



Auto-Tune EFX+

User Guide

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Introducing Auto-Tune EFX+

What is Auto-Tune EFX+?

Auto-Tune EFX+ is a versatile new vocal production tool, which combines the core features of Auto-Tune with the powerful [Auto-EFX](#) multi-effects rack, and [Auto-Motion](#) pitch-shifting melodic pattern generator.

Auto-Tune: Pitch Correction and the Auto-Tune Effect

Auto-Tune EFX+ includes professional quality Auto-Tune pitch correction, with formant correction and low latency processing for real-time performance.

Fully adjustable [Retune Speed](#) and [Humanize](#) parameters let you fine-tune the desired effect for your tracks, from transparent pitch correction to the full Auto-Tune Effect.

And compatibility with [Auto-Key](#) (sold separately) means never having to worry about finding the key of your music before tuning. Auto-Key detects the key and scale and sends that information to Auto-Tune EFX+ with a single click.

Auto-EFX: Multi-Effects Rack

The new Auto-EFX multi-effects rack opens up a world of possibilities, from subtle enhancements to extreme vocal mutations and transformations. It includes includes six different [effects modules](#), a library of [multi-effects patches](#), and an [XY Pad](#) for real-time parameter control.

Effects modules include:

- **Pitch and Throat**, for real-time pitch and formant shifting
- **Duet**, for realistic doubling, with adjustable pitch and timing variation
- **Vocode**, for vintage analog vocoder emulations
- **Tube Amp**, for analog tube distortion modeling
- **Mutate**, for ring modulated audio mutation
- **Filter**, a high-pass filter for EQ and special effects

Auto-Motion: Melodic Pattern Generation

The Auto-Motion melodic pattern generator lets you create new melodic patterns and hooks by automatically pitch-shifting your original vocal or instrumental tracks.

Auto-Motion features an extensive library of melodic patterns that intelligently adapt to match the key and tempo of your project. You can also choose between three different **Pattern Styles**: Hard, Soft, and Legato.

The [Pattern Browser](#) gives you a piano roll visualization of each pattern, making it easy to browse the pattern library and quickly find the melodic shape you're looking for.

Auto-Motion also includes three different [Trigger Modes](#), so you can trigger patterns manually, toggle them on and off, or automatically trigger when an incoming pitch is detected.

What Type of Audio is Appropriate for Auto-Tune EFX+?

Most of the features available in Auto-Tune EFX+ require a monophonic audio source with well defined pitch. This could be a single human voice, or an instrument playing one note at a time, but not a group of singers on a single track, or an instrument playing chords.

Additionally, noise content, or extreme breathiness in vocal performance can sometimes lead to tracking errors during pitch correction, which can often be remedied by adjusting the [Tracking](#) setting.

Quickstart

Auto-Tune: Pitch Correction and Effect

Open Auto-Tune EFX+

Place Auto-Tune EFX+ on an audio track in your DAW. For best results, use it on a vocal track with only one singer, or an instrumental track that does not include chords or multiple pitches sounding at once.

Choose the Correct Input Type

Select the [Input Type](#) that best describes your audio. Options include Soprano, Alto/Tenor, Low Male, and Instrument.

Choose the Correct Key, and Scale

Set the [Key and Scale](#) parameters to match the key and scale of your music.

If you're not sure what key your music is in, you can use the [Auto-Key](#) plug-in (sold separately) to automatically detect it and send that information to Auto-Tune EFX+.

You can also use the [Keyboard](#) to customize your scale by turning individual notes on and off.

Choose your Retune Speed and Humanize Settings

Set the [Retune Speed](#) to determine how quickly Auto-Tune EFX+ tunes your audio to the target pitches. For a pronounced Auto-Tune Effect, set the Retune Speed close to 0. For more natural-sounding pitch correction, set it to 20 or more.

For more natural-sounding pitch correction on sustained notes, turn up [Humanize](#).

