



Auto-Tune EFX 3

Real-Time Auto-Tune
Pitch Correction,
Vocal Effect and
Auto-Motion™ Vocal
Pattern Generation

Owner's Manual

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Whew! Now that that's over, let's get on to the good stuff.

Contents

Chapter 1	Getting Started	
	Installing and Authorizing	2
	Technical Support	2
Chapter 2	How It Works	
	What's it do?	4
	How to do it	5
	Useful tips	8
Chapter 3	Auto-Tune EFX Tutorials	
	1: Pitch Correction	10
	2: Auto-Tune Vocal Effect	10
	3: Auto-Motion Vocal Pattern Generation	11
Chapter 4	Updating, Creating and Editing Auto-Motion Patterns	12

Welcome!



On behalf of everyone at Antares Audio Technologies, we'd like to offer both our thanks and congratulations on your decision to purchase Auto-Tune EFX 3, the quickest, easiest tool for real-time pitch correction, creating the Auto-Tune Vocal Effect and our new Auto-Motion™ Vocal Pattern Generation.

Before you proceed any farther, we'd like to strongly encourage you to register and authorize your copy of Auto-Tune EFX 3. (You can skip ahead to the Authorization and Installation instructions on page 3. We'll wait.)

At Antares, we are committed to excellence in quality, customer service, and technological innovation. With your purchase of Auto-Tune EFX 3, you have created a relationship with Antares which we hope will be long and gratifying. Let us know what you think. You can count on us to listen.

Again, thanks.

The Whole Antares Crew

1: Getting Started



Installing Auto-Tune EFX 3

Auto-Tune EFX 3 is designed to work with a wide variety of digital audio applications. Please refer to your host application's user manual for more information on installing and using plug-ins. (Although in most cases, simply double-clicking the Auto-Tune EFX 3 installer and following the resulting directions will be all you need to do.)

Authorizing Auto-Tune EFX 3

Authorization is the process by which Auto-Tune EFX 3 is allowed to permanently run on your computer. Detailed instructions covering the available authorization options will be found in the file "Authorization Read Me" which is included on your installation DVD ROM or with your software download.



Auto-Tune EFX 3 authorization requires an iLok USB smart key. If you already own other audio plug-ins, you probably already have one. If not, they can be purchased from many local music stores as well as most online music technology retailers.



NOTE: You will need to authorize Auto-Tune EFX 3 before you can run it in your host. If you plan to follow along with the manual (a good idea), go do it now.

