peterson

StroboFlip™ OWNER'S MANUAL

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VS-F STROBOFLIP

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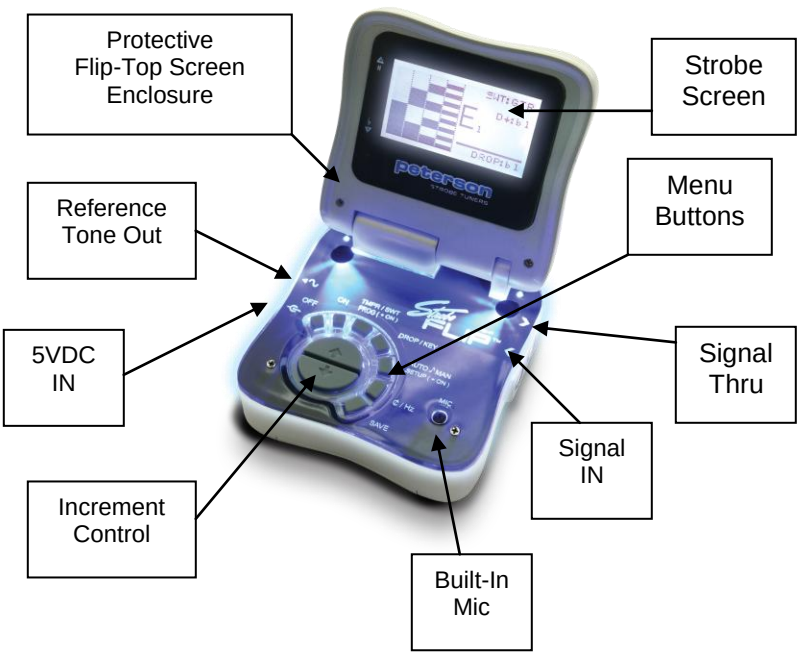
VS-F StroboFlip Instruction Manual

Congratulations on your purchase of the Peterson StroboFlip! As the latest product utilizing peterson's visionary Virtual Strobe Technology™, the concept behind this tuner is a true marriage of peterson's unsurpassed Rotating Strobe-Disc Tuning Technology with the latest advances in analog, digital, and display technologies available today.

Getting Started



VS-F StroboFlip™

Power

Your new StroboFlip™ is powered by 3 AA batteries. To change or access the batteries, press and carefully remove the battery access door on the underside of the tuner.

The StroboFlip 5V Adapter (item # 171500) allows you to power the StroboFlip from an AC source.

It is designed to work with any voltage standard such as 100V, 120V, 220V or 240V without adjustment. Owners who are residents of the UK, Republic of Ireland, Australia, New Zealand, Israel & Africa may need to acquire a plug adapter. The correct DC polarity is as follows:

A Brief Description of the Features

The Peterson StroboFlip is a compact hand-held tuner with an accuracy of 1/10th of one cent (1/1000th of one semitone or half step). It is also a programmable tuner, allowing you to program up to eight of your own tempered tunings as well as giving you access to 33 other preset temperaments and *Sweeteners™*.

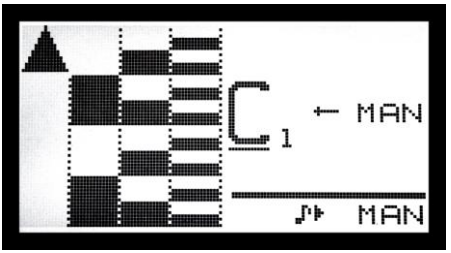
StroboFlip – Basic Use:

You can use your StroboFlip right out of the box.

Just lift the screen to a viewable angle, press the *ON* button and- using the built-in mic or plugging your instrument into the "INPUT" jack - play a note.

The resulting strobe image flows upwards to indicate that the note is sharp and downwards to indicate that the note is flat. The note is in tune when the image is immobile.

A "▲" sign to the left of the Virtual Strobe™ image means you're "way too sharp" and a "▼" sign means you're "way too flat".



If you wish to try out some of the StroboFlip's exclusive tuning presets, press the TMPR/SWT button & use the ↑↓ arrow buttons to select the various presets. For a description of these settings, see Page 14.

TP Tuning Pickup

Use the clip-on tuning pickup to improve signal transfer from instrument to tuner in noisy environments.

Simply attach the pickup to the instrument by clipping it onto the bridge, headstock, bell or lead pipe of the instrument to be tuned.

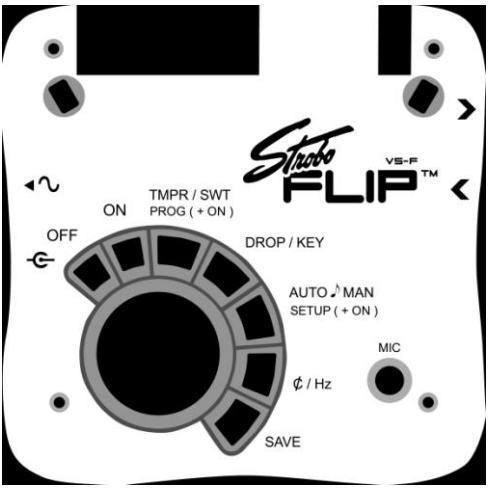
Pitch Holder ™

Use the mounting clamp to attach the tuner to a mic stand, music stand, rack case or workspace shelf to keep the tuner safely within easy reach.

Attach the Pitch Holder™ to the StroboFlip™ by inserting the screw into the camera-style socket in the base of the StroboFlip and tighten.

