Ariana singer

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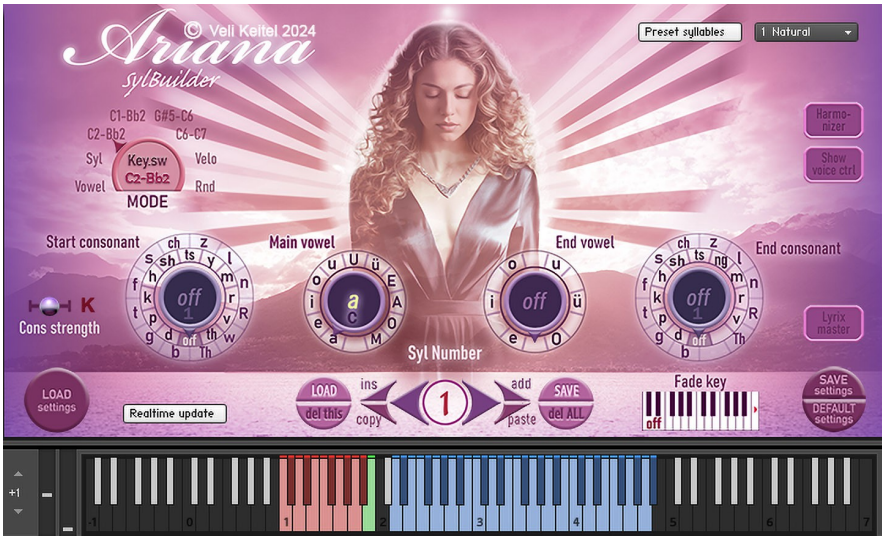
User Manual
Sielunpuu.net/en/st-instruments



Introduction

Ariana Singer* is a complex and versatile sample instrument for the Kontakt sampler. It was originally designed as a tool for musicians who want to compose and/or arrange vocal music tracks (including lyrics) in the same way as any other instruments. The idea is not to replace a live singer, but allow the musician to hear how their vocal arrangements sound like without having to hire singers or choirs to test them out.

Ariana in real life is Ana Pilat, a Croatian alto singer. Her voice has been sampled into a digital MIDI instrument, with all vowels and consonants (and their combinations) recorded at many pitches and split into separate samples. A graphic user interface was then develop for easy construction of syllables and various tools to fine tune the voice (vibrato, voice color etc).

*Everything in this document also applies to Artenor Singer, the male version of this instrument (the voice of Veli Keitel).

On the other hand, since Ariana Singer comes with features aiming for a more realistic reproduction of the human voice and phonetics than a regular vocal sample library (features like voice dynamics simulation, voice color and softness adjustment, natural sounding legato slides for all vowels), it can also be used to add nice vocal background tracks for your band or orchestra setups. You can, of course, even make Ariana the lead singer of your song, but don't expect her to replicate the expression, feeling and presence of a real life singer!

In 2025 there are many AI based music applications that construct songs based on prompts, complete with a lead singer that sounds completely convincing and even emulates emotions. While this is fascinating, it is a totally different thing. Imagine an aspiring song writer who knows nothing about music theory and plays no instrument, trying to come up with a beautiful performance of a brand new song in the pre-digital era. If they wanted to skip the tedious process of learning to play and sing and write music, the only choice they had was to hire some professional musicians and ask them to create what they can only imagine in their head!

Today, instead of hiring those professional musicians, you can hire *artificial* musicians who analyze what actual musicians have done over the decades and then imitate them. You just give the descriptions (prompts) of what you want to hear. What ever the result, you are not the creator of that music, rather you are just the producer. However, there will always be people willing to do detailed editing of each note, each word, each sound *by hand,* through their own musical skills and creativity. Ariana Singer is a tool for such musicians.

Phonetic text made easy: The SylBuilder™

With Ariana Singer you have two ways of creating lyricx, the *SylBuilder™* (syllable builder) and the *LyrixMaster™.* Both of them work with a type of phonetic writing, but with the SylBuilder you don't need to actually know how to write for Ariana, since you have an intuitive graphic user interface – it always shows you all the letters available. Once you've learned how to spell each sound, it will be easy to move on to the LyrixMaster™.

Why is is called phonetic text? It is because Ariana doesn't actually *read* what you have written, or not in the sense of understanding a word and knowing how to pronounce it. Instead she takes each individual letter as a link to a specific sample*****, a recorded sound of a vowel or a consonant. This way, you have precise control of the sounds she makes – and eventually the words she says, what ever language you want them to represent!

***** Technically, it's not that simple, but you don't need to worry about what goes on behind the scenes.

This might seem difficult, but actually it's not. You see, For most consonant the link between the letter and the sound is obvious and you already know how it works. Practically the only thing you need to memorize is that 'th' stands for the soft sound you hear in words like “the” and “this”, while 'Th' is needed for that sharper sound in “Thief” or “Thumb”.

You need to figure out that the words “loop” and “bush” have the same vowel sound, the same with “car” and “bus”. Likewise words like “leek”, “meat”, “hit” and “thief” all have the same vowel sound; also “Bird”, “her” and “fur”. You need to spell these three vowels as 'u', 'a', 'i' and 'O' (capital 'o').

When you are writing words for singing, you don't need to worry about the duration of the vowels; this is determined by the length of the note you play!

u	**loop, bush, good**	spellit:	lup, bush, gud
a	**car, bus, fun**		kar, bas, fan
i	**leek, meat, hit, thief**		lik, mit, hit, Thif
O	**bird, her, fur**		bOrd, hOr, fOr

Basically, you can use the letter 'c' (for example, “car”), because Arian automatically turns it into a 'k'. It's better, however, to use'k', because it accurately describes the sound.

Many words have two vowel sounds in a row and in English you can spell the same audible vowel combination in many ways. A typical example is the word “fly”: you spell the vowel part as 'ay' but what you actually hear is two vowels – 'a' and 'i' ('ei'). This double vowel you should always spell with 'ai':

fly, buy, like, behind, lie spell it: flai, bai, laik, bi-haind, lai

As you see, it's not that complicated; just think about **how you want the word to sound like** and then write the instructions:

hau yU wont thO wOrd tu saund laik.

While this is trickier than writing normal text, the advantage is that you can write any language, as long as you have the necessary phonetic sounds available (so not french, for instance)!
So what's the difference between the SylBuilder and LyrixMaster?

SylBuilder™ Program syllables with max 2 consonants and 2 vowels
Use the graphic dials to choose the letters
max 16 syllables

LyrixMaster™ Write your text in a text editor, max 6 consonants and 2 vowels
Translate the text for Ariana Singer with the LyrixMaster™ app
max 399 syllables
add instructions for vibrato, voice color etc. with the text

The idea is that you first write short phrases and sentences with the Sylbuilder and get the grips of the Sylbuilder “language”, then start writing text for the LyrixMaster™. There are also two variations of theLyrixMaster: *LyrixMelodizer* (automatically assigns the lyrics with a melody) and *LyrixNotes* (exports the combination of a melody and lyrics from a notation software).

Of course you can always use the Sylbuilder, when you don't need complex phrases!

