AUTO-TUNE VOCODIST

USER GUIDE

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Introducing Auto-Tune Vocodist

Auto-Tune Vocodist brings back the sound of vintage vocoders with the full power of Auto-Tune built right in.

Start vocoding quickly and easily with an expansive collection of vocoder models and artist presets.

Or, dive deep and explore limitless sonic possibilities with the fully configurable XY Pad, Filter and Envelope design sections, and more.

With industry-standard pitch correction and vintage vocoder models, Auto-Tune Vocodist is a match made in heaven.

Vocoder Models and Artist Presets

Vocodist includes models of vintage vocoders made famous by artists like Herbie Hancock, the Beastie Boys, Kraftwerk, and Devo.

Plus, we teamed up with some friends to build an extensive collection of Artist Presets – Chromeo / P-Thugg, J Chris Griffin, Damien Lewis, Rachel K Collier, and Buddy Ross to name a few.

Pitch Control Options

Multiple pitch tracking options let you control the pitch of your vocoded sound with your voice or with your favorite MIDI keyboard.

The built-in 8-voice dual oscillator helps you start vocoding quickly and easily. Or use any external audio source via side chain input. So get ready to grab your favorite synth and make it sing!

Output + FX Section

Add the finishing touches to your blended vocal and vocoded sound with the Output+FX controls.

With a variety of effects like classic analog tube saturation, lush chorus, and mutative ring modulation, these controls help you achieve any combination of subtle enhancements and extreme vocal mutations.

Pitch Correction and the Auto-Tune Effect

Auto-Tune Vocodist includes the same core Auto-Tune technology that professional artists and producers have relied on for years.

Blend your vocoded sound with the perfect amount of pitch correction: Turn the Retune Speed to 0 for that classic Auto-Tune Effect, or apply it subtly with the Humanize parameter.

Take Vocodist to your next gig and vocode in real-time – Low latency processing eliminates distracting delay, keeping the spotlight on you.

Auto-Key Compatibility

On top of all that, Auto-Tune Vocodist is fully compatible with the Auto-Key plug-in and mobile app. Auto-Key saves you valuable time in the studio by detecting the key and scale of your music, and sending it to Vocodist with a single click.
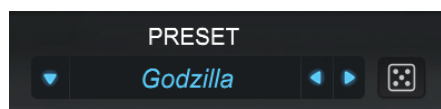
Controls

Global Controls

The Global Controls at the top of the plug-in window give you quick access to some of Auto-Tune Vocodist's basic parameters and settings, plus a link to help pages and FAQs.

Preset Menu

Auto-Tune Vocodist comes loaded with a collection of artist presets to help you get started.

Use them as is, or as a starting place to create your own unique sound.
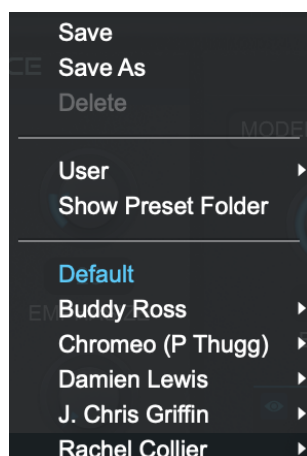
Browse through the artist preset folders to try out different settings and effects designed by Buddy Ross, Chromeo, Damien Lewis, J Chris Griffin, and Rachel Collier.

Click Save or Save As to create your own personal presets, and save them to the User folder.

Click Show Preset Folder to locate the folder on your hard drive where your user presets are stored. This can be useful if you need to move your presets from one computer to another.

Click the "like" button next to a preset to add it to your favorites folder.

The Random Preset button lets you quickly try out a variety of different effects. Click it to call up a random preset from the Presets Menu.

Input Type

Auto-Tune Vocodist offers a selection of processing algorithms optimized for different pitch ranges of input audio.

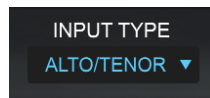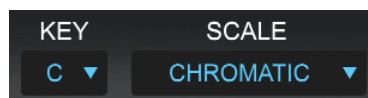Options include: Soprano, Alto/Tenor, Low Male, and Instrument.

The expected pitch range for the currently selected Input Type is highlighted in lighter gray in the background of the Filter Graph.

For more accurate pitch detection and correction, choose the Input Type that best fits the pitch range of your audio.

Key and Scale

The Key and Scale menus let you define the set of notes that your audio will be tuned to.

For best results, set them to match the actual key and scale of your music.

The Keyboard is automatically updated to show which notes are active for the current Key and Scale selection.

If you're not sure what key your music is in, use the Auto-Key plug-in to automatically detect it and send that information to Auto-Tune Vocodist.
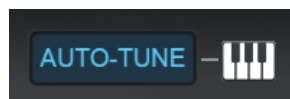
Auto-Tune Button

The Auto-Tune button lets you easily enable or bypass Auto-Tune's pitch correction processing.

Turn it on to tune your vocals or dial in the perfect Auto-Tune Effect. Or turn it off to hear just the vocoder, without any Auto-Tune.

When the Auto-Tune button is on, Auto-Tune pitch correction is applied to the original voice input (which you can hear by turning up the Voice Mix control), but that's not all it does.

Auto-Tune's pitch detection also controls the built-in oscillators, for perfect pitch and scale tracking on the vocoded output as well as the original vocal.
When Auto-Tune is off, the following controls are disabled:

- Retune Speed
- Humanize
- Auto-Tune Targets MIDI

In the Preferences Window you can choose whether to have Auto-Tune *on* or *off* by default when you open a new instance of Auto-Tune Vocodist.

Pro Tip

Use Retune Speed and Humanize to dial in the amount of Auto-Tune processing on your original voice input (they won't impact the sound of the vocoded output, so you'll have to turn up Voice Mix to hear the result).

Try setting both to *0* for a pronounced Auto-Tune Effect. Or use higher settings for more subtle pitch correction.

The Glide control functions similarly to Retune Speed, but for the vocoded output, setting the rate of transition between pitches for the internal oscillators.

Set Glide to *0* for more abrupt, immediate transition between pitches, or to a higher value for more gradual, sliding pitch transitions in the vocoded output.

Turn up Voice Mix to combine your Auto-Tuned vocal input with the output of the vocoder. Then experiment with different settings for Retune Speed and Glide to create a subtle contrast in the phrasing and pitch transitions of the two voices.

Auto-Tune Targets MIDI

The Target MIDI button lets you control Auto-Tune's pitch with MIDI note input.

