

Digital Guitar Tuner Help Contents



Click the underlined text in order to learn how to use Digital Guitar Tuner.

- [Introduction and what's new](#)
- [How to use?](#)
- [Midi](#)
- [Controls and Main menu explanation](#)
- [Problems?](#)
- [Registration](#)

Introduction and what's new

DGT (Digital guitar tuner) is a digital audio tuner for Windows 95,98 and NT. You can use it to accurately tune your guitar in a wide variety of tunings. DGT is also capable of "hearing" your guitar through a microphone input, so you are able to tune guitars that do not have electrical audio output.

Since version 2.0 it is also capable of producing midi tones, so that you can tune you guitar this way as well. This ability was added in order to improve the tuner's performance. Using reference tones is better for some purposes, for example when you install a new set of strings and don't need to tune the strings exactly. I recommend using midi tones for rough tuning and digital tuning when perfection is required. If you think you can tune your guitar exactly using only reference tones, you're poorly wrong... (in most cases ;-)

To explain it theoretically, when you are using reference tones and the frequencies are roughly the same, a great resonance is produced. (...and the guy says his guitar is tuned :-)

This resonance is noticed as a great difference when compared to not-tuned state, however the difference between "exact" match of frequencies and noticing the resonance is much smaller. (and thus harder to notice)

Here is a list of advantages when comparing to standard guitar tuner

- it is more accurate than a "norm" (uses 16 bit 44 100 Hz when sampling)
- you can choose among 27 tunings! (against usual one tuning provided by a "norm")
- you can also tune guitar with no electric signal output
- you can tune your guitar comparing the sound of guitar to produced midi tones
- it costs you much less than a "norm"

and some disadvantages

- you need a soundcard and a microphone (not for Midi)
- ...and a computer (but I see you already have one, so there's no problem with it :-)

How to use this program?

There are two ways you can tune your guitar using this program.

You can choose between two devices - digital input (described below, referred to as Fourier) and **midi** device. (referred to as Midi :-) You can switch between these devices by checking the appropriate sub-menus in the Device menu or using hot keys. (Ctrl + F, Ctrl + M)

This program supports several ways of receiving sound from your guitar:

- simply plug your guitar into your microphone connector on your soundcard

Connecting your guitar directly into your soundcard is the most convenient way, because there is probably only minor noise to occur (on the way from your guitar to your soundcard). It is the most recommended way of tuning.

- if your guitar has no output (like most of Spanish guitars), you have to get a microphone and connect it to your microphone connector

This also works well, but you have to avoid all unnecessary sounds in order to tune your guitar. For example, when somebody speaks to you when you are tuning your guitar, you will probably be unable to tune it, because the signal will be distorted.

- if you have no microphone, you can plug your headphones (from walkman, for example) into your microphone, but this way is not very recommended

This is the worst way and should only be used when there are no other possibilities left. But anyway, if you decide to use headphones, be sure to hold your headphones pretty close to the strings on your guitar - to be able to catch the signal. If your headphones are big enough, they can act as a microphone. (but not of very high quality :-)

Remark: *If you do not know what "hole" on your soundcard the microphone port is, consult your soundcard manual (or ask your grandmother ;-)*

Now, here are the necessary steps to make this program tune your guitar:

1) Choose a way of connection (described above)

If you are using direct "plug-in" connection, set the volume on your guitar to maximum. (with volume knob)

On electric guitars turning off the bass pickup gets better results.

If you are using microphone connection, make sure your microphone is on. (some of them have a nasty little thing called switch :-)

2) Now choose the type of tuning.

This can be done by clicking the green infobox (located in upper right corner of the program window), using menu (Main | Tuning type...) or using shortcut (Ctrl + T).

If you want to tune your guitar in standard tuning, you don't have to set anything, this type of tuning is default.

3) Click the string (or press key on your keyboard) to be tuned and proceed to point four.

You can also use the keyboard to switch between strings. Press number keys 1,2,3,4,5,6 or 0 to choose a desired string. Zero key is used to switch any string OFF. I have found keyboard switching more convenient - it's better than "shooting" with mouse when holding a guitar in your hands.

4) Strike the chosen string on your guitar.



When you strike the string, the blue light should turn green and the ray meter should show you the position. When the ray is on the left from the central position, tune your guitar up. (to higher frequency) When it is on the right, tune it down. Be sure to strike the string you have chosen in the program or the program will not work properly. Also be sure to strike only *one* string at time.

When the ray appears at the centre, the string is OK. Try using a pick, it produces a stronger and brighter sound.

