

# *What's New in 4.0 ...*

*An Introduction to the 4.0 Product Line for  
Macintosh.*



**Steinberg**

## **Presenting the Cubase 4.0 Series**

The overnight success of Cubase VST in 1996 confirmed Steinberg's position at the forefront of the music software industry. Building on the success of Cubase over the last 2 years, Version 4.0 now represents the biggest change to the Cubase line since the incorporation of the original VST features.

The new 4.0 product line is:

### **Cubase VST:**

MIDI, Audio and basic Score functions

### **Cubase VST Score:**

As Cubase VST but with pro-level score layout and printing

### **Cubase VST/24:**

Now replacing Cubase Audio XT. The feature set is the same as for Cubase VST Score, but the program also offers 24-bit audio recording and playback, with selectable sample rates up to 96kHz, therefore supporting additional hi-end hardware options.

In total there are over 500 new features covering all aspects of the program. The following pages outline some of the most significant developments.

# The Arrange Window

Check out the following...

It might look similar, but there are some subtle changes to this environment which offer even greater working flexibility:

## Menus and File Handling

Check out some of the new items added to menus, and even the new menu titles themselves!

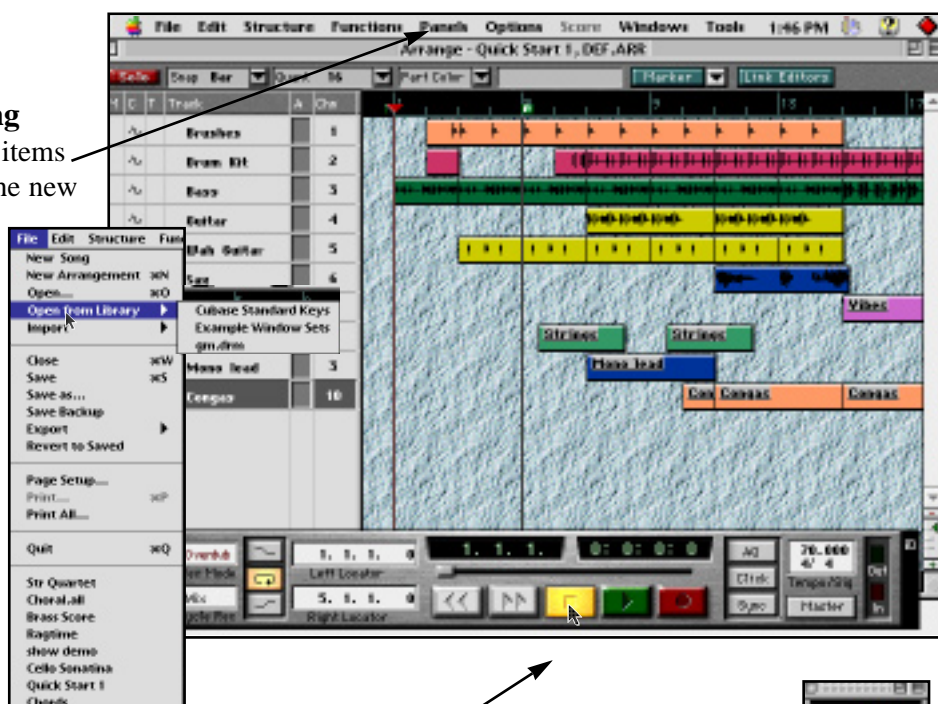
Better file handling

makes it possible to

- browse files by date and type

- check out recent files and common files

- save backups and have a dedicated backup folder



## Transport Bar

- Five different working modes let you customize this for maximum flexibility.

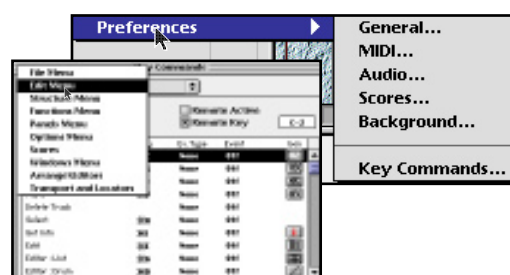


## Preferences

- This new sub-menu in the Edit menu lets you set up a vast number of parameters which can be saved with your song, or applied globally. This will transform the way you work and includes settings for various MIDI parameters and a complete set of Score options.

- Key Commands: Create a customized set by allocating your own key combinations to most frequently used operations.

- Any of the customized key commands can be given a micro icon which appears on the toolbar.



## The Inspector

- A new area lets you Randomize note lengths, pitches, velocities and positions (within parameters), and perform editing functions to Dynamics and Pitches. Ghost outputs let you have any number of additional outputs for a track.

- Several standard parameters e.g. transpose, velocity etc can be edited using graphic sliders. Set this up as a Preference.

## New Track Columns

- Nearly all the Inspector parameters that apply to tracks can be viewed in the new track columns. Choose not only which parameters should be shown as a track column, but also where in the column they should appear.

- All inspector values can be viewed as a track column

- Individual height for each track:
  - moving a track boundary changes all tracks of this class
  - with <command> all tracks get the new setting
  - with <option> just a single track gets affected

A	C	Track	Chn	Vol	Pan	Cmp	Trnsp	Output
		Drums	10		74		R36 200%	
		Claps	10		74		R36 75%	
		Tambourin	10		74		R36 OFF	
		Ac Piano	1		50		L11 OFF	
		Fretless	2		43		R46 OFF	
		Brass	3		60		L44 OFF	
		Sax	4		94		L21 OFF	
		Voc	5		60		R16 OFF	
		Synth Bas	6		30		R20 OFF	
		Synth Sol	7		7		L31 OFF	
		Any	Any		OFF		R20 OFF	
		Any	Any		100		L37 OFF	

- Part Appearance: Each track can have its own settings for showing names/events.

By clicking in the track column header you can choose from a menu which items to show.

- Holding <command> allows the columns to be reordered.

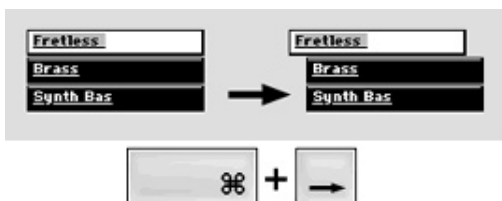
- Columns can be freely sized.

- New graphics controllers: volume/pan/transpose can be shown as sliders/keyboard - its a preference

- Track columns also interact with the new Track Mixer (see later), the Audio Channel Mixer and Inspector parameters. Adjusting values in the track columns simultaneously alters faders and sliders in the above windows and areas.