Changing the settings on your StroboFlip

Below the Strobe screen, in the body of the tuner, there are power off & on buttons and five “Menu” buttons.



By pressing each button in turn, you can see the various options offered by the **StroboFlip™.**
The screens are as follows:

Temperament/Sweetener™ - Choice of 42 (default is Equal Temperament)

Root - Choice of 12 (default is C). Available only if a temperament is chosen

Drop-Tune + Capo/Key Transpose – Choice of 12 (Factory default is 0 or C)

Cent Control – Range of +/- 50 cents in 0.1-cent increments

Concert A Reference – 390Hz to 490Hz (Factory default is A=440)

Auto/Manual Note Detection (Factory default is Auto)

Auto Power Off- 2 to 35 minutes or Disable (default is Disable)

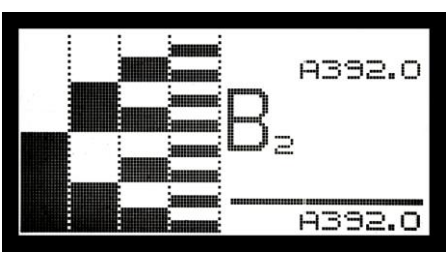
Temperament Base – A or C (default is A)

Save - Press the save button to save a particular parameter.

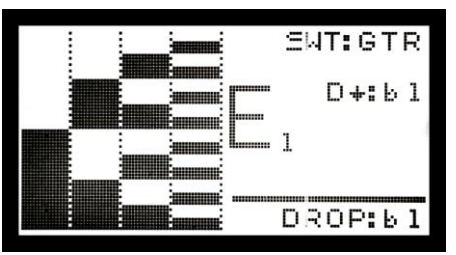
Two larger “Value” buttons marked with ↑↓ signs are located next to the Menu buttons

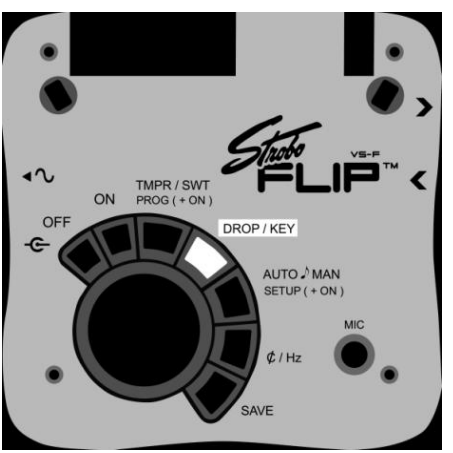
To change a setting or a parameter of a preset on the tuner, press the relevant Menu button and use the ↑↓ “Value” buttons to change that particular parameter.

Concert A Reference Range: 390Hz to 490Hz adjustable in 0.5Hz increments. Press the “Hz” button and use the t↓ buttons to adjust the Hertz value. To save the setting as your default, press the **Save** button.



Drop-Tune/Transpose – Unlimited Drop/Transpose any Sweetener™ to any key. Press the "DROP/KEY" button and use the ↑↓ buttons to adjust the Note Name/Drop Tune value. To save the setting as your default, press the **Save** button.





Temperaments

There are 16 temperaments (including 4 which are user-programmable) in your StroboFlip.

TEMPERAMENTS (All 12 notes are altered in pitch)

PRESET	TYPE	PRESET	TYPE
EQU	Equal	KLN	Kellner
JMA	Just Major	YNG	Young
JMI	Just Minor	VAL	Vallotti
4MT	Meantone ¼	RAM	Rameau
6MT	Meantone1/6	T-1	User Programmable Temperament
PYT	Pythagorean	T-2	User Programmable Temperament
WRK	Werckmeister III	T-3	User Programmable Temperament
KRN	Kirnberger III	T-4	User Programmable Temperament

Press the TMPR/SWT button and use the ↑↓ buttons to choose the desired temperament and press the **¢/Hz** button to exit the menu thereby activating the chosen Temperament.

Sweeteners™

There are 18 Sweeteners and 7 Buzz Feiten Tuning System® settings in your StroboFlip, including 4 which are user-programmable.

SWEETENERS (Some or all notes are altered in pitch)

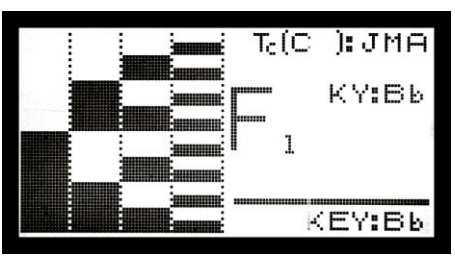
PRESET	TYPE	PRESET	TYPE
EQU	Equal Temperament	BF12↑	Buzz Feiten 12 String Octave
GTR	Sweetened Guitar	SE9	E9 Steel Guitar (Sharp E's)
ACU	Sweetened Acoustic	SC6	C6 Steel Guitar
DADGAD	Sweetened DADGAD	OE9	E9 Steel Guitar (E's 00.0 cent)
G12↓	12 String Standard	DBO	Perfect Thirds for Dobro
G12↑	12 String Octave	DB◑	Half Tempered Thirds for Dobro
BAS	Sweetened Bass	VLN	Perfect 5ths for Violin
BFE	Buzz Feiten Electric	VLA	Perfect 5ths for Viola
BF^{IN}	BFTS Electric Intonatipn	CLO	Perfect 5ths for Cello
BFB	Buzz Feiten Bass	T-1	User Programmable Sweetener
BFB^{IN}	BFTS Bass Intonation	T-2	User Programmable Sweetener
BFA	Buzz Feiten Acoustic	T-3	User Programmable Sweetener
BF12↓	Buzz Feiten 12 String Std.	T-4	User Programmable Sweetener

Press the TMPR/SWT button again to access the Sweeteners, again using the **↑↓** buttons to select one and press the **¢/Hz** button to exit the menu thereby activating the chosen Sweetener.