1. The SylBuilder™

Using the Sylbuilder, the main user interface of the Ariana and Artenor instruments, is pretty straight-forward. You learn it best by looking at the videos on the SoulTree Audio home page.

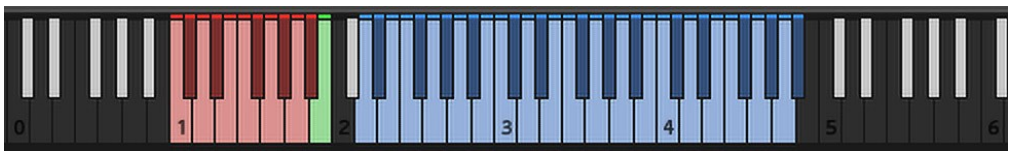
What you can do with the SylBuilder:

- Easily choose from different vowel sounds to play
- Use preset vowels and syllables with their preset key switches
- Create custom syllables of max 4 letters (two consonants and two vowels)
- Store a sequence of up to 16 syllables and play them in sequence
- Use key, velocity and random switches to choose between stored syllables
- Add, insert, delete, copy, paste, save and load syllables
- Adjust several properties of the sound, such as vibrato and reverb
- Learn the SylBuilder phonetic code to use with LyrixMaster

The keyboard sections

Ariana Singer has been designed to be usable with a four-octaves MIDI keyboard (49 keys).
The vocal range of Ariana is from D3 to Bb5*, which combines the range of a low alto and a high soprano. This leaves the lowest octave of the keyboard for either *key switches* or *chord base notes* (when you are using the Harmonizer). Additionally there are a few keys with specific functions. The keyboard sections are color coded.

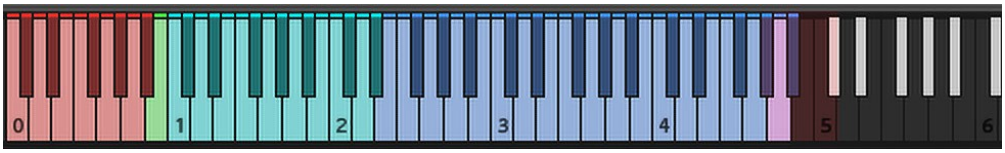
* Here C2 is the first key of a 49 keys keyboard and C1 the first key of a 61 keys (5 oct.) keyboard.



1. 2. 3.4.5. 6. 7.

When not using Harmonizer:

1. C1 – B1	Optional additional key switch area
2. **C2 – Bb2**	**Key switches for syllables 1 – 11** (and 12-22 when hitting hard)
3. **B2**	**Inbreath sound**
4. C3	**Voice color trigger** (velocity)
5. C#3	**Voice softness trigger** (velocity)
6. D3 – Bb5	**Audible area** (Ariana's vocal range)
7. C6 – C7	Optional key switch area



1. 2. 3. 4. 5. 6.

With Harmonizer

1. **C1 – Bb1**	**Key switches for syllables 1 – 11** (and 12-22 when hitting hard)
2. **B1**	**Inbreath sound**
3. **C2 – D#3**	**Chord definition**
4. E3 – G5	**Audible area** (Ariana's vocal range)
5. G#5 – C6	Optional key switch area
6. C6 – C7	Optional key switch area

The SylBuilder dials and buttons

The Mode dial

The MODE dial in the upper left corner let's you choose from 8 different modes:

1: Vowel	only plays the vowels of each syllable, in sequence
2: Syl	plays the stored syllables in sequence
3-6: Key switch	choose from 4 different key switch ranges
7: Velo	velocity switch; key velocity controls which syllable is played
8: Rnd	random switch; random syllable is played

Note that when using syllables created with LyrixMaster, the key, velo and random switches affect which *word* is played. With SylBuilder you cannot build words.

The Consonant and Vowel dials
With these dials you build your syllables and learn how each phonetic sound is spelled. This is useful when you start to write your detailed lyrics for the LyrixMaster! It is quite simple to learn the consonant syntax, and with vowels it's also pretty easy: Even if Ariana Singer features many more vowels than the typical ah-oh-ee-oo provided by many vocal sample libraries, there still aren't that many vowels to learn.

(You cannot choose vowels or consonants here if the ”Preset syllables” is on!)

Left of the Start Consonant dial you find the Cons level slider, which controls the audible level of the consonants as compared to the vowels. Use it to get a stronger or weaker articulation of the consonants.

Settings buttons
”Load settings” (lower left hand corner) enables you to load previously saved settings (voice controls). With the ”Save settings” (lower right) button you can store the settings you've modified (including all the voice controls under the ”Show voice ctrl” button plus Consonant strength). There is also a button to restore the default settings.

NOTE: The “default settings” button on the SylBuilder UI sets the SylBuilder settings to default. The “default settings” button on the Harmonizer UI sets the Harmonizer settings to default.

Syllable controls
This is the set of buttons in the lower middle part of the user interface. Here you can scroll through your custom syllables, add, copy, paste and delete them. You can also save your phrase (max 16 syllables) and load a previously saved sequence. (Many of these controls don't have an effect, if you are using the preset syllables.)

Preset syllables
Preset syllables (the button on the upper right corner) include all the vowels and a few syllables. You can choose them with the syllable control buttons or via key switches.

This is a quick way to get started with the SylBuilder. Note that the consonant and vowel dials won't have an effect when using preset syllables.

Preset settings
This menu (upper right corner) allows you to choose from a set of preset voice control settings. There is also an option for random settings, which is nice to play with – it may give you totally unusable sounds but also some nice effects you wouldn't have thought of otherwise!

You can totally modify the preset and random settings and then save them on your hard drive for later use.

Fade Key
(needed only when Ariana and Artenor Singer are used together)

This odd expression refers to a keyboard split point that fades Ariana's voice out when playng lower pitches. This slider is meant for a situation when you have Ariana and Artenor stacked together (it has not much use otherwise). The idea is to have a mixed male-female choir at your hand!

You can try different combinations of Fade keys, depending on the situation; you might want Ariana to be the dominating voice and set the Fade keys rather low. If you want to hear a tenor male voice in your choir, you should set the fade point rather high and perhaps use the same split key for both voices. If you want the voices to mix up more, set the Artenor Fade key higher than that of Ariana.

IMPORTANT: When you use Fade Key with Artenor, the voice actually drop down an octave (Ariana's voice stays in the same pitch). This is because generally it makes things simpler if you play both instruments in the same keyboard area. It is also more realistic; when a male voice sings a written note, it sounds on a lower octave because the male voice is approximately one octave lower than the female voice.

However, when you want to play a mixed choir, you need to have access to the combined vocal range of both singers. This means that also the lowest octave of a 49-key MIDI keyboard is in vocal use! This interferes with key switches and chords (when using the Harmonizer). Here are the solutions for this interference:

1. The Fade Key feature can't be used with the Harmonizer.
2. You must use Key another Key switch area.

If you forget that the Fade Key is set, you might sometimes be confused while something is not working normally. Remember to disable the Fade Key when you don't need it!

Voice controls

When you activate the ”Show voice ctrl” button, you will see the detailed controls to adjust various qualites of Ariana's voice. The best way to learn how these works is through experimenting.

When you're not adjusting the voice controls, it's better to hide them from view to keep the display more clear.