## Part & Event Handling

In previous Cubase versions the cursor key could be used to shift the 'selection' of events or parts. Now the selected events can be directly moved with the cursor keys.

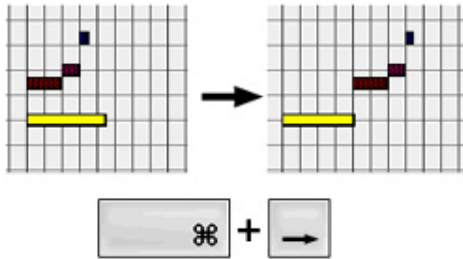


- Arrange Window

- < command > + < left/right > moves all selected parts one snap value to the right/left.

- < command > + < up/down > moves all selected parts one track up/down.

## And in the Editors ...

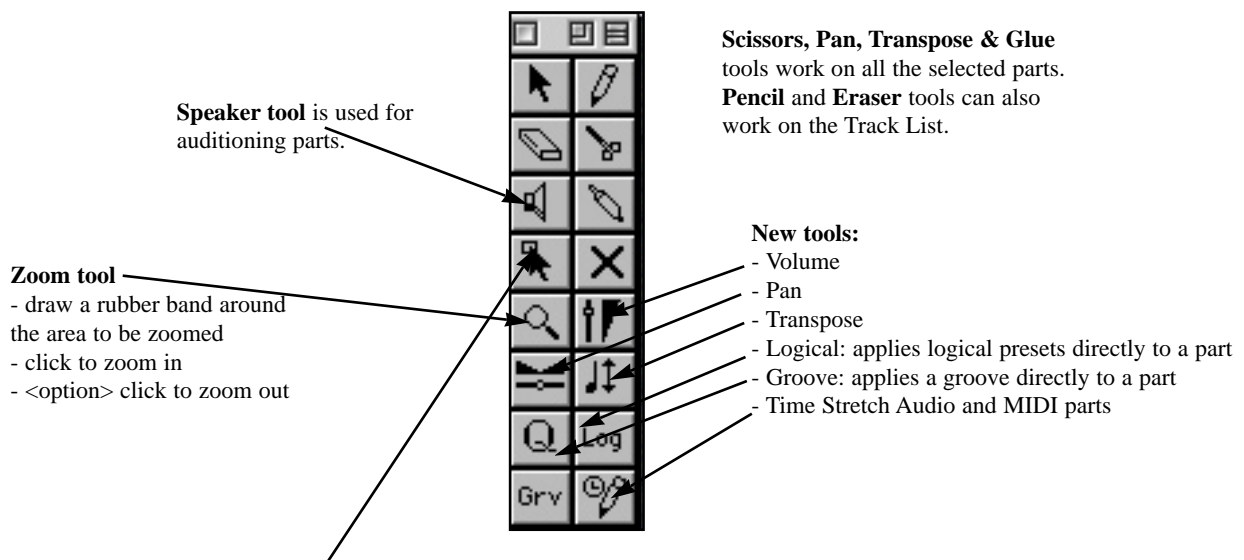


### • Key Edit

- < command > + < left/right > cursor keys moves all selected events by one snap left or right
- < command > + < up/down > cursor keys moves all selected events by one semitone
- < command > + < shift > + < up/down > cursor keys moves all selected events by one octave

## Tools

The Arrange Window toolbox contains a number of new additions:



### Selection Range Tool

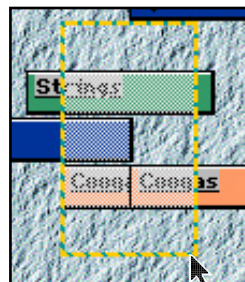
This allows you to select a section of a part or parts and perform editing on that selection. Most important - the selected range does not have to correspond with the boundaries of a part

- The Selection Range is created by dragging the selection tool rubber band.
- holding < option > includes all tracks in the selected range.

- Anything inside the Selection Range acts like a big part
- the selection range can moved, copied or deleted.

- Edit Actions are focused on the Selection Range itself
- a quantize operation can be limited to a range of bars....
- a logical operation can be limited to a range of bars....
- a transpose operation can be limited to a range of bars, regardless of where the parts exist.

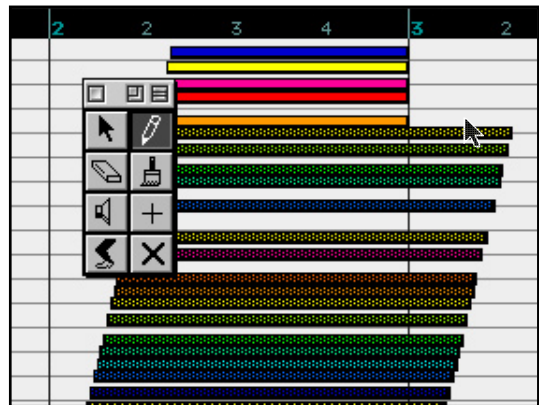
Great interaction with Marker Tracks - see later!



## And in the Editors...

### • New Key Editor Tool Handling

- the Line tool can be used to trim note end positions.
- with <option> the line tool works on note start positions.
- the Pencil tool can change the length of all selected events
- with <command> sizing is proportional to the notes' original length.
- The Mute tool allows individual notes to be muted (this tool is also found in the List Editor toolbox)



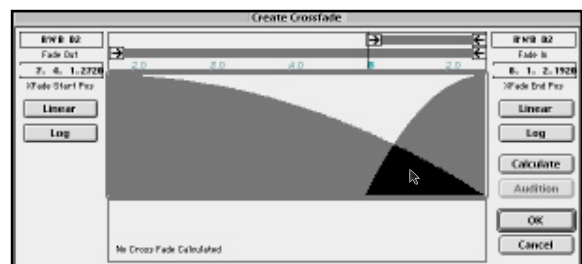
### • Score Editor Tools



- the Cut Flag tool lets you display a single long note in a variety of tied groupings
- no pencil tool included for inserting symbols - you can now set up a Preference where double-clicking on a symbol automatically turns the mouse pointer into a pencil.

### • Audio Editor

- a new crossfade tool lets you set up fade-ins and -outs between audio events



## Resolution

Cubase's Resolution takes a huge leap forward - best in class!

