### 18.2.2. Post-Script Printing Deprecated

On the old Macintosh computers, including the original MacOS systems and the PowerPC (PPC G3, G4 and G5), a Post-Script printing technology was used to overcome graphical capacity limitations. This is no longer available on Intel Macs and is no longer required.

However, on PPC Macs and on Intel Snow Leopard (OSX 10.6 or earlier running Lime in PPC mode under Rosetta), 9.15 still supports the original Post-Script printing technique. On such systems, though it is not recommended, users are given the choice as to whether to use Post-Script or normal graphical printing. There is a preference option to specify the default (the default is not to use PostScript). Post-Script printing is not compatible with full Unicode; if a character cannot be converted to an 8-bit equivalent, it will be printed as a question mark (?).

*Note that, on all OSX systems (on Intel or PowerPC, with or without PostScript) high quality PDFs are fully supported. There is no requirement for any PostScript kludges. It should, however, be noted that PDFs produced without PostScript are significantly larger than ones using PostScript or ones produced on Windows.*

#### 18.2.3. Print Centering

On Mac OSX, when printing, there is a print option to centre the print horizontally on the page. This is ON by default as that is what is done on Windows. For completeness, there is also an option to centre vertically, which is OFF by default.

Optionally the defaults for centering may be saved in the context options.

Most printers have a small non-printable margin; if centering is not used, then Lime adds such a margin, so that no additional scaling (over and above what the user has configured) is needed to ensure that the very top (or left) of each page actually gets printed, whether printed directly to a printer or saved to a PDF and then printed.







Without the margin (or centering), in order to ensure that the very top (or left) is printed, it would be necessary to specify 'scale to fit paper size' every time when printing. This also applies to printing a PDF created by LIME. Not only would this be this a nuisance if the piece has something at the very top (or left) of a page, it means that the printed result would be a bit smaller than otherwise (typically 97% for the normal 1/4inch margin). The same would also apply if horizontal centering were not used.

#### 18.2.4. Copy Rectangle

Copying a Rectangle is a kind of printing. On PPC Macs, old versions of Lime created Post-Script. Lime 9.15 does not normally use Post-Script for copying rectangles but uses high (5x) resolution instead. However die-hard PPC users can still create Post-Script, by selecting Edit->Copy Rectangle with the Control Key depressed.

On all Macintoshes, Copy Rectangle cannot copy rectangles containing Unicode Text properly. Any text that cannot be rendered in 8 bits in it's designated font, will be converted to a question Mark (or equivalent).

In general, it is recommended that a better way of extracting portions from a Lime file, is to create a PDF and use the Preview (or other PDF facility) to select and copy the required bits.

#### 18.3. Long File Names

In 9.15 (and earlier), in the *Batch...* facility on OSX, there is a bug such that, if files with names longer than 32 characters are processed and saved to another directory, the name will be truncated to 32 characters then modified to ensure it is unique<sup>24</sup>.

Also in the *Batch...* facility on OSX, it is only possible to specify back-up when overwriting a file in place.

When importing MusicXML or NIFF, long file names are also truncated.

#### 18.4. Oriental Users

Whilst a few changes have been made to support Unicode file names, by and large Lime's internal structure still uses the old 8-bit MacRoman character set. By patching the Info.plist file inside the Lime execution bundle, it is possible to overcome some of the limitations.

Right-click (ctrl-click) the Lime application; choose 'Show Package Contents'; open the 'Contents' folder; and use a text editor to edit Info.plist. For example patch:

```
<key>CFBundleDevelopmentRegion</key>
<string>English</string>
```

to

```
<key>CFBundleDevelopmentRegion</key>
<string>Japanese</string>
```

---

<sup>24</sup> This is due to the antiquated I/O API that is used, based on the 32 character file limit of OS9. For the 9.17 release, it is planned to overhaul the I/O infrastructure.





## 19. Windows Considerations

### 19.1. Windows Version Support

Lime has been tested on all systems from Windows 2000 up to and including Windows 10.

### 19.2. Gestures on Windows

Lime supports gestures on a touch screen device. Unless Lime Lighter is fully active, basic, single finger tapping (and dragging) is the equivalent of using the mouse to click (and drag). This can be used to select notes, bring up menus, select notes, etc. Single finger press and hold is the equivalent of right-clicking; it can be used for annotation selection, etc.

The following specialised gestures are supported:

**Two Finger Tap** Tap the screen with two fingers simultaneously:  
In normal editing mode, brings up a touch friendly Go To BAR dialog that defaults to the first measure of the current page. When Lime Lighter is active, this action is configurable - see section on Lime Lighter.

**Press and Tap** Pressing one finger onto the screen and then tapping with another maps to the following functions:

<i>direction</i>	<i>short cut</i>	<i>normal function</i>	<i>hear tracking</i>
Left	<i>cmd/ctrl-[</i>	Go to previous page	Slower
Right	<i>cmd/ctrl-]</i>	Go to next page	Faster
Up	<i>cmd/ctrl-shift-[</i>	Go to beginning of piece	Pause/Resume
Down	<i>cmd/ctrl-shift-]</i>	Go to end of piece (last page)	

Note that the alternative "*Hear Tracking*" are only available when hearing the piece with tracking. If the piece is being heard without tracking, then the normal functions apply.