Remark: *The green light means that the signal is powerful enough to begin with computing. Without the thing like this, the tuner would show improper values when the signal is low. (due to influence of noise)*

Problems?

1) The blue light never turns green.

Make sure your microphone is on and is connected to your microphone in connector (not line in!) on your soundcard (not on your hi-fi :-)

If everything seems to be OK, try to increase to microphone input setting in your Windows environment. (through My Computer | Control Panel and Multimedia settings)

When using direct "plug-in" connection, make sure the volume is at maximum on your guitar.

Also the problem may be the noise level set too high, then try to decrease it. (through menu Main | Options)

Use [guitar input monitor](#) to determine the correct noise level and signal strength.

If you have tried everything described above and it still doesn't work, try testing your microphone's functionality.

If the light still doesn't appear to be turning green, then take your soundcard and gently place it in your dustbin. Or ask your doctor if you're not colour-blind.

2) The green light shines or flickers even if I do not touch the strings.

If you are using microphone, try to avoid all unnecessary sounds (tell your neighbours to stop screaming :-) or increase the noise level. (through menu Main | Options)

You can determine the right noise level value by taking a look to guitar input monitor.

It will show you the average noise level and you should set your noise level slightly higher.

But remember, the higher the noise level the stronger you have to strike the string.

3) I can't get the ray to stay at the centre.

This may be caused by the low quality of input, that means "buy a better microphone" or due to big noise or weak signal.

The problem could be in your strings too. When the string is "dead", it is unable to hold the desired frequency and it fluctuates "around" the frequency, so it can't be tuned properly. In this case try buying new strings and the things should get better.

But anyway, the tuner is very sensitive, so minor fluctuation is allowed.

In order to increase the lifetime and quality of your strings, use "protectors" such as GHS Fast Fret. (I use this one)

And, a great role also plays the tuning mechanics of your guitar and the way how the strings are attached to the guitar. If they are attached bad, the tuning is not smooth, but the tension of the string changes by jumps. In this case the tuning can be a real headache!

4) The guitar doesn't seem to be tuned well.

Check your octaves! When the string is tuned, strike the 12th fret on the same string and check whether the values are the same. If the values do not match, you should reset the octaves manually. If you don't know how to do it, it is better not to try, ask someone experienced! (But if you really want to know, check my website :-)

5) When using Midi device, I can't hear anything.

Make sure you have chosen the proper midi output device (through the Main | Options menu) and the volume is set high enough.

Registration Information

Full version of this program can be obtained for an unbeatable price of 10 US\$.

Online credit card registration is available at

http://www.guitar.sk/guitar/guitar_tuner_registration.htm

or you can send cash to the address below.

After registering you will be provided the download link and the password for full version of DGT.

Registered users will receive free upgrades and email support.

Address:

Peter Bezemek

Tulska 35

Banska Bystrica

974 01

Slovakia

Any questions, comments? Send email to: **pietro@guitar.sk**

For upgrades, go to URL:

<http://www.guitar.sk>

Controls and Main menu explanation

Digital Guitar Tuner can be controlled both using mouse and keyboard.

When you wish to tune, click the desired string with mouse or press the proper key on your keyboard. Numbers 1,2,3,4,5 and 6 represent the strings on the six-string guitar, 0 is used for switching off.

When using Midi device, every time the *spacebar* is pressed, the midi tone is produced.

There are also several shortcuts you can use to speed the things up.

Ctrl + T = Tuning type dialog

Ctrl + F = Use Fourier device

Ctrl + M = Use Midi tones

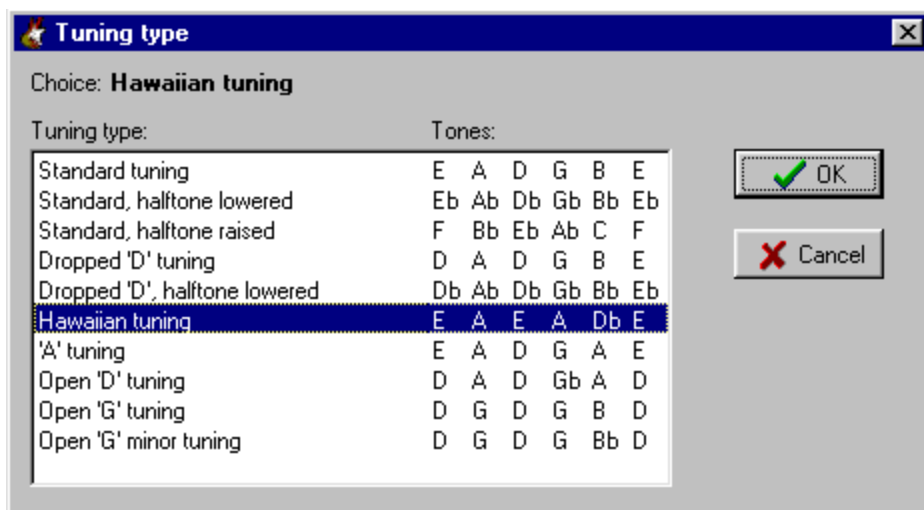
F1 = Help

Main menu contains several important sub-menus:

