Auto-Tune Pro®
User Guide

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Introducing Auto-Tune Pro

What is Auto-Tune Pro?

For twenty years, Auto-Tune has been the world standard for professional pitch correction (and more recently, time correction), as well as the tool of choice for the signature vocal effect of modern popular music.

Auto-Tune Pro is the latest and most complete version of Auto-Tune, featuring two modes of operation: Auto Mode, optimized for low latency real-time pitch correction and effects, and Graph Mode, enabling unparalleled versatility, and detailed graphical editing of pitch and timing.

Auto-Tune Pro is packed with new features and a brand new, streamlined interface, redesigned to maximize efficient workflow and usability for beginners and experts alike.

What's new in Auto-Tune Pro?

A New, Streamlined User Interface

Auto-Tune Pro features a sleek, all-new interface in both Auto and Graph Mode, redesigned for ease of use and efficient workflow.

Auto Mode now features two unique screen views: Basic View and Advanced View. Basic View hides some of the advanced controls allowing for simpler work environment that emphasizes the most important and most used features. Just click the Advanced button to reveal the additional controls. Click it again to tuck them away again. Any changes you've made to the Advanced controls will still be in effect, even when they're hidden.

The Graph Mode interface has be redesigned from the ground up. In addition to a much larger Main Graph, the new Graph Mode features greater zoom resolution, user assignable zoom presets, and controls redesigned and rearranged to optimize workflow efficiency.

Classic Mode

Classic Mode is the long-awaited return of the classic "Auto-Tune 5 sound."

As we've added new features to Auto-Tune (such as Formant Correction, Throat Modeling, and Flex-Tune) the Auto-Tune algorithm has evolved, and its sonic qualities have undergone subtle changes, with each Auto-Tune version having its own slightly different character.

Over the years, the sound of Auto-Tune 5 has developed something of a cult following among musicians, audio engineers and producers, perhaps due in part to its use on many iconic pop recordings. Due to popular demand, we've made the Auto-Tune 5 sound available in Auto-Tune Pro via the new Classic Mode.

Auto-Key: Automatic Key and Scale Detection

Auto-Key is a new plugin, included with your Auto-Tune Pro purchase, which automatically detects the key and scale of your music and sends that information to one or more instances of Auto-Tune Pro.

If you already know the key and scale of your tracks, you may also find Auto-Key useful for simultaneously setting the Key and Scale parameters of multiple instances of Auto-Tune Pro.

ARA: Audio Random Access

Auto-Tune Pro now supports ARA (Audio Random Access.) ARA is a technology that allows for closer integration and exchange of information between audio plugins and host applications (digital audio workstations). When used with ARA-compatible DAWs such as Studio One and Mixcraft, it's now possible to edit in Auto-Tune Pro's Graph Mode without first playing through the selection to track the audio into Auto-Tune.

MIDI Parameter Control

Many of Auto-Tune Pro's key parameters can now be controlled in real time with a MIDI controller, including Retune Speed, Flex-Tune, Humanize, Throat Length and all of the

Vibrato functions. Assign the parameters to the controls on your MIDI device, and perform dramatic effects in real time on stage or in the studio.

What Type of Audio is Appropriate for Auto-Tune?

Auto-Tune is intended for use with a well-isolated, monophonic sound source such as a single voice, or a single instrument playing one pitch at a time. Multiples voices or instruments recorded onto the same track, or single instruments that are playing multiple pitches at the same time, cannot be accurately pitch corrected using Auto-Tune. Noise content, or breathiness in vocal performance can sometimes also lead to tracking errors. However, this can often be remedied by adjusting the Tracking parameter.

Auto Mode Overview

Unlike Graph Mode, which is designed for more graphic note-by-note pitch editing, Auto Mode is optimized for real time, low latency performance, on stage or in the studio. You can control the parameters in real time using a MIDI controller, automate them using your DAW's automation features, or simply dial in your settings and let Auto-Tune take care of the rest.

Auto-Tune Pro works by continuously adjusting the pitch of the incoming audio toward a target pitch. In Auto Mode, the target pitch is determined by the current scale settings. At any given moment, the target pitch will be the active scale tone that is closest to the detected input pitch.

The set of active scale tones is specified using the Key and Scale menus, and edited with the Keyboard and the Edit Scale Display.

The Retune Speed parameter controls how fast the input pitch is tuned toward the target pitch, with faster speeds resulting in a more pronounced effect, and more moderate speeds resulting in more subtle pitch correction.

The Flex-Tune and Humanize controls allow you to further customize the tuning and vibrato of your track for even more transparent and natural sound correction.

The Natural Vibrato and Create Vibrato controls allow you to subtly or dramatically alter the vibrato of your track.

The MIDI functions Target Notes and Learn Scale allow you define target pitches dynamically in real time using your MIDI controller.

You can also control many of the Auto Mode parameters using your MIDI controller. To assign a control to a particular MIDI CC message, see the MIDI Control Assignments section in the Preferences Dialog.

Basic and Advanced Views

Auto-Tune Pro's Auto Mode now features two different screen views: Basic View and Advanced View.

Basic view hides some of the more advanced features and shows only the more commonly used controls for quick and easy access.

Advanced view shows all of the available controls, including the MIDI Functions, the Create Vibrato controls, and the Edit Scale Display. All of the Auto Mode features remain active, even when hidden in Basic View.

Graph Mode Overview
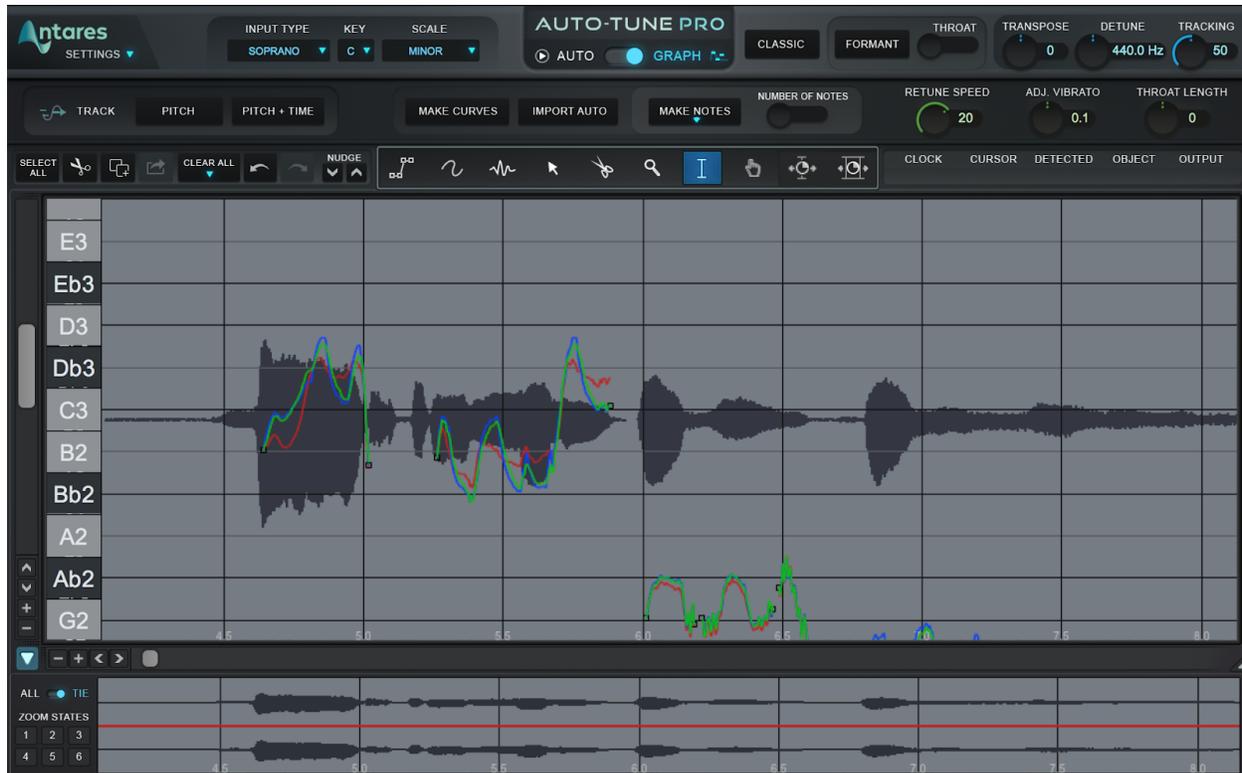
Graph Mode allows you to make detailed edits to the pitch and timing of your audio using a pitch graph and a variety of editing tools.

Auto-Tune Pro works by continuously adjusting the pitch of the incoming audio toward a target pitch. In Graph Mode the target pitch is determined by Correction Objects (Lines, Curves, and Notes) that are drawn on the Main Graph.

Correction Objects can be automatically generated using the Make Notes, Make Curves, or Import Auto buttons, and can be drawn, moved, and edited using the Editing Tools. Additionally, each object or group of objects can be assigned its own independent Retune Speed, Vibrato adjustment, and Throat Length adjustment.

The Time Correction features in Graph mode allow you to to non-destructively and fluidly edit the timing of a musical performance.

Graph Mode Workflow

Below is a basic sample workflow in Graph Mode. For more detailed examples, please see the Tutorials section.

1. Track Pitch
Click the Track Pitch or Track Pitch+Time button, and begin playback to track your audio into Graph Mode (use Track Pitch+Time if you may wish to do any Time Correction edits). Auto-Tune will analyze the audio and display the detected pitch contour in red.

2. Create Correction Objects
Create some Correction Objects using the Make Curves, Make Notes, or Import Auto function, or draw them manually using the Curve Tool, Line Tool, or Note Tool.

3. Edit Correction Objects
Use the I-Beam Tool, Arrow Tool, and Scissors Tool to edit the Correction Objects you've created.

4. Time Editing
If you've tracked your audio using the Pitch+Time function, you can use the Move Point or Move Region tool to edit the timing of your track.

Correction Objects

There are three types of Correction Object in Auto-Tune Pro's Graph Mode: Curves, Lines and Notes.

Curves
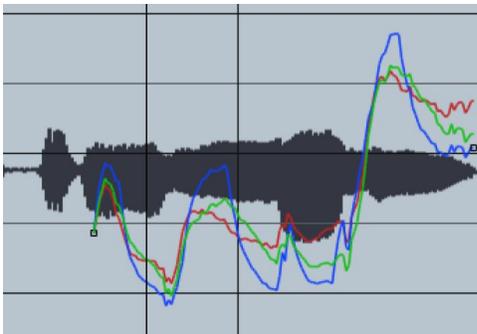
Curve objects allow you to create and edit arbitrary and continuously variable pitch contours. They can be drawn freehand using the Curve Tool or created automatically using the Make Curves or Import Auto function. Curve correction objects are displayed in

blue to distinguish them from the red detected pitch contours and the green output pitch contours.

Lines
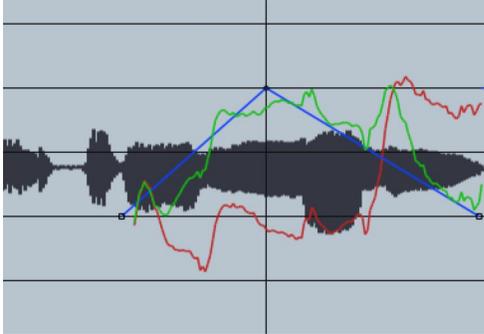
Lines are similar to Curves, except that they are made up of straight line segments. They can be drawn using the Line Tool. Like Curves, Lines are also displayed in blue.

Notes
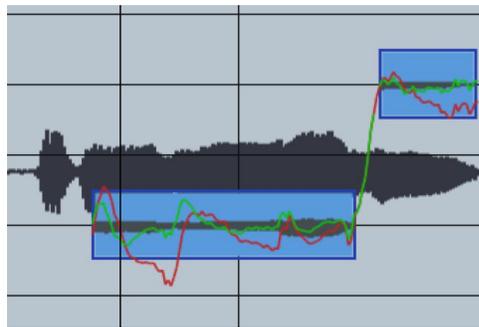
Unlike Curves and Lines, which are continuously variable in pitch, each Note represents a single target pitch that persists for the duration of the Note. Notes can be drawn with the Note Tool, or created automatically using the Make Notes function.

Pitch Contours

There are three different types of color-coded pitch contours in Graph Mode: Red, Blue, and Green.
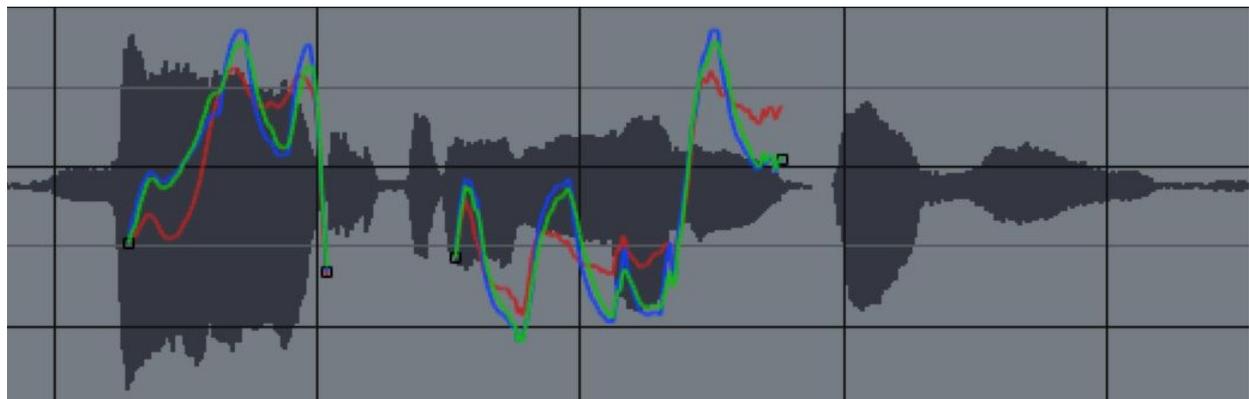
Red

Red contours represent the detected pitch of the audio, and appear after using the
Track Pitch or Track Pitch+Time function. Since they represent the pitch of the original,
unprocessed audio, they cannot be edited or moved.

Blue

Blue contours (Curves) are a type of Correction Object. They represent a continuously
variable target pitch that Auto-Tune will tune the audio towards. They can be created
using the Make Curves and Import Auto functions, and can be drawn, moved and edited
with the Editing Tools.

Green

Green contours represent the output pitch that results from applying a Correction Object
to the original audio.

Time Correction

We've designed Auto-Tune Pro's time control capabilities to combine an extremely high
quality time-shifting algorithm with an intuitive user interface designed to make it quick
and easy to correct timing errors or exercise your creative imagination.

In order to apply time correction, Auto- Tune Pro must first create a copy of the audio
you wish to edit. This is accomplished with the Track Pitch and Time function. To track
pitch and time, click the Pitch + Time button, and begin playback.

Once the audio has been tracked in, you can use the Move Point and Move Region tools
to apply time-based editing.

The Waveform Overview will display the waveforms of both the input audio and the
time-corrected audio, so you can easily compare them.

Non-Destructive Editing

Auto-Tune Pro's time shifting is completely non-destructive. Since it works on a copy of your audio, it always leaves your the audio intact. At any point you can switch off Enable Time Control in the Settings menu to return to your track's original timing. Or, to permanently delete your time edits, click the Clear All button and choose Time Changes.

Time Shifting Limits

The total amount of time compression or expansion that can be applied to a range of audio is limited to a 10:1 ratio. A range of audio can be expanded up to 10 times its original length or compressed down to 1/10th of its original length. Once that limit is reached, further compression or expansion is not possible.

Managing Time Correction Data Files

Before transferring a project that uses time correction from one computer to another, use the Data File Management dialog to save the time shifting data files in your project folder.

Unlike the pitch data generated by the traditional Track Pitch function, which is always stored with the instances of Auto-Tune in your project, the audio recorded for time shifting by the Track Pitch + Time function is saved as one or more separate files elsewhere on your computer.

To help manage the recorded audio data required for time shifting, Auto-Tune Pro provides a Data File Management dialog that allows you to establish or move the location of the data files, rename the folder where they're stored, or delete them if they are no longer necessary.

Global Controls

The controls covered in this chapter are common to both Auto Mode and Graph Mode.

Input Type
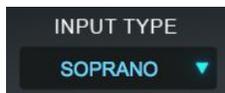
Auto-Tune Pro offers a selection of processing algorithms optimized for a different types of audio. Options include : Soprano, Alto/Tenor, Low Male, Instrument, and Bass Instrument. For more accurate pitch detection and correction, choose the Input Type that best describes your audio.