### 19.3. Windows Font Smoothing

Lime has a general preference option to control the level of font smoothing, often known as *anti-aliasing*. The options are:

- Off      The Windows' system option to smooth text fonts on the screen<sup>25</sup> (using *ClearType*) is used. This is **not** recommended because, if system smoothing is turned off then Lime's music window would be a little rough because not only text annotations but also notes and other music symbol are drawn using text (music symbols use one of the special fonts, Marl, Tufa or Sonata), which are all affected by the font smoothing option.
- Partial    *ClearType* smoothing is enforced for all text and symbols, whether or not it is turned on at the system level. The result is exactly the same as if the Windows' system option is on.
- On        Additional smoothing, over and above *ClearType*, is used whenever possible (symbols bigger than 17pt on the screen), otherwise *ClearType* is enforced. This is recommended and is the default.

The preference is for compatibility only, just in case someone finds partial non-anti-aliased fonts easier to see. It is worth noting that, at zoom levels below 2/big (except 1/small), full anti-aliasing is needed for guitar fret grids to display properly on the screen.

### 19.4. Lime Does Not Appear at Start up

If Lime was used on a system with multiple monitors and then subsequently invoked with fewer monitors or with the arrangement changed, it is possible that the remembered position of the main frame window is not on any of the current monitors. If this happens, Lime will start up, but nothing will be visible, except its entry in the task bar.

The solution is to click on the entry in the task bar, then type **Alt** and **Space** together (Alt-Space). This should bring up Lime's system menu<sup>26</sup>. Select *Maximize* and Lime should appear on the primary monitor.

### 19.5. Refreshing Windows

There is a bug on Windows such that, if another application's window (or a sub-window of the print dialog) is dragged across a Lime score window and/or the piano window, it can leave a bit behind or leave small holes in the piano window. Should this happen, the *Refresh* item in the *Window* menu can be used to reconstitute the display.

---

<sup>25</sup> On Window 7 this option is in:  
Control Panel->System->Advanced System Settings->Performance->Visual Effects

<sup>26</sup> **Alt Space** is a standard Windows short cut.





## 19.6. Bad Midi Devices Crashing PC

Software midi synthesisers and sound cards are handled using system drivers and/or DLLs. If one of these is buggy it can cause Lime to crash or freeze. There is nothing Lime can do to stop it. In order to guard against this happening, whenever a midi device is selected, Lime always sets the preferences to "No Output/Input" before attempting to open the device and only sets it to the device when it has been successfully opened. Thus if Lime crashes or freezes when opening a midi device, it will not happen again when Lime is reloaded. The user will then need to set Midi Output/Input back to a working device.

Midi devices that are known to cause problems (2013) include:

- On some versions of Windows (certainly XP and earlier) some sound cards, notably old members "Creative Sound Blaster" family, can cause the whole PC to crash if used as a midi output device. This is because the windows driver advertises itself as midi capable, when it isn't. The problem only occurs (when it occurs) with old, or emulated devices which are actually called "*Creative Sound Blaster*".
- BASSMIDI, but only if Lime is compiled in DEBUG mode, with no optimization and with run-time checking. There seems to be no problems with the release version.

To prevent inadvertently choosing a rogue midi device, Lime has an option to detect such devices and blacklist them. By default all devices starting with "Creative Sound Blaster" are blacklisted. You can change this using in the Preferences dialog (edit->preferences). To blacklist one or more devices, ensure the "Blacklist Midi Devices" checkbox is checked and enter their names (case significant) in the blacklisted box. If there is more than one, separate them with a backslash (\). The number of characters up to the backslash are compared, thus the default "Creative Sound Blaster\" will match anything starting with "Creative Sound Blaster".

## 19.7. File Name Problems on Windows

### 19.7.1. Exotic File Names (fixed in 9.16)

In 9.15 and earlier, there was a bug that Windows Lime could not open files with exotic names (e.g. with oriental characters) that cannot be mapped to the standard Windows 8-bit character set. This has now been fixed.

However, you should be aware that, if Lime 9.16 or later is running, but the default Lime (e.g. in *C:/Program Files*) is 9.15 or earlier, opening a file with an exotic name by double clicking on it in the Finder, will not work; it has to be opened from within Lime 9.16. This is because it is first handled behind the scenes by the default version of Lime.

### 19.7.2. Leading Spaces in File Names

In 9.16 (and earlier), there was a bug in the Windows version which prevents one saving a piece with a file name starting with one or more spaces - the spaces are removed.

## 19.8. VMware Virtual Machine

If Lime for Windows is run on a VMware virtual machine, the cursor repositioning when exiting low vision scrolling does not work properly, unless VMware's preferences have "Always Optimize Mouse for Games" set.





## 20. Lime Lighter



Lime Lighter is a Windows music stand capability designed for Partially Sighted users. A special licence is needed from Dancing Dots Inc. The main functions of Lime Lighter are:

- Show and highlight music bar by bar or system by system at up to 8x magnification;
- Provide hands-free scrolling using pedals or equivalent;
- Provide automatic scrolling through the music, optionally playing some or all of the parts (particularly useful for practice) and optionally with a metronome;
- Easily navigate to a bar or page;
- Mark up the music using touch screen or mouse;
- Change visual appearance to help each user overcome their particular impairment.

### 20.1. Manual Scrolling

Low vision tracking (scrolling) is controlled using F13 (go back), F15 (go forwards), and F14 (take repeat or start/stop automatic scrolling) keys. The Lime Lighter pedals map to these keys. The roles of F14 and F15 can be partially swapped using the Lime Lighter Preferences. See section 20.7. The mapping between the actual pedals and the function keys can be changed in the Lime Lighter preferences. In addition, two extra keys, nominally F16 and F17, can be configured when manually scrolling to take an additional disjunction (not repeat) or to turn on the hear option asynchronously.

