

StroboSoft Owners Manual

Rev 1.0



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Introduction



Welcome to StrobeSoft™ by Peterson and congratulations on choosing the most accurate and advanced tuning software from *the* tuner company, Peterson Strobe Tuners.

StrobeSoft™ uses the power of your computer and its high resolution to accurately display the pitch of your instrument employing traditional tuning standards, our Peterson Sweetened™ settings, and other contributor settings.

With the 0.1 cents accuracy and sophistication of StrobeSoft™, Peterson's 55+ years of tuning experience has now taken tuning from plain black and white to the world of high definition color!

StrobeSoft™ is simple to use in its chromatic tune mode and also has an exclusive instrument mode that allows you to define your instrument to StrobeSoft™ and store those settings in presets to be quickly recalled at any time. After storing your presets, tuning multiple instruments with StrobeSoft™ is quick and easy. Create a library of tunings for one instrument or better yet, all of your instruments!

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To maximize your StrobeSoft™ experience, we would like to invite you to take a minute and review how our Help File functions. As you may have noticed, StrobeSoft™ is unlike no other software tuner on the market today and neither is our Help System! We designed the Help File to be more than just a collection of words on a screen. Our Help System comes alive and demonstrates functions and techniques to help you get the most out of tuning with StrobeSoft™.



History

In 1948, 10 years after the invention of the strobe tuner, the Chicago-based Peterson Electro-Musical Products commenced building instrument tuners. Led by Dick Peterson, a pioneer of solid state electronics, its first product was the Model 150 in 1952 and, realizing the need for a light but accurate device, Peterson engineer Bill Hass built the first battery powered handheld tuner in 1964, the Model 70. This culminated in the Peterson Model 400 strobe tuner in 1967. This was the first solid-state strobe tuner. With rock musicians' increasing fascination with all things technical, and the accompanying strive for excellence & perfection in the audio arena, the strobe tuner began to be a common sight on stage and in the recording studio. Many will recall first seeing the mysterious flickering dials behind such luminaries as the Grateful Dead, The Who, Pink Floyd, Frank Zappa, Jimi Hendrix, Neil Young et al. It also took its place as a must-have in the road cases of their touring crews, still the case today.

Due to the rapid advances in electronic engineering in the 70s, many companies built tuners as a by-product in their quest to find uses for the many & varied parts left over from other concepts. These units were simple reference devices, and found increasing favor with musicians through the decade. Accuracy was not really an issue, except for the major bands, studios, schools & instrument manufacturers for whom compromise was not an option, and the strobe tuner became a sign of professionalism & high standards.



In the 80's, the strobe tuner continued its dominance, with rivaling manufacturers seeking & failing to emulate the elusive strobe display by other means. The Conn dynasty faded to an end in 1985, and what was left of their Strobotuner division was bought by Peterson who, after acquiring new engineering blood, produced the 12 wheel Strobe Center 5000™ in 1994 and the single

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wheel Autostrobe™ in 1997. Presently the standard in professional circles, Peterson is was in an enviable position as sole manufacturers of strobe tuners globally.

In 2001, befitting the year, the strobe tuner also became a hand-held device known as the Peterson VS-1 Virtual Strobe™, a brand new concept, combining the time-proven advantages of the stroboscopic display with battery-powered portability in a compact format. This new tuner can boast of a 65 year old legacy, as the Strobe Tuner continues to dominate as the professional choice of musicians, technicians, manufacturers & educators worldwide.



The VS-II and V-SAM Virtual Strobes followed in 2003 and the first ever True Bypass tuner of any kind, the Peterson StroboStomp™ made its entrance in 2004.

Continuing this innovative tradition in 2005, Peterson became the first ever tuner manufacturer to offer both hard- and software tuners with the debut of StroboSoft™ Standard and Deluxe Edition software strobe tuners as the latest chapter in Peterson's 70-year-old strobe tuner legacy.

For more information on Peterson Electro-Musical Products, Inc, please visit:

The company home page at: www.petersontuners.com

The StroboStomp™ home page at: www.strobostomp.com

The StroboSoft™ home page at: www.strobosoft.com



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Getting Started

Getting Started - Input Device Set-up

To configure your sound card for use with StrobeSoft™ Deluxe

1. Click on the SET-UP button.
2. Click on the SET-UP tab inside the window.
3. Select the **MONO**, **L**, or **R** button to choose the channel StrobeSoft™ should use for measuring input signals. When **MONO** is selected, StrobeSoft™ will access your sound card using its mono input. Typically, this uses the left input of a stereo device, but your sound card may mix the left and right channels to create mono; this is not under the control of StrobeSoft™ and different devices may do different things. This is the setting most users will choose since they will only be connecting one instrument into StrobeSoft™ at a time. The **Left** and **Right** selectors allow you to individually access the left and right channels of a stereo input. This is useful if you have two instruments connected at the same time, one on the left channel and one on the right: you can easily switch between these instruments without having to physically reconnect them. For example, a 6-string acoustic can go into the **Left** channel while a 5-string bass can be fed into the **Right** channel.
4. Select your sample rate. This rate should match your audio application's setting to avoid device conflicts. It should also fall within your sound card's rating. Increasing the sample rate will "capture" more data in the signal measurement and may assist in measuring problematic higher octave notes. (Default setting is AUTO)
5. Select your sound card type. Multiple sound card users can select a particular card to use or if your sound card has multiple inputs you can select the set of inputs for StrobeSoft™ to use.

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Note: It's important to note what things are stored with each INPUT DEVICE. These are the **MONO**, **L**, and **R** settings. When selected, you can save the noise filter, sample rate, sensitivity, and calibration settings. This means that different devices can have different settings, which can be very useful especially if these devices have different characteristics (e.g., noise levels) or are connected to different instruments.

To configure your sound card for use with StrobeSoft™ Standard

1. Click on the SET-UP button.
2. Click on the SET-UP tab inside the window.
3. Select your sample rate. This rate should match your sound card's rating. Increasing the sample rate will "capture" more data in the signal measurement and may assist in measuring problematic higher octave notes. (Default setting is AUTO)
4. Select your sound card type. Multiple sound card users can select a particular card to use or if your sound card has multiple inputs you can select the set of inputs to use.

Audio Device Problem Detected



If your sound card cannot "stream" data smoothly to StrobeSoft™, you will receive the AUDIO DEVICE PROBLEM DETECTED message in the strobe

display window. Try changing the sample to a higher rate to increase the amount of data your sound card sends the application.

Generally, the AUTO function will work with any sound card. The AUTO function samples audio at 11025Hz by default. This sample rate will preserve all information up to frequencies up to 5512.5Hz (Nyquist's Theorem). Most stringed instruments do not produce fundamental tones above 5512.5Hz. However, switching to a higher sample rate will capture more "information" on higher octave note measurements. So if you have a high octave note that is difficult to measure, try switching the sample rate to a higher one.

Alternatively, if you are using a pro-audio sound card that has a higher sample rate capability, switch StrobeSoft™ to match it for optimum performance.

A Note on Drivers

As of 12/2005, on the Windows platform, StrobeSoft™ currently only supports MME drivers. If your sound card does not provide suitable drivers (e.g., it only supports ASIO, or WDM/KS) then StrobeSoft™ will not be able to access these inputs. However, almost every sound card includes suitable MME drivers. Please make sure you have MME capability enabled in your aftermarket sound card utility before calling for support.

If your sound card is displayed in the Windows Control Panel under Sounds and Audio Devices, StrobeSoft™ will be able to recognize your sound card and access its input(s).

Also, visit the forum at www.strobosoft.com for updates.

