

What is Singing Tutor?

Singing Tutor - is a software for improving your singing skills and for tuning musical instruments. The idea was proposed by professor Valery Kozlin with Ukrainian National Music Academy.

Singing Tutor Overview

[Installation and System requirements](#)

[How to use Singing Tutor ?](#)

[Troubleshooting](#)

[License agreement](#)

[How to Order and Register ?](#)

[About Singing Tutor](#)

Overview

Singing Tutor principle is rather straight forward. Each note has a defined pitch frequency. Higher note has a higher frequency and vice versa for low notes (lower frequency). **Singing Tutor** allow users to measure the pitch frequency of the voice or music with high precision. This measurement is then compared to the pitch frequency of the reference note. The results of the measurement is displayed on graphical output in real time. As user is watching the indicator, he or she tries to sing or tune a musical instrument that is closely matched to the pitch reference.

With **Singing Tutor** you can:

- Select pitch range and note you want to sing, listen to it and check how close is your singing to the note. The test is carried out with the help of indicator, where you can see a defined note value and measured value during your singing in the real time. You can see time dynamics of your voice pitch and practice singing as close as possible primary.
- Select several notes from the pitch range and test your singing in the selected diapason.
- Sing and **Singing Tutor** will show you the nearest note in the current pitch range.
- Control the recording level with the **Power indicator**.
- Analyze the results in Off-line mode.
- Perfectly tune musical instruments

Singing Tutor uses the latest digital signal processing algorithms for pitch measurement!

We hope you will utilize these powerful functions as you develop your professional career or to just have having some fun.

Installation and System requirements

To install **Singing Tutor** on your PC it is necessary to do following:

- start INSTALL.EXE ;
- point out the disk drive you want to install program to.

Hardware and software requirements for the work with **Singing Tutor**:

- IBM PC - 486, 60 MHz and RAM 4MB or more;
- Windows compatible sound card;
- microphone and audio system;
- Windows 95 (NT).

Introduction

Before starting **Singing Tutor**, connect a microphone to the sound card and validate it is connected and functioning properly.

On the upper side of the window, there will be a **Music score** for current pitch range. To select desired **pitch range** from the *Range* menu. You can also change current **pitch range** with **PageUp** and **PageDown** keys.

The **target** note in the pitch range is indicated on the **Music score** by **magenta** color and pushed state. To change the **target** note click the right mouse button on the required note. The chosen note becomes current and plays back. You can also use **L** and **U** arrows to change **target** note.

You can repeat playing back of the note at any time by clicking the right mouse button on the note. You can also set the note playback parameters **Repeat number** and **Repeat delay** in the *Options - Note play* dialog. You can also play **target** note with **SpaceBar** key.

When click left mouse some where on the **Music score** but not on a concrete note then note **La (2 octave)** will be played.

Important! If note does not play, check if MIDI Mapper driver was installed on your computer.

Pitch frequency indicator is noted as black window under the **Music score**. Horizontal axis represent the time, vertical axis is pitch frequency. The indicator layout depends on the current **Singing Tutor** mode.

On the left side of the window you can find a **Power indicator**. With **Power indicator** you can control the recording level. When you singing it is better for precision working of the program if the recording level will be in the middle (**green**) part of the power indicator. Too low and too high input signal can cause wrong pitch estimations. For more info, see Troubleshooting topic.

You can also use **Power indicator** to control the stability of the singing volume.

To start training click **On** button(or **S** key) and start singing or playing back your musical instrument. To stop measurement click **Off** button (or **F** key).

Singing Tutor has two main modes:

Fixed Note

Any Note

You can switch between modes using *Mode* menu. Training methodics depend on concrete mode.

See also:

Fixed Note mode

Any Note mode

Analyze Off-line

Tuning musical instruments

Troubleshooting

Any note mode

In **Any note mode** you can sing (play) any note in the current pitch range. **Singing Tutor** will recognize the note closest to your singing and **highlight** it with red **color** on the **Musical score**. The note will be **highlighted** if your singing pitch is in range from +1/4 to -1/4 tone around this note. This note we call **actual**.

