

SWAM Woodwinds - User Manual

Saxophones, Clarinets, Double Reeds, Flutes v2.9.0

SWAM
engine

by



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Before You Start

Although these instruments are intuitive and easy to play “out-of-the-box”, getting excellent results requires a certain amount of practice and experience. Please read this user manual carefully. It contains very important information that will help you achieve the best results in a much shorter time. Also listen to the demos on the Audio Modeling website <https://audiomodeling.com> and on our YouTube channel <https://audiomodeling.com/youtube>

The latest version of all SWAM manuals can be found at <https://audiomodeling.com/manuals>

All SWAM instruments are designed to be PLAYED in real time by shaping the sound like a real instrumentalist would. They will function on any modern computer (see System requirements), by using a suitable host such as a sequencer (Cubase, Logic, Pro Tools, etc.), DAW (digital audio workstation) or a host application supporting the plugin format VST, Audio Units or AAX. These instruments use Audio Modeling's proprietary SWAM (Synchronous Wave Acoustic Modeling) technology conceived by Stefano Lucato, and provide an exceptional playability and realism. These are not samples, using pre-recorded articulations, but complex virtual instruments, capable of shaping almost any kind of articulation and phrasing in real time. They can be played using any MIDI device such as a keyboard, breath or wind controller. (It is, however, essential that the instruments are suitably controlled using an appropriate MIDI device, as described in this manual). Direct programming via a sequencer (without any MIDI devices) is also possible.



Note: As with a real musical instrument, all of our SWAM instruments allow continuous transition across the full range of dynamics — from pp to ff — free from any phasing artifacts. To accomplish this, it is absolutely necessary to use a suitable continuous physical MIDI controller such as an expression or volume pedal (CC11 or CC7), a breath or wind controller (CC2) or any other expressive MIDI controller.

WITHOUT SUCH A CONTROLLER, THE INSTRUMENT WILL NOT WORK, if played in realtime. Instead, it will display the warning “Expression controller not received. Please move your expression controller.”



Other physical MIDI controllers, like sliders, knobs or a mod wheel, though not recommended, can be used for this purpose. Please refer to other sections of this manual for further details.

When used for studio production, it is necessary to provide either a MIDI Expression curve or Automations.



Note: the MIDI note naming convention we use is based on the Yamaha standard: Middle C = C3, corresponding to MIDI note number 60.

System requirements

Required operating systems

PC:

Windows 7, 8, 10, Vista or XP 64 bit

macOS:

Intel only, Mac OS X 10.7 – 10.14

Supported plugin formats

PC:

VST* 64 bit, AAX 64 bit

macOS:

AU* 64 bit, VST* 64 bit, AAX 64 bit

* Audio Unit v3 and VST3 not supported yet

CPU load

The realism and expressiveness of the SWAM instrument set can be very CPU intensive. It therefore requires a modern computer with at least a 1.6 GHz Core 2 Duo CPU for a single instance of any SWAM product. Additional instances will require both a more powerful processor and a low-latency audio driver/device (e.g. ASIO), especially to play the instrument in real time.

Less powerful systems may also prove satisfactory, but may require larger buffer sizes, involving higher latencies.



Note: This may not necessarily result in an actual problem. Using the freeze feature or bouncing the single MIDI tracks to audio provides a useful remedy.

Hardware requirements

Audio interface (sound card)

A good quality audio interface (USB, FireWire, PCI) with suitable low-latency drivers (like ASIO for PC users) is required. The allowed buffer size is up to 2048 samples. Recommended settings are 128, 256 samples, or 512 samples (higher latency, but less CPU load).

MIDI devices

SWAM instruments (like any other virtual instrument) can be successfully used without the need for any additional hardware (except the audio interface) by drawing the controller curves and programming the notes directly in the host sequencer. However, a much more “human” and interactive configuration is recommended — especially when playing in real time — using external MIDI devices:

A MIDI keyboard with at least 5 octaves, mod wheel & pitch bend, connected to the computer via USB or an external MIDI interface, equipped with a set of physical continuous MIDI controllers (usually knobs or sliders) to control effects like overblow, subharmonics, growl, etc.