- On Windows, *shift-F1*, *shift-F2*, etc, are equivalent to *F13*, *F14*, etc;
- On Macs, *alt-F1*, *alt-F2*, etc, are equivalent to *F13*, *F14*, etc.

Whenever tracking (or low vision scrolling) is initiated, the Piano window is minimized so that it will not obscure the tracked score; it will be automatically restored when tracking is finished. In addition, for low vision scrolling, the music window is made as large as possible and forced to the left of the main screen.

When scrolling is initiated, using the Lime Lighter pedal or key equivalents, the music is first positioned on the measure containing the currently selected note. A second press of the appropriate pedal is then needed to move the rectangle or start automatic scrolling.

#### 20.1.1. Hearing

If a pedal is configured for hearing, it will invoke the hear option automatically from the current position, optionally with an metronome lead-in (partially controlled by the options for the piece, and partially controlled by the Auto part set options within the Hear dialog). If hearing is already active, the pedal will turn it off. This feature enables a user to practice playing-along and pedalling (or equivalent) with an independent accompaniment. The "*Auto*" part set will be used - see Hear Option.

### 20.2. Automatic Scrolling

Scrolling can be automatic. In scrolling is done automatically in accordance with the specified tempos in the music. Optionally the music and/or metronome can sound while automatically scrolling.





Automatic Lime Lighter scrolling is initiated by using F14/F15 or equivalent (middle/right Lime Lighter pedal, depending on the Lime Lighter preferences). It can also be initiated from the Hear menu, but this will not be full screen (see next section).

In automatic scrolling mode, Lime plays the piece from the designated point and moves the low-vision scrolling rectangle in lock-step with the music (aiming to be very slightly ahead). The *Hear->Hear...* dialog is used to specify which parts (from those in the context) will be heard; these parts are saved with the score file. The '*auto*' part set is used for automatic low-vision tracking and for the hear option when manually scrolling.

The '*Inhibit Auto Hear by Default*' Lime Lighter preference option controls whether the music/metronome is played while automatically scrolling (see section 20.8). By default, the music and metronome (if configured) are played, but it is possible to configure that nothing is played or just the metronome is played. This can be useful when one just wants to see the scrolling music and, possibly, have metronome clicks (see section 4.2.3), but nothing else.

If you are playing at a point where your part starts immediately (i.e. without a lead-in by another part or if no other parts are being heard), you will almost definitely want a metronome lead-in, otherwise it is almost impossible to synchronise with the scrolled/heard music.

If a pedal is configured for hearing, it can be used during automatic scrolling to turn hearing the music on or off. Note that this does NOT effect the metronome.

### 20.3. Full Screen Mode

On Windows, if the Lime Lighter zoom level is such that the whole width of the piece is greater than the available width of a maximized window with scroll bars, then the Lime Lighter display will be in a separate view, covering the whole of the screen, including the Windows' task bar. Apart from the title, showing what piece is active and close/minimize buttons, the rest of the display is dedicated to the score.

Full screen mode is closed whenever scrolling is stopped:

- Explicitly closing the full-screen window;
- Exiting Lime Lighter scrolling;
- Activating any other view.

A full screen window can, however, be moved or collapsed. This can be useful to access Lime's menu. Note that, on Windows 7 or earlier (and on Windows 2000 it's odd), all the restore buttons may not always be visible - over the mouse over the top and the rest should appear.

The full screen window is essentially a dialog associated with the view from which it was invoked (a full screen view is actually a separate sub-view as well). While it is active the original view is inactive and will not respond to any mouse click (except to uncollapse it - when a full screen window is first invoked, the original view is collapsed).

A preference option is available to inhibit use of full screen or to increase zoom automatically to force full screen to be used always. Inhibiting full screen may be needed on old small systems (particularly Windows XP), if there are memory constraints.





## 20.4. Mark-Up

Within Lime Lighter, either a single finger or a two finger tap gesture (corresponding to mouse click or shift-click) can be configured to stop Lime Lighter mode and turn on mark-up. If, say, one finger tap is configured to do this, all you need to do to make a mark-up while pedalling is to tap the screen, make the mark-up, then press the pedal to continue.

Mark-ups cannot be done when in Lime Lighter pedal mode, without temporarily stopping it. This is because of the feature interaction between using a touch screen to mark-up, and the gestures for control. Mark-up is turned off automatically when entering any Lime Lighter pedal mode to avoid any confusion. Unless configured otherwise (see below) mark-up mode remains off when Lime Lighter pedal mode is exited.

### 20.4.1. Printing Marked Up Pieces

By default, when a context is printed, mark ups are included. However there is an option in the print dialog to turn this off and omit mark ups. Optionally the default for printing mark ups can be saved for each context printed.

*Note that, while printing a marked up context, mark ups will appear on and jump about the music window. However they are properly restored when printing is complete.*

## 20.5. Ticker Tape and Autocue Contexts

**Ticker Tape** and **Autocue** are viewing modes designed for the Lime-Lighter electronic music stand. In Lime Lighter tracking mode, a ticker tape notation context appears to continually scroll measure by measure like a 'ticker tape', with no visible system or page breaks, and an Autocue one scrolls vertically system by system. The purpose is to enable a Lime Lighter user to always be able to see the next measure(s) even if they would be on another system or page in a normal page-based score.

