

# Sax Tutor

## Operating Guide

V4.1

### *Introduction*

Sax Tutor is a simple program to aid saxophone students with the various note fingerings and provides a visual way of learning scales whilst also learning correlations to music keyboards and notation.

Sax Tutor provides instant access to the required fingerings for any note within a saxophone's range. Keys can be selected either by piano equivalents, or by musical staff.

In addition, Sax Tutor will cycle through many of the more common Major and Minor scales allowing the student to practise at their own speed.

If your system has a sound card which allows routing via the Windows MIDI Mapper (as most do), Sax Tutor will also allow you to hear the relevant scale in any of the four major saxophone pitches.

The current release is version 4 which is an administrative update to the 32bit program which has been proven to work with Windows 95/98/XP/Vista (32bit) and Windows 7 (32bit) I also understand that it works under emulation on a MAC.

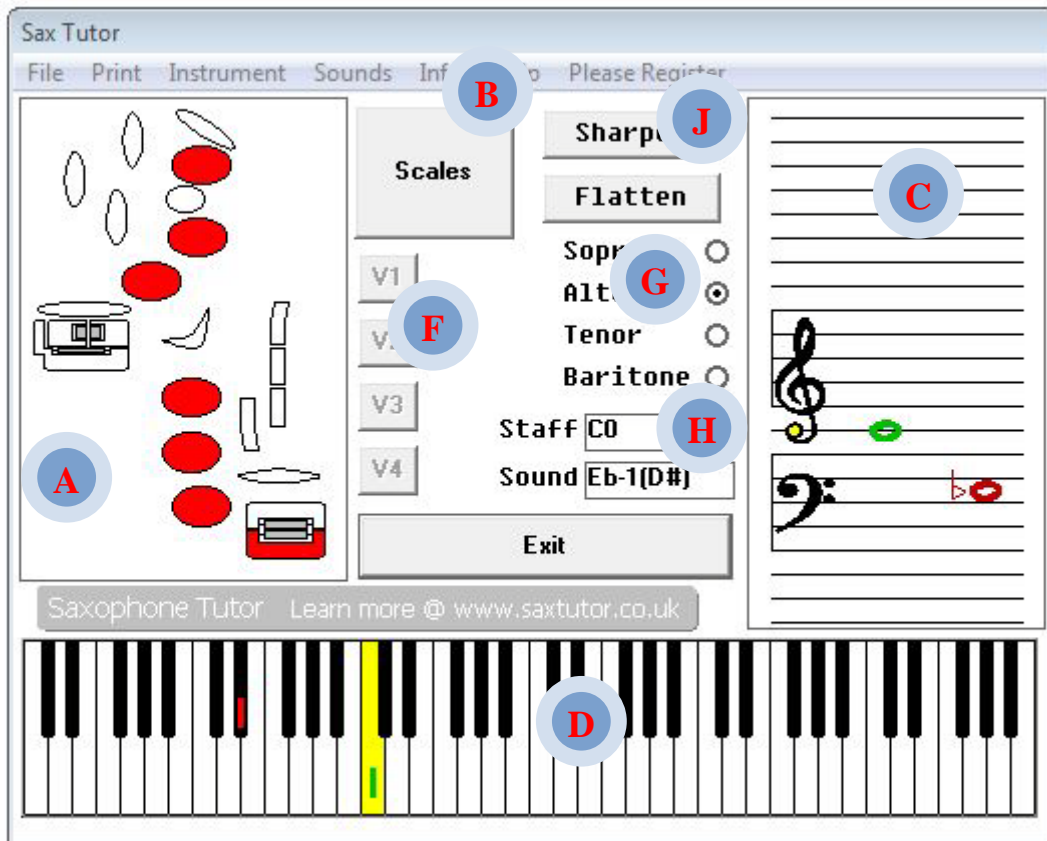
This version of Sax Tutor is distributed as unregistered shareware and has reduced features. This version can be distributed freely however the copyright remains with Martin Carter and this version cannot be sold or distributed for profit. Registering the program unlocks further print functionality along with additional information screens and additional scales. I have released this version so that you can trial the software on your system ensuring it is fit for purpose before registration.

This program and associated documentation are all the copyright of Martin Carter and all rights are reserved.

