melodyne
editor

user manual

The Melodyne online manual and this PDF document

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We are regularly adding to and updating the online edition of the manual, which is accompanied by numerous films and inspiring tutorials. You will find these as well as the latest version of this PDF document on our web site. Why not take a look now?

The Melodyne online manual: http://www.celemony.com/id/helpcenter

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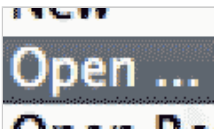
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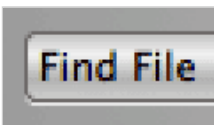**Recording audio in Melodyne Stand-Alone**

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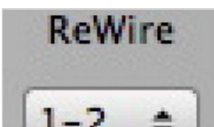
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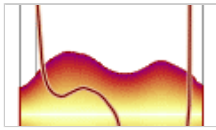
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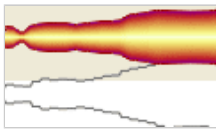
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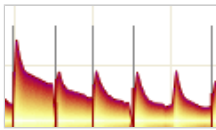
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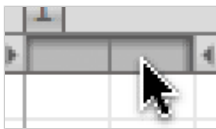
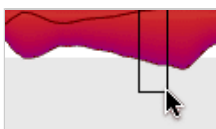**Activating and setting a cycle range**

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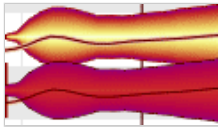
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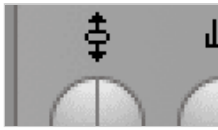
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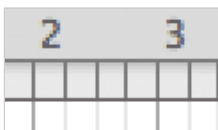
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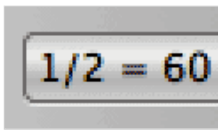
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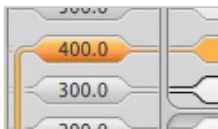
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Installation and Activation

In the following, you will learn how to install and activate Melodyne.

Installation and Terminology

Melodyne is extremely easy to install: just launch the installation program (either from the program CD or the download) and follow the onscreen instructions. The whole installation takes, at most, a few minutes. Before using the program, however, you must register and activate Melodyne. Here is a brief explanation of the terminology:

Serial number: Your serial number represents your license for Melodyne and determines which Melodyne edition you possess and to which functions you are entitled.

Registration: Registration involves the creation of a myCelemony account linked to your serial number. To register you must enter certain personal details and state whether you wish to receive a newsletter from Celemony and, if so, what type. If you purchased Melodyne from our web shop, the registration is already complete.

Activation: Once registered, Melodyne must be activated before it will run. We offer, as standard, a computer-based activation for two computers, and, as an alternative, the transfer of your license to an iLok.

Before we come to the details of the activation procedure, we should take a quick look at the installed software and its characteristics.

Melodyne "singletrack" – and what that means

In the course of the installation, Melodyne is copied as a plug-in into the relevant plug-in folders and as a stand-alone program into your program folder. The plug-ins are called, quite simply, "Melodyne", and the stand-alone implementation: "Melodyne singletrack". You may be puzzled by this name – after all, your edition of Melodyne has a different one: "Melodyne editor", "Melodyne assistant" or "Melodyne essential".

These three editions of Melodyne are delivered as a single program package. It is only your serial number (your license) and the activation triggered by it that determine which edition in fact runs from the installed program. Since the identity of this is not known prior to the activation, and since it is not possible to change the program name subsequently, all the plug-ins bear the name "Melodyne" and all the stand-alone editions "Melodyne singletrack" (to distinguish them from the multi-track 'Melodyne studio').

The name of the current edition is displayed between the tools and the macros in the user interface. You may need to increase the size of the Melodyne window to see it.

The common program code primarily serves to make full compatibility between the Melodyne editions editor, assistant and essential possible. It is no problem to open in Melodyne assistant or Melodyne editor a project begun in Melodyne essential, and work thereafter with the expanded function set of the larger edition. It works the other way round as well: a project begun in Melodyne editor can be loaded into one of the smaller editions, played back and edited using the functions available there. It is only when Melodyne editor's DNA functions for the editing of polyphonic material have been used that the document created can merely be played back but not edited in a smaller edition. When this occurs, we say Melodyne is running in 'Playback Mode'.
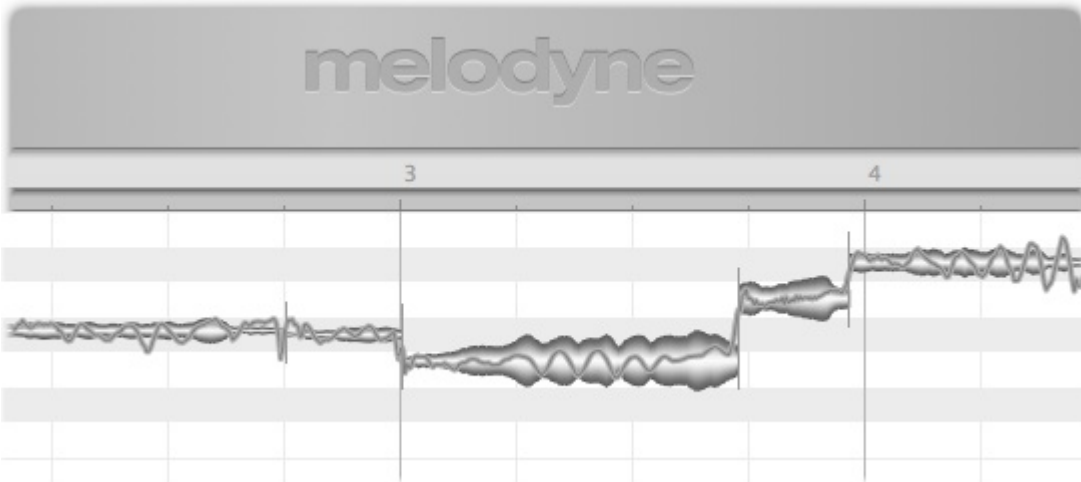
Melodyne also runs in Playback Mode when it has been installed but not activated. It is still possible to open and play back all existing documents in such cases, but you cannot edit them. Playback Mode can be very useful when you want to pass on a project, as it allows you to play back tracks edited in Melodyne – without having to bounce them first – on a computer on which Melodyne has either never been activated or has subsequently been deactivated. Playback Mode can be used at any time – without registration, activation or even an Internet connection.

The common program code also allows you, when working with a smaller edition of Melodyne or an installation that has not been activated, to switch to Melodyne editor's Trial Mode. In Trial Mode, you can use Melodyne editor's entire function set for a limited amount of time. When this trial period expires, Melodyne reverts to the original license or switches to Playback Mode. You can only take advantage of the free trial period once on a given computer. To register, and each time you launch Melodyne editor during the trial period, you will need an Internet connection.

The common program code also makes it possible to upgrade at any time, and without a fresh installation, from Melodyne assistant or Melodyne essential to Melodyne editor. It is enough for this purpose simply to purchase a license for Melodyne editor and then activate it – all of which can be done with a few clicks in our Web Shop.

Important Information Regarding Activation

The first time you launch Melodyne, the Activation Assistant appears. If you purchased your Melodyne from our Web Shop, a single click in the Assistant is all that is required and your Melodyne will be activated and ready to use. If your Melodyne came in a box, the Assistant will guide you through all the steps that are necessary for registration and activation. The activation is performed on line. If your computer is not connected to the Internet, the Assistant will propose a method of activating the program offline.

You can reach the Activation Assistant whenever you need to via "License ..." in Melodyne's Help menu. All the options offered by the Assistant are explained in the Assistant itself. The following sections explain how these options relate to one another as well as providing important background information regarding activation. Please read them through carefully as they are concerned directly with such questions as when, why and how often you can install and use Melodyne on computers.

- Two computer-based activations: Melodyne activation is, by default, computer-based; in other words, the activation is tied to the computer upon which it is performed. A Melodyne license entitles you to activate and use Melodyne on two different computers simultaneously, such as your studio computer and your laptop. The activations are managed and granted by our server. You will see how many activation credits you have at any given moment in your myCelemony account as soon as you log in.
- Deactivating a computer: We allow you complete control over the allocation of your activation rights by allowing you the option also of deactivating computers. Suppose, for example, that you have already activated Melodyne on two computers but wish to use a third one temporarily. No problem: all you have to do is deactivate one of the computers currently activated. This will free up one activation credit, which will then be transferred to our server. You can use this then to activate the third computer. If, later, you wish to go back to your original pairing, just deactivate the third computer and reactivate the one you deactivated earlier.

So our server provides you with two activations that you can share freely between your various computers. This makes it very simple, for example, to switch to a new music computer. Instead of having to worry about whether or not you will be entitled to activate Melodyne on the new computer, you just deactivate the old one, thereby automatically freeing up an activation credit for the new one.

This possibility also means, however, that you need to act in a carefully considered way! The activations are intended exclusively for you and are tied to your customer account. Do not, therefore, give away an activation to a third party. Please bear in mind also that the procedure for removing an activation from a computer can only be performed on that computer. If you no longer have access to

an activated computer, the activation, as far as you are concerned, is lost. This is something you need to bear in mind, for example, before selling or throwing away a computer upon which Melodyne is active. Be sure to deactivate Melodyne first!

You have nothing to worry about, on the other hand, if all you are doing is changing or formatting your hard disk in order to reinstall the operating system. Your activation in this case will not be lost. The first time you launch Melodyne after doing either of these things, it will contact the Celemony server, which will recognize the computer at once and reactivate it—without this costing you an activation credit.

The iLok Alternative

Melodyne editor and Melodyne assistant (but not Melodyne essential) can, as an alternative to the computer-based activation system described above, be activated using an iLok copy-protection dongle (for more information, visit www.ilok.com). This procedure involves transferring your Melodyne license to your iLok account, from which you can then download it to your iLok copy-protection dongle. With the iLok dongle, you will then be able to activate and operate Melodyne on any number of different computers, but only on one at a time: that is to say, only on the computer in which the dongle is inserted.

However, before opting for iLok activation, please bear the following in mind: the iLok system can be used as an alternative to (but not parallel with) computer-based activation. Once you have switched to the iLok system, you will not be able to obtain any further computer-based activations. It is not possible, in other words, to go back to computer-based activation once you have made the switch to iLok. If you do opt for iLok activation, you will obtain **one** Melodyne license for **one** iLok dongle that can be used at any given time on **one** computer only – whereas the computer-based activation method affords you the possibility of running Melodyne on two computers at once.

One further point: if you are selling Melodyne, you cannot just transfer the license to the iLok account of the purchaser; instead you must contact our support. Besides saving you money, as you normally would have to pay to transfer a license from one iLok account to another, this system allows us to create a myCelemony account for the purchaser, which we would otherwise be unable to do. If you were to perform the transfer yourself, the license would remain tied to your own myCelemony account.

Where can I find my Melodyne serial number?

Here we explain where you can find your new serial number after purchasing a full version, upgrade or update of Melodyne and where to enter it. Serial numbers form the basis for the registration and activation – and therefore also the use – of Melodyne.

Full version purchased through a dealer: You will find your serial number in the user manual, which is in the box. When you install and launch Melodyne for the first time, an activation assistant will appear. This will ask you for your serial number and guide you through the remaining steps of the registration and activation procedure.

Full version purchased in the web shop: Since you already registered Melodyne and received a personalized installation program when you made your purchase in the web shop, you don't need at this time to enter a serial number. The first time you launch the program after the installation, our server will recognize your copy and activate it. If you do need your serial number, however, you will find it at the top of the activation assistant window, which opens when you choose License from the Help menu.

Upgrade or update purchased through a dealer: If you buy an upgrade to a more powerful edition, or else an update to a newer version, of Melodyne in a retail outlet, you will find a new serial number in the pack. When you first launch the program after installing your upgrade or update, the activation assistant will appear. This will ask you for your serial number and guide you through the remaining steps.

Upgrade or update purchased in the web shop: Since you have to log in to purchase an upgrade or update in the web shop, your new serial number will be added automatically to your customer account data. When you launch your new edition or version of the program for the first time after the installation, our server will recognize and activate your copy automatically. If you do need your serial number, however, you will find it at the top of the activation assistant window, which opens when you choose License from the Help menu.

New serial numbers and the iLok: Whenever you purchase an upgrade or update, or download a major free update (such as from Version 1.x to Version 2.x), of Melodyne, you will be issued with a new serial number. Our server will then send automatically a new license to your iLok account. Just log in at www.iLok.com and download the new license to your dongle, so that you can use your new edition or version of Melodyne in the same way as the previous one.

Melodyne essential bundled with Studio One: In the "Studio One Installation ..." window, click "Download content from Presonus User Account" and scroll down to the entry "Melodyne essential". From there, you can copy the serial number and download the installation program directly. Please note that only Studio One Professional comes with a Melodyne serial number, but if you are using one of the other editions, you can still download the installation program and run Melodyne in trial mode.

Welcome!

Many thanks for your interest in Melodyne and a warm welcome to the circle of Melodyne users! Melodyne is at home in all the great studios of the world and has for years been prized for its intuitive editing functions and the high quality of its sound. As a Melodyne user, you are in the finest – we could even say 'the most illustrious' - company!

Here at Celemony, we have worked hard to make Melodyne as pleasant to use, as powerful, and as useful, as possible. We really hope that Melodyne will make your life in the studio easier, be a delight to use, and inspire you to greater heights of creativity. Let us know how you like it. And don't hesitate to contact us if anything doesn't work quite the way it should – at www.celemony.com, we're always here for you.

We hope your work with Melodyne will be productive and that it will bring you a great deal of satisfaction and pleasure!

Kindest regards,
all at Celemony
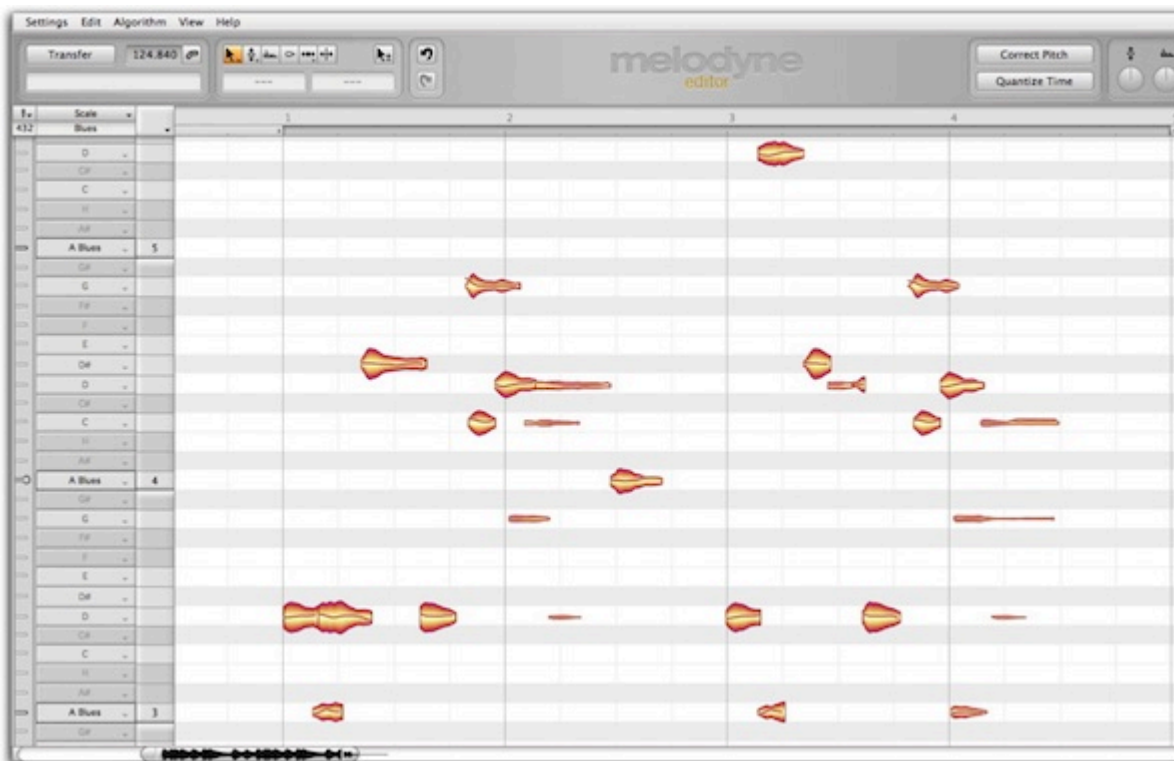
What Melodyne is and what it's for

Melodyne allows you edit and display audio material in a highly musical way. What's remarkable about it is that Melodyne recognizes the notes in the audio data and displays them on pitch and time grids. This is far more informative than the kind of display of amplitude values along a time axis offered by typical sample editors and audio sequencers. With Melodyne, you don't just see which parts of a recording are loud and which quiet; you see where notes begin and end, as well as the pitch of each. That (obviously!) makes a huge difference.

And naturally it is possible not simply to observe but also to seize hold of and modify the notes displayed. If a tone is flat, for example, you can simply drag it to the correct pitch; if it's too short, you can make it longer.

Melodyne's note-based approach not only makes it a highly sensitive tool for correcting and optimizing your recordings but also offers you the possibility of making profound changes to your audio material, restructuring it, and creating from it something altogether new.

Melodyne has for years enjoyed an outstanding reputation for the editing of lead vocals, as it allows you to make corrections in a musical and intuitive manner that are virtually undetectable by ear. But what works for this most critical of disciplines works wonders too with other sources, such as musical instruments. And once you've worked for a while with Melodyne, you'll realize that aside from the correction of errors there's a wealth of other valuable applications for you to explore. A few examples:

- The creation of second voices or entire ensembles from copies of the original track
- The introduction of melodic or harmonic variations when phrases are repeated
- Correcting and reconciling the timing of drums and bass
- Tidying-up rhythms or using quantization techniques to alter them
- Creating breaks and variations in drum loops
- and standard disciplines like pitch-shifting and time-stretching, too, of which Melodyne editor offers complete mastery, delivering outstanding sound quality into the bargain.

Melodyne editor offers you the possibility of intervening in the harmonies of polyphonic audio material in order, for example, to change a single note within a chord from a major to a minor third – this is something unprecedented in the history of audio processing and introduces a wholly new dimension of creative freedom.

With Melodyne assistant and essential, you can edit monophonic sound sources (lead vocals, saxophone, bass, flute, etc.) as well as rhythmic or unpitched audio material (such as drum loops, percussion, ambient sounds and noise).

Download Demo arrangements

For Mac OS X (dmg, 44.1 MB)

For Windows XP, Vista, 7 (exe, 42.8 MB)

Quick Start Guide

The following guide explains in a nutshell everything you need to know in order to make successful use of Melodyne.

To get you started, we recommend in addition to this tour the multilingual First Steps film, which you will find at the top of this page and in which the most important points are clearly demonstrated. You can also try out the things shown in the film, as all the audio files used in the film are available for download, ready-packed in arrangements for the most common DAWs.

In the case of keyboard shortcuts, where here we refer to the 'Command' key, we mean the key on the Mac described as either the 'Command' or the 'Apple' key; on a PC it is marked 'Ctrl'. The other keys referred to have the same names on the Mac as the PC.

Stand-Alone or Plugin

You can use Melodyne as either a stand-alone application or a plug-in with any compatible DAW, in which case you will find Melodyne among the audio-effect plug-ins (not the instrument plug-ins); Melodyne is used in the same way as an audio insert effect not an instrument plug-in. The plug-in runs in step with your DAW, which is ideal if you want to perform and check your editing within the context of a song; for this purpose you can open as many instances of Melodyne simultaneously as the memory and processing power of your computer will permit.

You will find the stand-alone implementation in your computer's Programs folder after the installation. Use this version just like a sample editor: launch the application, open your audio files, edit them, then save them at the end. The stand-alone implementation is easily to hand when you want to edit samples independently of a song project. Thanks to ReWire support, however, it can also be connected to a DAW, which provides an alternative to running Melodyne as a plug-in. You should take advantage of this possibility if your DAW has no plug-in interface or is incompatible with Melodyne but does support ReWire.

In terms of core functions, there is no difference between the plug-in and stand-alone implementations of Melodyne; both offer the same possibilities for editing your audio material.

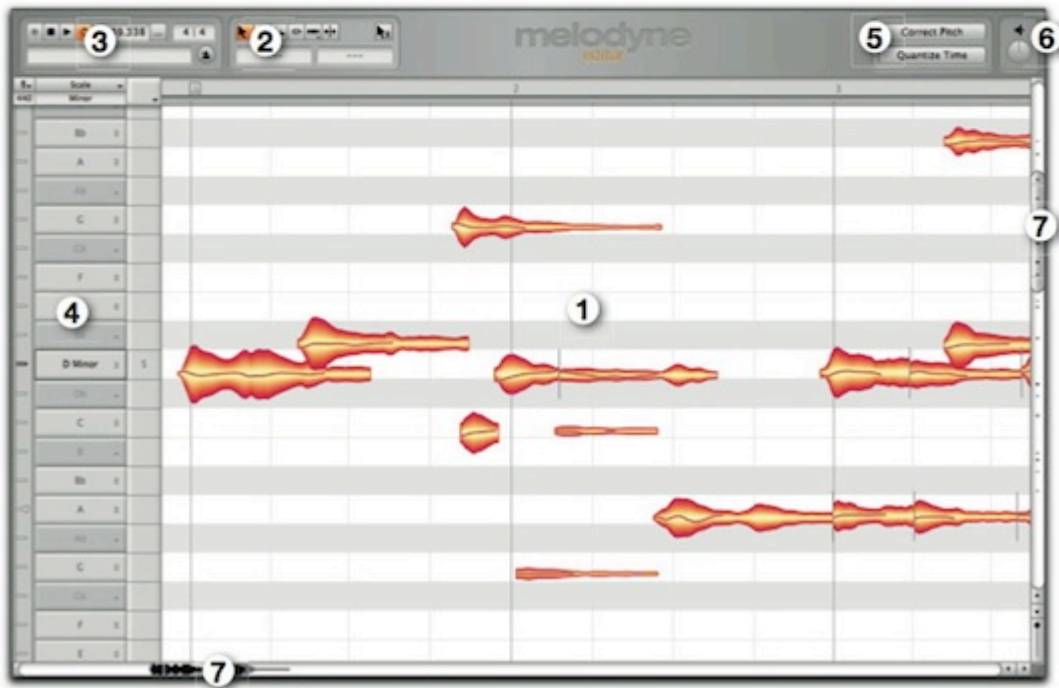Areas of the user interface and their functions

1. Editing pane and notes
2. toolbox and inspector
3. Transfer button (Plugin) or transport bar (Stand-Alone)
4. Pitch ruler and scale area
5. Macros for pitch and time correction
6. Real-time volume (Stand-Alone), pitch and formant (Plugin only) controls
7. Zoom and scroll bars

Plugin
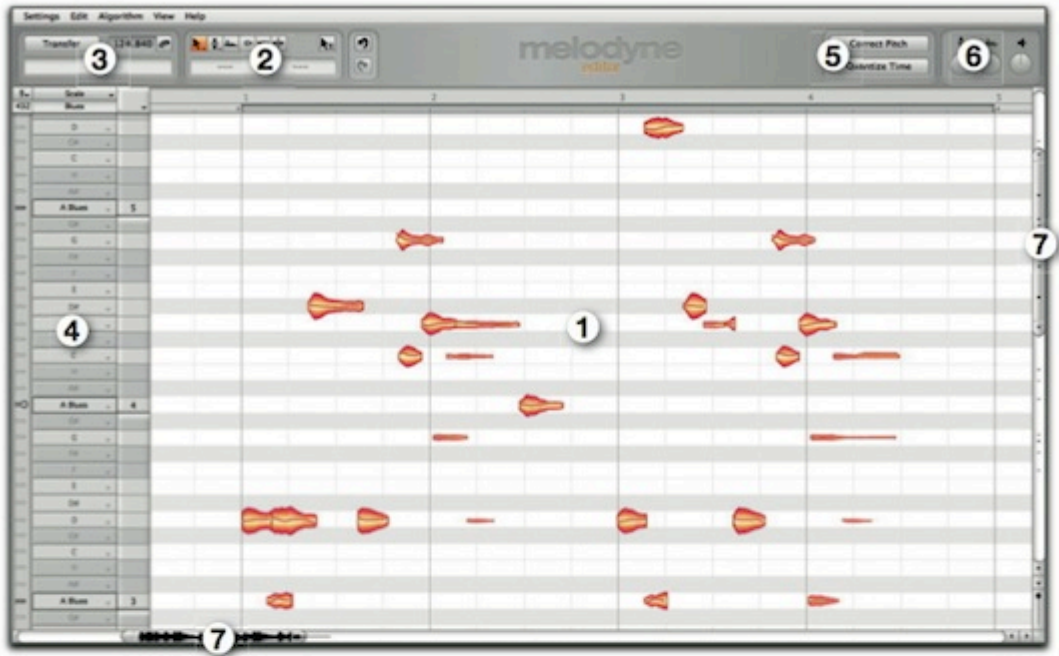
Stand-Alone

Transfers and replace ranges

Whereas with Melodyne Stand-Alone you load the material to be edited by opening the relevant audio file, with Melodyne Plugin you do this by performing a 'transfer'. This means that once you have opened the plug-in in the relevant track, you must transfer to it the passages that need to be worked on, so that you can see and edit them within Melodyne. When you transfer passages to Plugin, it is as though it were recording them. Later, during playback, the passages transferred will be played back by Melodyne whilst the passages that precede and follow them will come as before from the original audio track – i.e. from your DAW.

Transfers are essential to the use of Melodyne Plugin; it does not operate as a real-time insert effect in the normal sense.

Having said that, if your DAW supports 'ARA', a Celemony extension for widely used plug-in interfaces, transfers are not necessary. With ARA, you can open in Melodyne an audio region from the DAW track without having to perform a transfer beforehand. You will find more information about ARA on our web site.

- Activate Melodyne's Transfer key; from the DAW, play the part of the track you wish to transfer, and when you get to the end of it, stop the playback in the DAW. You can transfer to Melodyne passages taken from different parts of the same DAW track.

Once you have finished editing a track, you can save your work using your DAW's 'render' or 'bounce' function, insert the resulting audio file into the original track, and remove Melodyne from the track.
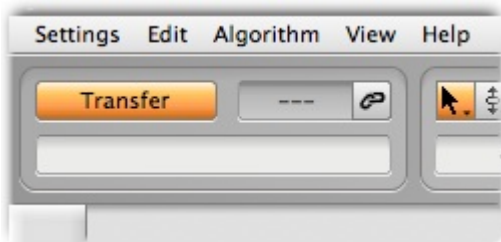
During playback after one or several transfers, those passages that have been transferred to Melodyne will be played back by Melodyne; all other parts of the original track will be played back by the DAW.

From the View menu, choose 'Show Replace Ranges'. All sections or regions that will be played back by Melodyne (as opposed to the DAW) will now be marked. Such regions can be extended simply by dragging their borders with the mouse. To shorten a playback region, delete a few blobs and select 'Set Replace Ranges to Notes' from the context menu of the bar ruler.

Note detection and algorithm selection

The audio material must first of all be analyzed by Melodyne so that notes within it can be detected and later edited. The need for this preliminary analysis explains why Melodyne cannot be used as a real-time effect like a reverb or an echo. Only after the material has been analyzed can the notes be displayed and Melodyne's unique functions brought into play. These, of course, do then operate in real time: every change you make within Melodyne to the audio notes takes effect immediately and can be heard without delay.

With Melodyne, you can edit monophonic (melodic) and rhythmic/unpitched material, and with Melodyne editor – thanks to its patented DNA technology – even polyphonic material.

It is Melodyne itself that decides, based on its own analysis, what type of material it is dealing with. You can, however, force it to adopt a different interpretation - if, say, the material is not displayed in the way best suited to the type of editing you have in mind.

- When the detection process is complete, select a different algorithm from the Algorithm menu to force a reinterpretation of the material.

In Melodyne editor, if after manual selection of the algorithm Polyphonic no notes can be detected in the material during the analysis, the percussive algorithm will be selected automatically, since otherwise it would be impossible to make any notes at all available for editing.
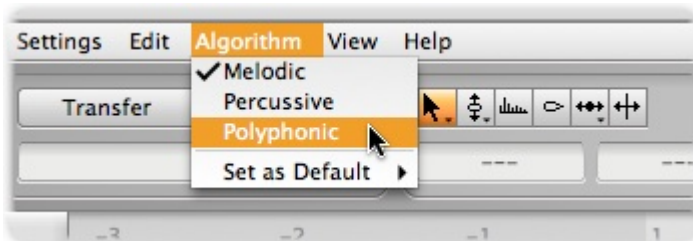
Depending upon the material, it can be necessary to edit the detection manually and reassign detected notes. This applies in particular to polyphonic material, in which overtones are sometimes interpreted as independent notes, and not all the notes actually played are invariably displayed. With melodic material, a note may occasionally be confused with the same note an octave higher or lower. Before editing such material, you need to reassign these notes to their correct pitches; otherwise tonal artifacts could be produced when the material comes to be edited. The aim is to ensure that the notes you see in Melodyne correspond as closely as possible to the notes actually played.

- Select the Note Assignment tool, which is set slightly apart from the others, to switch to Note Assignment mode.

You can leave Note Assignment mode at any time simply by selecting another tool.
In the case of melodic material, all you need to do is drag a falsely detected note in the direction of the correct pitch. Melodyne will then search again for the pitch in this new area and position the note itself at the correct pitch.

In the case of polyphonic material, you will see in Note Assignment mode solid blobs (representing 'active' notes) and hollow ones (representing 'potential' notes). Potential notes are those that during the detection were classed as overtones of some other note rather than notes in their own right. By double-clicking, you can now deactivate superfluous notes and activate potential ones.

With instruments in particular that generate powerful overtones, it can happen that over a wide range notes are detected that you know perfectly well are far higher (or lower) than any you actually played. In such cases, the 'venetian blinds' come in handy; if you can't see these at the top or bottom of the editing area, scroll upwards or downwards until you can. If you drag the thick horizontal line vertically, you can alter the range within which Melodyne editor assigns notes. All notes partially concealed by the venetian blinds are automatically deactivated unless they have previously been activated by hand. You can still 'reach through' the venetian blinds, however, to turn notes on or off with a mouse click.

- By double-clicking with the ± tool, you can deactivate superfluous notes and activate 'potential' (hollow) ones. Use the tool to switch notes on and off until the notes displayed correspond as closely as possible to the notes played.
- With polyphonic material, the right part in the slider beneath the toolbox governs the number of potential notes displayed. The left part of the slider governs the threshold of probability that potential notes will be allowed to become active. The slider gives you a ballpark selection that you can perfect later by switching notes on and off by hand.
- The waveform icon beside it switches from the original sound to the monitoring synthesizer, of which it is also the volume control. The monitoring synthesizer plays only the visible notes and therefore makes it easier to discern whether or not these correspond to those actually played.
- In Melodyne Stand-Alone, [Shift]+[space bar] switches the playback between the original sound and the monitoring synthesizer. In Plugin, [Shift]-double-click in the bar ruler has the same effect.
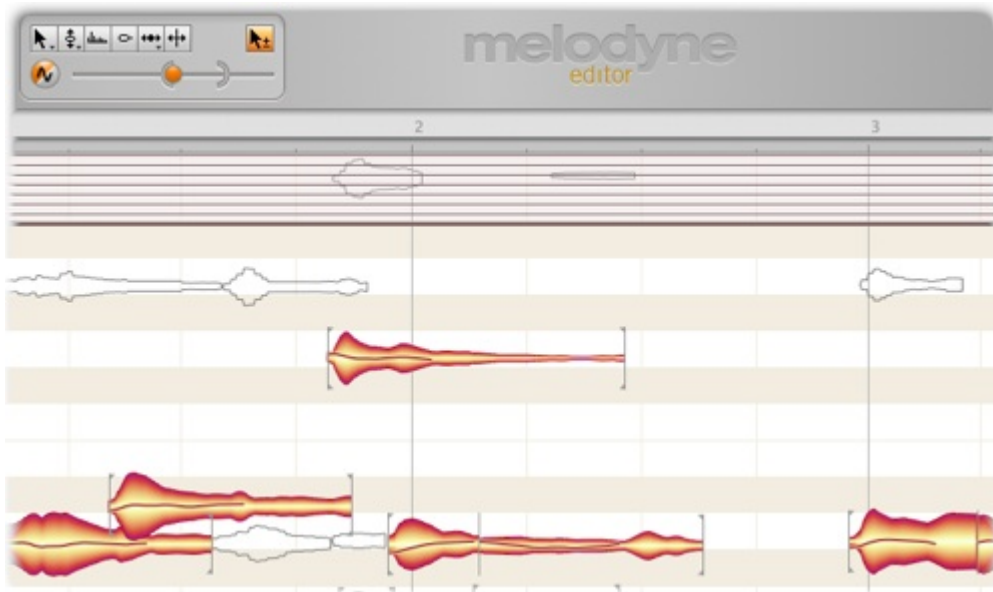
Navigation, playback functions and cycle mode

All the detected tones are displayed as blobs in the editing area. The size of the editing area can be altered and the blob display zoomed and scrolled.

- To resize the window (also in Plugin), drag the bottom right corner
- Hold down the [Command] key and drag the editing background to move the area displayed
- Use the mouse wheel to scroll up and down or else (holding the [Shift] key) left and right
- Press [Command]+[Alt] and drag in the editing area to zoom the display horizontally and/or vertically
- Press [Command]+[Alt] and use the mouse wheel to zoom both axes simultaneously
- Press [Command] and double-click to zoom in on a blob or the current selection
- Press [Command} and double-click in the editing background to zoom back
- Drag the scrollers to move the display horizontally or vertically
- Drag the ends of the slider to zoom horizontally or vertically
- Pull one end of the horizontal or vertical slider as far as it will go and hold it to increase the size of the section displayed (important in the plug-in e.g. when you have only transferred the first four bars and wish to confine navigation to this area but wish to insert something at Bar 20)
- Double-click the scrollers to zoom horizontally or vertically on all notes
- The slider in the bottom right corner governs the size of the blob display

In Melodyne Stand-Alone, the usual transport keys are at the top left of the window. You can scrub through the material in the bar ruler and start the playback by double-clicking on the bar ruler in the desired place. The same is possible, provided the DAW is stopped, in Melodyne Plugin. It is not possible to control the DAW's playback functions from within Melodyne Plugin.

Playback functions in Melodyne Stand-Alone and Plugin (when the DAW is stopped):

- Click in the bar ruler to position the playback cursor
- Double-click in the bar ruler to start playback from the place where you click
- [Alt]-double-click anywhere in the bar ruler to play back the current selection
- With most DAWs, pressing the space bar stops the local Plugin playback
- Use the arrow keys to select and play the next/previous blob or the blob above/below.
- Click in the bar ruler to stop the playback and position the playback cursor
- Click and drag in the bar ruler to begin scrubbing

Playback functions in Melodyne Stand-Alone:

- [Space bar]: Play/Pause
- [Alt]+[space bar]: Play the current selection
- [Numeric keypad Enter]: Play
- [Numeric keypad null] x 1: Stop
- [Numeric keypad null] x 2: Return to previous start position
- [Numeric keypad null] x 3: Return to the beginning of the file
- Tempo box: Drag the old or type in a new value to alter the tempo and stretch the audio. You can also type in percentage values in this box
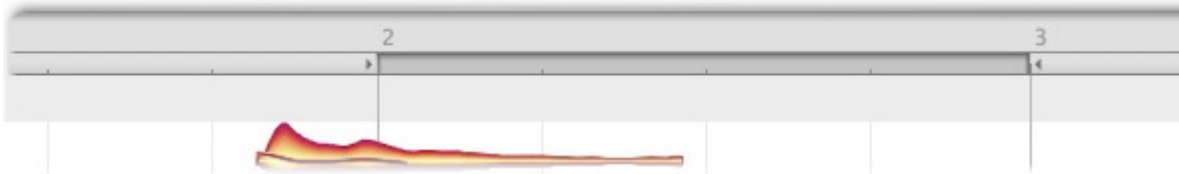
Melodyne Stand-Alone and Melodyne Plugin both offer a cycle mode. With the plug-in, you can only activate cycle mode when the DAW is stopped.

- Drag horizontally in the lower part of the bar ruler to define the cycle zone
- Double-click in the cycle zone to toggle cycle mode on and off
- To move either of the cycle locators, simply click on it and drag
- Drag the center of the cycle zone to move the entire zone to the left or right
- If active, the selected time grid influences the position of the cycle locators
- Holding the [Alt] key as you drag the cycle locators causes the time grid to be ignored
- [Shift]+clicking near a cycle locator moves it to the designated position
- [Shift]double-clicking anywhere in the cycle zone moves the locators to the first and last selected blob. [Shift][Alt]-double-clicking sets them exactly to the selected notes

Keyboard shortcuts not displayed in the menus of Melodyne Stand-Alone:

- Stop: [numeric keypad null]
- Play: [numeric keypad Enter]
- Main tool: [F1]

- Pitch tool: [F2]
- Formant tool: [F3]
- Amplitude tool: [F4]
- Time tool: [F5]
- Note separation tool: [F6]
- Open correct pitch macro: [Command][Shift][P]
- Open quantize time macro: [Command][Shift][T]

Note selection and copying

Blobs in the editing area can be selected using all the standard techniques: clicking, [Shift]-clicking, marquee/lasso/rubber-band selection, etc. In addition, the edit menu offers a sub-menu with a variety of selection commands. To make a selection, use one of the following techniques:

- Standard techniques such as clicking, [Shift]-clicking and lassoing to select and deselect notes
- [Shift]-click and then drag the mouse to enter Snake Selection mode
- Select notes by clicking or dragging in the pitch ruler; double-clicking selects notes with the same name in all octaves rather than simply at the pitch clicked
- In the pitch ruler also, you can [Shift]-click or [Shift]-drag to add or remove notes from the selection
- In the Edit menu, you will find the usual Select All command but also a sub-menu with special selection commands
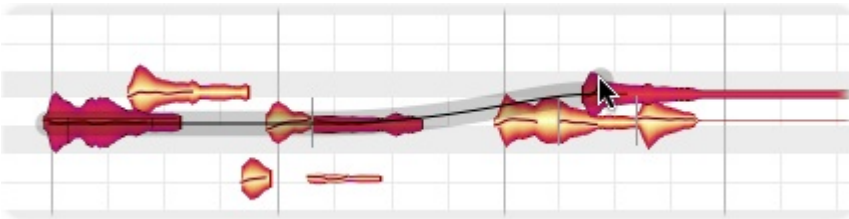
Melodyne allows you to cut, copy and paste blobs. If prior to pasting a blob (the 'source' blob) you select another (the 'target' blob), when you paste, the former will replace the latter. If no blob is selected at the time of pasting, the source blob will be pasted at the cursor position. If, however, the blob was offset from the grid prior to copying, it will be offset from the playback cursor after pasting and by the same amount; if you want the insert point and the cursor position to coincide exactly, set the time grid to Seconds prior to pasting.

Macros and tools

The pitch and time correction macros (reached via the buttons in the top right corner) can be applied to a selection. If no tones are selected, the macro in question operates on all the notes.

Manual editing is performed using the tools in the toolbox. The tools are in some cases context-sensitive, offering different functions when moved over different parts of a blob. For finer

adjustment, hold the [Alt] key when changing parameters. You can also open the toolbox by right-clicking in the editing area.

The shortcut [Command]+[up/down arrow] applies the main function of the selected tool to the selected blob. Hold the [Alt] key to change the values by finer increments.

The following chart provides an overview of the functions of the various tools, indicating how these vary depending upon which part of the blob is clicked or dragged and upon whether you single- or double-click. The shape of the mouse pointer provides a further indication of the function a given tool will perform in a given context.

		Single-click		Double-click	
			PART OF BLOB		
TOOLS	**Left**	**Middle (main function)**	**Right**	**Middle**	**Right**
Main	move start	shift pitch/ position	move end	insert/delete note separation (top of blob)	
Pitch		shift pitch	create pitch transition	quantize to nearest semitone	activate/deactivate pitch transition
Pitch Modula-tion		set modulation		switch between current and none	
Pitch Drift		set drift		switch between current and none	
Formant		shift formants	set formant transition	no formant shifting	formant transition off/on
Amplitude		set amplitude	set amplitude transition	mute/unmute	amplitude transition off/on
Time	move start	move whole note	move end	quantize to time grid	
Time Handles		move time handle		create/delete time handle	
Attack Speed	set attack speed				
Note Separation				insert/delete note separation	insert/delete note separation

The pitch grid and scale functions

In Melodyne, you can change the pitch of notes either continuously or in such a way that they snap to a grid. If the snap function is active, notes can only be moved to pitches allowed by the grid. The grid can be based on the chromatic scale, the scale of C Major or any other scale.

Melodyne offers you a wide choice of scales and a comprehensive set of functions for the editing and creation of scales – which even include the ability using the scale detective to identify the scale used in one recording and apply it to another.

All these functions and options are reached via the pitch ruler. They are organized in such a way that you only ever see the parameters you actually need for a given task. Think of a drawer that can either be pulled slightly open or else opened to its maximum extent.

With a right click on the pitch ruler you open a context menu from which you can select at the top between No Snap, Chromatic Snap and Scale Snap. You can also select between various alternatives for the naming of notes in the ruler and for the way the pitch is indicated by the background of the editing pane.

From the Scale Editor submenu, select which of the scale functions you would like to see. The various entries have the following meanings:

- Hide: only the simple pitch ruler for the display and selection of the notes is visible.
- Selection / Master Tuning: shows the areas that allow you to select a scale and set the overall tuning. Click on the wide ruler to select a scale.
- Intervals / Degrees: also shows the areas relevant to the editing and creation of scales
- Scale Detective: shows, in addition, the scale detective area, which serves for the analysis and extraction of the scale from the recording being edited.

If you would like more detailed information about editing with the scale functions, please consult the relevant tours of the Melodyne user manual.

Tempo functions

Next to the tempo box, there is a button that opens a tempo dialog. Both the box and the dialog have distinct functions in Melodyne Stand-Alone and Melodyne Plugin.

In Plugin, the tempo in the box is merely a display; it cannot be adjusted because the tempo is determined by the DAW. When the tempo in the DAW changes, you should open the dialog and inform Melodyne Plugin of the nature and intent of the change: Have you simply selected a new constant tempo or is a tempo progression (a gradual tempo change) intended? In the latter case, you should play back the entire song so that Melodyne can 'learn' the tempo progression – do this prior to the first transfer. When working with tempo or time signature changes, please consult the tour entitled 'Adjusting to Variable Tempo in the DAW' in the Melodyne user manual. In the tempo dialog, you can also select whether or not time-stretching and time-compression should be applied to the audio to take account of any tempo changes.