Legato
Perhaps the most essential control to understand is the *Legato.* With digital instruments controlled via a MIDI keyboard, *playing in legato* means to tie consecutive notes together (this way, the notes are slightly overlapping).

When you want to simulate a singer, you should not have the sound jump from one pitch to another, as happened with a piano, a guitar, or a saxophone. Instead, there must be a soft glide (also called a slur) between the two pitches; this is what naturally happens when you sing, you don't need to think about it. The glide may be very quick or it may be slower.

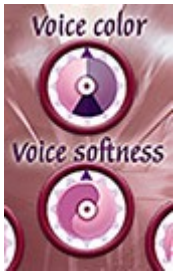
When you set the Legato knob in OFF position, there will be no slide at all. While this doesn't produce a natural sounding legato melody, it's useful when you want to play *sustained* chords (“sustain” means to hold the same pitch). It also works when you are playing syllables with consonants in sequence. You see, when there's a consonant between vowels on different pitches, the consonant kind of “eats” the delay away, or at least makes it less pronounced.

When Legato is ON, the value you control how fast or slow the glide is. You can even have it random between to values.

When you combine a random legato with random color and random pitch, you “humanize” the sound, allow Ariana to make some human errors, which again adds genuinity to the voice!

There is an additional thing you will notice when playing syllables with the Mode set to “Syl”: When you play in legato (and the Legato mode is not “off”), the syllable won't automatically proceed to the next one, but instead the current vowel will play until you release the key (stop playing in legato). This enables you to really mimic a singer, even though your using a keyboard to “sing”!

By the way, even with Legato ON you can still play chords! Ariana generally takes overlapping notes as a cue to activate the legato glide, but when several keys are triggered very rapidly in a row (well, you attempt to make it simultaneous), these are considered as separate notes of a chord. However, when you specifically want to play chords, turn the Legato off to avoid accidental “hick-ups”.



Voice color and softness
This is a control you won't find with most digital vocal instruments. A real singer doesn't just have one voice; everybody can darken, lighten, soften and sharpen their vocal sound quality. These *Voice color* and *Voice softness* attempt to simulate these vocal effects through adjustments of the voice timbre (behind this is a research into which frequencies are affected when the singing technique changes). Try them out and hear what happens!

The softness knob is a bit odd, because it only has negative values up to -2. This is because a larger adjustment to the opposite direction of softening would make the sound "unnaturally sharp".

When you use Softness values 4 or 5, the voice will be complemented with a slight breathing sound, to simulate a "leaking" voice (a technique that makes the voice more airy, but also consumes more breath).

You can set the voice color also with the C3 key and the softness with the C#3 key. It is the velocity of the key that assigns the value and when playing live, so it's not very accurate. When applying those keys on a MIDI track, you gain more precise control. But on a MIDI track you can also use CC control 12 to adjust the Voice color and CC 13 to adjust Softness. This way you can have the voice timbre change gradually while the melody note is playing!

Random color and random pitch

Random color and random pitch can be used to achieve a more human voice, which does not sound exactly the same all the time. You are generally not recommended to use high values for the *random pitch* dial, as it will make Ariana sing out of tune.

Random color also randomizes the voice softness.

Talking about mimicking a real singer, how about breathing every once in a while? Remember there is a key (B2) to produce an in-breath sound!

Velocity sensitivity and Voice dynamics simulation
A higher value velocity sensitivity will result into a more dramatic difference between playing hard or soft. With zero value the play velocity won't have an effect at all.

Note that Ariana and Artenor instruments feature a realistic *voice dynamics simulation.* What this means is that when playing hard or soft, it's not just the volume but also the *timbre* of the voice that will change. This way, you can achieve those silent and majestic sounds that you are looking for! Experiment to find a velocity sensitivity that suits your playing style.

The dynamics level or *loudness* of a note can also be controlled via CC controller 4 (or a footpedal). In the table below you can see special keys and CC controllers used by Ariana:

	Key	CC controller
Syllable number	Key sw. area	2
Loudness	**-**	4
Vibrato	-	5
Voice color	**C3**	12
Voice softness	**C#3**	13

Reverb and chorus knobs
The R*everb level* dial automatically adjust several details of the reverb effect, while the *reverb level* dial only controls the duration of the reverberation. The combined use of these two dials gives you access to many different kind of realistic acoustic simulations, from a bathroom to a large cathedral.

The *chorus* dial allows you to simulate a vocal group or a choir; the higher the value, the more singers appear to sing simultaneously.

HINT: Ariana Singer does not (and is not supposed to) sound completely convincing as a solo singer. But you can hide a lot of the artificiality by using a strong reverb and / or chorus.

Vibrato
Vibrato means a slight oscillation in an instruments pitch. Vocal vibrato is more typical for classical singers, but you will hear many POP and jazz singers add expression to their voice with vibrato as well. You can adjust the depth, speed and delay of Ariana's vibrato. The delay refers to the time it takes before the vibrato starts after you hit the key (usually it's better to have some delay, it is more natural).

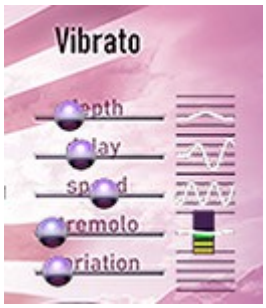
You also have an option to control the voice tremolo. How tremolo differs from vibrato

is that now it's the *volume* that oscillates, not the pitch. With a real singer, it's always a combination of vibrato and tremolo, although usually the pitch oscillation (vibrato) is more pronounced (hence it's just called vibrato). You can't (and don't really need to) adjust the tremolo speed and delay separately – they follow the vibrato settings. Additionally, you can set the vibrato variation amount; the slider set the randomness of all the other sliders. Generally it's best to just leave this in a rather low value or around the middle.

The limits for vibrato depth and speed are set with respect to the limits of a real singer. Nevertheless, you'd be wise not use the extreme values.

On a MIDI track you can control the vibrato depth with CC 5. You can also use the MIDI learn function to assign it to another controller, such as the modulation wheel. This is the best way to control the vibrato depth when playing live!

To assign a MIDI control to a knob, right-click it with the mouse and choose “MIDI learn”.



2. Ariana Harmonizer™

The Ariana Harmonizer™ module that comes with *Ariana/Artenor Singer* and *Ariana/Artenor Dolce*, is quite a power-horse for easy creation of harmonic parts and learning some music theory while doing so! You can achieve up to five part harmony (five singers singing different notes of a chord) by just choosing a chord with the left hand and then playin a note with the right.

Furthermore, you can mute or solo each of these parts and even control the spatial spread (panning width) of the voices to create an impression of singers being closer or further apart from each other, with a single slider!

You have several harmony modes to choose from too. These modes define whether you have one voice playing on a higher pitch than your melody or two voices playing on a lower pitch etc.

The philosophy behind Ariana Harmonizer™

> The philosophy of the Ariana Harmonizer is based on musical keys. The default key is C major (it also works for A minor), which only includes the white keys of the musical keyboard. In each key there are seven notes and seven chords based on those seven keys. Out of those seven chords three are major chords, three are minor chords and then there is one diminished chord. But the good thing is that you don't need to know which key produces which type of chord!