Auto-EFX: Multi-Effects Rack

Open Auto-Tune EFX+ and go to the Auto-EFX View

Place Auto-Tune EFX+ on an audio track in your DAW. For best results, use it on a vocal track with only one singer, or an instrumental track that does not include chords or multiple pitches sounding at once.

Set the [View Switch](#) to Auto-EFX, to make the Auto-EFX controls visible.

Choose a Patch from the Patch Browser

Select a patch using the [Patch Browser](#). Each patch includes up to four different effects modules, which each can be adjusted individually.

Some patches also include settings for [pitch correction](#) parameters such as [Retune Speed](#) and [Humanize](#). If you don't want the patch to overwrite your pitch correction settings, go to Preferences and check the box labeled "Patches configure Effects only."

Adjust the Effect Parameters

Click on a module in the [Effects Panel](#) to select it. Once the module is selected, you can adjust its parameters using the [XY Pad](#).

Adjust Gain if needed

If needed, you can boost or cut the effects gain, using the the [EFX Gain](#) control.

Auto-Motion: Melodic Pattern Generator

Open Auto-Tune EFX+ and go to the Auto-Motion View

Place Auto-Tune EFX+ on an audio track in your DAW. For best results, use it on a vocal track with only one singer, or an instrumental track that does not include chords or multiple pitches sounding at once.

Set the View Switch to Auto-Motion to make the Auto-Motion controls visible.

Set Pattern Tempo

If your project includes accurate tempo information, turn on [Host Sync](#) to synchronize the pattern to the project's tempo.

With Host Sync on, you can set the [Pattern Tempo](#) to various divisions of the beat. Otherwise, turn Host Sync off, and specify the Pattern Tempo in beats per minute.

Choose a Pattern Style and Trigger Mode

Select a [Pattern Style](#) and [Trigger Mode](#). The Pattern Style setting affects the way patterns sound (specifically the speed of transitions between notes). Trigger Mode offers three different options for how patterns are triggered.

Choose a Pattern

Select a melodic pattern from the [Pattern Browser](#), or click the arrow buttons on either side of the pattern display to jump to the next pattern or the previous pattern.

Trigger the Pattern

If Trigger Mode is set to Momentary, you can trigger patterns using the [Play Pattern](#) button (or automate that parameter using your DAW's automation features.) If Trigger Mode is set to Latch or Auto, it will be triggered by incoming audio.

Views

Auto-Tune EFX+ includes two different interface views. Switching to a different view hides some controls, but does not disable them.

Auto-EFX view shows the controls for the [Auto-EFX](#) multi-effects rack. Auto-Motion view shows the controls for the [Auto-Motion](#) melodic pattern generator.

All of the [pitch correction controls](#) (such as Retune Speed and Humanize) and [global controls](#) (such as Mix and Settings) are visible in both views. A few important Auto-Motion and Auto-EFX controls are also visible in both views. The two views are shown below.

Auto-EFX View



Auto-Motion View



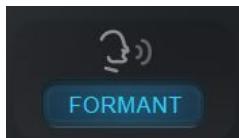
Global Controls

Mix



The Mix control allows you to mix in the “dry” unprocessed audio of your track with the processed output Auto-Tune EFX+. When mix is set to 100%, only the processed signal is present in the output.

Formant



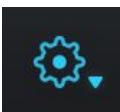
Formants are resonant frequencies resulting from the physical structure of the human mouth and vocal tract.

When a vocal is pitch-shifted without formant correction, the formants are shifted as well, which can result in a less natural-sounding effect. When the Formant button is on, Auto-Tune EFX+ automatically corrects the formant frequencies for more natural sounding pitch correction.

The [Pitch and Throat](#) effects module also makes use of formant processing, allowing you to adjust fundamental pitch and formant frequencies independently, and in real time.

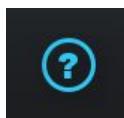
Turning off the Formant button disables formant correction during pitch correction, and also disables the Throat Length parameter in the Pitch and Throat module. This can help to minimize CPU usage when formant correction is not needed.