The **Pitch frequency** indicator shows how close is your singing to the **actual** tone. The central yellow line is the reference pitch frequency for the **actual** note.

Upper and lower red lines around **actual** note are bounds of the Tolerance interval, that you can set in the *Options-Tolerance* dialog. Maximum **Tolerance** is 1/4 of the tone, minimum tolerance is 1/40 of the tone.

On the left and right sides of the **Pitch frequency** indicator you can find the **actual** note signs for easy correspondence with **Music score**.

If you will sing another note, the **actual** note will be changed to the new note. The bound between previous and current **actual** notes displayed as a vertical **blue** line.

You can also define **target** note. The **target** note has **magenta** color. To change **target** note click right mouse on the desired note. You can also use **L** and **U** arrows to change **target** note.

You can play the **target** note at any time by clicking the right mouse button on the note. You can also play **target** note with **SpaceBar** key.

To start training click **On** button (or **S** key) and start singing or playing back your musical instrument.

It is also possible to playback the note **La (2 octave)** at any time you want. You have to click by the right button of the mouse wherever at the **Musical score** except for the notes.

To stop measurement click **Off** button (or **F** key).

When finish you can [analyze your singing results in off-line mode](#).

See also:

[Fixed Note mode](#)

[Analyze Off-line](#)

[Tuning musical instruments](#)

[Troubleshooting](#)

Fixed note mode

Fixed note mode allows you to check how close is your singing to a single selected note or to the one of the notes in the selected **diapason**. If you will sing out of the selected diapason then singing results won't be shown.

To select the note just click left mouse on it. You can listen to the selected note with right mouse click on it. You can also play target note with **SpaceBar** key.

To select several notes drag the mouse over notes when left mouse clicked. The notes of the selected **diapason** are indicated on the **Music score** by **green** color.

In the selected **diapason** you can define **target** note. The **target** note has **magenta** color. To change **target** note in the selected **diapason** click right mouse on the desired note.

You can also use **L** and **U** arrows to change **target** note.

Pitch frequency indicator display selected notes **diapason**. The yellow lines are corresponds to the reference pitch frequencies of the selected notes. The distance between **yellow** lines **corresponds to** 1/2 of the tone.

Upper and lower **red lines** around **target** note are bounds of the Tolerance interval, that you can set in the *Options-Tolerance* dialog. Maximum **Tolerance** is 1/4 of the tone, minimum tolerance is 1/40 of the tone.

On the left and right sides of the **Pitch frequency** indicator you can find the notes signs for easy correspondence with **Music score**.

To start training click **On** button (or **S** key) and start singing or playing back your musical instrument. During singing **green** line in **Pitch frequency** indicator shows measured pitch value and you can compare it with a reference note value. You can see time dynamics of your voice pitch and practice singing as close as possible primary. The Tolerance interval defines the difficulty level. Try to sing and do not exceed **Tolerance**.

The note closest to the your singing called **actual** note. **Actual** note highlighted on the **Music score** and **Pitch frequency** indicator by **red** color.

It is possible to hear the note during singing. Just click right mouse button on the note and it will be played back in according with current settings.

Note, Right mouse click on the note that differs from the current **target** note will change the **target** note to the new value.

It is also possible to playback the note **La (2 octave)** at any time you want. You have to click by the right button of the mouse wherever at the **Music score** except for the notes.

To stop training click **Off** button (or **F** key).

When finish you can analyze your singing results in off-line mode.

See also:

[Any Note mode](#)

[Analyze Off-line](#)

[Tuning musical instruments](#)

[Troubleshooting](#)

Analyze Off-line

With **Singing Tutor** you can analyze the result of singing in Off-line mode, when you finish the training and press **Off** button.

It allows you to review the training results and analyze them. To check the notes you have being song click left mouse button in the **Pitch frequency** indicator. The corresponding note will be marked with **red** color on the **Music score**.

You can scroll the singing results with the scroll-bar under **Pitch frequency** indicator. **Singing Tutor** memorize up to three last screens. In the 800x600 fullscreen mode it will be 20 seconds of singing.

See also:

[Fixed Note mode](#)

[Any Note mode](#)

Tuning musical instruments

Musical instruments tuning can be performed in the Fixed note mode.