- Editing resolution changes to 15360 ppqn  
- *not a mistake that's 40x what it was previously*

### bars beats sixteenths microticks

1.	1.	1.	0 ... 1 tick later
1.	1.	1.	1 ... 3837 ticks later !
1.	1.	1.	3839 ... 1 tick more
1.	1.	2.	0 ... one whole <b>1 6 t h</b> note is complete
1.	1.	1.	0 ... 1 16th later
1.	1.	2.	0 ... 1 16th later
1.	1.	3.	0 ... another 16th later
1.	1.	4.	0 ... yet another 16th later
1.	2.	1.	0 ... one whole <b>q u a r t e r</b> note is complete
1.	1.	1.	0 ... 1 quarter later
1.	2.	1.	0 ... etc.
1.	3.	1.	0
1.	4.	1.	0
1.	5.	1.	0 ... hey this isn't dance music
2.	1.	0.	0 ... one whole <b>b a r</b> is complete, finally

- Notes can have a length of 273 bars in 4/4 - much better than the previous limit of 84 bars.
- Song positions can be 'displayed' as **bar/beat/sixteenth/tick** - many options are available - including Classic Cubase

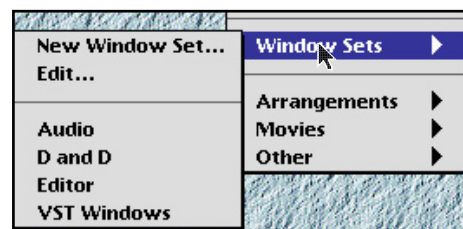
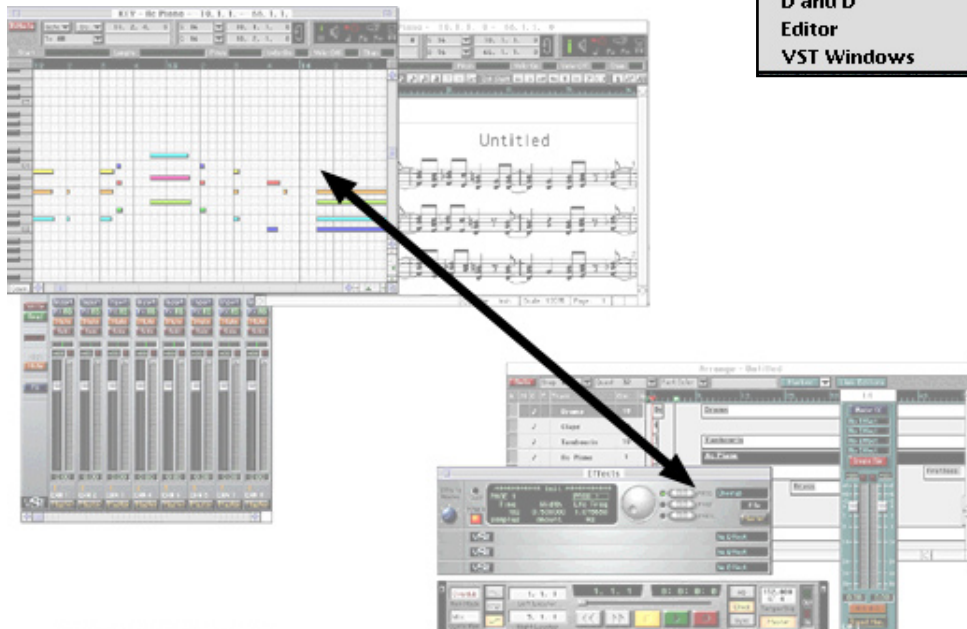
### *Cool Stuff...*

- Snipping audio in the audio editor is practically sample resolution.



# Window Sets

Here you can store different combinations of open windows and recall them instantly.



- Available for all main windows
  - Arrange Window
  - Key Editor
  - List Editor
  - Drum Editor
  - Score Editor
  - Notepad
  - Monitors
  - MIDI Mixer
  - Audio Editor
  - Pool
  - MasterTrack Editor

- Optional Attributes Mode.

- You can choose whether to save complete data for all open windows or just the 'presence' of some kinds of window. This difference is important and makes a big difference to the use-ability of window sets. When the complete window state is saved - and recalled - windows are opened and closed to make the current window state match the Window set.

- When you don't use this complete attribute mode - it's possible to open and position the windows in the window set without disturbing the windows that are currently open.

- The result is that is possible to save & restore positions of one group of windows ( maybe the monitors ) without forcing editors to close that you still might be working on.

- Window Sets can be given key commands ( maybe <command> < 1 - 9 > - you choose )

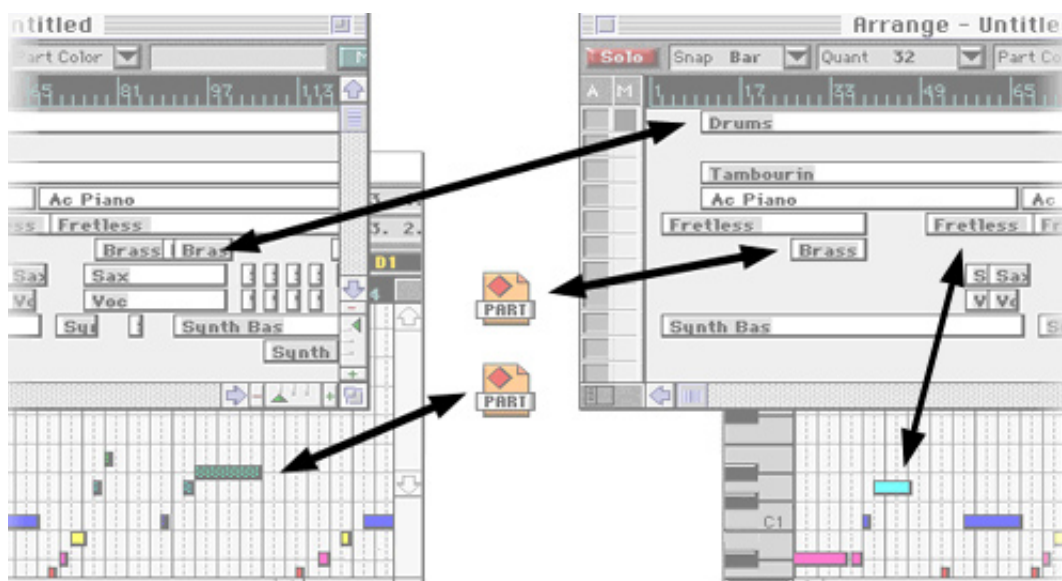
- that also means that Window Sets can be controlled by MIDI command.....

.....and can appear on the Tool Bar



## Drag and Drop

Cubase 4.0 implements full Drag & Drop. This creates a whole new set of working methods without losing any of the functionality that current users may want to stay with.