- Tuning type menu
- Options menu
- Change root frequency menu
- Registration menu

Tuning type menu

In this menu you can choose from a variety of tunings that are used in guitar music. It can be accessed by clicking on green infobox (only when it's set visible), choosing from Main menu or by pressing Ctrl+T.



Options menu

In the options menu you can change some of the environment settings and a noise level rate.

Noise level rate is very important for program's performance so pay attention when setting it! It says above what sound intensity it should start measuring the string's frequency. Setting it high makes the tuner more robust against disturbing noises, but on the other hand, it requires the stronger signal to start with measuring. (the tuner doesn't "hear" so good) Setting it to lower values makes the tuner more sensitive to changes of sound intensity (that means, you don't have to hold the guitar so close to microphone or to play so strong) When you do not touch the strings and the tuner is performing anyway (and shows hocums), set the noise level to higher value.

Use [guitar input monitor](#) to determine suitable noise level value.

Registration menu

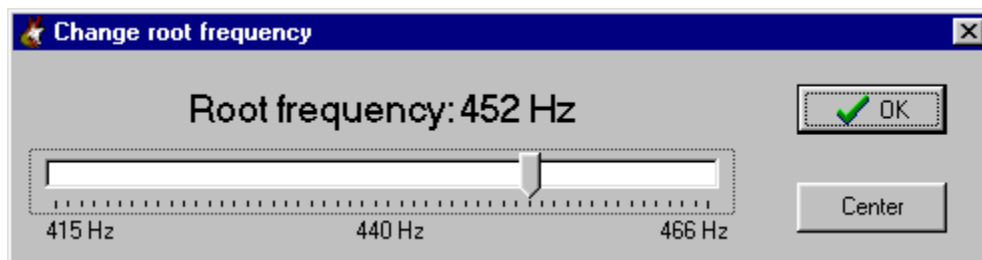
In order to register (and make that disturbing nag box disappear) you must pay for the program (see **registration**).

When you have received the Registration number that matches to your Serial number (it can be found in Help | About menu), type in your name, the number and that's all, you've registered. If the number is wrong, then the "Registration unsuccessful" message appears and you have to try again.

Change root frequency menu

This dialog allows you to change the root frequency of A(440 Hz) to any desired frequency within two halftones. For example, when you set the root frequency to 445 Hz and tune your guitar in standard tuning, all tones will sound slightly higher than "real" standard tuning. This could be useful when you want to adapt your guitar to vocals, so that they can sing higher or lower.

Remark: This option is available only in registered version of DGT.



Midi

DGT uses the synthesizer built into your sound card to produce the tones. Windows defines 128 such instruments, however, you'll be able to use only three of these until you register your copy of the program. The names given in the Instrument list are the General MIDI instrument names. Your particular configuration may not be set to General MIDI, so the names may not match your setup, in that case don't be surprised. The quality of each instrument will vary according to the capabilities of your sound card.

In order to produce tones instead of capturing data through the microphone, you must change the default device (Fourier) to Midi device. This can be done either by clicking Device | Midi menu or using shortcut Ctrl + M.

But before you try this, you should test the Midi options in the Main | Options menu.

Choose the proper midi device, desired instrument, volume and the interval between two beats. If you don't want the tuner to repeat tones, set the "Beats after" to 0 ms and then the tone will be generated after pressing *spacebar*. Spacebar is also active in case the time interval is non-zero.

Using midi tones as a reference is smart enough only if you don't require the perfect tuning. For exact tuning, use Fourier device. (digital sampling)

Guitar input monitor

Guitar input monitor (File | Options menu) helps you monitor the strength of your guitar output signal and is also used to determine suitable noise level.

Click Start button to begin signal capturing process and look at the bar that displays the strength of incoming signal. If it is too low, increase the volume for recording in your Windows environment.

When you stay quiet with your guitar for a while, you can determine the correct noise level to be used on your computer. Set the noise level slightly higher than average noise level values.

