THE ACCELERATING METRONOME

version 1.9.1

software for the practicing musician

USER'S GUIDE

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THE ACCELERATING METRONOME
software for the practicing musician

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The Accelerating Metronome
version 1.9.1
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created using Synthmaker 1.1.7

SYSTEM REQUIREMENTS

Processor: Pentium III/AMD with SSE support
Speed: 1200 MHz
Memory: 256 MB RAM
Operating system: Windows 7/Vista/2000/XP

DISCLAIMER

This software (The Accelerating Metronome) is provided "as is"
without warranty of any kind. The author makes no guarantee of
correctness, accuracy, reliability, safety or performance. The user
alone is responsible for determining if this software is safe for use in
their environment. Neither the author nor anyone else who has
been involved in the creation or delivery of this product shall be
liable for any direct, indirect, consequential, or incidental injury or
damages arising from the use or inability to use such product.

INSTALLATION

To install the Accelerating Metronome, simply double-click the file *AcceleratingMetronome_v1.9.1_Setup.exe* and follow the instructions.

On the last page of the install procedure, you will have a chance to view the .pdf version of this User's Guide. You will also see a checkbox prompting whether or not you want to launch the Accelerating Metronome program upon completion of the installation.

A shortcut to the program will be installed on the desktop. The Start menu will contain shortcuts to the program, the User's Guide and the Uninstaller.

UNINSTALLATION

If you decide to uninstall the Accelerating Metronome for some reason, use the Uninstall shortcut in the Start menu.

THE FREEWARE VERSION

This User's Guide describes the FULL version, FREE version, and TRIAL version of the Accelerating Metronome v 1.9.1; any features which are not available in the free version are indicated in the guide.

Unlike some other software, the FREE version of the Accelerating Metronome does not contain any nag screens, and there is no 30-day time limit... enjoy! The TRIAL version is fully functional for 30 days.

The following features are available only in the full version:
- Hotkey controls including Tap Tempo
- Save & Load parameters
- Autosave & Autoload
- 4 selectable Background colours
- 4 selectable Tones
- Reverse Tempo button

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INTRODUCTION

The Accelerating Metronome is a software metronome for the practicing musician. Before the invention of the Accelerating Metronome, a typical speed-building practice session might have went something like this:

1) Choose a riff or skill to work on (for example, a double-kick drum pattern, or alternate-picking the 4-octave chromatic scale).
2) Start the metronome at a slow, manageable pace, playing the riff with attention to detail and proper technique, etcetera.
3) When this has become easy, increase the metronome speed by a few beats per minute, probably 5 or 10 bpm each time. (This means you must stop playing your instrument, stop the metronome, meticulously adjust the speed setting, and restart the metronome... a whole lot of button pushing. How tedious!)
4) Repeat step 3 many times, interrupting your practice each time to make the metronome adjustments.

Oh, the torture! The Accelerating Metronome alleviates this sort of tedium, allowing you to stay focused on sharpening your dexterity and technique. You specify the Start Tempo and End Tempo, and how many minutes the acceleration should take; the Accelerating Metronome automatically speeds up (or slows down, depending on the parameters you provide) in a smooth and thorough tempo curve.