Technical Support

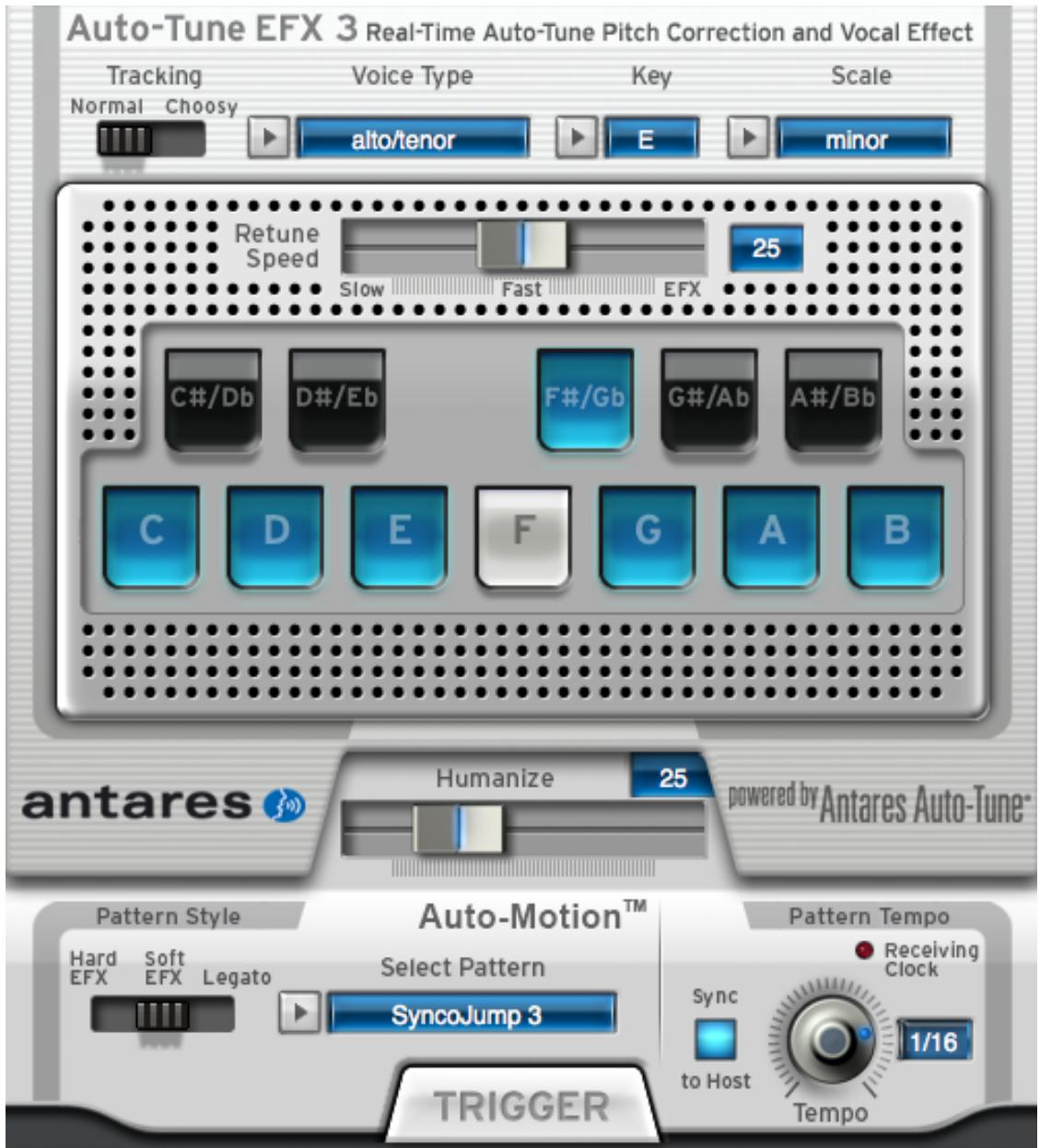
In the unlikely event that you experience a problem using Auto-Tune EFX 3, try the following:

1. Make sure you have the latest version of the plug-in. You can download and install the latest version of Auto-Tune EFX 3 from the following web page:

<http://www.antarestech.com/download/latest-software.php>

If that doesn't solve your problem, try the following:

1. Consult our web-based support resources at: <http://www.antarestech.com/support/>
2. Submit a question directly to our Customer Support department at: <http://www.antarestech.com/support/contact.php>
3. For the quickest access to new developments, follow us on Twitter and like our Facebook page:
<http://twitter.com/AntaresAudio>
<http://www.facebook.com/pages/Antares-Audio-Technologies/68524457680>



2: How It Works



Some background

In 1997, Antares first introduced the ground-breaking Auto-Tune Pitch Correcting Plug-In and Recording Magazine called Auto-Tune a “holy grail of recording.” In the intervening years, Auto-Tune has established itself as the worldwide standard in professional pitch correction. Today, it’s used daily by tens of thousands of audio professionals to save studio and editing time, ease the frustration of endless retakes, or save that otherwise once-in-a-lifetime performance.

But in addition to its use in pitch correction (and, as of the introduction of Auto-Tune 7, time correction as well), Auto-Tune has also gained renown as the tool of choice for what has become one of the signature vocal sounds of our time.

First heard on Cher’s 1998 mega-hit “Believe,” variations of the Auto-Tune Vocal Effect have gone on to appear on songs from a huge variety of artists in almost every music genre. This has generated intense interest in the effect and introduced the magic of Auto-Tune to an even larger community of musicians and producers.

As a result, we have created Auto-Tune EFX 3, an affordable, easy-to-use tool for basic real-time pitch correction, creating the Auto-Tune Vocal Effect and our unique Auto-Motion™ Vocal Pattern Generation.

New in Auto-Tune EFX 3 is a fully adjustable Retune Speed control that lets you finetune Auto-Tune EFX 3’s pitch processing for any performance. And its new Humanize function provides pitch correction that is even more natural and realistic.

What’s it do?