StrobeSoft and ProTools™:

When running ProTools, the DigiDesign drivers will not allow any other application to use the audio device even if ProTools is idle. Therefore, it is not possible to run ProTools and StrobeSoft™ side-by-side and use the same audio device. This is not a problem with other DAWs. This problem is not exhibited on LE systems. We are working to address this issue in a future version of StrobeSoft.

Getting Started - StrobeSoft™ Audio Tips

There are a few items that you will require before using StrobeSoft™:

1. Instrument cable long enough to position yourself by the computer but still give you free movement with your instrument. You will need to access the mouse and keyboard in certain instances.
2. A simple 1/4" to 1/8" mini adaptor to plug into your stock sound card. Pro-Audio sound cards typically have a direct 1/4" input that you can use, often with direct instrument inputs. The adaptor is not required in this case.
3. Most acoustic instruments will require a microphone if they are not equipped with an electronic pick-up device. A simple omni-directional microphone will suffice. Suction cup devices and clip-on pickups will work also.
4. That's it! Simple, right? Let's get started...

Here's Some Tips Just for Good Measure...

1. Keep your microphone away from your computer. Some machines exhibit excessive fan noise that can be picked up in the microphone and prevent an accurate measurement.
2. If you are using an electric instrument, it's best to plug it into the "line in" connection instead of the "microphone" connection if your computer has both. This will give much better signal quality. The line-level signal of your electric instrument is ample enough to allow for a good measurement.
3. Use a good microphone. Inexpensive computer microphones may not be able to accurately reproduce the frequency range of your instrument signal. This will create a false measurement.
4. Use the Noise Filter. With the noise filter engaged, StrobeSoft™ can "ignore" the typical 50/60Hz cycle hum. Once the background noise is reduced, StrobeSoft™ can better distinguish between noise levels and

true instrument tones. In addition to 50/60Hz cycle hum, the noise filter will also reject computer fan noise and other room noise.

5. Use the Spectrum Analyzer. The Spectrum Analyzer will allow you to immediately see what type of input signal StrobeSoft™ is trying to measure. If there are large spikes or high background noise level is present, run the Noise Filter. You can use the numbers at the bottom of the graph and the Multi-Function Window to compare Hz measurements instantly. *(This is a great function to view harmonic tone sets of a particular note also.)*

Chromatic Tune

Chromatic Tune - Manual Note Select

StroboSoft™ Manual Note Select

When tuning under unusual circumstances tuning extremely high-pitched notes or low volume sounds in noisy environments it may be necessary to manually select the note to which you would like to tune.

StroboSoft™'s MANUAL NOTE SELECT will allow users to select their notes and tune with complete confidence that their notes are being measured accurately.

Using the MANUAL NOTE SELECT also assists the user in tuning to different offsets whether original or proprietary since the CENTS display will output the current cents position on a NOTE/OCTAVE basis.

MANUAL NOTE SELECT limits the range of notes StroboSoft™ looks for so it can potentially detect harmonics from other notes and assume that was the note you are looking for. This can be useful if you are trying to detect harmonics from other notes. For example, you can play an E2 and set MANUAL NOTE SELECT to E3 and measure the pitch of the first harmonic instead of the fundamental frequency.

To use:

1. Enable the MANUAL NOTE SELECT feature by CLICKING the LED (or the text) above the MANUAL NOTE SELECT knob.
2. DRAG the knob with the mouse to select your desired note or for more precise setting use the mouse wheel to SCROLL to the desired NOTE/OCTAVE combination.
3. The notes will display in the NOTE/OCTAVE window.
4. That's it!

Chromatic Tune - Global Cents Offset

Global Cents Offset

To manually change:

1. CLICK in the GLOBAL CENTS OFFSET text box.
2. TYPE in your new setting. Increments of 0.1 are allowed.
3. PRESS ENTER.

Adjusting the GLOBAL CENTS OFFSET in StrobeSoft™ allows the user to globally offset all measurements the tuner makes.

Setting the GLOBAL CENTS OFFSET to something outside of 0.0 will provide an "off zero" reference for tuning to custom offsets.

Double clicking the top of the GLOBAL OFFSETS knob will reset it to zero.

Note: There are some mouse drivers that will allow you to "fine-tune" (settings of 0.1 cents) the GLOBAL CENTS OFFSET by holding down the right mouse button while you scroll the mouse wheel. This will vary from computer to computer. This will not impede the performance of StrobeSoft™. If there is any issue with using the mouse to input global offsets, simply manually change the offset by clicking in the text box and typing it in.

Chromatic Tune - Concert A Range

StroboSoft™ Concert A Frequency Range

To change:

1. CLICK in the CONCERT A text box.
2. TYPE in your new setting.
3. PRESS ENTER.

StroboSoft Concert A Range: 340Hz - 540 Hz

StroboSoft has a default reference frequency of 440Hz (Concert A). The range of reference frequencies within StroboSoft™ can be changed from 340Hz to 540Hz in 0.1 Hz increments.

Adjusting the CONCERT A reference can be useful to allow tuning to recordings that have different reference frequencies or tune to instruments that do not use the typical 440Hz reference such as bagpipes, sitars, baroque type, or classic instruments.

Also, depending on the tone you are trying to achieve, tuning to a higher CONCERT A frequency allows your music to sound brighter.

The CONCERT A setting in StroboSoft™ is a global value that is not stored in your instrument presets. Make sure this is set at 440Hz when tuning regularly or your measurements may be incorrect.

Chromatic Tune - Temperaments

Temperaments

To change:

1. CLICK in the TEMPERAMENT text box.
2. A dialog box opens.
3. SELECT your new setting.
4. PRESS ENTER.

Lately, the word "temperament" has entered the language of many musicians (notably guitarists and bassists) who never before had a term that could describe the tuning shortcomings of their instruments. Many modern instruments are constructed assuming "equal tempered" scale-note intervals. This is simply one of an infinite number of ways to tune one scale note relative to another, and it can create serious tuning shortcomings. However, by taking advantage of the distinct characteristics of certain instruments (guitar, bass, steel guitar) or prevalent key signatures (for the remaining "historical temperaments" in the list), alternate temperaments are possible which generally "sweeten" the chords and intervals played on these instruments without compromising the overall tuning relative to other pitched instruments being played.

By nature of a temperament being "unequal", some chords and keys—generally, major and minor keys at (or diatonically related to) the ROOT note on which the temperament is built—are "favored" while more remote keys have chords that sound worse than those of Equal Temperament.

In order to guarantee that a user can achieve a "favored sound" with any chosen temperament regardless of key signature, StrobeSoft™ provides a ROOT setting (accessed under the TEMP menu item by pressing SET-UP then the TEMP button). The ROOT setting realigns the temperament to the "concert pitch " chosen. Thus, if one wants to play perfect 3rds in the diatonic key of D major, for example, one might choose the JSTM temperament with ROOT set to "D".

User Temperaments

These Temperaments are created by the USER and displayed in the drop down box for quick access. Upon initial installation of StrobeSoft™, there **will not** be any USER Temperaments displayed. They will only be displayed once the USER has created them.

See also [Creating Temperaments](#).

Equal Temperament

EQU (Equal) is "standard" modern tuning (that would appear in a typical keyboard synthesizer, for example).

Meantone Temperaments

4MNT (1/4 Comma Meantone) is a fairly flexible "compromise temperament" producing good results in all major/minor keys based on the diatonic notes from the chosen root (except VII major and IV minor). It is a popular "historic" tuning for piano, organ, and baroque keyboard instruments (harpsichord, clavichord, etc).

6MNT (1/6th Comma Meantone) Widely used for Lute & Viol tuning, this temperament is milder than 1/4 comma Meantone.

RAM (Rameau) Baroque temperament also known as "Temperament Ordinaire". It allows for four pure thirds on Bb,F,C,G and an almost pure third on D.