An expression pedal, controlling the dynamics via CC11. Although the dynamics can be controlled by another physical controller (knob, slider, ribbon, XY-pad), a pedal is highly recommended. As an alternative, a breath controller, such as a Yamaha BC3, TEControl or Hornberg Research HB1, can be used. Using a pedal or a breath controller is highly recommended.

Woodwind or brass players may prefer to use a wind controller such as a Yamaha WX, Akai EWI (USB, 4000S or 5000) or Aodyo Sylphyo; all of them provide excellent results.

Multi-expressive devices like the Seaboard or the LinnStrument are supported.

Software requirements

A DAW (Digital Audio Workstation) or a Host capable of running VST2.4, Audio Units or AAX plugins is needed to run the SWAM instruments.

If you do not have a host application capable of running VST or AU plugins, you can install a free host application such as Camelot (<https://camelotpro.com>).

A list of compatible hosts and DAWs can be found on our Knowledge base:
<https://support.audiomodeling.com/kb/faq.php?id=39>

Using an appropriate range of expression

This is an extremely important aspect for getting the optimal expressiveness and realism with virtual instruments.

All real instruments require a much greater degree of effort to achieve the highest possible dynamics for that instrument. This is not the case for most physical MIDI controllers; it is indeed very easy to push an expression pedal, or a slider, to the maximum and leave it there forever. Oddly enough, even breath and wind controllers tend to jump very easily to the highest dynamics (unless carefully set), so that the most expressive range (mp to mf) is seldom exploited. This results all too often in the virtual instrument being played in an excessive range of dynamics, leading unavoidably to a poor, unrealistic performance.

Please keep in mind that the key to expressiveness and realism is a proper use of dynamics. Always monitor the input expression value on the main display and adjust the dynamics accordingly. A useful trick is to set the overall monitoring volume fairly high. This automatically prevents any inclination toward over using dynamics.

It is also important to optimize the general volume of your loudspeakers/headphones at an average value of Expression. Too low an output level would easily induce the user to use high Expression levels, usually yielding excessively “biting” sounds.



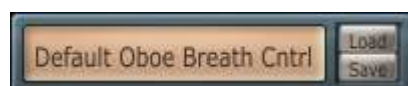
The Instrument and its controls

Main Instrument GUI (graphical user interface)

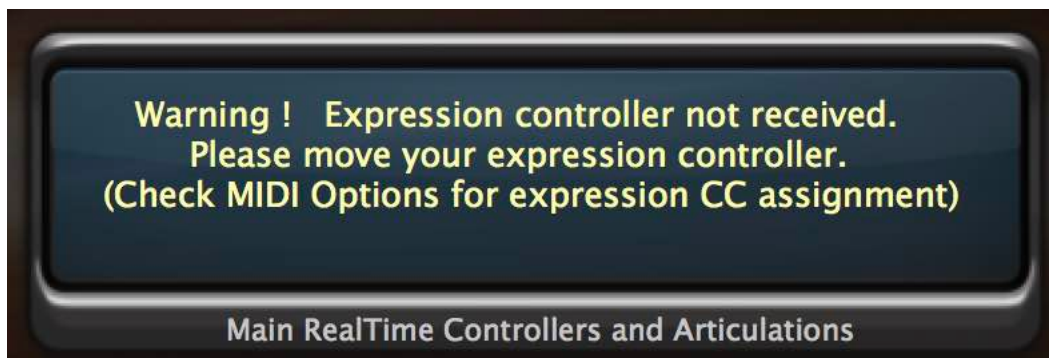
If properly activated (please read the enclosed "Installation guide"), the instrument GUI should appear as follows after loading:



Please select the proper default instrument preset (keyboard or wind controller) by clicking the Load button to the right of the upper central display window, using your currently available MIDI input device (see above), for example:



When you begin playing, you may receive a warning message reminding you that an expression controller (preferably CC11, CC7, CC2 or AfterTouch for tactile devices like the Seaboard or the LinnStrument) is absolutely necessary for the proper functioning of the instrument:



By default, the software assigns the expression control to CC11 if in keyboard mode, and to CC2 if in wind controller or breath controller mode. These default settings can be changed manually. For example, if you wish to use a volume pedal to control the expression, just open the "MIDI mapping" page (clicking on the "Options" button and then on "MIDI mapping" button) and set the Expression CC to 7. If needed, this assignment can be permanently stored as a preset (see below). Automatic assignment is also possible. Just open the "MIDI mapping" page and activate the "Learn" button next to the "Expression" MIDI CC mapping entry. In this mode, the instrument recognizes the first incoming CC number and automatically assigns it to the Expression setting.