How do you know which key to play in? If you know some music theory, you are covered! If not, addendum 1 gives you a quick explanation.

In addition to those seven ”basic” chords there are two sets of altered chords that are generally used in songs, whether their genre is pop, rock, classical or folk. These two sets are *subdominants* and *major-minor variations.* Again, you don't need to know the music theory behind them but. On the other hand, Ariana Harmonizer gives you a fun way to find out how they work, how they sound.

When you start with the key of C major, you automatically get the correct chords simply by pressing one key between C and B. When you play F, for instance, you will get a F major chord. When you play A, you get A minor – automatically. But, and here's the trick, when you play a key that *does not belong to the scale* (in C major, any black key), you automatically get a correct subdominant chord!

Look at the Addendum for info about subdominants.

And if you need to have a major instead of minor, or vice versa (major-minor variation), you get this by playing the another key in addition to the base note. For example, if you wish to have a F minor in C major scale (this is actually the most common major-minor variation), you play F and A flat (the black key left of A). You can define many other chords with a similar, “semi-automatic” way, using up to 3 fingers.

More information about chords and scales later – this was an introduction to the way how Ariana Harmonizer works. Next we'll look at the different sections of the Harmonizer interface.

Ariana Harmonizer™ user interface

The Harmonizer module shares some of its controls with the SylBuilder: The Mode dial, the setting buttons, the legato, voice color, softness and the syllable controls. The other sliders and buttons are unique to the Harmonizer alone.

NOTE: The “default settings” button on the SylBuilder UI sets the SylBuilder settings to default. The “default settings” button on the Harmonizer UI sets the Harmonizer settings to default.

The Key dial
This dial allows you choose any of the 12 major keys. It also shows you the corresponding minor keys (for example, the keys of F major and D minor have the same notes, this is why they are selected from the same place).

The Harmony mode

What you see on this slider is a musical stave with its five horizontal lines. No, you don't need to know how to read musical notes (of course it won't harm if you can!); this is just a visual cue for you to understand how each of the modes work. Below is a list of each of them, from left to right (Lead refers to the melody note that you actually play):

1.	No harmonies	The default setting, no voices added
2.	One below	Just one added voice, played from below the Lead
3.	One above	One additional voiced played above the Lead
4.	Two below	Two notes below gives you a full harmony (major/minor)
5.	One both sides	One note below, the other above*
6.	Two above	Sounds very different than 3!
7.	Wide	A bit like 5, but the the voices are further apart in pitch*

* This is not a combination of modes 1 and 2. Those modes with just one additional voice aim to play the note that is most essential for the chord; the one that defines whether it is a minor or a major. Rather The 5. mode is a variation of mode 4; the lowest voice is shifted with one octave and ends up at a higher pitch than the Lead note.

** Basically this is also a variation of the 3rd mode: The higher note is shifted with an octave. It sounds a lot different, though!

If you use a mode that includes a note playing at a higher pitch than the Lead, Ariana Harmonizer will automatically play that note at a clearly lower volume. This is because we tend to hear the highest pitch as the melody; lowering its volume ensures that it doesn't ”override” the melody.

Parts on/off switches

These ellipse shaped buttons are used to turn each of the voice parts on or off. **Be careful when you use these in combination with the Harmony mode.** For example, if you have selected the 4th mode (two below, probably the most common mode to use), you will only hear one additional voice if the ”voice 3” switch is off. Sometimes you might turn of the Lead (for example to listen how the other parts sound), but if you forget that, you might later wonder why there's no sound at all!

The arrangement of these buttons does not indicate the pitch of the voices. Both voices 2 and 3 may be lower or higher than Lead, depending on the harmony mode. You get an idea, when you listen to each voice separately.

There is also a switch for a Base part. The Base is the base note of the chord (generally the same note that you use to define the chord) and it is always lower than the Lead.

The Base voice is most effective when you are using Ariana and Artenor together. You can for example leave the Lead and voice 3 ON for Ariana; Voice 2 and Base for Artenor.

So where's the *fifth part* hiding?
There's a "hidden" trick that expands the harmonic expression of Ariana. When you hit the chord key *hard*, you will instruct Ariana to sing a "voice4", which usually is a note one step above the root key of the chord. For example, with an A major chord it will be B. In music theory terminology this is an *add9* note (why it's called that, is a bit complicated...). So instead of just a regular A major chord you will hear **A add9**.

This additional part will always be connected to *voice3* (if you only leave that part in the ON position, you will here two notes). This is why it does not have a separate on/off switch or a balance slider.

Parts balance sliders
The sliders on the right from the on/off switches are used to control the relative volume of each part (relative to the Lead, that's why you can't adjust the Lead volume). I'ts good to play with these a bit to get the exact sound you like.

As stated before, the volume of any voice *above* (higher pitch) thand the Lead is automatically lowered. You can still "overdrive" it (push it to the max) to have play loudly enough!

Stereo width
With this simple slider you can quickly and easily control the spatial (left/right panning) dimension of your harmonic choir. The higher the value, the further apart the singers appear and the stronger the stereo effect. For more precise manual control of each voice's panning take the slider to the lowest value (left), place each part on a separate track (make sure only that part's switch is on) and control the pan of that track.

Manual chord guide
The image of a little keyboard on the right side of the screen is a slider that has no effect at all. Its purpose is only to act as a quick reference to the various manual chords available. A ”manual chord” in this case means a chord defined with more than one finger (one key), so it overrides the automatic chord production. This feature is aimed mostly for those with some understanding of the music theory behind chords and harmonies.

Chord Mode dial
The basic chords build on the seven notes of a musical keys are either major or minor chords (with the exception of the seventh chord in a major scale, which is a diminished chord). However, each of these majors and minors can be ”spiced up” with an additional note. Most commonly this is a 7^{th}. This does not mean it's a seventh voice, it refers to the 7^{th} interval (distance between two notes).

Even with simple folk songs or children's songs is typical that the so-called *dominant* chords are major 7^{th} chords. A dominant is basically an alternative name for the chord built on the *fifth* note of the scale (In C major scale the fifth note is G).

When you add the 7^{th} note to other chords of the scale, you get a sound that is more ”jazzy”, you must definitely try it out!

1. Basic — Just the basic major and minor chords
2. Dom 7^{th} — Automatic Major 7^{th} for the dominant AND subdominant chords
3. All 7^{th} — Automatic Major, minor or diminished 7^{th} for all chords
4. Jazzy — Note just 7^{th} but also some other ”exotic” chords
5. Tritone — Tritone subsitutions for dominant chords, use cautiously...

Let's look a bit at the subdominants. Start by selecting the *Dom* 7^{th} Chord mode. Make sure you are in the key of C (the default key).

If you play C sharp (C#) for instance, you will get the subdominant that leads to the D minor (Dm) chord. The chord is A7, but you don't actually need to know it. You just know that a possible way to move to the D chord (you don't need to know whether it's a major or minor) is to first press the key right next to it on the left.

An example to try out:

Chords:
C Dm Em F G C

1. Make sure you have selected the Key of C major (the default key).
2. Choose a harmony mode, for example "two below".
3. Press the keys C, D, E, F, G and C and play something after each of them.