ZAR (Zarlino) Only the C,F & G major and minor chords are purely consonant in this tuning.

Well - Tempered Temperaments

JSTM (Just Major) provides perfect beatless major 3rd and 4th/5th intervals in the root diatonic key. However, avoid using the II-major chord intervals for a given root (D - F# - A with Root = C, for example). JUST tuning is especially useful for brass, woodwind, and vocals.

KLN (Kellner) is "well-tempered" with a pleasing variation in key color and also suitable for historic tuning of piano, organ, and baroque keyboard instruments.

KRN (Kirnberger III) is a "well-tempered" historic temperament with strong "key color" differences, suitable for pipe organ and baroque keyboard instruments.

PYT (Pythagorean) produces perfect 4th/5th intervals. It is quite useful for open string tuning of bowed instruments.

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VAL (Vallotti) A relatively mild temperament where the comma is distributed equally to 6 consecutive fifths. Many late Baroque instruments are tuned using this temperament.

WRK3 (Werckmeister III) is similar to Kirnberger III above but with a greater range of useful key signatures for a given root selection (in exchange for increased beating among some intervals in "favored" keys). It is yet another option for historic tuning of piano, organ, and baroque keyboard instruments.

YNG (Young) is "well-tempered" with milder "key color" variations than the above historic temperaments (i.e., more similar to Equal temperament). It is yet another historic keyboard instrument temperament.



Chromatic Tune - Transpose/Drop/Capo

StroboSoft™ Transpose Settings

- +1 to +12 adjust for capo positions.
- -1 to -12 adjust for drop tuning positions.
- Return to 0 for normal display.

StroboSoft™ will allow you to transpose your note one complete octave !

Deluxe Users Note: This setting will be saved as part of your instrument preset.

See also [Creating New Instrument Presets](#).

To change:

1. CLICK in the TRANSPOSE/DROP/CAPO text box.
2. SELECT your new setting.

You can set StroboSoft™ to display “normally” even if you are tuning a whole step or a half step down, or if you are using a capo. Simply go to TRANSPOSE/DROP/CAPO and select +/-1 for one half step or +/-2 for two half steps.

The TRANSPOSE/DROP/CAPO menu item provides a simple means of transposing note names for instruments built around something other than Concert C pitch (for example, a B = clarinet or E = saxophone).

For example, when a guitar is in its standard tuning, we commonly call the open string notes: E, A, D, G, B, and E. These are the Concert C key signature note names for those sound frequencies. However, guitarists commonly think of this tuning as standard E tuning because of the preponderance of Key of E notes.

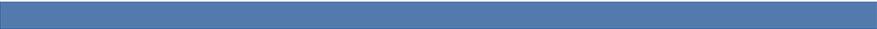
Obviously, this can get confusing.

The TRANSPOSE/DROP/CAPO function provides an optional numbering system for key transposition which corresponds to the equivalent fret “stop” of the strings. For example, if you apply a capo (on a standard-tuned guitar) on the 3rd fret, the new “open string” notes without key transposition would be: G, C, F, A#, D, and G.

If you would like to tune these new “open string” notes without having to mentally transpose note names, you would simply select a TRANSPOSE/DROP/CAPO key value of “+3” which corresponds to the 3rd fret in this example. In this case, the “open string” notes will once again be displayed as E, A, D, G, B, and E on the screen.

To carry the analogy further, the open strings without a capo (the normal case of the nut stopping the strings) is equivalent to the 0th fret and so 0 yields the standard note names for the open strings. Further, if you detune the strings down as in “1/2-step drop” (or “flat”) tuning, this would be equivalent to having an “extra fret” as the stop in the opposite direction. Hence, the TRANSPOSE/DROP/CAPO value to use would be “-1”.

For advanced users employing non-equal temperaments, key transposition still affects only the note names for use with non-Concert C instruments. The tonic or root frequency of the temperament remains at Concert C pitch.



Chromatic Tune - Target Tune

StroboSoft™ TARGET-TUNE

To use:

1. FLIP the TARGET/INPUT switch to TARGET.
2. You can enable MANUAL NOTE SELECT or use the Auto-Detect feature to have StroboSoft™ locate your target note.
3. To view certain aspects of the note in the Multi-Function window, move the lever to toggle between CENTS, HERTZ, MIDI, and OFF.

TARGET TUNE switches the NOTE/OCTAVE window so the user can see what note they are trying to achieve rather than what note they are currently at. The TARGET TUNE function does not change StroboSoft™'s internal function when enabled and doesn't change any tuning parameters. It only displays the details of what note it is looking for (which is always there under the surface).

Target note is used anytime you want to view the MIDI note #, cents setting (for determining offsets), or frequency of a particular note. For example, if you are in Chromatic mode and switch Manual mode on, you can flip the Target switch on and see the frequency for that particular note you have set.

The Multi-Function Window will display the adjusted "target" cents, Hertz, and MIDI information if a Global Offset is used or a Temperament is added, or both.

Instrument Tune

Instrument Tune - Creating Instrument Presets

(Deluxe Version Only)

Creating new Instrument Presets

StroboSoft™ allows the user to create and save a complete instrument profile for all their instruments that includes tunings, sweeteners, and capo or drop settings. All of these settings can be changed and saved within a preset. However, you do not need to change all of the presets (TUNING or SWEETENER™), to create an Instrument Preset.

These presets can take advantage of StroboSoft™'s preset tunings and sweeteners or they can incorporate the user's custom tunings and sweeteners offering complete programming flexibility.

The selected instrument graphic will also be recalled for visual confirmation.

To creating a new Instrument Preset

Follow the steps below to create an **Instrument Preset** for your instrument. It is important to know the difference between a new tuning, new sweetener, and Instrument Preset. StroboSoft™ will allow you to create multiple tunings and sweeteners for the same instrument. These various tunings and/or sweeteners can be recalled and applied to the same instrument. An Instrument Preset, however, contains tunings, sweeteners, transposition settings and instrument type in memory. These settings apply to that instrument and that instrument only.

1. SELECT NEW.
2. NAME your preset in the PRESET text box. PRESS ENTER when you are finished.
3. SELECT your instrument by CLICKING in the INSTRUMENT text box.
4. (Optional) SELECT your tuning by CLICKING in the TUNING text box.

5. (Optional) SELECT your sweetener by CLICKING in the SWEETENER™ text box.
6. CLICK in the TRANS(pose) text box and select a desired capo setting or drop tune setting if needed.
7. CLICK EDIT to save your new Instrument Preset.

To delete an Instrument Preset

If you wish to delete an Instrument Preset simply call the Preset you wish to remove and click the DELETE button. A warning box will appear asking you to confirm your selection. Click OK to proceed.

WARNING! Once Instrument Presets are deleted they cannot be restored.

Note: Deleting an Instrument Preset will remove all of your tuning and sweetener settings for that particular instrument. To delete individual tunings or sweeteners inside a preset, call up the tuning or sweetener you wish to delete and click DELETE. See also [Creating New Tunings](#) and [Creating Sweeteners](#) for more information on creating and managing presets.

Instrument Tune - Creating New Tunings *(Deluxe Version Only)*

Creating New Tunings

StroboSoft™ allows you to create your own custom tunings and save them under the name of your choice for easy access in the future. These tunings can be song specific or instrument specific depending on your choice.

StroboSoft™ comes loaded with over 50 preset tunings for stringed instruments!

The TUNING window (where you name the new tuning) would be an ideal place to enter the song title if you are creating tunings on a song by song basis.

Note: The TUNING section is part of the complete profile you can create and store inside StroboSoft™ for your selected instrument. It should be noted that the tunings created are particular to the instrument selected. You cannot apply a bass guitar setting to a cello, for example. Therefore, it's important that the correct instrument is selected in the tuning.