Pitch Correction

Auto-Tune EFX 3 pitch correction works by continuously tracking the pitch of your vocal and comparing it to the notes in the (user-customizable) scale of your song. The scale note closest to the input pitch is identified as the target note. If the vocal’s pitch exactly matches the target note, no correction is

applied. If the vocal’s pitch varies from the target note, either sharp or flat, the output pitch is smoothly corrected to the target note.

Auto-Tune Vocal Effect

The Auto-Tune Vocal Effect is what is technically known as “pitch quantization.” That is, instead of allowing all of the small variations in pitch and the gradual transitions between notes that are a normal part of singing (and speaking, for that matter), the Auto-Tune Vocal Effect limits each note to an exact pitch, stripping out any variation, as well as forcing instantaneous transitions between notes.

The process of choosing the pitches to quantize to is the same as described above for pitch correction. The difference is that for pitch correction, the correction is done smoothly in order to make the process as transparent as possible. For the Auto-Tune Vocal Effect, the correction is instantaneous.

Auto-Motion Vocal Pattern Generation

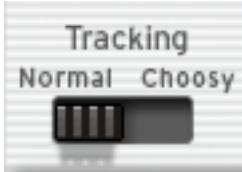
Auto-Motion Vocal Pattern Generation is a new effect that takes advantage of Auto-Tune’s superb pitch-shifting ability to add intricate musical patterns to a vocal performance. Patterns are selected from a built-in (and expandable) library in a variety of styles and can be synced to your host’s tempo at various beat divisions. At any point in your vocal track, simply click the Auto-Motion Trigger button to send your vocal on a melodic adventure.

How to do it

Auto-Tune EFX 3 has been designed to make almost everything automatic. Simply follow the steps below:

Pitch Correction or The Auto-Tune Vocal Effect

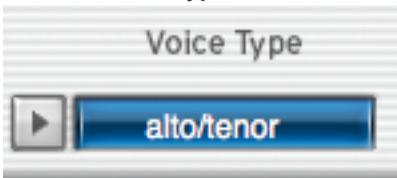
1. Set Tracking



In most cases, simply leaving the Tracking switch at its default setting of “Normal” will ensure accurate pitch detection and tracking. In the rare

event that you encounter a problem (e.g., a vocal playing back at the wrong octave), moving the switch to “Choosy” should make everything right.

2. Select Vocal Type



In order to do its magic, Auto-Tune EFX 3 needs to figure out exactly what pitches are being sung. It will do its best job of pitch detection if it knows the general range of the vocal part. You can help it out by clicking on the Vocal Type popup menu and selecting your track’s vocal type. The choices are:

- Soprano Voice
- Alto/Tenor Voice
- Baritone/Bass Voice
- Instrument (anything that isn’t actually a voice)

3. Select Key and Scale

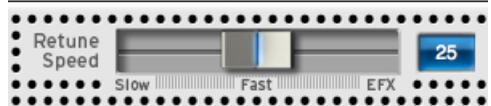


Use the Key and Scale popup menus to set the Key and Scale of your track. The appropriate Note buttons will light blue to indicate that they are in the scale and that the input vocal can be corrected or forced to those notes.



A TIP: If you don’t know the key of your track, trial-and-error works pretty well. Start by setting Major or Minor and then just trying one Key after another until one sounds good.

4. Set the Retune Speed



The Retune Speed is the key to natural (or unnatural) sounding pitch correction. If set at too slow a setting, Auto-Tune EFX 3 will not have enough time to move short notes to the correct pitch

If set too fast, you’ll be able to hear Auto-Tune working, creating an unnatural sounding effect (unless that’s what you want).

A value of 0 will cause instantaneous changes from one tone to another and will completely suppress a vibrato. If you’re going for the Auto-Tune Vocal Effect, use 0. Values from 10 to 50 are typical for vocal pitch correction. Larger values let through more vibrato and other interpretative pitch gestures but also slow down how rapidly pitch corrections are made.

Although the above suggestions can be used as starting points, finding the correct Retune Speed setting for a particular performance is largely a matter of trial-and-error and depends on such attributes as song tempo, note duration and vocal style, among others. As always, let your ears be your guide.

5. Play Your Track

Auto-Tune EFX 3 will process your input vocal according to your settings. Mr. Hand will continuously indicate the current target note.

If you like the result, you’re done. If not, continue with the next steps.



6. Adjust the Retune Speed

If your initial Retune Speed setting did not give you the results you want, speed it up or slow it down as necessary.