Key
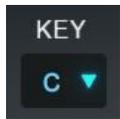
The Key menu lets you select the key of the track you plan to process. The Key setting is used in combination with the Scale setting to determine the set of notes that the audio will be tuned to.

Scale
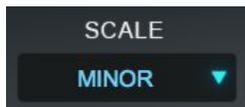
The Scale selection is used in combination with the Key selection to define the scale of the track you plan to process.

If you're not certain of the scale or key of your track, try using Auto-Key. Another option is to set the Scale parameter to Chromatic, which will cause Auto-Tune Pro to always tune to the closest pitch in the 12-tone chromatic scale.

Auto/Graph Mode Switch

This control is used to switch between Auto Mode and Graph Mode.

Classic Mode

CLASSIC   Classic Mode is the long-awaited return of the classic "Auto-Tune 5 sound."

As we've added new features to Auto-Tune (such as Formant Correction, Throat Modeling, and Flex-Tune) the Auto-Tune algorithm has evolved, and its sonic qualities have undergone subtle changes, with each Auto-Tune version having its own slightly different character.

Over the years, the sound of Auto-Tune 5 has developed something of a cult following among musicians, audio engineers and producers, perhaps due in part to its use on many iconic pop recordings. Due to popular demand, we've made the Auto-Tune 5 sound available in Auto-Tune Pro via the new Classic Mode.

The sonic difference between Classic Mode and the default sound of Auto-Tune Pro is very subtle, but if you listen carefully, you may notice a slightly brighter quality on your vocals, and a more pronounced attack and transition between notes at faster Retune Speeds.

Classic Mode works in both Auto Mode and Graph Mode.

The following features are disabled when Classic Mode is on:
- Formant
- Throat Length
- Transpose
- Flex-Tune
- Time Editing

Formant
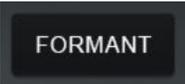
FORMANT   A sound's formants are the resonant frequencies that result from the physical structure of whatever is producing the sound (e.g. the human mouth and vocal tract). When a vocal is pitch-shifted by large intervals without formant correction, not only is the fundamental pitch shifted, but the formants are shifted as

well. If not corrected for, this can result in an unnatural, chipmunk-like effect. When the Formant button is on, Auto-Tune automatically corrects the formant frequencies for a more natural sounding vocal performance.

Throat
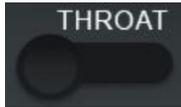
The shape of a singer's throat is a prime contributor to their vocal character. Auto-Tune Pro's formant correction uses our unique throat modeling technology to modify the sound of a voice by passing it through a physical model of the human vocal tract. The Throat control lets you specify the length of the modeled throat. Throat is only enabled when the Formant button is on.

Transpose

In addition to any pitch correction applied by either Auto or Graph Mode, the Transpose control lets you shift the overall pitch of your performance over a two octave range (+/- one octave), selectable in semitone increments.

In Auto Mode, this transposition is accomplished in real time. In Graph Mode, this function does not affect the Output pitch display, but provides overall transposition on top of any pitch shifting accomplished with the graph editing tools.

Detune
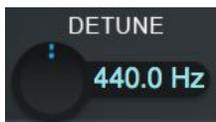
The Detune parameter allows you to change the pitch reference of Auto-Tune Pro from the default A = 440Hz. This is useful when working with an instrument or track that uses a different reference frequency. Values can be displayed in Cents or Hertz (you can specify this in the Settings Menu). The range of adjustment is -100 cents to +100 cents.

Note that Detune functions differently in Auto and Graph Mode. In Auto Mode, it shifts the target pitch reference by the specified amount. In Graph Mode, it shifts the position of the horizontal pitch reference lines in the Main Graph, so that any correction objects created or adjusted relative to those reference lines will reflect the Scale Detune setting.

Note that in Graph Mode, detune will not automatically shift the position of correction objects that have already been created, so it's wise to make any needed adjustments to the Detune setting before creating your correction objects.

Tracking

 In order to accurately identify the pitch of the input, Auto-Tune Pro requires a periodically repeating waveform, characteristic of a solo voice or solo, non-chordal instrument. The Tracking control determines how much variation is allowed in the waveform for Auto-Tune Pro to still consider it periodic.

In most cases, the Tracking should be left at its default value of 50. A noisier signal or a vocal performance that is unusually breathy may require a more 'relaxed' setting (higher Tracking value). If you're hearing artifacts such as clicks or pops, try setting the Tracking to a 'choosier' setting (lower Tracking value).

Basic Auto Mode Controls

Auto-Tune Pro's Auto Mode features two different interface views: the streamlined Basic View, which shows you only the most commonly used controls, and the more in-depth Advanced View, which includes all of the available controls. This chapter will cover the controls that are visible in Basic view.

Note: Switching back to Basic View from Advanced View will hide the advanced controls, but will not disable them. You will still hear the results of your Advanced View settings when you return to Basic View.

Advanced
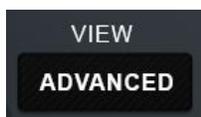
The Advanced button toggles between Basic View and Advanced View.

Retune Speed

Retune Speed controls how rapidly the pitch correction is applied to the incoming audio. The units are milliseconds. A zero setting will cause immediate changes from one pitch to another, and will completely suppress any vibrato or deviations in pitch.

For the Auto-Tune Effect, set the Retune Speed to zero. A setting between 10 and 50 is typical for more natural sounding pitch correction. Larger values allow through more vibrato and other interpretive pitch gestures, but slow down how rapidly corrections are made.

Flex-Tune

The Flex-Tune control allows you to preserve a singer's expressive vocal gestures, while still applying the corrective tuning that Auto-Tune is famous for.

When Flex-Tune is set to zero, Auto-Tune Pro is always pulling every note toward a target scale note. When Flex-Tune is engaged, it only applies correction as the performer approaches the target note. As you move the control toward higher values, the correction area around the scale note gets smaller, and more expressive pitch variation is allowed through.

Humanize

The Humanize function allows you to add realism to sustained notes when using fast retune speeds. One situation that can be problematic for pitch correction is a performance that includes both short and long sustained notes. In order to get the short notes in tune, you would need to set a fast Retune Speed, but this can cause sustained notes to sound unnaturally static.

Humanize applies a slower Retune Speed only during the sustained portion of longer notes, making the overall performance sound both in tune and natural.

Start by setting Humanize to zero, and adjust the Retune Speed until the shortest problem notes in the performance are in tune. If sustained notes sound unnaturally static, increase the Humanize setting until they sound more natural.

Natural Vibrato

The Natural Vibrato control allows you to either amplify or diminish the range of vibrato that is already present in your audio. If you want to create new vibrato where it doesn't already exist, use the Create Vibrato controls in Advanced View.

Pitch Display and Pitch Change Meter
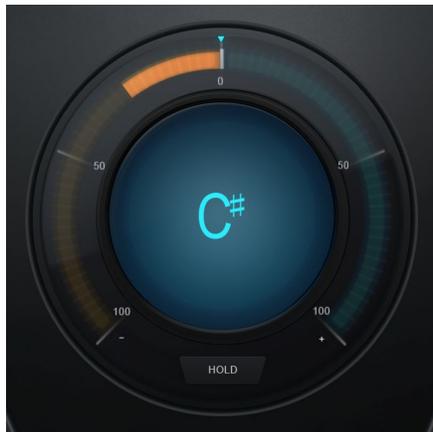
Pitch Display
The Pitch Display shows you the letter name of the pitch that Auto-Tune Pro is currently outputting (e.g. C# or Bb). Note that this may be different than the pitch that it is detecting, if the detected pitch is not part of the current scale. To see the pitch that is currently being detected in the incoming audio, look at the Keyboard.

Pitch Change Meter
The Pitch Change Meter (which wraps around the Pitch Readout) shows you how much the pitch is being changed, measured in cents. For example, if the blue indicator bar has moved to the left to -50, it indicates that the input pitch is 50 cents too sharp and Auto-Tune is lowering the pitch by 50 cents to bring the input back to the desired pitch.

Hold
Clicking and holding the word "Hold" while Auto-Tune is processing audio will freeze both the Pitch Change Amount Indicator and the blue detected pitch indication on the keyboard for as long as you hold down the mouse button.

The Keyboard

The Keyboard displays the currently detected pitch in real time, and also allows you to specify the target-note behavior for each note in specific octaves.

During playback, the detected pitch will be highlighted in blue on the Keyboard. You can also use the Keyboard to set individual notes to On, Bypass, or Remove.

The Keyboard is only enabled when using scales that have exactly 12 notes. If you want to use the Keyboard with the Major or Minor scale, choose the Chromatic scale and then click Set Major or Set Minor (in Advanced View).

On

When a note on the Keyboard is on, it will appear white or black (depending on which note it is), and input pitches that are closest to that note will be tuned to it.

Bypass

When a note on the Keyboard is set to Bypass it will appear orange, and input pitches that are closest to that note will be passed through with no correction.

Remove

When a note on the Keyboard is set to Remove, it will appear grey, and any incoming pitches that are closest to that note will be tuned to the next closest scale note instead.

Keyboard Edit

When the Keyboard Edit switch is set to Remove, clicking on a key in the Keyboard will toggle it between Remove and On. When it's set to Bypass, clicking on a key will toggle it between Bypass and On.

Keyboard Mode
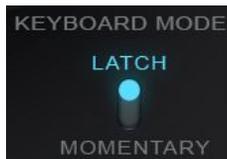
When the Keyboard Mode switch is set Latch, clicking on a key in the Keyboard will change its state, and it will retain the new state.

When Keyboard Mode is set to Momentary, clicking on a key will change its state only for as long as the mouse button is held down. This is useful, for example, if you want to perform a melody on the Keyboard in real time.

Advanced Auto Mode Controls

Auto-Tune Pro's Auto Mode features two different interface views: the streamlined Basic View, which shows you only the most commonly used controls, and Advanced View, which includes all of the available controls. This chapter will cover the controls that are only visible in Advanced view.

Note: Switching back to Basic View from Advanced View will hide the advanced controls, but will not disable them. You will still hear the results of your Advanced View settings when you return to Basic View.

Targeting Ignores Vibrato

The Targeting Ignores Vibrato function is is designed to help Auto-Tune identify pitches correctly when a performance includes vibrato so wide that it approaches adjacent notes (e.g if a singer is singing a C with a vibrato so wide that it is sometimes closer to a

C#). If you hear a rapid alternation between two notes when you want to be hearing a single note with a wide vibrato, try turning this on.

Create Vibrato Functions

The Create Vibrato functions allow you to add a custom synthesized vibrato to your audio. Use them sparingly to add a touch of natural-sounding expression to a performance or more aggressively for dramatic special effects.

Shape

 The Shape menu allows you to choose the shape of the pitch modulation for your vibrato.

The choices are:

No Vibrato
Leave the Shape menu set to No Vibrato if you don't want to create any vibrato.

Sine Wave
A sine wave changes smoothly from minimum to maximum and back again. This is the best choice for natural-sounding vibrato.

Square
Jumps to maximum where it spends half of the cycle and then jumps to minimum for the remaining half of the cycle.
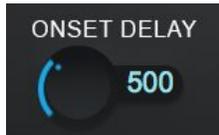
Sawtooth
Gradually rises from minimum to maximum and then drops instantaneously to minimum to start the cycle again.
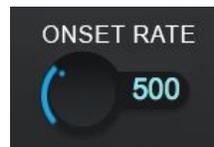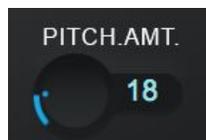
Amplitude Amount

Amplitude Amount sets the amount that the loudness changes. For the most realistic vibrato, the amount of amplitude change should be substantially less than pitch change.

Formant Amount

Formant Amount sets the amount of formant variation in the vibrato.

The Edit Scale Display
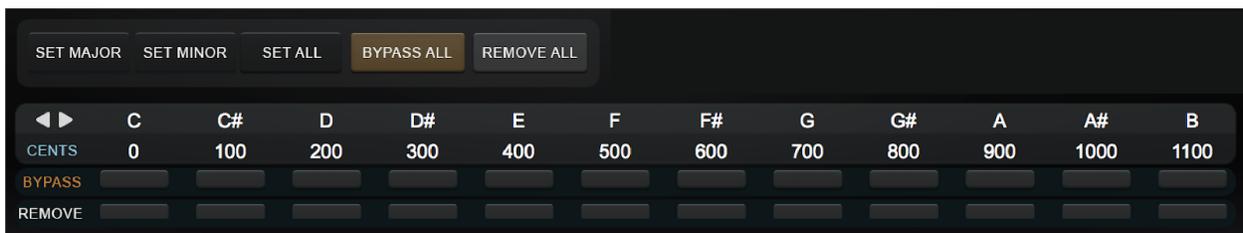
The Edit Scale Display is used to create custom scales or to modify any of the preset scales selected in the Scale menu. It shows each of the notes of the currently selected scale, along with a Bypass and Remove button for each note (explained below).

Each scale retains its own edits independent of the other scales. For example, if you select C Major in the Key and Scale menus and Remove or Bypass certain notes and then change to C Minor and make other edits, when you return to C Major your previous edits associated with C Major will be restored.

Changes made in the Edit Scale Display affect all octaves of each note in the scale, and will also be displayed on the Keyboard. Changes made on the Keyboard only affect that specific octave, and will not be reflected in the Edit Scale Display.

Bypass
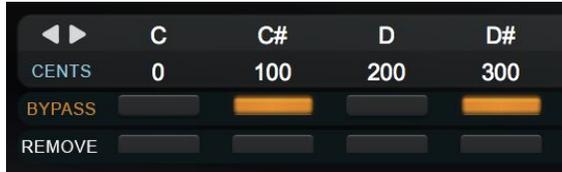
If a note is bypassed, input pitches that are is closest to that note will be passed through with no correction.

You might use Bypass if a performance has only one or two out-of-tune notes, and you want to only apply correction on those notes, or if it includes some expressive pitch gestures around one or more specific notes that you want to preserve with no modification.

Remove
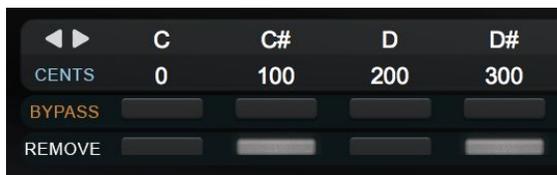
If the Remove button is lit, then the note is removed from the current scale, and any incoming pitches that are closest to that note will be tuned to the next closest scale note instead.

Remove can be used to create your own custom scales from the built-in scales. For example, you can create a pentatonic (5-note) scale by removing a couple notes from the major scale. This is especially useful for if you're going for the Auto-Tune Effect, and want to create a sharp transition between notes that are relatively far apart.

Remove is also useful in cases where a singer might be singing a pitch that is so far from the intended note that it's actually closer to another scale note. For example, if the intended note is an F and the performer is actually singing something closer to an E, you may want to remove E from the scale, so that the singer will be tuned to F instead.

Cents

The number under each note in the Cents row is that note's interval, in cents, from the root note of the scale.

Set Major/Set Minor
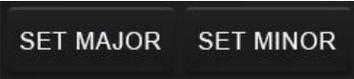
SET MAJOR   SET MINOR   The Set Major and Set Minor buttons allow you to quickly generate a major or minor scale from any scale with more than 7 notes, by automatically removing the notes that don't belong to the major or (natural) minor scale.

Set All

SET ALL   The Set All button sets all of the notes of the current scale to on, in both the Edit Scale Display and the Keyboard. This is a quick way to return the scale to its default setting.

Bypass All

BYPASS ALL   Bypass All sets all notes in the current scale to Bypass.

Remove All

REMOVE ALL   Remove All sets all notes in the current scale to Remove.

MIDI Functions
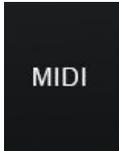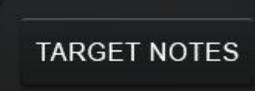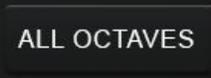
MIDI   TARGET NOTES   LEARN SCALE   ALL OCTAVES   Auto-Tune Pro's Auto Mode has two different functions for handling incoming MIDI note data: Target Notes and Learn Scale. In addition, you can also use a MIDI controller to

control many of Auto-Tune Pro's parameters in real time. See the Preferences section for how to assign control of Auto-Tune Pro's parameters to your MIDI controller,

Use the **Target Notes** function if you want to use MIDI to control the specific pitch that your audio is being tuned to in real time. Use the **Learn Scale** function if you want to use MIDI instead of the Edit Scale Display and onscreen Keyboard to define the scale that your audio will be tuned to.