In Stand-Alone, dragging the value in the tempo box or typing in a new one alters the tempo and the audio is time-stretched or -compressed accordingly. If, instead of this, you simply wish the grid beneath the blobs to change (without influencing the audio tempo), use the tempo dialog. Usually if you want to change the grid resolution, it will be because the tempo detected is either twice as fast or half the speed of the tempo you prefer; or because slight variations in tempo by the performer have led to a varying tempo being detected, when a strict tempo was intended.

Saving your work and file management

In Melodyne Stand-Alone, you save your edits in the standard manner, as a new audio file with the same format as the original file. The original file is retained as a backup.

If you want to continue editing a file at a later date, you should choose Save As from the File menu and the format Melodyne Project Document. This format saves the editing separately from the original audio file, so there is no need for a fresh analysis to be conducted each time you resume work. Only when you have completely finished editing should you save the results as an audio file.

In Melodyne Plugin, it is not necessary to save your work manually, as this is done automatically by the DAW project. If you want to save the contents of Melodyne Plugin as an audio file, you must use the bounce/render function of your DAW.

Each time audio material is transferred, Melodyne Plugin makes a copy of the new segment. These files are stored by default in the folder indicated by Settings > File Manager > Path for Transfers. Please note that if you are passing on a project to someone else, you **must** also include the files transferred with Melodyne, otherwise Melodyne will not be able to play back the transferred passages. For this reason, you can select a different destination for each project – the project folder, for example – so as to ensure that the transfer files are archived and transferred along with the project.

In Melodyne Stand-Alone, you can select under Preferences > Audio > Recording Folder the location

in which the recordings created by Melodyne Stand-Alone are stored temporarily.

Melodyne condensed : the interface in a nutshell

Keyboard shortcuts allow you to work more swiftly by eliminating mouse movements. Furthermore, holding down particular keys whilst working with the mouse often gives you access to additional options. You will find all such techniques listed here – as well as all the most important operations you can perform in Melodyne with a click or double-click.

Note: where we refer here to the 'COMMAND' key, we mean the command or Apple key on the Mac and the Ctrl key on the PC.

General program functions

Here you will find the keyboard and mouse commands for basic Melodyne functions

Open context menu for blobs and various other objects in the user interface	Right-click on object
Select all	COMMAND+A
Delete selection	DELETE
Cut selection	COMMAND+X
Copy selection	COMMAND+C
Paste selection	COMMAND+V
Undo	COMMAND+Z
Redo	COMMAND+SHIFT+Z, under Windows also COMMAND+Y
Make fine adjustments with tools or value fields	ALT-drag
Select value in inspector	Double-click value
Select entire entry in inspector	Triple-click in inspector

Additional program functions (Stand-Alone only)

The following addiitonal commands are only available in the stand-alone implementation of Melodyne.

New document	COMMAND+N
Open document	COMMAND+O
Save document	COMMAND+S
Save document as	COMMAND+SHIFT+S
Close document	COMMAND+W
Scroll the display automatically during playback	COMMAND+ALT+F

Activate/deactivate time grid	COMMAND+ALT+T
Open 'correct pitch' macro	COMMAND+SHIFT+P
Open 'quantize time' macro	COMMAND+SHIFT+T

Navigation, selection and playback

Here you will find all the commands required for navigation, zooming, selection, playback and working with the cycle function.

Navigation

Position playback cursor	Click in the time ruler
Position playback cursor and scrub	Drag horizontally in the time ruler (drag vertically to zoom)
Position playback cursor at last starting point	Press (keypad) 0 once when stopped, twice during playback (Stand-Alone only)
Position playback cursor at start	Press (keypad) 0 twice when stopped, three times during playback (Stand-Alone only)
Move editing area (scroll tool)	COMMAND-drag in editing pane

Zooming

Zoom in time	Drag vertically in time ruler (drag horizontally to scrub)
Zoom horizontally/vertically (zoom tool)	COMMAND+ALT-drag horizontally/vertically in the editing pane
Zoom on a blob (or selection)	COMMAND-double-click on the blob (or any blob selected)
Zoom out	COMMAND-double-click in editing background
Zoom horizontally/vertically on all blobs	Double-click horizontal/vertical scroll/zoom slider

Cycle editing

Activate/deactivate cycle	Double-click on cycle beam
Define cycle range (snap to grid)	Drag in cycle ruler
Define cycle range (snap deactivated)	ALT-drag in cycle ruler
Match cycle range to current selection	SHIFT-double-click on cycle ruler
Move cycle beam or cycle borders (snap to grid)	Drag cycle beam or borders

Move cycle beam or cycle borders (snap deactivated)	ALT-drag cycle beam or borders
Reposition cycle border	SHIFT-click near border in cycle ruler
Reposition cycle border (snap deactivated)	SHIFT+ALT-click near border in cycle ruler

Selection

Select blob	Click on blob
Add/remove blob(s) to/from selection	SHIFT-click on blob(s) or use lasso
Add/remove notes to/from selection using the pitch ruler (only within cycle range when cycling)	SHIFT-click or drag in the pitch ruler
Add/remove notes (in all octaves) to/from selection using the pitch ruler (only within cycle range when cycling)	SHIFT-double-click
Select adjacent blob	ARROW KEYS
Add adjacent blob to selection	SHIFT+ARROW KEYS
Snake selection	SHIFT-click on a blob and drag to others
Rotate and select hidden blobs	COMMAND+SHIFT+R (Melodyne editor Stand-Alone only)
Select all	COMMAND+A

Playback (Plugin)

In the plug-in implementation of Melodyne, you can begin playback independently of the DAW in order to hear only Melodyne. This is only possible when playback in the DAW is stopped. We call it 'local playback'.

Start local playback	Double-click on time ruler with playback in the DAW stopped
Start local playback (selected notes only)	ALT-double-click on time ruler with playback in the DAW stopped
Stop local playback	SPACE or click on time ruler

To facilitate editing in note assignment mode, you can opt to hear the notes played back by a synthesizer, or switch back and forth between the synthesized and original sounds.

Toggle between synthensizer and original sound in note assignment mode	SHIFT-double-click on time ruler

Playback (Stand-Alone)

Begin playback	SPACE or (keypad) ENTER or double-click on time ruler
Play back selection, then stop	ALT+SPACE
Stop playback	SPACE or (keypad) 0 or click on time ruler

To facilitate editing in note assignment mode, you can opt to hear the notes played back by a synthesizer, or switch back and forth between the synthesized and original sounds.

Toggle between synthensizer and original sound in note assignment mode	SHIFT-double-click on time ruler

Tool functions

It is possible to select tools, modify their behavior, and execute their principal functions, using only the keyboard.

Main tool

Select main tool	F1 (Stand-Alone only)
Raise/lower pitch by a semitone	COMMAND+UP/DOWN ARROW
Raise/lower pitch by a cent	COMMAND+ALT+UP/DOWN ARROW
Move in grid increments	COMMAND+LEFT/RIGHT ARROW
Move in fine increments	COMMAND+ALT+LEFT/RIGHT ARROW

Pitch tool

Select pitch tool	F2 (Stand-Alone only)
Raise/lower pitch by a semitone or scale degree	COMMAND+UP/DOWN ARROW
Raise/lower pitch by a cent	COMMAND+ALT+UP/DOWN ARROW
Hear harmonic context when shifting the pitch of a note	Begin dragging then press COMMAND

Pitch modulation tool

Toggle between original pitch modulation and none	COMMAND+UP/DOWN ARROW

Pitch drift tool

Toggle between original pitch drift and none	COMMAND+UP/DOWN ARROW

Formant tool

Select formant tool	F3 (Stand-Alone only)
Raise/lower formants by a semitone	COMMAND+UP/DOWN ARROW
Raise/lower formants by a cent	COMMAND+ALT+UP/DOWN ARROW

Amplitude tool

Select amplitude tool	F4 (Stand-Alone only)
Increase/decrease amplitude by 1 dB	COMMAND+UP/DOWN ARROW
Increase/decrease amplitude by 0.1 dB	COMMAND+ALT+UP/DOWN ARROW
Mute/unmute blob	COMMAND+LEFT/RIGHT ARROW

Timing tool

Select timing tool	F5 (Stand-Alone only)
Move in grid increments	COMMAND+LEFT/RIGHT ARROW
Move in fine increments	COMMAND+ALT+LEFT/RIGHT ARROW

Note separation tool

Select note separation tool	F6 (Stand-Alone only)

Other functions

Real-time controls

You can automate Melodyne's real-time controls in your DAW to create dynamic real-time effects.

Reset real-time controls (Plugin) and volume control (Stand-Alone) to neutral position	COMMAND-click
Finely adjust real-time controls (Plugin) and volume control (Stand-Alone)	ALT-drag
Select value range of real-time controls (Plugin, except ARA in Studio One)	Right-click on control to open context menu

Scale area (Melodyne editor only)

In the scale area, the following keyboard and mouse commands can be used:

Mode ruler: rename degree	double-click current name
Tuning ruler: enter frequency	double-click current frequency
Tuning ruler: insert interval	SHIFT-double-click between existing intervals (Melodyne editor only)

Tuning ruler: remove interval	SHIFT-double-click on unwanted interval (Melodyne editor only)

Strategies for optimizing performance and stability

Melodyne offers unique possibilities at the very frontiers of what is technically possible, but it does make certain demands on your computer in return. These can prove particularly exacting when you have multiple instances of Melodyne and other processor-intensive plug-ins loaded into your DAW at the same time. Knowing how to make the most of the resources available at such times is of crucial importance to the smooth operation and stability of the overall system. In this tour, therefore, we will show you how to get the best out of Melodyne and your working environment.

Tip 1: The size of your DAW's buffer

Somewhere among the audio settings or general preferences of your DAW, you will find one that allows you to adjust the size of the buffer. The buffer size is given in samples, often accompanied by a display in milliseconds. In simple language, the buffer size determines the size of the 'chunks' of audio data the computer receives from the DAW and processes.

I/O Buffer Size: [1024   ÷] **Samples**
Resulting Roundtrip Latency: 47,9 ms
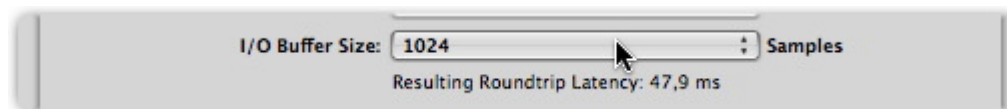
- For Melodyne to function reliably, the size of the DAW's buffer must be at least 512 samples, but we recommend a buffer size of 1,024 samples.

If the buffer is any smaller, the load on the CPU is increased considerably, quickly leading to dropouts and artifacts in the audio reproduction. Having a sufficiently large buffer is not only important for the use of Melodyne but also of advantage to other plug-ins as well as the DAW itself.

Of course, there are also situations in which a larger buffer can be a disadvantage. When monitoring through the computer or playing software instruments, for example, the larger the buffer, the greater the delay (latency), and this can prove distracting. If possible, therefore, you should use the latency-free direct monitoring function in the channel strip of your mixer or audio interface.

If during recording, however, you are obliged to monitor via the computer or need a smaller buffer to avoid latency whilst playing a software instrument, you should temporarily deactivate (bypass) Melodyne and reduce the buffer size. Later, when you have restored the buffer to its original size, you can switch Melodyne back on.

Please consult the user manual of your DAW to find out how to adjust the buffer size.

Tip 2: Avoid running short of RAM

When RAM becomes scarce, problems occur almost automatically and these may even include crashing. If you are using your computer for music production, as a general rule, the more RAM you have, the better; but even when vast amounts of RAM have been installed, if it is not used efficiently, it can still become scarce. We therefore recommend the following strategies for optimizing RAM management.

Realizing when RAM is scarce: The first thing is to establish whether or not you are running short of RAM. If you are using Windows, open the Task Manager (shortcut [Ctrl][Alt][Del]) or if using a Mac, open the Activity Monitor (Applications>Utilities) and you will see how much RAM is being used by each application. Of particular interest here is the amount of RAM being used by your DAW, as this figure includes the RAM used by all the plug-ins loaded.
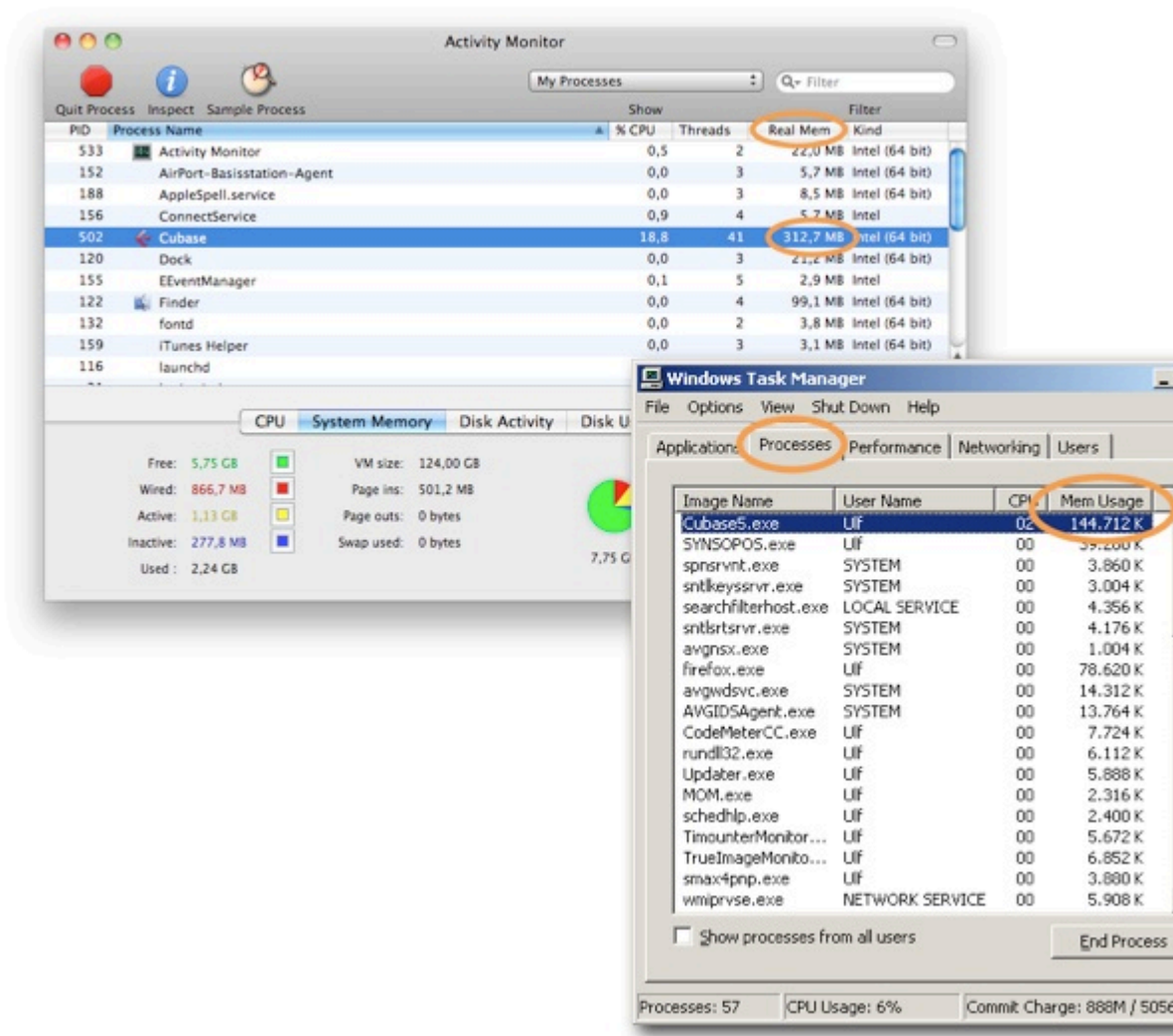
When it comes to RAM use, there is an important difference between 32-bit and 64-bit DAWs: 32-bit DAWs are only capable of addressing 2 GB of RAM, even if the computer itself contains considerably more. As soon as the RAM requirements of a 32-bit DAW begin to approach this 2 GB limit, the application will become unstable and malfunctions inevitable. In this case, you should use the measures outlined below to reduce your RAM requirements. With a 64-bit DAW, of course, you can use considerably more RAM, but here, too, shortages can occur, if the DAW claims virtually all the RAM that is physically available. In either case, the following measures are recommended.
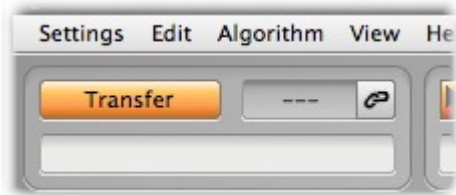
Only transfer the passages you need to edit: Each passage transferred to Melodyne claims a certain amount of RAM. For this reason, you should only transfer to Melodyne the passages you really intend to edit. If, for example, you only want to edit the vocals during the refrain (chorus), transfer the refrain only to Melodyne and not the verse as well.

In this way, you can prevent Melodyne claiming RAM it doesn't need. This does not mean, of course, that you cannot transfer longer passages to Melodyne when you need to edit them. Only that you should not do so unless it is necessary. If you are aware of the problem and adopt the measures we recommend to avoid wasting RAM, when you do need to edit longer passages, you will be able to do so without experiencing the instability associated with RAM shortage.

Transfer one track at a time: Admittedly you can save time by selecting multiple tracks for transfer and transferring them all in one go, but such a procedure requires considerably more RAM than the track-by-track method. By transferring your material one track at a time, you can avoid the spikes in demand that are inevitable when Melodyne has to analyze (or 'detect') multiple tracks simultaneously.

Reduce the maximum number of undo steps: Melodyne allows you to undo up to 100 editing steps. However, managing the undo history also requires memory – and the more undo steps are stored there, the greater the memory requirement. Each possible undo step therefore costs memory, and does so in all instances of Melodyne plugin. For this reason, since version 2.1 of Melodyne editor, assistant and essential, it has been possible to reduce the maximum number of undo steps and with it the amount of RAM needed by the undo function. By default, the parameter is set to 25. Reduce this value if you find memory running short or decide you really don't need that many undo steps.

Bounce tracks: All tracks containing instances of Melodyne and also all tracks containing software samplers consume RAM, and this is reflected in the overall amount of RAM used by your DAW. By bouncing Melodyne and/or sampler tracks you've finished working on, you can make more efficient use of the RAM available.

The 'bounce' function (variously known as 'Render to Disk', 'Mixdown' or 'Print to Track') results in your Melodyne edits or sampler output being finalized in an audio file that can then be played back from a simple and resource-sparing audio track instead of the original track. This makes it possible to remove Melodyne and/or the software sampler from the original track and even delete the original track entirely, thereby economizing on RAM. A tip: before performing the bounce, save a copy of the song, in case you want to access the original track (complete with the plug-ins) at a later date.

Please consult the user manual of your DAW to find out how to bounce tracks.
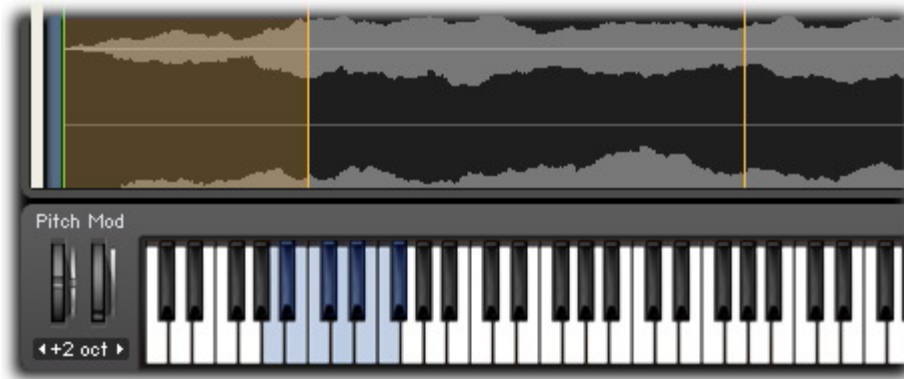
Optimize sampler instruments: Although Melodyne makes the data required for playback available in the most efficient way possible and the one that makes the most modest demands upon RAM i.e. by streaming from the hard disk, it remains unquestionably a RAM-intensive plug-in. Of course, RAM shortage is a problem to which other plug-ins also contribute, and depending upon the use you make of them, their share of responsibility could even be greater.

Sampler instruments with long, multi-layered samples are particularly greedy when it comes to RAM. For this reason, most such instruments are also capable of switching to disk streaming technology whenever their RAM consumption would otherwise exceed a prescribed limit. This limit is generally user-adjustable, so if you need to economize on RAM, you can simply reduce it. Keep an eye, though, on the CPU load display of your DAW, as lowering the RAM limit of your sampler engine will increase the load on the CPU. The aim is to find a happy medium whereby excessive demands are made upon neither your CPU nor your RAM.

Restart your DAW at regular intervals: Many DAWs have a tendency, the longer they run, to monopolize more and more RAM, which they fail to give back to the operating system in the correct way. This is something you will notice typically from the fact that the RAM display (in the Task

Manager under Windows or the Activity Monitor on the Mac) will show less and less free RAM available even though you haven't performed any additional editing in Melodyne or added new sampler instruments. Restarting your DAW at regular intervals, you will find, works wonders in such cases. As a rule of thumb, we recommend the following: each time you leave off editing one (fairly long) track with Melodyne, before you begin work on the next, you should save the song and restart your DAW. Only then should you perform the next transfer and resume editing.

Reboot your computer: It is less often necessary but can still do no harm to reboot your computer from time to time, thereby defragmenting the RAM. Severely fragmented RAM can sometimes be responsible for your DAW becoming unstable — even when, at first sight, the level of RAM consumption is far from critical. Even though the total quantity of RAM available may seem sufficient, if it is fragmented (i.e. if no large blocks are available but only a multitude of fragments scattered all over the place), hiccups can be experienced in the communication between the operating system and the DAW or between the DAW and the plug-in. You can solve such problems at a stroke simply by rebooting the computer.

Tip 3: The correct DAW settings

We try to ensure Melodyne functions flawlessly in as many DAWs as possible. Each DAW, however, has its own specific characteristics and setting options that can influence the operation of Melodyne. The number of so-called 'render threads', for example, can have a direct influence on Melodyne and it can be useful to reduce these progressively to see whether any problems you are experiencing can be eliminated in that way.

We have documented a variety of points such as these that can affect the operation of Melodyne in the various DAWs we have tested. You will find the relevant information on the Compatibility page on our web site
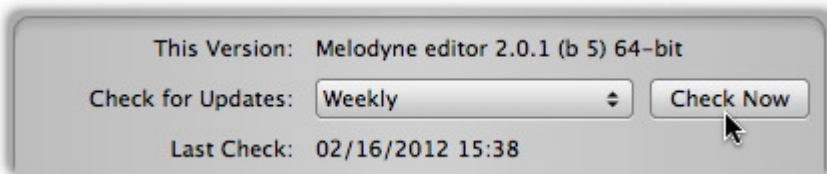
Tip 4: Always use the latest version of Melodyne

We are constantly improving our products through regular updates. It may be that you are experiencing a problem that has been eliminated in the latest version. We therefore recommend you to use at all times the latest version of the software. You can easily discover whether a newer version is available using the 'Check for Updates' function on the Settings tab of the Preferences property sheet of Melodyne editor, assistant and essential or, in the case of Melodyne studio, in the Help menu. If a newer version does exist, you can then download it immediately.

Tip 5: Use the correct audio driver format

Melodyne requires one of the professional audio driver formats ASIO (Windows), Core Audio (Mac) or, if using Pro Tools, direct integration with a proprietary audio interface. We recommend the use of high-quality audio hardware that supports one of these driver formats.

If you are working under Windows and your sound card does not offer an ASIO driver, you can use ASIO4ALL as a temporary workaround. Bear in mind, however, that a software solution such as this will not transform your sound card into a professional audio interface for music production. If possible, therefore, you should use ASIO-compatible audio hardware. Furthermore, we specifically recommend you to avoid DirectX or MME drivers under Windows.

Under Mac OS X, you can use the integrated audio output of your Mac with a clear conscience for audio reproduction. Depending upon the DAW you are using, however, it may be that recording via the integrated input is only possible using a workaround (the creation of an aggregate audio device in the utility program 'Audio-MIDI Setup').

Tip 6: Use the latest version of the audio driver

Problems with audio drivers often occur after a music application has been updated. In some cases, the problem manifests itself in a dramatic way: the computer crashes. At other times, however, the symptoms can be less obvious, taking the form of subtle and hard-to-explain malfunctions. Whatever form they take, when you do encounter problems you should check the manufacturer's web site to see whether new drivers are available for your audio interface. This is particularly important in the case of newly purchased hardware. A newly purchased device will often have been manufactured, packaged and shipped some time ago, having spent months in the warehouse of the distributor or dealer. The drivers contained on the CD supplied with such a device may well be out of date and you will find the latest ones online.

If our tips are of no help

If you encounter problems when using Melodyne and the troubleshooting techniques outlined here fail to help, please send an e-mail to our support team: support@celemony.com

Preferences

This tour looks at Melodyne's preferences property sheet, which governs fundamental aspects of the way the program operates.

Melodyne Plugin's preferences property sheet

In Melodyne Plugin, select Preferences from the Settings menu.
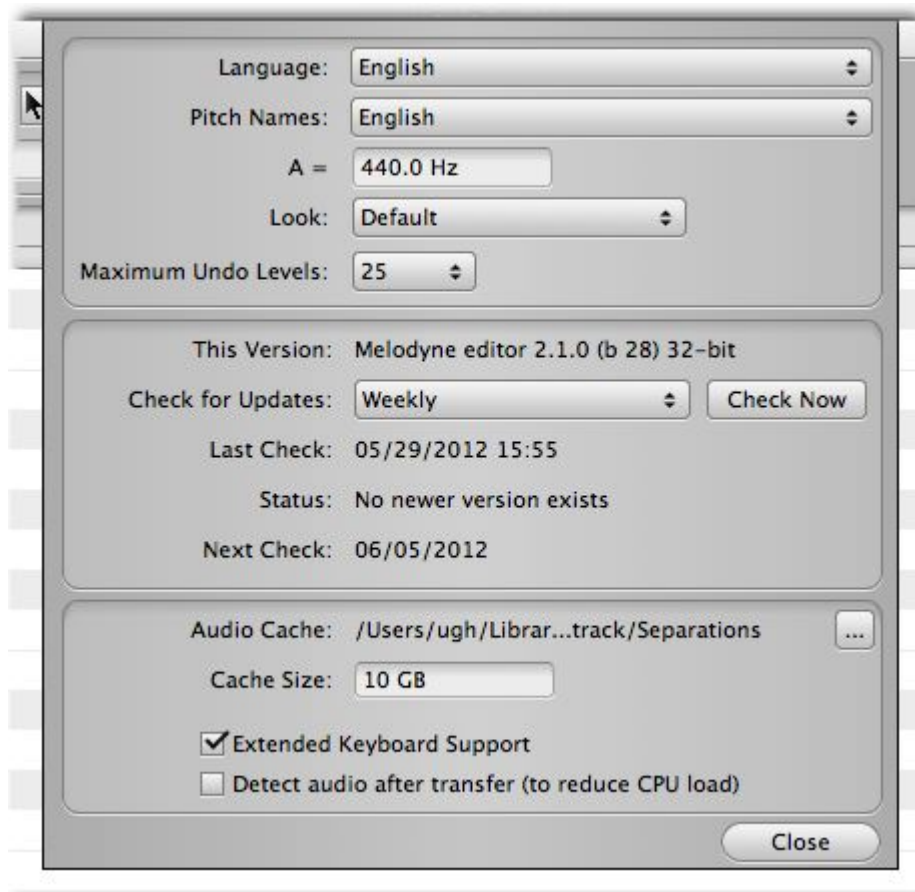
- Language: determines the language of the user interface.
- Pitch Names: determines whether notes on the pitch ruler are identified using their English, Latin or German designations.
- A =: defines the frequency of the reference pitch A4 (the A above Middle C).
- Look: allows you to select the brightness and contrast levels of the Melodyne interface.
- Maximum number of undo steps: Melodyne allows you to undo up to 100 editing steps. Here you can limit the number of possible undo steps and thereby reduce your RAM consumption. Reduce the value if you find memory running short or decide you really don't need that many

undo steps.

- The entries in the following pane are designed to help you keep your software up to date. As well as specifying how often Melodyne should check with the server to see whether a newer version of the program is available, you can instruct Melodyne to perform an immediate check. The version currently installed is also displayed.
- Audio Cache: sets the path on your hard disk of the audio buffer required by Melodyne editor when working with polyphonic material.
- Cache Size: determines the maximum size of the audio buffer.
- Extended Keyboard Support: activate this option to use keyboard shortcuts (undo, select all, copy, paste, arrow keys etc.) within Plugin. How well these function depends upon the DAW you are using; clear the option if you find Melodyne's keyboard shortcuts are entering into conflict with your DAW.
- Detect audio after transfer: if you check this option the analysis of the audio material only begins when the transfer has been completed, thereby considerably reducing the load on the computer. Activate this option, therefore, on less powerful computers if during the transfer bottlenecks occur (indicated by clicks, dropouts, extreme slowing-down etc.).

Melodyne Stand-Alone's preferences property sheet

In Melodyne Stand-Alone, select Preferences from the Program (Mac) or File (Windows) menu to open the preferences property sheet. This has two tabs.

The Settings tab offers the same options as Plugin, and regardless of whether you make your selections in Plugin or Stand-Alone, your choices apply to both implementations of the program.

An additional feature here, however, is the Saving check box: if the option is selected, before saving the audio file you have just been editing, Melodyne copies the original file, appending 'backup' to its file name. This will allow you to revert to the original later, should you so desire. Clear the check box if this feature is of no interest to you.

The Audio tab contains the following additional options:

Upper pane

- Audio Device: allows you to select an audio driver or the audio hardware driven by it.
- Sample Rate: determines the sample rate used by Melodyne.
- Buffer Size: determines the size of the buffer used for audio editing. The smaller the value, the lower the latency but the greater the load on the CPU.
- Output: allows you to select the output of the audio hardware used by Melodyne Stand-Alone in case your hardware offers multiple outputs.
- Ignore buffer underruns: if Melodyne Stand-Alone is running on a slow computer where the possibility of an overload (and an ensuing click or dropout) exists, by checking this box, you inform Melodyne that you consider the former to be the lesser of the two evils – the point being that audio hardware is often very sensitive to dropouts and can even in such cases cause the entire computer to crash. Check the box if ever this happens. Such occurrences are very rare, however, and most users can safely ignore this option.

Lower pane

- Input: allows you to select the input of the audio hardware used by Melodyne Stand-Alone in case your hardware offers multiple inputs.
- Resolution: determines the bit resolution for recordings made by Melodyne Stand-Alone.
- Recording Folder: specifies the folder in which new recordings should be saved.

Transferring audio material to Melodyne Plugin

In this tour, you will learn how to transfer audio material to Melodyne Plugin as well as the fundamentals of its use.

Transferring audio

Open in your DAW the project you wish to edit.
Load Melodyne Plugin as an audio insert effect in the audio track containing the material you wish to edit. Position Melodyne Plugin above any insert effects you may be using in the track – if in doubt, put it in the first insert slot. For the analysis (or 'detection') to achieve the best possible results, Melodyne needs to be given as dry and clean an input signal as possible.

Move the playback cursor in the DAW to a point before the beginning of the passage you wish to edit with Melodyne.
Click the 'Transfer' button at the top left of the Melodyne window to prepare it to accept the transfer.
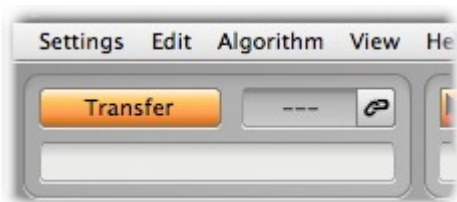
Press Play in the DAW to transfer the material, which Melodyne will import automatically. Press Stop when the end of the passage you wish to edit is reached. Stopping the DAW playback automatically brings to an end Melodyne's transfer readiness. You can also interrupt a transfer in progress at any time by clicking the Transfer button.

If you wish, you can transfer to Melodyne further passages from different parts of the DAW track. Clicking the Transfer button during playback by the DAW toggles Melodyne's 'enable transfer' function on and off, allowing you to punch in and out as the playback proceeds. Alternatively, as you reach the end of each of the passages you wish to transfer you can stop playback by the DAW, find the start of the next passage, transfer-enable Melodyne again, restart playback by the DAW, stop it again, and so on. If you wish, you can just transfer the entire track or even several tracks simultaneously to multiple instances of Melodyne.

Important: If your DAW project contains changes of tempo or time signature, please consult the tour entitled "Adjusting to tempo variations in the DAW".

Replace Ranges

During playback, those passages that have been transferred to Melodyne will be played back by Melodyne; all others by the DAW. In other words, wherever it has material to play back, Melodyne's signal replaces that of the original track.

From the View menu, choose 'Show Replace Ranges'. All the passages that will be played back by Melodyne (as opposed to the DAW) will now be marked. Such regions can be extended simply by dragging their borders with the mouse.

To shorten a playback region, delete a few blobs and select 'Set Replace Ranges to Notes' from the context menu of the Bar Ruler.
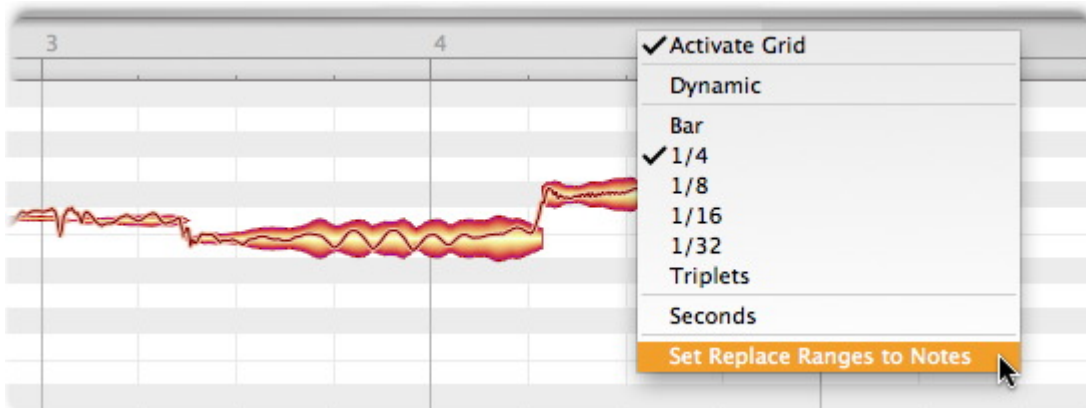
Loading and saving audio in Melodyne Stand-Alone

In this tour, you will learn how to open and save audio files in Melodyne Stand-alone and which file formats are used.

Opening files from the File menu

Choose 'Open' from the File menu of Melodyne Stand-Alone and navigate in the file selection box to the desired audio file. Select this, confirm your intention to load it, and the file will open.
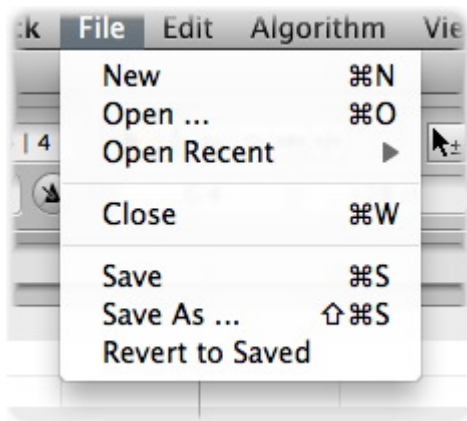
The 'Open Recent' submenu offers direct access to the last twenty documents loaded. Simply select the desired entry and the corresponding document will open (provided it has not been deleted from the hard disk or moved to another location in the meantime).

If you have already saved an edited document, you can revert at any time to the most recently saved version by selecting 'Revert to Saved', in this way discarding any changes you have made since the file was last saved.

Opening files by drag-and-drop

If Melodyne Stand-Alone is already open, you can drag an audio file into the empty window Melodyne displays when first launched (or that you yourself have created by choosing 'New' from the File menu). An outline will appear, allowing you to drag the file to exactly the desired position in the time ruler.
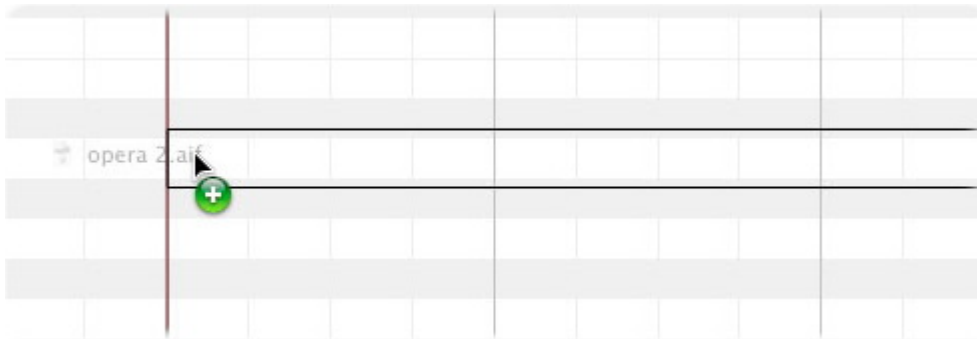
As soon as you release the file, it is analyzed and the notes detected are displayed in the editing area.

In this way you can also drag multiple files into the window, positioning them wherever you like, in order, for example, to compose a new sample from multiple takes. The tempo of the document is derived from the first file loaded, though it can naturally be altered at any time.

Saving your work

When, after editing a file, you choose 'Save' from the File menu, the 'Save As ...' dialog opens, allowing you to select a format for the new file.

By default, the name and format of the original file will appear there; if you now click 'OK', the original version of the file will be replaced by the edited version. Don't worry: the original file is still there; it is stored alongside the new file but now has an '.orig' in its name. The saving of such backups is the default behavior of Melodyne Stand-Alone. If this is not what you want, clear the option 'Backup existing file before saving' in the Preferences dialog.
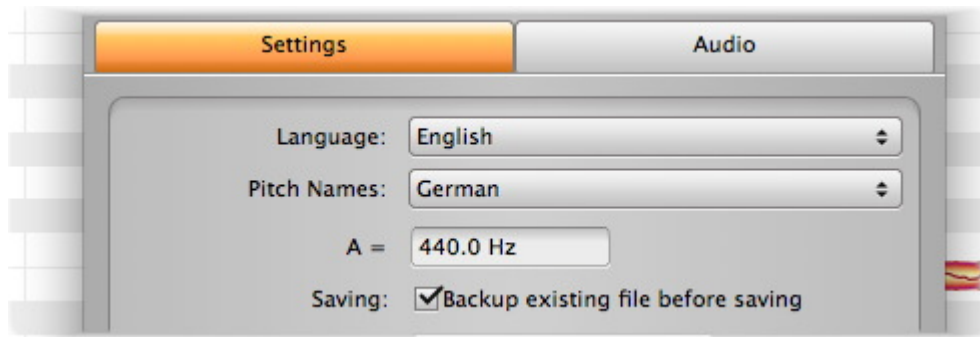
Once you have chosen a file format and saved the file for the first time, you will no longer see this dialog when saving subsequently. Each time you use the 'Save' command, the previous file will be replaced by a new file in the same format.

In the 'Save As ...' dialog, either the first time you save or at any time subsequently, you can select another format and assign a new name to the file. You can choose between the commonest audio file formats as well as 'Melodyne Project Document'.

Save as Melodyne Project Document

The Melodyne Project Document offers a non-destructive means of saving your work provisionally and is comparable with the 'One-Track-Song-File' of a DAW.
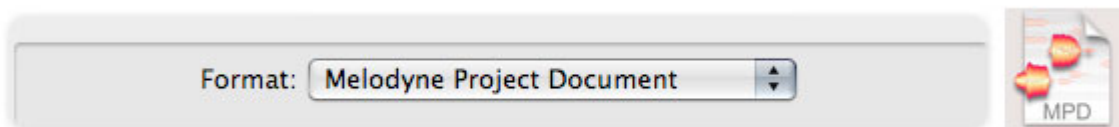
What does that mean? Suppose you save your work as an audio file. In that case, your edits will be 'burned in' to the new file. If you later wish to change something, you will have to load the file again, which means a new analysis of the file will have to be conducted, which in turn you may have to check through and edit once more before you can begin working on the audio file. Since your earlier work is burnt into the audio data, there is no way to undo your actions. Saving your work in the form of an audio file is therefore the preferred choice only when you have really finished working on a file and wish to use the edited file in another software application.

The format 'Melodyne Project Document', on the other hand, saves your edits separately from the audio data. In the resulting '.MPD' document, Melodyne saves not only data based upon its earlier analysis (or 'detection') but also a record of your editing. The audio file does not, therefore, when edited subsequently have to be analyzed a second time, and you can continue with your editing exactly where you left off. The audio file itself has still not been changed, since your edits are always

implemented by Melodyne in real time. If you want to continue your work later, you should save the document in MPD format and only save it as an audio file when you are sure you have finished working on it.

One further note: a file in MPD format does not integrate the audio file(s) it uses but merely refers to them. If you want to move your work to another computer or pass it on to someone else, you have to transfer not only the MPD file but also the audio files involved. To facilitate this, Melodyne's Save window includes the option, "Save Audio File(s) in Copy". If this option is selected, the audio files used will be copied to a subfolder in the same location as the MPD file.

Recording audio in Melodyne Stand-Alone

In this tour you will learn how to record audio with Melodyne Stand-Alone and what you need to bear in mind when doing so.