7. Customize the Scale

Depending on the specific vocal line, adding or removing scale notes can give you distinctly different results. Try any combination of the following:

- Click on a lit blue Note button to remove it from the scale and prevent Auto-Tune EFX 3 from correcting or quantizing the output to that note.
- Click on an unlit Note button to add it to the scale and allow Auto-Tune EFX 3 to correct or quantize the output to that note.

Click and play and click and play until you get exactly the result you want.

8. Engage the Humanize Function



One situation that can be problematic is a performance that includes both very short notes and longer sustained notes. The problem is that in order to get the short notes in tune, you'd have to set a fast Retune Speed, which would then make any

sustained notes sound unnaturally static. Luckily, the Humanize function easily solves this problem.

The Humanize function differentiates between short and sustained notes and lets you apply a slower Retune Speed just to the sustained notes. Thus, the short notes are in tune and the sustained notes still allow the natural variations of the original performance.

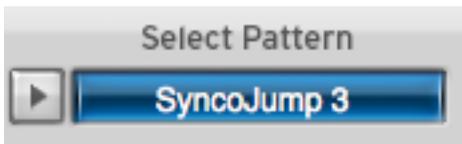
Here's how it works:

Start by setting Humanize to 0 and adjusting the Retune Speed until the shortest problem notes in the performance are in tune. At this point, any sustained notes may sound unnaturally static. If so, start advancing the Humanize control. The higher the Humanize setting, the more the Retune Speed is slowed for sustained notes. The goal is to find the point where the sustained notes are also in tune and just enough of the natural variation in the performance is present in the sustained notes to sound natural and realistic. (If you set Humanize too high, any problem sustained notes may not be fully corrected.)

This is another of those settings where you have to let your ears be your guide. The optimum Humanize setting for any particular performance will depend on the performance style, the other parameter settings and the specific effect you desire.

Auto-Motion Vocal Pattern Generation

1. Select a Pattern



Auto-Tune EFX 3 comes with a varied selection of melodic patterns (but see Chapter 4 for info on expanding the selection and creating your own). Click the Select Pattern menu to pick one.

While we've tried to name each pattern in a way to suggest its style, the easiest way to become familiar with them is just to try them out.

2. Select a Pattern Style



The Auto-Motion Pattern Style switch lets you select the speed of the transition between the notes

of the pattern. The choices are similar to those of the Effect Type switch:

Hard EFX: The classic Auto-Tune Vocal Effect. Transitions between notes of the pattern will be instantaneous.

Soft EFX: Transitions between notes of the pattern will be slightly less instantaneous.

Legato: The notes of the pattern will glide smoothly from one to the next.

 **IMPORTANT NOTE:** *The Pattern Style selection is completely independent of the Retune Speed. For example, if you select a Retune Speed of 0 and Legato for the Pattern Style, you will get classic Auto-Tune Vocal Effect on the vocal when a pattern is not being triggered, but when a pattern **is** being triggered, there will be smooth transitions between the notes. Conversely, if you select a Retune Speed of 50 and Hard EFX for the Pattern Style, your vocal track will be smoothly pitch-corrected while Auto-Motion patterns will exhibit the Auto-Tune Vocal Effect.*

3. Set Pattern Tempo



Auto-Tune EFX 3 provides two ways to set the tempo of your selected pattern:

Sync to Host: Sync to Host mode ensures that your Auto-Motion patterns will be perfectly synced to the tempo of your track (assuming, of course, that you recorded your track to a click track or other time reference). Selectable beat multipliers or subdivisions allow for a wide variety of complex rhythmic possibilities.

Click the Sync to Host button (it'll turn blue) to sync the pattern tempo to your DAW's clock. The Receiving Clock "LED" will light to confirm that it is getting a valid clock from your host. (If the LED does not light, check to see that your host does in fact route its clock to plug-ins. Most do, but there may still be a few out there that don't.)

In Sync to Host mode, the Tempo knob lets you select what division or multiplier of the beat will define the length and position of each note of your pattern.