Also a "new" tuning will copy the currently selected tuning to give you a starting point, so it's convenient to start with a tuning that's close to what you want to make editing easier.

Notes can also be adjusted by the mouse wheel, not just the menu, which can be faster in many cases.

To create a new Tuning

1. CLICK the INSTRUMENT TUNE button.
2. CLICK the TUNINGS button.
3. SELECT NEW.
4. NAME your tuning in the TUNING text box. PRESS ENTER when you are finished.

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5. SELECT your instrument by CLICKING in the INSTRUMENT text box.
6. CLICK in the NOTE text box on the desired string you wish to change the tuning for.
7. SELECT your note from the pop-up list.
8. REPEAT the steps 6 and 7 for any other notes you wish to change.
9. CLICK EDIT to save your new tuning.

To delete a tuning

If you wish to delete a tuning simply call the tuning you wish to remove and CLICK the DELETE button. A warning box will appear asking you to confirm your selection. CLICK OK to proceed.

WARNING! Once tunings are deleted they cannot be restored.

Instrument Tune - Creating Sweeteners *(Deluxe Version Only)*



StroboSoft™ Preset Sweeteners™

- **GTR™** (Peterson) is a proprietary electric and acoustic guitar setting geared toward “sweetening” the 4th and 5th intervals on a standard-tuned or ½-step-flat guitar (and bass when played in combination with a GTR-tuned guitar). GTR improves other intervals as well. For best results, use the default EQU temperament for intonation (string length setting), then tune open strings using GTR. Click [here](#) for more information about GTR setup.
- **BAS™** (Peterson) is a proprietary bass sweetener useful for percussive playing and when playing along with a stretch-tuned keyboard (acoustic piano or other string or bar-struck keyboard). For best results, use the default EQU temperament for intonation (string length setting), then tune open strings using BAS.
- **BFTS™** (Buzz Feiten Tuning System) The Buzz Feiten Tuning System is a tempered tuning formula which uses a compensated nut and saddle to correct intonation problems on stringed, fretted instruments. Buzz Feiten equipped instruments can take advantage of preset open string and intonation settings within StroboSoft™.

Note : The SWEETENERS™ section is part of the complete profile you can create and store inside StroboSoft™ for your instrument. It should be noted that sweeteners apply to a particular tuning and the creation of new sweeteners rely on the tuning being appropriate for the instrument.

To create a new Sweetener

1. CLICK the INSTRUMENT TUNE button.
2. CLICK the SWEETENERS button.
3. SELECT NEW.

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4. NAME your sweetener in the SWEETENER text box. PRESS ENTER when you are finished.
5. SELECT your instrument by CLICKING in the INSTRUMENT text box.
6. SELECT your tuning by CLICKING in the TUNING text box.
7. CLICK in the OPEN text box and enter the desired *offset* for the selected string.
8. REPEAT step 7 for the +1 OCTAVE text box.
9. REPEAT the steps 7 and 8 for any other strings you wish to change.
10. CLICK EDIT to save your new sweetener.

To delete a sweetener

If you wish to delete a sweetener simply call the sweetener you wish to remove and CLICK the DELETE button. A warning box will appear asking you to confirm your selection. CLICK OK to proceed.

WARNING! Once sweeteners are deleted they cannot be restored.

Manual String/Intonate Feature *(Deluxe Version Only)*

Manual String and Intonation

StroboSoft™ will allow users to manually select a string from their particular instrument graphic to assist in tuning. This type of manual string tuning is different than the MANUAL NOTE SELECT option found in the CHROMATIC TUNE page. The Chromatic Tune page offers a note/octave combination while the MANUAL STR SELECT option in the INSTRUMENT TUNE page is a dedicated utility for tuning open notes only.

Use the MANUAL STR SELECT to help tune difficult to read notes and to assist with instrument intonation.

New guitar players may find this screen easier to tune in since they have the visual graphic showing which string is being tuned. The NOTE/OCTAVE window will also ignore other note/octave combinations giving the user complete "focus" when tuning a particular open string.

MANUAL MODE can help if you find that certain strings are hard to tune because of noise or because other strings are resonating (indicated by the strobe and note/octave being unstable). Selecting MANUAL MODE restricts the range over which StroboSoft™ looks so that these "noise" signals can be ignored.

When in MANUAL MODE, the string can be selected by clicking on the string, or by pressing the SPACE BAR on the keyboard to select the next string.

AUTO MODE has a wider note detection range. If the note has an extremely high or low octave and StroboSoft™ cannot detect it properly switch to manual mode.

Note: While in INSTRUMENT TUNE mode (not CHROMATIC TUNE mode) 50/60Hz hum will be ignored because STROBOSOFT will only look around 5 or 6 semitones below the lowest note in the current tuning. This is not true for instruments that emit tones lower than 50 or 60Hz, however. Instruments such as a bass guitar will still have their signals affected by mains hum.

More experienced players will find the innovative INTONATE function to be a true advantage. You can now intonate all your stringed instruments and save the cost guitar specialty shops would charge for this service.

Normally, StrobeSoft™ will only detect the open strings. To set intonation, you need to be able to measure the pitch of the 12th fret position (octave). Enabling the intonation option will allow both open strings and the octave positions to be measured simply by playing those notes (you don't need to turn intonate off to measure the open string note). The open string is indicated by an open circle, the octave (fretted string) is indicated by a closed, red, circle. In AUTO MODE, this allows you to very quickly setup the intonation of an instrument "hands-off" (without having to use the mouse or keyboard). When the open strings are not in tune, it is best to leave intonation off because un-tuned open strings may be incorrectly identified as an octave position.

Note: Intonation can be performed in MANUAL STR SELECT mode or in AUTO DETECT mode. To default to the AUTO DETECT mode simply switch off the MANUAL STR SELECT LED. Manual and auto mode will have exactly the same precision in detecting the 12th fret.

See also Intonation with StrobeSoft™.

Set-Up Screen

Set-Up Page

StroboSoft™ SET-UP page:

OSCILLOSCOPE - An oscilloscope is a useful instrument for testing signals because it allows you to see the signals at different points. The oscilloscope allows the user to view the actual shape of the signal coming into StroboSoft™. The x-axis (horizontal) is related to time while the y-axis (vertical) is related to amplitude.

X = time

Y = amplitude.

The Y-axis is auto-scaled to whatever signal is coming in. So you use it to see the shape of the signal more than the actual incoming amplitude level. *This measurement is uncalibrated.*

SPECTRUM ANALYZER - The spectrum analyzer offers a real-time view of the spectral components on the input signal. The x-axis is calibrated and displays frequency in *Hertz* on a logarithmic display from 10 Hz to 5500 Hz. The y-axis is calibrated and displays the signal power in 10 *decibel* (dB) steps (*note* 10 dB corresponds to a power increase of 10 times). *This measurement is calibrated.*

The analyzer can be extremely useful in finding noise present in the incoming signal helping to identify reading difficulties. Harmonic detections and visual recognition of fundamental frequencies can also be seen in the analyzer view.

Running the noise filter with the spectrum analyzer open will give you a good idea of how StroboSoft™ analyzes frequencies. In the above picture, you can see how the noise filter affects the incoming signal. You can see a large presence of signal around the 50 Hz area before the filter is applied. Typical *50/60Hz cycle hum* is displayed here. The noise filter is typically set to filter out 50/60Hz noise.

NOISE FILTER - As mentioned above, StrobeSoft™ comes equipped with a noise filter to remove typical 60 cycle hum. The noise filter should be run with the instrument plugged into the sound card and on.