The Drag & Drop features allow free transfer of data between:

- Cubase Windows and the Desktop:
    - One or more selected Parts can be dragged to the desktop.
    - One or more selected Events can be dragged to the desktop.In both cases a 'Part' file is created on the desktop containing all the dragged data.
  - Part Files can be dragged from the Desktop to Arrange Windows.
  - Part Files can be dragged from the Desktop to Edit Windows.
- The part is always 'unpacked' and its data added to the destination

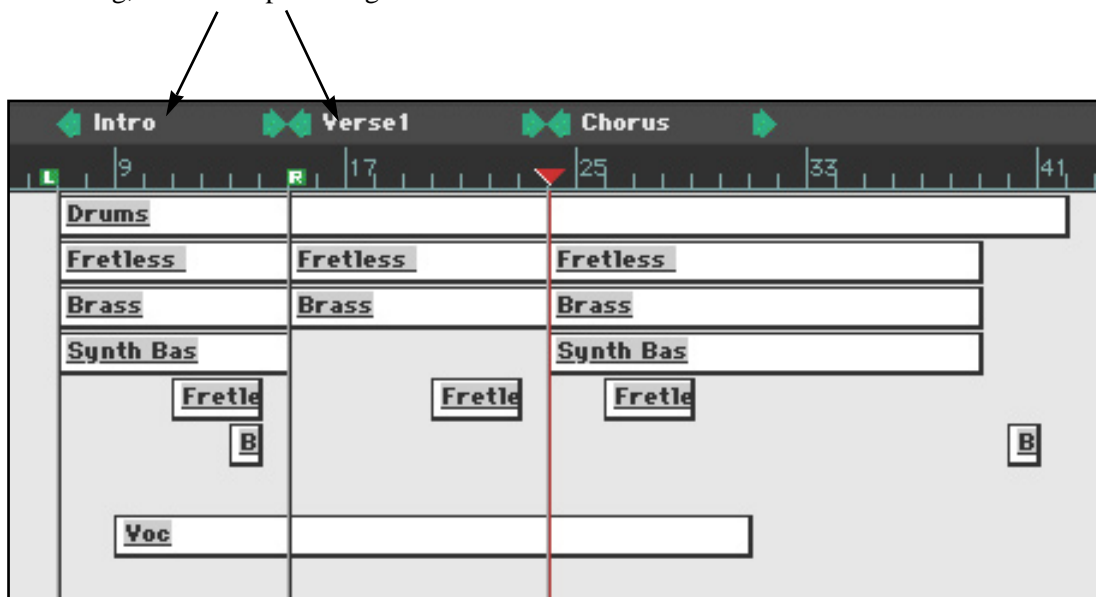
- Cubase Windows and other Cubase Windows:
    - Any number of Parts can be dragged and dropped on another Arrange window
    - Any number of Parts can be dragged and dropped into open editors.In this case the notes from the parts will be added to the editor.
  - Any selected notes in an editor can be dragged and dropped into an Arrange window.
- In this last case a new part will be created for the selected notes.

### *Cool Stuff...*

- Audio can be imported from the Desktop directly into the Arrange window, the Audio Editor, or the Pool.
- Items in the Pool can be dragged to the Desktop. This actually moves files, making backups very easy.
- MIDI files can be dragged to the Arrange Window as one or multiple parts.
- MIDI files can be dragged to an editor and events are appended to those already there
- A Library of Parts can be created - Beats - Riffs - Building Blocks.

## The Marker Track

Markers are parts displayed on top of the scale in the Arrange Window. They help with the identification of areas of the song, as well as providing auto-location functions.



- Handling is similar to ordinary parts - you can create/split/delete/copy/name them.

- Double clicking on the Part name opens a text editor.

- Clicking a marker part with the arrow moves the song position.

- holding down <command> moves the locators to its left/right

- holding down <option> moves both locators and song position

- All markers appear in the Markers menu in the Arrange Status Bar

- choosing the name of the marker part sets the locators

- holding down <command> also moves the position to the start of the marker.

Intro	7.	1.	1.	0	-	15.	1.	1.	0
Verse1	15.	1.	1.	0	-	24.	1.	1.	0
Chorus	24.	1.	1.	0	-	32.	1.	1.	0

- choosing a song position (start or end position of the markers) moves the song position.

- In any window the Markers menu can accessed by holding <ctrl >< options > and clicking.

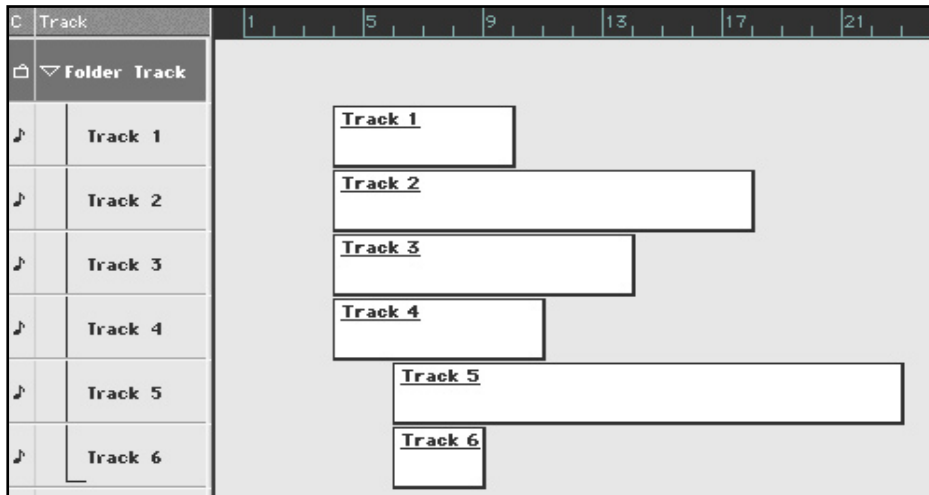
### Cool Stuff...

- Clicking with the Selection Range tool on a Marker part selects material on all tracks which is included in the marker range. You can then move/copy or process the selected material.



# Folder Tracks

Folder Tracks are new to Cubase, they allow sections of the Cubase Arrange Window to be folded away to give a better overview of the song.



The context remains the Arrange Window for the folded track.

In Cubase 4.0 a folded track is not an alias to 'something' elsewhere that must be edited separately.