You don't need to specify the minor keys (Dm and Em); Ariana Harmonizer knows they are minor! When you play something, the accompanying voices will build the correct chord for you.

Next, you can try inserting the subdominants.

Chords:
C C# **D** D# **E** **F** F# **G** **C**

Although you are just pressing single keys, Ariana will automatically play the correct minor and subdominant chords:

C A7 **Dm** B7 **Em** **F** D7 **G7** **C**

Hold Chord

This is quite a special button, which usually should be on (yellow). When it is on, it will hold your selected chord in memory instead of applying it at once. This is practical, because generally the best way to choose the chord (with your left hand) is *before* playing the Lead note that you want to apply the chord to. This is also how traditional electric keyboards with chord automation work. When you select the chord, you don't want it to interfere with the chord that may be already playing!

However, sometimes you do want an instantaneous effect! This is particularly when you want to hold the Lead note in one place, but have the chord change. In this situation you should turn the HoldChord button off. Now, when you keep the Lead switch pressed down and press a key from the chord area (left), the other parts (voices) will conform to that chord (the Lead note will NOT change, even if it does not belong to the chord).

Because it may be tricky to use your mouse to click on that button on the fly, it has been assigned to react to the *sustain pedal* – if you have one. Each step on the pedal will toggle between on and off.

3. The LyrixMaster™

What is the LyrixMaster™? It's a combination of two things:

LyrixMaster app: Translates a text file (lyrics) into a MIDI file for Ariana
LyrixMaster mode: A feature in Ariana Singer to work with the LyrixMaster data

You activate this feature with the LyrixMaster button on the instruments main user interface. *This only has any effect after you've created the lyrix MIDI file and added it on a track!* Otherwise you'll hear nothing when the button is activated.

Furthermore, there is *LyrixMelodizer™,* which puts the LyrixMaster data and a melody (in MIDI format) together; and *LyrixNotes™,* which takes both the lyrics and the melody from a MIDI file (which you can export from any software that allows you to associate lyrics with notes).

When the LyrixMaster™ is activated (the button is yellow), it will totally override the syllables built with the SylBuilder.

The SylBuilder will be available again as soon as you turn off LyrixMaster - this way you can have two sets of syllables at hand simultaneously!

In order to use the LyrixMaster feature of Ariana/Artenor Singer, you must first create a text file with your lyrics and import it onto your track as a Lyrix MIDI file. Mostly this will mean working outside of your instrument and your music software.

Basics

There are three ways to use the LyrixMaster™.

LyrixMaster™ app (mostly for live play purposes):

1. Type your SylBuilder phonetic text file with a text editor.
2. Launch the *LyrixMaster* executable and convert the text file into MIDI.
3. Load the Lyrix MIDI clip onto your track and play it.
4. Start playing music or recording a melody on a track.

LyrixMelodizer™ app

1. Record your melody and save it as a MIDI file, with correct tempo.
2. Type your lyrics to match that melody.
3. Launch the *LyrixMelodizer* executable to combine these together.
4. Load that MIDI song file on your track; it's ready to play!

LyrixNotes™ app

1. Write your melody and lyrics with a notation software. Export as MIDI.
2. Launch the *LyrixNotes* executable to convert the MIDI file.
3. Load the resulting MIDI file on your track; you're ready to go!

Use any text editor you like (Windows notepad is fine), but remember to save the file as *text only*. You must write the text using the spelling suggested by the SylBuilder dials (practice first with the SylBuilder to find out how each letter is pronounced).

The SylBuilder "language" is a simple phonetic spelling that, unlike formal phonetic text, works with basic letters (lower case and capital). When you type normal text, the reader (or in this case the singer) may pronounce it in different way. But with a phonetic text *you are giving exact information on what sounds to make.* While this takes a little practise, it gives you more control and allows you to produce any language.

For example, you can make Ariana prounce the word "water" either in British English ('wo-tA') or American English ('wo-dO'). Naturally you always need to know how the words of any given language should be pronounced.

To make things work, separate the syllables with a dash (-) and words with a space. You don't need to follow formal rules for hyphenation. Just make sure there are no more than two vowels in one syllable.

Both dashes and spaces are treated as syllable dividers but it makes it a lot easier to read when you use spaces between words.

IMPORTANT:
Only use capital letters when it's necessary for a particular consonant or vowel.
Don't use extra spaces, commas or other special characters.

(other than those available to control different features of the syllables - see chapter "Additional controls within Lyrix Master".)

Here is a simple example:

> *Once I had a secret love:*
> **wans ai hAd A sik-ret lav**

This covers the basic usage of the LyrixMaster and it's enough to get you started creating your lyrics!

If there are syntax errors, Lyrixmaster will alert you about some of them. In some cases it might just not finish the job. Then you will have to check for mistakes, correct them and run the Lyrixmaster app again.

The default language is English, because Sylbuilder spelling and pronounciation is based on English. If you wish to base your spelling on another language, you must type the abbreviation for your desired language in the beginning of the text tile, followed by a double colon (for example 'se:' for Swedish).

(See the chapter "Using other language templates" for more info. Note that you can write any language based on the English spelling, because all the same vowels and consonants are accessible in all preset language settings.)

Consonant specifications and limitations

Let's take a more complex example.

Is this the real life, is this just fantasy, caught in a land slide
iz this thE ril laif iz this chast fAn-tA-si kot in O lAnd-slaid

The vowels, A,E and O (notice that they are different than a,e and o) can be different options for the same word. When you are unsure, you can always try things out first with the SylBuilder and only then use Lyrix Master!

(NOTE: Currently the A and E are the same sample, the E sample may be updated in the future).

You can have up to 3 consonants both in the beginning and the end of a syllable. This way you can create almost any word you can imagine (with the Sylbuilder you can only have one consonant in the beginning of a syllalbe and one in the end).

If you have three consonants in the beginning, the first consonant can be one of the following:

p/t/k/s/sh/z.

The same applies to the last consonant, if you have three consonants in the end. It is very rare that you bump into troubles with these limitations and generally you don't need to worry about them.

Notice that "3 consonants" refers to 3 consonant SOUNDS; one sounding consonant can also be spelled with two consonants.

To make things more clear, you are adviced to spell 'sh' with a capital 'S', at least in the case of 3 consonants in the end or beginning of the syllable.

For example in the previous example the word "this" only has one consonant in the beginning, spelled as 'th' (the same spelling is used in the SylBuilder graphic UI). In the word "just" (chast) 'ch' is one sounding consonant but 'st' is two consonants, since there is no separate sample for "st". Generally you don't need to worry about this as LyrixMaster will take care of things like this for you!

A capital 'M' stands for a long 'mm' sound, and is treated as a vowel. It is also possible to define a long 'm' as a consonant, when you type it as 'mm'. For example if you want Ariana to sing "bommm", just type it 'bomm'. When you play a note with this syllable,

you will hear a short 'o' and then it will change into 'm' - which will play until you release the key.

M 'mm' as a vowel (also works with Legato)
mm long 'm' consonant after a short vowel

There is no specific sample sound for the 'j' sound (as in "just", "John" or "gee"). Generally it's best to use either 'ch' or 'ts' consonants - you can also try 'tz' or 'dz'.