Settings



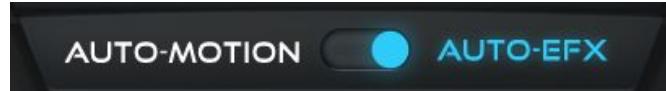
The Settings button opens the [Settings Menu](#) and also gives you access to the [Preferences Window](#).

Help



The Help button provides you with links to the Antares Help Desk, Knowledge Base, and additional support documents related to Auto-Tune EFX+.

View Switch



This control switches between the **Auto-Motion** and **Auto-EFX** views.

Auto-EFX view shows the controls for the Auto-EFX multi-effects rack, and Auto-Motion view shows the controls for the Auto-Motion melodic pattern generator. Controls remain active even when hidden.

Pitch Correction Controls

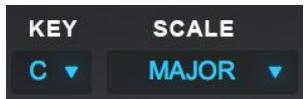
Input Type



Auto-Tune EFX+ offers a selection of processing algorithms optimized for a different types of audio.

Options include : Soprano, Alto/Tenor, Low Male, Instrument. For more accurate pitch detection and correction, choose the Input Type that best describes your audio.

Key and Scale



The Key and Scale parameters are used to 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, you can use the [Auto-Key](#) plug-in (sold separately) to automatically detect it and send that information to Auto-Tune EFX+.

Retune Speed



Retune Speed controls how rapidly the pitch correction is applied to the incoming audio. 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 close 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.

Humanize



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

It 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.

Pitch Display and Pitch Change Meter



Pitch Display

The Pitch Display shows you the letter name of the pitch that Auto-Tune EFX+ is currently outputting (e.g. C# or Bb).

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's being detected in the incoming audio, look at the [Keyboard](#).

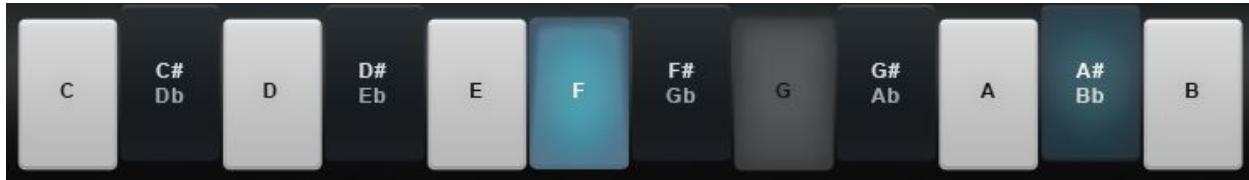
Pitch Change Meter

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 Button

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 current detected pitch by highlighting it in blue, and also allows you to add and remove notes from the scale.

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 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.

Detected Pitch



When a note on the Keyboard is displayed in blue, that indicates the current detected pitch.

Auto-Tune Pitch Correction

The Auto-Tune button allows you to easily enable or bypass all pitch correction processing, independently of the [Auto-Motion Melodic Pattern Generator](#) and [Auto-EFX Multi-Effects](#) rack. When this button is on, pitch correction is applied to input audio. When it's off, no pitch correction is applied.

Auto-EFX: Multi-Effects Rack

The Auto-EFX multi-effects rack includes six different effects modules, and a library of effects patches. Each patch combines up to four effects modules to create a unique effect, and each module has two adjustable parameters which can be controlled in real time.

After you choose a patch using the [Patch Browser](#), the modules that it includes will be displayed in the [Effects Panel](#). Click on a module to select it, then use the XY Pad to control its parameters.

The Effects Modules

Each module has two adjustable parameters, which are controlled using the X and Y axes of the XY Pad.

Vocode

The Vocode module is a classic vocoder effect that includes authentic emulations of 10 different vintage vocoders. The X parameter is the wet/dry mix, and the Y parameter pitch shifts the synthesized output.

Pitch and Throat

The Pitch and Throat module combines dynamic, real-time pitch shifting and adjustable throat modeling (formant shifting). The X parameter is throat length (formant frequency), and the Y parameter is pitch shift.

Throat modeling is disabled when the [Formant](#) button is turned off.