The tuner will remember whether you used the temperament or Sweetener™ menu last and will default to that menu automatically.

Key Control

This control is used to help players of non-C instruments such as saxophone (Bb), French horn (F) and trumpet (Eb) to transpose notes when reading from C notation.



Press the Drop/Key button and use the ↑↓ to select the required key.

To save this as your default, press the SAVE button.

Drop Tuning Control

For guitarists who wish to lower or raise their tuning without having to learn the new note names, the **DROP/KEY** control enables the renaming of the new pitches to be the same as the present ones.

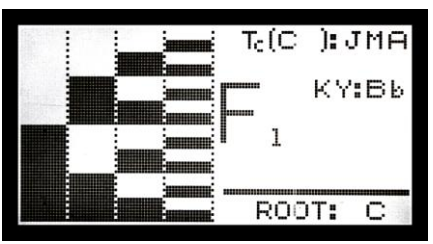
Press the **DROP/KEY** button and use the ↑↓ buttons to select the required drop tuning degree; ♭1 means one half-step down, ♭2 means one step down etc. CAPO +1 means capo at the first fret, CAPO +2 means capo at the second fret etc.

This is an intelligent control, which also recalculates the interval offsets to be correct for the new tuning*.

* The StroboFlip needs to be in Sweetener mode for this to work.

Temperament Root Control

This control is used to determine which note should be the tonic or “starting note” in a temperament. The default root of all temperaments is C, but this can be changed to any one of 11 other root notes.



When in the Temperament menu, press the **DROP/KEY** control twice (once for KEY, twice for ROOT)*

* The StroboFlip needs to be in Temperament mode for this to work.

ROOT is available as a separate control for the Temperament section only. When transposing a Sweetener, use the **DROP/KEY** button. This causes the Root to combine with the Key control enabling users to transpose any Sweetener™ while retaining the correct offsets using just one control.

Temperament Base Note

For temperaments, the StroboFlip™ offers a choice between Concert A or Root reference points. When Concert A is active, the tuner's reference point will be A4 at 440Hz or whatever Hz value you select (A440Hz is the default value).
When Root is selected, the tuner's reference point is whatever temperament root is active at any given time.
To select the base note, press and hold the SETUP button while you switch the tuner on.

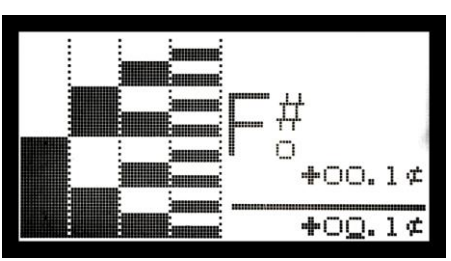
Press the SETUP button once more to access the TMPR-BASE screen.

Use the ↑↓ buttons to toggle between the two choices. Historic temperaments which are used in C should have an A base - but if you are a horn player practicing chord construction and harmony, choosing C base and Just Major or Minor will allow you to have root notes which are closer to fixed pitch instruments like piano, guitar etc. while allowing consonant intervals within the temperament itself.
Press the SAVE button to save the chosen value to memory.

*Only temperaments, not Sweeteners, are affected by this control.

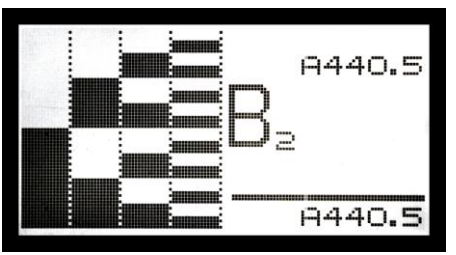
Cent/ Hz Control

Cents - Adjustable from + (plus) to – (minus) 50 cents in 0.1 cent increments.



Press the **¢/Hz** button and use the ↑↓ buttons to adjust the cent value.

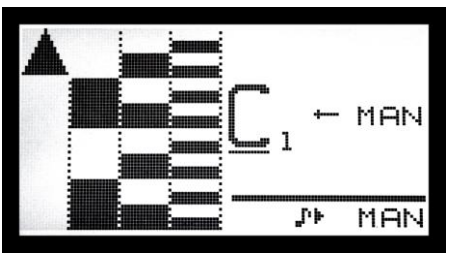
Hertz – This control is used to calibrate the tuner to a desired common standard pitch. The StroboFlip is adjustable in 0.5Hz increments from 390Hz to 490Hz.



Press the **¢/Hz** button again to access and use the ↑↓ buttons to adjust the Hz value. To save a Hertz value as a default value, press the Save button.

Auto/ Manual Note Detection Control

The StroboFlip™ can be set to detect and name incoming signals or allow the user to set a target note.

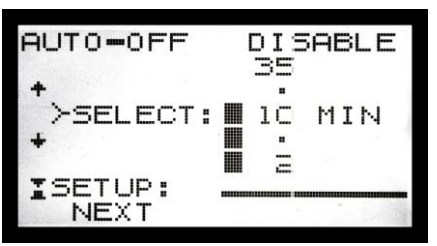


Press the Auto/ Man button and use ↑↓ buttons to select required mode.

Auto-Power-Off

Press and hold the SETUP button and switch the StroboFlip on.

The Auto-Power-Off screen appears.