You can learn more about the program, or contact me, via the SaxTutor website at [www.saxtutor.co.uk](http://www.saxtutor.co.uk)

## The Main Screen

This is the main welcome screen which is displayed when Sax Tutor is loaded and provides access to the main functionality of the program through the top menu bar and also by interacting with elements of the screen as shown below and described in further detail in this document.



### File Menu


The file menu provides access to the copyright screen and an additional exit button. The load feature brings up the pattern load dialog box, which allows you to load user defined patterns into Sax Tutor

Pattern files have the extension .STP. and this file format is fully explained in the user defined patterns section later in this document. Once a valid pattern has been loaded the program will automatically pass control to the Scales Menu, allowing you to start and stop scale playback as well as adjusting the speed and number of cycles of each scale.

## Print Menu

The registered version of Sax Tutor allows you to print scales and fingering charts directly from the program and the print menu allows access to those functions. Please note that in the unregistered version these facilities are disabled.

## Instrument Menu

 You can choose your instrument selection either from the instrument menu, or from the instrument radio buttons on the main screen. Choices can be toggled between the four main saxophone styles, Soprano, Alto, Tenor and Baritone. An additional toggle, *Sound Display*, is also provided from the Instrument menu, this allows the user to toggle the visual display of the sounding or transposed note on both the staff and keyboard.

## Print Menu

Prints a fingering chart for the currently selected scale. This feature is only available to registered users.

## Sound Menu

This menu provides access to the Midi Control Panel, allowing full control over the various audio playback functions.


## Info Menu

Various additional menu items providing information on items such as mouthpieces, reeds, transposition, the circle of fifths and some top tips for start-up students.


## Registration Menu

For a small fee you can register the program via our website at [www.saxtutor.co.uk](http://www.saxtutor.co.uk) within 24 hours of registering we will provide you with an unlock code by email. You then enter your email address and the unlock code via this menu and once registered you will have full access to all the scale patterns across all twelve keys. You will also unlock additional help screens, print facilities and, perhaps most importantly, you will support the development of SaxTutor.

## Scale Tuition Control

 From this button you gain access to the scale selection screen and the scales menu. This allows Major/Minor and Chromatic scales to be selected, and subsequently displayed at various speeds, with sound accompaniment on MIDI capable systems. For further information refer to the Scales Menu screen later in this document.

## Saxophone Key map Grid

 A visual display of the required fingerings for each note. The display is currently based on a Selmer S80 MkII, although later versions may allow for alternate mappings. To visualise the key map, imagine you are holding the saxophone from behind (natural stance). The keys therefore are physically viewed from behind, and your finger positions will be those adopted when playing naturally. (The example is currently displaying fingering for C)

### **Staff Sharpen Control**

Notes entered onto the staff are by default natural. This command allows the current note to be chromatically sharpened. i.e. transposed by +1 semitone.

**J**

### **Staff Flatten Control**

Similar to Staff Sharpen Control, however this chromatically flattens, i.e. the key is transposed by -1 semitone.

### **Key map Variation Controls**

Some notes have various alternate fingerings, for example Bb. This set of controls will progressively be enabled dependant on the number of variations. Selecting a control will provide a graphical display of the variation. i.e. Bb has four common variations, the program will enable V1 to V4, each when depressed will provide a Key map display of the variation.

**F**

### **Instrument Selection**

These buttons allow you to switch between the four common Saxophone variations. Each style will cause the program to interact slightly differently. The notational information block will represent the sound of the currently selected type and MIDI sound playback will be transposed to match the current instrument. This command is functionally identical to the INSTRUMENT menu command.

**G**

### **Notational Information Block**

This section provides a visual display of the currently selected note, and also the transposed instrument equivalent (transposed in relation to the saxophone style currently selected).

**H**

### **Staff Selector/Review**

By clicking on the staff you can select a note and subsequently see the fingering in the saxophone key map display. Selecting a note outside the saxophone play range will result in the Key map displaying a blank grey shaded map. Notes can be sharpened or flattened. Just point and click at the area of staff required to place the Natural note. (NB: The yellow area is used to signify Middle C). The staff also updates to reflect note selection (green note) and transposed equivalent (red note) from the keyboard selector.