It is extremely important that when the filter is run, no noise is made (plucking strings, handling noise, etc.). Doing so will result in more frequencies being attenuated from the input than desired. Instruments with line-level signals, such as electric guitars, may not need the noise filter engaged since the signals emerging from this type of instrument are generally stronger in amplitude. StrobeSoft™ will be able to "lock" onto them without any problem. However, instruments without pickups or those that require using a microphone to be measured, may need the filter engaged to remove unwanted background noise.

Tip: Leaving the LED engaged allows the noise filter to run every time StrobeSoft™ is started.

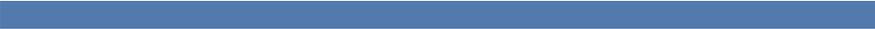
Note: While in INSTRUMENT TUNE mode (not CHROMATIC TUNE mode) 50/60Hz hum will be ignored because StrobeSoft will only look around 5 or 6 semitones below the lowest note in the current tuning. This is not true for instruments that emit tones lower than 50 or 60Hz, however. Instruments such as a bass guitar will still have their signals affected by mains hum.

STROBE SPEED - The strobe speed slider will adjust the non-linear relationship between cents-out-of-tune and strobe speed. A FAST strobe speed allows viewing of quick changes in pitch while a SLOW speed provides a more steady display. Fast pitch changes will be detected quickly but using the STROBE SPEED slider will reduce the amount of strobe movement.

SENSITIVITY - The sensitivity slider controls how sensitive StrobeSoft™'s reaction to incoming signals are handled. A LOW sensitivity setting lowers StrobeSoft™'s ability to react quickly to quiet input signals while a HIGH sensitivity setting increases StrobeSoft™'s ability to measure quiet signals. It is best set with your sound card and instrument connected. Experiment with different settings and see which position offers the best performance.

For optimal "usage experience" this should be adjusted so that with no note playing, the strobe remains dimmed (i.e., nothing measured). and with a very quiet note being played, the note is measured (strobe lit). When this is done, it gives you confidence that when the strobe is lit, a real note is being measured, not noise.

See also *Input Device Setup*.



Creating Temperaments *(Deluxe Version Only)*

Creating Temperaments

Tempering a tuning means to redefine where the notes are in relation to each other on the musical scale. The most common temperament is the Equal Temperament (EQU), which places all notes at equal intervals from each other. This means that each of the notes are evenly spaced and are all exactly 100 cents apart. However, this is only true of certain instruments with guitars and pianos being the most common examples. Other temperaments place the notes at unequal distances from each other to suit a particular instrument, or to attain different tonal colors.

StroboSoft™ allows users to view offset settings for many known and several lesser known temperaments in the TEMP screen located inside the SET-UP page.

(Standard Version)

Users can modify the ROOT NOTE and ANCHOR note and have the capability to save these settings. These settings will be recalled when StroboSoft™ is powered on. New temperaments cannot be designed or existing temperaments cannot be modified, however.

(Deluxe Version)

Users can modify the ROOT NOTE and ANCHOR note with the ability to save their settings under a custom name. In addition, for the advanced user, new temperaments can be created from scratch.

The ANCHOR note in a temperament is the note that remains at a constant relative to Equal temperament. Most tuners are fixed at Concert A, whereas StroboSoft can be set to Concert A, B, C etc. This is important for non-equal temperaments (basically everything except Equal which by nature has neither root nor anchor).

Example: a Dobro player will want his root and anchor to be the same, whereas a classical viola de gamba player will want the root at C but the anchor at A.

Our Sweetened tunings are based on a C root and anchor by default. The root is the pivot or axis around which the temperament revolves when you change the

tonic note of that temperament, whereas the anchor is the note that is "joined at the hip" to Concert pitch.

To create a temperament:

1. CLICK the SET-UP button.
2. CLICK the TEMP button.
3. SELECT NEW.
4. NAME your temperament in the TEMPERAMENT text box. PRESS ENTER when you are finished.
5. SELECT your ROOT NOTE by CLICKING in the KEY text box.
6. SELECT your ANCHOR NOTE by CLICKING in the ANCHOR text box.
(This feature must be enabled to use by CLICKING the LED next to *USE ANCHOR*.)
7. CLICK in the OFFSET text box and enter the desired offset for the selected note.
8. REPEAT step 8 for the remaining notes you would like to enter offsets for.
9. CLICK EDIT to save your new temperament.

To delete a custom temperament:

If you wish to delete a temperament simply call the temperament you wish to remove and CLICK the DELETE button. A warning box will appear asking you to confirm your selection. CLICK OK to proceed.

WARNING! Once temperaments are deleted they cannot be restored.

Calibrate Screen

Calibrating StroboSoft™

Although many sound cards have very accurate reference clocks, there are a number whose clocks are not well calibrated, in particular in many notebook computers. To allow these input devices to be used to accurately tune instruments, StroboSoft™ has a calibration feature which will independently allow it to calibrate to the input device. This calibration is remembered permanently until you remove it.

Calibration is performed in the SET-UP page under the CALIBRATE tab. When the input device that you want to calibrate to is ready, enter the desired calibration frequency in the text box and press the MEASURE button

Note: Power must be on to perform a calibration.

You must have an accurate 440Hz signal with which to calibrate StroboSoft™. Typically, a 440Hz tuning fork, or electronic reference tone would be used. Alternatively, if you have a Peterson V-SAM™, VS-II™, or AutoStrobe 590™ you can use this to calibrate the inaccurate sound card to StroboSoft™. For example, you may use a V-SAM to calibrate a lower-quality sound card in a notebook computer to StroboSoft™ by using a specified reference tone. When calibrating, any tone can be used to calibrate StroboSoft™ outside of a 440Hz tone as long as it is accurate.

When calibrating, the 440Hz signal is analyzed by StroboSoft™ for up to 10 seconds. When StroboSoft™ has captured enough good measurements, the calibration will be complete. If StroboSoft™ cannot “lock” to the calibration signal, no calibration will be done and any existing calibration will remain untouched. The following screen will be displayed if the calibration signal is not found by StroboSoft™.



You can click MEASURE to stop calibration once it has started, if desired.

If you have an existing calibration that you want to remove, simply select CLEAR under the MANUAL CALIBRATION section. Calibrations are shown in the CALIBRATION FACTOR window as a % adjustment. 100.000% means that no calibration has been applied.

You can also type the calibration into the box. This can be useful if you have taken a note of the calibration factors and accidentally clear the calibration value and don't have the calibration signal available; you simply reenter the previous calibration you had noted.

These calibrations are remembered when StoboSoft™ is closed.

Note: It is important to know that the NOISE FILTER should be switched OFF while calibrating. The noise filter will re-trigger after calibration is complete and assume that the calibration signal used should be overlooked in measurement. To avoid this, disable the NOISE FILTER before calibrating StoboSoft™ to another device.

User Preferences

StroboSoft™ User Preferences:

AUTO POWER OFF - Use this option to allow StroboSoft™ to "power down" when it is not the main program being used. For example, if StroboSoft™ is positioned over a recording application (locked in place with the "T") and you begin to work in your audio application, StroboSoft™ will release its requirement on your audio inputs and "live" in the background. When you CLICK in the StroboSoft™ window again, it will power up and re-activate its settings. This will release the inputs on your sound card from StroboSoft™ and allow you to route them to another audio application.

StroboSoft™ will also power-off when it is minimized in the toolbar.

SHOW 0.1 CENTS - This option allows the Multi-Function window to display the cents value in 0.1 cent increments. This is required for settings that have 1/10th cent positions.

Tutorials

General Tuning Workshop

Tuning any musical instrument is easy once you get the hang of it. If you are reading this, then you either need to know some basics about tuning, or you are just interested in how other people tune their instruments.