It is, of course, possible to set up a context within a short piece, which comprises a single wide page with one wide system. However for long pieces, memory constraints (even with today's massive computers) can cause problems and performance limitations. Ticker-tape overcomes these limitations by restricting the actual pseudo page (known as the ticker-tape portal) to the width of just a few (currently 3) normal systems.

Apart from their use within the Lime-Lighter electronic music stand and preparing music for them, ticker tape and autocue viewing modes are probably not particularly useful for normal Lime users.

**Ticker Tape** and **Autocue** are set up as a separate contexts, whose systems are defined for it. In ticker tape and autocue contexts, the music is divided as normal into systems, but there is just one system per nominal page. If the context were displayed in normal mode, there would be usually be just one system per page.

They are very easy to set up using the *Duplicate Context* button in the part extraction (*Context->Part Extraction...*) and specifying the required context type.







In a horizontal *Ticker Tape* context, the music is displayed as a semi-continuous single system. When tracking in Lime Lighter, it will always track by measure (bar), regardless of preferences. Each single "system page" is actually displayed concatenated with the system (page) before it and the system (page) after it, as though the three systems were one long one (and just the one on the page portal). The nominal page number is the middle system, except at the beginning and end of the piece. The first system page in the piece is actually concatenated with the next two; similarly the last system page is concatenated with the previous two. In both cases, this is, of course, only if there are three or more systems in the parent context..

In a vertical *Autocue* context, the music is displayed as semi-continuous page, with three systems per page portal. When tracking in Lime Lighter, it will always track by system, regardless of preferences.

#### 20.5.1. Setting Up a Ticker Tape or Autocue Context

A convenient way of setting up a ticker tape or autocue context is to use the '*Duplicate Context*' feature of the Part Extraction dialog, setting the appropriate type of context in the sub-dialog. This creates the new context of the required type, containing the same parts, system breaks, etc as the original, except that staff drags (which are, in any case not recommended) are not duplicated if the type of context (Autocue/Ticker tape) is changed.

Setting (or clearing) a ticker tape or autocue context may also be done using the *Systems...* dialog, from the *Page* menu. You simply set or clear the appropriate context checkbox. Note that the score context cannot be set as ticker tape or autocue (the checkboxes will be disabled). When setting ticker tape or autocue, you just specify the parameters for determining the number of measures in each system; the number of systems per nominal page is always 1. You can retain the existing system breaks by choosing the list. In ticker tape or autocue contexts all system breaks are converted to page breaks, whatever is in the list.

#### 20.5.2. Navigation

All the page navigation functions will go to the nominal system page. For example, in a longish piece, if you are on system page 2, say, it will be displayed with system 1 and system 3; if you go to the next system page, system 3 will be displayed with system 2 and system 4. Whenever you go to a page, the selected note will normally be at the beginning of the actual system, not the beginning of the displayed page portal (unless you are at the beginning of the piece).

#### 20.5.3. Nominal Page Width of a Ticker Tape Context

The nominal page width of a ticker-tape context is what the user specifies in the layout. This specifies the nominal width of a single *system page*. Typically, this will be appropriate for a single system. The *Systems...* dialog will use the nominal value for determining systems breaks. When a ticker tape context is displayed, the actual page width used for the display is based on the nominal page plus the length of two staves. It is reduced a little bit further to allow for the fact that reminder clefs and key signatures are not shown within the nominal page, except at the beginning.







#### 20.5.4. Nominal System Separators in a Ticker Tape Context

If the *Show Systems Separators* option for the context is turned on, the start of each nominal system is indicated by a small extension of the thin components of the associated bar line above and below the staff; otherwise there is no discernable boundary between the systems.

Note that in an Autocue context, system separators are shown as normal.

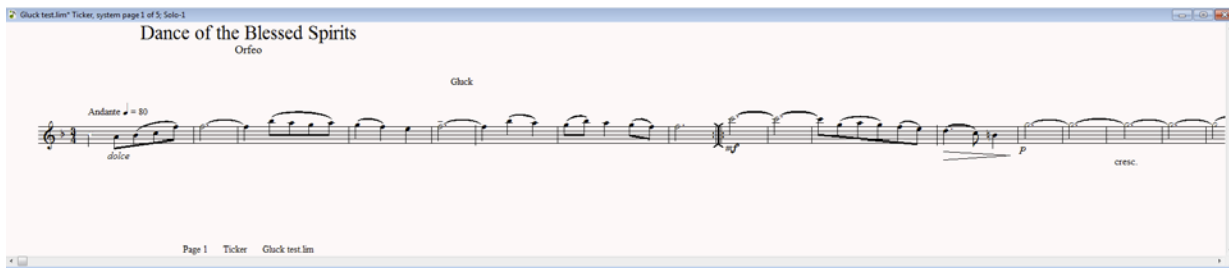
#### 20.5.5. Page Size & Zooming

In ticker tape or autocue mode only the first page values for the space above the first staff and below the last staff are used. The values for normal pages are ignored. This is to ensure that the systems remain in a constant position (unless changed by parameters) and, thus, the *ticker tape* or *autocue* flows smoothly.

For ticker tape, it is recommended that the vertical page size is set appropriate to a single system; for autocue, it should be appropriate for three systems.

If the zoom of a ticker tape context is set to frame/screen width, the zoom is set so that there is a reasonable chance that all nominal system pages will fit on the screen, in Lime Lighter scrolling mode, when the highlighted measure is the first on the system page. Because each actual page comprises three concatenated systems, some systems pages will be expanded from their nominal width and some contracted. If the density is very variable, then inevitably some system pages will be too long and some too short.