Now let's take an example with lots of consonants:

Strings were playing the craziest sounds
stringz wer ple-ing thO krei-zi-est saunds

(You can also type 'ple-ying' or even 'plei-ying', and 'krei-ziest')

Although you type three consonants in the end of "stringz", LyrixMaster will detect only two: 'ng' and 'z' because there is a specific sample for the 'ng' sound. The beginning of the word, on the other hand does need three different sounds (s-t-r), but you don't need to think about that. Something like "mtrings" would not work, but that kind of words don't really exist in most languages.

So as you see, it's not that complicated! Mostly you don't need to worry about the details discussed in this chapter.

Alternative spelling hints

Sometimes it's better to avoid an abundance of consonant in the end or beginning and move an extra consonant to the syllable before or after.

For example "text is" can be spelled: teks tiz

When you play these in a row (or write as MIDI notes), it sounds like "text is".

Once I had can be spelled as
wan sai hAD

With this method, you can write many words even with the SylBuilder, even if it does have the limitation of one consonant in the beginning and one in the end (*wan con sO nAn tin thO be gin ning*).

Also, it might be more practical to move the end consonant of a particular syllable to the beginning of the next syllable, especially if you want to play live. Why? Because Ariana utters the end consonants after you have released the key, so you have to wait a moment before playing the next key. If there are no end consonants, you don't need that pause.

Connecting several words

Sometimes it may be advisable to connect several words together by dash, as if they were just one word.

When you use your lyrics inside the SylBuilder, you can either have the syllables changing automatically (use the "Syl" Mode: each time you release a key and play a new one, the next syllable will sound) or choose the WORD by a key switch, the velocity switch or the random switch with the Mode dial.

*With LyrixMaster a **word** is the sequence of syllables after and before a space:*

> **this-is-one-word but these are separate words:**
> this-iz-wan-wOrd bat thiz ar se-pA-ret wOrds

Particularly when you create long lyrics with lots of words (the maximum for one Lyrix master file is 399 syllables, so you won't run out of space easily), it may be practical to use key switches to define which word will sound out - otherwise you will always have to play your track from the beginning of the lyrix file to hear the correct syllables.

On the other hand, when creating MIDI tracks with long melodies, you are better off using *LyrixMelodizer* or *LyrixNotes*.

On a MIDI track, you can also trigger different syllables with CC controller 2. When using LyrixMelodizer or LyrixNotes the values for this controller will be set automatically.

When playing live, with a key switch you can easily choose to play one word repeatedly.

For example: "ai-lav-yU bei-be yor-thO-best" has three words: "I love you", "baby" and "you're the best". Usually the key switches for the first three words are C, C# and D. So after you've played the note C from the key switch area, you will hear a repetition of "I love you" until you hit another key switch!

Bringing your lyrix onto your track

This is very simple. Launch the LyrixMaster executable. You will be asked to load a text file. Locate the text you wish to convert. LyrixMaster will automatically create a MIDI file with the same name, in the same folder.

By default the app is located inside the same folder as the instrument itself. Feel free to move it to another location, but make sure to move the Csvmidi and Midicsv files along with it!

If you have made syntax errors (such as no vowel in a syllable, too many consonants in a syllable etc), you may receive an error notification and have to terminate the application. In this case you should fix the errors before runnig the LyrixMaster again.

Insert the MIDI file on your track BEFORE (left on the track) the melody/notes that you

want to have "sing" the lyrics. The MIDI file is made of very short notes with different pitches and velocities. These will be interpreted by the Ariana/Artenor as instructions for playing the desired consonants and vowels (with potential instructions for vibrato, pitch bend etc).

The Lyrix MIDI clip on the left side, before the melody clip

Before you can play the lyrics, you need to play the MIDI file; this reads the syllables into Ariana's memory. After that the Lyrix info will stay in the memory until it's replaced by another Lyrix MIDI clip. (In this case it might be better to use *LyrixMelodizer*, see the applicable chapter below).

IMPORTANT: When a syllable has consonants in the end, these will be played after the release of the key (MIDI note-off event). You will have to leave enough space before the next note, otherwise unexpected things may occur. You must edit the length of the notes until you're satisfied with the result. You will avoid this trouble when you use the *LyrixMelodizer*!

Please notice that when the legato knob value is anything but OFF, if you tie notes together (the notes are slighlty overlapping) the syllable won't change. Instead the same vowel will slide into the next note.

You can also play chords (or add several notes playing at the same time on a MIDI track), but if the legato is on , the notes of the chord must start within a very short time - otherwise they will be considered as separate legato notes instead of a chord.

The above remarks about the legato also apply to syllables created with the SylBuilder.

Using other language templates

It is possible to use another language template for spelling the consonants and vowels.

In the beginning of your text file, type the language code plus a double colon - currently these are available:

en: (English, default)
fi: (Finnish)
se: (Swedish)
it: (Italian)
de: (German)

Before going into the language templates in more detail, you should know there are a few sounds that are not shown (and thus unavailable) in the SylBuilder but accessible via LyrixMaster:

Y (English) or J (other languages)
a harder, more breathy form of 'y' (as in the words "Yes").

P, T, K
"scandinavian" versions of these consonants, less breathy. With Finnish and Swedish templates these will be sounded automaticall with p/t/k. Instead, P/T/K will produce the English versions of these letters!

Below is a table that shows the spelling of consonants and vowels first in the way how it is defined by the SylBuilder dials (English), followed by the way of each language (differences highlighted in **red bold**).

Consonants:

en:	b	d	g	p	t	k	P	T	K	f	h	s	sh	ch	ts	y	Y	l	m	n	r	R	v	w	th	Th
fi:	b	d	g	**P**	**T**	**K**	**p**	**t**	**k**	f	h	s	sh	ch	ts	**j**	**J**	l	m	n	**R**	**r**	v	w	th	Th
se:	b	d	g	**P**	**T**	**K**	**p**	**t**	**k**	f	h	s	sh	ch	ts	**j**	**J**	l	m	n	**R**	**r**	v	w	th	Th
it:	b	d	g	p	t	k	P	T	K	f	h	s	sh	**c**	ts	**j**	**J**	l	m	n	**R**	**r**	v	w	th	Th
de:	b	d	g	p	t	k	P	T	K	f	h	s	sh	**c**	ts	**j**	**J**	l	m	n	**R**	**r**	v	w	th	Th

Vowels:

en:	a	e	i	o	u	U	ü	E	A	O	M
fi:	a	e	i	o	u	U	**y**	**A**	**ä**	**ö**	M
se:	a	e	i	**å**	o	**u**	**y**	**A**	**ä**	**ö**	M
it:	a	e	i	o	u	U	ü	E	A	O	M
de:	a	e	i	o	u	U	ü	A	**ä**	**ö**	M

As you can see, there are only a few differences. But it still makes it easier to write in your preferred language. For example, in Finnish and Swedish (you can use the same template for Norwegian too) you can use the Scandinavian vowels (ä, ö, y) and lower case 'p', 't' and 'k' to get the correct Scandinavian pronounciation of those consonants.