You can perform a melody in real time on a MIDI keyboard, or play it from a MIDI track, and Auto-Tune Vocodist will tune your audio to whatever MIDI notes are on at any given time.
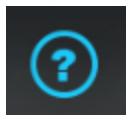
Check out the Auto-Tune Vocodist help page for tips on how to route MIDI to a plug-in in your DAW.

Settings

This button opens the Settings Menu where you can also access the Preferences Window.

Help

The Help button gives you quick access to the Auto-Tune Vocodist help page where you can find links to helpful articles and answers to frequently asked questions.

Keyboard and XY Pad

Keyboard

| C | C#/Db | D | D#/Eb | E | F | F#/Gb | G | G#/Ab | A | A#/Bb | B |

The Keyboard displays the current detected pitch by highlighting it in blue.

It also allows you to add and remove notes from the scale. If Auto-Tune is on, this determines what pitches your voice input will be tuned to, and if the Scale button is on, it determines what pitches the oscillators will be tuned to when transposed with the Interval controls.

When a new scale is selected from the Key and Scale menus, the keyboard updates to show which notes are enabled and disabled. From there, you can further customize your scale by adding or removing notes from the Keyboard.

When a note on the Keyboard is *on*, it will appear white or black (depending on which note it is). If Auto-Tune is *on*, any detected pitches in the voice input that are closest to that note will be tuned to it.

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

XY Pad

The XY Pad gives you real-time control of virtually any two parameters in Auto-Tune Vocodist at once, from a single control.

By default the X and Y axes XY Pad controls the Shape of the two oscillators, but there are endless other possibilities.

Just assign whatever parameters you'd like from the X and Y dropdown menus and start experimenting.

You can even map the XY Pad to your MIDI controller for a more hands-on experience, with the XY Pad MIDI Assignment dialog.

The XY Pad responds to the following keyboard commands:

- To lock the cursor's X position so it only moves on the Y axis, hold down *Shift*.

- To lock the cursor's Y position so it moves only in the X axis, hold down *Command* (Mac) or *Control* (Windows).

- To set the parameters assigned to the XY Pad to their default values, *Option+Click* (Mac) or *Alt+Click* (Windows).

- To reset only the X axis to default, hold down *Shift+Option/Alt* and click.

- To reset only the Y axis to default, hold down *Command+Option* (Mac) or *Control/Alt* (Windows) and click.

Voice Controls

 The Voice controls represent the first stage of processing of the input vocal.

The upper three controls in this section, Low-Cut Filter, Compress, and Emphasize, help to optimize the dynamics and EQ of the voice input signal for vocoder analysis.

This is sometimes needed in order to maximize the amount of signal sent to the vocoder's internal filter banks, enhance speech intelligibility, and produce the desired vocoder effects.

These three controls apply *only* to the audio that is fed into the vocoder analysis filter bank. They have no effect on the original (non-vocoded) voice input channel, which can be mixed back in using the Voice Mix control.

The other two controls in the Voice section, Retune Speed and Humanize, let you configure the amount of Auto-Tune processing applied to the input audio.

These two controls *only* affect the (non-vocoded) voice channel, which you can hear by turning up the Voice Mix control. They have no effect on the vocoded signal.

Low-Cut Filter

 This button enables/disables a low-cut filter to reduce frequencies below 80Hz for cleaner vocoder analysis.

The low-cut filter is on by default, and helps to remove unwanted bass frequencies that can result from mic proximity effect.

> **Note**
> The low-cut filter applies *only* to the input of the analysis filter bank. It *does not* affect the original voice input channel (which you can hear by turning up the Voice Mix control.)

Compress

Compress sets the threshold (in dB) of a compressor that's applied to the analysis signal (usually a voice) before vocoder processing.

If your input/analysis signal has a broad dynamic range, adding a bit of compression can help to even it out before it reaches the analysis filter banks and envelope followers for more responsive vocoder analysis, and better intelligibility.

The Compress control automatically adds gain as you increase the amount of compression (in other words, it applies *upward compression*), so you can also use it as a makeup gain for a low level input signal.

Note

Compress applies *only* to the input of the analysis filter bank. It *does not* affect the original voice input channel. (which you can hear by turning up the Voice Mix control.)

Emphasize
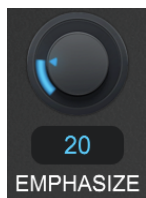
The Emphasize control lets you apply a high frequency boost to the voice input before vocoder processing. Try turning this control up if the vocoded output sounds muddy or lacks intelligibility.

Note

The Emphasize control applies only to the input of the analysis filter bank. It does not affect the original voice input channel (which you can hear by turning up the Voice Mix control.)
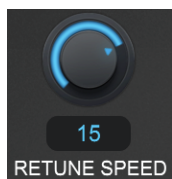
Retune Speed

Retune Speed controls how quickly Auto-Tune tunes your audio to the target pitch. The units are measured in milliseconds.

Try setting Retune Speed close to zero to create the signature robotic Auto-Tune Effect, which you can mix with in the vocoder effect by turning up the Voice Mix control

For more subtle pitch correction, try setting Retune Speed to a higher value. Larger values allow through more vibrato and other interpretive pitch gestures, but slow down how rapidly corrections are made.

Note

Retune Speed only applies to the original voice input (which you can hear by turning up the Voice Mix control), and has no effect on the vocoder output.

For a similar control that *does* affect the vocoder output, see Glide.

Humanize

Humanize allows you to add realism to longer sustained notes when using fast retune speeds.

It applies a slower Retune Speed only during the sustained portion of longer notes, to allow through more natural pitch variation while still bringing the note into tune.

Note

Humanize only affects the original voice input (which you can hear by turning up the Voice Mix control), and does not affect the vocoder output.

If Voice Mix is set to 0, Humanize won't have any audible effect.

Pro Tip

To add natural sounding pitch correction to your vocals, start by isolating the voice input signal. To do that, turn Voice Mix up to *100*, and then click the Band Gains Down button. You should now hear just your input vocal, without any vocoder effect.

Now set Humanize to zero, then adjust the Retune Speed until the shortest problem or out-of-tune notes in the performance are in tune.

If the longer, sustained notes sound unnaturally static, increase the Humanize setting until they sound more natural.

Noise Controls

Sibilance substitution (or noise substitution) is an essential component of vocoder intelligibility.