Duet

The Duet module creates a realistic doubling effect, with adjustable pitch and timing variation. The X parameter is the amount of timing variation, and the Y parameter is the amount of pitch variation. For best results, it's recommended to use the stereo version of the plug-in to take full advantage of the stereo nature of this effect.

Filter

The Filter module is an adjustable high-pass filter for EQ and special effects. The X parameter is the cutoff frequency, and the Y parameter is the filter Q.

Tube Amp

The Tube Amp module is designed to emulate the sound of classic analog tube distortion. The X parameter is the amount of compression and the Y parameter is drive gain.

Mutate

The Mutate module is a ring modulator effect designed to produce otherworldly audio transformations and mutations. The X parameter controls the carrier frequency of the ring modulator, and the Y parameter controls the wet/dry mix.

Patch Browser

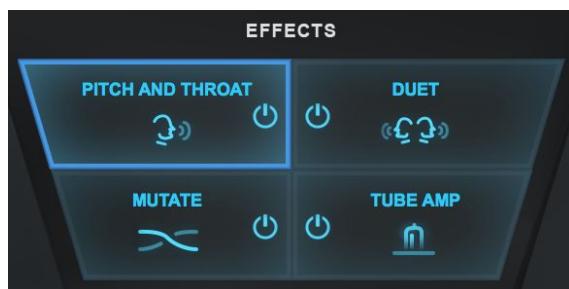


The Patch Browser gives you access to an extensive library of multi-effects patches, so you can quickly call up classic and innovative vocal effects, and tweak them to create your own signature sound.

Each patch includes up to four different effects modules. After selecting a patch, you can modify it by selecting a module in the Effects Panel, and then adjusting its parameters with the [XY Pad](#).

Some patches also include settings for [pitch correction](#) parameters such as [Retune Speed](#) and [Humanize](#). If you don't want the patch to overwrite your pitch correction settings, go to [Preferences](#) and check the box labeled "Patches configure Effects only."

Effects Panel

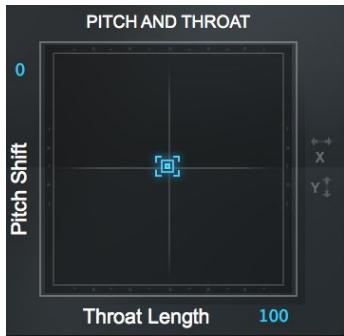


The Effects Panel shows the effects modules that are active in the current patch.

Click on a module to select it. When a module is selected, its parameters can be controlled with the XY Pad.

You can also bypass the modules individually by clicking on the power button for each module.

XY Pad



The XY Pad gives you real-time control of two parameters at once for each of the effects modules.

Select a module in the [Effects Panel](#) to control its parameters with the XY Pad.

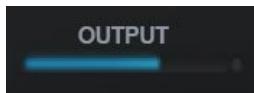
See the [Effects Modules](#) section for information about which parameters can be controlled for each effects module.

EFX Gain



The EFX Gain knob controls the level of the audio at the input of the Auto-EFX multi-effects rack (after Auto-Tune processing). Use it, in combination with [EFX Output Meter](#), to regulate gain and avoid clipping.

EFX Output Meter



The EFX Output Meter gives a visual indication of the level of audio at the output of the Auto-EFX multi-effects rack.

If necessary, adjust the [EFX Gain](#) knob or the parameters of the effects modules to avoid clipping.

EFX On/Off



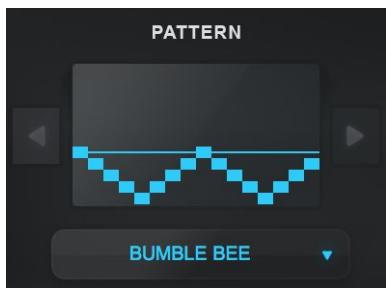
The EFX On/Off button turns the Auto-EFX processing on and off. When set to off, the Auto-EFX multi-effects rack is bypassed, but the Auto-Tune pitch correction and Auto-Motion sections of the plug-in will still be active.