The loaded preset will be displayed as "Default <instrument> Keyb.Cntrl". These settings are suitable for playing the instrument with a MIDI (or USB) keyboard, expression pedal, pitch bend and mod wheel.

When using a breath controller, please select the preset "Default <instrument> Breath Cntrl", or click on "Reset" -> "Default Breath Controller". If you are using a wind controller (e.g. EWI, WX or Sylphyo), please load the preset: "Default <instrument> Wind.Cntrl", or click on "Reset" -> "Default Wind Controller". The Expression setting is automatically remapped to CC2. Please note that in WC mode the legato/portamento time is per default controlled by CC5.

The Seaboard by ROLI and the LinnStrument by Roger Linn are also supported, and there are specific Default presets for them too.

Main controls vs. articulations

Velocity controls:

- Initial attack (for detached notes)
- Portamento time (for legato, if Transit.Time button is set to Velocity)

Expression (CC11, CC2, CC7 or other CCs set on the "MIDI Mapping" page) controls the dynamics (from pp to ff)

Mod wheel (CC1) controls the vibrato intensity

CC19 controls the vibrato rate

Pitch bend controls the pitch. The pitch bend range (downwards — upwards, in semitones) can be directly set by the user in the main GUI (see page 7).

Staccato, semi legato, and legato articulations are managed by a special algorithm which takes into account:

- Note velocity
- Interval between the notes (semitones).
- Time between Note-Off and subsequent Note-On

All the assigned MIDI CC numbers can be modified in the "MIDI mapping" page

GUI parameter controls

There are three types of controls in the main instrument GUI that allow you to conveniently enter data:

- Sliders
- +/- Buttons
- Switches

Sliders

Set the desired value either by:

- dragging the slider (while holding the left mouse button) or
- moving the slider with the mouse wheel

+/- Buttons

The values can be set in 3 different ways:

- Clicking on "+" and "-"
- Using the mouse wheel to change values via the label (small steps), or on the +/- buttons (larger steps)
- Vertically dragging the mouse after clicking on the displayed value

Double-clicking on the slider or on the number displayed beside the +/- button reloads the previously saved or default settings.

MAIN page



Load & Save *: Loads and saves instrument settings (Paths – see page 12).

M.Tune Hz: Master Tune frequency in Hz.

M.T.Cents: Master Tune in cents (Linked to M.Tune Hz, A3 = 440Hz).

Reverb Time: Reverb duration.

Reverb Mix: Reverb amount (if set to 0, the reverb is bypassed, saving CPU).

Transp: Instrument transposition (Key switches are not transposed); current instrument range indicated on the virtual keyboard (black & white keys) follows the transposition.

PB D .. U ..: Pitch bend range; can be set to bend down and up independently (in semitones).



Panpot: Panning between L and R (see also Pan Type on the OPTIONS page).

Main Volume: Instrument output level (in dB).

Instr.: Changes the instrument timbre (corresponding to different instruments or microphone placements).

- Rand.Dyn:** Controls random modulation of dynamics and pitch.
- Dyn.Pitch:** Amount of pitch modulation applied while changing the dynamics. Also controlled by CC8 [Dyn.Pitch CC mapping is not possible for the Flutes].
- Attack Sens.:** Changes the attack behavior, assigning it to: 1. Velocity (linear response, "hard"), 2. Velocity (non-linear response, "soft"), or directly to Expression.
- Harm.Struct:** Spectral characteristics of the instrument (balance between odd and even harmonics).
- FallDown:** Clicking on this button triggers a fall. This effect is also assigned to Key Switch C1. It is also possible to assign this to a CC (see OPTIONS page).
- OverBlow:** Clicking this option triggers overblow on any quick changes to the dynamics. Also assigned to Key Switch D1 (momentary) and D#1 (latch), as well as to the sustain pedal (CC64).
- SubHarm:** SubHarmonic intensity. Also controlled by CC20. [The SubHarm parameter is not available for the Flutes].
- Growl:** Growl intensity. Also controlled by CC21. For a "cleaner" sound, this should be set to zero.
- Flutter T :** Flutter Tongue intensity, also controlled by CC23.
- Breath N.:** Breath Noise intensity, also controlled by CC25.
- Key Noise:** Key Noise intensity, also controlled by CC9.
- Dyn.Harm:** Amount of harmonic and subharmonic modulation for attack and changes in dynamics [Dyn.Harm parameter is not available for the Flutes].
- Release:** Release Time on note-off.
- Compressor:** Volume compression; controls the ratio between ff and pp levels.
- Formant:** Changes the formants, thus the timbre of the instrument.
- Modal Res.:** Changes the amount of lower harmonics persistence.
- Transit.Time:** Selects the source of the note transition time control. The legato/portamento time can be controlled by: velocity (default), CC (large values = long portamento time) or CC inverted (small values = long portamento time).
- Reset:** Resets the engine and reloads the default or previously saved parameters.
- Options:** Opens Midi CC Remapper and Advanced Parameter Settings (see below).
- Help & Credits:** Opens Help and Credits page.
- * Default Load & Save paths are:**