**C**

### **Keyboard Selector/Review**

By clicking on the keyboard you can select a note and subsequently see the fingering in the saxophone key map display. Selecting a note outside the saxophone play range will result in the key map displaying a blank map with a red cross. Sharp/Flat control is available directly from the keyboard, left of centre black provides Sharp's. Right of centre black provides Flat's. The green marker signifies the currently selected note, and the red marker indicates its transposed equivalent. The yellow area indicates Middle C.

**D**

## The Scales Selection Screen

This screen comes up when you press the **Scales** button on the main menu and allows you to select the scale you would like to practice or learn more about. NB, some options, notably the pentatonic and blues scales, are only available in the registered version of SaxTutor.

To use the menu, click on one of the scale types **K** (this example shows Major) and then select the root you require by clicking the button which corresponds with your requirements.



Having made your selection you will be taken to the *Scales Control Screen*.

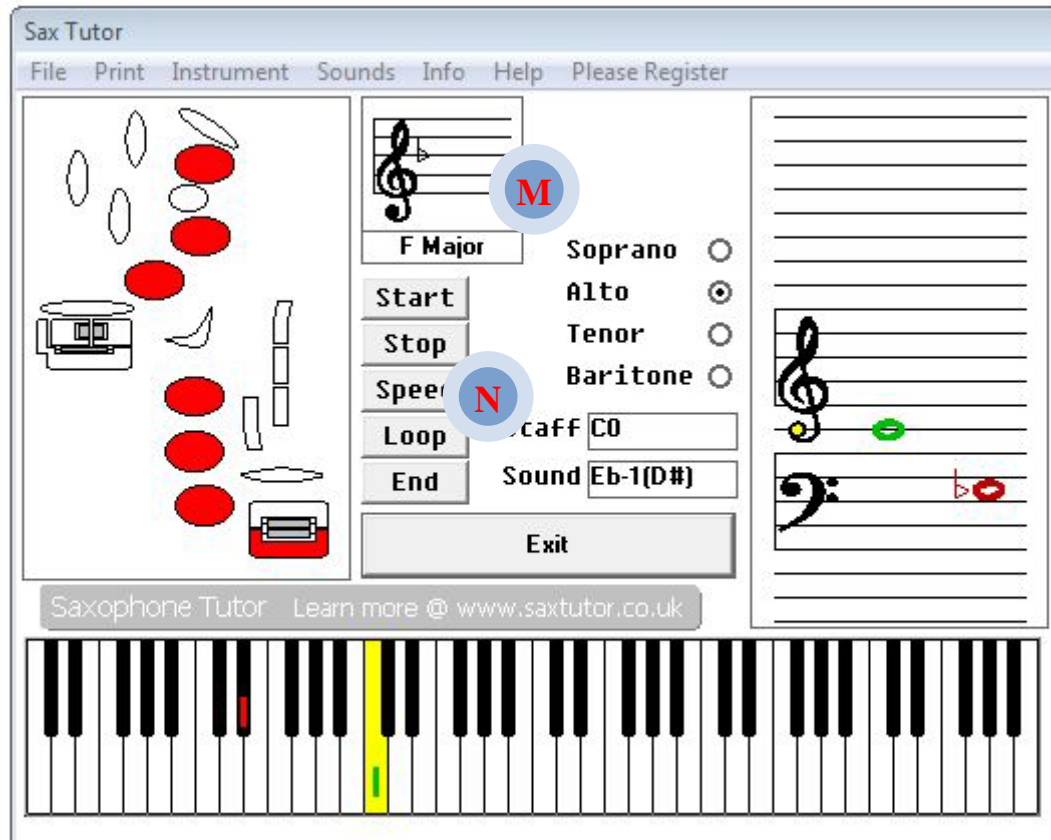
Select Scale

Select Scale and Type

 C Major	 F Major	 Bb Major	 Eb Major	 Ab Major
 Db Major	 Gb Major	 Cb Major	 B Major	 E Major
 A Major	 D Major	 G Major	Major	Pent. Maj
			Harmonic Min	Pent. Min
			Melodic Min	Blues
			Natural Min	Chromatic

## The Scales Control Screen

This screen is the main screen for controlling playback of the scale you have selected and comes up immediately after the *Scales Selection Screen*. Many of the items will now be familiar to you from the main menu but there are a number of new controls as follows.