In order to make use of Auto-Tune Pro's MIDI capabilities, you will need to route a MIDI source to Auto-Tune Pro. This could be an external controller, such as a MIDI keyboard, or it could be a MIDI track within your host application (DAW). The procedure for routing MIDI to an audio plugin will vary depending on what DAW you are using, so please see your DAW's manual or help pages for more information about how to do this.

Target Notes

TARGET NOTES   With MIDI: Target Notes, you can perform a melody in real time on a MIDI keyboard, or play it from a MIDI track, and Auto-Tune Pro will tune your audio to whatever MIDI notes are on at any given time.

If you're using a MIDI keyboard, this means that your audio will be tuned to the notes corresponding to whatever keys you are currently holding down.

If no MIDI notes are on at any given time, the audio will pass through without being tuned.

Learn Scale

LEARN SCALE   The MIDI: Learn Scale function allows you to play a melody or chords from a MIDI keyboard or MIDI track and have Auto-Tune Pro construct a custom scale for you containing only those notes.

Clicking the Learn Scale button will remove all notes from the current scale. Individual notes are then turned back on based on incoming MIDI data. The new scale settings will be displayed in both the Keyboard and Edit Scale Display.

If no MIDI note-on messages are received, the audio will pass through without being tuned.
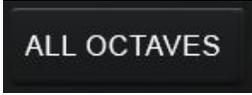
All Octaves

If All Octaves is on, any incoming MIDI notes will affect all octaves of each note. Otherwise, they will only affect the notes in the specific octaves in which they are played. The All Octaves button applies to both the Target Notes and Learn Scale functions.

MIDI Parameter Control

Many of Auto-Tune Pro's parameters can now be controlled in real time with a MIDI controller. See Preferences for information about how to configure this.

Graph Mode Controls

Main Graph and Waveform Overview

Main Graph
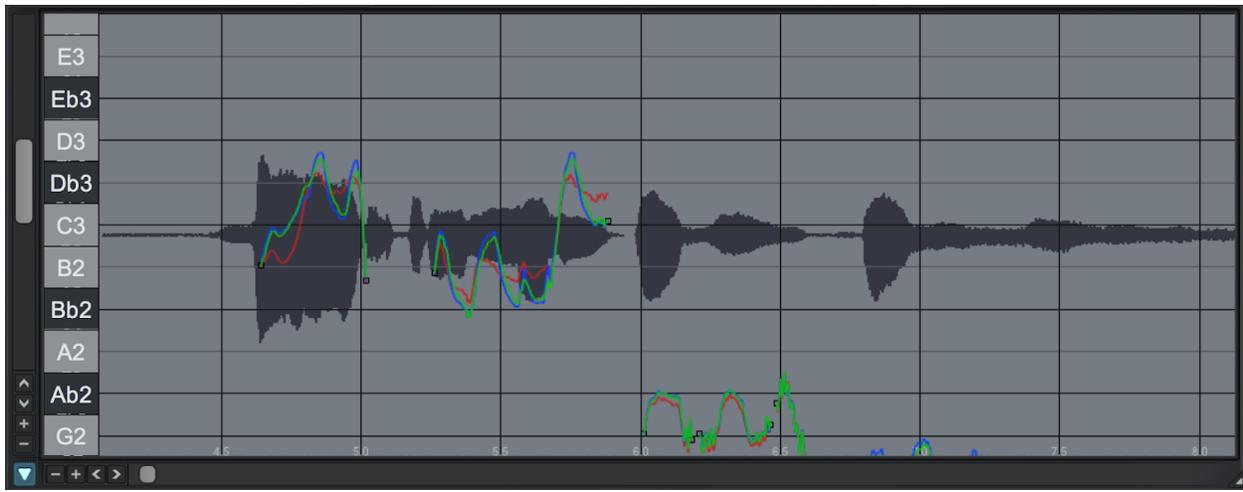
The Main Graph is where pitch and time editing takes place in Graph Mode. After tracking pitch or tracking pitch and time, the Main Graph will display the waveform of the audio and the detected pitch contour of the audio (red curves). It will also display any pitch correction objects that you create, and the contour of the resulting output pitch (green curves).

The horizontal grid lines represent scale pitches. The vertical lines represent time units, which may be either minutes and seconds or bars and beats, depending on the Time Display setting in the Settings menu.

Waveform Overview

The Waveform Overview is the smaller graph below the Main Graph in Graph Mode. It's used to navigate and zoom in the Main Graph. When using Time Correction, it displays the original and time edited waveforms alongside one another for comparison.

The Waveform Overview can be shown and hidden by clicking the show/hide arrow in the lower right corner of the Main Graph. If you prefer to have a little more room in the Main Graph, and only open the Waveform Overview as needed, you may can set the Waveform Overview to be hidden by default in Preferences.

All/Tie Switch

When set to All, the Waveform Overview will display all of the currently tracked audio.

This is useful for quickly locating and selecting various portions of audio or navigating through the duration of your track.

When set to Tie, the Waveform Overview position and zoom setting follow the position and zoom setting of the Main Graph.

Zoom States
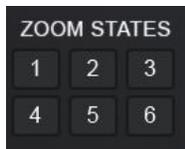
The Zoom State buttons allow you to quickly toggle between different levels of zoom in the Main Graph. To save the current zoom setting, hold down the Option (Mac) or Alt (Windows) key and click on one of the Zoom State buttons.

Pitch Tracking and Correction Objects

Track Pitch/ Pitch + Time
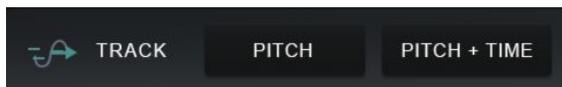
To begin editing in Graph Mode, you'll first need to track the audio into Auto-Tune Pro so that it can be analyzed. To do that, turn on the the Track Pitch or Track Pitch + Time button, then begin playback.

Auto-Tune Pro will read and analyze the pitch of the incoming audio. If you've chosen Pitch + Time, it will also create a copy of the audio, so that you can apply Time Correction edits non-destructively (without affecting the original audio).

If you think you may want to make use of the Time Correction features, use Track Pitch + Time. If you know that you won't be doing any Time Correction, we recommend using Track Pitch for optimum performance and more efficient use of disk space.

Make Curves
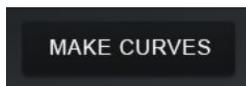
Pressing the Make Curve button creates pitch correction objects known as Curves from the detected pitch contour data.

The Curve objects can then be dragged and stretched for very precise pitch correction.

Import Auto
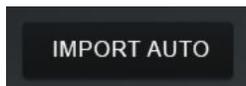
Import Auto allows you to use your Auto Mode settings as a starting point for further editing in Graph Mode.

It does this by creating Curves objects that exactly match the pitch correction that would result from processing the audio with the current Auto Mode settings.

To use Import Auto, switch over to Auto Mode and adjust the settings as needed. Then switch back to Graph Mode and click the Import Auto button to create the Curve objects.

Make Notes
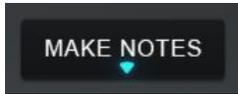
Clicking on the Make Notes button opens a menu with two options: Make Notes and Make Notes From MIDI.

Make Notes

Make Notes will create Note objects based on an analysis of the tracked audio. Auto-Tune Pro will analyze your audio and create note objects wherever a note onset is detected. Try adjusting the Number of Notes control to make the Make Notes function more or less likely to interpret a pitch deviation as a new note onset. Notes can be edited and moved using the Editing Tools.

Make Notes From MIDI

Make Notes From MIDI allows you to use MIDI note data to define target pitches in Graph Mode. It will create Note objects based on MIDI note data that has been tracked in the selected region.

To use Make Notes from MIDI
1. Route a MIDI source to Auto-Tune Pro. This could be a MIDI controller, or a MIDI track within your project. The procedure for routing MIDI to an audio plug-in is different in various DAWs, so consult your DAW's documentation.
2. Click the Track Pitch or Track Pitch + Time button and begin playback to track audio and MIDI data into Graph Mode. If Show Tracked MIDI is enabled in the Settings menu, the MIDI data will be drawn on the Main Graph.
3. Click Make Notes, and choose Make Notes From MIDI. Note objects will be created according to the tracked MIDI data.

Number of Notes
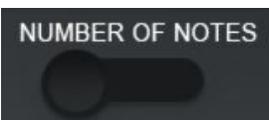
When Auto-Tune Pro analyzes the input pitch for the purpose of creating Note objects, it makes decisions about what constitutes a note and where the boundaries between notes are. The Number of Notes control lets you customize this process to suit the material that you're working with.

When Number of Notes is set to a higher value, Auto-Tune Pro will be more likely to interpret changes in pitch as new note events rather than deviations or expressive gestures within a single note.

Number of Notes is only active after tracking pitch, and applies only to the region of the graph that is currently selected.

Retune Speed
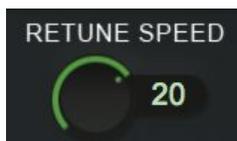
As in Auto Mode, the Retune Speed in Graph Mode controls how rapidly the pitch correction is applied to the incoming audio.

However, while tuning in Auto Mode it uses the current scale settings to determine the target pitch, in Graph Mode the target pitch is defined by correction objects (Curves, Lines, and Notes).

In Graph Mode, you can assign different Retune Speeds to individual correction objects, or to select a group of objects and assign them all the same Retune Speed. Any adjustments to the Retune Speed control in Graph Mode will apply to all correction objects that are currently selected. If no objects are selected, the control is disabled.

For the Auto-Tune Effect, set the Retune Speed to zero. A setting between 10 and 50 is typical for more natural sounding pitch correction. Larger values allow through more vibrato and other interpretive pitch gestures, but slow down how rapidly corrections are made.

Adjust Vibrato

The Adjust Vibrato control allows you to either amplify or diminish the range of vibrato that is already present in your audio.

In Graph Mode, you can apply different vibrato adjustment values to individual correction objects (Curves, Lines, and Notes). Any changes to the Adjust Vibrato control will apply to all correction objects that are currently selected. If no objects are selected, the control is disabled.

Throat Length
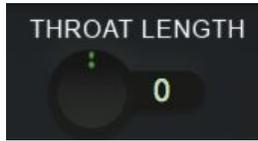
The shape of a singer's throat is a prime contributor to their vocal character. Auto-Tune Pro's formant correction uses our unique throat modeling technology to modify the sound of a voice by passing it through a physical model of the human vocal tract. The Throat Length control lets you specify the length of the modeled throat.

The Graph Mode Throat Length control and the global Throat basically do the same thing, except that Throat Length can be applied differently to individual correction objects in Graph Mode, and the Throat control is applied to all incoming audio.

Any changes to the Throat Length control will apply to all correction objects that are currently selected. If no objects are selected, the control is disabled.

Select All

The Select All button selects all correction objects in the graph.

Cut

The Cut button removes any selected objects from the graph and copies them to the clipboard.

Copy

The Copy button copies selected objects to the clipboard.

Paste

The Paste button can be used to paste correction objects from the clipboard to anywhere on the graph.

To paste objects from the clipboard:
1. Navigate to the general area where you want to paste the objects.
2. Click the Paste button.
3. Press and hold the mouse button.
4. While holding down the mouse button, drag the objects to the exact location where you wish to paste them.
5. Release the mouse button to complete the paste.

Clear All
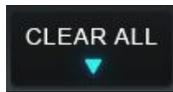
CLEAR ALL   Clicking the Clear All button opens a menu with the following options:

Pitch Correction Objects
This option deletes all existing pitch correction objects (Curves, Lines and Notes).It does not delete detected pitch information or time correction edits.

Time Changes
This option deletes all time correction edits. It does not delete detected pitch information or pitch correction objects.

Both Pitch and Time
This option deletes all pitch correction objects and time correction edits. It does not delete detected pitch information.

All Data
This option deletes all pitch correction objects, time correction edits and detected pitch information. It is not possible to undo this action. Only use Clear All: All Data if you want to start over from scratch.

Undo/Redo

The Undo button undoes the most recent edit in the Main Graph, including both pitch correction and time correction edits. Up to 20 levels of undo are available.

The Redo button reverses the most recent undo.

Nudge

The Nudge buttons allow you to move all currently selected correction objects up or down in precise one-pixel increments.

Editing Tools
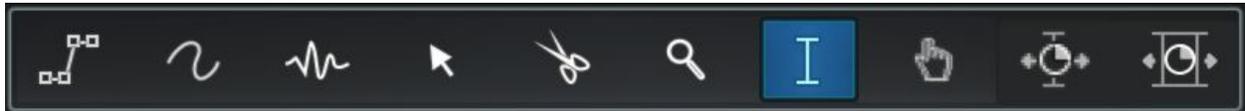
Line Tool

The Line Tool is used to draw straight, multi-segment Lines (correction objects) on the Main Graph.

To draw a line, select the Line Tool and click anywhere on the Main Graph to create an anchor point. Click again to set a second anchor point and define the first segment of your pitch contour. Continue clicking and defining anchor points until your contour is complete. End the process by double-clicking on the final anchor point or pressing esc on your keyboard.

If Snap To Note is enabled (in Settings), each segment will automatically snap to the nearest scale note. Pressing the Shift key on your keyboard while drawing a line temporarily toggles the state of the Snap To Line setting. In other words, if Snap To Note mode is not enabled, pressing Shift will enable it for as long as Shift is pressed and vice versa.

To make a line perfectly horizontal, hold down Option or Alt on your keyboard while drawing.

To delete the last anchor point entered, press delete on your keyboard (you can do this repeatedly back to the first anchor point).

Curve Tool

The Curve Tool is used to draw Curves (correction objects) on the Main Graph. To draw a curve, select the Curve Tool, then click and drag anywhere on the Main Graph.

The Snap To Note setting does not affect the Curve Tool.

Note Tool

The Note Tool is used to draw Notes. Once you've created a Note, you can drag it up or down using the Arrow Tool.

New Notes are always drawn exactly on the scale note graph lines or lanes, regardless of the Snap To Note setting. If you want to create a note that is offset from a line or lane, first draw the note on the nearest line or lane, then ensure that Snap To Note mode is off and use either the Arrow tool or the Nudge buttons to move the Note to the desired pitch.

Arrow Tool
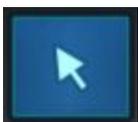
The Arrow Tool is a smart, multi-function tool that is used to move and edit existing correction objects (Lines, Curves, or Notes). It serves a variety of purposes for the different types of object.

Line and Curve Objects:
Click on a Line or Curve to select it. Click on the anchor point to select just the anchor point. Click and drag a Line or Curve to move it up or down. Click and drag an anchor point to move just the anchor point.

Double-click anywhere on a line to create a new anchor point. Double-click on an existing anchor point to delete it.

Note Objects:
Click on a Note to select it. Click and drag near the center of a Note object to move it up or down. Click and drag near the ends to extend or shorten it horizontally.

If Play Pitch When Moving Notes is turned on in the Settings Menu, you'll hear a reference pitch when you click and drag Note objects.

Scissors Tool

Click on a correction object (Note, Line or Curve) with the Scissors Tool to break the object into two separate objects.

Zoom Tool
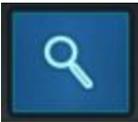
With the Zoom tool, click anywhere in the Main Graph to zoom in by one step, or hold down Option or Alt while clicking to zoom out one step. You can also click and drag with the Zoom Tool to select the area that you want to zoom in to.

I-Beam Tool

Drag the I-Beam Tool in the Main Graph to select an area of the graph and any correction objects that are in that area.

Double-click with the I-Beam tool in either the Main Graph or Waveform Overview to highlight the range of all currently tracked audio.

With the All/Tie switch next to the Waveform Overview set to All, use the I-Beam tool to navigate from one location to another in the Main Graph.

With the All/Tie switch next to the Waveform Overview set to Tie, use the I-Beam tool to zoom in the Main Graph. Just click and drag over the area that you want to zoom in to.

Hand Tool
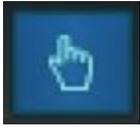
Drag the Hand Tool in any direction in the Main Graph to move the area displayed.

If you move any selected cursor into the left- hand "key" area, it will temporarily change to the Hand tool, allowing you to quickly scroll the graph up or down.

Time Correction Tools

In order to use the Time Correction Tools, you must first track some audio into Graph Mode using the Track Pitch + Time function. The Move Point and Move Region tools are only active where audio has been tracked using Pitch + Time.

For more information on Time Correction, see the Time Correction overview and the Tutorials section.