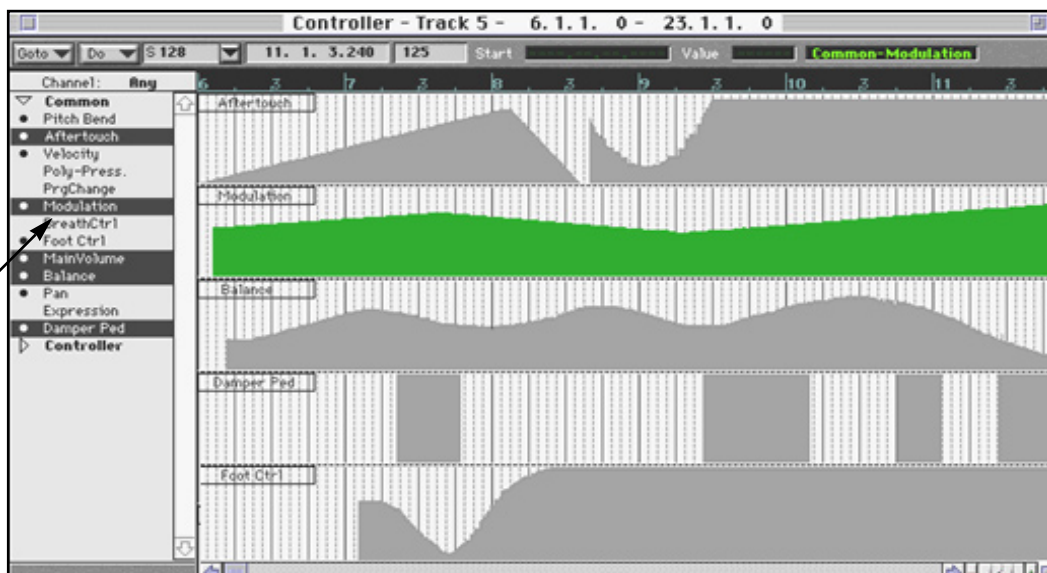


- Folded Tracks remain in the Arrange Window context
  - there is no strange abstraction where this data is edited 'elsewhere' in another window.
- Folder tracks can be handled like normal tracks
  - they can be copied moved and deleted just like other tracks in the track list.
- Solo on a Folder track solos all the folded tracks
- Folders can contain other folders.
  - maybe for advanced users, but the transparency remains.
- Folder tracks can be edited in a editor together
  - they keep their separate identities

# The Controller Editor

The Controller Editor is a completely new editing window for Cubase. It provides for very easy editing of multiple streams of continuous data wherever it occurs in Cubase.

- Edits MIDI data
  - all continuous MIDI types and controllers are listed



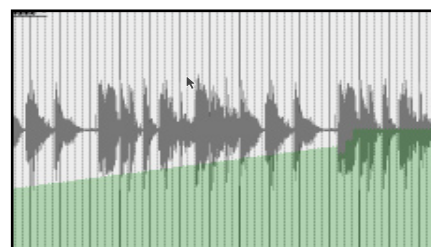
- Edits MIDI Mixer Data
  - any of the mixer objects' data can be viewed in the time domain
  - double click on any mixer object
- Edits Audio Automation data generated by the Monitors/EQ/FX windows
  - all types are listed for all channels.
- Edits Track Automation data generated by the Track Mixer
- Simple edit tools just like those in Key Editor
  - use a pencil or a line - with or without the <option> key
- Edits multiple controller types - at the same time
  - click to select a data type from the list
  - shift-click to add a new data type in a new lane



## Cool Stuff...

Waveforms are displayed above the controller view when editing VST automation

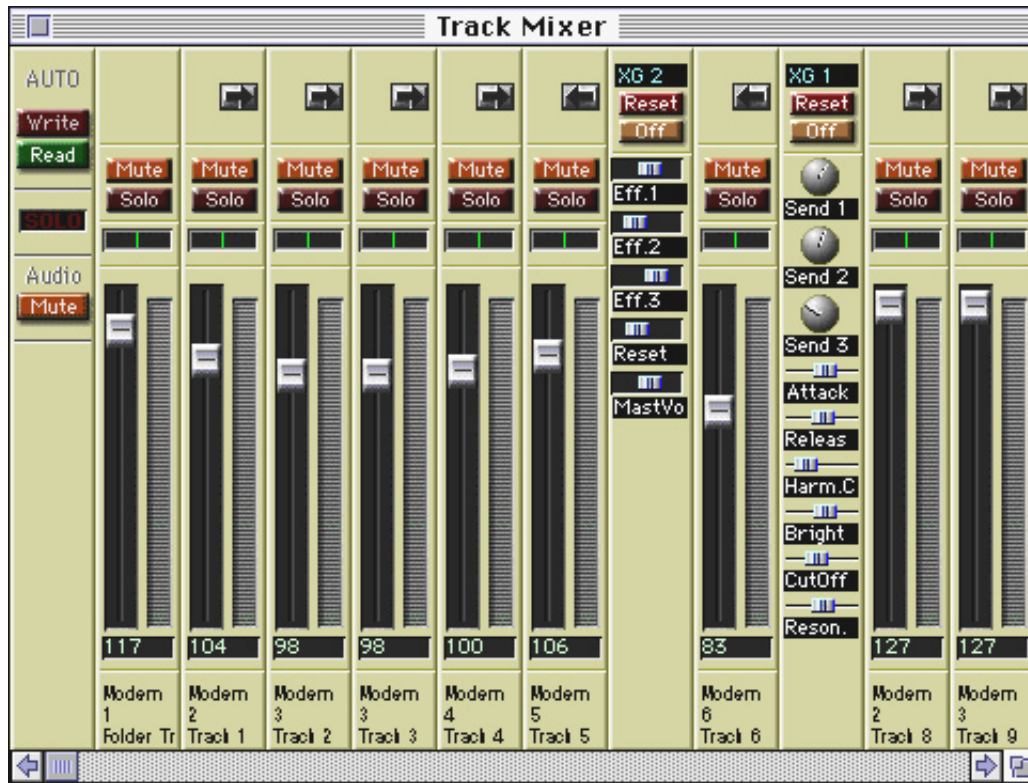
If there is more than one lane, with <command> all changes are performed for all visible lanes.



'Mirror' function copies all selected events from one lane to all others

# Track Mixer

The Track Mixer is new and does for MIDI tracks what the Monitor Window does for Audio. It allows control of the same parameters which appear in the Inspector.