Unvoiced vocal consonant sounds like s, sh, t, and ch are composed of broad-frequency noise (filtered in various ways by the shape of the mouth). So when those sounds are detected in the voice input, Auto-Tune Vocodist outputs bursts of noise to replicate them in the vocoder output.

With the Noise Controls, you can fine-tune the level, balance and color of the generated noise, as well as the sensitivity of the sibilance detector, either to maximize intelligibility or create a wide variety of special effects.

Unvoiced Indicator Light

This indicator light, located in the upper right corner of the Noise Controls section, lights up to indicate that an "unvoiced" signal (e.g. sibilance) has been detected in the voice input, triggering the noise generator.

Noise Model (White/Pink)

The Noise Model switch allows you to choose between two different types of noise: white and pink.

White noise is noise that has equal intensity across the frequency spectrum, and sounds brighter than pink noise, which tapers off in intensity at higher frequencies.

For sibilant sounds that stand out and cut through the mix, try white noise. For a slightly mellower, more subtle sound, try pink.

Sensitivity

The Sensitivity control lets you set the sensitivity of the sibilance detector that triggers the noise generator.

At higher values, it will be more likely to interpret components of your audio as sibilance, and therefore more likely to produce noise.

If you're having a hard time hearing the "sss" and "shh" sounds in your vocoded audio, try turning up the Sensitivity.

If you're hearing bursts of noise that stick out too much or that don't actually correspond to sibilant vocal sounds in your source audio, you might want to turn it down.

Pro Tip

Try turning both Sensitivity and [Balance](#) all the way up, then experiment with the [Color](#) and [Band Gain](#) controls to create a variety of ethereal whispery effects.

Balance
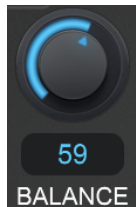
The Balance control lets you adjust the mix between the noise generator and the synthesis channel during the sibilant portion of your vocal track. Higher settings result in stronger, louder sibilance substitution.

When Balance is set to *0*, it will disable the noise generator completely. When set to *100*, the noise generator will completely replace the synthesis channel during sibilance.

Pro Tip

The Balance setting will only have an audible effect when sibilance is detected the noise generator is triggered.

To more clearly hear the effect of the Balance control, try turning Sensitivity up to *100*, so that the noise generator entirely replaces the synthesis channel in the vocoded output. Then experiment with different Balance settings.
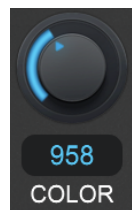
Level

The Level control sets the amplitude of the noise generator.

Use it in combination with the Balance and Sensitivity controls to configure how much noise is added to your vocoded audio.

Color

The Color control sets the cutoff frequency of a high-pass filter that's applied to the noise generator. The default value of 3500 Hz will typically provide the most natural sounding sibilance in most cases.

Try turning it all the way up to let through higher frequencies, resulting in a brighter sound. Then try bringing it down to gradually filter them out for a warmer, less bright tone.

Synth Controls
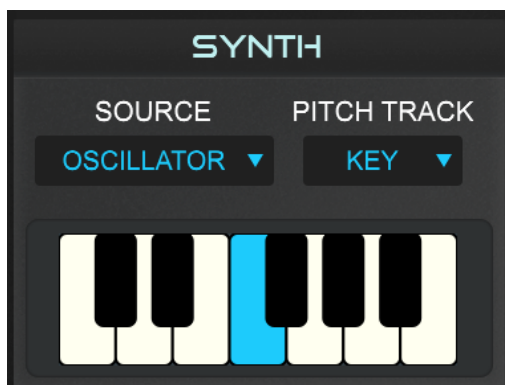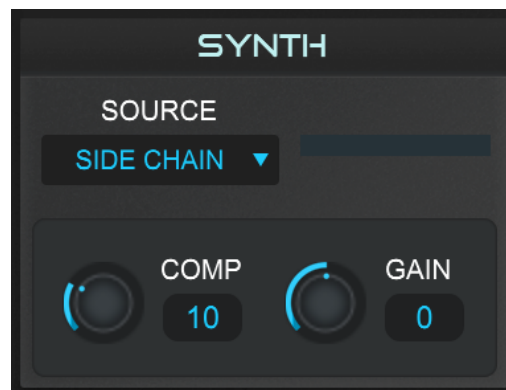
Auto-Tune Vocodist offers a variety of flexible routing and control options, which you can configure using the Synth Controls.

Take advantage of the versatile, built in 8-voice dual-oscillator, or make any instrument sing by routing it to Vocodist via sidechain input in your DAW.

You can control the pitch of the built-in synth with your MIDI keyboard, or with your voice (with or without Auto-Tune).

Source

SOURCE
OSCILLATOR ▼

The Source menu lets you choose whether to use Vocodist's built-in oscillators as the synthesis channel, or to route audio from another plug-in or instrument.

Choose *Oscillator* to use the internal 8-voice dual-oscillator.

Choose the *Side Chain* option to vocode your favorite sampler or software instrument, or any other audio source. The Oscillator Controls are disabled when Source is set to *Side Chain.*

Check out the Auto-Tune Vocodist help page for tips on setting up sidechain input in your DAW.

Pitch Track
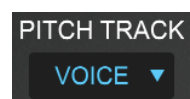
PITCH TRACK
VOICE ▼

The Pitch Track menu offers three different options for how to control the pitch of the built-in oscillator.

Options include:
- Voice
- MIDI
- Key

Choose *Voice* to control the pitch of the oscillator with your voice, either with or without Auto-Tune (you can toggle Auto-Tune off and on with the Auto-Tune button.)

Choose *MIDI* to control the pitch of the oscillator with your MIDI keyboard, or a MIDI track in your DAW.

Choose *Key* to select a single pitch for the oscillator to drone on, using the Mini Keyboard.

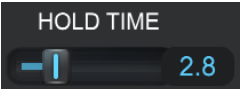The Pitch Track menu is only enabled when Source is set to *Oscillator.*

Gate

GATE The Gate button is enabled when Pitch Track is set to *Voice.* It lets you apply a hard pitch-gating effect on the built-in oscillators.

When Gate is *on*, the oscillator will only sound when a clear pitch is detected in the source audio. When Gate is *off*, the oscillator will simply follow the dynamics of the source audio.

Hold Time

HOLD TIME 2.8 The Hold Time slider is enabled when Pitch Track is set to *Voice*.

It lets you control how long the oscillator will hold the pitch that's detected in the source audio.