In italian, you get the 'ch' sound by spelling just 'c' as in the word "ce". Generally you need the "breathy" versions of 'k' (as in "che" or "cosa") but you can use the "dry" 'k' also (as in *camera*, room, which you should then spell 'Ka-me-ra').

Generally it is much easier to learn how to spell the "Ariana language" when using Scandinavian languages or Italian (or Latin), because in these languages the spelling is more aligned with the pronounciation. Indeed, in Finnish you can type words almost exactly as you would normally do!

You can of course try any language, because it's just a matter of telling Ariana which sound sample to use to get the correct phonetic sound. For example, in German 's' is often pronounced 'z'. So you should spell *sieben* (seven) 'zi-ben'.

French won't work very well, because the French nasal sounds or the French 'r' are not included. Also the swedish 'sj' sound is currently missing but may be added in a future update.

Additional controls within the LyrixMaster syntax

The Lyrix Master expands the functionality of the SylBuilder by enabling you to use up to three consonants in the beginning and end of the syllable instead of just one.

However, you can also do other tricks with the Lyrix Master that are not possible with the SylBuilder (assigning the language template is one of them).

1. Pitch bend / slide down

When you type a slash (/) followed by a number, in the end of the syllable, it instructs Ariana to bend (slide) the vowel down when the key is released. There are 4 depth levels for the bend; if you use a number larger than 4, it will be taken as 4.

Example: wou/3

NOTE: You can do this with more precise control using pitch bend CC controller on your DAW track.
IMPORTANT: This effect requires some time, so you must have enough space after the note that uses it.

2. Vibrato

To adjust the vibrato depth and delay for a particular syllable, type inside brackets 'v' followed by the depth value, a comma and the delay value. The values should be between 0 and 5, where a low value indicates a low vibrato depth and a short delay and a high value indicates a deep vibrato and a long delay.

Value zero for the delay is exceptional. It indicates that the given vibrato depth will apply to all upcoming vowels, until a new instruction is encountered.

Examples:
pliz(v1,1) will produce the word "please" with a mild vibrato with no delay
pliz(4,3) will produce a deep vibrato after a relatively long delay
pliz(3,0) will set an average vibrato depth for all upcoming vowels

NOTE: You can also control the vibrato with CC number 5 on your track for more precise control. It is better not to mix these two methods!

4. Voice color or voice softness

These work in a similar manner to vibrato, but instead of adjusting the vibrato depth, you adjust the voice color (darkness) or softness. Use 'c' for voice color and 's' for voice softness. The max value is again 5.

Examples:
dark(c0,1) - "dark" in the darkest voice color, with no delay
lait(c4,4) - "light"in a rather light voice color after a rather long delay
soft(s5,3) - "soft" in the softest voice, after an average delay

You can also combine vibrato and color/softness (but not all three or color and softness at the same time). Define the vibrato first, then the color/softness.

Examples:
dark(v5,2c1,3) - a deep vibrato with a dark color, with their unique delays
lait(v3,5s0,1) - an average vibrato with a "negative softness"

NOTE: You can control the voice color with CC number 12 and the voice softness with CC number 13. Additionally, you can also trigger the color with the velocity of the C key just below the sounding area of the keyboard. C# triggers the softness.

5. Forcing a new vowel in legato play

Usually when you play in legato (notes overlap), the syllable won't change, but instead the current vowel will slide into the new pitch. From LyrixMaster, however, you can force a legato to slide into another vowel. You do this by using an underscore instead of a dash:

a-me_i-zing

If you don't play this in legato, things will go as if you had spelled it 'a-me-i-zing'. But if you play legato after 'me', you will get a soft slide from the vowel 'e' into the vowel 'i' (and into the new pitch). If you continue playing legato, the vowel will remain 'i' until you release the key and play a new note.

Notice that in this case you can't have the 'e' slide into another pitch, as would normally happen.

6. Treating a two-letter-consonant as two separate consonants

In some cases you may wish Ariana to interpret a double letter consonant as two distinct consonants. You can indicate this by adding a '+' sign between the letters.

Example: You can spell "text here" as "teks t+hiOr"

In case you spell it as 'thiOr', the 'th' will be interpreted as the 'th' sound (as in "then"). The '+' makes sure that 't' and 'h' will be taken as two different sounds.

The LyrixMelodizer™

You are adviced to use the LyrixMelodizer™ app when you want to associate a text file with a MIDI melody. This simple executable reads in both the text (spelled in the correct LyrixMaster syntax) and a melody in MIDI format, then creates a new MIDI file that includes the correct gaps between notes for all the consonants to fit in.

It is a good idea to make sure that there are as many notes in the melody as there are syllables in the text!

The major advantage of LyrixMelodizer compared to just using LyrixMaster, in addition to getting the consonant gaps automatically, is that for each note there is a CC signal to tell Ariana which syllable to play. This way, you will always hear the correct syllable regardless of where you start playing (as long as you keep the CC signals and notes together).

The executable will automatically include the LyrixMaster clip and the CC 2 values associated with each note. When you move the notes around, make sure to move the CC values along with the notes (some DAWs will do this automatically).

The CC signal doesn't have to match the the start of the note precisely, but if it doesn't, it has to preceed the note rather than lag behind!

You will create the text file exactly in the same manner as when using LyrixMaster. It's best to start the melody MIDI file from the the very beginning of your track, at bar 1.

IMPORTANT: The melody must have one part only, i.e just the melody (no chords).

If you wish to have one vowel to extend to several notes (legato), you should add the overlaps only afterwards, not in the initial melody file.

IMPORTANT: The tempo of the melody file is crucial, so please set it as close to the final tempo as possible, before exporting the it as a MIDI file. The duration of notes is relative to the tempo, but the space needed for the consonants is absolute;this is why the tempo is important.

Sometimes, especially in the case of fast melodies or very short notes, you may have to fine-tune the gaps manually in order to make things work optimally. Consider yourself as a choir conductor who has the power to adjust the articulation of words instead of just what notes your singer is singing!

The LyrixNotes™

LyrixNotes™ works together with a notation software, or any application that allows you to edit lyrics (it has been tested to work with AVID's Sibelius, but it should work with any software that can export MIDI files with lyrics). It saves you the trouble of creating separate files for the lyrics and the melody and allows you to edit the lyrics and melody inside the same application.

Currently this only works with a single part at a time, so it's not possible to export the notation of an entire choir work at once. Instead you must export each part (soprano, alto etc.) separately and make sure there's no chords (overlapping notes).

You can add chords to each track afterwards, though. Just remember that legato (tied notes) only work with one voice at a time, not with chords (except when using the Harmonizer).

Again, you must follow the LyrixMaster syntax when writing the lyrics and matching it with the musical notes.

Because the Finnish language is exceptional in the sence that the relationship between spelling and pronounciation is very straight-forward, there is a separate version of the LyrixNotes app for Finnish (LyrixNotes-fi). It enables you to write text almost normally, without needing to worry about getting the pronounciation right. There are some little exceptions and you will hear it in the output - then you just make some alterations in the spelling to get the correct result!

IMPORTANT: When the melody is longer than a few bars, LyrixNotes needs to split into several LyrixMaster sections. For this purpose *there needs to be pauses with the duration of at least an 1/8 note* - these will fit in the Syllable data. You should place these pauses in the natural places where you would have the singer breathe in, and generally not much more than four bars without pauses.