#### 20.5.6. Editing



##### Editing a Ticker Tape Context

When a ticker tape or autocue context is displayed in normal mode, each nominal page comprises three concatenated system pages. The page number is that of the nominal system page. In a ticker tape context the music appears as one long system.

In an autocue context, there appear to be three systems.

#### 20.5.7. Annotation Anchoring

When displayed in ticker-tape mode, annotations that are anchored to the page (left, right or centre), or to the staff (left or right) are anchored relative to the beginning or end of the nominal system page within the page portal. For staff anchoring, this is where the bar-line is; for page anchoring this is adjusted by the distance of the staff from the page edge, so they are approximately where they would be if displayed normally.





Annotations designated as appearing on each system or page, will only appear at the beginning of a displayed page, never at the nominal system boundaries within it.

#### 20.5.8. Printing

Ticker tape and autocue contexts cannot, currently, be printed, because they would normally be too wide to be useful and, moreover, each system would end up being printed three times!

#### 20.5.9. Mark-Ups

Lime Lighter Mark-Ups are context and page specific. **In ticker tape or autocue mode mark-ups are currently only shown when their nominal page is displayed<sup>27</sup>.** If you want a mark-up to be visible at the beginning of one system page when nearing the end of the previous one or not to disappear when leaving a system page, it may be necessary for the Mark-Up to be drawn twice, once on each nominal page.

#### 20.5.10. Switching Between Normal and Ticker tape or Autocue

The short cut Ctrl/Cmd-semicolon (;) is a convenient quick way of switching between contexts; it goes to the previously viewed context. This can be useful when you sometimes want to view a piece in normal mode (e.g. to discuss it), then start playing it using Lime Lighter. Ctrl/Cmd-shift-semicolon will go to the score context or, if already there, to the last context in the list.

### 20.6. Lime Lighter Specific Short Cuts

The following short cuts are specific to Lime Lighter:

cmd/ctrl-'	On Windows, with Lime Lighter, set mark-up Draw mode or, with the shift key, turn off draw mode. Whilst the short cut is assigned to both single quote and reverse quote, they do not both work on all keyboards; you will need to experiment to find out what works for you or, perhaps, assign you own short cut.
cmd/ctrl-`	
cmd/ctrl-\	On Windows, with Lime Lighter, turn on, or with the shift key off, the mode to enable the arrow keys to be used as well as F13-F16 for Lime Lighter navigation. This allows pedals such as <i>AirTurn™</i> to be used.

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<sup>27</sup> It is a priority item to fix this in 9.17.





## 20.7. Lime Lighter Clicking & Gestures in Music Window

When Lime Lighter music stand is active, whether with manual or with automatic tracking, mouse clicks, or touch screen taps on the Lime Lighter music window have the following effect:

Right Click	<u>Tap and Hold on a touch screen:</u> <b>Always</b> exits Lime Lighter music stand and returns to normal editing mode. This is <b>not</b> configurable.
Shift-Left-Click <sup>28</sup>	<u>Tap with two fingers simultaneously:</u> By default will bring up a big, touch screen friendly 'Go To' dialog (for bars - see section 17.17), but may be configured to stop/markup (if needed for short term compatibility) or to do nothing. Note that two finger tap brings up an enlarged Go To dialog (see section 17.17) in normal editing mode, so it is recommended to keep it the same for Lime Lighter.
Left Click	<u>Tap with one finger:</u> By default will be ignored to avoid any possible confusion with other gestures. It may be configured to stop/markup or to bring up the 'Go To' dialog. Note that, if left click is configured to do anything, double click will be disabled.
Double Click	<u>Tap twice quickly with single finger:</u> Only works if left click is ignored. Otherwise, <b>always</b> brings up the "Go To" dialog for rapid navigation to a bar number (or, in future, rehearsal mark, which may be the default if two fingers are used). This is <b>not</b> configurable.

### 20.7.1. Configuration of 1 & 2 finger Tap Gestures

The function of one and two finger taps, when in Lime Lighter scrolling mode, can be configured in the Lime Lighter preferences. The options are:

- Do nothing. This may be useful for one finger tap, if you tend to touch the screen often while playing.
- Navigation brings up a large touch screen friendly "Go To BAR" dialog. If user changes bar, Lime Lighter moves to the new designated bar. This dialog allows specification of system page, rather than bar number and relative numbers to be specified by explicitly prefixing the number with + or -. There is also a stop option, to exit Lime Lighter scrolling.  
  
If user was in automatic scrolling, scrolling and play-back will be paused and a press of the middle Lime Lighter pedal will resume it at the new measure.
- Stop/Markup Stops scrolling and turns Mark-Up on. A pedal press is needed to resume scrolling.

High priority for 9.17 is to add a "Go To Rehearsal Mark" capability.

<sup>28</sup> N.b. shift-left-click is only equivalent to 2-finger tap when the music stand is active.





## 20.7.2. Press and Tap Gestures

In Lime Lighter mode, the Press and Tap gestures (press one finger onto the screen and then tap with another) can be used instead of the pedals (if you have a hand free) as follows:

Direction	<i>Lime Lighter Scrolling mode</i>	Action
Right	<i>manual:</i>	Advance;
	<i>automatic:</i>	Faster.
Left	<i>manual:</i>	Go back one;
	<i>automatic:</i>	Slower.
Up	<i>manual:</i>	Take Repeat (or disjunction);
	<i>automatic:</i>	Pause/resume.
Down	<i>manual:</i>	Take secondary disjunction (the 'Go To' function');
	<i>automatic:</i>	Pause/resume.