Turning it up can help eliminate "squeaks" and other artifacts that may sometimes occur between notes.

If you're hearing sudden pitch jumps or other artifacts when controlling the pitch of the oscillator with your voice, try increasing the Hold Time and/or turning on the Gate.

Comp and Gain

COMP 10 GAIN 0 The Comp and Gain controls are enabled when Source is set to *Side Chain*.

They're useful for optimizing the levels and dynamics of the audio coming in through the side chain input prior to modulation by the synthesis filter bank.

The Comp control sets the threshold (in dB) of a compressor that's applied to the side chain audio input.

The Gain control sets the level of the side chain audio input.

Mini Keyboard

The Mini Keyboard is enabled when Pitch Track is set to *Key*. It lets you select a pitch for the built-in synth to hold continuously for a droning effect.
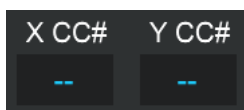
Pitch Bend

The Pitch Bend control is enabled when Pitch Track is set to *MIDI*.

If your MIDI controller has a pitch wheel, you can use this control to set the range of pitch bend (in semitones) that's applied to the pitch of the built-in oscillators.

XY Pad MIDI Assignment (X CC# and Y CC#)

This control is enabled when Pitch Track is set to *MIDI*. It allows you to control Vocodist's XY Pad with your MIDI controller.

By extension, this gives you hands-on access to virtually any two of Vocodist's parameters at once, since the XY Pad itself is fully configurable.

To set up MIDI control of the XY Pad:
1. Connect your MIDI controller and route it to Vocodist in your DAW (see the Auto-Tune Vocodist help page for tips)

2. Click the X CC# control in Vocodist. A red box will appear around it.

3. Move the knob or slider (or anything that sends MIDI CC messages) on your MIDI controller to pair it to the X-axis.

4. Your MIDI controller is now mapped to the X axis of Vocodist's XY pad.

5. Repeat this process for the Y CC# control, using a different knob or slider on your MIDI controller.

Filter Design

The design of the analysis and synthesis filter banks is at the heart of what gives each vocoder its unique sonic character, and Auto-Tune Vocodist comes loaded with an extensive collection of filter designs carefully modeled after classic hardware vocoders.

The Filter controls take things a step further though, letting you tweak the design and configuration of most of those classic filters in real-time for a dazzling variety of dynamic effects.

Play (Audition Filter)

The Play button in the upper right corner of the Filter Controls lets you audition the character of the filter by playing pink noise through it.

Try turning on Play, then try out different settings with the Filter Controls to hear the effect that they have.

Model

The Model menu offers 20 unique vocoder filter models to choose from. 18 of those have been meticulously modeled after iconic vintage and modern hardware vocoders.

From Homer Dudley's original 1937 voder design to classic hardware units used on hits by Wendy Carlos, Stevie Wonder, Herbie Hancock, Kraftwerk, Daft Punk, and more, the heavy hitters are all here.

Vocodist also includes our own original addition to the tradition of filter bank design, the *Antares Voc-1*, as well as a model designed for maximum intelligibility and fidelity, the Barkhausen.

Most of the Filter Models in Auto-Tune Vocodist can be fully customized and redesigned on the fly, using the Filter Controls.

However, a few of the Models feature specific custom curves for each filter band, and therefore can't be edited with the Filter Controls. These include:
- Barkhausen
- ES 2000
- SN VSM-201
- DF A-129
- MM VF11

Note

When any of the filter parameters have been changed from their default values (for the current filter model), the name of the model will be italicized and an asterisk will appear next to it.

To restore the default filter settings for the model, re-select it from the Model menu. The name of the model will no longer be italicized, indicating that the default values have been restored.

Filter Slope

The Filter Slope buttons allow you to choose between four different types of band-pass filters for the analysis and synthesis filter banks.

When you select a different filter slope, the difference is displayed visually in the Filter Graph.

Try out each of them, and note the different amounts of frequency overlap between the bands, as well as the resulting effects on your audio.

Higher order (steeper, narrower) filters provide stronger isolation between adjacent

frequency bands, which tends to result in a greater intelligibility.
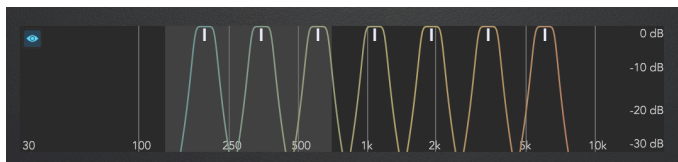
Lower order (wider, less steep) filters create more overlap between frequency bands,

which tends to result in a grittier, more lo-fi vocoder sound.
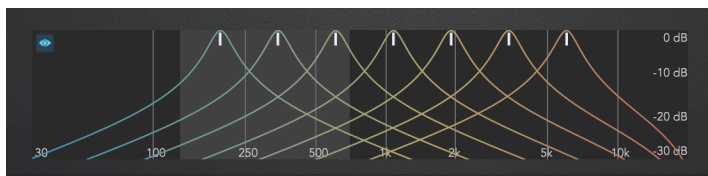
Note that the Q setting also affects the width of the filters, and the extent of overlap between the frequency bands.
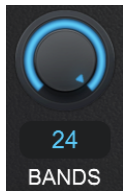
Lowpass and Highpass Filters

Some vocoder filter banks have a lowpass filter at the low end of the frequency range and a highpass filter at the high end, instead of bandpass filters.

The Lowpass and Highpass filter buttons in Vocodist let you switch the outer two filters from bandpass to lowpass/highpass, and vice versa.

Bands

The Bands control sets the number of bandpass filters in the analysis and synthesis filter banks.

Generally, more bands results in better intelligibility and fidelity to the input signal, and fewer bands creates a more lo-fi vocoder sound.
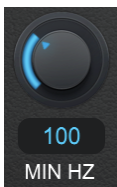
24
BANDS

Q

The Q control, along with the Filter Slope determines the sharpness (or width) of the bandpass filters in the analysis and synthesis filter banks.

Higher Q settings result in sharper (narrower) filter bands.

5.0
Q

Min Hz and Max Hz

The Min and Max Hz controls set center frequencies of the lowest and highest filter bands respectively.

Together, they define the overall frequency range of the analysis and synthesis filter banks.

100
MIN HZ

10000
MAX HZ

Try lowering or increasing the Min Hz or Max Hz setting. Note that the interior filter bands also adjust their positions to maintain consistent relative spacing.