- Auto Configuration
  - the format of the mixer automatically follows the number of MIDI Tracks in the Arrange Window
- Unifies Parameters
  - Inspector parameters appear here and in the track columns
- Folder Tracks are supported.
  - the volume fader for a folder track scales the values for all folded tracks.
- Fully Automated
  - as soon as a parameter is changed a Track Mix track appears, just like Monitor Automation
- GS/XG effects can be edited and automated

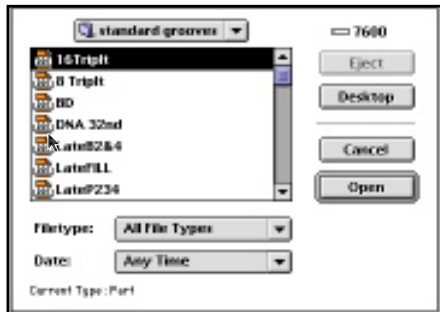
*Cool Stuff...*

- You can mix using either the track columns or the Inspector without actually having to open the Track Mixer window itself!



## Groove Box

The handling of grooves has been updated to make them easier to use, offer more functionality and bring the grooves in Cubase back into the public view..

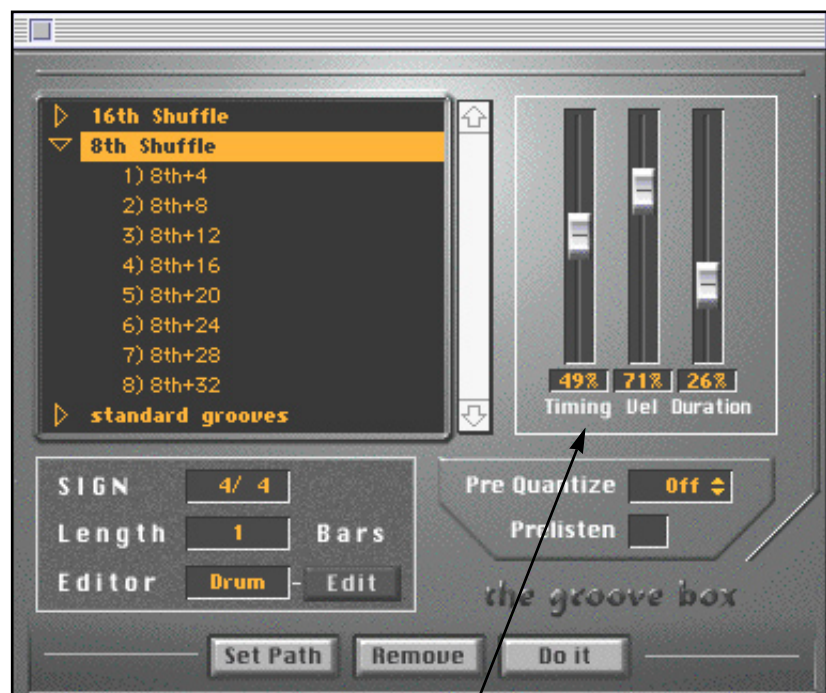


- Grooves are now stored on the hard disk as separate files in the Grooves folder
- grooves are now just Part files

- Simple access to collection of grooves
- the structure of folders you create to store grooves is represented throughout the program

- Grooves can be accessed via the new Groove Box in the Functions menu

- Drag and drop like any other file
- you can drag & drop parts between the Groove Box and the Arrange Window.



- New functionality - choose depth of “grooviness”
- separate controls for timing, velocity & durations

### *Cool Stuff...*

- Works directly on selected parts
- Pre-listen - really hear the changes before actually applying them.

# Scoring

Many new features have been added to Cubase VST Score and VST/24 programs.  
The following pages outline just a few of these!

## Layouts:

Creating even the basic elements of a score can take hours. These new features not only perform some of the more tedious tasks automatically, but also allow you to make changes without destroying the layout you've already set up.

- Instrument names, using both long and short forms, are automatically added to the score from track or part names

- Brackets, braces and other markings can be copied from a selected point to other parts of the score.

- More Auto Layout options, including spreading staves to fit the page



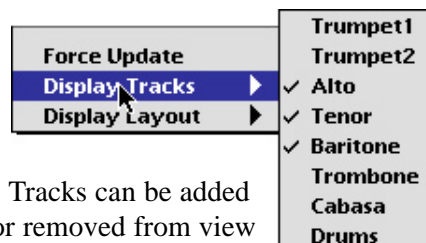
- Easier positioning of score elements using Meter rulers with choice of different calibration.

Display either bar numbers or time code values on the full score and parts.

- Different layouts can be viewed using the same basic track configuration, without leaving the Score Editor.

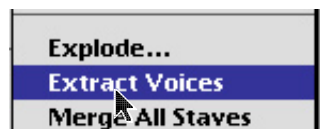
- Bars can be added or removed without destroying the layout you've already created - bar numbering is automatically altered.

- Marker Track to Form automatically adds rehearsal markings according to your Markers.



- Tracks can be added or removed from view without leaving the Score Editor.

- Two parts on the same staff can be automatically extracted for separate part printing.

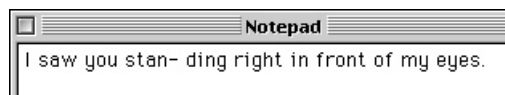




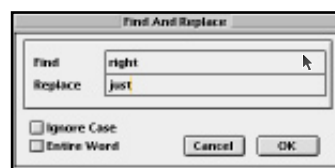
## Lyrics, Text & Chords

This version includes speedier input of lyrics and allows you instant editing capabilities for both lyrics and text.

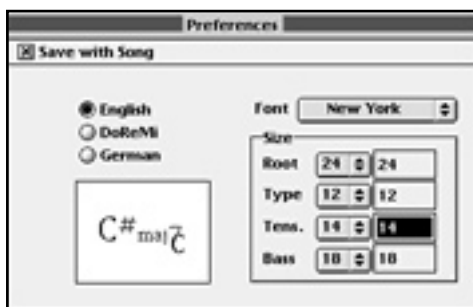
- Type lyrics in the Notepad, copy and paste these directly under the notes - in one go!



- Automatic search and replace for lyrics and text for speedier editing.
- Edit lyric and text styles using Text Attribute Sets. Set different ones up for different score elements.



## Chord Symbols



- Choice of different chord styles
- Symbols are now user-definable. You can set up fonts and a size for each part of the chord symbol.

## Notes & Symbols

Some new time-saving options make adding symbols easier.. There's also a greater choice of symbols, you can create some of your own text markings and even import pictures into a score.



- The Custom Palette lets you group together your most frequently used symbols from other palettes - so you don't need to keep switching from one palette to another.
- The Pictures Palette lets you import pictures from the clipboard and place them in your score.