## 20.8. Lime Lighter Preferences

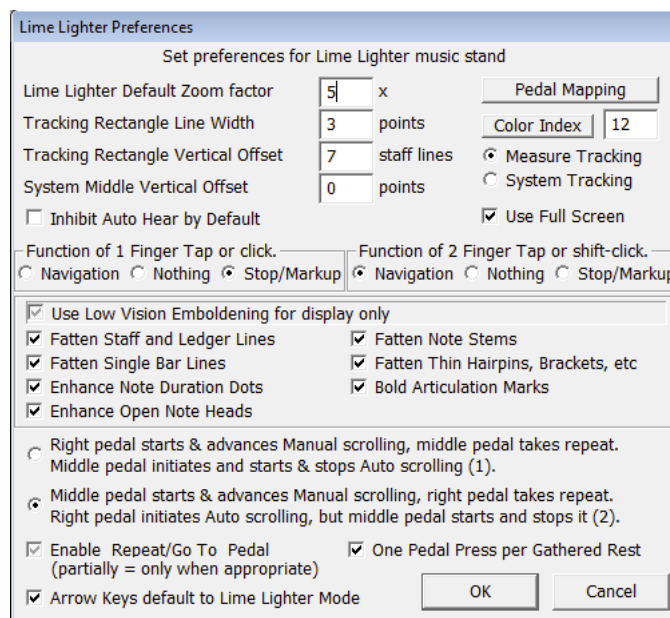
There is a special set of preferences for Lime Lighter. These enable configuration of:

- Zoom to use when Lime Lighting a piece. If this is specified (non-zero), whenever low vision scrolling is invoked, the zoom will change to this value and revert afterwards. + or - may be used for the zoom factor to specify screen/frame width.
- Appearance of the tracking rectangle used when scrolling. Note that this is the same as the tracking line use in normal hear tracking.
- Option to specify the offset from the vertical middle of the screen where Lime Lighter positions the highlighted music. The default is in the middle. The value is in actual points on the screen. Note that there are 72 points to an inch (2.5cm).
- Option to partially swap the roles of the middle and right pedals. It is possible to specify (and recommended for new users) that the middle pedal is used for normal manual advancing.
- Option to move over a multi-measure rest with a single pedal press (default).
- Option to specify whether full screen mode is used. Unchecked means it is never used; partially checked (default) means it is used if zoom is large enough; fully checked means full screen is always used, increasing zoom to fit if necessary.
- Options to specify the function performed by a 1-finger Tap (simple click) or 2-Finger Tap (shift-click) in the music window when Lime Lighter is active. Note that, on Windows, if a 1 finger tap (mouse click) is configured to do anything, the double click/tap function of bringing up the navigation dialog is disabled.
- The 'pedal mapping' button provides a dialog allowing one to specify the function of each of 4 possible pedals. The default number of pedals is 3, but *AirTurn*<sup>™</sup> devices support up to 4. In the pedal mapping dialog, if you have an AirTurn pedal, the pedal numbers (1-4) refer to the ports on the AirTurn device.





- Option to disable the 'Jump' pedal (taking repeat or Go To) when in manual tracking. If there is no actual repeat or disjunction in the performer's score it prevents inadvertently going back to the start. If partially checked, repeats can only be taken if the currently highlighted measure(s) have a bar with left dots or ones with an explicit Go To or 1<sup>st</sup>/2<sup>nd</sup> ending associated with the bar line. If scrolling by system, if there is both a repeat and a Go To, the repeat takes precedence.
- Note that, when manually scrolling, if fully enabled, the repeat pedal will go back to the previous right-facing repeat bar, or the beginning of the piece, but if, and only if, the previous pedal operation was a single reverse (usually left pedal).
- Option to default the use of the up/down/left/right arrow keys for Lime Lighter control. This enables *AirTurn™* pedals (which use Up-, Left-, Down- and Right-Arrows rather than F13 to F16) to be used without modification.
  - When automatically scrolling, Lime can play the music for the parts configured in the *Hear Auto* option of the current context (optionally, with metronome). This can be turned off using the *Inhibit Auto Hear by Default* piece option. If it's checked, there will be no sound; if it is partially checked only the configured metronome will sound. The Go To Bar dialog has an option to temporarily change this.
  - Finally there is the emboldening option to turn on a set of parameters to assist in the visibility of the music. If unchecked, the parameters are not applied; if partially checked (recommended) they apply to the screen only; if fully checked, the emboldening parameters are used when printing as well. Within this option, Lime Lighter users can control individual appearance parameters.



**Lime Lighter Preferences**  
Set preferences for Lime Lighter music stand

Lime Lighter Default Zoom factor: 5 x

Tracking Rectangle Line Width: 3 points

Tracking Rectangle Vertical Offset: 7 staff lines

System Middle Vertical Offset: 0 points

☐ Inhibit Auto Hear by Default

☒ Use Full Screen

Function of 1 Finger Tap or click: ☐ Navigation ☐ Nothing ☒ Stop/Markup

Function of 2 Finger Tap or shift-click: ☒ Navigation ☐ Nothing ☐ Stop/Markup

☒ Use Low Vision Emboldening for display only

☒ Fatten Staff and Ledger Lines

☒ Fatten Note Stems

☒ Fatten Single Bar Lines

☒ Fatten Thin Hairpins, Brackets, etc

☒ Enhance Note Duration Dots

☒ Bold Articulation Marks

☒ Enhance Open Note Heads

☐ Right pedal starts & advances Manual scrolling, middle pedal takes repeat. Middle pedal initiates and starts & stops Auto scrolling (1).