Stretch and Slide
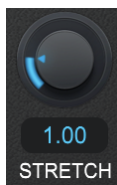
The Stretch and Slide controls both adjust the frequencies of the synthesis filter bands relative to their corresponding analysis filter bands.

1.00
STRETCH

0.00
SLIDE

If you're using a vocal track as your voice input, this has the effect of shifting the formant frequencies up or down and changing the character of the resynthesized vowel sounds.

The Slide control slides the frequencies of all the synthesis filter bands uniformly up or down in relation to the analysis filter bands. Turning it up shifts the resynthesized formants up in pitch, and turning it down shifts them lower.

The Stretch control "stretches" or "compresses" the spacing of the synthesis filter banks in relation to the analysis filter banks. Turning it down moves the filter bands of the synthesis filter closer together, turning it up spreads them further apart.

Filter Graph
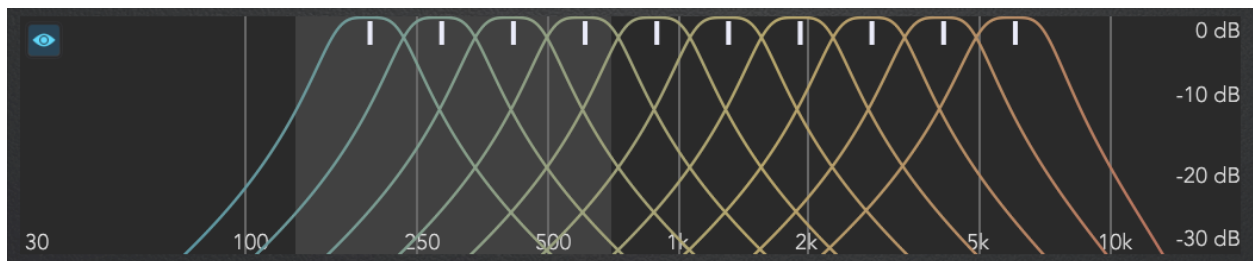
The Filter Graph gives a real-time visual representation of the frequency response of the analysis and synthesis filter banks.

Try adjusting some of the Filter Controls, such as Q or Min Hz and Max Hz and watch the Filter Graph to see the resulting changes in the frequency curves of the filter bands.
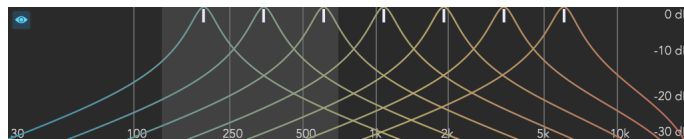
The small vertical white lines at the top of the graph indicate the center frequencies of the synthesis filter banks. By default, they line up perfectly with the analysis filter banks.

If you adjust the Slide control, the white lines slide to the left or right, to show that the synthesis bands have shifted in relation to the analysis filter bands.
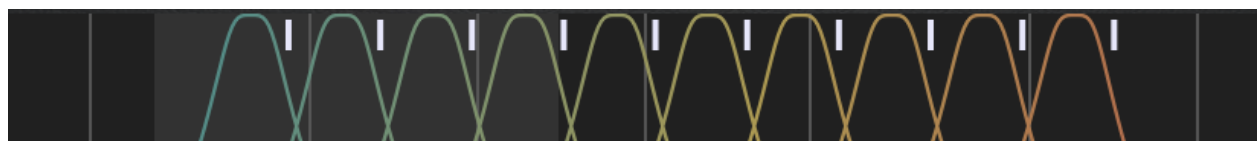
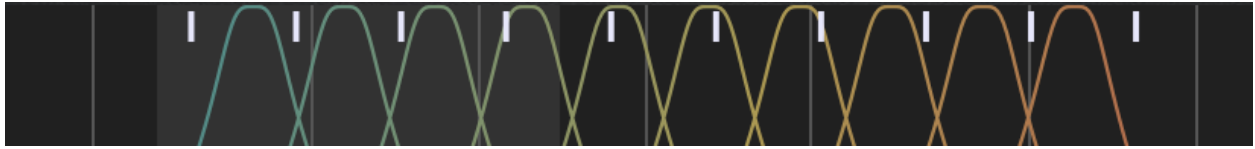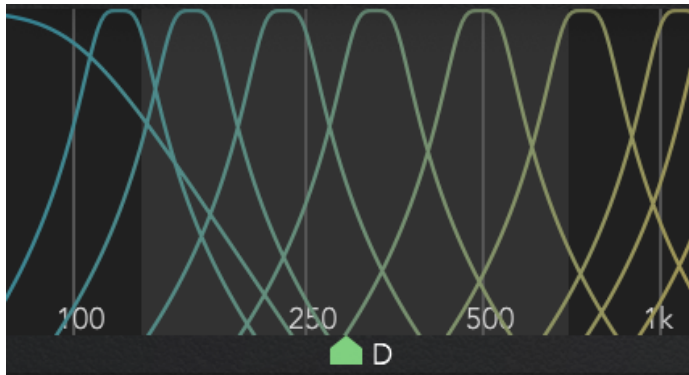Similarly, if you adjust the Stretch control, the white lines illustrate the synthesis filter bands spreading out or crowding together in relation to the analysis filter bands.

The lighter gray area in the background of the Filter Graph displays the expected

frequency range for the current Input Type setting.

During playback, a little green pitch indicator arrow at the bottom of the Filter Graph shows the current detected pitch of the voice input at any given moment.

If you've chosen the right Input Type setting for your vocal input, the pitch indicator should stay mostly within the light grey area.

  This small eye button, located in the upper left corner of the Filter Graph allows you to show or hide the frequency and decibel markings on the graph.