Tuning with a strobe tuner takes a little practice before you can get comfortable enough to tune "on the fly" at a gig. Generally, the reliance of that needle or the warm, little glow of a red LED is all some players had to work with. The accuracy and speed of tuning with a strobe tuner far surpasses all of the benefits of these conventional, market-type tuners.

Warning: Strings can break!

The first thing to mention is really the most important, especially for novices. When you tighten a string to tune it, you are putting it under a lot of tension. Under normal circumstances this is not a problem, but if your instrument has some rough parts that can snag a string, or if you incorrectly tune it and over-tighten the string, it will break. Damage to the instrument may result or personal injury can occur. BE CAREFUL.

Do not over-tighten strings, if in any doubt, tune DOWN!

If you are an octave too low you will realize soon enough. If you're an octave too high, you might damage your guitar, or yourself! Be warned.

Tune one string at a time:

It is usually best to start with the bottom string (the fattest one). The reason for this is that this string usually has the most tension and its "pulling" effect on the instrument's neck is the highest. The force that each string exerts on the neck causes the neck to bend slightly. As it bends, all of the other strings detune. If you tune the heaviest string, you will detune all the other instrument strings, but this is less important if you still have to tune the other strings. This effect is more pronounced if your guitar has a tremolo.

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Before you begin tuning, you need to connect your instrument to your computer sound card, either directly or with a microphone. Then you must ensure that you have a good quality signal.

See INPUT DEVICE SET-UP for more information on how to get connected to StrobeSoft™.

Tuning a string:

Tuning a string is very simple if you follow one basic rule: ALWAYS tune UP to the note. What this means is that once you get close to the correct note, you should end the tuning procedure whilst you are increasing the pitch of the string. The reason for this is simple: if you end whilst decreasing the string's pitch the string can slip on the tuning peg, making the string detune again. By always ending as you increase the pitch, you make string slippage less likely and therefore your instrument will stay in tune longer.

To begin tuning, strike a clear note with StrobeSoft™ on. If StrobeSoft™ is correctly set up, the strobe display will illuminate a note indicator will begin to move. If this is not the case, you will have to ensure that StrobeSoft™ has been set-up properly. If the display is rolling upwards your note is sharp. If the display is rolling downward, the note is flat. The faster the speed, the further your note is out of tune. The slower the speed, the closer you are to being in tune. In most cases you will not have to turn the peg very far. Remember, try to end whilst tuning UP.

Tuning with StrobeSoft™:

To tune the remaining strings, simply repeat the above procedure until all strings have been tuned. Your instrument will probably not be tuned yet! As mentioned above, as you tune one string, all the other strings detune slightly. Therefore you should repeat the above procedure starting at the heaviest string. Repeat this procedure until all strings are in tune (a few cents sharp or flat is acceptable in most cases). The number of times you tune each string depends on what kind of guitar you have.

Whether in Chromatic or Instrument mode, tuning with StrobeSoft™ brings you to within 0.1 cent of the desired frequency. The number of vibrations per second of a musical pitch is usually measured in Hertz (Hz). The measurement of error is less than 1/10th of a cent for all frequencies within 20Hz to 5000Hz.

After you have repeated the procedure a few times you will realize that tuning with StrobeSoft™ is not only 30 times more accurate than tuning with the average LED or needle based tuner but you will find that you can tune in a lot

less time! The ease of the strobe display offers instant visual feedback of your note. All measurements are in real-time.

Once you get the hang of tuning, it is time to intonate your instrument.



Tuning Pedal Steel with StrobeSoft™ (Deluxe Version only)

StrobeSoft™ with its included presets of E9th and C6th tuning can be used to tune your 10 or 12-string Pedal Steel Guitar. Since StrobeSoft™ contains an unlimited amount of presets, multiple pedal and lever combinations can be saved under special tuning names and recalled for future use.

StrobeSoft™ contains Pedal Steel Graphics for 10 and 12-string instruments. 10-String users can take advantage of StrobeSoft™'s built-in Sweeteners™ that include:

Sweeteners™ for E9 Neck Tuning on a 10-String Steel

- Newman Steel Offsets - 9th (Jeff Newman Offsets for 10-String Steel)
- Steel Offsets - 9th - Straight (Offsets for 10-String Steel Guitar)

Sweeteners™ for C6 Neck Tuning on a 10-String Steel

- Newman Steel Offsets - 6th (Jeff Newman Offsets for 10-String Steel)

Additionally, 12 string users can apply an E9th Universal Tuning or an E9th/C6th Tuning (E9/B6 Neck Tuning).

Programming Pedal and Lever settings

Follow the steps below to create an **Instrument Preset** for your Pedal Steel Guitar. It is important to know the difference between a new tuning, new sweetener, and Instrument Preset. StrobeSoft™ will allow you to create tunings and sweeteners individually. These various tunings or sweeteners can apply to the same instrument. An Instrument Preset, however, contains tunings, sweeteners, transposition settings and instrument type in memory. These settings apply to that instrument and that instrument only.

Please refer to the [Instrument Tune](#) section of this Help File for more information on creating tunings, sweeteners and Instrument Presets.

1. Click on the INSTRUMENT TUNE button.
2. Click NEW.

3. Name your preset in the PRESET text box.
4. Select your instrument from the INSTRUMENT drop down boxes.
5. Click the TUNINGS button. You will see information box below with the displayed STRING and NOTES for the current selected tuning.
6. Click NEW.
7. Name your custom tuning in the TUNING text box. (For example, name it Pedal 1.)
8. Click in the NOTE text fields next to the string note you want to change. A pop-up box with various note selections will appear. Select the desired note you want to change for each string position.
9. Click EDIT to save your changes. Repeat the same procedure for the remaining pedals. For easy reference, remaining pedals can be referenced to as Pedal 2, Pedal 3, etc.
10. You can now program your offsets, if desired, for the notes you changed or for other notes.
11. To program offsets, click SWEETENERS. You see open string and octave settings appear in the information box next to the strings they correspond to.
12. To change any of them, click NEW.
13. Name your sweetener in the SWEETENER text box. (For example, Pedal 1 offset.)
14. Click in the OP. and OCT. text fields to change the values to your desired settings.
15. Click EDIT when you are finished to save your settings.
16. Repeat the same procedure for the remaining pedals.
17. If you would like to program lever settings, follow the same procedures above for tuning and sweetener positions. You will need to determine if you want to program StroboSoft™ to recall tuning or sweetener information regarding levers by programming lever information into the correct fields, TUNING or SWEETENER.

Editing Pedal and Lever settings

To edit or change any of these settings, you do not have to create another Instrument Preset. Simply,

1. Open the Instrument Preset you created above by clicking in the PRESET text box and selecting it.
2. Click on the item you wish to edit whether TUNING or SWEETENER, or both.
3. Click EDIT to make the changes.
4. Click EDIT to save your changes.

To delete an Instrument Preset

If you wish to delete an Instrument Preset simply call the Preset you wish to remove and click the DELETE button. A warning box will appear asking you to confirm your selection. Click OK to proceed.

WARNING! Once Instrument Presets are deleted they cannot be restored.

Note: Deleting an Instrument Preset will remove all of your tuning and sweetener settings for that particular instrument. To delete individual tunings or sweeteners inside a preset, call up the tuning or sweetener you wish to delete and click DELETE. See also [Creating New Tunings](#) and [Creating Sweeteners](#) for more information on creating and managing presets.

Intonating with StrobeSoft™ (Deluxe Version Only)

Standard Intonation Procedure (not BFTS)™

After deciding on string gauge, string height setting (nut and bridge), and neck relief—factors that affect guitar or bass intonation considerably—the individual string lengths must be adjusted.