Windows, VST or AAX plugins:

<Program Files>/Audio Modeling/SWAM/<Package Name>/<Instrument Name>/Presets

Mac, AU, VST or AAX plugins:

<HD>/Users/Shared/Audio Modeling/<Package Name>/<Instrument Name>/Presets

Otherwise the folder selected for the latest saved preset is shown.

OPTIONS page

Clicking on the OPTIONS button opens Advanced Parameter settings and the Microtuning section. The MIDI mapping page is provided as a separate window, that can be accessed clicking the "MIDI mapping" button.



Advanced Parameters

Attack to Sust Time:	Affects the velocity-dependent duration of the transition from attack to sustain.
Auto Expr:	<p>The slider controls the depth of legato transitions.</p> <p><u>Note:</u> Transition (legato) time is controlled by velocity (or CC5, if in wind controller mode). The velocity response can be set using the "Transition Vel Sens" slider. The maximum transition time can be set using the "Transition Max Time" slider (see below).</p>
Legato Mode:	<p>Two different types of legato can be selected:</p> <p>Expr straight legato (no portamento).</p> <p>Gliss legato with portamento (glissando).</p> <p>The currently selected mode is indicated in the status window in the Main GUI.</p>
Transition Max Time:	Maximum duration of portamento, i.e. the duration of a legato/portamento transition played at the lowest velocity. If set to the minimum ("No Port"), portamento is never performed.
Transition Vel Sens:	Controls the relationship between velocity and portamento duration (only if the Port.Time button on the Main Instrument GUI is set to velocity).
Vibrato Rate:	Vibrato Rate (also controlled by CC19).
Vibrato Rand:	Randomization of vibrato intensity and rate.
Squeak -> Overblow:	Crossfade between a brief squeak on attack ("S"), or a longer Overblow ("O"), if Overblow is triggered by a CC (CC Default: Sus Pedal). Not active if the Overblow is triggered by the Keyswitch (D1 or D#1, see below) [Squeak does not apply for Flutes].
Expression Curve:	For handling linear or logarithmic expression controllers (e.g. pedal) and optimizing the overall expression controller curve.
Pan Behavior:	Selects the pan behavior of the instrument vs. reverb ("Dyn1" and "Dyn2": mimics little movements of the player with different intensities, pan does not affect the reverb; "Acoustic": the player is static, pan does not affect the reverb; "Balance": the player is static, pan affects both the instrument and the reverb).

Chromatic On/Off:	Activates an automatic chromatic scale during slow portamentos on larger intervals.
Attack-Exprs Bias:	Modifies the steepness of the attack vs. velocity, depending on Expression (disabled in wind controller mode).
KS Oct.Transp.:	KeySwitch Octave Transposition; "0": no transposition; "-12": moves the keyswitch section 1 octave lower; "Off" disables the Key Switches. See also "Keyswitches" below.
Attack Start:	Progressively cuts the attack for a more immediate attack response. Only by setting this to "0" can the complete original attack be played.
Expr. Trigger Mode:	Triggers note-on & off when the expression controller goes above or below a certain threshold. <u>This is a very important feature when playing a breath controller</u> : as with a real instrument, the depressed key only determines the (initial) note played, but does not trigger it. The note is only actually played when the player blows into the BC device, and stops when the airflow ceases. Note: Choosing the breath controller preset on the instrument preset menu automatically activates this mode and sets the expression to CC2. Available options: Off, Normal and Fast. Fast mode (attack modeling) has less latency than Normal mode (sampled attack).
Expr. Trigger Sens:	Controls the responsiveness of the attack steepness when Expression Trigger Mode is active (see above).
Max P.B. Range:	set the maximum range for Pitch-Bend Up/Down. Useful for MPE devices.
Breathy ppp:	Adds a breathy, noisy pianissimo layer useful when playing certain jazzy style. Acting on this option triggers a complete reload of all audio resources, so any currently active note will be terminated.
Resources Root Path:	Changes the root path for the plugin Resources (Windows only / Experts only).
Back to Main:	Returns to the Main GUI.
MIDI mapping:	Opens the MIDI mapping page.