Using the ↑↓ buttons, set the StroboFlip's Auto-Power Off timer to an operating time period between 2 and 35 minutes after which the tuner will shut down automatically, and press the SAVE button.

To disable this control, press the ↑ button until the indicator level reaches "DISABLE" and press the SAVE button.
The Tuner will now operate until it is manually switched off. The StroboFlip's factory default is "DISABLE".

A Word about Temperaments

Musical temperaments are systems used to determine where each note in the octave (12 notes) is to be placed in relation to the others.

The most commonly used temperament in modern music is the *Equal Temperament*, in which the "space" or *interval* between each note and its immediate neighbor is always 100.0 cents.

However, there are many other methods used to divide the octave. These temperaments are called Unequal. Press the Temp button and use the ↑↓ buttons to scroll through the different temperaments:

Equal: All intervals are exactly 100 cents wide.

Just Major (JMA): Just intonation is possibly the oldest known way of dividing the octave. The Just Major version features beatless major thirds, used to tune brass & woodwind ensembles.

Just Intonation is often called "Natural" tuning, because of its consonant intervals. It is usually used by brass players to enhance the sound of ensemble playing; elements of this are also used in choral intonation.

Just Minor (JMI): Beatless minor thirds, see above.

¼ Comma Meantone* (4MT): Meantone temperament, used for harpsichord.

1/6 Comma Meantone* (6MT): Meantone temperament used for early music instruments such as lute, viol, viola da gamba etc.

Pythagorean (PYT): Beatless fifths, introduced by Greek mathematician Pythagoras (569 – 475 BC)

Werckmeister III* (WRK): Introduced by German organist Andreas Werckmeister (1645 - 1706), for tuning organ and harpsichord. Flexible tuning by which some distant keys are playable. Each key retains a particular color.

Kirnberger III* (KRN): Composer, theoretician and student of Bach, Johann Philipp Kirnberger (1721-1783) conceived the Kirnberger temperament. It is often referred to as the simplest of temperaments, having no pure thirds except the C-E interval, thus lending itself to music written in C Major. Avoid pieces in B, F# or Db which were rare at the time of inception. For tuning organ and harpsichord.

Kellner (KLN): The original "*wohltemperirte Clavier" (well tempered)* tuning introduced by Bach in the early 1700s and rediscovered by Professor Herbert Anton Kellner in the 1970s. The well-tempered fifths are almost all equal, being reduced by 1/5 of a Pythagorean comma (4.7 cents).

Young* (YNG): Thomas Young (1773 – 1829) introduced the original RGB theory of color. Following that, he applied similar thought to musical temperament. C & F are stable and there are some particularly smooth sounding 3rds, 4ths and 5th scattered among the keys. Used widely in forte piano tuning and harpsichord.

Vallotti* (VAL): Francesco Antonio Vallotti's (1697-1780) well temperament for harpsichord is very close to Equal temperament. It is one of the mildest of the classic well temperaments.

Rameau* (RAM): This late French Baroque temperament by Jean-Philippe Rameau (1683 - 1764) is also known as *"Temperament Ordinaire"* and contains three beatless major thirds.

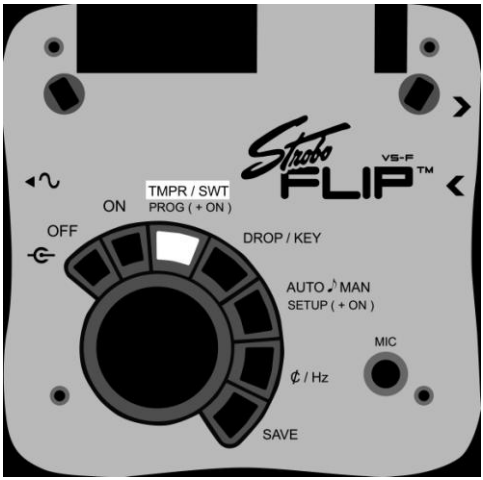
T-1: User Programmable Temperament
T-2: User Programmable Temperament
T-3: User Programmable Temperament
T-4: User Programmable Temperament

**Temperaments marked with an asterisk are often tuned using a Concert A setting of A=415Hz or A=392Hz depending on the period the music to be played was written in.*

A word about Sweeteners™

"Sweetener" is a more contemporary take on the term temperament and is used to describe a group of *twelve or fewer* notes which are precisely and individually adjusted in degrees of sharpness and flatness to sweeten the tuning of instruments using a Peterson tuner.

To access the Sweetener menu, press the TMPR/SWT button again.



Use the ↑↓ buttons to scroll through the different temperaments

Guitar (GTR™) Peterson guitar-specific Sweetener, which makes 4th & 5th intervals (as well as the G to B third) more consonant.

Acoustic (ACU™) Peterson acoustic guitar-specific Sweetener in the form of a unique stretch tuning.

DADGAD (DAD™) Peterson Sweetened Tuning for guitars tuned to DADGAD

G12↓ (G12↓ STD™) Peterson Sweetened Tuning for the 6 standard strings of 12-string guitars.

G12 (G12 OCT™) Peterson Sweetened Tuning for the 6 octave strings of 12-string guitars.

Bass (BAS™) Peterson bass guitar-specific Sweetener for use when playing with piano.