The choices are:

- 4/4 (whole note, 4 beats)
- 3/4 (dotted half note, 3 beats)
- 2/4 (half note, 2 beats)
- 1/4 (dotted quarter note)
- 1/4 (quarter note, one beat)
- 1/4T (quarter note triplet)
- 1/8 (dotted 8th note)
- 1/8 (8th note)
- 1/8T (8th note triplet)
- 1/16 (dotted 16th note)
- 1/16 (16th note)
- 1/16T (16th note triplet)

- 1/32. (dotted 32nd note)
- 1/32 (32nd note)
- 1/32T (32nd note triplet)

For example, if you select 4/4, each note of your pattern will last for four beats, while selecting 1/16 will result in one pattern note per sixteenth note.

Absolute BPM: When Sync to Host is not selected, the Tempo knob lets you set the tempo in beats per minute. The available range is 20 BPM to 260 BPM.

4. Trigger the Pattern



Play your track. At any point, click and hold the Trigger button to play the selected pattern. Continuing to hold down the Trigger button will cause the pattern to repeat for as long as you hold it down. Release the Trigger button to stop the pattern. Repeat as desired.



IMPORTANT NOTE: *Since the Auto-Motion patterns are being generated from your vocal track, they will only play as long as there is actually vocal present on the track. If you continue to hold down the Trigger button in a portion of the track where there is no vocal, the pattern will cease sounding. However, the pattern will continue to cycle through the silence and will again sound at the point that the vocal once again enters.*

ANOTHER NOTE: *The overall pitch of the pattern is determined by the note being sung at the moment you click the Trigger button. If you continue to hold down the button, the pattern will continue to repeat at the same pitch, regardless of the pitch of subsequently sung notes. However, if you briefly release and then re-click the button during a different note, the pattern will be transposed to reflect the pitch of the new note.*

Auto-Motion Pattern Generation offers enormous possibilities for striking effects. As always, experimentation is the order of the day.

Some useful tips

Pitch Correction and Auto-Tune Vocal Effect

1. If you're not getting the result you want, even though you're sure you've set the correct Key and Scale, try some other keys and/or scales. Sometimes a melody might actually give a more interesting effect in other than its "correct" scale.
2. Use your host's automation facility to change the Key or Scale, or toggle the state of various Note buttons, in real time. This is particularly useful for songs with complex chord progressions or modulations.
3. Try the chromatic scale. If you are doing pitch correction and the singer is never more than 49 cents off (i.e., just less than half a semi-tone — actually a pretty huge error), everything should work just fine, regardless of key changes or modulations.

Although our experience shows that if you're going for the classic Auto-Tune Vocal Effect, chromatic rarely provides it, for a specific song, it might be just what you want.

4. Create a custom scale for a particular vocal track. Start by selecting any chromatic scale and remove selected notes until you're left with a combination that sounds good.
5. Try re-pitching the vocal line. Watch Mr. Hand and note which notes appear in the melody. Remove one or more of those notes from the scale and try adding various adjacent notes. You might end up with something interesting (but then again, you might not).
6. Don't forget your host's Bypass function. Limiting the Auto-Tune Vocal Effect to specific phrases can provide sonic contrast in your song.

Auto-Motion Vocal Pattern Generation

1. Auto-Motion depends on the same Voice Type, Tracking, Key, and Scale settings as pitch correction and the Auto-Tune Vocal Effect. Even if you aren't doing pitch correction or using the Auto-Tune Vocal Effect, be sure to correctly set those controls.
2. Try using different patterns in different parts of your track by using your host's automation capability to switch patterns at the appropriate points in the track.
3. Try triggering a pattern on different beats or beat subdivisions of your track. Starting a pattern on an offbeat or beat subdivision can have a very different rhythmic effect than starting it on a downbeat.
4. Experiment with triplet or (especially) dotted-note subdivisions for interesting polyrhythmic or syncopated results. As in #3 above, try triggering them on offbeats or beat subdivisions for even more rhythmic interest
5. Set a pattern to a very fast tempo or small note subdivision (if using Sync to Host) and repeatedly retrigger the pattern for an unusual rhythmic stuttering effect.
6. Have fun!