☒ Middle pedal starts & advances Manual scrolling, right pedal takes repeat. Right pedal initiates Auto scrolling, but middle pedal starts and stops it (2).

☒ Enable Repeat/Go To Pedal (partially = only when appropriate)

☒ One Pedal Press per Gathered Rest

☒ Arrow Keys default to Lime Lighter Mode

OK Cancel

Lime Lighter Preferences





### 20.8.1. Pedal Mapping

From Lime Lighter's perspective there are virtual 'left', 'middle', 'right' and currently 5 functions controllable by pedals.

**Left** Go back a measure or system, or start manual scrolling at the beginning of the piece.

**Middle** The function of the 'middle' and  
**Right** 'right' pedals are governed by the Lime Lighter preferences:

- The 'middle' pedal starts and advances manual scrolling; whilst scrolling, the 'right' pedal can be used to take a repeat, if so configured (if it is grey, it will only take a repeat if there is one in the current system). If Lime Lighter mode is started by pressing the 'right' pedal, it goes into automatic mode (with sound); thereafter you press the 'middle' pedal to start and stop it and the 'left' or 'right' pedal to go faster or slower. *This is the recommended default for new users.*
- The 'right' pedal starts and advances manual scrolling; whilst scrolling, the middle pedal can be used to take a repeat, if so configured. If Lime Lighter mode is started by pressing the middle pedal, it goes into automatic mode (with sound). *This alternative is available for compatibility with earlier versions of Lime Lighter.*

**Go To** When manually scrolling, go to a disjunction in the music such as 2<sup>nd</sup> ending, or explicit 'go to bar', but NOT a repeat. Furthermore if the next bar line is concatenated, and the second line specifies a disjunction, that will be taken in preference to the first (if the 2<sup>nd</sup> line has no disjunction, but the 1<sup>st</sup> does, the 1<sup>st</sup> will be taken).

If you start Lime Lighter with a pedal configured as *Go To*, it will invoke manual scrolling and you will be prompted to enter a bar number to start at.

**Hear** when manually scrolling, toggles asynchronous play back.

If you start Lime Lighter with a pedal configured as *Hear*, it will invoke automatic scrolling and you will be prompted to enter a bar number to start at.

On top of this, you can map the physical pedals on the AirTurn pedal block to the functionality of 'left', 'middle' and 'right'. These are the port numbers on the "digit" box and are numbered 1 to 4 (if you have a 4 pedal device) from the left (note that a sustain pedal would be plumbed into one of the ports). So if you have 4 pedals and, for example, want 1 to be left, 4 to be middle (i.e. manual scrolling) and the other 2 to do absolutely nothing, you should:

- map 1 to 'left'
- map 4 to 'middle'
- map 2 and 3 to right, and, furthermore, disable the repeat pedal in the main Lime Lighter preferences. However it would probably be better to have 1 & 2 mapping to 'left' and 3 & 4 mapping to 'middle'

On a 4 pedal AirTurn device, the buttons on top of the "digit box" have the same function as the pedals (and the corresponding arrow keys).

up arrow	= 1
left arrow	= 2
down arrow	= 3
right arrow	= 4





Lime Lighter Pedal Mapping

Set Pedal Function Mapping for Lime Lighter Music Stand

Specify Number of Pedals (double click to reset default functions)

☐ 1 Pedal   
 ☐ 2 Pedals   
 ☒ 3 Pedals   
 ☐ 4 Pedals

Function of Pedal 1	Function of Pedal 2	Function of Pedal 3
<input checked="" type="radio"/> Left	<input type="radio"/> Left	<input type="radio"/> Left
<input type="radio"/> Middle	<input checked="" type="radio"/> Middle	<input type="radio"/> Middle
<input type="radio"/> Right	<input type="radio"/> Right	<input checked="" type="radio"/> Right
<input type="radio"/> Go To	<input type="radio"/> Go To	<input type="radio"/> Go To
<input type="radio"/> Hear	<input type="radio"/> Hear	<input type="radio"/> Hear

Pedal Mapping – Default for 3 Pedals

It is very important to align the pedal mapping to your actual pedal configuration and with the use of the middle and right pedals in the Lime Lighter preferences.

Lime Lighter Pedal Mapping

Set Pedal Function Mapping for Lime Lighter Music Stand

Specify Number of Pedals (double click to reset default functions)

☐ 1 Pedal   
 ☐ 2 Pedals   
 ☐ 3 Pedals   
 ☒ 4 Pedals

Function of Pedal 1	Function of Pedal 2	Function of Pedal 3	Function of Pedal 4
<input checked="" type="radio"/> Left	<input type="radio"/> Left	<input type="radio"/> Left	<input type="radio"/> Left
<input type="radio"/> Middle	<input checked="" type="radio"/> Middle	<input type="radio"/> Middle	<input type="radio"/> Middle
<input type="radio"/> Right	<input type="radio"/> Right	<input checked="" type="radio"/> Right	<input type="radio"/> Right
<input type="radio"/> Go To	<input type="radio"/> Go To	<input type="radio"/> Go To	<input checked="" type="radio"/> Go To
<input type="radio"/> Hear	<input type="radio"/> Hear	<input type="radio"/> Hear	<input type="radio"/> Hear

Pedal Mapping – Possible Configuration to Enabling Secondary ‘Go To’

### 20.8.1.1. Alternative Pedals

The new AirTurn™ unit can support any switch that operates by making an electrical contact. Pedals are just one example. As well as AirTurn pedals, 3<sup>rd</sup> party pedals or switches may be used, such as:

- Independent ‘Sustain’ pedal. Many users, particularly keyboard players, find these more natural.
- Bite switches or equivalent. Whilst not very useful for singers or wind players, some users, particularly those who need their feet, might find them more useful for the basic scrolling operations.
- An option for an organist, for example, may be a bite switch for the basic advancing function (middle), plus two hand operated switches for repeats (right) and back (left).