Move Point Tool

The Move Point Tool allows you to select a range of audio and then move a point within that range forward or backward in time, compressing and expanding the audio around it.

Using the Move Point Tool is a two step process:

1. Click and drag to select the audio range you wish to operate on.

2. Click and drag anywhere within that region to move a point forward or backward in time.

Move Region Tool

The Move Region Tool allows you to select a range of audio and then move a region within that range forward or backward in time, compressing and expanding the audio around it, but leaving the internal timing of the moved region unchanged.

1. Click and drag to select the audio range you wish to operate on.
2. Click and drag to select the region within that range that you wish to move.
3. Click and drag to move the region.

Displays

CLOCK	CURSOR	DETECTED	OBJECT	OUTPUT
00:03.7	5.396	B2 -29	A#2 +9	A#2 +44

Clock

During playback, the Clock Display shows the current time position in seconds.

Cursor

The Cursor Display shows the current time position of the cursor in the Main Graph.

Detected

The Detected Display shows the detected pitch (red curve) at the current cursor position in the Main Graph. The readout includes the letter name of the pitch, the octave number, and offset in cents.

Object

The Object Pitch Display shows the target pitch of the [Correction Object](#) (Curve, Line, or Note) at the current cursor position. The readout includes the letter name of the pitch, the octave number, and offset in cents.

Output

The Detected Display shows the output pitch ([green curve](#)) at the current cursor position in the Main Graph. The readout includes the letter name of the pitch, the octave number, and offset in cents.

Settings and Preferences

The Settings Menu and Preferences Dialog allow you to customize the behavior and appearance of Auto-Tune Pro in a variety of ways. The Preferences Dialog is accessed via the Settings Menu.

Note that some items appear in both the Settings Menu and the Preferences Dialog. To quickly change a setting just for that one instance of Auto-Tune Pro, change it in the Settings Menu. To change the default setting of that item, change it in the Preferences Dialog, then make sure that the Save as Default box is checked, and click Save.

Preferences...

Opens the Preferences dialog

Auto Scroll

When Auto Scroll is on, Auto-Tune's Graph Mode will automatically scroll during playback to match the playback position of the host application. You can choose between continuous scrolling and page-by-page scrolling in Preferences.

When Auto Scroll is off, the Main Graph display will remain where you leave it, and will not scroll automatically.

Enable Auto-Key Key/Scale Detection

This setting enables Auto-Tune Pro to receive key and scale information from Auto-Key

Snap to Note

The Snap to Note setting allows you to perfectly align Correction Objects to the pitch grid defined by the current scale setting in Graph Mode.

When moving Note objects with the Arrow Tool while Snap to Note is on, the Note

objects will snap to the nearest scale tone. When using the Line Tool while Snap to Note is on, any new line segments that you draw will snap to the closest scale note.

Holding down the Shift key on your keyboard while editing will temporarily toggle the state of Snap to Note. For example, if Snap to Note is on, you can hold down Shift to move a Note object continuously between scale notes. If Snap to Note is off, you can hold down Shift while moving a Note object to make it snap to the closest scale note.

Show Tracked MIDI

Auto-Tune Pro allows you to record a MIDI input in Graph Mode and use the recorded MIDI notes to create Note correction objects. When Show Tracked MIDI is on, any recorded MIDI data will be displayed in the Main Graph.

Show Lanes in Main Graph

The Main Graph default mode displays horizontal lines that represent the center of each pitch. When Show Lanes in Main Graph is turned on, it instead displays lanes that extend from the left-hand "keys" and are tinted to differentiate the sharps and/or flats. Note objects will snap neatly into these lanes, just as they do with the default center-lines. Show Lanes is only available for Chromatic, Major, and Minor scales.

Show Waveform in Main Graph

By default, the waveform of the tracked audio is displayed in the Main Graph, along with any pitch curves and correction objects. If you don't want to see the waveform, uncheck this setting.

Zoom to Data After Tracking

When Zoom to Data After Tracking is on, Auto-Tune's Graph Mode automatically zooms out after tracking pitch, to show the pitch contour of the entire section that was just tracked.

Use Custom Cursors

Normally, Auto- Tune Pro displays different cursor shapes in the [Main Graph](#) to help you select ranges and grab and drag objects (e.g., the object cursor, the anchor point cursor, etc.).

However, some host applications mistakenly think that they own the cursor when it is in a plug-in window. This may cause the cursor to flash as the host and Auto-Tune Pro alternately try to set the cursor shape. If this annoys you, turn off Use Custom Cursors. It will stop the flashing, but you will no longer see Auto-Tune Pro's custom cursors.

Play Pitch When Moving Notes

When Play Pitch When Moving Notes is on, clicking and holding on a [Note](#) object will result in a tone sounding at the current pitch of the Note object. When you drag the Note object up or down you'll hear the tone changing to match the position of the Note.

Select Pitch Reference

Auto-Tune Pro provides the ability to pitch correct stereo tracks while maintaining phase coherence between the two channels. The Select Pitch Reference setting lets you choose which of the stereo tracks will be used to analyze the pitch. If one channel is cleaner or better isolated than the other, select that channel as the pitch reference.

When using Auto-Tune Pro on a stereo track, both channels should feature the same source material (e.g. the same vocal performance recorded with two microphones).

Select Detune Display

The [Detune](#) function is used to tune to a reference frequency other than the standard A = 440Hz. Select Detune Display lets you choose whether it will display the offset in cents or Hz.

Time Display

When Time Display is set to Bars/Beats, Graph Mode will display time using bars and beats (as defined by your host's tempo). When set to Minutes/Seconds in will display the absolute time in hours, minutes, seconds, and fractions of seconds from the beginning of the timeline.

Clock Source

The Clock Source setting lets you choose whether Auto-Tune Pro's Graph Mode will use the time information provided by the host application (DAW), or an internal time reference. We recommend keeping this set to Host, except in extremely rare cases where the host application is not providing valid time information.

Use Low Latency

If you plan to use Auto-Tune Pro in a live performance or monitor through it in real time while recording, turn on Use Low Latency to minimize any processing delay.

Enable Time Control

This setting enables or disables the Time Correction features. Unchecking Enable Time Control will not delete any time correction edits that you have made. It will only temporarily disable them. This is useful if you want to compare the timing of the original audio to the time corrected version, without disrupting any pitch correction edits that you may have made.

Data File Management

To enable non-destructive time correction editing, Auto-Tune Pro creates a copy of any audio that you track into graph mode using the Pitch+Time function.

Unlike the pitch data generated by the traditional Track Pitch function, which is always stored with the instances of Auto-Tune in your session, the audio recorded for time shifting by the Track Pitch + Time function is saved as one or more separate files elsewhere on your computer.

To help manage the recorded audio data required for time shifting, Auto-Tune Pro provides a Data File Management dialog that allows you to establish or move the location of the data files, rename the folder where they're stored, or delete them if they are no longer necessary.

When transferring a project that uses time correction from one computer to another, use the Data File Management dialog to save the time shifting data files in your project folder, or in another convenient location.

Check for Updates Automatically

Leave this item checked if you would like to check for updates every time you open Auto-Tune Pro.

Check for Updates Now

Click this if you would like to check for updates now.

Preferences

MIDI Control Assignments:	

Use custom cursors in graph mode

Normally, Auto- Tune Pro displays different cursor shapes in the Main Graph to help you select ranges and grab and drag objects (e.g., the object cursor, the anchor point cursor, etc.).

However, some host applications mistakenly think that they own the cursor when it is in a plug-in window. This may cause the cursor to flash as the host and Auto-Tune Pro alternately try to set the cursor shape. If this annoys you, turn off Use Custom Cursors. It will stop the flashing, but you will no longer see Auto-Tune Pro's custom cursors.

Disable Cursors While Transport is Running
Check this box to disable the custom cursors in Graph Mode only when the transport is running.

Display Vertical Line at Cursor Time Position

By default, the Main Graph in Graph Mode shows a vertical line to indicate the position of the cursor. If this bothers you, you can turn it off here.

Show Output Pitch Curves

Click the checkbox to show the green output pitch curves in Graph Mode. When not checked, only the red tracked pitch curve and the various Correction Objects (Line, Curve or Note) will be visible.

Show Waveform in Main Graph

By default, Auto-Tune Pro displays the waveform of any tracked audio in the Main Graph, in addition to pitch curves and pitch correction objects. To hide the waveform, uncheck this box.

Play Pitch When Moving Notes

When this setting is on, clicking and holding on a Note object will result in a tone sounding at the current pitch of the Note object. When you drag the Note object up or down you'll hear the tone changing to match the position of the Note.

Show Waveform Overview

When this is checked and saved as default, the Waveform Overview will be visible in Graph Mode when opening new instances of Auto-Tune Pro. The Waveform Overview can also be shown and hidden by clicking the show/hide arrow in the lower right corner of the Main Graph. If you prefer to have a little more room in the Main Graph, and only open the Waveform Overview as needed, you may want to uncheck this.

Knob Control

Knob Control lets you select how you want to control the knobs in the Auto-Tune Pro interface. Options include Linear, Circular, and Follow Host.

Linear:
Click on the knob and drag up or to the right to turn it clockwise, down or left to turn it counterclockwise.

Circular:
Click on the knob and drag in a circle to rotate the knob.

Follow Host:
If this option is chosen, Auto-Tune Pro will attempt to follow the knob control behavior of the host application (DAW). If the host application does not provide that information to plugins, the behavior will default to Linear.

Default Retune Speeds for Correction Objects

Sets the default Retune Speed that will be assigned to Correction Objects when they are first created. You can also change the Retune Speed of any correction objects in Graph Mode by selecting the object or objects and adjusting the Retune Speed control.

Auto Scroll Mode

When Auto Scroll is on and Auto Scroll Mode is set to Smooth Scrolling, Auto-Tune Pro's Graphic Mode will continuously follow the playback position of the host application. With screen-by-screen scrolling, the display remains stationary until the play position

reaches the right-hand edge of the window, at which time the display jumps to the next screen of data.

Smooth scrolling delay

We have found that Graph Mode scrolling sometimes displays more smoothly in some DAWs than in others . If you have selected Smooth Scrolling and the display does not scroll smoothly (i.e., it jerks or jumps), changing the Smooth Scrolling Delay value can often help.

MIDI Control Assignments

Many of Auto-Tune Pro's parameters can now be controlled in real time with any MIDI controller that sends MIDI CC (continuous controller) messages.

To assign an Auto-Tune Pro parameter to one of the controls on your MIDI device, enter the MIDI CC value that your MIDI controller sends from that control. Check your MIDI controller's documentation for information about what MIDI CC value is sent by each control. You can also use a utility application such as MIDI Monitor to see what CC messages are being sent by your controller.

You will also need to route the MIDI to Auto-Tune Pro within your host application (DAW). The procedure for routing MIDI to an audio plugin will vary depending on what DAW you are using, so please see your DAW's manual or help pages for more information about how to do this.

Key Bindings

The Key Bindings section allows you to assign your most commonly used Graph Mode tools and controls to the row of number keys at the top of your keyboard.

Check for Updates Automatically

Leave this item checked if you would like to check for updates every time you open Auto-Tune Pro.

Check for Updates Now

Click this if you would like to check for updates now.

Save as default

When the Save as Default box is checked, any changes to Preferences that you save will become the default settings for future instances of Auto-Tune Pro.

If you want to make a temporary change to the preferences just for this instance, without overwriting your default preferences, uncheck this box.

Auto-Key: Automatic Key and Scale Detection

Auto-Key is a new plugin, included with your Auto-Tune Pro purchase, which automatically detects the key and scale of your music and sends that information to one or more instances of Auto-Tune Pro.

If you already know the key and scale of your tracks, you may also find Auto-Key useful for conveniently setting the Key and Scale parameters for all of your Auto-Tune Pro instances simultaneously.

Auto-Key Controls

Scale Display
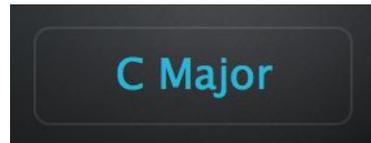
The Scale Display shows the detected Key and Scale of your audio. To scan and analyze your track, just begin playback, and Auto-Key will detect the key and scale of the track that it is instantiated on. If you've already analyzed some audio, click on the Scale Display to reset it before beginning playback again, or click on it any time to reset scale detection.

Alternatively, you can click the File Upload button to analyze an audio file that is stored elsewhere on your hard drive. Either way, the detected Key and Scale will be shown in the Scale Display.

Note that in cases which two scales share the same set of notes, known as relative major and relative minor scales, Auto-Key may sometimes identify the 'wrong' key (e.g. C major instead of A minor). As a practical matter, this is not a problem, since the two scales share the same set of notes.

Reference Frequency Display
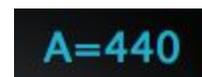
In addition to detecting the key and scale of your track, Auto-Key also analyzes the tuning of the track to determine its reference frequency. Most modern music is tuned so that the A above middle C is equal to 440 Hz, but this is not always the case. If your track is tuned to a different reference frequency, you'll want to adjust Auto-Tune's Detune parameter accordingly.
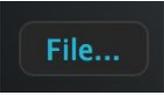
Scale Menu

If you already know the key and scale of your track, and you want to use Auto-Tune to send that information to multiple instances of Auto-Tune Pro, choose the correct scale from the Scale Menu, then click Send to

Auto-Tune. To go back to auto-detecting the scale, choose Auto-Detect from the Scale Menu.

File Upload

In addition to analyzing the audio of the track that it's instantiated on, Auto-Key can also analyze an audio file located elsewhere on your hard drive and detect its key and scale. To choose the file that you wish to analyze, click the File Upload button, and navigate to the file, then click Open. Auto-Key will analyze the entire audio file and Scale Display will then show the detected key and scale.

Send to Auto-Tune
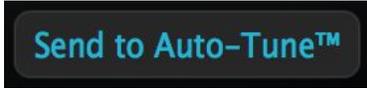
Clicking the Send to Auto-Tune button will send the current key and scale data to Auto-Tune Pro. Any instances of Auto-Tune Pro in the project will update their Key and Scale settings accordingly (provided that Enable Auto-Key Key/Scale Detection is checked in the Settings menu).

Keyboard
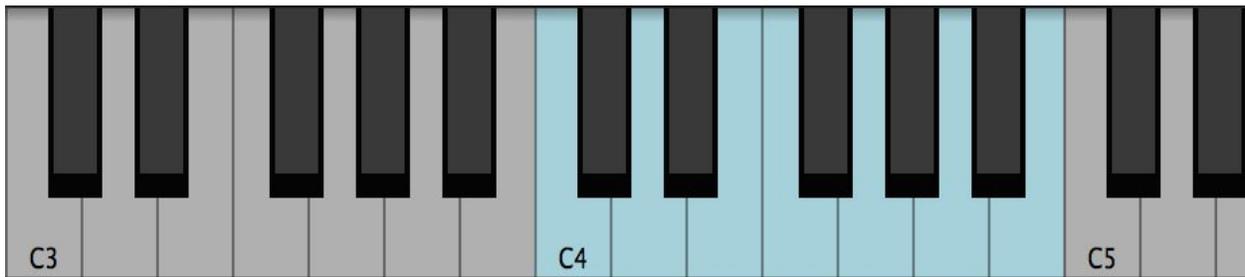
The Keyboard shows the notes of the detected or selected scale by marking them blue..

Auto-Key Workflow

Below are three basic workflows for using Auto-Key with Auto-Tune Pro.

Analyzing Audio From a Track in Your Project

1. Open one or more instances of Auto-Tune Pro in your project. Be sure that Enable Auto-Key Key/Scale Detection is turned on in the Settings menu for each instance.
2. Open an instance of Auto-Key on one of your tracks or on the master output. For best results use Auto-Key on a track that has lots of harmonic information, such as a chordal instrument or bass track, or a sub-mix of pitched instrument or vocal tracks.
3. Begin playback. As the track plays, Auto-Key will analyze the audio and then display the likely key and scale in the Scale Display. Be sure to play back at least 10 seconds of audio to allow Auto-Key enough time to detect the key of the track.
4. Click the Send to Auto-Tune button. The Key and Scale parameters of the Auto-Tune Pro instances will be set to the key and scale that Auto-Key has detected.

Analyzing Audio From an External Audio File

1. Open one or more instances of Auto-Tune Pro in your project. Be sure that Enable Auto-Key Key/Scale Detection is turned on in the Settings menu for each instance.
2. Open an instance of Auto-Key on any track in your project.
3. Click the File Upload (File…) button. Auto-Key will analyze the audio file and then display the likely key and scale in the Scale Display.
4. Click the Send to Auto-Tune button. The Key and Scale parameters of the Auto-Tune Pro instances will be set to the key and scale that Auto-Key has detected.