3: Auto-Tune EFX 3 Tutorials

This chapter introduces you to how Auto-Tune EFX 3 works by guiding you through three brief tutorials. The tutorials require a number of audio files. They can be found on the Auto-Tune EFX 3 DVD, or you can download them from:

<http://www.antarestech.com/download/latest-software.php>

Then just follow these steps:

Tutorial 1: Pitch Correction

1. Import the tutorial files “dont_give_up_vocal.wav” and “dont_give_up_accomp.wav” onto two tracks of your project.
 2. Play the tracks and adjust their relative levels to your taste. Note the various pitch problems in the vocal.*
 3. Instantiate Auto-Tune EFX 3 on the vocal track. Set Retune Speed to “25.”
 4. Set Vocal Type to “soprano.” Set Key to “D” and set Scale to “major.”
 5. Play your project. Voilà! Instant pitch correction.
- * *Our very talented singer made us promise to tell you that she did this on purpose at our request.*

Tutorial 2: Auto-Tune Vocal Effect

1. Create a new project in your host and import the tutorial files “hidin_vocal.wav” and “hidin_accomp.wav” onto two tracks of the project.
2. Play the tracks and adjust their relative levels to your taste.
3. Instantiate Auto-Tune EFX 3 on the vocal track. Set Retune Speed to “0.”
4. Set Vocal Type to “alto/tenor.” Set Key to “A flat” and set Scale to “minor.”
5. Play your project. Voilà! Instant Auto-Tune Vocal Effect.
6. Change the Retune Speed to “5” and play again to hear the difference.
7. Switch back to a Retune Speed of 0 and click the A#/ Bb button to remove that note from the scale.
8. Play the project again and note that you’ve subtly changed the melody. The syllable “-ther” of “together” and the word “on” at the end of the second phrase are now forced to “B” instead of their original Bb.

Tutorial 3: Auto-Motion Vocal Pattern Generation

The best way to become familiar with Auto-Motion is simply to play around with it. To get started:

1. Load the “hidin” files from Tutorial 1 and set the controls as instructed in that tutorial.
2. Set your host’s tempo to 132 BPM and set the Auto-Motion tempo to “Sync to Host” and “1/16.”
3. Set the Auto-Motion Pattern Style to Hard EFX.
4. Select the pattern “Half Steps.”
5. Start playing the project. Click and hold the Trigger button at the beginning of the words “falling apart” at the end of the second phrase. Hold the button through these words and then release it.
6. Click and hold the Trigger button again at the beginning of measure 10 (in the middle of the phrase “you’re in the dark”). Release it at the end of the phrase.
7. Repeat again at the beginning of measure 16 (at the beginning of the phrase “nothing at all”).
8. Finally, repeat again at the beginning of measure 20 (at the beginning of the phrase “set up to fall”).
9. Repeat all of the above using a different pattern (e.g., try “Circular Slur” for a bit more dramatic effect or “Down 4 Up 1” for some serious wackiness).

Continue to experiment with different patterns, different note divisions, and different combinations of Effect Type and Pattern Type settings.

Most of all, have fun.

4: Creating, Editing and Updating Auto-Motion Patterns

This chapter provides instructions for updating, editing and creating your own Auto-Motion patterns.

Auto-Tune EFX 3 Auto-Motion patterns are contained in a file entitled "Patterns.xml" in a standard format called MusicXML. This file can be edited by any application that can open and write MusicXML files. A list of MusicXML-aware applications can be found here:

<http://www.musicxml.com/software/>

If you don't already have a MusicXML-aware application, you can download the free open source music notation program "MuseScore" here:

<http://musescore.org/en>

Locating Your "Patterns.xml" File

Mac

Locate your Auto-Tune EFX 3 plug-in file.

VST plug-ins are found in
Library/Audio/Plug-ins/VST

AU plug-ins are found in
Library/Audio/Plug-ins/Components (for AU).

Right-click or Control-click the plug-in and select "Show Package Contents."

Locate the file at Contents/Resources/
Patterns.xml

Windows:

Locate your Auto-Tune EFX 3 plug-in file.

VST3 plug-ins are found in
\Program Files\Common Files\VST3\

Locate the Patterns file at: Auto-Tune
EFX.vst3\Contents\Resources\Patterns.xml

For the VST2 version, the Patterns file will be
found at: \Program Files\Antares Audio
Technologies\Auto-Tune EFX\Patterns.xml

AAX plug-ins are found in \Program Files
\Common Files\Avid\Audio\Plug-Ins

Locate the file at: Auto-Tune EFX.aaxplugin
\Contents\Resources\Patterns.xml

About the “Patterns.xml” File

The “Patterns.xml” file contains all of the patterns available in Auto-Tune EFX 3. When opened with a MusicXML aware application, the patterns are displayed as a conductor’s score with one pattern per staff.