MIDI MAPPING page

The MIDI CC remapper allows you to remap all the control parameters to any MIDI CC depending on your needs.



All the main parameters of the instrument are assignable to respond to MIDI CCs so they can be controlled in real-time from a MIDI controller or from a MIDI sequence in a DAW.

It is possible to assign the same MIDI CC to more than one parameter; in addition, it is possible to act on the Min/Max controls to rescale the input MIDI values.

Note: when the value assigned to "Min" is greater than the value assigned to "Max", the polarity of the control is inverted, i.e. the parameter is reduced when the control is increased.

Note: Legato Mode, Sustain, OverBlow, FallDown and MicroTuning have only On (CC>=64) and Off status (CC<64).

Flutes – differences from the other SWAM wind instruments



Style:

Affects parameters like dynamics sensitivity, overtones and noise behavior in a way that is more suitable for particular styles like classical, jazz, funk or ethnic music; the slider gradually varies the style from Classical to Ethnic.



AltF:

Alternate Fingering. Can be changed by using the Key Switches E1 (momentary) or F1 (latch) or controlled by CC28. Certain real flute tones can be obtained by playing a higher overtone using a "longer" tube, or by playing the fundamental tone using a (much) "shorter" tube, i.e. using an alternative fingering. When "AltF" is on, the (mainly high pitched) tones sound like those played when using a shorter tube, i.e. an alternative fingering. This means a "cleaner" sound is obtained in the higher range and so is less colored by subharmonics and interharmonics.



PipeSplit:

Can be also controlled by CC27. Shifts the register breaks of a flute by +/- 1 semitone. Crossing a register break when playing a real flute requires a rapid change of both the pipe length and the overtone. This leads to a characteristic "knock" when playing legato, particularly audible when playing a trill. (More on the physics of the real instrument at <https://audiomodeling.com/technology/swam-w>). Setting the PipeSplit to "Auto" eliminates this unwanted side effect; if the trill crosses this register break, the split point will be automatically shifted +/- 1 semitone to remain outside the trill range.

Default register breaks (i.e. when PipeSplit = 0) are:

Flute: D4 / Eb4, D5 / Eb5, A5 / Bb5

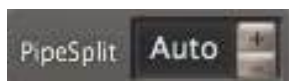
Piccolo: D4 / Eb4, D5 / Eb5 A6 / Bb6 **

Alto Flute: Bb3 / B3, Bb4 / B4, F5 / Gb5

Bass Flute: Eb4 / E4, Eb5 / E5, Bb5 / B5 *

* By default, the Bass Flute is transposed one octave above its original pitch in order to fit a 5-octave keyboard

** By default, the Piccolo is transposed one octave below its original pitch in order to fit a 5-octave keyboard



Harm.Struct:

Spectral characteristics of the instrument (balance between odd and even harmonics). In contrast to the other SWAM instruments, the Harm.Struct parameter is placed under the Key Noise parameter, replacing the Dyn.Harm parameter.