- Lower the pickups away from the strings to avoid "doubling" and electromagnetic pull.
- Lay the instrument flat on a bench to adjust it, but always check the intonation with the instrument in the playing position as the readings will be visibly (and later audibly) different. You should always aim to freeze or "cage" the image of the StrobeSoft™ strobe display; the less overall movement up or down, the more accurate the results.
- Where setting the intonation is concerned, an often-used technique is the 12th fret & flageolet (chime) comparison method.

In this method, the open string is first tuned...



...then the open string (you can also use the flageolet tone or "harmonic " over the 12th fret) is compared to the string fretted at the 12th fret...



...saddle position is carefully adjusted as follows:

- If the fretted note is flat compared to the open string or flageolet tone, move the bridge saddle forward to shorten the string (turn the saddle screw counter-clockwise)...



- If the fretted note is sharp compared to the open string or flageolet tone, move the bridge saddle back to lengthen the string (turn the saddle screw clockwise)...



- Always re-tune the open string after adjusting the saddle position before re-checking the result...



...check the string fretted on the 12th fret again...



- Adjust until both fretted note and open string (or flageolet tone) are identical in pitch.

While this is a common system, it is not always the most satisfactory.

One popular alternative is to adjust each string so that it is in tune at two points an octave apart from each other on the fret board using a strobe tuner.

Using the 5th and 17th fret as an example:

- Tune a string at the 5th fret.
- Check the string at the 17th. If sharp, move the saddle back, thus lengthening the string (turn the saddle screw clockwise).
- If flat, shorten the string by moving the saddle forward (turn the saddle screw counter-clockwise).
- Always re-tune the open string after adjusting the saddle position before re-checking the result.
- Remember to fret the string using the pressure that you would normally apply while playing.
- Keep repeating this process until each string is in tune as much as possible at both the 5th and 17th frets.

This method takes time, and has to be repeated if you change string gauges, but if properly executed, yields very satisfactory results.

Now, before you play music with a lot of 5ths on your guitar (e.g. power chords), tune the guitar using the GTR, P5 or G5 setting, depending on which model of strobe tuner you own, otherwise use the EQU (default) setting to tune your guitar.

Now, tune your guitar or bass using the default EQU temperament setting in StrobeSoft™, or for added tuning quality try the GTR, BAS, or BFTS settings. (See also *Creating Sweeteners*.)

The methods above are within anyone's reach, all you need are your ears and StrobeSoft™!

** Please note that we have not referred to any method involving structural changes such as shortening the fretboard or relocating the nut. This is best discussed with a professional instrument technician.*



Intonating with the Buzz Feiten Tuning System® (Deluxe Version Only)

Using StrobeSoft™ with the Buzz Feiten Tuning System® *



StrobeSoft™ comes pre-loaded with all the open string and intonation settings for Buzz Feiten equipped instruments. There is no need to remember the offsets and load them manually. StrobeSoft™ has done all the work for you. Simply select the BFTS for either acoustic instruments, BFA, or electric instruments, BFE.

When tuning the open strings, please make sure the Buzz Feiten Sweetener is selected in the SWEETENER text box.

After you have completed your open string tuning with BFTS, you can proceed to intonate your instrument by clicking the INTONATE LED in the upper right of the instrument graphic.

For further information on Buzz Feiten please visit: www.buzzfeiten.com

*Buzz Feiten Tuning System® is a registered trademark of Buzz Feiten Design.

Intonating with Earvana™ (Deluxe Version Only)

Using StrobeSoft™ with the Earvana Compensating Nut™ *



If you are installing the Earvana™ Nut on an acoustic guitar there are a couple of things to consider. You cannot adjust the bridge without re-slotting and moving it. Most techs say the best results come when the bridge is moved forward. Many people buy these for acoustic guitars, it could involve a bridge re-slot, which costs more money, and is a modification best left to a professional technician.

What is recommended for the installation:

Check the intonation at the 12th fret before removing the existing nut. If the guitar reads sharp at the 12 fret with the original nut, you should not have to move the bridge forward. Even without moving the bridge, you will enjoy an improvement. You fine-tune an electric guitar much easier, quicker and inexpensively than an acoustic.

Also, when using a wound G-string the compensated G block on the nut top must be filed back. Recommendation is to start slow and check it on the tuner and play some chords as you file slowly back. Never go past the D string block! Generally most people find right even at the D string block sounds best. Work slowly. If you need assistance with this, please contact [Earvana™ tech support](#) or call 1-(805)459-3393.

Intonation is first set at the bridge in the conventional manner using StrobeSoft™ in either Chromatic mode or Instrument tune mode. The configuration at the bridge will definitely change with the Earvana™ Nut. It will flatten out.

Make sure all strings intonate correctly at the 12th fret. The next step is to adjust the nut to attain correct intonation at the 1st fret. A simple way to do this is to fret the Low “E”, then the High “E” string at the 1st fret (“F” note). The goal is to make the tuner read “00.0” cents flat or sharp at the 1st fret (“F” note). Adjusting the first fret on these two strings will automatically set the other strings. Make certain the tuner reads “00.0” cents sharp or flat when fretting these notes.

To find out more on the Earvana Tuning System please visit: www.earvana.com

*Earvana™ is a trademark of Earvana™ LLC.

Trouble Shooting

StroboSoft™ TroubleShooting

| PROBLEM | POSSIBLE SOLUTION |
|---|---|
| I can't see the ™offsets when I select a BFTS™ or Peterson Sweetener | The Buzz Feiten Tuning System™ or the Peterson Sweetened Tuning™ logo appears when these are selected because these are proprietary settings. |
| I am using a mono 1/8" to 1/4" adaptor and can't get any reading from StroboSoft™. | Make sure either the STEREO or the L/mono buttons are engaged under the <u>INPUT DEVICE</u> settings. |
| Some of the LEDs are hard to see. | You can also click on the text to activate the function. |
| I created a preset but now I can't find it. | All presets are recalled by clicking in the respective preset location. A drop down menu will appear. Select your stored preset from there. |
| I can't make any adjustments in StroboSoft™. | Is the POWER button on? StroboSoft™ will allow you to navigate through its 3 main function windows (Chromatic, Instrument, Set-Up) with the power off. Turn the power on and make sure the strobe display is on before making any adjustments. |
| I can't get the strobe to "cage" or stabilize. It moves too quickly for me to try and adjust my instrument. | Try reducing the <u>STROBE SPEED</u> slider located in the SET-UP page by moving it to the left. |

| | |
|--|--|
| <p>I can't get StrobeSoft™ to measure my mic'd instrument.</p> | <ul style="list-style-type: none"> • Make sure your input cabling is connected properly. • Look at the input LEDs. If they are barely moving raise your Windows microphone volume setting inside the Windows mixer. • Check the <u>SET-UP</u> page to make sure your sound card type is selected. • Use the <u>Noise Filter</u> to reduce the amount of background noise present in your computer. |
| <p>In INSTRUMENT MODE, I can't get StrobeSoft™ to measure anything but the open notes.</p> | <p>INSTRUMENT MODE was designed to assist with open note tuning and intonation settings. For regular chromatic tuning, use the CHROMATIC TUNE MODE.</p> |
| <p>I can't measure a particular note or string.</p> | <p>Try enabling <u>MANUAL NOTE SELECT</u> on the Chromatic Tune page or <u>MANUAL STR SELECT</u> on the Instrument Tune page for that particular note. This will allow StrobeSoft™ to "home-in" on that note for easier measurement.</p> |
| <p>I keep getting the "AUDIO DEVICE PROBLEM DETECTED" error.</p> | <p>Try reducing the buffer size (latency) of your sound card. This is done in your sound card's control panel.</p> |
| <p>In INSTRUMENT MODE, I can't get StrobeSoft™ to "cage" the display.</p> | <ul style="list-style-type: none"> • Do you have a sweetener engaged? <u>SELECT</u> the <u>SWEETENER</u> text box and disable by selecting Unsweetened. • Do you have a Global Offset applied? |

TROUBLE SHOOTING

If you are experiencing something that we have not covered in this troubleshooting guide, please email us at:

StroboHelp@petersontuners.com.