B^{F}-Elec (B^{F}E): Tempered tuning for electric guitars featuring the Buzz Feiten Tuning System® *****

B^{F}-Elec ^{IN} (B^{F}E^{IN}): Intonation offsets for electric guitars featuring the Buzz Feiten Tuning System®

B^{F}-Bass (B^{F}B): Tempered tuning for bass guitars featuring the Buzz Feiten Tuning System®

B^{F}-Bass ^{IN} (B^{F}B^{IN}): Intonation offsets for bass guitars featuring the Buzz Feiten Tuning System®

B^{F}-Acoustic (B^{F}A): Tempered tuning for acoustic guitars featuring the Buzz Feiten Tuning System®

B^{F}-12↓STD (B^{F}12↓) Tempered tuning for the 6 standard strings of 12-string guitars featuring the Buzz Feiten Tuning System®

B^{F}-12↑OCT (B^{F}-12↑): Tempered tuning for the 6 octave strings of 12-string guitars featuring the Buzz Feiten Tuning System®

PSG-SE9 (SE9): Sweetened tuning derived from the Jeff Newman system for pedal & lap steel guitar tuned to E9. The open E's are 9.8 cents sharp.

PSG-SC6 (SC6): Sweetened tuning derived from the Jeff Newman system for pedal steel guitar tuned to C6.

PSG-OE9 (OE9): Sweetened tuning derived from the Jeff Newman system for pedal steel guitar tuned to E9. The open E's are tuned straight up at 0.0 cents.

DOBRO® **- (DBO™) Sweetened Dobro Tuning (Pure 3rds for Open A, D or G tunings) - Please note: Tuning should be done in playing position.

DOBR◑®- (DB◑™) Sweetened Dobro Tuning (Half Tempered 3rds for Open A, D or G tunings) - Please note: Tuning should be done in playing position.

VIOLIN (VLN™) (C)GDAE in perfect 5th intervals for violin tuning (4 & 5 string violins) Please note: Tuning should be done by bowing, not by plucking the strings.

VIOLA (VLA™) CGDA in perfect 5th intervals for viola tuning. Please note: Tuning should be done with a bow.

CELLO (CLO™) CDGA perfect 5th intervals for cello tuning. Please note: Tuning should be done with a bow.

S-1: User Programmable Sweetener
S-2: User Programmable Sweetener
S-3: User Programmable Sweetener
S-4: User Programmable Sweetener

*Buzz Feiten Tuning System is a registered trademark of Buzz Feiten Design and has no affiliation with Peterson Electro-Musical Products, Inc.

** Dobro is a registered trademark of the Gibson Guitar Corp. and has no affiliation with Peterson Electro-Musical Products, Inc.

Temperament Root - This is the note at which the temperament starts (the tonic note of the tempered scale). The default root is C, but it can be altered to any one of 12 roots. The temperament is then automatically altered to reflect the new scale degree notes.
Temperament Base - This is the note by which the temperament takes its "Concert Pitch" reference. This can be C or A (default). The classical temperaments like Werckmeister III etc. are usually used with an A base. Sweeteners™ are not affected by the Temperament Base.

Setting guitar & bass intonation using your StroboFlip

After deciding on string gauge, setting string height (nut & bridge), neck relief, and all other factors that affect the guitars intonation considerably, the individual string lengths need to be adjusted. For this task, use Equal temperament in the StroboFlip's TMPR menu.

- Lower the pickups away from the strings to avoid "doubling" and electromagnetic pull.

- Lay the guitar 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 on the Strobe Tuner display; the less movement the more accurate the results.

A common technique in setting the intonation is the 12th fret & flageolet comparison method. In this method, the flageolet or "harmonic" of the 12th fret is compared to the fretted string at the 12th fret, and saddle position is adjusted as follows:

- If the fretted note is *flat* compared to the flageolet note, move the bridge saddle *forward* to shorten the string.

- If the fretted note is *sharp* compared to the flageolet note, move the bridge saddle *back* to lengthen the string.

- Adjust until both fretted note and flageolet 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. If flat, shorten the string by moving the saddle forward. 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, it yields very satisfactory results.

Now, depending on your own taste, tune your guitar using one of the StroboFlip's many Sweeteners™. Find out how your instrument can *really* sound!

The methods described above are within anybody's reach.

All you need are your ears and your peterson strobe tuner!

Please note that we have not referred to any method involving structural changes to the instrument. These are best discussed with a professional instrument technician.

Tuning Guitars

Peterson tuners are the most sensitive and accurate tuners in the world. They differ completely from digital/ needle tuners, so you need to interact differently with them.

Brush the string lightly with the flesh of your thumb; the StroboFlip™ requires very little signal to perform optimally. Pluck the string once, not repeatedly.

The StroboFlip's superior sensitivity means that the image of the string's signal appears IMMEDIATELY (without the time-lag common in digital tuners) and remains on the display longer. Always tune in the playing position, even when setting intonation.

If you're a 12 string guitar player, you can choose to use EQU to tune all 12 strings or assign a separate sweetener to both the standard and octave strings.

To use a StroboFlip Sweetener for Baritone guitars, select a drop-tune setting of +7 followed by the Sweetener of your choice.

Tuning Pedal Steel Guitars

Peterson tuners are the first and only tuners to contain specific tempered tunings for pedal steel similar to the settings popularized by Jeff Newman.
Generally speaking, these tunings should be executed with both A & B pedals depressed unless the guitar has minimal cabinet drop.
These presets are chromatic and are designed to cover both open strings, pedals and levers.
SE9 is a non-Equal temperament in which the E notes are 9.8 cents sharp
0E9 is a non-Equal temperament in which the E notes are at 00.0 cents
SC6 is a non Equal temperament for steel guitars using the C6th tuning.

Tuning Lap Steel Guitars

Many specially tempered lap steel tunings are available on our forum & website **www.petersontuners.com** .