MIDI mapping

In The Flutes, the “SubHarmonics” and the “Dynamic Pitch” parameters are not assignable to any MIDI CC. These options are replaced by “PipeSplit” and “Alt. Fingering”

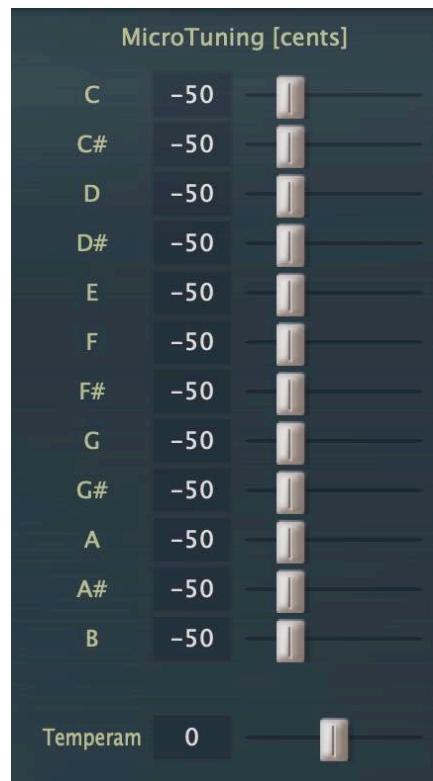


Microtuning

This is an entirely new feature, dealing with the requirements of musicians using non-tempered scales.

Our approach to microtuning yields maximal flexibility, providing for user-defined scales, where the extent of detuning (range +100/-100 cents) can be precisely set for each note using a series of sliders. These settings can be saved along with the instrument presets.

Detuning can be applied selectively to individual notes, in real time, using the mouse or key switches. The default preset is a detuning of -50 cents:



By default, detuning is set, but not yet applied to any given note. To apply detuning, you can choose between two methods:

1. Using the mouse in the instrument GUI.
2. Making changes "on the fly", using key switches.

The "**Temperament**" slider, if set higher than zero, applies a kind of "spread intonation":

- It does not affect the pitch in the middle of the instrument.
- The higher the pitch, the more upward detuning is applied.
- The lower the pitch, the more downward detuning is applied.

This means that the overall intonation of the instrument can be further "spaced apart" to produce special effects.

Applying microtuning using the mouse

This is the simplest method and is suitable for settings that do not need to be changed "on the fly". To detune a specific pitch, simply click on the microtuning bar in the main instrument GUI. This will apply detuning (set on the Options page by the microtuning sliders) to the particular chosen note (which is B in the example below):



Clicking on the bar graph again will switch detuning off.

Double-clicking anywhere in the bar graph area will switch off detuning for all the notes.

Please note that the above will only work on the main instrument page.

Applying microtuning using key switches

You can also apply microtuning to notes using key switches. To do this you must first go into Select Note Mode (SNM – see below) and then press the appropriate key switches that correspond to the notes you would like to detune. For example, by pressing the E1 key switch detuning will be applied to all E notes.

How to enter Select Note Mode (SNM)

SNM is activated by sending a suitable CC value above 64. Which particular CC value you choose is left up to you: Go to the Option page and enter the desired CC number in the “MicroTuning (ON OFF)” field. Entering “64” will define the sustain pedal, **which is the most suitable option for this task**. Pressing and holding down the pedal switches SNM on and highlights the key switches (in blue).

Note: CC64 (sus pedal) is, by default, assigned to Overblow (see the OPTIONS page, “Overblow (ON OFF)”). If you are using the sus pedal for Microtuning, Overblow must be assigned to another controller, or to none, as this can be also controlled by the key switch D1.

How to detune selected notes

1. Enter Select Note Mode (SNM) by pressing and holding down the sus pedal (or send a value greater than 64 via the CC you have assigned for Microtuning); the key switches will turn blue.
2. Press the key switches (evenly and simultaneously) that correspond to the notes you want to detune. The detuned notes will be displayed by the microtuning bar graphs in the Main GUI (see “Microtuning using the mouse” above).

3. Exit **SNM** by releasing the sus pedal (or send a value below 64 via the CC assigned for this task).

For example: If you need an Arabic scale in C and want to detune all E and B notes -50 cents, the steps would be:

Press and hold the sus pedal

Briefly press E1 and B1

Release the sus pedal

The affected notes and how much they have been detuned will be displayed in the instrument GUI:



How to reset and modify the current microtuning

As soon as you re-enter **SNM** (by pressing the sus pedal or sending a value greater than 64 via the CC you have assigned for this task), the current detuning of all the notes will be cancelled and the Microtuning display in the instrument GUI will be reset to zero:



Keeping the pedal pressed, you can immediately detune a new set of notes by pressing the appropriate key switches (see 2. above).