Envelope Design
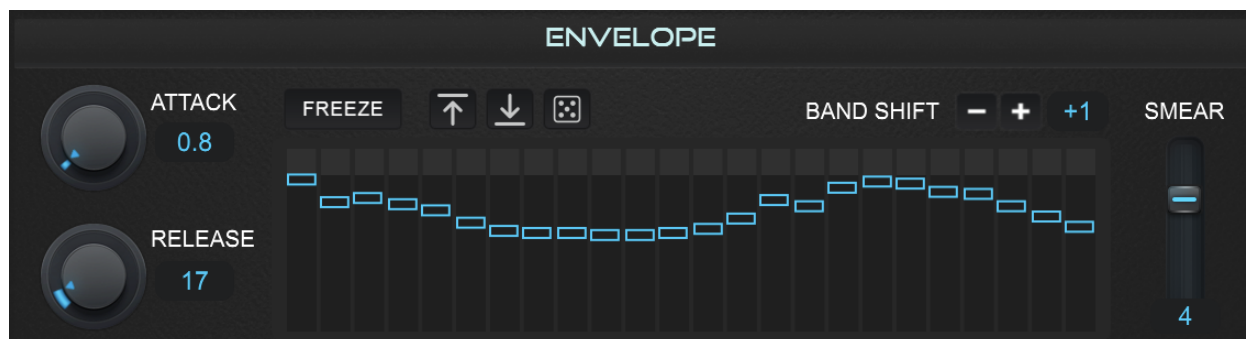
The Envelope controls let you configure the volume level of each filter bank independently, and also how the filter banks respond to the detected amplitude of audio input (e.g. your voice).

These controls can affect the intelligibility of vocoded vocals, and can also be modified to produce many other elaborate effects, such as completely alien vocals for sound and character design (see Band Shift).

Attack
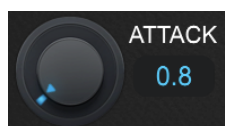
The Attack control determines how quickly (in milliseconds) the envelope follower attached to each analysis filter band reacts to *rising* signal level.

Shorter Attack settings cause the envelope followers to react more quickly to peaks in the analysis signal. This results in quicker, more responsive articulation, and generally better intelligibility in the vocoder output.

Longer settings make the envelope followers react more slowly to peaks in the analysis signal. This tends to soften and blur the articulations, for a less percussive sound.

Release

The Release control determines how quickly (in milliseconds) the envelope follower attached to each filter band reacts to *falling* signal level.

Shorter Release settings mean that the envelope followers react quickly to falling signal levels, so that the amplitude decay of the vocoder output more closely follows the analysis signal.

Higher Release settings make the envelope followers react more slowly to falling signal, resulting in longer decays and a more sustained sound.

Band Gain Multi-Slider
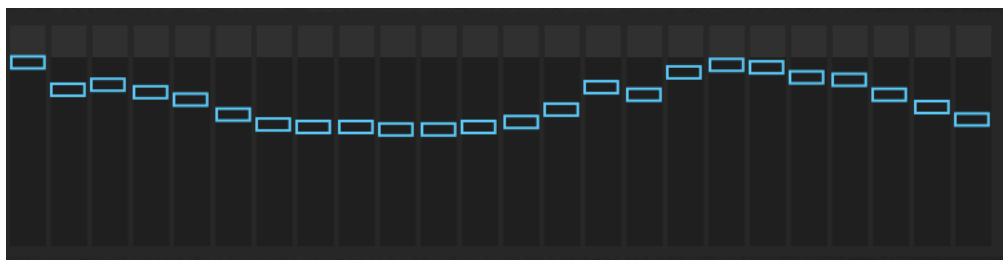
The Band Gain Multi-Slider lets you individually set the gain for each filter band. It functions very much like a graphic EQ, allowing you to sculpt the frequency response of the vocoder output.

When you adjust a band gain slider, its corresponding band filter is highlighted in the Filter Graph.

Try drawing different curves across the Multi-Slider, and listen to the effect it has on the vocoder's output. Or click the Random Band Gains button to try out different randomly generated filter settings.

You can also use the Play (Audition) button to send broadband pink noise through the filter to get an even clearer sense of how the Multi-Slider affects the frequency response of the filter banks.

Pro Tip
If you notice excessive boominess or high-end sizzle on the vocoded output, try lowering a few of the sliders in the low end or high end (respectively) to tame these issues.

Multi-Slider Control Buttons

These buttons function as macro controls that let you quickly set all the bands in the Multi-Slider at once.

Band Gains Up (Reset All)

This button sets all the bands in the Multi-Slider to the default value of 0 dB.

Band Gains Down (Bypass All)

This button turns all the bands in the Multi-Slider all the way down, which mutes the output of the vocoder entirely.

Pro Tip

This button is useful if you want to dial in the Auto-Tune settings and other effects on your input vocal without hearing the vocoder output.

Just click the Band Gains Down button to mute the vocoder, and turn up Voice Mix to bring in the input signal.

Then you can experiment with the Auto-Tune settings on your input vocal before mixing the vocoder output back in with the Band Gains Up button.

Random Band Gains
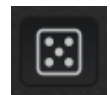
This button sets each of the bands in the Multi-Slider to a different random value.

This is a great way to quickly experiment with different filter band gain settings and get a sense of the different types of effects you can create with them.

Freeze

The Freeze button lets you lock the vocoder onto the current frequency spectrum of the voice input signal.

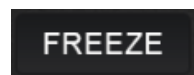If the voice input signal is a vocal, Freeze will lock onto the current vocal formant and hold it indefinitely (until you turn Freeze off).

This can be useful for creating sustained vowel sounds in the vocoder output without having to pause and take a breath.

Band Shift

BAND SHIFT — + +1   Similar to the Slide control in the Filter Design section, the Band Shift control creates a formant shifting effect by offsetting the synthesis filter bands from their corresponding analysis filter bands.

But unlike Slide, which slides the synthesis bands continuously, Band Shift creates a formant shifting effect in a way inspired by a feature found on some old vintage hardware vocoders–by "re-patching" the connections between the analysis and synthesis filter banks.

To visualize how this works, imagine a patch bay with a cable that connects each filter band in the analysis filter bank with the corresponding filter band in the synthesis filter bank.

By default (when Band Shift is set to 0) analysis band 1 maps to synthesis band 1, 2 maps to 2, and so on.

The Band Shift control offsets this mapping, shifting it over in either a positive or negative direction. Positive Band Shift settings will shift the pitch of the resynthesized formants up, and negative settings will shift them down.

In addition, Band Shift includes three extra settings (*X1*, *X2*, and *X3*) that implement a 'criss-cross' re-routing to create speech scrambling effects (turning your voice into something very alien).

Smear

SMEAR   Another feature inspired by vintage hardware vocoders, the Smear control is useful to create ringing reverb-like effects.

4

It staggers, or "smears" the follower release times across all of the bands, either up or down, depending on which way you move the control.

At lower Smear settings, envelope release times are *increased* for each band, from the lowest to highest band. Similarly, at higher settings, release times are *decreased* for each band, from lowest to highest.