Audio settings

Before you record anything for the first time with Melodyne Stand-Alone, you should take a look at the Audio tab of the Preferences property sheet to check the settings.
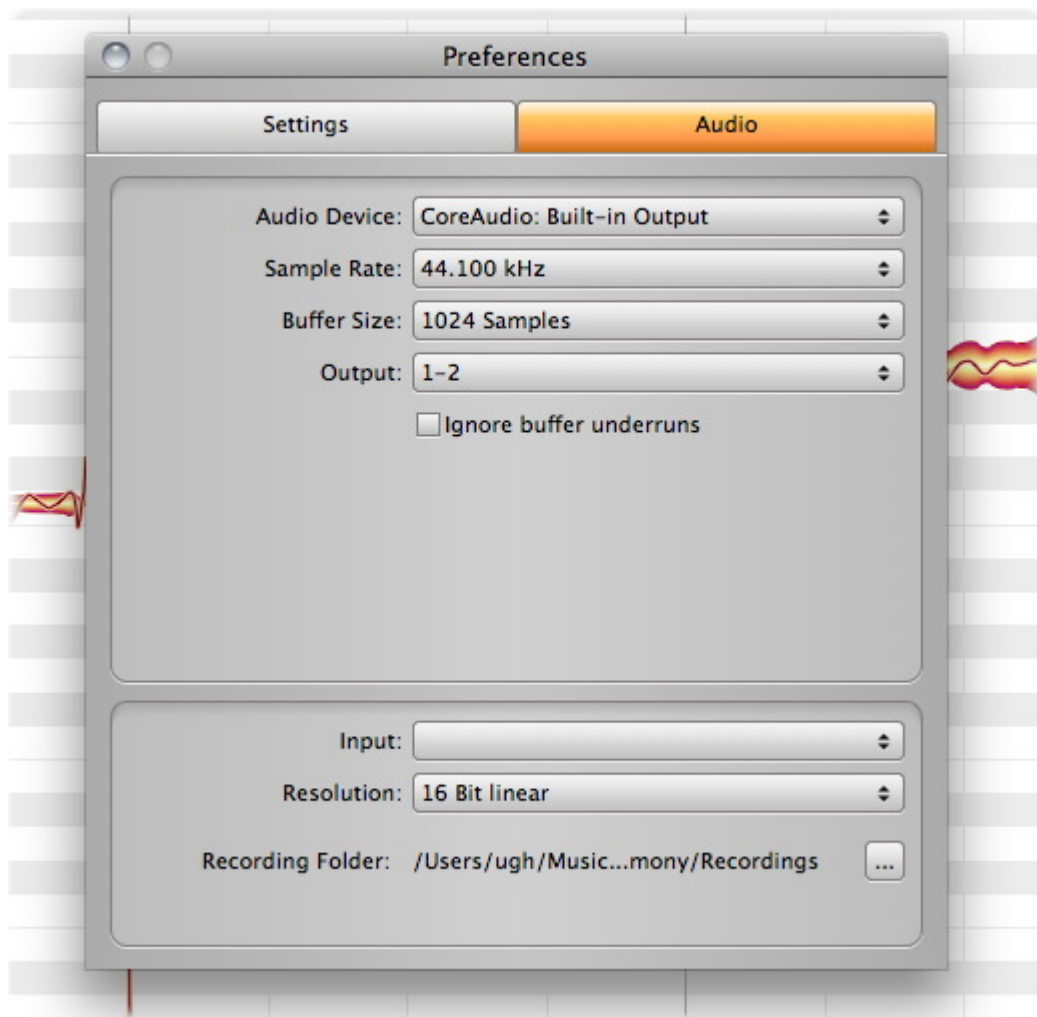
In the upper pane, you will see the general audio settings. If you have already loaded, played back and edited files with Melodyne and everything functioned, you can just leave the existing settings. (On the Mac, the internal Core Audio hardware is used by default; on the PC, the ASIO driver of your audio hardware should be selected).

In the lower pane, you can select the audio inputs of the audio hardware you wish to use. This parameter is naturally only relevant if your audio hardware actually has multiple inputs. From the list box, you can select the bit-resolution for recording, popular choices here being 16- and 24-bit linear. Below you can select the folder in which your recordings will be saved.
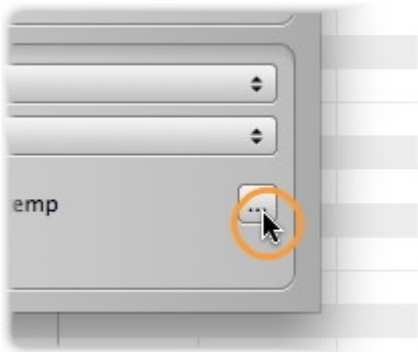
We recommend you to select a general 'Temp' folder, as the recording folder referred to here simply serves as a buffer for your work until you save it. There is no reason yet to choose a dedicated destination for your recording session; you decide the final destination of a recording when you come to save it.

Tempo and metronome

Before you begin recording in Melodyne, you should think about the tempo. There are two possible modi operandi: either the grid follows the music (in which case Melodyne interprets variations in tempo as evidence that the song tempo varies and stretches and/or compresses the grid accordingly); or the music follows the grid, which in this case will be uniform, so where deviations occur notes will lie sometimes to the left, sometimes to the right, of the gridlines nearest them.

When you create a new empty document (File > New) in Melodyne, the default tempo is 120 BPM. If you now, without changing the Tempo parameter and without switching on the metronome, begin recording and then stop the recording at some point, in the course of the ensuing analysis, the tempo throughout the recording will be detected. This option functions well and reliably as a general rule, but will usually lead to tempo fluctuations in your performance being interpreted as changes in tempo. In consequence, the Tempo display will change in the course of playback and the grid in the editing area will also expand or contract in response to tempo fluctuations in the recording.

If you would rather use a fixed tempo and uniformly spaced gridlines as the basis of your recording, simply set the desired tempo manually prior to recording and/or activate the metronome. As soon as you do either or both of these things, Melodyne will conclude that you want a uniform tempo. In this case, the Tempo display will not change during the recording and the grid will remain rigid; any tempo fluctuations in your performance will be revealed, when the analysis is complete, by the fact that certain notes are offset from – i.e. lie between, or not precisely on – the gridlines.

To activate the metronome, click the combination control shown below. By dragging it with the mouse, you can set the volume of the metronome.
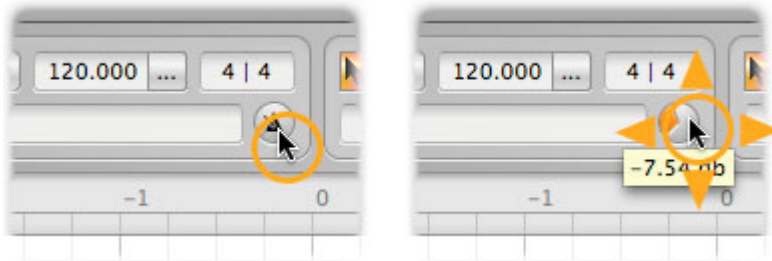
Starting and stopping the recording

Move the playback cursor (or recording cursor in this case) to a position slightly to the left of the place you wish to begin recording. Since there's no count-in, this will give you an aural cue and the tempo prior to your entry as you record. Now click the record enable button in the transport pane.
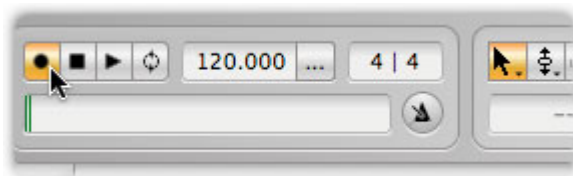
The record button will light up and the meter beneath the transport keys will indicate the level of the incoming audio signal. Adjust the output of your mixer or playback device until the maximum level is reached before the onset of clipping.

To begin the actual recording, click the play button.
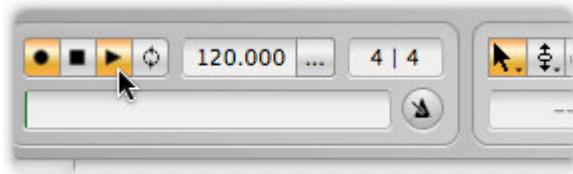
You can stop the recording at any time by clicking the record enable button a second time and resume by clicking it yet again; it's a toggle, in other words, that allows you to punch in and out at will during the performance. Clicking the stop button also ends the recording, stopping the cursor at the same time.

A recording can begin and end in the same places as a previous recording, in which case the earlier recording will be erased – unless, that is, after a bad performance you use the Undo command to roll back to the previous take.

You can listen to a recording even when the detection analysis is still underway and undo it in the same way.

Saving as MIDI

From this tour, you will learn to save audio notes in Melodyne as MIDI notes.

Audio-to-MIDI

Melodyne allows you to export audio notes as MIDI notes. When this is done, a file in Standard MIDI file format is created and saved to your hard disk. This file can then, for example, be loaded into your DAW so you can use it to double your vocals with a sound from a software synthesizer.

The MIDI notes are an exact representaion of the audio notes in Melodyne. For each audio note, a MIDI note is created with the same position, length and pitch. The velocity of each MIDI note is derived from the amplitude of the audio note it represents.

When you save rhythmic material as MIDI, all the MIDI notes will share the same pitch but take their position, length and amplitude from their audio equivalents in the rhythm track. You can use this technique, for example, to derive from a drum loop a quantization reference for other MIDI tracks in your DAW.

The generation of MIDI notes from audio material offers a wealth of different creative possibilities. Try it out for yourself!

Saving as MIDI

The Save as MIDI option is reached from the Settings menu, in the case of the plug-in, and, in the case of the stand-alone implementation of the program, from the Save As... option in the File menu.

When you select "Save As..." in the stand-alone implementation of the program, a dialog box appears with a drop-down menu containing the option "MIDI File".
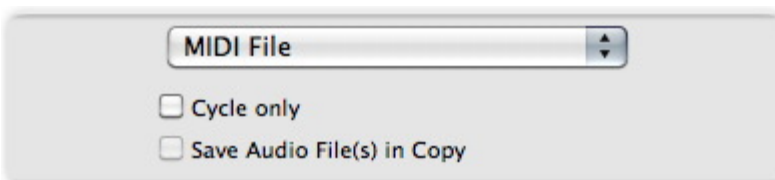
Save all notes or only those in the cycle zone

When saving as MIDI, you can choose whether you wish to export all the notes or only those lying within Melodyne's cycle zone. For the latter option, whether you are using the stand-alone application or the plug-in, you should check the 'Cycle only' box in the Save dialog.

If you choose to save all the notes (i.e. you clear the 'Cycle only' checkbox), the export begins invariably from the start of bar one. This is true even if the first notes do not appear until some later bar. When exporting MIDI from the plug-in, this ensures that the MIDI notes when loaded back into your DAW can be synchronized easily with the audio notes from which they were derived. To do this, simply drag the MIDI file to a track in such a way that it begins at bar one.

If you save as MIDI with the 'Cycle only' option checked, only notes lying within the cycle zone are exported. This is useful, for example, when you want to save a precise phrase or single bar in MIDI format.

Please note that the 'Cycle only' option in the plug-in refers to Melodyne's cycle range – not to that of your DAW! You can define the cycle range in Melodyne while playback in the DAW is halted. By default, the cycle range in Melodyne is the range occupied by the first transfer. If the cycle is left unchanged with this setting, when you are exporting MIDI the start and end of the cycle range, if not there already, will snap outwards to the nearest bar lines, in order to make it easier for you to position the MIDI file later.

The MIDI file exported by Melodyne also contains tempo information. Most DAWs offer you the choice of either adopting the tempo defined in the file or else ignoring it and allowing the current tempo of the DAW to prevail.

Managing audio files and assigning missing files

In this tour, you will learn what management functions exist for the audio files with which Melodyne operates.

Melodyne Plugin's transfer files

During transfers, Melodyne Plugin records the audio material from the DAW track; in doing so, it creates its own audio files, which it stores on your hard disk. For playback and editing in Melodyne to be possible, it is therefore not enough simply for the original audio files in the DAW project to be accessible: Melodyne needs also the files it created itself during the transfer.

It is important to bear this in mind when, for example, you want to archive or pass on to someone else a project together with the editing you have done on it in Melodyne. Care must then be taken that not only the DAW project, with all its audio and other files, are passed on but also the transfer files created by Melodyne. Without these, it will be impossible to play back the transferred passages and the edited material in the project you have passed on.

The question, then, is: where does Melodyne store the files it creates itself and how can you attach them to your project? The answer is to be found in the file manager window, which helps you manage transfer files and also search for lost ones.

Melodyne Plugin's file manager

You reach the file manager via Plugin's Settings menu.

In the central area of the window, you will see a list of all the transferred audio extracts belonging to the instance that is open. Each entry in the list represents an audio file that Melodyne has stored on the hard disk and that it requires for this instance to operate correctly.

Above the list, you will see the storage path of the folder in which Melodyne is currently storing these transfer files. By default, this is a folder in your Music directory, which is therefore the storage location for all new projects. (Certain DAWs, however, use a different path for each new project and behave also in other respects differently to the manner we are about to describe; for these, please read the note entitled Exceptions below.)
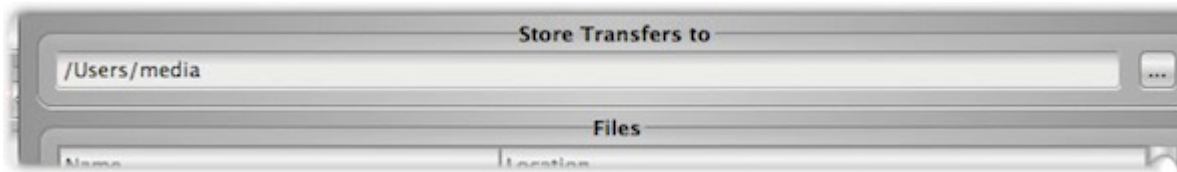
When you click the button next to where the current path is displayed, a file selection box opens to allow you to select a different folder as a storage location. The choice you make applies to the current project only. If, from one instance of Melodyne, you choose a new storage path for the project, the choice applies then to all instances within that project. All the transfer files already created will be moved to the new storage location. If this is on a different volume, such as an external hard disk, they will be copied to it. Whenever you change the storage path, therefore, Melodyne will ask you to save your project, so that the updated file references can be saved too.

When subsequently you transfer passages to any instances of Melodyne within the same project, the transfer files thus created will be saved in the new location.

During work on a project or at the latest when it is complete, you should select the project folder of your DAW as the storage location for these transfer files. In this way, you can be sure that all the files Melodyne requires are stored along with the project and don't get left behind when you pass the project on to someone else.

Exceptions: some DAWs are capable of telling Melodyne where the project folder for the current project is to be found. In these DAWs there is no way of selecting a storage path manually; instead, Melodyne will always use the current project folder as a storage location, in this way ensuring that your transfer files remain part of the project and do not get lost. So please don't be surprised if in your DAW there is no browse button for selecting the path; if that is the case, Melodyne will store the files for you automatically in the correct location. To find out with which DAWs this occurs, please consult our FAQ on the Internet.

Deleting unwanted files in the plug-in

The list in the file manager shows you the audio files of all segments that have been transferred to the relevant instance of Melodyne Plugin. The entries for those segments all the notes of which have been deleted in Melodyne – that are unused, in other words – are displayed in grey, whereas those in use are displayed in black. The audio files appertaining to no longer used segments are retained and not automatically deleted so that you can, should you wish, recover them using the undo function, which would not be possible if the files in question had been deleted immediately. If you are sure that you will no longer be needing the unused files, you can delete them (according to choice) either for the current instance only, or for all instances, of the project, in order to free up storage space.

Once you have finished editing in an instance of Melodyne Plugin and saved the results as an audio file by bouncing or rendering, you should delete all files pertaining to the instance using the button provided at the bottom of the window in order to free up storage space before closing and removing

Melodyne from the DAW track.

The assignment of missing files in the plug-in

If Melodyne Plugin cannot find the transferred files when it opens a project – either because they have been deleted, moved or not transferred when the project was moved to a different computer – it will grey them out in the editing area and they will remain mute during playback. In the file manager, they will be listed in red:

If you know in which folder the missing files are to be found, you can use the Find File drop down menu in the file manager. Select the entry Find Missing Files ….
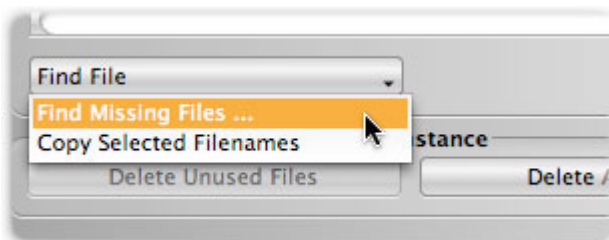
Navigate then in the file selection box to the folder containing the missing files and exit with OK. The missing files in the folder will then be reassigned. Be careful, though: for this assignment, you do not have to select the files themselves (which would in any case be somewhat tricky given their automatically generated and less than intuitive names) but simply the folder in which they are located. Its contents will then be searched automatically for the missing files. Bear in mind, however, that sub-folders will not be searched – only files found directly in the folder selected. For any sub-folders containing missing files, you will have to go through the same procedure, in order that they, too, can be searched.

What if you have received a project with missing files from someone else and want to inform them, by e-mail for example, of the names of the missing files? Here the command Copy Selected Filenames comes in useful. This copies the names of all files selected in the list (multiple selection with [Shift]) to the clipboard.

Assigning missing files in the Stand-Alone implementation

In Melodyne Plugin, you can save your editing either as an audio file or as an MPD file. An MPD file is a project file containing only your editing not the audio material itself, for which it has to refer to the audio file in question.

If Melodyne, when opening an MPD file, cannot find the audio file it references, a file selection box will open to help you find and reassign the missing file. Once you have done this, save the MPD file to update the path of the audio file.

If an audio file is not found and reassigned, the corresponding blobs in the Melodyne document will be greyed out and mute.

Operating Melodyne with ReWire

In this tour, you will discover how to connect Melodyne via ReWire to a compatible DAW and run the two programs in tandem.

ReWire and Melodyne

Stand-Alone's support for the ReWire protocol provides an alternative to running Melodyne as a plug-in. This will be of particular interest to users whose DAWs either have no plug-in interface or were previously incompatible with Melodyne. Thanks to ReWire, you can now overcome such shortcomings and run Melodyne in tandem with your DAW with much the same ease as that afforded by the plug-in implementation. For this to be possible, of course, your DAW must support ReWire; but the overwhelming majority of DAWs do.

When ReWire is active, the transport functions and tempo of Melodyne and the DAW are coupled: commence playback in one and the other starts too, with both running automatically in sync. In addition, multiple audio signals can be transferred from Melodyne (the ReWire slave) to the DAW (the ReWire master) where they will then be available on separate channels of the DAW mixer.

Activating ReWire in Melodyne Stand-Alone

To use ReWire with Melodyne, you must launch your DAW first and Melodyne Stand-Alone subsequently. Melodyne will detect the presence of a ReWire master (your DAW) and thereupon activate a device called 'ReWire' in the preferences property sheet. If, on the other hand, you launch Melodyne when the DAW is not running, Melodyne will revert as normal to the audio device last used.
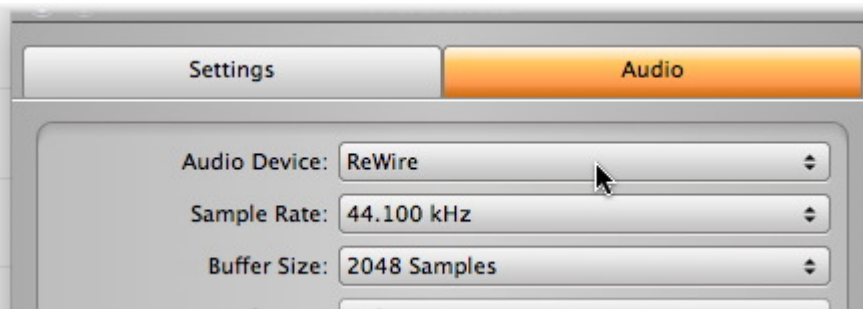
You cannot change the sampling rate or size of buffer used by Melodyne in ReWire mode, as the former is dictated by your DAW and the latter fixed.

Activating ReWire in your DAW and establishing the link

Please read the documentation of your DAW to discover how to arm its tracks for ReWire – the procedure varies from DAW to DAW. Regardless of the exact procedure, however, you must select 'Melodyne singletrack' as the ReWire device and one of the maximum of four stereo channels available as the input to the track.

Selecting ReWire channels in Melodyne

You can tell Melodyne is in ReWire mode from the presence in the interface of an additional ReWire frame complete with drop-down menu.
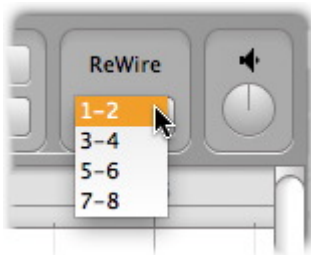
You can open multiple documents in Melodyne and route their signals to up to four different stereo channels in your DAW. The menu allows you to select the stereo channel to which the signal of each document is routed, whereby multiple documents can be assigned to the same stereo output.

Synchronization and tempo behavior

All documents loaded in Melodyne start in sync with the DAW whether you activate playback there or in Melodyne. By the same token, you can halt the playback either from Melodyne or the DAW.

Melodyne adopts the tempo of the DAW and speeds up, or slows down, the playback of the opened documents so as to ensure they match the tempo of the DAW. In Melodyne's tempo display, you will see first the current DAW tempo followed (in brackets) by the original tempo of the current document as detected by Melodyne.
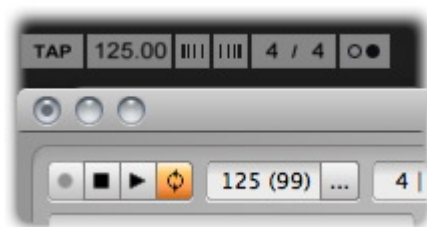
For the document in question to maintain perfect synchronicity with the DAW, Melodyne must have detected its correct tempo, as only then can it speed up, or slow down, the playback of the document to match the tempo set by the DAW. Since tempo is a matter of interpretation, however, it can happen

that Melodyne's tempo is double (or half) the tempo intended and consequently that the document will play back at twice (or half) the intended speed. To remedy this, click the '...' button next to the tempo display.
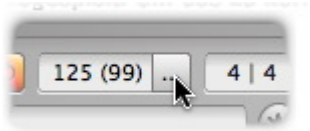
When the define tempo dialog opens, select 'Multiply tempo by... ' and, if for example you want to halve the tempo, select the option beginning '1/2 =' from the drop-down menu.
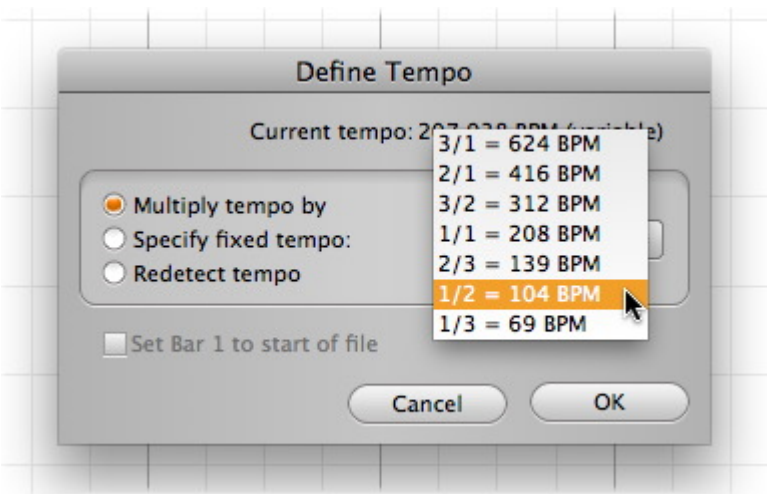
This dialog also allows you to set a particular tempo or cause Melodyne to redetect the tempo of the document by conducting a fresh analysis.

Choosing the algorithm

In this tour, you will find out how you can select the algorithm used by Melodyne for the display and editing of notes.

The detection process

Any audio material you transfer to, or open in, Melodyne is subjected to an analysis designed to identify the notes of which it is constituted, so that Melodyne can make them available to you for editing. We call this process 'detection'.

Notes can be detected and edited in monophonic (melodic) material, rhythmic/noise-based material and with Melodyne editor – thanks to its patented DNA Direct Note Access technology – even polyphonic material.

Please note that DNA is designed for tracks containing a single polyphonic instrument (a guitar, a piano, ...) and that it divides the material up according to pitch – not instrument. If two instruments play the same note at the same time, what is available for editing is a single note comprising the combined sound of both instruments.

In the course of the detection process, Melodyne itself takes a view as to what kind of material it is confronted with and decides which algorithm to use for the display and playback of the notes. The algorithm currently selected is indicated by a check mark or 'tick' in the Algorithm menu as well as by the blobs in the editing pane.

In Melodyne Plugin, a separate algorithm can be chosen for each transfer; in Melodyne Stand-Alone, for each audio file in the document being edited. Before you can change the algorithm applied to a particular transfer or audio file, you must first select one or more notes belonging exclusively to it. If you select notes belonging to more than one transfer or audio file, you will find when you try to change the algorithm that the requisite menu has been greyed out. In such cases, reduce your selection to notes belonging to a single transfer or audio file and it will be possible once again to switch algorithms.

Melodic

Melodic material is monophonic, which means that only one note is ever sounding at any given instant. Please bear in mind, however, that reverberation can cause notes to overlap even in monophonic material, creating, in effect, a kind of polyphony. If melodic material is to be edited in Melodyne, therefore, you should aim for as clean and 'dry' (reverberation-free) a recording as possible.

The blobs representing notes in melodic material are displayed at different pitches. Whether the blobs are isolated or joined to other blobs depends on the way they were played or sung: staccato or legato.
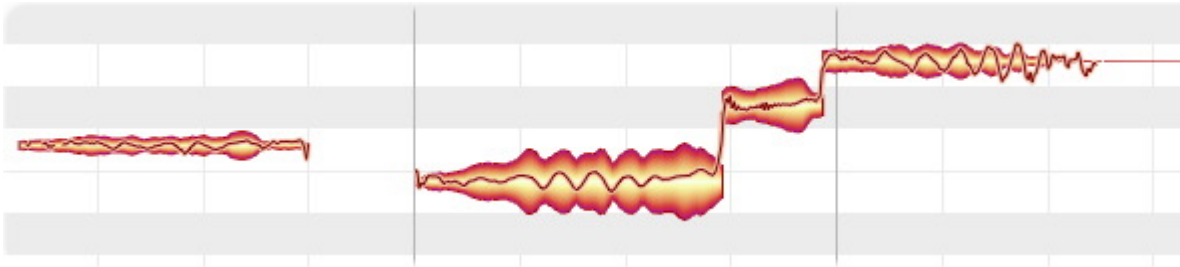
Percussive

This category includes not only recordings of drums and other percussion instruments but also noise and atmospheric effects as well as other material in which Melodyne cannot detect any clear pitch in the sounds. When the percussive algorithm is selected, successive drum strokes (for example) are distinguished, but they are all displayed at the same pitch. The blobs can still be raised or lowered in pitch, but the pitch ruler does not display the names of any notes but simply relative values in semitones. The scale functions are deactivated.
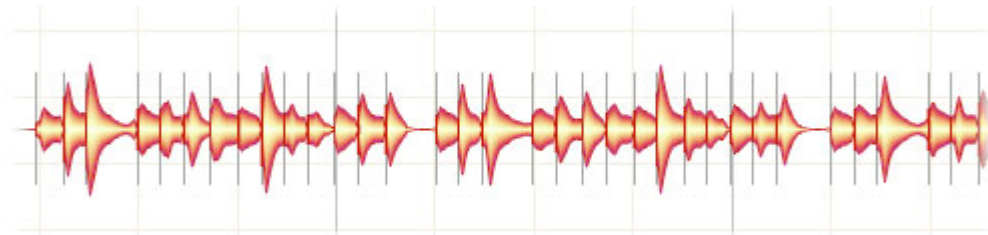
In Melodyne assistant and essential, polyphonic material is also assigned to the category 'rhythmic/noise-based' because neither of these editions is equipped with an algorithm for polyphonic material and such material cannot be displayed using the melodic algorithm.

Polyphonic

Thanks to its DNA Direct Note Access technology, Melodyne editor is even capable of detecting, and allowing you to edit, notes played on polyphonic instruments such as the piano or guitar – including the individual notes that make up chords. When the polyphonic algorithm is used, the blobs are displayed in a similar manner to those of monophonic material, with the obvious difference that the blobs are stacked vertically (at their respective pitches) whenever a chord or harmonic interval sounds.
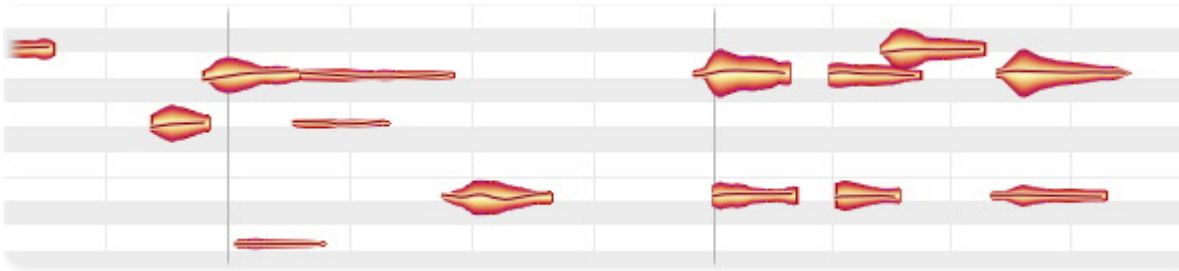
In Melodyne assistant and essential, the algorithm for polyphonic material is present but greyed out in the Algorithm menu. This is because in these editions you can still open and play back documents that were created by Melodyne editor and contain polyphonic material, and in such cases, Melodyne automatically selects the polyphonic algorithm. These editions do not, however, permit you to edit polyphonic material nor to select the polyphonic algorithm manually.

Switching algorithms

You can at any time select a different algorithm to that chosen automatically for you by Melodyne. You might want to do this, for example, if you find that the material has not been interpreted in a way that suits your editing needs. To do this, while playback is halted, select the algorithm you prefer from the Algorithm menu, whereupon Melodyne will reinterpret the material in the light of your choice and adjust the display accordingly. Note: when you do this, any editing you have already performed prior to switching algorithms will be lost. The right time to decide which algorithm you wish to use, therefore, is before you begin editing.
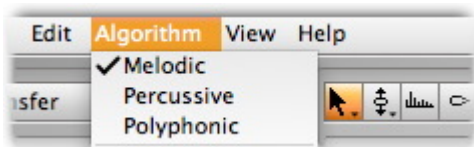
If in Melodyne editor you have selected the polyphonic algorithm manually but no pitches can be identified in the material, Melodyne will switch automatically to the percussive algorithm, since otherwise no notes at all would be available for editing.

Setting a default algorithm (Melodyne editor only)

In Melodyne editor, you can prevent Melodyne automatically selecting an algorithm during the detection process by setting a default, thereby stipulating in advance which algorithm you wish it to use. This can be useful if, for example, you regularly want to edit particular files using the percussive algorithm but Melodyne, each time they are opened, is interpreting the material as polyphonic. By preselecting the percussive algorithm in such cases you can save time, as you will no longer have to wait needlessly as Melodyne performs its polyphonic analysis, only to discard the results moments later when you manually select the percussive algorithm.
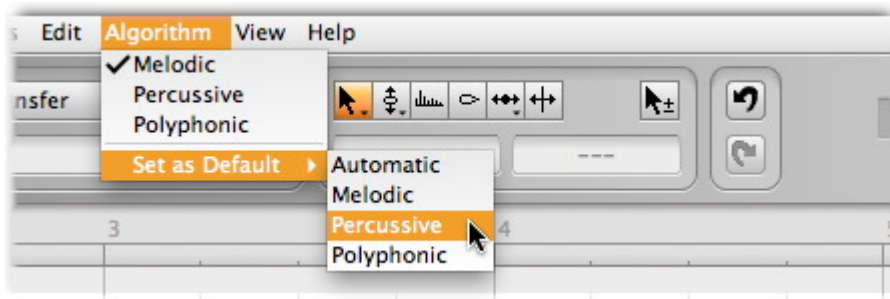
Do not forget, however, when you no longer need to impose your choice of algorithm on Melodyne, to check Automatic in the Algorithm > Set as Default sub-menu. Otherwise, since Melodyne remembers your default selection even when you quit the program, you might be surprised to discover when the program is next launched that your vocals have been interpreted as percussive ...

Checking and editing the note detection within melodic material

In this tour, you will learn how to check the note detection in monophonic material and how to reassign notes.

Occasionally the pitch of a note may, on account of its pronounced overtone content, be displayed an octave too high or there may be a note separation too many or too few among the detected notes. You can correct these things very easily.

The procedure

After transferring or loading audio, select the note assignment tool, which is set slightly apart from the others, to change to note assignment mode. Please note that for technical reasons, when you switch to this mode, the undo history will be deleted, so any actions taken prior to the mode change cannot subsequently be undone.

The editing background is indicated by different coloring to remind you that in note assignment mode no audible editing of the notes takes place. In this mode, you check through and alter Melodyne's interpretation of the notes in the audio material. You assign falsely interpreted notes to the correct pitches in order to achieve perfect agreement between the displayed notes – and to create the essential foundation for subsequent editing with the other tools.

Against the editing background, you see in this mode solid (active) and hollow (potential) notes.
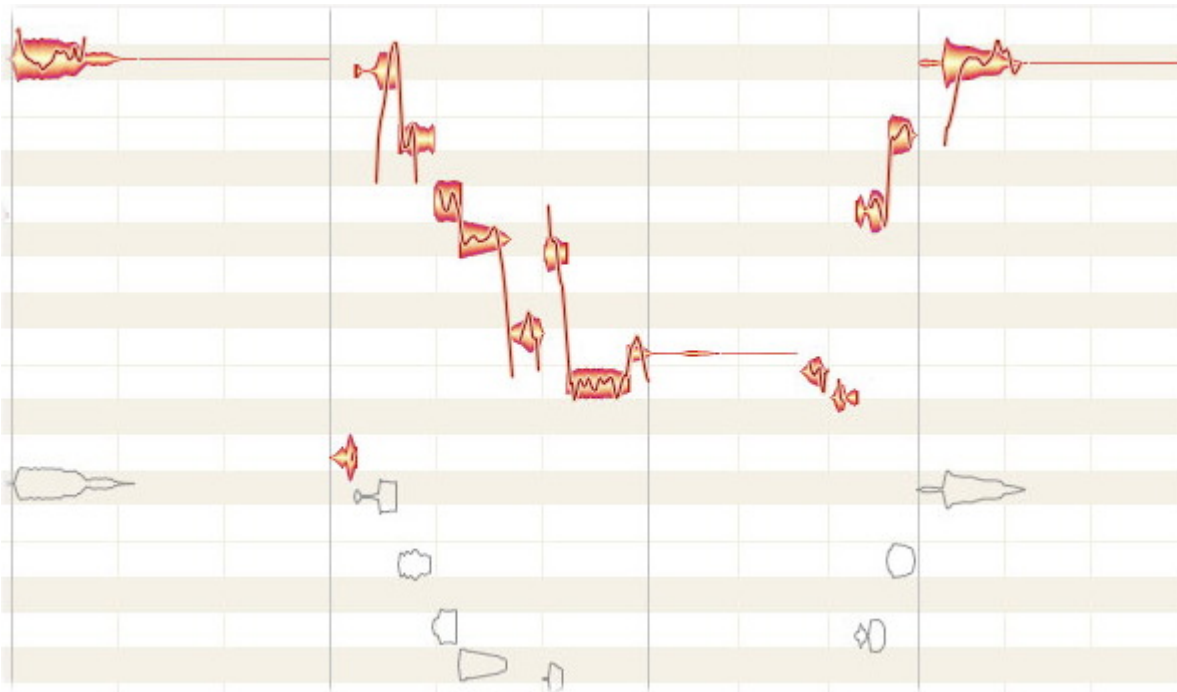
The active notes are those to which Melodyne in the course of the detection process has assigned the highest level of plausibility. Melodyne proceeds on the assumption that these are the notes that were actually played. The hollow potential notes represent alternative notes with the next highest level of plausibility. It might also be these notes that are heard in the material, although the probability is greater that the active notes are the right ones. Although Melodyne has a high quota of hits, its conclusions can sometimes be wrong.

In the illustration above, for example, you will see, an octave beneath the active detected notes, the same notes again but this time as hollow potential notes. The reason? Melodyne cannot be sure whether the sound of the recorded instrument might not have a pronounced overtone an octave above the fundamental. If it has such an overtone, it could be that the entire melody has been detected an octave too high. The octave beneath the detected notes, in other words, is the next most plausible location for the notes of the melody, which is why these notes are offered here as potential alternatives to the detected notes.

Now, it can happen that one note in a melody, because of the way it was played or sung, has a different overtone structure and is for that reason detected an octave too low. A telltale indicator of such an error is often the presence of a steep notch in the path traced by the melody.
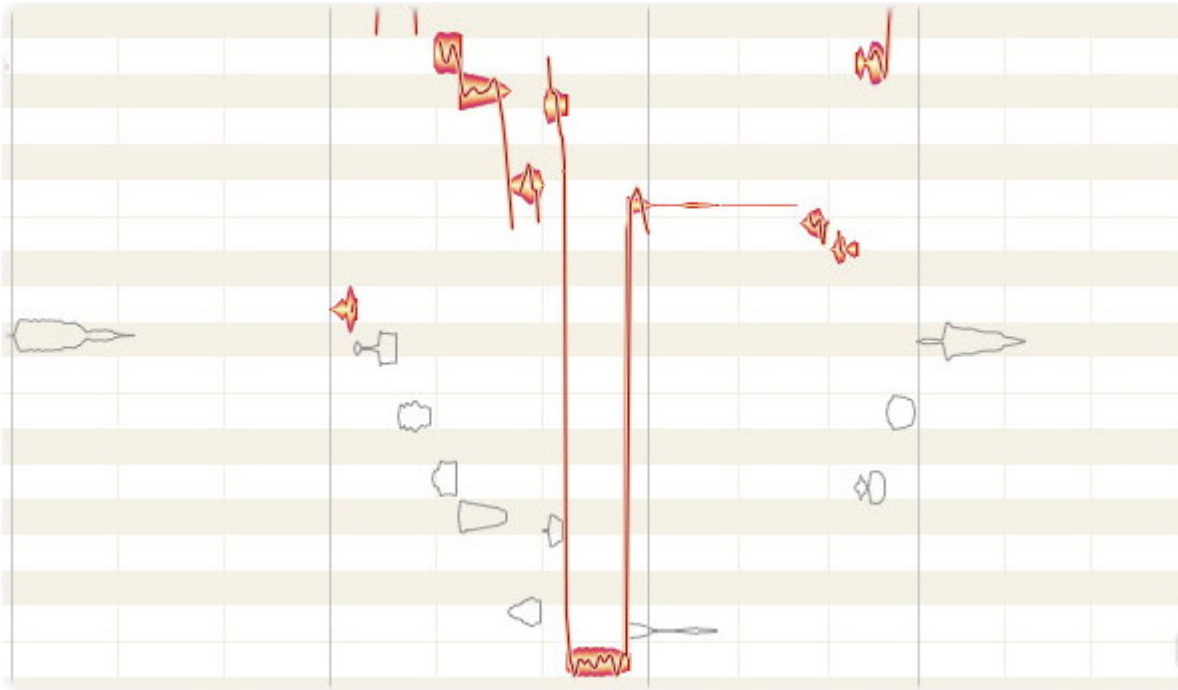
One way to correct this error of interpretation is to double-click the potential note at the correct pitch. If you do this, the potential note will be activated and the falsely assigned note deactivated. Alternatively you can simply drag the falsely assigned note towards the correct pitch (in this case upwards); it is not necessary to drop the note exactly on the correct pitch.
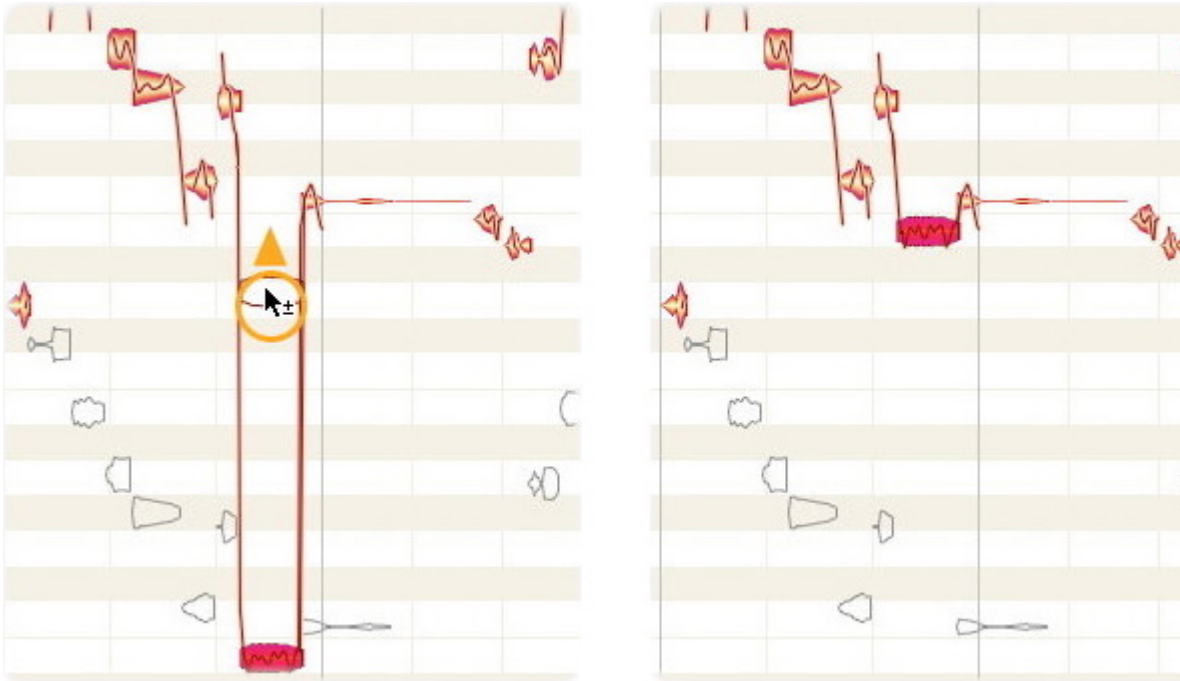
The dragging triggers a new search for the note with the hint: 'Look for the correct pitch higher up'. When you then release the note, it jumps to the next most plausible higher pitch, which in all likelihood will be the correct one.

The Monitoring Synthesizer

A considerable aid when checking and correcting note assignments is proposed by the sine wave icon, which you will see beneath the toolbar. This is both a switch and a rotary control. When activated, it causes the sound of a synthesizer to replace the normal sound of each blob. To turn the knob, click on it and drag the mouse pointer to the right or left, thereby increasing or decreasing, respectively, the volume of the synthesized sound.

But why should you do this? Simple. The monitoring synthesizer allows you to hear the notes that you can see and that are currently active, making it easy to check whether these notes correspond to those that can be heard in the material.

Think of the solid blobs as representing a transcription of the music in the audio file. The synthesizer

allows you now to check this transcription with a MIDI tone generator and therefore easily determine whether all the notes are at the right octave. You can carry on reassigning notes as described above and arrive more swiftly at the ideal: where the solid blobs displayed represent all, and only, the notes actually played.

Note separation

When you place the mouse pointer somewhat above a blob, the arrow turns into the note separation tool. With this, in note assignment mode as well as in normal editing mode, you can separate notes or remove separations.
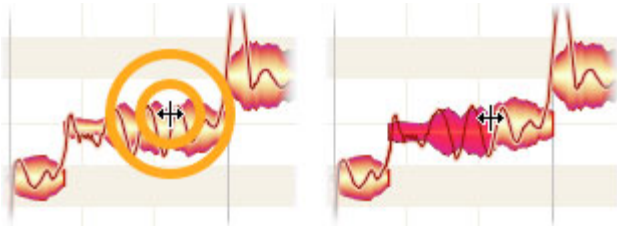
Quitting note assignment mode

To quit note assignment mode, simply select one of the other tools. As you leave the mode, Melodyne will perform a fresh analysis of the material based upon the changes you have made. This could take a few moments.