Although all of the patterns are notated in the key of C Major, their actual pitch is defined by the note of the vocal track at the moment the Trigger button is clicked, along with the currently set Key and Scale.

Specifically:

C above Middle C represents the note of the vocal track at the moment you click the Trigger button. If you want your pattern to start with that note, make C above Middle C the first note of your pattern.

The remaining scale notes represent transpositions relative to the note of the vocal track at the moment you click the Trigger button. For example, “E” represents a third above (or a sixth below, depending on the octave) the note of the vocal track. Whether that third is a major or minor third depends on the currently set Key and Scale.

If a pattern contains only notes of the C Major scale (i.e, C, D, E, F, G, A and B), the pattern will be restricted only to notes of the currently set Key and Scale.

If the pattern contains any accidentals (sharps and flats), the pattern will be considered a chromatic pattern and can contain any chromatic note, whether or not in the selected scale.

While the patterns are notated in eighth notes, the actual tempo will be defined by the plug-in’s tempo controls.

Updating “Patterns.xml”

To install a new file, simply navigate to the file location described above and copy the new file over the existing file. (You might want to copy the original file to some other location first in case you decide you want to revert back to it later.)

On the Macintosh, when copying the new file into the bundle, you will initially get a scary alert that it is not possible to replace the current file. Don’t panic. Simply click the alert’s “Authenticate” button and enter your account password. All will be well.

If you’ve edited the original patterns file or added new patterns of your own, copying a new patterns file over that file will delete your edits and/or new patterns. To avoid this, first move your current file to another location. Then open it and copy all of your edited patterns and new patterns. Finally, open the new patterns file and paste your edited and new patterns into it.

Editing Patterns

To edit existing patterns in the “Patterns.xml” file, navigate to the file and open it with your MusicXML aware application. You will see the current patterns in standard music notation, one per staff.

Use your application’s tools to add, delete, or change notes as desired and then save the file. Your edited patterns will be available the next time you instantiate Auto-Tune EFX 3.

Creating New Patterns

To create a new pattern:

Open your Patterns.xml file in your MusicXML aware application and add a new staff to the page.

Enter the name of your pattern (as you want it to appear in the Select Pattern menu) in the field that's typically used to designate the instrument associated with a staff (e.g., Violin 1, Oboe, etc.).

Use your application's tools to enter the notes of your pattern on the new staff.

If you want your pattern to start with the currently sung note, begin your pattern with C above Middle C.

Notate your pattern in eighth notes. (If you want a pitch to sustain for more than one rhythmic pulse, enter successive eighth notes at that pitch.)

If you want your pattern to be limited only to the notes in your selected Key and Scale, do not use any accidentals (sharps or flats) in your pattern.

If you do use accidentals, notate the accidental for every note in each measure that you want it to affect. E.g., if you enter a C# at the beginning of a measure, any subsequent Cs in that measure that you want to be C#s should also have the # sign entered for them.

Don't enter rests. Rests will be skipped over as if they weren't there.

Since every application has its own control scheme, the methods for accomplishing the above will be unique to each application.

However, as an example, here's how to create a new pattern using MuseScore:

1. Open the "Patterns.xml" file with MuseScore.
2. Select the menu item Create->Instruments and choose Vocals->Voice.
3. Click the Add button and press OK. You should see an additional staff line added to the bottom of the score. Note that if you have lots of patterns you may need to customize the paper size to legal size or longer, so all the patterns fit on the page. (Use Layout->Page Settings.)
4. Click to select a measure in the new staff and right-click or Control-click and select "Staff Properties" to access the Staff Properties panel. Change the "Long instrument name" from Voice to the name of your pattern (which will appear in Auto-Tune EFX 3's Select Pattern menu). Click OK. You should see your pattern name to the left of the new staff line.
5. Go to Notation mode by clicking the big "N" in the toolbar, select the eighth note, and begin creating your pattern by moving the note cursor to the first beat of the first measure of the new staff and clicking to enter it your desired note there. Continue placing notes until your pattern is complete.
6. From the menu, select File->Save As, choose "MusicXML Format (*.xml)" as the format and then click "Save."
7. Replace your original Patterns.xml with this new file (keeping the original file, just in case...). The next time you launch Auto-Tune EFX 3, your new pattern will be available from the Select Pattern menu.