To tune musical instrument:

- Select the required pitch range. Select a **target** note on the **Music score** with left mouse click or using **Left/Down** and **Right/Up** arrows.
- Place microphone near the instrument that needs to be tuned..
- Start testing mode with **On** button (or **S** key).
- Play the note with the instrument.
- On the **Pitch frequency** indicator you will see the actual pitch of the note for a instrument that is currently being tuned. Continue tuning the instrument until the green line overlaps with the yellow line.
- Stop tuning with **Off** button (or **F** key) or switch to another **target** note to continue tuning of the instrument.

Warning. If you tune the musical instrument - do not play two or more notes simultaneously. This is due to the pitch measurement can only be performed one note at a time!

See also:

Fixed Note mode

Options

Singing Tutor has several options that are available from *Options* menu:

Play

Note La Standard

Tolerance

Troubleshooting

1.The Power indicator display nothing when you sing in testing mode.

- Check if your microphone is properly connected.
- Check the sound recording in your computer with your sound recorder. To adjust sound level, double click the Windows speaker icon on the taskbar which is Volume control dialog. In the Options menu, click Properties/Recording. Then in Recording and Microphone devices set the required sound level by dragging the Volume Control slider.
- Decrease the distance to the microphone.

2.The green line does not appear in the indicator or program works unstable.

- Check whether it was a correct pitch range that you have chosen. As it produces a note, you singing corresponds to one of the note from the pitch range. To familiarize yourself with the program we recommend choosing a notes from the middle of the pitch range.
- When you singing it is better for precision working of the program if the recording level will be in the middle (**green**) part of the power indicator. Too low and too high input signal can cause wrong pitch estimations.
- Check the sound recording in your computer. See item 1.
- You are singing with too fast changing the notes. Try to sing every note at least 2-3 seconds.

3.You do not hear the note sound when it was actively rendered.

- Double click the Windows speaker icon on the task bar to run Volume control dialog. Ensure that Synthesizer device is selected. Set the required sound level by dragging the Volume Control slider.

4.The green line is being drawing when the note is played back even if you are not singing at the moment.

- The microphone is too close to speakers.
- Double click the Windows speaker icon on the taskbar to run Volume control dialog. In the Options menu click Properties/Recording. The Synthesizer device has to be unselected.

5.You think that the program works wrong (understates or overstates the measured value of the note).

- Use the *Options-Note La Standard* menu and check the adjusted value of the note **La (2 octave)** (437 Hz default). The value 437 Hz corresponds to the **La (2 octave)** in the most of the soundcards. If you use external musical instrument to verify notes and the tuning frequency of the instrument differ from 437 Hz, then set **Note La Standard** value that correspond to your instrument tuning. Usually this value is defined by the standard used in your state.

*If you have some problems with **Singing Tutor**, do not hesitate to contact us: vimas@info.kiev.ua*

Send product suggestions

Dear customer, please send your product suggestions, comments and bug reports to vimas@info.kiev.ua.

Pitch range

Pitch range can be set in the *Range* menu to one of the following values:

Bass
Baritone
Tenor
Contralto
M.Soprano
Soprano
C.Soprano

You can also change current **pitch range** with **PageUp** and **PageDown** keys.

Note La Standard

Note La (2 octave) Standard define the currently used **Note La** standard. By default this value is set to 437 Hz default). The value 437 Hz corresponds to the **La (2 octave)** in the most of the soundcards. If you use external musical instrument to verify notes and the tuning frequency of the instrument differ from 437 Hz, then set **Note La Standard** value that correspond to your instrument tuning. Usualy this value is defined by the standard used in your state.

Note La range is 430...450.

Tolerance

The **Tolerance** value defines the difficulty level. Using **Tolerance** interval you can set the gates around the reference note for training. It is set as the parts of the tone.

Maximum **Tolerance** is $\frac{1}{4}$ of the tone, minimum **Tolerance** is $\frac{1}{40}$ of the tone.

Note playback options

Note playback parameters defines how the note will be play back when right mouse clicked on it.

Repeat number - how many times note will be repeated.

Repeat interval - the interval between playing of the notes in seconds.