The benefits of practicing with a smoothly accelerating tempo are enormous! The musician is exposed to a continuous, *thorough* gradient of tempos, rather than skipping forwards or backwards by such a wide interval as 10 bpm and missing out on all of the in-between speeds.
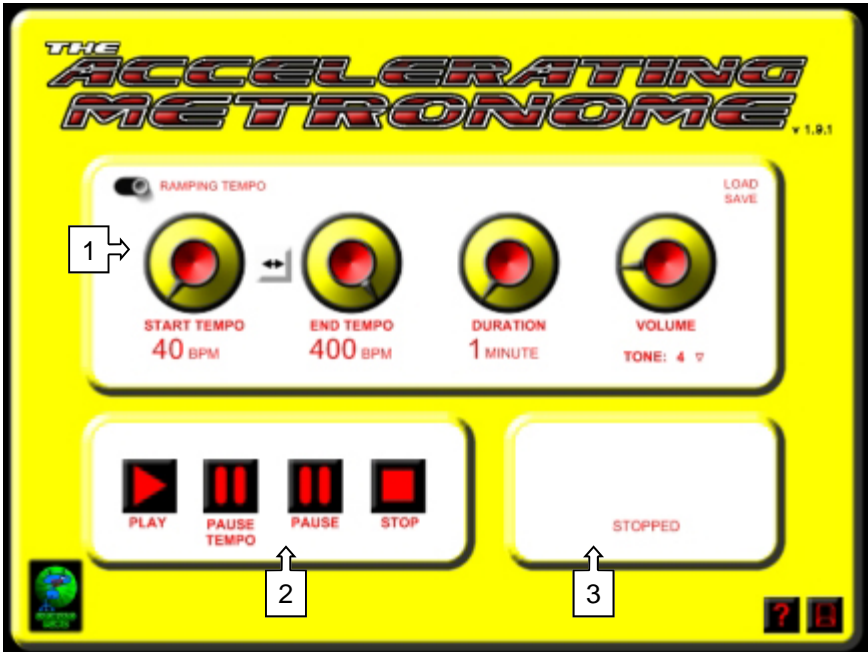
The Accelerating Metronome is versatile and easy-to-use. During your practice session, you can pause the acceleration if you want to spend more time at the current tempo. If you want to take a break, there is a pause button which stops the beep and waits at the current tempo. If your technique has gotten out of control at the higher speeds and you'd like to slow back down a bit, you can "jog"* the tempo progression backwards to a more manageable level and resume acceleration from there. Most functions are accessible by hotkeys* so you don't have to mess around with the mouse.

And, of course, if you want to practice at a constant tempo like a traditional metronome, the Accelerating Metronome does this as well.

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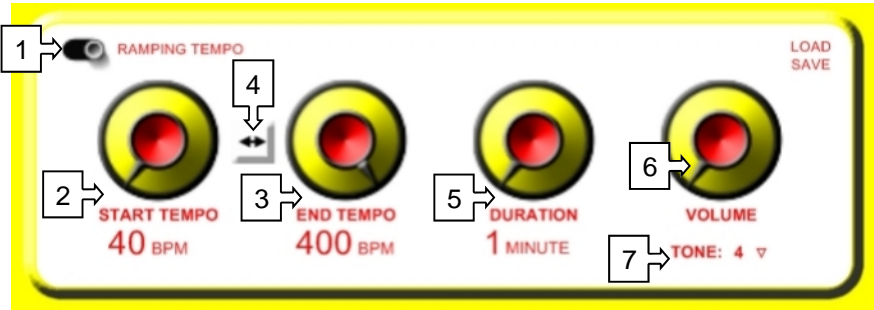* Not available in the Free version.

MAIN PANEL

The Accelerating Metronome's panel is divided into 3 main sections: PARAMETERS, TRANSPORT, and INDICATOR.

1	PARAMETERS	The PARAMETERS section is where you specify the behaviour of the metronome.
2	TRANSPORT	The TRANSPORT section is used to operate the metronome in a manner similar to a tape deck or CD player.
3	INDICATOR	The INDICATOR section provides feedback to the user during use.

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PARAMETERS SECTION

The PARAMETERS section is where you specify the Accelerating Metronome's behaviour.