This allows you to create selective microtunings "on the fly".

Applying microtuning through SysEx

It's possible to control Microtuning through MIDI SysEx messages. SWAM responds to two protocols: Custom protocol and Yamaha PSR A3000 arranger protocol

Custom Protocol

This protocol allows to change both Microtuning and Transposition on the fly through SysEx messages.

1) Microtuning message

Each message is 4 bytes:

1st byte: Beginning of SysEx message (F0)
2nd byte: Note value (00=C, 02=C#, 04=D, ..., 12=A, 14=A#, 16=B)
3rd byte: Detuning value (00=0, 4E=-50)
4th byte: End of SysEx message (F7)

F0 10 10 F7: reset all notes to not detuned

Examples:

F0 00 4E F7: Note C = -50 cents
F0 10 4E F7: Note G# = -50 cents
F0 16 00 F7: Note B = 0 cents

2) Transpose message

Each message is 3 bytes:

1st byte = Beginning of SysEx message (F0)
2nd byte = Transpose value (37=-9, 38=-8, 39=-7 ... 40=0 ... 48=+8, 49=+9)
3rd byte = End of SysEx message (F7)

F0 10 F7: reset transpose to 0

Yamaha PSR A3000 arranger protocol

Each message is 9 bytes:

1st byte: Beginning of SysEx message (F0)
2nd byte: Manufacturer ID - Yamaha (43)
3rd byte: Device ID
4th byte: Model ID - PSR A3000 (4C)
5th byte: Address High (08)
6th byte: Address Mid (00)
7th byte: Address Low - Note value (41=C, 42=C#, 43=D, ..., 4C = B)
8th byte: Detuning value (04=-60, 05=-59, ..., 40=0, ..., 7B=+59, 7C=+60)
9th byte: End of SysEx message (F7)

Examples:

F0 43 10 4C 08 00 41 5E F7: Note C = +30 cents
F0 43 10 4C 08 00 41 18 F7: Note C = -40 cents
F0 43 10 4C 08 00 4A 0E F7: Note A = -50 cents

How to save your microtuning settings

Microtuning settings — except those done “on the fly” with key switches — can be stored and loaded as instrument presets using the Save/Load buttons in the instrument GUI.

Key switches

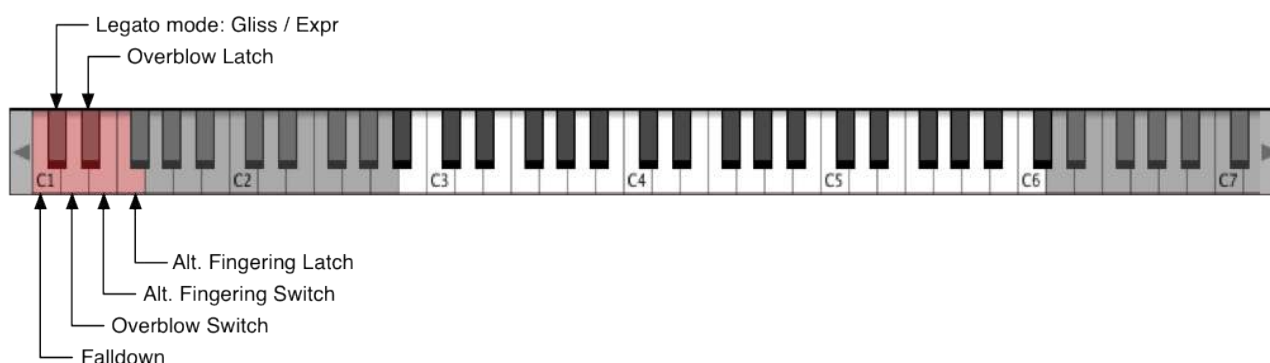
Some parameters of SWAM instruments can also be triggered by the key switches C, C# and D (this includes E and F for the Flutes). If there is an overlap in the instrument range after transposition, the key switches can be moved down one octave using the “KS Oct. Transp.” parameter (see Options page).

- C triggers a short fall.
- C# switches between two legato modes: Gliss and Expr; see “Advanced Parameters” on page 13.
- D triggers a “squeak” (a short overblow on attack) or a continuous overblow, depending on the timing and velocity:
 - A low KS velocity triggers a squeak (if the KS is pressed before note-on).
 - A higher KS velocity plays a continuous overblow (if the KS is pressed before note-on).
- The latter can be also applied after note-on (in the middle of a tone) if CC11 is above 60.
- D# behaves like D in latch mode.