Oscillator Controls

The Oscillator controls let you configure Auto-Tune Vocodist's powerful built-in 8-voice, dual-oscillators. When the Source control is set to Oscillator, these oscillators function as the synthesis channel input into the vocoder.

With the Oscillator controls, you can set the mix between oscillator 1 and 2, create harmonies by transposing them by chromatic or scale intervals, morph their waveshapes independently, and even add some cross modulation.

You can also set the number of polyphonic voices (up to 8), determine the glide rate when moving from one pitch to another, add some depth by introducing slight detuning.

Try mapping different pairs the Oscillator controls to XY Pad or automating them in your DAW to create dynamically morphing textures and shifting harmonies.

Voices

 The Voice control lets you choose the number of polyphonic voices for the oscillators (up to 8).

This control is only active when Pitch Track is set to *MIDI*.

Glide (Portamento)

The Glide Control sets the amount of time (in milliseconds) that the oscillators take to glide from one pitch to another.

Pro Tip

Try using the Glide control in conjunction with Retune Speed to set different glide rates between your Auto-Tuned input voice and vocoded voice (be sure to turn up Voice Mix to hear the input voice).

Octave

The Octave control lets you transpose the pitch of the synth up to two octaves up or down.

Release

The Release control in the Oscillator section (not to be confused with the one in the Envelope section) is only active when Pitch Track is set to MIDI.

It controls how long it takes the oscillators to fade out the end of a MIDI note (or after you release a key on your MIDI keyboard).

Detune

The Detune control allows you to introduce slight detuning between oscillator 1 and oscillator 2, to create a chorusing effect. The units represent the tuning difference between the two oscillators in cents.

Unison

The Unison control is enabled when Pitch Track is set to *Voice* or *Key*.

Similar to Detune, Unison slightly detunes the oscillators for a thickening or chorusing effect.

Unlike Detune, which slightly detunes oscillator 1 and oscillator 2 from one another, Unison introduces detuning among 8 stacked unison voices, for each of the two oscillators.
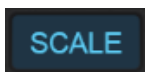
Interval

The Interval controls allow you to create harmonies between the two oscillators, by individually transposing them.

Depending on the state of the Scale button, transpositions can be specified either in semitones (*-12* to *12*), or by scale intervals (e.g. *3rd*, *5th*, etc).

Scale

The Scale button lets you choose between two different methods of pitch transposition when using the Interval controls.

When Scale is *off*, the Interval controls let you transpose each oscillator up or down by a fixed number of semitones (up to 12).

In this mode, the harmonic relationship between the two oscillators remains fixed, and the resulting pitches may not conform to the Key and Scale.

When Scale is *on*, transpositions are specified in scale intervals, and the resulting pitches will always conform to the current Key and Scale settings.

As a result, when Scale is *on,* the exact amount of transposition will sometimes vary. For example an Interval setting of *3rd* might result in a transposition of 3 semitones or 4, depending on the context within the current scale.

Shape

The Shape controls let you set the waveshape independently for each of the two oscillators.

These controls are continuously variable, so you can smoothly adjust between sawtooth, pulse, and square waves.

When the Shape control is set to *0* the oscillator will generate a sawtooth wave. At the maximum setting, it generates a square wave. Settings in between produce a pulse wave of varying pulse widths.
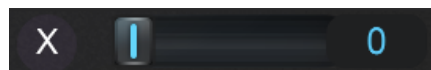
Try assigning the Shape controls to the XY Pad or automating them in your DAW to create dynamic, real-time morphing effects.

Oscillator Gain (Osc 1 and Osc 2)

The Oscillator Gain sliders (labeled OSC 1 and OSC 2) set the relative levels of the two oscillators.

Cross Mod (X)

The Cross Mod slider lets you multiply the outputs of the two oscillators to create a cross modulation effect (also known as ring modulation).

Output + FX Controls

The Output + FX controls are the last stage of Vocodist's signal path.

This section is where you make gain adjustments, dial in the mix of dry vs. vocoded signal, and even add some finishing touches like modeled tube saturation, chorus, and ring modulation effects.

Output Meter

The Output Meter displays the current level of Auto-Tune Vocodist's output during playback.
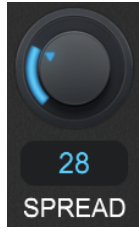
Voice Env

The Voice Envelope control lets you adjust how much of the voice input's amplitude envelope is impressed onto the vocoder output.

Turn this control up to make the vocoded output more closely follow the dynamics of the voice input.

Spread

With the Spread control you can adjust the width of the stereo spread of the vocoder output.

At maximum spread, odd numbered filter bands are panned all the way to the left, and even bands to the right.
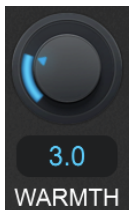
28
SPREAD

Gain

The Gain control sets the level of the vocoder output (in dB.)

Use it in combination with the Voice Mix , Voice Env, and Warmth controls, while keeping an eye on the Output Meter, to optimize Vocodist's overall output level,
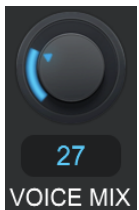
-2.5
GAIN DB

Warmth

The Warmth control adds modeled analog tube-style saturation to the vocoder output.

Specifically, it sets the drive gain of the modeled tube saturation, in dB.

3.0
WARMTH

Voice Mix

The Voice Mix control lets you mix in your original input vocal (with or without Auto-Tune) with the vocoded output.

When Voice Mix is set to *0*, you'll only hear the output of the vocoder. Additionally, the Voice HPF and Voice Mutate controls are disabled (since no original input vocal is present to be filtered or mutated).

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VOICE MIX

Try setting Retune Speed to *0*, then turn up the Voice Mix to hear a combined vocoder and Auto-Tune Effect.

Chorus

The Chorus control offers a choice of three different chorus effects, modeled after a famous vintage hardware chorus unit.

By default, Chorus applies to the output of the vocoder, but you can also add it to your input vocal by turning on the Send Source Vocal to Chorus button.
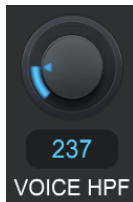
Send Source Vocal to Chorus (right arrow button)

When this arrow button is set to *on*, the Chorus effect is applied to the source vocal as well as the vocoder output.

When it's *off*, Chorus is only applied to the vocoder output, and not the source vocal.

Voice HPF

The Voice HPF control sets the cutoff frequency of a high-pass filter which is applied to the source vocal before it's mixed with the vocoder output.