M

You will note that the scales button has now been replaced with a representation of the scale which is currently loaded for playback (Note, if you have loaded a used defined pattern then it will show 'User Set').

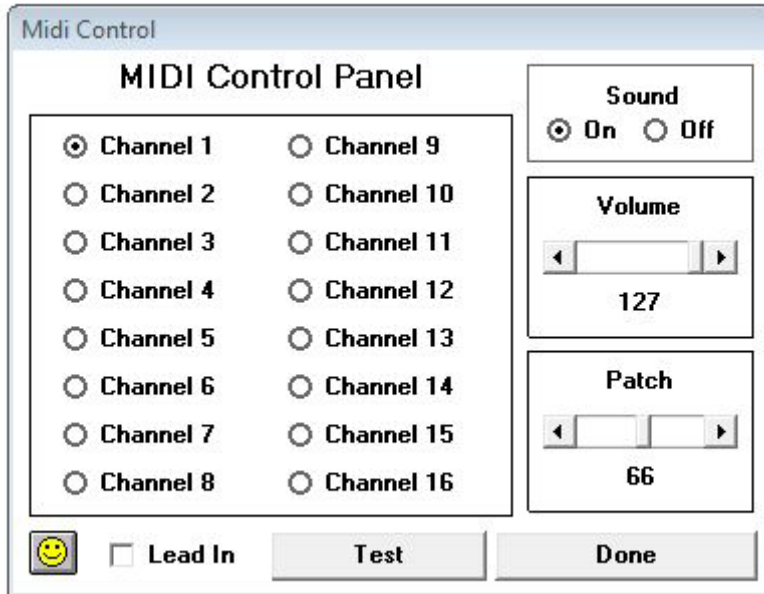
N

In addition to this there are 5 new buttons which give you complete control over the playback of scales. The first two buttons **Start** and **Stop** somewhat obviously allow you to commence and terminate playback. The button marked **Speed** allows you to set the duration between notes so that you can learn at your own pace. The default setting is 10 which gives you roughly one second between each note and its respective fingering. You can lower this number to speed up playback and increase the number to slow thing down. Experiment with the speed setting to find a setting which works for you. The button marked **Loop** allows you to set up how many times the scale will loop so that you can practice between 1 and 50 loops.

Finally the button marked **End** allows you to return to the main Sax Tutor screen.

## ***The Sound Control Screen***

This screen helps you to set up the sounds you hear whilst using Sax Tutor.



### **Channel Select**

This Selects the desired midi playback channel as defined in the Midi Mapper. This allows the user to map Sax Tutor to the best available instrument selection.

### **Sound Toggle**

Toggles sound output on or off. If the correct hardware is available, Sax Tutor will set the default as ON.

***NB: If no sounds are audible, and Sax Tutor is configured ON, the most probable cause will be the Midi-Mapper Definition. The default sounding channel is 1. To be audible on some systems, a channel number greater than 10 must be selected.***

### **Volume and Patch**

Select the desired playback volume and midi patch between 0 and 127. Default volume is 127 (Maximum) and default patch is 66 (GM Alto Sax)

### **Test & Diagnostics**

Pressing and holding the test button will send data to your sound equipment to verify operation. The smiley face is a verification icon, a happy (yellow) face indicates that the internal midi engine has initialised correctly. A sad (green) face tells me that the midi engine has not initialised. Systems which do not initialise correctly generally indicate issues with the sound card installation.

## ***User Defined Patterns***

Sax Tutor provides a facility for users to enter user defined practice patterns. the basis of this facility is the Sax Tutor Pattern file. This is a straightforward text file which can be readily created and edited with Windows Notepad. The filename is left to the users discretion, but the extension must be .STP a sample file is provided, CMAJ.STP. This file holds a definition for 2 octaves ascending and 2 octaves descending of C Major.

### **.STP File Format**

Each line of the file will start with a three digit number representing the note to be played (refer to the .STP Key map Chart). The numbers MUST fall within the range listed below, and numbers less than 100 should be preceded with 0 (i.e. 79 = 079). No additional lines may exist either before or after the number sequences, however comments can be added on any line following the numbers. Currently this facility is limited to a maximum of 50 Notes for any pattern.