Checking and editing the detection of notes within polyphonic material

In this tour, you will learn how to check the detection of notes in polyphonic material and how to reassign notes.

The fact that this is virtually always necessary where the material contains pronounced overtones is inherent in its nature: when searching for notes in polyphonic material, multiple interpretations of the frequency spectra encountered are always going to be possible and, with them, different ways of carving the spectra up into notes. So Melodyne cannot know with certainty whether the energy in a particular frequency range indicates the presence of a new note or some overtones of a lower one. It can and does happen, then, that prominent overtones are sometimes mistaken for fundamentals or that notes actually played are not shown because they have been assigned to other notes as overtones.

So the analysis yielded by the detection offers you the most plausible interpretation of the material, but it will generally be necessary to check through this and weed out superfluous notes (by deactivating them) as well as supply missing ones, by activating 'potential' notes that are currently inactive. As will become clear, it is very easy to perform the requisite reassignments and we urge you to do so before you begin editing your material.

There's a good reason for this: Only if the notes displayed correspond exactly to the notes played will any sensible and artifact-free editing of the material be possible. If the notes displayed do not correspond to those actually played, you may find yourself editing what are merely spectral fragments in the mistaken belief that they are whole notes; or editing what you think is one note when in fact it is two, because the higher note has been taken for an overtone of the lower. So take the time to check through the note assignments when the detection is complete. Otherwise Melodyne will be unable to offer you the full benefit of its unique editing capabilities.

Activating and deactivating notes

After transferring or loading your audio, select the ± tool to switch to note assignment mode. (Please bear in mind that for technical reasons, switching to this mode causes the undo history to be deleted, so any actions performed prior to the change of mode can no longer be reversed.) If you select the ± tool whilst editing polyphonic material, additional control elements will appear beneath the toolbar.

The color of the editing background changes to remind you that in note assignment mode no 'audible' editing is possible. This mode is used to check Melodyne's interpretation of the audio material and correct it where necessary. Notes that have been 'swallowed' (where a fundamental has been mistaken for an overtone) can be activated, which makes it possible later to edit them. Conversely, overtones that have been mistaken for fundamentals can be deactivated.

In this mode, the outline of active blobs is filled in (i.e. they are solid) whereas, with inactive blobs, only the hollow outline is seen.
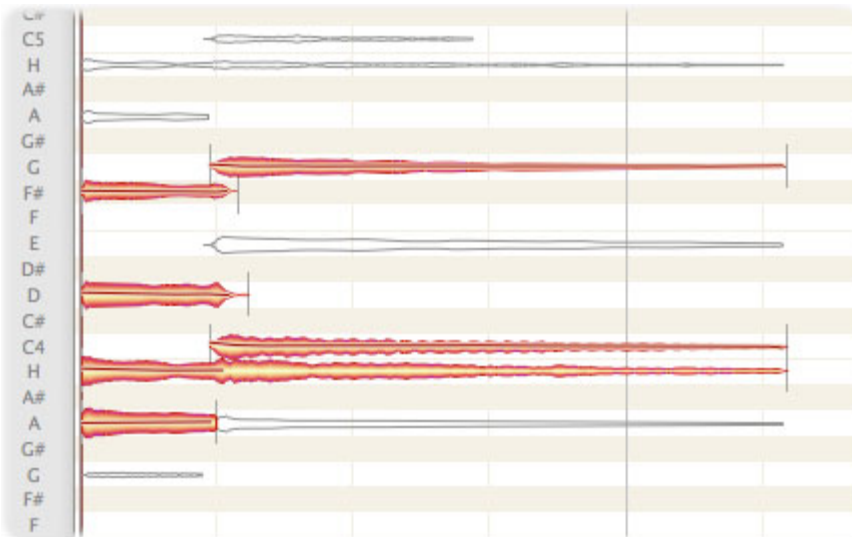
When you click on a blob, you will hear the pitch of the corresponding note. Where a solid blob has been assigned to what is, in fact, merely one of the overtones of some other note, you can deactivate it by double-clicking on it. Now only the hollow outline of the blob will be seen and its energy in the frequency spectrum will be attributed to the note of which it can most plausibly be assumed to be an overtone.
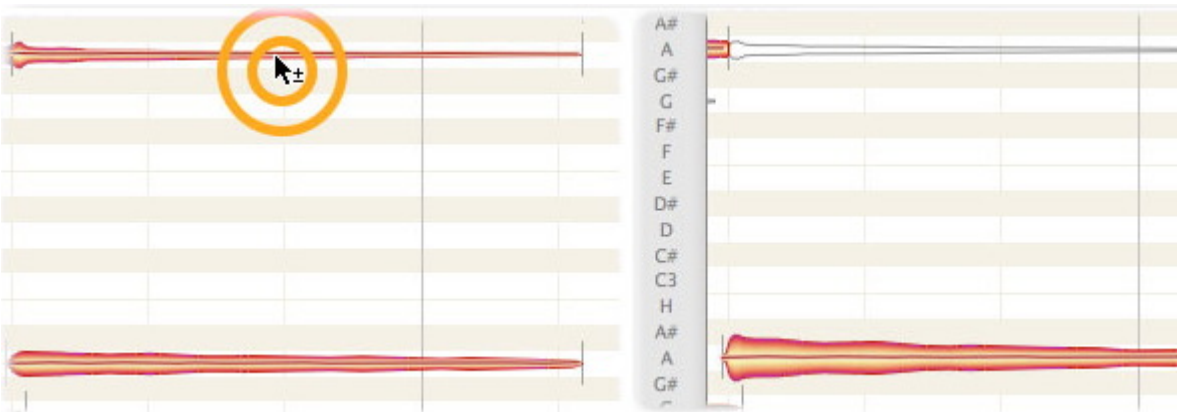
In the example above, you can see that, in deactivating the higher A, we have caused the lower A to

be redrawn more boldly: this is because the spectral energy previously ascribed to the higher note (when it was assumed to be a separate note) has been reassigned to the lower one (of which it is now considered to be an overtone).

Conversely, by double-clicking on a hollow blob, you can turn a potential note currently interpreted by Melodyne as an overtone into an active one. Only active notes can be edited later using the tools in the Melodyne toolbar, which is why all the notes played and only those notes should be represented by solid blobs. Otherwise you may find yourself editing not whole notes with their full overtone spectra but stray overtones divorced from the fundamentals to which they belong, which will yield poor results acoustically.

Now that you know how to activate and deactivate blobs, you have mastered the basics of note assignment in Melodyne. The more complex the overtone structure of the audio material, the more open it is to different interpretations when it comes to note assignment, and therefore the more work you will have to do to correct manually the inevitable errors of interpretation. Melodyne does offer you, however, a number of aids to ensure the procedure is as swift and effortless as possible.

The monitoring synthesizer

A considerable aid when checking and correcting note assignments is accessed by clicking the sine wave icon, which you will see beneath the toolbar. This is both a switch and a rotary control. When activated, it causes the sound of a synthesizer to replace the normal sound of each blob. To control the volume, click on the icon and drag the mouse pointer to the left or right.
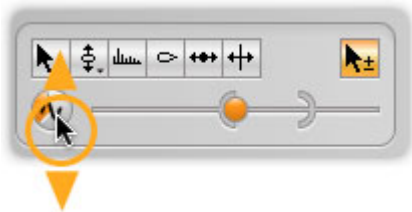
This synthesizer replaces normal playback of the original recording when Melodyne is in note assignment mode. This allows you to hear the notes that are currently 'active' – i.e. represented by solid blobs.

Think of the solid blobs as representing a transcription of the music in the audio file. The synthesizer allows you now to check this transcription undistracted by the original sound. With it, you can very quickly determine whether all the notes actually played have been identified correctly as fundamentals as well as weed out notes that were never played – i.e. overtones that have been mistaken for fundamentals.

You can carry on activating and deactivating blobs even during playback with the synthesizer; this allows you to hear what you are doing and arrive more swiftly at the ideal situation, in which the solid blobs displayed represent all, and only, the notes actually played.

Note separation

When you place the mouse pointer just above a blob, the arrow turns into the note separation tool. With this, as with the normal note separation tool, you can split or join notes by introducing or removing note separations.

The note assignment slider

The double slider that appears beneath the toolbox in note assignment mode allows you to control the number of potential notes displayed and the number of active notes derived from them.

If you move the large right bracket (or 'crescent') in the slider to the left, fewer potential notes will be displayed. If you drag it to the right, more potential notes will appear. Choose a setting that ensures that only as many potential notes are displayed as you may conceivably wish to activate in the course of the subsequent editing. That will give you a clearer overview.

Now drag the orange knob on the slider (the 'orange') to the left and right. As you drag it to the left, you reduce the probability of the potential notes displayed becoming active notes, thereby reducing the number of active notes. As you drag it to the right, you increase that probability, thereby creating more active notes from the potential notes displayed.
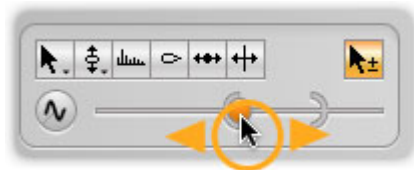
There can never be more active than potential notes, so the orange can never pass through the crescent but merely pushes it to the right when it wants to go further, thereby causing additional potential notes to be displayed and activated simultaneously. Adjust the two sliders until the number of active notes displayed is as close as you can get to the number of notes that were actually played. Then proceed to the manual correction of individual notes.

Now and then, it can happen that a note that can be heard in the material is not detected as an active note, and, even with the right-hand bracket slider (the crescent) at its maximum setting, is not shown as a potential tone. If that happens, move the crescent fully to the right (to its maximum setting) and then move the mouse pointer over the position in the editing window where the missing tone ought to be. Around the mouse pointer, in the form of an "energy image", notes will now appear that were detected neither as active nor as potential notes. When you have identified the missing note in this way, double-click on it to transform it into an active note. Thereafter, by subsequent double-clicking, you can toggle the status of these notes between "potential" and "active" just like that of any others.
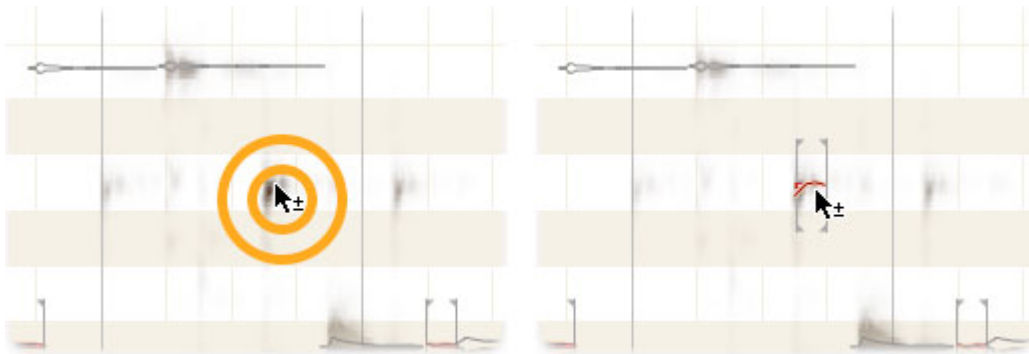
The venetian blinds

With instruments in particular that generate powerful overtones, it can happen that over a wide range notes are detected that you perfectly well know are far higher (or lower) than any you actually played.

In such cases, the 'venetian blinds' come in handy; if you can't see them at the top or bottom of the editing area, scroll upwards or downwards until you can. You can raise or lower the top blind by dragging its thick bottom edge and do the same with the top edge of the bottom blind, in this way delimiting the range within which Melodyne assigns notes. All notes partially concealed by the venetian blinds are automatically deactivated unless they have previously been activated by hand. You can still 'reach through' the venetian blinds, however, to turn notes on or off with a mouse click.

The venetian blinds also provide a useful first approximation that you can later correct by activating and deactivating notes singly by hand.
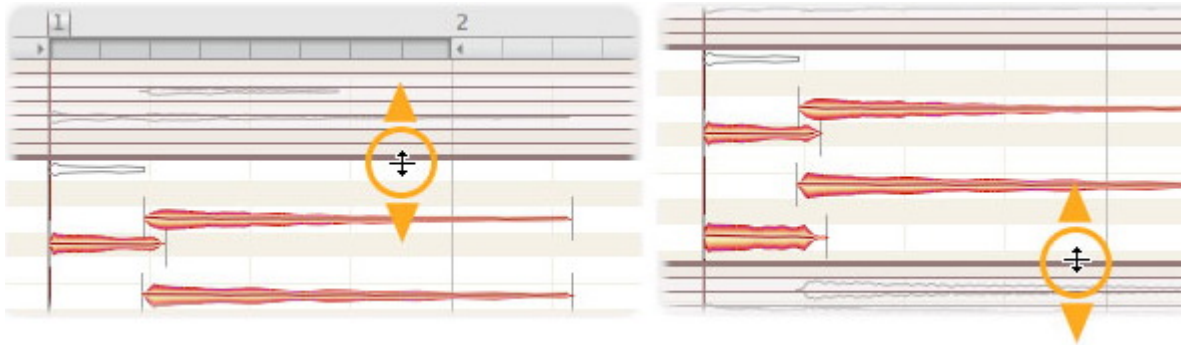
Pulling open note ends

It may happen that in the detection note separations are placed in such a way that the beginning or ending of a note is 'swallowed' – i.e. annexed by an adjacent note. In such cases, you can pull notes open, by dragging their front boundaries gently leftward or their rear boundaries to the right. (In order to gain access to the note separations, you must check the option Show Note Separations in the View menu. Position the tool over the front or back note separation line and drag it horizontally.
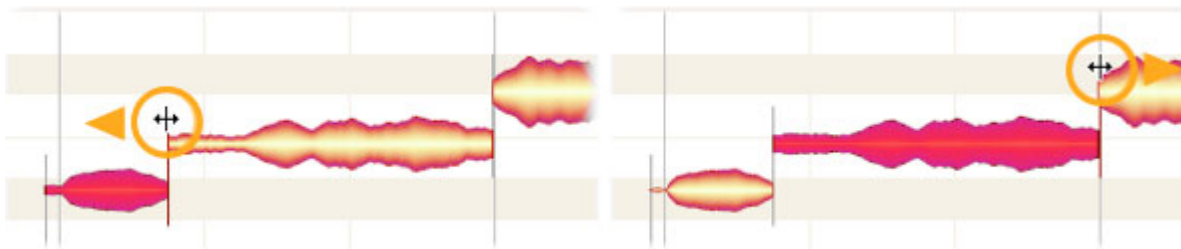
Be careful: if a deactivated (hollow) note borders on the edited note, you must first activate this before you can move the note borders.

Leaving note assignment mode

To quit note assignment mode simply select one of the other tools. As you leave the mode, Melodyne will perform a fresh analysis based on the changes you have made. This could take a few moments.

Checking and editing the note detection within rhythmic material

In this tour, you will learn how to check the note detection in rhythmic material and reassign notes. Since in the case of rhythmic material there are no tonal assignments to be performed, it is only the checking and correction of note separations that need concern us.

The procedure

After transferring or loading audio, select the note assignment tool, which is set slightly apart from the others, to change to note assignment mode. Please note that for technical reasons, when you switch to this mode, the undo history will be deleted, so any actions taken prior to the mode change cannot be undone.

In note assignment mode, no audible editing of the notes takes place. In this mode, you check through and alter Melodyne's interpretation of the notes in the audio material. In the case of rhythmic material, it is simply a case here of remedying any excess or shortage of note separations in the detected material. The note separations must be correct if you want to achieve optimal results from any subsequent editing of the material – such as, for example, the application of time-stretching.
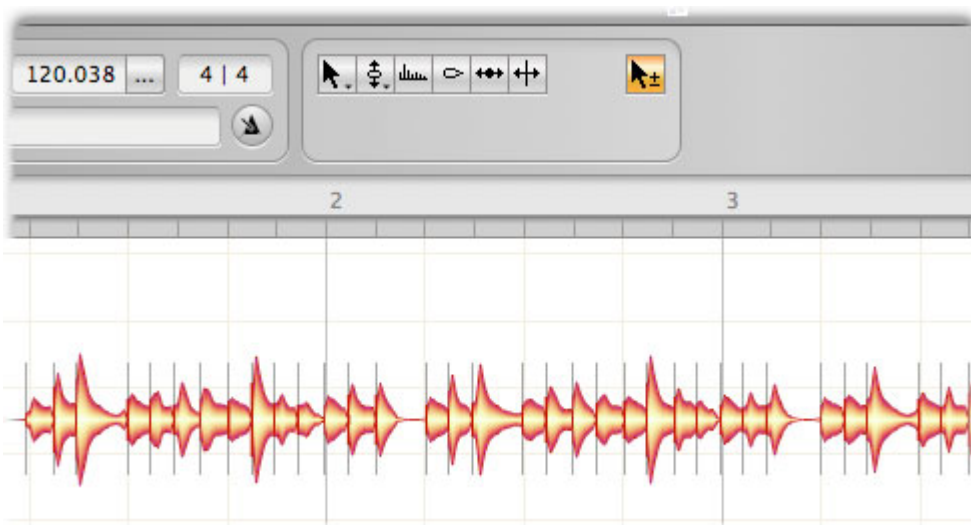
The simplest way now of checking the note separations is to select the first of the blobs and step

forwards and backwards through them using the arrow keys. If a blob contains two drum strokes, double-click in the upper part of the blob (at the point at which you wish the second stroke to begin) in order to introduce a note separation.
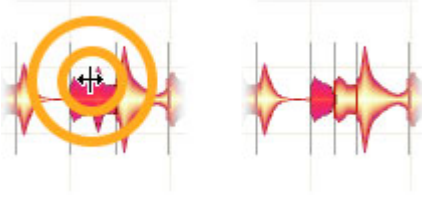
If, on the other hand, a single stroke has wrongly been split by a note separation, double-click the dividing line to remove the note separation.
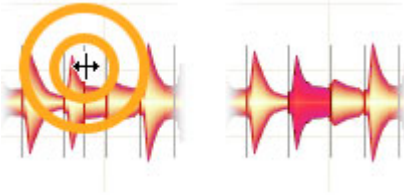
If ever a note separation is wrongly situated, you can simply drag it horizontally to the correct place.

Leaving note assignment mode

To quit note assignment mode, simply select one of the other tools. As you leave the mode, Melodyne will perform a fresh analysis based on the changes you have made. This could take a few moments.

Playback, navigation and zooming

In this tour, you will learn how to navigate through Melodyne's blobs, play them back, and zoom the display to suit your wishes.

Resizing the window

To change the size of the window, click and drag the bottom right-hand corner. The procedure is the same for both Melodyne Stand-Alone and Plugin.

Controlling playback using the onscreen controls and the keyboard

Melodyne Plugin is integrated into the DAW and keeps perfectly in step with its playback. When you reposition the DAW, this information is conveyed to Melodyne, which mirrors the new position. As soon as the DAW starts, Melodyne also starts. The Melodyne plug-in is, so to speak, forever the 'slave' of your DAW. It is not possible to start, stop or reposition the DAW's playback cursor from within Melodyne.

With Melodyne Stand-Alone, you start and stop the playback using the transport keys at the top left of the window or by pressing the space bar. If you hold the [Alt] key at the same time, playback will be confined to the current selection.
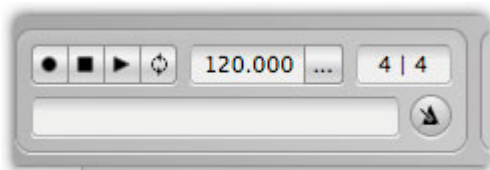
You can also, however, control the playback of Melodyne Stand-Alone using your keyboard's number keypad: [Enter] to begin playback; [Null] to stop it. Pressing [Null] twice returns the playback cursor to the last start position. Pressing [Null] three times positions the cursor at the start of the file.

With both Melodyne Stand-Alone and Plugin, you can select successive blobs by stepping through them with the arrow keys. When the playback is stopped, as each blob is selected, the tone it represents will sound.

Controlling playback and scrubbing using the Bar Ruler

These functions are available in both Melodyne Stand-Alone and Plugin. In Plugin, however, only when the DAW is stopped. As soon as it starts again, Melodyne Plugin reverts to the 'slave' status described above and resumes its shadowing of the DAW.

Double-click in the bar ruler (or alternatively directly on the editing background) to commence playback from the position in question. If you hold down the [Alt] key as you double-click, playback will be confined to the current selection.

Click somewhere in the bar ruler to move the playback cursor to the position in question, at the same time halting the playback.
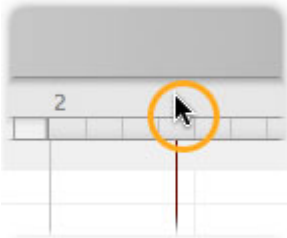
Click and drag in the bar ruler to scrub through the audio material.
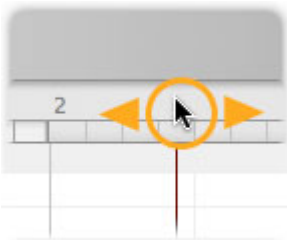
Navigating through the blobs and zooming

Select the scroll tool (the hand icon) from beneath the main tool or hold down the [Command] key to move the display area with the mouse.

Select the zoom tool (the magnifying glass) or press [Command]+[Alt] to zoom the display with the mouse. You can zoom horizontally or vertically – in each case, though, with different levels of intensity.

[Command]+double-click zooms in on one blob, or several (if several are selected). Double-click in the editing background to return to the previous zoom level.
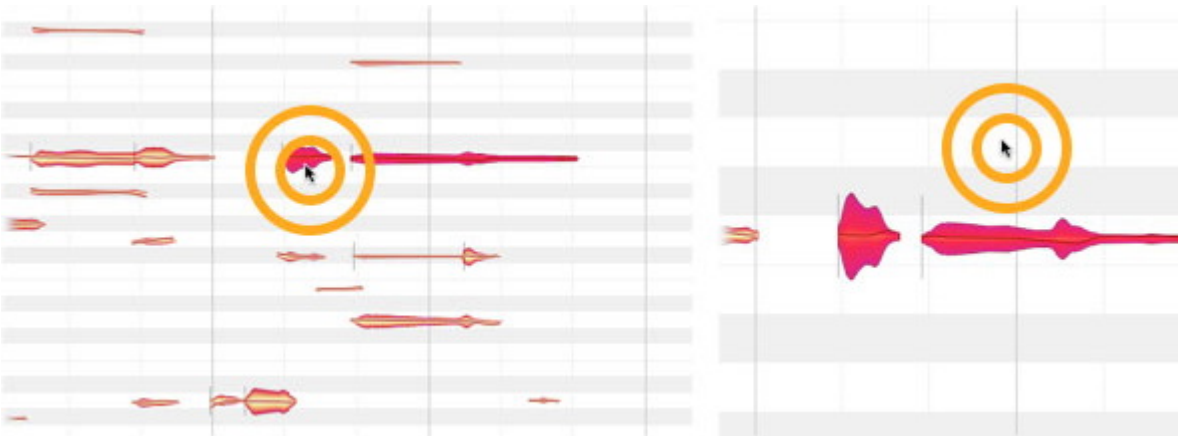
Drag the horizontal or vertical scrollers (i.e. the scroll boxes or 'thumbs') to move the display. The horizontal scroller contains a miniaturized image of the contents as an orientation aid.
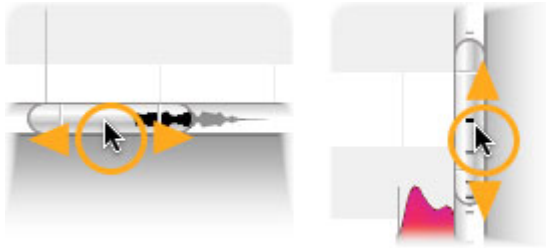
Drag the ends of the scroller to zoom the display.

If you pull one end of the horizontal or vertical slider as far as it will go and hold it, you can increase the vertical or horizontal size of the area displayed. This can be useful in the plug-in, for example, when you have only transferred the first three bars (measures) of your material but wish to insert something at bar 20.
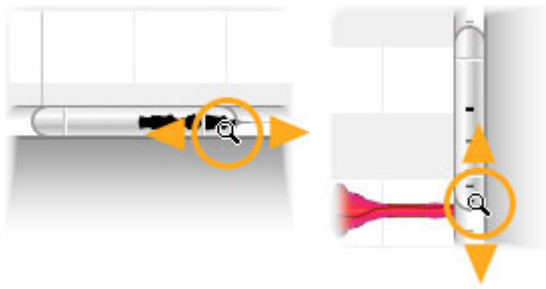
Double-click in the center of the scroller to zoom in or out just enough to ensure that all the blobs are displayed.

Use the slider in the bottom right corner to make the blobs bigger or smaller. This does not alter their volume. Your likely motive will be to obtain a clearer view of material containing a lot of particularly quiet or particularly loud notes.

Playback functions in Melodyne Stand-Alone and Plugin (when the DAW is stopped)

* Click in the bar ruler to position the playback cursor.

- Double-click in the bar ruler to start playback from that position.
- [Alt]+double-click anywhere in the bar ruler to play back the current selection.
- With most DAWs, pressing the space bar stops the local plug-in playback.
- Use the arrow keys to select and play the next/previous blob or the blob above/below.
- Click in the bar ruler to stop the playback and position the playback cursor.
- Click and drag in the bar ruler to scrub.

Playback functions in Melodyne Stand-Alone:

- [Space bar]: Alternates between playback and pause.
- [Alt]+[space bar]: Playback the current selection.
- Enter (numeric keypad): Play.
- Null (numeric keypad) – once: Stop.
- Null (numeric keypad) – twice: Return to previous start position.
- Null (numeric keypad) – three times: Return to the beginning of the file.

Navigation and zoom functions

- To resize the window (also in Plugin), drag the bottom right corner
- Hold down the [Command] key and drag the editing background to move the area displayed
- Use the mouse wheel to scroll up and down or else (holding the [Shift] key) left and right
- [Command]+[Alt]+drag in the editing area to zoom the display horizontally and/or vertically
- Press [Command]+[Alt] and use the mouse wheel to zoom both axes simultaneously
- Press [Command] and double-click to zoom in on a blob or the current selection of blobs
- [Command]+double-click in the editing background to restore the previous zoom setting
- Drag the scrollers to move the display horizontally or vertically
- Drag the ends of the scroller to zoom the display horizontally or vertically
- Pull the left- or right-hand ends of the horizontal slider as far as they will go to increase the length of the section displayed (important in the plug-in e.g. when you have only transferred the first four bars and are able to navigate only in this area but wish to insert something at bar 20)
- Double-click the scrollers to zoom horizontally or vertically on all notes
- The slider in the bottom right corner governs the size of the blobs

Activating and setting a cycle range

In this tour, you will learn how to perform cycling using Melodyne. "Cycling" here means playing a selected passage repeatedly (in a 'loop').
With Melodyne Plugin, you can only activate cycle mode when the DAW is stopped. If the DAW is running, any cycling – like the playback itself – is controlled by it.

The procedure

To define a cycle range, click and drag in the lower part of the bar ruler. If, as you do so, you hold down the [Alt] key, the time grid will be ignored, allowing you to position the start and end points freely.
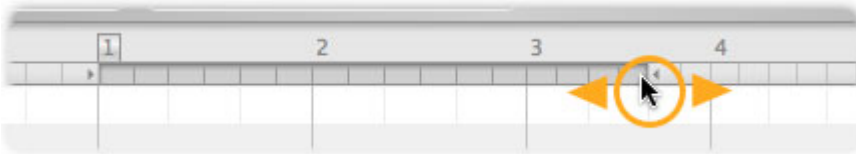
Double-click on the cycle range to toggle cycle mode on and off. When inactive, the cycle range is light grey. In Melodyne Stand-Alone, you can also switch cycle mode on and off from the transport bar.

Drag the right- or left-hand borders of the cycle zone to alter its length. If, as you do so, you hold down the [Alt] key, the time grid will be ignored, allowing you to position the start and end points freely.
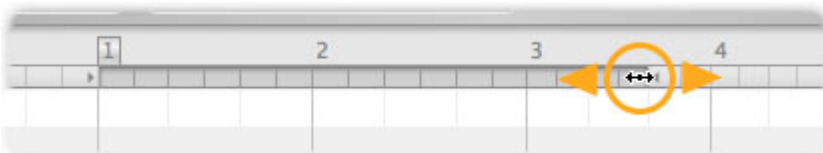
Drag the middle of the cycle zone to move it 'en bloc' to the left or right. If, as you do so, you hold down the [Alt] key, the time grid will be ignored.
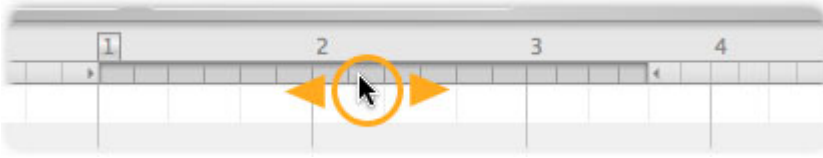
If you [Shift]+click near either of the cycle borders, it will move to the designated position. If, as you do so, you hold down the [Alt] key, the time grid will be ignored.
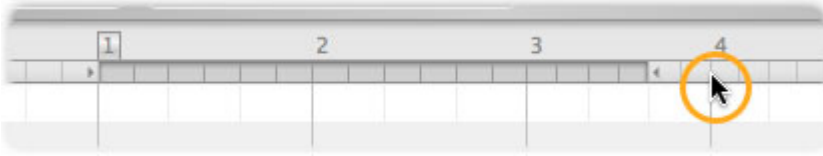
To move the cycle locators to the beginning and end of the current blob selection (snapping to the grid) hold the [Shift] key and double-click anywhere in the cycle zone. If you hold the [Alt] key as well as the [Shift] key as you do this, instead of snapping to the grid, the locators will be placed at the beginning of the first, and end of the last, blob in the selection.
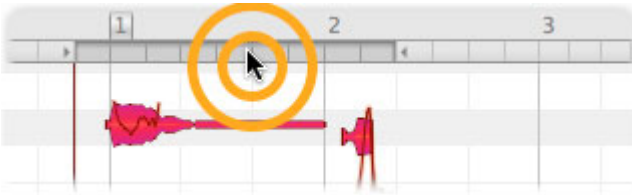
Select display options

In this tour, you will learn about the options Melodyne offers you for working with your audio notes. All the following options are to be found in the View menu.

Auto Scroll

If you activate auto scrolling (by checking the Auto Scroll entry in the menu), the note display in Melodyne will follow the playback cursor.
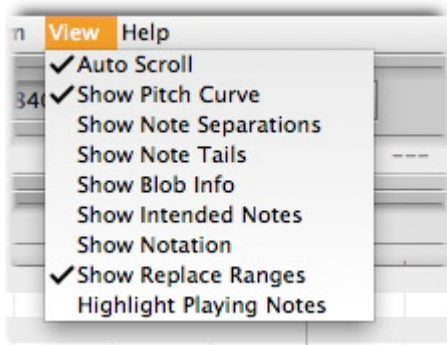
If you have selected one or several notes, Melodyne assumes that you want to see the selection and edit it. For this reason, the auto scroll function is temporarily deactivated at such times. As soon as the note(s) are deselected, as a result (for example) of your clicking in the editing background, the display will resume tracking the playback cursor.

Show Pitch Curve

If you check the option Show Pitch Curve, a thin line tracing the exact pitch of the tone at each instant will be superimposed on the corresponding blob.

On the left, you can see the 'naked' blobs (with none of the View options selected) and to the right, the same blobs with the pitch curve.
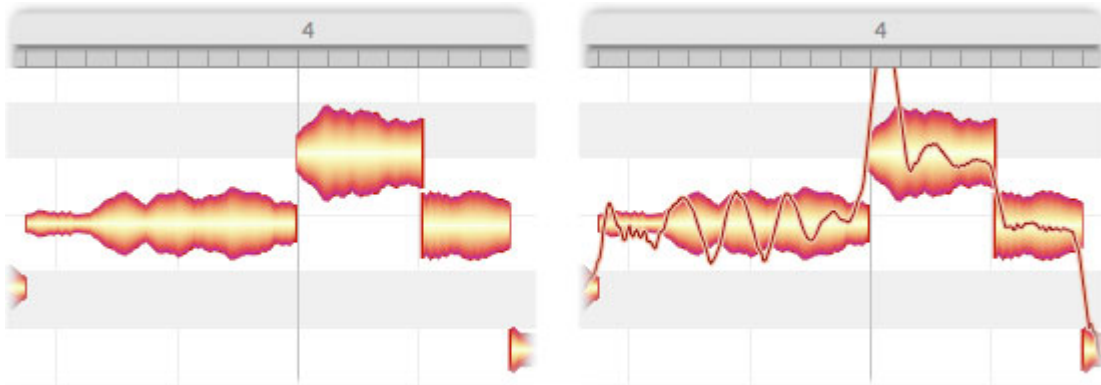
Regardless of whether or not this entry is checked, the pitch curve will be displayed whenever the pitch tool is selected.

Show Note Separations

If you select the option Show Note Separations, gray vertical lines appear at the beginning and end of each note marking its boundaries.
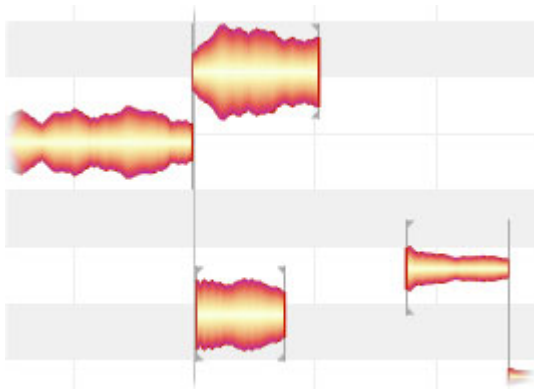
With notes that are fully or semi-detached, the note separation lines are replaced by somewhat bolder brackets.

Note separations are always displayed when the independent note separation tool is in use, regardless of whether or not the menu entry is checked.

Show Note Tails

In the detection and display of notes, Melodyne editor draws a distinction between the notes themselves and their tails – notes being the events of musical relevance and tails depicting the 'non-musically-determined fading-away of the sound'. The share of the reverberation ascribed to a given tone, for example, is reflected in its tail. The Show Note Tails option allows you to decide whether the reverberative phase of notes should be displayed or hidden. This is likely to depend upon whether you prefer to concentrate upon their musical or their acoustic aspects.

If the tail is not displayed, the end of the musically relevant part of the note provides the 'handle' you can drag with the timing tool to make the note longer or shorter. Any reverberation present will in this case automatically be governed by the changes made. This display option serves, where there is a great deal of overlapping of notes, to provide a clearer overview of the musical context.

If the note tail is displayed (assuming it has one), it is this that provides the handle for the timing tool. Show Note Tails is the option most suitable when as authentic a picture as possible of the tones actually heard – including any temporal overlapping attributable to reverberation or some other cause – is what is sought.

Show Blob Info

With the option Show Blob Info, you can elect to show or hide a variety of display elements designed to facilitate working with individual tones.

The most striking of these elements is an additional pitch ruler that appears directly in front of any note over which you move the mouse pointer. Within the blob itself, thin red lines mark the drag zones of the context-sensitive tools.
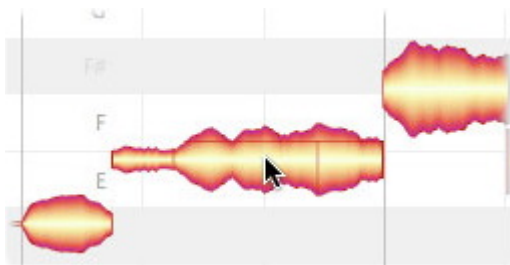
If you drag a blob when the Show Blob Info option is checked, a vertical line also appears in the bar ruler aligned with the exact start of the note. This makes more precise positioning possible.
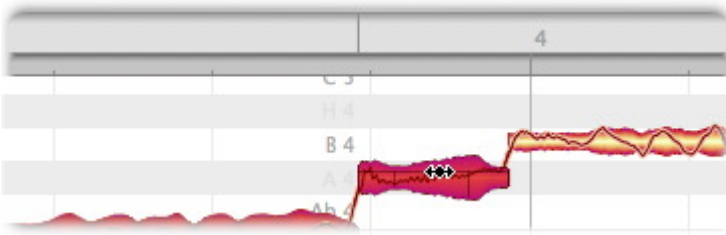
Show Intended Notes

If you check the option Show Intended Notes, gray frames appear around each blob.
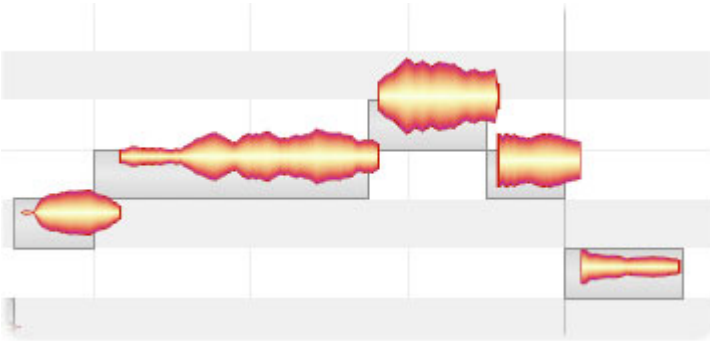
These invariably lie directly on the semitone and coincide exactly with a gridline. They represent, in other words, Melodyne's assumptions (based on its own analysis of the audio) as to the intended pitch of the note and its intended position within the measure or bar. These assumptions generally turn out to be correct, but are not inevitably so. They are to be thought of as suggestions.

The frames also display the positions in pitch and time towards which the notes in question will gravitate if partial quantization is applied to them with the macros, which are also the positions they will snap to if you double-click on them with the timing or pitch tools.

Show Notation

If you check the option Show Notation, a staff will appear just below the ruler displaying information about the pitch (though not the rhythm) of the notes in the form of conventional musical notation.

This offers you a further insight into what is going on musically, though no editing can be performed on the notes on the staff.
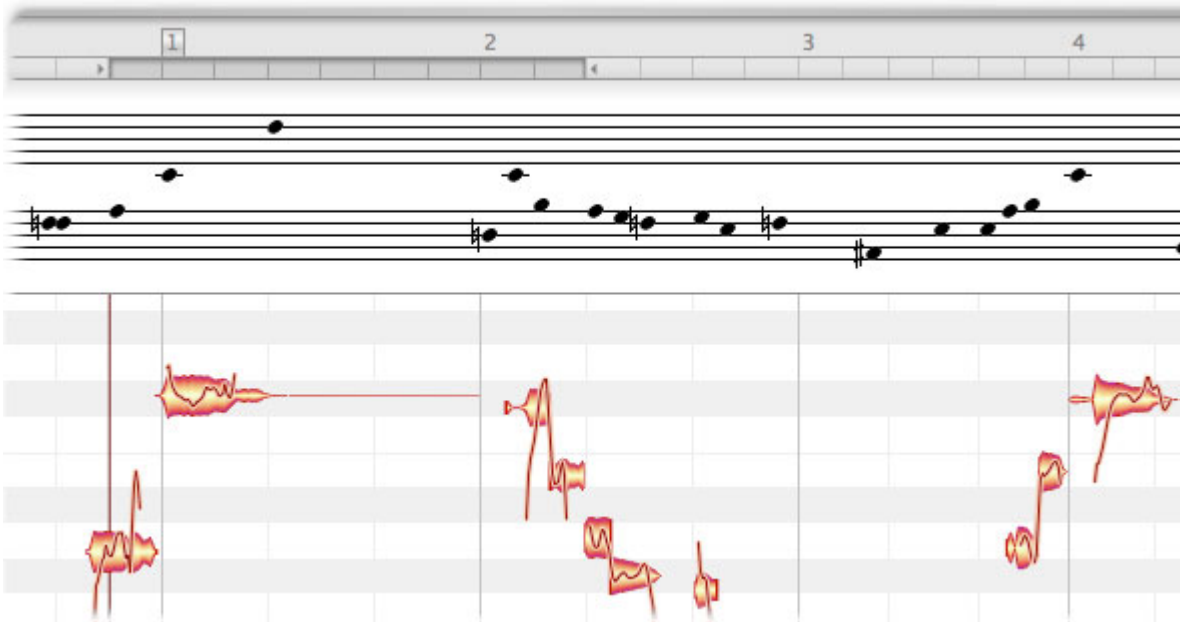
Show Replace Ranges (Plugin only)

If you check this option, those passages will be indicated that have been transferred to Melodyne Plugin from your host and for the playback of which, in consequence, the plug-in rather than the host is responsible.

This information is conveyed by the fact that the ruler is shaded more palely for the duration of all such passages.

Highlight Playing Notes

By checking or clearing this option, you can determine whether or not the outline of the note or notes currently sounding is displayed more boldly than that of the other notes. In dense musical material, you can often obtain a clearer overview by instructing Melodyne to highlight each note as it sounds in this way.
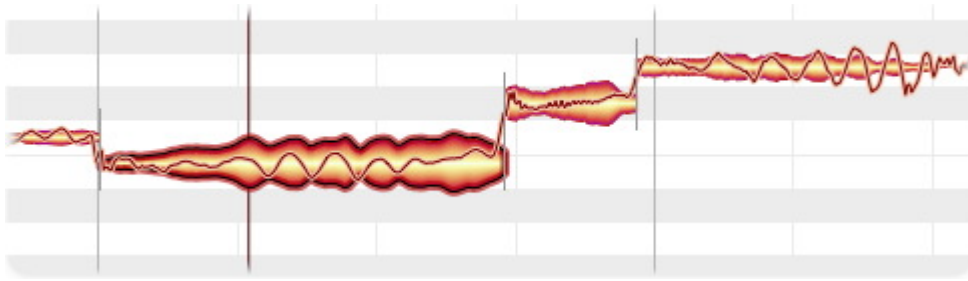
Selecting notes

In this tour, you will learn which techniques you can use to select notes in Melodyne prior to editing them.