LyrixNotes will actually add an in-breath sound, that will play while the syllable data is read into the memory (you can later remove that sound or turn its volume down, if you like)! If there are no such pauses, there may be unexpected results! The good news is that this way you can export an entire Song as one file.

IMPORTANT: Set the tempo of your song as close to the final tempo as possible.

When you're ready, export the one part notation as a MIDI file (type 1). Then launch the LyrixNotes app. Inside the app you will just need to point out the MIDI file. An output MIDI file will be created in the same folder with the same name and "-song" added in the end.

As with LyrixMelodizer, you may need to fine tune the gaps between notes and the durations of notes to have the consonants and vowels play out perfectly.

ADDENDUM: Some music theory for Ariana Harmonizer

An introduction to musical Keys and Scales

The practical reason why a song can be sung in different musical keys is because people have higher and lower vocal ranges. For example, a soprano (high female voice) may be fine with G major, but an alto (low female voice) might need to drop it to D major (D is clearly lower than G). However, another song might work better in D for the soprano; the vocal range of a song also depends on how the notes of the song are scattered around the *root key.*

A musical *Key* is very much tied to a musical *scale,* a set of seven (usually) notes. The *root key* is where the scale starts from. A song often also starts with the root key but *almost always* ends with it – and even if it doesn't, you are inclined to do so! If you find if comfortable to sing a song at a specific pitch, you can check out which key it want to end in!

Technically playing in different keys is quite different for different instruments. The human instrument doesn't have any buttons or strings attached to the different notes of the scale, so it's equally simple to sing in F# major as it is in C major! However, for many instruments F# major is very tricky, for some it is simply impossible. For piano and keyboards C major is the simplest, for a saxophone it's not that easy.

Now, what you can do pick the best key: First, you can check if it sounds okay in C major. If it sounds too low or too high (especially if you also want to sing yourself!), try G major or F major. Why G or F? Because G major (or E minor) only has one *sharp* note (F#, the black key on the right side of F) and F major (or D minor) only has one *flat* note (Bb, the black key on the left side of B).

Subdominants

A dominant chord is the major chord build on the fifth note of a musical scale, often it is major 7th (for example, G7 in the key of C major; C-D-E-F-**G**). It is a major chord even in a minor scale, although the fifth chord in a *natural* minor scale is a minor chord. A minor key with a dominant chord is called *harmonic minor.*

The dominant nature of this chord refers to its tendency to lead into the root chord – five steps down (G7 leads to C). Normally there are no other major 7th chords within a scale than the dominant 7th chord (there are exceptions, for example in blues and old rock'n'roll dominant 7ths are used more broadly).

A subdominant is a dominant chord that leads into some other chord than the root chord of the scale.

For example, in the key of C major E7 is a subdominant that leads five steps down to A minor chord (Am). **Am** is the chord built on the 6th note of the C major scale and is normally a minor. The table below shows the subdominants available in C major (notice that the chord key to play is always the black key left from the key that the subdominant leads to):

	Leads to:	**Key to play**
D7	G or G7	F#
E7	Am	G#
A7	Dm	C#
H7	Em	D#

If you are looking at sheet music or a sheet with lyrics and chord markings, you will notice that most often a major 7th chord (marked with a capital letter and number 7) leads five steps down; to the "home base".

So chances are that you will find the correct major 7th chord by pressing the key left from that "home base" note. For example, usually A7 is followed by either D or Dm – you will get A7 by pressing the key C# (unless you are in the key of D major, when A7 is not a subdominant but the dominant!)

Semi-automatic chords

While you get a long way with the single finger automatic chords, there may come a situation when you will want more manual control over the chords. This is necessary when the song you are playing is a bit more "progressive" and doesn't conform to the common *diatonics* of traditional pop or folks songs. Or maybe you want to write your own songs and have more freedom with your chords!

You don't need to know how to build the semi-automati chords; you can refer to the manual chord guide on the Ariana Harmonizer page. However, there are some simple basic rules that are good to know. Now you will also understand why the keyboard section for the chords is from C to D# of the next octave.

To define a 7th chord, you will generally need to press the chord base key AND a key left from it (one half step left to produce maj 7th and one full step to produce dom 7th). Unfortunately, this won't work with C or C# because the chord keyboard section does not extend below C! This is why there needs to be an alternative way for C and C#. The alternative way is that instead of a half step or full step left you press *an octave plus* a half step or a full step.

A *half step* means the closest key left or right from any given key. A *full step* means two half steps.

Although you use a second key (in addition to the base key) to define one note of the chord, *the other notes* will still be automatic. This is why it's a semi-automatic method instead of a fully manual method. For example, if you want to manually define a 7th note for a chord, whether it will be a major or a minor chord with a 7th, is still automatic!

Defining a 7th for a chord

	Key to press (with the base key)	**Examples**
minor 7th	**full step left**	Gm7: G and <-F Cm7: C and ->Bb
major 7th	**half step left**	Gmaj7: G and <-F# Cmaj7: C and ->B

However, if you want to change a minor chord into a major or vice versa, you will have to define the *third* of the chord, the one that determines a major or minor.

Forcing a chord into major or minor

	Key to press (with the base key)	**Examples**
minor third	3 half steps right	Dm: D and ->F F#m: F# and ->A
major third	2 full steps right	D: D and ->F# B: B and ->D#

In addition to semi-automatic chord you can also manually set a chord *inversion.* Normally the base note of the chord will be the root note of the chord (note C for chord C, note G for Gm7 etc.) but with Ariana Harmonizer you can also define the chord's 3rd or 5th to be the base note. In popular music and jazz such an inversion is usually marked with and absolute base note. For example the 5th inversion of a C chord will be marked C/G (G is the 5th of C).

To understand chord inversions better, you need to look into more music theory.

With the root notes C to G# you get a 5th inversion by pressing the 5th note together with the base

note (C and G for C major chord, E and B for E major). From A to B you must press the base note and the 5th from the octave below – *plus a half step above that.* For example the 5th inversion of Am would be E, F and A (E and A only would be taken as E sus).

Examples of 5th inversions

D/A	D and A
Em/B	E and B
A/E	E, F and A
Bm/F#	F#,G and B

A 3rd inversion, on the other hand, can be set in the same manner for all chords. You do this by pressing the base key and the 3rd key on the right sight (3 half steps for minor, 2 full steps for major) and a half step above that.

Examples of 5th inversions

Cm/Eb	D, Eb and E
E/G#	E, G# and A
G/B	G, B and C

For the other chords you can define with the semi-automatic method, consult the little chord guide on the Harmonizer page! Below is a list of all possible chords you can define (all with C as the base note):

Semi-automatic chord selection

Major/minor:	C, Cm, Csus
Seventh:	C7, C maj7, Cm7, Cm maj7, Cdim, Cm7b5
Inversions:	C/E, Cm/Eb, C/G, Cm/G
Alt:	C add9 (hit the base key hard)

As a thumb rule it's better to utilize Ariana Harmonizer's automatic Key-based chords and only use semi-automatic chord selection when necessary.