Upgrade StrobeSoft

Upgrading Standard Version (For StrobeSoft™ Standard users only)

There are two different ways you can upgrade your StrobeSoft™ Standard to the Deluxe version from the StrobeSoft™ interface.

1. **Click** on the  logo located at the bottom of every screen. A splash screen will open. In the bottom right corner of the screen there will be a  link. **Click** it and you will be taken to StrobeSoft™'s checkout page where the upgrade can be purchased.



2. **Click** on the **Set-up** button. The **SET-UP** tab in this window will display two icons that will assist you in upgrading your StrobeSoft™ Standard version. The  icon will take you to the checkout page where you could purchase the upgrade.



After Purchase:

After the purchase, you will be emailed a new SERIAL NUMBER. When you receive it, click the  icon. This will display the following message:



Click **OK** to clear your existing StrobeSoft™ unlock code. The next time you re-start StrobeSoft™ you will be prompted for the new UNLOCK code by this page:

Glossary

#

50/60Hz cycle hum: Noise caused by the mains power supply.

A

anchor note: The note in a temperament that remains at a zero offset.

ASIO: (Audio Streaming Input/Output) "Open standard" driver developed by Steinberg for use with virtual studio applications. Mostly used by Cubase. Low latency makes this a good driver choice over MME.

C

capo: A device for transposing a fretted string instrument such as the guitar.

cent: An audio frequency interval which is defined by the division of an equally-tempered semitone interval into 100 equal ratio steps.

chord: The sounding of two or more notes (usually at least three) simultaneously.

chromatic: Any music or chord that contains notes not belonging to the diatonic scale

chromatic scale: A scale which divides the octave into its semitones. There are twelve semitones, or half steps, to an octave in the chromatic scale.

concert pitch: The tuning pitch of an ensemble. Instruments in a band or orchestra tune to the concert pitch which is typically the universal standard A' = 440Hz. While concert pitch is non-transposing, a variety of wind instruments, such as the trumpet, clarinet, and horn are transposing instruments, indicating that the pitch A', as relating to that instrument, will not be sounded as an A' concert pitch but rather a pitch called an A' on that instrument. Thus, when a B-flat trumpet plays an A' (first and second valves), the instrument is actually sounding a G' concert pitch.

Core Audio: Mac OSX method of processing audio developed by Apple. There is no Core Audio Driver for PC.

D

db: Unit used to measure the intensity of a sound.

decibel: See db

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diatonic: The order of the octave based on five tones and two semitones. The major and natural minor scales and the modes are all diatonic. In the major scale, the semitones fall between the third and fourth tones and the seventh and eighth tones. In the minor scale, the semitones fall between the second and third tones and the fifth and sixth tones.

E

equal-tempered: Type of note scaling within a musical octave in which a perfect 2:1 octave frequency ratio is divided into.

equal temperament: A musical scale in which the scale notes are at equal ratios from one to the next.

F

flageolet: The harmonic or "chime" at the 12th fret used for intonation.

flat: An accidental symbol placed to the left of a note, indicating that its pitch should be lowered by a half step.

frequency: The number of vibrations per second of a musical pitch, usually measured in Hertz (Hz).

fret: A narrow strip of wood, ivory, or metal set into the neck of some stringed instruments (such as the guitar) which mark the exact points where the string should be "stopped" to produce the notes more brilliantly and in tune.

fundamental frequency: A base frequency from which a series of harmonics is produced.

H

half step: A semitone.

harmonic: The overtones that are present with any fundamental tone. That is, the series of sounds heard when any note is sounded, consisting of the original note, which is the fundamental or first harmonic, then the tone an octave above that called the first overtone (also called the second harmonic), then the fifth above the first overtone, then the perfect fourth above that, then the major third above that, etc., in increasingly smaller intervals.

hertz: The unit in which the frequency of a note is measured. One hertz is one cycle per second.

intonate: A term referring to the proper production of a tone so that it is exactly in tune.

intonation: How a given instrument plays in tune with itself; a guitar string should produce the same note played as a harmonic at the 12th fret as it does when you fret that string at the same place

K

key: A specific scale or series of notes defining a particular tonality.

key signature: The sharp, flat, or natural signs placed at the beginning of a staff indicating the tonality of the composition.

L

latency: A delay in time that is a combination of the sound card and the drivers.

line-level: A standard audio signal, such as from a CD player or electric guitar. It has a higher power rating than mic-level.

M

major scale: Term referring to a sequence of notes that define the tonality of the major scale. This series consists of seven notes: the tonic, followed by the next note a whole step up from the tonic, the third is a whole step from the second, the fourth is a half step from the third, the fifth is a whole step from the fourth, the sixth is a whole step from the fifth, the seventh is another whole step, followed by the tonic, a half step above the seventh. Thus the first and eighth tones are exactly an octave apart.

MIDI: Musical Instrument Digital Interface; protocol for controlling devices, such as synthesizers and sound cards, that emit music.

minor scale: The minor scale has the same tones as the major scale, but uses the sixth tone of the major scale as its tonic.

MME: (MultiMedia Extension) Standard Windows driver that sets the rules for recording and playback. This driver is slower since it is controlled by the operating system. Mostly all sound cards have MME drivers available.

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note: A particular string on an instrument.

Nyquist's Theorem: To accurately reproduce an analog signal, the digital sampling rate must be twice the frequency of the original signal.

O

octave: An interval spanning seven diatonic degrees, eleven semitones. The frequency of a note one octave above another will have exactly twice as many Hertz as the frequency of the note an octave below it.

offset: A setting that alters the original value.

omni-directional: Microphone pickup pattern that picks up sound from all directions.

open string: A pitch played on a string that is not stopped by the finger

oscilloscope: A device that displays how a voltage or current signal varies over time.

P

pitch: The specific quality of a sound that makes it a recognizable tone. Pitch defines the location of a tone in relation to others, thus giving it a sense of being high or low.

Pro-Tools: Audio recording/editing program used for Mac and PC.

R

root: The tonic or fundamental note of a chord.

S

sample rate: The frequency at which an analog audio stream is "sampled" or converted into digital. The higher the sampling rate, the closer the digital file will be to the original analog source resulting in higher quality.

scale: A series of notes in ascending or descending order that presents the pitches of a key or mode, beginning and ending on the tonic of that key or mode.

semitone: A half step; a minor second; the smallest interval in the system of Western music.

sharp: A symbol placed in front of a note-head which implies that the performer should raise the pitch of that particular note by a semitone.

Spectrum Analyzer: A device that displays an input frequency as a response curve in real time.

step: An interval of a second.

sweetener: A series of offsets designed to "sweeten" the sound of the tuning on a specific instrument.

T

temperament: Frequency scaling of the notes within a musical octave.

timbre: The "character" or quality of a sound, distinct from pitch and volume, which distinguishes one sound from another.

tone: The quality or character of a sound.

tonic: The note upon which a scale or key is based.

transpose: Taking a note in one key and putting it into another.

tune: The process of adjusting the pitch of an instrument to itself (to insure correct intonation) and to any other musician or ensemble. Once the process is complete an instrument is said to be "in tune".

W

WDM/KS: (Windows Driver Model with Kernal Streaming) Windows standard low latency driver similar to ASIO that accesses the device without going through the Window's operating system. Mostly used by Cakewalk.

whole step: An interval of two semitones, a major second.

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