Standard selection techniques

Click a note in the editing area to select it. Selected notes are more boldly colored.
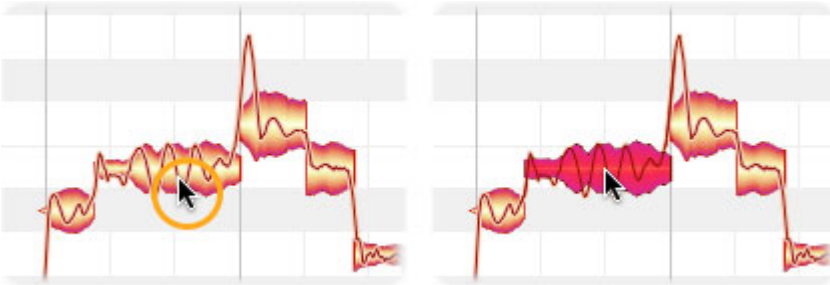
[Shift]-click additional notes to add them to the selection.
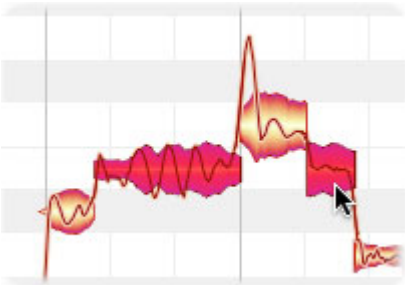
[Shift]-clicking a selected note removes it from the selection.

Another way of selecting multiple blobs is to lasso them by clicking in the editing background in one corner of the desired selection and then dragging the pointer to the corner diagonally opposite. This is sometimes called rubber-banding.
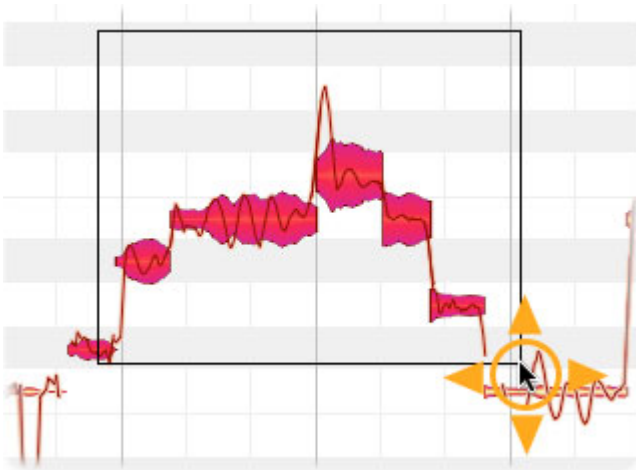
Snake selection

If you press the [Shift] key, click a note and then move the mouse pointer away, Melodyne's snake selection mode is activated. You can now add notes to the selection by painting over them with the snake.
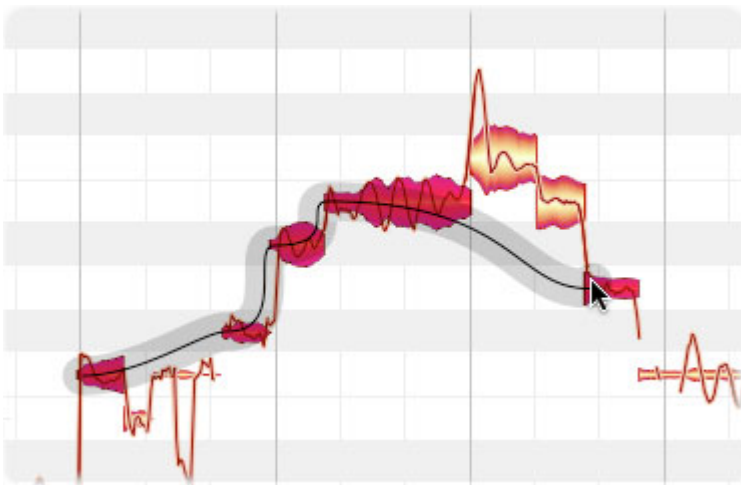
If you move the mouse (and thereby the snake) backwards again, you can remove notes previously painted over from the selection.
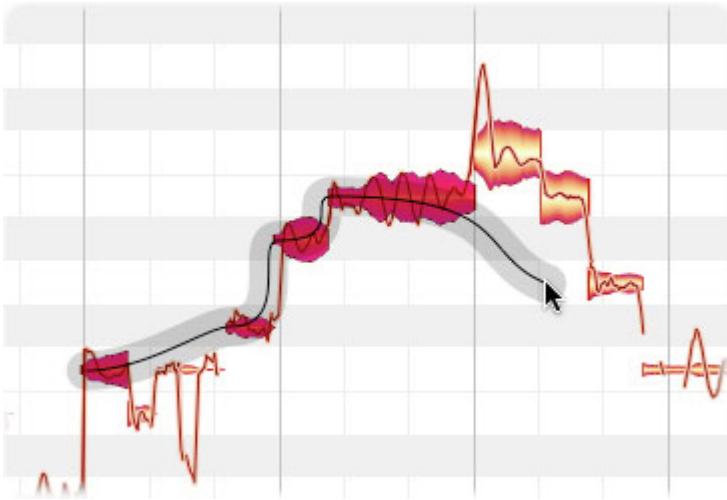
Selection using the pitch ruler

Click a note in the pitch ruler to select notes of the corresponding pitch.
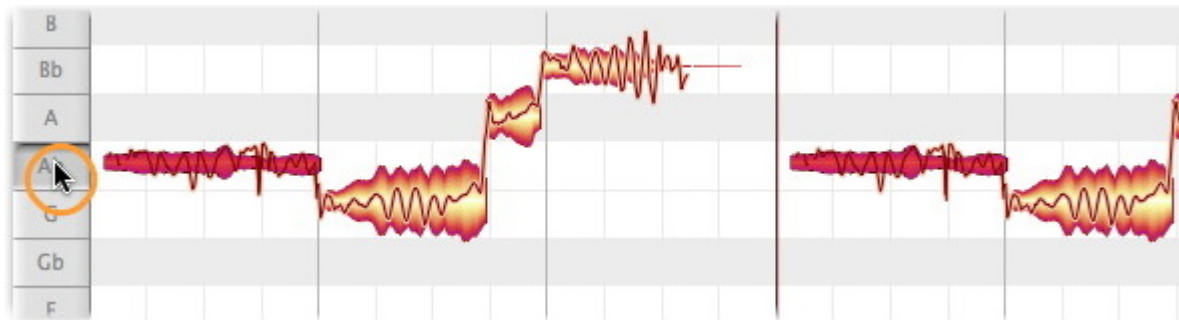
If cycle mode is active, the selection only affects such notes if they lie within the cycle range.

By [Shift]-clicking other notes in the pitch ruler, you can add them to the selection and later remove them by the same means.
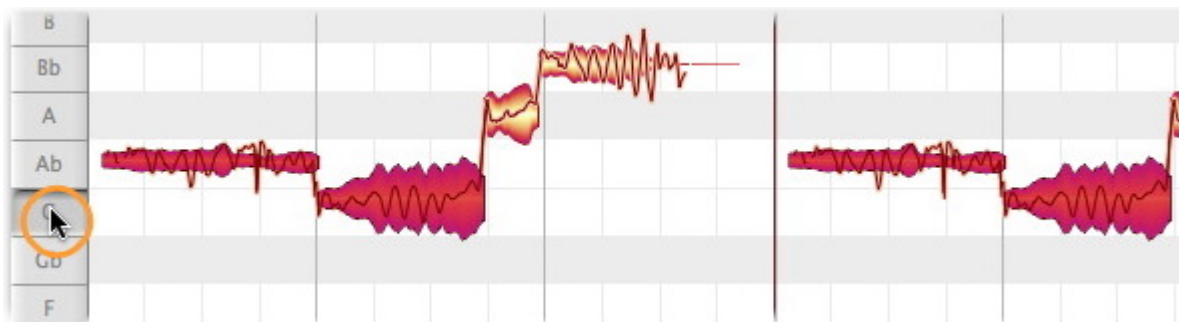
If you double-click, as opposed to single-clicking, a note in the pitch ruler, you will select the same

note in all octaves rather than simply that single instance of the note.

Click and drag in the pitch ruler to select a range of notes.
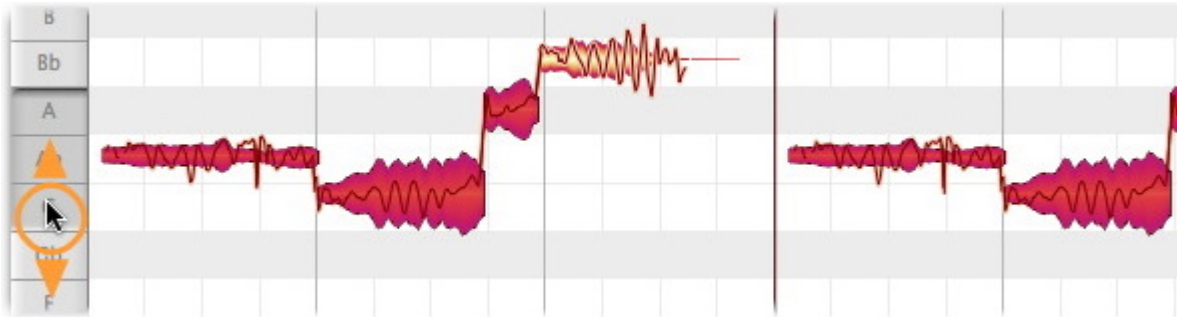
By using the [Shift] key in the pitch ruler, you can remove from the selection a range of notes or individual notes. Here too, if a cycle is active, only notes within the cycle range will be selected.

Selection commands in the menu

In the Edit menu, you will see the command Select All and the Select Special sub-menu with a few additional selection commands.

The command Restore Last Selection reverses the last selection step, thereby restoring the selection that was active beforehand. This is useful if you are in the process of performing a complex selection and accidentally shoot astray, causing the selection to disappear. By clicking Restore Last Selection, you can retrieve it.

The command Invert Note Selection deselects all selected notes and selects all notes that were previously not selected. The commands that follow are similarly self-explanatory, allowing you to select all the notes that follow, all notes of the same pitch, all notes of the same pitch in all octaves, and so on.

The command Select Fifths Above and Below in All Octaves selects tones a fifth above and below the selected tones in all octaves. All the Select commands in the second subdivision of the menu operate on the cycle zone only if cycle mode is active.

The last command in the list, Rotate and Select Covered Notes is designed to help out when you have notes that overlap or completely cover others. It does so by switching the display from layer to layer, selecting at each successive layer the note uncovered, so that you can see and drag it.

Copying notes

In this tour, you will learn how to use Melodyne's command set for the copying and pasting of notes.

Inserting one note

Let's begin by copying a single note: select a note followed by Copy from the Edit menu or the context menu.

Move the playback cursor to the destination by clicking/dragging in the bar ruler.

Select Paste from the Edit menu or the context menu. If the time grid is active, the note is inserted on the quarter note closest to the playback cursor. If the original note was slightly offset from the nearest quarter note, the same offset will be preserved. The length of the note will remain unchanged.
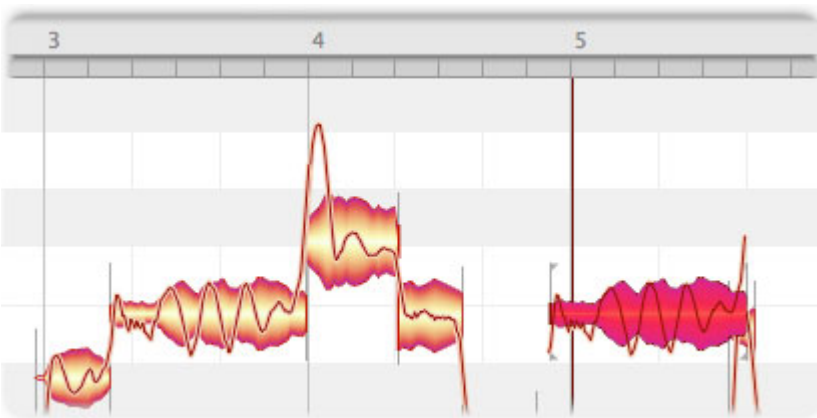
If, however, the time grid has been deactivated or set to Seconds, the beginning of the note will be perfectly aligned with the playback cursor. Again, its length will remain unchanged.
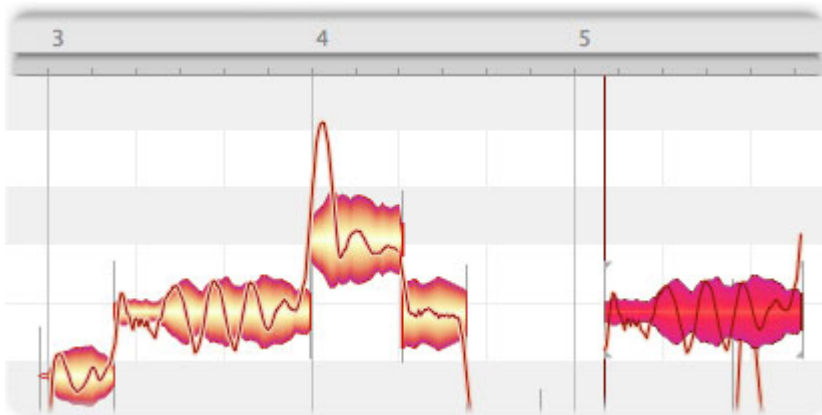
Replacing a note

If, after copying a note, you select another note prior to pasting, the selected note will be replaced. In the context of adjacent notes, the pasted note will be time-stretched or -compressed until its length is the same as that of the note it is replacing. The note pasted will, however, retain its original pitch. Here, for example, if you were to copy the selected note, select a second note…
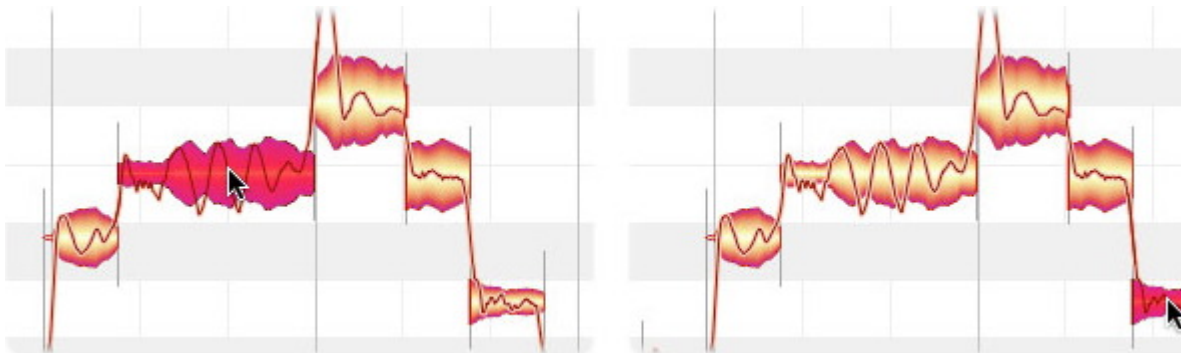
… and then paste, the second note would disappear. The note copied would occupy the same space in time, beginning at the same instant and lasting the same amount of time as the vanished note, but would sound at the same pitch as it did before. Of course, you will be able to drag the new note subsequently to any pitch you like, including that of the note replaced. When replacing notes in this way, the time grid settings are of no relevance.
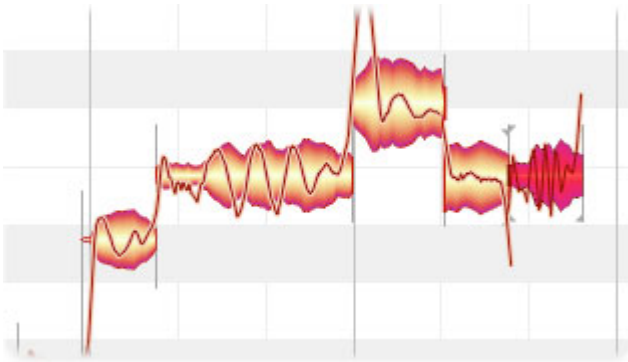
Copying and pasting multiple notes

If several notes are copied and pasted simultaneously, the following rules apply: If we begin with these notes and copy them…
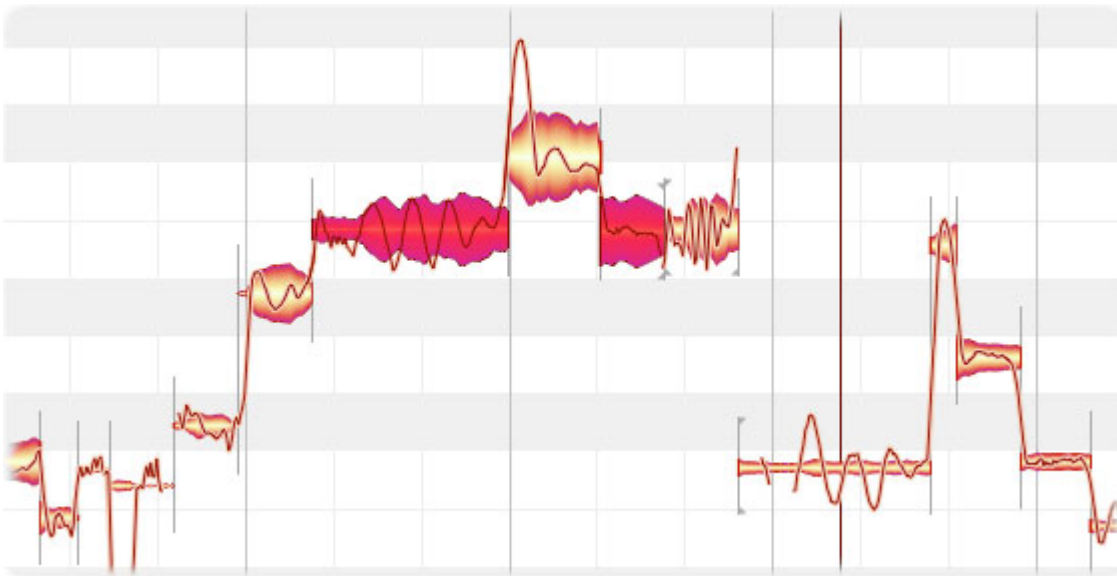
… if no other notes are selected and the time grid activated, when pasted both notes (as we saw earlier with an individual note) will be inserted at positions beginning with the quarter-note grid line closest to the playback cursor. The length of the notes will remain unchanged; the existing offset from the quarter note will be retained and the result will look like this:
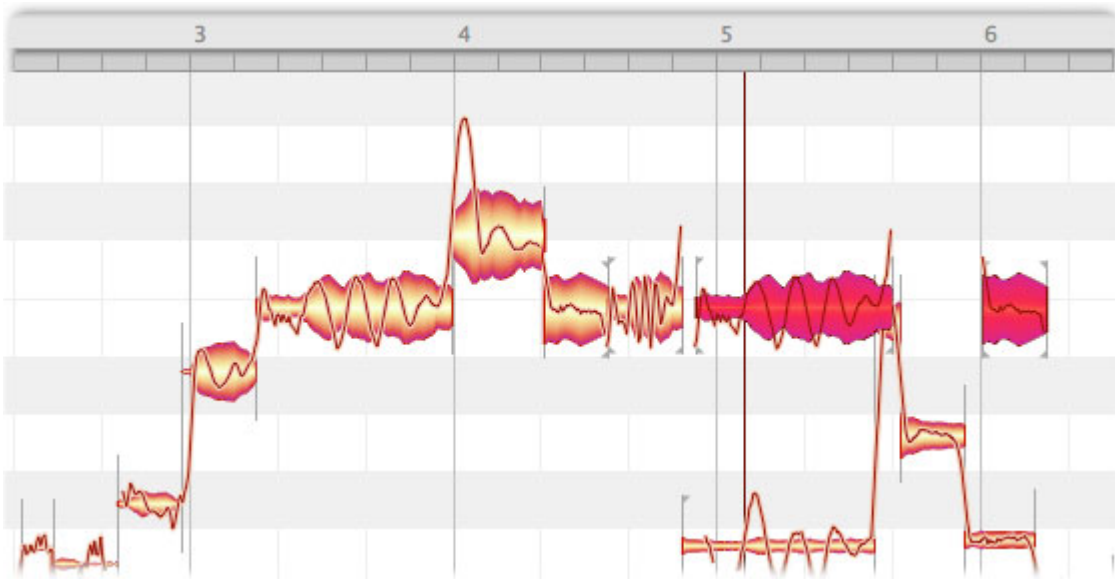
If the time grid is not active or is set to Seconds, the beginning of the first pasted note will coincide exactly with the playback cursor. Again, the original length of the notes will be preserved:
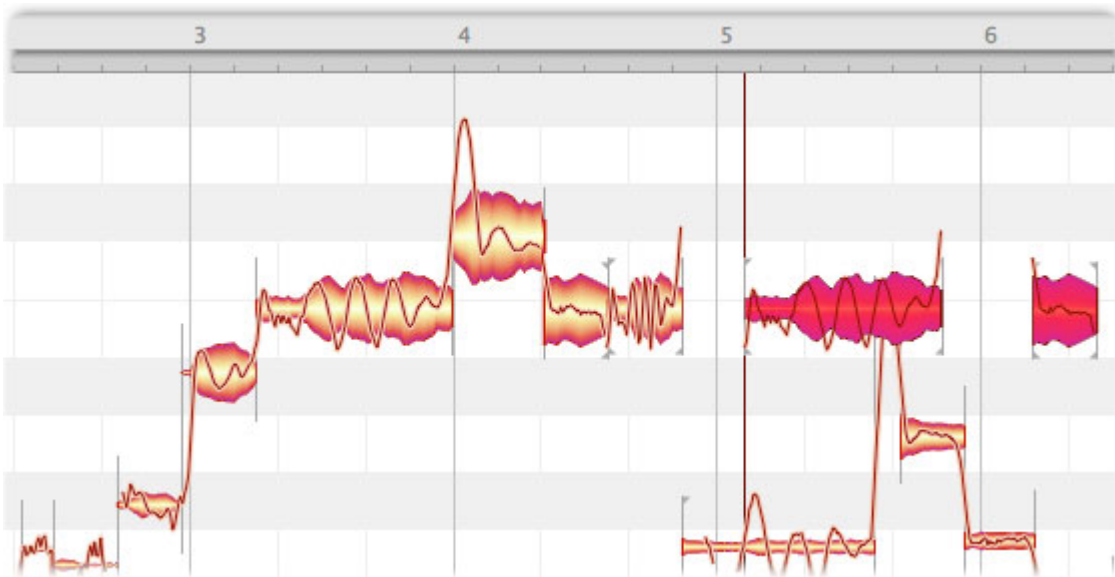
If, prior to pasting, another note is selected, it will be deleted when pasting occurs and the pasted notes will be stretched or squeezed to fill the space it has left. Again, the copied notes will retain their original pitches.
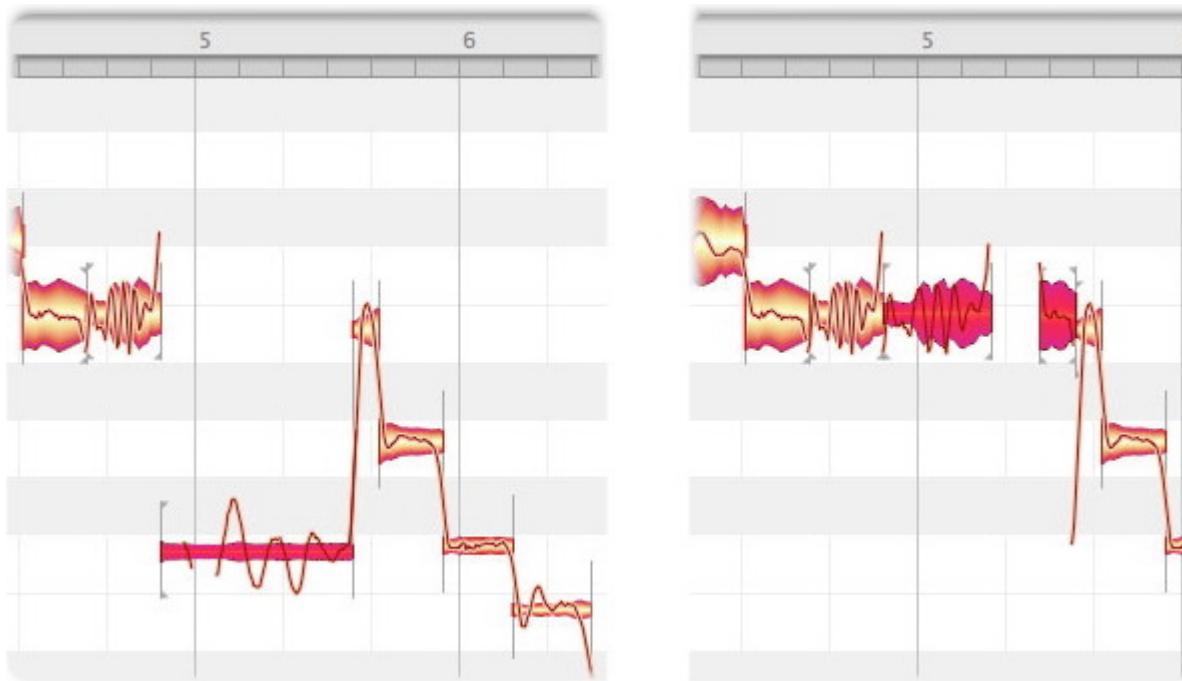
If, prior to pasting, multiple adjacent notes are selected, these will be deleted in the same way, and the pasted notes stretched or squeezed to occupy the same time interval as the deleted selection. If, for example, these are the notes selected:
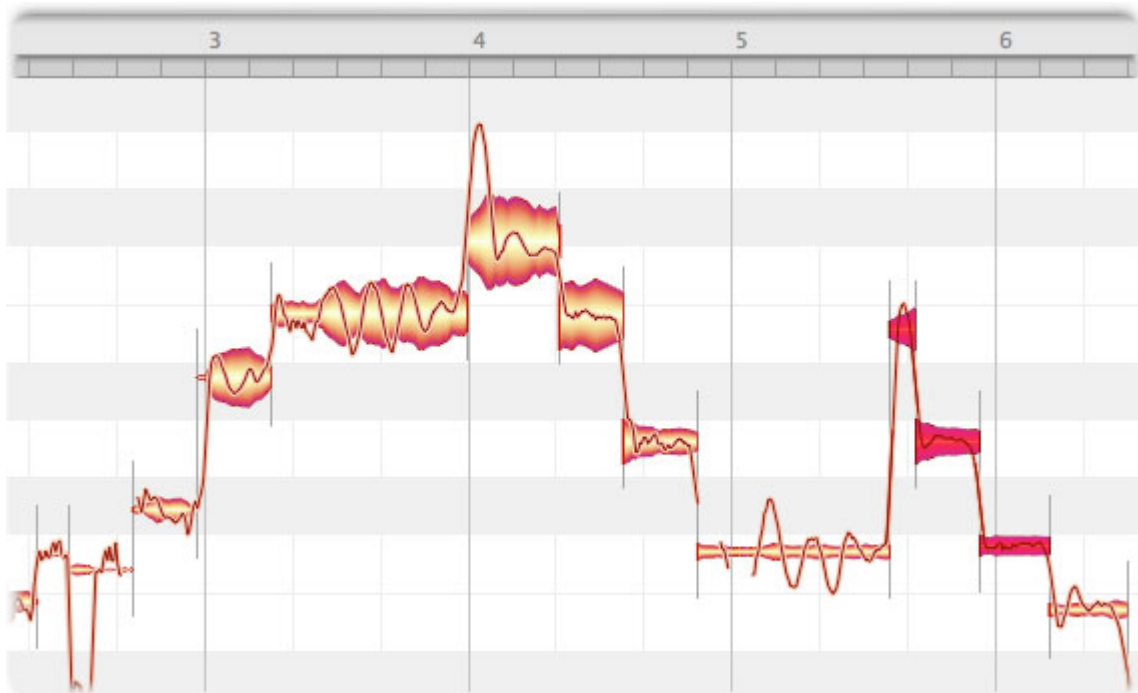
… the result after pasting will look like this:
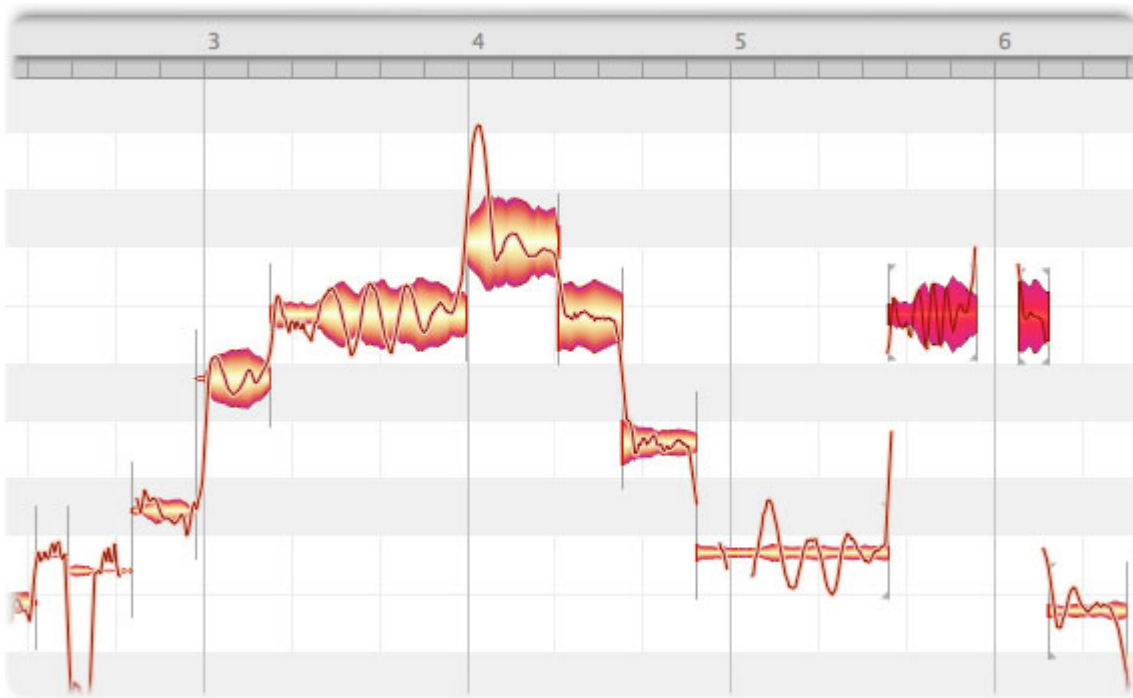
The real-time controls

In this tour, you will learn how to operate Melodyne Plugin's real-time rotary controls (in what follows 'knobs'). These allow you to increase or decrease in real time the settings for pitch, formants and volume that you have performed in the editing area and always affect all notes.

Please note: changes of pitch produced using the real-time rotary control (the pitch knob) do not sound as good as those produced with the pitch tool. So please do not use the pitch knob for normal transposition but only when you wish to use the automation of your DAW for special effects.
The difference in sound stems from the fact that the pitch tool employs a high-tech algorithm that makes use of knowledge of the surrounding notes (and note transitions), whilst the rotary control has to make do without such knowledge.

The real-time pitch, formant and volume knobs

With these three knobs you can influence in real time (from left to right) pitch, formants and volume.

All three parameters appear as automation-capable plug-in parameters in your DAW. You can draw automation curves, for example, in order to 'drive' these parameters. Please consult the user manual of your DAW to discover what possibilities are available to you in connection with automation-capable parameters and how these are handled.

All three knobs influence their parameters in both directions, with a neutral central position as their starting point. Leftward (anti-clockwise) rotation reduces the pitch, formants and volume parameters; rightward rotation increases them.

The pitch knob displays its values in semitones by means of a tool tip. You can adjust the control range to suit your requirements using the context menu.

The formant knob also displays its values in semitones; its control range, too, can be selected from the context menu.

The volume knob has a fixed control range from - to 6 dB, with 0 dB in the center.

[Command]-clicking any of these knobs returns it instantly to its neutral central position.

Time grid selection

In this tour, you will learn how to set and use the time grid in the editing area.

The grid serves to provide a clearer overview of the audio data by displaying in the editing background vertical lines representing either seconds or beats. If desired, notes can also be made to snap to the nearest grid line as you drop them, in which case they will sound precisely on the beat.

The procedure

Click at the intersection between the time and pitch rulers to open a context menu of grid options. Alternatively, open the menu by right-clicking on the time ruler.
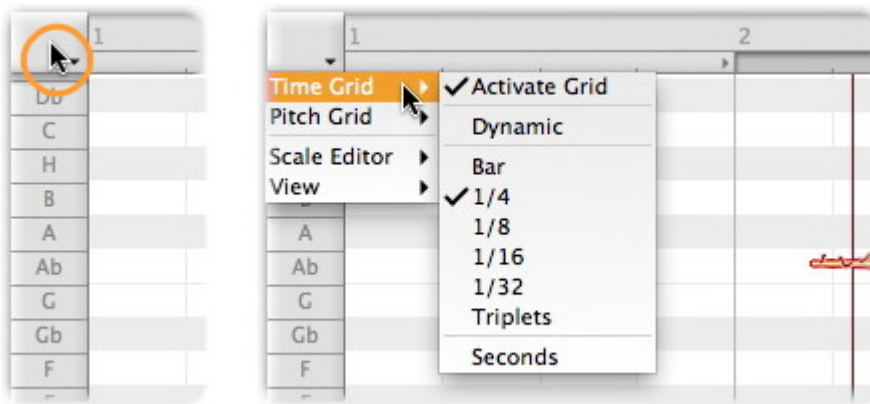
As you move the mouse pointer over the first entry in the list, Time Grid, a cascading menu opens with which you can activate or deactivate the grid. In Melodyne Stand-Alone, you can also toggle the grid on and off using the shortcut [Alt][Command][T].

When the grid is active, the calibration markers extend from the top to the bottom of the bar ruler. When the grid is inactive, these shrink to around a quarter the height of the ruler.

If you select the option Dynamic from the cascading Time Grid menu, the grid will adjust automatically to the current horizontal zoom level: in other words, the further in you zoom, the finer the mesh of the grid.

The entries below Dynamic allow you to base the coarseness or fineness of the grid on note values. The current setting at any given time is reflected in the spacing of the vertical lines in the background of the editing pane. Select Triplets if your material is in triple time.

If you select Seconds, the ruler will display the elapsed time from the effective starting point. In this case, even if the option Activate Grid is selected, the ruler will have no influence on the position of any notes you choose to move.

You will notice that note values are also selectable if you have set the grid to Dynamic. This should make sensible working with triplets possible even when using the dynamic grid: Since there are not just "triplets in themselves" but eighth-note (quaver) triplets, quarter- note (crotchet) triplets etc. you can select the desired note value so that the dynamic grid is drawn and behaves correctly.

When the time grid is active and Seconds is not checked, notes moved from one beat to another will end up the same distance from the new beat as they were from the old one. In other words, whilst the grid does influence their position, they don't snap exactly to the nearest grid line unless they were on a grid line to begin with. The note depicted below, for example, sounds slightly after the first beat of the bar.

If, while the grid is active, this is moved to the second beat, there, too, it will sound slightly after the beat – the offset in the two cases being identical.

Even if the grid is active, you can still adjust the position of a note (or a selection of notes) independently of the grid by holding down the [Alt] key as you move them.

Matching Melodyne Stand-Alone's time grid to the audio

The time grid must correspond to the musical content before any sensible editing of the audio material is possible. Whilst Melodyne Plugin assumes that a transfer matches the tempo of the DAW as indicated by its metronome click, Melodyne Stand-Alone analyzes the audio file loaded and deduces from the material itself the intended tempo and time signature. Since, however, this is, at the end of the day, a matter of interpretation, you do need on occasion to adjust the grid manually after the detection. In this tour, you will find out how this is done.

Moving the '1'

When the loading and analysis of an audio file – let's say a drum loop – is complete, you should first of all check to see whether the '1' of the time grid is correctly aligned with the first note (or, in this case, drum stroke). Often audio files have a bit of 'air' before the first note sounds, and this lull before the action gets underway can be interpreted by Melodyne as a rest. The upshot then is that all the notes are displaced rightwards in the time grid and the first beat of the first bar or measure of the music fails to coincide with the '1' in the time ruler. To correct this, simply drag the '1' marker in the time ruler until it coincides with the beginning of the first drum stroke. The movement is governed by the selected time grid, which is usually helpful; in cases, however, where it is is not, if you press the [Alt] key as you drag the icon, you will be able to fine-tune its positioning.
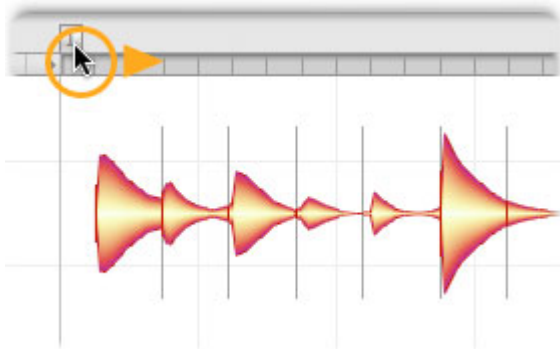
When you have finished, the '1' should be perfectly aligned with the beginning of the first drum stroke.
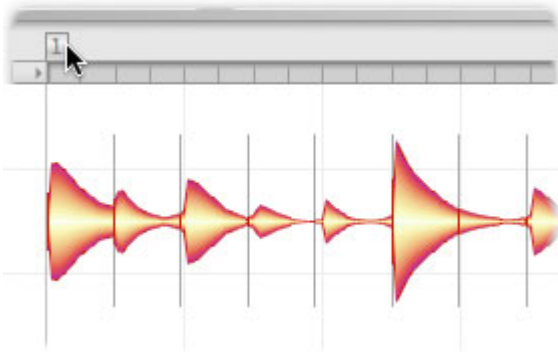
Correcting the tempo interpretation

Once the '1' is correctly positioned, the detected tempo should be checked. Melodyne's algorithms usually determine the tempo as well as the presence and nature of any tempo fluctuations with a high degree of accuracy; since the tempo is always a matter of interpretation, however, it can happen that the tempo displayed is in fact double the intended or notional tempo. This will have no adverse effect on the actual sound, of course, but could make editing the material confusing. Even with our one-bar (singe measure) loop, the detected tempo is double the notional one, so what is intended to be a one-bar loop extends over two measures of the grid.
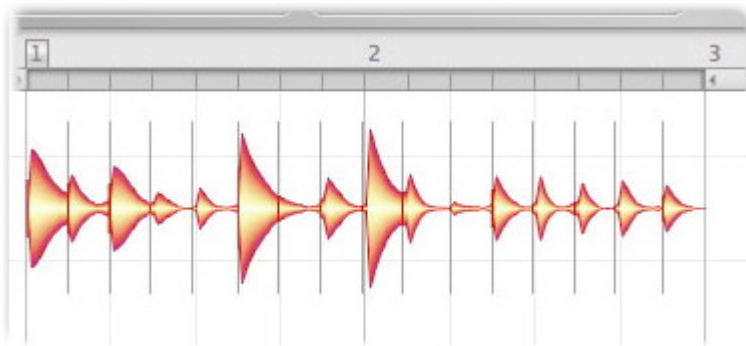
Entering a new value in the tempo box would be no help here, because it would cause the audio material to be stretched or compressed; the loop might run more rapidly, or more slowly, than before, but it would still extend over two bars of the grid.

Fortunately, correcting the displayed tempo is very simple: Just click the '...' button next to the tempo box and the define tempo dialog will open.

With it, you can choose between two ways of defining the tempo. Since in this case, we want to halve

the current tempo, we check the option 'Multiply tempo by:' and select the entry beginning '1/2 =' from the list box to the right.
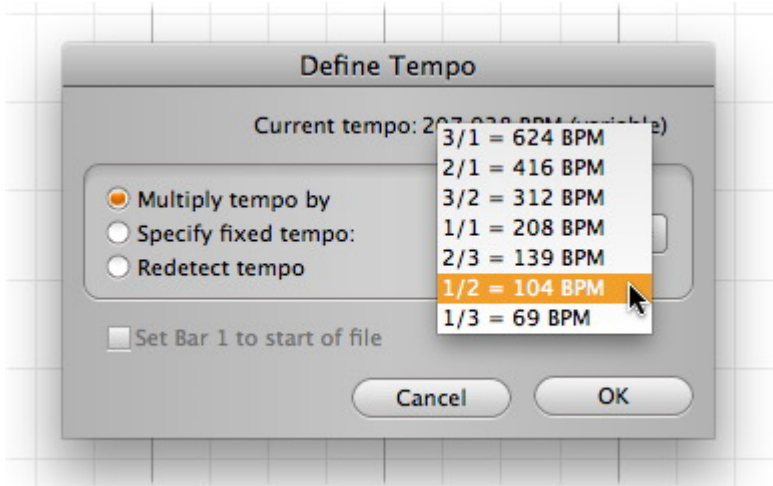
When we now exit with OK, we will find that the one-bar loop extends over one bar (only) in the grid, and that the value in the tempo box has been halved. Problem solved.
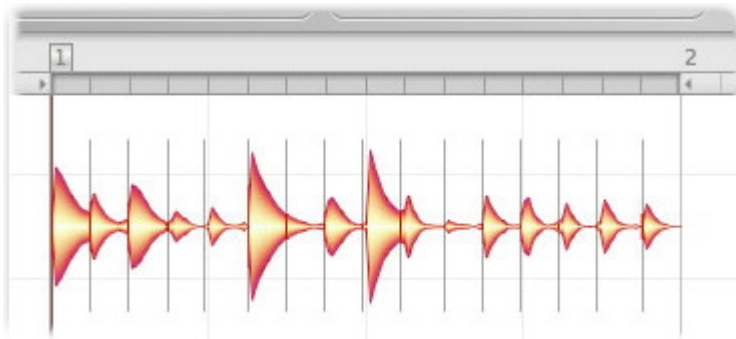
Specifying a fixed tempo

If you choose the option 'Specify fixed tempo', you can enter in the box provided a new value for the tempo.
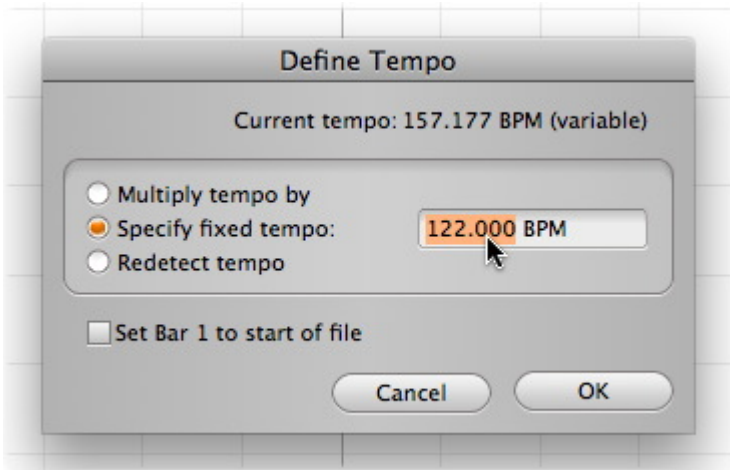
When might you want to do this? There is one case in particular where it might be desirable to specify a fixed tempo: Suppose you are editing a guitar track recorded in time with a playback running at 120 BPM and the player has introduced slight tempo variations into his or her performance. When you now open the recording in Melodyne Stand-Alone, you will see that these tempo variations have been detected and are preserved in the playback. If you watch the tempo display during playback, you will notice it constantly changing, with the values hovering around 120.