Manually Choosing Key and Scale

If you already know the key and scale of your music, you can still use Auto-Key to conveniently set the Key and Scale parameters for all instances of Auto-Tune Pro in your project, all at once.

1. Open one or more instances of Auto-Tune Pro in your project. Be sure that Enable Auto-Key Key/Scale Detection is turned on in the Settings menu for each instance.
2. Open an instance of Auto-Key on any track in your project.
3. Choose the appropriate scale from the Auto-Key Scale Menu.
4. Click the Send to Auto-Tune button. The Key and Scale parameters of the Auto-Tune Pro instances will be set to the key and scale that that you've chosen from the Auto-Key Scale Menu.

Tutorials

The Auto-Tune Effect

In addition to being the worldwide standard in professional pitch correction, Auto-Tune is the tool of choice for one of the signature vocal sounds of popular music: the Auto-Tune Effect.

First heard on Cher's 1998 hit song "Believe," variations of the Auto-Tune Effect have appeared in songs from a huge variety of artists. Since there seems to be a lot of mythology about how it's accomplished, we thought we'd provide the official Antares version here.

What is it?

The Auto-Tune Effect is what is technically known as "pitch quantization." Instead of allowing all of the small variations in pitch and the gradual transitions between notes that are a normal part of singing, the Auto-Tune Effect limits each note to its exact target pitch, stripping out any variation, and forcing instantaneous transitions between notes.

How to do it

There are basically three key elements to producing the Auto-Tune Effect in Auto- Tune Pro:

1. Set Flex-Tune to 0.
2. Set Retune Speed to 0.
3. Pick the right scale

That's pretty much it. However, there are some possible variations in approach, depending mainly on whether you want to use Auto Mode or Graph Mode.

Auto Mode

1. Start by setting both Flex-Tune and Retune Speed to 0.
2. Set the Key and Scale to the key and scale of your track.
3. Play your track. If you like the result, you're done.
4. If you're not happy with the result, try one or more of the following:

    *   Edit the scale notes using the Keyboard or Edit Scale Display. Adding or removing scale notes can give you distinctly different effects. Removing some notes can be especially effective for a more dramatic effect on note transitions.
    *   Try a different key and/or scale.
    *   Try a Retune Speed of 2 or 3 or a bit slower. This will allow slight pitch variations and slightly less instant note transitions, but may result in the right effect for a particular performance.
    *   Try turning on Classic Mode, for a subtly different flavor of the Auto-Tune Effect
    *   Don't forget your host application's bypass and automation functions. Limiting the Auto-Tune Effect just to specific phrases can provide sonic contrast in your song.

Graph Mode

Auto-Tune Pro's Note objects in Graph Mode will give you more detailed control over the Auto-Tune Vocal Effect.

1. Since you want all of your Notes quantized, start by opening the Preferences dialog from the Settings menu and setting the default Notes Retune Speed to 0. Alternatively, you can select the the Note objects after creating them and change their Retune Speed to 0.
2. Click the Track Pitch button and begin playback to track your audio into Graph Mode.
3. Click the Make Notes button. If necessary, adjust the Number of Notes control to get as accurate a representation of the desired target notes as possible.
4. Make sure that all of the Note objects in the range where you want the effect to happen butt up against each other (this will ensure that all of the note transitions

are instantaneous). If they don't, either use the Arrow Tool to extend existing Note boundaries so that they do, or use the Note Tool to draw new notes to fill in any gaps.

5. Play your track. If you like the result, you're done.
6. If you're not happy with the result, experiment with changing the pitch or length of individual Notes. The beauty of Note objects is that you can literally sculpt any melodic contour to get exactly the effect you desire.

Auto Mode Basics

This tutorial will guide you through the basic Auto Mode functions using the audio file "A2- A3-A2 sweep." This is a simple synthesized waveform sweeping slowly from A2 up to A3 and back to A2. While it is unlikely that you'd ever need to process such an input with Auto-Tune Pro, it provides a very clear example of how the main Auto Mode controls work.

To begin

1. Load or import "A2-A3-A2 sweep" into a track of your host program. Play the track to hear the unprocessed audio.
2. Open Auto-Tune Pro as an insert effect on that track.

Scale and Key Settings

3. Set the Key to "A" and the Scale to "Major."
4. Set Retune Speed to zero.
5. Set Flex-Tune to zero.
6. Set "A2-A3-A2 sweep" to loop continuously in your host program and start playback.

What you will hear is an A major scale. This is because Auto-Tune Pro is continuously comparing the input pitch to the notes of the A major scale and instantly correcting the output pitch to the nearest of the scale tones.

Remove Notes

1. Click the Advanced button to show the Advanced View controls.
2. In the Edit Scale Display, click the Remove buttons under the notes B, D, F# and G#.
3. Play "A2-A3-A2 sweep" again.

You will now hear an arpeggiated A Major triad because you have removed all the other notes from the scale.

Bypass Notes

1. In the Edit Scale Display, click the Bypass button under the note E.
2. Play "A2-A3-A2 sweep" again

You'll now hear the effect of bypassing the E. When the input pitch approaches E Auto-Tune Pro passes the input through uncorrected.

Retune Speed

1. Set the Retune Speed to 0
2. Play "A2-A3-A2 sweep"
3. Set the Retune Speed to about 30.
4. Play "A2-A3-A2 sweep" again. Compare the 30 setting to the 0 setting.
5. Try various other Retune Speed settings.

The setting of 0 (milliseconds) is fast, and Auto-Tune Pro makes instantaneous pitch changes. The setting of 30 is slower, Auto-Tune Pro makes more gradual pitch changes. Retune Speed controls how rapidly the pitch correction is applied to the incoming pitch.

Detune

1. Set the Retune Speed to 0.
2. In the Edit Scale Display, click the Remove buttons below all the notes except F#.
3. Play "A2-A3-A2 sweep" again. As the sound is playing, move Detune knob.

The output pitch will be locked to F#, however, you will hear the output pitch change with the Detune knob movement. This is because the Detune knob is changing the pitch standard of the scale.

Create Vibrato

1. In Advanced View, Select Sine Wave from the Shape menu in the Create Vibrato section.
2. Play "A2-A3-A2 sweep" again.
3. Experiment with the various Create Vibrato controls to hear their effects.

Flex-Tune

This tutorial will guide you through the use of Flex-Tune using the same "A2-A3-A2 sweep" file.

To begin

1. Load or import "A2-A3-A2 sweep" into a track of your host program.
2. Set up Auto-Tune Pro to be an insert effect on that track.
3. Set the Key to A and the Scale to Major.
4. Set the Retune Speed to zero.

No Flex-Tune

1. Set Flex-Tune to 0.
2. In the Edit Scale Display, click the Remove buttons next to the notes B, D, F# and G#.
3. Play "A2-A3-A2 sweep."

You'll hear an arpeggiated A Major triad because you have removed all the other notes from the scale.

Some Flex-Tune

1. Set Flex-Tune of 10.
2. Play "A2-A3-A2 sweep" again.

With a lower Flex-Tune setting such as 10, the correction range around each scale note is still quite wide.You will hear each note of the A Major triad instantly tuned as the sweep enters the correction range, but as the sweep moves out of the correction range, you will hear it transition to the next note without correction.

More Flex-Tune

1. Set Flex-Tune to of 55.
2. Play "A2-A3-A2 sweep" again.

At higher Flex-Tune settings, the correction range around each scale note becomes more narrow. Consequently, each scale note will be tuned to only briefly as the sweep passes through the narrow correction range and will transition to the next note without correction as it leaves the correction range.

Targeting Ignores Vibrato

This tutorial will demonstrate the Targeting Ignores Vibrato function. Targeting Ignores Vibrato helps Auto-Tune identify pitches correctly when a performance includes vibrato so wide that it approaches adjacent notes.

Auto Mode

1. Load or import "wide_vibrato" into a track of your host program. This is a recording of a male voice singing a sustained "G" with a wide vibrato.
2. Play the track to hear the unprocessed audio. In addition to the vibrato, you'll notice that the singer drifts alternately sharp and flat.
3. Set up Auto-Tune Pro to be an insert effect on that track.
4. Set the Key to C and the Scale to Chromatic.
5. Set the Input Type to Low Male Voice

6. Set Retune Speed to 24.
7. Set "wide_vibrato" to loop continuously in the host application and begin playback. Watch the blue detected pitch indication on the Keyboard, and listen to the result. As you will hear, whenever Auto-Tune Pro thinks G# or F# is the target pitch, it will move the input closer to those notes, instead of toward G.
8. Click Advanced to show the Advanced View controls, then click Targeting Ignores Vibrato to turn it on. With Targeting Ignores Vibrato engaged, Auto-Tune Pro recognizes the pitch deviations as vibrato and continues to use "G" as the target pitch.

Graph Mode (with Import Auto)

1. Still using "wide_vibrato," set up Auto-Tune Pro's Auto Mode as described in Steps 1-5 above.
2. Still in Auto Mode, set Retune Speed to 0.
3. In Advanced View, make sure Targeting Ignores Vibrato is Off.
4. Set Auto-Tune Pro to Graph Mode.
5. Click the Track Pitch button and begin playback to track the audio into Graph Mode. A red curve representing the detected pitch contour of the audio will be drawn on the Main Graph.
6. Stop playback, and click the Import Auto button. A blue curve will appear. This curve represents the pitch correction that would result from processing the audio with the current Auto Mode settings. Note all the instances in which Auto-Tune Pro identifies G# or F# as the target pitch.
7. Set Auto-Tune Pro back to Auto Mode.
8. In Advanced View, set Targeting Ignores Vibrato to On.
9. Return to Graph Mode.
10. Click Import Auto
11. Notice that the blue curve is now a straight line on "G," indicating that Auto-Tune Pro has correctly identified the pitch deviations as vibrato and has not chosen F# or G# as the target pitch.

Natural Vibrato Function

This tutorial will demonstrate the Natural Vibrato function using the "wide_vibrato" audio file. The Natural Vibrato function allows you to amplify or diminish the range of vibrato that is already present in your audio.

1. Load or import "wide_vibrato" into a track of your host program. This is a recording of a male voice singing a sustained "G" with a wide vibrato. Play the track to hear the unprocessed audio.
2. Open Auto-Tune Pro as an insert effect on that track.
3. In Auto Mode, Set the Key to C and the Scale to Chromatic.
4. Set the Input Type to Low Male Voice
5. Set Retune Speed to 24.
6. Set "wide_vibrato" to loop continuously and begin playback.
7. Set Natural Vibrato to 12 and note the effect on the vibrato. Set Natural Vibrato to -12 and note the effect on the vibrato.
8. In the Edit Scale Display set all Scale notes to Bypass to disable any pitch correction. Again, adjust the Natural Vibrato control and note that it's still active even when pitch correction is not being applied.

Transpose and Formant Control

This tutorial will demonstrate Auto-Tune Pro's pitch shifting, formant correction and throat modeling capabilities. We will use the "hidin_ vocal.wav" and "hidin_accomp. wav" audio files

1. Load or import the audio files onto two tracks in your host program.
2. Open Auto-Tune Pro as an insert effect on the track with the "hidin_ vocal" audio file.
3. In Auto Mode, Select Ab minor as the Key and Scale, "alto/tenor" as the Input Type. Set the Retune Speed to 20.
4. Play the audio file.
5. Set the Transpose control to 7 (a perfect fifth up). Check to be sure that Formant is off.
6. Play the audio file and listen to the quality of the voice. Since the formants are being shifted with the pitch, you will hear the familiar "chipmunk" effect.

7. Click the Format button to turn on formant correction.
8. Play the audio file again and note the difference.
9. Play the audio file again while adjusting the Throat Length control to hear the effect of changing the modeled vocal tract.
10. Repeat steps 5 through 9 with different settings of the Transpose control.

Graph Mode Basics

This tutorial will introduce you to the basic Graph Mode functions, using the "A2-A3-A2 sweep" audio file.

Track Pitch

1. Load or import "A2-A3-A2 sweep" into a track of your host program. Play the track to hear the unprocessed audio.
2. Open Auto-Tune Pro as an insert effect on that track.
3. Set Auto-Tune Pro to Graph Mode.
4. Set the Key to A and the Scale to Major.
5. Click the Track Pitch button and begin playback to track the audio into Graph Mode. A red curve representing the detected pitch contour of the audio will be drawn to the Main Graph.
6. Stop playback.

Zoom Tool

1. Select the Zoom Tool and draw a box around the red curve to zoom in to selection.
2. Hold down the Option or Alt key on your keyboard and click on the graph with the Zoom Tool to zoom out one step.
3. Release the Option/Alt key and click on the graph with the Zoom Tool to zoom back in one step.
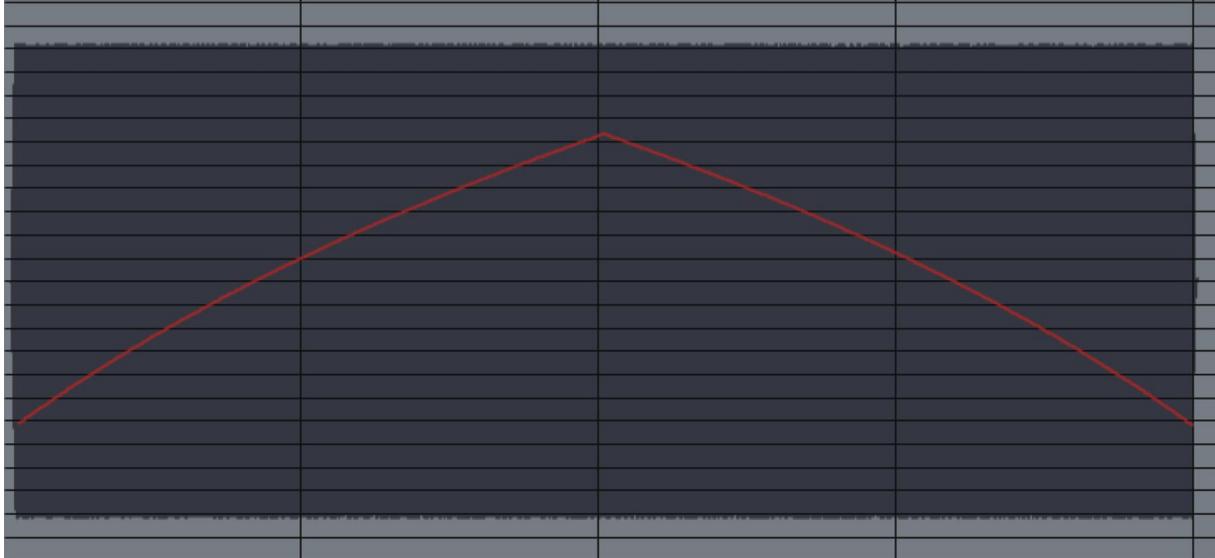
Line Tool

1. Select the Line Tool and draw a line similar to the one pictured below (in blue). By clicking multiple anchor points on the graph, line segments joining the points will be drawn. To erase the last point entered, press Delete on your keyboard. When done, double-click the last point or press Esc on your keyboard. A green output pitch curve will appear, reflecting the output pitch that results from Default Object Retune Speed as applied to the Line object.
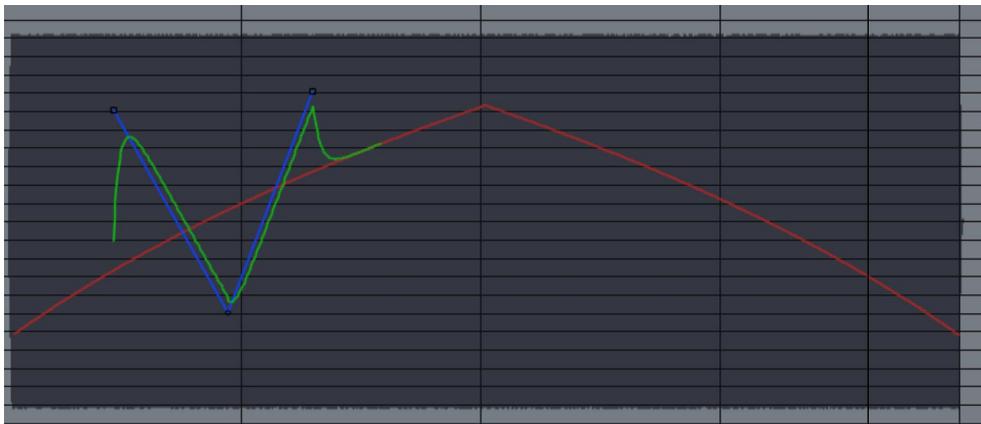

2. With the Line still selected, set the Retune Speed to 0 and observe the green output curve. Play back the sound to hear the effect.