Tuning Dobro® * or Resonator Guitars

The StroboFlip contains the first and only presets with pure and half tempered third tunings for resonator guitars. The following tunings are possible using either of the two presets:

Open A (A-C#-E-A-C#-E)
Open D (D-A-D-F#-A-D)
Open G (G-B-D-G-B-D)

Remember to tune with your instrument in the playing position.

* Dobro® is a registered trademark of the Gibson Guitar Corporation.

Tuning Violin, Viola or Cello

The StroboFlip™ contains the first and only preset pure fifths for violin, viola and cello. Tune using the bow, as plucking the strings does not allow for string deflection due to the weight of the bow.
For quick tuning in adverse conditions, plug the TP pickup into the StroboFlip and attach the pickup to the instrument to be tuned.

Tuning “Early Music” instruments

The StroboFlip’s long list of classical temperaments can be put to good use for instruments such as harpsichord, lute, and viola da gamba. Remember to change the concert pitch to suit the relevant instrument or period of music. Common Early Music concert pitch is A=415Hz, but 392Hz and 430Hz are also widely used. The StroboFlip’s concert pitch reference is adjustable in 0.5Hz increments from 390Hz all the way to 490Hz. The Meantones (1/4 & 1/6) are widely used for these instruments.

Tuning Brass & Woodwind Instruments

Use the StroboFlip’s built-in microphone to pick up the instrument’s sound. In noisy environments, attach the TP tuning pickup to your instrument’s lead pipe or bell and plug the other end into the tuner. Try a few locations on the instrument to get the best results.

Tuning Bagpipes

For Great Highland Bagpipes, set the base note & root to A, change the Concert A reference to 476Hz (or whatever the Pipe Major’s standard is) and select the Just Major preset (JMA). Attach the Peterson TP pickup to the drones and then to the chanter to tune.

For Uilleann, Border, Welsh & Biniou Pipes, set the base note to A, the root to D, change the Concert A reference to 440Hz and select the Just Major preset. Attach the TP tuning pickup first to the drones and then to the chanter to tune.

Tuning acoustic instruments in general

Unamplified acoustic instruments can be tuned using the StroboFlip’s built-in mic or alternately the Peterson TP clip-on tuning pickup which senses the instrument’s signal.

An external microphone with a ¼” plug can also be used.

Instruments tuned to an unknown or fixed Concert A setting.

Play a note on the instrument that is central relative to the complete range of notes playable. While the note is sounding, press the Hertz button and adjust the StroboFlip's Concert A value until the Strobe image stops moving.

The StroboFlip is now correctly calibrated to the instrument in question and can be used to tune other instruments so that they are also in tune with this instrument.

Programming your own temperaments

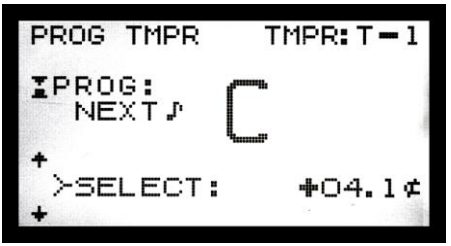
The StroboFlip™ offers the ability to program four custom user-designed temperaments.

Put the StroboFlip into Program mode by pressing and holding down the PROG button while you switch the tuner on.

Using the ↑↓ buttons, choose either T-1, T-2, T-3 or T-4 programmable temperaments if you need separate control over root and key parameters. Choose S-1, S-2, S-3 or S-4 to have the root and key combined resulting in a simpler "drop or capo tune" function.

Press the PROG button once more to begin.

The note C will be the first note to be shown, use the ↑↓ buttons to enter the desired offset value (if any) for the note C.



To advance to the next note, press the PROG button again and enter the cent value for this note as above. Repeat until all offsets are entered.

To save the settings, press the **Save** button.

Press the SAVE button once more to confirm, or press PROG to return to programming.

Press the SAVE button once more to save the offsets you entered to memory

Audio Reference Signal

Audio reference signals (C4 to B4) are available from the Audio Out jack socket on the left hand side of the StroboFlip™. Plugging a cord with a 1/8th inch (3.5mm) jack into the socket activates the tone, which can then be plugged into any amplifier via the other end of the cord. Set the Auto/Man control to MAN and scroll up to A4 using the ↑↓ arrow buttons. Always set the amplifier's volume to zero before plugging in. This signal can also be used to calibrate a software tuner like Peterson StroboSoft™, thus eliminating computer sound card errors.

NOTE: Others may use your tuner, please make sure they know when it is not in default mode, to avoid detuning on a standard instrument.

Tips to keep your instrument in tune

1	Wash your hands before playing
2	Allow the instrument to reach room temperature before tuning
3	Always tune *up* to the target pitch, never down
4	Keep the instrument at a constant temperature while playing
5	Check your tuning frequently
6	Wipe down your instrument with a cloth after playing
7	Change strings as frequently as your budget allows
8	If changing string type/gauge, re-intonate/regulate the instrument
9	On fretted instruments, check for fret wear
10	Clean your instrument regularly and thoroughly
11	On stringed instruments, keep bearing edges lubricated
12	On wind instruments, keep keys/valves lubricated, check pads.