Here, however, the tail is wagging the dog. The basic tempo of the project is intended to be fixed – a steady 120 BPM – and not to fluctuate whenever the guitarist essays a little artistry. The solution is to select 'Specify fixed tempo', type the value '120' into the box provided and exit with OK. Then the grid will reflect the reality, and the tempo displayed will be 120 throughout. The guitarist's performance, of course, will remain unchanged, with all the slight tempo variations preserved; you'll see this reflected in the fact that certain notes will be offset slightly from the grid lines nearest to them. If you wish, of course, you can iron out all such irregularities by quantizing, so that the guitar part adheres strictly to the 120 BPM tempo throughout.

Set Bar 1 to Start of File

This option appears both in the define tempo dialog and in the '1' icon's context menu in the time ruler.

Normally Melodyne Stand-Alone aligns the '1' with the beginning of the first note it detects in the audio file. In most cases that makes musical sense, but not in all. Take the following case: you are editing a track from a DAW that you intend later to reintegrate into the DAW project. Although the track was recorded from the start of the song, no notes sound until later. Here, if Melodyne were to align the '1' with the first note played rather than with the start of the file, when you tried later to reintegrate the track into the original project, you'd discover the synchronicity had been lost. To avoid this, check 'Set

Bar 1 to start of file'. Melodyne will now align the ruler's Bar One ('1') with the first sample word in the audio file; and the track, when restored to the original project, will be perfectly in sync.

Redetecting the tempo

With the option Redetect tempo in the define tempo dialog, you can force Melodyne to conduct a fresh analysis of the tempo of the document being edited. This can be useful, for example, when you have entered the tempo manually, messed things up, and want now to return to the status quo immediately after the initial detection. Select the option and exit the define tempo window with OK to trigger a fresh analysis.

Adjusting to tempo variation in the DAW

In this tour, you'll learn how to handle different tempos.

A new constant tempo

Whenever Melodyne registers a tempo change in the DAW, the chain icon near the tempo display will flash orange to indicate that a matter requires your attention. If you do nothing, you resign yourself to a discrepancy between the bar ruler in the DAW and that of Melodyne Plugin.

Click the chain icon to open the tempo window. Here you can inform Melodyne of the nature of the tempo change it has detected, in order to ensure that the two bar rulers remain in step.
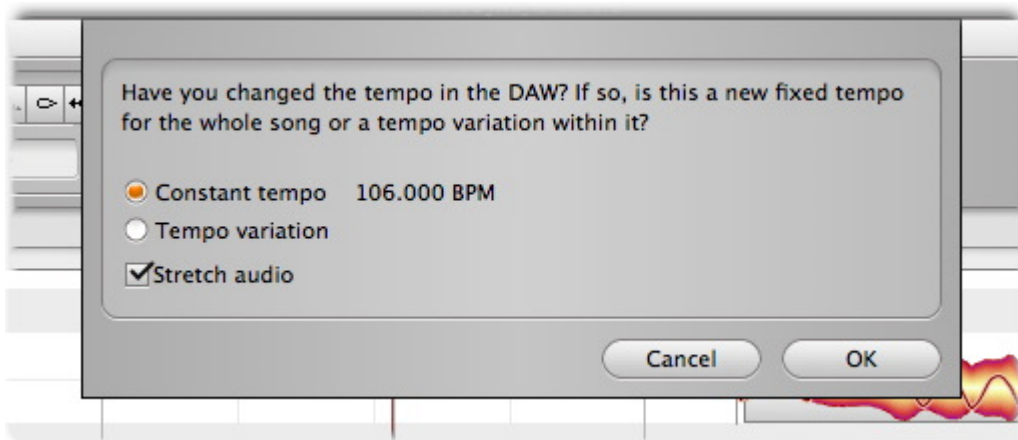
If you have simply changed the overall tempo and there are no tempo changes within the song itself, select Constant Tempo. This tells Melodyne that the new tempo registered applies to the entire song and that it should adjust its own bar ruler accordingly.

If you want Melodyne to stretch or compress the audio material to reflect the new tempo, check the box below.

If you select this option, Melodyne will employ time-stretching (or -compression) to adjust the material already transferred to the new tempo. If your DAW employs Elastic Audio and performs time-stretching on its own audio material, Melodyne will behave exactly the same way whenever this box is checked, so the audio material in the DAW and the plug-in will remain in sync.

If your DAW does not employ time-stretching and merely changes the grid beneath the audio material

when tempo changes occur, to ensure identical behavior in Melodyne clear the check box in question. Of course, even in this case you may prefer to check the box, in order to achieve through Melodyne what with your DAW you cannot, namely an adjustment of the audio material to the new tempo by means of time-stretching.

A progressive tempo change

If you have not selected a new constant tempo in your DAW but introduced a progressive change of tempo, select the option Tempo Variation in the Tempo window.

Melodyne is perfectly capable of registering tempo changes and implementing them correctly without any assistance, but it can only do so if they occur within a passage that has been transferred to it. If a variation in tempo occurs between two transferred passages, Melodyne is obviously in the dark. For this reason, prior to the transfer, you should play through to Melodyne all passages containing progressive or sudden changes of tempo so that Melodyne can "learn" about them and ensure that the rulers remain in sync. To do this, proceed as follows; and bear in mind, please, the rules set out in the following section.

While the tempo dialog is open, stop the playback in the DAW and move its playback cursor to a position prior to the variation in tempo. Now, for the benefit of Melodyne, play through the entire passage containing the tempo change (or changes) until a point is reached beyond which no further variations in tempo occur. Stop the playback. In the tempo window, you will see indicated the range of the tempo variation within the passage covered.
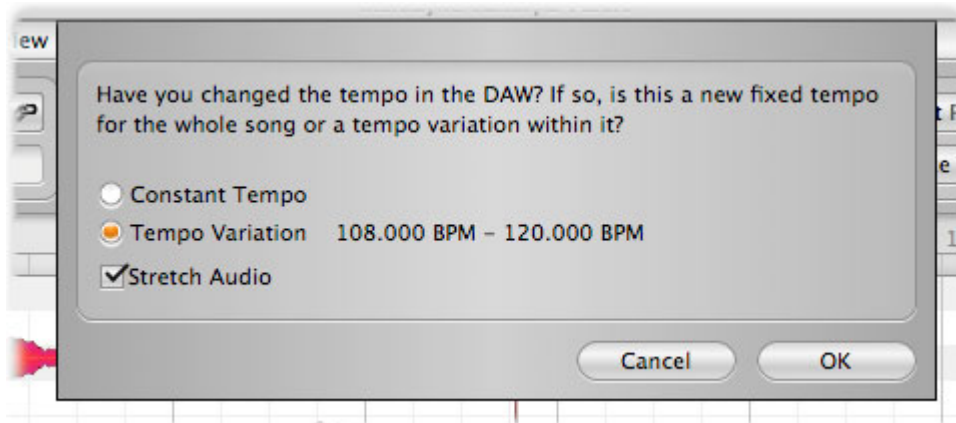
Specify once more whether you want the audio material itself or only the grid to be stretched or compressed to reflect the tempo variation.

Exit with OK to apply your settings or Cancel to discard them. The OK button will remain greyed out until you have started your DAW to play the tempo change through to Melodyne and then stopped it again.

Important when working with variable tempo

If Melodyne has not been fully informed of changes in the tempo or time signature, the time rulers of the DAW and Melodyne can get out of sync and transfers will sound at the wrong time or be recorded in the wrong place.

The handling of variable tempo is unfortunately not self-explanatory. It would be far simpler if DAWs transmitted all information about changes in the tempo or type of bar to plug-ins, but, sadly, the plug-in interface at the moment does not provide for this. Melodyne is therefore obliged to learn all the relevant information during the transfer. However, since transfers as a rule do not extend the full length of the song, the tempo window makes it possible for Melodyne to learn about changes in the tempo or time signature during pure playback – in other words, without any transfer being necessary. With respect to tempo learning, if the following rules are observed, everything should go as expected and there is no reason why you should not be able work successfully with variable tempo.

- Prior to the first transfer, with the tempo window open, play through to **all** instances of Melodyne the **entire** song including **all** passages in which the tempo accelerates, decelerates or changes abruptly or there is a change of time signature.

Tip: if you wish to work with multiple instances of Melodyne, here's a trick that should save you time: once the first instance has learned the tempo, save in that instance a plug-in preset called, for example, "tempo for Song X". Then open the other instances you plan to use and load this preset into each of them. In that way, all the instances will acquire the requisite tempo information, without needing to go through the same learning process as the first.

- If you have changed any tempo progressions in the DAW, play through once again to **all** Melodyne instances in the tempo window the **entire** song. This will allow Melodyne to register all the tempo changes and preserve the synchronism of the bar ruler.

* If, **prior** to changing tempo progressions in your DAW you have already transferred material to Melodyne, then once Melodyne has learned about the changes, before closing the tempo window check the Audio Stretching option. This is the only way of ensuring that the material already transferred can adapt to the new tempo environment.

The pitch grid and scales

In this tour, you will learn about Melodyne's pitch grid and find out how to select different scales for the grid.

Melodyne's scale functions

In Melodyne, you can change the pitch of notes either continuously or in such a way that they snap to a grid. If the snap function is active, notes can only be moved to pitches allowed by the grid. The grid can be based on the chromatic scale, the scale of C Major or any other scale. Melodyne offers you a wide choice of scales and a comprehensive set of functions for the editing and creation of scales that even extends to the ability using the Scale Detective to detect the scale used in one recording and apply it to another.

All these functions and options are reached via the pitch ruler. They are organized in such a way that you only ever see the parameters you actually need for the task in hand. Think of a drawer that can either be pulled slightly open or else opened to its maximum extent. In this tour, we are concerned with the selection and use of scales, so we will pull the drawer only a third of the way out.

The pitch grid and display options

The context menu on the pitch ruler offers you three basic settings for the snap function:

- No Snap: the pitch ruler displays for purposes of clarity only faint lines between the notes.
- Chromatic Snap: notes snap to the nearest point on the chromatic scale and the lines on the ruler are more boldly displayed.
- Scale Snap: uses initially the nearest major or minor scale, as determined by Melodyne based on its analysis of the audio material. The tonic (or 'keynote') thus ascertained is highlighted in the pitch ruler. Naturally you can alter the scale and tonic but we will come to that in a moment. Let's just look first at the other options in this menu.
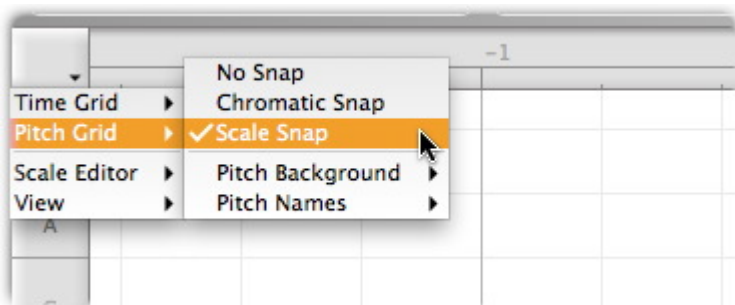
- Pitch Background: here you can choose the appearance of the background in the edit pane.
- Keyboard: the darker beams represent the black notes of a piano keyboard and the paler

beams the white notes – a layout with which users of most MIDI editors will be familiar.

- Scale Notes: the lighter beams are assigned to the notes of the scale, whilst the darker beams indicate notes foreign to it. When Scale Snap is selected, therefore, notes will invariably come to rest on the lighter beams.
- Pitch Lines: the degrees of the scale are indicated by bold lines instead of beams – with thinner lines reserved for notes foreign to the scale. This is useful in the case of poor intonation, as the precise pitch of each degree of the scale is clearly indicated.
- Pitch Names: here you can choose whether the ruler displays the names of the notes or the degrees of the scale.

The scale and reference pitch rulers

Considerably more is hidden behind the entries in the Scale Editor submenu. Now as you move down the list, you will see the drawer we mentioned earlier opening further and further. To select and use scales, choose the second item: Selection and Master Tuning. Now, to the left of the pitch ruler, two new columns appear.
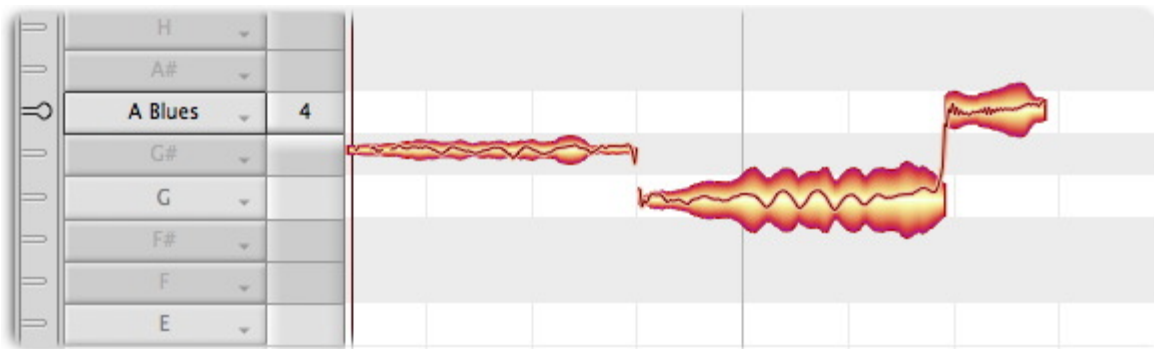
Adjusting the master tuning

The narrow column on the very left is the reference pitch ruler. Drag up and down the mark alongside any note – A4, for example. A frequency ruler appears for you to consult as you fine-tune the note in question – and with it, of course, all the other notes of the scale. What you are doing here is adjusting the master tuning for the entire pitch grid. A tip: increase the vertical zoom factor, as this will make it easier for you to locate the value you want.
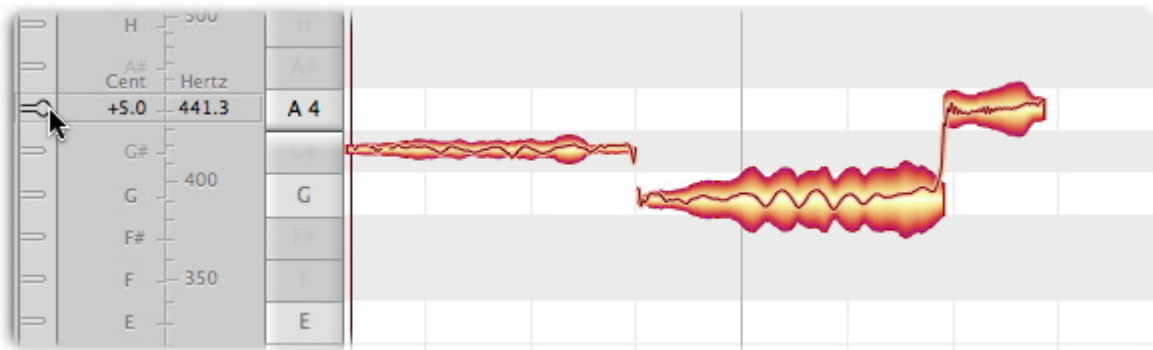
By right-clicking any of the marks on the ruler, you can open a small context menu. This offers a number of pointers to help you bring the pitch grid swifly into line with a particular tuning:
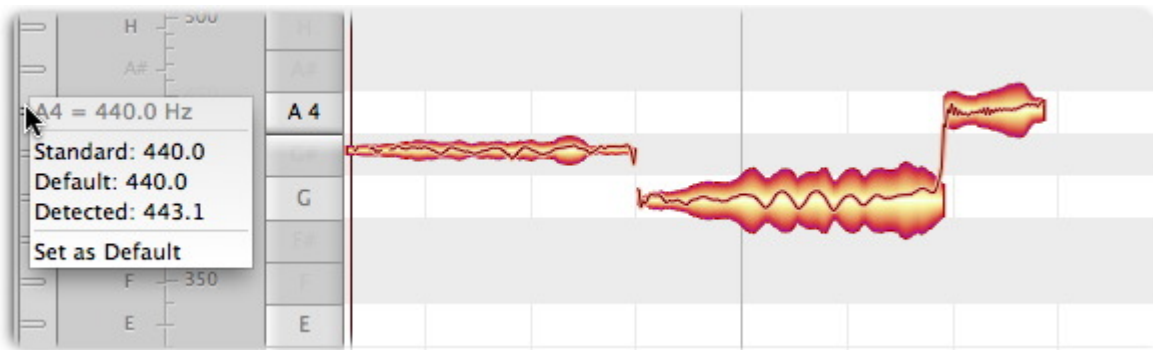
- At the top, you will see the current frequency of the note selected.
- Standard: bases the tuning on modern standard concert pitch (where A4 = 440 Hz).
- Default: bases the tuning on the frequency currently assigned to A in the Preferences dialog.
- Detected: bases the tuning on Melodyne's analysis of the music being edited – the original tuning.
- Set as Default: tells Melodyne to use the current value as the default tuning for new documents and adjusts the value in the Preferences dialog accordingly.

The various values for A4, incidentally, can be found quickly by clicking the tuning fork icon at the top of the reference pitch ruler. By typing into the box immediately below this icon, you can assign to A4 any frequency you like.

Selecting the tonic and scale variety

The wider ruler next to the reference pitch ruler is the scale ruler. Here you can select the 'tonic' (i.e. the first degree or keynote) of the scale as well as its mode or type. First click on the note you wish to use as the tonic. The following menu opens:

- Related scales: in the top part of the menu, you will find a varying number of scales preceded by a "=" sign. These are scales that correspond to the current scale but are differently named. Please note that when you select a related scale from this menu, only the main structure of the mode in question is adopted: the scale is simply given a new name and, if applicable, a new tonic. It can be, however, that the exact definition of the related scale in question contains additional secondary degrees or fine-tuning. If you wish to use these, please choose Open Scale... from the Scale drop-down menu.
- The current note: in the middle of the submenu, grayed out, you will see the name of the note you have clicked on and which you can now make the tonic.
- Major / Minor: Allows you to select a major or minor scale with the note selected as tonic. To select C Major, for example, click 'C' in the ruler, followed by 'C Major' from the submenu.
- Open Scale... : opens Melodyne's Open Scale window, which offers access to a wide variety of additional scales.
- Analyzed: this offers you rapid access to two options derived from Melodyne's analysis of the material: the closest major or minor scale and an exact microtonal scale.
- Notes Reflect Scale Changes: normally when you change the scale, Melodyne adjusts the pitch grid but does not change the notes themselves unless you double-click on them first, in which case they will snap to the grid. If, however, you wish the notes to adjust automatically to any change of scale, select either "Tuning" or "Tuning and Mode". Then any changes will take effect immediately and you will hear them at once during playback.
- Play Scale: plays the current scale.

The Open Scale window

Welcome to the fascinating world of scales and temperaments – a world of the greatest cultural as well as emotional diversity! Whether you're working with western, eastern or contemporary music, Melodyne's Open Scale window offers a multitude of scales you can select, listen to, and use.
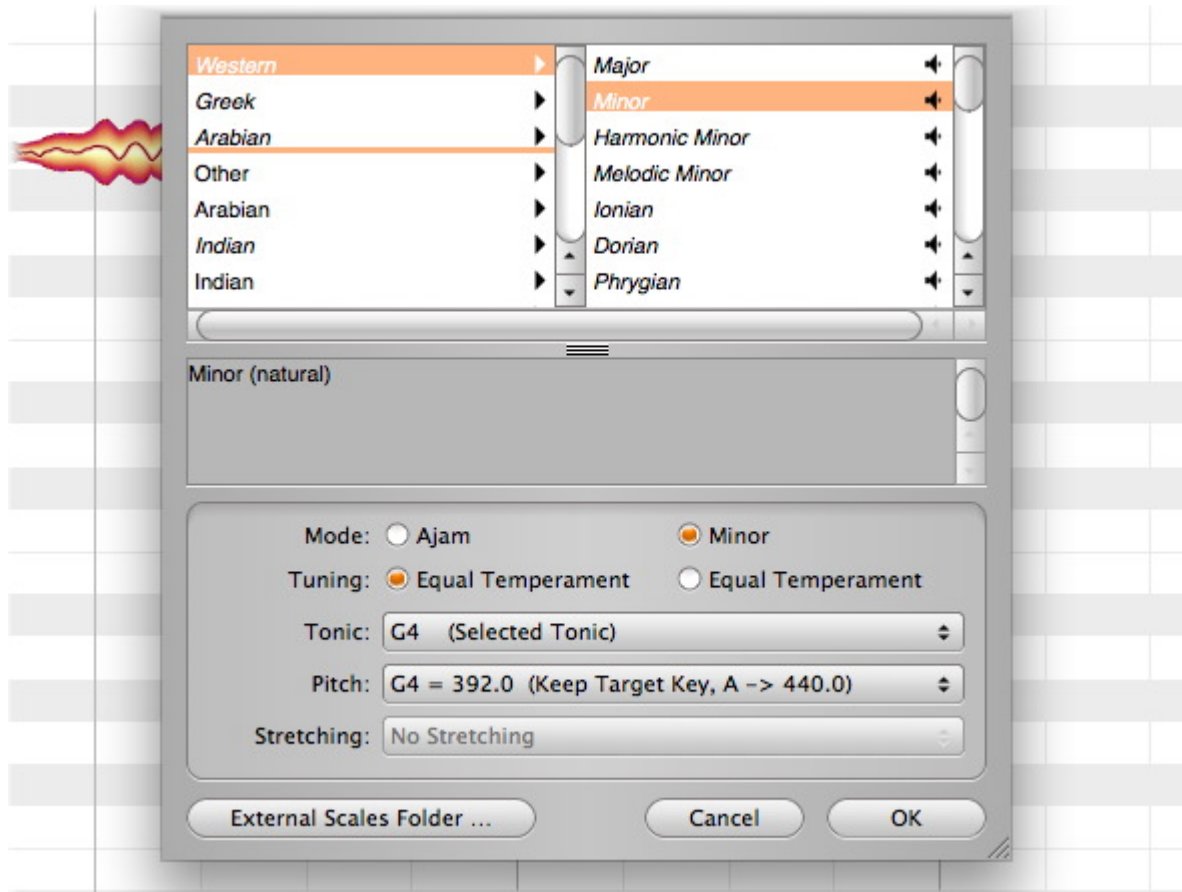
To open the Open Scale window, select Open Scale from the context menu of the scale ruler.

Now choose a category from the left-hand pane followed by the desired scale from the pane on the right. Click the loudspeaker icon to the right of each entry to hear the scale selected.

If you have activated the option 'Notes Follow Scale Changes', during playback you will hear immediately the effect of applying the scale selected to your audio material. The window allows you to try out (or 'audition') different scales quickly and easily. If you wish to adopt the changes, exit the window with OK; otherwise click 'Cancel'.

From the lower pane of the window, you can select between the parameters of your existing scale and those of the scale selected in the Open Scale window.

- Mode and Tuning: you can adopt either the parameters of your existing scale (on the left) or of the scale currently selected in the Open Scale window (on the right).
- Tonic: you can choose between the selected tonic or the tonic from the preset.
- Pitch: here you can choose between current tuning, the pitch from the preset or various standard tunings.
- Stretching: here you can select whether or not stretched tuning should be applied to the scale.
- External Scales Folder...: this button allows you to open a folder containing scale definitions in Scala format (filename extension ".scl") which will then appear as an additional category in the Open Scale window.

On the Internet, you will find at http://www.huygens-fokker.org/docs/scales.zip a collection of over 4,000 Scala files that you can copy to any part of your hard disk and audition and try out in this way using Melodyne editor.

You can also load scale definitions created in Melodyne studio (filename extension '.mts') with this button.

The Scale Pool and file management functions

A drop-down menu at the top of the scale ruler offers you access to the Scale Pool as well as various file management functions.

The Scale Pool is designed to provide temporary storage for the scales you are using in the current piece so that you can switch quickly from one to another. In each case, the tonic is stored along with the scale. The Scale Pool is document- and instance-independent: in other words, if you store a scale in one instance of the plug-in, you can then also access it from another.
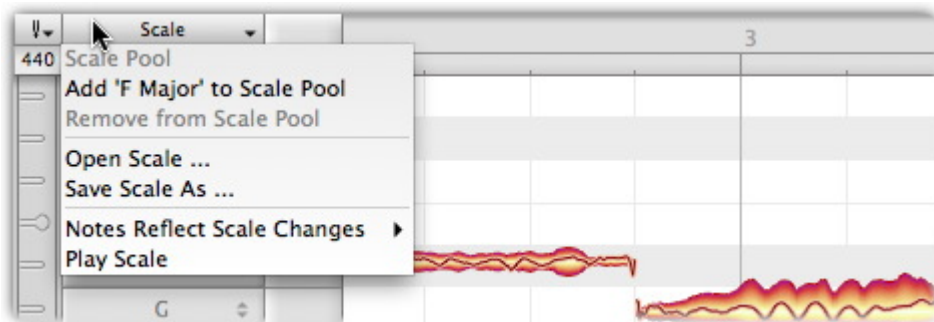
- Scale Pool: this submenu offers you access to the scales in the Scale Pool.
- Add ... to the Scale Pool: adds the current scale to the Scale Pool.
- Remove from Scale Pool: this allows you to remove scales from the Scale Pool.

Three further entries also appear in the context menu of the scale ruler.

- Open Scale... : this opens the Open Scale window.

- Notes Follow Scale Changes: determines which characteristics should be applied automatically to the notes when scales are altered.
- Play Scale: plays the current scale.

The following entry, however, is only found here:

- Save Scale As...: this opens a window that allows you to store the current scale in the Open Scale window.

Saving scales

The Open Scale window allows you to experiment swiftly and easily with a large number of scales as well as combine elements of your existing scale with those of the presets in the Open Scale window. In the process, you are bound to hit upon interesting combinations that you will want to save and use again later. The command "Save Scale As..." allows you to do just that: store your own scale presets so that you can access them later in the Open Scale window. For this purpose, it opens a window that looks very like that of the Open Scale window and offers you the following options.
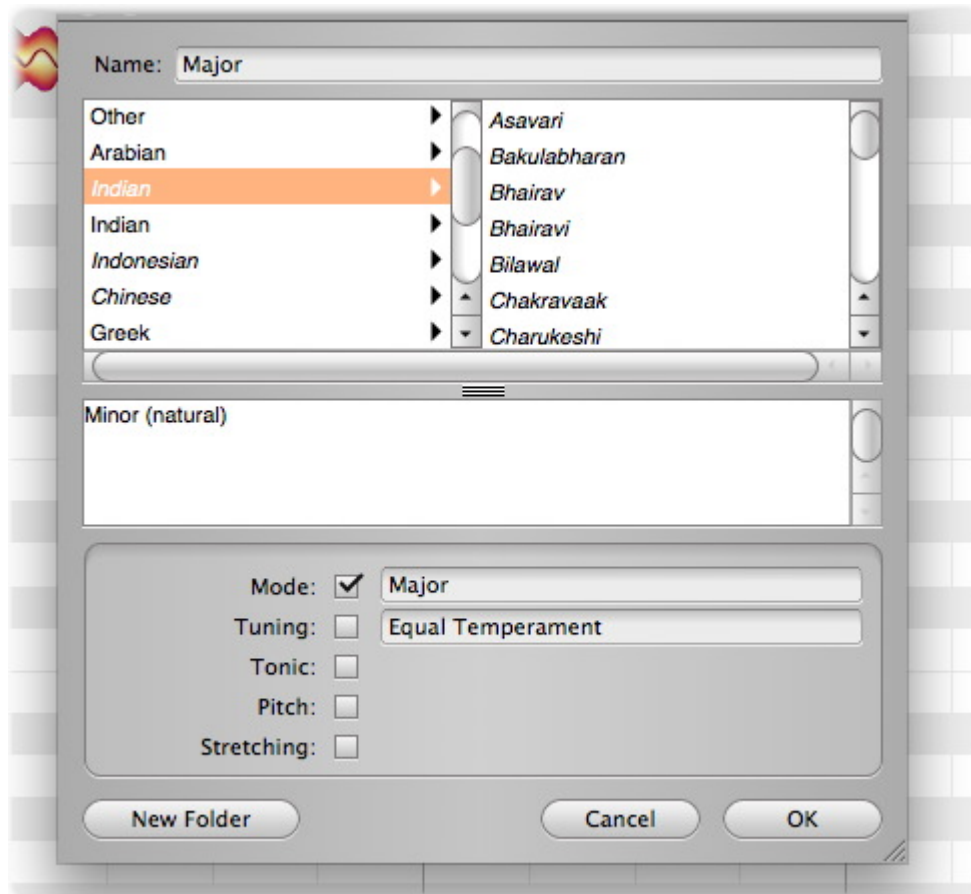
- Name: here you can enter a name for your scale.
- Category: select the category under which you wish the scale to be filed. Click "New Folder" to create a new category.
- In the text field below, you can enter a comment to be stored along with the scale.
- In the lower part of the window, you can assign names to the mode and tuning. All aspects of a scale are invariably stored along with it. By placing ticks (checkmarks) here, however, you can specify which aspects of the scale are considered relevant when it is opened subsequently.

Editing and creating scales

In this tour, you will learn how to edit scales in Melodyne as well as create them from scratch.

The extended scale functions

In this tour, we will pull the 'drawer' next to the pitch ruler further open and consider the functions for the editing and creation of scales. Right-click the pitch ruler and select from the context menu 'Scale Editor' followed by 'Intervals and Degrees' The drawer opens to reveal two new rulers: the mode ruler and the tuning ruler. Here we see the rulers in question:
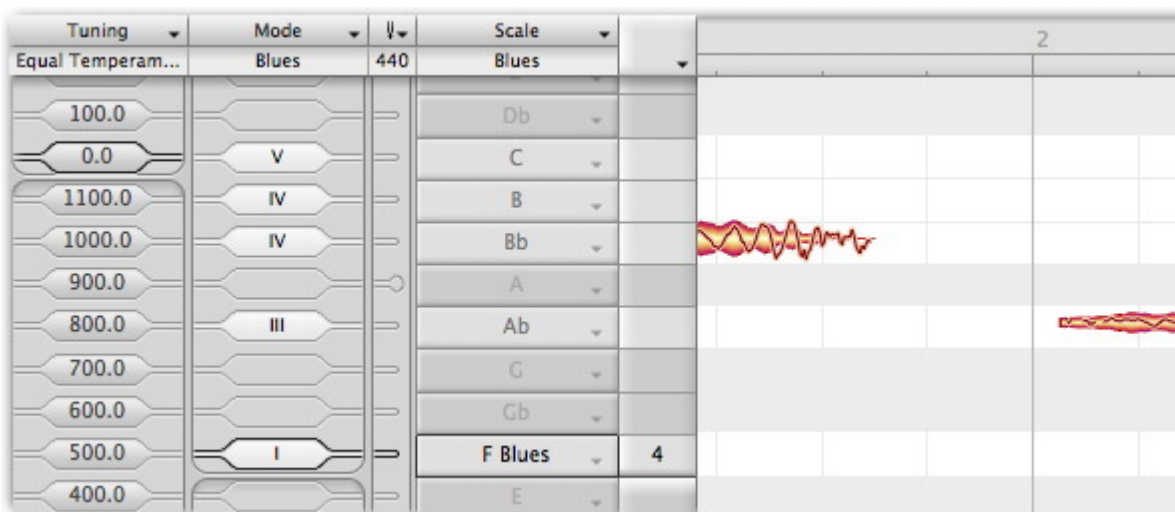
Editing modes

The mode ruler allows you to define the degrees of your scale – the mode degrees – and their use.

When you right-click on a degree in the mode ruler, the following context menu appears and defines for this degree:
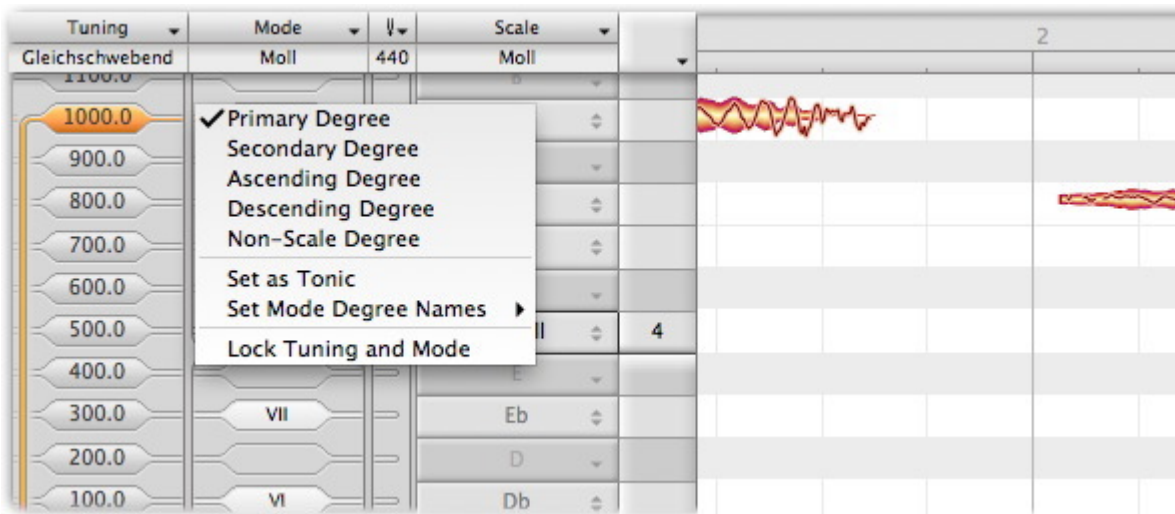
- Primary Degree: these degrees are always used in the scale.
- Secondary Degree: these degrees can additionally be used in the scale.
- Ascending Degree: these degrees are used going up the scale.
- Descending Degree: these degrees are used going down the scale. A simple example of a scale in which different notes are used depending upon whether you are ascending or descending is the melodic minor.
- Non-Scale Degree: these notes are defined in the tuning system but not however used in the scale. Non-scale degrees are grayed out in the ruler.
- Set as Tonic: the selected note becomes the first note (or 'tonic') of the scale. The tonic is indicated by a black outline.
- Set Mode Degree Names: here you can select whether the degrees of the scale are indicated by Roman numerals, solmization or their Indian designations. After double-clicking on a degree, however, you can type in any designation you prefer.
- Lock Tuning and Mode: by placing the mouse pointer alongside the degree indicator in the mode menu and dragging upwards or downwards, you can transpose the mode. Normally the transposition is performed without regard to the tuning of the mode.
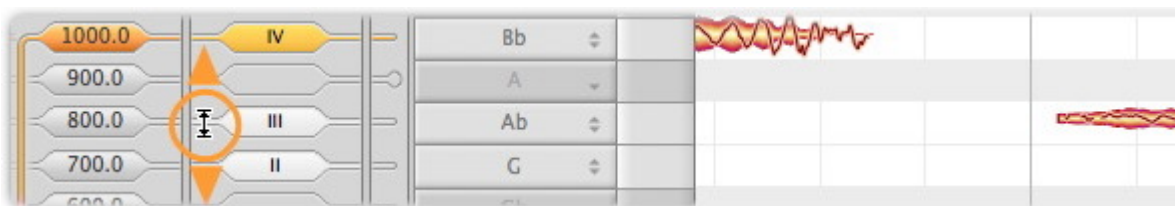
In the case of a scale exhibiting unequal temperament – one, in other words in which adjacent degrees are separated by varying numbers of cents, a crude transposition of the mode would disturb the ratios between the various degrees of the scale. Whenever this outcome is threatened, the 'Lock

Tuning and Mode' function is activated automatically so that the degrees of the scale move 'en bloc' and the intervals between the degrees are preserved. If you prefer, however, you can activate or deactivate this function manually.

The text box at the top of the mode ruler allows you to assign a name to your scale.
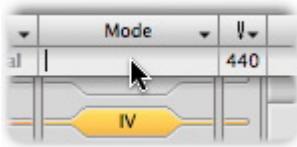
Editing intervals

The degrees of a scale are defined by a tuning system whereby each degree is a specific distance from the tuning basis. This distance is described as an 'interval'. The tuning therefore says nothing about the absolute pitch but simply expresses the ratios between the various degrees of the scale.

In the tuning ruler, you can see these intervals displayed in cents and can edit them. Just drag an interval upwards or downwards with the mouse to alter its tuning.
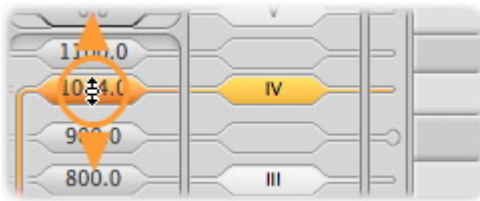
Intervals displayed as frequency ratios

Alternatively, you can define an interval as a frequency ratio. The interval of an octave, for example, is formed by the ratio 1:2. This is the function of the ratio ruler, which appears at the bottom of the screen when you click on an interval. Melodyne displays there the frequency ratios that are most relevant: i.e. the ones lying closest to the selected interval.
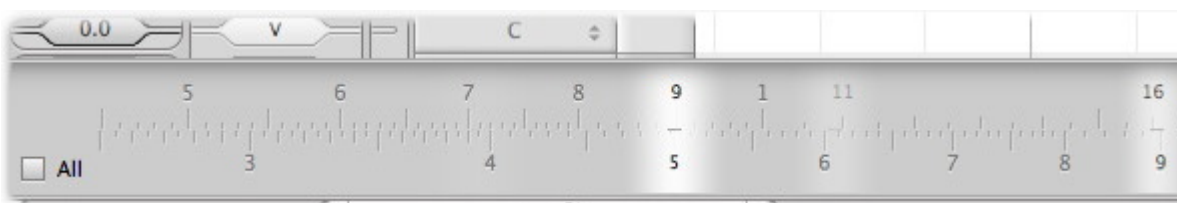
The brighter the highlighting, the closer the ratio to the selected interval. If you double-click on one of the ratios suggested, the ratio ruler engages and the cent display of the interval in question is updated to reflect your choice.

By dragging the upper half of the ruler, you can set any ratio you want. To move the entire ruler, drag the lower half. If you check the box marked 'All' in the ratio ruler, Melodyne will no longer preselect ratios for you but simply display all possible ratios that approximate to the current interval.

Defining intervals

Right-clicking on any interval in the tuning ruler opens the following context menu:
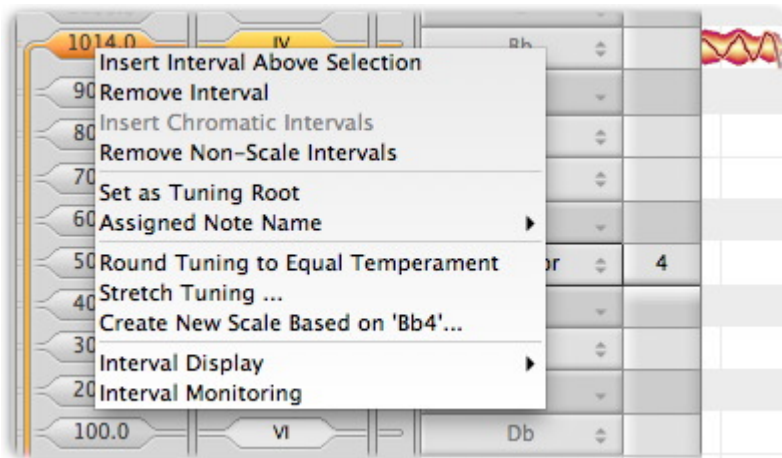
- Insert Interval Above Selection: inserts an interval above the interval selected.
- Remove Interval: removes the selected interval.
- Insert Chromatic Intervals: supplements the existing intervals chromatically through the addition of further intervals.
- Remove Non-Scale Intervals: removes all intervals foreign to the scale.
- Set as Tuning Root: makes the selected interval the tuning basis of the scale.
- Assigned Note Name: any new interval initially takes the name of the nearest note. Musically, however, it may be preferable to assign the name of the note above or below it, so this entry allows you to select an alternative name.
- Round Tuning to Equal Temperament: rounds all intervals to comply with equal temperament.
- Stretch Tuning: opens a window that allows you to apply stretched tuning to your scale (more on this below).
- Create New Scale Based On ...: opens a window that allows you to create from scratch a new scale (more on this below).
- Interval Display: this allows you to make the selected interval the display reference for your tuning system and deactivates the cyclic interval display. These two options only affect the display of the intervals and have no effect on their tuning.
- Interval Monitoring: if this option is checked, as you alter an interval you can hear the results.

The text box at the top of the tuning ruler allows you to enter a name for the tuning system of your scale.

Tip: If you hold down the Shift key and click between two intervals, you can insert a new interval at the position of the mouse cursor. Hold down the Shift key and double-click on an existing interval to delete it.
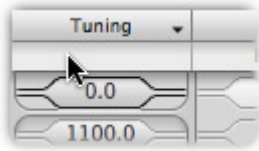
Creating your own scales

To create a scale from scratch, right-click on an interval in the tuning ruler and select 'Create New Scale Based on ...' from the context menu. A new window opens offering you the choice initially between a cyclic and non-cyclic scale.
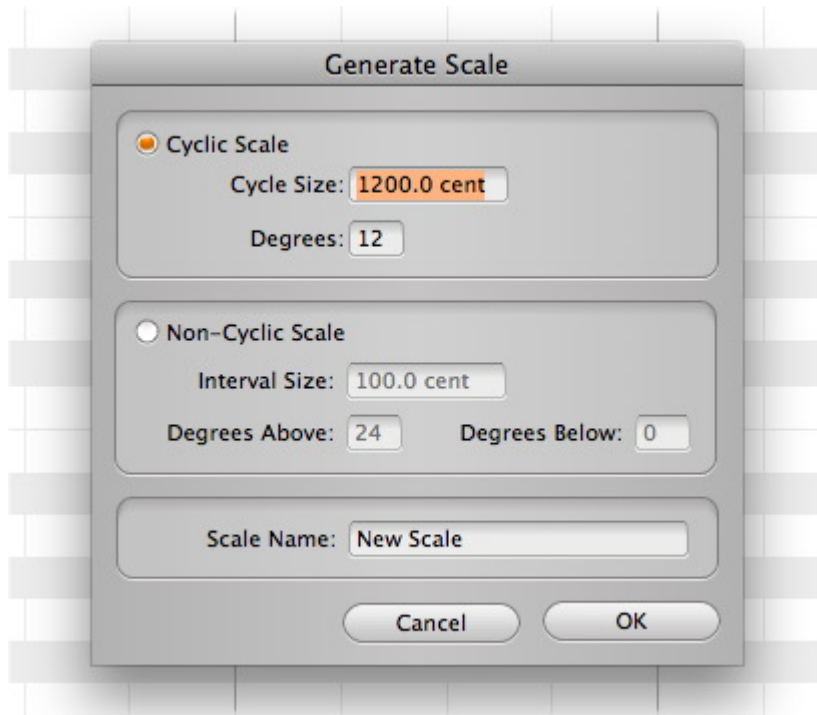
- Cyclic Scale: if you opt for a cyclic scale, you can specify the size in cents of the cycle and the number of degrees of which it is composed. For a scale that repeats every octave, for example, the cycle size would be 1200 cents. Tip: you can also enter the cycle size as a ratio: e.g. '2/1' for an octave cycle.
- Non-Cyclic Scale: enter the size of the intervals between adjacent notes and the number of degrees above and below the selected tonic.
- Scale Name: enter the name of your scale in the text box provided.