3. Experiment with other Retune Speed settings, and note the effect on the green output curve. Play the track again to hear the result of applying different retune speeds to a Line object.

Curve Tool

1. Select the Curve Tool and create a curve similar to the one shown below. Click and hold the mouse button and drag to draw the curve. When done, release the mouse button.
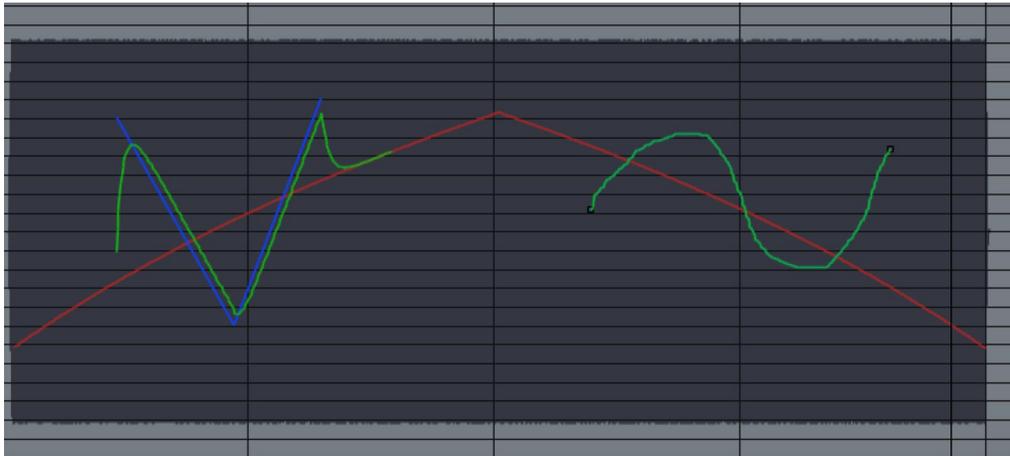
2. Play back the sound to hear the effect.
3. Vary the Retune Speed between 0 and 400 and note the effect on both the green output curve and the audio.

Arrow Tool

1. Select the Arrow Tool.
2. Click and drag the Arrow Tool across the Main Graph to select objects.
3. Move the cursor over curves and anchor points. Practice selecting entire curves and individual anchor points.
4. Use the Arrow Tool to drag selected curves and individual anchor points up and down.
5. Double-click anywhere on a Line object to create a new anchor point. Use the Arrow Tool to drag the new point to a new position.
6. Still using the Arrow Tool, double-click on the new anchor point you created to delete it and return the line to its initial state.

Scissors Tool

1. Select the Scissors Tool and click on an existing line or curve to break it in two at that point. A stacked pair of anchor points will be created at the point you click.
2. Select the Arrow Tool again and use it to drag each of the new end points to a new position.

Make Curves and the Line Tool

This tutorial will demonstrate two approaches to creating Correction Objects in Graph Mode: the Make Curves function and the Line Tool.

Make Curves

The Make Curves function creates new Curve objects from from the detected pitch contour data. The Curve objects can then be dragged and stretched for very precise pitch correction.

1. Load or import the "Crowd All" audio file into a track of your host program.
2. Open Auto-Tune Pro as an insert effect on that track and switch to Graph Mode.
3. Press the Track Pitch button and begin playback to track the audio in to Graph Mode.
4. Select the Zoom Tool and drag out a box on the graph that encloses the red curve for the last word, "together."
5. Click and drag with the the I-Beam Tool to select the "-gether" part of the word "together."
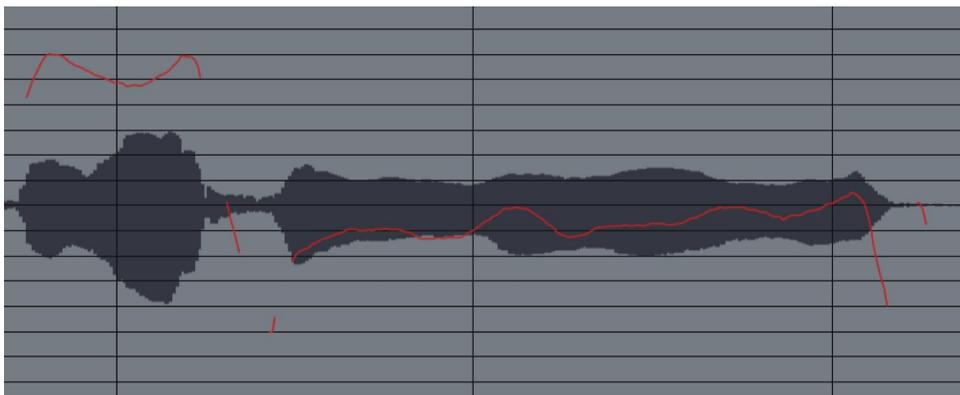
6. Click the Make Curve button. Auto-Tune Pro will create a new blue curve object from the existing pitch data as well as a green output curve that reflects the default Curve Retune Speed. (The new curves may be difficult to see at first because they may exactly overlay the red curve.)
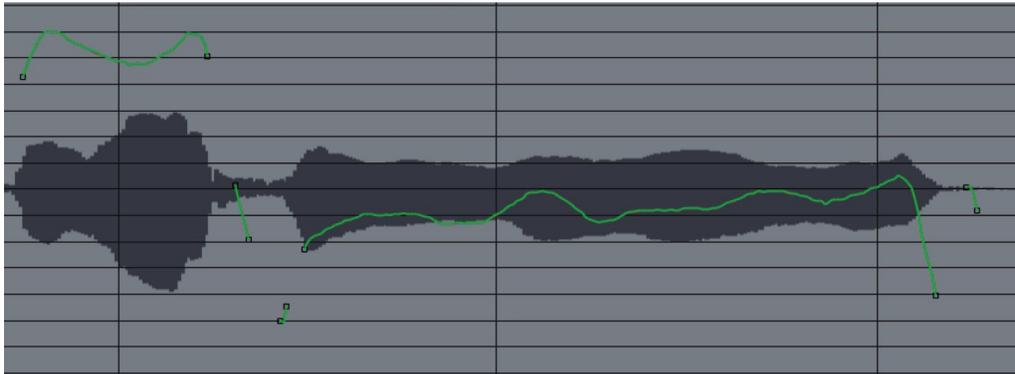
7. Click the I-Beam Tool on the background of the Main Graph to deselect the Curve object.
8. Select the Arrow Tool and click precisely on the left end of the long curve to select only the left anchor point (you'll know you're over the anchor point when the cursor changes to the up-and-down arrow cursor). Drag this straight up, stretching the curve so it is centered around the D3 graph line.
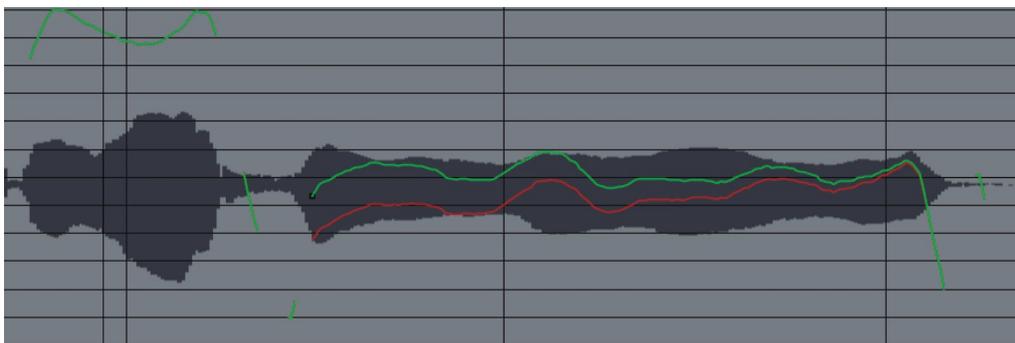
9. Drag the Arrow tool across the last curve to select it. Then move the Arrow Tool over the body of a correction curve so that the cursor changes to the horizontal bar. Click and drag the curve straight down so that it's centered on the C3 graph line.
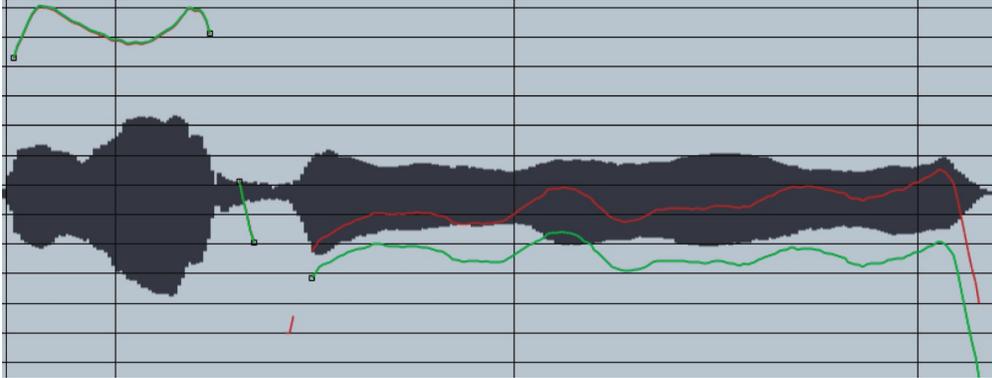
10. Play back the track and listen to the result.

The Line Tool

Here is an alternative approach to the same pitch problem using the Line Tool.

1. Click "Select All" and then click "Cut" to delete the curves you created in the steps above.
2. Make sure Snap To Note is on in Settings and use the Line Tool to draw a horizontal line at C3 as shown below.
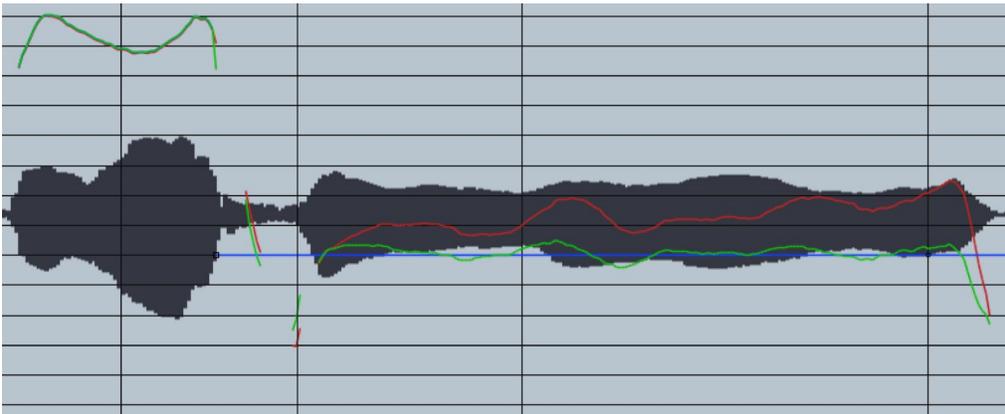
3. Set the Retune Speed to 20 and play back the sound. Experiment with other Retune Speeds to see their effect on the green correction curve and to hear their effects.

Import Auto

The Import Auto function lets you display pitch corrections that would result from specific Auto Mode settings, and edit them in Graph Mode.

1. Load or import the "Crowd All" audio file into a track of your host program.
2. In Auto Mode, set the Key and Scale to C Major and the Retune Speed to 20.
3. Switch to Graph Mode.
4. Press the Track Pitch button and begin playback to track the audio into Graph Mode.
5. Select the Zoom Tool and drag out a box on the Main Graph that encloses the red curve for the words "crowd all rushed."
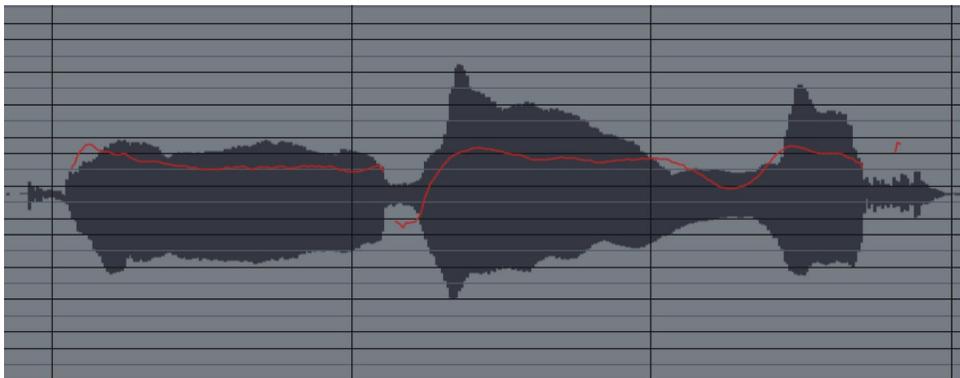
6. Use the I-Beam Tool to drag a selection in the Main Graph or Waveform Overview as shown:
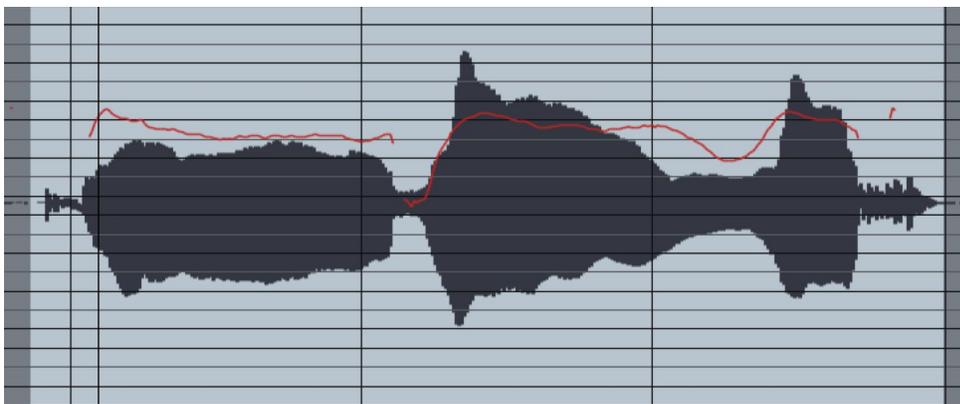
7. Click the Import Auto button to create a new blue Curve object from the existing pitch data as well as a green output curve.
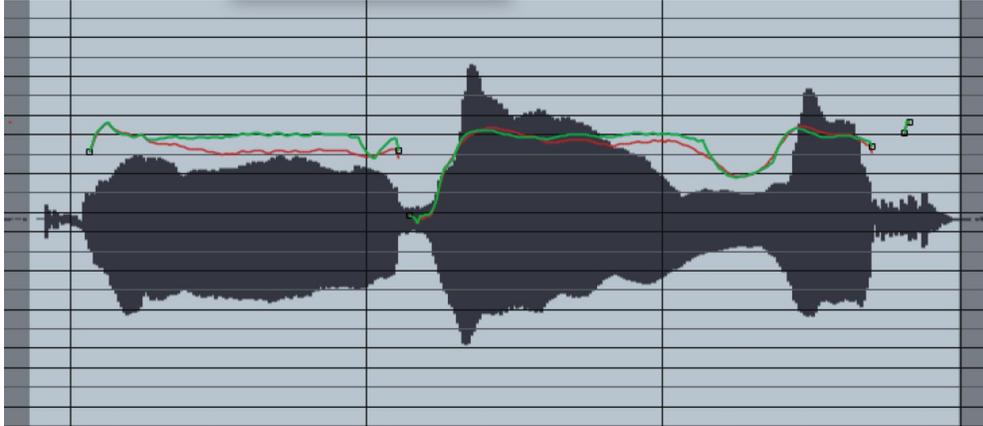
Assuming that this entire phrase should be centered around E3, there are several problem spots where the pitch is being incorrectly adjusted towards neighboring tones.

8. Switch to the Auto Mode, and go to Advanced View. In the Edit Scale Display click the Remove buttons next to C, D, F, A, and B.