1	MODE	*(select Ramping Tempo or Constant Tempo)*
		RAMPING TEMPO: The metronome will smoothly accelerate from the *Start Tempo* to the *End Tempo* over the time period specified by the *Duration* parameter. The beep changes to a higher pitch to indicate when the *End Tempo* has been reached.
		CONSTANT TEMPO: The metronome will beep at a steady tempo like a traditional metronome, with no acceleration; the *End Tempo* and *Duration* controls become unavailable, and appear dimmed on the front panel. "CONSTANT TEMPO MODE" appears in the indicator area.
2	START TEMPO *hotkey: <Z>*	*(range: 40-400 bpm)* Turn the dial to set the *Start Tempo;* you can also click the text and type in a new value, or tap <Z>* repeatedly at the desired speed.
3	END TEMPO *hotkey: <X>*	*(range: 40-400 bpm)* Turn the dial to set the *End Tempo;* you can also click the text and type in a new value, or tap <X>* repeatedly at the desired speed.
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* Hotkeys are not available in the Free version.
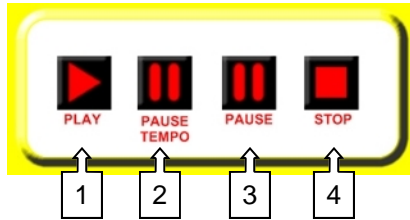
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	Note: When you adjust the *Start Tempo* or *End Tempo,* two things will happen: The message "CALCULATING ACCELERATION CURVE" will appear in the indicator area. See page 13 for more information. If you adjust the *Start Tempo* or *End Tempo* partway through an accelerating practice session, the tempo will reset to the new *Start Tempo* and restart acceleration.	
4	REVERSE TEMPO* *hotkey: <R>*	Press the *Reverse Tempo* button to reverse (trade) the *Start Tempo* and *End Tempo* values. Pressing *Reverse Tempo* partway through an accelerating practice session will reverse the direction of acceleration without resetting to the *Start Tempo.*
5	DURATION	*(range: 1-60 minutes)* Turn the dial to set the *Duration;* you can also click the text and type in a new value. This is how long it takes to go from the *Start Tempo* to the *End Tempo.* Changing the *Duration* parameter partway through an accelerating practice session will not reset to the *Start Tempo. Duration* values are approximate.
6	VOLUME *hotkey: <↑,↓>*	*(range: 0-100%)* Turn the dial to adjust the loudness of the metronome's beep.
7	TONE*	*(select 1, 2, 3, or 4)* Click the triangular arrow to activate a dropdown menu and select from 4 different beep tones. Tone 1 is the mellowest; tone 4 is the brightest.

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* Not available in the Free version.

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TRANSPORT SECTION

The TRANSPORT section is where you control the Accelerating Metronome's operation by pressing buttons, much like a traditional cassette deck or CD player.

1	PLAY	Pressing PLAY will cause the metronome to start beeping at the *Start Tempo* and, if the mode is set to Ramping Tempo, gradually accelerate (or decelerate) towards the *End Tempo.* Pressing PLAY again while the metronome is already accelerating will cause the tempo to reset to the Start Tempo and restart the acceleration process.
2	PAUSE TEMPO *hotkey: <P>*	Pressing PAUSE TEMPO while the metronome is accelerating will cause the tempo to stop accelerating and stay steady at the current tempo. The beep will change to a lower pitch to indicate that the tempo is paused. Press PAUSE TEMPO again to resume acceleration. Pausing the tempo while the metronome is stopped (or paused) will allow you to start the metronome but make it wait for you to press PAUSE TEMPO again before starting the acceleration.
3	PAUSE *hotkey: <SPACEBAR>*	Pressing PAUSE while the metronome is accelerating will cause the acceleration to pause at the current tempo, and the beeping will stop. Press PAUSE again to resume. Pressing PAUSE while the metronome is stopped has the same effect as pressing PLAY.
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* Hotkeys are not available in the Free version.

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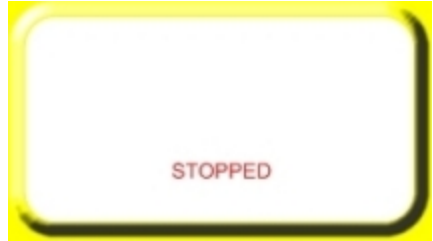| ...continued from previous page |
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4	STOP	Pressing STOP will cease acceleration, reset the current tempo to the *Start Tempo,* and stop the metronome's beep. If PAUSE TEMPO was previously activated, it will be cancelled. Some of the Accelerating Metronome's functions are only available when the metronome is stopped: these are the HELP SCREEN* and Background Colour adjustment*.

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* Not available in the Free version.

INDICATOR SECTION

The INDICATOR section is where the Accelerating Metronome provides feedback to the user.

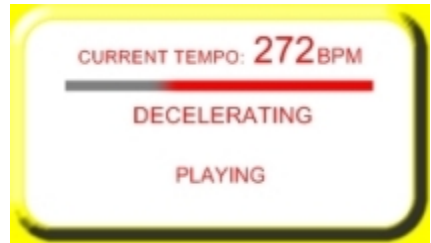When the metronome is stopped, you'll see this: ⟶

When the metronome is accelerating, you'll see something like this: ⟶

As acceleration progresses, the Current Tempo value will increment, and the grey progress bar will fill with red, towards the right.