Auto-Motion: Melodic Pattern Generator

The Auto-Motion melodic pattern generator lets you create new melodic patterns and hooks by automatically pitch-shifting your original vocal or instrumental tracks.

Auto-Motion features an extensive library of melodic patterns that intelligently adapt to match the key and tempo of your project.

Pattern Browser



The Pattern Browser allows you to choose from an extensive library of melodic patterns, and also gives you a visual display of the currently selected pattern.

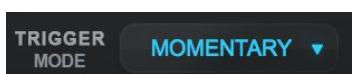
Choose a pattern from the dropdown menu, or click the arrow buttons on either side of the display to jump to the next pattern or previous pattern.

Play Pattern



The Play Pattern button is used to trigger Auto-Motion melodic patterns. The **Trigger Mode** parameter offers three different modes of operation.

Trigger Mode



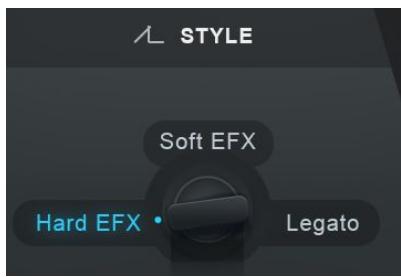
The Trigger Mode menu offers three different methods for triggering Auto-Motion melodic patterns.

In **Momentary** mode, the **Play Pattern** button acts as momentary trigger. A melodic pattern is generated whenever the button is pressed, as long as audio with a clear pitch is detected.

In **Latch** mode, the Play Pattern button acts as an on/off switch. When set to on, it triggers a new pattern as soon as pitched audio is detected. The pattern then loops continuously until the button is set to off, though it is only audible when there is audio present that can be pitch shifted. This means that it will sometimes be perceived to “start” in the middle of the pattern, rather than always starting at the beginning.

In **Auto** mode the Play Pattern button is automatically enabled and does not need to be manually controlled to trigger pattern playback. Patterns are triggered as soon as pitched audio is detected. However, unlike the other Trigger Modes, if there is a gap in the audio, the pattern will reset and start again as soon as audio is detected. This guarantees that the pattern will start with the first note whenever it detects a new segment of audio. Setting the Play Pattern button to off in this mode will bypass pattern playback.

Pattern Style



Pattern Style controls the speed of pitch shifting during transitions between individual notes in the melodic pattern.

At the **Hard EFX** setting, pitch shifting from one note to the next is nearly instantaneous. This creates a pronounced Auto-Tune Effect, similar to setting Retune

Speed to 0.

At the **Soft EFX** setting, pitch shifting between notes in the pattern happens a little more slowly, creating a slightly smoother style of note transition.

The **Legato** setting slows down the transition speed further, for an even smoother and more gradual transition style.

Pattern Tempo



The **Pattern Tempo Knob** allows you to set the speed at which Auto-Motion melodic patterns are played.