- If you exit with OK, Melodyne will generate a scale in accordance with your specifications and this will become the new scale grid for the current document. Exit with Cancel to revert to the current scale.

Working with stretch tuning

With upright and grand pianos, the higher registers are generally sharpened slightly and the lower registers flattened; the tuning, in other words, is stretched. If you now work in Melodyne with equal temperament, the desired stretch tuning will be lost. To avoid this, select Stretch Tuning ... from the context menu of the tuning ruler and a window will open allowing you to define the stretch curve.
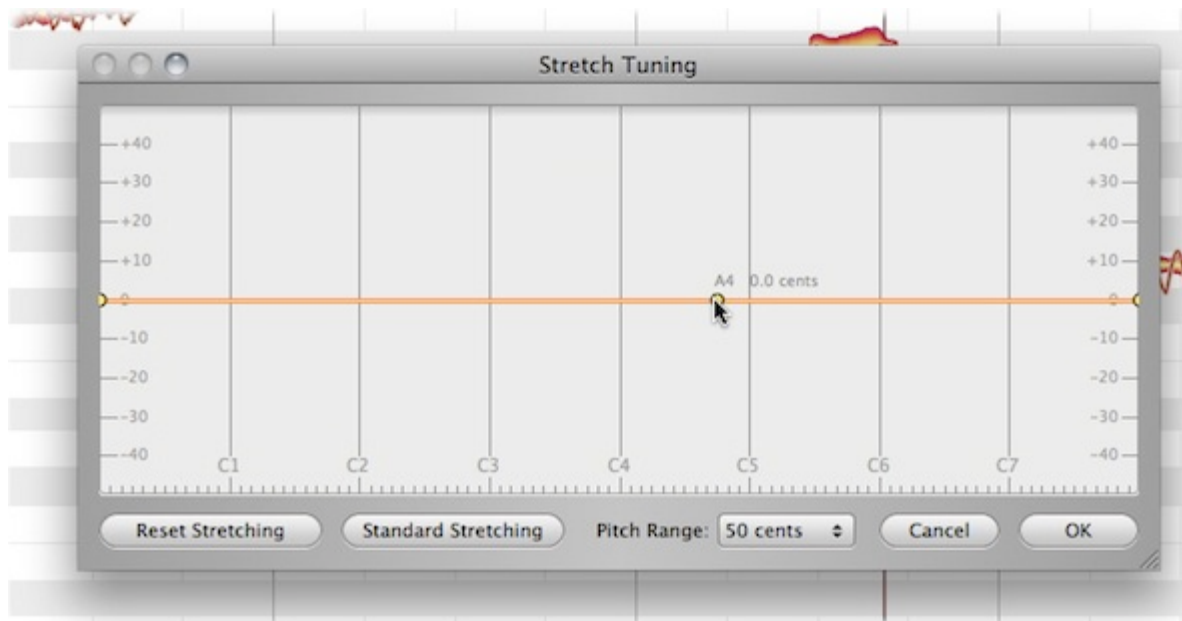
By double-clicking on the graph, you can create handles with which you can drag the curve to obtain the desired characteristic. Double-click on a handle to remove it.

- Standard Stretching: if you click this button, Melodyne will generate a typical stretch curve, which you can then further adjust should you so desire.
- Reset Stretching: restores the curve to its starting position.
- Pitch Range: defines the maximum deviation and therefore the vertical range of the curve.
- Exit with OK to implement the stretch curve you have defined or with Cancel to discard your changes.

Identifying scales with the scale detective

In this tour, you will learn how to identify, extract and use the scale of a recording with the help of the scale detective.

What the scale detective does

The scale detective captures for you the individual character of a scale. To do this, it analyzes the intervals found in the audio material as well as their implications for the mode of the scale. The result is a scale grid that represents the music analyzed in an optimal fashion. But, naturally, you are also free to edit the extracted scale as well as save it and apply it to other material — in this way imbuing a second recording with the special character of the first.

Showing the scale detective and adjusting its sensitivity

Right-click the pitch ruler and select Scale Editor > Scale Detective from the context menu.
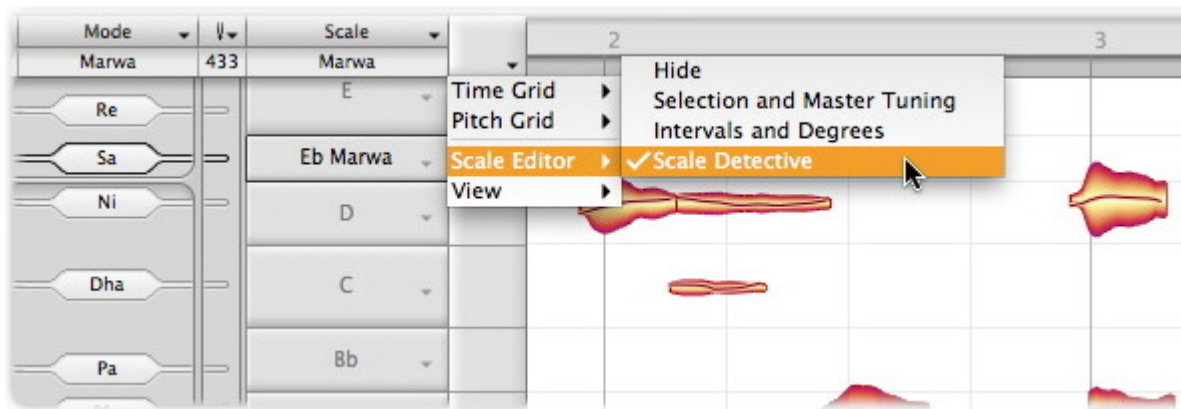
A new column appears at the extreme left of the screen displaying the findings of the scale detective. The 'mountains' there represent the intervals detected: the higher the mountain, the more importance is attached by Melodyne to the role of the interval in question in the mode of the scale.

The slider at the top of the scale detective column governs the sensitivity of the analysis and with it the number of intervals detected and displayed. The intervals displayed should correspond as closely as possible to the intervals actually played. Adjust the sensitivity until only as many intervals are displayed as the scale in your view contains.

The analysis will take into consideration only the notes selected, unless no notes are selected, in which case all will be considered.

Scale detection options

A right-click on the scale detective column opens the following context menu:
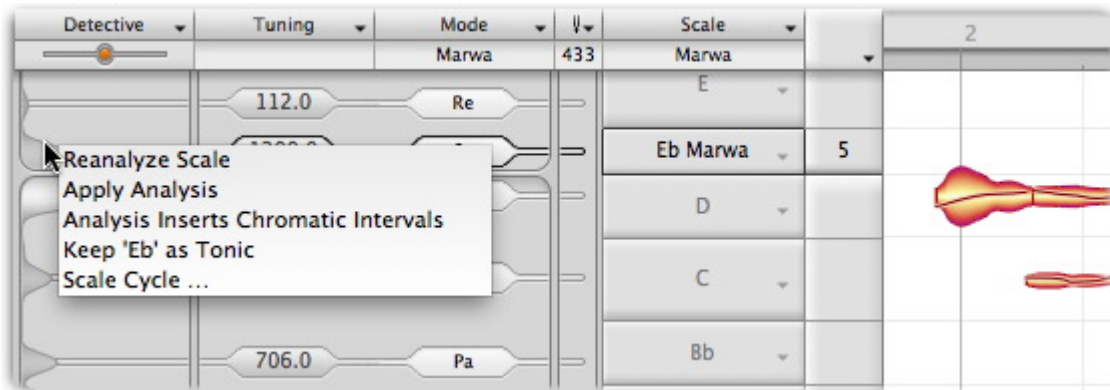
- Reanalyze Scale: this command requires the scale detective to conduct a fresh analysis of the scale. The analysis will take into consideration only the notes selected, unless no notes are selected, in which case all will be considered.
- Apply Analysis: if this option is selected, the results of the analysis will invariably be applied directly to the current scale grid.
- Analysis Inserts Chromatic Intervals: if this option is selected, the intervals analyzed are supplemented chromatically by others, which are then regarded as intervals foreign to the scale (or 'non-scale degrees').
- Keep ... as Tonic: if you click and drag the scale detective column vertically, you can alter the tonic upon which the analysis of the audio material is based. When you do so, this option is selected automatically. The next analysis will then be based upon the tonic you have selected rather than the one indicated by Melodyne's current analysis of the material.
- Scale Cycle: opens a dialog box that allows you to choose between a cyclic or non-cyclic analysis.
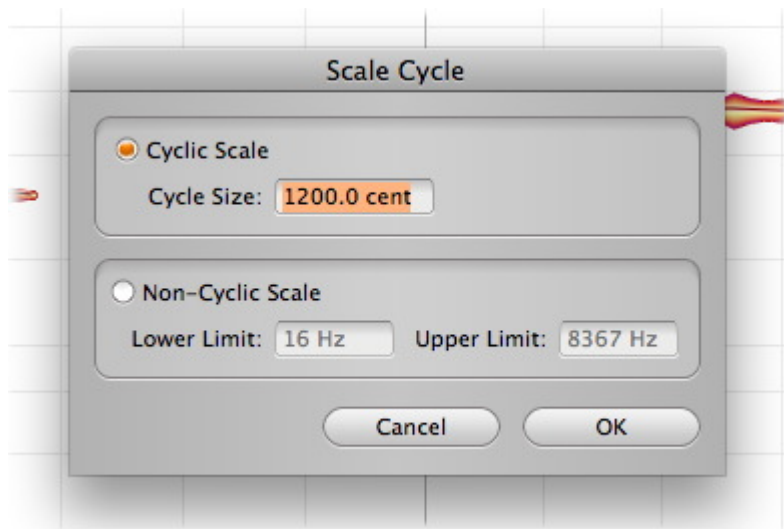
- Cyclic Scale: selects a cyclical scale analysis. You can enter the size of the cycle in cents or as a ratio: e.g. "2/1" for a scale that repeats every octave.
- Non-Cyclic Scale: selects a non-cyclic scale analysis the upper and lower limits of which in hertz (Hz) you are free to choose. The analysis will then consider only notes lying within the range specified.
- When you exit the scale cycle dialog with OK, a fresh analysis of the material will be conducted at once based upon your new settings. If, on the other hand, you select Cancel, Melodyne will revert to the existing analysis.

Applying the detected scale.

To apply the detected scale to the current scale grid, check the option 'Apply Analysis' in the context menu of the scale detective column on the extreme left of the screen. You can then edit, save and apply to other material your new scale just like any other.

Correcting intonation by macro

In this tour, you will learn how to correct out of tune notes or unwanted wavering in pitch quickly and easily with the correct pitch macro.

The procedure

Select the notes you wish to edit. If no notes are selected, macro editing will by default affect all notes.

To open the macro, click on the Correct Pitch button in the top right-hand corner of the window.
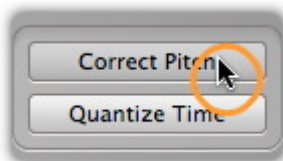
Here, with the upper slider, you can apply a degree of correction ranging from 0% (no influence) and 100% to the pitch center of the note (or notes) selected. By default, such notes are moved towards, or to, the nearest semitone, but if you check the option "Snap to (the selected scale)", notes foreign to the scale will be ignored, and, depending upon the setting of the intensity slider, notes will move a certain distance towards, or all the way to, the nearest degree of the scale in question.

A word of caution here: notes often fluctuate slightly in pitch, so their position is based on a mean pitch that Melodyne has to calculate. This mean pitch, or pitch center, forms the basis for pitch correction. If a note wavers slightly in pitch, it cannot be guaranteed that after 100% correction has been applied it will sound right at the new pitch – especially since what is the correct pitch at any given moment depends upon the musical context. The processes involved are no different in principle whether intonation is corrected automatically with the correct pitch macro or by hand with the pitch tool.
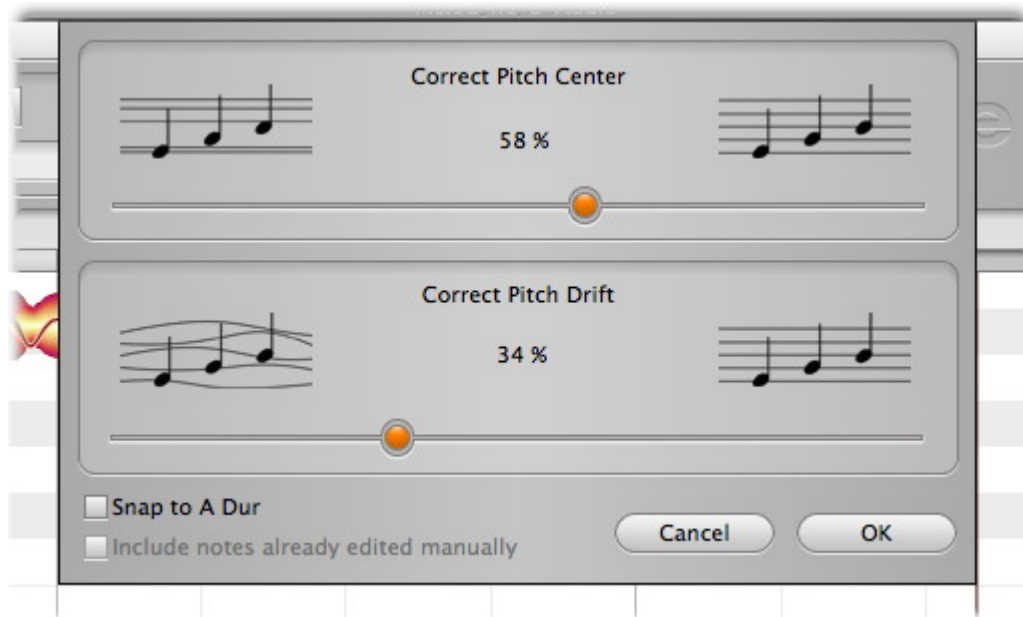
With the lower slider, you can progressively reduce the amount of pitch drift exhibited by the notes in question. By pitch drift, we mean the kind of slow wavering in pitch that is symptomatic of poor technique. More rapid fluctuations in pitch, such as pitch modulation or vibrato, remain unaffected.

You can modify both correction parameters in real time as the audio plays back; and hear, but also see (by the movement of the blobs in the editing area), the effect of different settings.

If you have already fine-tuned notes using the pitch tool, Melodyne will assume you are satisfied with the results; this means that, by default, if you now open the correct pitch macro with no notes selected and begin making changes, all notes will be affected except these. By default, notes that have been tuned manually are not affected by the macro. If you wish the pitch of these also to be affected by the macro, check 'Include notes already edited manually'. The option is grayed out, of course, as being of no relevance, if no manual editing of intonation has been performed.
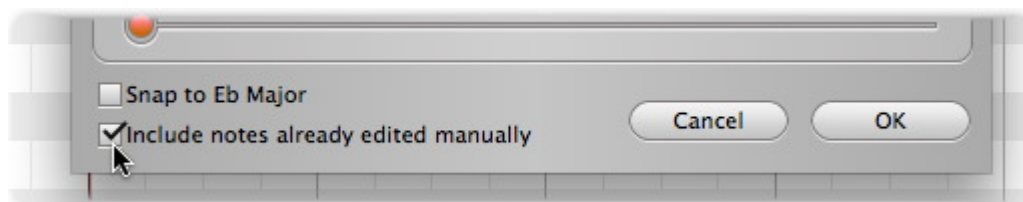
Exit with OK to keep your changes or Cancel to discard them. Naturally the fact that you have used the correct pitch macro in no way precludes your fine-tuning notes at any time subsequently by hand.

If you select a note that has already been edited using the macro and then open the macro again, the settings previously applied to it will be displayed; the macro remembers, in other words, the

parameters previously applied to each note. If the current selection includes notes to which different settings have been applied, a mean value for each parameter will be displayed.

Even after exiting with OK, you can still reverse the effects of the macro editing by using the Undo function.

Correcting timing using the macro

In this tour, you will learn how to work with the quantize time macro in order to correct the timing of notes swiftly and easily.

Correcting timing: the 'what' and 'where' of it

Before examining the operation of the quantize time macro, we should clarify a few basic concepts and relationships. To understand these better, let's begin by selecting the timing tool.

When the timing tool is active, a position anchor (in the shape of a vertical red line) appears near the start of each blob.
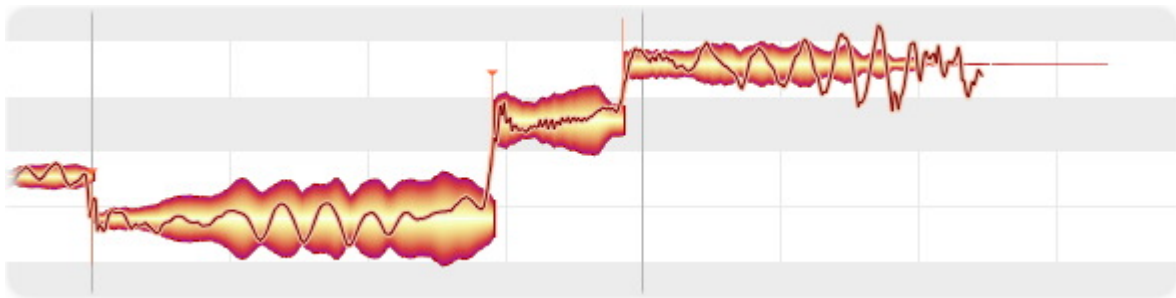
Now check the 'Show Intended Notes' option in the View menu.

Grey boxes enclose each blob.
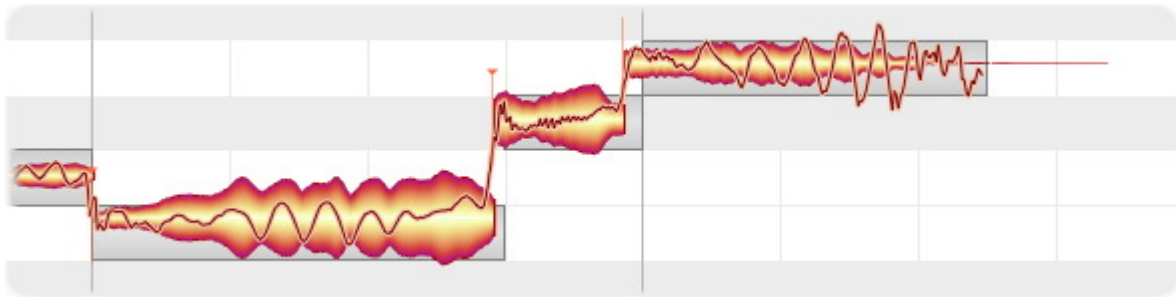
When it first analyzes the material, Melodyne calculates for each note two parameters of relevance to the process of time correction. The first is the intended musical beat of the note; this is indicated by the start of the grey frame enclosing the blob. As you can see, the start of the frame invariably coincides with a grid line.

The second is the actual starting position of each note, which is indicated by the position anchor. This will not necessarily be aligned with the left-hand extremity of the blob. Think of a brass instrument, for example, where each actual note is often heralded by a certain amount of wind noise. Admittedly this

noise belongs to the note, but from the standpoint of timing what is of relevance is the moment the sound really unfolds and the pitch first becomes discernible; that is the timing-critical moment.

If you quantize notes with the quantize time macro, the starting point of each note will move towards the left-hand side of its grey frame, with the intensity slider determining whether it goes all of the way, or only part of the way, there – that is to say: to the beat assigned it.
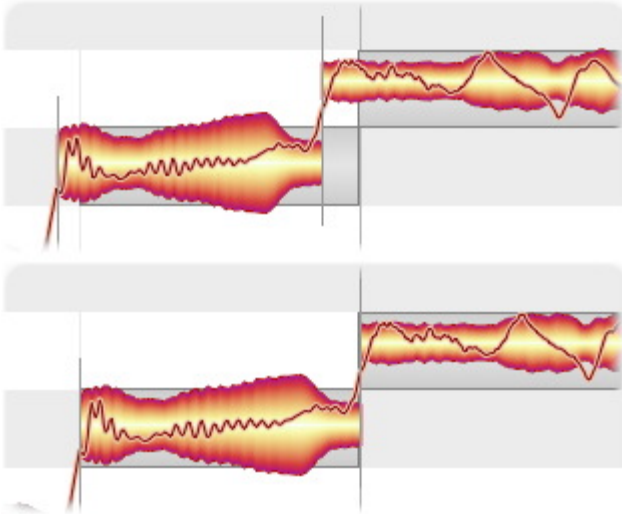
Use of the quantize time macro

Select the notes you wish to edit. If no notes are selected, macro editing will by default affect all notes.

To open the quantize time macro, click on the Quantize Time button in the top right corner of the window.
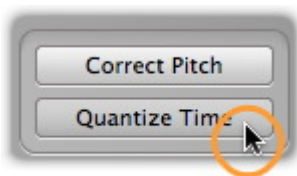
First, the groove reference (if any) that will govern the time correction must be selected.
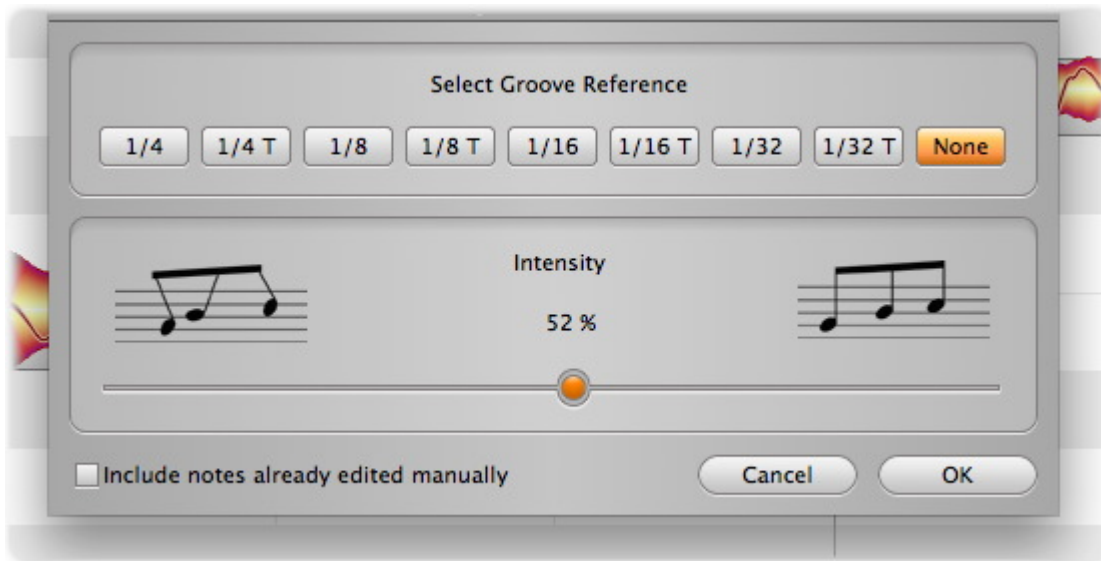
If None is selected, the target (or ultimate destination) of any quantization will be the left-hand edge of the grey frame, as already described. This is invariably aligned with the grid line that represents the beat to which Melodyne, in the course of its analysis, assigned the note. (On the whole, the system functions very well; but it can happen that Melodyne gets it wrong, and that after quantization you have to move the note manually to the preceding or following beat.) By selecting None, in other words, you are telling the quantize time macro to move notes to (or towards) the beats assigned them by Melodyne editor based on its own analysis of the material.

None is not the only option, of course, which explains the presence of the radio buttons to its left. The 'T' next to the note values stands for the corresponding triplet. If you select 1/4 as the groove reference, to give one example, the grey frames will move to the nearest quarter-note (or 'crotchet') and this will then become the ultimate destination for any quantization.

Please note that the time correction macro works differently, and in a more musical fashion, than the quantization typically offered by MIDI sequencers. Instead of simply causing all notes to snap to the selected grid, it edits the points of rhythmic emphasis of the selected notes. If, for example, you take a passage containing successions of sixteenth notes and quantize it to quarter notes, the beginning of each succession of sixteenth notes will be moved to the nearest quarter note. The timing of the semiquavers within the sequence, however, remains unaltered. If you wish to tidy that up as well, you can do so in a second pass, taking each semiquaver sequence in turn and using sixteenth notes as the quantization factor.

The intensity slider determines what percentage of the distance to this ultimate destination the notes will travel in the course of quantization. If you select 0%, for example, they'll not budge; 50%, and they'll go half way; 100%, and they'll travel the full distance, ending up precisely on the beat. You can

modify both the groove reference and the intensity of the quantization in real time as the audio plays back; and hear, but also see (from the movement of the blobs in the editing area), the effect of different settings.

If you have already finely adjusted the position of notes using the timing tool, Melodyne will assume you are satisfied with the results; this means that, by default, if you now open the quantize time macro with no notes selected and begin making changes, all notes will be affected except these. If you wish the position of these too to be affected by the macro, check 'Include notes already edited manually'. The option is grayed out, of course, as being of no relevance, if no manual editing of note positions has been performed.
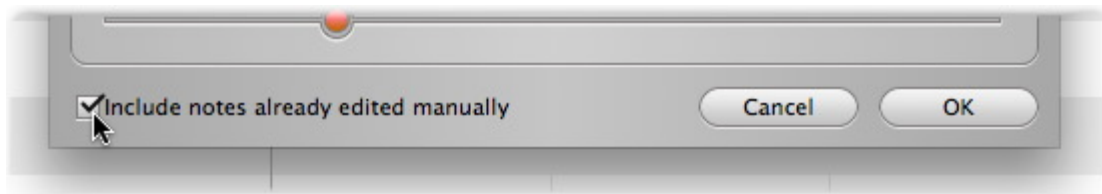
Exit with OK to keep your changes or Cancel to discard them. Naturally, the fact that you have used the quantize time macro in no way precludes your moving notes at any time subsequently by hand.

If you select a note that has already been edited using the macro and then open the macro again, the settings previously applied to it will be displayed; the macro remembers, in other words, the parameters previously applied to each note. If the current selection includes notes to which different settings have been applied, a mean value for each parameter will be displayed.

Even after exiting with OK, you can still reverse the effects of the macro editing by using the undo function.

A note about time quantization (whether double-clicking with the timing tool or using the macro): With polyphonic material, as well as anchors with triangles, there are anchors without them. Notes the anchors of which have no triangle are in a temporal relationship with another note with a triangle and are therefore treated differently during quantization. If you play a C on the piano and immediately afterwards an E, the C can also contain starting transients belonging to the E. The C here gets a marker with a triangle; the E, one without. To move these two notes for no good reason by different amounts during quantization might not make much sense musically and could even produce tonal artifacts.

The following rules therefore apply: If during quantization both notes are selected, the note with the triangle and that without it will move towards the marker by exactly the same amount. There is here, in other words, a master-slave relationship. If you have only selected the note with the triangle marker, only this will be quantized. If you have only selected the note without the triangle marker, no quantization will take place. The same goes for a multiple selection. Naturally, you can move all and any of the notes manually if you are not satisfied with the way they sound together.

Working with the main tool

In this tour, you will learn how to work with Melodyne's main tool: the tool with the arrow symbol.

Like most of the other tools, the main tool is context-sensitive and therefore exercises different functions depending upon its position relative to the blob. It has no unique functions but simply offers a different means of access to functions it shares with the more specialized tools, combining them in such a way that you can perform the most essential editing tasks without ever having to change tools.

Modifying pitch and timing

Select the main tool from the toolbar. You'll find this beneath the Help item in the menu or in the context menu that opens when you right-click in the editing area.

With the main tool, move the arrow to a point near the center of a blob and press and hold the mouse button as you drag it upwards or downwards (to alter its pitch) or left or right (to move it forwards or backwards in time). It is the initial movement (whether vertical or horizontal) that decides whether the pitch or timing of the note is altered. Before changing axis, you must first release the note. If you hold down the [Alt] key as you drag the note, the pitch or time grid, even if active, will temporarily be ignored, allowing you to position the note exactly where you want it.

While you are dragging a note up or down, you will hear the frozen sound of the note at the point where you clicked. If, whilst dragging, you move the mouse to the right or left, you can put other parts of the note under the acoustic microscope.
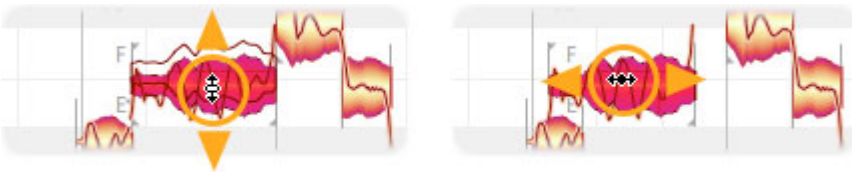
Modifying note lengths

In the View menu, check the option Show Blob Info. Zoom in on a few individual blobs, so that you can study them more closely. Now, as you move the mouse pointer over a blob, thin lines appear indicating the zones in which the main tool performs particular functions. For illustrative purposes, the lines here have been drawn more boldly than in the program itself. The central area you already know about. This has to be distinguished from the front, back and upper regions of the blob. As you move the mouse pointer from one of these regions to another, it changes its appearance to emulate whichever of the more specialized tools is most appropriate to that zone – adopting its functions at the same time.
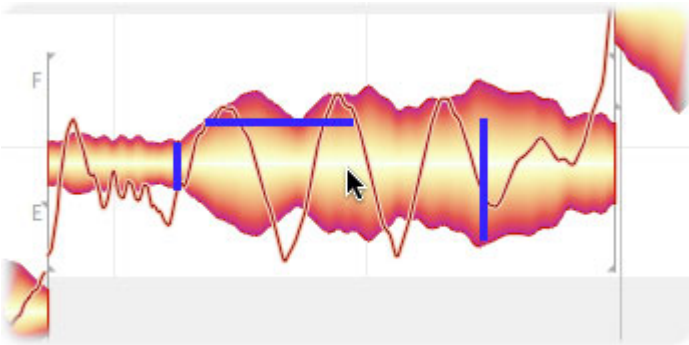
Drag the front part of the note to the right or left. Hold down the [Alt] key as you do so if you wish to override an active time grid. Now only the beginning of the note moves; the end remains anchored, so the note is either being stretched or compressed.
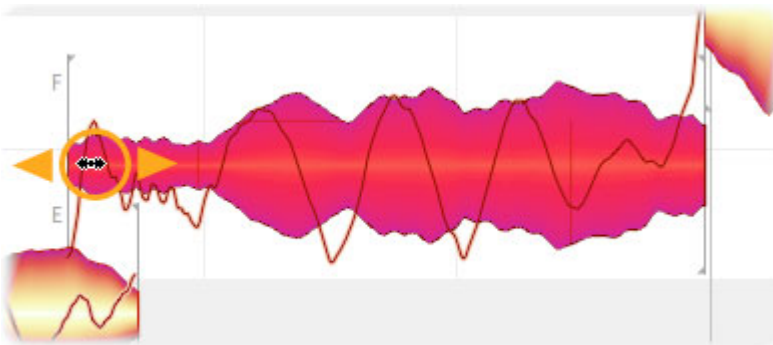
In the same way, you can move only the rightmost part of the blob (corresponding to the end of the note).
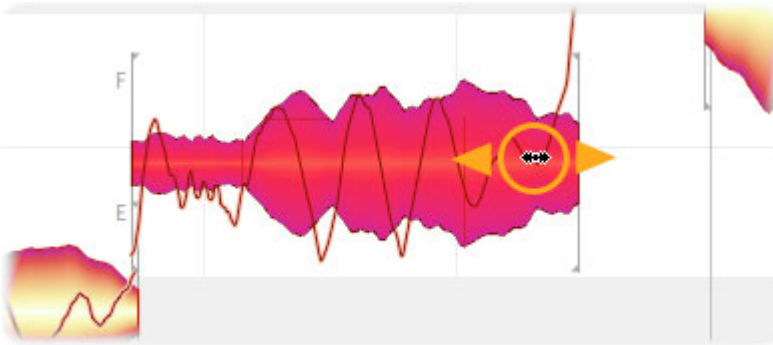
Notice that as you move the beginning or end of a note in this way, the preceding or following note, if adjacent, is also either stretched or compressed by the same amount to avoid either the two notes overlapping or white space (silence) appearing between them. This happens whenever a pitch transition between two notes has been detected. By moving the adjacent note as well, Melodyne ensures that discontinuities are avoided and the musicality of the phrasing is preserved.
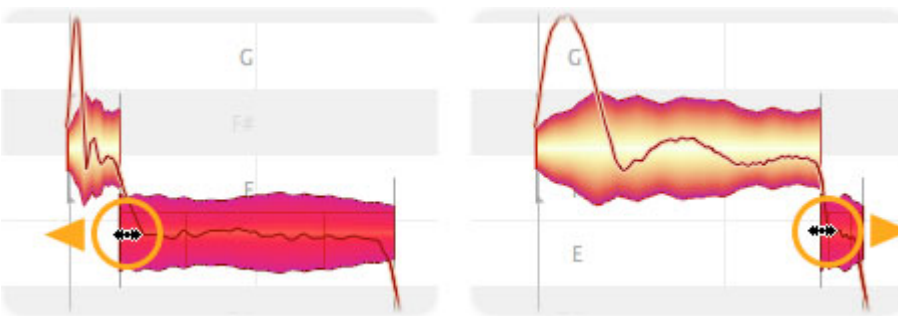
You can if you wish deactivate this pitch transition and, with it, the mutual interdependence of the two notes by cutting one of the notes and then pasting it back, for example, or by dragging either note to a new location. When you do this, a bracket is displayed at the point of rupture as illustrated below; this indicates that the two notes are now fully independent.
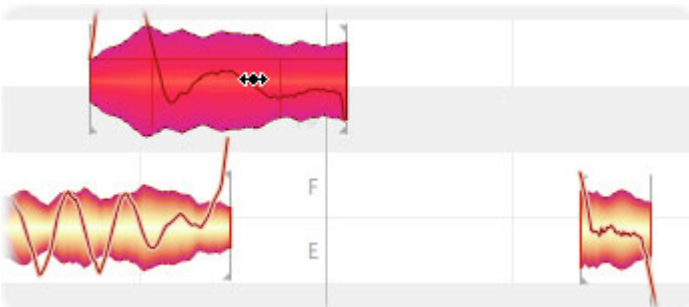
Editing note separations

If you move the mouse pointer to the upper part of a note (above the horizontal line), the main tool adopts the appearance, and emulates the functions, of the note separation tool. If you double-click now, you can create a note separation – i.e. slice the note in two.
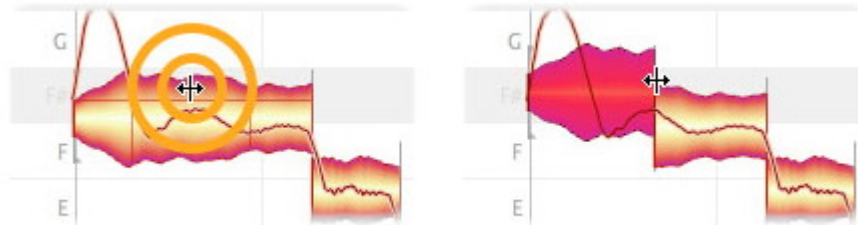
Don't be surprised if the two notes that result move apart in pitch: this is because a new tonal center is calculated for each of the newly created notes, and that may differ from the tonal center they shared when they were one note. In such cases, each therefore moves to a new vertical position based on its newly calculated pitch center.

You can move an existing note separation horizontally with the note separation tool. For this purpose, check Show Note Separations in the View menu.
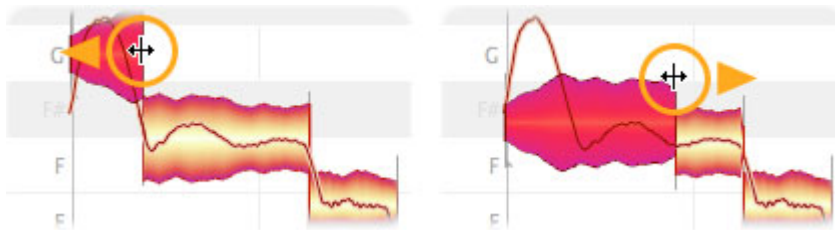
You can double-click a note separation to remove it.
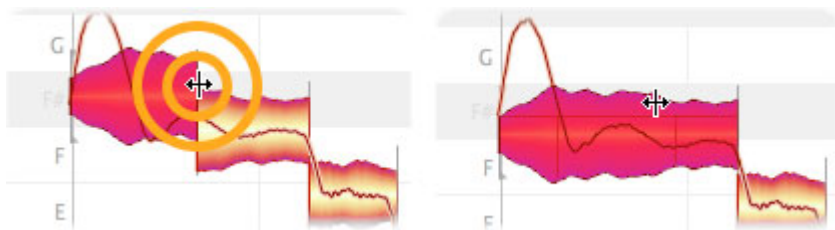
If you select several notes and move a note separation, the note separations of the other selected notes will also be moved. If you double-click one of the note separations to remove it, those of the other selected notes will also be removed.

If you have selected several notes that overlap, you can simultaneously insert a note separation at the same point in all of them, as well as move or remove one.

Editing pitch

In this tour, you will learn how to work with Melodyne's pitch tool.

The pitch tool

Choose the pitch tool from the toolbar or the context menu in the editing area.

Drag a note up or down to alter its pitch. If the note is one of several selected, all the notes in the selection will move up or down en bloc.

Depending upon which of the options No Snap, Chromatic Snap and Scale Snap in the pitch grid menu is selected, notes can either be moved freely or will snap to the nearest semitone or note of the selected scale.

Hold down the [Alt] key as you move notes if you wish the selected grid to be ignored; this will allow you to position the note freely.

Monitoring

As you move a note in pitch, you will hear the 'frozen' sound of the note at the position clicked. By moving the mouse to the left or right whilst doing so, you can put other parts of the note under the acoustic microscope.

If several notes sound simultaneously at the time, you can hear not only the note being moved but also its harmonic context, which is very useful if, for example, you wish to construct chords. To do this, press and hold the [Command] key once you have begun to move the note and you will hear the frozen sound of all the notes of the chord at the position in question.

The inspector

As an alternative to editing a selected note with the tool, you can enter the desired value in the inspector beneath the toolbar. Drag the existing value to change it or double-click the box and type in a new value.

In the case of the pitch tool, you can enter the pitch in semitones in the left-hand box and in cents in the box on the right. If you have selected several notes that differ in pitch, three hyphens are displayed in the boxes – followed, as you click in the box and drag, by values describing the extent of the relative change.

When typing values into the semitone field, you can enter either absolute values (C3, D4 etc.) or relative ones (+2, -1, etc.).

Quantizing pitch to the semitone

You can see that a note is sharp or flat from the fact that it doesn't lie plumb in the middle of any of the horizontal lanes in the editing display. These represent the notes of the chromatic scale, the note in question, in each case, being indicated by the vertical pitch ruler to the left of the editing area. If, with the pitch tool selected, you now double-click the offending note, it – and any other notes selected at the same time – will 'snap to the grid', which means each will move instantly to the very center of the lane representing the semitone nearest to it in pitch.

A word of caution here: notes often fluctuate slightly in pitch, so their position is based on a mean

pitch that Melodyne has to calculate. This value, which we call their pitch center, forms the basis for any pitch quantization. If a note fluctuates slightly in pitch, it cannot be guaranteed that after snapping directly to the nearest semitone during quantization it will sound 'right' at the new pitch – especially since 'correct pitch' is not an absolute but something that depends at all times upon the musical context.

Pitch transitions

When one note follows another and a tonal relationship between the pair has been detected, the pitch curve is drawn through them, and in the area between them a thick orange line is displayed that represents the pitch transition.
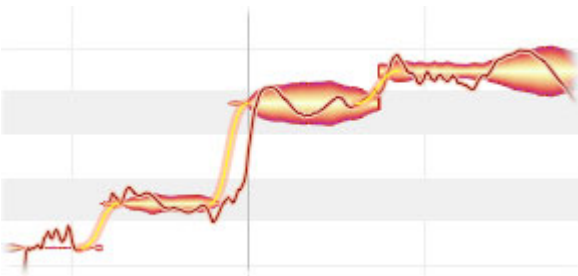
If you position the pitch tool over the rear part of a note, click and drag vertically, you can make the pitch transition steeper or less steep.
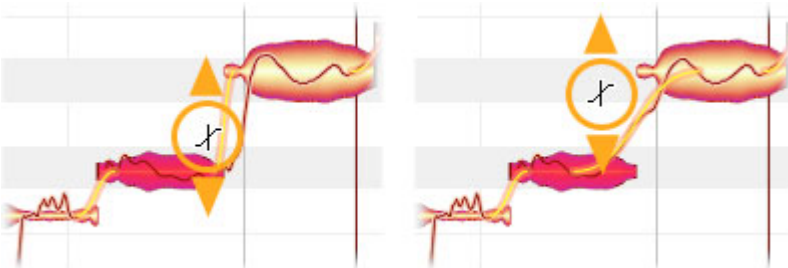
If, with the pitch tool selected, you double-click on the end of a note, you will switch off the pitch transition between it and the note that follows; the orange line will disappear. If you double-click a second time, you will switch the transition back on again.
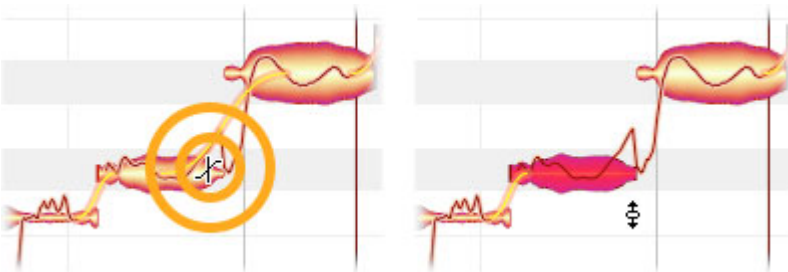
Resetting specific edits and introducing random deviations

In the Edit > Reset Specific Edits > Pitch cascading menu, you will find a variety of commands that can be used to reverse the effects of particular types of pitch editing, thereby restoring specific aspects of the notes selected to their original state. The commands apply only to the current selection and are grayed out whenever no editing of the type in question has yet been applied to the notes concerned. Note that these commands operate entirely independently of the normal undo function!