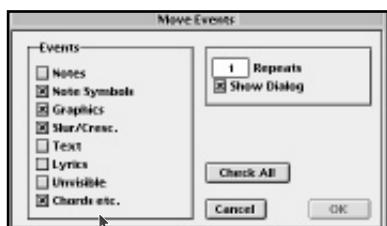
- The Words Palette lets you create your own text-based symbols and specialist performance directions.
- Double-clicking on a symbol automatically gives you the pencil tool.

- Create contemporary scores using modern notation style and time signatures.

Automatically add slurs or display quantize or tuplet grouping to selected notes using the Do Menu



Build a legible trill from a group of recorded notes, and still hear the original performance.

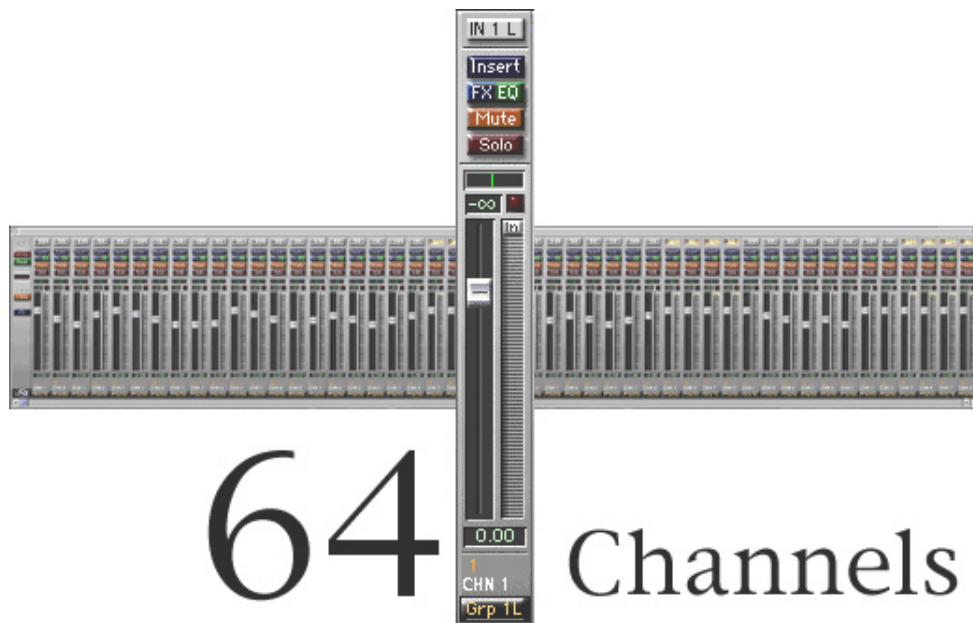


- Bar handles - use these to move or copy notes and other elements from one bar to another.

2	Braces	1	Note Symbols
3	Bar Numbers	1	Graphics
2	Track Names	1	Slurs
1	Stems	1	Notes
1	Keys	1	Rests
3	Clefs	2	Bar Handles
1	Barlines	3	Time Signature
1	Staves		

- Move selected elements on the score without moving others by mistake! Set up 3 priority levels which only allow you to move an event if the priority number is activated.

## New Audio Features



- 64 channels of audio are now possible using either Cubase VST or Cubase VST Score - depending on your hardware setup of course!
- Cubase VST/24 offers **96 Channels**.

## More Effects...

New Hi-Quality EQ option

8 Aux Sends





# 8 Channel Effects

Even More Effects ...



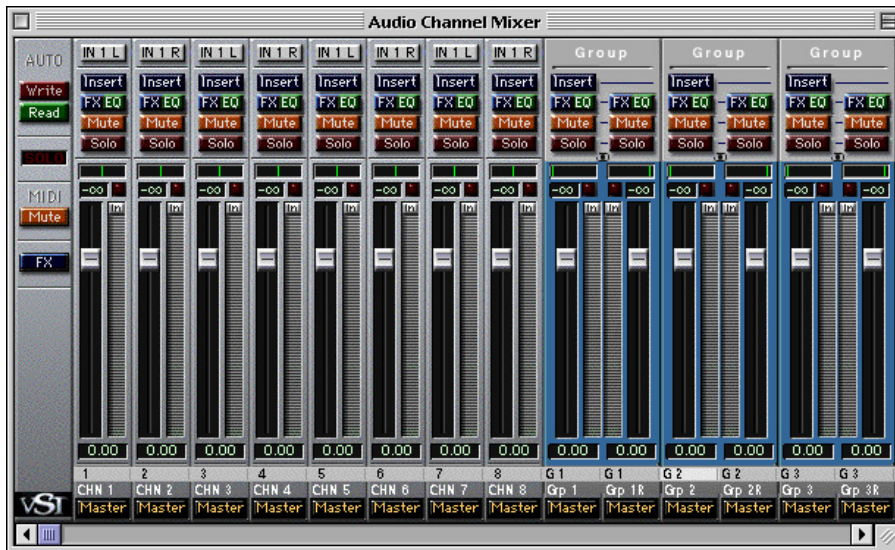
4 Master Effects

4 Insert Effects





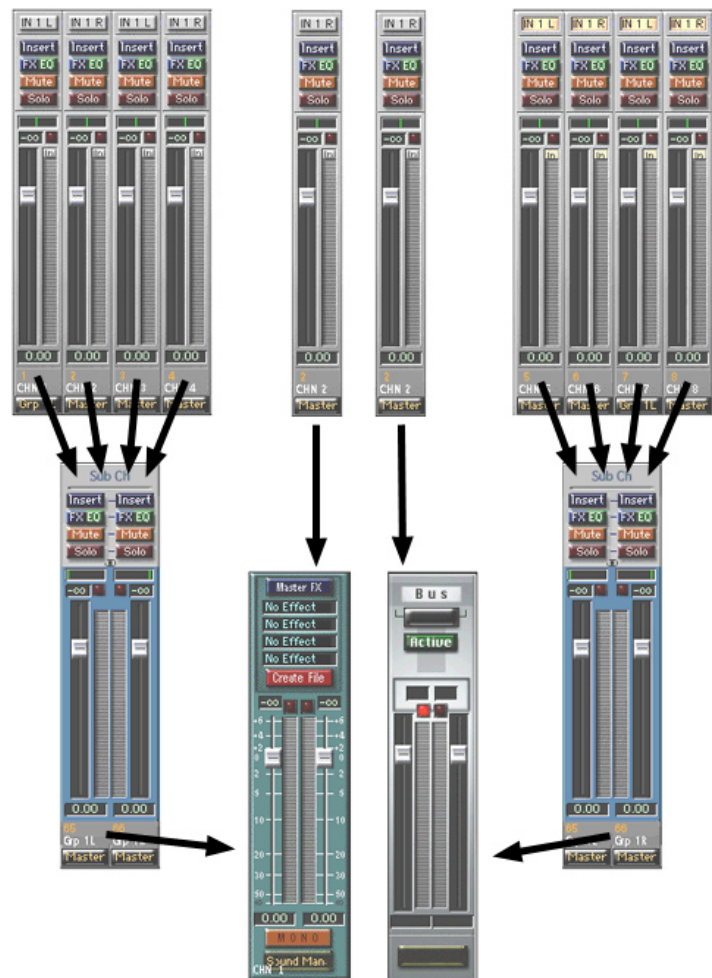
# Group Mixer



- Any channel can go to a Group
- Any channel can go to a Master
- Any channel can go to a physical output i.e a card
- Cut/copy/paste of Aux, FX, EQ and level parameters between channels - either normal or group.