If your *Start Tempo* is faster than the *End Tempo,* deceleration will occur instead of acceleration, like this: ⟶

The progress bar fills with grey to the right as the Current Tempo value decreases.

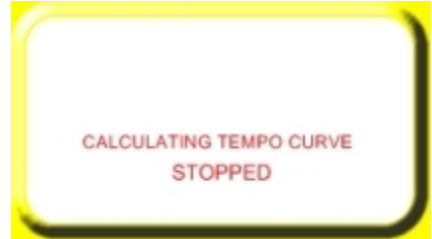When the metronome is paused, the display will change thusly: ⟶

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If the PAUSE TEMPO button has been pressed, the words "TEMPO PAUSED" will flash on and off: ─────────────►

The beep will also change to a lower pitch when this happens.

CURRENT TEMPO: **318** BPM

TEMPO PAUSED

PLAYING

After changing the *Start Tempo* or *End Tempo,* the metronome takes a moment to calculate a smooth acceleration curve. While this is happening, the words "CALCULATING TEMPO CURVE" will flash on and off: ─────────►

CALCULATING TEMPO CURVE
STOPPED

When the *End Tempo* has been reached, the words "REACHED END TEMPO" will appear: ────────►

The beep will also change to a higher pitch when this happens.
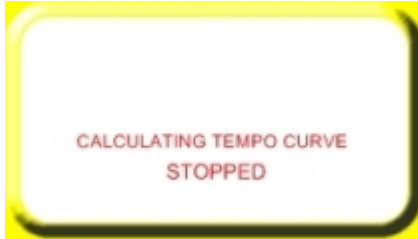
CURRENT TEMPO: **400** BPM

REACHED END TEMPO

PLAYING

When the hotkeys* have been disabled, a message will appear in the lower right corner: ─────────►

STOPPED

HOTKEYS DISABLED

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* Hotkeys are not available in the Free version.

CALCULATING TEMPO CURVE

Every time you change the Start Tempo or End Tempo parameter, you'll see the message "CALCULATING TEMPO CURVE" flashing in the Indicator area.

What does this mean?

Well, imagine that the tempo changed by 1 bpm every second. Accelerating from 40 bpm to 41 bpm in one second is a change of 2.5% per second ($1 \div 40 = 0.025$). If the tempo continued to change by 1 bpm every second all the way up to 400 bpm, the rate of change would only be 0.25% per second ($1 \div 400 = 0.0025$) approaching the end of acceleration. This would provide a skewed tempo experience for the practicing musician, with too much time being spent at the higher tempos and not enough time at the lower tempos.

Not good.

Instead, the Accelerating Metronome uses a smooth "Tempo Curve" which delivers a *constant percentage* tempo change for a more evenly distributed acceleration experience. This curve must be specially calculated for any set of *Start Tempo* and *End Tempo* parameters, and that is why you see the message "CALCULATING TEMPO CURVE" every time you adjust the *Start Tempo* or *End Tempo.* Acceleration will be paused while the calculation is being performed, which only takes a couple of seconds at the most.
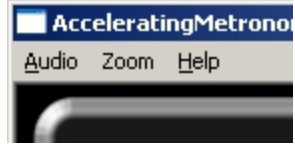
DROPDOWN MENUS

There are 3 dropdown menus at the top of the screen: ──────────→

The Audio menu is where you select your soundcard. You'll need to select your soundcard before using the Accelerating Metronome.

The Zoom menu allows you to change the size of the metronome on the screen. You can change the size of the metronome from 25% (smaller) to 200% (larger).
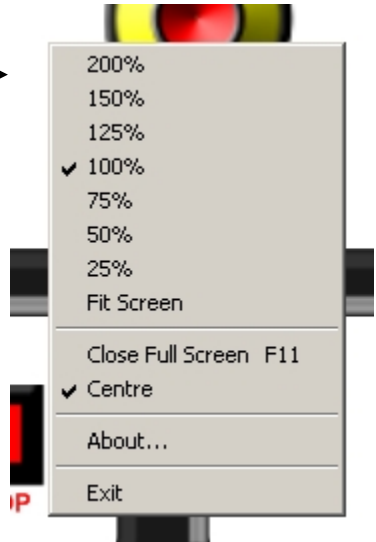
The Help menu contains the About box.