With the commands in the Edit > Add Random Deviation sub-menu, you can randomly alter the pitch of the notes currently selected – introducing either slight, moderate or drastic deviations from the original intonation. You can also employ the commands several times in succession to intensify the effect. These commands are useful when, for example, you've doubled a track in order to obtain a fuller or 'fatter' sound. By introducing random deviations, so that the copy is no longer identical to the original, you can simulate more realistically the effect of two performers playing or singing in unison. All these commands affect only the selected notes and are therefore greyed out if no notes are selected.
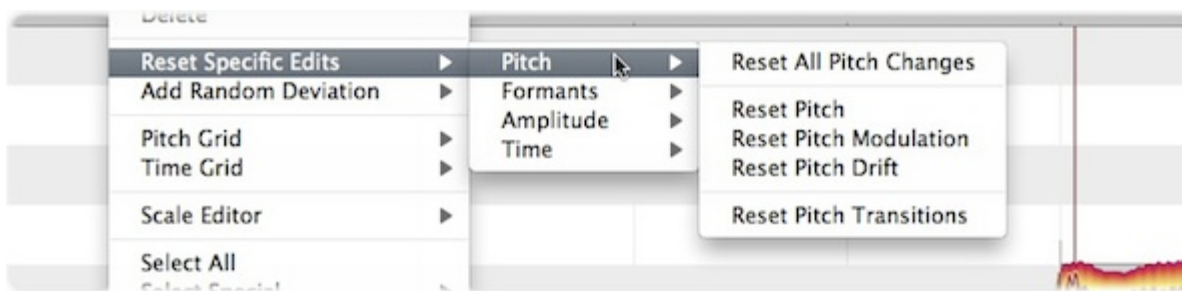
Editing pitch modulation and drift

In this tour, you will learn how to use the sub-tools or assistants of the pitch tool to edit pitch modulation and pitch drift.

The term 'pitch modulation' covers rapid and usually intentional variations in pitch such as trills or vibrato. 'Pitch drift' is our term for slow fluctuations in pitch of the kind that are usually unintentional and symptomatic of poor technique.

The tools

Select from the toolbox or the context menu in the editing area either the pitch modulation or the pitch drift tool. The pitch modulation tool is the one in the middle and the pitch drift tool the one at the bottom.

With the tool selected, click on a note and – without releasing the mouse button – drag up or down. The note edited could be part of a multiple selection, in which case you will be editing all the selected notes simultaneously. Watch as the pitch curve changes shape.
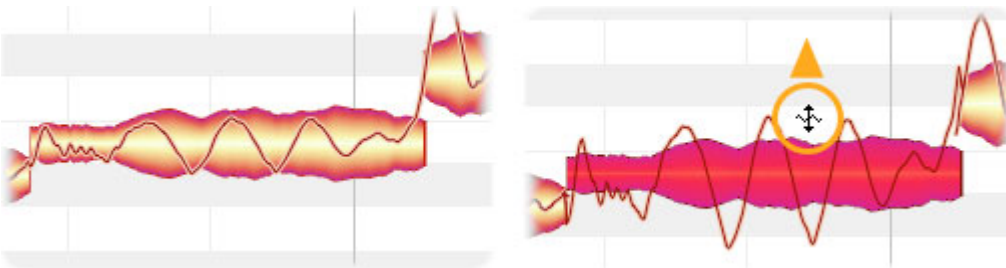
Drag far enough downwards and the modulation or drift are reduced to zero and then inverted.
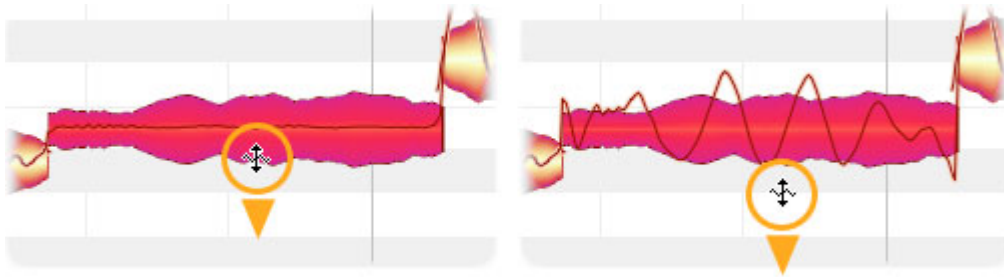
If you double-click a note with the pitch modulation or pitch drift tool, you will restore the pitch modulation or drift of the original recording, assuming you've changed it, otherwise eliminate it altogether. Subsequent double-clicking toggles between the original modulation or drift and none. If you eliminate altogether both the modulation and the drift, you will get an unnaturally flat monotone that can be suitable for effects.
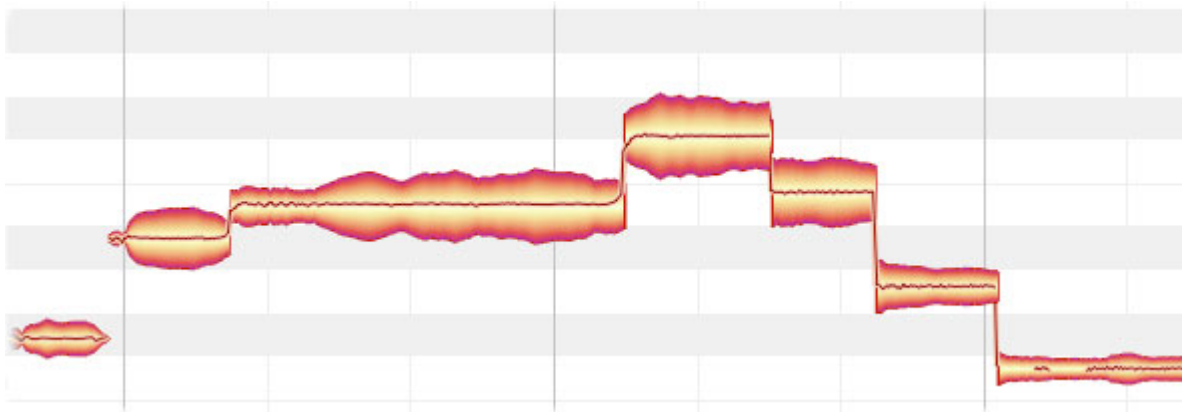
The inspector

As an alternative to editing selected notes with these tools, you can enter the desired values in the inspector beneath the toolbar. Drag the existing value to change it or double-click on it and type in the value desired.

With the pitch modulation or pitch drift tools selected, the inspector displays values in percentage terms. 100% represents in this case the original modulation or drift, 0% a straight line, and -100% the

same curve inverted with its axis unchanged. If you have selected several notes with different values, three hyphens are displayed in the box – followed, as you click in the box and drag, by values describing the extent of the relative change.

The Reset commands

In the Edit > Reset Specific Edits > Pitch cascading menu, you will find a variety of commands that can be used to reverse the effects of particular types of pitch editing, thereby restoring the notes selected in specific respects to their original state. These commands relate always to the current selection and are grayed out if no editing of the type in question has been applied to the selected notes. Note that these commands operate independently of the normal undo function!
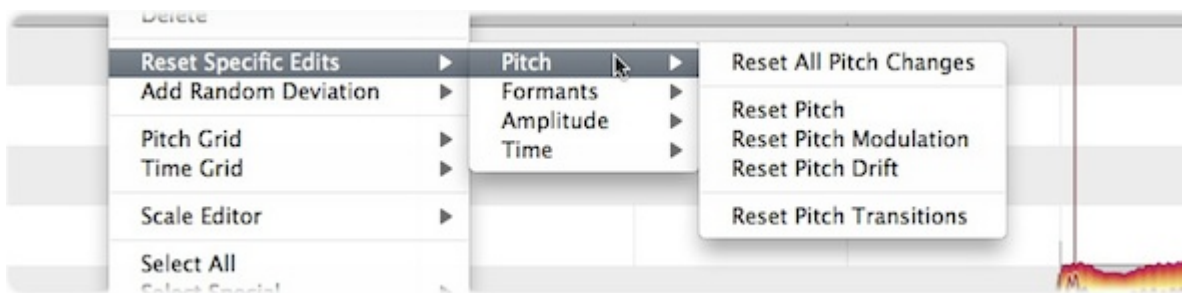
Shifting formants

In this tour, you will learn how to shift the formants of notes. Formants are areas of emphasis or attenuation in the frequency spectrum of a sound that are independent of the pitch of the fundamental note but are found always in the same frequency ranges. They are characteristic of the tone color or 'timbre' of each sound source, and interesting effects can be produced by shifting them, such as making a man's voice sound like that of a woman, and vice versa. The parallel transposition of fundamentals and formants is what was responsible for the dreaded 'Mickey Mouse' effect you used to get when you played back a record at a speed greater than that intended by the manufacturer.

Editing formants

Select from the toolbox or the context menu in the editing area the formant tool.

With the tool selected, click on a note and – without releasing the mouse button – drag it up or down. As you do so, the beam that is superimposed on the note when the formant tool is active also moves up and down.
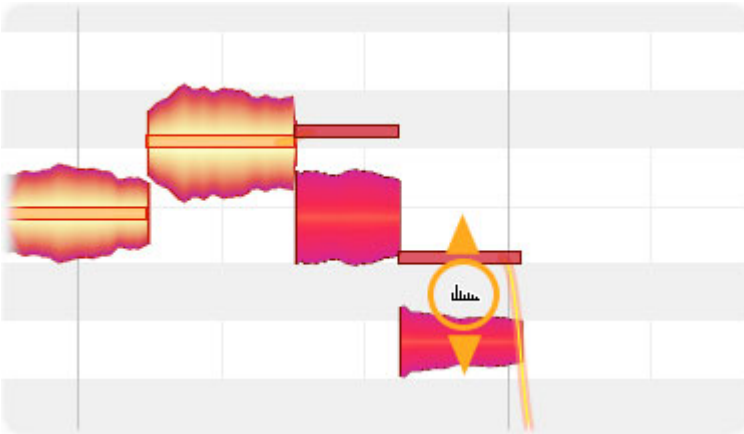
The position of the beam indicates the distance the formants have traveled from their original pitch – in the inspector this is expressed in cents (hundredths of a semitone) – as well as the direction. You can shift the formants a few cents (for the finest of nuances) or several thousand (for a drastic denaturing of the sound). Double-clicking on a note with the formant tool selected, restores to their original frequencies its formants as well as those of any other notes selected.

The inspector

As an alternative to editing selected notes with the tool, you can enter the desired values in the inspector, which you will find beneath the toolbox. Drag the existing value to change it, or double-click on it and type in the value desired.
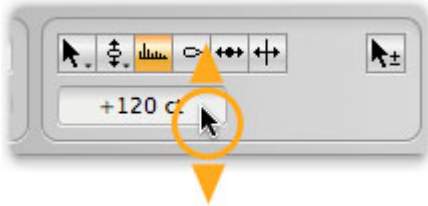
If you have selected several notes that differ in the amount of formant shifting that has been applied to them, three hyphens are displayed in the boxes – followed, as you click in the box and drag, by values describing the extent of the relative change.

Formant transitions

A thick orange line appears between the formant beams of adjacent notes as soon as you shift the formants of one note more, or in a different direction, than those of the other. This line represents the formant transition between the two notes.
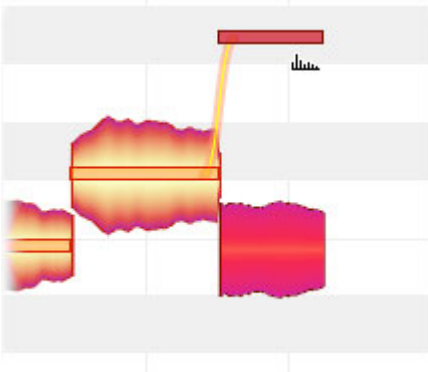
If you move the formant tool to the end of the first note, it changes into the formant transitions tool. Dragging vertically with this tool governs the speed of the formant transition, which is indicated by the steepness of the connecting line.
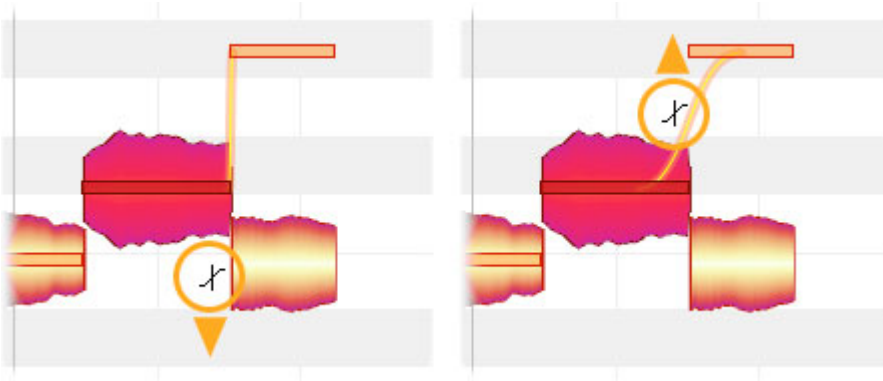
Double-clicking with the formant transitions tool at the end of a note deactivates the formant transition and the orange line disappears. A further double-click reactivates the transition.
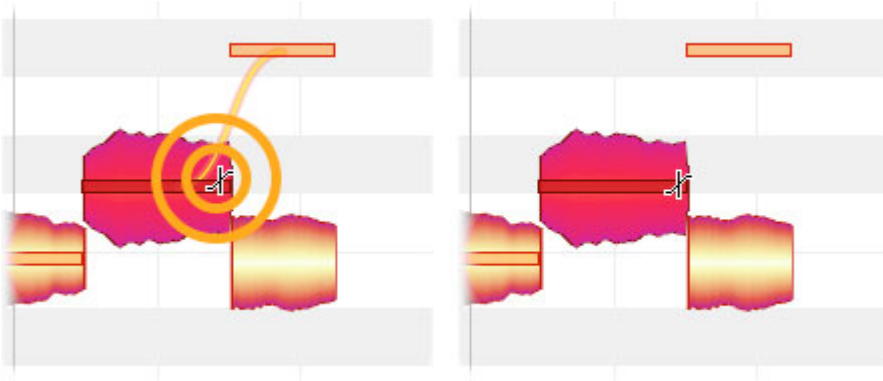
The Reset commands

In the Edit > Reset Specific Edits > Formants cascading menu, you will find a pair of commands that can be used to reverse the effects of any shifting of formants or editing of formant transitions you may have performed, thereby restoring the notes selected in these respects to their original state. These commands relate always to the current selection and are grayed out if no editing of the type in question has been applied to the selected notes. Note that these commands operate independently of the normal undo function!

Editing amplitude and muting notes

In this tour, you will learn how to use the amplitude tool to alter the volume of, and to mute, notes.

Adjusting the amplitude

Select from the toolbox or the context menu in the editing area the amplitude tool.
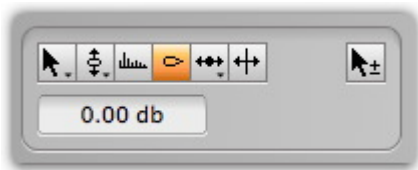
With the tool selected, click on a note (or one of several notes selected) and – without releasing the mouse button – drag it (or them) up or down. The notes will get thicker or thinner as they get louder or softer.
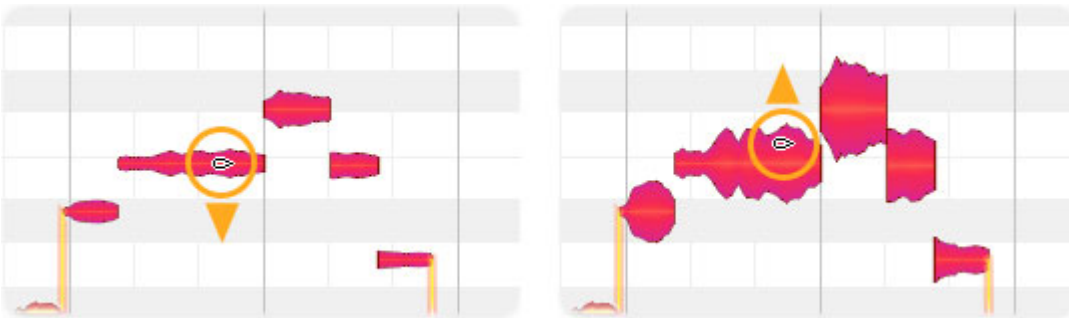
The gearing of the amplitude adjustment is dependent upon the vertical zoom resolution. Press and hold the [Alt] key, to switch to smaller increments for finer adjustment.

The inspector

As an alternative to editing selected notes with the tool, you can enter the desired values in the inspector beneath the toolbar. Drag the existing value to change it or double-click on it and type in the value desired. Press and hold the [Alt] key, to switch to smaller increments for finer adjustment.
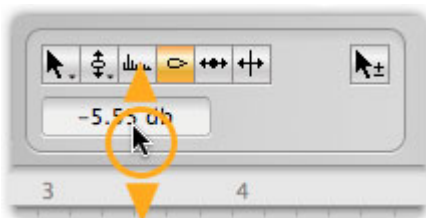
If you have selected several notes to which different amplitude adjustment has been applied, three hyphens are displayed in the box – followed, as you click in the box and drag, by values describing the extent of the relative change.

Amplitude transitions

A thick orange line appears between connected notes as soon as you change the amplitude of one note more, or in a different direction, than that of the other. This line represents the amplitude transition between the two notes. If you move the amplitude tool to the end of the first note, it changes into the amplitude transitions tool. Dragging vertically with this tool governs the speed of the amplitude transition, which is indicated by the steepness of the connecting line.
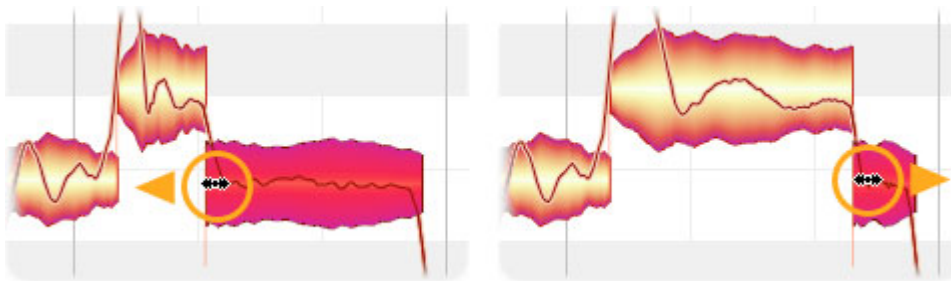
Double-clicking with the amplitude transitions tool at the end of a note deactivates the amplitude transition and the orange line disappears. A further double-click reactivates the transition.
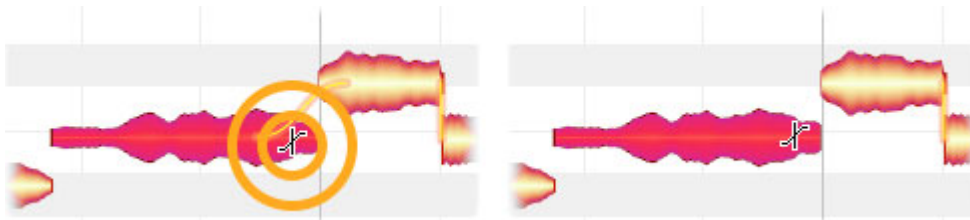
Muting and unmuting notes

Double-clicking with the amplitude tool on one or more selected notes mutes them. Only the outline of the blobs is now shown, to indicate that the notes in question have been muted, but you can still select and edit them. A further double-click unmutes the muted notes.

The Reset commands

In the Edit > Reset Specific Edits > Amplitude cascading menu, you will find two commands that can be used to reverse the effects of particular types of amplitude editing (thereby restoring the notes selected in certain respects to their original state) as well as the Unmute command, which is self-explanatory. These commands relate always to the current selection and are grayed out if no editing of the type in question has been applied to the selected notes. Note that these commands operate independently of the normal undo function.
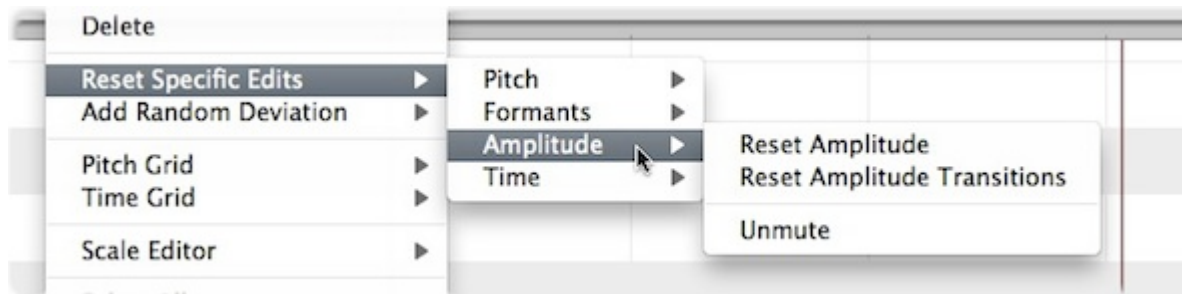
Editing timing

In this tour, you will learn how to edit the position and length of notes with the timing tool.

Modifying position and length

Select the timing tool from the toolbox or the context menu in the editing area.
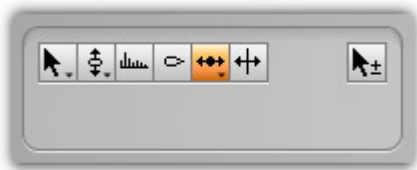
Click the center of a note (or of one of a number of selected notes) and drag it to the left or right to move the entire note (or notes) horizontally. Press and hold the [Alt] key during the movement if you wish the time grid to be temporarily ignored to permit finer adjustment.
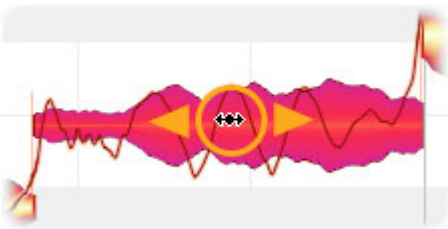

If you only wish to move the beginning of a note but not the end, click on the front part of the note and drag. Depending on the direction of movement, the note will be time-stretched or -compressed. Press and hold the [Alt] key if you wish the time grid to be ignored during the movement.
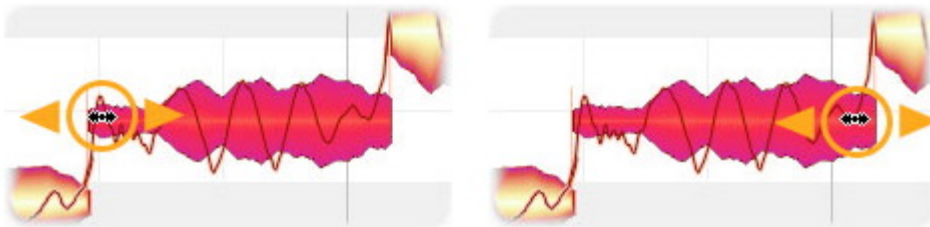
In the same way, you can move only the rightmost part of the blob (which corresponds to the end of the note).

Notice that as you move the beginning or end of a note in this way, the preceding or following note, if adjacent, is either stretched or compressed by the same amount to avoid either the two notes overlapping or white space (silence) appearing between them. This is invariably the case when a pitch

transition has been detected between two notes. By moving the adjacent note as well in this way, Melodyne prevents discontinuities occurring and preserves the musicality of the phrasing.
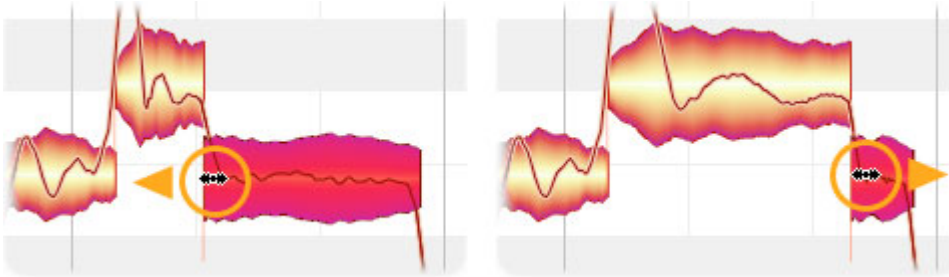
You can, if you wish, deactivate the link between notes, by cutting and then pasting back one of the notes or by dragging it to another position, causing the link between it and the adjacent note to snap. Subsequently a bracket will be displayed at the point of rupture to tell you that the link between the two notes has been severed.

With the context-sensitive tools for pitch, formants and amplitude (positioned in each case at the note ending) you can toggle such links on and off.
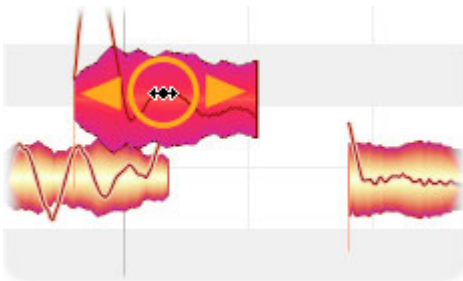
Correcting timing with a double-click

If you double-click a note with the timing tool, it (and any other notes selected) will snap to the selected grid – for example, to one of the subdivisions on the second ruler or one of the vertical lines indicating the start of an eighth-note. As a result, the musical beginning of the note will come to rest directly on top of the nearest grid line.
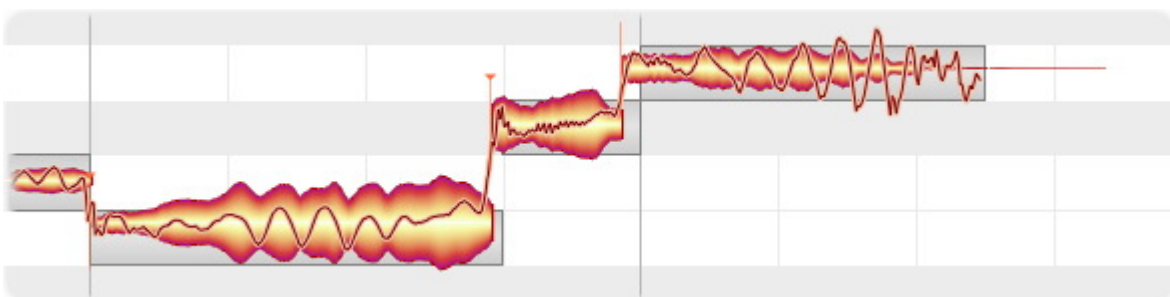
The musical starting point of a note is indicated by an orange anchor somewhere near the start of the blob but not necessarily at its leftmost extreme. Melodyne places the anchor at the point at which the sound has unfolded sufficiently for the pitch to become discernible, as it is this moment that is of relevance for the purpose of quantization. For a note to snap to the nearest grid line, however, there must be sufficient room; if an adjacent note is in the way and cannot be squeezed enough to create the requisite space, quantization of the note to the desired grid will be impossible. In such cases, note are quantized to the next possible value, such as the eighth-note nearest the desired quarter-note.

If no grid is active, a note will be quantized to its 'intended' beat – i.e. to that indicated by the left side of the grey frame enclosing it. This is the beat upon which, according to Melodyne's analysis, it was intended to fall.

Note: it is not possible to quantize to entire bars: only to fractions of bars.
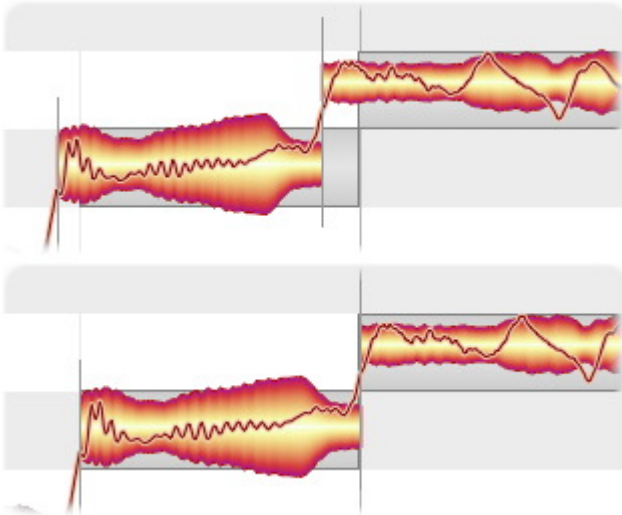
A further important point regarding quantization: In the case of polyphonic material, as well as anchors with triangles there are anchors without them. Notes the anchors of which have no triangle are in a temporal relationship with another note with a triangle and are therefore treated differently during quantization. If you play a C on the piano and immediately afterwards an E, the C can also contain starting transients belonging to the E. The C here gets a marker with a triangle; the E, one without. To move these two notes for no good reason by different amounts during quantization might not make much sense musically and could even produce tonal artifacts.

The following rules therefore apply: If during quantization both notes are selected, the note with the triangle and that without it will move towards the marker by exactly the same amount. There is here, in other words, a master-slave relationship. If you have only selected the note with the triangle marker, only this will be quantized. If you have only selected the note without the triangle marker, no quantization will take place. The same goes for a multiple selection. Naturally, you can move all and any of the notes manually if you are not satisfied with the way they sound together.

Adding random deviations

With the commands in the Edit > Add Random Deviation sub-menu, you can randomly alter the timing of the notes currently selected – introducing either slight, moderate or drastic deviations from the original timing. You can also employ the commands several times in succession to intensify the effect. These commands are useful when, for example, you've doubled a track in order to obtain a fuller or 'fatter' sound. By introducing random deviations, so that the copy is no longer identical to the original, you can simulate more realistically the effect of two performers playing or singing in unison. All these commands affect only the selected notes and are therefore greyed out if no notes are selected.

Time handles and changing the attack speed

In this tour, you will discover how to influence the internal evolution of notes and their attack speeds using the ancillary timing tools.

Time handles are handles you can affix to particular stages in the evolution of a note and drag sideways in order to advance or retard their attainment. In this way, you can accelerate or slow down particular phases of a note's development in order to fine-tune the musical phrasing.

The attack speed tool also affects the speed at which a note evolves: either by stretching and slowing down its early development and thereby accelerating its later development, or vice versa.

The result is either a slower, softer attack or a faster, harder one. The 'perceived' musical starting point of the note, however, remains unchanged.

Modifying the evolution of notes using time handles

The time handle tool is the first sub-tool of the timing tool.
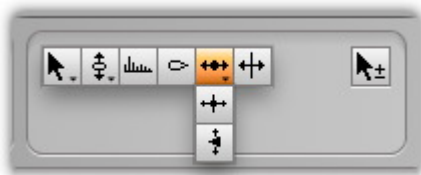
Zoom in on the note you wish to edit, so that you can see it clearly and position the time handles more precisely. Now double-click on the stage in the note's evolution that you wish to advance or retard. A time handle will appear that you can move forwards or backwards in time by dragging the tool respectively upwards or downwards. Since the overall length of the note remains unchanged, the result is to shorten and accelerate the phase of the note's development lying to one side of the time handle while lengthening and slowing down the phase the other side.
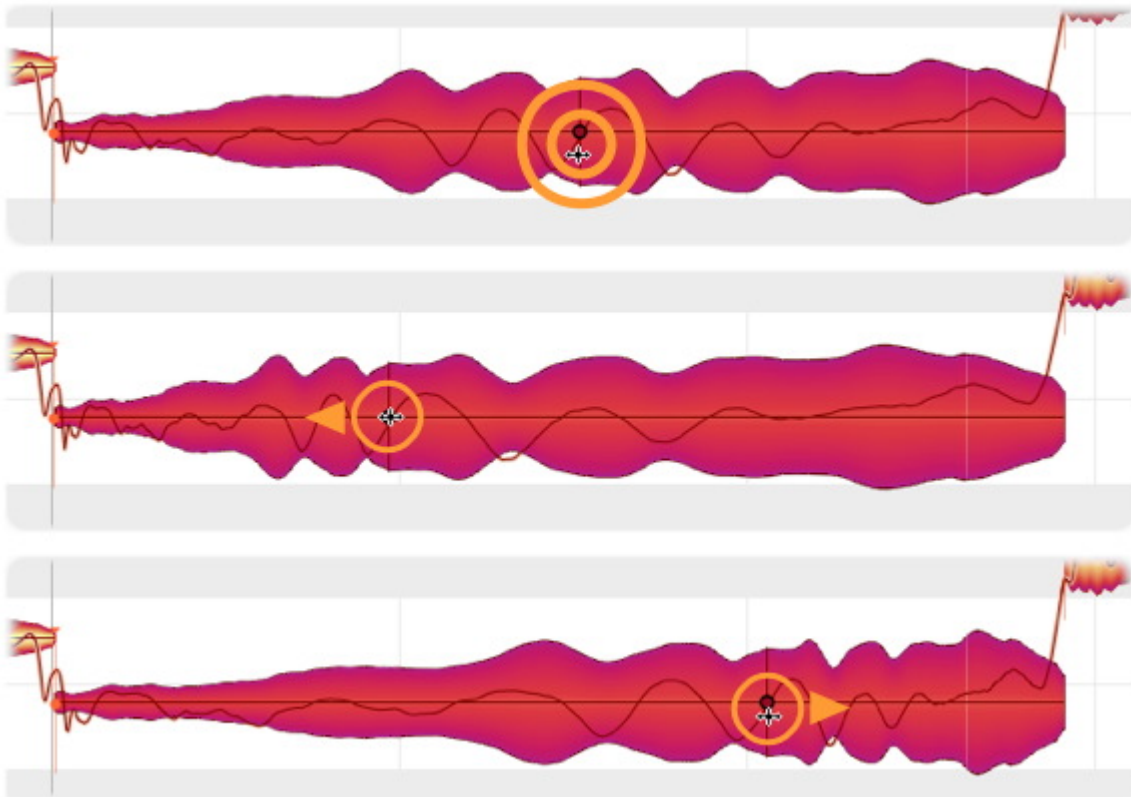
You can attach multiple time handles to a single note, moving each one individually, thereby influencing fine details of the note's evolution. There is no limit to the number of time handles that can be attached to a single note. Melodyne does, however, impose constraints as to how close to one another the handles can be placed. If ever you find you cannot place a time handle exactly where you want it, try a little further along.

If you select multiple time handles using the usual selection techniques, you can move them all en bloc.
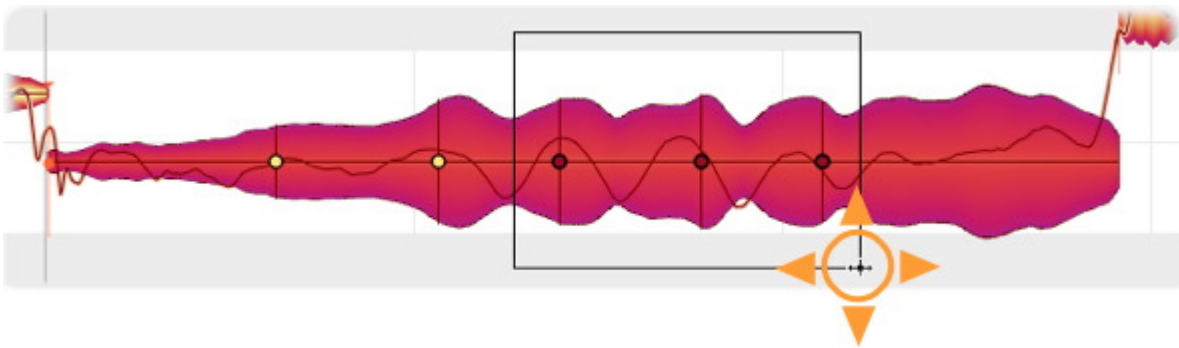
Double-clicking on a time handle or a selection of time handles removes them, thereby causing the

affected phases of the note to evolve at their original speeds.

By choosing from the Edit menu Reset Specific Edits > Time > Remove Time Handles, you can remove the time handles of all notes selected.
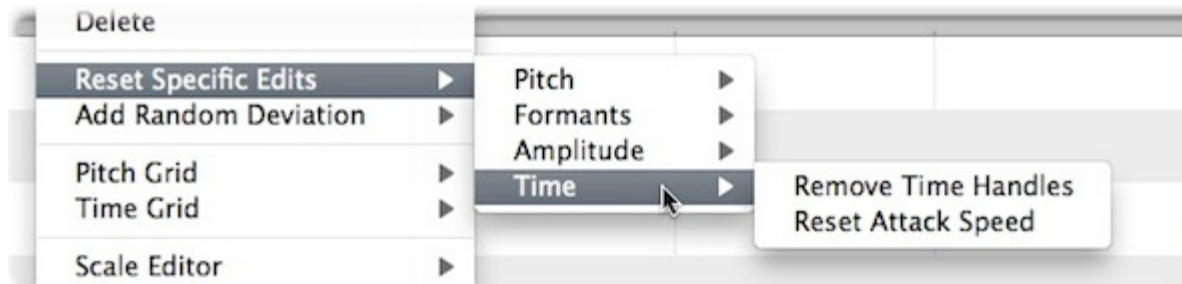

Changing the attack speed of notes

The attack speed tool is the second sub-tool of the timing tool.

When you select the attack speed tool, a white dot appears at the start of every note. If you now place the tool anywhere on a note and drag vertically, this dot will move up or down.
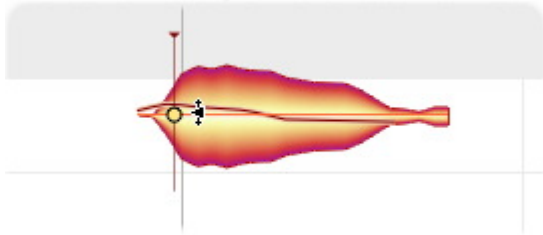

If you move it upwards, the attack phase of the note will be compressed and play back faster, but the rest of the note increasingly slowly. The note will therefore have a harder attack; its peak amplitude will be reached more swiftly.
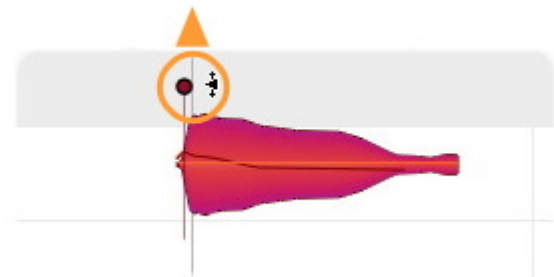
If you move the point downwards, the opposite will occur. The beginning of the note will be stretched – even beyond its visible starting point – and will play back more slowly, the rest, however, increasingly rapidly. The attack will therefore be softer. Note that the position of the musical start of the note

indicated by the orange anchor is not affected by changes in attack speed. The 'perceived' start of the note is therefore independent of the attack time, and the same is true of the end of the note.
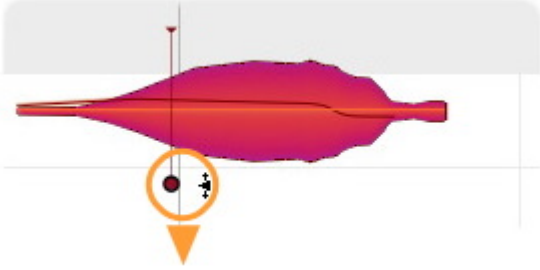
You can vary the attack speed of notes individually, in order to accentuate them. You can also, however, select and modify the attack speeds of multiple notes simultaneously and thereby alter the timbre of an entire phrase.

If you double-click on a note or one of a selection of notes with the attack speed tool, the corresponding parameter will return to its neutral (central) position. The same result can be achieved by choosing from the Edit menu Reset Specific Edits > Time > Reset Attack Speed.

**Time handles and attack speed combined**

You can combine the use of time handles with that of the attack speed tool. Altering the attack speed in this case will cause the time handles to move, functioning as a kind of timing master. You can therefore shape the evolution of the note to enhance the phrasing before adjusting the overall timing (so that the note starts faster or more slowly) with the attack speed tool.

Editing note separations

In this tour, you will learn how to split notes with the note separation tool as well as how to move and remove note separations.

Inserting, moving and removing note separations

Select the note separation tool from the toolbox or the context menu in the editing area.
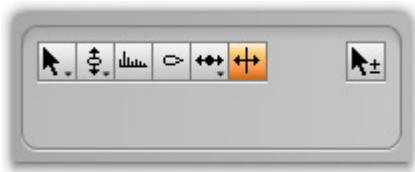

By double-clicking within a note with the note separation tool, you can introduce a note separation and thereby slice the note in two.
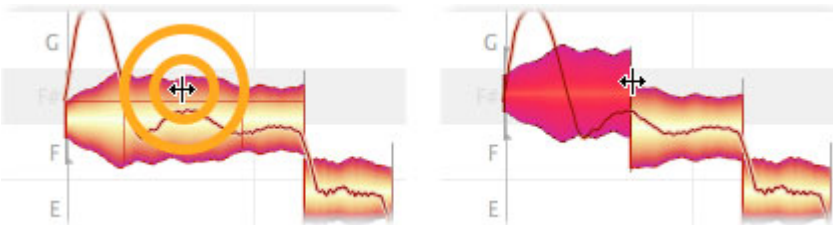

Don't be surprised if the resulting pair of notes move apart in pitch; this is because, as soon as the fission occurs, a new tonal center is calculated for each of the newly created notes, and the two tonal centers may differ from the tonal center the notes shared when they were one. In such cases, each therefore moves to a new vertical position based on its newly calculated pitch center.

You can move an existing note separation horizontally simply by dragging it with the note separation tool.
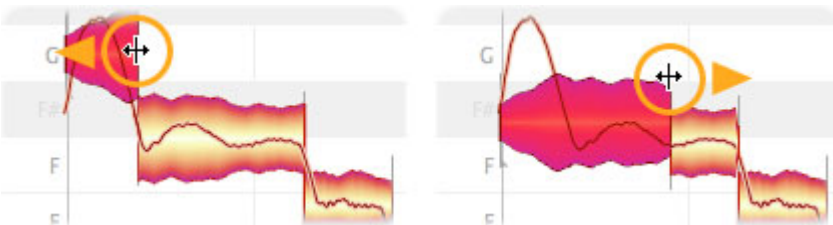
You can double-click a note separation to remove it.
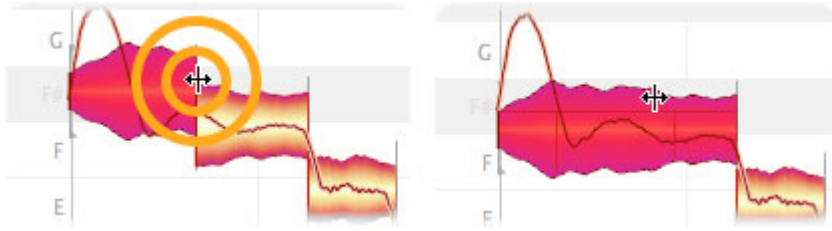
If you select several notes and move a note separation, the note separations of the other selected notes will also be moved. If you double-click one of the note separations to remove it, the note separations of the other selected notes will also be removed.

If you have selected several notes that overlap, you can insert a note separation in the same place in all of them simultaneously as well as move or remove one.