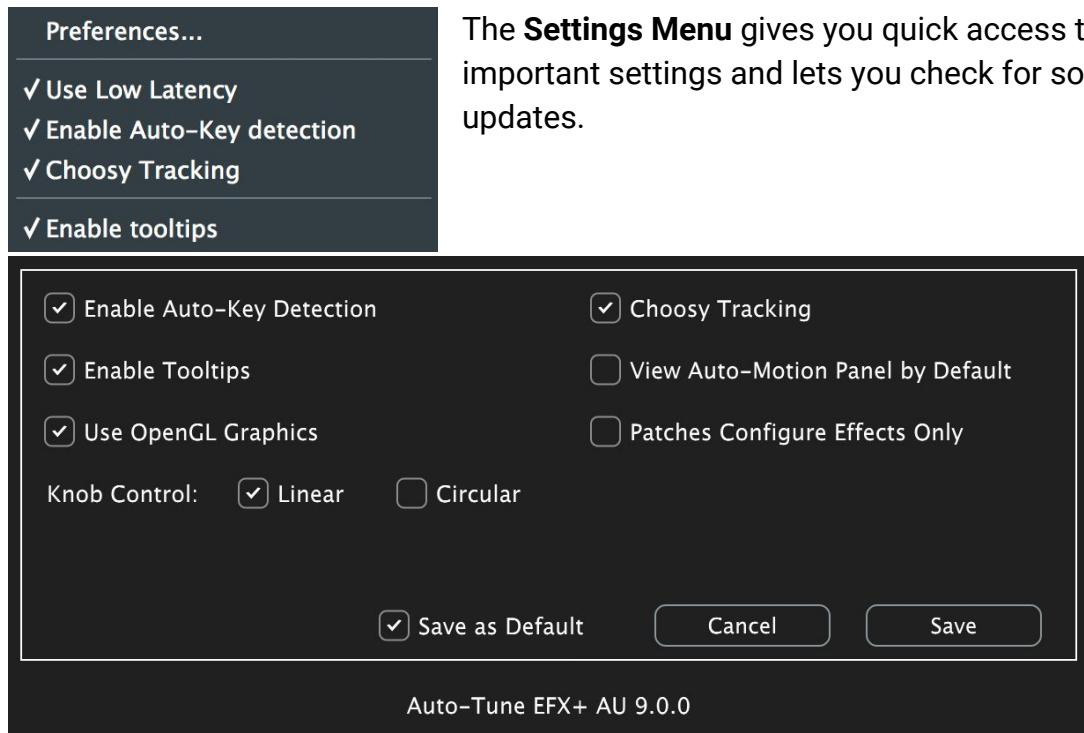
When the **Host Sync** button is on, tempo is synchronized to the DAW project, and specified in divisions of the beat (e.g. $\frac{1}{4}$, or $\frac{1}{8}$). When Host Sync is off, tempo is specified in beats per minute (bpm).

When Host sync is on during playback, the Receiving Clock indicator lights up to indicate that tempo information from the DAW is being received.

If Host Sync is on but the Receiving Clock indicator does not light up during audio playback, Auto-Tune EFX may be unable to automatically synchronize with the DAW's project tempo.

The Receiving Clock indicator will turn off when audio playback is stopped because DAW tempo information is not being received at that time.

Settings and Preferences



The **Preferences Window** 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.

Preferences

Choose “Preferences...” from the Settings Menu to open the Preferences Window.

Use Low Latency

If you plan to use Auto-Tune EFX+ in a live performance or monitor through it in real time while recording, turn on Use Low Latency to minimize any processing delay. However, for highest quality audio processing, you may want to disable it when using the **Pitch and Throat** effect.

Enable Auto-Key Detection

Auto-Key is a plug-in (sold separately) that automatically detects the key of your music, and then sends that information to Auto-Tune EFX+. The only time you should need to turn this off will be if you are using Auto-Key, but you want this specific instance of Auto-Tune EFX+ to ignore any messages coming from it.

Choosy Tracking

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

Enable Tooltips

Tooltips are helpful hints that pop up when you hover over one of the controls in Auto-Tune EFX+. If you don't want to see them, you can turn them off here.

Use OpenGL Graphics

Auto-Tune EFX+ 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 you notice poor CPU or graphics performance when working with many instances of Auto-Tune EFX+, try disabling this preference.

View Auto-Motion Panel by Default

Check this if you would like new instances of Auto-Tune EFX+ to open in Auto-Motion View instead of Auto-EFX View. Be sure to check the "Save as default" box, then click Save in order for this setting to take effect.

Knob Control

This setting controls the behavior of the knobs in Auto-Tune EFX+. If you prefer to click and drag in a circle, set it to circular. If you'd rather click and drag in a straight line, set it to linear.

Patches Configure Effects Only

Some Auto-EFX patches also include settings for [pitch correction](#) parameters such as [Retune Speed](#) and [Humanize](#). If you don't want the patch to overwrite your pitch correction settings, check this box.

Save as Default

Check this box before clicking the Save button to set the default settings for any new instances of Auto-Tune EFX+.