Flutes only:

- E triggers the Alternate Fingering
- F behaves like E in latch mode.

The key switches are colored red in the instrument GUI.



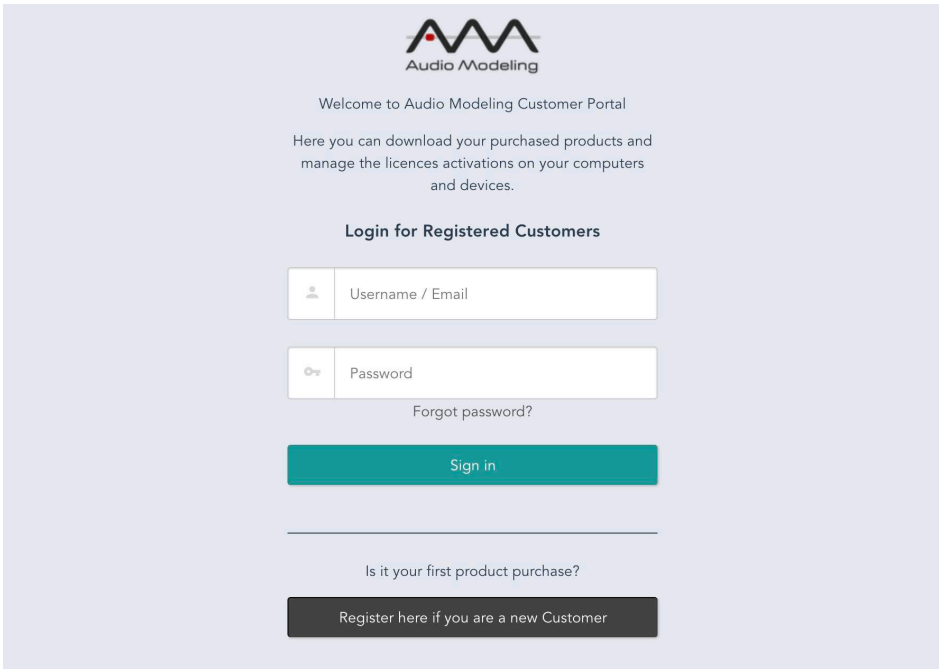
Licensing

The License Key we provide can be activated twice. Each activation is possible on a computer only. Refer to the Installation Guide for instructions on how to authorize SWAM products.

For moving an authorization to a different computer, go to the Customer Portal at <https://my.audiomodeling.com/> and delete it from activations list of the corresponding License Key.

Customer Portal

Login to the Customer Portal at <https://my.audiomodeling.com/> to manage your License Keys, Downloads and Activations.



The screenshot shows the Audio Modeling Customer Portal login interface. At the top is the Audio Modeling logo, which consists of a stylized 'M' with a red dot above it. Below the logo, the text reads: "Welcome to Audio Modeling Customer Portal", "Here you can download your purchased products and manage the licences activations on your computers and devices.", and "Login for Registered Customers". There are two input fields: "Username / Email" and "Password". Below the password field is a link that says "Forgot password?". A teal "Sign in" button is positioned below the login fields. A horizontal line separates the login section from the registration section. Below the line, the text asks "Is it your first product purchase?" and provides a dark grey button that says "Register here if you are a new Customer".

If you have never accessed the Audio Modeling Customer Portal, create a new account following the instructions at <https://my.audiomodeling.com/register>

Technical Support

Before requesting technical support, please make sure that you have carefully read the **User Manual** and the **FAQs** on our Support Center: <https://support.audiomodeling.com/kb>

There you will quickly find appropriate answers to most questions.

Should you still need support, please contact the SWAM support at support@audiomodeling.com or open a Ticket through the Support Center: <https://support.audiomodeling.com>



Note: Please ensure that you enter your email address carefully — it is not possible to reply to an incorrect email address!

When requesting technical support, please do not forget to provide as much system information as possible, including your type of computer, OS, audio interface, host application, software version, etc. If the problem can be replicated, a MIDI and/or an audio file is usually very helpful.

Please include a reference to either the order number or one of the License Keys.

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