9. Return to the Graph Mode and use the I-Beam tool to drag out a selection in the Waveform Overview.
10. Press the Import Auto button to create new blue and green curves from the existing pitch data.
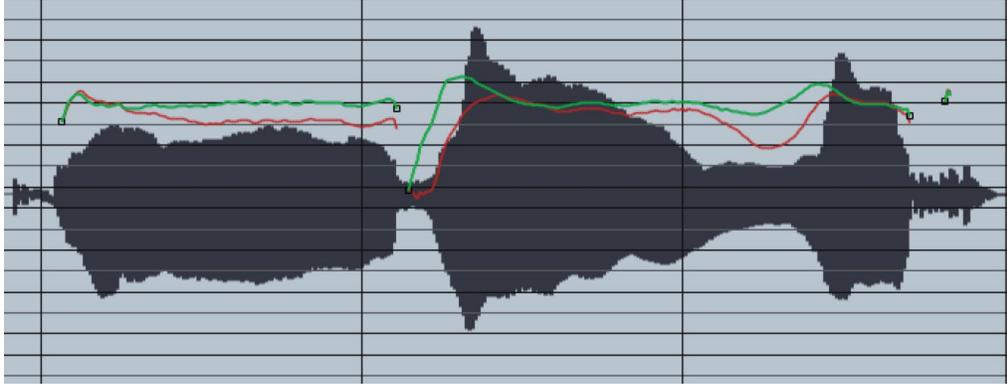
Note how the pitch errors from the previous curve have been removed. Also, note the raised pitches indicated above. This occurs because the Auto Mode Retune slider value of 20 is slow compared to the rapidly increasing pitch that is occurring at that point in time. But even with the raised pitches, the average output pitch is centered on E3 and the phrase sounds in tune.

Make Notes

This tutorial will help you become familiar with the Make Notes function and how Note objects are used for pitch correction and selective pitch shifting.

For this tutorial, we will use the "dont_give_ up_ vocal.wav" and "dont_give_up_accomp. wav" audio files.

1. Load or import the audio files onto two tracks in your host program.
2. Open Auto-Tune Pro as an insert effect on the vocal track and switch to Graph Mode.
3. Select D Major as the Key and Scale and Soprano as the Input Type.
4. Press the Track Pitch button.
5. Play the project and track the first 17 seconds of the track (until right after the word "remain"), then stop playback.
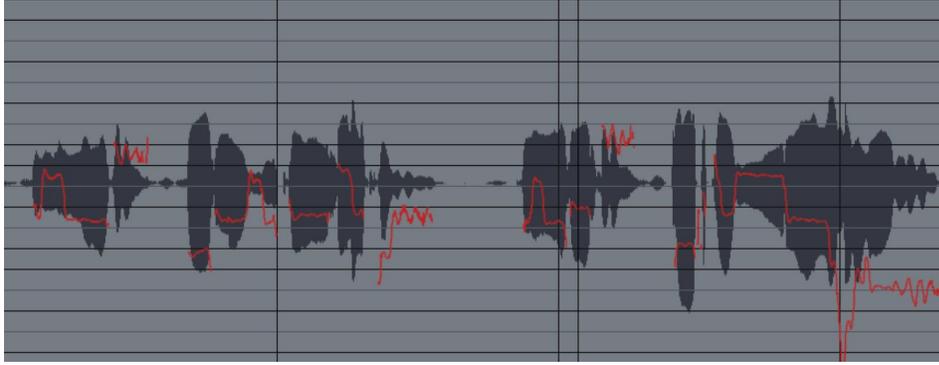
6. Click the Make Notes button and choose Make Notes.
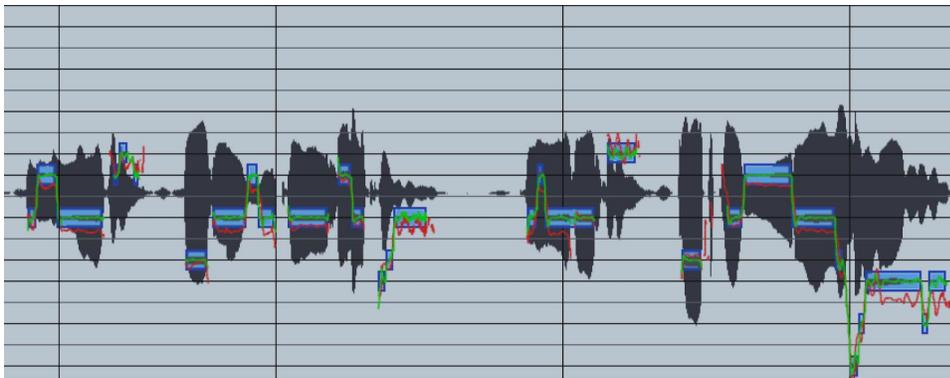
7. Play the project. Note that the default settings for the Number of Note Objects and Retune Speed do a good job of correcting the pitch for most of the phrase. However, the final syllable of "remains" goes so flat that some additional adjustment is necessary.

The first thing we need to do is correct the dip in pitch before the final C#3. We could do this by selecting each of the two low Note objects (A2 and B2) and individually moving them up to C#3, but it's easier just to expand the existing C#3 object.

8. With the Zoom Tool, click and drag a rectangle around the word "remains" to zoom in to that section.
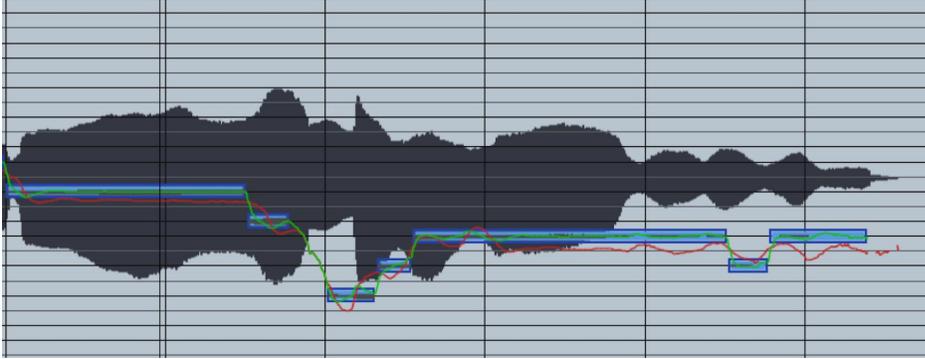
9. Select the Arrow Tool and move the cursor over the left end of the long C# note, then drag the left end of the note to extend it until it butts up against the end of the previous D3 Note Object.
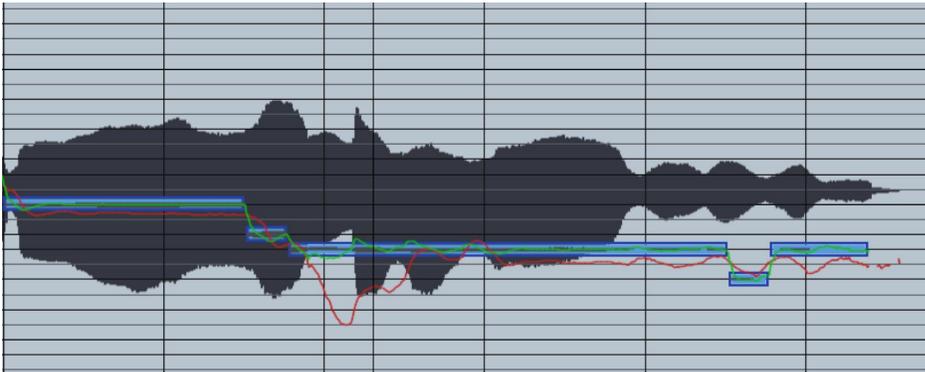

10. Since there's also a large dip in pitch towards the very end of the word, move the Arrow cursor over the right end of the long C#3 note and drag it to the right until it extends to the end of the phrase.
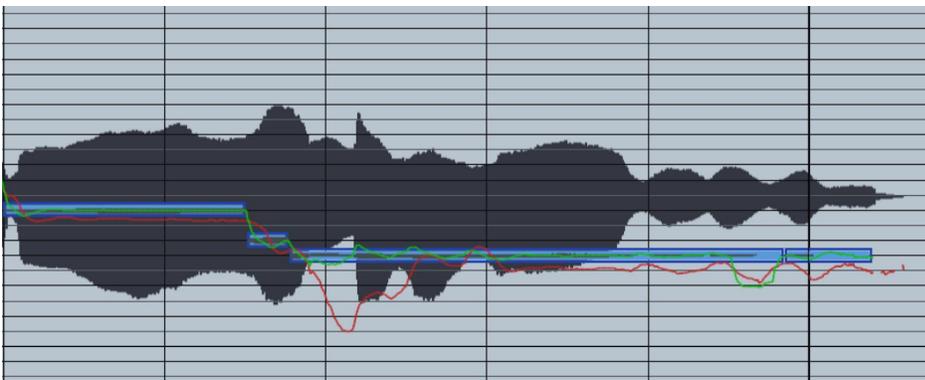
11. Still with the Arrow tool selected,clickon the final C#3 to select it. Now adjust the Retune Speed for the desired correction (start with a value of 10 or so). Note that with a long held note like this, too fast a Retune Speed can sound unnatural. The trick is to select a speed that pulls the attack in tune, while still allowing enough of the singer's original natural variation.

We'll continue with an example of selective pitch shifting.

1. Ensure that Formant is on. With the Arrow Tool still selected, move the cursor over the middle of the C#3 note and notice that it turns into the pitch shift cursor (little vertical up-and-down arrows). Click on the note and drag it up one semitone to D3. Play the file and listen to the melodic change.
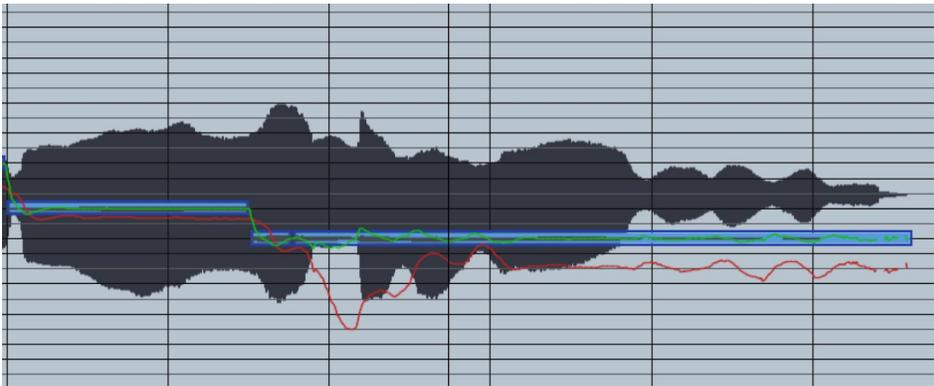
2. For a melodic variation, select the Scissors Tool and click on the now D3 note at the 16.052 second point to cut it into two notes.
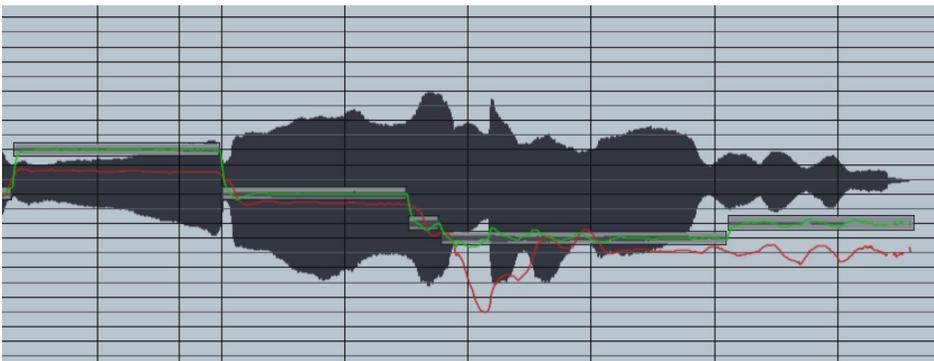

3. Select the Arrow Tool again and drag the left half of the note back down to C#3. Play the file and listen to the result.

Time: Error Correction

In this tutorial we'll use the Move Point and Move Region tools to correct timing errors in a lead vocal track. You can use the bars and beats scale as a reference for correction, and we've also included a harmony track with proper timing so that you can try correcting by ear.
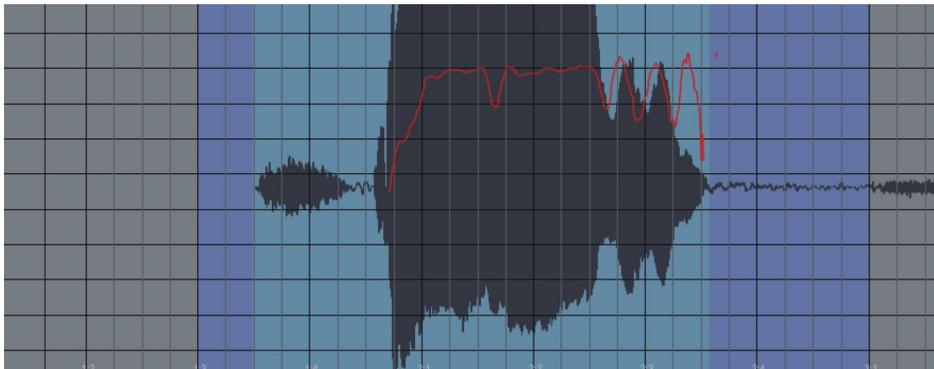
The Move Region Tool

1. Load or import the audio files "Time_ vocal" and "Time_accomp" into two separate tracks in your host application and set your host's tempo to 110 BPM. Listen to the tracks to become familiar with them.
2. Open Auto-Tune Pro as an insert effect on the "Time_vocal" track and select Alto/Tenor as the Input Type.
3. Switch to Graph Mode, then go to Settings and set the Time Display to Bars + Beats.
4. Press the Track Pitch + Time button and begin playback to track the audio.
5. Adjust the zoom and scroll controls to focus on the first two bars (there is one bar of silence at the beginning of the tracks).Note that the vocalist comes in early with the first word, "Time." SInce this word is isolated (i.e., there's silence after it), we'll use the Move Region Tool to move it into its proper place.
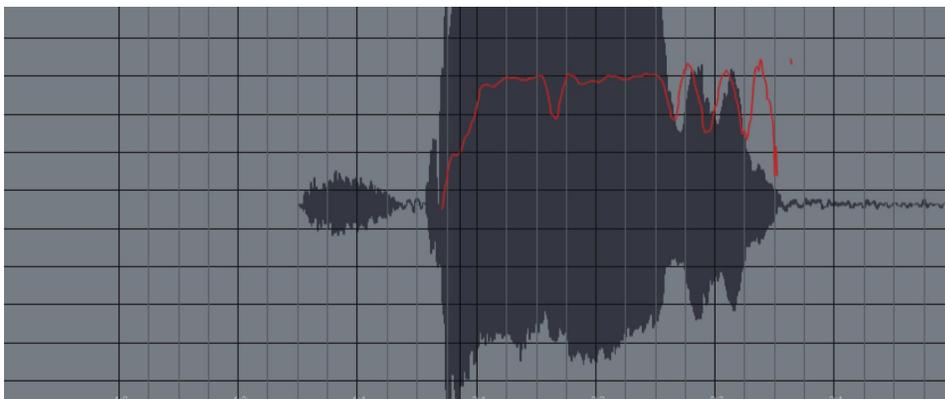
6. Use the Move Region Tool to select the initial range from the beginning of the third beat of the first measure to the end of the second measure. The precise boundaries of this selection are not critical, as long as there are a few beats of silence before and after the note to be moved.
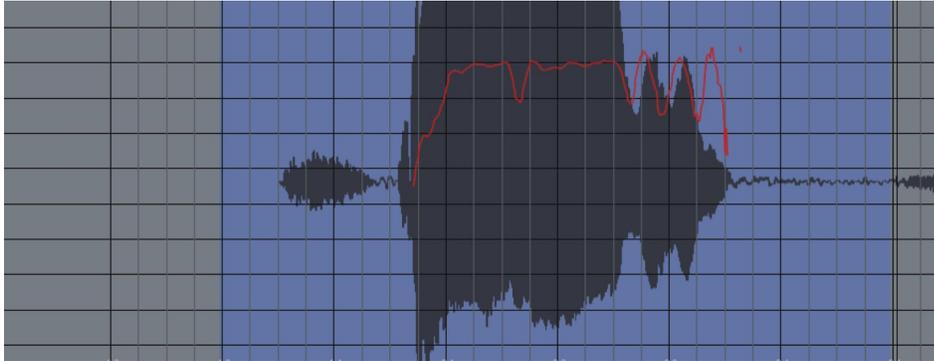
7. Use the Move Region tool to select the region to be moved. Select the the region from the beginning of the breath before the note (at time position 1:3.9) to the end of the note's decay (at time position 2:3.62).