RIGHT-CLICK MENU

In both normal screen and Full Screen mode, right-clicking with the mouse will bring up a menu: ──────→

Zoom, Full Screen, About, and program Exit options are available.

HOTKEYS*

Instead of being confined to using the mouse for all of the Accelerating Metronome's various functions, you can use the keys on your computer keyboard to control many of the program's features. These are known as *hotkeys.*

Z	START TEMPO Tap <Z> repeatedly at the desired speed, and the Start Tempo parameter will change to match your tapping. Since the tapped tempo calculation is averaged over time, you can expect a more accurate setting by tapping for a longer period of time, depending on the steadiness of your key-tapping. The tap-tempo's averaging calculator resets itself after about 2 seconds of no-tapping, so if you change your mind drastically about what tempo you want to tap in, you may want to stop tapping for a couple seconds and then tap in your new tempo. If you tap slower or faster than the allowable range of 40-400 bpm, the tempo will be limited within this range.
X	END TEMPO Tap <X> repeatedly at the desired speed to set the End Tempo parameter in the same manner as for the <Z> hotkey.
R	REVERSE TEMPO Press <R> to activate the REVERSE TEMPO button and reverse (trade) the *Start Tempo* and *End Tempo* values.
SPACEBAR	PAUSE Press <SPACEBAR> to activate the PAUSE button. Press it again to resume metronome playback.
P	PAUSE TEMPO Press <P> to activate the PAUSE TEMPO button. Press it again to resume acceleration.
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* Hotkeys, except Full Screen, are not available in the Free version.

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C	After the metronome has completed a portion of its acceleration, you can press <C> to make the Start Tempo match the Current Tempo. This can be useful if you've decided you want to limit the metronome's range on-the-fly.
B	BACKGROUND COLOUR To cycle through the four available background colours (black, white, yellow or red), press <B> while the metronome is stopped.
↑,↓	VOLUME Repeatedly press the <Up Arrow> or <Down Arrow> key to adjust the Volume up or down.
←,→	JOG TEMPO Repeatedly press the <Left Arrow> or <Right Arrow> key to jog the current tempo faster or slower. In Ramping Tempo mode, each press of the hotkey will change the current tempo by 5% of the difference between the Start Tempo and End Tempo. In Constant Tempo mode, each press of the hotkey will change the current tempo by 5 bpm.
Esc or F11	Press the <Esc> or <F11> key to activate Full Screen mode. Press <Esc> or <F11> again to exit Full Screen mode.

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Hotkeys, except Full Screen, are not available in the Free version.

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DISABLE HOTKEYS*

   Due to a limitation with the Synthmaker program, there is a peculiar issue regarding hotkeys: when multitasking, the Accelerating Metronome responds to hotkeys *even when it is not the current program.* For example, if you are using a word processor or internet browser while the Accelerating Metronome is running in the background, the metronome will respond every time you type the letters B, C, R, X, Z, etcetera in the browser.

   To address this issue, there is a "DISABLE HOTKEYS" button in the lower right corner of the interface, resembling a red computer key on a black background: ⟶

   When activated, the button will change its appearance like this: ⟶

   Press it again to re-enable the hotkeys.