PETERSON STROBOFLIP OFFSETS

TMPR/SWT	PRESET	C	C#	D	D#	E	F	F#	G	G#	A	A#	B	E▲
EQUAL	EQU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DADGAD	DAD	0.0	0.0	-0.6	0.0	0.0	0.0	0.0	-1.2	0.0	1.1	0.0	0.0	0.0
PSG-SE9	SE9	-17.8	-5.9	5.9	-3.9	9.8	-17.8	5.9	5.9	-3.9	3.9	9.8	7.9	9.8
PSG-SC6	SC6	9.8	-17.8	-5.9	9.8	-3.9	5.9	-13.8	7.9	9.8	-5.9	0.0	-5.9	-3.9
PSG-OE9	OE9	-27.6	-15.7	-3.9	-13.7	0.0	-27.6	-3.9	-3.9	-13.7	-5.9	0.0	-1.9	0.0
DOBRO·P	DBO	0.0	-13.7	0.0	0.0	0.0	0.0	-13.7	0.0	0.0	0.0	0.0	-13.7	0.0
DOBR◑••½T	DB◑	0.0	-6.8	0.0	0.0	0.0	0.0	-6.8	0.0	0.0	0.0	0.0	-6.8	0.0
VIOLIN	VLN	-5.7	0.0	-1.9	0.0	1.9	0.0	0.0	-3.8	0.0	0.0	0.0	0.0	1.9
VIOLA	VLA	-5.7	0.0	-1.9	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	0.0	0.0
CELLO	CLO	-5.7	0.0	-1.9	0.0	0.0	0.0	0.0	-3.8	0.0	0.0	0.0	0.0	0.0
JUST•MAJ	JMA	15.6	-13.7	19.6	31.2	1.9	13.7	-15.7	17.6	-11.8	0.0	33.3	3.9	1.9
JUST•MIN	JMI	15.6	48.8	19.6	31.2	1.9	13.7	46.9	17.6	29.3	0.0	33.3	3.9	1.9
4•MTONE	4MT	10.3	-13.7	3.5	20.6	-3.4	13.7	-10.2	6.9	-17.1	0.0	17.1	-6.8	-3.4
6•MTONE	6MT	4.9	-6.5	1.6	9.8	-1.6	6.5	-4.9	3.3	-8.1	0.0	8.2	-3.2	-1.6
PYTHAGRN	PYT	-5.9	7.8	-2.0	-11.8	2.0	-7.8	5.9	-3.9	9.8	0.0	-9.8	3.9	2.0
WERCKMST	WRK	10.3	0.5	3.4	4.4	2.0	8.3	-1.5	6.8	2.4	0.0	6.3	3.9	2.0
KIRNBRG	KRN	11.7	1.9	3.9	5.8	-2.0	9.8	2.0	7.8	3.9	0.0	7.8	0.0	-2.0
YOUNG	YNG	5.8	-4.0	2.0	-0.1	-1.8	3.9	-6.1	3.9	-2.0	0.0	1.9	-3.7	-1.8
KELLNER	KLN	8.2	-1.6	2.7	2.3	-2.7	6.3	-3.5	5.5	0.4	0.0	4.3	-0.8	-2.7
VALLOTTI	VAL	5.9	0.0	2.0	3.9	-1.9	7.9	-1.9	3.9	2.0	0.0	5.9	-3.9	-1.9
RAMEAU	RAM	10.3	-1.5	3.4	8.3	-3.4	13.7	-4.9	6.8	3.4	0.0	11.7	-6.9	-3.4

Pure Just Major & Just Minor Tuning Tables

These charts give the correct offsets for 12 major & minor keys in Just Intonation.

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Strobe Tuners

www.PetersonTuners.com

Diatonic Major Scales – Just Temperament Tuner Offsets

Note	Scale Degree	Cent Offset	Key	Key	Key	Key	Key	Key	Key	Key	Key	Key	Key	Key
DO	Tonic (root)	00.0	A	A♯	B	C	C♯	D	D♯	E	F	F♯	G	G♯
RE	Super Tonic	+04.0	B	C	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯
MI	Mediant	-13.6	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯	B	C
FA	Sub Dominant	-01.9	D	D♯	E	F	F♯	G	D♯	A	A♯	B	C	C♯
SO	Dominant	+02.0	E	F	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯
LA	Sub Mediant	-15.6	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯	E	F
TI	Leading Tone	-11.7	G♯	A	A♯	B	C	C♯	D	D♯	E	F	F♯	G
DO	Tonic (root)	00.0	A	A♯	B	C	C♯	D	D♯	E	F	F♯	G	G♯

*A♭, B♭, and E♭ appear as G♯, A♯ and D♯ respectively as displayed on the Strobe Tuner screen.

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Strobe Tuners

www.PetersonTuners.com

Diatonic Minor Scales – Just Minor Temperament Tuner Offsets

Note	Scale Degree	Cent Offset	Root	Root	Root	Root	Root	Root	Root	Root	Root	Root	Root	Root
DO	Tonic (root)	00.0	A	B♭	B	C	C♯	D	E♭	E	F	F♯	G	A♭
RE	Super Tonic	+04.0	B	C	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯
ME	Mediant	+15.7	C	C♯	D	D♯	E	F	F♯	G	G♯	A	A♯	B
FA	Sub Dominant	-01.9	D	D♯	E	F	F♯	G	G♯	A	A♯	B	C	C♯
SO	Dominant	+02.0	E	F	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯
LA	Sub Mediant	+13.7	F	F♯	G	G♯	A	A♯	B	C	C♯	D	D♯	E
TE	Sub Tonic	+17.7	G	G♯	A	A♯	B	C	C♯	D	D♯	E	F	F♯
DO	Tonic	00.0	A	A♯	B	C	C♯	D	D♯	E	F	F♯	G	G♯

*A♭, B♭, and E♭ appear as G♯, A♯ and D♯ respectively as displayed on the Strobe Tuner screen.