### 20.8.2. Lime Lighter Parameter Defaults

Using parameters, Lime has a wide range of options for modifying the appearance of a piece. Many of these can be very useful to improve in the visibility of the music for partially sighted users. The “*Use Low Vision Emboldening*” option sets some of these automatically; it is recommended for most Lime Lighter users. The individual check boxes can be used to enable or disable specific changes.

Note that these are the defaults used on your computer<sup>29</sup>; they are not saved with the piece; they are the default parameter settings and may be overridden by any parameters in a piece. If the option is partially checked (default) the parameter defaults apply to the display only, if fully checked they will also be used for printing pieces.

### 20.8.3. Lime Lighter Arrow Keys

The old *Infinity* pedal unit can be used directly as the pedal use F13, F14 and F15. However the new *AirTurn*™ pedals use Up-, Left-, Down- and Right-Arrows rather (than F13 to F15). This conflicts with the standard use of these arrow keys. A preference option, *Edit->Preferences->Lime Arrow Keys* allows one to temporarily specify that the Up-, Left-, Down- and Right-Arrows should be used for Lime Lighter scrolling with the *AirTurn*™ pedals or for their normal function<sup>30</sup>.

The short-cut CTRL-\ (Control backslash) can be used to quickly turn on Lime Lighter mode and CTRL-SHIFT-\ can be used to turn it off. If one of these short cuts is used and the arrow keys are already in the required mode, nothing will be done (except a double beep), otherwise the user must confirm the change. On Windows, CTRL-ALT-\ will toggle the arrow key mode (like the corresponding menu item), which will always require confirmation.

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<sup>29</sup> The use of modified parameter defaults is much more efficient than the use of Parameters per se, which particularly for note heads, do reduce Lime’s performance and can impact on responsiveness to pedal presses.

<sup>30</sup> Note that there is a Lime Lighter preference that enables one to default the arrow keys to Lime Lighter mode.







## 21. Lime Aloud

### 21.1. Lime Aloud - Special Speaking Options

With 9.15, the Lime Aloud user has a degree of control over whether Lime speaks details of selected music etc, and to what level of detail.

The level of detail provided by lime when notes are clicked or arrow-keys are used to navigate, can be controlled using preferences. This affects which classes of annotation are described (spoken). Currently three levels of detail are possible in addition to the basic information about the selected note, such as position (bar, beat, etc) and the note details (notated pitch, articulation, ornaments, etc):

1. Directions. All annotations that provide musical direction, including dynamics, tempo, pedals, pauses, mood, etc. Hairpins are included at this level.
2. Chords/lyrics/fingers and rehearsal marks. In addition to directions, any chords, lyrics, fingering or rehearsal mark annotations are also spoken. *This is the default for new users.*
3. Environment/lines. In addition to the first two levels, all other visible annotations (such as titles, copyright, etc), including lines and curves will be described<sup>31</sup>.

As well as enabling speaking (enabled by default for Lime Aloud), preferences allow one to specify that the spoken, messages are logged to the console. Though primarily for error reporting & debugging, this may be useful for some.

### 21.2. Toggling Lime Speaking

At any time when the music or piano window is active, the Lime automatic speaking option can be toggled on or off by pressing the Shift and Escape keys together (shift-Escape). This is always temporary.

Note that shift-Escape only affects the commentary explicitly provided by Lime; it does not affect menu and dialog commentary, provided by screen reading applications, such as JAWS on Windows or VoiceOver on Macs. Furthermore, it only affects commentary when using the mouse or arrow keys for navigation; explicit requests for commentary and piano-window short-cut feed-back are unaffected.

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<sup>31</sup> Note that, for Lime Aloud, Lime 9.15 and later provides its own translation of backslash codes for JAWS and nothing special is needed in the JAWS' scripts.





## 22. Brailling Issues

### 22.1. Braille Window

Lime's Window menu provides options to *Show* and *Hide* the Braille window, in which Braille is displayed. When this window is focused, the user can navigate through the 'written Braille' and the selected note in the Lime music window will change to reflect the position in the Braille window.

When the focus is on the Braille window, its system menu can be used to focus back to Lime. The shortcut for this is **alt space L**.

When the focus is on the Lime music window, the short cuts are:

**alt W B** to show the Braille window and focus on it

**alt W H** to hide the Braille window.

If the Braille window is actually closed, the Lime Aloud user will be informed. Showing it will cause it to be re-opened.

### 22.2. Archaic GoodFeel 3.2

If you are still using GoodFeel 3.2, contact Dancing Dots to get an upgrade.

In the mean time, in order for GoodFeel 3.2 to accept the newer file format, you may need to edit the *goodfeel.ini* file in the c:\windows folder (or wherever it is located). Find the line that says:

```
allow_newer_file_format=0
```

and change it to

```
allow_newer_file_format=1
```

GoodFeel 3.2 does not work with Lime 9.16 - so get an upgrade now.