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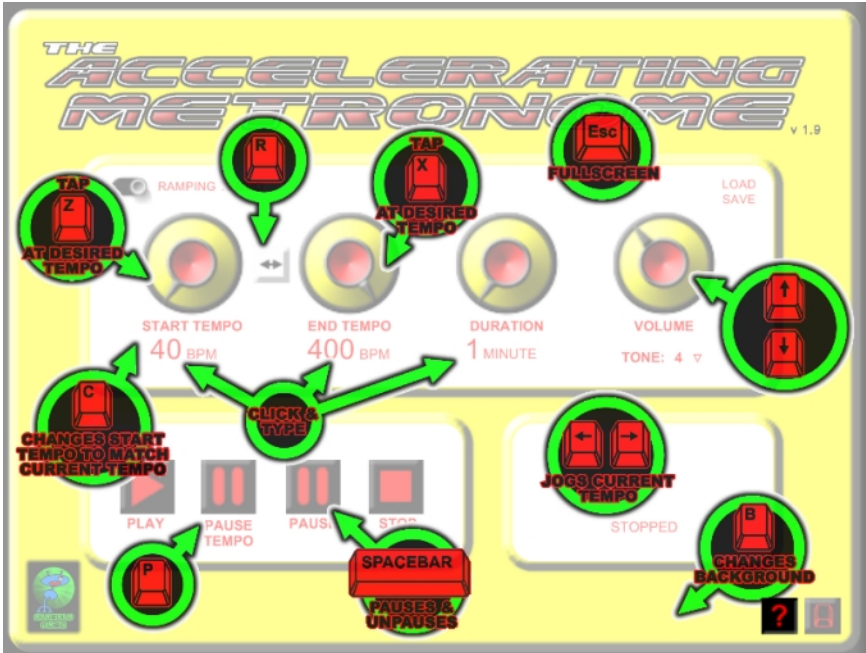* Hotkeys, except Full Screen, are not available in the Free version.

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HELP SCREEN*

   For a convenient reminder of the hotkeys available in the Accelerating Metronome, press the "?" button in the lower right corner of the interface. ————————➤

   (The metronome must be stopped to enable the Help Screen.)

   The panel will be dimmed, and visual hints for the hotkeys will appear, like so:

   Press the "?" button again to hide the help screen and resume using the metronome.

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* The Help Screen is not applicable to the Free version.

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AUTOSAVE and AUTOLOAD*

Every time you change the Parameters while using the Accelerating Metronome, the settings will be automatically saved in a file called *acceleratingmetronome.ini,* which is stored in the same location as the program file on your hard drive. By the time you've finished using the metronome and shut down the program, this file will contain the most recently used settings.

All Parameter settings are saved in the file, including Mode, Start Tempo, End Tempo, Duration, Volume, Tone, and the Background colour.

When the Autosave occurs, a corresponding message will appear in the upper right portion of the Parameters area: ———————➤

The next time you start the software and use the Accelerating Metronome, these settings will be automatically loaded so that you can pick up where you left off.

When Autoload occurs, a corresponding message will appear in the upper right portion of the Parameters area: ———————➤

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* Autosave and Autoload are not available in the Free version.

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SAVE and LOAD*

Above and beyond the Autosave feature, the Accelerating Metronome also allows you to save your current Parameter settings in individually-named files so you can recall them for later use. This can be very helpful when your practice consists of several different goals with specific tempo implications. You can save as many files as you want with a unique filename for each one, making it easy to return to many different practice tasks.

In the upper right corner of the Parameters area you will see the words LOAD and SAVE: ⟶

To save, click SAVE, then specify a location and filename to save. The default location is the program's installation folder. The default filename is *Session.ini*, but you can change it to whatever you want. If you omit the extension and simply type a filename, the extension will happen automatically. If you enter an invalid extension, you will be prompted again.

All Parameter settings are saved in the file, including Mode, Start Tempo, End Tempo, Duration, Volume, Tone, and the Background colour.

You can then load any of these files at a later time by clicking LOAD. After the file has loaded, all knobs and switches on the screen will change to show the new settings.

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* Save and Load are not available in the Free version.

BUGS / KNOWN ISSUES

The Accelerating Metronome should operate smoothly under most circumstances. Here are a few known exceptions:

1) If there are too many other programs running, they may interfere with the smoothness of the Accelerating Metronome's operation. For example, printing a document in the background or bowsing the internet may cause a jitter in the tempo produced by the metronome.

2) As described earlier in the User's Guide (p. 17), the Accelerating Metronome responds to hotkeys even when it is not the currently used program. To keep the metronome running (or waiting) as a background application, use the Disable Hotkeys button in the lower right corner of the interface.

Please feel free to email bug reports, wish lists or other comments to *twistedmusictheory@gmail.com.*

Thank you for choosing the Accelerating Metronome… *happy practicing!*