Combined with the Noise Model control, it allows you to sculpt the timbre of the noise used for sibilance substitution

Voice HPF is disabled when Voice Mix is set to *0*.
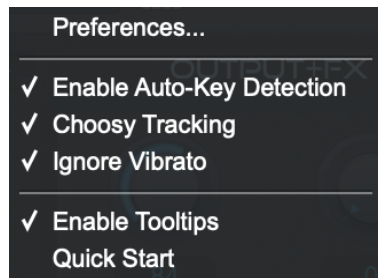
Pro Tip

To enhance voice intelligibility, try turning the Voice HPF control all the way up to 5KHz - 6KHz, and then increase voice mix.

Voice Mod

The Voice Mod control lets you choose from 24 different varieties of pitch-tracking ring modulation effects. Voice Mod is disabled when Voice Mix is set to *0*.
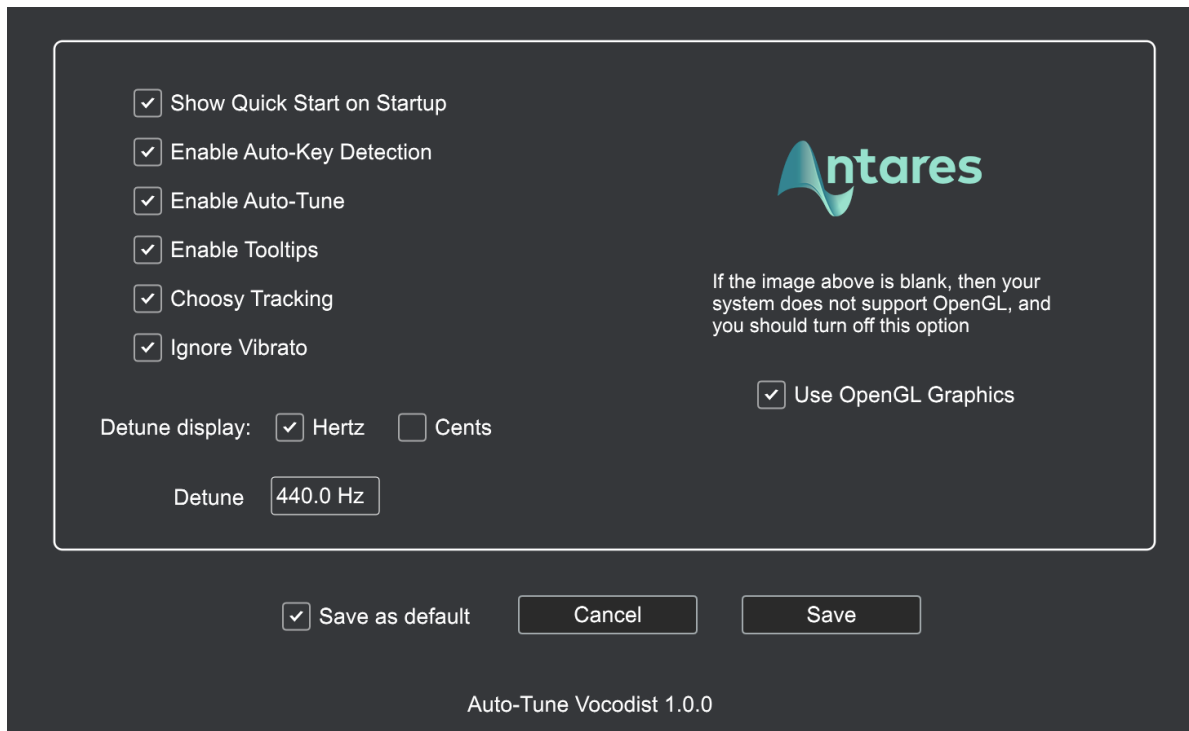
Settings and Preferences

The **Settings Menu** (left) gives you quick access to the most commonly used settings.

The **Preferences Window** (below) includes the same settings, plus a few others, and allows you to save them as default.

Changes made in the Settings Menu will be reflected in the Preferences Window and vice versa.

Quick Start/Show Quick Start on Startup

Auto-Tune Vocodist includes a built-in Quick Start guide to help you get familiar with the controls and common workflows.

The Quick Start will open automatically when you first open the plug-in. To see it again at any time, just choose "Quick Start" from the Settings Menu.

In the Preferences Window, you can choose whether or not to show the Quick Start automatically when you open a new instance of Auto-Tune Vocodist, or reopen your project.

Enable Auto-Key Detection

Auto-Key is a plug-in and mobile app (included in your Auto-Tune Unlimited subscription) that automatically detects the key of your music, and then sends it to Auto-Tune Vocodist.

When Enable Auto-Key is *on*, Auto-Tune Vocodist will listen for any incoming messages from Auto-Key.

The only time you should really need to turn this off will be if you are using Auto-Key, but you want this specific instance of Auto-Tune Vocodist to ignore any messages coming from it.

Enable Auto-Tune

This setting lets you choose whether to automatically enable Auto-Tune pitch correction when you open a new instance of Auto-Tune Vocodist

Enable Tooltips

When this setting is on you can hover your mouse over any of the controls in Auto-Tune Vocodist for a brief explanation of what the control does.

Choosy Tracking

In order to accurately track the pitch of the audio input, Auto-Tune requires a periodically repeating waveform, characteristic of a solo voice or non-chordal instrument with a clearly defined pitch.

The Choosy Tracking setting determines how much variation is allowed in the waveform for Auto-Tune to still consider it periodic.

In most cases, Choosy Tracking should be left on. Try turning it off if the audio is noisy or poorly isolated and pitch correction becomes unreliable.

Ignore Vibrato

The Ignore Vibrato setting is designed to help Auto-Tune identify pitches correctly when a performance includes vibrato so wide that it approaches adjacent notes.

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.

Detune and Detune Display

The Detune setting allows you to change the pitch reference of Auto-Tune from the default A = 440 Hz.

This can be useful when working with an instrument or track that's tuned to a different reference frequency.

The Detune Display setting lets you choose whether to specify Detune in hertz or cents. The range of adjustment is -100 to +100 cents, or about 415 to 466 Hz.

Use OpenGL Graphics

Auto-Tune Vocodist uses OpenGL for improved graphics on computers with compatible graphics card hardware.

Most modern computers support OpenGL, so we recommend leaving this enabled for best performance.

However, if the Antares logo does not appear in the Preferences window, that indicates that your system does not support OpenGL, and you should uncheck this box.

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 Vocodist.

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