8. Still using the Move Region tool, click and hold anywhere in the region selected in Step 8 and move the region to the right until the beginning of the note's main attack (the part after the initial breath) is lined up exactly on the first beat of measure 2.
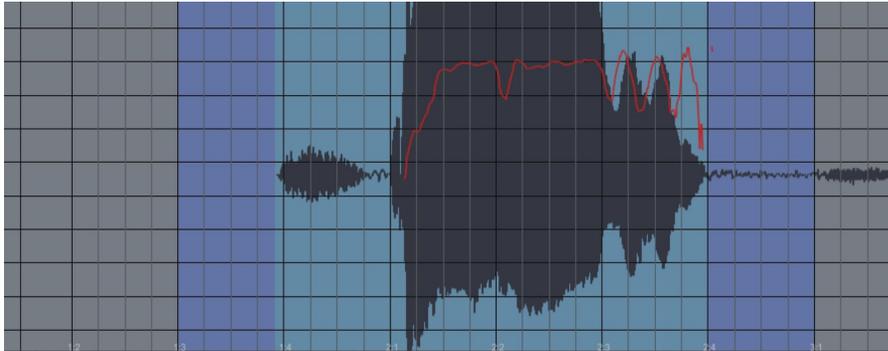

Play back your track and note that the two vocal parts are now perfectly in sync. You can also disable and re-enable Time Correction in the Settings menu to compare the original and time-edited versions.

The Move Point Tool: Adjusting an Ending

Moving on in the track, we'll use the Move Point Tool to correct a phrase that starts at the right point but ends late.

1. Adjust the zoom and scroll controls to focus on bars 3 through 5. Play the track and note that the end of the second phrase (the end of the word "illusion), is sustained too long.
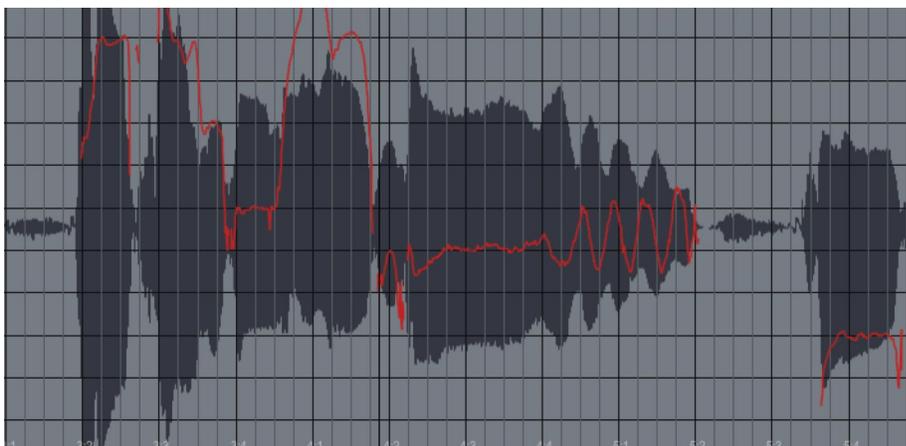
2. Use the Move Point Tool to select the range from the beginning of the last syllable of "illusion" (at time position 4:1.80) to the beginning of the breath before the following note (at time position 5:2.23).
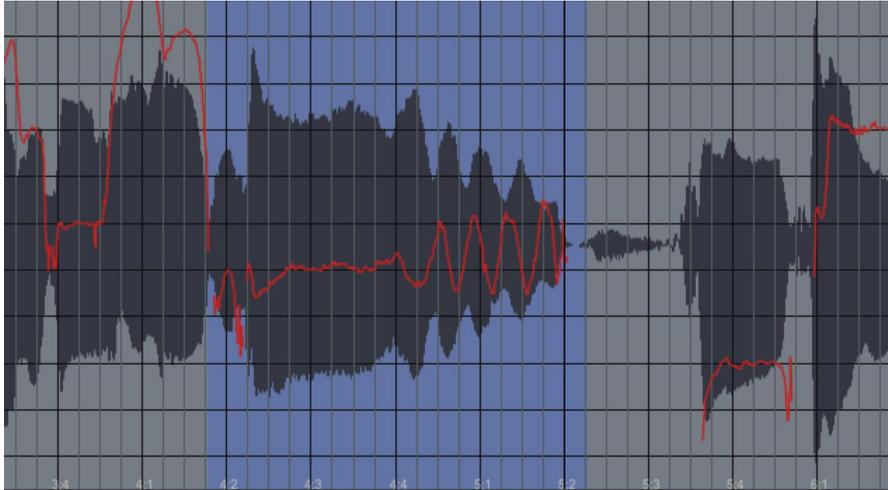
3. Use the Move Point Tool to select the point to be moved. In this case we want to move the very end of the phrase while leaving the beginning in place. Place the cursor over the very end of the note (at time position 5:2.10). Click and drag to move the end point back to the beginning of measure 5.
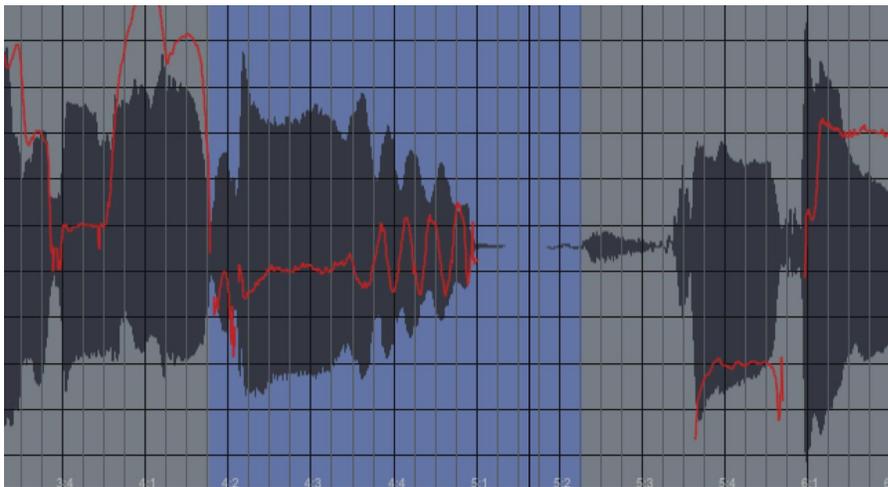

Play back the track and note that once again the two vocal parts are now perfectly in sync.

The Move Point Tool: Adjusting an Internal Syllable

For our final example, we'll use the Move Point Tool to correct a syllable in the middle of a word.

1. Adjust the zoom and scroll controls to focus on bars 7 through 9. Play the track and note that the start of the last syllable in the final word of the track ("delusion"), starts slightly too early.
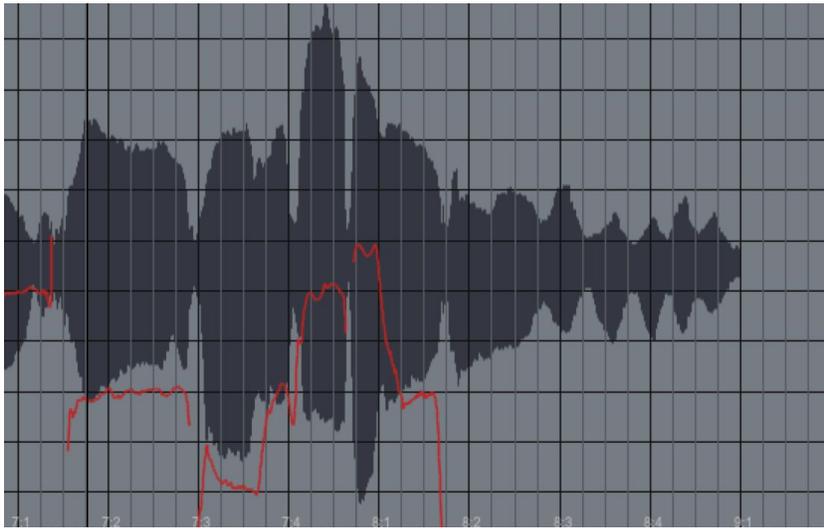
2. Use the Move Point Tool to select the range from the beginning of the word "delusion" (at time position 7:4.63) to a beat past the end of the track (at time position 9:2.0).
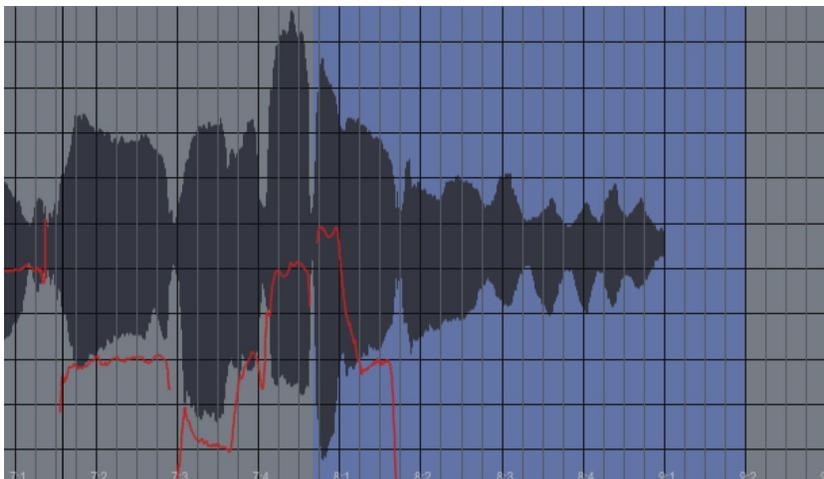
3. In this case we want to move the start of the syllable while leaving the beginning and end of the selected word in place. Place the cursor over the beginning of the last syllable (at time position 8:1.73). Click and drag to move the end point to the right to time position 8:2.0.
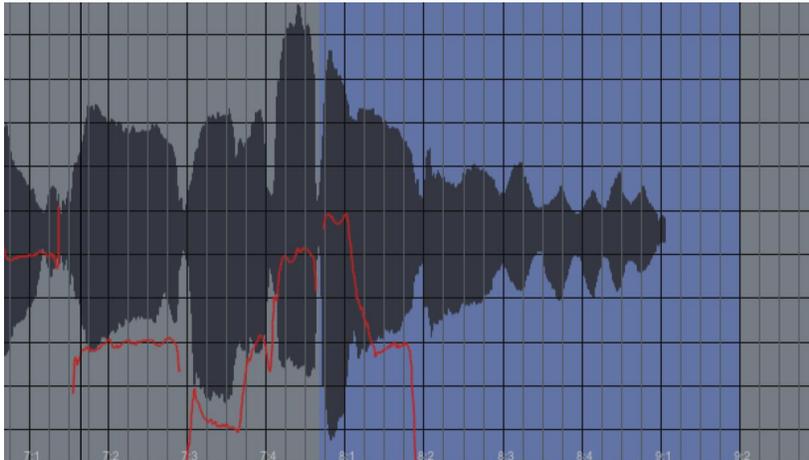

Play back your track and note that once again the two vocal parts are now in sync. You can also disable and re-enable Time Correction in the Settings menu to compare the original and time-edited versions.


Time: Creative Editing

In this tutorial we'll use the Move Region Tool for a creative, rather than corrective, purpose.

1. Load or import the audio file "Bass_riff" into a track of your host application and set your host's tempo to 110 BPM. Listen to the track to become familiar with it. We're going to use the Move Region Tool to move the second note of the pattern and change the feel of the bass line.
2. Open Auto-Tune Pro as an insert effect on the track and select Bass Inst as the Input Type.
3. Switch to Graph Mode, then go to Settings and set the Time Display to Bars + Beats.

4. Press the Track Pitch + Time button and begin playback to track the audio into Graph Mode.
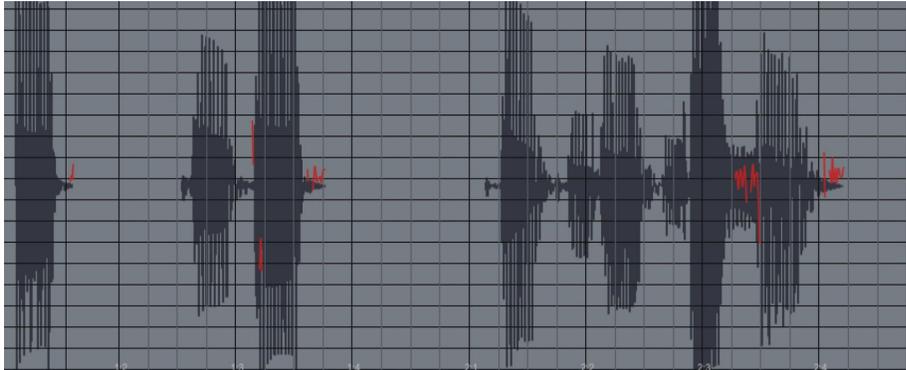

5. Adjust the zoom and scroll controls to focus on the first measure of the bass line. Our goal will be to move the second note, so that instead of being a pickup note to the third beat, it falls squarely on the second beat, creating a different feel to the line.
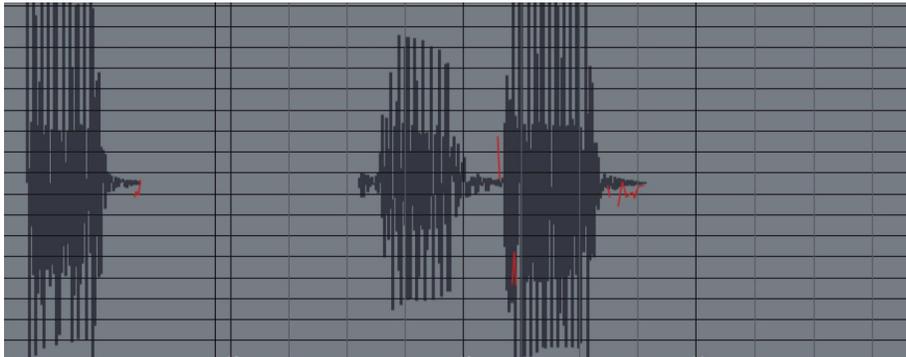

6. Use the Move Region tool to select the initial range from the end of the first note's decay to the end of the second note's decay.

7. Use the Move Region tool to select the region from the beginning of the second note to a bit before end of the its decay. The reason that we don't select the entire note is that when we move it forward in the next step, we want to leave a bit of it for Auto-Tune Pro to stretch into a natural decay leading into the note on the third beat.
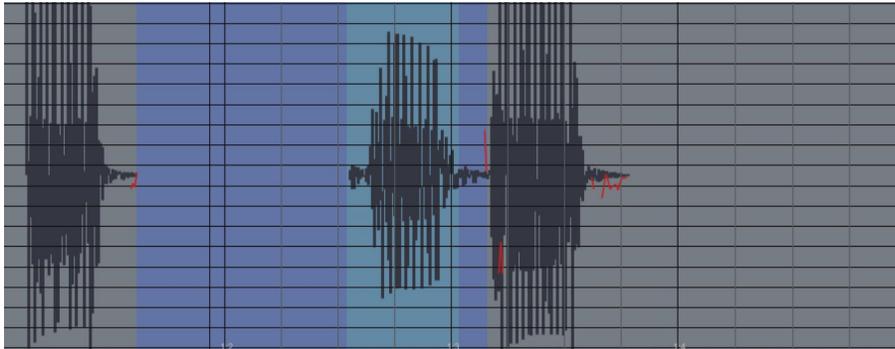
8. Still using the Move Region tool, click and hold anywhere in the region selected in Step 8 and move the region to the left until the beginning of the note is lined up exactly on beat 2.
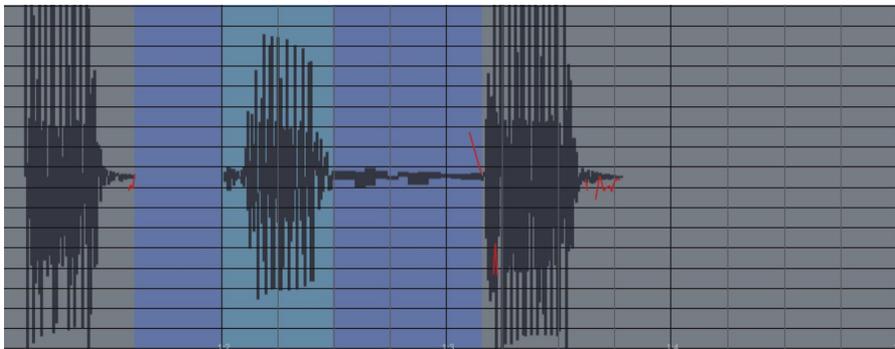
Play back your track and note the new feel. Also note how Auto-Tune Pro's time shifting algorithm has turned the small bit of audio at the end of the moved note into a natural sounding decay leading into the following C.