### **.STP Key map Chart**

<b>No</b>	<b>Key</b>
070	A#0 (Bb)
071	Bb0 (A#)
072	B0 (Cb)
073	C0
074	C#0 (Db)
075	Db0 (C#)
076	D0
077	D#0 (Eb)
078	Eb0 (D#)
079	E0 (Fb)
080	F0
081	F#0 (Gb)
082	Gb0 (F#)
083	G0
084	G#0 (Ab)
085	Ab0 (G#)
086	A1
087	A#1 (Bb)
088	Bb1 (A#)
089	B1 (Cb)
090	C1
091	C#1 (Db)
092	Db1 (C#)

<b>No</b>	<b>Key</b>
093	D1
094	D#1 (Eb)
095	Eb1 (D#)
096	E1 (Fb)
097	F1
098	F#1 (Gb)
095	Eb1 (D#)
096	E1 (Fb)
097	F1
098	F#1 (Gb)
099	Gb1 (F#)
100	G1
101	G#1 (Ab)
102	Ab1 (G#)
103	A2
104	A#2 (Bb)
105	Bb2 (A#)
106	B2 (Cb)
107	C2
108	C#2 (Db)
109	Db2 (C#)
110	D2
111	D#2 (Eb)

<b>No</b>	<b>Key</b>
112	Eb2 (D#)
113	E2 (Fb)
114	F2
115	F#2 (Gb)
116	Gb2 (F#)
117	G2
118	G#2 (Ab)
119	Ab2 (G#)
120	A3

## ***Playing Hints and Tips***

### **Mouthpiece Control**

A useful aid in accomplishing Altissimo control, is to start by mastering mouthpiece/airstream control. Once a solid embouchure has been established, start with the embouchure base note and learn to control the mouthpiece down one full octave.

### **Embouchure**

Finding the correct embouchure is probably the most important part of mastering the saxophone, therefore my golden rule is "Find someone who knows and ask them!". However sometimes this can be impracticable so as an alternate you might like to try the following:-

1. Imagine you are sucking on a straw; this will give a good approximation of the position of the mouth muscles.
2. Using the mouthpiece alone, practice until you can achieve the following notes (in concert pitch)

ALTO(A), TENOR(G), SOPRANO(C), BARITONE(D)

3. if you can produce a good sounding version of the relevant tone for your Sax, you have a fighting chance of having the right embouchure

### **Transposition**

Transposition is possibly the most confusing aspect for a new student of the saxophone. The three most frequently asked questions at my web site are WHAT is transposition, WHY transpose and HOW do you transpose.

Let me try to address all the questions.

Firstly, what is transposition? It is simply about reworking a piece of music so that it can be played in a similar key. For example, a female vocalist will often transpose a piece of music originally written for a male performer up to a higher key to make it more suitable for her voice (imagine Mariah Carey trying to sing with the same voice as Tom Jones and you can probably see why it makes sense)

Secondly why do instruments need to transpose? There are many reasons, but from a saxophonists point of view it is all about making the family of saxophones easier to play. Each saxophone has a different tonal range from the highest pitched soprano to the lowest pitched baritone. By making these instruments transposing instruments you can learn one set of fingerings and then, in theory, play any other member of the saxophone family. This is made possible by reworking the written music (transposing) to match the differing range of each instrument.

And thirdly, how do you transpose. The easiest way to transpose is to add or subtract a given number of semitones to every note in a piece of music. In the SaxTutor example the note C is transposed down by 9 semitones to give a new note Eb. This same change is applied to all other notes in the music and as a result music originally in the key of C will be in the key of Eb. This example is especially relevant to Alto saxophones as it is a common transposition, allowing saxophonists to 'play' music written for a keyboard.

### **Circular Breathing**

Circular breathing is probably one of the most complex areas relating to wind instruments, and extremely difficult to describe. Basically it involves breathing in through the nose to the lungs, whilst finishing the last breath with air previously stored in the cheeks of the mouth.

To fully comprehend how this can occur requires control of a kind of throat valve, which is located at the back of the throat, and closes the mouth from the lungs whilst still leaving the nose connected.

(If anyone has a more capable description, please send it in!)

**Martin Carter**

**[www.saxtutor.co.uk](http://www.saxtutor.co.uk)**