StroboFlip™ FAQ

Q. I'm a guitar player who tunes to low C (4 half steps down). Can I still use the Sweeteners™ (like GTR)?

A. Yes, just press the TMPR/SWT button, select GTR using the ↑↓ buttons, press the DROP/KEY button, select ♭4 (Flat 4), then press SAVE and you're done.

Q. I play a 5-String violin, does the VLN preset allow for that?

A. Yes, low C is pre-programmed to be a perfect fifth below G.

FAQ Continued

Q. **I play pedal steel guitar, how do I get the tuner to always power up with the E9 Sweetener active?**

A. Press the TMPR/SWT button, use the ↑↓ buttons to select SE9 and press the SAVE button. The StroboFlip will now power up with the E9 preset active. If you play a double neck steel guitar and also need to tune the C6 neck, just press the TMPR/SWT button again and select SC6.

Q. **What Sweetener should I use when I set the intonation on my guitar?**

A. It is recommended that Equal temperament be used for setting intonation. After the intonation has been set, choose a Sweetener to tune the guitar.

Q.Why are there only two Dobro/Resonator presets for three tunings and what is the difference between them?

A. Each preset contains the relevant altered thirds for all three tunings. All other notes are unaffected, so you don't need to adjust the tuner even if you switch from open G to open D.
The difference between the two presets is that in **DBO***, all thirds are pure but in* **DB◑** *, they are half-tempered.*

Q. **How do I use this tuner to tune piano?**

A. You can use StroboFlip to tune the temperament octave (C4 to C5)
However, full piano stretch tuning functionality is available only on the Peterson AutoStrobe™ 490ST.

Q. **Will the StroboFlip hold its memory when I take the batteries out ?**

A. Yes, the StroboFlip requires no "battery back-up" to hold its memory indefinitely.

Q. **When would I need to change the "base note" to Concert C or A?**

A. If you're someone who uses classic temperaments (Werckmeister, Vallotti etc.), choosing A as your base note will mean A=440Hz (or whatever Hz value you choose for Concert A), therefore the A will be "anchored" at that Hertz value.
Choosing a base note of "ROOT" means that whatever temperament/root combination you choose, the root note will be equally tempered and all other intervals will be calculated from that note.

Q. Can the StroboFlip™ be used for Tap-tuning?

A. You can try, but we generally recommend our true mechanical spinning disc strobe tuners for this application. They are traditionally the most favored tuner for tap-tuning.

FAQ Continued

Q. **Sometimes I see an arrow beside the note E on the display, what does it mean?**
A. The arrow denotes the "High" E on a guitar.

Q. **I'm tuning my guitar and I can't seem to get the strobe image to stop moving.**
A. If you're someone who has never used a strobe tuner before, here are a few tips:
1.)As you may have figured out, the display scrolls up when the string is sharp, and down when it is flat.

2.) The individual vertical bands represent different octave ranges. There are 4, and ideally you will focus on making the left most band stand still, although you will notice the others slow to a stop as well.

3.) It is best to not use a pick. Use the fleshy side of your thumb and gently pluck the string.

4.) Unlike needle and LED tuners, you do not need to pluck the string repeatedly. You can generally pluck the string once every 5-7 seconds or until you can no longer hear the sustain of the note.

5.) Sometimes it helps to turn the guitar's volume pot down to about 1/4 to 1/2 of it's full potential. Not much signal is required to get a very accurate reading.

6.) Make very slight adjustments to your tuning pegs until the strobe display stops moving. There will be random shifts every once in awhile; this is normal. The tuner is hearing everything that your pickups are giving it... noises and all. When you have the display standing still, or extremely close to standing still, you are within 1/10th of a cent.

Remember, this is about 30 times more accurate than any other tuner, so your adjustments need to be that much more precise.

Warranty

We warrant this product to be free of defects in materials or workmanship for a period of one year after delivery to the original purchaser. Our obligation under this warranty is limited to the replacement or repair of any part or parts which prove upon our examination to be defective.

This warranty does not apply to damage resulting from transportation, misuse, abuse, or alteration. The complete unit must be returned to our factory, transportation charges prepaid. In order to speed the return of the unit to you, it is recommended that for all repairs, other than those required as a result of shipping damage, you deal directly with our factory. In case of damage in shipment, a claim should be filed with the carrier. Be sure to include a brief description of the difficulty you are experiencing and your return address.
The above warranty is contingent upon registration within 10 days of the date of receipt of the product by the original purchaser. The warranty conveys specific legal rights to the purchaser, other rights vary from state to state and internationally.
Warranty registration is online at http://www.petersontuners.com/support/register/index.cfm

StroboFlip SPECIFICATIONS

Manufacturer:	Peterson Electro Musical Products, Inc.
Phone/Fax	1 708-388-3311 / 708-388-3341
Website:	www.PetersonTuners.com
E-Mail:	info@PetersonTuners.com
Accuracy:	0.1 Cent or within 1/1000th of one semitone (1/10th of one cent) over the entire range.
Range:	16Hz to 3.6KHz
Sensitivity:	± 1mV to 5V
Power:	3 x AA batteries or 5VDC adapter.
Temperaments/ Sweeteners:	33 presets, 8 user programmable
Concert A range:	390Hz to 490Hz (adjustable in 0.5Hz increments)
Features:	Exclusive Virtual Strobe Technology™ - Real-Time Operation .
Weight:	0.66 lbs. / 0.29 kg.
Dimensions:	3.5" x 3.5" x 1.6" /89mm x 89mm x 40mm