## Group Mixer Routing:

- A Group channel can be routed to a Master
- A Group can be routed to a physical output
- Group channels have all the automation and effect facilities of normal channels, including access to buss effects and insert effects



## Live Link to ReBirth

ReBirth becomes a co-operative application that, together with VST, offers extended processing options that are not available in ReBirth alone. ReBirth 2.0 and Cubase 4.0 are required to achieve this level of co-operation.



When the two applications are running side-by-side, the ReWire menu inside Cubase opens a dialog that allows access to the main output of ReBirth, and the individual instrument sections, as well as the drum channels.

These are piped into Cubase, and depending on the options chosen in the ReWire dialog, each 'pipe' appears as an extra channel in the Mixer window.

The two applications run together automatically without any additional syncing connections.



These channels have a red tone to distinguish them from the other channel types. They have full access to the complete EQ and Effects Buses, and can be automated just as any other VST channels.

# The Best of the Rest!

Cubase 4.0 is packed with new features. Here is a list of some other interesting items that are included.

## Parts & Editors Interaction

Parts can be 'Handled' in the Arrange Window while editors are open on those Parts!  
The Alert "Can't be done while part is being edited" has gone

## Editor Link mode

- click on a part and any open editors automatically display its content
- works with multiple parts - or shift-click to add another

## Arpeggiator

- instant karma

## Mixer

- thousands of objects
- multiple mixer windows open at the same time
- new look objects
- background patterns

## Cycle Record: Add Track

- at the end of each completed cycle with new MIDI data, a new track is created.

## Audio

- Editor: you can edit the start- and end point of the loop in the ruler display.
- Editor: < command > + <left/right > moves all selected segments one snap value.

## Editable Key Commands

- Centralised Key Command Editing in the Preferences
  - but well sorted into 'pages' of related functions
- Remote Functions Fully integrated
  - the Remote Control Dialog has been fully replaced.
  - any function that can have a key command also can have a MIDI controller
- Fully user configurable
- Comprehensive Combinations
  - < shift > & < ctrl > & < option > & < command > are all used for key commands
  - < shift > & < ctrl > < B > is not the same as < shift > & < options > < B >
- Key Command Tool Bar
  - any of the user's key combinations can be given a micro icon that appears on the tool bar.

## Preferences

The Preferences have been given a total overhaul. All the Preferences in Cubase have been brought together under a common format.

- The user can now choose whether specific preferences should be saved with a song or be global



### General Editors

Editing in the event info bar affects all selected notes

Mute tool mutes clicked notes

- drag a box to mute a group

### List Edit

List Edit draws and scrolls much faster

List Edit can be printed

List Edit has a SysEx Editor

- *Hitpoints can be shown in the editors*

Browser Support

### Multiple Drum Maps

- each with 128 instruments

### Quantize type menu

User selects what kind of Quantize is considered the 'main' quantize

- Over Q, Note On, Analytic, Iterative, & Groove.

## **Score Features Overview**

A few more of the many new scoring features in this version!

### Preferences:

- New "Score Preferences" in the Edit menu instead of Global Settings.

These contain even more options including:

- Bar numbers can be displayed above or below lines
- Vertical crescendo option makes inserting and moving cresc. symbol easier.
- Display quantize for all voices.
- "Reduce Tuplets" draws only the first tuplet group

### Guitar Chords:

- Editable library of guitar chord symbols. These can be dragged directly on to a score, and used with Make Chords

- Guitar symbols can have up to 12 frets; they can be displayed vertically or horizontally.

### Lyrics and Text:

- Lyrics have a "melisma" line: there is a handle at the right side of the text which lets you draw a line from the lyric to the right

- Option for left side of a lyric to line up with note head - not centred as before.

- Multiple lines of text can be created in a score text box (the return key starts a new line instead of closing the text input window).

- Combine score symbols with text.

- “Fill with lyrics” option fills the score with notes and lyrics (from the Mac-clipboard). “Bar step after new line” means that the fill is continued after a new line x bars later. Convenient if you start composing a melody with text.
- Unlimited number of characters for score titles. Can use Text Attribute sets

#### Symbols and Notes:

- Symbol Palettes can be displayed in either vertical or horizontal windows.
- Damper Pedal on/off actions are displayed on the score. Inserting a pedal marking from the symbol palette now inserts the appropriate controller instead of a graphic symbol
- Slurs and note related symbols can be above or below the notes; you can force the direction with the “Flip” command
- Mute/unmute selected notes (Do-menu).
- <Command>-clicking on the “flip stems” icon swaps the direction of note ties.
- <Command>-clicking on the “force update” icon resets all accent/slur movements (these are “auto-positioned” again).
- Moving stems moves all selected stems.
- Right/left/top/bottom cursor + <Option> moves all selected events graphically one pixel to the right/left/top/bottom (previously done with cursor+<command> in 3.x).
- Repeated notes can be grouped with “abbreviation” symbols within a bar. You can decide on the number of beams across each note grouping.
- Display length for notes (Note Info Dialog).
- Inserting a “Faulenzer” while holding <Command><Shift> hides all notes/rests in this bar.
- <Shift>double-click on an object selects all objects of the same type on and after the position of the clicked symbol (no longer all objects).
- MIDI Meaning: this now changes the length of the MIDI event and adds a display length of the original value (so you hear the staccato for example, but see the note unchanged).

#### Layouts:

- Better resolution for co-ordinate events (1/16th of a pixel = 1152 dpi).
- “Collapse” moves all (max. 4) open tracks into a new one; the notes and symbols are moved to polyphonic voices.
- For single tracks with no layout the full score is searched and all form elements are automatically inserted.
- “Print All” prints all layouts in the song - this allows you to print an unlimited number of songs at once.